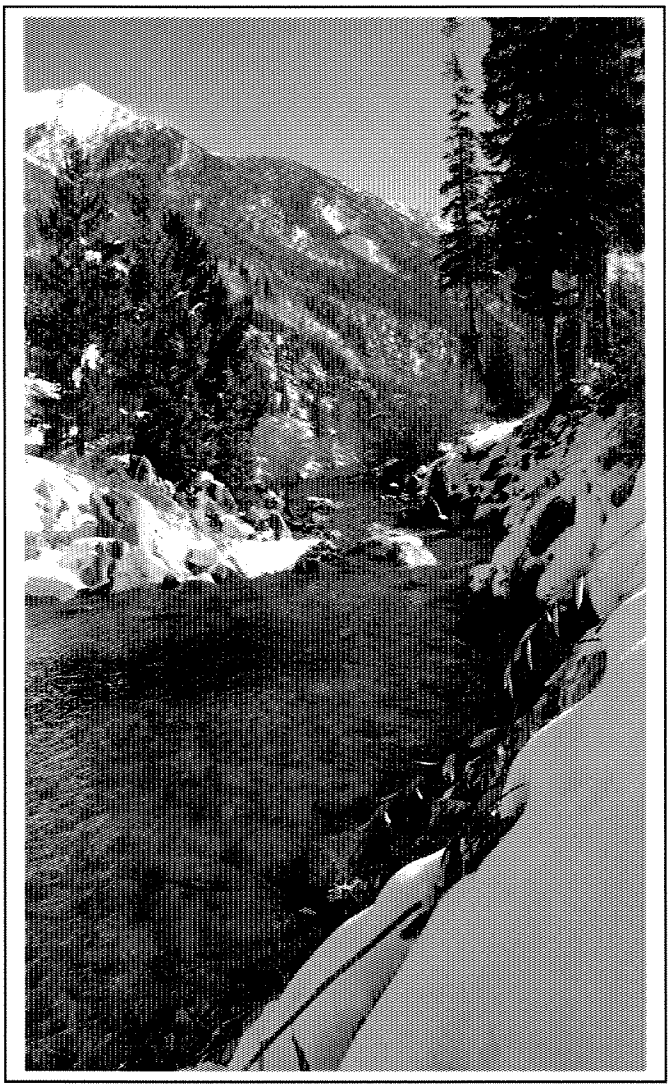
Clear Creek Watershed Management Agreement

2005 Annual Report



Black Hawk/Central City Sanitation District
Central Clear Creek Sanitation District
Church Ditch Company
City of Arvada
City of Black Hawk
City of Central
City of Golden
City of Idaho Springs
City of Northglenn
City of Thornton
City of Westminster
Clear Creek County
Clear Creek Ski Corporation
Climax Molybdenum Company
Colorado Department of Transportation
Farmers Reservoir and Irrigation Company
Farmers' Highline Canal Company
Coors Brewing Company
Gilpin County
Jefferson County
Mt. Vernon Country Club Metropolitan District
Saddleback Metropolitan District
Shwayder Camp
St. Mary's Glacier Water & Sanitation District
Town of Empire
Town of Georgetown
Town of Silver Plume

June 2006

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D – Standley Lake Management Plan

EXECUTIVE SUMMARY

Introduction

Located due west of Denver, Colorado, the 575-square-mile Clear Creek Watershed spans from its headwaters near the Continental Divide at 14,000 feet in elevation down to the Denver-Metropolitan area at 5,000 feet in elevation where it joins the South Platte River. Tributaries of Clear Creek in the upper basin include the South Fork, Bard Creek, the West Fork, Mad Creek, Lion Creek, North Empire Creek, Mill Creek, Fall River, Trail Creek, Chicago Creek, Soda Creek (Idaho Springs), North Fork, Elk Creek, Beaver Brook, and Soda Creek (Evergreen). In addition to offering numerous recreational opportunities, Clear Creek supplies drinking water to approximately 350,000 people in the suburban Denver area, industrial water to Coors Brewing Company and others, and agricultural water. Clear Creek Watershed includes five counties, six towns and a considerable rural/mountain population. The historic Mineral Belt of Colorado bisects the Clear Creek Watershed and the 1859 discovery of gold in the watershed led to economic benefits and Colorado's statehood. However, this mining and milling boom negatively impacted water quality throughout the watershed. When the silver markets crashed in the 1890s most mining works were abandoned. Since 1983, the Clear Creek Watershed has been subject to intense scrutiny as an Environmental Protection Agency (EPA) Superfund Study Area.

Standley Lake is an agricultural and municipal water supply reservoir located in Jefferson County Colorado that is supplied with water primarily from Clear Creek. The reservoir supplies water for agricultural use by the Farmers Reservoir and Irrigation Company (FRICO) and for municipal supply for the cities of Northglenn, Thornton, and Westminster (Standley Lake Cities). In response to a request by the Standley Lake Cities (SLC) for a Rulemaking Hearing to establish water quality standards and resulting control regulations for Standley Lake, 23 entities developed and agreed to the Clear Creek Watershed Management Agreement (Agreement). This Agreement, adopted in December 1993, sought to address certain water quality issues and concerns within the Clear Creek Basin of Colorado, specifically, issues that may affect Standley Lake (i.e. Reservoir) water quality. The parties to this Agreement are governmental agencies and private corporations having land use, water supply, and/or wastewater treatment responsibilities within the Clear Creek Basin.

For purposes of the Agreement, the Clear Creek Basin was divided into three (3) segments: the Upper Clear Creek Basin (Upper Basin), consisting of Clear Creek and its tributaries from its source to and including the headgate of the Croke Canal in Golden, Colorado; the Standley Lake Tributary Basin (Tributary Basin), consisting of the lands directly tributary to Standley Lake, the Church Ditch, Farmers' High Line Canal, Croke Canal (which carry water to Standley Lake), and lands directly tributary to these Canals; and Standley Lake (Standley Lake), consisting of the Lake itself.

Narrative Standard

In accordance with the Agreement, a narrative standard for Standley Lake was adopted in lieu of a numeric standard and control regulations. The parties agreed to additional testing, monitoring, and implementation of best management practices on a voluntary basis. The narrative standard for Segment 2, Big Dry Creek, Standley Lake reads:

> *The trophic status of Standley Lake shall be maintained as mesotrophic as measured by a combination of common indicator parameters such as total phosphorus, chlorophyll a, Secchi depth, and dissolved oxygen. Implementation of this narrative standard shall only be by Best Management Practices and controls implemented on a voluntary basis.*

Objectives

The Agreement provided that should the narrative standard not be met and substantial progress not made in reducing the nutrient loads to Standley Lake, additional measures may be required including numeric standards or effluent limitations for phosphorus and/or nitrogen in the Upper Basin, and for additional best management controls in Standley Lake.

The Agreement further provided:

- The Upper Basin parties, in consultation with all other parties to the Agreement, shall prepare a Best Management Manual for non-point sources that cover disturbed areas of one or more acres.
- The Upper Basin parties, in consultation with all other parties to this Agreement, will examine costs and effects of nutrient removal at Upper Basin wastewater treatment plants. The Upper Basin will use its best efforts to have its members implement operational modifications which can be implemented without significant capital improvements as quickly as reasonably practical.
- The Standley Lake Cities, in consultation with all other parties to this Agreement, will develop a Standley Lake Management Plan.
- The parties will jointly design, implement, and fund, in such allocations as shall be agreed, a monitoring program to evaluate nutrient loading from point and non-point sources in the Upper Basin, nutrient loadings from non-point sources in the Tributary Basin, internal Lake loadings and the effect of nutrient reduction measures implemented by the various parties on the trophic status of Standley Lake.

This report is divided into four chapters: I. Monitoring Program, II. Individual reports from Upper Basin, III. Tributary Basin, and IV. Standley Lake/Canal parties, with data provided in the appendix. The individual reports describe the Best Management Practices (BMP) and operation and other modifications made at wastewater treatment plants on a voluntary basis, and other pollution prevention actions taken in 2005.

Monitoring data results include tabular and trend analysis of measures relevant to the trophic status of Standley Lake, as follows: 1) Nutrients 2) Dissolved oxygen 3) Secchi depth and 4) chlorophyll a.

These measures of trophic status are referred to in the narrative standard. The *Lakewatch* computer software is used by the SLC to evaluate both trends and trophic status of Standley Lake. Trend analysis includes the previous five years (2001 through 2005). Tabular data for the entire period of record (1194 through 2005) for Clear Creek and Stanley Lake are set forth in Appendix C.

Monitoring Program Summary

Seventeen Clear Creek sites and eight wastewater treatment plants were monitored under the program in 2005. Eight sampling events were conducted, one in February, April, May, June, July, August, October and December. Two sampling teams collected the samples. Two types of schedules were sampled. The short schedule (February, April, June, July, August, and December) included four stream sites and four wastewater treatment plants. The long schedule included all seventeen sites and eight wastewater treatment plants and was sampled in May and October during high flow and low flow, respectively. Specific sites sampled during the short and long schedules are represented in the Monitoring Schedule table below. Analytical results for field samples are presented in Appendix C.

Autosamplers

The SLC reviewed the previous five years of Clear Creek, tributary canals, and Standley Lake water quality data using Lakewatch software. It was observed that water quality data was extremely variable at the CC50 sampling location. The site is located on the North Fork of Clear Creek, just upstream of the confluence with the Clear Creek mainstem. The SLC decided to increase the frequency of monitoring at this site by use of automated sampling and instream monitoring equipment in an effort to better understand the water quality variability at this location. Automated sampling and monitoring equipment was installed at CC50 and at a new monitoring location, CC49, on the main stem of Clear Creek just upstream of the North Fork in order to provide reference water quality prior to the confluence with the North Fork.

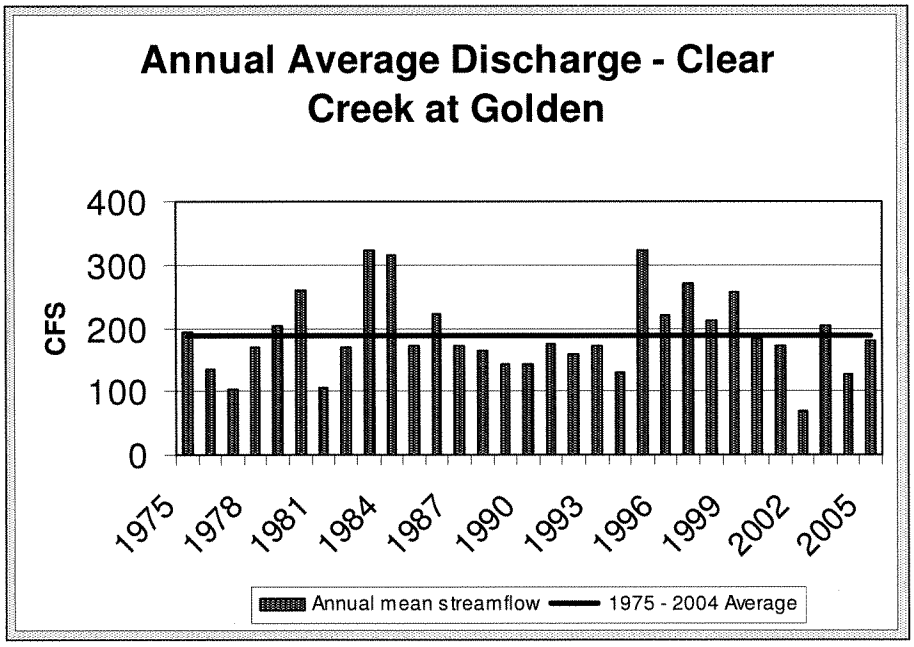
The SLC purchased automated samplers for the two monitoring locations. Westminster purchased the associated data loggers and instream water quality monitoring probes. Northglenn personnel installed security enclosures at the two monitoring sites. Northglenn and Westminster personnel installed the sampling and monitoring equipment. Westminster downloads the water quality data from the data loggers weekly via cell phone. Temperature, conductivity, dissolved oxygen, turbidity, and pressure differential (water depth) are continuously monitored at both locations. The SLC plan to add instream pH probes in 2006. The automated monitoring equipment records valuable data that will hopefully provide insights regarding the water quality variability at CC50.

In addition, the City of Golden financed the installation of a third autosampler station on the mainstem of Clear Creek approximately 100 yards upstream of the Church Ditch Headgate, designated CC59. Water quality is continuously monitored for pH and the parameters mentioned above and the data is downloaded by the City of Golden staff.

Each month from July through November 2005, 24-hour composite samples collected on two consecutive days, were sampled at each autosampler location and analyzed for nutrients, total suspended solids, total volatile suspended solids and total and dissolved metals.

Stream Gaging & Flow Summary

To provide the needed flow data for calculating nutrient loadings, the Upper Clear Creek Watershed Association, Standley Lake Cities, the Clear Creek Watershed Foundation, United States Geological Survey, Federal Highway Authority, and the Colorado Department of Transportation continue to work on a program to maintain stream and staff gages. Flows for 2005 were normal. Gages are located at sampling site numbers: CC10, CC20, CC26, CC35, CC40, CC50, and CC60. See the following sampling site map for these locations.



Tributary Basin Summary

The City of Arvada continues to make significant progress in bypassing stormwater from the Standley Lake supply canals. The City is also aggressively implementing their Phase II stormwater permit requirements.

Standley Lake Cities Summary

The SLC continue to be vigilant in their monitoring efforts and commitment to protecting the water quality of Standley Lake. A great deal of effort was put into setting up the continuous monitors/autosamplers at CC49 and CC50. This unique setup will not only permit gathering of real time data, but will also provide for better characterization of the variability of water quality in the stream, and capture storm or degradation events.

Eurasian Watermilfoil continues to be a concern in regards to water quality, since it can provide a substrate for blue-green algae. In 2005, 46,000 additional weevils were introduced, and another 46,000 will be introduced in the summer of 2006.

Significant progress was made in 2005 in negotiations regarding the potential utilization of a section of the Church Ditch as a stormwater diversion structure to protect Standley Lake from pollutants as development in the Tributary Basin continues. Participants include the SLC, the City of Arvada, Jefferson County, CDOT, and developers in the Standley Lake Tributary Basin. When completed, this effort should prevent 1392 acres from draining into the Church Ditch, as well as diverting runoff from 2604 acres that currently drain directly into Standley Lake

Water and Wastewater Treatment / Collection Systems Summary

The Black Hawk/Central City Sanitation District completed construction on its new state-of-the art advanced wastewater treatment facility and started operations on August 23, 2005. To ensure that it achieves high levels of nutrient removal, the facility employs biological nutrient removal (BNR) followed by sand filtration.

The Town of Georgetown has voluntarily begun adding alum to chemically remove phosphorus at its facility, and is also removing ammonia. (Georgetown received a new NPDES permit with lower ammonia limits.) They have achieved about a 73% reduction in phosphorus and about a 50% reduction in ammonia. Georgetown has had some compliance issues, notably a power failure on September 27 caused an accidental discharge of partially treated wastewater for a period of 6 hours. Since the incident, Georgetown has acquired a back-up generator to prevent future similar issues.

The wastewater treatment plants that serve the Town of Empire, Clear Creek High School, and the Central Clear Creek Sanitation District all continue to voluntarily add alum for phosphorus removal, to meet the goals of the Standley Lake Agreement.

The City of Idaho Springs made some internal improvements, and is working with its engineers and the State to meet its new discharge permit limits at the wastewater treatment facility.

A large, coordinated effort began in 2005 to investigate regional wastewater treatment options in Clear Creek County. The regional Wastewater Study Group has been formed as a subcommittee to UCCWA. To date, the group has raised over $140,000 in contributions from UCCWA members, the Standley Lake Cities, and others, to fund a regional wastewater utility plan. Nutrient removal options and compliance with the Standley Lake Agreement will be one of the focuses of the study, as well as potential regionalization for individual plants in the basin. (The RFP was issued in mid-2006, and is expected to be awarded late summer/early fall 2006. The wastewater utility plan should be completed by early 2007.)

The City of Golden financed and installed one of the three new continuous monitor/autosamplers on Clear Creek above Golden's water intake.

Refer to Section II. THE UPPER CLEAR CREEK WATERSHED ASSOCIATION for additional information.

Nonpoint Source Control Efforts Summary

Nonpoint source control efforts play an important role in improving water quality. Most governmental entities in the relevant basins have adopted and are implementing nonpoint source control regulations. In 2003, the lower basin cities of Arvada, Northglenn, Thornton, Westminster and Golden received Phase II stormwater permits as required by the Clean Water Act. The cities have successfully completed program goals for each year since 2003. These goals include but are not limited to the following six program areas; examples follow each program area:

- Public Education and Outreach**:** brochures, websites, school visits, utility inserts, and articles
- Public Participation / Involvement: public hearings and/or encouraging citizen representatives on a stormwater management panel
- Illicit Discharge Detection and Elimination: develop a stormwater outfall map, implement a stormwater hotline and make discharges of non-stormwater illegal per ordinance.

- Construction Site Runoff Control: inspections, compliance and enforcement, training, and receiving comments from the public

- Post-Construction Runoff Control: inspections, compliance and enforcement, and maintenance of permanent BMPs

- Pollution Prevention / Good Housekeeping: develop runoff control plans and train municipal staff on pollution prevention measures and techniques

All of the lower basin cities have adopted regulations providing for erosion control during construction, permanent BMP maintenance and illicit discharge prohibition. For specific information on completed programs call the Stormwater Coordinator for the city or county of interest. For information on Upper Basin pollution prevention/control efforts, see Section II, Upper Clear Creek Watershed Association (UCCWA).

I. CLEAR CREEK / STANDLEY LAKE MONITORING PROGRAM

A copy of the Clear Creek Watershed Management Agreement is contained in Appendix A. Section II, paragraph 4, provides for joint design, implementation, and funding of a monitoring program to evaluate nutrient loading from point and non-point sources in the Upper Basin, nutrient loadings from non-point sources in the Tributary Basin, internal Lake loadings and the effect of nutrient reduction measures implemented by the various parties on the trophic status of Standley Lake.

Upper Clear Creek Basin Monitoring in 2005

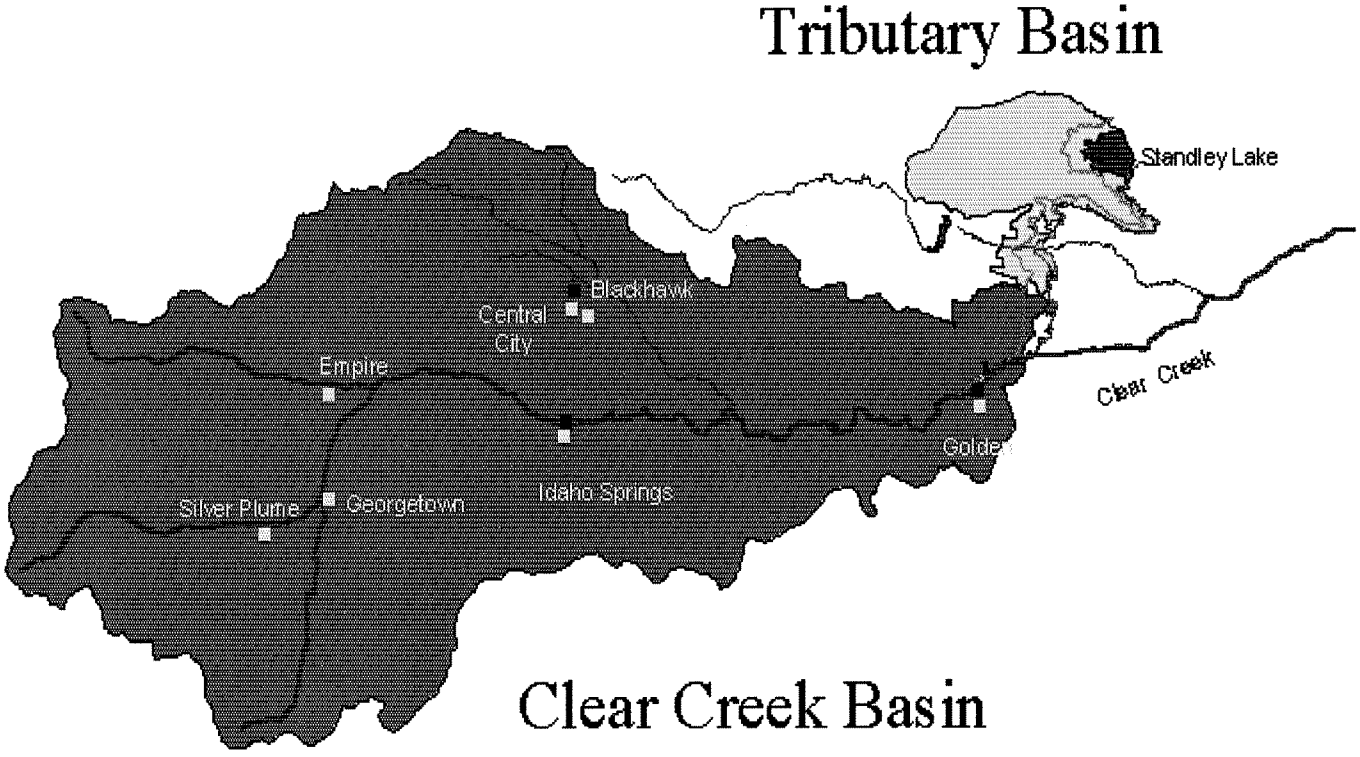
Seventeen Clear Creek sites and eight wastewater treatment plants were monitored under the program in 2005. Eight sampling events were conducted, one in February, April, May, June, July, August, October and December. Two sampling teams collected the samples. Two types of schedules were sampled. The short schedule (February, April, June, July, August, and December) included four stream sites and four wastewater treatment plants. The long schedule included all seventeen sites and eight wastewater treatment plants and was sampled in May and October during high flow and low flow, respectively. Specific sites sampled during the short and long schedules are represented in the Monitoring Schedule table below. Analytical results for field samples are presented in Appendix C.

Four samples were collected at each stream site during the long schedule. The samples were kept in coolers on ice and transported by the sampling teams to the City of Golden Environmental Services Laboratory, one set of samples was delivered to Northglenn, one set of samples to Westminster, one set of samples to Thornton, and metals samples to the EPA lab in Golden, CO. The cities of Westminster and Northglenn received quality control samples for total nitrogen (TN) and total phosphorus (TP), respectively. Analyses were performed as follows:

Entity	Parameter/Analyte	Sample Type
Northglenn	TP & Ortho P, Spikes/Duplicates for TP	Grab
Westminster	TN, NO3, NH3 and Spikes/Duplicates for TN	Grab
Thornton	TSS & VSS, TOC	Grab
EPA	Metals	Grab

Field parameters, including pH, temperature, conductivity, turbidity and dissolved oxygen were analyzed at each site during each sampling event. The short sampling schedule did not include metals or the nutrient (TP/TN) quality control spikes and duplicates analyses.

Standley Lake Watershed Map

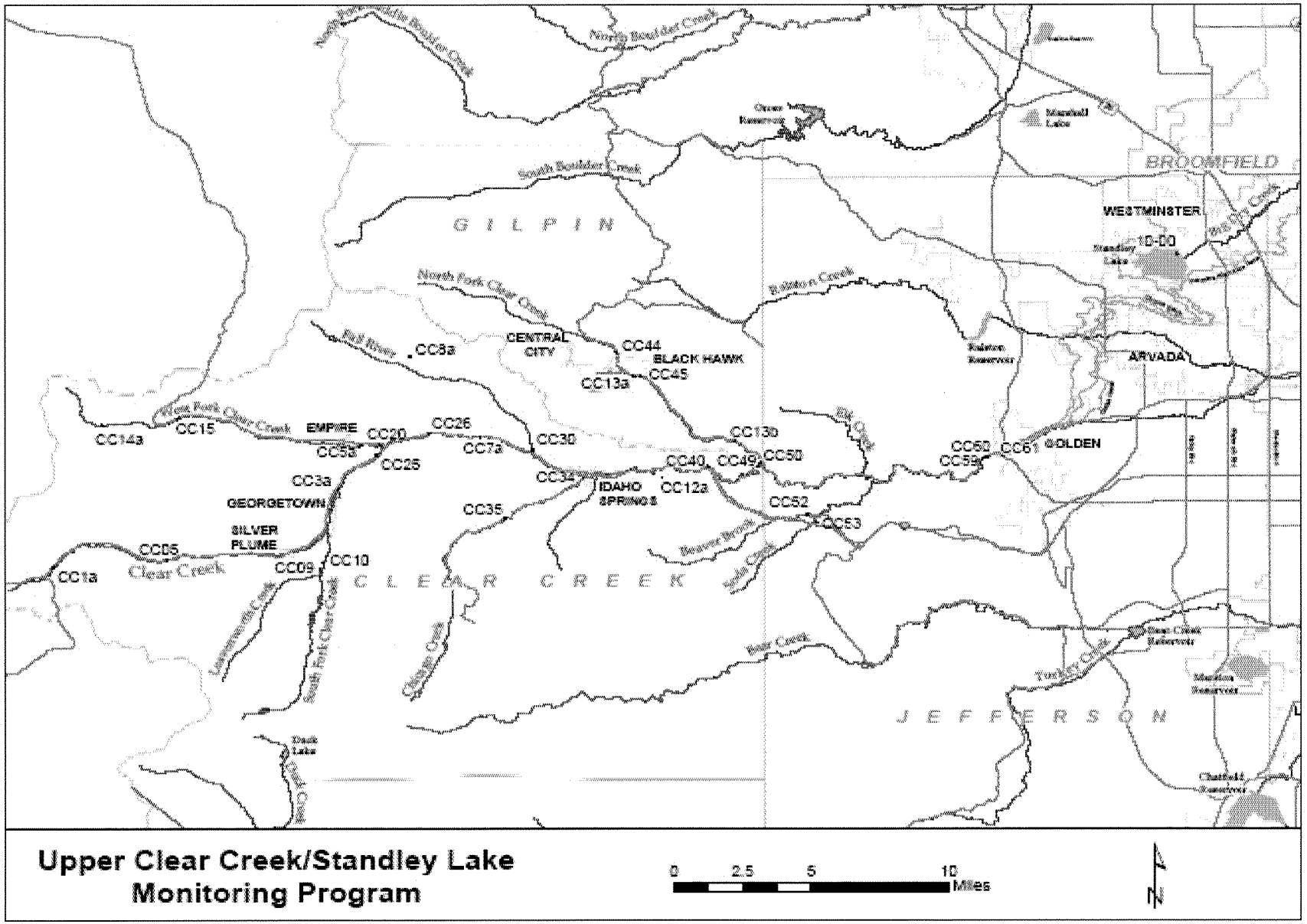


2005 Monitoring Program

All creek and tributary samples were analyzed for phosphorus, nitrogen, TSS/VSS, TOC, metals (May and October only) and field parameters; Wastewater Treatment Plants (WWTP) were analyzed for phosphorus, nitrogen, TSS/VSS, and field parameters.

Monitoring Schedule – grab samples

Designation	Sample Site Location	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
CC05	Mainstem of Clear Creek (CC) at Bakerville					X					X		
CC09	Leavenworth Creek					X					X		
CC10	South Fork CC at Leavenworth Creek					X					X		
CC15	West Fork CC below Berthoud					X					X		
CC20	West Fork CC below Empire					X					X		
CC25	Mainstem CC above West Fork CC					X					X		
CC26	Mainstem CC at Lawson gage		X		X	X	X	X	X		X		X
CC30	Fall River above Mainstem CC					X					X		
CC34	Mainstem CC upstream of Chicago Creek					X					X		
CC35	Chicago Creek above Idaho Springs WTP					X					X		
CC40	Mainstem CC below Idaho Springs WWTP		X		X	X	X	X	X		X		X
CC44	North Fork CC above Black Hawk/Central City WTP intake					X					X		
CC45	North Fork CC above Black Hawk/Central City WWTP					X					X		
CC50	North Fork CC above confluence with Mainstem CC		X		X	X	X	X	X		X		X
CC52	Beaver Brook					X					X		
CC53	Soda Creek					X					X		
CC60	Mainstem CC at Church Headgate		X		X	X	X	X	X		X		X
CC1a	Loveland WWTP					X					X		
CC3a	Georgetown WWTP		X		X	X	X	X	X		X		X
CC5a	Empire WWTP					X					X		
CC7a	Central Clear Creek WWTP		X		X	X	X	X	X		X		X
CC8a	St. Mary's Glacier WWTP					X					X		
CC12a	Idaho Springs WWTP		X		X	X	X	X	X		X		X
CC13a	BH/CC WWTP (Old plant)		X		X	X	X	X					
CC13b	BH/CC WWTP (New plant July 2005)								X		X		X
CC14a	Henderson Mine					X					X		


GILPIN
CLEAR CREEK
JEFFERSON
BROOMFIELD
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ARVADA
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CENTRAL CITY
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EMPIRE
GEORGETOWN
SILVER PLUME
IDAHO SPRINGS
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CC61
Clear Creek
Upper Clear Creek/Standley Lake
Monitoring Program
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Autosamplers

In 2005, three autosampler stations were added to the program, identified as:

CC49 -- On the mainstem of CC upstream of the confluence with the North Fork of CC
CC50 -- North Fork of CC above confluence with the mainstem of CC
CC59 -- on the mainstem of CC approximately 100 yards upstream of the Church Ditch Headgate

Each month from July through November 2005, 24-hour composite samples collected over two consecutive days, were sampled and analyzed for nutrients, TSS/VSS, and metals. Conductivity, temperature, and turbidity field probes were installed for continuous instream data collection. The data is downloaded routinely. The monitoring program is expected to remain active through 2006.

Quality Assurance / Quality Control

Quality control samples were collected, prepared, and analyzed in 2005. For the May and October monitoring events, one 2-liter sample was randomly selected out of the 17 Clear Creek samples for preparation of both the spike and duplicate. The laboratories received the following quality control samples:

- Northglenn – spike and duplicate for Total Phosphorus (TP)
- Westminster – spike and duplicate for Total Nitrogen (TN)

The spike recovery and relative percent difference data obtained from the quality control samples provide a measure of confidence that the monitoring program data are acceptable. Quality control sample results are reported in Appendix C.

Standley Lake Supply Canal Monitoring - Croke and Farmers High Line

Two canals, the Croke and Farmers' High Line, are sampled as a part of the monitoring program. One of the two canals was sampled routinely within seven (7) days following each Upper Clear Creek Basin sampling event. There were three (3) sampling sites on each canal: the headgate, midpoint and inlet to Standley Lake. See Appendix C for results.

Thornton operated two autosamplers at the headgates, Arvada at the midpoints, and Northglenn at the lake inlets. The autosamplers were set up to draw one sample every hour for a 24-hour composite. The midpoint autosampler was set to start 4-6 hours after the headgate sampler and the lake inlet autosampler was set to start 4-6 hours after the midpoint autosampler. The delay in start times was varied based on flow velocity.

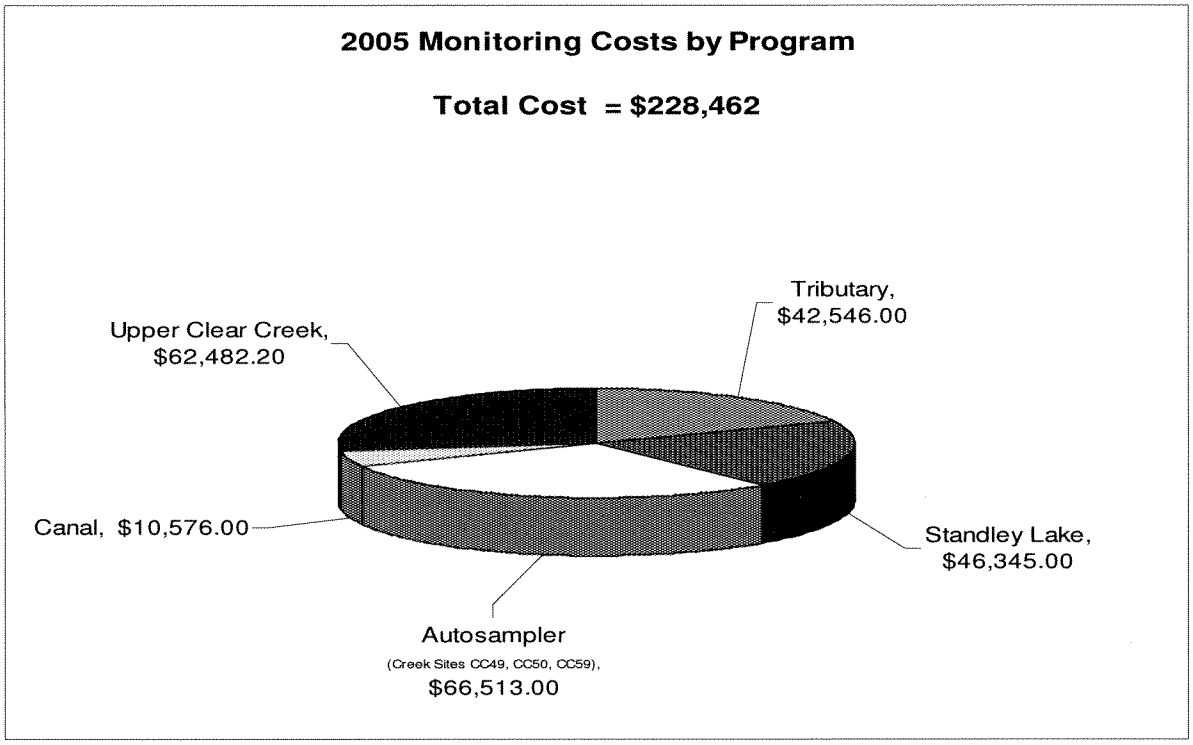
Northglenn performed ortho phosphorus and total phosphorus analysis on the canal samples. Thornton performed suspended solids, volatile suspended solids and TOC analysis. Westminster performed total nitrogen, nitrate, ammonia, conductivity and turbidity analyses on the canal samples. Arvada collected samples at the canal midpoint for analysis by a contract laboratory for total nitrogen and total phosphorus.

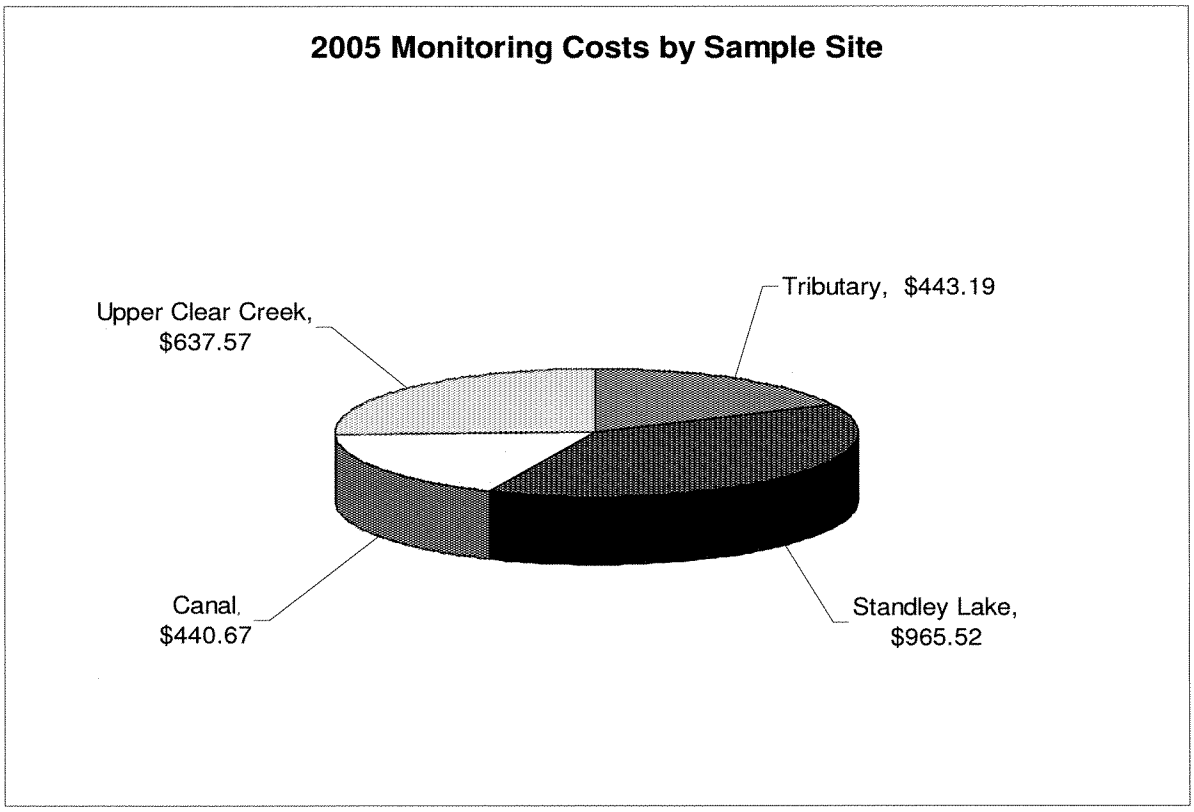
Standley Lake Monitoring

In 2005, Westminster Laboratory staff sampled Standley Lake from a boat on 23 dates from January 3rd through November 17th at site SL10, on the east side of the lake near the dam. At this location, samples were collected at up to three levels: the surface, the photic zone (twice the secchi disk depth) and five feet from the bottom. Lake samples were collected twice a month (weather permitting) in an attempt to accurately assess algal growth, the period of hypolimnetic anoxia and lake turnover. Westminster measured the secchi depth in the lake to determine clarity and define the photic zone. A multi-parameter sonde with sensors to measure temperature, specific conductance, pH, ORP, turbidity, chlorophyll-a and dissolved oxygen was lowered through the water column to take readings at 1-meter intervals. Beginning in August, a plankton net was lowered to the bottom of the lake and drawn to the surface to collect a zooplankton sample during each sampling event. Westminster also performed total nitrogen, nitrate and ammonia analyses. Northglenn performed total phosphorus and ortho-phosphorus analyses. Thornton performed coliform analyses, solids and total hardness analyses, algae count, algae identification and chlorophyll a analyses. Parameters that were collected on an intermittent basis included metals (quarterly), gross alpha and beta (5 samples) and TOC (11 samples). Additionally, six samples were collected at the boat ramp for BTEX analysis.

The Remote Underwater Sampling Station (RUSS) unit was deployed on Standley Lake on March 22, 2005 and took daily profiles until December 5, 2005. Two YSI 6600 sondes were alternately placed on board the profiler approximately every other week. Both sondes carried sensors for temperature, specific conductance, pH, ORP, turbidity, chlorophyll a and dissolved oxygen. During the deployment period, the RUSS executed at least one full-column profile on 257 separate days. In early December, gale-strength winds compromised the anchoring system, and the RUSS buoy was flipped upside-down. Westminster Water Quality staff managed to right the buoy and recover the Underwater Profiler before being driven off the lake by a snow storm. During that storm, the buoy broke free of the terminal anchor it was still attached to, drifted to the north-east corner of the lake, and had to be broken out of an ice flow later in December. The RUSS buoy suffered moderate damage and one anchor line was lost. The RUSS was repaired in preparation for the 2006 sampling season.

Monitoring Costs





Costs include administrative time for data entry, quality control and report writing at $35/hour. No costs for instrumentation are included. Commercial laboratory rate per sample was used when available.

Event description	#Sampling Sites	# Sampling Events	Total # of samples
Creek	25*	8 (6 short, 2 long)	98
Tributary	8	12	96
Canal	3	8	24
Lake	3	16	48

* 17 creek sites + 8 WWTF

The EPA participates in an ancillary metals monitoring program where the watershed sampling teams collected the samples in conjunction with the routine monitoring program in May and October. The analytical cost for metals analyses was approximately $4000 in 2005.

Monitoring Program Contributions

Contribution	Arvada	Golden	Northglenn	Thornton	Westminster	UCCWA
Provided personnel for canal sampling	X		X	X		
Provided personnel for CC sampling	X			X	X	
Provided personnel for Tributary sampling			X	X		
Provided funding and personnel for CC autosampling program	X	X	X		X	
Prepared QC samples		X				
Administered CC/SL database		X				
Provided laboratory for field testing		X				
Printed chain of custody forms		X				
Performed phosphorus analyses (total and ortho-)			X			
Provided one auto-sampler and staff for canal sampling	X		X	X		
Coordinated canal sampling program			X			
Conducted and coordinated the tributary sampling program			X			
Participated in Lakewatch Committee			X	X		
Participated in database peer review			X	X		
Provided field testing instrumentation and analyses				X		
Coordinated CC monitoring program				X		
Coordinated delivery of CC samples to laboratory				X		
Delivered sample bottles to sampling teams				X		
Performed algae counts and identification, chlorophyll a, TSS/TVS, TOC and E. coli analyses				X		
Provided funding for metals sampling						X
Conducted SL sampling program					X	
Provided boat and field testing equipment					X	
Performed total nitrogen, nitrate/nitrite and ammonia analyses					X	
Maintained RUSS equipment and RUSS database					X	
Coordinated and maintained CC and tributary database					X	
Coordinated CC and tributary database peer review					X	
Coordinated CC autosampling program					X	
Coordinated and maintained Lakewatch database and data evaluation					X	

Monitoring Results

In an effort to understand anthropomorphic impacts on water quality and in support of the narrative standard on Standley Lake, upstream to downstream nutrient data comparisons for 2005 were made against the 1994 through 2004 sample data. The site used in previous years reports (CC05) was minimally sampled and therefore replaced with CC26 in 2005. All of the data used in the following summary were generated from grab samples taken over the hydrograph (8 times/year). Three automatic samplers, equipped with data loggers and water quality sampling probes, were installed late 2005. As the equipment did not collect data over the entire year, this data was not used for the following summary. The three sites chosen for the following trend comparisons are all on the mainstem of Clear Creek. In order upstream to downstream the sites are:

CC26: I-70 at the Lawson gage below the confluences of West Fork CC, Leavenworth Creek and South Fork CC. Anthropomorphic influences include the following wastewater treatment facilities: Loveland Pass, Georgetown, Empire, Henderson Mine, domestic and commercial septic systems, treated mine waste from Henderson Mine and stormwater runoff from roadways.

CC40: USGS gage at Kermit's Restaurant, below the confluences of West Fork CC, Leavenworth Creek, Chicago Creek, Fall River, and South Fork CC, upstream of the confluence with North Fork. Anthropomorphic influences include multiple wastewater treatment plants, septic systems, abandoned mines and stormwater runoff from towns and roadways.

CC60: At the Church Ditch Headgate, below the confluences of North Fork CC, Beaver Brook, Soda Creek and Elk Creek. Anthropomorphic influences include multiple wastewater treatment plants, septic systems, abandoned mines, rock/gravel mines, and stormwater runoff from towns and roadways.

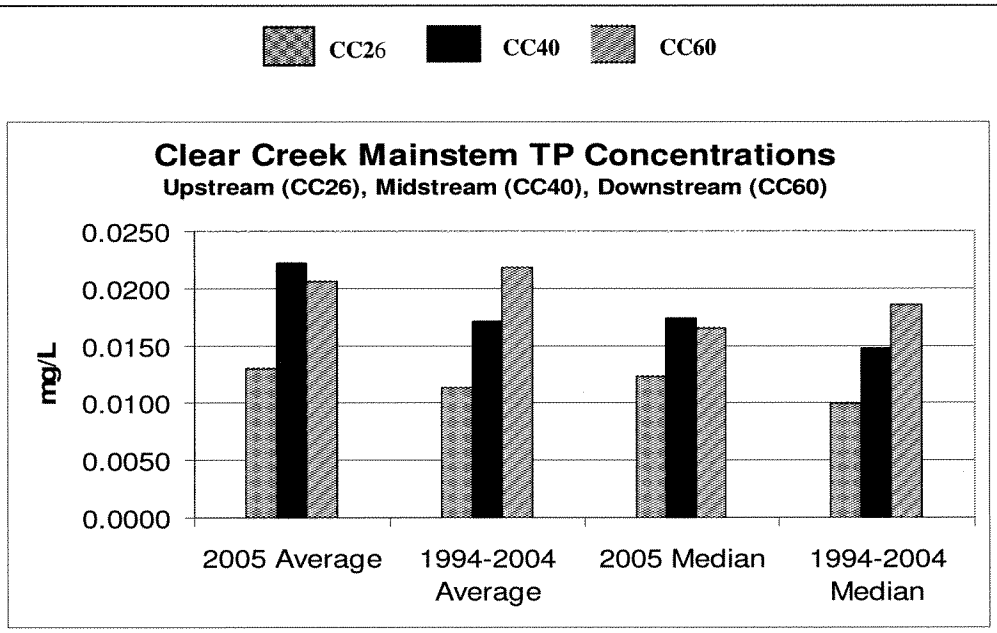


Figure 1: Current year with previous years' comparison of total phosphorus averages and medians by sample site.

Total phosphorus (TP) averages for the upper (CC26) and mid (CC40) sites were respectively 15% and 30% higher in 2005 compared to the 1994-2004 average. The average at the downstream site (CC60) showed a net reduction of 6% over the same time period. The medians at both the upper and mid sites also showed TP increases, 25% and 17% respectively in 2005, compared to 1994-2004. The median at the downstream site was reduced by 13% in 2005 compared to the 1994-2004 time period.

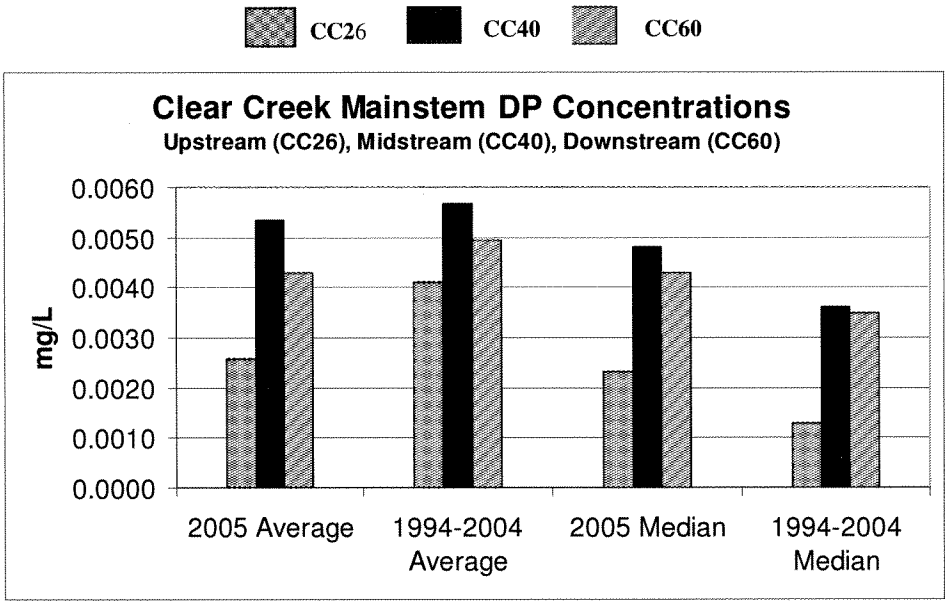


Figure 2: Current year with previous years' comparison of dissolved phosphorus averages and medians by sample site.

All three sites showed reductions in dissolved phosphorus (DP) averages in 2005 compared to the 1994-2004 averages. The reductions were 37%, 8% and 16% respectively, for CC26, CC40 and CC60. All three sites showed increases in DP medians in 2005 compared to 1994-2004. The increases were 43%, 33% and 24% respectively, at CC26, CC40 and CC60.

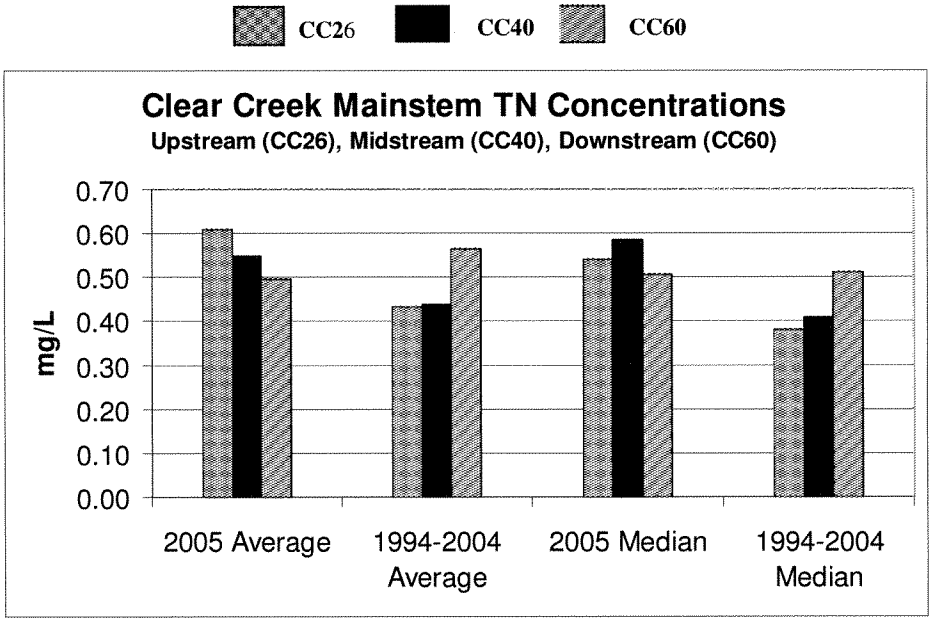


Figure 3: Current year with previous years' comparison of total nitrogen averages and medians by sample site.

Average total nitrogen (TN) for the upper and mid sites showed double digit increases in 2005 over the 1994 to 2004 time period averages, 42% and 25% respectively. The downstream site saw a reduction of 11% in average TN for 2005 compared to the 1994-2004 average. Medians at the upper and mid sites showed increases of 42% and 44% respectively in 2005 compared to the 1994-2004 median. There was no change in the median at the downstream site in 2005 compared to 1994-2004 median.

Clear Creek Results - Summary Table

Due to monitoring program changes in 2005, only sites where at least 8 grab samples were collected are considered in the following summary. To review the entire summary table, see Appendix C.

	Lowest Concentrations			Maximum Concentrations		
Analyte	Site	Date	Concentration	Site	Date	Concentration
TSS	CC26	12/01/05	< 1 mg/L	CC50**	05/26/05	52 mg/L
Turbidity	CC26	12/01/05	0.20 NTU	CC50**	05/26/05	49.4 NTU
Total Phosphorus	CC40	02/07/05	0.0070 mg/L	CC50**	05/26/05	0.0950 mg/L
Dissolved Phosphorus	Multiple locations*	Multiple dates*	< 0.005 mg/L	CC50	05/26/05	0.0154 mg/L
Total Nitrogen	CC50	06/15/05	0.17 mg/L	CC50**	02/07/05	1.49 mg/L

* Dissolved phosphorus was not detected at multiple locations on multiple dates during 2005. Refer to the data in Appendix C for specific information.

** Site CC50 at the confluence of North Fork of Clear Creek and the mainstem recorded the highest turbidity measurements in 2003, 2004 and 2005; the highest total phosphorus measurements in 2004 and 2005; and the highest total nitrogen measurements during the winters of 2003, 2004 and 2005.

Standley Lake Trophic Parameters

The narrative standard on Standley Lake was adopted in 1994. It specifies measurable water quality indicators or parameters that are commonly used to determine a lake's trophic status. Collecting and evaluating this data requires a tremendous amount of staff time and monetary resources. The SLC are committed to continue the monitoring of Standley Lake and evaluation of the water quality data.

2005 marked the eleventh year of water quality monitoring since adoption of the watershed management agreement with the Upper Basin. The SLC continued to work with upstream agencies to improve Clear Creek's water quality, to regularly analyze samples from Standley Lake and to evaluate the data for trends. These tasks were performed in support of the narrative standard and the SLC water quality intergovernmental agreement mission statement and goals. The monitoring program is guided by these documents. The mission statement reads:

> *To protect the quality of Standley Lake as a drinking water supply through the application of scientifically based and fiscally responsible management techniques. Optimize the health of Standley Lake and its watershed for current and future generations.*

The word "health" and ecological condition are interchangeable in the above statement. Health should be thought of as an over-arching state of the lake which takes into account parameters not listed in the narrative standard, such as algal species diversity, bacteria counts and toxic materials, in addition to typical trophic status variables. While this report does not include discussion on this broader topic, the SLC recognize the importance of evaluating trends in these parameters and integrates the conclusions into lake management decisions.

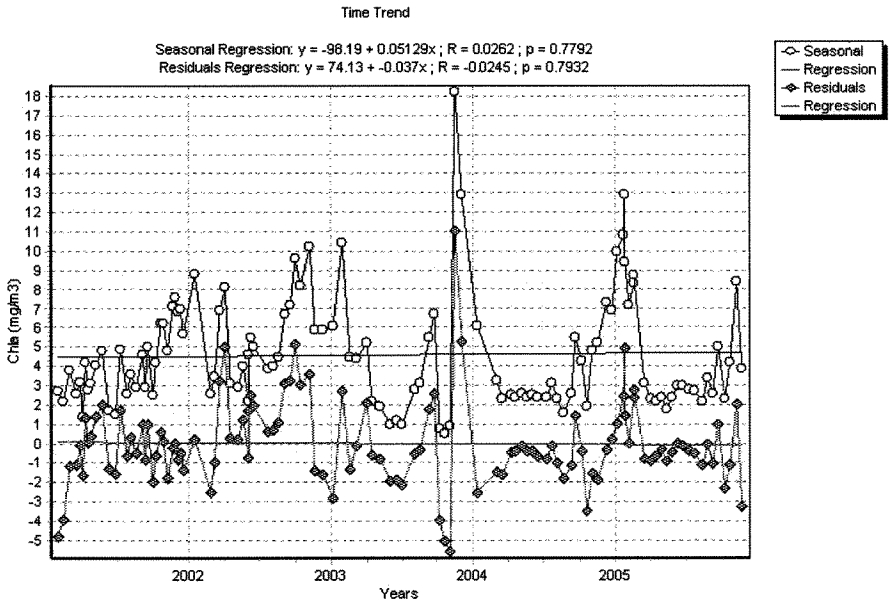
Trends and trophic status are evaluated using computer software called Lakewatch. Lakewatch is a trending software program developed by Dr. Noel Burns, renowned limnologist. Dr. Burns suggests that selecting an appropriate time period is crucial for trend detection. "It is important not to extend trend lines from years where a particular trend is evident to other years where the trend no longer exists." Dr. Burns also cautions that a minimum of three years data are required to determine a trend. Upon review of the Carlson Trophic State Index (TSI) values and trends, several changes in TSI occur in the 1999 to 2001

time period and again in the 2003-2004 years. The SLC believe that the 2002 drought and the rapid filling of Standley Lake in 2003 explain this later observation. The previous years changes are under investigation. A table with the Carlson trophic status values follows in the Trophic Status section. For purposes of analysis, the time period of 2001 thru 2005, five years, was selected for trend analysis. The entire data set was used for trophic status comparison. The following sets of graphs were generated using the Lakewatch software. All indicators were measured at Standley Lake site SL10, near the dam face. Weather permitting, Standley Lake was sampled from a boat on 23 dates each year from January through December.

The top regression line shows observed data; the bottom regression line, plotted as residuals, is deseasonalized data, i.e. data from which seasonal variation has been removed. Residual values are calculated using the polynomial (from the seasonal trend analysis) subtracted from the measured data. Regression lines using least square regressions are calculated for both sets of data. A low p-value correlates to a low probability that the fit of the line is attributable to chance, i.e. there is a high probability of a trend.

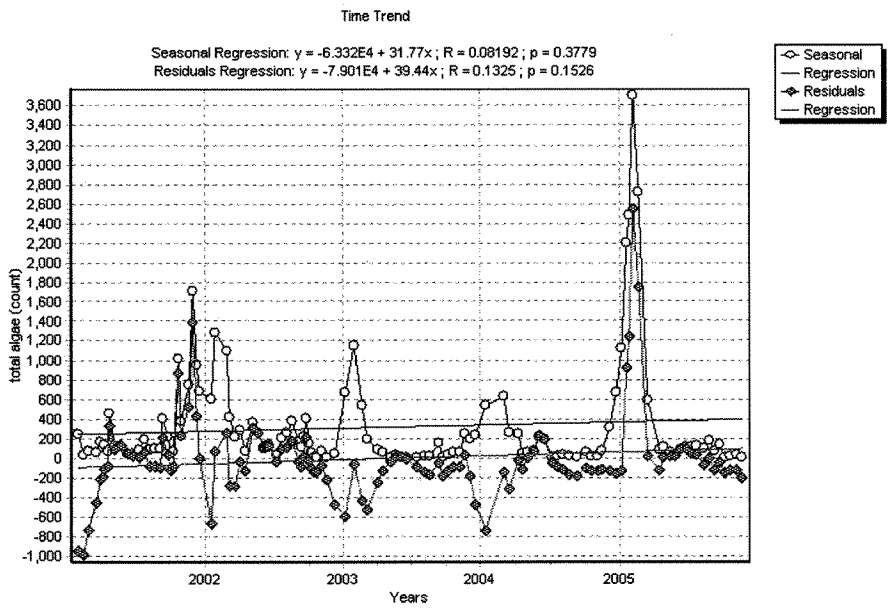
Chlorophyll a

The following graph, generated by the Lakewatch software program, indicates no significant change in uncorrected chlorophyll a (chla) and that the line is essentially flat. Note the large chlorophyll a spikes in the winters of 2004 and 2005.



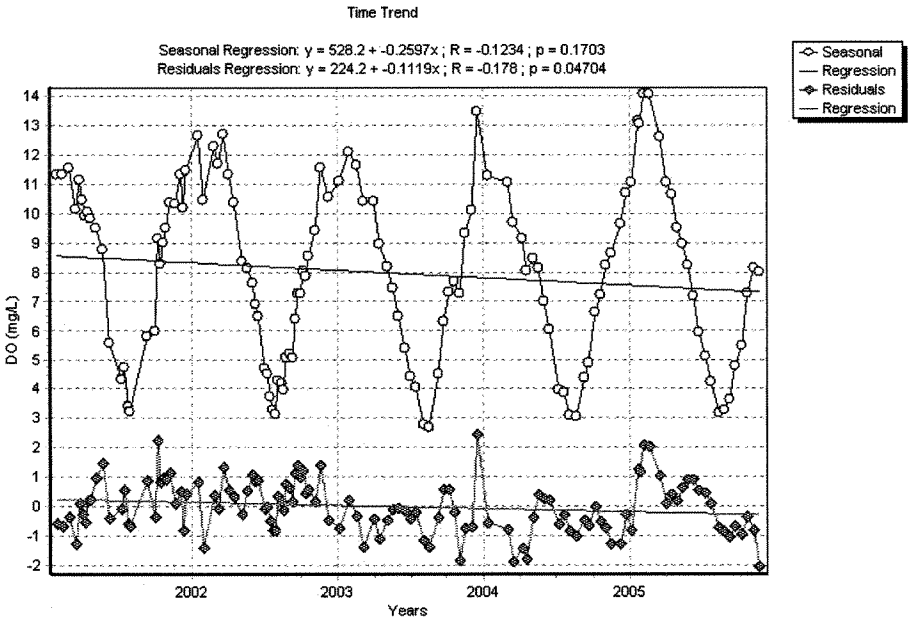
Total algae

The total algae count demonstrates a slight trend upward. The trend is not significant. In 2005, a winter algae bloom on Standley Lake caused taste and odor problems and increased treatment costs. Stephanodiscus and Asterionella are the two principle genus that bloomed during this event. Asterionella is a taste and odor causing algae that is low in chlorophyll a. Stephanodiscus is a filter clogging algae.



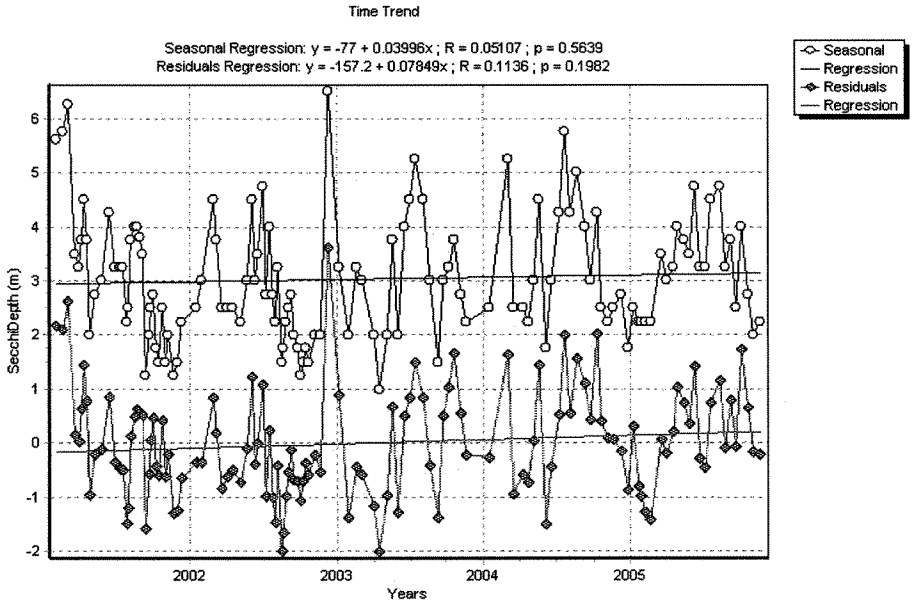
Dissolved Oxygen

Dissolved oxygen (DO) levels are trending downward. The trend is significant. The rate of change is 0.1119 mgDO/L/yr. This trend means that the number of weeks the lake has been anoxic over the entire period of record has been increasing. During the period 1994 to 1996 the lake was anoxic 5 to 6 weeks per year. For the period 2001 through 2005 the length of anoxia had increased to 10 to 15 weeks.



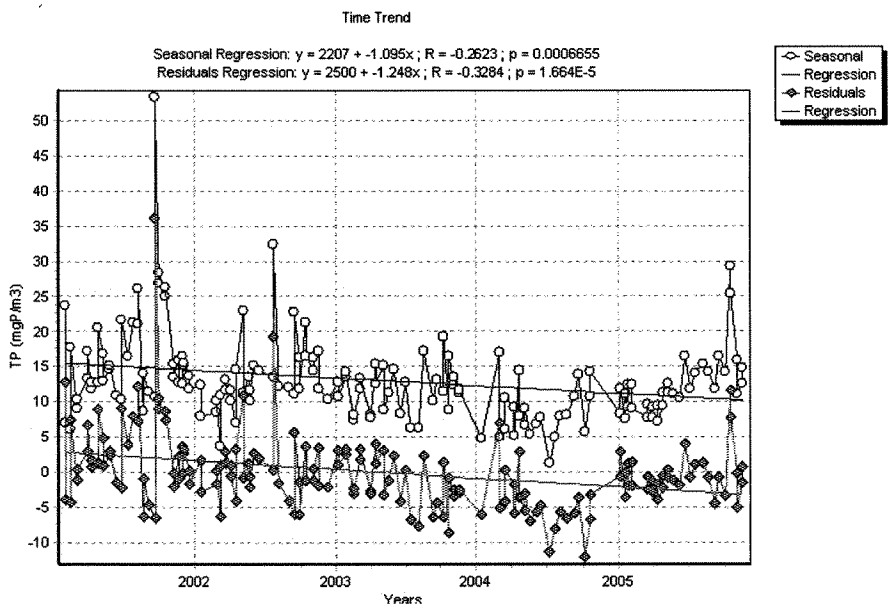
Secchi Depth

Secchi depth is trending slightly upward. The trend is not significant. The photic zone is the depth to which light can penetrate and is calculated by doubling the secchi depth.



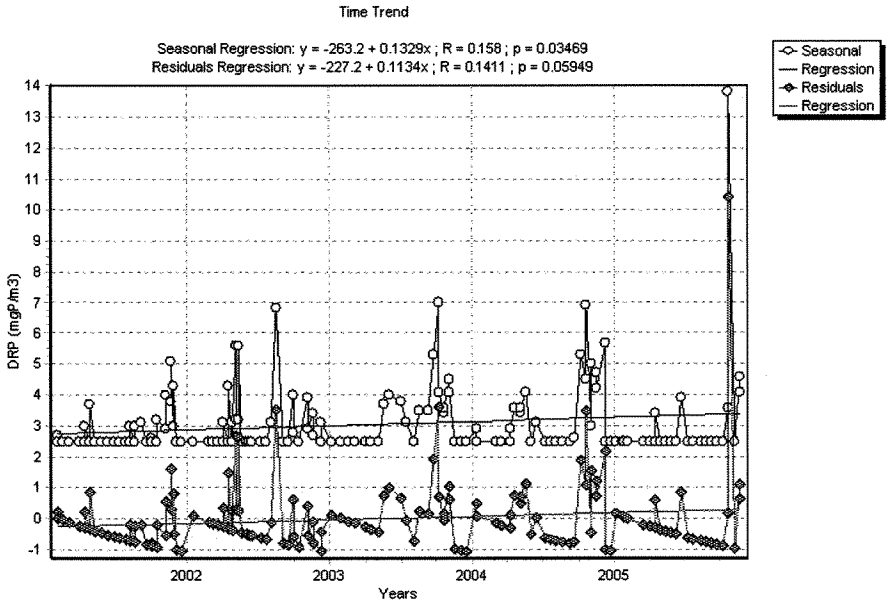
Total Phosphorus

Total phosphorus (TP) is trending downward. The trend is significant. The rate of change is 0.3284 mgP/m^3/yr.



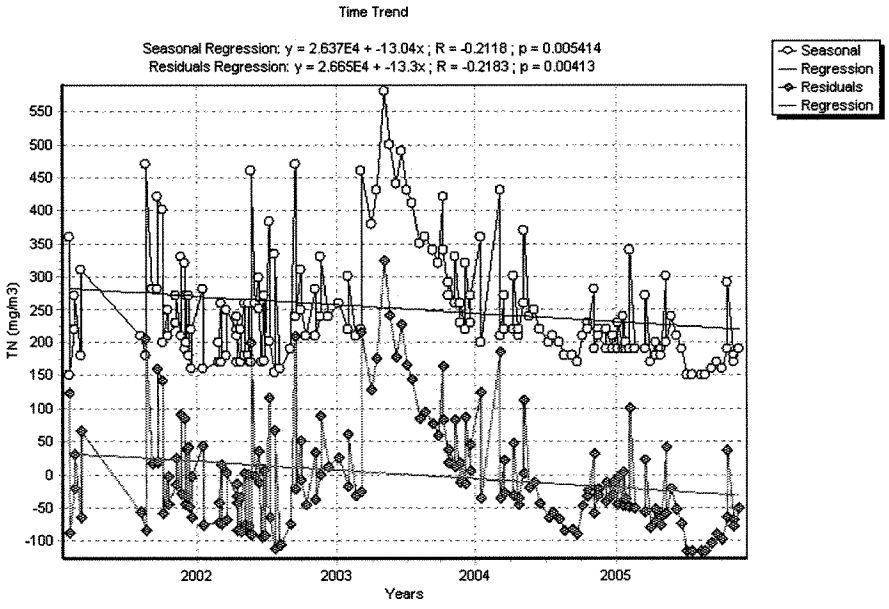
Dissolved phosphorus

Dissolved reactive phosphorus (DRP) is trending slightly upward. The trend is not significant.



Total nitrogen

Total nitrogen (TN) is trending downward. The trend is significant. The rate of change is 13.3 mgTN/m^3/yr. However, the net loading remains high. The SLC believe this trend may be due to uptake by the invasive aquatic plant Eurasian Watermilfoil which was found in SL around 1999/2000 and is well established.



To further characterize water quality in Standley Lake, a mass balance loading calculation was performed and trophic index assessed using the Carlson method.

Trophic Index

Dr. Noel Burns, noted limnologist and developer of the Lakewatch program, defines trophic state as "the life supporting capacity per unit volume of a lake. Six commonly measured variables are widely accepted as good indicators of the trophic level of a lake: Chlorophyll a (chla), Secchi depth (SD), total phosphorus (TP), total nitrogen (TN), hypolimnetic volumetric oxygen depletion rate (HVOD) and phytoplankton species and biomass." Four of the six indicators are mentioned in Standley Lake's narrative standard. Dr. Burns further explains that "trophic levels of lakes are critical indicators of water quality. They provide a measure of the nutrient status of a body of water." Trophic state is related to water quality but the two terms are not synonymous. Trophic state is a scale based on multiple, commonly measured parameters. Water quality is a relative term based on use or uses of the water.

Commonly used indices to determine trophic state or status include: Vant (1987), Carlson (1977), Chapro et al. (1981) and Burns et al. (2000). The Lakewatch program uses both the Carlson and Burns classification schemes. The concept of trophic status is based on the fact that changes in nutrient levels influence algal biomass as measured by chlorophyll *a* which in turn causes changes in lake clarity as measured by Secchi depth. A trophic state index is a convenient way to quantify this relationship. The SLC agree that the lake is currently mesotrophic but remain interested in developing a water quality index that would serve as an indication of achievable condition. Coupling this information with trending analysis can serve as an early warning allowing implementation of management options to prevent the lake from becoming eutrophic. The SLC are introducing this concept in support of the Upper Basin's regional wastewater study and in response to recommendations made by multiple limnologists at the 2003 Expert Workshop.

The first table below is a summary of the lowest reading by parameter and year. The second table is a more complete look at the trophic status by year for the entire data set. The middle section of columns in the table below transforms the raw data to a trophic index value. In turn, the individual trophic index values are combined, resulting in an annual TSI average. The year 2004 showed the lowest annual average TSI, 38.46.

TSc(hlorophyll a)		**TSs**(ecchi)		**TSp**(hosphorus)		**TSn**(itrogen)	
1999	36.47	2004	42.75	2004	34.70	2005	31.11

Carlson Trophic State Index Values and Trends

Period	chla (mg/m^3)	SD (m)	TP (mgP/m^3)	TN (mgN/m^3)		TSc	TSs	TSp	TSn		TSI avg	Std Error TS avg
May 1994-Dec 1994*	3.03	2.62	20.75	312.81								
Jan 1995-Dec 1995	2.94	2.51	21.63	320.27		41.49	46.12	47.88	37.68		43.29	2.31
Jan 1996-Dec 1996	3.10	2.29	14.36	281.11		41.71	48.03	42.57	36.14		42.11	2.43
Jan 1997-Dec 1997	2.84	2.43	16.44	313.90		40.83	47.21	44.53	37.73		42.57	2.08
Jan 1998-Dec 1998	2.75	2.88	17.51	346.32		40.52	44.76	45.43	39.15		42.46	1.55
Jan 1999-Dec 1999	1.82	3.09	10.69	281.45		36.47	43.73	38.31	36.16		38.67	1.75
Jan 2000-Dec 2000	2.68	2.72	14.79	226.49		40.26	45.57	43.00	33.02		40.46	2.71
Jan 2001-Dec 2001	4.09	3.08	17.47	268.28		44.42	43.80	45.39	35.46		42.27	2.29
Jan 2002-Dec 2002	5.60	2.76	18.08	241.71		47.51	45.38	45.89	33.96		43.19	3.11
Jan 2003-Dec 2003	4.70	3.00	11.77	335.48		45.78	44.17	39.70	38.69		42.09	1.71
Jan 2004-Dec 2004	3.54	3.31	8.26	234.06		43.01	42.75	34.70	33.50		38.46	2.56
Jan 2005-Dec 2005	5.00	3.20	12.44	198.33		46.38	43.26	40.50	31.11		40.31	3.30
Average	**3.51**	**2.82**	**15.35**	**280.02**		**42.46**	**45.13**	**43.02**	**35.88**		**41.26**	**0.65**

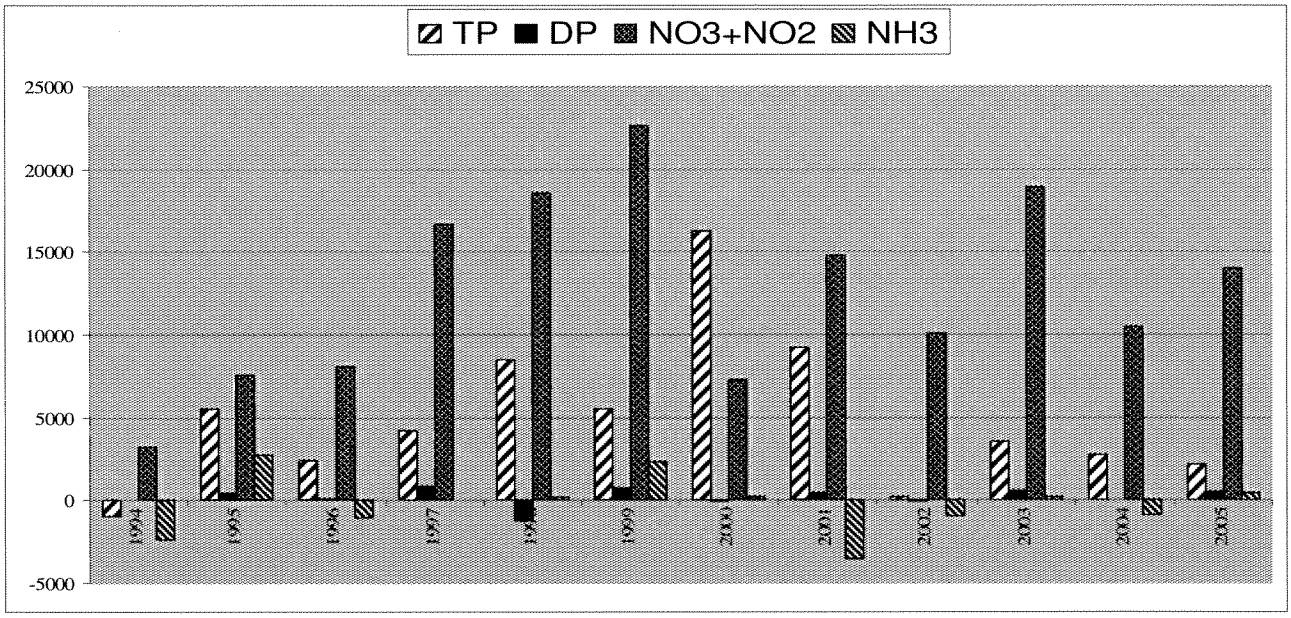
*Partial year

Utilizing the trophic indices, loadings and other evaluated data assists the SLC in developing management options to maintain Standley Lake in a mesotrophic state.

Standley Lake Mass Loading Summary, 1994 through 2005 (BDL=MDL)

Year	Total Phosphorus (lbs)			Dissolved Phosphorus (lbs)			Nitrate + Nitrate (lbs)			Ammonia (lbs)		
	Inflow Load	Outflow Load	Net Reservoir Loading	Inflow Load	Outflow Load	Net Reservoir Loading	Inflow Load	Outflow Load	Net Reservoir Loading	Inflow Load	Outflow Load	Net Reservoir Loading
1994	1,974	2,949	(975)	772	783	(10)	17,507	14,269	3,238	2,507	4,831	(2,324)
1995	8,166	2,611	5,555	1,201	773	427	35,473	27,865	7,608	5,168	2,413	2,755
1996	4,283	1,834	2,448	793	666	127	26,550	18,416	8,135	3,322	4,339	(1,017)
1997	6,177	1,934	4,243	1,202	381	820	33,188	16,493	16,695	4,077	4,058	20
1998	10,304	1,761	8,543	978	2,191	(1,213)	39,148	20,598	18,551	3,377	3,188	189
1999	8,179	2,601	5,579	944	179	764	47,687	25,090	22,597	4,778	2,441	2,337
2000	28,798	12,558	16,240	650	674	(24)	13,865	6,625	7,240	1,405	1,188	217
2001	11,535	2,270	9,265	898	444	454	27,240	12,457	14,783	1,905	5,417	(3,512)
2002	1,827	1,629	198	395	485	(90)	14,605	4,562	10,043	1,160	2,156	(996)
2003	5,116	1,526	3,590	1,197	623	574	45,161	26,223	18,938	2,014	1,844	170
2004	3,902	1,146	2,756	626	625	1	21,283	10,799	10,484	1,144	2,039	(895)
2005	2,902	751	2,151	682	179	503	24,014	9,941	14,073	1435	1,903	473

Notes: Parentheses indicate a negative value.
For calculation purposes, the method detection limit (MDL) concentration was substituted for non-detected concentrations less than the method detection limit.



Total nitrogen and total phosphorus net reservoir loadings in the 1999 to 2001 time period and again in the 2003-2004 years support the observed changes in Trophic State Index Values.

There are three principal ditches that deliver water to Standley Lake from Clear Creek: Croke Canal (Croke), Farmers' Highline (FHLC) and Church Ditch (WC Church). The Kinnear Ditch Pipeline (KDPL) delivers water to Standley Lake from Coal Creek or the Boulder Diversion Ditch. Understanding the diversion seasons assists in the characterization of pollutant sources. For example, the FHLC diversion season is April 14th through October 31st. The Croke diversion season is generally October 31st through April 14th. These waters are predominately low flows and are influenced by waste water facilities and stormwater runoff. The diversion season for the Church Ditch is April 14th through October 31st. Actual diversion dates may vary slightly due to the seniority of water rights on the South Platte and Clear Creek. Multiple water sources are delivered through the KDPL which allows diversions to occur essentially year round in this ditch.

To characterize nutrient loadings by source, the loading inflow for each ditch was divided by the acre feet of water diverted, yielding pounds of nutrient per acre foot of water diverted. This exercise evaluates the presence or absence of seasonal variation and assists with identifying potential nutrient sources. The information can then be used to identify potential actions to reduce nutrient loadings into Standley Lake. The table below summarizes nutrient inflows by ditch for 2005.

Ditch	Diversion Season	lbs/acre ft diverted			% of Total 2005 Diversions
		TP	DP	TN	
FHL	4/14 to 10/31	0.07	0.02	0.83	53%
Croke Canal	10/31 to 4/14	0.10	0.02	1.77	33%
WC Church	4/14 to 10/31	0.10	0.02	0.91	2%
KDPL	Year round	0.10	0.02	0.99	11%

The total percentage does not add up to 100% due to mathematical rounding.

II. THE UPPER CLEAR CREEK WATERSHED ASSOCIATION

Introduction

2005 was a transitional and refocusing year for UCCWA and its 20 member entities. As Superfund activities in the basin wind down, there has been a move from wondering "What will the State clean up next?" to wanting to understand where the clean up leaves Clear Creek and what work is left that will not be addressed under CERCLA. UCCWA applied for, and received, a 319 grant that allowed the association to explore those questions. The resulting **Upper Clear Creek Watershed Plan** helps describe the expected condition in Clear Creek as it relates to metals concentrations. The plan will help UCCWA evaluate proposals by third parties to conduct additional work in the basin and will form a framework to respond to the anticipated development of TMDLs by the WQCD for several stream segments in the upper basin.

2005 also forced UCCWA members to face performance problems at some wastewater treatment plants. Despite significant gains in nutrient removal when the watershed agreement was first signed, there has not been much progress in recent years. A few plants, in fact, have had issues with permit compliance. The actions of individual plants to address specific problems are described below in member updates. A larger, more coordinated effort is also taking place. The Regional Wastewater Study Group has been formed as a subcommittee to UCCWA and receives technical support from DRCOG. While the goals and interests of the committee members are diverse, the group is looking to update utility plans for all wastewater treatment plants in the basin. They are also discussing a variety of regionalization opportunities that range from shared resources and operations to construction of a regional plant.

Black Hawk/Central City Sanitation District

The Black Hawk/Central City Sanitation District completed construction on their new wastewater treatment facility and started operations on August 23, 2005. The plant immediately met all discharge permit limits. At a cost of $22 million, this new plant is 10-15 times larger than the old plant. Currently built to handle 2 million gallons/day, plant capacity could expand to 4 million gallons/day. Current flow is .35 million gallons/day, peak flow over 1 million gallons/day.

Start-up of the facility is still on-going with several equipment components necessitating additional engineering and fine-tuning. One blower which began smoking in the solids building affected the phosphorus removal. That blower was fixed and an additional blower was ordered as standby to alleviate any sustained phosphorus increases in the future.

In addition to the continual activated sludge system, this new plant uses sand filtration, UV disinfection, and biological nutrient removal (BNR). Costs for these advanced treatment features were shared among Gilpin County, Black Hawk, Central City, the Standley Lake Users, and Coors Brewing Company.

The plant has had phosphorus average of .13 mg/l with a maximum of .18 mg/l and minimum of .10 mg/l. The total nitrogen has had an average of 4.17 with a maximum of 6.20 mg/l and a minimum of 2.50 mg/l.

The biosolids from this facility are being shipped to Leadville for a mined land reclamation project. The odor control system consists of chemical sprays of sodium hypochlorite and sodium hydroxide to remove the sulfur odor.

The District is very proud of the new plant and is looking forward to continued excellent effluent. One-third of the collection system was cleaned and televised with no problems found. UCCWA toured the facility on November 10, 2005. Prior to demolition of the old WWTP, the District made parts and equipment available to other UCCWA members. Georgetown obtained a generator and Idaho Springs obtained various pieces of equipment.

The existing Clear Creek Convenience station just downstream is scheduled to be connected to the wastewater plant in 2006, thus eliminating its septic system. Planning and design has been completed for the connecting pipeline and part of the pipeline has been laid. Through its 208 authority, UCCWA approved this lift station.

The District is also trying to work with the US Environmental Protection Agency and the CDPHE/Water Quality Control Division - Remedial Projects to add a wetland to the east of the new facility to polish North Clear Creek during low flow conditions. This project should be well on its way during 2006.

Central Clear Creek Sanitation District

AAA Operations tests monthly for BOD, TSS, FC, AMM, Flow and % Cap and reports that no effluent violations occurred during 2005. CCSD continues alum addition to improve nutrient removal.

City of Black Hawk

In 2005, the City of Black Hawk conducted several upgrades, including:

- began replacement of the 100-year-old mountain supply pipeline with 4,400 feet of 8- inch pipe;
- leased the previously-dry Pickle Jar Reservoir and began using it for water storage;
- completed a new detention pond and intake structure at the Hidden Valley Plant, enabling increased intake of cleaner water; and
- controlled "water hammer" for the Black Hawk commercial district by installing instrumentation and surge arresters in five pressure reducing vaults.

The City continues to require the use of Urban Drainage and Flood Control District Volume III Best Management Practices (BMPs) on projects in its jurisdiction. Construction projects are also required to obtain stormwater permits from the State. The City also continues to implement its sand and sediment detention pond clean-out program.
Black Hawk is actively involved in MMRR Quarry proceedings and is specifically concerned about water quality impacts and erosion control; see **Gilpin County** section.

City of Central

The Central City Parkway connects the City of Central to I-70. The WQCD took enforcement against Ames Construction, the contractor, for stormwater violations during construction of the parkway. UCCWA attempted to obtain money from the Supplemental Environmental Project (SEP) proposed by Ames to settle the enforcement action. The hope was to use some of the SEP funds to assist Idaho Springs with WWTP compliance and operations. The effort was unsuccessful. Per CDPHE, Ames proposes to pay $51K in fines to the state and $140K in SEP money to Colorado Open Lands.

City of Golden

***Water Quality*:** In 2005, an Inflow and Infiltration (I&I) Study Plan was submitted to the State to identify and mitigate I&I into the Arapahoe Gulch drainage basin. The plan prioritizes rehabilitation and upgrades to Arapahoe Gulch over the next four years. Sanitary sewer improvements will coordinate with storm sewer improvements in response to flood events that occurred in 2004.

Watershed/Other Activities: As part of an expanded watershed monitoring program, Golden financed and installed a permanent on-line monitoring station on Clear Creek above Golden's water intake. The purpose is to characterize seasonal effects to water quality including run off and rain events. Initial set up involved siting and accessibility issues, labor to install access, and purchase of equipment and materials. Golden continues to have active participation in and an annual contribution to the Upper Clear Creek

Watershed Association ($3,591 in 2005). The City also made a $5,888 annual contribution to the Rooney Road Recycling Center including participation as a board member.

***Stormwater Program*:** In 2005, the City continued activities in accordance with its Municipal Stormwater Permit under the Colorado Discharge Permit System.

- The City partnered with the Denver Zoo to sponsor a Water Warriors Community Service Learning Project for five classes at Shelton Elementary. The project served to educate students about stormwater quality, source water protection and aquatic habitats. The students received classroom sessions, including visits from Denver Zoo residents, participated in stream sampling and analysis and marked storm drains near the school with markers that read, "No Dumping, Drains to Clear Creek."

- The Jefferson County Open School high school chemistry class participated in a semester long project that involved learning about the watershed, developing a water quality monitoring project and learning water quality analysis lab techniques.

- The Environmental Services Division responded to 28 illicit discharges or spills to the storm sewer system. Four written warnings and one summons were issued.

- The construction site runoff control program managed 50 stormwater quality permits for construction site activities, conducted 938 erosion and sediment control inspections, and issued 25 compliance orders and 3 stop work orders.

- A new requirement for small site stormwater quality construction permits was adopted by City Council. This requirement addresses erosion and sediment control on individual residential lots and commercial pad sites under separate ownership, but part of a larger development.

- The long-term stormwater management program conducted 2,794 maintenance inspections of storm sewer systems including inlets, manholes and structural BMPs.

- The Planning and Zoning Site Development Regulations section of the Municipal Code was updated to reflect land use and water quality goals.

- Many city policies and procedures regarding pollution prevention were updated that encompass practices employed by Public Works, Streets, Utilities, Parks, Fire, Police encompassing capital projects, asphalt patching, SPCC, material storage, and equipment maintenance practices.

City of Idaho Springs

Some internal improvements were made to the Idaho Springs WWTP in 2005, including the addition of a back-up generator. The Public Works Director resigned and duties were re-organized into two positions—Supervisor of Water/Wastewater and Public Works Supervisor (collection/distribution, etc.).

In August 2005, the City of Idaho Springs WWTP was issued a new permit by CDPHE with stricter limitations on the amount of copper released into Clear Creek. In November, Idaho Springs proposed new measures to meet the copper limits. The state then notified the city that it had not met the requirements and requested updates on those proposed measures. Idaho Springs questioned the state's rationale in lowering the copper limit, but expressed willingness to work on the issue. The city is aware of permit violations it incurred for four months in 2005, and has taken mitigation actions including: adding soda ash to plant reactors, preparing a preliminary engineering report to control inflow/infiltration into water lines, and implementing a drinking water sampling program for copper. State fines for a notice of significant noncompliance to the permit may be incurred; the city will respond to the state by the January 31, 2006 deadline. UCCWA and the Clear Creek Watershed Foundation support Idaho Springs'

efforts to resolve this issue.

CDOT's Colorado Boulevard Enhancement Project got underway in April 2005. Work included asphalt paving, new curbs, gutters and sidewalks, replacement of the storm drainage system, new retaining walls, lighting, signing and striping between 1st and 7th streets. In partnership with the city of Idaho Springs, the project also involved completely replacing the water and wastewater lines in the area; some of the city's oldest infrastructure. In conjunction with this project, CDOT also is partnering with CDPHE to install a drainage line from the Big Five Tunnel to the Argo Treatment Plant (see **Additional Upper Clear Creek Watershed Projects/Superfund** section).

Idaho Springs remains active in the Regional Wastewater Treatment Study discussions; see **Additional Upper Clear Creek Watershed Projects/Regional Wastewater Study Group** section.

Clear Creek County

The Clear Creek County Environmental Health Department issued 50 ISDS permits (42 new, 8 repairs) in 2005 and conducted 284 inspections of ISDS systems. For locations, refer to the attached *Clear Creek County Individual Sewage Disposal Systems 2000-2005* map.

Clear Creek County ISDS regulations were revised in December 2005 (effective January 2006). Several sections were revised and a new section was added. The regulation on vault holding tanks was made stricter; the allowed use of vault holding tanks is now restricted to limited-use occupancy dwellings only. The new section allows a reduction in well-to-drainfield separation distance where adequate soil depths can be demonstrated.

Clear Creek County also continued to participate in the Virginia Canyon Project; DOLA helped fund this work through Gaming Grants. See **Additional Upper Clear Creek Watershed Projects/Superfund** section for detailed information.

Clear Creek High School

The high school's xenon membrane filtration plant came on line February 1, 2004 with management continuing to be provided by AAA Operations. Since 2002, alum continues to be added for nutrient removal. AAA Operations tests monthly for BOD, TSS, FC, AMM, Flow and % Cap and reports that no effluent violations occurred in 2005. Alum addition continues to improve nutrient removal.

Clear Creek Ski Corporation

Clear Creek Ski Corporation's most recent permit reduced the effluent limit of fecal coli form so it included a compliance schedule in case new construction or modifications were required to achieve the limit. CCSC was able to meet the new limit with operational changes, so no new construction has been planned. In EPA's ECHO data base, CCSC appears to be delinquent with some compliance schedule items. These are all related to the new fecal limitation and were not required unless design work and construction was required at the plant. None of these "violations" reflect a problem with water quality from the plant. In June, CCSC had a BOD% removal violation due to low BOD influent during the off-season.

Climax Molybdenum Company

Urad Minesite: In 2005, Climax completed design studies to upgrade the stormwater diversion around the upper tailings impoundment in the Urad Valley. As with the Phase I work done in 2004 ($125,000 in stormwater diversion upgrades around the lower tailings impoundment in the Urad Valley), the Phase II work should minimize any potential contamination of stormwater with mine waste and decrease suspended solids discharging into Woods Creek. Phase II work is scheduled for 2006.

Henderson: In 2005, Climax performed necessary adjustments to enhance performance of two flumes to measure flows in the watershed (West Fork Clear Creek and Woods Creek). The flumes, which were installed in 2004, are equipped with satellite communications and the data are available on-line.

In 2005, Climax investigated options for replacing the Henderson Mine potable water system; a system was identified for purchase and installation in 2006. Also in 2005, the Henderson Mine site (the Arapaho Project) was selected as one of two finalists for the National Science Foundation's Deep Underground Science and Engineering Laboratory.

Climax's most recent permit required the use of low level mercury analysis. Because there was no way to know whether Henderson could comply with the mercury standard, a compliance schedule was added that would allow for time to bring Henderson's plant into compliance. Henderson had no problem showing compliance using the new analytical methods, so no additional actions were necessary. In EPA's ECHO data base, Henderson appears to be delinquent with some compliance schedule items. These are all related to the mercury limit and since no action was necessary to meet the limit, no plans were submitted. None of these "violations" reflect a problem with water quality from the plant. Climax had no effluent violations during 2005.

Colorado Department of Transportation (CDOT)

In 2005 CDOT continued its Highway Stormwater Monitoring project along I-70. This includes data on snowmelt and runoff events. The Department is in the midst of completing the I-70 Corridor Final PEIS. Water quality impacts are among those being evaluated; mitigation strategies will be identified in the PEIS for all significant impacts. The potential impacts, impact minimization, and mitigation will be carried forward to Tier 2 NEPA documents that are required before full design of any major construction within the Corridor.

Water quality monitoring continues on the Berthoud Pass improvements project (Hoop Creek). The final phase of construction on Berthoud Pass East will be completed in 2006, but monitoring will continue for three years after that. The sediment control basins on US 40, Berthoud Pass East are capturing a lot of sediment. In 2005, the Berthoud Pass East project received an FHWA ***Environmental Excellence Award*** and an AASHTO ***Notable Practices in Context-Sensitive Solutions***.

A CDOT-funded study of impacts to vegetation by sodium chloride and magnesium chloride has not been completed. The main author left University of Northern Colorado for another job, and the second author has not finished final revisions. Results will be presented when the final report is available.

In Idaho Springs, CDOT's Colorado Boulevard Enhancement Project of 2005 included asphalt paving, new curbs, gutters and sidewalks, replacement of an antiquated storm drainage system, new retaining walls, lighting, signing and striping between 1st and 7th streets. In partnership with the city of Idaho Springs, the project also involved completely replacing the water and wastewater lines in the area. CDOT also partnered with CDPHE to install a drainage line from the Big Five Tunnel ultimately to the Argo Treatment Plant. That connection has been completed, so the Big Five is no longer draining directly into Clear Creek. See further discussion under **City of Idaho Springs** and **Additional Upper Clear Creek Watershed Projects/Superfund** sections.

CDOT has postponed construction of a permanent hazardous materials spill containment facility near Loveland Pass. The original design would have meant drying up the headwaters of Clear Creek for a day or two after any spill—something the aquatic life would not appreciate. Alternative containment options are being pursued.

Resurfacing of I-70 from Bakerville to Georgetown is completed. This project included repair of a cross-culvert just west of Bakerville, cleaning culverts to prevent backup behind them (especially near Silver Plume) and using regular BMPs to prevent construction-related sediment from entering the culverts. The next project—resurfacing from Georgetown to near Empire—includes cleaning sediment from several culverts and installing a permanent sediment basin along westbound I-70 between Easter Seals camp and

Georgetown.

I-70 Ramp Metering Phase I will be constructed in 2006. This includes installing meters at eastbound on-ramps from US 40, at Downieville, and at Idaho Springs East. Phase I includes addition of water quality control basins at two sites—a sediment control basin between US 40 on-ramp and the Lawson off-ramp and minor grading and adding a slow-drain inlet at the Idaho Springs East on-ramp. Smaller rundown protections are included in the US 40 on-ramp to minimize erosion of the banks of Clear Creek. Lack of funding required removal of metering at SH 103 in Idaho Springs. This will be installed in a Phase II metering project in the future. Phase II will also include a Hidden Valley meter and re-evaluation of metering at Dumont and US 6/Loveland on-ramps.

CDOT continues to clean traction sand from I-70 and US 40 within the Clear Creek watershed. Traction sand sampling continues to show that the sand is not salty and is not a hazardous waste, but does contain above-average amounts of oil and grease. So, the sand is being placed in berms or at the Empire sand site. These sites prevent the sand from washing into Clear Creek. The Empire site (on the west side of Bard Creek Road, Empire) is quickly filling, so CDOT continues to seek new sites for sand berms.

Coors Brewing Company

Coors Brewing Company has been cooperatively working with the Colorado Division of Wildlife over the past several years on habitat assessments for parts of lower mainstem Clear Creek. In 2004 and 2005, spring and fall habitat surveys using EPA's EMAP protocol were completed. Results indicate that at the four monitoring locations, the species range from five to 10 species, with varying numbers within those species from season to season.

The facility continues to manage its Stormwater Management Plans (SWMP) on the Coors property, and diverts specific stormwater collection areas to its wastewater plant for treatment.

Coors Brewing Company has conducted water quality monitoring on lower Clear Creek since 1996 (which includes nutrients, metals and physical chemistry) and shares these data with the State.

Gilpin County

53 ISDS permits were issued in Gilpin County in 2005; 25 of these were advanced treatment systems. All advance treatment systems which contain an active component require mandatory lifetime inspection/maintenance. In 2005 approximately 150 letters were sent to property owners that did not provide proof of such inspection/maintenance; approximately 75 property owners still need to comply with this regulation. Three Cease and Desist orders were issued in 2005.

Gilpin County ISDS Regulations require advanced treatment systems on all properties that are two acres or less in size. This requirement is also true if a 200' setback cannot be achieved between well and leachfield. There are approximately 350 of these advance treatment systems in Gilpin County, most of which are aeration systems with the exception of a few sand filters that meet the advance treatment criteria.

Gilpin County ISDS regulations require that a minimum of three inspections be done per ISDS: 1) the profile hole inspection before a permit is issued, 2) the open hole inspection after the over-excavation has been done, and 3) a final inspection. 2005 records indicate that 60 ISDS applications were submitted, thereby generating 60 profile hole inspections; and 37 open hole and 32 final inspections were conducted.

Until 2004 there was no database or record keeping system to track the location or required inspection/maintenance of these systems. Gilpin County's Environmental Health Specialist gathered this information from paper files and created an Access database. In 2005 Gilpin County purchased a database program called SAFE that is Access-based. The Access database was merged into the new SAFE program and is currently being used to track these systems. Gilpin County was granted help in the

form of Property Tax Work-Off people who began entering all the existing ISDS records into the SAFE program. With approximately 3,000 records to enter, this project will take a long time to accomplish. However, since it is now being used for all new systems, it makes report generation much easier.

Information including ISDS regulations and permit, licensed installers, frequently asked questions and other information about proper use and maintenance of septic systems, is available on the County's web page at www.co.gilpin.co.us.

MMRR Quarry: UCCWA was notified that the Division of Minerals and Geology is considering an application from Clear Creek District Water Providers for a gravel quarry in Gilpin County. UCCWA is concerned that the current application does not adequately identify potential metal, nutrient and sediment impacts from the operation to the North Fork of Clear Creek, nor does it offer a plan to mitigate these impacts. In addition, UCCWA expressed its support of Gilpin County's authority over land use issues at the site, including the requirement for a special use permit.

Jefferson County

In 2004, Jefferson County adopted a Stormwater Utility Enterprise fee, but no billings were sent in 2005. The County also continued its storm sewer inlet marking (decal) program with school-age groups.

In 2005, the County hired one new person to conduct the plan review and enforcement activities, and one additional person to conduct stormwater inspections, related to the revised County grading regulations (2004), in compliance with its Phase II Stormwater Permit.

In 2005, Jefferson County started the small construction site review and inspection program. Small construction sites, including home building sites, must develop and implement a plan to stabilize the soil and prevent soil loss. Construction sites must also provide appropriate waste control, including concrete washout facilities, dumpsters and portable toilets.

In September 2005, Jefferson County held a field discussion about structural best management practices for mountain sites. This meeting illustrated that public and private partnerships are necessary to improve water quality.

Through a series of educational publications, Jefferson County increased community awareness about the effects of rain and snow melt flowing from developed land into our waterways, including a flyer entitled ***Down the Storm Drain • Summary 2005***. Jefferson County also developed and published a series of educational articles for several local newspapers—potentially reaching 80,000 Jefferson County residents. Additionally, the articles were made into a poster series and are available for display in public spaces.

Mount Vernon Country Club Metropolitan District

In 2005, UCCWA received a copy of Mount Vernon Country Club Metropolitan District's (MVCC) application for an amendment to their existing site location approval. The amendment includes the addition of a chlorine contact chamber, which is an improvement to the existing system. UCCWA commented that MVCC's plans did not address influent variability or improve treatment for phosphorous or ammonia.

Saddleback Metropolitan District

Two homes have been constructed in the Saddleback residential development, with two more under construction. Well and ISDS monitoring are underway. Sampling continues at the three groundwater monitoring wells required down-gradient of the subdivision, and no impacts have been seen to date.

St. Mary's Glacier Water & Sanitation District

St. Mary's continues to make steady and consistent progress in its I/I program. Each year, sewer lines are cleaned and videotaped. Deficiencies in the system are corrected to the extent possible. Each year since the program was implemented, runoff flows through the plant have been lower. St. Mary's considers the program to be a success in improving I/I in its system. In EPA's ECHO data base, St. Mary's appears to be delinquent with some compliance schedule items. These are all related to I/I annual reports, which have been completed late to include activities that take place in September, the end of the construction season at St. Mary's. None of these "violations" reflect a problem with water quality from the plant.

AAA Operations tests monthly for BOD, TSS, FC, AMM, Flow and % Cap and reports that no effluent violations occurred during 2005.

Shwayder Camp

The wastewater treatment plant at Shwayder Camp had compliance issues in 2005. The 5,000 gallon per day plant utilizes a recirculating sand system and operates seasonally. The system failed to meet permit criteria in 2005 resulting in an evaluation of the design and operation of the system. Shwayder Camp has brought in the system's original design engineer and is developing a recovery plan. The recovery plan will determine if operational plans can be implemented that bring the system back into compliance or if the plant will require re-design or other changes.

Town of Empire

The Town of Empire and Empire West are negotiating an agreement that would allow the residents and businesses in Empire West to discharge into Empire's wastewater treatment plant, instead of continuing use of ISDSs. This could affect approximately 48 septic systems. Empire continues to add alum for phosphorus removal at its WWTP.

Town of Georgetown

Georgetown's NPDES permit went through the renewal process in 2004-2005. A draft was issued, which included some more restrictive limits. A final permit was issued in September 2005 with more restrictive ammonia limits.

Georgetown addressed infiltration/inflow (I/I) issues in the sewer line on Rose Street in 2003 and 2004 by replacing the water and sewer lines. I/I work continued in 2005 with the installation of a sump line on Rose Street so that basement sumps can be discharged to the storm sewer instead of into the sanitary sewer. Also, the water and sewer lines on Argentine Street were replaced. Three significant leaks were found in Silver Plume and repairs will seal out 60,000 gpd. Georgetown continues to work on lake storage and a decree may be issued in 2006.

Georgetown implemented WWTP operational changes in 2005 which resulted in a 73% reduction in phosphorous from the discharge and an almost 50% reduction of ammonia concentration. Phase I ($540,000) work in 2005 (and into 2006) included new headworks and a new chlorine contact basin. State inspection in September 2005 noted improvements, although still some issues, cross connection ordinance, now written report with June 30, 2006 deadline. Per the Town Administrator, the 2005 phosphorous improvements of .2-.3 mg/l had more long-term impact on watershed than the accidental discharge on 9/27 (see below). Phase II involves evaluating a regional wastewater treatment plant (see below).

Site Application: UCCWA received a copy of an Application for Amendment of an Existing Site Location Approval from the Town of Georgetown. Georgetown is a member of UCCWA and a party to the Clear Creek Watershed Agreement. UCCWA recommended approval of Georgetown's Site Application. UCCWA believes that the proposal by the Town of Georgetown will improve the quality of wastewater discharged from the plant and is particularly encouraged by the addition of sodium aluminate for phosphate removal.

WWTP Violations and Recent Improvements: According to CDPHE, the Georgetown WWTP has had the following violations since 2003.

2/2006	Ammonia limit exceeded 7.5 mg/L
4/2005	Ammonia limit exceeded 7.5 mg/L
4/2004	Ammonia limit exceeded 7.5 mg/L
7/2004	BOD loading exceeded 407 lbs.
10/2004	Fecal coli form limit exceeded 6000 count
5/2003	Flow exceeded .58 mgd limit
6/2003	Total Settable Solids Removal below 85%
7/2003	Total Settable Solid Removal below 85%
7/2003	pH below 6.5 limit

Regarding the 2003 and 2004 violations, in response to a September 9, 2003 CDPHE inspection report on the WWTP, NPDES Permit #CO-0027961, the Town of Georgetown engaged HDR Engineering to prepare a response to the CDPHE inspection and to formulate plans for improvements at the wastewater treatment plant to address the violations. Also in response to the inspection report and subsequent discussions with the state officials, the Town of Georgetown replaced its Operator-In-Charge of the Wastewater Treatment Plant and the new operator, who has state A licenses in both water and wastewater operations, began work on August 31, 2004. The trend of the violations noted above show a dramatic improvement since August 31, 2004.

HDR designed a series of both short term and long term improvements for the Georgetown Wastewater Treatment Plant and system. The first phase of those improvements is under construction and involves $540,136 of improvements for a new chlorine contact basin, a new headworks, and automatic bar screen. As of April 11, 2006, the chlorine contact basin is operational with only punch list items remaining to finish. The bar screen is on order and will be installed in the summer of 2006. The operator anticipates that the completion of these improvements will improve the ammonia levels at the plant. The State lowered the ammonia levels in our discharge permit significantly in its September 2005 discharge permit renewal. Additionally, Mr. Curtis may be able to add additional air to the treatment system in order to lower ammonia levels during critical periods of the year.

Discharge: On September 27, the Georgetown WWTP experienced an accidental discharge due to a storm. The 80-year-old TP transformers were knocked out and could not be repaired; they needed to be replaced. Georgetown estimates six hours of partially-treated discharge when aerators weren't working and no chlorine disinfection at the final treatment stage. Georgetown estimates 60-80,000 gallons were discharged; per the State 80-100,000 gallons. There was backwash sewer line leaking on the road and ultimately to the creek—but very small amount, untreated creek water got into system, a water line break repaired—but chlorinated potable water in Georgetown Lake. Per a representative from Westminster, Georgetown needs to understand the repercussions on Standley Lake (by-pass) and would be receiving claim for 100 acre feet/day storage for 5+ days. There were no exceedences of certain permit levels, and there were three days of follow-up testing.

Although the 2003 State Inspection report was not glowing, no back-up generator was recommended or required. At the 2005 Inspection—three days prior to discharge—a back-up generator was not mentioned in verbal report. Since the incident, Georgetown has acquired a back-up generator from the decommissioned BH/CCSD plant.

Alpine Meadows RV Park: UCCWA commented on a proposal by Alpine Meadows RV Park to construct a wastewater treatment plant. The wastewater treatment plant is part of the development of an RV park on Alvarado Road approximately two miles north of Georgetown Lake. UCCWA is a party to the Clear Creek Watershed Agreement. The Agreement requires, among other things, that wastewater treatment plants implement voluntary operational controls and modifications that decrease phosphorus and nitrogen loads to help maintain the mesotrophic status of Standley Lake. UCCWA's review of the Alpine Meadows proposal and the conditions listed below are driven by the obligations of the Clear Creek Watershed Agreement. UCCWA supports the proposal by Alpine Meadows RV Park to construct a wastewater treatment plant with the following conditions:

1. Provisions are included for phosphorus reduction;
2. Provisions are included for nitrogen reduction;
3. Provisions are included for nutrient monitoring;
4. Alpine Meadows must demonstrate that the plant is not contaminating water supply wells in the area;
5. Alpine Meadows must agree to hook-up and pay tap fees when regional treatment becomes available or Georgetown expands its service area to include the Park site and adds nutrient removal to its plant. The requirement to hook-up to one of these wastewater plants allows Alpine Meadows to operate the on-site wastewater plant for 8 years to recover its investment prior to hook-up; and
6. Alpine Meadows must join UCCWA.

Town of Silver Plume

Silver Plume completed three significant repairs to sewer lines which reduced infiltration/inflow (I/I) to the Georgetown WWTP by two-thirds — 60,000–80,000 gallons per day. Silver Plume maintains a lead role in the discussion of WWTP regionalization in Clear Creek County; see below.

Silver Plume continues to use ¾" gravel for traction material (instead of salted sand), thereby significantly reducing salt and sand in stormwater.

In 2005, UCCWA received a referral notice regarding Silver Plume's proposed new water treatment plant. UCCWA supports the proposed construction of a new water treatment plant and improvements to the distribution system proposed by Silver Plume. UCCWA believes that the proposal by the Town of Silver Plume will improve the quality and delivery of water and may help reduce water losses in the system.

Additional Upper Clear Creek Watershed Projects

Regional Wastewater Study Group

A large, coordinated effort continued throughout 2005 to investigate regional wastewater treatment options in Clear Creek County. The Regional Wastewater Study Group has been formed as a subcommittee to UCCWA. While the goals and interests of the committee members are diverse, the group is looking to update utility plans for all wastewater treatment plants in the basin. They are also discussing a variety of regionalization opportunities that range from shared resources and operations to construction of a regional plant. The group plans to issue an RFP for an engineering study of wastewater needs in the area in 2006 and has begun to solicit funding from member entities and the SLC. Anticipated donations are as follows:

1. Clear Creek Economic Development Corp.	$10,000
UCCWA MEMBERS	
2. Clear Creek County	$10,000
3. Idaho Springs	$10,000
4. Empire	$ 5,000
5. Georgetown	$12,000
6. Silver Plume	$ 2,800
7. Climax Molybdenum Co./Henderson Op.	$ 5,000
8. Golden	$ 2,500
9. UCCWA	$ 5,000
10. Coors	$ 5,000
11. Central Clear Creek San. Dist.	$ 5,000
12. Clear Creek Ski Corp.	$ 2,500
13. St. Mary's Glacier Water & San. Dist.	$ 5,000
14. Jefferson County	$ 1,000
15. Black Hawk	$ 5,000
STANDLEY LAKE CITIES	
16. Westminster	$ 2,500
17. Northglenn	$ 2,500
18. Arvada	$ 2,500
TOTAL	**$93,300**

The group has received in-kind assistance and technical support from DRCOG, and anticipates similar in-kind assistance from CDOT and the Clear Creek Watershed Foundation.

Superfund (CDPHE/EPA) & Other Remediation Projects

Argo Water Treatment Plant: The lime silo was completed in 2005, and late in the year they began using lime for treatment instead of caustic (sodium hydroxide), thus reducing operating costs. This plant exclusively treats for metal removal.

Big Five: As part of the Colorado Boulevard project, CDOT (on behalf of EPA and CDPHE) installed a pipe to transport Big Five water to Riverside Drive. CDPHE installed tanks, pumps and the pipeline from Riverside Drive to the Argo Water Treatment Plant. The conveyance system was completed and tested in December 2005. Start-up is expected in 2006, pending power hook-up by Xcel Energy. EPA looked at iron hydroxide build-up and conducted sediment sampling. The former pond is now filled and regraded. An Open House was held on April 20 at Idaho Springs City Hall to discuss these cooperative project efforts.

Virginia Canyon: The significant remediation effort started by a coalition of interested parties in 2004 continued in Virginia Canyon in 2005. These improvements mitigate flooding and will help keep Virginia Canyon sediment out of Clear Creek by reduce the impacts of solids and erosion during storm events:

- Numerous channel improvements were made.
- Sediment traps were installed and three sediment basins were constructed (upper funded by EPA, middle and lower funded by Clear Creek County). The sediment basins are performing well, with the upper basin nearly full; EPA will clean and sample the collected sediment. The lowest sediment basin included EPA-funded construction of a wall to contain the groundwater flow for conveyance to the Argo Water Treatment Plant.

- The groundwater collection system (including a cut-off wall which was completed in January 2005) installed by CDPHE in 2004 was hooked up to the Virginia Canyon pipeline, with treatment of metal-impacted groundwater from Virginia Canyon scheduled to be treated at the Argo Plant in 2006; in 2005 CDPHE installed the Virginia Canyon pipeline from the collection system to the Argo Water Treatment Plant with completion of the conveyance system in December and a test treatment was conducted.
- CDPHE and EPA placed new, larger-diameter reinforced concrete culverts in Virginia Canyon to replace ones that were destroyed during the placement of the Virginia Canyon conveyance pipeline; this will help to convey storm event flows away from the residential area ands in to the Virginia Canyon drainage system.
- To prevent slop erosion in the vicinity of the Two Brothers mine area, EPA installed rip-rap to provide slope protection, completed channel grouting, installed a culvert and completed installation of sediment basins.
- Clear Creek County Road & Bridge Department installed a new box culvert at the first intersection of Virginia Canyon and Two Brothers Roads

Gilpin County: The Chase Gulch #2 mine waste pile was capped and revegeted. CDPHE hired a consultant to design sediment control and mine waste pile remediation. Design work is anticipated in 2006.

Upper Clear Creek Watershed Plan

In 2005, UCCWA received a $25,000 Section 319 grant which was used to develop the **Upper Clear Creek Watershed Plan** and prepare a conceptual TMDL for Clear Creek. The **Plan** was prepared and presented at the September 2005 Clear Creek Watershed Forum by Dr. Timothy Steele of TDS Consulting Inc., and public comment was solicited.

Clear Creek Watershed Foundation

In 2005 the Foundation funded the **Gilson Gulch Characterization Study of Mining-Related Sources** by TDS Consulting Inc.; investigated the trace metal content of the major rockslides in the upper Clear Creek canyon area; conducted watershed/lake analyses for CDPHE/WQCD; funded the 2004 and 2005 annual assessments of trace metals in within the Upper Clear Creek Watershed by TDS Consulting, Inc.; pursued numerous grant applications; continued its educational efforts including the development of an interactive Mining History/Mineral Uses/ Remediation kiosk with the Division of Minerals and Geology and a 4th grade mining history curriculum workbook; organized and hosted the **Clear Creek Watershed Forum 2005: Creating a Sustainable Future**; and began preparing a proposal for a characterization of the Trail Creek area and other nonpoint sources of trace metals that impede the attainment of water quality standards in Clear Creek Segments 2 and 11; such attainment will be a major objective between 2006 and 2012.

Event Mean Concentration Study

To ascertain chemical constituent Event Mean Concentrations (EMC) in stream storm water runoff, UCCWA and the SLC have been conducting event-based water quality monitoring in the Clear Creek basin since 2001. The EMC study has involved collection and analysis of stream water samples during summer rainfall-runoff events with the objective being to gather water quality data that can be used to evaluate relative contributions of chemical constituent concentrations by various land use and cover types. In March 2005, results of the 2004 study for were presented by Clear Creek Consultants, Inc. and are available in the report entitled **Clear Creek Watershed Storm Event Mean Concentration Water Quality Study, Phase V – 2004 Data Report**.

Clear Creek Emergency Dial-Down System

Clear Creek County's full-time Office of Emergency Management coordinator continued to updated the dial down list for spills into Clear Creek and to coordinate with Golden's dispatch to establish procedures for initiating the Emergency Procedure Notification (EPN). The system has performed as designed since it was put into place. The system was tested in the summer of 2005; requested and funded by the Church Ditch Authority. Even though there may not always be a "First Responder" on scene, there will always be an Incident Commander. All agencies and jurisdictions (including water/wastewater treatment plant operators) have been briefed on the notification procedures:

NOTIFICATION PROCEDURE FOR HAZARDOUS MATERIALS SPILL AFFECTING A WATERWAY

Public and private entities utilizing Clear Creek as a source of water shall be notified in the event of a hazardous materials spill that has the potential to adversely affect the water quality at their respective points of diversion.

Water user or "downstream" notification for spills originating in Clear Creek County will be initiated by the Incident Commander or his designee through the Clear Creek Sheriffs Office Communication Center.

The Incident Commander or first qualified on scene personnel will use their best judgment based on the nature of the incident and proximity of the event to known water courses and will notify the Communications Center and specify that downstream water users should be notified as to the nature of the event.

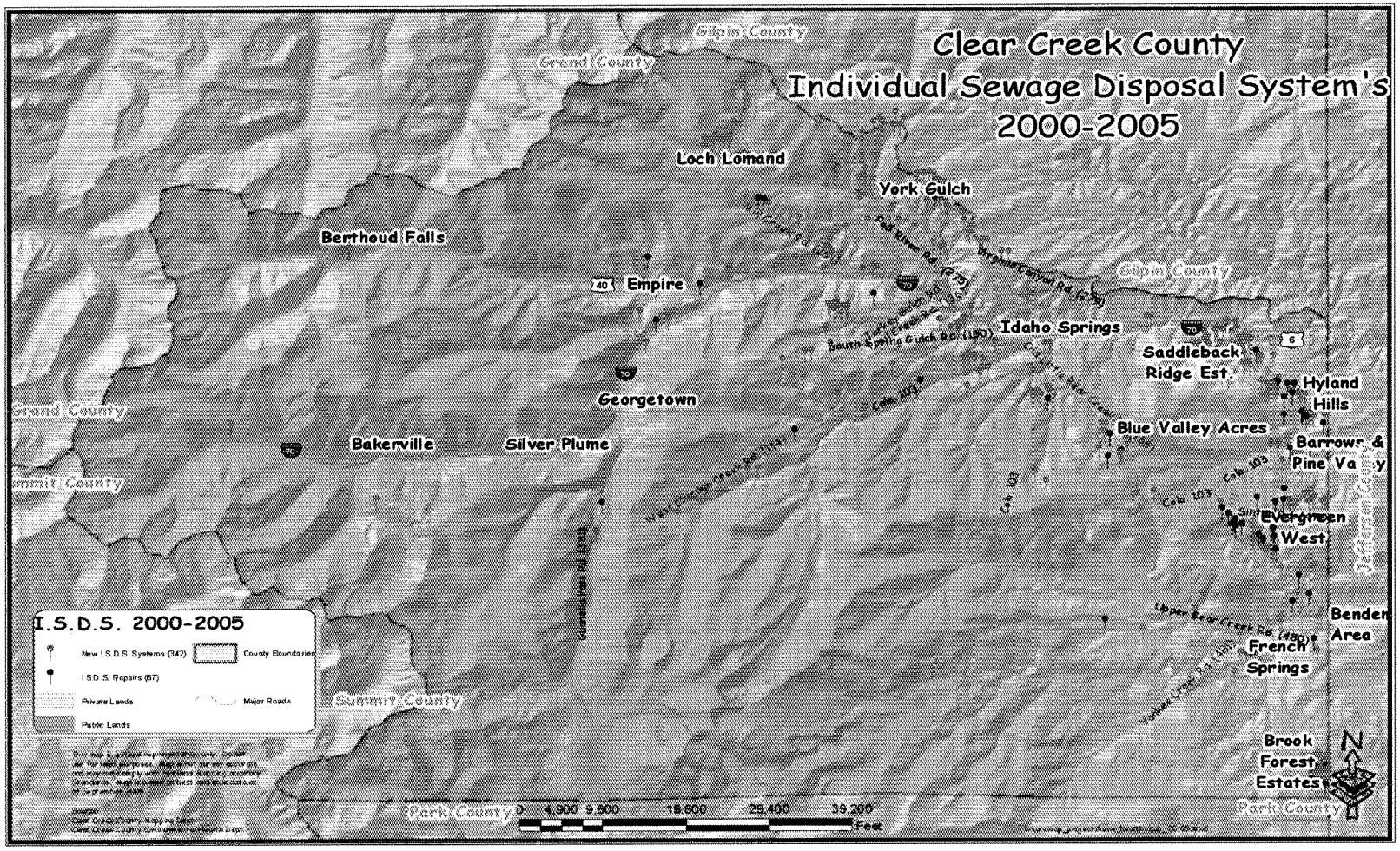
When notified by the Incident Commander, the Communications Center shall activate the EPN system call list developed and maintained for downstream water user notification. Every effort shall be made to keep the message length less than 30 seconds.

Each time an EPN event is launched for the purpose of downstream water user notification, the EPN call report shall be reviewed by the Office of Emergency Management (OEM) Director. Any "partial" or "unsuccessful" calls shall be noted. The OEM Director shall follow-up with the responsible parties associated with the unsuccessful calls in an attempt to identify any necessary changes to contact information.

The OEM Director shall be responsible for maintaining the downstream water users call list. The list shall be reviewed at intervals no greater than 3 months and each time an event is launched. Any necessary changes to the list shall be coordinated with the CCSO Communications Director for implementation. Furthermore, the Board of County Commissioners shall receive a report each time the list is reviewed and/or modified.

All requests to change contact information associated with the downstream notification list shall be made in writing to the OEM Director by an individual in a position of authority from the requesting organization. The request will be confirmed in writing by the OEM Director, and confirmation of the change will be relayed to the requesting agency by the OEM Director.

Clear Creek County ISDS Map



III. TRIBUTARY BASIN ENTITIES REPORT

Tributary Basin Area

The Standley Lake watershed consists of approximately 282,000 acres, including the Clear Creek Basin above Golden and the lower Tributary Basin. The lower Tributary Basin consists of approximately 20,750 acres. At the end of 2005, approximately 13,000 acres or 63% of the total Tributary Basin were separated from the canals and Standley Lake and therefore no longer drains into canals or Standley Lake.

In 2005, several projects in Arvada were completed that bypassed significant amounts of drainage area away from Standley Lake tributaries. These projects included the installation of bypass structures diverting Ryan Gulch over the Church Ditch and Farmers' High Line Canal, and the diversion of stormwater from the Spring Mesa subdivision away from the Church Ditch. These projects isolated a drainage area of approximately 260 Acres from the Standley Lake tributaries.

In addition to these drainage improvements, permanent Best Management Practices structures such as extended detention basins and vortex stormwater separators were installed in seventeen subdivisions in Arvada that drain into Standley Lake tributaries.

In association with the U.S. Fish and Wildlife Service and the Farmers' High Line Reservoir and Irrigation Company, Arvada continues planning and preparation for bypassing surface drainage above the Two Ponds Wildlife Refuge away from the Farmers' High Line Canal. This effort will include installing drainage bypass structures to divert flows around the Farmers' High Line Canal and the Croke Canal and installing a detention basin upstream from the canals.

Standley Lake Status

The Statement of Basis and Purpose for the narrative standard for Standley Lake adopted by the Water Quality Control Commission in 1994 stated: "Data collected over the last eleven years for chlorophyll *a* for Standley Lake indicates that the lake has been mesotrophic over that period. The trophic status of Standley Lake is based on the average magnitude of trophic state indicators measured during the period from March 1 through November 30."

The Tributary Basin Entities continue to believe that Standley Lake was mesotrophic during 1994 – 2005 and that the trophic status of the reservoir did not change in 2005. The opinion of the Tributary Basin Entities that the reservoir was mesotrophic during the 1994-2005 period is based on the fact that the average values for the most commonly used trophic state indicators of secchi depth, total phosphorus, and chlorophyll *a* are similar from 1994-2005, and place the reservoir well within the mesotrophic range. Based on this data and the data available for previous years for Standley Lake has been mesotrophic for the past 21 years.

City of Arvada

Source Control

Enforcement Actions

Arvada continued to enforce its ordinance prohibiting unlawful discharges to its stormwater facilities. This ordinance was adopted in 1993.

Arvada carried out enforcement actions for six illicit discharge incidents in 2005. Four of these actions were related to discharges that did not have a significant impact on stormwater quality, and resulted in warnings. The other two incidents resulted in the need for environmental remediation, and the responsible parties were required to pay contractors that performed the cleanup.

Public Education

Arvada personnel placed 69 markers on curbs next to storm drain inlets that say "no dumping, drains to creek" and delivered 350 pamphlets to households informing citizens of the impact of individual activities on storm water and streams.

Spill Prevention for Municipal Operations

Spill prevention controls were installed at all city facilities along with tanker truck fuel containment bays at the two City Golf Courses and at the Indiana Service Center. The Westwoods Golf Course and the Indiana Service Center are located in areas that drain directly into Standley Lake Tributaries. Implementing spill protection at these facilities is a direct measure that will prevent potential degradation of water quality in Standley Lake.

A mower washout was installed at the Lake Arbor Golf Course.

Ralston Creek was cleaned out after a Church Ditch flush.

City employees (117 total) attended classes on spill response and illicit discharge prevention.

Erosion Control During Construction

Arvada continued to enforce its existing ordinance concerning erosion and sediment control during construction. The ordinance was adopted in 1993 and incorporates, by reference, the criteria for erosion and sediment control during construction specified in the Urban Drainage and Flood Control District Criteria Manual, Volume 3 - Best Management Practices. Arvada's erosion control ordinance is consistent with the requirements of the Tributary Basin Management Plan.

Permanent Stormwater Quality Control for New Development or Significant Redevelopment

Arvada continues to enforce the requirements that the owner or developer of a new development or a significant redevelopment must provide and maintain reasonable structural best management practices for permanent stormwater quality control within the development, incorporating the criteria for permanent stormwater quality control specified in the Urban Drainage and Flood Control District Criteria Manual, Volume 3 - Best Management Practices.

Diverting Runoff Around Standley Lake

Significant progress was made in 2005 in negotiations regarding the potential utilization of a section of the Church Ditch as a stormwater diversion structure to protect Standley Lake from pollutants as development in the Tributary Basin continues. Participants include the SLC, the City of Arvada, Jefferson County, CDOT, and developers in the Standley Lake Tributary Basin. When completed, this effort should prevent 1392 acres from draining into the Church Ditch, as well as diverting runoff from 2604 acres that currently drain directly into Standley Lake.

Hazardous Substance Spills

In 2005, Arvada responded to forty-two calls reporting illicit discharges and eight calls related to water quality degradation from construction site runoff. Eleven of these incidents were within areas that drain to the Standley Lake tributaries. Fortunately, these spill incidents were minor and did not have a significant impact on nearby waterways.

Central City Southern Access Road

In 2005, storm water staff from Golden, Northglenn, Thornton and Westminster inspected the Central City Parkway for erosion control best management practices. The focus was mainly on four key areas: 1) Hidden Valley exit, 2) area right after the first turn (1st pullout – right side), 3) Russell Gulch and 4) Nevada Gulch/Quartz Mine. The group looked for erosion problems, sediment buildup, effectiveness of BMPs (ex. hay bales, silt fences, etc.), curb inlets, related outfalls and revegetation. In general, many of the straw bale barriers were failing and needed to be cleaned or replaced. Curb inlet and outfall structures needed to be cleaned. Lastly, erosion continued to deteriorate all four key areas. Central City is expected to participate in the summer of 2006 field inspections after runoff. A second inspection is scheduled for the fall of 2006.

Now that the construction activities have been completed, the potential exists for future downstream water quality degradation associated with long-term stormwater management. Monitoring and inspection of the road project will continue.

Other Activities

Clear Creek Water Quality Monitoring Activities

Arvada, Golden, Northglenn, Thornton and Westminster continued water quality monitoring activities on Clear Creek. Personnel from these cities completed the installation of four monitoring stations with auto-samplers and data loggers used to monitor changes in Clear Creek water quality.

In 2005, Arvada contributed an American Sigma auto-sampler that was installed on the lower fork of Clear Creek to collect samples automatically. The sampler is used to collect scheduled samples and to automatically collect samples during storm or spill events.

Public Education Activities

Arvada continues to educate the public on illicit discharge prevention through presentations given to schools and other groups. Two educational tools to improve stormwater quality were unveiled in 2005. Fillup A. Can, a mascot encouraging residents to reduce litter that can pollute waterways and obstruct stormwater conveyance structures appeared at many of these presentations. A hands-on watershed model was also developed for display at Arvada's Majestic View Nature Center. This model provides an interactive example of how individual activities have a cumulative effect on waterways.

Settling Basin Studies

During the summer of 2005, samples were collected from the Church Ditch and Croke Canal settling basins twice a week. These samples were collected when water was being pumped from the canals into the settling basins to observe the effect of settling the stream water prior to discharging it into a reservoir. The results below are from 30 sampling events that included 30 samples collected for nutrient analysis and 21 samples for metals analysis.

In 2005, the average percent of constituents removed by settling was:

Parameter	% Reduction
TP (ppb)	37%
TN (ppb)	12%
TSS	44%
Pb	38%
Zn	36%
Cu	33%
Fe	33%
Al	23%

Household Hazardous Waste Disposal and Recycling

Arvada is an active member of the Rooney Road Recycling Center, which provides a very effective program for the recycling trees and shrubs and for the safe disposal site for household hazardous wastes, including pesticides, herbicides, automotive products and electronic waste.

IV. STANDLEY LAKE CITIES AND CANAL COMPANIES

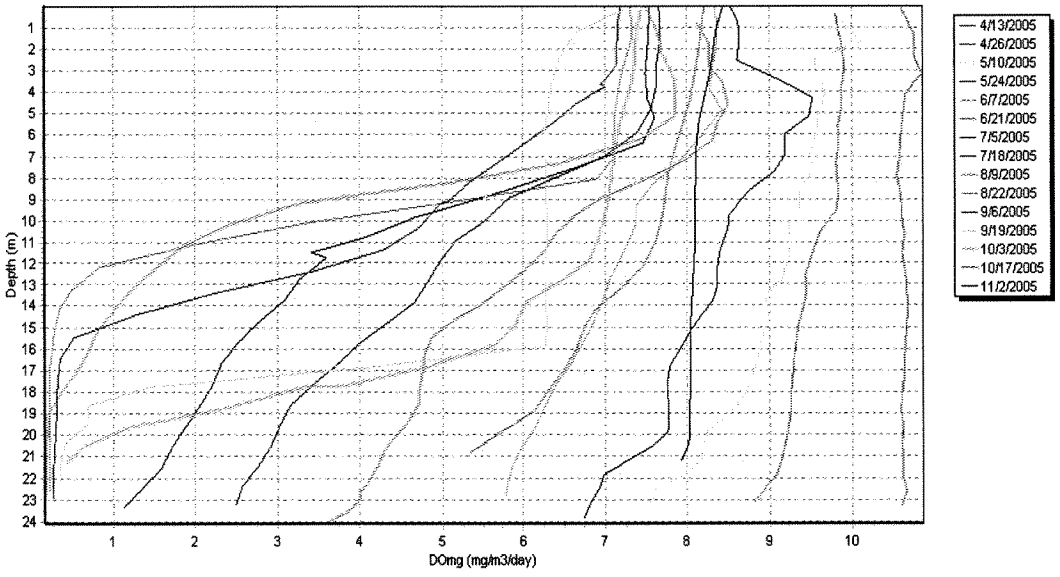
Standley Lake Status

The Statement of Basis and Purpose for the narrative standard for Standley Lake adopted by the Water Quality Control Commission in 1994 stated: "Data collected over the last eleven years for chlorophyll a for Standley Lake indicates that the lake has been mesotrophic over that period. The trophic status of Standley Lake is based on the average magnitude of trophic state indicators measured during the period from March 1 through November 30."

Based on the preceding statement the SLC believe that Standley Lake was mesotrophic during 1994 through 2004, and that the trophic status of the reservoir did not change in 2005. However, the SLC do not believe that the time period of March 1 through November 30 accurately reflects the relevant time period over which the lake should be evaluated.

The cities are concerned with the large chlorophyll a spikes and algae blooms that occur in the winter. With longer anoxic periods, it is speculated that more nutrients are being re-released when the lake turns over in the fall, and causes the subsequent algae bloom. The SLC believe it will be important to observe the water quality trends closely and take further corrective action should it appear that water quality is deteriorating.

Below is a chart of the DO profiles for 2005. The Lake bottom turned anoxic (DO <2.0 mg/L) around the seventh of July. Typically, in years past, the Lake bottom has turned anoxic in mid July. From 1993 to 1996, the duration of the anoxia was 5 – 6 weeks. In 1997 to 2000, the period of anoxia was 8 to 10 weeks. From 2001 through 2005 the period of anoxia has ranged from 10 to 15 weeks.



Eurasian Watermilfoil

Eurasian Watermilfoil (EWM), *Myriophyllum spicatum L*, is a non-native, aquatic, noxious weed that grows rapidly and to a depth of 35 feet. EWM grows in dense mats that severely interfere with recreation and has been known to provide a substrate for blue-green algae growth. Blue-green algae blooms can ultimately cause taste and odor events in drinking water supplies. EWM was first observed in Standley Lake in 1998. It was positively identified in 2000.

After co-sponsoring a conference on EWM in July 2001, the SLC decided to initiate a two-year test period to evaluate the effectiveness of the milfoil weevil, Eurhrychiopsis lecontei, in controlling the spread of EWM. The milfoil weevil burrows into the stalk of the plant to lay eggs. The larva, once hatched, feed on the internal portion of the stalk preventing the passage of nutrients and growth of the plant, and loss of buoyancy. Three test sites were selected for the introduction of the weevil, which were introduced to the test sites in the summer of 2002.

A follow up survey performed in May of 2003 turned into a hunt for milfoil since the drought of 2002 had severely damaged the milfoil beds. Two surveys were performed, one using an underwater video camera, and the second using scuba divers. Neither survey found any significant beds of milfoil. In the late fall of 2003 however; significant milfoil beds reemerged on the South side of the lake in small clumps and intermittently dispersed.

Expanding milfoil beds in June of 2004 again warranted the addition of 46,000 weevils, which were added to the lake in two locations. A follow up survey at the end of August revealed that the bugs were thriving and had actually spread to the control site on the South side of the Reservoir. In order to sustain a population of weevils in Standley Lake the bugs would have to survive the winter. In June of 2005 a survey revealed that indeed weevils did over-winter, so an additional 46,000 bugs were stocked at two more locations. The density of the weevils in August of 2005 had reached a level of 0.5 weevils per milfoil stem. In order to control milfoil growth, the density needs to be approximately 1.6 weevils per stem. An additional 46,000 weevils will again be stocked in June of 2006. It is hoped that the follow-up survey at the end of August will reveal a significant increase in weevil densities and noticeable control of milfoil.

Bathymetry

In 2005, the SLC purchased a BioSonics DT-X Echosounder and supporting software, including EcoSAV, a program designed to characterize aquatic plant dispersion and density. The DT-X has an integrated GPS system, and will be used to survey the bathymetry of Standley Lake and locate areas of vegetation. The system will also be used to characterize the spread of Eurasian Watermilfoil and any effects that the milfoil weevils are having on the existing milfoil beds.

Metadata

The SLC have been concerned about sustained algae blooms in the winter months over the past several years. One suspected cause for the algae blooms is the contribution of phosphorus from soil erosion caused by high winds. The SLC initiated collection of metadata to trend weather and hydrologic conditions at Standley Lake to assist in explaining water quality anomalies. The SLC coordinated this effort with the Lake Tender for FRICO. FRICO is the primary owner of Standley Lake and the dam structure.

A log is maintained for weather conditions and water quantity including temperature, wind speed and direction, precipitation, ice cover, lake level, water inputs and withdrawls, and other pertinent information. The data is recorded daily and transmitted via email to the SLC. The information will facilitate evaluation of impacts to water quality from lake management practices and external factors.

Standley Lake Management Plan

The Standley Lake Management Plan, developed in accordance with the original Clear Creek Watershed Agreement, addresses internal nutrient loading as well as loading from the Tributary Basin. The plan directs the operations of water supply, recreation, and activities in the watershed that may contribute nutrients to Standley Lake.

The Mission Statement for the Standley Lake Management Plan is:

> *To protect the quality of Standley Lake as a drinking water supply through the application of scientifically based and fiscally responsible management techniques. To optimize the health of Standley Lake and its watershed for current and future generations.*

See Appendix D for the complete version of the Standley Lake Management Plan

The Standley Lake Management Plan, developed in accordance with the original CCWA, addresses internal nutrient loading as well as loading from the Tributary Basin. The plan directs the operations of water supply, recreation, and activities in the watershed that may contribute nutrients to Standley Lake.

Standley Lake raw water supply operation practices continue to include lake bypass of canal first flushes, initial flows from spring runoff), and to the extent possible, storm events. Raw water supply operations also include a spill notification call down system to ensure prompt notification of spills to allow for preventative measures to prevent spill from reaching Standley Lake.

The SLC share a WEB database with each of the respective cities input laboratory analysis result. The Laboratory Information Management System (LIMS) Tribal calls it a Laboratory Data Management System (LDMS) allows each of the cities to query water quality data from Clear Creek, tributaries, canals, and Standley Lake samples.

Normal flows occurred in 2005, 179cfs average annual compared to 188cfs for the period 1975-2004. Standley Lake filled on 6/16/05 with a gage height of 95.70 and a volume of 42383.60 af. The end of year gage height was 89.40 and a volume of 35115.20 af.

DITCH INFLOWS to STANDLEY LAKE

Farmers' High Line Canal & Reservoir Company (FHLC)

FHLC worked with the West Woods Center developer at 64th and McIntyre in the construction of the Ryan Drainage bypass pipe. Stormwater from the approximately 80 acre Ryan Drainage basin will now be bypassed from both the FHLC and Croke Canals to Hyatt Lake, a non-drinking water supply owned by the FHLC.

FHLC is working with the Brookfield Acres developers (55th & McIntyre) regarding development adjacent to the canal. The development will be retaining stormwater on-site in ponds and infiltration trenches. Slopes have been contoured to drain away from the canal. Additionally, lift stations will be installed for seven of the nine homes.

FHLC is working with the Hometown South & North developers (64th and Kendrick) regarding development adjacent to the canal. The development is planning to pipe the Quick Lateral and install a retention wall on the south end of the property between the ditch and proposed equestrian trail. The equestrian trail will be located a minimum of 15 feet from the top of the ditch bank and will be sloped away from the canal. The trail will be included in a three-way easement agreement between the developer, FHLC and the City of Arvada.

FHLC staff worked to clean out the Van Bibber siphon. No large debris was found during the subsequent inspection, although a large amount of silt was removed.

The first flush of the canal was diverted around Standley Lake to avoid contamination from trash and debris, sediment, and other contaminants that accumulate in the canal over the winter.

Van Bibber, Ralston, Leyden and Little Dry Creek drainages continue to be by-passed over/under the canal. The spill gate at the Little Dry Creek structure, which can be operated remotely, provides the last line of defense protecting Standley Lake from stormwater or hazardous spills contamination.

Croke Canal – Farmers Reservoir & Irrigation Company and Standley Lake Operating Committee (FRICO/SLOC)

Construction of the West 86th Avenue Bridge was completed. Periodic site visits will be conducted to ensure the erosion control measures are in place around and below the bridge abutments, and that no debris from the construction is entering the canal. The project also included installation of water quality BMP's to mitigate impacts from stormwater draining from the street to Standley Lake. Approximately 1 acre of the Lakecrest development drainage area was re-routed from the Standley Lake drainage, to drain to Little Dry Creek

FRICO/SLOC met with Village Homes and their engineer (Carroll and Lange) regarding storm and sanitary crossings of the Croke Canal. The property is located at McIntyre and 50th Avenue.

Approximately five miles of the Croke Canal were cleaned, restoring capacity to the canal. The spoils were placed below the canal bank and were graded to drain away from the canal.

The first flush of the canal was bypassed around Standley Lake to avoid contamination from trash, debris, sediment and other contaminants.

FRICO/SLOC is working with the Indiana Marketplace developer. A submittal was received in 2005, and plans are anticipated to be received as part of the overall review process. As part of the development proposal, a 400 foot extension to the box culvert in this area would be installed through the subdivision. General review concerns included access, easements and box maintenance.

FRICO/SLOC is working with the Woodlands Center No. 4 developer. A preliminary level review of the proposed development on the west side of the Croke Canal south of 63rd Avenue was completed. Proposed activities include a sanitary sewer within the Canal right-of-way (ROW), grading adjacent to the canal and a haul road within the ROW. FRICO/SLOC worked with the design engineer resulting in the sanitary line being moved out of the ROW and into a nearby street.

Church Ditch Water Authority

The following projects were completed in 2005:

- Equestrian signage was installed along sections of the ditch to alert horseback riders to keep off ditch banks.
- Tucker Gulch flush structure completed.
- Ralston Creek flush structure completed.
- Culvert at 80th and Indiana collapsed in 2005. A temporary culvert with larger capacity was installed. A permanent solution will be investigated in 2006.
- No watershed violations were issued in 2005.

Woman Creek Reservoir Authority – Reservoir and wetlands

The following projects were completed in 2005:

- The silt basin from Church Ditch in Big Dry Creek was cleaned out.
- The wetlands delivery canals were cleaned.
- Additional vegetation was planted.
- Irrigation system was flushed.

Kinnear Ditch Pipeline

No maintenance was necessary in 2005.

Berthoud Pass Ditch

Routine maintenance of the ditch was performed. Routine maintenance includes removal of sand deposited from CDOT winter operations. Materials were purchased for rebuilding of the ditch walls at the end of run season 2006.

Outstanding notice(s) of exceedence(s) for Upper Basin WWTPs in 2005:

The SLC completed a review of State discharge monitoring reports and EPA enforcement and compliance history online, (ECHO), for the upper basin wastewater treatment facilities. The following wastewater treatment facilities in the Upper Clear Creek Basin received or have outstanding notices of exceedence in 2005:

Facility Identifier	Exceedence Date	Parameter
Clear Creek School District	2nd quarter	Solids, Suspended % Removal
Central Clear Creek WWTP	7/2005 and 8/2005	Non-receipt of DMR
Clear Creek Ski Corp	2nd quarter 2004 to date	Not received, 1st report of progress
Clear Creek Ski Corp	2nd quarter 2004 to date	Not received, implement plan
Clear Creek Ski Corp	1st quarter 2004 to date	Not received, Compliance schedule design report
Clear Creek Ski Corp	**9/2005 to date**	**Significant non-compliance, not received operational level attained**
Clear Creek Ski Corp	2nd quarter	BOD, 5-Day % removal
Empire, Town of	7/2005, 8/2005, 10/2005	Non-receipt of DMR
Eisenhower Tunnel WWTF	1st quarter	Solids, Suspended Mthly
Eisenhower Tunnel WWTF	1st quarter	Solids, Suspended NMth
Eisenhower Tunnel WWTF	1st quarter	Solids, Suspended % Removal
Eisenhower Tunnel WWTF	4th quarter	Coliform, Fecal General
Georgetown, Town of	2nd quarter	Nitrogen, Ammonia as N
Georgetown, Town of	3rd quarter	Unknown, fecal coliform
Henderson Mine (Climax)	3rd quarter	Achieved late, 3rd report of progress
Idaho Springs, City of	1st quarter	BOD, 5-Day (20 deg C)
Idaho Springs, City of	2nd quarter	Chlorine, total residual
Idaho Springs, City of	3rd quarter	Copper, potentially dissolved
Idaho Springs, City of	1/2004 to date	Not Received; monitoring program design
Idaho Springs, City of	6/2004 to date	Achieved late; 1st report of progress
Idaho Springs, City of	3/2005 to date	Not Received; corrective action completed
St. Mary's Glacier Water and Sanitation District	3rd quarter to date	Not received; Submit I/I Report #4
Swayder Camp WWTF	3rd quarter	BOD, 5-Day Mthly
Swayder Camp WWTF	3rd quarter	BOD, 5-Day NMth
Swayder Camp WWTF	3rd quarter	Solids, Suspended % Removal

The table is a sobering reminder that more than 90% of permitted wastewater treatment plants in the upper basin are in violation of their permits. While incomplete or partial paperwork violations would appear minor, actual water quality impacts to Clear Creek could be occurring and are being ignored or hidden by failure to report. The SLC are deeply concerned with the multi-year violations of several of the WWTF.

On Tuesday, September 27, 2005, a power outage at the Georgetown Wastewater Treatment Plant caused a malfunction and approximately 100,000 gallons of untreated to partially treated sewage entered Clear Creek. The SLC were forced to close the diversion to Standley Lake resulting in 214 acre feet of lost water. The following day, the Colorado Department of Public Health and Environment issued a public notification to avoid Clear Creek due to the spill. To avoid this problem in the future the City of Georgetown has purchased a back up generator.

Experts Workshop

In 2003, the SLC hosted an Expert Workshop with the goal of evaluating the in-lake data, the monitoring program, recreational and drought impacts on water quality, and short- circuiting issues on Standley Lake. This evaluation was used to map a course of action in support of the narrative standard, identify management options and consider the need for future modeling and water quality studies. Five respected limnologists participated in the workshop. The expert recommendations were grouped, evaluated and prioritized by the SLC for incorporation into the long- range plan. Of the thirty five recommendations, ten were deemed not feasible due to cost (ex. hypolimnetic oxygenation, off line storage) or they were considered peripheral to water quality goals (ex. floating island, near reservoir swimming). The following table identifies the recommendations that have been implemented or were in progress in 2005.

Expert Recommendations

Remove sediment from canal inlet channel
Biomanipulation
Enhance shoreline vegetation
Monitor reservoir operations vs. anoxia
Add 1998 to 2002 data to reservoir model
Evaluate recent data for short-circuiting/move inlet
Move from narrative standard toward water quality index
Ensure construction BMPs in place
Monitor milfoil and milfoil management options
Continue monitoring program
Add periodic zooplankton
Improve QA/QC – fix identified data base problems
Review data more frequently - coordinate with water quality index
Analyze chlorophyll and related data more closely
Fine tune Lakewatch tool to better evaluate data
Comprehensive data analysis - gaps, new parameters, relationships
Dynamic algae productivity model
Identify all nutrient sources in watershed (Jan - March)
Develop strategy to reduce nutrient sources
Assess septic nutrient impact
Plan for watershed nutrient load reduction
Separate stormwater inputs from feeder canals
Work with wastewater plants to maximize treatment
Encourage BMPs in watershed
Correlate crypto/giardia inputs and lake levels

Appendix A

Clear Creek / Standley Lake

Watershed Agreement

AGREEMENT

The undersigned parties hereto agree as follows:

I. Preamble.

This Agreement seeks to address certain water quality issues and concerns within the Clear Creek Basin of Colorado, and specifically, such issues as they affect the water quality of Standley Reservoir, an agricultural and municipal water supply reservoir located in Jefferson County Colorado, which is supplied with water primarily from Clear Creek. For purposes of this Agreement, the Clear Creek Basin is divided into three (3) areas of segments: the Upper Clear Creek Basin ("Upper Basin"), consisting of Clear Creek and its tributaries from its source to and including the headgate of the Croke Canal in Golden, Colorado; the Standley Lake Tributary Basin ("Tributary Basin"), consisting of the lands directly tributary to Standley Lake, the Church Ditch, the Farmers High Line Canal, the Croke Canal, and lands directly tributary to these Canals; and Standley Lake ("Standley Lake"), consisting of the Lake itself.

The parties to this Agreement are governmental agencies and private corporations having land use, water supply, and/or wastewater treatment responsibilities within the Clear Creek Basin. The parties are: (1) UCCBA; (2) City of Golden; (3) City of Arvada; (4) Jefferson County; (5) Jefferson Center Metropolitan District; (6) City of Westminster; (7) City of Northglenn; (8) City of Thornton; (9) City of Idaho Springs; (10) Clear Creek County; (11) Gilpin County; (12) Black Hawk/Central City Sanitation District; (13) Town of Empire; (14) City of Black Hawk; (15) City of Central; (16) Town of Georgetown; (17) Town of Silverplume; (18) Central Clear Creek Sanitation District; (19) Alice/St. Mary's Metropolitan District; (20) Clear Creek Skiing Corporation; (21) Henderson Mine; (22) Coors Brewing Company; (23) Church Ditch Company; (24) Farmers High Line Canal and Reservoir Company; and (25) Farmers Reservoir and Irrigation Company. For purposes of this Agreement, the parties can be divided into four (4) functional groups, as follows: The Upper Basin Entities ("Upper Basin Users" or "UCCBA"), consisting of the members of the Upper Clear Creek Basin Association (generally representing entities with jurisdiction over land use and wastewater treatment activities in the Upper Basin that can affect water quality in the Upper Basin); the Tributary Basin Entities ("Tributary Basin Entities"), consisting of the Cities of Golden, Arvada, and Westminster, and the County of Jefferson and the Jefferson Center Metropolitan District (generally representing entities with jurisdiction over land use activities that can affect water quality in the Tributary Basin); the Standley Lake Cities ("Standley Lake Cities"), consisting of the Cities of Westminster, Northglenn, and Thornton, (representing the municipal water users from Standley Lake); and the three canal companies (the "Canal Companies"), consisting of the Church Ditch Company, the Farmers High Line Canal and Reservoir Company, and the Farmers Reservoir and Irrigation Company (representing the entities that own and operate canals through which water is conveyed to Standley Lake for municipal and agricultural use).

In accordance with the geographical and functional divisions, this Agreement generally sets out rights and obligations with respect to certain water quality matters within the Clear Creek Basin (as above defined) by area or segment and by functional group.

II. Agreement.

1. The parties will submit a joint alternative proposal to the Water Quality Control Commission ("WQCC") in the matter captioned "For Consideration of Revisions to the Water Quality Classifications and Standards, Including Adoption of a Narrative Standard, for Segment 2, Standley Lake, of Big Dry Creek, in the South Platte Basin, and Adoption of a Standley Lake Control Regulation" on or before December 23, 1993. Said alternative proposal shall contain the following points:

a. Request the WQCC to adopt a narrative standard only for Standley Lake at this time, with further consideration of any control regulation or numeric criteria for implementation of the standard at or after the triennial review of the South Platte River to be held in 1997. The narrative standard shall require maintenance of Standley Lake in a mesotrophic state, as measured by a combination of relevant indicators, as recommended by the parties' consultants prior to December 23, 1993.

b. Request language in the Rule and in the Statement of Basis and Purpose for the regulation explaining that during the next triennium ending in 1997 ("triennium") the parties hereto will be conducting additional testing and monitoring, as well as implementing certain best management practices and controls on a voluntary basis, the results of which will be reported to the WQCC on an annual basis, and that point-source discharge permits written during the triennium shall not include any new or more stringent nutrient effluent limitations or wasteload allocations to meet the narrative standard. The proposed language will also refer to the intention of the parties and the Commission that should the narrative standard not be met at the end of the triennium, and substantial progress has not been made in reducing the nutrient loads to Standley Lake, additional measures may be required, including numeric standards or effluent limitations for phosphorous and/or nitrogen in the Upper Basin, and for additional best management controls in Standley Lake to be considered.

2. Should the WQCC fail to approve and adopt the substance of the proposed alternative described in paragraphs 1.a. and 1.b. above, this agreement shall automatically terminate and the parties shall be released from all other obligations and rights hereunder.

3. At or after the triennial review in 1997, the UCCBA and Standley Lake Cities agree that if substantial progress has not been made by the UCCBA in reducing its portion of nutrient loading and in developing controls to maintain appropriate reductions in nutrient loads to Standley Lake sufficient to maintain the narrative standard, they

will jointly petition the Commission to adopt a control regulation for Standley Lake containing the following points:

a. Total Phosphorous effluent limitation of 1.0 mg/l as P as a thirty (30) day average at the Upper Clear Creek Wastewater Treatment Plants, or such other numeric standard(s) or effluent limitations (s) for phosphorous or nitrogen, or in combination, with opportunity for point to point source and nonpoint source to point source trading among the entities that operate the UCCBA treatment plants, as has been determined will be effective in achieving and maintaining the narrative standard for Standley lake. Such numeric standard(s) or effluent limitation(s) shall be implemented over a three year period to allow time for the affected entities to fund, design and construct improvements necessary to meet the standards.

b. In-lake treatment to reduce internal phosphorous loading by 50% from the 1989-90 measured loadings in the 1993 USGS report by Mueller and Ruddy, or such other standards for reduction of internal phosphorous and nitrogen loading as has been determined will be effective in achieving and maintaining the narrative standard for Standley Lake, within three (3) years.

4. The UCCBA, in consultation with the Standley Lake Cities and Tributary Basin Entities will prepare a Best Management Practices Manual by December 31, 1994 for nonpoint sources that will cover disturbed areas of 1 acre or more and use its best efforts to have it approved and adopted for implementation by all jurisdictions within the Upper Basin by July 1, 1995. This Manual will be prepared to deal with the geologic, topographic and weather conditions existing within the Upper Basin to facilitate the reduction of nutrient loading from the various activities of the Upper Basin. This Manual will be coordinated with the Standley Lake Cities and Tributary Basin entities. The plan will include a program for monitoring representative results, to be included in the overall basin monitoring plan. For purposes of development of BMPs, Jeffco will not be considered to be part of the UCCBA.

5. The UCCBA, in consultation with the Standley Lake Cities and the Tributary Basin Entities, will examine the costs and effects of nutrient removal at UCCBA wastewater treatment plants, including operational controls or modifications which would decrease nutrient loads. Recommendations of such review shall be furnished to all the parties hereto by June 30, 1994. The UCCBA will use its best efforts to have its members implement operational modifications which can be implemented without significant capital improvements as quickly as reasonably practical.

6. The Standley Lake Cities, in consultation with the other parties, will develop a Standley Lake Management Plan by December 31, 1994 which will address in-lake nutrient loading and potential nutrient loading from lake activities, water supply operations, recreational activities, and activities in the watershed. The Standley Lake Cities will use their best efforts to implement the Lake Management Plan by June,

1995. It is understood that the water rights implications of the plan must be considered.

7. The parties will jointly design, implement, and fund in such allocations as they shall agree a monitoring program to evaluate (1) nutrient loadings from point sources; (2) nutrient loadings from non-point sources in the Upper Basin; (3) nutrient loadings from non-point sources in the Tributary Basin; (4) internal Lake loading; and (5) the effect of nutrient reduction measures implemented by the various parties on the trophic status of Standley Lake. The results of the monitoring program will be provided to the Water Quality Control Commission for informational purposes annually. A description of the monitoring program will be included with the Annual Reports.

8. The Tributary Basin Entities and the Standley Lake Cities, in consultation with the other parties, will develop Best Management Practices (BMPs) for each of their jurisdictions by December 31, 1994, and shall use their best efforts to have them adopted as regulations by July, 1995. The BMPs will be designed to remove pollutants to the maximum extent practical considering the costs and benefits of possible measures; provided, however that no retro-fitting of existing construction or development will be required.

9. The Tributary Basin Entities, the Standley Lake Cities and the Canal Companies will develop a Management Plan for the Tributary Basin, addressing stormwater quality and quantity, hazardous substance spills, canal flushing, crossing permits, the Canal Companies' stormwater concerns, and the water rights implications of the above by December, 1994, and use their best efforts to achieve adoption of the portions of the Plan under the control of each entity by July, 1995. If not all affected parties adopt the agreed measures, then the parties that have adopted such measures will determine whether or not to implement the Plan despite such non-adoption by one or more parties.

10. Each functional group (The UCCBA, The Tributary Entities, The Standley Lake Cities, and the Canal Companies) shall provide each other group with semi-annual reports detailing the progress made on the implementation of its responsibilities herein, including development of any BMPs, nutrient reduction programs or controls, or other items required by this agreement, beginning in June, 1994. The parties shall also meet periodically after each report is completed to discuss progress by the parties. It is anticipated that the various functional groups may assign or appoint task groups or committees to address specific tasks or areas of concern (e.g. BMPs; ISDS; Wastewater Plant operational changes; monitoring, etc). If so, then the task groups shall provide the appropriate reports and participate in follow-up meetings.

11. This agreement may be enforced as a contract according to the laws of the State of Colorado; however, this agreement shall not create any right to claim or recover monetary damages for a breach thereof.

12. It is anticipated that other regional agencies with land use and/or water quality responsibilities or impacts within the Clear Creek Basin (as above defined) may join in the parties' monitoring and other efforts pursuant to this Agreement.

13. This Agreement may be executed in counterparts.

Appendix B

CLEAR CREEK WATERSHED MANAGEMENT

MONITORING PROGRAM

Upper Clear Creek Basin
Standley Lake Supply Canals
Standley Lake

Prepared by Clear Creek Watershed/Standley Lake
Monitoring Committee
2004

TABLE of CONTENTS

INTRODUCTION

An agreement between the Upper Clear Creek Watershed Association, the "Tributary Basin" entities and the Standley Lake Cities was developed to address certain issues and concerns as might affect the water quality of Standley Lake (see appendix A for the agreement including a listing of parties to the agreement). Part of the agreement was to design and implement a Monitoring Program and is intended to be applied throughout its duration. The Clear Creek Watershed/Standley Lake Monitoring Committee (members representing the parties to the agreement) annually evaluate the results of the monitoring and make changes to the program as appropriate. The Monitoring Program with any changes or additions/deletions is documented in the annual report to the Colorado Water Quality Control Commission (WQCC).

Based on the agreement, a monitoring program was established to evaluate the following:

- Nutrient loadings from point sources in the Upper Clear Creek Basin.
- Nutrient loadings from non-point sources in the Upper Clear Creek Basin.
- Nutrient loadings from non-point sources in the Tributary Basin.
- Internal loadings on Standley Lake.
- Effects of nutrient reduction measures on the trophic status of Standley Lake.

After the agreement had been finalized an additional component was added to evaluate the effect of organic material from Clear Creek on the dissolved oxygen concentrations in Standley Lake, primarily during the spring/summer runoff period.

MONITORING SITES *

Clear Creek Monitoring Sites/Rationale

The sampling sites in the Upper Basin were selected to divide the stream into sections that would identify point and non-point contributions. These sites were selected as part of an initial sampling program in 1992-93 and where possible are consistent with the sites used in the Super Fund sampling program. The Super Fund sites were selected because of the potential to use the existing database in stream model calibrations. Stream flow monitoring stations were installed at the following corresponding sites: CC-10, CC-20, CC-25, CC-26, CC-35, CC-40, CC-50 and CC-60. Flows are also recorded at the Golden gage.

CC-05 Mainstem of Clear Creek (CC) at Bakerville
CC-09 Leavenworth Creek Added for 1999
CC-10 South Fork of CC at Leavenworth Creek
CC-15 West Fork of CC below Berthoud
CC-20 West Fork of CC below Empire
CC-25 Mainstem of CC above West Fork
CC-26 Mainstem of CC at Lawson gage Added 4/98
CC-30 Fall River above mainstem of CC
CC-34 Mainstem of CC upstream of Chicago Creek Added 2/03
CC-35 Chicago Creek above Idaho Springs Water Treatment Plant
CC-40 Mainstem of CC below Idaho Springs Wastewater Treatment Plants (WWTP)
CC-44* North Fork of CC above Black Hawk/Central City WTP intake
CC-45 North Fork of CC above Black Hawk/Central City WWTP
CC-50 North Fork of CC above confluence of mainstem of CC
CC-52 Beaver Brook Added in 2001
CC-53 Soda Creek Added in 2001
CC-54 Confluent of Soda Creek and Beaver Brook dropped for 2001
CC-60 Mainstem of CC at Church Headgate
*Original sampling site is CC-45. CC-44 added in 1999.

Wastewater Treatment Plant Monitoring Sites

15. Loveland (CC1a)
16. Georgetown (CC3a)
17. Empire (CC5a)
18. Central Clear Creek (CC7a)
19. St Mary's WWTP (CC8a) - added in 2001
20. Idaho Springs (CC12a)
21. Black Hawk / Central City (CC13a)
22. Henderson Mine (CC14a)

* Eisenhower Tunnel (CC15a) – not monitored. Data received from DMR

MONITORING SITES (cont.)

Canal Monitoring Sites

The canal sampling sites were selected to assess the relative loadings to the canals from Jefferson County, portions of Golden and portions of Arvada.

22. Church Ditch at Headgate on Mainstem of CC (TO1-AS or T01-GR)
23. Farmers High Line at Headgate on Mainstem of CC (TO2-AS or T02-GR)
24. Croke Canal at Headgate on Mainstem of CC (TO3-AS or T03-GR)
25. Church Ditch at 64th (T34-AS or T34-GR)
26. Farmer High Line Canal at 64th (T33-AS or T33-GR)
27. Croke Canal at 64th (T31-AS or T31-GR)
28. Church as it enters Standley Lake (T09-AS or T09-GR)
29. Farmer High Line Canal as it enters Standley Lake (T11 –AS or T-11GR)
30. Croke Canal as it enters Standley Lake (T04-AS or T04-GR)

Standley Lake

The site over the outlet was selected for monitoring because this is the site with the most historic data and is the area from which the water is drawn into the filter plants. By having one site, more samples over time can be taken for the same analytical effort and therefore, provide more data to assess the condition of Standley Lake. Monitoring locations are:

1. 10-0 – Surface (Secchi depth recorded only)
2. 10-70 – 5 feet from bottom
3. 10-PZ – Photic Zone (2X Secchi depth)

*Monitoring sites are contained in Table 1 and in the narrative description (pages 8, 9 and 10).

MONITORING SCHEDULE

Sampling dates for wastewater treatment plants and stream sites were selected to correspond to seasonally varying flow conditions in Clear Creek. Canal composites are collected within seven days of the stream sampling. Laboratory constants require that all sampling be conducted on a Monday, Tuesday, Wednesday, or a Thursday. Each year, sampling is done on approximately the same schedule.

1. Early February (Monday)
2. Early April (Tuesday)
3. Late May (Thursday)
4. Mid June (Wednesday)
5. Mid July (Monday)
6. Mid August (Tuesday)
7. Mid October (Wednesday)
8. Early December (Thursday)

During the spring / summer runoff period, generally mid-May to mid July, the Farmer Highline or Croke Canals, which ever is flowing greater, will be monitored. Standley Lake will be monitored every two weeks from March through November. This regularly spaced and frequent sampling is necessary to provide adequate data to evaluate the trophic status of Standley Lake.

MONITORING PROGRAM VARIABLES (with some limits noted)*

Stream Variables	Reporting Limits
Total Nitrogen	100 ug/L
Nitrate + Nitrite, Ammonia	10 ug/L
Total Phosphorus	2.5 ug/L
Diss. Ortho Phosphorus	2.5 ug/L
Suspended Solids, Total and Volatile	1 mg/L
Physical Properties: Temperature, pH, Specific Conductance and Turbidity	See SOP's

Canal Variables	Reporting Limits
Total Nitrogen	100 ug/L
Nitrate + Nitrite, Ammonia	10 ug/L
Total Phosphorus	2.5 ug/L
Diss. Ortho Phosphorus	2.5 ug/L
Suspended Solids, Total and Volatile	1 mg/L
Physical Properties: Temperature, pH, Specific Conductance and Turbidity	See SOP's

Lake Variables	Reporting Limits
Total Nitrogen	100 ug/L
Nitrate + Nitrite, Ammonia	10 ug/L
Total Phosphorus	2.5 ug/L
Diss. Ortho Phosphorus	2.5 ug/L
Suspended Solids, Total and Volatile	1 mg/L
Physical Properties: Temperature, pH, DO, Specific Conductance, Turbidity, Secchi depth (feet)	See SOP's
Chlorophyll a, algae count and identification	See SOP's

Wastewater Treatment Plant Variables	Reporting Limits
Total Nitrogen	100 ug/L
Nitrate + Nitrite, Ammonia	10 ug/L
Total Phosphorus	2.5 ug/L
Diss. Ortho Phosphorus	2.5 ug/L
Suspended Solids, Total and Volatile	1 mg/L
Physical Properties: Temperature, pH,	
Specific Conductance, Turbidity	See SOP's

* SOP's and QA/QC for these variables are contained in Appendix D, 1-3.

SAMPLE COLLECTION *

Stream All samples are grab samples.

Wastewater Treatment Plants All samples are grab samples.

Canals Samples are 24-hour time composite samples when possible. For the samples collected in conjunction with the upper basin stream and wastewater treatment plant monitoring component, a time delay in the downstream direction will be estimated so the same water is sampled from Golden to Standley Lake. The length of the delay will depend on the flow rate in each canal. If a composite sample is not available, a grab sample will be collected and analyzed in place of the composite sample.

Lake 10- PZ samples are a composite taken with a column tube through the photic zone (2X secchi depth). 10-70 samples are grabs samples.

*Standard Operating Procedures for sampling are contained in Appendix C, 1-3.

QUALITY ASSURANCE / QUALITY CONTROL PROGRAM*

Summary

Split and spike quality control samples are prepared for selected stream and lake parameters and are analyzed by three laboratories.

Laboratories
- Perkins Limnology Laboratory (formerly analyzed at the University of Missouri Limnological Laboratory) changed in 1999
- Northglenn
- Westminster

Variables
- Stream sampling- TP and TN
- Lake sampling – TP, TN, suspended and volatile solids, chlorophyll a

Discussion

Spike and split quality control samples are prepared for each of the 8 upper basin stream surveys by the City of Golden at their laboratory on the day of sampling. There are also 32 splits from the Lake sampling prepared by Westminster and sent to the University of Missouri for TP, TN, suspended and volatile solids and chlorophyll a analyses. Samples from the wastewater treatment plants will not be regularly included in the split/spike portion of the QA/QC program because of the anticipated higher concentrations.

For purposes of this report, only the spike and duplicate results on the selected upper basin stream samples are reported.

Preparation of Stream QC Samples

For each of the eight sampling surveys, there will be one split and one spike distributed to each laboratory. A different site is randomly selected each time. Samples are distributed as follows:

1. Split to UMLL for TP, TN
2. Split to Westminster for TN
3. Split to Northglenn for TP
4. Spike to UMLL for TP, TN
5. Spike to Westminster for TN
6. Spike to Northglenn for TP

*Quality Assurance and Quality Control Procedures for spike/duplicate preparation and sample handling for all laboratories are contained in Appendix D, 1-4.

DATA MANAGING and REPORTING

The City of Golden is responsible for collecting all monitoring data from the field and different laboratories and compiling this data in a spreadsheet format (EXCEL).

In 2003, the Standley Lake Cities spent approximately $20,000 on a joint Laboratory Information System (LIMS) that is hosted through the internet. This LIMS system is used to enter all of the Upper Clear Creek, Tributary, and Standley Lake data. All three cities have access to the LIMS system through a host. Each city shares a portion of the hosting costs of $3600 per year. Each city enters their own data and has a representative that is on a committee for peer review of the data. Each quarter, the data is peer reviewed, downloaded, and given to the City of Golden to compile into a spreadsheet format.

Data results of this program, along with other reporting requirements as stated in the Joint Agreement, will be reported on annual basis to the Colorado Water Quality Control Commission. Only data collected during the normal sampling schedule will be included in the Annual Monitoring Report. This data will be reported in tabular and graphic form. Data interpretation will not be a part of the Annual Monitoring Report. Following each regularly scheduled sampling event tabulated data reports will be sent to the Upper Clear Creek Watershed Association, Tributary Basin entities and the Standley Lake Cities.

APPENDIX B: SAMPLING POINTS NARRATIVE DESCRIPTIONS

Upper Clear Creek Basin

POINT	DIRECTIONS AND DESCRIPTION OF LOCATION and Latitude/Longitude
CC05	1-70 westbound to Exit 221 (Bakerville) Exit; go south back over Interstate (left) Park at call box. Take sample upstream of parking area, read gage located downstream. [STAFF GAGE] (39-41-31N/105-48-15W)
CC09	Begin at intersection of 6th and Rose in Georgetown. Go 2.2 miles up Guanella Pass Road (go past the first lake). On left side of road, there is a drive marked "Silver Dale Post" that continues west parallel with Guanella Pass. Continue approximately 200 yards. Sample from the USGS recording gage at this site. [RECORDING GAGE] (39-41-11N/105-42-00W)
CC10	Travel back down Guanella Pass Road to the lake inlet. Park on right hand side of road. Sample from stream above lake inlet point. [RECORDING GAGE] (39-41-11N/105-42-00W)
CC15	Travel west on US 40 through Empire. Begin at Empire Dairy King and continue 6.0 miles west on US 40. There is a large pullout on the creek side of highway with a large tree in the middle of the pullout. Sample directly below the tree at the creek. Staff gage is along the north bank of stream next to a tree at the stream's edge. [STAFF GAGE] (39-46-05N/105-47-36W)
CC20	Returning back through Empire eastbound, travel along the road\ramp from US 40 to Westbound I-70. Immediately after turning onto road/ramp, there is a large open space on right side of road\ramp. Park in open space and cross road to the Colorado Dept. of Transportation (CDOT) fence enclosing their maintenance yard. Enter fence and sample approx. 100 feet downstream of bridge at recording gage. [RECORDING GAGE] (39-45-23N/105-39-34W)
CC25	There are two ways to access this sampling location 1) Travel along road/ramp from US40 to Westbound 1-70, Approximately 200 yards after passing bridge to frontage road and Easter Seals Handicamp facilities - pull off onto the right side. Walk down hill to the creek. Sample immediately downstream of the box culvert across from the recording gage.

CC25 (cont.)

Or 2) Travel west of 1-70 approx. 0.8 miles west of mile-marker 232.
Pull off interstate on right side immediately beyond guardrail for the bridge structure. Walk down hill to the creek. Sample immediately downstream of the box culvert across from the recording gage.
[RECORDING GAGE] (39-45-07N/105-39-41W)
THIS IS THE RECOMMENDED SAMPLING POINT FOR CC25.

CC26 Travel east from Georgetown and exit at Lawson. Travel frontage road through Lawson and go under 1/70 overpass. Immediately to your left is a parking area. Sample creek at gage and USGS sampling station by bridge. [RECORDING GAGE] (39-45-57N/105-37-32W)

CC30 From 1-70 (either direction) Exit 238 (Fall River Road/St. Mary's Glacier) Approx. 100 yards up Fall River Road, there is a small turnout on right by a wooden support wall. Cross road and sample creek at staff gage. [STAFF GAGE] (39-45-23N/105-33-20W)

CC34 From I-70 (either direction) Exit 240 (Mt. Evans). Pull of in the small parking area on the other side of the bridge. Sample the mainstem of Clear Creek across from the Forest Service building (upstream of Chicago Creek) from the pedestrian bridge. (39-44-26N/105-31-17W)

CC35 From 1-70 (either direction) Exit 240 (Chicago Creek)
Continue approx. 3.7 miles on Hwy 103.
Pull off on right shoulder just past green roofed house that looks like a barn. (on the left) Cross road and sample creek at recording gage. [RECORDING GAGE] (39-42-58N/105-34-15W)

CC40 Travelling eastbound on I-70 take US 6 exit. Pull off in parking area just east of the off ramp. (Kermit's Restaurant is across the road) Sample approx. 100 yards east of stop sign below recording gage.
[RECORDING GAGE] (39-44-47N/105-26-08W)

CC44 From the Black Hawk intersection travel westbound approx 1 mile on Hwy 119. There is a small wooden house and parking area on the left side of the road. This is the Black Hawk water intake. Walk approx. 100 feet upstream and sample at staff gage. [STAFF GAGE] (39-44-56N/105-23-57W)

CC50 Travel Hwy 119 eastbound toward US 6. Approximately 6.7 miles downstream of the Black Hawk/Central City WWTP and ¼ mile upstream from intersection is a pullout area to the right immediately before the junction. Sample at the recording gage. [RECORDING GAGE] (39-44-56N/105-23-57W)

CC52 Exit I-70 eastbound at Beaver Brook/Floyd Hill (Exit #247). Turn Left to north frontage road (US Hwy 40). Travel east approx. 2.4 miles. Pull off to the side of road and sample Beaver Brook at this point. (39-43-7N/105-22-44W)

CC53 Continue travelling east bound 0.3 miles and cross second white bridge. Exit immediately on the right to Soda Creek Drive. Park on right. Sample Soda Creek upstream of bridge. (39-42-50N/105-21-42W)

CC54 Exit I-70 eastbound at Beaver Brook/Floyd Hill (Exit # 247). Turn left to north frontage road (US Hwy. 40). Travel east approx. 2.4 miles. Pull off to left side before first white bridge. Walk down hill on north side of road and sample Beaver Brook at this point. Continue travelling east bound 0.3 miles and cross second white bridge. Exit immediately on the right to Soda Creek Drive. Park on right. Sample Soda Creek upstream of bridge. *These sites originally numbered 52 and 53 but were combined at a single site (CC54) starting May 1999 and sampled through 2000. It has been abandoned for 2001.* Beaver Brook (39-41-34N/105-26-18W)
Soda Creek Junction (39-41-33N/105-26-19W)

CC55 Mainstem of Clear Creek east bound past tunnel 2 and past bridge. Pull off to right at mile marker 267. Go down "path" CAREFULLY. Sample at this point. THIS SAMPLE POINT ABANDONED IN 1999.

CC60 Approximately 1 mile west of intersection of Hwy. 58 and US 6. Park in pullout on south side of highway and walk down (or drive) downhill to Church Ditch diversion structure. Go across bridge on structure and sample from mainstem of Clear Creek. Do not sample from Church Ditch. (39-45-11N/105-14-40W)

APPENDIX B: MONITORING SITES

TABLE 1 – MONITORING SITES/FLOW GAGES

Clear Creek Monitoring Sites	Flow Monitoring Gages - USGS
1. Mainstem of CC at Bakerville (CC-05)	Staff gage
2. Leavenworth Creek (CC-09)	Recording gage
3. South Fork of CC at Leavenworth (CC10)	Recording gage
4. West Fork of CC below Berthoud (CC-15)	Staff gage
5. West Fork of CC below Empire (CC-20)	Recording gage
6. Mainstem of CC above West Fork (CC-25)	Recording gage
7. Mainstem of CC at Lawson gage (CC-26)	Recording gage
8. Fall River above mainstem of CC (CC-30)	Staff gage
9. Chicago Creek above Idaho Spgs WTP (CC-35)	Recording gage
10. Mainstem of Clear Creek upstream of Chicago Creek (CC-34)	none
11. Mainstem of CC below Idaho Spgs WWTP (CC-40)	Recording gage
12. North Fork of CC above BH/CC WTP (CC-44*)	Staff gage
13. North Fork of CC below BH/CC WTP (CC-45*)	none
14. North Fork of CC above confluence with CC (CC-50)	Recording gage
15. Beaver Brook (CC52)	none
16. Soda Creek (CC53)	none
17. Mainstem of CC at Church Headgate (CC-60)	Recording gage

*re-numbered in 1999

Appendix C

Clear Creek Sampling Data for 02/07/05

Sample Site	Sample Location	Date	Time	Temp (C)	pH	Cond. (uS/cm)	Turb. (NTU)	Diss. P (mg/L)	TP (mg/L)	TSS (mg/L)	VSS (mg/L)	NH3 (mg/L)	NO3/NO2 (mg/L)	TN (mg/L)	Comments
CC 26	Lawson gage on mainstem	02/07/05	0945	nm	8.23	312	1	0.0035	0.0222	3	1	0.03	0.69	0.92	
CC 40	Mainstem below Idaho Springs	02/07/05	1020	nm	8.27	358	1.4	0.0129	0.0369	4	2	0.14	0.56	0.84	
CC 50	Northfork right above confluence	02/07/05	1110	nm	8.13	379	17.6	<0.0025	0.0193	12	2	0.1	1.22	1.49	
CC 60	Mainstem at Church Headgate	02/07/05	1140	nm	8.20	370	2.3	<0.0025	0.0176	4	2	0.08	0.54	0.74	
CC 3a	Georgetown Outfall	02/07/05	0830	8	6.43	nm	5.6	2.41	2.79	13	12	12.6	0.01	15.4	
CC 7a	CCCSD WWTP	02/07/05	0935	7	6.83	nm	5.3	4.02	4.26	50	40	0.09	30.76	34.84	
CC 12a	Idaho Springs WWTP	02/07/05	0935	10	6.92	nm	58	1.67	2.57	18	14	18.4	0.04	25.7	
CC 13a	Black Hawk/Central City Effluent	02/07/05	1100	nm	nm	nm	1.7	0.07	0.174	2	2	0.07	8.61	11.1	
T03-GR	Croke Canal at Clear Creek	02/03/05	na	na	na	nm	nm	<0.0025	0.0163	4	1	0.01	0.57	0.72	
T31-GR	Croke Canal at 64th	02/02/05	na	na	na	nm	nm	<0.0025	0.191	183	17	0.03	0.57	0.92	
T04-GR	Croke Canal at Standley Lake	02/02/05	na	na	na	nm	nm	0.0041	0.0253	31	4	<0.01	0.52	0.68	

Spike / Duplicate Sample Results

CCP	CC-					Duplicate and spike samples not prepared for this sample event.									Spike TP - Northglenn results
CCD	CC - Duplicate														Duplicate TP - Northglenn results
CCD	CC - Duplicate														Duplicate TN - Westminster results
CCN	CC-														Spike TN - Westminster results

le = lab error, nr = not required, is = insufficient sample
na = not applicable, nm = not measured, fe = field error
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Clear Creek Sampling Data for 04/05/05

Sample Site	Sample Location	Date	Time	Temp (C)	pH	Cond. (uS/cm)	Turb. (NTU)	Diss. P (mg/L)	TP (mg/L)	TSS (mg/L)	VSS (mg/L)	NH3 (mg/L)	NO3/NO2 (mg/L)	TN (mg/L)	Comments
CC 26	Lawson gage on mainstem	04/05/05	0940	2.6	9.50	324	2.8	0.0053	0.0148	3	2	0.02	0.68	0.95	
CC 40	Mainstem below Idaho Springs	04/05/05	1002	3.6	9.10	352	2.4	0.0075	0.0182	4	2	0.01	0.48	0.74	
CC 50	Northfork right above confluence	04/05/05	1046	4	8.80	452	15.2	<0.0025	0.0145	7	2	0.02	0.53	0.78	
CC 60	Mainstem at Church Headgate	04/05/05	1130	5.8	8.70	377	6.2	0.0063	0.028	5	2	<0.01	0.38	0.7	
CC 3a	Georgetown Outfall	04/05/05	0750	7	7.44	425	3.6	2.483	2.825	10	9	10.4	0.09	15.2	
CC 7a	CCCSD WWTP	04/05/05	0900	8.7	6.38	1039	3.6	1.801	3.128	14	5	0.26	33.92	39.6	
CC 12a	Idaho Springs WWTP	04/05/05	0845	10.9	6.50	418	157	2.988	8.542	217	178	3.03	0.66	18.7	
CC 13a	Black Hawk/Central City Effluent	04/05/05	0810	14.2	6.95	850	2	0.0597	0.195	5	3	0.06	5.38	7.78	
T02-GR	Farmers Highline at Clear Creek	04/05/05	na	na	na	nm	nm	0.0044	0.0258	13	2	<0.01	0.3	0.64	Solids samples collected 4/4/05 as grabs
T33-AS	Farmers Highline at 64th	04/05/05	na	na	na	nm	nm	0.0053	0.0394	62	8	0.02	0.29	0.91	
T11-AS	Farmers Highline at Standley	nm	na	na	na	nm	nm	nm	nm	nm	nm	nm	nm	nm	

Spike / Duplicate Sample Results

CCP	CC-														Spike TP - Northglenn results
CCD	CC - Duplicate					Duplicate and spike samples not prepared for this sample event.									Duplicate TP - Northglenn results
CCD	CC - Duplicate														Duplicate TN - Westminster results
CCN	CC-														Spike TN - Westminster results

le = lab error, nr = not required, is = insufficient sample
na = not applicable, nm = not measured, fe = field error
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Clear Creek Sampling Data for 05/26/2005

Sample Site	Sample Location	Date	Time	Temp (C)	pH	Cond. (uS/cm)	Turb. (NTU)	Diss. P (mg/L)	TP (mg/L)	TSS (mg/L)	VSS (mg/L)	NH3 (mg/L)	NO3/NO2 (mg/L)	TN (mg/L)	Comments
CC 05	Mainstem at Bakerville	05/26/05	0945	2.6	8.33	92	7.0	0.0027	0.0078	10	2	<0.01	0.2	0.33	staff gage - 4.9
CC 09	Leavenworth Creek	05/26/05	1005	3.1	9.14	84	7.0	<0.0025	0.0099	5	2	<0.01	0.18	0.32	
CC 10	Confluent of S. Fork & Leavenworth Crk	05/26/05	1015	4.0	8.62	91	5.3	<0.0025	0.0085	4	1	<0.01	0.17	0.32	
CC 15	Westfork below Berthoud	05/26/05	0930	3.7	7.28	121	5.1	0.0039	0.009	4	<1	<0.01	0.24	0.38	staff gage - 4.4
CC 20	Westfork below Lyon Creek & Empire	05/26/05	0950	4.7	7.34	110	13.6	0.0036	0.016	11	2	<0.01	0.22	0.35	staff gage - 5.5
CC 25	Mainstem above Westfork	05/26/05	0930	8.6	9.52	106	10.5	0.0058	0.0118	5	<1	<0.01	0.17	0.32	
CC 26	Lawson gage on Mainstem	05/26/05	1004	6.7	7.44	104	11.2	0.0034	0.0155	12	1	<0.01	0.2	0.37	
CC 30	Fall River	05/26/05	1022	5.6	7.37	47	9.9	0.0069	0.0175	27	20	<0.01	0.05	0.2	staff gage - 4.0
CC 34	Mainstem above Chicago Creek	05/26/05	1100	7.7	8.01	105	16.0	0.0048	0.0211	15	2	<0.01	0.18	0.33	
CC 35	Chicago Creek	05/26/05	1050	6.2	8.66	52	9.3	0.0036	0.015	8	2	<0.01	0.12	0.29	
CC 40	Mainstem below Idaho Springs	05/26/05	1048	7.6	7.42	104	29.1	0.0077	0.0328	22	2	<0.01	0.18	0.33	staff gage - 5.85
CC44	Northfork above Black Hawk-new	05/26/05	1118	5.8	7.47	49	27.9	0.0043	0.0319	32	3	<0.01	0.03	0.19	
CC 45	Northfork above Black Hawk-old	05/26/05	1134	6.7	7.15	82	34.6	0.0067	0.0475	36	3	<0.01	0.05	0.26	
CC 50	Northfork right above confluence	05/26/05	1155	8.9	7.31	105	49.4	0.0154	0.095	53	4	<0.01	0.17	0.36	
CC 52	Beaver Brook	05/26/05	1215	11.3	8.09	183	18.7	0.0082	0.0239	24	2	<0.01	0.1	0.27	
CC 53	Soda Creek	05/26/05	1220	11.7	7.84	267	13.7	0.0072	0.0214	11	1	<0.01	0.28	0.49	
CC 60	Mainstem at Church Headgate	05/26/05	1225	9.4	7.49	108	42.5	0.0063	0.0403	32	4	<0.01	0.17	0.35	
CC 1a	Loveland WWTP	05/26/05	0900	7.8	7.02	2147	6.2	2.686	3.074	13	9	0.06	13.6	14.76	
CC 3a	Georgetown Outfall	05/26/05	0930	10.3	6.78	343	5.2	0.117	0.379	11	8	0.5	1.65	3.35	
CC 5a	Empire WWTP	05/26/05	0830	11.5	7.89	604	2.0	0.17	0.776	7	2	0.29	9.26	10.1	
CC 7a	CCCSD WWTP	05/26/05	1000	14.8	6.83	1063	4.7	5.04	5.332	10	6	0.18	26.1	27.4	
CC 8a	St Marys WWTP	05/26/05	0930	4.8	6.61	155	3.4	0.025	0.159	3	1	<0.01	1.28	2.17	
CC 12a	Idaho Springs WWTP	05/26/05	na	na	na	na	na	na	na	na	na	na	na	na	no sample taken
CC 13a	Black Hawk/Central City Effluent	05/26/05	0755	16.9	7.29	1174	1.8	2.963	3.369	4	1	0.1	19.44	21.8	
CC 14a	Henderson WWTP	05/26/05	fe	10.8	7.23	n/m	n/m	0.815	0.861	7	2	0.01	0.66	6.96	
CC 15a	Eisenhower WWTP	05/26/05	na	na	na	na	na	na	na	na	na	na	na	na	
T02-GR	Farmers Highline at Clear Creek	05/25/05	n/a	n/a	n/a	n/m	n/m	0.0035	0.028	44	<1	<0.01	0.19	0.44	
T33-GR	Farmers Highline at 64th	05/25/05	n/a	n/a	n/a	n/m	n/m	0.0087	0.0521	62	11	<0.01	0.18	0.42	
T11-GR	Farmers Highline at Standley	05/25/05	n/a	n/a	n/a	n/m	n/m	0.0131	0.0877	116	16	<0.01	0.19	0.44	

Spike / Duplicate Sample Results

CC-P89	CC26	05/26/05							0.0285						Spike TP - Northglenn results
CC-D89	CC26 Duplicate	05/26/05							0.0172						Duplicate TP - Northglenn results
CC-D89	CC26 Duplicate	05/26/05												0.34	Duplicate TN - Westminster results
CC-N89	CC26	05/26/05												0.64	Spike TN - Westminster results

le = lab error, nr = not required, is = insufficient sample
na = not applicable, nm = not measured, fe= field error
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Clear Creek Sampling Data for 06/15/05

Sample Site	Sample Location	Date	Time	Temp (C)	pH	Cond. (uS/cm)	Turb. (NTU)	Diss. P (mg/L)	TP (mg/L)	TSS (mg/L)	VSS (mg/L)	NH3 (mg/L)	NO3/NO2 (mg/L)	TN (mg/L)	Comments
CC 26	Lawson gage on mainstem	06/15/05	0955	9.1	9.27	121	1.53	0.0034	0.0106	<4	<4	0.01	0.17	0.56	
CC 40	Mainstem below Idaho Springs	06/15/05	1035	9.6	9.23	121	2.62	<0.0025	0.011	<4	<4	<0.01	0.15	0.28	staff gage - 5.37
CC 50	Northfork right above confluence	06/15/05	1125	11	8.99	141	4.81	0.0041	0.0106	<4	<4	<0.01	0.06	0.17	
CC 60	Mainstem at Church Headgate	06/15/05	1150	12.1	8.88	130	3.84	0.0043	0.0153	<4	<4	<0.01	0.12	0.22	
CC 3a	Georgetown Outfall	06/15/05	0810	11.1	6.70	nm	5.38	0.055	0.276	8	8	0.70	2.41	4.05	
CC 7a	CCCSD WWTP	06/15/05	0845	13.8	6.65	nm	6.04	2.59	4.095	8	5	0.13	24.3	25.6	
CC 12a	Idaho Springs WWTP	06/15/05	0815	14.3	6.54	nm	19.9	0.719	1.248	30	26	2.04	0.58	5.01	
CC 13a	Black Hawk/Central City Effluent	06/15/05	0730	17.6	7.05	nm	1.18	0.027	0.147	1	1	<0.01	4.33	5.67	
T02-AS	Farmers Highline at Clear Creek	06/15/05	na	na	na	nm	nm	0.0051	0.0153	3	3	<0.01	0.1	0.22	
T33-AS	Farmers Highline at 64th	06/15/05	na	na	na	nm	nm	0.0086	0.024	13	4	<0.01	0.14	0.42	
T11-AS	Farmers Highline at Standley	06/15/05	na	na	na	nm	nm	<0.0025	0.0136	14	2	<0.01	0.08	0.21	

Spike / Duplicate Sample Results

CCP	CC-					Duplicate and spike samples not prepared for this sample event.									Spike TP - Northglenn results
CCD	CC - Duplicate														Duplicate TP - Northglenn results
CCD	CC - Duplicate														Duplicate TN - Westminster results
CCN	CC-														Spike TN - Westminster results

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Clear Creek Sampling Data for 07/18/05

Sample Site	Sample Location	Date	Time	Temp (C)	pH	Cond. (uS/cm)	Turb. (NTU)	Diss. P (mg/L)	TP (mg/L)	TSS (mg/L)	VSS (mg/L)	NH3 (mg/L)	NO3/NO2 (mg/L)	TN (mg/L)	Comments
CC 26	Lawson gage on mainstem	07/18/05	0945	11.7	7.64	109	5.4	<0.0025	0.008	2	1	<0.01	0.18	0.26	
CC 40	Mainstem below Idaho Springs	07/18/05	1020	13.4	8.09	110	5.8	0.0025	0.0104	3	2	0.02	0.16	0.52	staff gage - 4.9
CC 50	Northfork right above confluence	07/18/05	1055	16.9	8.25	286	16.9	<0.0025	0.0273	10	2	0.02	0.23	0.47	
CC 60	Mainstem at Church Headgate	nm*	nm*	nm*	nm*	nm*	nm*	nm*	nm*	nm*	nm*	nm*	nm*	nm*	*Rockslide on US 6. No access.
CC 3a	Georgetown Outfall	07/18/05	nm	15	7.65	451	34.4	<0.0025	0.0032	6	1	0.15	<0.01	nm	
CC 7a	CCCSD WWTP	07/18/05	nm	18.6	6.90	980	6.8	2.12	4.99	13	8	1.08	12.4	14.2	
CC 12a	Idaho Springs WWTP	07/18/05	nm	18.6	6.64	586	80.7	1.1	4.8	114	80	16	<0.01	22.2	
CC 13a	Black Hawk/Central City Effluent	07/18/05	nm	22.1	6.90	913	9.7	0.164	1.03	8	6	0.18	10.3	13.2	
T02-GR	Farmers Highline at Clear Creek	07/12/05	na	na	na	nm	nm	<0.0025	0.009	2	<1	<0.01	0.012	0.2	
T33-GR	Farmers Highline at 64th	07/12/05	na	na	na	nm	nm	0.0057	0.0155	6	2	<0.01	0.012	0.21	
T11-GR	Farmers Highline at Standley	07/12/05	na	na	na	nm	nm	<0.0025	0.0141	12	3	<0.01	0.05	0.15	

Spike / Duplicate Sample Results

CCP	CC-					Duplicate and spike samples not prepared for this sample event.									Spike TP - Northglenn results
CCD	CC - Duplicate														Duplicate TP - Northglenn results
CCD	CC - Duplicate														Duplicate TN - Westminster results
CCN	CC-														Spike TN - Westminster results

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Clear Creek Sampling Data for 08/30/05

Sample Site	Sample Location	Date	Time	Temp (C)	pH	Cond. (uS/cm)	Turb. (NTU)	Diss. P (mg/L)	TP (mg/L)	TSS (mg/L)	VSS (mg/L)	NH3 (mg/L)	NO3/NO2 (mg/L)	TN (mg/L)	Comments
CC 26	Lawson gage on mainstem	08/30/05	0950	10.9	8.02	133	1.1	<0.0025	0.0124	1	<1	0.02	0.24	0.52	
CC 40	Mainstem below Idaho Springs	08/30/05	1056	12.3	8.09	145	1.4	0.0029	0.044	4	<1	0.18	0.21	0.69	
CC 50	Northfork right above confluence	08/30/05	1048	15.9	7.69	442	10.6	,0.0025	0.0183	3	<1	0.03	0.54	0.8	
CC 60	Mainstem at Church Headgate	08/30/05	nm*	nm*	nm*	nm*	nm*	nm*	nm*	nm*	nm*	nm*	nm*	nm*	*Rockslide on US 6. No access.
CC 3a	Georgetown Outfall	08/30/05	0830	13.8	6.95	255	2.3	0.064	0.336	8	4	0.36	1.16	4.1	
CC 7a	CCCSD WWTP	08/30/05	0700	17.1	6.84	968	5.1	1.722	5.65	22	7	0.15	29.4	33	
CC 12a	Idaho Springs WWTP	08/30/05	0915	19.2	6.63	427	33.8	0.463	2.349	47	28	10.9	0.03	17.1	
CC 13b	Black Hawk/Central City Effluent	08/30/05	1040	16.5	8.00	771	1	0.016	0.097	<1	<1	0.02	5.18	6.17	new plant on line
T02-AS	Farmers Highline at Clear Creek	08/24/05	na	na	na	nm	nm	<0.0025	0.0178	4	<1	<0.01	0.12	0.27	
T33-AS	Farmers Highline at 64th	08/24/05	na	na	na	nm	nm	<0.0025	0.0113	5	<1	0.02	0.19	0.33	
T11-AS	Farmers Highline at Standley	08/24/05	na	na	na	nm	nm	<0.0025	0.0242	16	1	0.02	0.12	0.32	

Spike / Duplicate Sample Results

CCP	CC-					Duplicate and spike samples not prepared for this sample event.									Spike TP - Northglenn results
CCD	CC - Duplicate														Duplicate TP - Northglenn results
CCD	CC - Duplicate														Duplicate TN - Westminster results
CCN	CC-														Spike TN - Westminster results

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Clear Creek Sampling Data for 10/13/2005

Sample Site	Sample Location	Date	Time	Temp (C)	pH	Cond. (uS/cm)	Turb. (NTU)	Diss. P (mg/L)	TP (mg/L)	TSS (mg/L)	VSS (mg/L)	NH3 (mg/L)	NO3/NO2 (mg/L)	TN (mg/L)	Comments
CC 05	Mainstem at Bakerville	10/13/05	0944	0.6	7.59	174	3.9	<0.0025	0.003	<1	<1	<0.01	0.31	0.37	staff gage - 3.84
CC 09	Leavenworth Creek	10/13/05	1014	0.5	7.57	129	0.1	0.0045	0.0055	2	2	<0.01	0.08	0.19	staff gage - 3.44
CC 10	Confluent of S. Fork & Leavenworth Crk	10/13/05	1023	4.5	7.80	119	0.1	<0.0025	0.0038	2	<1	<0.01	0.13	0.17	
CC 15	Westfork below Berthoud	10/13/05	0958	2.5	9.46	484	3.3	0.0036	0.0072	1	1	0.02	1.06	1.2	
CC 20	Westfork below Lyon Creek & Empire	10/13/05	1012	3.3	9.18	314	3.3	0.0028	0.0056	1	1	<0.01	0.57	0.63	
CC 25	Mainstem above Westfork	10/13/05	0920	4.4	7.44	173	0.7	0.005	0.0119	2	<1	<0.01	0.16	0.32	staff gage - 3.72
CC 26	Lawson gage on Mainstem	10/13/05	1030	4.1	8.84	241	2.0	<0.0025	0.0082	<1	<1	<0.01	0.32	0.41	
CC 30	Fall River	10/13/05	1045	3.6	9.19	39	2.3	0.0031	0.0082	2	2	<0.01	0.04	0.11	
CC 34	Mainstem above Chicago Creek	10/13/05	1101	4.8	7.70	184	0.8	<0.0025	0.0087	2	<1	<0.01	0.24	0.39	
CC 35	Chicago Creek	10/13/05	1115	2.3	7.73	65	0.6	0.0033	0.0082	<1	<1	<0.01	0.09	0.19	
CC 40	Mainstem below Idaho Springs	10/13/05	1055	4.4	8.50	222	2.3	<0.0025	0.0077	4	4	<0.01	0.22	0.33	
CC44	Northfork above Black Hawk-new	10/13/05	1115	3.7	8.76	94	1.3	nm	0.004	1	<1	<0.01	0.01	0.06	
CC 45	Northfork above Black Hawk-old	10/13/05	1125	6.0	8.39	458	27.5	0.0045	0.0057	27	5	0.03	0.05	0.19	
CC 50	Northfork right above confluence	10/13/05	1145	8.2	8.07	502	17.1	<0.0025	0.0212	8	1	<0.01	0.18	0.29	
CC 52	Beaver Brook	10/13/05	1142	5.7	7.80	312	2.1	0.0038	0.0094	2	<1	<0.01	0.11	0.23	
CC 53	Soda Creek	10/13/05	1200	7.3	7.81	702	1.7	0.005	0.0126	1	<1	<0.01	0.22	0.34	
CC 60	Mainstem at Church Headgate	10/13/05	1205	6.4	8.06	245	1.8	nm	0.0082	1	<1	<0.01	0.14	0.3	
CC 1a	Loveland WWTP	10/13/05	0830	11.2	7.30	2007	5.1	0.776	0.96	7	2	0.15	15.24	18.02	
CC 3a	Georgetown Outfall	10/13/05	0855	11.6	7.21	342	5.7	0.096	0.224	7	2	1.66	0.33	3.31	
CC 5a	Empire WWTP	10/13/05	0830	6.3	8.80	580	1.0	0.693	0.96	4	1	0.14	15.86	17.2	
CC 7a	CCCSD WWTP	10/13/05	0920	12.0	7.83	1009	4.7	4.157	4.17	14	3	0.06	35.08	37.6	
CC 8a	St Marys WWTP	10/13/05	0948	10.5	7.05	238	1.3	0.272	0.293	<1	<1	5.08	0.06	5.67	
CC 12a	Idaho Springs WWTP	10/13/05	0815	15.6	6.69	446	8.6	0.742	0.885	6	6	3.51	0.03	6.08	
CC 13b	Black Hawk/Central City Effluent	10/13/05	1010	17.2	nm	749	0.5	1.343	1.522	1	1	0.01	3.94	5.06	new plant on line
CC 14a	Henderson WWTP	10/13/05	nm	nm	nm	nm	nm	0.997	1.064	nm	nm	0.02	12	13	
CC 15a	Eisenhower WWTP	10/13/05	na	na	na	na	na	na	na	na	na	na	na	na	
T02-GR	Farmers Highline at Clear Creek	10/11/05	na	na	na	nm	nm	0.0031	0.0129	10	4	<0.01	0.25	0.36	
T33-GR	Farmers Highline at 64th	10/11/05	na	na	na	nm	nm	0.0123	0.0225	7	<1	<0.01	0.38	0.56	
T11-GR	Farmers Highline at Standley	10/11/05	na	na	na	nm	nm	0.0038	0.0321	73	6	<0.01	0.21	0.51	

Spike / Duplicate Sample Results

CC-P90	CC25	10/12/05							0.0186						Spike TP - Northglenn results
CC-D90	CC25 Duplicate	10/12/05							0.0109						Duplicate TP - Northglenn results
CC-D90	CC25 Duplicate	10/12/05												0.34	Duplicate TN - Westminster results
CC-N90	CC25	10/12/05												0.61	Spike TN - Westminster results

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Clear Creek Sampling Data for 12/01/05

Sample Site	Sample Location	Date	Time	Temp (C)	pH	Cond. (uS/cm)	Turb. (NTU)	Diss. P (mg/L)	TP (mg/L)	TSS (mg/L)	VSS (mg/L)	NH3 (mg/L)	NO3/NO2 (mg/L)	TN (mg/L)	Comments
CC 26	Lawson gage on mainstem	12/01/05	0950	0.1	8.67	345	0.2	<0.0025	0.0124	3	1	0.02	0.77	0.88	
CC 40	Mainstem below Idaho Springs	12/01/05	1025	0.0	8.60	304	0.7	0.0067	0.0166	4	3	0.02	0.51	0.65	staff gage - 3.9
CC 50	Northfork right above confluence	12/01/05	1045	1.1	8.53	675	21.4	0.0033	0.0596	3	2	0.02	0.4	0.66	
CC 60	Mainstem at Church Headgate	12/01/05	1110	0.0	8.73	350	0.3	0.0031	0.014	1	<1	0.02	0.54	0.66	
CC 3a	Georgetown Outfall	12/01/05	0800	7.4	6.72	nm	nm	0.078	0.443	11	3	2.6	4.71	10.2	
CC 7a	CCCSD WWTP	12/01/05	0730	3.7	6.59	nm	nm	3.486	4	15	5	nm	31.2	35.6	
CC 12a	Idaho Springs WWTP	12/01/05	0911	11	nm	nm	nm	0.68	1.56	17	10	2.55	0.86	6.6	
CC 13b	Black Hawk/Central City Effluent	12/01/05	0755	3.5	nm	nm	nm	0.167	0.2	2	2	2.32	0.03	3.48	new plant on line
T03-AS	Croke Canal at Clear Creek	na	na	na	na	na	na	na	na	na	na	na	na	na	
T31-AS	Croke Canal at 64th	na	na	na	na	na	na	na	na	na	na	na	na	na	No samples taken. Outlets frozen.
T04-AS	Croke Canal at Standley Lake	na	na	na	na	na	na	na	na	na	na	na	na	na	

Spike / Duplicate Sample Results

CCP	CC-														Spike TP - Northglenn results
CCD	CC - Duplicate					Duplicate and spike samples not prepared for this sample event.									Duplicate TP - Northglenn results
CCD	CC - Duplicate														Duplicate TN - Westminster results
CCN	CC-														Spike TN - Westminster results

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Standley Lake Sampling Data 2005

Sample Site	Sample Location	Date	NH3 (mg/L) as N	NO3+NO2 (mg/L) as N	Total Nitrogen (mg/L) as N	Secchi (meters)	Algae (CT /ml)	Chlorophyll *a* uncorrected (ug/L)	D-PO4 (mg/L)	T-PO4 (mg/L)	TSS (mg/L)	VSS (mg/L)
10-00	Surface	01/03/05				2.5						
10-70	about 5 feet from bottom near dam	01/03/05	0.01	0.02	0.23				<0.0025	0.0084	2	2
10-PZ	Photic Zone (2X Secchi depth) near dam	01/03/05	0.01	0.01	0.19		1122	9.9	<0.0025	0.0119	3	3
10-00	Surface	01/19/05				2.5						
10-70	about 5 feet from bottom near dam	01/19/05	<0.01	0.01	0.24				<0.0025	0.0111	nm	nm
10-PZ	Photic Zone (2X Secchi depth) near dam	01/19/05	0.01	0.02	0.19		2198	10.8	<0.0025	0.0075	nm	nm
10-00	Surface	01/24/05				2.3	2885	11.4				
10-70	about 5 feet from bottom near dam	01/24/05	<0.01	0.05	0.2		3140	12.9	<0.0025	0.0124	nm	nm
10-PZ	Photic Zone (2X Secchi depth) near dam	01/24/05	<0.01	0.01	0.19		2482	9.4	<0.0025	0.0093	nm	nm
10-00	Surface	02/03/05				2.25						
10-70	about 5 feet from bottom near dam	02/03/05	0.03	0.09	0.34				<0.0025	0.0124	7	3
10-PZ	Photic Zone (2X Secchi depth) near dam	02/03/05	<0.01	<0.01	0.19		3697	7.2	<0.0025	0.009	4	2
10-00	Surface	02/17/05				2.25	2317	8.1				
10-70	about 5 feet from bottom near dam	02/17/05	<0.01	0.02	0.19		3410	8.5	nm	nm	nm	nm
10-PZ	Photic Zone (2X Secchi depth) near dam	02/17/05	<0.01	0.02	0.19		2496	8.3	nm	nm	nm	nm
10-00	Surface	03/15/05				3.5						
10-70	about 5 feet from bottom near dam	03/15/05	0.02	0.03	0.27				<0.0025	0.0078	4	<1
10-PZ	Photic Zone (2X Secchi depth) near dam	03/15/05	<0.01	0.02	0.19		597	3.1	0.0025	0.0096	2	<1
10-00	Surface	03/30/05				3						
10-70	about 5 feet from bottom near dam	03/30/05	0.01	0.02	0.17				<0.0025	0.0078	nm	nm
10-PZ	Photic Zone (2X Secchi depth) near dam	03/30/05	0.01	0.03	0.17		nm	2.3	<0.0025	0.0093	nm	nm
10-0	Surface	04/13/05				3.25						
10-70	about 5 feet from bottom near dam	04/13/05	0.02	0.03	0.2				0.0034	0.0095	8	3
10-PZ	Photic Zone (2X Secchi depth) near dam	04/13/05	0.02	0.03	0.18		94	2.2	<0.0025	0.0073	8	3
10-0	Surface	04/26/05				4						
10-70	about 5 feet from bottom near dam	04/26/05	0.03	0.03	0.19				<0.0025	0.0094	nm	nm
10-PZ	Photic Zone (2X Secchi depth) near dam	04/26/05	0.01	0.03	0.18		123	2.4	<0.0025	0.0112	nm	nm
10-0	Surface	05/10/05				3.75						
10-70	about 5 feet from bottom near dam	05/10/05	0.07	0.05	0.3				<0.0025	0.0113	9	1
10-PZ	Photic Zone (2X Secchi depth) near dam	05/10/05	0.01	0.04	0.2		60	1.8	<0.0025	0.0125	6	<1
10-0	Surface	05/24/05				3.5						
10-70	about 5 feet from bottom near dam	05/24/05	0.03	0.04	0.23				<0.0025	0.0076	nm	nm
10-PZ	Photic Zone (2X Secchi depth) near dam	05/24/05	0.01	0.03	0.24		20	2.4	<0.0025	0.0111	nm	nm
10-0	Surface	06/07/05				4.75						
10-70	about 5 feet from bottom near dam	06/07/05	0.07	0.06	0.27				0.0034	0.0155	10	4
10-PZ	Photic Zone (2X Secchi depth) near dam	06/07/05	0.01	0.04	0.21		96	3.0	<0.0025	0.0105	6	3
10-0	Surface	06/21/05				3.75						
10-70	about 5 feet from bottom near dam	06/21/05	0.05	0.14	0.44				0.0027	0.0148	nm	nm

Standley Lake Sampling Data 2005

Sample Site	Sample Location	Date	NH3 (mg/L) as N	NO3+NO2 (mg/L) as N	Total Nitrogen (mg/L) as N	Secchi (meters)	Algae (CT /ml)	Chlorophyll a uncorrected (ug/L)	D-PO4 (mg/L)	T-PO4 (mg/L)	TSS (mg/L)	VSS (mg/L)
10-PZ	Photic Zone (2X Secchi depth) near dam	06/21/05	<0.01	0.02	0.19		122	3.0	0.0039	0.0165	nm	nm
10-0	Surface	07/05/05				3.25						
10-70	about 5 feet from bottom near dam	07/05/05	0.01	0.19	0.38				0.0025	0.0202	16	1
10-PZ	Photic Zone (2X Secchi depth) near dam	07/05/05	<0.01	<0.01	0.15		115	2.8	<0.0025	0.0119	4	<1
10-0	Surface	07/18/05				4.5						
10-70	about 5 feet from bottom near dam	07/18/05	<0.01	0.22	0.36				<0.0025	0.0189	nm	nm
10-PZ	Photic Zone (2X Secchi depth) near dam	07/18/05	<0.01	0.01	0.15		138	2.7	<0.0025	0.0141	nm	nm
10-0	Surface	08/09/05				4.75						
10-70	about 5 feet from bottom near dam	08/09/05	0.05	0.19	0.44				0.0029	0.0258	18	4
10-PZ	Photic Zone (2X Secchi depth) near dam	08/09/05	<0.01	<0.01	0.15		101	2.2	<0.0025	0.0154	<1	<1
10-0	Surface	08/22/05				3.25						
10-70	about 5 feet from bottom near dam	08/22/05	0.1	0.14	0.4				0.0156	0.0347	nm	nm
10-PZ	Photic Zone (2X Secchi depth) near dam	08/22/05	<0.01	<0.01	0.15		191	3.4	<0.0025	0.0143	nm	nm
10-0	Surface	09/06/05				3.75						
10-70	about 5 feet from bottom near dam	09/06/05	0.18	0.05	0.47				0.0096	0.0389	2	1
10-PZ	Photic Zone (2X Secchi depth) near dam	09/06/05	<0.01	<0.01	0.16		73	2.6	<0.0025	0.0118	>1	<1
10-0	Surface	09/19/05				2.5						
10-70	about 5 feet from bottom near dam	09/19/05	0.35	<0.01	0.57				0.0029	0.0575	nm	nm
10-PZ	Photic Zone (2X Secchi depth) near dam	09/19/05	<0.01	<0.01	0.17		143	5.0	<0.0025	0.0164	nm	nm
10-0	Surface	10/03/05				4						
10-70	about 5 feet from bottom near dam	10/03/05	0.21	0.02	0.42				0.0062	0.021	7	2
10-PZ	Photic Zone (2X Secchi depth) near dam	10/03/05	<0.01	<0.01	0.16		16	2.3	<0.0025	0.0143	2	2
10-0	Surface	10/17/05				2.75						
10-70	about 5 feet from bottom near dam	10/17/05	0.03	0.03	0.29				0.0138	0.0253	nm	nm
10-PZ	Photic Zone (2X Secchi depth) near dam	10/17/05	<0.01	<0.01	0.19		22	4.2	0.0036	0.0292	nm	nm
10-0	Surface	11/02/05				4						
10-70	about 5 feet from bottom near dam	11/02/05	<0.01	0.01	0.17				<0.0025	0.0111	8	<1
10-PZ	Photic Zone (2X Secchi depth) near dam	11/02/05	<0.01	<0.01	0.18		33	8.4	<0.0025	0.0159	4	3
10-0	Surface	11/17/05				2.25						
10-70	about 5 feet from bottom near dam	11/17/05	0.01	0.02	0.19				0.0046	0.0126	nm	nm
10-PZ	Photic Zone (2X Secchi depth) near dam	11/17/05	<0.01	0.01	0.19		8	3.9	0.0041	0.0148	nm	nm

6/30/2006

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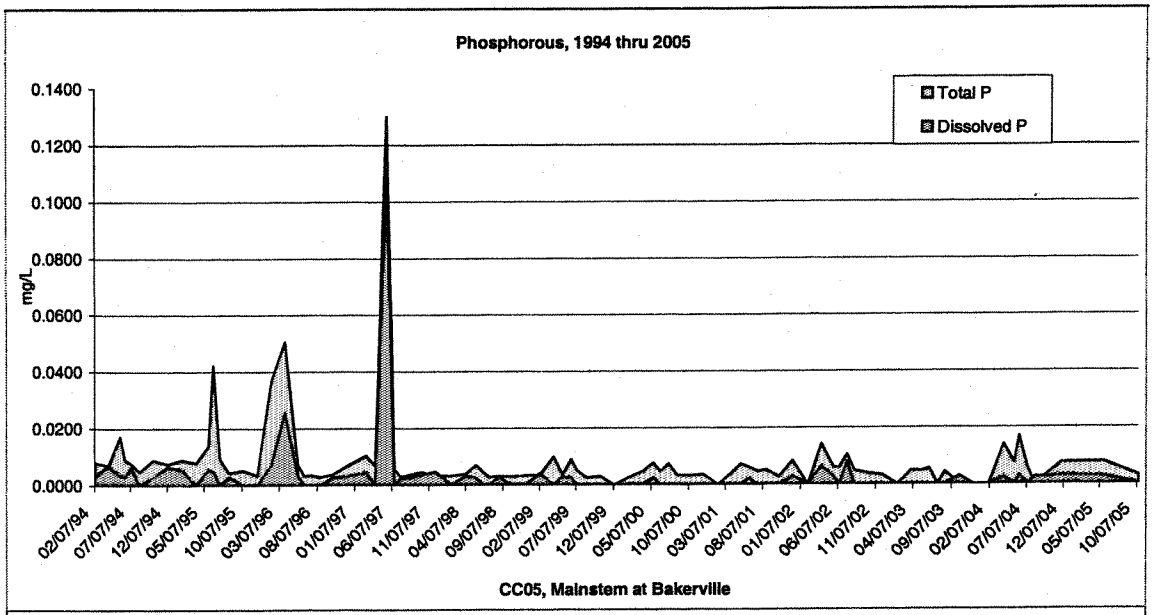
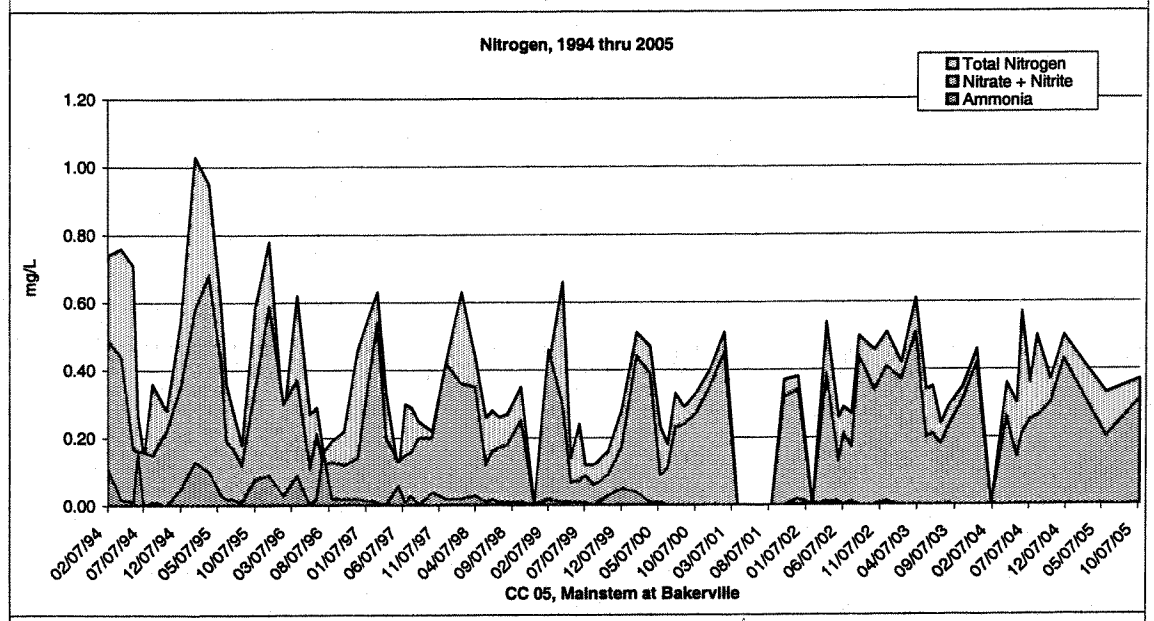
le= lab error n/m = not measured * corrected data

n/s+ no sample collected

2005 QC Calculations - Data Entry Page

SAMPLING DATE	5/26/05	10/13/05
Sample Name	CC89	CC90
Creek spiked/duplicated sample:	CC-26	CC-25
PHOSPHORUS- NG		
Original Sample Value - TP	0.0155	0.0119
Duplicate Sample Value - TP	0.0172	0.0109
Spike Factor - TP	0.015	0.01275
Spiked Sample Value - TP	0.0285	0.0186
NITROGEN-WESTY		
Original Sample Value - TN	0.37	0.32
Duplicate Sample Value - TN	0.34	0.34
Spike Factor - TN	0.300	0.250
Spiked Sample Value - TN	0.64	0.61
TP average of orig/dup.	0.01635	0.0114
TN average of orig/dup.	0.355	0.33
Duplicate (% RPD) **Allowable Limit = less than 25% - Std. Methods**		
Northglenn - TP	10.4	8.8
Westminster - TN	8.5	6.1
Spike (% recovery) of AVERAGE of original & duplicate #s **Allowable limit = 80% - 120% - Std.Methods**		
Northglenn - TP	81.0	56.5
Westminster - TN	95.0	112.0


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.1400
0.1200
0.1000
0.0800
0.0600
0.0400
0.0200
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC05, Mainstem at Bakerville


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
1.20
1.00
0.80
0.60
0.40
0.20
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
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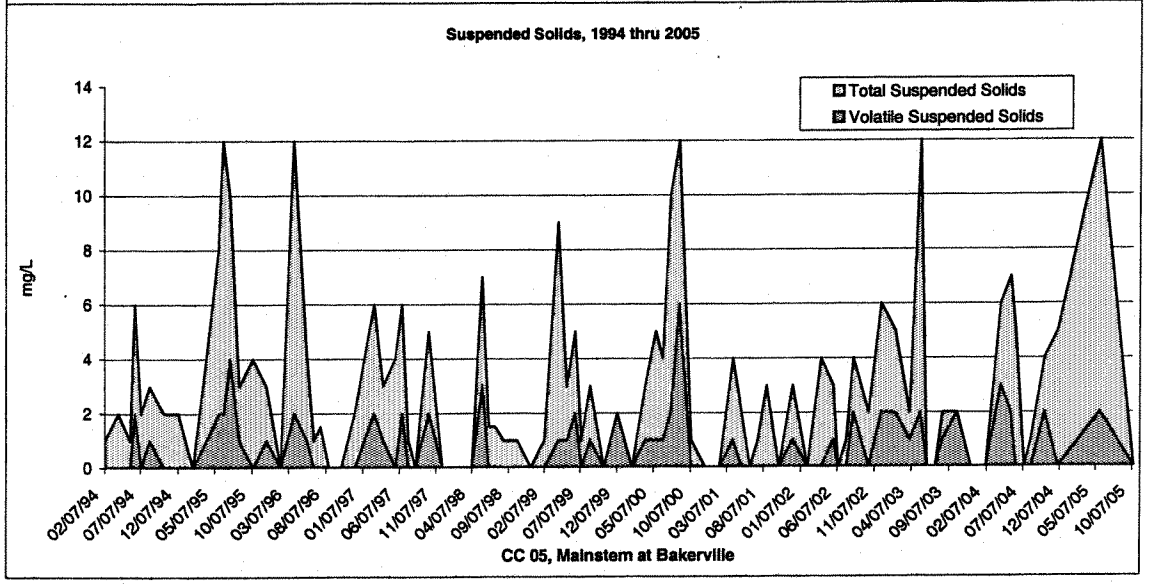
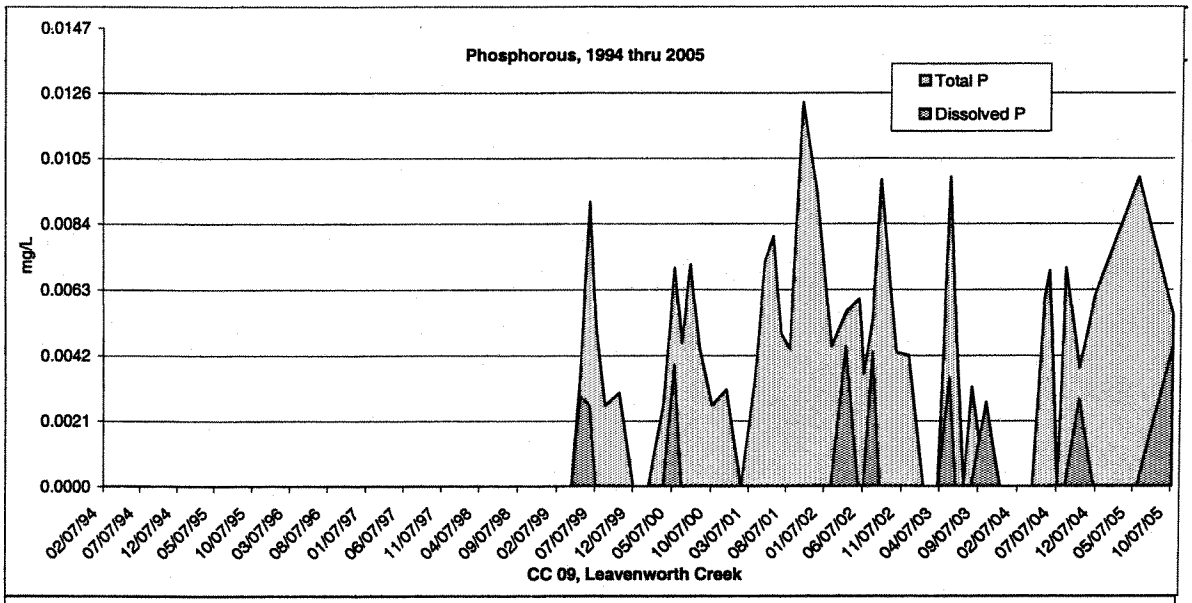
07/07/04
12/07/04
05/07/05
10/07/05
CC 05, Mainstem at Bakerville


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
14
12
10
8
6
4
2
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 05, Mainstem at Bakerville

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC05	**Mainstem at Bakerville**													
02/07/94	915	1.0	7.55	144	0.46	0.0033	0.0080	1		0.11	0.49	0.74		0.14
04/05/94	745	0.2	7.35	394	5.12	0.0070	0.0070	2	<1	0.02	0.44	0.76	88.9	0.15
05/26/94	802	3.2	7.30	73	1.81	0.0035	0.0172	1	<1	0.01	0.17	0.71	5.0	0.20
06/15/94	840	3.8	7.66	55	1.18	0.0033	0.0090	4	2	0.15	0.16	0.27	26.5	0.18
07/11/94	840	6.5	7.94	81	0.50	0.0063	0.0077	2	<1	<0.01	0.16	0.14	14.3	<0.10
08/16/94	730	8.0	7.82	92	0.70	<0.0025	0.0047	2	1	0.01	0.15	0.36	7.1	0.12
10/12/94	815	0.1	7.68	113	0.70	0.0030	0.0089	2	<1	<0.01	0.22	0.28	22.4	0.10
12/08/94	800	0.5	8.09	116	0.50	0.0063	0.0075	2	<1	0.05	0.35	0.54	7.1	<0.10
02/06/95	815	5.0	7.68	150	0.59	0.0057	0.0091	<1	<1	0.13	0.58	1.03	12.0	0.39
04/04/95	730	0.4	8.41	723	1.82	<0.0025	0.0079	3	1	0.10	0.68	0.95	26.0	
05/25/95	755	5.0	7.95	334	4.53	0.0056	0.0137	6	2	0.03	0.41	0.58	19.0	
06/14/95	740	2.9	7.67	196	5.39	0.0050	0.0422	10	2	0.02	0.19	0.36	7.0	
07/10/95	815	5.0	7.23	83	2.42	<0.0025	0.0094	6	4	0.02	0.17	0.28		
08/15/95	815	4.9	7.70	136	0.47	0.0031	0.0044	2	1	0.01	0.12	0.18		
10/11/95	825	5.9	7.82	139	0.57	<0.0025	0.0053	4	<1	0.08	0.35	0.59		
12/07/95	805	0.9	7.96	586	0.84	<0.0025	0.0035	2	1	0.09	0.59	0.78		
02/05/96	830	3.4	7.74	167	0.31	0.0074	0.0368	<1	<1	0.03	0.30	0.25		
04/02/96	915	1.6	7.30	335	16.83	0.0256	0.0506	10	2	0.09	0.37	0.62		
05/23/96	820	2.3	7.73	76		0.0035	0.0071	3	1	<0.01	0.11	0.27		
06/19/96	850	4.0	7.36	56	0.72	<0.0025	0.0033	1	<1	0.02	0.21	0.29		
07/15/96	830	12.7	6.91	59	0.73	<0.0025	0.0036	2	<1	0.16	0.12	0.16		
08/20/96	815	6.1	7.80	80	0.50	<0.0025	0.0029	<1	<1	0.02	0.13	0.19		
10/09/96	730	2.2	7.64	74	0.58	0.0028	0.0038	<1	<1	0.02	0.12	0.22		
12/05/96	830	0.4	7.27	134	0.72	0.0033	0.0068	2	<1	0.02	0.14	0.46		
02/24/97	820	3.9	7.34	210	0.84	0.0046	0.0105	4	2	0.01	0.54	0.63		
04/01/97	825	2.8	7.66	324	1.98	<0.0025	0.0069	2	1	<0.05	0.20	0.33		
05/22/97	820	3.8	7.74	99	3.61	0.1100	0.1300	4	<1	0.06	0.13	0.10		
06/18/97	820	3.1	8.30	63	1.75	<0.0025	0.0056	4	2	0.01	0.15	0.30		
07/14/97	830	3.5	7.75	64	0.47	0.0025	0.0029	1	<1	0.03	0.16	0.29		
08/12/97	845	3.7	7.62	75	0.67	0.0026	0.0036	<1	<1	<0.01	0.20	0.25		
10/08/97	740	2.6	7.63	106	0.52	0.0036	0.0046	3	2	0.04	0.20	0.22		
12/04/97	832	0.4	7.49	155	0.40	0.0049	0.0035	<1	<1	0.02	0.42	0.42		
02/09/98	810	0.7	7.01	153	0.83	<0.0025	0.0033	<1	<1	0.02	0.36	0.63		
04/07/98	800	1.0	6.99	331	1.19	0.0033	0.0040	<1	<1	0.03	0.35	0.44		
05/21/98	800	2.4	8.07	117	2.21	0.0027	0.0070	4	3	0.01	0.12	0.26		
06/17/98	820	4.0	8.24	74	1.48	0.0003	0.0047	2	<1	0.02	0.16	0.28		
07/13/98	715	4.8	7.72	63	0.85	<0.0025	0.0028	2	<1	0.01	0.17	0.28		
08/18/98	730	6.9	7.73	97	0.65	0.0027	0.0032	1	<1	0.01	0.18	0.27		
10/14/98	820	2.9	7.71	135	0.89	<0.0025	0.0031	1	<1	0.01	0.25	0.35		
12/10/98	700	1.3	7.14	620	0.86	<0.0025	0.0034	<1	<1					
02/08/99	0830	0.5	7.75	197	1.40	0.0042	0.0036	1	<1	0.02	0.46	0.41		
04/07/99	0755	2.5	7.80	348	9.58	<0.0025	0.0100	8	1	0.01	0.30	0.66		
05/12/99	0948	0.4	7.80	132	2.00	0.0029	0.0036	2	1	0.01	0.07	0.14		
06/17/99	1005	4.0	7.59	52	11.00	0.0026	0.0091	3	2	0.01	0.07	0.24		
07/12/99	1025	6.3	7.21	58	1.00	<0.0025	0.0051	1	<1	0.01	0.09	0.12		
08/17/99	1215	8.2	6.13	70	1.00	<0.0025	0.0026	2	1	<0.01	0.06	0.12		
10/13/99	1022	2.1	6.92	108	5.00	<0.0025	0.0030	<1	<1	0.03	0.09	0.16		
12/09/99	0955	0.0	7.07	132	1.00	<0.0025	<0.0025	<1	2	0.05	0.17	0.28		
02/07/00	0925	0.0	7.15	194	2.0	<0.0025	0.0026	<1	<1	0.04	0.44	0.51		
04/04/00	0902	0.2	7.36	440	4.30	<0.0025	0.0047	2	1	0.01	0.39	0.47		
05/17/00	0855	1.0	6.86	85	4.4	0.0027	0.0077	4	1	0.01	0.09	0.23		
06/15/00	0915	3.93	7.31	73.2	1.2	<0.0025	0.0046	3	1	<0.01	0.11	0.18		
07/17/00	0935	6.95	7.01	48	7.30	<0.0025	0.0073	8	2	<0.01	0.23	0.33		
08/22/00	0850	6.6	7.65	118	2.0	<0.0025	0.0033	6	6	<0.01	0.24	0.29		
10/11/00	0850	0.9	7.16	140	0.0	<0.0025	0.0033	1	<1	<0.01	0.27	0.33		
12/07/00	0945	0.1	6.93	137	4.2	<0.0025	0.0036			<0.01	0.35	0.40		
02/05/01	0925	0.1	6.63	104	3.2	<0.0025	<0.0025	<1	<1	<0.01	0.45	0.51		
04/03/01	0925	0.3	6.74	605	0.9	<0.0025	0.0043	3	1					
05/09/01	0935	3.7	8.19	279	9.2	<0.0025	0.0072	2	<1					
06/14/01	0830	2.40	7.13	83.0	2.5	0.0025	0.0061	<1	<1					
07/16/01	0900	8.30	7.29	99	4.19	<0.0025	0.0047	1	<1					
08/21/01	0910	6.3	7.87	141	1.20	<0.003	0.0052	3	<1					
10/10/01	0922	0.3	7.97	151	2.8	<0.0025	0.0027	<1	<1	<0.01	0.32	0.37		
12/06/01	0930	0.1	7.82	157	1.5	0.0031	0.0084	2	1	0.02	0.34	0.38		
02/04/02	0841													
04/02/02	0855	0.2	7.94	41	9.7	0.0065	0.0144	4	< 1	0.01	0.39	0.54		
05/23/02	0910	3.3	7.66	75	0.99	0.0027	0.006	2	1	0.01	0.13	0.28		
06/12/02	0915	3.5	7.83	84	1.7	<0.0025	0.006	< 1	< 1	<0.01	0.21	0.29		
07/15/02	0900	9.3	8.41	125	1.23	0.0079	0.0105	1	<1	0.01	0.17	0.27		
08/13/02	0910	7.0	8.09	177		<0.0025	0.0049	2	2	<0.01	0.44	0.50		
10/16/02	0855	0.4	7.91	190	0.9	<0.0025	0.0038	2	<1	<0.01	0.34	0.46		
12/05/02	0917	0.12	7.70	245	0.8	<0.0025	0.0033	4	2	0.01	0.41	0.51		
2/3/2003	1030	0.2	8.60	156	0.8	<0.0025	<0.0025	3	2	<0.01	0.37	0.42		
4/1/2003	0917	0.1	6.89	622	2.1	<0.0025	0.005	1	1	<0.01	0.51	0.61		
5/15/2003	0820	1.5	8.04	140	5.3	<0.0025	0.0048	10	2	<0.01	0.20	0.34		
6/11/2003	0911	2.7	7.84	79	5.3	<0.0025	0.0057	<1	<1	<0.01	0.21	0.35		
7/14/2003	0935	5.90	7.94	83.5	0.74	<0.0025	<0.0025	<1	<1	<0.01	0.18	0.24		
8/12/2003	0928	7.82	7.78	112	0.7	<0.0025	0.0044	1	1	<0.01	0.23	0.29		
10/8/2003	1005	3.4	7.30	159.0	0.87	0.0029	<0.0025	<1	2	<0.01	0.31	0.35		
12/4/2003	0904	0.05	7.52	160	0.5	<0.0025	<0.0025	<1	<1	<0.01	0.42	0.46		
2/2/2004														
4/6/2004	0936	0.0	7.79	288	10.1	0.0026	0.0141	3	3	<0.01	0.26	0.36		
5/19/2004	0940	3.5	8.07	114	1.7	<0.0025	0.0075	5	2	<0.01	0.14	0.3		
6/8/2004	0920	3.4	7.4	80	3.8	0.003	0.017	5	<1	<0.01	0.21	0.57		
7/12/2004	0934	6.7	8.60	104	0.9	<0.0025	0.0055	<1	<1	<0.01	0.25	0.36		
8/10/2004	0922	6.7	7.60	129	1.9	0.0026	<0.0025	1	<1	<0.01	0.26	0.5		
10/6/2004	0953	3.3	8.46	170	1.2	0.0025	0.0038	2	2	<0.01	0.3	0.37		
12/1/2004	0925	0.04	7.77	155	0.7	0.003	0.0076	5	<1	<0.01	0.43	0.5		
05/26/05	0945	2.6	8.33	92	7.0	0.0027	0.0078	10	2	<0.01	0.2	0.33		
10/13/05	0944	0.6	7.59	174	3.9	<0.0025	0.003	<1	<1	<0.001	0.31	0.37		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.0147
0.0126
0.0105
0.0084
0.0063
0.0042
0.0021
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
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02/07/99
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12/07/99
05/07/00
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11/07/02
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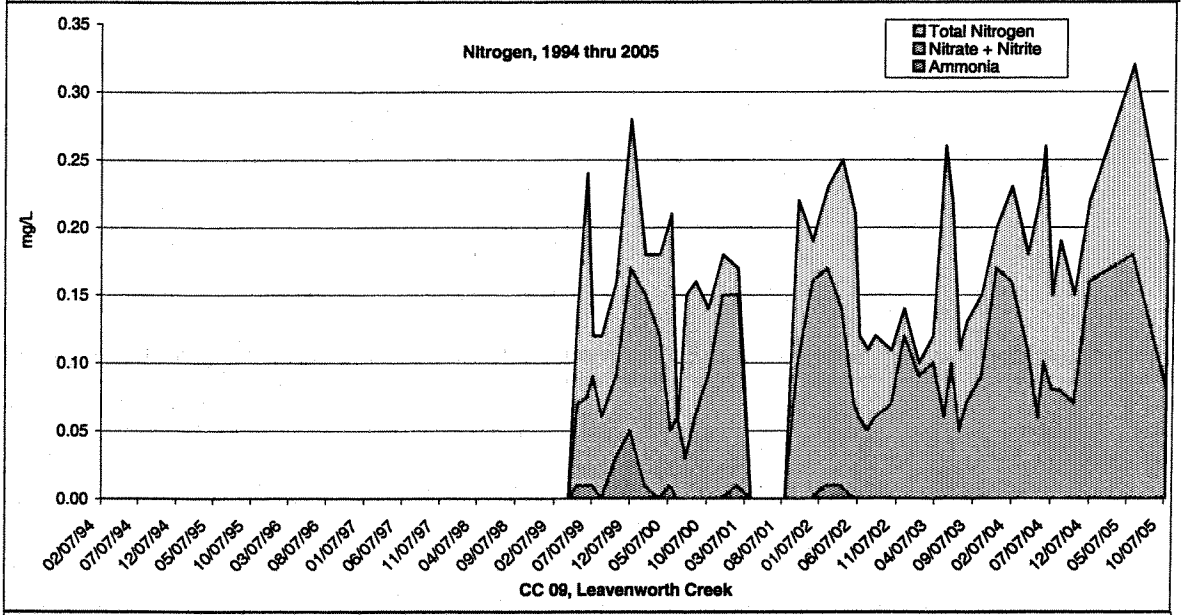
12/07/04
05/07/05
10/07/05
CC 09, Leavenworth Creek


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
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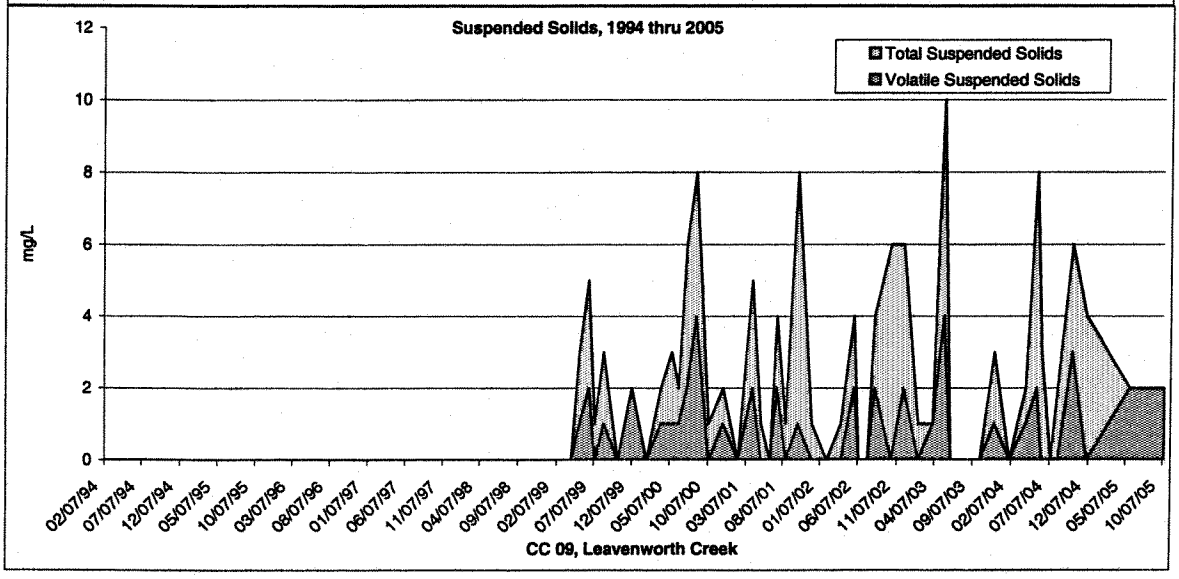
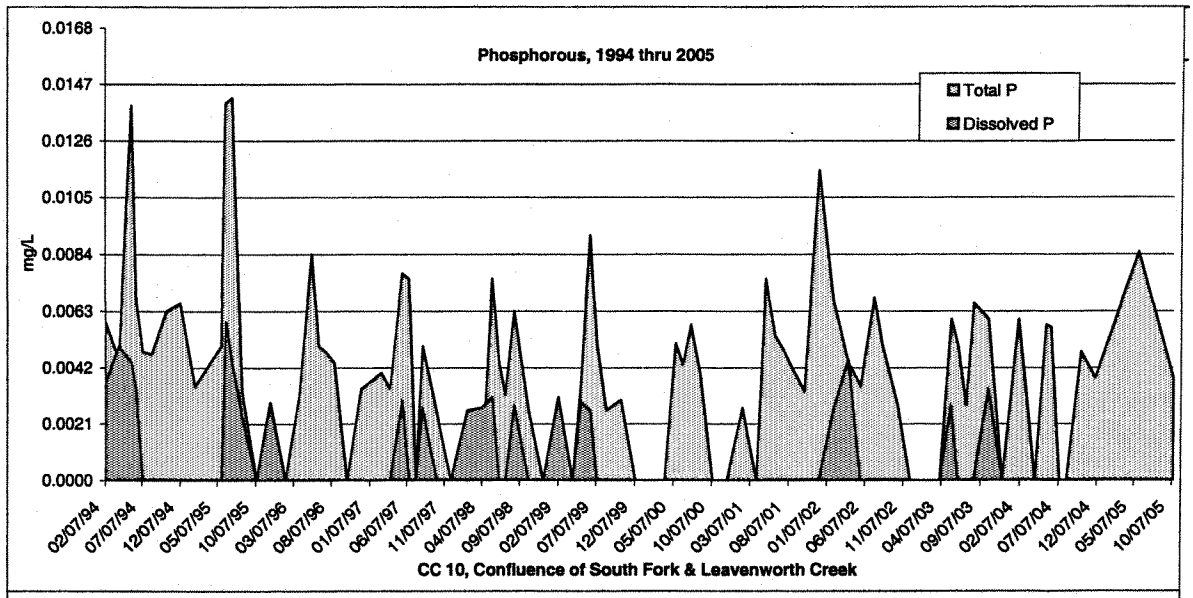
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 09, Leavenworth Creek


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
12
10
8
6
4
2
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 09, Leavenworth Creek

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC09	**Leavenworth Creek**													
02/07/94														
04/05/94														
05/26/94														
06/15/94														
07/11/94														
08/16/94														
10/12/94														
12/08/94														
02/06/95														
04/04/95														
05/25/95														
06/14/95														
07/10/95														
08/15/95														
10/11/95														
12/07/95														
02/05/96														
04/02/96														
05/23/96														
06/19/96														
07/15/96														
08/20/96														
10/09/96														
12/05/96														
02/24/97														
04/01/97														
05/22/97														
06/18/97														
07/14/97														
08/12/97														
10/08/97														
12/04/97														
02/09/98														
04/07/98														
05/21/98														
06/17/98														
07/13/98														
08/18/98														
10/14/98														
12/10/98														
02/08/99														
04/07/99														
05/12/99	0946	0.4	7.80	132	2.00	0.0029	0.0036	2	1	0.01	0.07	0.14		
06/17/99	1005	4.0	7.59	52	11.00	0.0026	0.0091	3	2	0.01	0.07	0.24		
07/12/99	1025	6.3	7.21	58	1.00	<0.0025	0.0051	1	<1	0.01	0.09	0.12		
08/17/99	1215	8.2	6.13	70	1.00	<0.0025	0.0026	2	1	<0.01	0.06	0.12		
10/13/99	1022	2.1	6.92	106	5.00	<0.0025	0.0030	<1	<1	0.03	0.09	0.16		
12/09/99	0955	0.0	7.07	132	1.00	<0.0025	<0.0025	<1	2	0.05	0.17	0.28		
02/07/00	1000	0.2	7.91	144	2.0	<0.0025	<0.0025	<1	<1	0.01	0.15	0.18		
04/04/00	0940	0.8	7.62	120	0.20	<0.0025	0.0026	1	1	<0.01	0.12	0.18		
05/17/00	0940	1.4	7.0	86	5.5	0.0039	0.0070	2	1	0.01	0.05	0.21		
06/15/00	0940	5.25	7.38	62.4	1.4	<0.0025	0.0046	1	1	<0.01	0.06	0.05		
07/17/00	1001	8.47	7.11	50	3.20	<0.0025	0.0071	4	2	<0.01	0.03	0.15		
08/22/00	0925	7.5	7.50	98	1.0	<0.0025	0.0045	4	4	<0.01	0.06	0.16		
10/11/00	0915	1.5	7.47	116	1.0	<0.0025	0.0026	1	<1	<0.01	0.09	0.14		
12/07/00	1020	0.9	7.03	128	1.7	<0.0025	0.0031	1	1	<0.01	0.15	0.18		
2/5/2001	0955	0.2	6.81	51	2.1	<0.0025	<0.0025	<1	<1	0.01	0.15	0.17		
4/3/2001	0955	3.0	6.96	147	1.5	<0.0025	0.0036	3	2					
5/9/2001	0830	2.2	8.0	111	195	<0.0025	0.0072	1	<1					
6/14/2001	0900	2.60	6.98	59.0	3.1	<0.0025	0.0080	<1	<1					
7/18/2001	0915	8.40	7.19	59	1.16	<0.0025	0.0049	2	2					
8/21/2001	0932	6.7	7.98	102	0.57	<0.003	0.0044	1	<1					
10/10/2001	0954	0.4	7.97	112	5.6	<0.0025	0.0123	7	1	<0.01	0.10	0.22		
12/6/2001	1000	0.4	7.89	132	1.0	<0.0025	0.0094	1	<1	<0.01	0.16	0.19		
2/4/2002	0858	2.4	7.36	24	0.5	<0.0025	0.0045	< 1	< 1	0.01	0.17	0.23		
4/2/2002	0925	1.0	7.71	148	0.3	0.0045	0.0056	1	< 1	0.01	0.14	0.25		
5/23/2002	0950	4.2	7.84	67	1.38	<0.0025	0.006	2	2	<0.01	0.07	0.21		
6/12/2002	0948	5.8	7.68	88	0.9	<0.0025	0.0036	< 1	< 1	<0.01	0.06	0.12		
7/15/2002	0933	10.4	8.42	128	0.45	0.0043	0.0054	<1	<1	<0.01	0.05	0.11		
8/13/2002	0940	7.5	7.93	137		<0.0025	0.0098	2	2	<0.01	0.06	0.12		
10/16/2002	0924	0.2	7.51	153	0.4	<0.0025	0.0043	6	<1	<0.01	0.07	0.11		
12/5/2002	0952	0.53	7.92	147	0.6	<0.0025	0.0042	4	2	<0.01	0.12	0.14		
2/3/2003	1000	0.4	9.30	55	0.1	<0.0025	<0.0025	1	<1	<0.01	0.09	0.10		
4/1/2003	1019	1.0	7.21	156	0.3	<0.0025	<0.0025	<1	1	<0.01	0.10	0.12		
5/15/2003	0845	1.7	7.80	60.7	1.8	0.0035	0.0099	6	4	<0.01	0.06	0.26		
6/11/2003	0941	3.8	7.88	55	3.1	<0.0025	0.0047	<1	<1	<0.01	0.10	0.22		
7/14/2003	1000	7.50	8.01	72.8	0.74	<0.0025	<0.0025	<1	<1	<0.01	0.05	0.11		
8/12/2003	0953	8.74	7.88	89	0.9	<0.0025	0.0032	<1	<1	<0.01	0.07	0.13		
10/8/2003	1030	3.5	6.90	121.6	0.41	0.0027	<0.0025	<1	<1	<0.01	0.09	0.15		
12/4/2003	0847	1.92	7.94	125	0.3	<0.0025	<0.0025	2	1	<0.01	0.17	0.2		
2/2/2004	0915	0.1	7.87	77	0.31	<0.0025	<0.0025	<1	<1	<0.01	0.16	0.23		
4/6/2004	1009	0.0	7.77	134	0.6	<0.0025	<0.0025	1	1	<0.01	0.11	0.18		
5/19/2004	1010	3.9	8.07	85	1.4	<0.0025	0.006	6	2	<0.01	0.06	0.22		
6/8/2004	0948	5.4	7.18	72	2.9	<0.0025	0.0069	3	<1	<0.01	0.1	0.26		
7/12/2004	0950	8.7	8.79	80	0.8	<0.0025	<0.0025	<1	<1	<0.01	0.08	0.15		
8/10/2004	0950	7.4	7.40	94	1.1	<0.0025	0.007	2	<1	<0.01	0.08	0.19		
10/6/2004	1015	2.8	8.56	116	1.0	0.0028	0.0036	3	3	<0.01	0.07	0.15		
12/1/2004	0954	0.18	7.92	121	0.2	<0.0025	0.0061	4	<1	<0.01	0.16	0.22		
05/26/05	1005	3.1	9.14	84	7.0	<0.0025	0.0099	5	2	<0.01	0.18	0.32		
10/13/05	1014	0.5	7.57	129	0.1	0.0045	0.0055	2	2	<0.001	0.06	0.19		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.0168
0.0147
0.0126
0.0105
0.0084
0.0063
0.0042
0.0021
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
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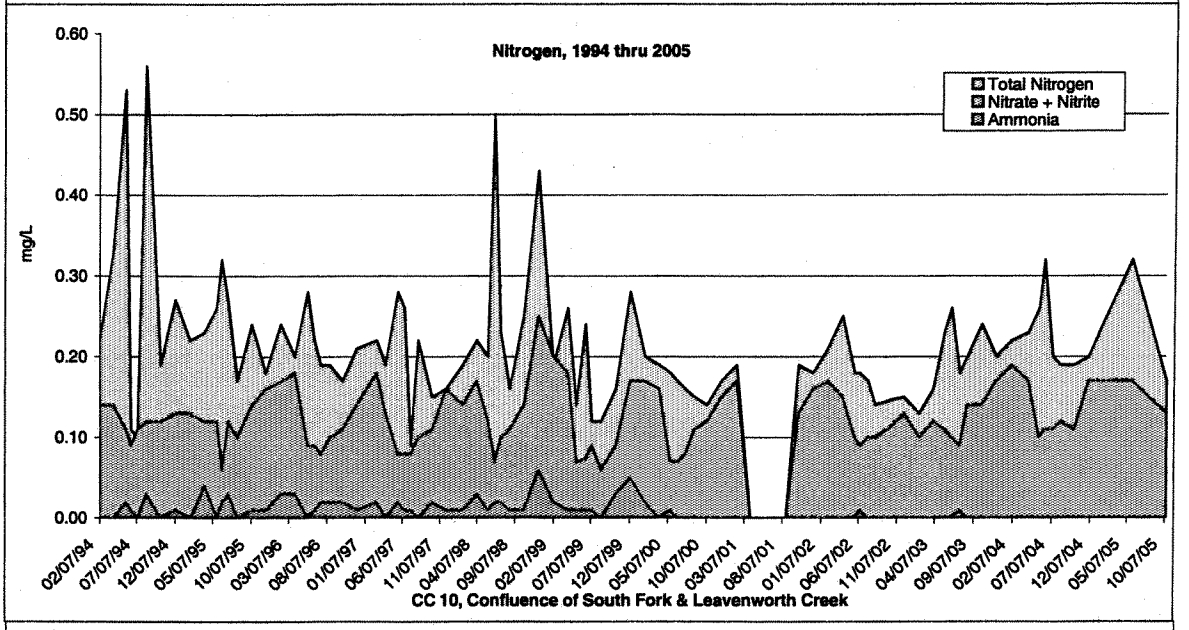
05/07/05
10/07/05
CC 10, Confluence of South Fork & Leavenworth Creek


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
0.60
0.50
0.40
0.30
0.20
0.10
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
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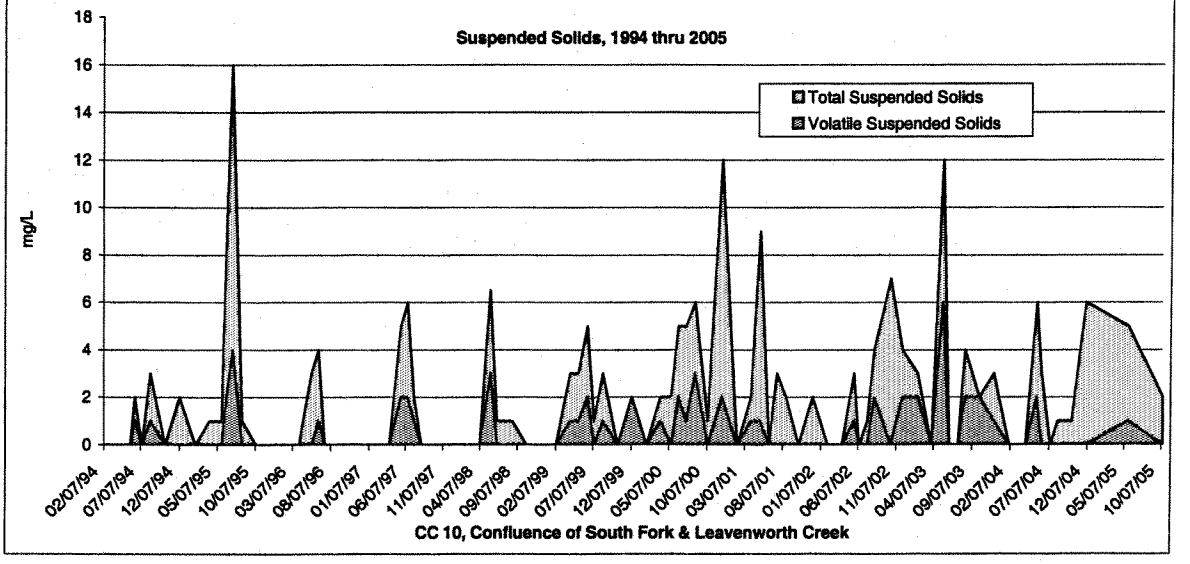
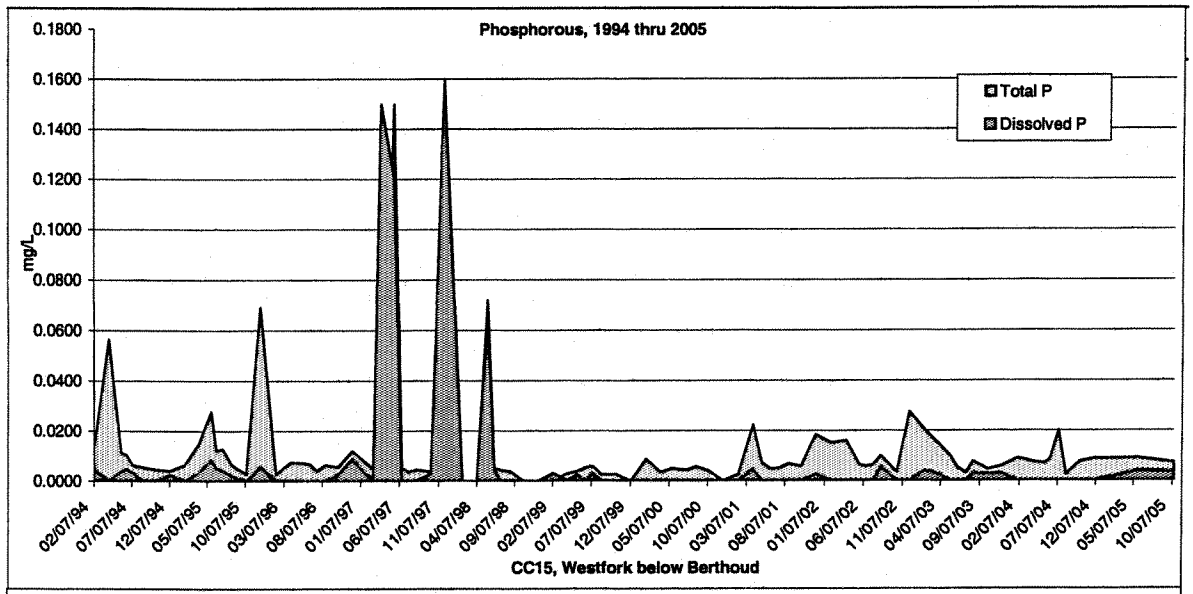
05/07/05
10/07/05
CC 10, Confluence of South Fork & Leavenworth Creek


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
18
16
14
12
10
8
6
4
2
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 10, Confluence of South Fork & Leavenworth Creek

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC10	**Confluence of South Fork & Leavenworth Creek.**													
02/07/94		1.6	7.90	126	0.23	0.0036	0.0059	<1		< 0.01	0.14	0.22		< 0.1
04/05/94	830	1.1	7.61	124	0.25	0.0050	0.0045	<1	<1	<.01	0.14	0.33	25.7	<0.10
05/26/94	900	3.5	7.28	72	0.72	0.0044	0.0139	<1	<1	0.02	0.11	0.53	4.0	0.20
06/15/94	900	5.5	7.68	59	0.60	0.0033	0.0066	1	1	0.01	0.09	0.11	11.2	0.50
07/11/94	935	8.0	7.84	92	0.30	<0.0025	0.0048	<1	<1	<0.01	0.11	0.10	2.1	<0.10
08/16/94	900	10.2	7.86	92	0.50	<0.0025	0.0047	2	1	0.03	0.12	0.56	7.1	0.13
10/12/94	830	5.0	7.76	107	0.40	<0.0025	0.0063	<1	<1	<0.01	0.12	0.19	5.1	0.12
12/08/94	900	2.0	7.98	110	0.40	<0.0025	0.0066	2	<1	0.01	0.13	0.27	5.1	<0.10
02/06/95	830	2.0	7.76	129	0.20	<0.0025	0.0035	<1	<1	<0.01	0.13	0.22	4.0	<0.10
04/04/95	830	3.0	8.09	107	0.43	<0.0025	0.0043	1	<1	0.04	0.12	0.23	125.0	
05/25/95	930	4.0	7.96	103	0.68	<0.0025	0.0050	1	<1	<0.01	0.12	0.26	10.0	
08/14/95	830	3.5	7.71	71	2.48	0.0059	0.0140	6	2	0.02	0.06	0.32	16.0	
07/10/95	830	5.1	7.83	51	2.82	0.0043	0.0142	12	4	0.03	0.12	0.27		
08/15/95	820	7.7	7.71	78	0.39	0.0024	0.0033	1	<1	<0.01	0.10	0.17		
10/11/95	845	5.0	7.76	94	0.27	<0.0025	<0.0025	<1	<1	0.01	0.14	0.24		
12/07/95	830	2.0	7.90	108	0.73	0.0029	0.0026	<1	<1	0.01	0.16	0.18		
02/05/96	850	3.0	7.91	131	0.55	<0.0025	<0.0025	<1	<1	0.03	0.17	0.24		
04/02/96	900	2.5	7.86	113	0.37	<0.0025	0.0032	<1	<1	0.03	0.18	0.20		
05/23/96	955	6.0	7.68	65		<0.0025	0.0084	3	<1	<0.01	0.09	0.28		
08/19/96	830		7.21	53	1.09	<0.0025	0.0050	3	1	0.01	0.09	0.22		
07/15/96	845	8.7	7.08	66	0.79	<0.0025	0.0048	<1	<1	0.02	0.08	0.19		
08/20/96	855		7.50	100	0.59	<0.0025	0.0044	<1	<1	0.02	0.10	0.19		
10/09/96	815	5.8	7.68	76	0.50			<1	<1	0.02	0.11	0.17		
12/05/96	945	2.1	7.83	111	0.35	<0.0025	0.0034	<1	<1	0.01	0.14	0.21		
02/24/97	830		7.66	122	0.27	<0.0025	0.0040	<1	<1	0.02	0.18	0.22		
04/01/97	800		7.63	122	0.39	<0.0025	0.0034	<1	<1	<0.05	0.13	0.19		
05/22/97	830	2.8	7.56	73	2.31	0.0030	0.0077	3	2	0.02	0.06	0.28		
08/18/97	845		7.89	56	1.58	<0.0025	0.0075	4	2	0.01	0.08	0.26		
07/14/97	830	6.4	7.64	69	0.43	<0.0025	<0.0025	1	1	0.01	0.08	0.09		
08/12/97	845	7.8	7.31	77	0.75	0.0027	0.0050	<1	<1	<0.01	0.10	0.22		
10/08/97	845	6.0	7.79	99	0.38		0.0025	<1	<1	0.02	0.11	0.15		
12/04/97	830	1.1	7.76	114	0.29		<0.0025	<1	<1	0.01	0.16	0.16		
02/09/98	830	nm	7.28	120	0.25	0.0026	<0.0025	<1	<1	0.01	0.14	0.19		
04/07/98	800	4.5	7.22	124	0.48	0.0027	<0.0025	<1	<1	0.03	0.17	0.22		
05/21/98	840	4.5	7.67	100	1.19	0.0031	0.0075	4	3	0.01	0.12	0.20		
08/17/98	845	nm	8.41	68	0.73	<0.0025	0.0044	1	<1	0.02	0.07	0.50		
07/13/98	830	7.8	7.64	87	0.75	<0.0025	0.0032	1	<1	0.02	0.10	0.23		
08/18/98	830	9.8	7.70	86	1.09	0.0028	0.0063	1	<1	0.01	0.11	0.16		
10/14/98	830	6.2	7.79	106	0.26	<0.0025	0.0026	<1	<1	0.01	0.14	0.25		
12/10/98	800	1.4	7.72	117	0.32	<0.0025	<0.0025	<1	<1	0.06	0.25	0.43		
02/08/99	0830	2.4	7.68	127	1.44	0.0031	<0.0025	<1	<1	0.02	0.20	0.19		
04/07/99	0830	2.0	8.05	122	0.42	<0.0025	<0.0025	2	1	0.01	0.18	0.26		
05/12/99	0948	0.4	7.80	132	2.00	0.0029	0.0036	2	1	0.01	0.07	0.14		
08/17/99	1005	4.0	7.59	52	11.00	0.0026	0.0091	3	2	0.01	0.07	0.24		
07/12/99	1025	6.3	7.21	58	1.00	<0.0025	0.0051	1	<1	0.01	0.09	0.12		
08/17/99	1215	8.2	6.13	70	1.00	<0.0025	0.0026	2	1	<0.01	0.06	0.12		
10/13/99	1022	2.1	6.92	106	5.00	<0.0025	0.0030	<1	<1	0.03	0.09	0.16		
12/09/99	0955	0.0	7.07	132	1.00	<0.0025	<0.0025	<1	2	0.05	0.17	0.28		
02/07/00	1010	1.9	7.80	124	2.0	<0.0025	<0.0025	<1	<1	0.02	0.17	0.20		
04/04/00	0955	2.7	7.86	140	1.10	<0.0025	<0.0025	1	1	<0.01	0.16	0.19		
05/17/00	0950	4.1	7.25	85	2.7	<0.0025	0.0051	2	<1	0.01	0.07	0.18		
08/15/00	0945	7.72	7.37	86.5	2.0	<0.0025	0.0043	3	2	<0.01	0.07	0.17		
07/17/00	1006	10.49	7.12	58	2.50	<0.0025	0.0058	4	1	<0.01	0.08	0.16		
08/22/00	0935	10.0	7.85	100	2.0	<0.0025	0.0040	3	3	<0.01	0.11	0.15		
10/11/00	0925	5.7	7.39	106	1.0	<0.0025	<0.0025	1	<1	<0.01	0.12	0.14		
12/07/00	1026	2.8	7.09	117	1.8	<0.0025	<0.0025	10	2	<0.01	0.15	0.17		
02/05/01	1002	2.0	6.68	129	0.1	<0.0025	0.0027	<1	<1	<0.01	0.17	0.19		
04/03/01	1006	3.0	7.15	124	1.4	<0.0025	<0.0025	1	1	I/e	I/e	I/e		
05/09/01	0900	3.7	8.19	117	1.9	<0.0025	0.0075	8	1	I/e	I/e	I/e		
06/14/01	0911	3.20	7.49	72.0	1.8	<0.0025	0.0054	<1	<1	I/e	I/e	I/e		
07/18/01	0940	11.30	7.44	76	0.92	<0.0025	0.0049	3	<1	I/e	I/e	I/e		
08/21/01	0945	9.5	7.96	83	0.82	<0.003	0.0042	2	<1	I/e	I/e	I/e		
10/10/01	1005	4.9	7.90	109	9.3	<0.0025	0.0033	<1	<1	<0.01	0.13	0.19		
12/06/01	1010	1.6	7.78	122	1.4	<0.0025	0.0115	2	<1	<0.01	0.16	0.18		
02/04/02	0905	1.0	7.99	286	0.3	0.0027	0.0066	< 1	< 1	< 0.01	0.17	0.21		
04/02/02	0933	3.0	7.95	122	0.5	0.0045	0.0044	< 1	< 1	<0.01	0.15	0.25		
05/23/02	1000	4.6	8.25	72	0.34	<0.0025	0.0035	2	1	<0.01	0.10	0.18		
06/12/02	0956	6.9	7.74	97	1	<0.0025	0.0048	< 1	< 1	0.01	0.09	0.18		
07/15/02	0942	11.2	8.12	122	0.74	<0.0025	0.0068	1	<1	<0.01	0.10	0.17		
08/13/02	0950	9.2	9.24	131		<0.0025	0.0051	2	2	<0.01	0.10	0.14		
10/16/02	0930	3.1	7.80	133	0.6	<0.0025	0.0028	7	<1	<0.01	0.11	0.15		
12/05/02	1005	2.10	8.21	137	0.4	<0.0025	<0.0025	2	2	<0.01	0.13	0.15		
2/3/2003	1010	0.8	8.90	72	0.1	<0.0025	<0.0025	1	2	<0.01	0.10	0.13		
4/1/2003	1029	3.1	7.45	136	0.1	<0.0025	<0.0025	<1	<1	<0.01	0.12	0.16		
5/15/2003	0905	2.9	7.81	116.1	1.1	0.0028	0.006	6	6	<0.01	0.11	0.23		
6/11/2003	0950	6.3	7.66	69	7.2	<0.0025	0.005	<1	<1	<0.01	0.10	0.26		
7/14/2003	1015	9.90	8.21	82.1	0.67	<0.0025	0.0028	<1	<1	0.01	0.09	0.18		
8/12/2003	1000	11.01	7.81	92	0.9	<0.0025	0.0066	2	2	<0.01	0.14	0.20		
10/8/2003	1040	3.6	7.20	112.5	0.76	0.0034	0.006	<1	2	<0.01	0.14	0.24		
12/4/2003	0947	1.92	7.94	125	0.3	<0.0025	<0.0025	2	1	<0.01	0.17	0.2		
2/2/2004	0930	0.7	7.98	47	0.19	<0.0025	0.006	<1	<1	<0.01	0.19	0.22		
4/6/2004	1021	2.1	8.03	120	2.2	<0.0025	<0.0025	<1	<1	<0.01	0.17	0.23		
5/19/2004	1020	5.3	7.80	98	0.9	<0.0025	0.0058	4	2	<0.01	0.1	0.26		
6/8/2004	0955	7.0	7.26	82	2.9	<0.0025	0.0057	3	<1	<0.01	0.11	0.32		
7/12/2004	1000	11.0	8.52	97	0.8	<0.0025	<0.0025	<1	<1	<0.01	0.11	0.2		
8/10/2004	0956	10.6	7.47	100	1.5	<0.0025	<0.0025	1	<1	<0.01	0.12	0.19		
10/6/2004	1020	4.7	8.39	120	0.7	<0.0025	0.0048	1	<1	<0.01	0.11	0.19		
12/1/2004	1002	1.06	8.01	118	1.3	<0.0025	0.0038	6	<1	<0.01	0.17	0.2		
05/26/05	1015	4.0	8.62	91	5.3	<0.0025	0.0085	4	1	<0.01	0.17	0.32		
10/13/05	1023	4.5	7.80	119	0.1	<0.0025	0.0038	2	<1	<0.001	0.13	0.17		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.1800
0.1600
0.1400
0.1200
0.1000
0.0800
0.0600
0.0400
0.0200
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
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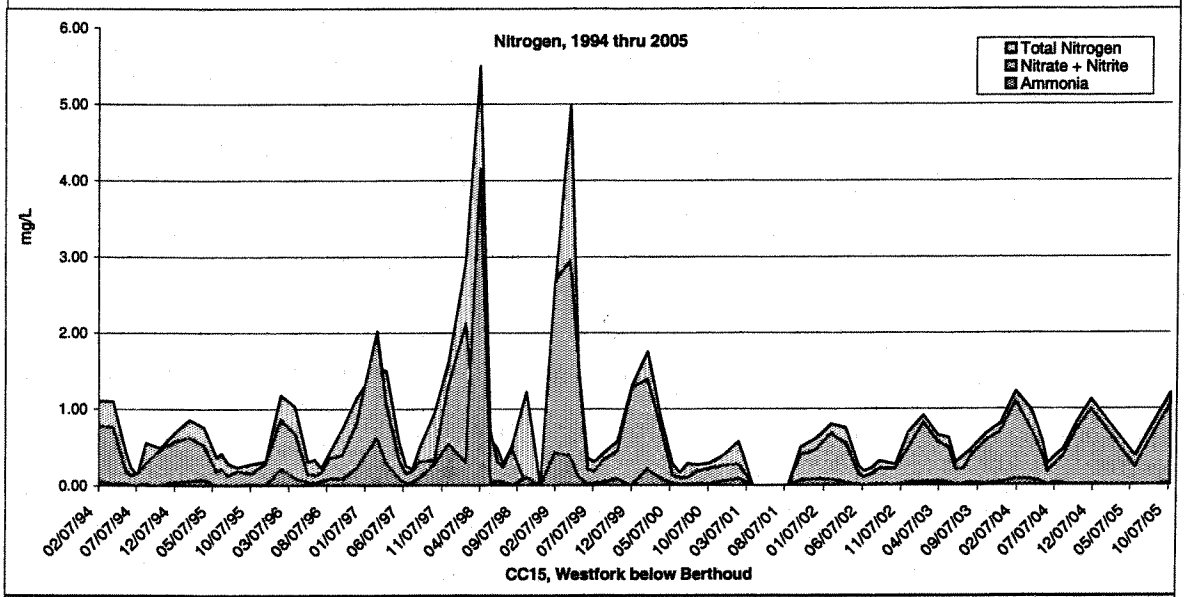
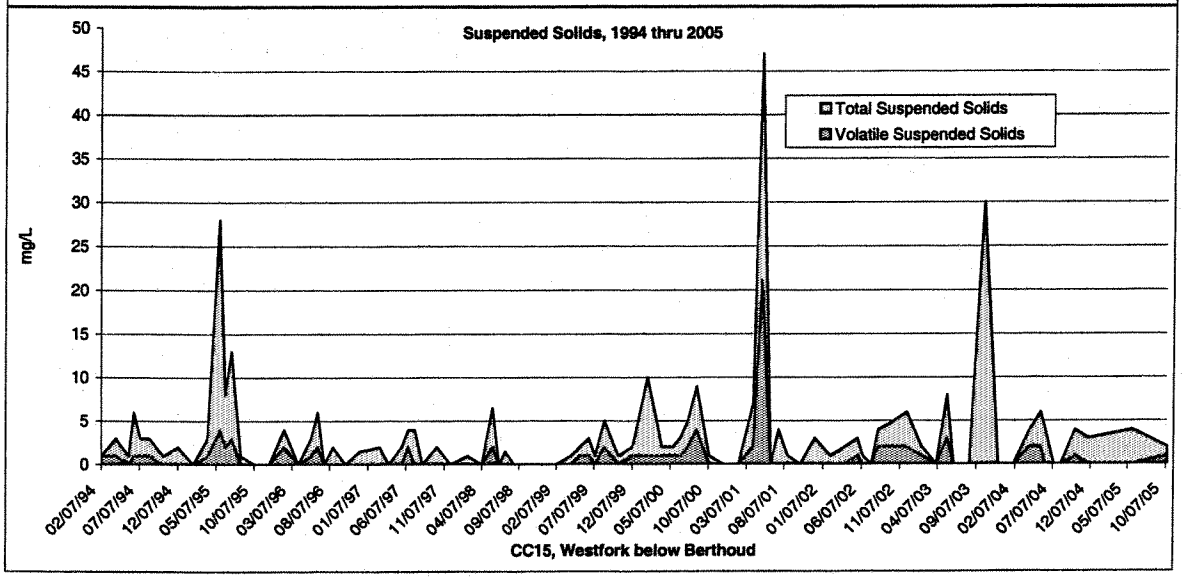
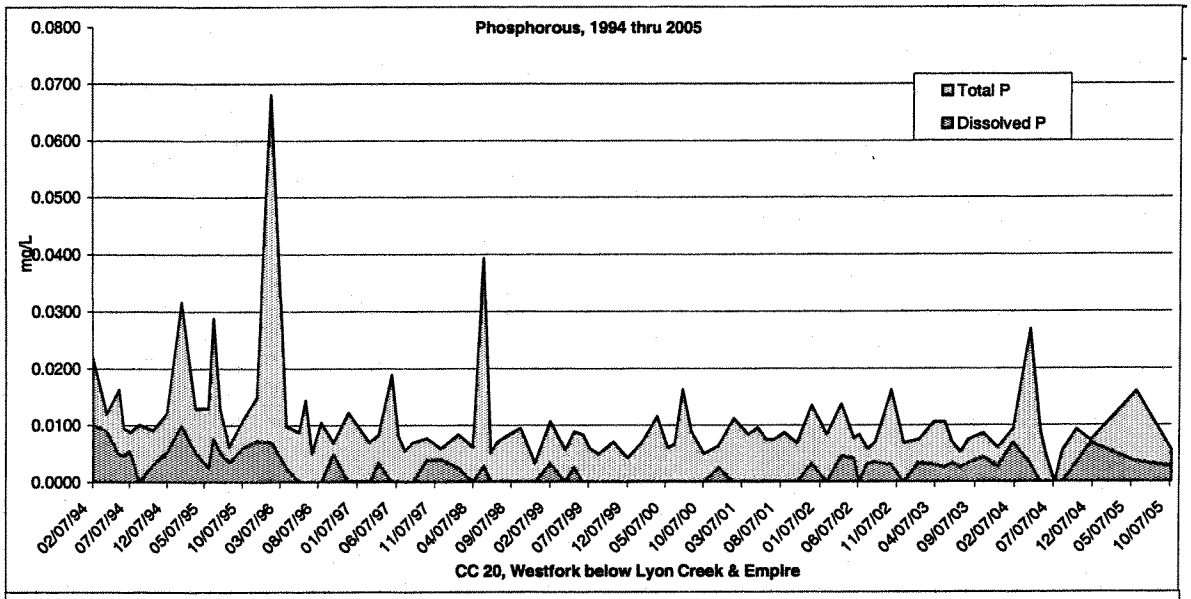
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC15, Westfork below Berthoud


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
6.00
5.00
4.00
3.00
2.00
1.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC15, Westfork below Berthoud


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
50
45
40
35
30
25
20
15
10
5
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC15, Westfork below Berthoud

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC15	**Westfork below Berthoud**													
02/07/94	1000	1.0	6.75	175	1.43	0.0050	0.0124		1	0.06	0.78	1.11		< 0.10
04/05/94	833	1.4	8.17	788	1.41	<0.0025	0.0564	2	1	0.03	0.76	1.10	18.8	<0.10
05/26/94	801	4.6	7.40	161	1.54	0.0039	0.0112	1	<1	0.02	0.19	0.44	6.0	0.48
06/15/94	805	6.0	7.76	93	0.78	0.0047	0.0106	5	1	0.01	0.14	0.24	10.2	0.12
07/11/94	745	10.0	7.97	177	0.60	0.0035	0.0064	2	1	<0.01	0.16	0.14	12.2	<0.10
08/16/94	751	8.0	8.09	298	1.00	<0.0025	0.0056	2	1	0.02	0.29	0.56	5.1	0.20
10/12/94	815	6.5	8.14	504	0.90	<0.0025	0.0047	1	<1	<0.01	0.47	0.49	5.1	<0.10
12/08/94	840	0.2	8.27	668	1.00	0.0028	0.0041	2	<1	0.05	0.57	0.69	7.1	<0.10
02/08/95	745	1.4	8.27	797	0.99	<0.0025	0.0065	<1	<1	0.06	0.63	0.86	8.0	<0.10
04/04/95	745	1.2	8.05	208	1.62	0.0034	0.0146	2	1	0.08	0.52	0.76	9.0	
05/25/95	810	1.3	7.92	178	13.45	0.0084	0.0276	24	4	<0.01	0.18	0.37	38.0	
08/14/95	750	2.9	7.74	80	3.06	0.0052	0.0122	6	2	<0.01	0.22	0.42	8.0	
07/10/95	830	9.0	7.63	53	5.28	0.0043	0.0129	10	3	0.01	0.14	0.29		
08/15/95	800	15.3	7.73	68	0.36	0.0021	0.0065	1	<1	<0.01	0.19	0.24		
10/11/95	745	0.8	7.80	101	0.76	<0.0025	0.0028	<1	<1	0.02	0.16	0.28		
12/07/95	810	0.0	7.79	127	0.52	0.0058	0.0690	<1	<1	0.01	0.29	0.32		
02/05/96	820	2.6	8.06	752	0.93	<0.0025	0.0027	2	2	0.22	0.86	1.18		
04/02/96	740	3.0	8.12	649	1.02	<0.0025	0.0075	<1	<1	0.11	0.67	1.03		
05/23/96	830	4.0	7.50	131		<0.0025	0.0073	2	1	0.04	0.15	0.31		
08/19/96	830		7.29	80	2.00	<0.0025	0.0067	4	2	0.03	0.14	0.34		
07/15/96	815	8.0	7.13	149	0.54	<0.0025	0.0041	<1	<1	0.05	0.17	0.23		
08/20/96	800	9.1	7.73	315	1.28	<0.0025	0.0065	2	<1	0.10	0.36	0.44		
10/09/96	830	5.6	7.89	162	0.53	0.0025	0.0056	<1	<1	0.09	0.40	0.74		
12/05/96	745	0.2	7.78	623	0.53	0.0088	0.0120	2	<1	0.23	0.81	1.14		
02/24/97	845	0.1	8.01	821	1.56	<0.0025	0.0051	2	<1	0.62	2.02	1.55		
04/01/97	830	1.3	7.99	596	1.68	0.1500		<1	<1	0.30	1.07	1.50		
05/22/97	650	3.8	7.52	175	2.80	0.1200	0.1500	2	<1	0.10	0.33	0.57		
08/18/97	715	4.1	7.93	98	1.28	<0.0025	0.0054	2	2	0.03	0.16	0.26		
07/14/97	830	6.8	7.58	85	1.80	<0.0025	0.0037	4	<1	0.04	0.19	0.22		
08/12/97	800	7.0	7.52	171	0.80	<0.0025	0.0048	<1	<1	0.11	0.32	0.51		
10/08/97	730	6.4	7.61	401	0.66	0.0028	0.0037	2	<1	0.28	0.33	0.94		
12/04/97	1030	2.5	7.00	614	1.53	0.1600	0.1600	<1	<1	0.54	1.32	1.62		
02/09/98	830	1.7	7.11	749	0.40	<0.0025	<0.0025	1	<1	0.30	2.12	2.93		
04/07/98	835	1.4	7.08	705	0.75	<0.0025	<0.0025	<1	<1	4.15	0.14	5.50		
05/21/98	1045	6.5	7.78	228	2.00	0.0640	0.0718	5	2	0.04	0.70	0.80		
08/17/98	800	4.9	8.21	127	0.87	0.0042	0.0052	<1	<1	0.06	0.31	0.49		
07/13/98	845	7.3	7.58	95	0.84	<0.0025	0.0043	2	<1	0.05	0.24	0.29		
08/18/98	900	15.4	7.46	201	0.53	<0.0025	0.0040	<1	<1	0.01	0.48	0.52		
10/14/98	753	5.5	7.66	374	0.40	<0.0025	<0.0025	<1	<1	0.11		1.22		
12/10/98														
02/08/99	0800	6.8	7.38	735	0.85	0.0032	<0.0025	<1	<1	0.43	2.68	2.60		
04/07/99	0918	2.8	7.69	650	0.69	<0.0025	0.0031	1	<1	0.39	2.95	4.99		
05/12/99	0820	-0.3	7.18	467	1.85	0.0026	0.0038	1	1	0.12	1.52	1.52		
06/17/99	0825	5.2	7.09	97	1.70	<0.0025	0.0055	2	1	0.02	0.22	0.36		
07/12/99	0842	8.3	7.89	292	1.38	0.0030	0.0058	1	<1	0.03	0.19	0.31		
08/17/99	0833	9.5	7.44	197	3.05	<0.0025	0.0026	3	2	0.05	0.33	0.42		
10/13/99	0920	5.4	7.14	444	1.37	<0.0025	0.0027	1	<1	0.09	0.45	0.58		
12/09/99	0850	0.0	7.57	653	0.50	<0.0025	<0.0025	1	1	<0.01	1.28	1.32		
02/07/00	0843	0.1	6.48	774	2.9	<0.0025	0.0086	9	1	0.22	1.39	1.75		
04/04/00	0850	2.1	6.98	713	0.67	<0.0025	0.0034	1	1	0.09	0.71	0.85		
05/17/00	0915	3.2	8.66	195	1.8	<0.0025	0.0051	1	1	0.03	0.14	0.29		
06/15/00	0855	6.00	7.14	98.0	1.43	<0.0025	0.0046	2	1	<0.01	0.10	0.17		
07/17/00	0858	12.00	7.54	160	2.18	<0.0025	0.0044	3	2	0.01	0.11	0.29		
08/22/00	0920	10.4	7.50	291	0.8	<0.0025	0.0057	5	4	0.02	0.18	0.27		
10/11/00	0910	4.1	7.96	393	1.1	<0.0025	0.0041	1	<1	0.02	0.22	0.29		
12/07/00	0840	0.9	7.48	599	1.0	<0.0025	<0.0025	<1	<1	0.06	0.26	0.39		
02/05/01	0930	0.6	7.27	650	0.2	<0.0025	0.0027	<1	<1	0.09	0.28	0.57		
04/03/01	0822	2.4	7.84	730	0.36	0.0049	0.0223	5	2					
05/09/01	0935	3.4	7.68	502	17	<0.0025	0.0072	26	21					
08/14/01	0807	3.10	8.28	86.0	1.4	<0.0025	0.0047	<1	<1					
07/16/01	0922	7.75	7.10	144	1.88	<0.0025	0.0051	4	<1					
08/21/01	0940	9.5	6.93	327	2.80	<0.003	0.0069	1	<1					
10/10/01	0920	2.3	7.24	502	0.7	<0.0025	0.0058	<1	<1	0.07	0.40	0.50		
12/06/01	0910	1.0	7.36	731	0.9	0.0027	0.0183	3	<1	0.09	0.46	0.61		
02/04/02	0940	0.1	6.60	810	1.2	<0.0025	0.0152	1	< 1	0.08	0.68	0.80		
04/02/02	0945	1.4	7.07	414	1.05	<0.0025	0.0161	2	< 1	0.04	0.54	0.75		
05/23/02	0910	3.3	8.01	193	1.5	<0.0025	0.0065	2	1	<0.01	0.16	0.26		
08/12/02	0930	7.7	8.10	87	0.84	<0.0025	0.0058	1	< 1	<0.01	0.11	0.19		
07/15/02	0936	10.6	7.76	250	0.3	<0.0025	0.0064	<1	<1	0.01	0.15	0.23		
08/13/02	0926	10.3	7.89	350	5.8	0.0056	0.01	2	2	0.02	0.22	0.32		
10/16/02	0919	3.3	7.89	168	0.54	<0.0025	0.0033	3	2	<0.01	0.22	0.27		
12/05/02	0920	1.40	8.07	414	0.69	<0.0025	0.0275	4	2	0.04	0.48	0.69		
2/3/2003	1015	0.0	8.74	616	2.5	0.0041	0.0202	1	1	0.04	0.81	0.91		
4/1/2003	0925	2.3	7.50	788	0.31	0.0028	0.0147	<1	<1	0.05	0.57	0.68		
5/15/2003	0921	3.3	8.14	441	4.9	<0.0025	0.0099	5	3	0.04	0.49	0.62		
6/11/2003	0909	4.8	8.00	119	1.6	<0.0025	0.0054	<1	<1	0.01	0.21	0.30		
7/14/2003	0929	8.25	8.49	138.0	4.2	<0.0025	0.0032	<1	<1	0.02	0.22	0.39		
8/12/2003	0918	10.60	7.30	246	0.42	0.0031	0.0078	<1	<1	0.03	0.39	0.47		
10/8/2003	0920	4.6	7.49	337.0	0.4	0.0027	0.0046	30	<1	0.03	0.58	0.67		
12/4/2003	0934	0.8	8.08	290	0.66	0.0029	0.0060	<1	<1	0.04	0.7	0.81		
2/2/2004	0921	0.06	7.55	752	0.4	<0.0025	0.009	<1	<1	0.09	1.1	1.23		
4/6/2004	0933	2.3	7.43	638	1.4	<0.0025	0.0074	2	2	0.08	0.71	0.97		
5/19/2004	0917	4.6	7.00	206	2.1	<0.0025	0.007	4	2	0.05	0.39	0.58		
6/8/2004	0927	7.4	6.05	109	1.3	<0.0025	0.0086	4	<1	0.01	0.18	0.28		
7/12/2004	0929	8.6	7.49	158	0.2	<0.0025	0.02	<1	<1	0.03	0.29	0.39		
8/10/2004	0917	9.4	6.93	241	0.4	<0.0025	0.0026	<1	<1	0.02	0.36	0.47		
10/6/2004	0930	4.4	7.53	401	5.1	<0.0025	0.0076	3	1	0.01	0.73	0.83		
12/1/2004	0950	0.3	8.86	259	0.5	<0.0025	0.0088	3	<1	0.02	0.99	1.12		
05/26/05	0930	3.7	7.28	121	5.1	0.0039	0.009	4	<1	<0.01	0.24	0.38		
10/13/05	0958	2.5	9.46	484	3.3	0.0036	0.0072	1	1	0.02	1.06	1.2		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.0800
0.0700
0.0600
0.0500
0.0400
0.0300
0.0200
0.0100
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
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11/07/02
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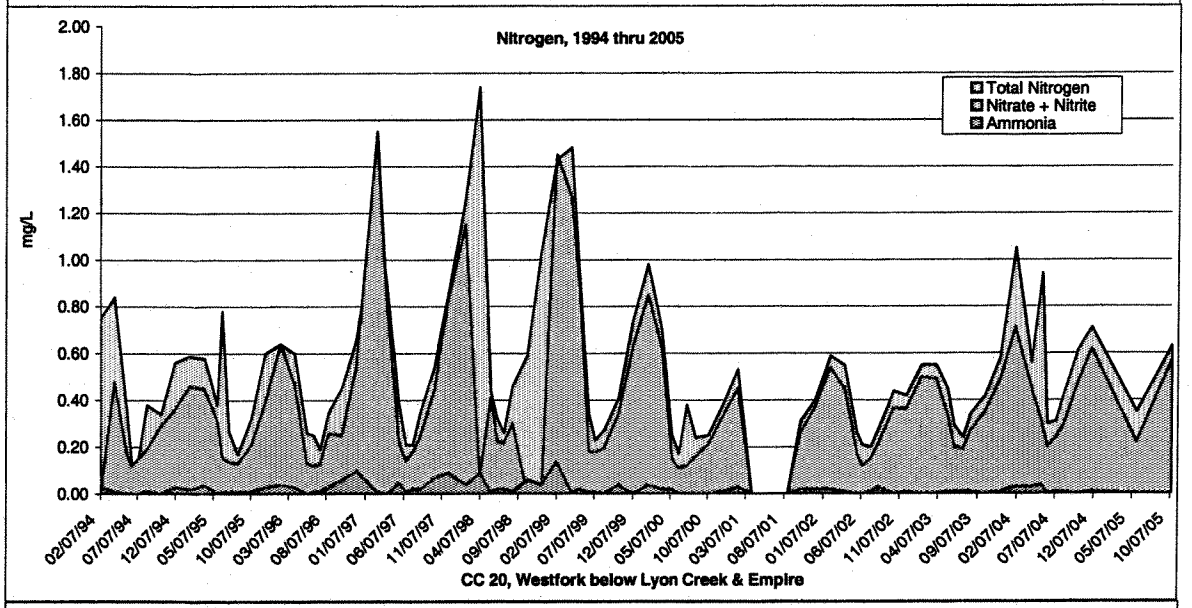
05/07/05
10/07/05
CC 20, Westfork below Lyon Creek & Empire


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
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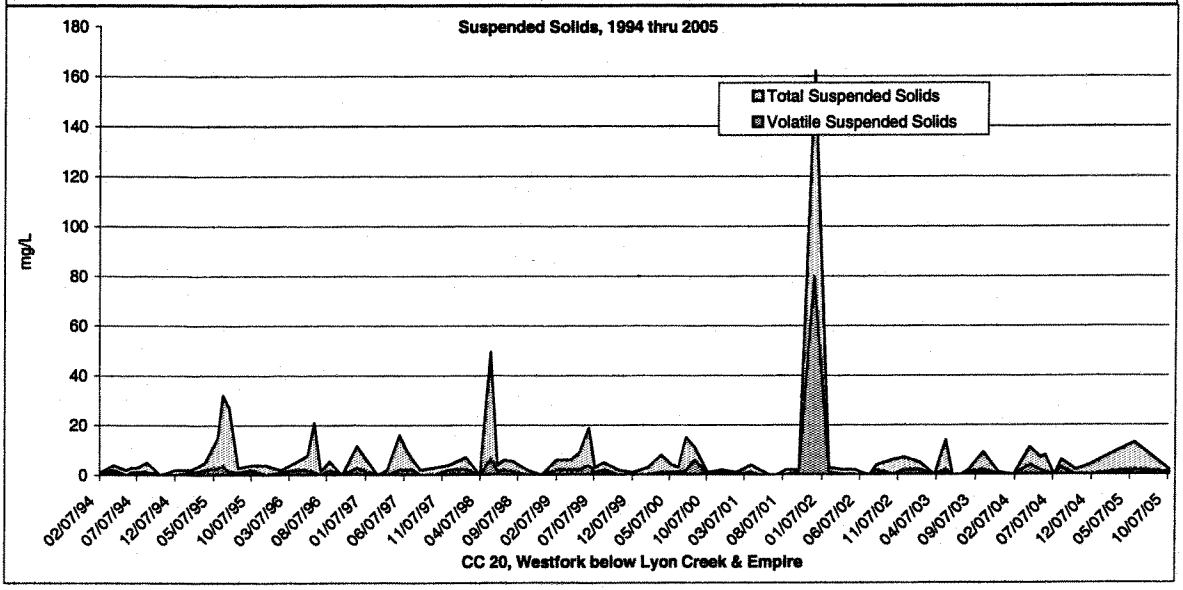
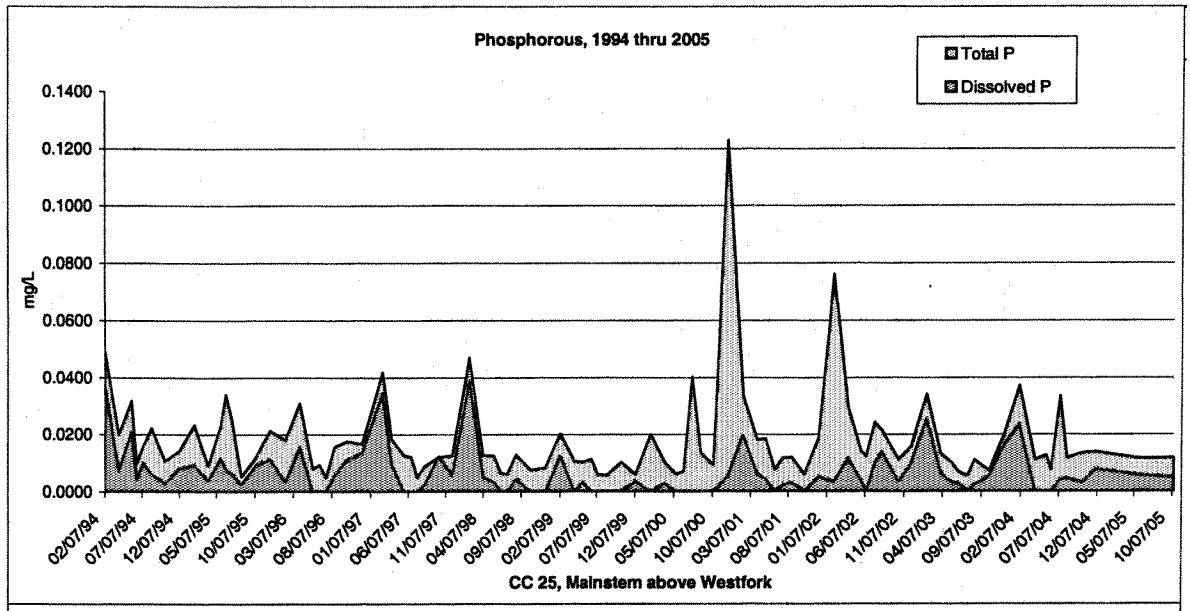
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 20, Westfork below Lyon Creek & Empire


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
180
160
140
120
100
80
60
40
20
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 20, Westfork below Lyon Creek & Empire

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC20	**Westfork below Lyon Creek & Empire**													
02/07/94	925	-0.1	7.80	184	1.22	0.0102	0.0220	1		0.03		0.75		< 0.10
04/05/94	740	0.1	7.87	432	1.45	0.0090	0.0120	2	2	0.01	0.48	0.84	19.8	<0.10
05/26/94	930	5.2	7.33	127	2.30	0.0049	0.0163	2	<1	<0.01	0.17	0.36	2.0	<0.10
06/15/94	800	5.5	7.73	82	1.01	0.0047	0.0095	2	1	<0.01	0.12	0.13	8.2	<0.10
07/11/94	1030	10.1	7.98	136	0.80	0.0054	0.0088	2	1	<0.01	0.15	0.14	7.1	<0.10
08/16/94	730	10.4	8.00	192	1.00	<0.0025	0.0101	4	1	0.01	0.19	0.38	2.0	<0.10
10/12/94	700	4.1	7.99	287	1.00	0.0031	0.0091	<1	<1	<0.01	0.29	0.34	8.2	<0.10
12/08/94	800	-0.1	8.21	340	0.70	0.0052	0.0121	2	<1	0.03	0.36	0.58	12.1	<0.10
02/06/95	815	0.3	8.14	445	1.16	0.0099	0.0316	1	1	0.02	0.46	0.59	14.0	<0.10
04/04/95	715	0.4	8.13	395	1.20	0.0053	0.0130	3	2	0.04	0.45	0.58	34.0	
05/25/95	820	3.4	7.85	242	6.51	0.0026	0.0130	12	3	<0.01	0.31	0.38	12.0	
06/14/95	700	4.1	7.64	139	10.64	0.0077	0.0288	28	4	0.01	0.16	0.78	8.0	
07/10/95	715	5.4	7.63	79	8.23	0.0053	0.0129	26	1	0.01	0.14	0.27		
08/15/95	845	7.2	7.76	116	1.07	0.0035	0.0083	2	1	0.01	0.13	0.17		
10/11/95	730	3.3	7.80	237	0.90	0.0060	0.0109	2	2	0.01	0.21	0.32		
12/07/95	700	2.7	7.87	319	2.25	0.0072	0.0149	4	<1	0.03	0.39	0.60		
02/05/96	600	0.1	8.00	414	0.96	0.0070	0.0681	1	1	0.04	0.64	0.64		
04/02/96	715	0.6	7.98	421	2.68	0.0026	0.0099	3	2	0.03	0.47	0.60		
05/23/96	700	4.9	7.53	107		<0.0025	0.0068	6	2	<0.01	0.13	0.26		
06/18/96	845	4.6	7.25	75	6.24	<0.0025	0.0144	20	1	0.01	0.12	0.25		
07/15/96	815	7.3	7.28	113	0.99	<0.0025	0.0051	2	<1	0.01	0.13	0.19		
08/20/96	730	8.3	7.76	211	1.89	<0.0025	0.0105	4	2	0.03	0.26	0.35		
10/09/96	630	4.6	7.83	157	1.58	0.0049	0.0069	<1	<1	0.06	0.25	0.45		
12/05/96	700	-0.1	7.83	340	1.47		0.0122	9	3	0.10	0.55	0.66		
02/24/97	800	0.0	7.98	455	1.08	<0.0025	0.0070	<1	<1	0.01	1.55	1.23		
04/01/97	730	1.6	7.96	387	1.65	0.0034	0.0084	2	<1	<0.05	0.85	0.91		
05/22/97	700	4.5	7.58	138	6.58	<0.0025	0.0189	14	2	0.05	0.22	0.38		
06/18/97	715	4.5	7.93	85	3.18	<0.0025	0.0080	8	2	0.01	0.14	0.21		
07/14/97	730	5.9	7.57	91	2.19	<0.0025	0.0055	4	2	0.02	0.18	0.21		
08/12/97	815	7.6	7.57	137	1.00	<0.0025	0.0069	2	<1	0.02	0.24	0.34		
10/08/97	1000	6.4	7.68	266	1.41	0.0038	0.0077	3	<1	0.07	0.44	0.54		
12/04/97	730	3.9	7.52	346	1.00	0.0040	0.0059	2	2	0.09	0.83	0.85		
02/09/98	800	1.1	7.23	405	1.39	0.0025	0.0084	5	3	0.04	1.15	1.26		
04/07/98	815	1.0	7.20	420	0.76	<0.0025	0.0062	<1	<1	0.09	0.07	1.74		
05/21/98	715		7.79	187	18.48	0.0026	0.0393	43	7	0.01	0.41	0.44		
06/17/98	815		8.18	104	1.03	<0.0025	0.0052	3	2	0.02	0.22	0.32		
07/13/98	745		7.82	93	2.76	<0.0025	0.0070	4	2	0.02	0.22	0.26		
08/18/98	745	9.0	7.58	151	1.98		0.0061	4	2	0.01	0.30	0.46		
10/14/98	700	5.8	7.78	247	1.45	<0.0025	0.0095	2	<1	0.06		0.59		
12/10/98	730	0.3	7.59	355	0.66	<0.0025	0.0034	<1	<1	0.04		1.03		
02/08/99	0815	1.8	7.53	412	1.08	0.0033	0.0107	4	2	0.14	1.45	1.43		
04/07/99	0730	1.3	7.73	401	2.98	<0.0025	0.0057	4	2	0.01	1.27	1.48		
05/12/99	0905	1.0	7.56	340	4.95	0.0027	0.0089	7	2	0.02	0.88	0.91		
06/17/99	0911	6.5	7.83	91	4.30	<0.0025	0.0084	15	4	0.01	0.18	0.34		
07/12/99	0920	8.5	7.97	95	2.37	<0.0025	0.0060	2	1	0.01	0.18	0.23		
08/17/99	0910	9.3	7.67	128	3.24	<0.0025	0.0049	3	2	<0.01	0.20	0.27		
10/13/99	1015	5.3	7.62	269	2.58	<0.0025	0.0071	2	<1	0.04	0.34	0.41		
12/09/99	0945	0.0	7.88	352	1.50	<0.0025	0.0043	1	<1	<0.01	0.63	0.74		
02/07/00	0915	0.5	7.53	399	1.4	<0.0025	0.0072	3	<1	0.04	0.85	0.98		
04/04/00	0915	2.2	7.86	427	5.60	<0.0025	0.0116	7	1	0.02	0.62	0.70		
05/17/00	0940	4.6	8.45	153	2.3	<0.0025	0.0061	3	1	0.02	0.15	0.25		
06/15/00	0930	7.60	7.49	93.0	2.6	<0.0025	0.0067	2	1	<0.01	0.11	0.17		
07/17/00	0940	12.60	7.43	146	4.84	<0.0025	0.0163	13	2	<0.01	0.12	0.38		
08/22/00	0940	10.9	7.48	208	1.4	<0.0025	0.0089	5	6	<0.01	0.16	0.24		
10/11/00	0935	4.7	8.13	265	1.4	<0.0025	0.0050	1	<1	<0.01	0.21	0.25		
12/07/00	0815	0.2	7.62	352	1.5	0.0026	0.0064	1	1	0.01	0.33	0.38		
02/05/01	1000	0.5	7.47	227	0.2	<0.0025	0.0112	1	<1	0.03	0.45	0.53		
04/03/01	0843	2.6	7.30	349	0.17	<0.0025	0.0083	3	1					
05/09/01	1010	5.2	7.57	444	3.5	<0.0025	0.0098	2	<1					
06/14/01	0905	3.00	8.00	84.0	3.2	<0.0025	0.0075	<1	<1					
07/16/01	0947	8.68	7.20	121	1.92	<0.0025	0.0075	<1	<1					
08/21/01	1000	10.3	7.17	217	15.20	<0.003	0.0067	2	<1					
10/10/01	0845	2.1	7.24	266	1.2	<0.0025	0.0069	1	1	0.02	0.26	0.31		
12/06/01	0008	1.3	7.50	296	0.7	0.0033	0.0135	82	80	0.02	0.37	0.40		
02/04/02	1006	0.2	6.62	442	1.3	<0.0025	0.0083	2	1	0.02	0.54	0.59		
04/02/02	1009	2.5	7.07	216	0.89	0.0045	0.0137	2	< 1	0.01	0.45	0.55		
05/23/02	0925	4.4	7.78	179	3.5	0.0042	0.0077	2	< 1	<0.01	0.17	0.26		
06/12/02	0950	8.2	7.97	91	1.6	<0.0025	0.0084	1	< 1	<0.01	0.12	0.21		
07/15/02	0957	12.3	7.80	206	0.9	0.0033	0.0059	<1	<1	0.01	0.15	0.20		
08/13/02	0953	10.2	7.76	267	6.4	0.0035	0.007	2	2	0.03	0.21	0.27		
10/16/02	0944	3.1	7.19	307	0.77	0.0031	0.0162	6	<1	<0.01	0.37	0.44		
12/05/02	0940	0.60	8.10	218	0.7	<0.0025	0.0069	5	2	0.01	0.36	0.42		
2/3/2003	1035	0.0	7.27	336	2.7	0.0034	0.0075	3	2	<0.01	0.50	0.55		
4/1/2003	0835	1.4	7.82	467	0.82	0.0031	0.0106	<1	<1	<0.01	0.49	0.55		
5/15/2003	0940	5.9	7.97	310	31.4	0.0026	0.0106	12	2	0.01	0.34	0.45		
6/11/2003	0847	5.4	8.51	103	2.91	0.0034	0.0071	<1	<1	0.01	0.20	0.29		
7/14/2003	0950	9.14	8.19	111.0	6.3	0.0026	0.0053	<1	<1	0.01	0.19	0.24		
8/12/2003	0854	11.30	7.60	173	0.54	0.0033	0.0075	1	1	0.01	0.27	0.34		
10/8/2003	0945	5.5	7.68	220.0	2.1	0.0044	0.0086	7	2	<0.01	0.35	0.42		
12/4/2003	0952	0.5	8.01	192	1.4	0.0027	0.0060	1	<1	0.01	0.49	0.58		
2/2/2004	0945	0.18	7.50	442	1	0.007	0.0094	<1	<1	0.03	0.71	1.05		
4/6/2004	0957	2.8	7.81	408	2.2	0.0034	0.0269	7	4	0.03	0.45	0.56		
5/19/2004	0935	5.9	7.15	158	4.9	<0.0025	0.0089	5	2	0.04	0.3	0.94		
6/8/2004	0944	7.7	7.17	90	2.7	<0.0025	0.005	7	1	<0.01	0.2	0.3		
7/12/2004	0948	9.7	7.52	119	0.7	<0.0025	<0.0025	<1	<1	0.01	0.24	0.31		
8/10/2004	0934	9.9	6.91	148	0.6	<0.0025	0.0055	3	3	0.01	0.29	0.42		
10/6/2004	0950	4.8	7.67	274	6.5	0.0033	0.0093	2	<1	<0.01	0.47	0.61		
12/1/2004	1010	0	8.64	122	0.6	0.0069	0.0073	4	<1	0.01	0.62	0.71		
05/26/05	0950	4.7	7.34	110	13.6	0.0036	0.016	11	2	<0.01	0.22	0.35		
10/13/05	1012	3.3	9.18	314	3.3	0.00278	0.0058	1	1	<0.001	0.57	0.83		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
0.1400
0.1200
0.1000
0.0800
0.0600
0.0400
0.0200
0.0000
mg/L
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
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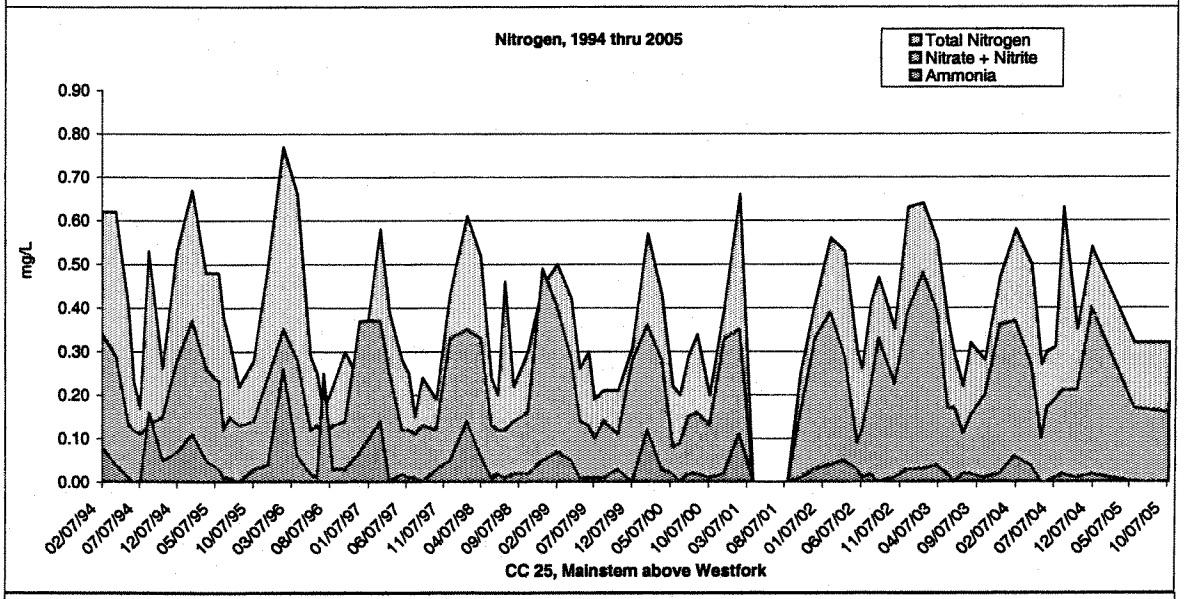
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 25, Mainstem above Westfork


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
mg/L
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
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01/07/02
06/07/02
11/07/02
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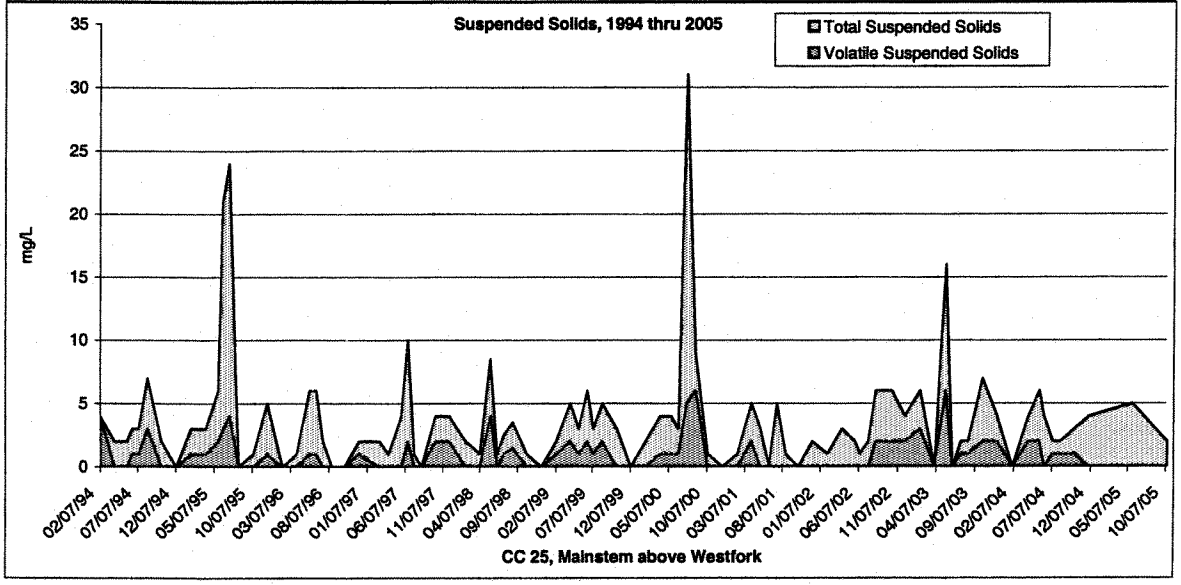
05/07/05
10/07/05
CC 25, Mainstem above Westfork


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
35
30
25
20
15
10
5
0
mg/L
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
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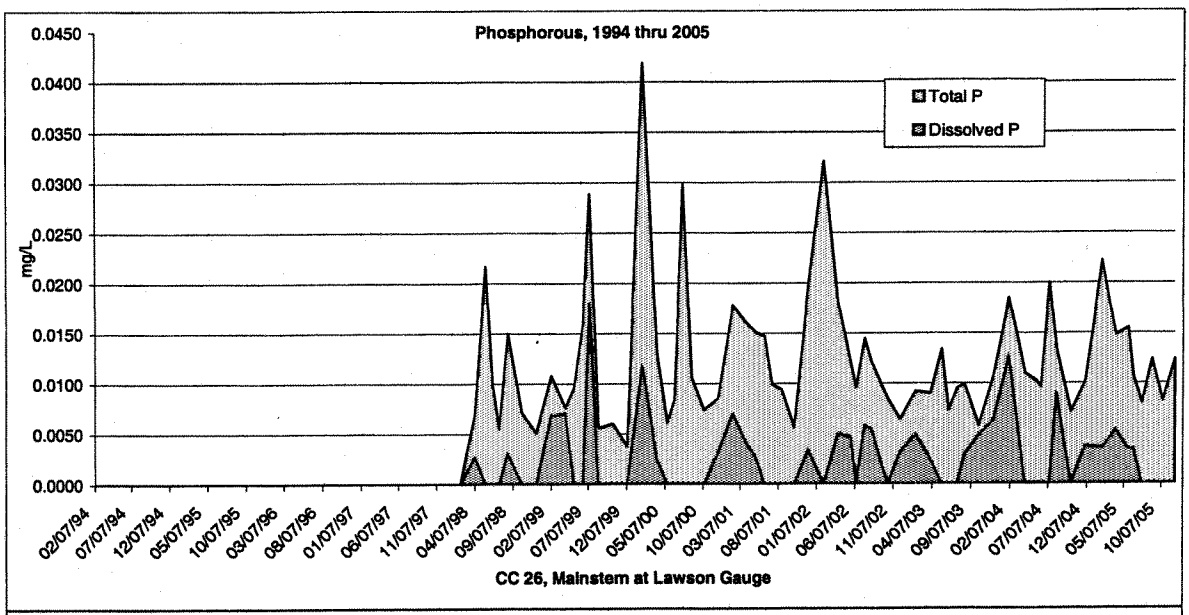
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 25, Mainstem above Westfork

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC25	**Mainstem above Westfork**													
02/07/94	931	0.9	8.15	184	0.81	0.0373	0.0490		4	0.08	0.34	0.62		0.13
04/05/94	800	1.0	7.46	213	1.05	0.0074	0.0199	2	<1	0.04	0.29	0.62	18.8	0.16
05/26/94	945	5.9	7.35	88	0.65	0.0207	0.0318	2	<1	0.01	0.13	0.40	2.0	0.25
06/15/94	815	8.6	7.69	65	1.78	0.0042	0.0102	2	1	<0.01	0.12	0.23	13.3	0.12
07/11/94	1045	12.8	8.33	99	0.80	0.0101	0.0155	2	1	<0.01	0.11	0.17	6.1	<0.10
08/16/94	830	13.2	7.75	112	1.90	0.0082	0.0223	4	3	0.16	0.13	0.53	4.1	0.11
10/12/94	645	5.7	7.67	142	1.00	0.0030	0.0107	2	<1	0.05	0.15	0.28	9.2	0.10
12/08/94	815	-0.1	8.01	154	0.70	0.0081	0.0142	<1	<1	0.07	0.28	0.53	7.1	<0.10
02/06/95	830	1.0	7.76	192	0.99	0.0094	0.0234	2	1	0.11	0.37	0.67	10.0	0.25
04/04/95	730	1.9	7.76	165	1.13	0.0039	0.0092	2	1	0.05	0.26	0.48	19.0	
05/25/95	830	5.0	7.59	179	4.33	0.0116	0.0229	4	2	0.03	0.23	0.48	23.0	
06/14/95	715	5.9	7.61	95	10.92	0.0080	0.0340	18	3	0.01	0.12	0.38	5.0	
07/10/95	730	6.3	7.61	66	11.67	0.0060	0.0245	20	4	0.01	0.15	0.32		
08/15/95	700	9.7	7.71	87	0.89	0.0026	0.0054	<1	<1	<0.01	0.13	0.22		
10/11/95	830	4.5	7.58	408	0.98	0.0093	0.0121	1	<1	0.03	0.14	0.28		
12/07/95	715	2.6	7.56	162	0.71	0.0115	0.0214	4	1	0.04	0.24	0.49		
02/05/96	600	0.3	7.63	186	1.23	0.0032	0.0151	<1	<1	0.26	0.35	0.77		
04/02/96	730	3.5	7.74	209	1.57	0.0156	0.0310	1	<1	0.06	0.28	0.66		
05/23/96	730	6.4	7.67	84		<0.0025	0.0061	5	1	0.02	0.12	0.29		
06/19/96	630	4.8	7.39	64	3.95	<0.0025	0.0094	5	1	0.01	0.13	0.25		
07/15/96	800	11.4	7.26	75	0.85	<0.0025	0.0051	2	<1	0.25	0.11	0.16		
08/20/96	800	11.3	7.92	112	0.92	0.0059	0.0158	<1	<1	0.03	0.13	0.22		
10/09/96	700	7.2	7.59	102	1.07	0.0112	0.0177	<1	<1	0.03	0.14	0.30		
12/05/96	630	-0.1	7.58	180	0.59	0.0134	0.0167	1	1	0.07	0.37	0.23		
02/24/97	730	0.2	7.54	206	1.49	0.0345	0.0418	2	<1	0.14	0.37	0.58		
04/01/97	745	2.9	7.73	237	1.02	0.0096	0.0184	1	<1	<0.05	0.25	0.39		
05/22/97	730	6.0	7.61	107	3.52	<0.0025	0.0126	4	<1	0.02	0.12	0.28		
06/18/97	730	6.4	7.88	76	3.50	<0.0025	0.0122	6	2	0.01	0.12	0.25		
07/14/97	745	9.9	7.71	81	1.18	<0.0025	0.0050	1	<1	0.01	0.11	0.15		
08/12/97	830	9.4	7.72	92	1.04	0.0025	0.0090	<1	<1	<0.01	0.13	0.24		
10/08/97	1015	8.9	7.79	135	0.92	0.0123	0.0121	2	2	0.03	0.12	0.19		
12/04/97	800	2.7	7.49	175	0.86	0.0057	0.0126	2	2	0.05	0.33	0.43		
02/09/98	830	2.1	7.26	189	0.97	0.0387	0.0470	2	<1	0.14	0.35	0.61		
04/07/98	830	1.6	7.23	244	0.40	0.0052	0.0127	1	<1	0.06	0.33	0.52		
05/21/98	730		7.78	125	2.68	0.0035	0.0127	5	4	0.01	0.13	0.24		
06/17/98	830		8.13	92	1.13	<0.0025	0.0066	1	<1	0.02	0.12	0.20		
07/13/98	800		7.61	79	1.76	<0.0025	0.0062	2	1	0.01	0.12	0.46		
08/18/98	800	12.0	7.56	109	1.15	0.0045	0.0130	2	2	0.02	0.14	0.22		
10/14/98	730	6.6	7.68	146	0.68	<0.0025	0.0076	1	<1	0.02	0.16	0.30		
12/10/98	800	0.1	7.42	186	0.74	<0.0025	0.0084	<1	<1	0.05	0.49	0.45		
02/08/99	0830	3.5	7.53	202	0.96	0.0125	0.0203	1	1	0.07	0.40	0.50		
04/07/99	0800	2.9	7.02	243	0.81	<0.0025	0.0107	3	2	0.05	0.28	0.42		
05/12/99	0851	5.2	7.64	272	2.00	0.0035	0.0104	2	1	0.01	0.14	0.26		
06/17/99	0906	6.1	7.52	84	6.00	<0.0025	0.0114	4	2	0.01	0.13	0.30		
07/12/99	0909	10.0	7.21	78	1.00	<0.0025	0.0060	2	1	0.01	0.10	0.19		
08/17/99	0931	11.1	6.29	106	3.00	<0.0025	0.0058	3	2	0.01	0.14	0.21		
10/13/99	0923	6.1	5.92	146	0.50	<0.0025	0.0104	3	<1	0.03	0.11	0.21		
12/09/99	0845	0.0	6.79	178	1.00	0.0038	0.0062	<1	<1	<0.01	0.28	0.31		
02/07/00	0855	0.6	6.67	194	2.0		0.0200	2	<1	0.12	0.36	0.57		
04/04/00	0820	2.0	6.99	190	2.80	0.0030	0.0102	3	1	0.03	0.28	0.43		
05/17/00	0830	7.35	5.98	132	4.0	<0.0025	0.0061	3	1	0.02	0.08	0.22		
06/15/00	0845	9.07	7.70	100.8	3.9	<0.0025	0.0072	2	1	<0.01	0.09	0.2		
07/17/00	0915	12.36	6.59	72	115.50	<0.0025	0.0403	28	5	0.02	0.15	0.29		
08/22/00	0835	12.2	7.50	134	3.0	<0.0025	0.0137	3	6	0.02	0.16	0.34		
10/11/00	0830	5.4	7.30	152	1.0	<0.0025	0.0093	1	<1	0.01	0.13	0.20		
12/07/00	0921	1.6	6.56	179	3.5	0.0055	0.1230			0.02	0.33	0.40		
02/05/01	0905	1.2	5.93	201	7.0	0.0199	0.0336	1	<1	0.11	0.35	0.66		
04/03/01	0910	3.3	6.50	253	3.6	0.0063	0.0182	3	2			I/e		
05/09/01	1055	9.8	8.24	250	7.4	0.0045	0.0186	3	<1			I/e		
06/14/01	0820	4.50	8.25	91.0	3.1	<0.0025	0.0078	<1	<1			I/e		
07/16/01	0835	14.00	7.42	99	4.19	0.0025	0.0119	5	<1			I/e		
08/21/01	0843	10.6	7.79	134	1.59	0.0034	0.0121	1	<1			I/e		
10/10/01	0900	4.8	7.76	163	4.4	<0.0025	0.0060	<1	<1	0.01	0.16	0.25		
12/06/01	0820	1.8	7.13	236	1.3	0.0054	0.0188	2	<1	0.03	0.33	0.41		
02/04/02	1029	0.5	6.61	212	1.9	0.0035	0.0762	1	< 1	0.04	0.39	0.56		
04/02/02	0900	4.4	6.76	215	2.04	0.0116	0.0295	3	< 1	0.05	0.29	0.53		
05/23/02	0938	7.8	7.79	114	3.8	0.0039	0.0141	2	< 1	0.03	0.09	0.30		
06/12/02	0845	12.4	8.19	80	0.89	<0.0025	0.0124	1	< 1	0.01	0.12	0.26		
07/15/02	1008	16.3	7.77	149	1.1	0.0098	0.0243	2	<1	0.02	0.22	0.41		
08/13/02	0830	12.3	7.60	186	2.6	0.0138	0.0215	4	2	<0.01	0.33	0.47		
10/16/02	0830	4.8	8.21	210	0.79	0.0036	0.0113	4	2	0.01	0.23	0.35		
12/05/02	0845	2.00	8.80	230	0.43	0.0098	0.0158	2	2	0.03	0.39	0.63		
2/3/2003	1050	1.3	7.62	235	1.4	0.0254	0.0341	3	3	0.03	0.48	0.64		
4/1/2003	0800	3.0	7.59	294	1.1	0.0065	0.0134	<1	<1	0.04	0.39	0.55		
5/15/2003	0952	9.5	8.04	328	5.5	0.0032	0.0101	10	6	0.02	0.17	0.37		
6/11/2003	0827	7.1	8.13	89	4.13	0.0029	0.0069			<0.01	0.17	0.29		
7/14/2003	1001	12.32	8.03	95.0	2	<0.0025	0.0056	1	1	0.02	0.11	0.22		
8/12/2003	0836	15.00	6.79	135	1.49	0.0026	0.0112	1	1	0.02	0.15	0.32		
10/8/2003	0957	7.2	7.95	149.0	1.7	0.0055	0.0074	5	2	0.01	0.20	0.28		
12/4/2003	0838	1.28	7.55	196	0.2	0.0161	0.0198	2	2	0.02	0.36	0.47		
2/2/2004	1030	0.3	7.98	111	1.91	0.0238	0.0373	<1	<1	0.06	0.37	0.58		
4/6/2004	0908	4.7	7.59	224	2.4	<0.0025	0.0112	2	2	0.04	0.27	0.5		
5/19/2004	0920	9.6	8.13	147	1.6	<0.0025	0.0128	4	2	<0.01	0.1	0.27		
6/8/2004	0900	10.1	7.38	92	6.5	<0.0025	0.0077	4	<1	<0.01	0.17	0.3		
7/12/2004	0905	13.0	8.66	119	1.1	0.0043	0.0336	1	1	0.01	0.19	0.31		
8/10/2004	0901	13.5	7.57	141	2.4	0.0047	0.0119	1	1	0.02	0.21	0.63		
10/6/2004	0936	8.3	8.65	175	1.5	0.0033	0.0135	2	1	0.01	0.21	0.35		
12/1/2004	0857	0.01	8.37	190	1.8	0.008	0.014	4	<1	0.02	0.4	0.54		
05/26/05	0930	8.6	9.52	106	10.5	0.0058	0.0118	5	<1	<0.01	0.17	0.32		
10/13/05	0920	4.4	7.44	173	0.7	0.005	0.0119	2	<1	<0.001	0.16	0.32		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.0450
0.0400
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
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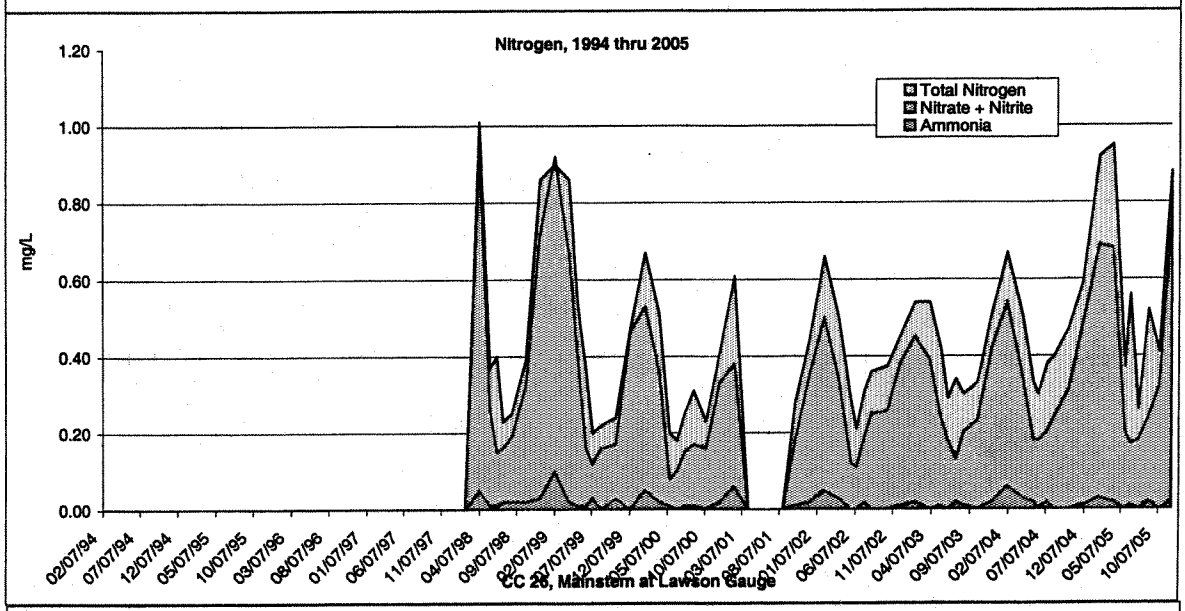
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 26, Mainstem at Lawson Gauge


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
1.20
1.00
0.80
0.60
0.40
0.20
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
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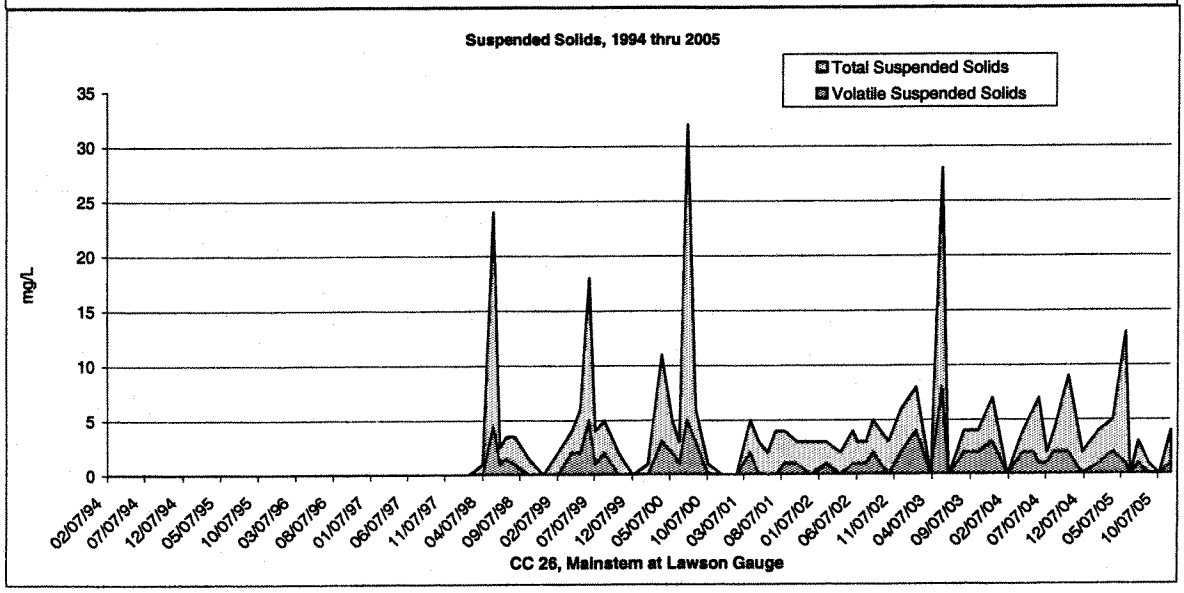
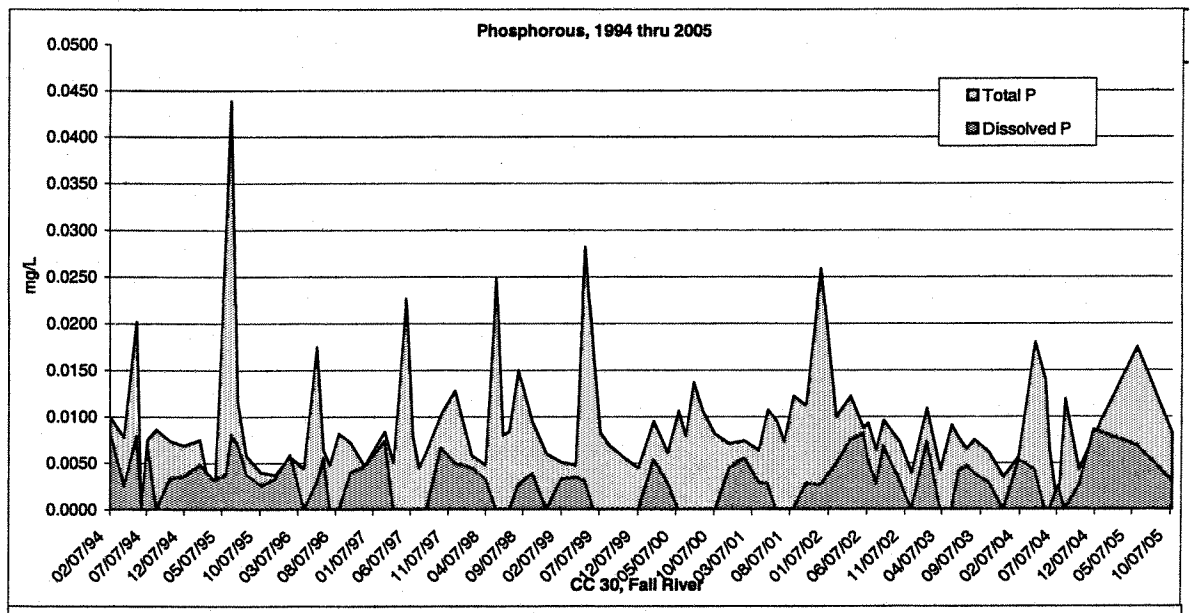
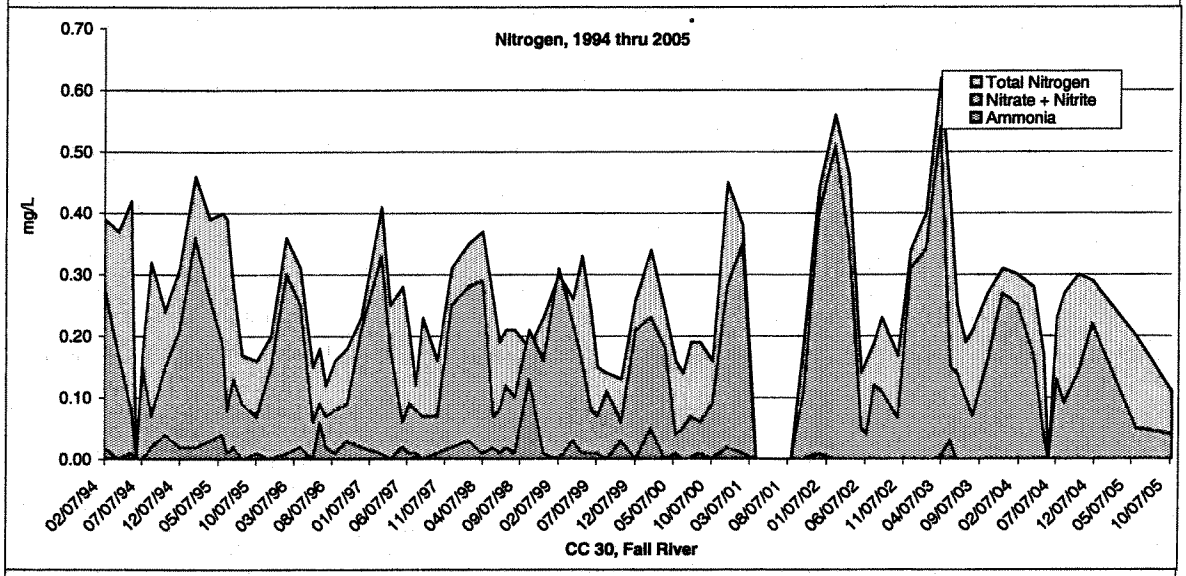
07/07/04
12/07/04
05/07/05
10/07/05
CC 26, Mainstem at Lawson Gauge


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
35
30
25
20
15
10
5
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 26, Mainstem at Lawson Gauge

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC26	**Mainstem at Lawson Gauge**													
02/07/94														
04/05/94														
05/26/94														
06/15/94														
07/11/94														
08/16/94														
10/12/94														
12/08/94														
02/06/95														
04/04/95														
05/25/95														
06/14/95														
07/10/95														
08/15/95														
10/11/95														
12/07/95														
02/05/96														
04/02/96														
05/23/96														
06/19/96														
07/15/96														
08/20/96														
10/09/96														
12/05/96														
02/24/97														
04/01/97														
05/22/97														
06/18/97														
07/14/97														
08/12/97														
10/08/97														
12/04/97														
02/09/98														
04/07/98	925	0.2	7.53	321	0.23	0.0027	0.0069	1	<1	0.05	0.93	1.01		
05/21/98	930	7.2	7.82	171	8.32	<0.0025	0.0217	20	5	0.01	0.26	0.37		
06/17/98	915	7.3	8.13	100	1.18	<0.0025	0.0099	2	1	0.01	0.15	0.40		
07/13/98	930	9.1	7.72	86	1.21	<0.0025	0.0055	2	2	0.02	0.16	0.23		
08/18/98	930	10.5	7.77	125	1.49	0.0031	0.0150	3	1	0.02	0.19	0.25		
10/14/98	1004	5.3	8.01	188	0.85	<0.0025	0.0071	2	<1	0.02	0.32	0.39		
12/10/98	930	0.0	7.54	70	1.14	<0.0025	0.0051	<1	<1	0.03	0.72	0.86		
02/08/99	0825	2.7	7.79	296	1.16	0.0068	0.0108	2	<1	0.10	0.92	0.90		
04/07/99	0919	2.0	7.54	300	1.45	0.0070	0.0076	2	2	0.02	0.67	0.86		
05/12/99	1025	4.7	7.92	310	3.00	<0.0025	0.0096	4	2	0.01	0.40	0.54		
06/17/99	0850	5.7	7.43	90	10.00	<0.0025	0.0159	13	5	0.01	0.16	0.36		
07/12/99	1129	10.4	7.52	88	2.00	0.0180	0.0289	3	1	0.03	0.12	0.20		
08/17/99	1131	10.9	6.20	116	3.00	<0.0025	0.0056	3	2	<0.01	0.16	0.22		
10/13/99	1102	5.7	7.28	196	6.00	<0.0025	0.0060	2	<1	0.03	0.17	0.24		
12/09/99	1040	0.0	7.27	266	2.00	<0.0025	0.0038	<1	<1	<0.01	0.46	0.47		
02/07/00	1040	0.4	7.22	286	4.0	0.0118	0.0419	1	<1	0.05	0.53	0.67		
04/04/00	1030	2.7	7.95	280	4.30	0.0025	0.0130	8	3	0.02	0.36	0.51		
05/17/00	1010	6.1	7.36	143	4.2	<0.0025	0.0061	3	2	0.01	0.08	0.20		
06/15/00	1015	8.55	7.44	107.5	2.5	<0.0025	0.0084	2	1	<0.01	0.10	0.18		
07/17/00	1040	12.60	7.40	82	91.10	<0.0025	0.0298	27	5	0.01	0.15	0.25		
08/22/00	1005	12.1	7.91	152	3.0	<0.0025	0.0106	3	3	0.01	0.17	0.31		
10/11/00	0950	4.7	7.53	204	2.0	<0.0025	0.0074	1	<1	<0.01	0.16	0.23		
12/07/00	1105	1.0	7.28	252	6.0	0.0031	0.0085			0.02	0.33	0.41		
02/05/01	1035	0.6	7.23	308	3.7	0.0070	0.0178	<1	<1	0.06	0.38	0.61		
04/03/01	1045	3.9	7.55	311	1.6	0.0040	0.0160	3	2					
05/09/01	1000	3.7	8.19	284	9.2	0.0027	0.0151	3	<1					
06/14/01	0940	4.00	7.60	95.0	4.7	<0.0025	0.0147	2	<1					
07/16/01	1010	13.60	7.29	105	3.57	<0.0025	0.0099	4	<1					
08/21/01	1015	10.6	7.99	156	1.47	<0.003	0.0094	3	1					
10/10/01	1040	3.9	7.89	222	2.4	<0.0025	0.0056	2	1	0.01	0.18	0.28		
12/06/01	1040	0.1	7.74	275	2.1	0.0034	0.0198	3	<1	0.02	0.35	0.44		
02/04/02	0930	0.3	7.51	303	0.9	<0.0025	0.0321	2	1	0.05	0.50	0.66		
04/02/02	1004	3.4	8.41	264	1.1	0.005	0.018	2	< 1	0.03	0.34	0.50		
05/23/02	1026	7.0	8.10	111	2.18	0.0046	0.0118	3	1	<0.01	0.12	0.28		
06/12/02	1032	10.4	7.92	118	2.2	<0.0025	0.0096	2	1	<0.01	0.11	0.21		
07/15/02	1009	14.2	8.11	199	1.3	0.0057	0.0145	2	1	0.02	0.19	0.31		
08/13/02	1020	11.9	8.24	236		0.0054	0.0121	3	2	<0.01	0.25	0.36		
10/16/02	0959	3.1	7.94	249	1	<0.0025	0.0085	3	<1	<0.01	0.26	0.38		
12/05/02	1033	0.97	8.28	316	0.7	0.0031	0.0064	4	2	0.01	0.38	0.45		
2/3/2003	1053	0.2	8.50	156	0.7	0.0049	0.0092	4	4	0.02	0.45	0.54		
4/1/2003	1100	3.8	7.65	376	1.8	0.0025	0.009	<1	<1	<0.01	0.39	0.54		
5/15/2003	0935	8.1	8.03	334	4.6	<0.0025	0.0134	20	8	0.01	0.24	0.42		
6/11/2003	1017	7.0	7.68	96	11.2	<0.0025	0.0073	<1	<1	<0.01	0.18	0.29		
7/14/2003	1045	11.70	8.20	105.1	0.61	<0.0025	0.0095	1	1	0.02	0.13	0.34		
8/12/2003	1031	13.50	7.85	149	1.7	0.0028	0.0099	2	2	0.01	0.20	0.30		
10/8/2003	1115	3.3	7.60	187.0	0.98	0.0048	0.0058	2	2	<0.01	0.23	0.33		
12/4/2003	1001	0.5	7.91	147	1.14	0.0063	0.0107	4	3	0.02	0.42	0.51		
2/2/2004	1004	0.03	8.20	297	1.4	0.0127	0.0185	<1	<1	0.06	0.54	0.67		
4/6/2004	1008	4.6	8.22	297	2.3	<0.0025	0.011	2	2	0.03	0.34	0.5		
5/19/2004	0948	7.9	7.50	145	3.2	<0.0025	0.0103	4	2	0.02	0.18	0.33		
6/8/2004	0954	9.8	7.73	89	3.7	<0.0025	0.0096	6	1	<0.01	0.18	0.3		
7/12/2004	0956	11.7	7.63	119	1.2	<0.0025	0.02	1	1	0.02	0.2	0.38		
8/10/2004	0945	12.1	7.89	137	0.8	0.009	0.0134	2	2	<0.01	0.24	0.4		
10/6/2004	1002	6.1	7.94	215	4.9	<0.0025	0.0071	7	2	<0.01	0.31	0.47		
12/1/2004	1021	0	8.21	23	0.6	0.0037	0.0102	2	<1	0.01	0.48	0.59		
02/07/05	0945		8.23	312	1	0.0035	0.0222	3	1	0.03	0.69	0.92		
04/05/05	0940	2.6	9.50	324	2.8	0.0053	0.0148	3	2	0.02	0.68	0.95		
05/26/05	1004	6.7	7.44	104	11.2	0.0034	0.0155	12	1	<0.01	0.2	0.37		
06/15/05	0955	9.1	9.27	121	1.53	0.0034	0.0106	<4	<4	0.01	0.17	0.56		
07/18/05	0945	11.7	7.64	109	5.4	<0.0025	0.008	2	1	<0.01	0.18	0.26		
08/30/05	0950	10.9	8.02	133	1.1	<0.0025	0.0124	1	<1	0.02	0.24	0.52		
10/13/05	1030	4.1	8.84	241	2.0	<0.0025	0.0082	<1	<1	<0.001	0.32	0.41		
12/01/05	0950	0.05	8.67	345	0.2	<0.0025	0.0124	3	1	0.02	0.77	0.88		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.0500
0.0450
0.0400
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 30, Fall River


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
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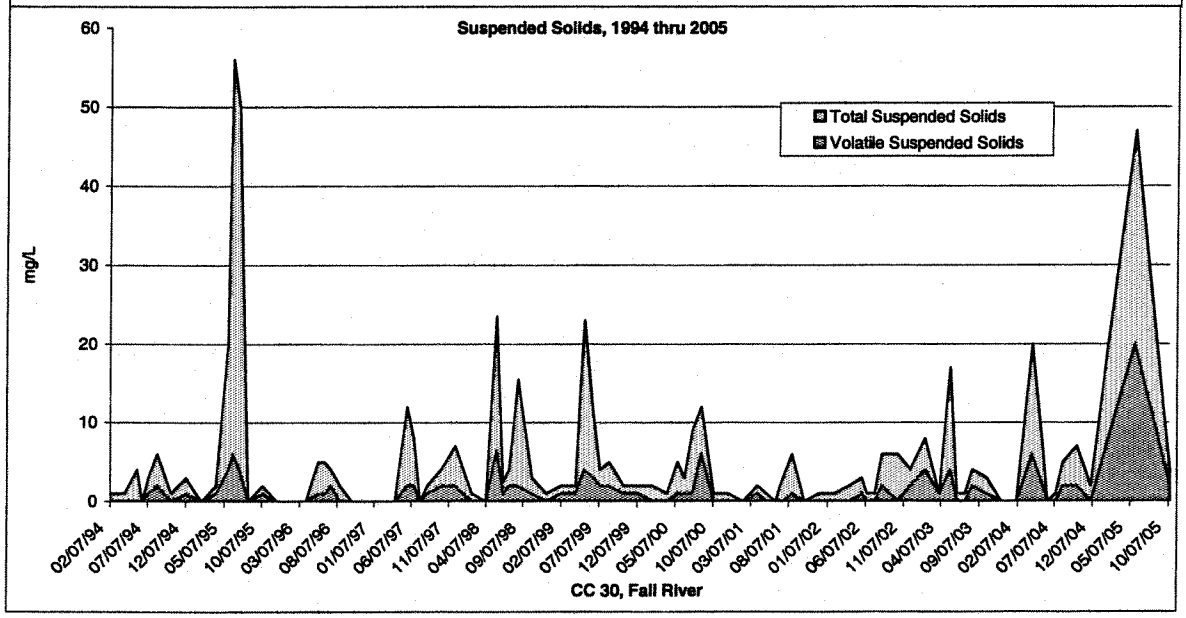
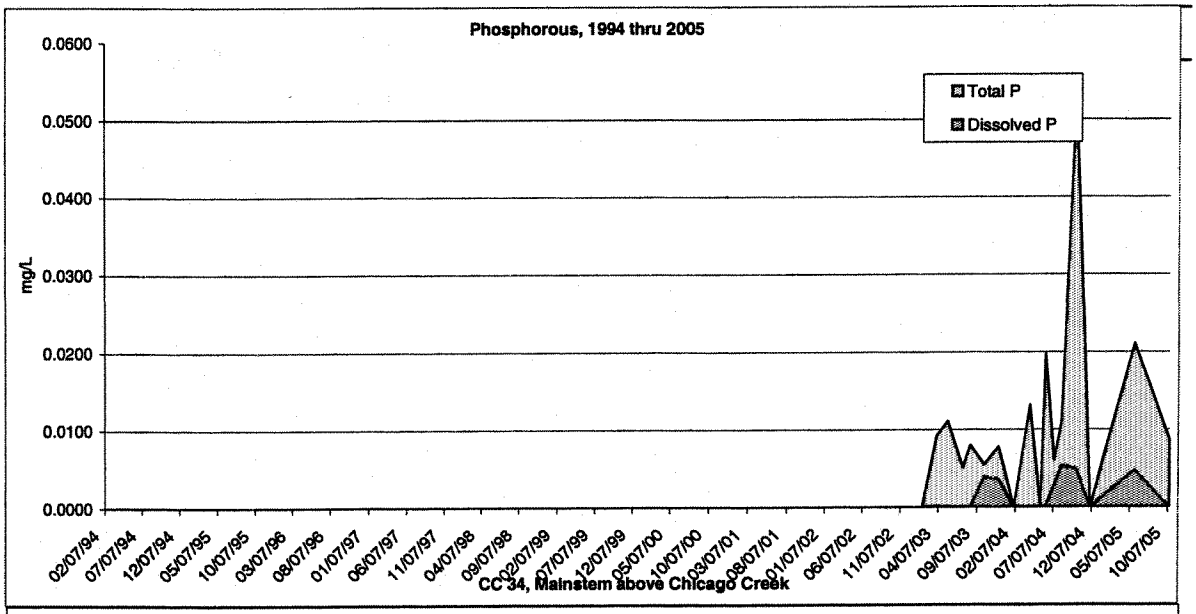
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 30, Fall River


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
60
50
40
30
20
10
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 30, Fall River

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC30	**Fall River**													
02/07/94		0.3	7.78	90	0.60	0.0084	0.0100	1		0.02	0.28	0.39		< 0.10
04/05/94	735	0.0	7.37	112	0.82	0.0025	0.0078	1	<1	<.01	0.17	0.37	14.8	<.010
05/26/94	730	5.4	7.00	50	3.30	0.0079	0.0202	4	<1	0.01	0.08	0.42	5.0	0.12
06/15/94														
07/11/94	900	8.5	7.90	43	0.70	0.0070	0.0075	2	1	<0.01	0.15	0.17	1.0	<0.10
08/16/94	850	10.3	7.77	36	1.00	<0.0025	0.0086	4	2	0.02	0.07	0.32	3.1	0.16
10/12/94	1000	4.0	7.77	73	0.70	0.0034	0.0074	1	<1	0.04	0.15	0.24	6.1	0.11
12/08/94	705	0.4	8.07	82	0.30	0.0036	0.0069	2	1	0.02	0.21	0.31	8.1	<0.10
02/06/95	845	0.4	7.86	112	0.40	0.0048	0.0075	<1	<1	0.02	0.36	0.46	9.0	<0.10
04/04/95	920	0.6	7.95	100	0.33	0.0032		1	1	0.03	0.26	0.39	11.0	
05/25/95	715	3.0	7.59	128	10.34	0.0038	0.0289	16	4	0.04	0.19	0.40	15.0	
06/14/95	614	4.2	7.63	75	17.50	0.0060	0.0439	50	6	0.01	0.08	0.39	7.0	
07/10/95	800	7.2	7.83	34	10.22	0.0070	0.0116	46	4	0.02	0.13	0.28		
08/15/95	700	9.1	7.70	37	0.51	0.0038	0.0058	<1	<1	<0.01	0.09	0.17		
10/11/95	730	2.6	7.67	55	0.49	0.0026	0.0040	1	1	0.01	0.07	0.16		
12/07/95	720	0.2	7.72	86	0.47	0.0033	0.0037	<1	<1	<0.01	0.15	0.20		
02/05/96	830	0.6	7.82	94	0.23	0.0059	0.0057	<1	<1	0.01	0.30	0.36		
04/02/96	700	0.3	7.74	106	0.56	<0.0025	0.0044	<1	<1	0.02	0.25	0.31		
05/23/96	700	6.3	7.56	44		0.0029	0.0175	4	1	<0.01	0.06	0.15		
06/19/96	700	6.4	7.49	34	1.69	0.0055	0.0064	4	1	0.06	0.09	0.18		
07/15/96	840	10.3	7.50	36	0.68	<0.0025	0.0048	2	2	0.02	0.07	0.12		
08/20/96	730	9.7	7.84	38	1.52	<0.0025	0.0082	2	<1	0.01	0.08	0.16		
10/09/96	700	5.6	7.56	40	1.48	0.0040	0.0072	<1	<1	0.03	0.09	0.18		
12/05/96	905	1.0	7.34	87	0.35	0.0046	0.0047	<1	<1	0.02	0.21	0.23		
02/24/97	700	0.0	7.68	103	0.48	0.0074	0.0084	<1	<1	0.01	0.33	0.41		
04/01/97	700	1.0	7.67	96	0.66	<0.0025	0.0050	<1	<1	<0.05	0.18	0.25		
05/22/97	700	4.5	7.43	52	4.87	<0.0025	0.0227	10	2	0.02	0.06	0.28		
06/18/97	730	6.0	8.01	39	2.19	<0.0025	0.0080	6	2	0.01	0.09	0.21		
07/14/97	700	9.0	7.68	41	0.72	<0.0025	0.0045	<1	<1	0.01	0.08	0.12		
08/12/97	800	7.5	7.29	47	0.56	<0.0025	0.0062	1	1	<0.01	0.07	0.23		
10/08/97	830	5.0	7.73	44	1.22	0.0067	0.0102	2	2	0.01	0.07	0.16		
12/04/97	720	0.1	7.55	96	3.29	0.0050	0.0128	5	2	0.02	0.25	0.31		
02/09/98	700	0.0	7.45	95	0.49	0.0045	0.0058	1	<1	0.03	0.28	0.35		
04/07/98	730	1.0	7.45	243	0.14	0.0033	0.0048	<1	<1	0.01	0.29	0.37		
05/21/98	710	2.0	7.98	58	5.54	<0.0025	0.0249	17	7	0.02	0.07	0.26		
06/17/98	717	5.0	8.19	43	1.38	<0.0025	0.0080	2	1	0.01	0.08	0.19		
07/13/98	715	10.0	7.72	38	1.53	<0.0025	0.0084	2	2	0.02	0.12	0.21		
08/18/98	730	10.0	7.60	71	3.45	0.0028	0.0150	14	2	0.01	0.10	0.21		
10/14/98	740	5.0	7.73	51	0.85	0.0039	0.0095	2	1	0.13	0.21	0.18		
12/10/98	820	0.0	7.84	262	0.57	<0.0025	0.0060	1	<1	0.01	0.16	0.23		
02/08/99	0805	0.0	7.75	117	0.84	0.0033	0.0051	1	1	<0.01	0.31	0.30		
04/07/99	0720	0.0	7.81	112	0.55	0.0035	0.0048	1	1	0.03	0.22	0.26		
05/12/99	0925	1.3	7.51	140	4.95	0.0031	0.0282	19	4	0.01	0.16	0.33		
06/17/99	0935	6.6	7.62	44	3.40	<0.0025	0.0159	8	3	0.01	0.08	0.24		
07/12/99	0930	10.5	7.88	42	1.39	<0.0025	0.0083	2	2	0.01	0.07	0.15		
08/17/99	0925	10.7	7.78	60	3.94	<0.0025	0.0069	3	2	<0.01	0.11	0.14		
10/13/99	1025	7.2	7.86	45	1.10	<0.0025	0.0058	1	1	0.03	0.06	0.13		
12/09/99	1015	0.0	7.93	47	2.40	<0.0025	0.0045	1	1	<0.01	0.21	0.26		
02/07/00	0930	0.7	7.91	76	1.8	0.0054	0.0095	2	<1	0.05	0.23	0.34		
04/04/00	0935	1.7	7.38	94	1.10	0.0029	0.0061	1	<1	<0.01	0.18	0.24		
05/17/00	1000	4.6	8.65	54	2.9	<0.0025	0.0106	4	1	0.01	0.04	0.18		
06/15/00	0945	9.00	7.62	39.0	1.54	<0.0025	0.0079	2	1	<0.01	0.05	0.14		
07/17/00	1000	12.90	7.54	44	4.34	<0.0025	0.0137	8	1	<0.01	0.07	0.19		
08/22/00	1000	11.3	7.39	43	2.0	<0.0025	0.0106	6	6	0.01	0.06	0.19		
10/11/00	1010	5.9	8.31	50	0.1	<0.0025	0.0081	1	<1	<0.01	0.09	0.16		
12/07/00	0920	0.3	7.46	107	0.7	0.0045	0.0071	1	<1	0.02	0.28	0.45		
02/05/01	1016	0.3	7.48	115	0.1	0.0056	0.0074	<1	<1	0.01	0.35	0.38		
04/03/01	0934	3.2	7.15	92	0.07	0.0029	0.0064	1	1					
05/09/01	1025	4.5	7.49	246	1.9	0.0028	0.0107	1	<1					
06/14/01	0920	3.60	8.20	42.0	1.86	<0.0025	0.0096	<1	<1					
07/16/01	1005	9.75	7.04	41	1.20	<0.0025	0.0073	3	<1					
08/21/01	1010	10.8	7.32	38	8.00	<0.003	0.0122	5	1					
10/10/01	0950	2.6	7.22	50	1.4	0.0028	0.0112	<1	<1	<0.01	0.11	0.19		
12/06/01	0945	0.5	7.35	60	0.5	0.0027	0.0259	1	<1	0.01	0.40	0.44		
02/04/02	1051	0.1	8.84	117	1.3	0.0049	0.01	1	< 1	< 0.01	0.51	0.56		
04/02/02	1005	1.7	7.06	73	0.71	0.0075	0.0122	2	< 1	<0.01	0.35	0.48		
05/23/02	0956	4.2	7.82	51	1.2	0.0062	0.0088	2	1	<0.01	0.05	0.14		
06/12/02	1010	10.1	7.97	43	0.74	0.0052	0.0093	1	< 1	<0.01	0.04	0.16		
07/15/02	1025	11.9	7.99	52	0.4	0.0028	0.0064	1	<1	<0.01	0.12	0.19		
08/13/02	1007	9.9	8.01	58	3.3	0.0068	0.0096	4	2	<0.01	0.11	0.23		
10/16/02	0957	4.1	7.30	58	0.56	0.0031	0.0073	6	<1	<0.01	0.07	0.17		
12/05/02	1005	0.50	8.40	66	0.22	<0.0025	0.0039	2	2	<0.01	0.31	0.34		
2/3/2003	1124	0.1	7.81	130	1.1	0.0073	0.0109	4	4	<0.01	0.34	0.40		
4/1/2003	0955	3.4	7.98	207	0.32	<0.0025	0.0043	<1	1	<0.01	0.54	0.62		
5/15/2003	1013	4.1	8.12	89	18.1	<0.0025	0.0091	13	4	0.03	0.15	0.41		
6/11/2003	0932	6.3	8.12	43	2.05	0.0041	0.0078	1	<1	<0.01	0.14	0.25		
7/14/2003	1020	11.23	7.94	38.0	5.2	0.0047	0.0065	1	<1	<0.01	0.10	0.19		
8/12/2003	0939	11.80	7.11	36	0.95	0.0039	0.0075	2	2	<0.01	0.07	0.21		
10/8/2003	1020	6.1	7.72	48.0	2.2	0.0029	0.0062	2	1	<0.01	0.16	0.27		
12/4/2003	1011	0.5	8.06	65	0.18	<0.0025	0.0035	<1	<1	<0.01	0.27	0.31		
2/2/2004	1023	0.01	7.95	120	0.8	0.0054	0.0057	<1	<1	<0.01	0.25	0.3		
4/6/2004	1019	3.7	8.03	111	28.9	0.0043	0.018	14	6	<0.01	0.17	0.28		
5/19/2004	1005	8.3	7.23	57	3.6	<0.0025	0.014	5	2	<0.01	0.04	0.17		
6/8/2004	1008	9.9	5.18	45	1.3	<0.0025	0.0064	<1	<1					
7/12/2004	1019	11.0	7.64	50	1.6	0.0026	<0.0025	1	<1	<0.01	0.13	0.23		
8/10/2004	0955	10.5	7.18	45	1.5	<0.0025	0.0119	3	2	<0.01	0.09	0.27		
10/6/2004	1017	4.9	7.74	59	12.9	0.0026	0.0043	5	2	<0.01	0.14	0.3		
12/1/2004	1036	0	8.46	21	0.4	0.0086	0.0078	2	<1	<0.01	0.22	0.29		
05/26/05	1022	5.6	7.37	47	9.9	0.0069	0.0175	27	20	<0.01	0.05	0.2		
10/13/05	1045	3.6	9.19	39	2.3	0.0031	0.0082	2	2	<0.001	0.04	0.11		


Phosphorous, 1994 thru 2005
mg/L
0.0600
0.0500
0.0400
0.0300
0.0200
0.0100
0.0000
Total P
Dissolved P
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
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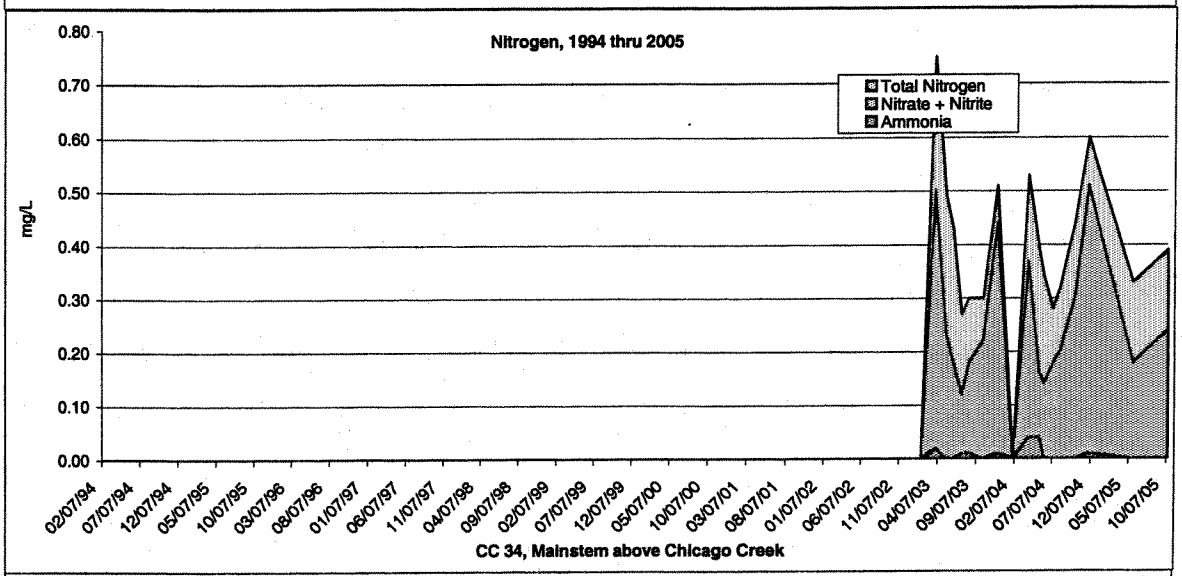
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 34, Mainstem above Chicago Creek


Nitrogen, 1994 thru 2005
mg/L
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
Total Nitrogen
Nitrate + Nitrite
Ammonia
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
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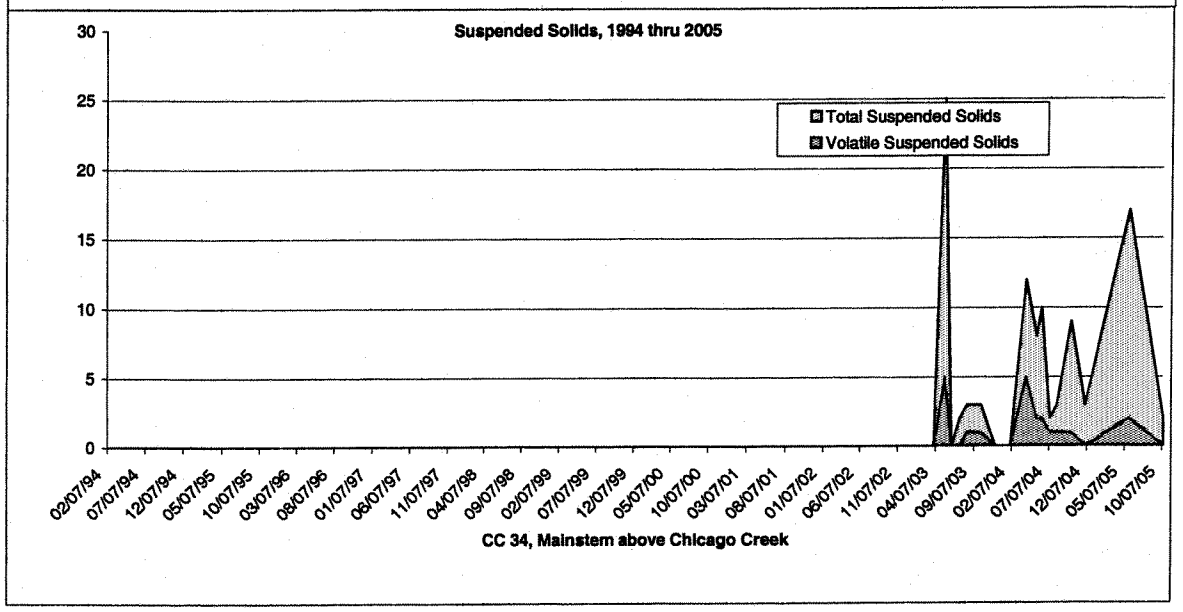
05/07/05
10/07/05
CC 34, Mainstem above Chicago Creek


Suspended Solids, 1994 thru 2005
30
25
20
15
10
5
0
Total Suspended Solids
Volatile Suspended Solids
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 34, Mainstem above Chicago Creek

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC34	**Mainstem above Chicago Creek**													
02/07/94														
04/05/94														
05/26/94														
06/15/94														
07/11/94														
08/16/94														
10/12/94														
12/08/94														
02/06/95														
04/04/95														
05/25/95														
06/14/95														
07/10/95														
08/15/95														
10/11/95														
12/07/95														
02/05/96														
04/02/96														
05/23/96														
06/19/96														
07/15/96														
08/20/96														
10/09/96														
12/05/96														
02/24/97														
04/01/97														
05/22/97														
06/18/97														
07/14/97														
08/12/97														
10/08/97														
12/04/97														
02/09/98														
04/07/98														
05/21/98														
06/17/98														
07/13/98														
08/18/98														
10/14/98														
12/10/98														
02/08/99														
04/07/99														
05/12/99														
06/17/99														
07/12/99														
08/17/99														
10/13/99														
12/09/99														
02/07/00														
04/04/00														
05/17/00														
06/15/00														
07/17/00														
08/22/00														
10/11/00														
12/07/00														
02/05/01														
04/03/01														
05/09/01														
06/14/01														
07/16/01														
08/21/01														
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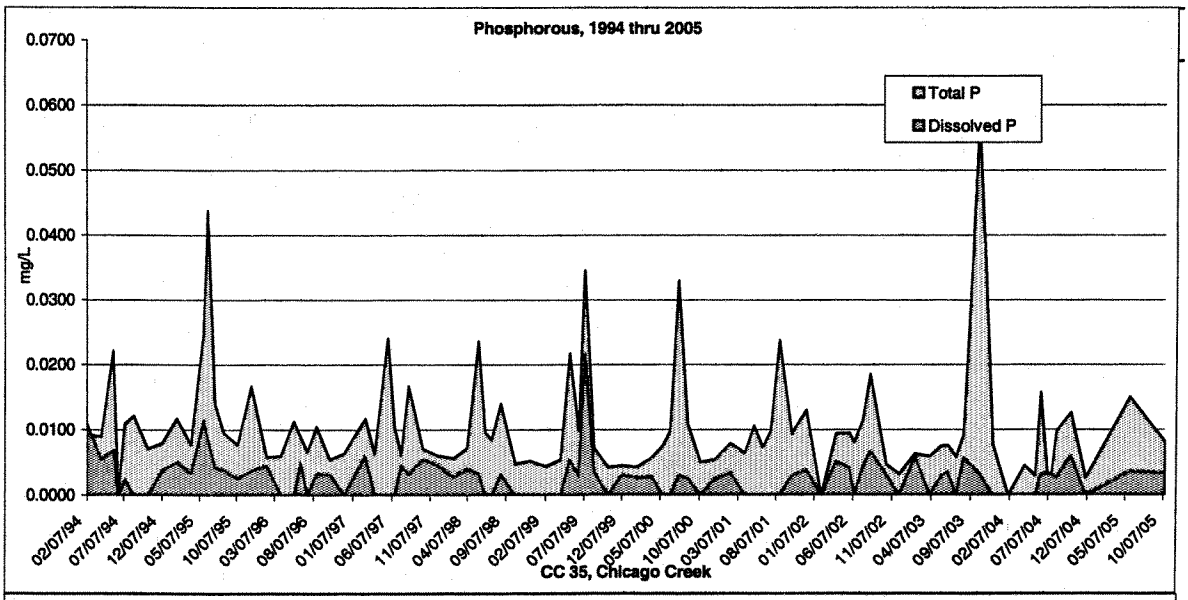
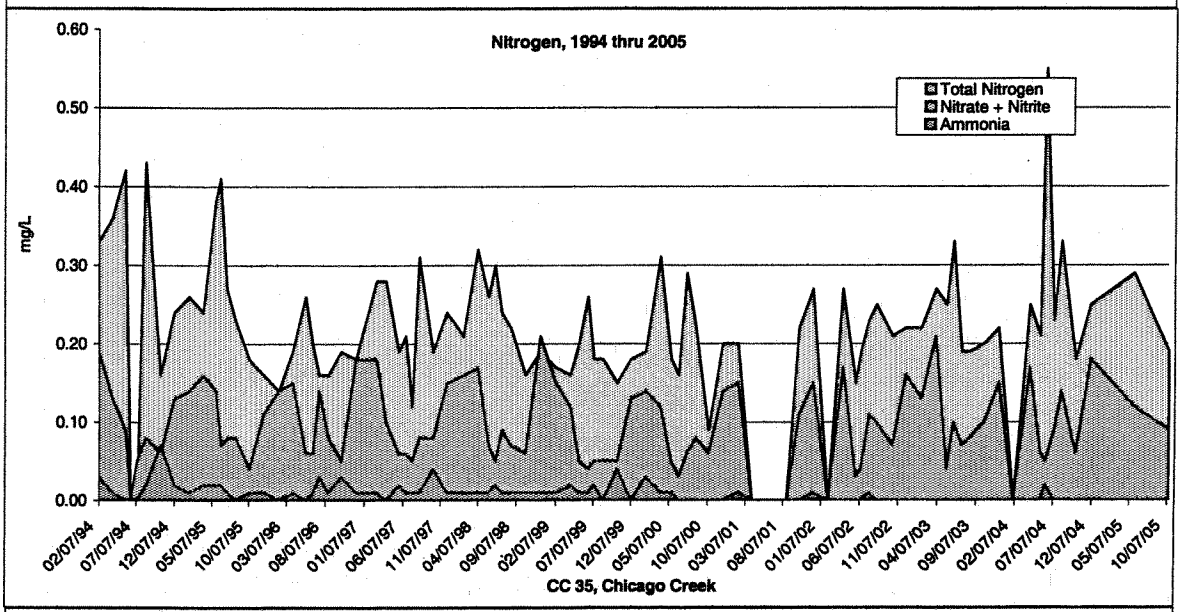
12/06/01														
02/04/02														
04/02/02														
05/23/02														
06/12/02														
07/15/02														
08/13/02														
10/16/02														
12/05/02														
2/3/2003	1114	0.2	8.50	173	5.0									
4/1/2003	1126	6.0	7.55	395	3.1	<0.0025	0.0092			0.02	0.50	0.75		
5/15/2003	0952	8.0	7.96	302	5.7	<0.0025	0.0111	20	5	<0.01	0.23	0.49		
6/11/2003	1031	7.6	7.63	92	11	<0.0025	0.0084	<1	<1	<0.01	0.18	0.43		
7/14/2003	1100	12.00	8.22	101.6	0.85	<0.0025	0.0051	2	<1	0.01	0.12	0.27		
8/12/2003	1059	14.19	7.80	129	2.7	<0.0025	0.0080	2	1	0.01	0.18	0.30		
10/8/2003	1130	3.0	7.50	177.1	1.46	0.0039	0.0055	2	1	<0.01	0.22	0.30		
12/4/2003	1021	0.03	7.68	278	1.2	0.0036	0.0078	<1	<1	0.01	0.44	0.51		
2/2/2004														
4/6/2004	1116	5.7	7.91	268	30.2	<0.0025	0.0132	7	5	0.04	0.37	0.53		
5/19/2004	1105	9.3	7.91	155	1.9	<0.0025	<0.0025	6	2	0.04	0.16	0.39		
6/8/2004	1040	10.3	7.33	95	8.8	<0.0025	0.0197	8	2	<0.01	0.14	0.34		
7/12/2004	1041	12.9	8.53	117	1.1	0.0028	0.008	1	1	<0.01	0.18	0.28		
8/10/2004	1053	13.3	7.47	138	2.5	0.0053	0.0109	2	1	<0.01	0.2	0.32		
10/6/2004	1046	6.3	8.24	189	9.7	0.005	0.0527	8	1	<0.01	0.3	0.44		
12/1/2004	1126	0.02	7.74	234	1.0	<0.0025	<0.0025	3	<1	0.01	0.51	0.6		
05/26/05	1100	7.7	8.01	105	16.0	0.0048	0.0211	15	2	<0.01	0.16	0.33		
10/13/05	1101	4.8	7.70	184	0.8	<0.0025	0.0087	2	<1	<0.001	0.24	0.39		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.0700
0.0600
0.0500
0.0400
0.0300
0.0200
0.0100
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 35, Chicago Creek


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
0.60
0.50
0.40
0.30
0.20
0.10
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
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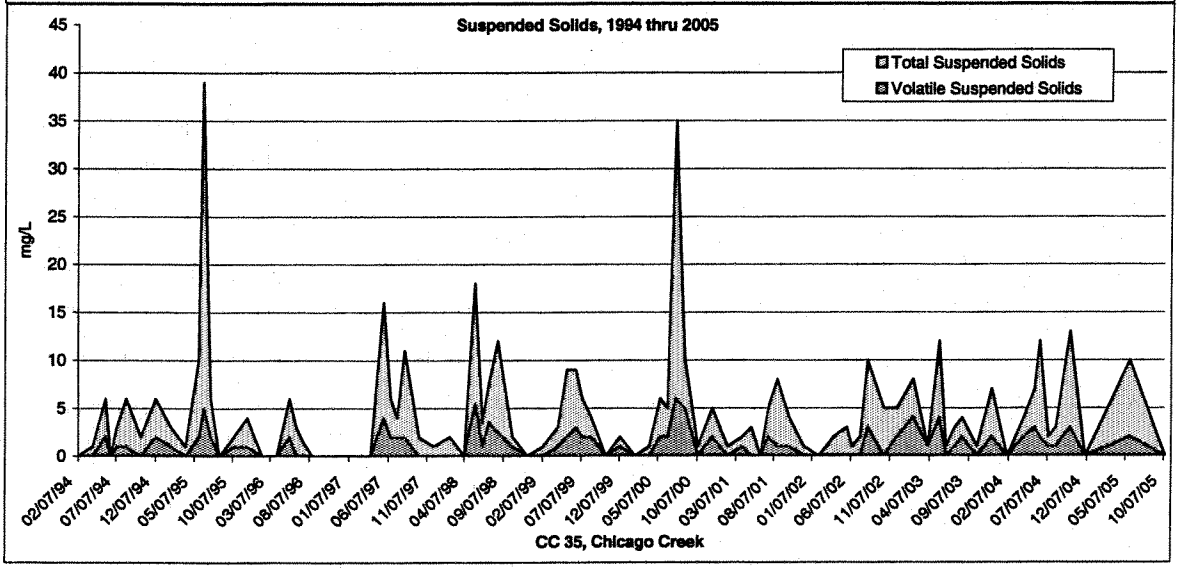
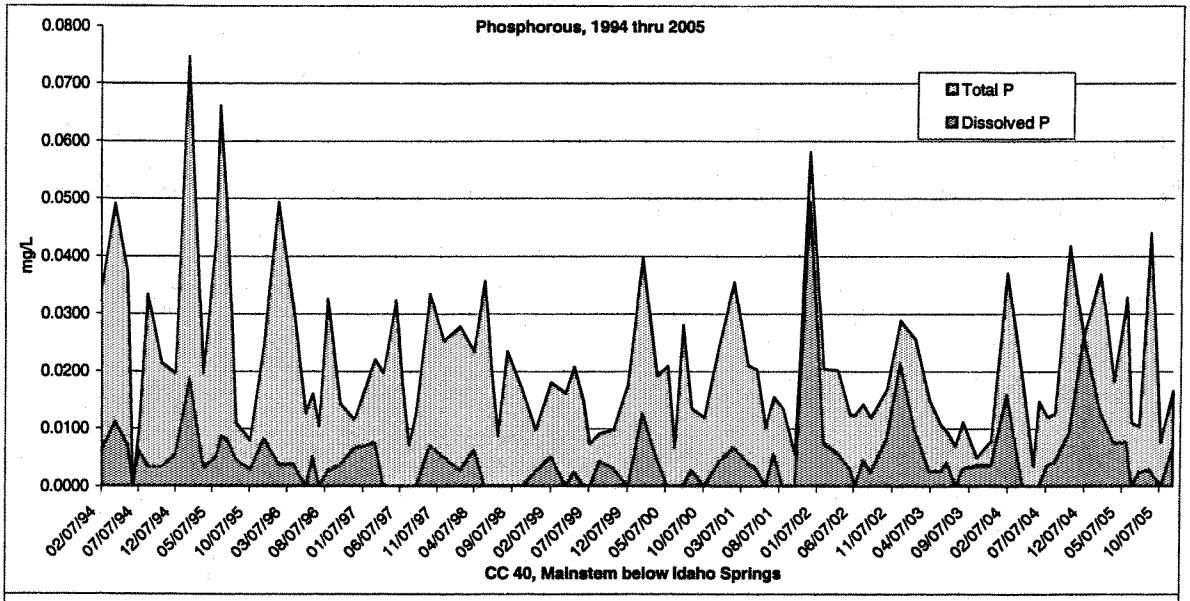
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 35, Chicago Creek


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
45
40
35
30
25
20
15
10
5
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 35, Chicago Creek

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC35	**Chicago Creek**													
02/07/94		0.2	7.35	75	0.70	0.0109	0.0093	<1		0.03	0.19	0.33		0.15
04/05/94	810	0.0	7.68	83	1.45	0.0055	0.0089	1	<1	0.01	0.13	0.38	11.9	<.010
05/26/94	645	5.4	7.13	49	1.70	0.0068	0.0221	4	2	<0.01	0.09	0.42	1.0	0.18
06/15/94														
07/11/94	830	10.1	7.85	60	0.80	0.0023	0.0109	2	1	<0.01	0.05	<0.1	3.1	<0.10
08/16/94	750	10.4	7.80	61	0.90	<0.0025	0.0121	5	1	0.02	0.08	0.43	3.1	<0.10
10/12/94	920	4.0	7.87	65	0.70	<0.0025	0.0071	2	<1	0.07	0.06	0.16	5.1	0.12
12/08/94	720	0.2	7.99	59	0.80	0.0038	0.0080	4	2	0.02	0.13	0.24	5.1	<0.10
02/08/95	900	0.3	7.86	74	1.35	0.0050	0.0117	2	1	0.01	0.14	0.26	7.0	0.18
04/04/95	940	2.5	7.94	67	0.52	0.0034	0.0077	1	<1	0.02	0.16	0.24	15.0	
05/25/95	750	2.8	7.83	86	5.97	0.0114	0.0247	8	2	0.02	0.14	0.38	7.0	
08/14/95	710	3.8	7.69	55	10.47	0.0082	0.0438	34	5	0.02	0.07	0.41	5.0	
07/10/95	815	6.0	7.64	46	1.43	0.0043	0.0140	4	2	0.01	0.08	0.27		
08/15/95	735	8.8	7.87	54	1.68	0.0038	0.0095	<1	<1	<0.01	0.08	0.23		
10/11/95	840	2.7	7.50	62	0.46	0.0026	0.0077	1	1	0.01	0.04	0.18		
12/07/95	810	0.4	7.70	68	0.43	0.0038	0.0167	3	1	0.01	0.11	0.16		
02/05/96	900	0.4	7.56	74	0.36	0.0045	0.0058	<1	<1	<0.01	0.14	0.14		
04/02/96	715	0.6	7.70	80	0.59	<0.0025	0.0060	<1	<1	0.01	0.15	0.19		
05/23/96	855	6.6	7.57	47		<0.0025	0.0113	4	2	<0.01	0.06	0.26		
08/19/96	800	6.4	7.44	51	0.88	0.0049	0.0088	3	<1	0.01	0.06	0.20		
07/15/96	900	10.8	7.40	60	0.84	<0.0025	0.0066	2	<1	0.03	0.14	0.16		
08/20/96	745	10.4	7.80	67	0.66	0.0032	0.0105	<1	<1	0.01	0.08	0.16		
10/09/96	730	4.5	7.65	48	0.67	0.0032	0.0054	<1	<1	0.03	0.05	0.19		
12/05/96	530	1.0	7.14	76	0.60		0.0064	<1	<1	0.01	0.18	0.18		
02/24/97	730	0.0	7.72	74	0.89	0.0060	0.0117	<1	<1	0.01	0.18	0.28		
04/01/97	715	0.8	7.80	74	1.18	<0.0025	0.0063	<1	<1	<0.05	0.10	0.28		
05/22/97	715	4.0	7.41	51	4.33	<0.0025	0.0241	12	4	0.02	0.06	0.19		
06/18/97	715	6.5	7.96	46	1.49	<0.0025	0.0103	4	2	0.01	0.06	0.21		
07/14/97	720	8.5	7.63	58	1.00	0.0045	0.0082	2	2	0.01	0.05	0.12		
08/12/97	700	7.5	7.60	58	1.23	0.0032	0.0167	9	2	0.01	0.08	0.31		
10/08/97	800	5.0	7.70	64	0.86	0.0054	0.0071	2	<1	0.04	0.08	0.19		
12/04/97	745	0.1	7.53	68	1.09	0.0047	0.0061	1	<1	0.01	0.15	0.24		
02/09/98	715	0.0	7.50	69	0.90	0.0028	0.0056	2	<1	0.01	0.16	0.21		
04/07/98	755	1.0	7.58	126	0.04	0.0040	0.0072	<1	<1	0.01	0.17	0.32		
05/21/98	745	3.0	7.87	71	5.19	0.0033	0.0236	13	6	0.01	0.07	0.28		
06/17/98	735	5.0	8.13	46	1.53	<0.0025	0.0096	3	1	0.02	0.05	0.30		
07/13/98	750	8.0	7.59	47	1.20	<0.0025	0.0084	4	4	0.01	0.09	0.24		
08/18/98	750	10.0	7.64	58	2.90	0.0031	0.0140	10	3	0.01	0.07	0.22		
10/14/98	800	4.0	7.71	60	0.56	<0.0025	0.0048	1	1	0.01	0.06	0.16		
12/10/98	800	0.0	7.56	112	1.01	<0.0025	0.0052	<1	<1	0.01	0.21	0.19		
02/08/99	0852	0.0	7.60	70	0.81	<0.0025	0.0044	1	<1	0.01	0.15	0.17		
04/07/99	0745	0.0	7.62	78	1.02	<0.0025	0.0054	2	1	0.02	0.12	0.16		
05/12/99	1050	2.6	7.88	94	9.00	0.0054	0.0217	7	2	0.01	0.05	0.20		
06/17/99	1215	7.4	7.10	48	4.00	0.0029	0.0098	6	3	0.01	0.04	0.26		
07/12/99	1247	11.2	7.23	50	2.00	0.0216	0.0346	4	2	0.02	0.05	0.18		
08/17/99	1409	10.2	6.21	52	2.00	0.0038	0.0072	2	2	<0.01	0.05	0.18		
10/13/99	1203	3.7	6.85	64	3.00	<0.0025	0.0043	<1	<1	0.04	0.05	0.15		
12/09/99	1105	0.0	7.13	72	2.00	0.0031	0.0045	1	1	<0.01	0.13	0.18		
02/07/00	1100	0.0	7.20	72	3.0	0.0026	0.0043	<1	<1	0.03	0.14	0.19		
04/04/00	1100	1.2	7.91	90	2.10	0.0028	0.0057	1	<1	0.01	0.12	0.31		
05/17/00	1040	4.2	7.42	55	4.7	<0.0025	0.0075	4	2	0.01	0.05	0.18		
06/15/00	1035	9.72	7.46	66.4	3.7	<0.0025	0.0098	3	2	<0.01	0.03	0.16		
07/17/00	1059	11.21	7.47	44	25.50	0.0029	0.0330	29	8	<0.01	0.06	0.29		
08/22/00	1025	10.0	7.88	66	3.0	0.0026	0.0109	5	5	<0.01	0.08	0.22		
10/11/00	1015	2.4	7.78	70	2.0	<0.0025	0.0050	1	<1	<0.01	0.06	0.09		
12/07/00	1130	0.3	7.52	72	1.2	0.0025	0.0054	3	2	<0.01	0.14	0.20		
02/05/01	1105	0.2	7.30	82	2.0	0.0034	0.0079	1	<1	0.01	0.15	0.20		
04/03/01	1015	1.5	7.56	58	4.0	<0.0025	0.0064	1	1					
05/09/01	1030	5.6	8.20	100	6.5	<0.0025	0.0106	3	<1					
06/14/01	1005	4.90	7.15	61.0	2.8	<0.0025	0.0073	<1	<1					
07/16/01	1035	11.90	7.15	66	2.06	<0.0025	0.0097	3	2					
08/21/01	1040	9.1	7.73	57	3.90	<0.003	0.0238	7	1					
10/10/01	1120	1.9	8.03	69	5.5	0.0029	0.0084	3	1	<0.01	0.11	0.22		
12/06/01	1115	0.2	7.44	74	2.8	0.0039	0.0130	1	<1	0.01	0.15	0.27		
02/04/02	0952													
04/02/02	1034	0.2	7.91	84	2.9	0.005	0.0094	2	< 1	<0.01	0.17	0.27		
05/23/02	1040	5.9	8.01	55	0.89	0.0042	0.0095	3	< 1	<0.01	0.03	0.15		
06/12/02	1058	9.5	7.90	69	1.8	<0.0025	0.0061	1	< 1	<0.01	0.04	0.19		
07/15/02	1028	13.8	8.28	83	1.69	0.0042	0.0114	2	<1	0.01	0.11	0.23		
08/13/02	1045	9.8	8.16	79		0.0067	0.0185	7	3	<0.01	0.10	0.25		
10/16/02	1022	1.7	7.89	76	1.2	0.003	0.0047	5	<1	<0.01	0.07	0.21		
12/05/02	1058	0.16	8.14	81	1.4	<0.0025	0.0032	3	2	<0.01	0.16	0.22		
2/3/2003	1126	0.5	8.80	45	0.4	0.0058	0.0063	4.00	4.00	<0.01	0.13	0.22		
4/1/2003	1144	1.2	7.54	127	2.2	<0.0025	0.0059	<1	1	<0.01	0.21	0.27		
5/15/2003	1005	4.4	8.20	79.1	5.2	0.0028	0.0075	8	4	<0.01	0.04	0.25		
6/11/2003	1043	6.8	7.77	47	4.4	0.0035	0.0076	1	<1	<0.01	0.10	0.33		
7/14/2003	1110	11.20	8.05	56.8	1.16	<0.0025	0.0058	2	1	<0.01	0.07	0.19		
8/12/2003	1059	11.72	7.90	64	1.6	0.0058	0.0092	2	2	<0.01	0.08	0.19		
10/8/2003	1149	5.4	8.80	65.2	0.76	0.0034	0.0574	1	<1	<0.01	0.10	0.20		
12/4/2003	1040	0.21	7.61	73	0.9	<0.0025	0.0077	5	2	<0.01	0.15	0.22		
2/2/2004														
4/6/2004	1137	2.7	7.77	100	3.8	<0.0025	0.0045	2	2	<0.01	0.17	0.25		
5/19/2004	1115	7.1	7.94	66	1.6	<0.0025	0.003	4	3	<0.01	0.06	0.21		
6/8/2004	1053	9.8	7.31	57	1.4	0.0032	0.0157	10	2	0.02	0.05	0.55		
7/12/2004	1054	11.3	8.63	65	1.0	0.0033	<0.0025	1	1	<0.01	0.09	0.23		
8/10/2004	1108	9.8	7.38	61	2.2	0.0026	0.0097	2	1	<0.01	0.14	0.33		
10/8/2004	1054	4.7	8.44	78	12.9	0.006	0.0126	10	3	<0.01	0.06	0.18		
12/1/2004	1139	0.05	7.9	68	0.8	<0.0025	0.0026		<1	<0.01	0.18	0.25		
05/26/05	1050	6.2	8.66	52	9.3	0.0036	0.015	8	2	<0.01	0.12	0.29		
10/13/05	1115	2.3	7.73	65	0.6	0.0033	0.0082	<1	<1	<0.001	0.09	0.19		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.0800
0.0700
0.0600
0.0500
0.0400
0.0300
0.0200
0.0100
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
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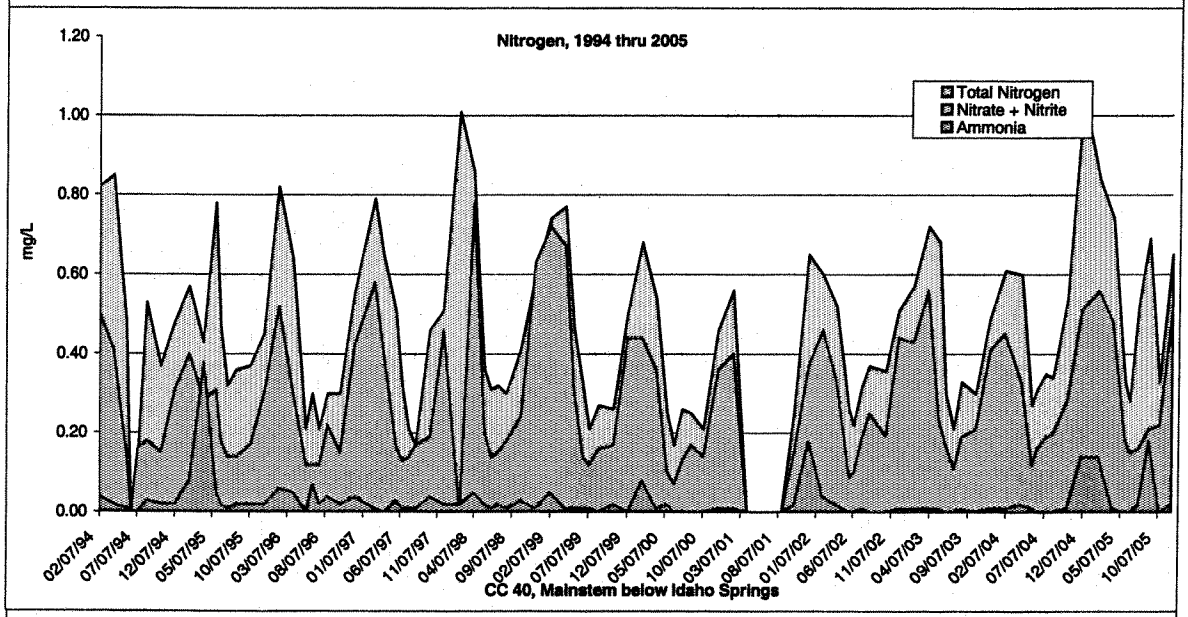
05/07/05
10/07/05
CC 40, Mainstem below Idaho Springs


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
1.20
1.00
0.80
0.60
0.40
0.20
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
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06/07/02
11/07/02
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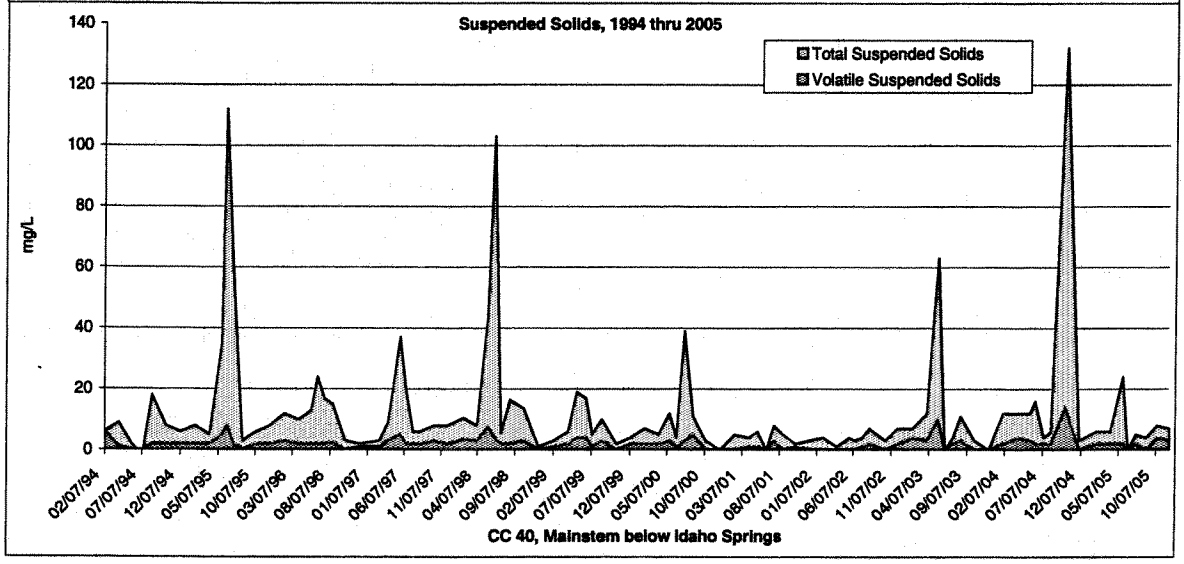
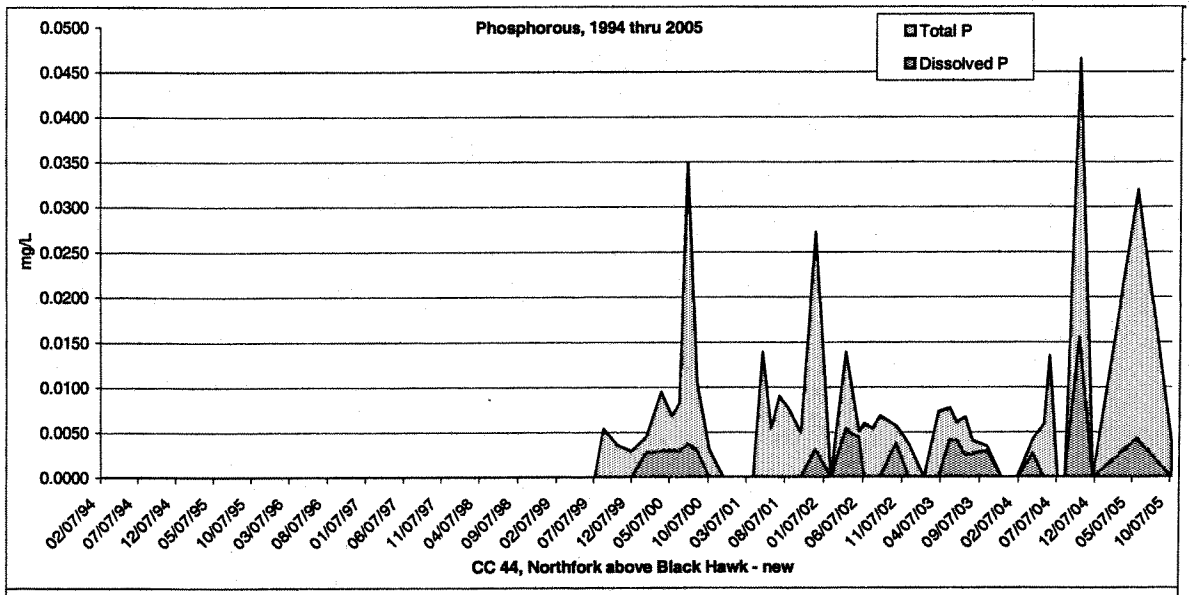
12/07/04
05/07/05
10/07/05
CC 40, Mainstem below Idaho Springs


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
140
120
100
80
60
40
20
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 40, Mainstem below Idaho Springs

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC40	**Mainstem below Idaho Springs**													
02/07/94	1250	3.7	7.32	175	3.30	0.0061	0.0340		6	0.04	0.50	0.82		0.24
04/05/94	715	0.4	7.61	324	3.33	0.0112	0.0491	8	1	0.02	0.41	0.85	13.8	0.25
05/26/94	900	6.8	7.33	104	4.00	0.0070	0.0371	2	<1	0.01	0.15	0.48	1.0	0.16
06/15/94														
07/11/94	830	11.2	7.84	119	1.20	0.0061	0.0101			<0.01	0.16	0.12	8.2	<0.10
08/16/94	915	13.1	7.88	152	3.70	0.0034	0.0334	16	2	0.03	0.18	0.53	8.1	<0.10
10/12/94	710	6.0	7.83	215	2.90	0.0034	0.0215	6	2	0.02	0.15	0.37	9.2	0.21
12/08/94	800	0.1	7.72	241	1.60	0.0056	0.0196	4	2	0.02	0.31	0.48	9.1	<0.10
02/06/95	815	0.9	7.74	344	3.98	0.0187	0.0747	6	2	0.08	0.40	0.57	11.0	0.17
04/04/95	900	3.8	7.90	263	2.39	0.0032	0.0197	3	2	0.38	0.28	0.43	15.0	
05/25/95	710	4.1	7.50	223	16.17	0.0052	0.0424	30	5	0.05	0.31	0.78	12.0	
06/14/95	650	6.2	7.44	129	38.80	0.0086	0.0661	104	8	0.02	0.18	0.47	9.0	
07/10/95	745	7.0	7.59	74	16.76	0.0081	0.0489	57	2	0.01	0.14	0.32		
08/15/95	710	9.9	7.69	115	1.71	0.0047	0.0110	3	<1	0.02	0.14	0.36		
10/11/95	700	4.8	7.59	198	2.37	0.0029	0.0080	4	2	0.02	0.17	0.37		
12/07/95	740	0.1	7.49	259	4.45	0.0083	0.0245	6	2	0.02	0.30	0.45		
02/05/96	915	0.5	7.28	322	4.18	0.0038	0.0494	9	3	0.06	0.52	0.82		
04/02/96	800	3.3	7.80	297	4.04	0.0039	0.0317	8	2	0.05	0.30	0.64		
05/23/96	630	7.2	7.55	94		<0.0025	0.0128	11	2	<0.01	0.12	0.21		
06/19/96	645	6.8	7.40	70	6.15	0.0051	0.0161	22	2	0.07	0.12	0.30		
07/15/96	915	10.7	7.37	93	1.41	<0.0025	0.0104	15	2	0.02	0.12	0.21		
08/20/96	700	10.6	7.67	150	7.53	0.0028	0.0326	13	3	0.04	0.22	0.30		
10/09/96	800	6.5	7.69	141	2.01	0.0037	0.0144	3	<1	0.02	0.15	0.30		
12/05/96	700	3.0	7.23	296	1.41	0.0067	0.0115	1	1	0.04	0.42	0.55		
02/24/97	800	0.0	7.66	342	1.26	0.0076	0.0221	2	1	0.01	0.58	0.79		
04/01/97	800	2.8	7.34	306	2.69	<0.0025	0.0197	6	3	<0.05	0.40	0.65		
05/22/97	645	6.5	7.56	119	9.45	<0.0025	0.0324	32	5	0.03	0.17	0.51		
06/18/97	700	7.0	7.81	83	6.81	<0.0025	0.0175	16	2	0.01	0.13	0.32		
07/14/97	800	9.5	7.52	98	1.84	<0.0025	0.0071	4	2	0.01	0.14	0.21		
08/12/97	730	9.5	7.59	114	1.74	<0.0025	0.0127	4	2	0.01	0.17	0.17		
10/08/97	730	7.5	7.80	188	2.89	0.0072	0.0335	5	3	0.04	0.19	0.46		
12/04/97	650	0.0	7.60	279	3.30	0.0051	0.0253	6	2	0.02	0.46	0.51		
02/09/98	730	1.0	7.33	303	3.60	0.0028	0.0278	7	4	0.02		1.01		
04/07/98	840	3.0	7.45	338	0.15	0.0064	0.0235	5	3	0.05	0.78	0.86		
05/21/98	820	6.0	7.70	138	11.53	<0.0025	0.0357	36	8	0.02	0.20	0.36		
06/17/98	813	7.0	8.02	99	1.70	<0.0025	0.0198	99	4	0.01	0.14	0.31		
07/13/98	853	11.0	7.68	90	2.39	<0.0025	0.0088	4	2	0.02	0.15	0.32		
08/18/98	820	12.0	7.63	143	3.46	<0.0025	0.0235	15	2	0.01	0.18	0.30		
10/14/98	915	6.0	7.85	193	1.62	<0.0025	0.0171	11	3	0.03	0.24	0.41		
12/10/98	750	0.0	7.73	312	1.45	0.0026	0.0098	1	<1	0.01	0.63	0.60		
02/08/99	0825	1.0	7.76	327	1.02	0.0052	0.0181	2	1	0.05	0.72	0.74		
04/07/99	0815	0.0	7.16	345	1.60	<0.0025	0.0162	4	2	0.01	0.67	0.77		
05/12/99	1010	3.7	7.31	270	11.00	0.0025	0.0208	15	4	0.01	0.31	0.47		
06/17/99	1000	8.1	7.66	90	6.40	<0.0025	0.0148	13	4	0.01	0.14	0.32		
07/12/99	1020	11.7	7.87	93	2.52	<0.0025	0.0074	4	1	0.01	0.12	0.21		
08/17/99	1005	11.7	7.64	124	8.77	0.0043	0.0091	7	3	<0.01	0.16	0.27		
10/13/99	1045	6.7	7.75	230	2.61	0.0031	0.0099	2	<1	0.02	0.17	0.26		
12/09/99	1045	0.0	7.75	321	2.40	<0.0025	0.0177	2	2	<0.01	0.44	0.50		
02/07/00	1000	0.9	7.70	154	3.6	0.0126	0.0397	5	2	0.08	0.44	0.68		
04/04/00	1000	4.6	7.61	349	4.1	0.0048	0.0192	3	2	0.01	0.36	0.54		
05/17/00	1035	6.0	8.28	138	5.6	<0.0025	0.0209	9	3	0.02	0.10	0.25		
06/15/00	1007	10.20	7.57	103.0	2.58	<0.0025	0.0067	3	1	<0.01	0.07	0.17		
07/17/00	1045	14.90	7.63	113	17.70	<0.0025	0.0281	36	3	<0.01	0.13	0.26		
08/22/00	1015	13.1	7.75	170	2.7	0.0029	0.0135	6	5	<0.01	0.17	0.25		
10/11/00	1045	6.9	8.19	194	1.8	<0.0025	0.0119	3	<1	<0.01	0.14	0.21		
12/07/00	0950	1.2	7.84	276	0.6	0.0042	0.0243			0.01	0.36	0.46		
02/05/01	1037	1.6	7.71	304	0.8	0.0068	0.0355	5	<1	0.01	0.40	0.56		
04/03/01	0952	4.5	7.31	294	0.2	0.0041	0.0211	3	1					
05/09/01	1040	8.4	7:59	379	7.6	0.0030	0.0203	5	1					
06/14/01	0937	4.60	8.06	83.0	3.45	<0.0025	0.0102	<1	<1					
07/16/01	1022	11.17	7.44	113	3.02	0.0056	0.0155	5	3					
08/21/01	1025	12.0	7.28	156	8.2	<0.003	0.0136	5	<1					
10/10/01	1010	3.4	7.78	173	1.3	<0.0025	0.0056	1	1	0.02	0.15	0.25		
12/06/01	1000	0.8	7.58	274	1.5	0.0493	0.0581	3	<1	0.18	0.37	0.65		
02/04/02	1109	0.1	6.78	364	1.7	0.0075	0.0205	4	< 1	0.04	0.46	0.60		
04/02/02	1055	1.9	7.29	183	1.12	0.0058	0.0202	1	< 1	0.02	0.33	0.52		
05/23/02	1010	6.7	8.11	153	4.4	0.003	0.0124	4	< 1	<0.01	0.09	0.26		
06/12/02	1030	12.3	7.95	102	2.11	<0.0025	0.0124	3	< 1	<0.01	0.10	0.22		
07/15/02	1040	15.8	8.08	199	2.2	0.0045	0.0143	3	1	0.01	0.19	0.32		
08/13/02	1023	12.7	7.80	237	3.1	0.0025	0.0119	5	2	<0.01	0.25	0.37		
10/16/02	1010	4.2	7.47	259	0.77	0.0084	0.0169	3	<1	<0.01	0.19	0.36		
12/05/02	1017	0.30	8.13	188	2.32	0.0215	0.0289	5	2	0.01	0.44	0.51		
2/3/2003	1143	0.1	8.02	376	3.0	0.0097	0.0256	3	4	0.01	0.43	0.57		
4/1/2003	1012	5.7	8.02	446	6.4	0.0027	0.015	9	3	0.01	0.56	0.72		
5/15/2003	1034	7.6	7.76	282	36.8	0.0026	0.0108	53	10	0.01	0.23	0.68		
6/11/2003	0945	7.6	8.20	94	4.5	0.0041	0.0095	<1	<1	<0.01	0.17	0.30		
7/14/2003	1044	11.93	7.88	99.0	2.2	<0.0025	0.0070	2	2	<0.01	0.11	0.21		
8/12/2003	0954	15.80	7.04	142	2.71	0.0031	0.0112	8	3	0.01	0.19	0.33		
10/8/2003	1036	7.0	7.84	185.0	2	0.0036	0.005	3	<1	<0.01	0.21	0.30		
12/4/2003	1029	0.2	7.75	61	0.17	0.0036	0.0079	<1	<1	0.01	0.41	0.49		
2/2/2004	1043	0	7.94	338	1.8	0.016	0.0371	10	2	0.01	0.45	0.61		
4/6/2004	1030	5.9	8.21	325	6.0	<0.0025	0.0175	8	4	0.02	0.33	0.6		
5/19/2004	1024	8.6	7.50	145	5.2	<0.0025	0.0035	9	3	0.01	0.12	0.27		
6/8/2004	1025	11.4	6.13	94	5.6	<0.0025	0.0148	14	2	<0.01	0.16	0.31		
7/12/2004	1037	13.1	7.61	127	1.8	0.0036	0.0121	2	2	<0.01	0.19	0.35		
8/10/2004	1007	13.4	7.69	144	1.8	0.0043	0.0126	4	2	<0.01	0.2	0.34		
10/6/2004	1034	6.1	7.82	199	138.8	0.0091	0.0418	118	14	0.01	0.28	0.54		
12/1/2004	1052	0	8.16	159	1.7	0.0259	0.0262	3	<1	0.14	0.51	1.04		
02/07/05	1020		8.27	358	1.4	0.0129	0.0369	4	2	0.14	0.56	0.84		
04/05/05	1002	3.6	9.10	352	2.4	0.0075	0.0182	4	2	0.01	0.48	0.74		
05/26/05	1048	7.6	7.42	104	29.1	0.0077	0.0328	22	2	<0.01	0.18	0.33		
06/15/05	1035	9.6	9.23	121	2.62	<0.0025	0.011	<4	<4	<0.01	0.15	0.28		
07/18/05	1020	13.4	8.09	110	5.8	0.0025	0.0104	3	2	0.02	0.16	0.52		
08/30/05	1056	12.3	8.09	145	1.4	0.0029	0.044	4	<1	0.18	0.21	0.69		
10/13/05	1055	4.4	8.50	222	2.3	<0.0025	0.0077	4	4	<0.001	0.22	0.33		
12/01/05	1025	0.03	8.60	304	0.7	0.0067	0.0166	4	3	0.02	0.51	0.65		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.0500
0.0450
0.0400
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
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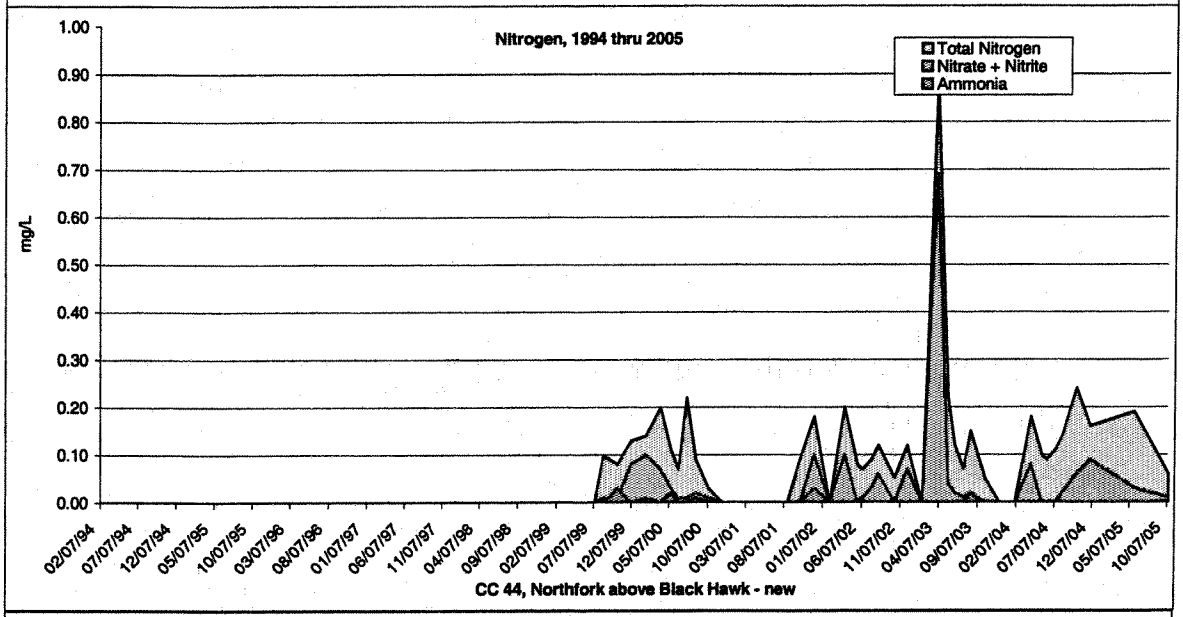
05/07/05
10/07/05
CC 44, Northfork above Black Hawk - new


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
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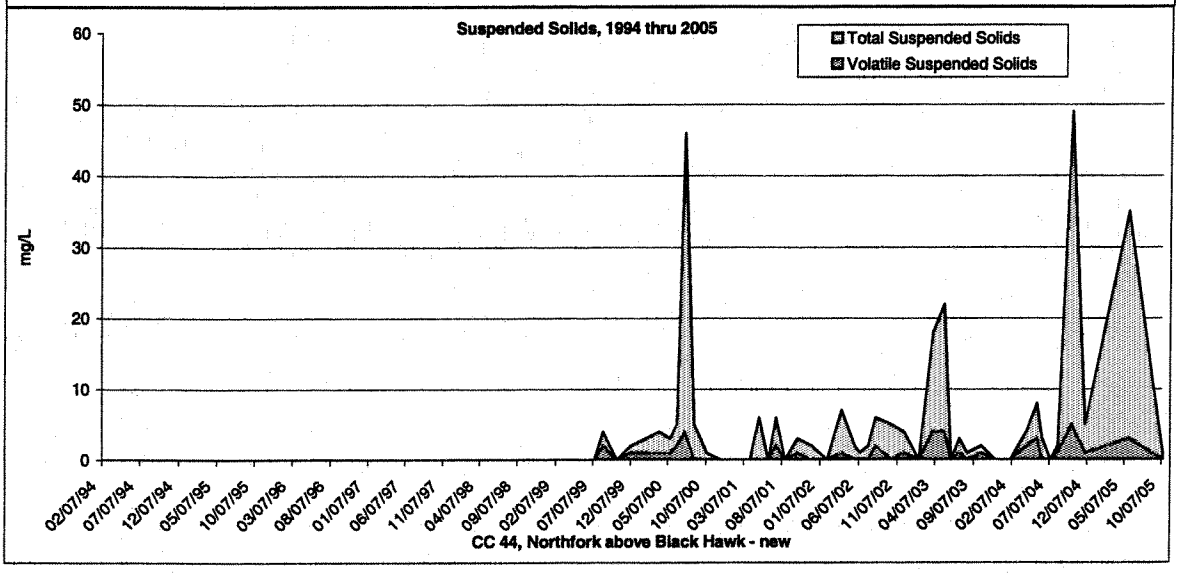
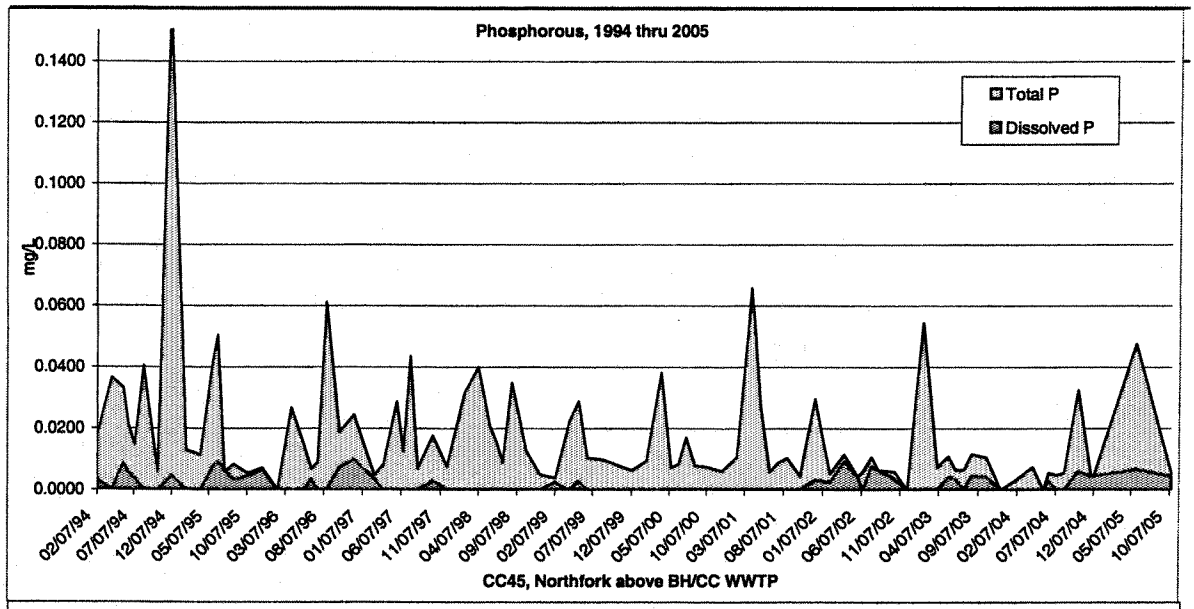
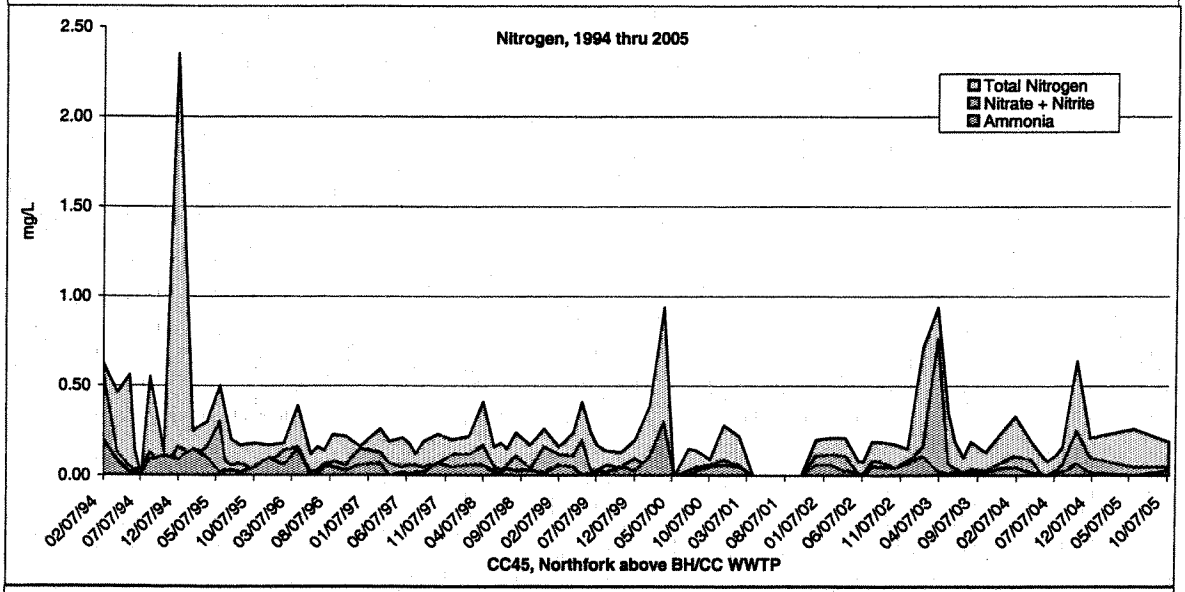
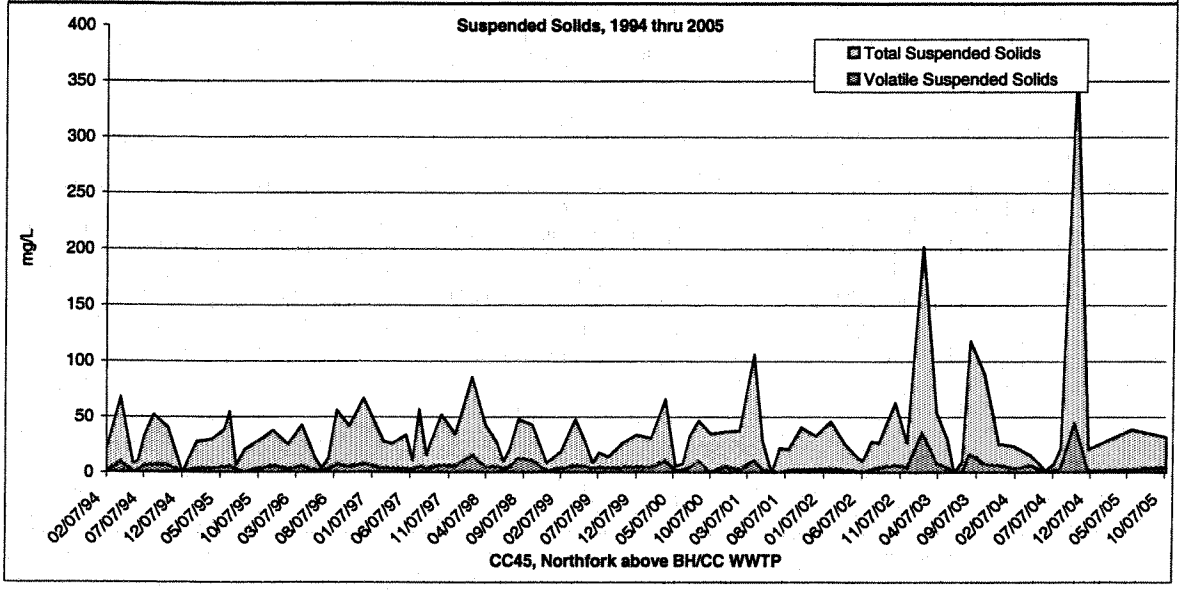
07/07/04
12/07/04
05/07/05
10/07/05
CC 44, Northfork above Black Hawk - new


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
60
50
40
30
20
10
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 44, Northfork above Black Hawk - new

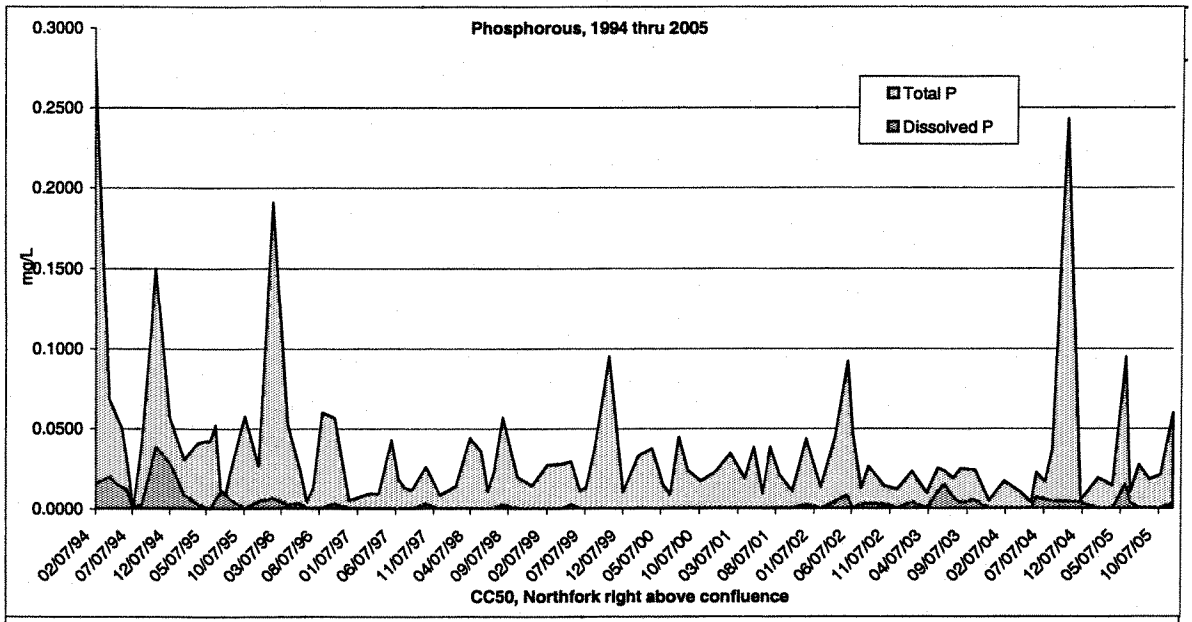
Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC44	**Northfork above Black Hawk-new**													
02/07/94														
04/05/94														
05/26/94														
06/15/94														
07/11/94														
08/16/94														
10/12/94														
12/08/94														
02/08/95														
04/04/95														
05/25/95														
06/14/95														
07/10/95														
08/15/95														
10/11/95														
12/07/95														
02/05/96														
04/02/96														
05/23/96														
06/19/96														
07/15/96														
08/20/96														
10/09/96														
12/05/96														
02/24/97														
04/01/97														
05/22/97														
06/18/97														
07/14/97														
08/12/97														
10/08/97														
12/04/97														
02/09/98														
04/07/98														
05/21/98														
06/17/98														
07/13/98														
08/18/98														
10/14/98														
12/10/98														
02/08/99														
04/07/99														
05/12/99														
06/17/99														
07/12/99														
08/17/99	1035	9.9	7.80	61	2.82	<0.0025	0.0054	2	2	<0.01	0.01	0.10		
10/13/99	1110	6.8	7.92	85	0.88	<0.0025	0.0036	<1	<1	0.03	0.01	0.08		
12/09/99	1120	0.1	7.89	92	0.80	<0.0025	0.0029	1	1	<0.01	0.08	0.13		
02/07/00	1040	1.3	7.68	57	1.9	0.0027	0.0045	2	1	0.01	0.10	0.14		
04/04/00	1030	2.8	7.56	118	3.5	0.0029	0.0095	3	1	<0.01	0.07	0.20		
05/17/00	1105	4.2	8.52	54	2.0	0.0029	0.0068	2	1	0.02	0.03	0.11		
06/15/00	1030	9.70	7.54	45.0	1.36	0.0029	0.0082	3	2	<0.01	0.01	0.07		
07/17/00	1120	14.20	7.71	67	39.00	0.0037	0.0349	42	4	<0.01	0.01	0.22		
08/22/00	1050	13.4	7.71	95	3.7	0.0031	0.0106	5		0.01	0.02	0.09		
10/11/00	1110	7.4	8.23	68	1.0	<0.0025	0.0031	1	<1	<0.01	0.01	0.03		
12/07/00	n/a													
02/05/01	1113													
04/03/01	1020													
05/08/01	1110	4.7	7.72	268	12.5	<0.0025	0.0139	6	<1					
06/14/01	1016	3.10	8.23	43.0	1.26	<0.0025	0.0054	<1	<1					
07/16/01	1049	11.03	7.40	87	1.87	<0.0025	0.0090	4	2					
08/21/01	1055	10.8	7.54	115	4.1	<0.003	0.0077	<1	<1					
10/10/01	1029	5.1	7.56	84	1.2	<0.0025	0.0049	2	1			0.09		
12/06/01	1029	2.2	7.51	174	0.9	0.0031	0.0272	2	<1	0.03	0.10	0.18		
02/04/02	n/a													
04/02/02	1125	0.1	7.32	63	3.92	0.0053	0.0139	6	1	<0.01	0.10	0.20		
05/23/02	1048	5.5	7.90	59	1.3	0.0044	0.0051	2	< 1	<0.01	<0.01	0.08		
06/12/02	1050	10.4	7.99	46	0.83	<0.0025	0.006	1	< 1	<0.01	0.01	0.07		
07/15/02	1102	15.0	8.01	80	0.9	<0.0025	0.0054	2	<1	<0.01	0.03	0.09		
08/13/02	1054	12.2	7.83	117	3.5	<0.0025	0.0068	4	2	<0.01	0.06	0.12		
10/16/02	1038	4.0	7.72	134	0.37	0.0038	0.0057	5	<1	<0.01	<0.01	0.05		
12/05/02	1050	0.40	8.49	70	0.34	<0.0025	0.0037	3	1	<0.01	0.07	0.12		
2/3/2003														
4/1/2003	1042	3.0	7.83	560	8.3	<0.0025	0.0073	14	4	<0.01	0.69	0.88		
5/15/2003	1105	3.9	7.84	78	18.8	0.0041	0.0077	18	4	<0.01	0.04	0.22		
6/11/2003	1007	6.3	7.69	48	1.03	0.0041	0.0061	<1	<1	<0.01	0.02	0.12		
7/14/2003	1111	12.26	7.62	60.0	6.5	0.0025	0.0067	2	1	<0.01	0.01	0.07		
8/12/2003	1020	14.50	7.28	84	0.61	0.0026	0.0041	1	<1	0.02	0.02	0.15		
10/8/2003	1144	7.9	7.76	105.0	0.8	0.0029	0.0034	1	1	<0.01	<0.01	0.05		
12/4/2003														
2/2/2004														
4/6/2004	1052	3.6	7.97	113	1.8	0.0026	0.0043	2	2	<0.01	0.08	0.18		
5/19/2004	1049	7.1	7.23	57	4.3	<0.0025	0.0059	5	3	<0.01	<0.01	0.1		
6/8/2004	1047	10.2	5.41	48	0.9	<0.0025	0.0135	3	<1	<0.01	<0.01	0.09		
7/12/2004	1057	10.8	7.62	71	1.3	<0.0025	<0.0025	<1	<1	<0.01	<0.01	0.11		
8/10/2004	1028	12.4	7.66	89	1.2	<0.0025	<0.0025	1	1	<0.01	0.02	0.14		
10/6/2004	1109	4.3	7.79	122	50.0	0.0156	0.0465	44	5	<0.01	0.06	0.24		
12/1/2004	1120	0.2	8.5	83	0.8		<0.0025	4	1	<0.01	0.09	0.16		
05/26/05	1118	5.8	7.47	49	27.9	0.0043	0.0319	32	3	<0.01	0.03	0.19		
10/13/05	1115	3.7	8.76	94	1.3		0.004	1	<1	<0.001	0.01	0.06		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.1400
0.1200
0.1000
0.0800
0.0600
0.0400
0.0200
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC45, Northfork above BH/CC WWTP


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
2.50
2.00
1.50
1.00
0.50
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC45, Northfork above BH/CC WWTP


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
400
350
300
250
200
150
100
50
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC45, Northfork above BH/CC WWTP

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC45	**Northfork above Black Hawk**													
02/07/94	1237	5.3	5.76	178	27.00	0.0032	0.0180	21		0.20	0.56	0.62		< 0.10
04/05/94	1010	5.5	6.26	451	48.80	<0.0025	0.0365	58	10	0.08	0.13	0.46	31.6	0.15
05/26/94	1015	6.3	6.70	87	13.00	0.0087	0.0332	8	<1	0.02	0.05	0.56	2.0	0.32
06/15/94	930	9.4	7.18	98	6.40	0.0057	0.0211	8	2	0.02	0.03	0.14	9.2	0.14
07/11/94	1000	13.5	6.86	234	24.50	0.0037	0.0148	26	7	0.01	0.04	<0.1	7.1	<0.10
08/16/94	1025	16.2	6.10	483	50.50	<0.0025	0.0404	45	7	0.09	0.13	0.55	13.2	<0.10
10/12/94	1025	10.0	6.26	549	34.60	<0.0025	0.0060	34	7	0.11	0.03	0.13	22.4	<0.10
12/08/94	1018	2.8	5.51	620	>200	0.0047	0.1590	*3680	*320	0.09	0.16	2.35	32.4	5.30
02/08/95	1020	2.5	6.39	898	33.80	<0.0025	0.0131	24	4	0.15	0.11	0.25	31.0	<0.10
04/04/95	1003	5.8	6.85	448	29.60	<0.0025	0.0114	26	4	0.10	0.16	0.30	24.0	
05/25/95	902	3.5	7.20	154	29.10	0.0077	0.0422	34	5	0.02	0.30	0.50	7.0	
08/14/95	945	5.6	7.50	108	21.60	0.0091	0.0503	49	6	0.03	0.08	0.36	8.0	
07/10/95	1000	7.7	7.44	100	3.52	0.0064	0.0060	4	3	0.03	0.06	0.20		
08/15/95	1000	10.9	6.52	318	28.50	0.0033	0.0084	21	<1	0.02	0.07	0.17		
10/11/95	950	4.0	6.06	479	31.80	0.0045	0.0053	25	4	0.05	0.03	0.18		
12/07/95	1009	3.7	6.12	685	33.50	0.0085	0.0072	32	6	0.10	0.07	0.17		
02/05/96	945	3.4	6.23	696	33.60	<0.0025	<0.0025	22	4	0.06	0.14	0.18		
04/02/96	950	0.1	7.02	338	36.50	<0.0025	0.0267	37	6	0.15	0.16	0.39		
05/23/96	959	6.3	7.29	65		<0.0025	0.0143	12	2	<0.01	0.02	0.12		
08/19/96	925		7.53	39	0.89	0.0036	0.0069	2	2	0.01	0.03	0.16		
07/15/96	905	11.2	7.02	204	13.40	<0.0025	0.0089	10	3	0.05	0.06	0.14		
08/20/96	945	9.9	6.51	390	47.30	<0.0025	0.0611	49	8	0.05	0.08	0.23		
10/09/96	920	5.8	5.80	165	36.50	0.0073	0.0188	37	6	0.03	0.06	0.22		
12/05/96	955	0.2	6.25	670	48.70	0.0099	0.0244	59	8	0.06	0.15	0.16		
02/24/97	955	1.1	6.49	670	35.80	0.0038	0.0048	24	4	0.07	0.13	0.26		
04/01/97	945	2.9	6.86	327	24.50	<0.0025	0.0084	22	4	<0.05	0.07	0.19		
05/22/97	955	5.4	7.40	77	12.03	<0.0025	0.0287	30	4	0.02	0.05	0.21		
08/18/97	940	7.4	7.72	93	4.48	<0.0025	0.0124	9	2	0.01	0.06	0.18		
07/14/97	1020	10.3	7.00	173	16.92	<0.0025	0.0435	51	6	0.02	0.06	0.12		
08/12/97	940	9.5	6.61	298	16.77	<0.0025	0.0069	12	4	0.02	0.05	0.19		
10/08/97	915	6.3	6.21	519	39.80	0.0029	0.0176	45	7	0.07	0.07	0.23		
12/04/97	925	0.5	6.50	537	33.20	<0.0025	0.0075	29	6	0.05	0.12	0.20		
02/09/98	925	1.3	6.67	616	39.90	<0.0025	0.0314	71	16	0.06	0.12	0.22		
04/07/98	945	2.2	6.55	435	0.82	<0.0025	0.0400	37	6	0.06	0.17	0.41		
05/21/98	930	6.0	7.65	101	8.79	<0.0025	0.0210	22	6	0.02	0.05	0.16		
06/17/98	930	6.3	8.17	121	4.40	<0.0025	0.0156	7	3	0.02	0.03	0.18		
07/13/98	935	10.8	6.77	197	10.70	<0.0025	0.0088	16	6	0.04	0.06	0.15		
08/18/98	930	12.8	6.65	260	17.33	<0.0025	0.0349	35	13	0.03	0.11	0.24		
10/14/98	920	6.3	6.40	471	42.20	<0.0025	0.0128	32	11	0.03	0.04	0.17		
12/10/98	905	3.7	5.73	734	6.15	<0.0025	0.0050	7	2	0.02	0.16	0.26		
02/08/99	0905	4.5	6.26	740	14.90	0.0026	0.0039	15	4	0.06	0.12	0.16		
04/07/99	1050	7.2	6.13	610	29.00	<0.0025	0.0224	42	6	0.05	0.11	0.24		
05/12/99	1100	5.7	7.32	153	17.70	0.0029	0.0288	25	6	0.01	0.20	0.41		
08/17/99	1105	8.9	7.31	92	3.00	<0.0025	0.0105	5	4	0.01	0.03	0.24		
07/12/99	1055	13.5	7.26	186	9.16	<0.0025	0.0103	13	5	0.03	0.03	0.17		
08/17/99	1100	12.0	7.42	149	10.90	<0.0025	0.0098	10	4	0.02	0.06	0.14		
10/13/99	1135	8.0	6.86	440	28.90	<0.0025	0.0081	22	5	0.05	0.05	0.13		
12/09/99	1135	0.2	6.44	511	23.90	<0.0025	0.0064	29	5	0.03	0.10	0.20		
02/07/00	1055	2.5	6.33	622	35.1	<0.0025	0.0095	26	5	0.11	0.03	0.39		
04/04/00	1050	6.5	6.77	571	47.2	<0.0025	0.0382	55	11	0.30	0.17	0.94		
05/17/00	1120	4.0	5.06	104	3.8	<0.0025	0.0072	4	2					
08/15/00	1050	10.80	7.08	126.0	6.1	<0.0025	0.0084	6	2	0.01	0.01	0.07		
07/17/00	1135	16.30	6.99	199	14.50	<0.0025	0.0171	28	5	0.01	0.03	0.15		
08/22/00	1115	15.9	6.33	547	62.0	<0.0025	0.0080	36	11	0.03	0.05	0.14		
10/11/00	1125	8.9	6.85	417	40	<0.0025	0.0074	35	<1	0.05	0.06	0.09		
12/07/00	1040	2.6	6.63	548	8.6	<0.0025	0.0061	31	6	0.06	0.09	0.26		
02/05/01	1120	3.9	6.54	734	11.6	<0.0025	0.0107	35	3	0.05	0.06	0.22		
04/03/01	1028	6.0	6.50	482	11.7	<0.0025	0.0657	95	11					
05/09/01	1155	6.6	7.05	356	28.8	<0.0025	0.0272	25	3					
08/14/01	1032	3.50	7.74	105.0	2.2	<0.0025	0.0059	<1	<1					
07/16/01	0011	12.95	6.85	238	14.6	<0.0025	0.0087	22	<1					
08/21/01	1115	12.4	6.99	322	27.7	<0.003	0.0104	19	2					
10/10/01	1044	4.2	6.73	600	271.0	<0.0025	0.0045	38	3					
12/06/01	1040	3.1	6.53	609	39.9	0.0032	0.0295	30	3	0.06	0.11	0.20		
02/04/02	1150	1.7	6.35	806	39.1	0.0025	0.0052	42	4	0.06	0.12	0.21		
04/02/02	1225	0.4	6.45	221	31.6	0.0092	0.0115	23	3	0.03	0.11	0.21		
05/23/02	1105	6.8	7.26	198	4.8	0.0042	0.0044	12	1	0.01	0.01	0.08		
08/12/02	1110	12.2	7.44	147	9.41	<0.0025	0.006	10	1	<0.01	0.01	0.08		
07/15/02	1119	17.8	6.78	537	35.3	0.0076	0.0107	25	3	0.05	0.08	0.19		
08/13/02	1100	14.8	6.96	662	51.5	0.0064	0.0065	22	5	0.05	0.08	0.19		
10/16/02	1045	4.5	6.70	678	57	0.0035	0.0059	58	7	0.05	0.05	0.18		
12/05/02	1102	2.20	7.94	442	30.3	<0.0025	<0.0025	22	5	0.07	0.08	0.15		
2/3/2003	1229	1.0	7.13	3099	256.8	<0.0025	0.0543	166	36	0.11	0.18	0.72		
4/1/2003	1100	6.3	7.50	746	38.8	<0.0025	0.0073	45	9	0.03	0.76	0.94		
5/15/2003	1119	4.5	7.63	136	29.3	0.0043	0.0109	25	5	0.01	0.07	0.35		
6/11/2003	1017	7.3	8.03	91	1.23	0.0036	0.0066	<1	<1	0.02	0.04	0.19		
7/14/2003	1129	13.68	7.39	191.0	8.6	<0.0025	0.0065	9	1	0.02	0.02	0.10		
8/12/2003	1035	15.60	7.20	284	95.4	0.0045	0.0116	101	17	0.02	0.04	0.19		
10/8/2003	1158	9.7	6.94	426.0	72.3	0.0044	0.0106	81	8	0.02	0.03	0.13		
12/4/2003	1101	1.1	7.56	289	29.1	<0.0025	<0.0025	19	7	0.04	0.07	0.23		
2/2/2004	1124	0.27	6.89	624	25.9	<0.0025	0.0032	20	4	0.05	0.11	0.33		
4/6/2004	1107	5.0	6.45	321	8.9	<0.0025	0.0074	9	7	0.02	0.09	0.19		
5/19/2004	1105	8.2	6.79	120	5.0	<0.0025	<0.0025	4	3	<0.01	0.01	0.11		
6/8/2004	1103	11.7	7.74	107	2.1	0.003	0.0055	2	<1	<0.01	<0.01	0.08		
7/12/2004	1111	12.6	7.22	174	4.5	<0.0025	0.0048	6	2	0.02	0.03	0.11		
8/10/2004	1038	15.2	7.10	284	16.3	<0.0025	0.0055	17	5	0.02	0.06	0.16		
10/6/2004	1122	5.6	7.22	286	466.6	0.006	0.0325	320	45	0.07	0.25	0.64		
12/1/2004	1137	0.3	7.92	224	18.4	0.0045	0.003	20	1	0.02	0.1	0.21		
05/26/05	1134	6.7	7.15	82	34.6	0.0087	0.0475	36	3	<0.01	0.05	0.26		
10/13/05	1125	6.0	8.39	456	27.5	0.0045	0.0057	27	5	0.03	0.05	0.19		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.3000
0.2500
0.2000
0.1500
0.1000
0.0500
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
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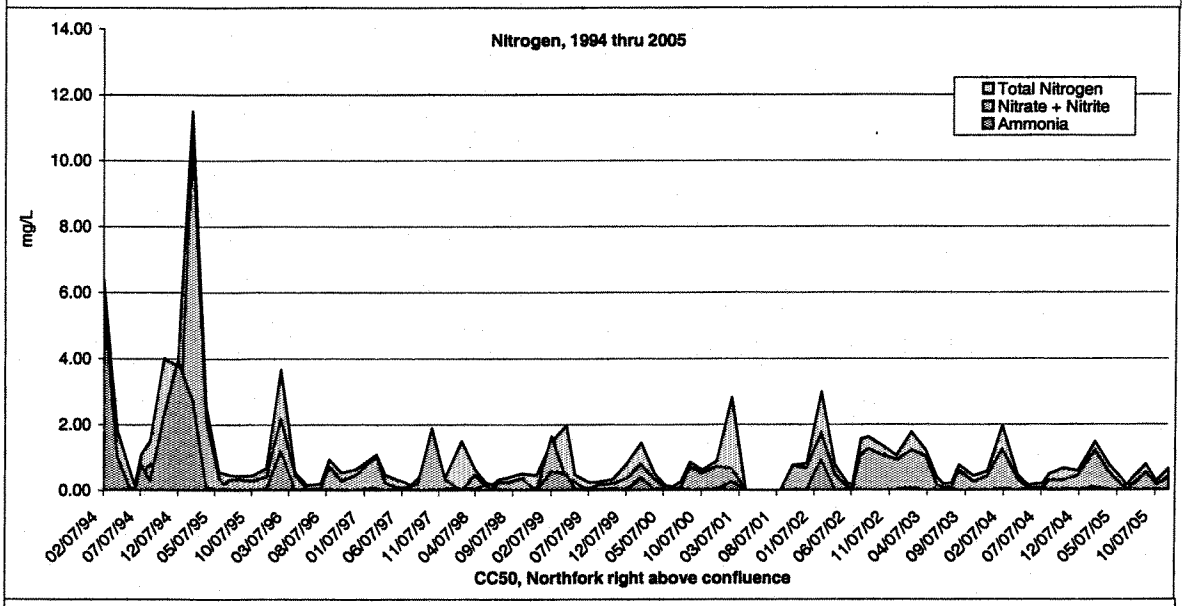
07/07/04
12/07/04
05/07/05
10/07/05
CC50, Northfork right above confluence


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
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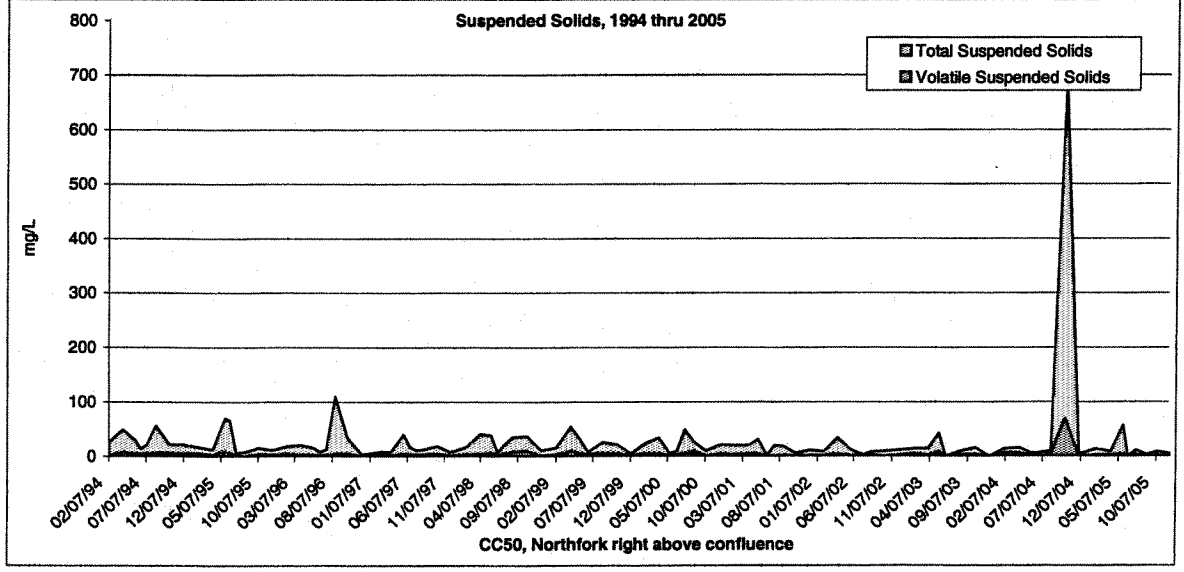
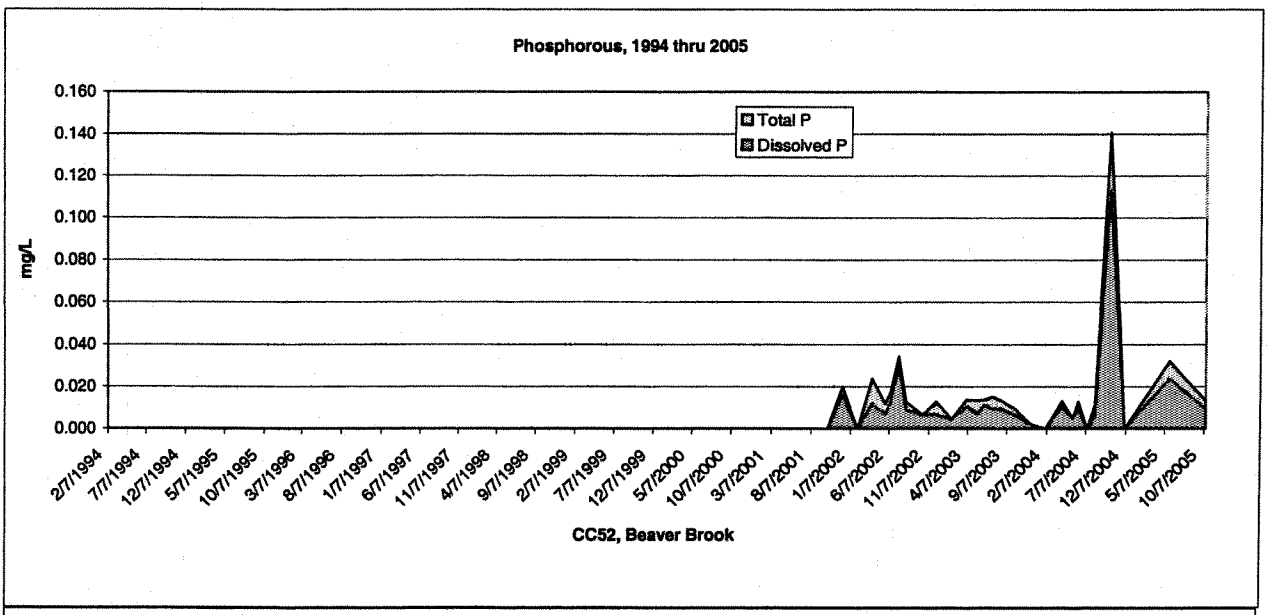
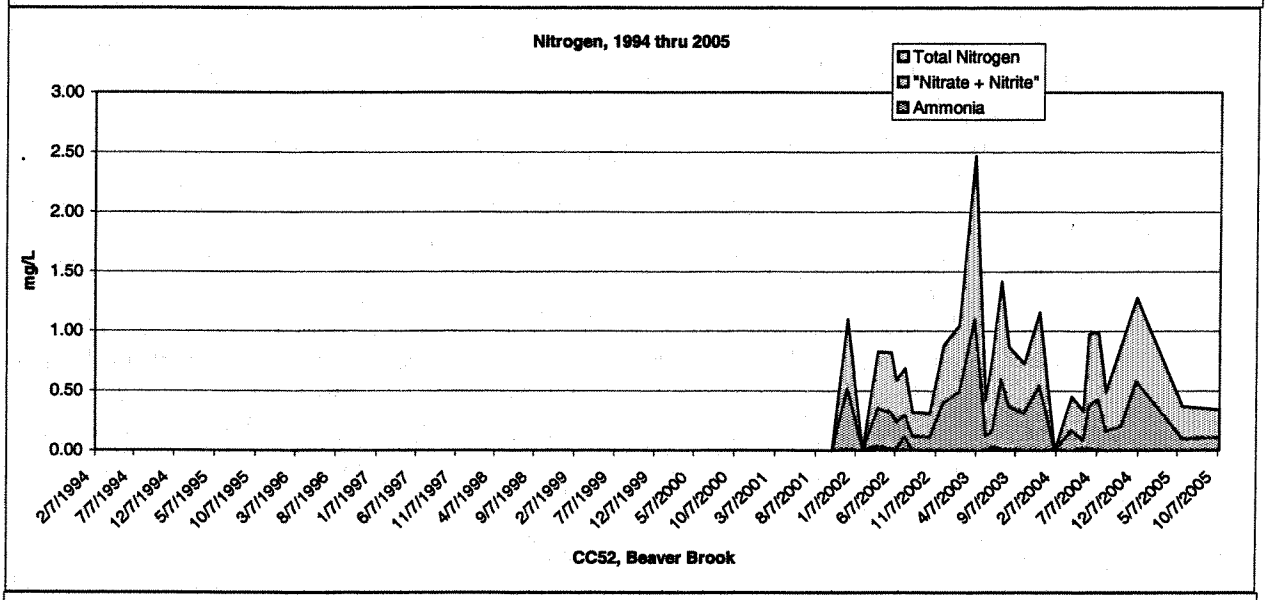
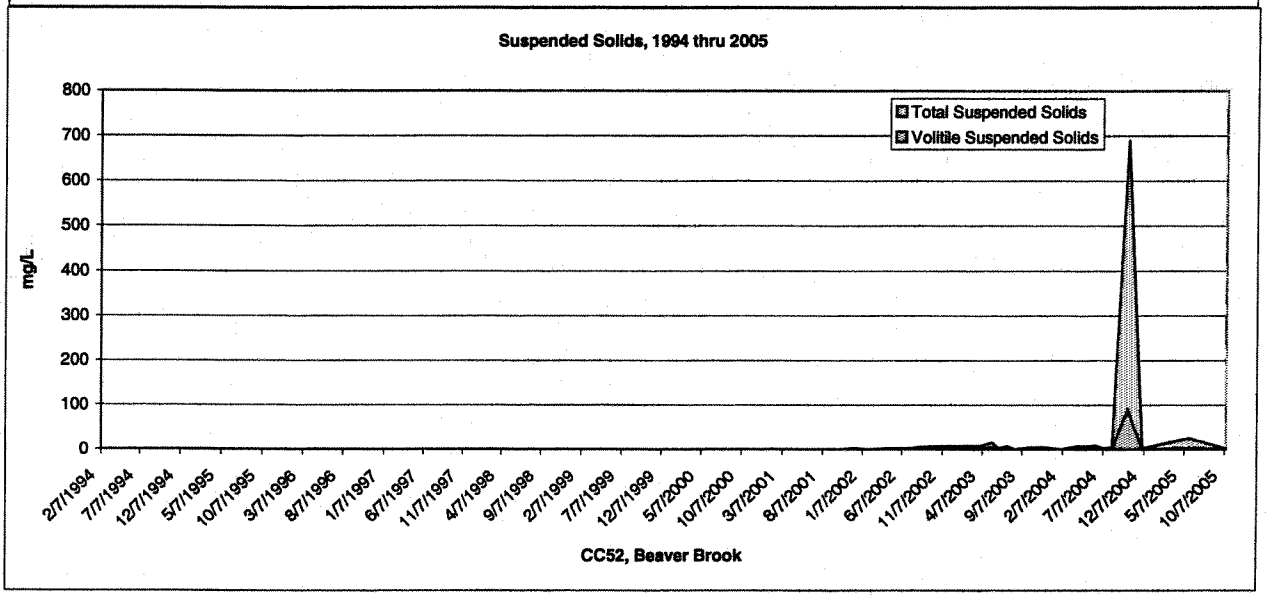
07/07/04
12/07/04
05/07/05
10/07/05
CC50, Northfork right above confluence


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
800
700
600
500
400
300
200
100
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC50, Northfork right above confluence

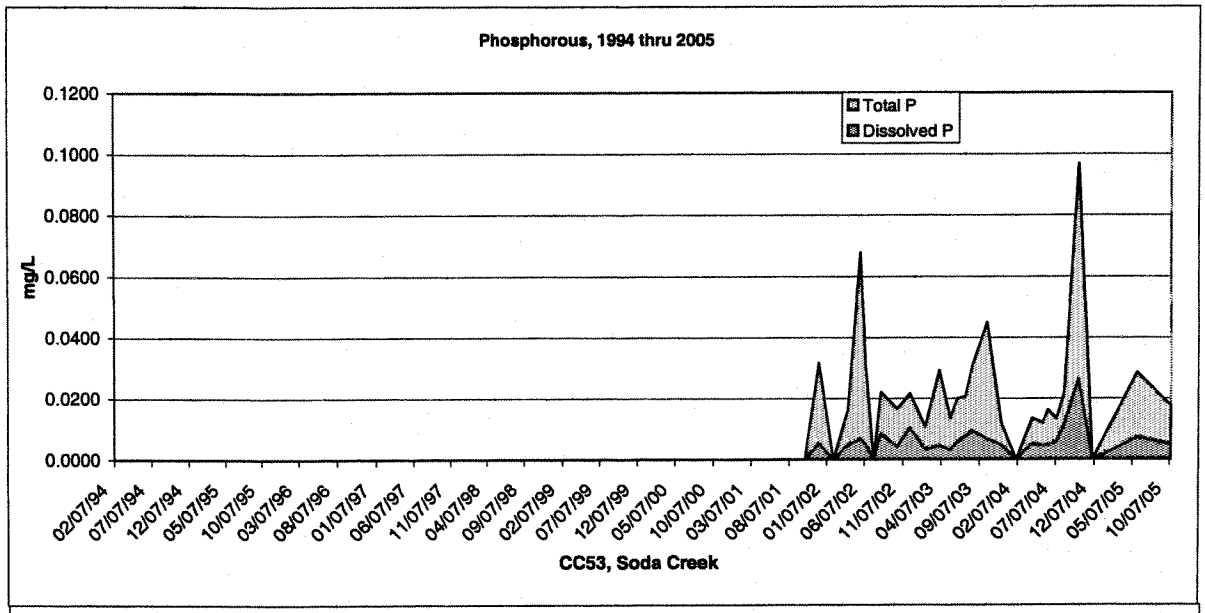
Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC50	**Northfork right above confluence**													
02/07/94	1255	3.6	7.15	181	32.00	0.0157	0.2800	26		5.70	0.28	6.40		6.40
04/05/94	1050	3.6	7.32	398	26.80	0.0198	0.0687	41	8	1.04	0.32	1.85	26.7	1.40
05/26/94	1100	7.8	7.05	107	13.10	0.0134	0.0500	26	4	0.07	0.08	0.61	5.0	0.29
06/15/94	1050	10.1	7.47	119	3.80	0.0122	0.0311	10	4	<0.01	0.06	0.16	8.2	<0.10
07/11/94	1045	15.7	7.28	306	11.80			17	5	0.78	0.45	1.10	12.2	0.96
08/16/94	1100	16.5	6.78	407	40.00	0.0031	0.0420	50	6	0.28	0.82	1.51	23.4	0.36
10/12/94	1100	10.0	7.11	535	16.50	0.0367	0.1500	16	6	2.32	0.30	4.02	29.6	2.82
12/08/94	1105	0.8	6.61	577	30.00	0.0287	0.0570	18	4	3.94	0.53	3.78	39.5	3.58
02/06/95	1110	4.1	6.86	770	8.91	0.0087	0.0307	12	5	2.75	10.50	11.50	38.0	1.06
04/04/95	1035	7.3	6.94	492	8.96	0.0032	0.0411	10	3	0.10	2.14	2.56	36.0	
05/25/95	1028	5.0	7.14	225	34.90	<0.0025	0.0426	60	10	0.03	0.39	0.56	16.0	
06/14/95	1035	8.0	7.11	155	28.00	0.0058	0.0520	60	6	0.03	0.20	0.52	8.0	
07/10/95	1045	10.0	7.40	136	3.76	0.0113		6	1	0.03	0.32	0.47		
08/15/95	1035	13.9	7.29	122	8.35	0.0058	0.0240	8	<1	<0.01	0.35	0.45		
10/11/95	1040	7.0	6.99	428	12.10	<0.0025	0.0576	12	4	0.01	0.29	0.46		
12/07/95	1043	3.6	4.11	553	11.19	0.0049	0.0265	9	3	0.03	0.42	0.68		
02/05/96	1040	2.0	6.93	596	17.03	0.0067	0.1911	15	4	1.20	2.19	3.66		
04/02/96	1045	6.3	7.39	397	25.60	0.0028	0.0529	18	3	0.03	0.51	0.56		
05/23/96	1053	8.2	7.39	84		0.0035	0.0241	14	2	0.01	0.04	0.16		
06/19/96	1045	10.1	7.30	101	3.09	<0.0025	0.0045	6	2	0.01	0.05	0.18		
07/15/96	1050	18.0	7.02	228	6.27	<0.0025	0.0134	12	2	0.01	0.06	0.20		
08/20/96	1045	14.3	6.82	386	118.90	<0.0025	0.0601	106	4	0.03	0.72	0.94		
10/09/96	1035		6.81	164	29.30	0.0036	0.0566	31	4	0.01	0.30	0.54		
12/05/96	1037	3.0	6.81	589	2.21		0.0054	4	<1	0.02	0.46	0.65		
02/24/97	1050	1.8	6.88	650	12.20	<0.0025	0.0098	6	3	0.09	1.06	1.10		
04/01/97	1055	5.2	7.31	390	10.53	<0.0025	0.0093	6	2	<0.05	0.23	0.49		
05/22/97	1032	6.4	7.32	117	14.64	<0.0025	0.0429	36	4	0.01	0.08	0.32		
06/18/97	1040	10.2	7.58	140	7.75	<0.0025	0.0188	15	3	0.01	0.10	0.26		
07/14/97	1055	13.4	7.31	221	5.90	<0.0025	0.0131	8	3	0.01	0.12	0.17		
08/12/97	1040	13.3	7.32	309	9.16	<0.0025	0.0117	10	3	<0.01	0.23	0.38		
10/08/97	1012	7.5	7.06	530	26.20	0.0032	0.0261	15	4	0.01	1.89	1.07		
12/04/97	1015	0.8	7.03	561	7.11	<0.0025	0.0087	6	2	0.03	0.34	0.41		
02/09/98	1010	1.8	6.93	557	17.35	<0.0025	0.0143	15	3	0.05		1.51		
04/07/98	1015	3.0	7.03	403	0.76	<0.0025	0.0441	37	4	0.04	0.48	0.64		
05/21/98	1000	8.0	7.58	129	11.32	<0.0025	0.0359	32	7	0.18	0.09	0.24		
06/17/98	1010	6.3	7.82	147	3.14	<0.0025	0.0109	5	2	0.01	0.06	0.18		
07/13/98	950		7.44	243	6.95	<0.0025	0.0235	15	6	0.01	0.25	0.34		
08/18/98	1000	13.4	7.35	295	13.25	0.0028	0.0568	26	9	0.01	0.25	0.40		
10/14/98	1000	7.5	7.09	516	34.30	<0.0025	0.0197	27	10	0.02	0.38	0.52		
12/10/98	1010		7.07	649	7.70	<0.0025	0.0146	10	1	0.01		0.47		
02/08/99	1010	6.5	6.79	654	13.60	<0.0025	0.0274	13	3	0.58	1.65	1.50		
04/07/99	1100	5.3	6.21	657	36.90	<0.0025	0.0281	44	10	0.51	0.34	1.98		
05/12/99	1130	5.9	7.56	266	22.10	0.0027	0.0295	26	6	0.01	0.28	0.49		
06/17/99	1130	11.4	7.66	129	3.30	<0.0025	0.0114	5	3	0.01	0.07	0.34		
07/12/99	1130	16.8	7.60	220	11.10	<0.0025	0.0131	11	5	0.01	0.07	0.25		
08/17/99	1125	14.7	7.00	302	19.90	<0.0025	0.0378	20	6	0.01	0.17	0.26		
10/13/99	1155	10.3	7.41	425	31.40	<0.0025	0.0952	17	5	0.04	0.21	0.34		
12/09/99	1205	0.4	7.27	1622	2.90	<0.0025	0.0103	4	1	0.02	0.37	0.82		
02/07/00	1120	3.5	7.34	557	40.4	<0.0025	0.0329	19	5	0.39	0.80	1.45		
04/04/00	1110	7.7	7.60	530	29.9	<0.0025	0.0375	29	5	0.03	0.33	0.50		
05/17/00	1150	5.0	8.31	130	5.3	<0.0025	0.0154	5	1	0.02	0.06	0.16		
06/15/00	1105	13.50	7.36	150.0	3.9	<0.0025	0.0089	7	3	0.02	0.04	0.12		
07/17/00	1150	18.40	7.49	190	30.80	<0.0025	0.0447	43	6	0.05	0.10	0.27		
08/22/00	1135	17.7	7.35	510	29.0	<0.0025	0.0241	17	10	0.01	0.72	0.86		
10/11/00	1150	11.1	7.60	202	4.8	<0.0025	0.0174	10	<1	0.02	0.52	0.62		
12/07/00	1105	1.8	7.05	515	15.1	<0.0025	0.0227	17	4	0.03	0.72	0.89		
02/05/01	1144	3.4	7.48	638	14.0	<0.0025	0.0345	17	3	0.27	0.67	2.82		
04/03/01	1040	8.4	7.19	511	3.3	<0.0025	0.0190	16	4	I/e	I/e	I/e		
05/09/01	1215	10.9	7.11	399	33.7	<0.0025	0.0384	27	4	I/e	I/e	I/e		
06/14/01	1100	5.30	7.29	144.0	3.3	<0.0025	0.0095	2	<1	I/e	I/e	I/e		
07/16/01	1125	15.87	7.23	290	12.4	<0.0025	0.0385	20	<1	I/e	I/e	I/e		
08/21/01	1135	15.2	7.02	379	34.8	<0.003	0.0211	18	1	I/e	I/e	I/e		
10/10/01	1108	5.6	7.65	1057	18.5	<0.0025	0.0112	5	1	0.02	0.75	0.77		
12/06/01	1110	3.0	7.29	628	32.4	0.0027	0.0437	11	1	0.02	0.68	0.83		
02/04/02	1209	0.3	6.20	745	23.3	<0.0025	0.0134	8	1	0.94	1.75	2.99		
04/02/02	1205	0.6	6.66	380	42.1	0.0043	0.0443	30	4	0.01	0.47	0.78		
05/23/02	1124	9.3	7.33	274	13.9	0.0085	0.0923	13	< 1	<0.01	0.10	0.21		
06/12/02	1130	15.4	7.62	212	8.73	<0.0025	0.0467	8	1	<0.01	0.03	0.18		
07/15/02	1144	21.4	7.30	585	5.7	0.0028	0.0129	3	<1	0.02	1.10	1.56		
08/13/02	1128	16.4	7.32	707	37.5	0.0032	0.0264	6	2	0.01	1.25	1.63		
10/16/02	1128	6.8	6.85	965	18.7	0.003	0.0143	10	<1	<0.01	1.06	1.33		
12/05/02	1122	2.90	7.50	464	22.5	<0.0025	0.0122	10	2	0.02	0.92	1.06		
2/3/2003	1251	3.3	7.41	902	27.3	0.0041	0.0233	9	5	0.08	1.23	1.78		
4/1/2003	1120	9.3	7.85	740	14.5	<0.0025	0.0099	12	2	<0.01	1.04	1.22		
5/15/2003	1135	6.1	7.54	192	41.7	0.0104	0.0254	34	8	<0.01	0.18	0.42		
6/11/2003	1040	9.7	8.22	122	3.29	0.0152	0.0236	<1	<1	<0.01	0.06	0.19		
7/14/2003	1150	17.12	7.45	266.0	6.1	0.0074	0.0189	4	2	0.01	0.11	0.23		
8/12/2003	1054	20.20	7.16	363	6.04	0.0038	0.0250	7	3	0.01	0.60	0.78		
10/8/2003	1218	12.3	8.21	497.0	20.1	0.0055	0.0241	13	3	<0.01	0.26	0.45		
12/4/2003	1119	1.9	7.29	319	6.88	<0.0025	0.0051	<1	<1	0.01	0.44	0.59		
2/2/2004	1145	0.83	7.64	714	26.6	<0.0025	0.0173	8	6	0.03	1.26	1.97		
4/6/2004	1121	7.5	8.07	402	12.0	<0.0025	0.0108	10	6	<0.01	0.35	0.47		
5/19/2004	1126	10.6	7.09	160	10.4	<0.0025	0.004	4	3	0.02	0.05	0.16		
6/8/2004	1120	14.1	7.81	162	2.5	0.0071	0.0226	6	<1	0.01	0.09	0.19		
7/12/2004	1128	16.2	7.34	228	4.3	0.0059	0.0168	7	1	<0.01	0.08	0.21		
8/10/2004	1054	16.6	7.49	347	7.5	0.005	0.0369	7	3	0.01	0.31	0.51		
10/6/2004	1140	7.0	7.33	299	838.0	0.0043	0.2431	615	70	0.03	0.32	0.68		
12/1/2004	1151	1.4	7.73	302	5.6	0.0042	0.0054	4	<1	0.03	0.45	0.59		
02/07/05	1110		8.13	379	17.6	<0.0025	0.0193	12	2	0.1	1.22	1.49		
04/05/05	1046	4	8.80	452	15.2	<0.0025	0.0145	7	2	0.02	0.53	0.78		
05/26/05	1155	8.9	7.31	105	49.4	0.0154	0.095	53	4	<0.01	0.17	0.36		
06/15/05	1125	11	8.99	141	4.81	0.0041	0.0106	<4	<4	<0.01	0.06	0.17		
07/18/05	1055	16.9	8.25	286	16.9	<0.0025	0.0273	10	2	0.02	0.23	0.47		
08/30/05	1048	15.9	7.69	442	10.6	.0.0025	0.0183	3	<1	0.03	0.54	0.8		
10/13/05	1145	8.2	8.07	502	17.1	<0.0025	0.0212	8	1	<0.001	0.18	0.29		
12/01/05	1045	1.05	8.53	675	21.4	0.0033	0.0596	3	2	0.02	0.4	0.66		

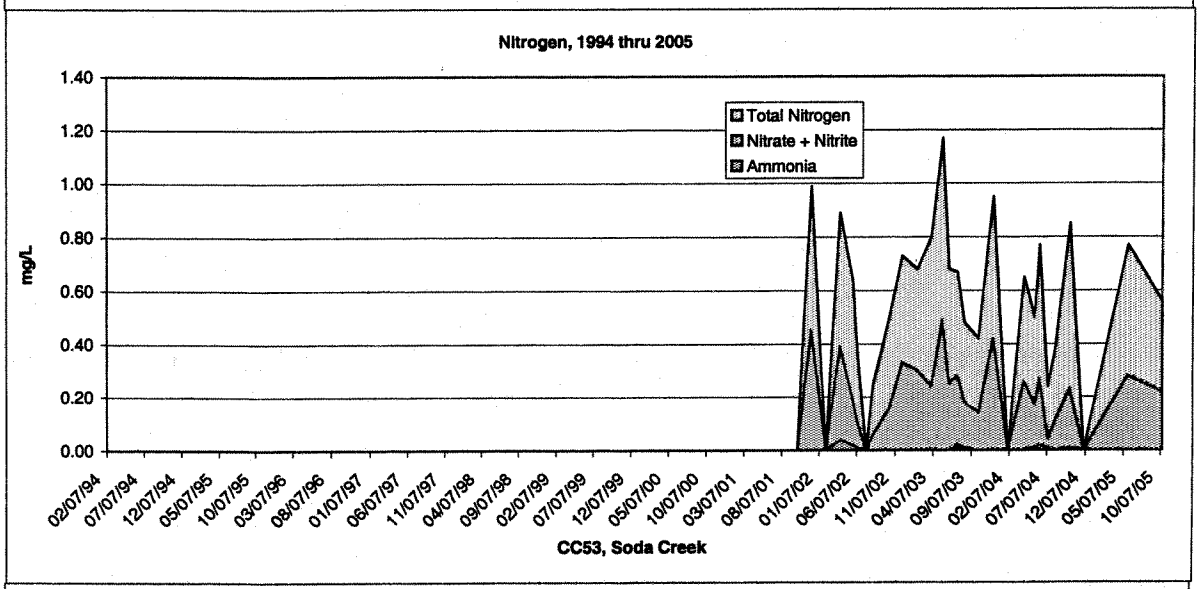

Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.160
0.140
0.120
0.100
0.080
0.060
0.040
0.020
0.000
2/7/1994
7/7/1994
12/7/1994
5/7/1995
10/7/1995
3/7/1996
8/7/1996
1/7/1997
6/7/1997
11/7/1997
4/7/1998
9/7/1998
2/7/1999
7/7/1999
12/7/1999
5/7/2000
10/7/2000
3/7/2001
8/7/2001
1/7/2002
6/7/2002
11/7/2002
4/7/2003
9/7/2003
2/7/2004
7/7/2004
12/7/2004
5/7/2005
10/7/2005
CC52, Beaver Brook

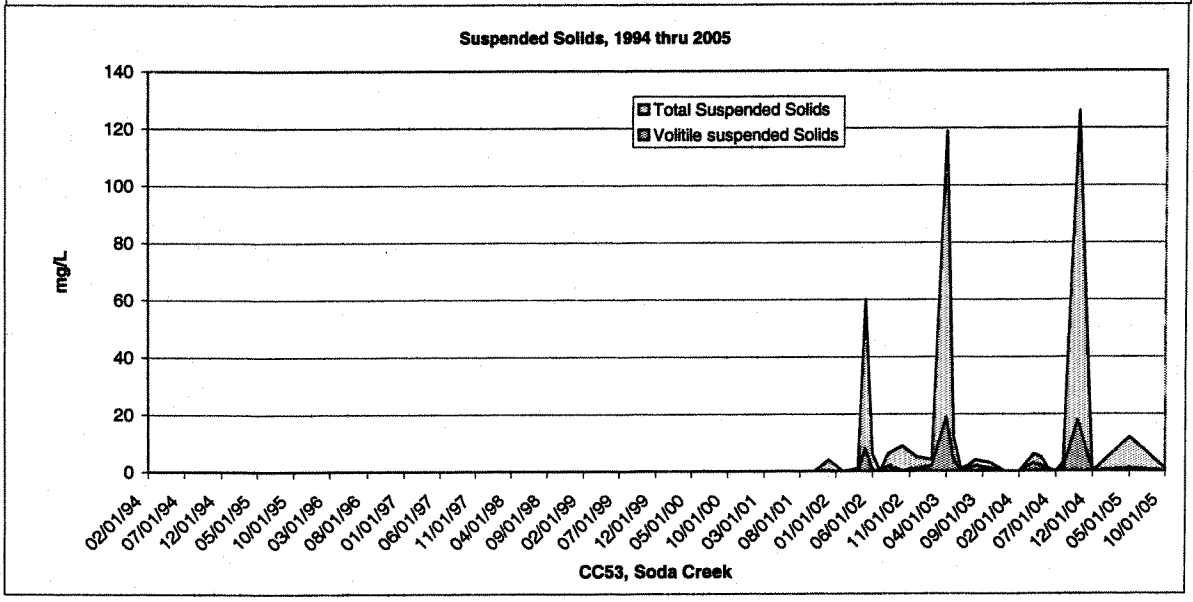

Nitrogen, 1994 thru 2005
Total Nitrogen
"Nitrate + Nitrite"
Ammonia
mg/L
3.00
2.50
2.00
1.50
1.00
0.50
0.00
2/7/1994
7/7/1994
12/7/1994
5/7/1995
10/7/1995
3/7/1996
8/7/1996
1/7/1997
6/7/1997
11/7/1997
4/7/1998
9/7/1998
2/7/1999
7/7/1999
12/7/1999
5/7/2000
10/7/2000
3/7/2001
8/7/2001
1/7/2002
6/7/2002
11/7/2002
4/7/2003
9/7/2003
2/7/2004
7/7/2004
12/7/2004
5/7/2005
10/7/2005
CC52, Beaver Brook


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volitile Suspended Solids
mg/L
800
700
600
500
400
300
200
100
0
2/7/1994
7/7/1994
12/7/1994
5/7/1995
10/7/1995
3/7/1996
8/7/1996
1/7/1997
6/7/1997
11/7/1997
4/7/1998
9/7/1998
2/7/1999
7/7/1999
12/7/1999
5/7/2000
10/7/2000
3/7/2001
8/7/2001
1/7/2002
6/7/2002
11/7/2002
4/7/2003
9/7/2003
2/7/2004
7/7/2004
12/7/2004
5/7/2005
10/7/2005
CC52, Beaver Brook

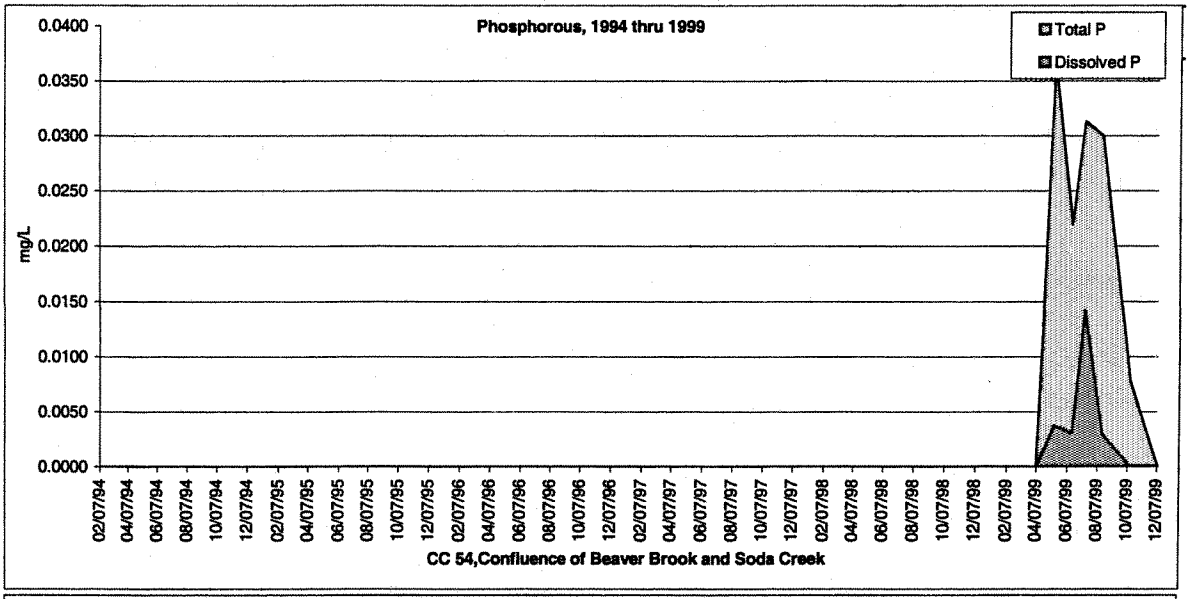
Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC52	**Beaver Brook**													
02/07/94														
04/05/94														
05/26/94														
06/15/94														
07/11/94														
08/16/94														
10/12/94														
12/08/94														
02/06/95														
04/04/95														
05/25/95														
06/14/95														
07/10/95														
08/15/95														
10/11/95														
12/07/95														
02/05/96														
04/02/96														
05/23/96														
06/19/96														
07/15/96														
08/20/96														
10/09/96														
12/05/96														
02/24/97														
04/01/97														
05/22/97														
06/18/97														
07/14/97														
08/12/97														
10/08/97														
12/04/97														
02/09/98														
04/07/98														
05/21/98														
06/17/98														
07/13/98														
08/18/98														
10/14/98														
12/10/98														
02/08/99														
04/07/99														
05/12/99														
06/17/99														
07/12/99														
08/17/99														
10/13/99														
12/08/99														
02/07/00														
04/04/00														
05/17/00														
06/15/00														
07/17/00														
08/22/00														
10/11/00														
12/07/00														
02/05/01														
04/03/01														
05/09/01														
06/14/01														
07/16/01														
08/21/01														
10/10/01														
12/06/01	1145	0.1	7.20	477	1.9	0.0040	0.0160	3	<1	0.01	0.51	0.58		
02/04/02	1007													
04/02/02	1126	0.1	7.80	272	3.6	0.0119	0.012	2	< 1	0.04	0.31	0.48		
05/23/02	1140	9.0	8.34	327	0.97	0.0051	0.0068	3	< 1	0.01	0.31	0.50		
06/12/02	1142	13.3	8.29	398	2.7	0.0045	0.0126	2	1	0.01	0.23	0.35		
07/15/02	1055	14.8	7.45	413	3.97	0.0047	0.0296	3	<1	0.12	0.18	0.39		
08/13/02	1115	11.5	8.08	628		0.0037	0.0091	3	3	<0.01	0.12	0.20		
10/16/02	1046	2.7	7.98	499	2.2	<0.0025	0.0066	5	2	<0.01	0.11	0.20		
12/05/02	1129	0.04	8.15	567	10.6	0.008	0.0069	5	2	<0.01	0.40	0.48		
2/3/2003	1154	0.4	8.40	284	0.3	<0.0025	0.0045	4	4	<0.01	0.49	0.56		
4/1/2003	1213	3.9	7.43	578	13.5	0.0033	0.0106	6	2	<0.01	1.10	1.37		
5/15/2003	1035	7.6	8.09	176	3.8	0.0063	0.0072	11	5	<0.01	0.12	0.30		
6/11/2003	1108	12.3	7.62	206	16.7	0.0026	0.0113	3	<1	0.03	0.14	0.63		
7/14/2003	1135	15.00	8.25	609.0	6.87	0.0059	0.0095	7	1	0.02	0.58	0.82		
8/12/2003	1123	15.02	7.77	567	2.1	0.0042	0.0095	<1	<1	0.01	0.36	0.50		
10/8/2003	1210	8.3	7.70	620.0	0.99	0.0029	0.0067	4	1	<0.01	0.31	0.42		
12/4/2003	1114	0.04	7.88	611	0.6	<0.0025	0.0025	3	2	<0.01	0.54	0.62		
2/2/2004														
4/6/2004	1227	6.6	8.07	275	4.6	0.0026	0.0105	5	3	<0.01	0.17	0.28		
5/19/2004	1129	12.5	7.76	232	3.8	<0.0025	0.0052	6	1	0.02	0.07	0.24		
6/8/2004	1121	13.8	7.98	477	4.3	0.003	0.0099	8	1	0.02	0.35	0.61		
7/12/2004	1117	15.3	7.88	65	1.3	<0.0025	<0.0025	1	1	<0.01	0.43	0.56		
8/10/2004	1135	115.0	7.58	248	18.7	0.0055	0.0057	5	1	<0.01	0.16	0.33		
10/6/2004	1115	7.4	7.67	372	448.0	0.0277	0.1131	600	90	<0.01	0.21	0.68		
12/1/2004	1209	0.01	7.73	590	3.0	<0.0025	<0.0025	3	<1	<0.01	0.58	0.7		
05/26/05	1215	11.3	8.09	183	18.7	0.0082	0.0239	24	2	<0.01	0.1	0.27		
10/13/05	1142	5.7	7.80	312	2.1	0.0038	0.0094	2	<1	<0.001	0.11	0.23		

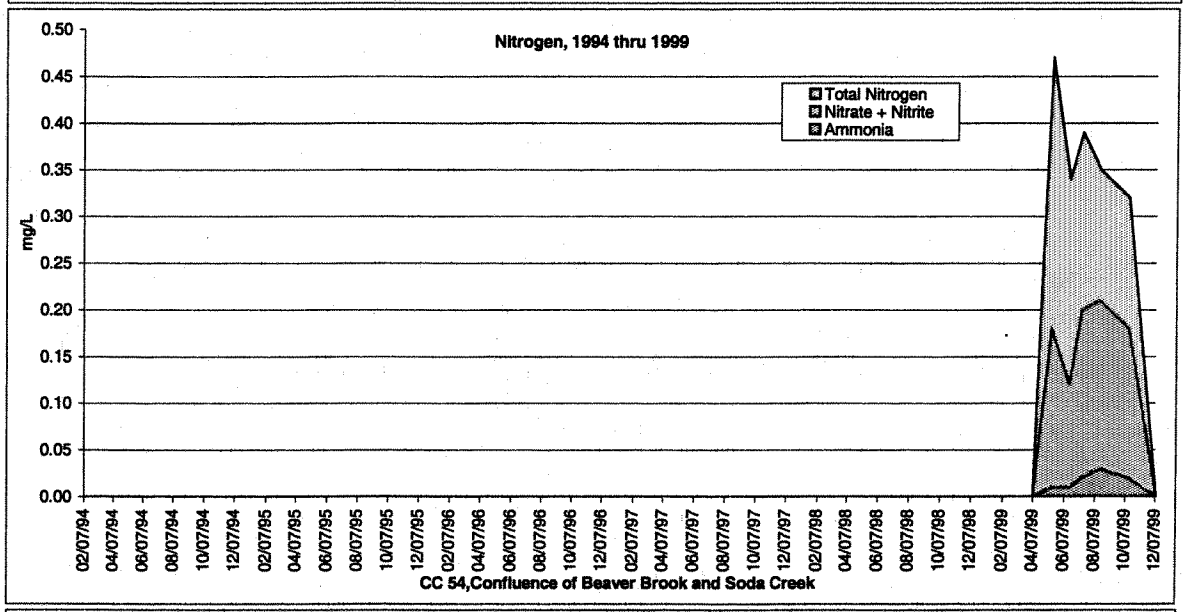

Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.1200
0.1000
0.0800
0.0600
0.0400
0.0200
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC53, Soda Creek

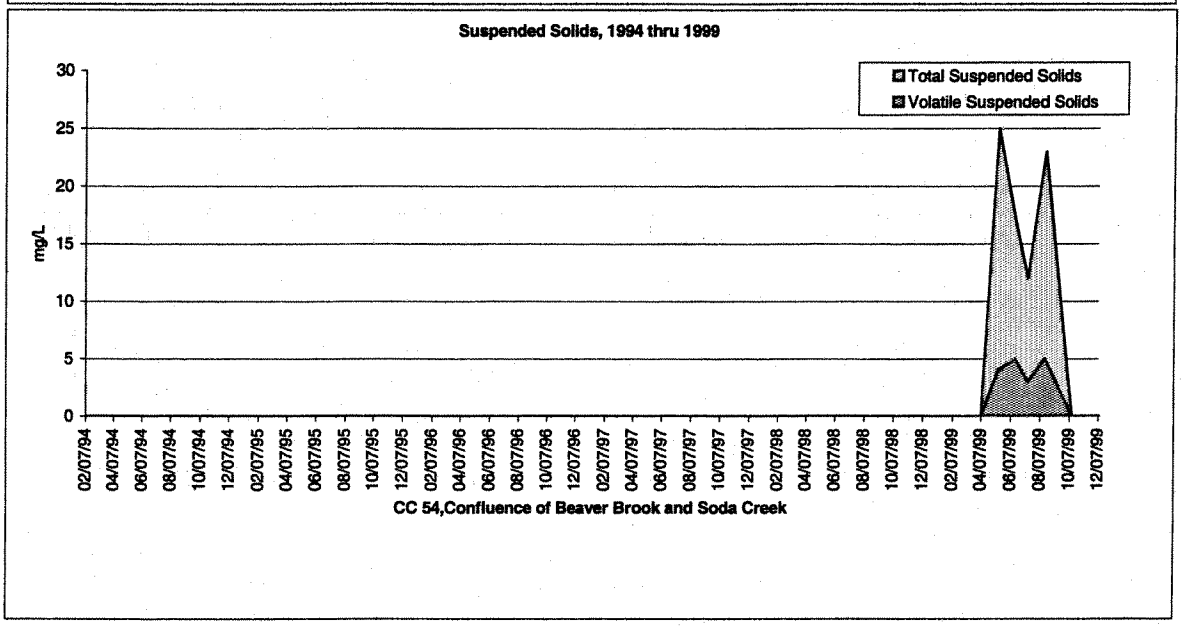

Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC53, Soda Creek


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volitile suspended Solids
mg/L
140
120
100
80
60
40
20
0
02/01/94
07/01/94
12/01/94
05/01/95
10/01/95
03/01/96
08/01/96
01/01/97
06/01/97
11/01/97
04/01/98
09/01/98
02/01/99
07/01/99
12/01/99
05/01/00
10/01/00
03/01/01
08/01/01
01/01/02
06/01/02
11/01/02
04/01/03
09/01/03
02/01/04
07/01/04
12/01/04
05/01/05
10/01/05
CC53, Soda Creek

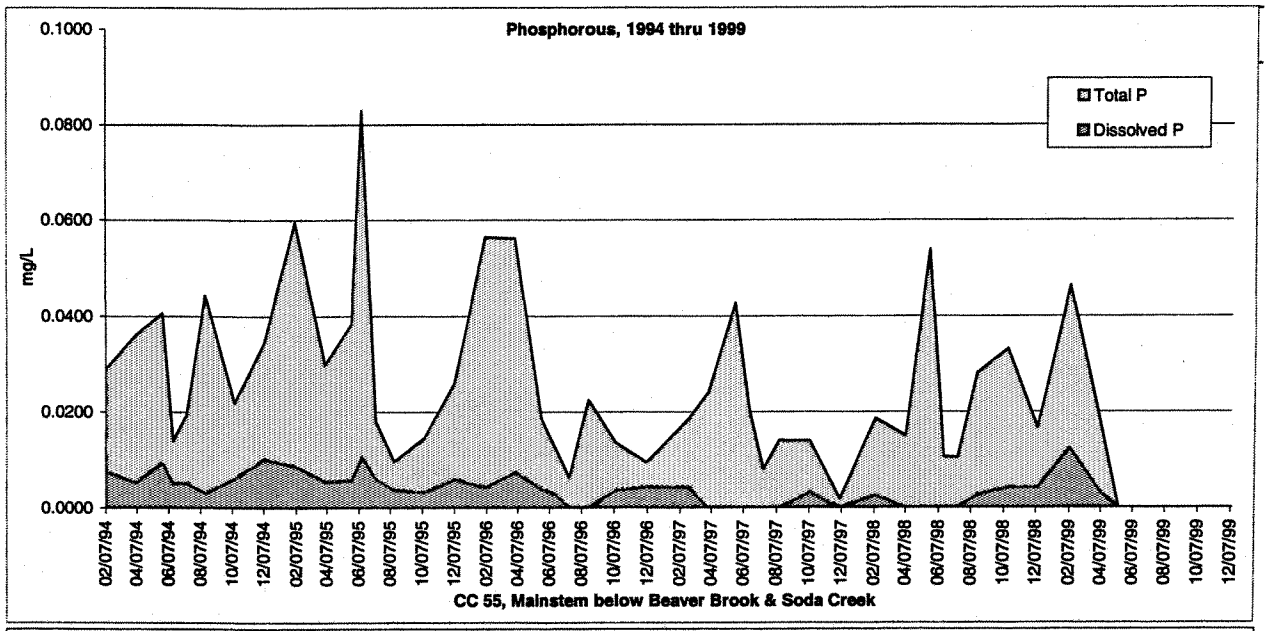
Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC53	**Soda Creek**													
02/07/94														
04/05/94														
05/26/94														
06/15/94														
07/11/94														
08/16/94														
10/12/94														
12/08/94														
02/06/95														
04/04/95														
05/25/95														
06/14/95														
07/10/95														
08/15/95														
10/11/95														
12/07/95														
02/05/96														
04/02/96														
05/23/96														
06/19/96														
07/15/96														
08/20/96														
10/09/96														
12/05/96														
02/24/97														
04/01/97														
05/22/97														
06/18/97														
07/14/97														
08/12/97														
10/08/97														
12/04/97														
02/09/98														
04/07/98														
05/21/98														
06/17/98														
07/13/98														
08/18/98														
10/14/98														
12/10/98														
02/08/99														
04/07/99														
05/12/99														
06/17/99														
07/12/99														
08/17/99														
10/13/99														
12/09/99														
02/07/00														
04/04/00														
05/17/00														
06/15/00														
07/17/00														
08/22/00														
10/11/00														
12/07/00														
02/05/01														
04/03/01														
05/09/01														
06/14/01														
07/16/01														
08/21/01														
10/10/01														
12/06/01	1155	2.2	7.41	585	2.4	0.0053	0.0264	4	<1	<0.01	0.45	0.54		
02/04/02	1015													
04/02/02	1145	2.1	8.15	459	1.2	0.0048	0.0113	1	< 1	0.04	0.35	0.50		
05/23/02	1125	9.6	8.20	346	35.4	0.0089	0.061	52	8	0.02	0.17	0.45		
06/12/02	1200	14.6	7.95	430	9.5	0.0049	0.0264	6	< 1	0.01	0.09	0.28		
07/15/02														
08/13/02	1130	13.3	8.15	697		0.0085	0.0136	4	2	<0.01	0.06	0.19		
10/16/02	1100	6.1	7.85	614	1.2	0.0042	0.0123	9	<1	<0.01	0.16	0.34		
12/05/02	1142	1.38	8.25	669	0.7	0.0105	0.0112	4	1	<0.01	0.33	0.40		
2/3/2003	1211	0.2	8.20	300	0.9	0.0034	0.0073	2	2	<0.01	0.30	0.38		
4/1/2003	1230	5.5	7.56	445	126.3	0.0045	0.0247	100	19	<0.01	0.24	0.58		
5/15/2003	1045	9.1	7.85	316	3.1	0.0032	0.0103	8	4	<0.01	0.49	0.66		
6/11/2003	1119	14.0	7.63	348	5.2	0.0058	0.0142	1	<1	<0.01	0.25	0.43		
7/14/2003	1150	15.30	8.26	637.0	1.66	0.0078	0.0130	1	1	0.02	0.26	0.39		
8/12/2003	1136	15.99	7.79	581	1.5	0.0094	0.0218	2	2	0.01	0.17	0.30		
10/8/2003	1220	10.4	7.20	590.0	1.01	0.0067	0.0383	2	1	<0.01	0.14	0.28		
12/4/2003	1127	1.6	7.93	611	1.5	0.0048	0.0072	<1	<1	<0.01	0.42	0.53		
2/2/2004														
4/6/2004	1240	8.8	8.14	456	4.2	0.0051	0.0084	3	3	<0.01	0.26	0.39		
5/19/2004	1140	13.8	7.58	394	1.0	0.0046	0.0074	3	2	0.01	0.16	0.33		
6/8/2004	1132	14.0	7.85	550	1.7	0.0047	0.0116	1	<1	0.02	0.25	0.5		
7/12/2004	1131	16.9	8.00	488	1.2	0.0059	0.0075	<1	<1	0.01	0.03	0.2		
8/10/2004	1146	16.3	7.61	482	2.3	0.0114	0.0103	2	1	<0.01	0.11	0.27		
10/6/2004	1125	8.6	7.80	379	87.2	0.0265	0.0704	108	18	0.01	0.22	0.62		
12/1/2004														
05/26/05	1220	11.7	7.84	267	13.7	0.0072	0.0214	11	1	<0.01	0.28	0.49		
10/13/05	1200	7.3	7.81	702	1.7	0.005	0.0126	1	<1	<0.001	0.22	0.34		

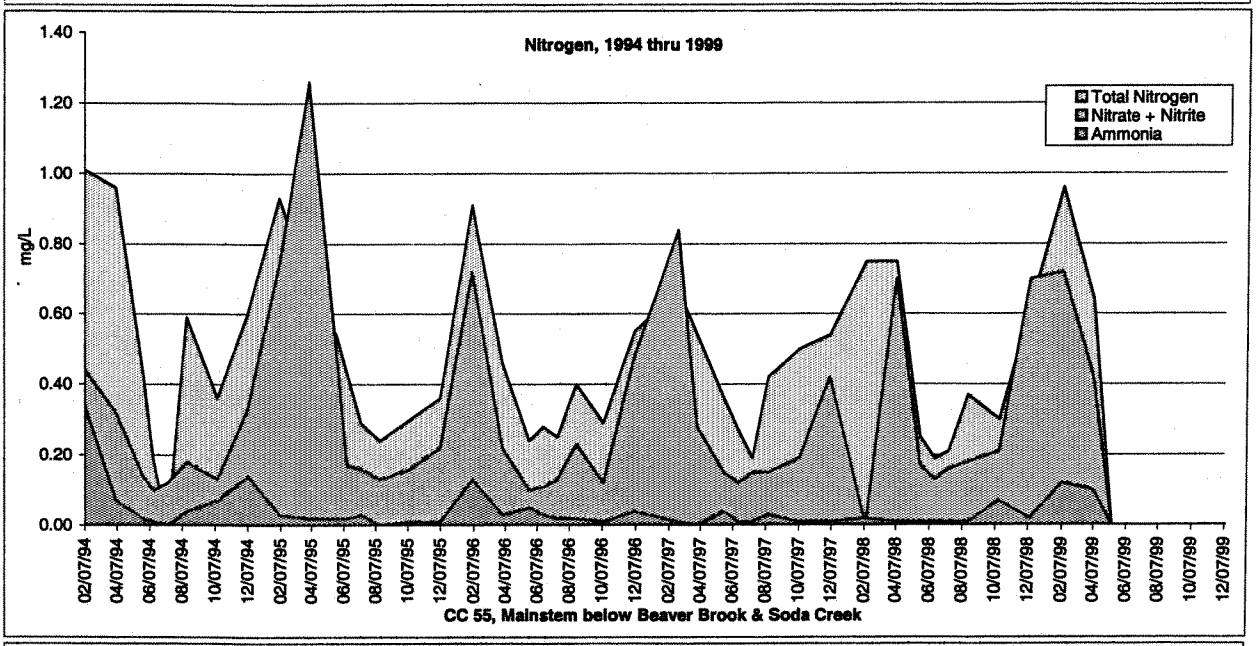

Phosphorous, 1994 thru 1999
Total P
Dissolved P
mg/L
0.0400
0.0350
0.0300
0.0250
0.0200
0.0150
0.0100
0.0050
0.0000
02/07/94
04/07/94
06/07/94
08/07/94
10/07/94
12/07/94
02/07/95
04/07/95
06/07/95
08/07/95
10/07/95
12/07/95
02/07/96
04/07/96
06/07/96
08/07/96
10/07/96
12/07/96
02/07/97
04/07/97
06/07/97
08/07/97
10/07/97
12/07/97
02/07/98
04/07/98
06/07/98
08/07/98
10/07/98
12/07/98
02/07/99
04/07/99
06/07/99
08/07/99
10/07/99
12/07/99
CC 54,Confluence of Beaver Brook and Soda Creek

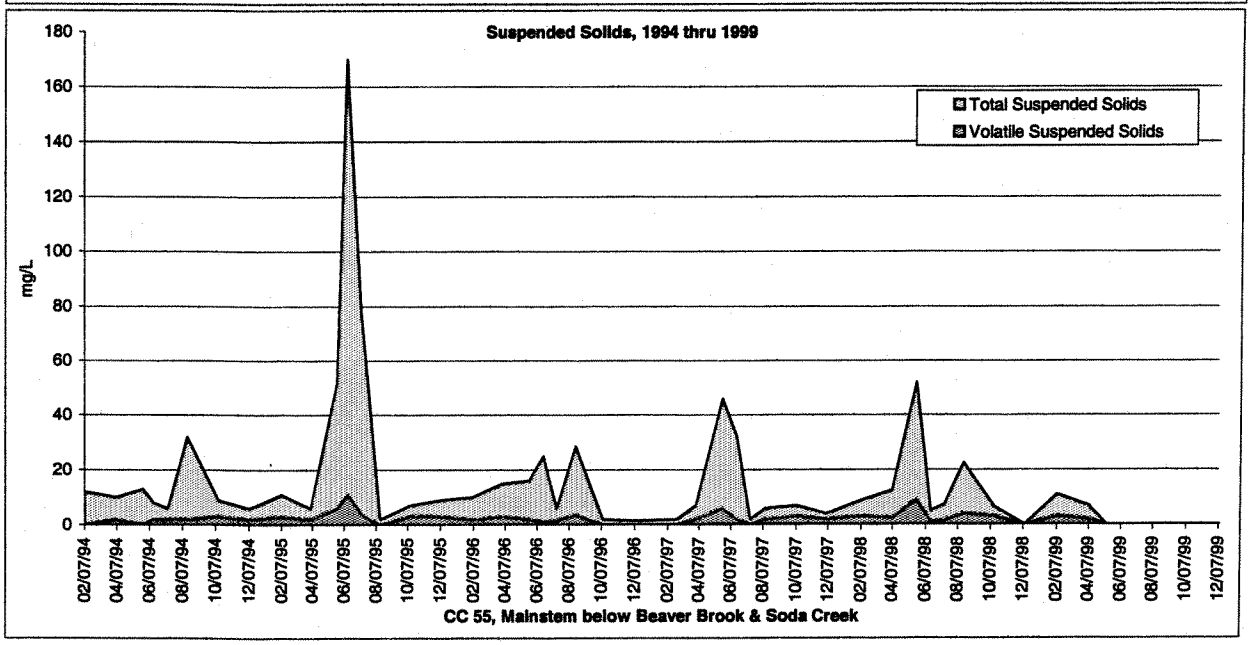

Nitrogen, 1994 thru 1999
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
0.50
0.45
0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00
02/07/94
04/07/94
06/07/94
08/07/94
10/07/94
12/07/94
02/07/95
04/07/95
06/07/95
08/07/95
10/07/95
12/07/95
02/07/96
04/07/96
06/07/96
08/07/96
10/07/96
12/07/96
02/07/97
04/07/97
06/07/97
08/07/97
10/07/97
12/07/97
02/07/98
04/07/98
06/07/98
08/07/98
10/07/98
12/07/98
02/07/99
04/07/99
06/07/99
08/07/99
10/07/99
12/07/99
CC 54,Confluence of Beaver Brook and Soda Creek


Suspended Solids, 1994 thru 1999
Total Suspended Solids
Volatile Suspended Solids
mg/L
30
25
20
15
10
5
0
02/07/94
04/07/94
06/07/94
08/07/94
10/07/94
12/07/94
02/07/95
04/07/95
06/07/95
08/07/95
10/07/95
12/07/95
02/07/96
04/07/96
06/07/96
08/07/96
10/07/96
12/07/96
02/07/97
04/07/97
06/07/97
08/07/97
10/07/97
12/07/97
02/07/98
04/07/98
06/07/98
08/07/98
10/07/98
12/07/98
02/07/99
04/07/99
06/07/99
08/07/99
10/07/99
12/07/99
CC 54,Confluence of Beaver Brook and Soda Creek

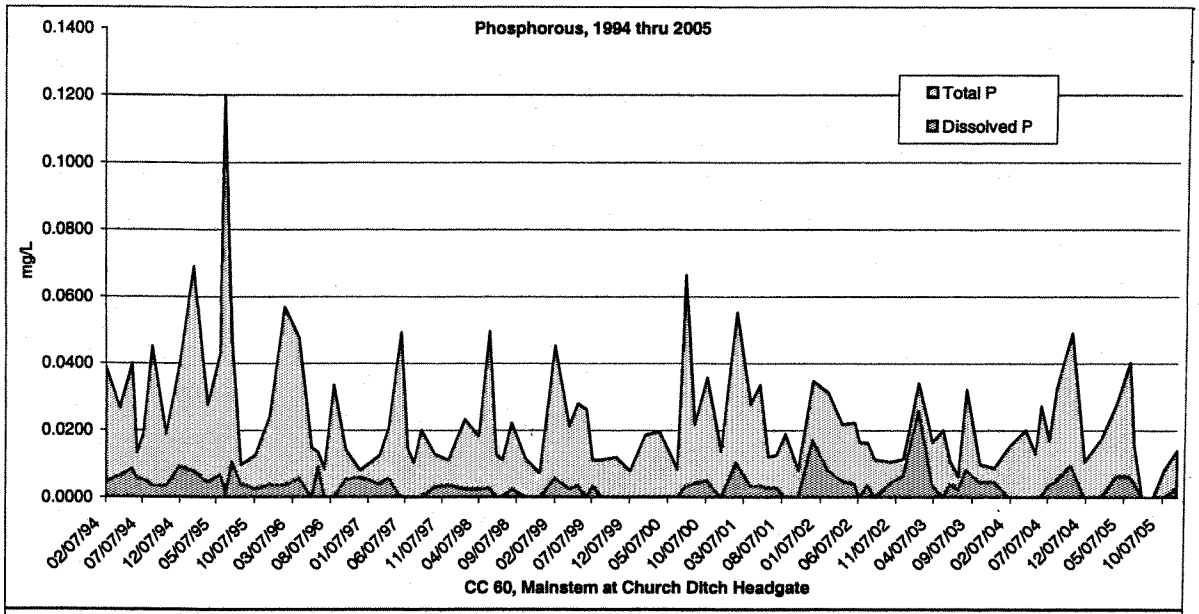
Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC54	**Confluence of Beaver Brook and Soda Creek**													
02/07/94														
04/05/94														
05/26/94														
06/15/94														
07/11/94														
08/16/94														
10/12/94														
12/08/94														
02/06/95														
04/04/95														
05/25/95														
06/14/95														
07/10/95														
08/15/95														
10/11/95														
12/07/95														
02/05/96														
04/02/96														
05/23/96														
06/19/96														
07/15/96														
08/20/96														
10/09/96														
12/05/96														
02/24/97														
04/01/97														
05/22/97														
06/18/97														
07/14/97														
08/12/97														
10/08/97														
12/04/97														
02/09/98														
04/07/98														
05/21/98														
06/17/98														
07/13/98														
08/18/98														
10/14/98														
12/10/98														
02/08/99														
04/07/99														
05/12/99	1235	6.9	7.81	152	23.00	0.0037	0.0365	21	4	0.01	0.18	0.47		
06/17/99	1315	11.1	7.59	174	11.00	0.0031	0.0220	12	5	0.01	0.12	0.34		
07/12/99	1351	17.4	8.16	232	7.00	0.0142	0.0313	9	3	0.02	0.20	0.39		
08/17/99	1520	15.3	7.15	166	15.00	0.0030	0.0300	18	5	0.03	0.21	0.35		
10/13/99	1303	9.2	7.25	302	3.00	<0.0025	0.0078	<1	<1	0.02	0.18	0.32		
12/09/99														
02/07/00	1145	0.3	7.21	320	4.0	0.0040	0.0084	3	2	0.03	0.52	0.61		
04/04/00	1226	6.6	7.98	440	10.9	0.0040	0.0223	12	2	0.0	0.32	0.47		
05/17/00	1130	8.0	7.55	247	7.7	0.0031	0.0125	7	2	0.03	0.16	0.36		
06/15/00	1105	14.20	7.72	620.0	4.9	0.0083	0.0230	6	3	<0.01	0.29	0.58		
07/17/00	1140	16.84	7.59	200	180.00	0.0101	0.1140	119	15	0.02	0.15	0.63		
08/22/00	1130	15.7	8.16	274	5.0	0.0038	0.0130	2	<1	<0.01	0.14	0.24		
10/11/00	1100		7.93	537	0.3	0.0157	0.0232	1	<1	<0.01	0.26	0.34		
12/07/00														
02/05/01														
04/03/01	1229	6.0	7.64	307	1	0.0027	1/0/1900							
05/09/01														
06/14/01														
07/16/01														
08/21/01														
10/10/01	1200	5.7	7.70	633	1.7	<0.0025	0.0065	2	2	0.01	0.20	0.28		
12/6/2001*														
	* sampling discontinued at this site													

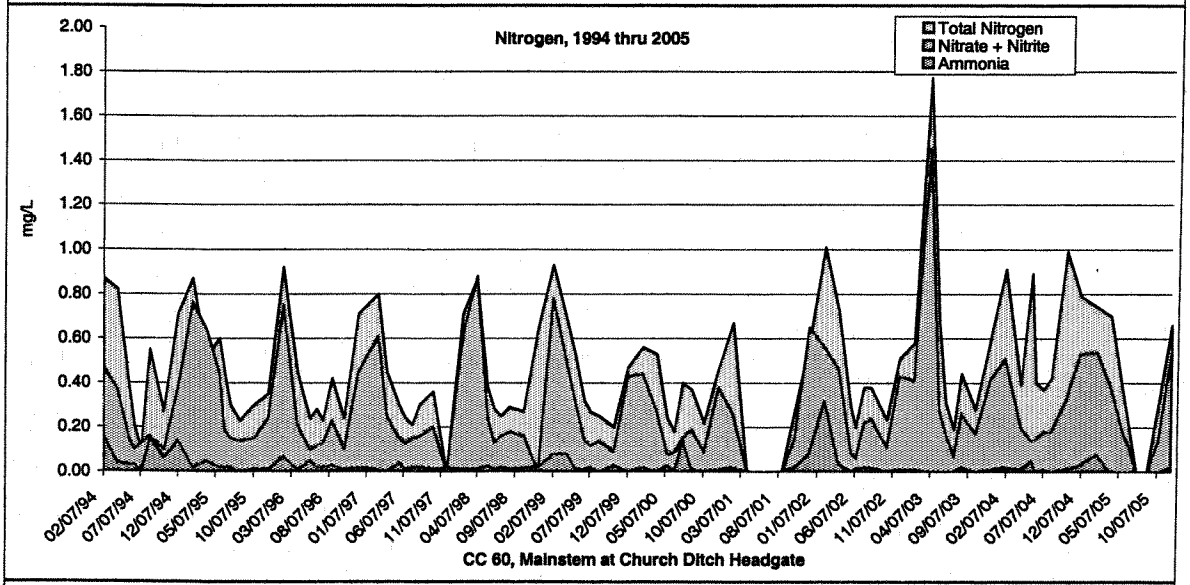

Phosphorous, 1994 thru 1999
Total P
Dissolved P
mg/L
0.1000
0.0800
0.0600
0.0400
0.0200
0.0000
CC 55, Mainstem below Beaver Brook & Soda Creek

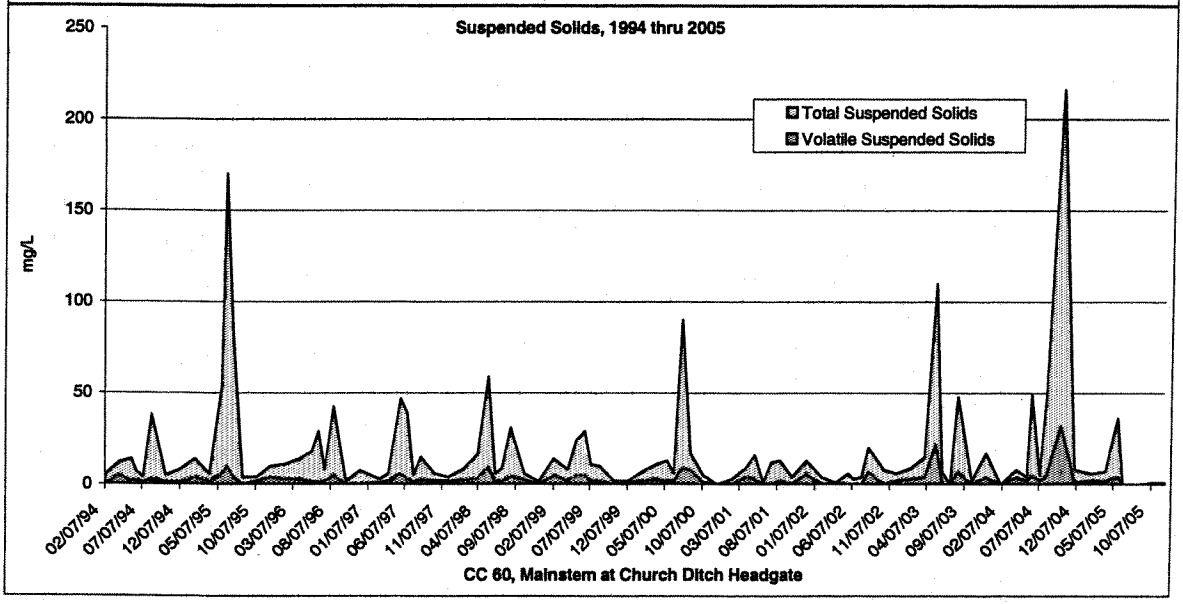

Nitrogen, 1994 thru 1999
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
CC 55, Mainstem below Beaver Brook & Soda Creek


Suspended Solids, 1994 thru 1999
Total Suspended Solids
Volatile Suspended Solids
mg/L
180
160
140
120
100
80
60
40
20
0
CC 55, Mainstem below Beaver Brook & Soda Creek

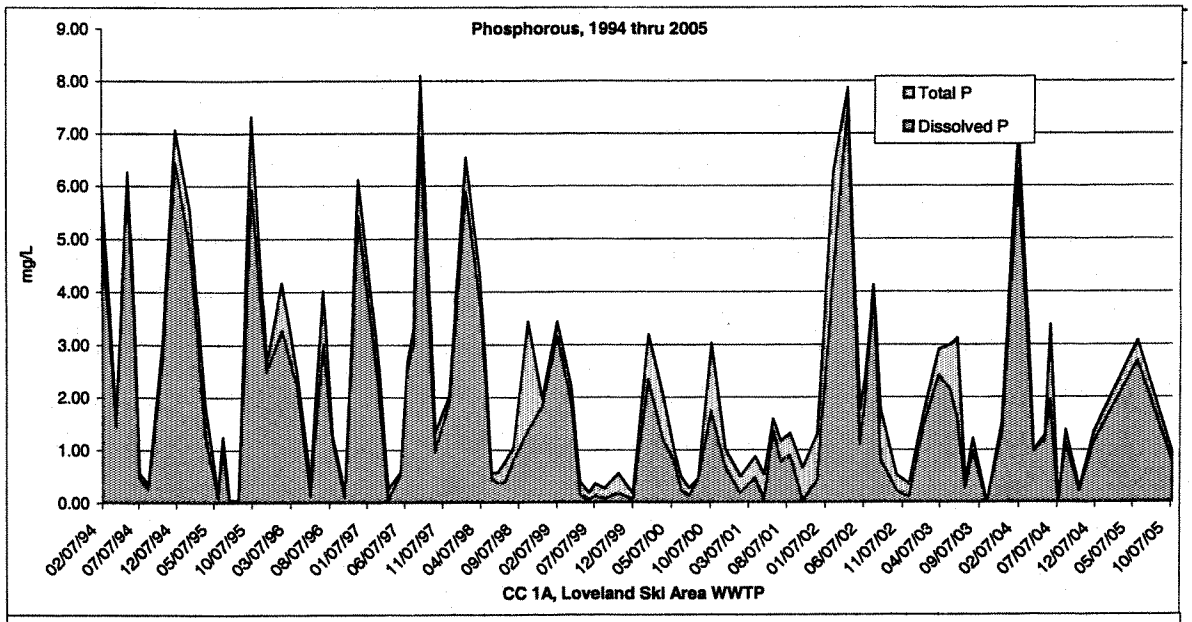
Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC55	**Mainstem below Beaver Brook & Soda Creek**													
02/07/94	1445	1.0	7.81	176	4.20	0.0077	0.0290	12		0.34	0.44	1.01		0.48
04/05/94	1125	2.5	7.75	318	5.30	0.0053	0.0361	8	2	0.07	0.32	0.96	19.8	0.19
05/26/94	1130	8.5	7.31	110	6.30	0.0094	0.0406	13	<1	0.02	0.14	0.43	2.0	0.22
06/15/94	1053	9.5	7.81	78	2.51	0.0051	0.0140	6	2	0.01	0.10	0.18	5.1	<0.10
07/11/94	1145	13.0	7.96	124	1.70	0.0052	0.0194	4	2	<0.01	0.12	<0.1	3.1	<0.10
08/16/94	1130	15.0	7.93	161	6.10	0.0031	0.0443	30	2	0.04	0.18	0.59	6.1	0.17
10/12/94	1120	6.5	7.94	239	2.50	0.0062	0.0219	6	3	0.07	0.13	0.36	8.2	0.10
12/08/94	1126	0.0	7.28	269	3.00	0.0102	0.0344	4	2	0.14	0.33	0.60	11.1	0.15
02/06/95	1131	0.5	7.62	350	4.88	0.0087	0.0597	8	3	0.03	0.74	0.93	17.0	0.16
04/04/95	1100	5.0	7.98	301	2.97	0.0055	0.0299	4	2	0.02	1.26	0.67	24.0	
05/25/95	1055	4.5	7.38	224	27.10	0.0058	0.0384	46	6	0.02	0.49	0.54	18.0	
06/14/95	1100	8.0	7.33	135	56.30	0.0107	0.0830	159	11	0.02	0.17	0.43	9.0	
07/10/95	1110	8.5	7.60	82	27.60	0.0061	0.0181	74	4	0.03	0.16	0.29		
08/15/95	1100	11.5	7.75	120	2.49	0.0038	0.0097	2	<1	<0.01	0.13	0.24		
10/11/95	1105	6.5	7.72	217	2.45	0.0033	0.0146	4	3	0.01	0.16	0.30		
12/07/95	1110	0.5	7.39	270	4.60	0.0060	0.0260	6	3	0.01	0.22	0.36		
02/05/96	1055	-1.0	7.60	371	5.32	0.0043	0.0564	8	2	0.13	0.72	0.91		
04/02/96	1120	5.4	8.07	319	6.91	0.0074	0.0562	12	3	0.03	0.22	0.46		
05/23/96	1205	11.0	7.64	96		0.0040	0.0186	14	2	0.05	0.10	0.24		
06/19/96	1109	11.0	7.44	75	7.99	0.0028	0.0123	24	1	0.03	0.11	0.28		
07/15/96	1115	15.0	7.29	99	1.66	<0.0025	0.0063	5	2	0.02	0.13	0.25		
08/20/96	1105	16.0	7.66	161	25.80	<0.0025	0.0225	25	4	0.02	0.23	0.40		
10/09/96	1100	10.0	7.68	154	2.01	0.0037	0.0137	2	<1	0.01	0.12	0.29		
12/05/96	1100	-0.5	7.90	318	1.08	0.0044	0.0095	2	<1	0.04	0.48	0.55		
02/24/97	1110	0.0	7.82	358	1.66	0.0043	0.0186	2	<1	0.01	0.84	0.67		
04/01/97	1130	5.2	7.96	325	3.96	<0.0025	0.0240	5	2	<0.05	0.28	0.54		
05/22/97	1100	6.3	7.50	121	12.90	<0.0025	0.0427	40	6	0.04	0.15	0.36		
06/18/97	1110	9.0	7.70	92	8.86	<0.0025	0.0205	30	2	0.01	0.12	0.27		
07/14/97	1110	10.1	7.66	99	2.43	<0.0025	0.0081	2	<1	0.01	0.15	0.19		
08/12/97	1100	nm	7.74	125	2.57	<0.0025	0.0141	4	2	0.03	0.15	0.42		
10/08/97	1110	nm	7.74	199	2.37	0.0032	0.0140	4	3	0.01	0.19	0.50		
12/04/97	1100	-0.1	7.75	297	2.70	<0.0025	0.0019	2	2	0.01	0.42	0.54		
02/09/98	1100	0.5	7.26	328	4.21	0.0027	0.0187	6	3	0.02		0.75		
04/07/98	1100	2.9	7.27	344	na	<0.0025	0.0150	10	3	0.01	0.70	0.75		
05/21/98	1145	9.1	7.66	142	12.98	<0.0025	0.0539	43	9	0.01	0.17	0.25		
06/17/98	1030	8.6	8.09	110	2.25	<0.0025	0.0107	4	1	0.01	0.13	0.19		
07/13/98	1045	11.6	7.83	98	2.00	<0.0025	0.0105	6	2	0.01	0.16	0.21		
08/18/98	1115	12.5	7.79	161	7.89	0.0026	0.0281	19	4	0.01	0.18	0.37		
10/14/98	1100	6.3	7.79	220	1.92	0.0042	0.0332	4	3	0.07	0.21	0.30		
12/10/98	1055	0.0	7.28	317	1.27	0.0042	0.0167	le	le	0.02	0.70	0.62		
02/08/99	1035	1.7	7.32	347	3.74	0.0124	0.0464	8	3	0.12	0.72	0.96		
04/07/99	1038	4.0	6.36	322	2.32	0.0032	0.0174	5	2	0.10	0.42	0.64		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
0.1400
0.1200
0.1000
0.0800
0.0600
0.0400
0.0200
0.0000
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 60, Mainstem at Church Ditch Headgate


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 60, Mainstem at Church Ditch Headgate


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
250
200
150
100
50
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 60, Mainstem at Church Ditch Headgate

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC60	**Mainstem at Church Headgate**													
02/07/94	1540	1.9	7.98	174	3.70	0.0047	0.0389	5		0.16	0.47	0.87		0.23
04/05/94	1145	1.9	7.80	329	4.50	0.0064	0.0267	7	5	0.04	0.37	0.82	22.7	0.12
05/26/94	1145	9.0	7.36	114	8.00	0.0084	0.0400	12	2	0.03	0.14	0.37	4.0	0.22
06/15/94	1110	10.0	7.79	77	2.52	0.0056	0.0133	5	2	0.03	0.10	0.20	6.6	<0.10
07/11/94	1205	13.5	8.02	125	1.70	0.0054	0.0187	3	1	<0.01	0.13	0.10	2.0	<0.10
08/16/94	1145	15.5	7.92	160	7.60	0.0036	0.0452	35	3	0.15	0.16	0.55	6.1	0.10
10/12/94	1136	7.0	8.04	231	2.20	0.0034	0.0188	4	1	0.06	0.10	0.27	5.5	0.26
12/08/94	1143	0.0	7.37	275	3.30	0.0093	0.0399	7	1	0.14	0.38	0.71	12.1	0.14
02/06/95	1150	0.5	7.53	344	6.08	0.0078	0.0691	10	4	0.02	0.76	0.87	15.0	0.16
04/04/95	1112	5.0	8.14	301	2.24	0.0046	0.0276	4	2	0.05	0.64	0.52	24.0	
05/25/95	1115	5.0	7.45	222	28.10	0.0070	0.0431	48	6	0.02	0.44	0.60	16.0	
06/14/95	1115	8.0	7.41	130	62.20	0.0013	0.1200	160	10	0.02	0.19	0.46	9.0	
07/10/95	1125	8.5	7.58	83	26.00	0.0106	0.0471	78	4	0.02	0.15	0.30		
08/15/95	1120	12.0	7.78		2.41	0.0040	0.0097	4	<1	<0.01	0.14	0.23		
10/11/95	1120	6.5	7.72	218	2.36	0.0027	0.0126	2	2	0.01	0.15	0.30		
12/07/95	1130	0.5	7.65	281	4.02	0.0038	0.0239	6	4	0.01	0.24	0.35		
02/05/96	1115	-1.0	7.73	362	5.56	0.0037	0.0570	8	3	0.07	0.75	0.92		
04/02/96	1140	6.2	8.18	323	7.19	0.0059	0.0477	11	3	0.01	0.21	0.45		
05/23/96	1220	11.0	7.62	96		<0.0025	0.0149	16	2	0.05	0.10	0.24		
06/19/96	1130	12.0	7.47	76	8.81	0.0092	0.0135	28	1	0.02	0.12	0.28		
07/15/96	1133	15.0	7.36	102	1.80	<0.0025	0.0086	6	2	0.02	0.13	0.23		
08/20/96	1120	16.0	7.65	170	41.00	<0.0025	0.0336	38	5	0.03	0.23	0.42		
10/09/96	1115	10.0	7.76	156	1.82	0.0054	0.0142	2	<1	0.01	0.10	0.24		
12/05/96	1120	-0.5	8.00	334	0.98	0.0060	0.0081	8	<1	0.02	0.45	0.71		
02/24/97	1135	0.0	7.87	355	1.52	0.0041	0.0126	2	1	0.01	0.61	0.80		
04/01/97	1150	6.1	8.17	316	3.45	0.0057	0.0206	4	2	<0.05	0.25	0.45		
05/22/97	1135	6.6	7.46	124	13.87	<0.0025	0.0494	41	6	0.04	0.15	0.30		
06/18/97	1130	9.6	7.72	91	11.80	<0.0025	0.0145	36	3	0.01	0.13	0.24		
07/14/97	1125	10.9	7.67	101	2.20	<0.0025	0.0102	4	1	0.02	0.15	0.21		
08/12/97	1130		7.73	126	2.93	<0.0025	0.0201	12	3	0.02	0.16	0.30		
10/08/97	1135		7.85	194	2.20	0.0032	0.0129	4	2	0.01	0.20	0.36		
12/04/97	1130	-0.1	7.79	296	2.68	0.0037	0.0112	2	2	0.02				
02/09/98	1120	0.5	7.41	316	3.58	0.0026	0.0232	6	3	0.01	0.62	0.71		
04/07/98	1115	2.7	7.58	361	na	0.0025	0.0182	13	4	0.01	0.88	0.87		
05/21/98	1200	9.6	7.68	157	13.38	0.0030	0.0497	50	10	0.03	0.24	0.38		
06/17/98	1050	8.8	8.04	114	2.30	<0.0025	0.0128	5	2	0.01	0.13	0.28		
07/13/98	1100	12.3	7.84	97	2.46	<0.0025	0.0112	7	2	0.02	0.16	0.25		
08/18/98	1130	13.6	7.67	161	10.35	0.0027	0.0223	27	5	0.01	0.18	0.29		
10/14/98	1120	6.9	7.93	224	1.82	<0.0025	0.0114	4	3	0.02	0.16	0.27		
12/10/98	1120	0.0	7.54	337	1.40	<0.0025	0.0074	2	<1	0.02		0.64		
02/08/99	1115	2.0	7.57	343	4.34	0.0057	0.0454	9	5	0.08	0.78	0.93		
04/07/99	1055	6.0	7.79	347	3.04	0.0026	0.0212	6	2	0.08	0.48	0.68		
05/12/99	1215	8.1	7.89	295	13.90	0.0036	0.0280	19	5	0.01	0.31	0.52		
06/17/99	1210	10.5	7.79	99	9.60	<0.0025	0.0263	24	5	0.01	0.14	0.32		
07/12/99	1245	16.6	7.88	106	3.75	0.0035	0.0112	9	2	0.02	0.12	0.27		
08/17/99	1215	15.9	7.78	143	7.05	<0.0025	0.0112	8	2	<0.01	0.14	0.25		
10/13/99	1240	10.3	7.88	240	2.92	<0.0025	0.0120	2	<1	0.03	0.09	0.20		
12/09/99	1240	0.3	7.75	280	1.20	<0.0025	0.0079	1	1	<0.01	0.43	0.47		
02/07/00	1149	1.7	7.91	316	5.3	<0.0025	0.0186	5	2	0.02	0.44	0.56		
04/04/00	1145	8.0	8.07	386	8.4	<0.0025	0.0197	8	3	<0.01	0.27	0.53		
05/17/00	1215	7.1	8.31	137	5.6	<0.0025	0.0132	11	2	0.03	0.08	0.24		
06/15/00	1145	13.70	7.61	94.0	3.6	<0.0025	0.0084	4	2	<0.01	0.09	0.18		
07/17/00	1215	17.80	7.88	120	42.00	0.0033	0.0665	81	9	0.14	0.15	0.40		
08/22/00	1210	17.5	8.93	185	5.6	0.0043	0.0218	9	8	0.01	0.19	0.37		
10/11/00	1230	11.6	8.06	225	1.3	0.0050	0.0358	4.0	1.0	<0.01	0.09	0.22		
12/07/00	1130	1.2	7.60	256	1.0	<0.0025	0.0137			0.01	0.38	0.46		
02/05/01	1217	2.4	7.37	318	1.8	0.0102	0.0553	3	<1	0.02	0.26	0.67		
04/03/01	1124	8.7	8.10	339	0.7	0.0035	0.0279	5	4					
05/09/01	1357	12.2	7.63	412	15.9	0.0035	0.0336	13	3					
06/14/01	1124	6.30	7.78	94.0	4.4	0.0029	0.0121	1	<1					
07/16/01	1305	14.76	7.45	122	5.44	0.0029	0.0126	12	<1					
08/21/01	1200	15.0	7.47	177	19.5	<0.003	0.0189	11	2					
10/10/01	1135	6.4	8.23	202	1.7	<0.0025	0.0081	4.0	<1	0.02	0.14	0.26		
12/06/01	1135	1.4	7.71	299	1.7	0.0170	0.0348	7	6	0.06	0.65	0.57		
02/04/02	1235	0.1	6.92	384	4.6	0.0081	0.0313	4	< 1	0.32	0.56	1.01		
04/02/02	1255	2.8	7.57	209	2.91	0.005	0.0218	< 1	1	0.04	0.46	0.72		
05/23/02	1150	9.6	7.66	171	8.8	0.0039	0.0223	6	< 1	<0.01	0.09	0.29		
06/12/02	1348	15.6	7.93	118	2.89	<0.0025	0.0164	3	< 1	0.01	0.06	0.20		
07/15/02	1359	19.8	7.91	216	3.6	0.0038	0.0163	4	<1	0.02	0.22	0.38		
08/13/02	1200	15.7	7.76	261	8.5	<0.0025	0.0114	13	7	0.02	0.24	0.38		
10/16/02	1157	6.6	7.15	293	1.3	0.0043	0.0106	8	<1	<0.01	0.11	0.23		
12/05/02	1145	0.50	7.80	216	1.5	0.0065	0.0115	4	2	0.01	0.43	0.51		
2/3/2003	1319	0.0	7.92	406	5.7	0.0257	0.0341	6	3	0.01	0.41	0.58		
4/1/2003	1147	8.3	8.03	506	9.1	0.0038	0.0164	11	4	<0.01	1.45	1.77		
5/15/2003	1202	8.8	7.42	266	68	<0.0025	0.0201	88	22	<0.01	0.28	0.67		
6/11/2003	1103	11.0	8.28	104	7.89	0.0041	0.0109	7	<1	<0.01	0.17	0.31		
7/14/2003	1221	15.11	7.57	114.0	3.8	0.0025	0.0063	<1	<1	<0.01	0.07	0.19		
8/12/2003	1120	18.80	7.14	154	61.7	0.0082	0.0322	41	7	0.02	0.26	0.44		
10/8/2003	1246	10.0	8.08	206.0	4.5	0.0046	0.0099	2	<1	<0.01	0.17	0.28		
12/4/2003	1150	0.1	7.54	171	1.56	0.0046	0.0088	13	4	0.01	0.41	0.59		
2/2/2004	1212	0.02	8.08	376	1.8		0.0153	<1	<1	0.02	0.51	0.91		
4/6/2004	1147	9.4	6.54	344	5.1	<0.0025	0.0201	4	4	0.01	0.2	0.39		
5/19/2004	1218	12.4	7.51	154	10.9	<0.0025	0.013	2	2	0.05	0.14	0.89		
6/8/2004	1143	13.6	7.81	98	9.5	<0.0025	0.0273	44	5	<0.01	0.15	0.4		
7/12/2004	1155	16.3	7.70	136	2.3	0.0036	0.017	3	2	0.01	0.18	0.37		
8/10/2004	1117	17.3	7.78	159	15.2	0.005	0.0329	45	5	<0.01	0.18	0.42		
10/6/2004	1205	8.3	7.91	232	167.8	0.0096	0.0491	184	32	0.01	0.32	0.99		
12/1/2004	1230	0.1	7.84	210	2.1	<0.0025	0.0107	7	1	0.03	0.53	0.79		
02/07/05	1140		8.20	370	2.3	<0.0025	0.0176	4	2	0.08	0.54	0.74		
04/05/05	1130	5.8	8.70	377	6.2	0.0063	0.028	5	2	<0.01	0.38	0.7		
05/26/05	1225	9.4	7.49	108	42.5	0.0063	0.0403	32	4	<0.01	0.17	0.35		
06/15/05	1150	12.1	8.88	130	3.84	0.0043	0.0153	<4	<4	<0.01	0.12	0.22		
07/18/05														
08/30/05														
10/13/05	1205	6.4	8.06	245	1.8		0.0082	1	<1	<0.001	0.14	0.3		
12/01/05	1110	0.04	8.73	350	0.3	0.0031	0.014	1	<1	0.02	0.54	0.66		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
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06/07/02
11/07/02
04/07/03
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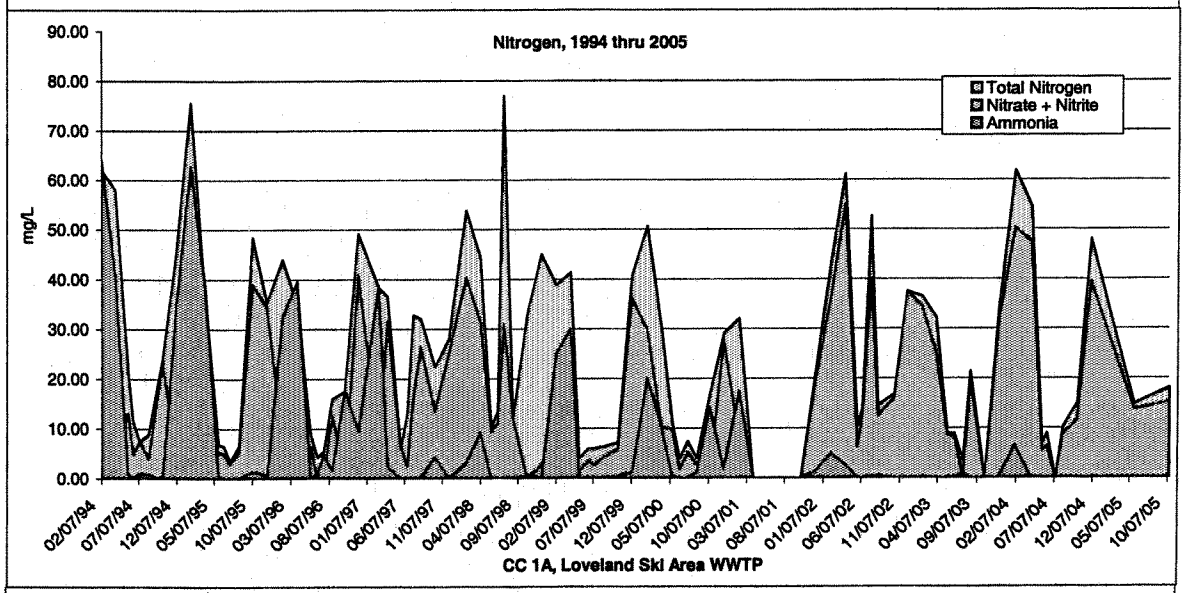
05/07/05
10/07/05
CC 1A, Loveland Ski Area WWTP


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
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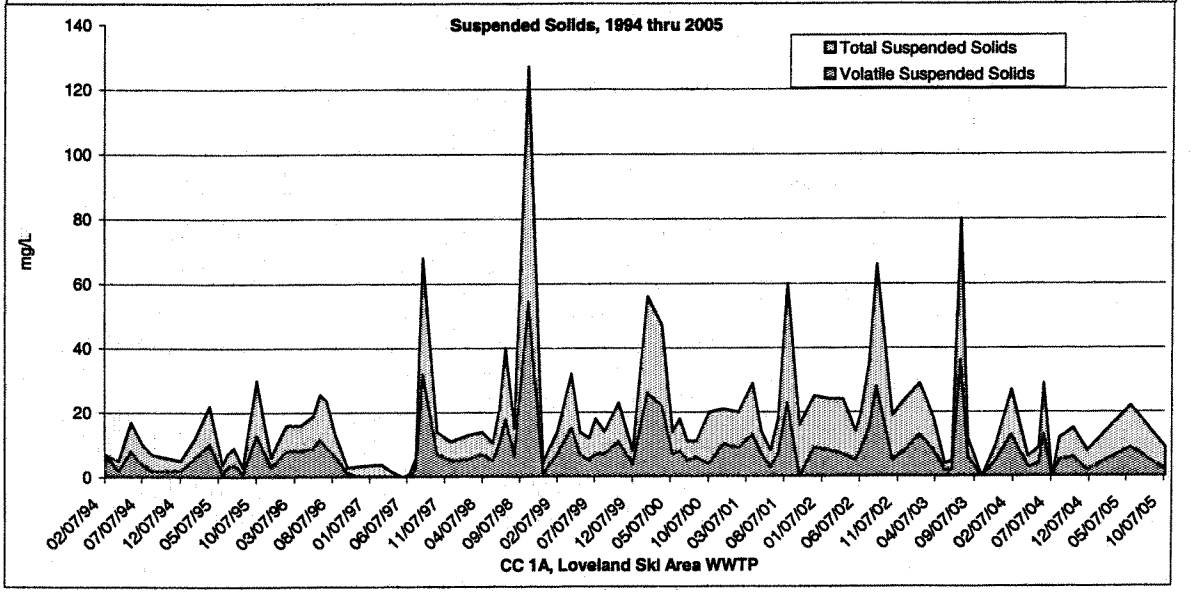
05/07/05
10/07/05
CC 1A, Loveland Ski Area WWTP


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
140
120
100
80
60
40
20
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
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12/07/99
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10/07/00
03/07/01
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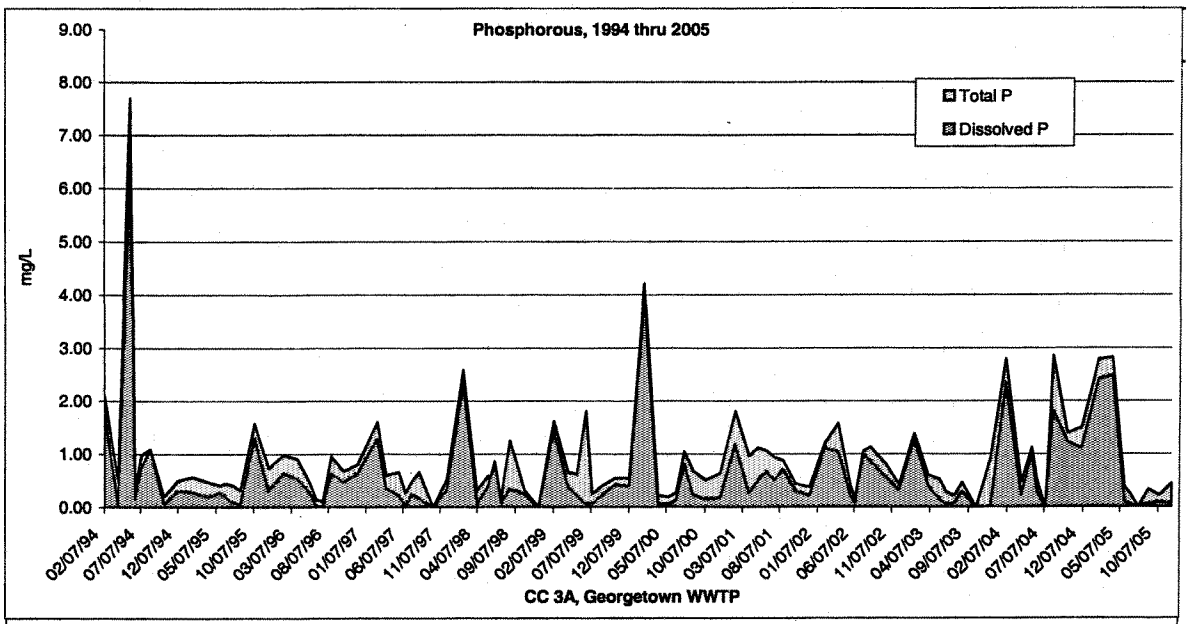
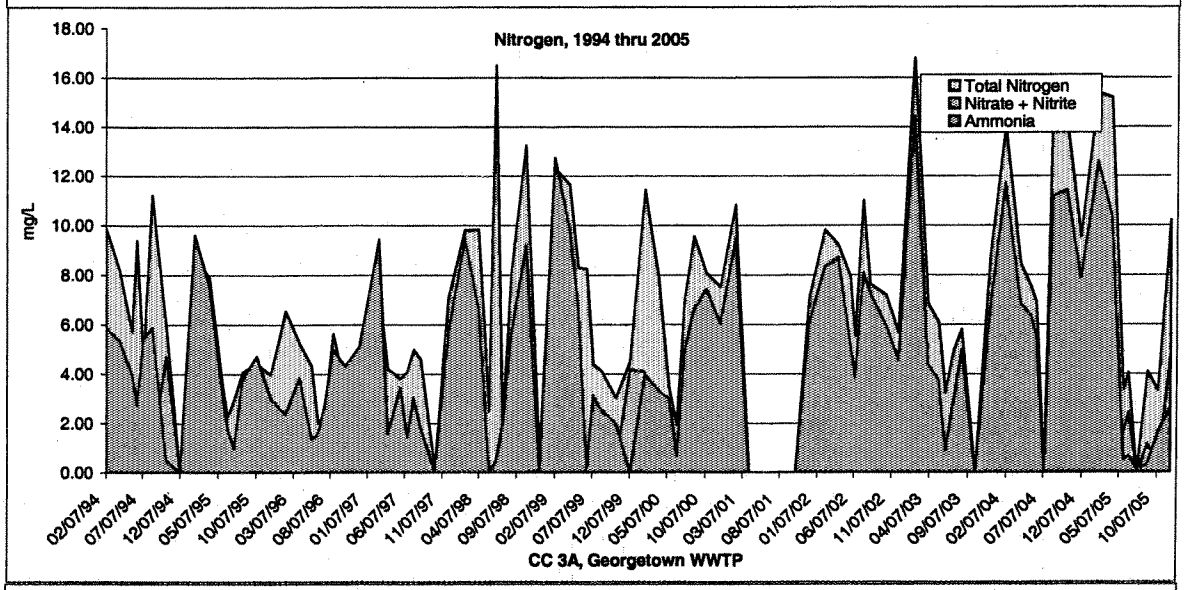
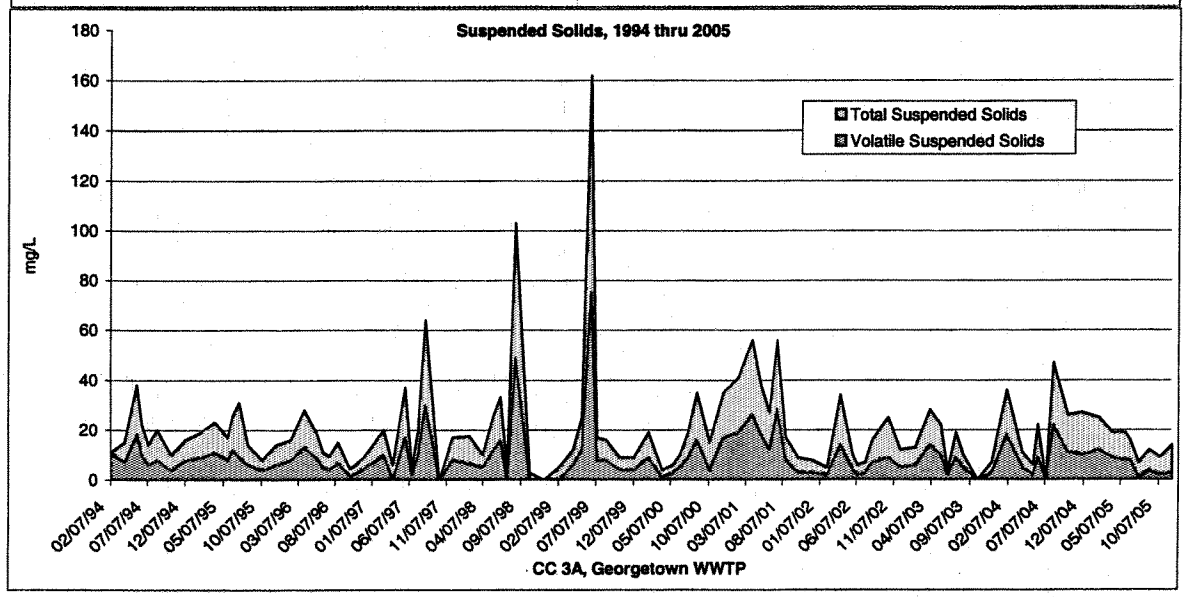
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 1A, Loveland Ski Area WWTP

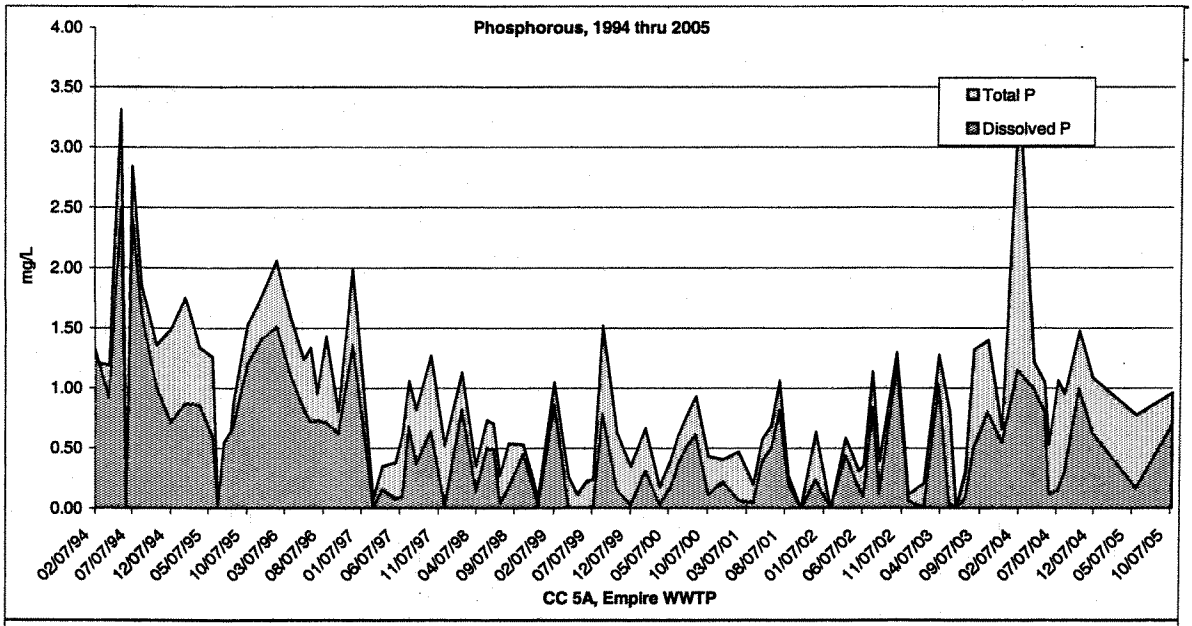
Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC1A	**Loveland WWTP**													
02/07/94	845	8.0	7.60	177	3.26	5.2700	6.0600		7	64.10	0.13	62.00		66.00
04/05/94	723	7.0	7.83	1133	2.70	1.4700	1.6400	3	2	40.70	5.35	58.00	156.1	60.50
05/26/94	732	8.2	6.90	824	5.20	5.9700	6.2600	9	8	0.98	12.95	21.90	136.5	2.92
06/15/94	800	8.0	7.55	804	8.48	4.0600	4.4400	8	6	0.12	4.78	11.50	173.4	1.17
07/11/94	750	11.4	7.21	1163	2.40	0.4600	0.5600	6	4	0.95	7.40	7.50	169.3	1.89
08/16/94	715	11.0	8.39	1051	2.00	0.2600	0.3500	5	2	0.86	4.08	8.92	221.5	1.65
10/12/94	800	12.0	7.11	1115	3.70	2.7100	3.0500	4	2	<0.01	23.10	23.80	224.4	1.51
12/08/94	735	8.5	7.63	1010	1.10	6.4500	7.0700	3	2	34.90	3.63	45.26	137.6	41.60
02/06/95	750	7.2	8.00	954	5.04	4.8200	5.5300	6	6	62.80	0.15	75.60	90.0	96.50
04/04/95	720	8.7	7.65	760	10.07	1.2700	1.8600	12	10	38.40	0.28	38.04	110.0	
05/25/95	740	9.1	7.23	1055	1.89	0.1000	0.1800	3	1	0.09	5.28	6.85	40.0	
06/14/95	725	6.9	7.09	615	2.64	0.9800	1.2500	4	3	0.06	5.02	6.60	134.0	
07/10/95	800	8.7	7.13	884	1.53	0.0600	0.0600	5	4	0.03	2.98	3.46		
08/15/95	745	4.3	7.45	1208	0.96	0.0500	0.0500	2	1	0.08	5.28	6.55		
10/11/95	830	12.3	8.02	1219	13.64	5.9300	7.3200	17	13	1.48	39.00	48.40		
12/07/95	752	10.0	7.13	946	1.18	2.4900	2.6500	3	3	0.74	34.30	35.36		
02/05/96	810	8.9	7.33	927	4.45	3.2700	4.1700	8	8	32.30	7.09	44.00		
04/02/96	730	8.0	7.46	950	2.98	2.2000	2.4400	8	8	39.60	0.12	34.80		
05/23/96	800	8.4	6.92	678		0.1263	0.3990	10	9	0.19	6.48	8.98		
06/19/96	830	10.0	6.84	724	10.37	1.6900	2.4400	14	12	0.78	0.08	4.32		
07/15/96	800	17.5	6.92	892	7.68	3.0100	4.0200	15	9	4.77	0.28	5.50		
08/20/96	745	14.1	6.79	1252	3.88	1.1980	1.2803	7	7	1.61	12.70	16.00		
10/09/96	747	12.8	7.62	160	2.11	0.0900	0.1950	2	1	17.65	0.35	17.44		
12/05/96	715	11.3	4.75	886	2.45	5.4200	6.1200	4	<1	9.50	40.80	49.20		
02/24/97	755	12.4	7.39	1004	1.74	2.0800	2.5800	4	<1	38.70	6.30	38.32		
04/01/97	800	13.7	7.46	1220	3.03	0.0500	0.2700	2	<1	2.40	31.50	36.52		
05/22/97	800	13.4	6.97	1035	0.91	0.5400	0.5800	<1	<1	0.04	6.65	5.80		
06/18/97	740	10.0	7.25	1109	1.76	2.5100	2.6800	1	<1	0.03	2.49	12.80		
07/14/97	810	12.8	6.19	934	3.88	3.0200	3.3200	3	3	0.05	16.30	32.75		
08/12/97	810	13.1	6.42	938	11.83	6.9300	8.1000	36	32	0.12	26.40	32.00		
10/08/97	801	13.3	7.23	1144	7.43	0.9800	1.3400	7	7	4.30	13.42	22.40		
12/04/97	815	9.8	7.57	894	2.19	1.6900	2.0200	6	5	0.06	25.10	28.00		
02/09/98	748	5.6	7.07	1012	78.50	5.8800	6.5400	8	6	3.14	40.30	53.80		
04/07/98	725	9.9	6.64	1161	na	3.7500	4.2800	7	7	9.18	31.50	44.60		
05/21/98	715	10.0	7.18	885	2.85	0.4470	0.5600	6	5	0.06	9.28	10.20		
06/17/98	800	9.1	7.61	985	4.64	0.3810	0.5770	11	11	0.05	11.00	13.50		
07/13/98	805	12.0	6.86	885	7.59	0.3790	0.7640	22	18	0.12	31.00	77.00		
08/18/98	740	13.1	6.77	13	3.93	0.8020	1.0570	9	7	0.10	12.00	11.70		
10/14/98	800	12.2	7.09	1190	43.50	1.3800	3.4330	73	54	0.36		32.90		
12/10/98	830	9.1	7.38	1248	1.80	1.8210	1.9750	4	1	0.07	2.68	45.00		
02/08/99	0800	10.1	7.22	994	1.98	3.1520	3.4340	7	7	25.14	9.72	38.80		
04/07/99	0730	8.0	7.33	1383	4.29	1.8710	2.1760	17	15	30.00	13.00	41.35		
05/12/99	0800	8.8	7.01	n/m	n/m	0.1640	0.4020	7	7	0.07	1.33	4.01		
06/17/99	0730	8.6	6.72	1138	7.70	0.0500	0.1940	7	5	0.15	3.81	5.91		
07/12/99	0630	9.2	6.78	1682	12.80	0.1330	0.3620	11	7	0.10	2.70	6.00		
08/17/99	0740	12.7	7.31	1505	3.50	0.0802	0.2720	7	7	0.08	4.23	6.35		
10/13/99	0730	11.7	6.97	1138	9.44	0.1840	0.5590	12	11	0.37	5.75	7.16		
12/09/99	0730	9.9	7.25	1093	2.20	0.0680	0.1820	4	4	1.13	36.10	40.70		
02/07/00	0730	8.1	6.94	866	14.1	2.338	3.190	30	26	20.02	29.73	50.7		
04/04/00	0745	8.4	6.78	1271	13.9	1.2110	2.0560	25	22	9.98	10.33	29.98		
05/17/00	0815	8.4	6.96	1097	3.8	0.7820	1.0090	7	7	0.46	9.66	10.94		
06/15/00	0950	10.4	7.35	405	7.6	0.2490	0.4980	10	8	0.01	1.60	4.00		
07/17/00	0740	13.70	6.86	1892	3.03	0.1280	0.2790	6	5	0.10	5.23	7.44		
08/22/00	0830	13.7	7.20	1717	1.4	0.4480	0.4660	5	6	1.13	2.89	4.00		
10/11/00	0745	11.8	7.37	1553	11.4	1.7380	3.0300	16	4	14.23	0.74	16.48		
12/07/00	0840	8.3	6.70	783	2.8	0.6680	1.0180	11	10	1.91	27.60	29.1		
02/05/01	0745	7.7	7.77	871	1.6	0.190	0.498	11	9	17.43	7.68	32.0		
04/03/01		8.5	7.07	1445	1.3	0.4720	0.6720	16	13					
05/09/01		8.4	7.54	1435	11.1	0.0550	0.537	7	7					
06/14/01	0740	10.0	6.70	1682	3.7	1.354	1.592	5	3					
07/16/01	0750	17.10	7.40	207	21.3	0.7770	1.1670	11	7					
08/21/01	0800		7.71	2670	17.8	0.8910	1.3160	37	23					
10/10/01	0825	10.2	6.80	1268	12.3	0.0400	0.6600	16	<1					
12/06/01	0640	8.0	6.70	861	5.7	0.4210	1.3020	16	9	1.38	19.02	20.9		
02/06/02	0900	8.2	6.59			4.279	6.25	16	8	4.94	36.40	43.50		
04/02/02	0804	7.9	7.10		7.63	7.492	7.874	17	7	2.82	55.00	61.20		
05/23/02	0800	11.2	7.63	1327	13.4	1.11	1.764	9	5	0.07	8.14	10.44		
06/12/02	0738	10.5	7.12	1484	5	1.899	2.358	11	8	0.05	12.16	13.94		
07/15/02	0730	14.1	7.60	2936	12.7	4.019	4.125	20	15	0.21	40.10	52.70		
08/13/02	0830	15.8	9.40			0.807	1.758	38	28	0.46	12.52	14.60		
10/16/02	0820	12.9	8.46	240	7.28	0.239	0.527	14	5	0.01	16.00	16.80		
12/05/02	0715	8.10	7.38	1131	2.35	0.102	0.349	16	8	0.03	37.50	37.50		
2/3/2003	0815	8.8	7.23	1157	2.8	1.488	1.756	16	13	0.10	34.30	36.40		
4/1/2003	0820	4.2	7.23	1427	4.22	2.408	2.916	10	8	0.04	25.10	32.25		
5/15/2003	0800	7.7	6.74	1598	2.8	2.149	2.995	2	2	0.03	8.69	8.92		
6/11/2003	0800	7.3	6.96	1535	2.19	1.616	3.12	3	2	0.02	8.39	8.90		
7/14/2003		10.10	6.91		52.5	0.2740	0.4000	44	36	0.79	0.01	3.41		
8/12/2003	0615	13.70	7.47	1997	3.41	0.978	1.2170	6	6	0.05	19.52	21.40		
10/8/2003														
12/4/2003	0745	10	7.81	1087	11.1	1.288	1.488	5	5	0.04	31.9	34.5		
2/2/2004	0900	8.7	6.58	1261	7.99	6.296	7.08	14	13	6.56	50.2	61.9		
4/6/2004	0830	10.0	6.60	1473	1.6	0.976	0.995	3	3	0.04	47.5	54.5		
5/19/2004	0630	10.1	7.50	2050	3.8	1.184	1.283	5	4	0.02	5.4	7.03		
6/8/2004	0700	9.8	7.14	1563	18.8	1.957	3.374	16	13	0.08	6.4	8.95		
7/12/2004														
8/10/2004	0730	14.2	6.56	2400	1.7	1.121	1.375	7	5	0.2	8.65	10.1		
10/6/2004	0745	15.7	6.86	1425	4.4	0.223	0.281	9	6	0.07	11.6	14.9		
12/1/2004	1040	9.8	6.9	1108	2.6	1.138	1.341	6	2	0.09	39.4	48		
05/26/05	0900	7.8	7.02	2147	6.2	2.686	3.074	13	9	0.06	13.6	14.76		
10/13/05	0830	11.2	7.30	2007	5.1	0.776	0.96	7	2	0.15	15.24	16.02		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 3A, Georgetown WWTP


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 3A, Georgetown WWTP


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
180
160
140
120
100
80
60
40
20
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 3A, Georgetown WWTP

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC3A	**Georgetown WWTP**													
02/07/94		4.5	7.15	181	0.22	1.8000	2.1100		11	5.90	2.80	9.90		8.50
04/05/94	800	5.2	7.11	329	3.24	0.0200	0.4900	8	7	5.32	1.81	8.16	24.7	6.85
05/26/94	800	10.0	6.50	305	5.60	6.3200	7.7000	20	18	3.99	0.18	5.72	19.1	6.15
06/15/94	830	11.0	7.04	218	5.49	0.1700	0.3800	12	10	2.71	0.33	9.40	38.8	4.46
07/11/94	930	14.0	7.05	292	2.80	0.7400	0.9800	8	6	5.40	0.06	4.46	18.4	4.49
08/16/94	830	14.8	7.09	244	4.70	1.0800	1.0900	12	8	5.88	0.77	11.22	20.8	5.83
10/12/94	800	12.0	7.02	256	2.40	0.0600	0.2100	6	4	0.50	4.71	6.02	19.4	1.58
12/08/94	915	7.0	7.32	261	3.40	0.3100	0.5000	8	8				23.3	
02/06/95	845	6.0	7.41	333	4.02	0.2900	0.5700	10	9	9.62	0.14	8.72	27.0	10.70
04/04/95	800	7.0	7.19	288	4.37	0.2000	0.4800	12	11	7.52	0.11	7.90	25.0	
05/25/95	925	8.0	7.18	361	3.46	0.2800	0.4100	9	8	3.20	0.23	3.63	30.0	
06/14/95	830	8.5	6.99	373	5.36	0.2100	0.4500	14	12	1.76	0.34	2.24	35.0	
07/10/95	830	10.0	7.13	359	5.69	0.1000	0.4300	22	9	1.00	1.26	2.94		
08/15/95	850	13.0	7.11	253	4.35	0.0700	0.3200	8	6	3.80	0.39	4.06		
10/11/95	815	11.0	6.83	249	2.04	1.2900	1.5800	4	4	4.71	0.06	4.44		
12/07/95	800	8.0	6.74	239	2.32	0.3200	0.7400	8	6	3.00	0.59	3.96		
02/05/96	830	5.4	7.21	252	3.43	0.6400	0.9800	8	8	2.37	0.19	6.54		
04/02/96	800	6.0	7.16	270	6.23	0.5400	0.9100	15	13	3.85	2.54	5.25		
05/23/96	1015	11.5	7.04	246		0.2832	0.4614	10	9	1.36	0.40	4.32		
06/19/96	800	10.0	6.95	226	2.13	0.0138	0.1476	6	5	1.58	0.41	2.03		
07/15/96	830	12.6	7.23	202	1.85	0.0181	0.1214	6	4	2.70	0.25	2.34		
08/20/96	815	13.0	6.67	256	6.68	0.6330	0.9603	8	7	4.98	0.11	5.63		
10/09/96	800	12.0	7.14	165	3.48	0.4800	0.6800	3	2	4.32	0.04	3.50		
12/05/96	945	4.5	7.08	274	1.96	0.6300	0.8000	5	5	5.10	0.50	3.44		
02/24/97	815	4.0	7.25	313	4.90	1.2900	1.6000	10	10	9.45	0.20	7.37		
04/01/97	830	8.0	7.06	320	3.85	0.3700	0.6000	6	<1	1.60	0.14	4.21		
05/22/97	730	7.2	6.98	271	8.05	0.2300	0.6600	20	17	3.45	1.59	3.80		
06/18/97	845	9.4	7.01	386	11.58	0.0216	0.2700	3	2	1.44	1.46	4.08		
07/14/97	800	11.3	6.71	235	4.59	0.2500	0.4900	10	10	3.04	0.36	4.98		
08/12/97	905	11.8	6.91	216	4.88	0.1700	0.6800	34	30	1.82	0.27	4.60		
10/08/97	835	8.6	8.97	121	1.00	<0.0025	0.0041	<1	<1	0.05	0.18	0.20		
12/04/97	800	7.0	6.89	289	3.99	0.3200	0.5200	9	8	5.68	0.05	7.08		
02/09/98	800	4.8	7.06	333	5.45	2.3100	2.5900	11	7	9.50	0.42	9.81		
04/07/98	800	5.0	7.17	319	na	0.0600	0.3200	5	5	6.60	4.88	9.84		
05/21/98	830	8.3	7.20	286	5.34	0.3890	0.5930	14	12		0.05	2.47		
06/17/98	800	9.0	7.44	222	7.00	0.8600	0.3850	18	16	0.47	0.17	16.50		
07/13/98	800	11.2	6.95	206	2.59	0.0820	0.2000	5	<1	1.96	0.49	1.98		
08/18/98	742	13.0	6.89	240	17.71	0.3500	1.2550	55	49	5.68	0.66	8.12		
10/14/98	800	12.0	7.01	288	1.51	0.2520	0.3320	3	<1	9.20	2.37	13.25		
12/10/98	745	1.6	7.58	158	0.83	<0.0025	0.0040	<1	<1	0.01	0.44	0.70		
02/08/99	0800	6.9	7.00	384	2.67	1.4360	1.6200	5	<1	12.75	0.46	12.32		
04/07/99	0800	5.0	7.02	344	3.69	0.3770	0.6640	6	6	9.85	0.32	11.65		
05/12/99	0800	8.0	6.89			0.2290	0.6180	13	12	6.70	0.13	8.30		
06/17/99	0945	7.0	6.93	342	28.00	0.0650	1.8050	87	75	0.21	0.24	8.24		
07/12/99	0815	12.0	6.94	238	4.15	0.0720	0.2530	9	8	3.10	0.36	4.40		
08/17/99	0800	12.0	6.55	246	5.50	0.2110	0.3890	8	8	2.50	0.11	4.10		
10/13/99	0815	11.0	6.62	282	1.46	0.4240	0.5470	5	4	2.00	0.31	3.03		
12/09/99	0800	6.0	6.57	315	2.60	0.3960	0.5500	5	4	<0.01	4.16	4.51		
02/07/00	0830	12.0	6.88	303	6.9	3.961	4.211	10	9	3.99	4.09	11.44		
04/04/00	0830	11.0	6.95	335	3.1	0.0680	0.2300	3	1	3.34	1.20	7.91		
05/17/00	0845	10.0	6.63	317	3.2	0.0600	0.1920	3	3	2.97	0.46	3.45		
06/15/00	0900	11.7	6.52	240	2.92	0.1450	0.2850	5	5	0.67	0.34	1.95		
07/17/00	0830	14.00	6.94	278	4.78	0.7990	1.0500	10	9	4.94	0.39	6.98		
08/22/00	0830	15.0	6.68	292	15.0	0.2360	0.6820	19	16	6.60	1.16	9.56		
10/11/00	0815	12.0	6.80	327	3.1	0.1550	0.5110	11	4	7.42	0.13	8.07		
12/07/00	0915	7.3	7.10	339	4.0	0.1790	0.6410	18	17	6.04	0.02	7.52		
02/05/01	0845	5.0	6.80	339	4.5	1.183	1.805	22	19	9.49	0.01	10.83		
04/03/01	0830	7.0	6.85	303	2.3	0.2640	0.9630	30	26					
05/09/01	r/m	10.9	7.35	341	15.9	0.5080	1.119	20	18					
06/14/01	0800	9.3	7.12	283	11.80	0.672	1.068	15	12					
07/16/01	0830	13.00	7.08	226	15.10	0.5070	0.9380	28	28					
08/21/01	0710	13.6	7.07	293	4.8	0.7050	0.8810	9	8					
10/10/01	0900	11.0	6.91	310	4.9	0.3100	0.4430	6	3					
12/06/01	0740	7.2	7.10	322	2.7	0.2150	0.3770	5	3	6.09	0.10	7.11		
02/06/02	0845	5.7	7.18			1.11	1.205	3	2	8.34	< 0.01	9.82		
04/02/02	0828	7.8	7.20		20.3	1.044	1.578	20	14	8.69	0.26	9.24		
05/23/02	0800	10.6	6.80	195	8.95	0.215	0.419	6	4	5.25	0.02	7.93		
06/12/02	0815	11.1	7.00	282	2.2	0.086	0.174	4	2	3.84	0.06	5.53		
07/15/02	0905	16.0	7.20	350	2.82	1	1.057	4	3	8.06	0.04	11.00		
08/13/02	0810		7.10			0.863	1.132	9	7	7.27	0.02	7.63		
10/16/02	0810	11.8	7.09	341	4.89	0.556	0.798	16	9	5.96	0.02	7.19		
12/05/02	0710	8.00	7.00	347	2.1	0.322	0.427	7	5	4.55	0.03	5.67		
2/3/2003	0827	6.8	7.27	442	2.4	1.268	1.383	7	6	14.44	0.01	16.90		
4/1/2003	0830	6.3	6.89	382	8.25	0.401	0.603	14	14	4.40	0.08	6.85		
5/15/2003	0753	11.6	6.66	413	4.5	0.154	0.531	12	10	3.74	0.18	6.08		
6/11/2003	0844	8.7	6.89	336	7.97	0.052	0.296	2	2	0.90	1.35	3.23		
7/14/2003		13.30	6.78		5.4	0.0860	0.2190	10	9	2.97	0.03	4.97		
8/12/2003	0800	15.30	6.91	298	2.91	0.293	0.4610	5	5	4.95	0.02	5.80		
10/8/2003														
12/4/2003	0830	6	6.94	328	6.48		0.920	4	3	6.60	0.93	8.65		
2/2/2004	0835	6.2	6.90	409	11.1	2.33	2.797	18	18	11.7	0.01	14.02		
4/6/2004	0930	7.7	7.03	368	6.5	0.227	0.473	6	5	6.82	0.13	8.44		
5/19/2004	0715	9.0	7.25	344	3.3	1.019	1.122	4	2	6.33	0.05	7.49		
6/8/2004	0800	12.0	7.52	314	5.4	0.293	0.513	13	9	5.5	0.26	6.89		
7/12/2004														
8/10/2004	0800	16.3	6.59	388	5.0	1.833	2.853	25	22	11.2	<0.01	14.8		
10/6/2004	0815	14.8	7.10	293	9.5	1.22	1.391	15	11	11.4	0.01	14.1		
12/1/2004	0959	8	6.89	262	6.8	1.11	1.501	17	10	7.86	0.01	9.54		
02/07/05	0830	8	6.43		5.6	2.41	2.79	13	12	12.6	0.01	15.4		
04/05/05	0750	7	7.44	425	3.6	2.483	2.825	10	9	10.4	0.09	15.2		
05/26/05	0930	10.3	6.78	343	5.2	0.117	0.379	11	8	0.5	1.65	3.35		
06/15/05	0810	11.1	6.70		5.38	0.055	0.276	8	8	0.70	2.41	4.05		
07/18/05		15	7.65	451	34.4	<0.0025	0.0032	6	1	0.15	<0.01			
08/30/05	0830	13.8	6.95	255	2.3	0.064	0.336	8	4	0.36	1.16	4.1		
10/13/05	0855	11.6	7.21	342	5.7	0.096	0.224	7	2	1.66	0.33	3.31		
12/01/05	0800	7.4	6.72			0.078	0.443	11	3	2.6	4.71	10.2		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
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01/07/02
06/07/02
11/07/02
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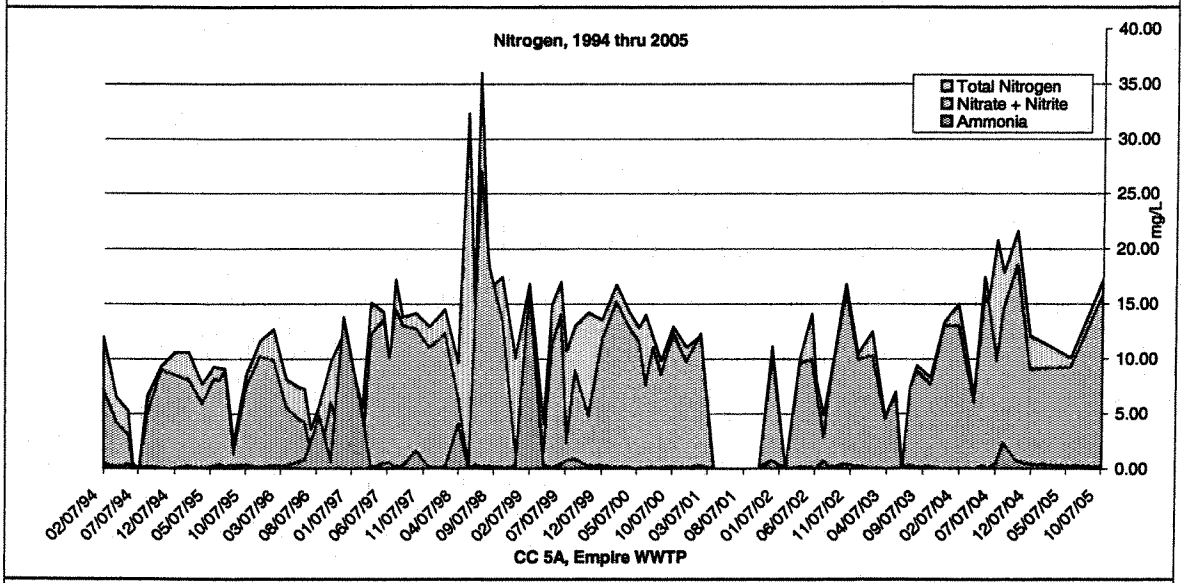
12/07/04
05/07/05
10/07/05
CC 5A, Empire WWTP


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
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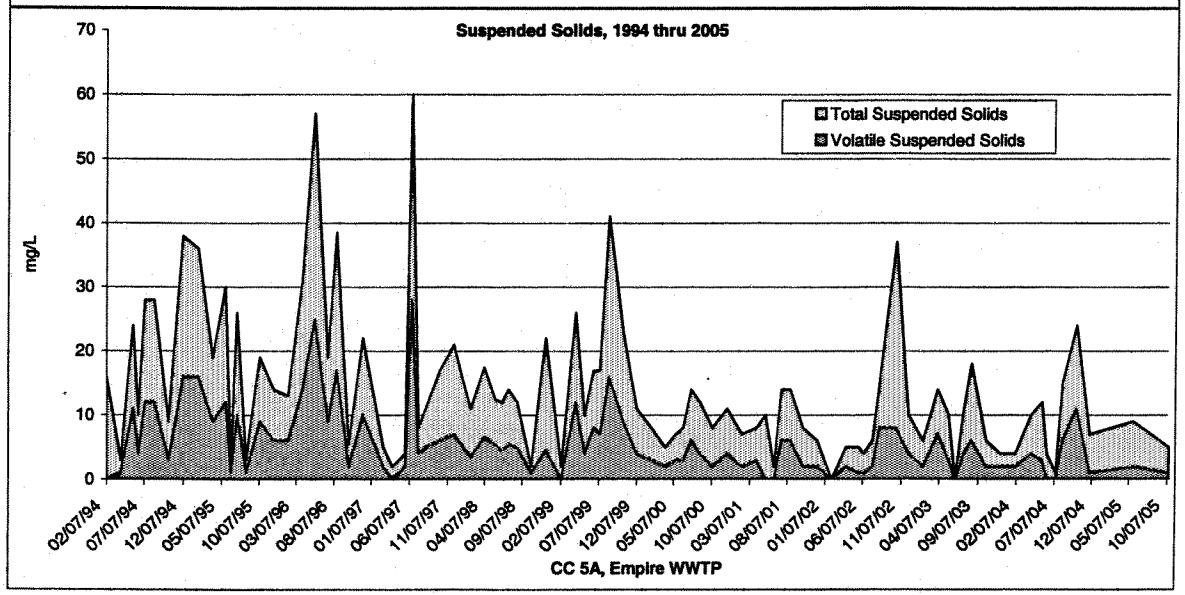
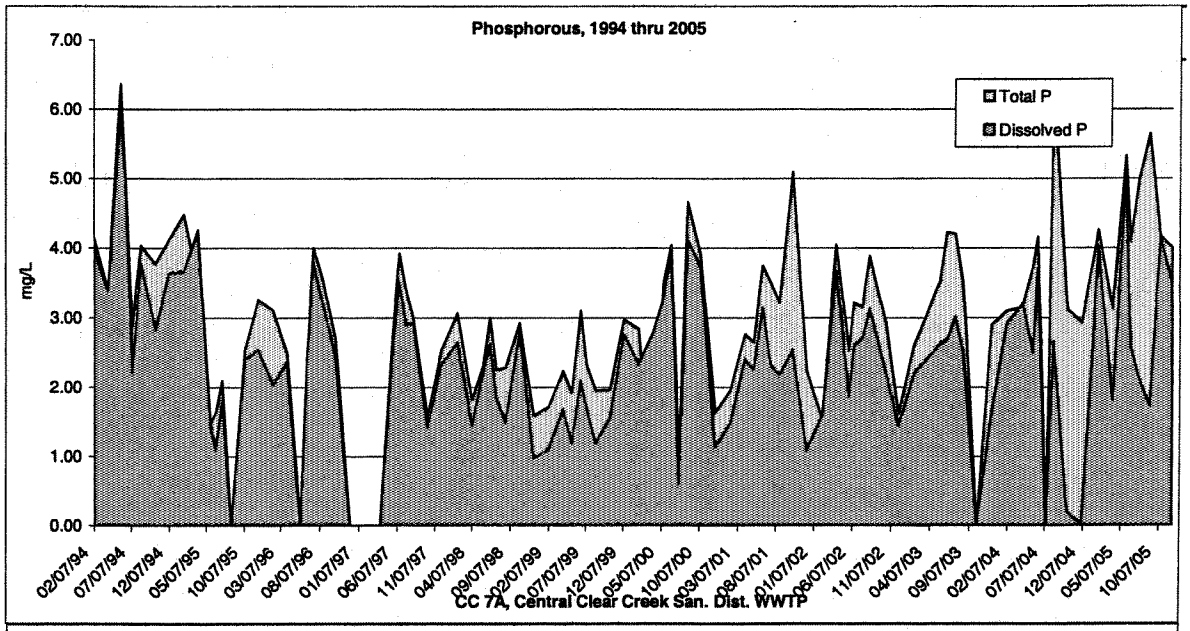
12/07/04
05/07/05
10/07/05
CC 5A, Empire WWTP


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
70
60
50
40
30
20
10
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 5A, Empire WWTP

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC5A	**Empire WWTP**													
02/07/94	938	5.7	9.65	327	2.60	1.3300	1.2200	16		0.44	7.20	12.00		9.10
04/05/94	730	7.3	8.92	330	1.76	0.9200	1.1900	2	1	0.19	4.18	6.50	27.7	1.07
05/26/94	915	11.2	8.61	337	7.00	2.5000	3.3100	13	11	0.40	3.05	5.27	27.1	1.92
06/15/94	745	13.1	7.64	91	1.80	<0.05	0.0700	6	4	0.10	0.19	0.50	5.1	0.57
07/11/94	1020	14.3	6.65	347	6.00	2.4000	2.8400	16	12	ce	ce	ce	26.5	ce
08/16/94	700	13.5	6.95	338	5.80	1.6000	1.8500	16	12	0.24	5.02	6.84	25.4	1.84
10/12/94	630	12.2	6.69	352	1.70	1.0100	1.3600	6	3	0.05	9.00	9.31	35.7	0.66
12/08/94	730	8.3	7.16	314	7.30	0.7100	1.4900	22	16	0.09	8.52	10.60	30.4	2.24
02/06/95	800	7.2	6.99	342	6.99	0.6700	1.7500	20	16	0.23	8.06	10.60	22.0	2.42
04/04/95	700	7.7	6.95	301	3.68	0.8600	1.3400	10	9	0.11	5.88	7.70	30.0	
05/25/95	800	9.5	6.82	325	5.49	0.5900	1.2600	16	12	0.30	8.22	9.29	35.0	
08/14/95	800	11.4	5.44	450	0.93	0.0200	0.0900	2	1	0.41	8.02	9.17	43.0	
07/10/95	700	13.0	7.03	480	3.92	0.5500		16	10	0.25	8.90	9.11		
08/15/95	630	13.8	7.01	453	2.21	0.6700	0.6700	2	1	0.34	1.38	2.38		
10/11/95	715	13.5	6.67	297	3.57	1.2000	1.5300	10	9	0.35	7.46	8.59		
12/07/95	630	11.6	6.74	338	3.78	1.4100	1.7600	8	6	0.15	10.20	11.60		
02/05/96	615	6.0	7.12	381	4.94	1.5100	2.0600	7	6	0.33	9.90	12.70		
04/02/96	700	9.4	6.83	315	5.56	1.1000	1.5800	17	14	0.32	5.58	8.14		
05/23/96	630	13.2	6.67	308		0.8229	1.2400	32	25	0.60	4.58	7.44		
08/19/96	600	13.9	6.84	334	5.66	0.7200	1.3365	21	17	0.88	4.22	7.25		
07/15/96	745	15.5	7.18	386	4.07	0.7300	0.9568	10	9	2.41	1.58	3.80		
08/20/96	610	16.0	7.09	375	8.59	0.7120	1.4297	22	17	4.83	0.35	5.71		
10/08/96	600	13.2	7.32	172	2.55	0.6200	0.8000	4	2	0.63	6.02	9.70		
12/05/96	600	6.2	7.37	378	4.82	1.3500	1.9900	12	10	13.80	1.66	12.30		
02/24/97	700	5.5	7.03	317	1.45	0.0067	0.0800	3	2	4.85	1.57	5.58		
04/01/97	700	9.4	6.52	356	1.07	0.1600	0.3500	2	<1	0.08	12.20	15.10		
05/22/97	630	11.2	7.26	428	1.58	0.0800	0.3800	2	2	0.55	13.60	14.30		
08/18/97	700	12.0	7.10	370	0.97	0.1000	0.6100	32	28	0.60	10.08	9.53		
07/14/97	700	12.7	8.27	456	1.28	0.6800	1.0600	4	4	0.18	14.50	17.20		
08/12/97	800	14.5	7.94	440	1.30	0.3700	0.8200	6	5	0.30	13.00	13.80		
10/08/97	1000	14.1	8.39	458	3.32	0.8400	1.2700	11	6	1.68	12.75	14.16		
12/04/97	700	9.2	7.05	414	3.72	0.0180	0.5200	14	7	0.16	11.00	12.92		
02/09/98	630	6.9	7.89	401	2.69	0.8200	1.1300	8	4	0.11	12.30	14.50		
04/07/98	800	8.9	7.75	434		0.1400	0.3500	11	7	4.10	6.38	9.60		
05/21/98	700		7.76	450	1.98	0.5030	0.7350	7	6	0.03		32.30		
06/17/98	730		8.43	430	1.75	0.4830	0.7030	8	5	0.38	12.90	15.10		
07/13/98	730		7.77	476	2.30	0.0390	0.2720	9	6	0.27	27.00	36.00		
08/18/98	730	16.0	7.28	453	1.65	0.1730	0.5400	7	5	0.25	16.30	16.40		
10/14/98	630	14.9	9.22	439	0.59	0.4520	0.5330	1	1	0.12	13.50	17.45		
12/10/98	700	8.3	9.59	512	2.65	0.0200	0.0870	18	5	0.23	1.54	10.10		
02/08/99	0600	8.9	9.22	531	0.93	0.8620	1.0510	2	<1	16.25	1.64	16.82		
04/07/99	0830	10.0	7.29	365	3.53	0.0052	0.2610	14	12	0.27	1.53	4.13		
05/12/99	0730	9.8	7.09	487	2.04	0.0030	0.1180	6	4	0.16	11.40	14.90		
08/17/99	0800	13.5	7.31	540	1.90	0.0055	0.2300	9	8	0.41	13.95	17.00		
07/12/99	0800	16.8	7.19	548	4.24	0.0125	0.2410	10	7	0.76	2.43	10.70		
08/17/99	0700	15.3	8.80	459	11.60	0.7870	1.5200	25	16	0.94	8.90	13.00		
10/13/99	0800	13.5	6.80	494	5.90	0.1560	0.6290	14	9	0.28	4.76	14.20		
12/09/99	0930	10.7	7.56	415	3.30	0.0296	0.3500	7	4	0.28	11.75	13.55		
02/07/00	0800	9.1	7.65	416	1.9	0.312	0.666	5	3	0.14	15.17	16.75		
04/04/00	0630	8.6	7.55	422	1.4	0.0306	0.1820	3	2	0.13	12.87	14.32		
05/17/00	0800	12.9	7.67	403	1.4	0.1760	0.4040	4	3	0.10	11.49	12.80		
06/15/00	0830	14.5	7.00	400	1.69	0.3670	0.6050	5	3	0.06	7.57	14.00		
07/17/00	0900	16.40	7.54	460	2.31	0.5000	0.7840	8	6	0.19	11.02	12.01		
08/22/00	0830	16.5	7.10	564	2.5	0.6140	0.9310	8	4	0.08	8.58	9.80		
10/11/00	0830	13.6	6.75	511	2.8	0.1150	0.4340	6	2	0.20	12.26	12.92		
12/07/00	0800	9.1	7.01	382	1.9	0.2220	0.4030	7	4	0.12	9.70	11.07		
02/05/01	0800	7.2	7.04	321	0.4	0.069	0.471	5	2	0.32	12.30	12.10		
04/03/01	n/m					0.0480	0.2000	5	3					
05/09/01	0800	10.6	7.69	403	1.3	0.3910	0.575	10	<1					
06/14/01	0800	12.9	7.70	374	0.81	0.495	0.685	2	<1					
07/16/01	0845	15.00	7.92	453	2.18	0.8130	1.0640	8	6					
08/21/01	0830	15.6	7.30		1.48	0.2040	0.2740	8	6					
10/10/01	0830	13.2	7.20	375	2.0			6	2					
12/06/01	0830	8.9	7.10	355	1.9	0.2360	0.6360	4	2	0.79	10.26	11.11		
02/04/02	n/a													
04/02/02	0800	7.5	8.60		1.99	0.438	0.588	3	2	0.14	9.85	10.01		
05/23/02	0800	12.3	7.30	210	1.06	0.167	0.314	4	1	0.15	9.92	14.10		
06/12/02	0830	14.6	7.00	312	1.31	0.098	0.352	3	1	0.06	7.01	8.09		
07/15/02	0830	18.2	7.40	270	2.26	0.84	1.139	4	2	0.74	2.60	4.90		
08/13/02	0800	17.9	7.25	371	1.8	0.12	0.394	7	6	0.14	8.18	8.41		
10/16/02	0830	13.2	7.65	434	6.23	1.193	1.294	29	8	0.43	16.04	16.80		
12/05/02	0830	9.10	6.80	356	1.25	0.063	0.1151	6	4	0.25	9.96	10.45		
2/3/2003	0830	6.6	6.90	404	1.5	0.0045	0.208	4	2	0.06	10.32	12.46		
4/1/2003	0700	8.3	7.80	437	3.2	1.028	1.276	7	7	0.03	4.57	4.73		
5/15/2003	0850	11.6	7.04	403	1.87	0.032	0.8	7	3	0.06	6.82	7.00		
6/11/2003														
7/14/2003	0800	15.70	7.00	453	1.34	0.0660	0.3050	7	4	0.35	7.35	7.41		
8/12/2003	0850	16.50	7.70	475	4.83	0.493	1.3180	12	6	0.16	8.91	9.39		
10/8/2003		18.5	6.95	477.0	1.5	0.8	1.402	4	2	0.22	7.66	8.31		
12/4/2003	0830	9.2	8.60	501	1.01	0.543	0.656	2	2	0.07	13	13.3		
2/2/2004	0830	6.7	8.67	669	1.2	1.153	3.429	2	2	0.16	13	14.98		
4/6/2004	0830	9.1	8.87	506	1.9	0.991	1.219	6	4	<0.01	6.03	6.53		
5/19/2004	0830	11.5	8.94	545	1.8	0.909	1.051	9	3	0.26	15.76	17.44		
6/8/2004	0830	13.7	6.63	488	2.1	0.12	0.526	4	<1	0.03	14.66	15.46		
7/12/2004	0830	14.9	6.92	554	2.2	0.149	1.064	1	<1	0.51	9.8	20.8		
8/10/2004	0800	15.4	7.03	490	1.9	0.301	0.949	9	6	2.4	14.54	17.84		
10/6/2004	0830	12.6	8.35	431	3.0	0.995	1.478	13	11	0.77	18.56	21.6		
12/1/2004	0930	8	8.94	371	1.2	0.628	1.087	6	1	0.47	9.05	12.1		
05/26/05	0830	11.5	7.89	604	2.0	0.17	0.776	7	2	0.29	9.26	10.1		
10/13/05	0830	6.3	8.80	580	1.0	0.893	0.96	4	1	0.14	15.86	17.2		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
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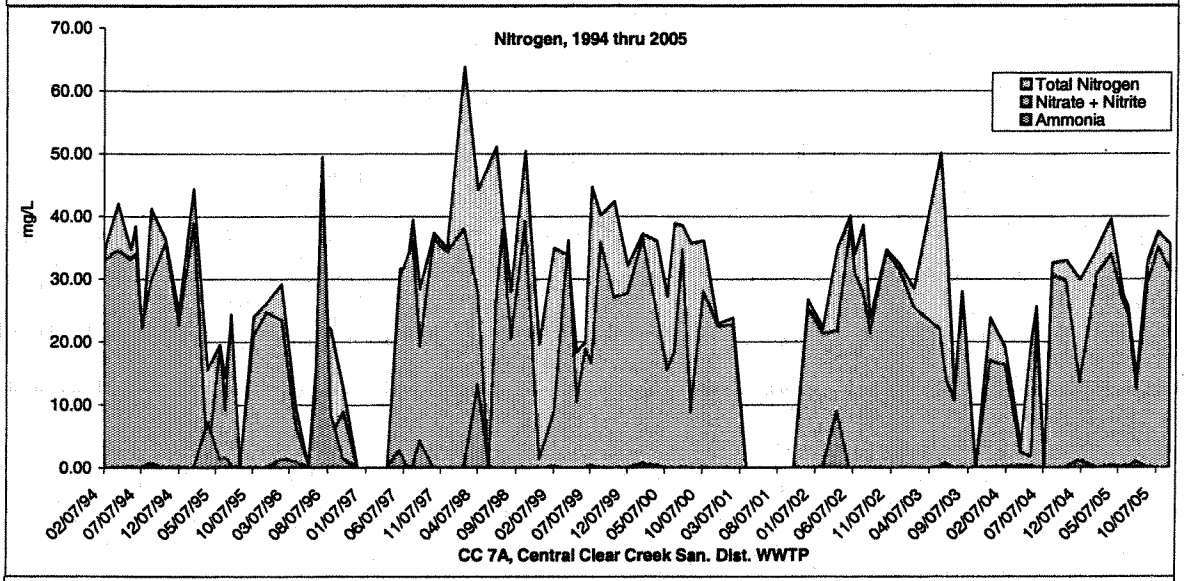
12/07/04
05/07/05
10/07/05
CC 7A, Central Clear Creek San. Dist. WWTP


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
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03/07/01
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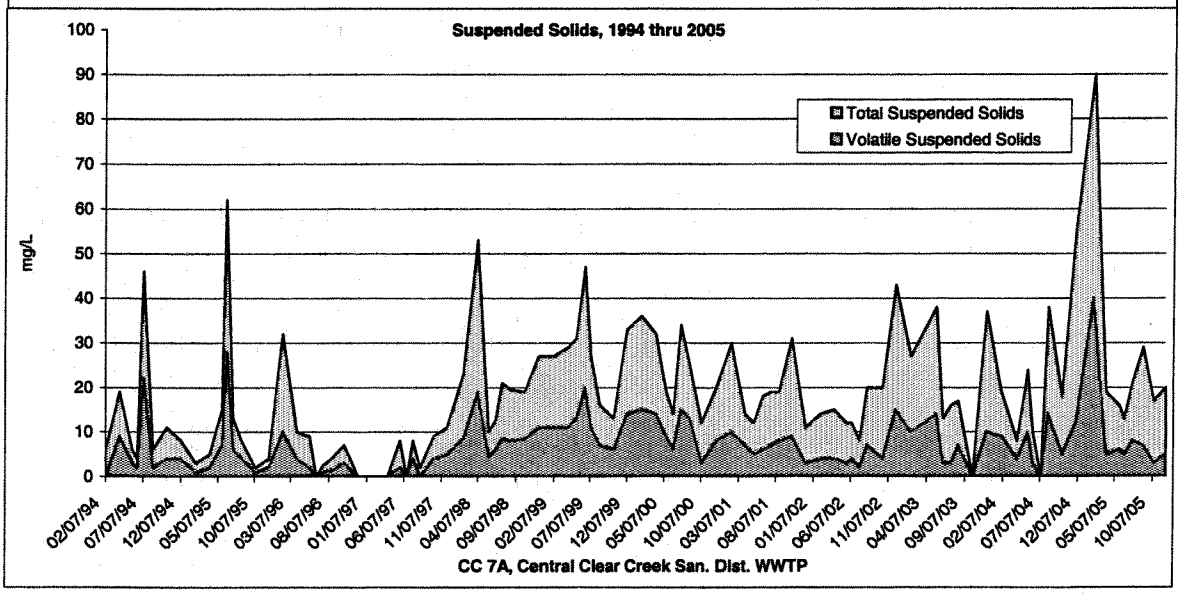
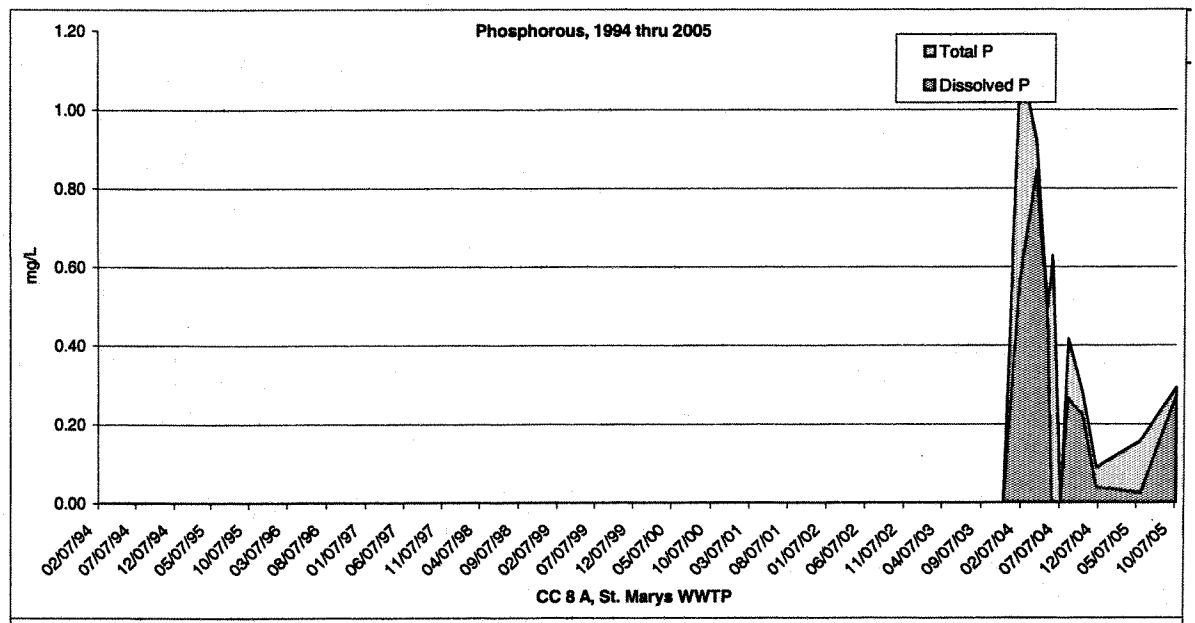
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 7A, Central Clear Creek San. Dist. WWTP


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
100
90
80
70
60
50
40
30
20
10
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 7A, Central Clear Creek San. Dist. WWTP

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC7A	**CCCSD WWTP**													
02/07/94	1020	4.0	6.72	176	2.68	3.9600	4.1400	6		0.07	33.10	34.50		2.12
04/05/94	855	8.1	6.96	771	3.43	3.3900	3.4000	10	9	0.05	34.60	42.00	66.2	1.94
05/26/94	820	13.1	6.59	830	2.60	5.9000	6.3600	3	3	0.17	33.10	34.70	77.3	7.35
06/15/94	825	11.0	7.00	770	1.03	4.9700	4.9300	2	2	0.06	34.10	38.40	84.7	7.80
07/11/94	805	18.0	7.25	911	8.70	2.2200	2.8900	24	22	0.19	22.30	20.40	88.8	4.66
08/16/94	755	13.5	6.94	831	3.60	3.7700	4.0300	4	2	0.78	29.80	41.20	95.5	2.52
10/12/94	830	11.7	9.18	969	9.90	2.8300	3.7700	7	4	0.13	35.80	36.50	88.8	1.67
12/08/94	900	6.7	8.00	726	2.00	3.6400	4.1200	4	4	0.26	22.60	24.80	81.0	2.58
02/06/95	810	6.0	6.24	817	1.78	3.6600	4.4800	2	1	0.04	38.90	44.40	65.0	2.16
04/04/95	810	8.6	7.51	737	1.56	4.2600	3.5200	3	2	7.35	0.94	15.60	79.0	
05/25/95	722	10.0	7.21	701	2.29	1.4400	1.4900	8	7	1.36	19.40	19.60	88.0	
06/14/95	820	14.4	7.17	641	10.22	1.0900	1.6200	34	28	1.82	9.15	14.34	67.0	
07/10/95	835	15.2	7.18	742	2.08	1.7900	2.0900	7	6	0.41	24.40	23.40		
08/15/95	840	15.0	5.02	477	3.76	<0.03	<0.03	4	4	0.12	0.28	0.20		
10/11/95	850	12.4	6.95	858	0.67	2.4100	2.5400	1	1	0.07	20.90	24.00		
12/07/95	830	7.2	7.08	899	1.24	2.5400	3.2600	2	2	0.12	24.80	26.20		
02/05/96	840	5.6	7.11	965	7.20	2.0400	3.1100	22	10	1.48	23.40	29.20		
04/02/96	900	9.2	7.42	863	2.01	2.3600	2.5000	6	4	1.08	6.61	9.80		
05/23/96	610	14.0	7.13	780		0.0035	0.0151	7	2	0.01	0.65	0.37		
06/19/96	740	15.0	7.69	866	1.38	2.4800	2.4100	<1	<1	11.25	0.79	14.40		
07/15/96	740	17.5	7.59	935	1.84	3.7800	4.0000	2	1	49.50	0.55	23.60		
08/20/96	845	18.1	7.80	1045	4.65	3.2059	3.5515	3	2	8.47	4.88	22.00		
10/09/96	800	11.3	7.51	165	3.73	2.4400	2.7000	4	3	1.43	8.90	12.70		
12/05/96														
02/24/97														
04/01/97														
05/22/97	920	13.8	7.28	954	3.22	2.5600	2.7700	6	2	2.92	30.20	31.68		
06/18/97	825	14.4				3.5300	3.9200	le	le	0.40	33.30	31.52		
07/14/97	800	18.0	6.89	901	2.02	2.9100	3.4300	4	4	0.10	36.10	39.50		
08/12/97	705	17.4	7.55	814	1.29	2.9200	2.9800	2	<1	4.40	19.40	28.50		
10/08/97	900	14.3	7.14	1062	2.40	1.4200	1.5800	5	4	0.10	36.50	37.40		
12/04/97	855	6.4	6.73	988	2.29	2.3200	2.5200	6	5	0.03	34.30	35.00		
02/09/98	835	6.9	6.82	1016	4.50	2.6400	3.0700	15	9	0.03	38.10	63.80		
04/07/98	700	8.0	6.87	1018		1.4400	1.8100	34	19	13.37	28.00	44.20		
05/21/98	845	14.0	6.98	947	2.30	2.1970	2.2940	6	5	0.04		48.50		
06/17/98	730	14.0	7.47	766	4.85	2.6260	3.0020	7	6	0.06	26.40	51.10		
07/13/98	845	17.5	6.73	870	3.96	1.8380	2.2520	13	9	0.02	38.00	41.00		
08/18/98	800	17.1	6.64	947	3.98	1.4900	2.2790	12	8	0.05	20.40	27.90		
10/14/98	745	12.6	7.03	895	3.43	2.7970	2.9260	11	9	0.14	39.20	50.40		
12/10/98	800	4.3	6.99	959	7.47	0.9830	1.5880	16	11	0.04	1.34	19.65		
02/08/99	0740	7.7	6.95	988	4.69	1.1100	1.7160	16	11	0.23	8.95	35.00		
04/07/99	0815	8.7	6.79	927	5.80	1.6780	2.2360	18	11	0.01	36.20	33.85		
05/12/99	0845	9.6	6.80			1.1950	1.9190	18	13	0.06	10.40	18.40		
06/17/99	0800	13.0	6.76	606	8.90	2.0980	3.1030	27	20	0.11	18.90	20.00		
07/12/99	0815	17.8	6.68	840	6.58	1.6960	2.3240	16	11	0.47	16.60	44.70		
08/17/99		17.0	7.10	948	4.40	1.1860	1.9540	9	7	0.04	35.95	40.20		
10/13/99	0755	13.4	6.97	913	3.73	1.5490	1.9610	7	6	0.06	27.08	42.40		
12/09/99	0826	5.3	6.70	885	10.30	2.7590	2.9820	19	14	0.03	27.80	32.20		
02/07/00	0810	5.8	6.68	895	10.4	2.338	2.838	21	15	0.75	36.50	37.23		
04/04/00	0820	7.4	7.40	842	10.3	2.7950	0.3430	18	14	0.41	24.68	36.12		
05/17/00	0845	13.1	6.57	916	6.1	3.2920	3.4930	10	9	0.06	15.57	27.28		
06/15/00	0745	17.2	6.55	799	4.2	3.9440	4.0400	8	6	0.01	18.3	38.89		
07/17/00	0835	17.50	6.59	908	6.88	0.6100	1.0150	19	15	0.17	34.82	38.56		
08/22/00	0800	17.5	6.51	889	5.4	4.1220	4.653	12	13	0.11	8.93	35.78		
10/11/00	0830	12.7	6.70	888	3.4	3.7310	3.9130	9	3	0.08	28.0	36.17		
12/07/00	0815	5.9	6.53	895	2.1	1.1330	1.6330	12	8	0.04	22.48	22.86		
02/05/01	0830	6.3	6.63	847	2.1	1.477	1.954	20	10	0.07	22.71	23.82		
04/03/01	r/m	8.7	6.94	700	1.1	2.4070	2.7660	7	7					
05/09/01	0900	12.0	6.88	782	8.1	2.2520	2.649	7	5					
06/14/01	0730	13.6	6.77	789	4.5	3.154	3.746	12	6					
07/16/01	0750	17.20	7.00	777	5.70	2.3250	3.5140	12	7					
08/21/01	0640	16.3	6.90	968	5.05	2.1850	3.2170	11	8					
10/10/01	0930	12.0	6.80	900	6.2	2.5280	5.0940	22	9					
12/06/01	0820	5.6	6.90	930	3.0	1.0840	2.2410	8	3	0.03	25.32	26.72		
02/06/02	0740	11.7	6.66			1.595	1.534	10	4	0.03	21.25	22.25		
04/02/02	0800	10.2	6.89		3.22	3.665	4.047	11	4	9.06	21.72	34.88		
05/23/02	0715	11.4	6.70	653	3.82	1.867	2.529	9	3	0.05	38.60	40.16		
06/12/02	0825	15.4	6.74	897	3.98	2.599	3.218	8	4	0.04	31.14	34.00		
07/15/02	0810	18.2	6.90	886	2.68	2.709	3.151	6	2	0.09	27.88	38.60		
08/13/02	0845	17.2	6.58			3.127	3.883	13	7	0.06	21.46	23.70		
10/16/02	0845	12.0	7.02	1020	2.86	2.221	2.928	16	4	0.04	34.52	34.68		
12/05/02	0640	7.50	6.42	965	9.04	1.449	1.623	28	15	0.02	31.48	32.52		
2/3/2003	0740	6.3	7.14	1049	5.8	2.201	2.618	17	10	0.06	25.51	28.48		
2/3/2003	0740	6.3	7.14	1049	5.8	2.201	2.618	17	10	0.06	25.51	28.48		
5/15/2003	0836	8.9	6.88	1011	6.8	2.623	3.527	24	14	0.11	22.00	50.1		
6/11/2003	0845	14.1	6.65	885	12.7	2.693	4.228	10	3	0.77	14.10	36.26		
7/14/2003		15.60	6.69		6.27	3.0180	4.2050	13	3	0.12	10.7	11.97		
8/12/2003	0816	19.00	6.64	938	4.72	2.504	3.5100	10	7	0.03	27.88	28.00		
10/8/2003														
12/4/2003	0831	6.8	6.89	966	5.47	1.612	2.898	27	10	0.19	17	23.84		
2/2/2004	0800	4.7	6.88	968	5.9	2.906	3.097	10	9	0.11	16.3	19.12		
4/6/2004	0848	9.3	7.11	960	2.2	3.208	3.156	4	4	0.38	2.46	3.77		
5/19/2004	0830	13.0	7.70	976	6.8	2.5	3.719	14	10	0.38	1.84	20.6		
6/8/2004	0830	15.2	7.04	892	3.0	3.691	4.156	7	3	0.1	23.4	25.6		
7/12/2004														
8/10/2004	0845	16.3	6.59	1014	5.0	2.653	6.282	24	14	0.05	30.6	32.6		
10/6/2004	0900	13.9	6.73	784	2.3	0.202	3.121	13	5	0.04	29.76	33		
12/1/2004		3.1	6.82			0.024	2.931	44	12	1.2	13.5	29.9		
02/07/05	0935	7	6.83		5.3	4.02	4.26	50	40	0.09	30.76	34.84		
04/05/05	0900	8.7	6.38	1039	3.6	1.801	3.128	14	5	0.26	33.92	39.6		
05/26/05	1000	14.8	6.83	1063	4.7	5.04	5.332	10	6	0.18	26.1	27.4		
06/15/05	0845	13.8	6.65		6.04	2.59	4.095	8	5	0.13	24.3	25.6		
07/18/05		18.6	6.90	980	6.8	2.12	4.99	13	8	1.08	12.4	14.2		
08/30/05	0700	17.1	6.84	968	5.1	1.722	5.65	22	7	0.15	29.4	33		
10/13/05	0920	12.0	7.83	1009	4.7	4.157	4.17	14	3	0.06	35.06	37.6		
12/01/05	0730	3.7	6.59			3.486	4	15	5	nm	31.2	35.6		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
1.20
1.00
0.80
0.60
0.40
0.20
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
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11/07/02
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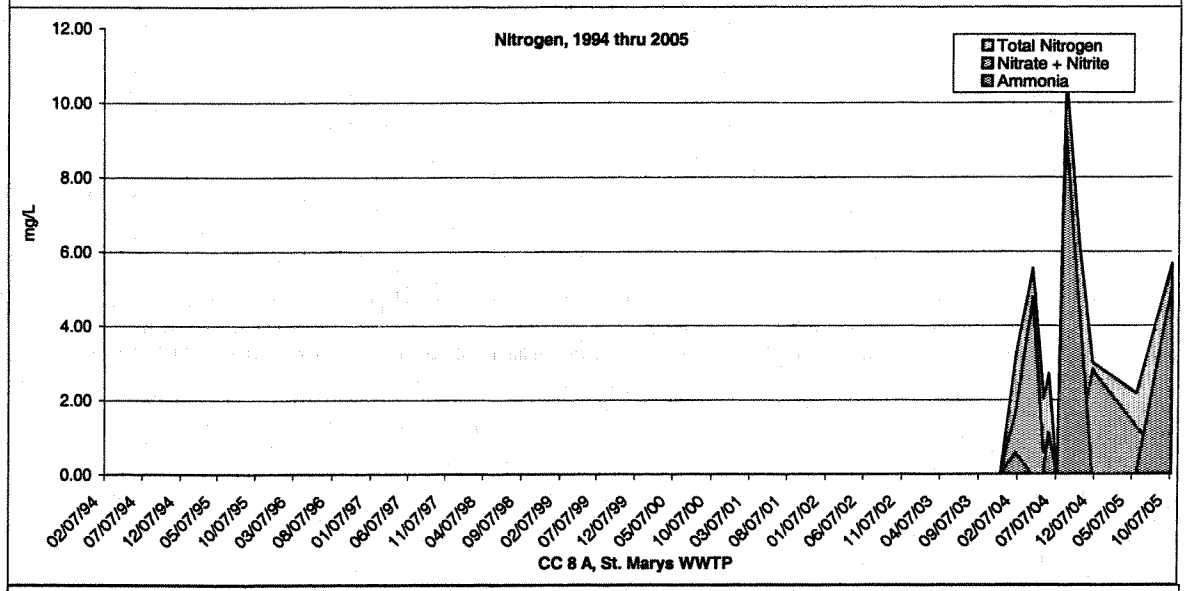
05/07/05
10/07/05
CC 8 A, St. Marys WWTP


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
12.00
10.00
8.00
6.00
4.00
2.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
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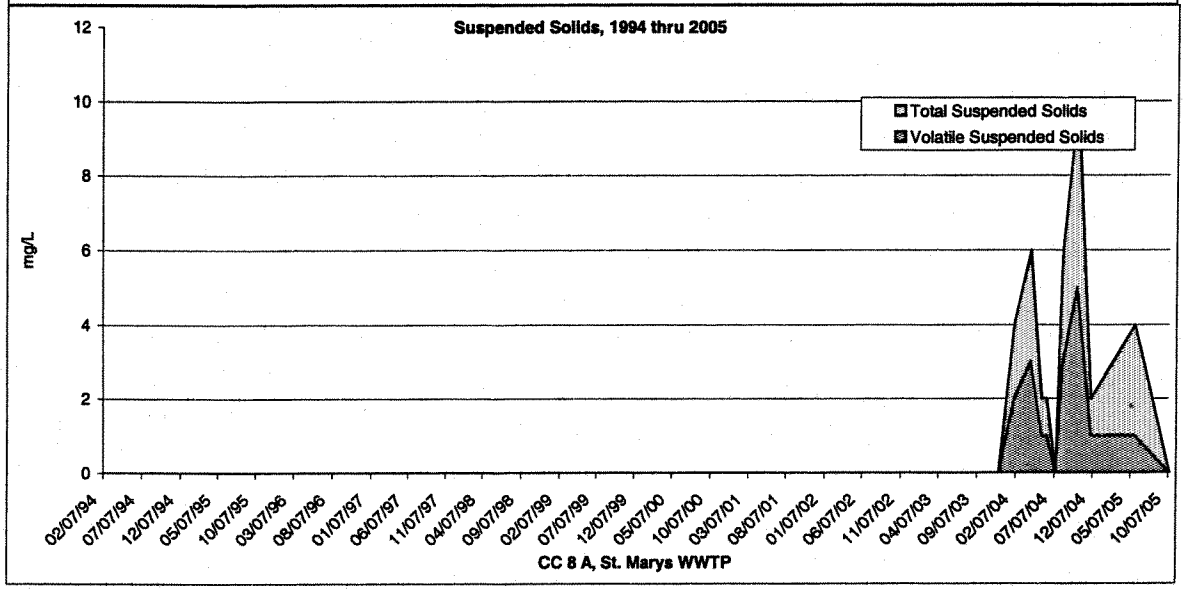
05/07/05
10/07/05
CC 8 A, St. Marys WWTP


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
12
10
8
6
4
2
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 8 A, St. Marys WWTP

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC8A	**Saint Mary's WWTP**													
02/07/94														
04/05/94														
05/26/94														
06/15/94														
07/11/94														
08/16/94														
10/12/94														
12/08/94														
02/06/95														
04/04/95														
05/25/95														
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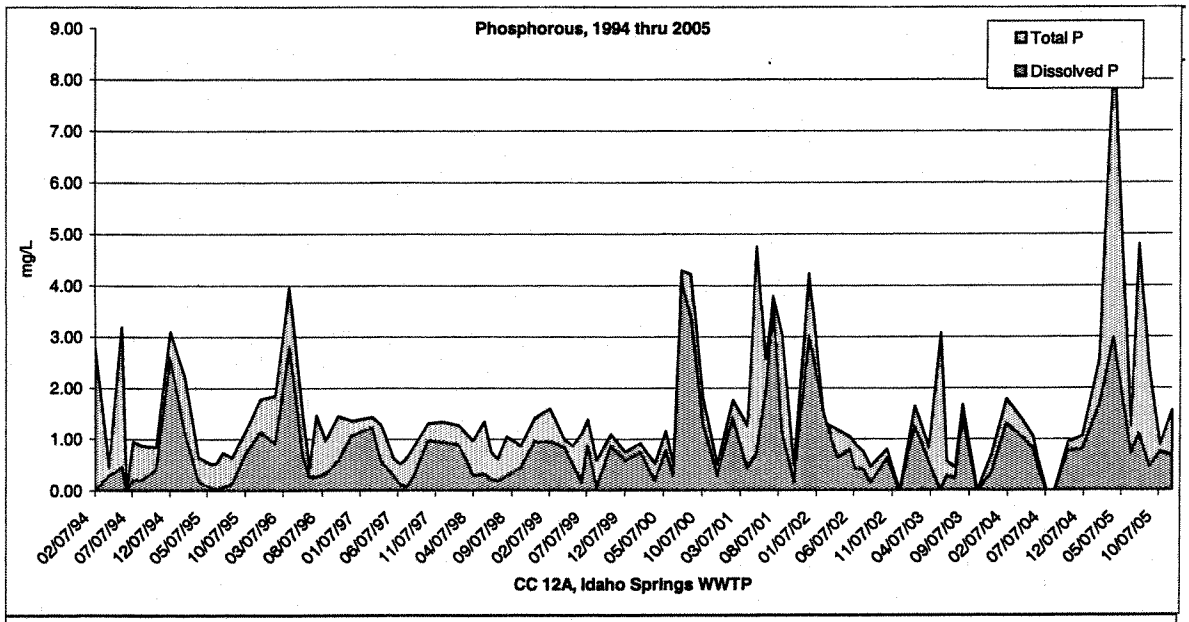
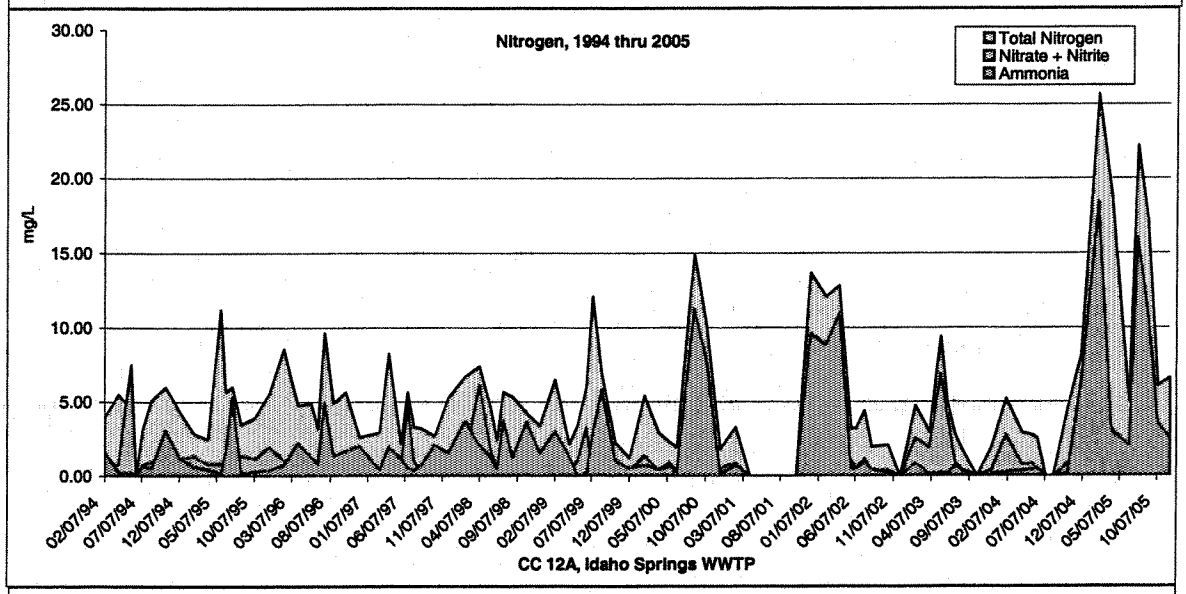
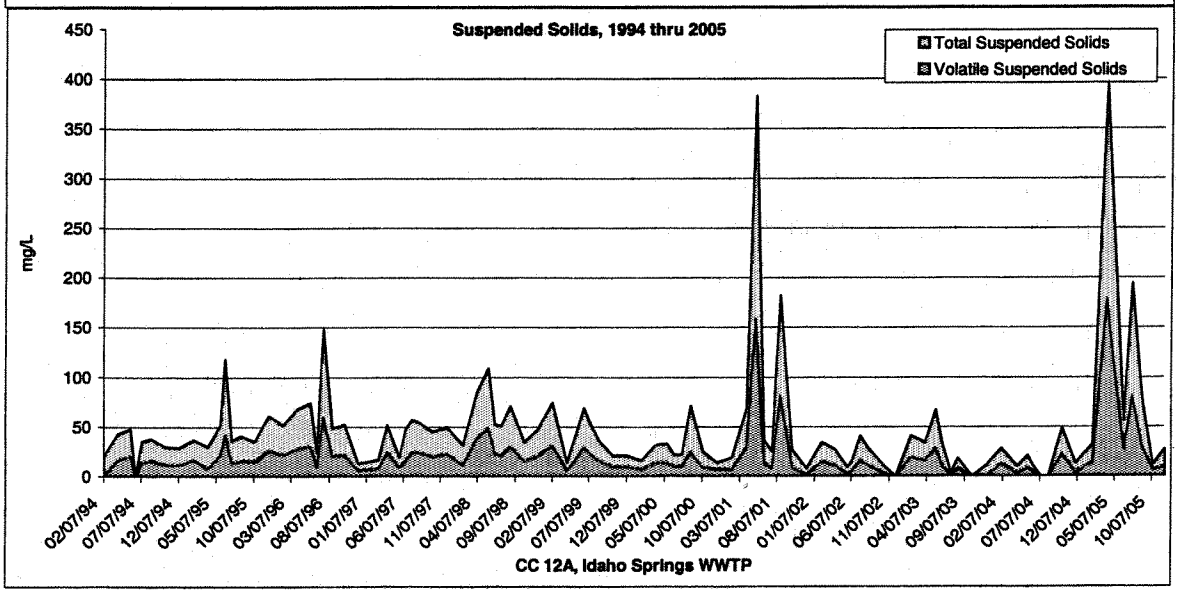
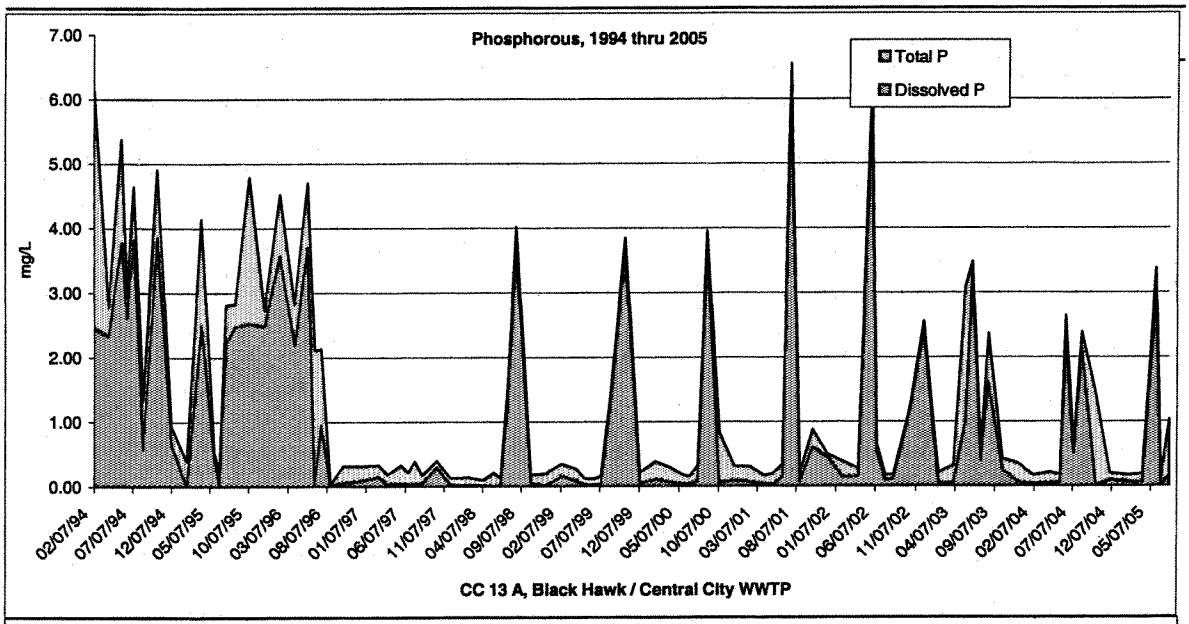
2/2/2004	0735	5.3	6.89	272	1.88	0.563	1.123	2	2	0.58	1.71	3.24		
4/6/2004	0729	5.5	7.13	337	2.2	0.844	0.918	3	3	<0.01	4.75	5.55		
5/19/2004	0630	6.1	6.89	198	0.9	0.464	0.49	1	1	<0.01	0.58	2.03		
6/8/2004	0715	8.8	7.25	284	1.0		0.626	1	1	1.11	0.94	2.7		
7/12/2004														
8/10/2004	0650	10.8	6.92	265	3.3	0.265	0.417	3	3	9.37	0.02	10.7		
10/6/2004	0630	10.0	7.01	200	1.2	0.223	0.281	5	5	4.58	0.85	6.23		
12/1/2004	0800	6.5	6.68	159	1.1	0.04	0.09	1	1	<0.01	2.79	3		
05/26/05	0930	4.8	6.61	155	3.4	0.025	0.159	3	1	<0.01	1.28	2.17		
10/13/05	0948	10.5	7.05	238	1.3	0.272	0.293	<1	<1	5.08	0.06	5.67		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 12A, Idaho Springs WWTP


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
30.00
25.00
20.00
15.00
10.00
5.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 12A, Idaho Springs WWTP


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
450
400
350
300
250
200
150
100
50
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 12A, Idaho Springs WWTP

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC12A	**Idaho Springs WWTP**													
02/07/94		11.6	7.04	76	10.10		2.7900	20		1.69	0.24	3.93		3.71
04/05/94	945	11.4	7.26	749	15.28	0.3000	0.4700	26	17	0.25	0.81	5.50	44.5	3.87
05/26/94	620	13.0	7.08	692	24.30	0.4500	3.1900	28	20	0.21	7.50	4.57	40.2	6.02
06/15/94														
07/11/94	845	18.8	6.98	617	12.70	0.2100	0.9500	21	14	0.72	0.78	3.10	38.8	3.40
08/16/94	730	16.9	7.30	566	9.10	0.2200	0.8900	22	16	0.54	0.96	5.11	38.6	3.06
10/12/94	640	15.0	7.45	695	7.60	0.4100	0.8500	18	12	3.11	1.15	5.99	36.7	5.78
12/08/94	640	13.0	7.56	741	6.50	2.5800	3.1000	17	12	1.25	1.16	4.38	37.4	2.46
02/06/95	800	12.0	7.31	826	9.75	1.1500	2.2400	20	17	0.63	1.36	2.86	41.0	2.90
04/04/95	845	13.6	7.46	702	9.15	0.1800	0.6500	22	8	0.43	0.82	2.46	48.0	
05/25/95	650	13.0	6.67	654	11.45	0.0600	0.5200	30	22	0.14	0.82	11.20		
06/14/95	640	12.7	6.55	691	37.20	0.0100	0.5300	76	42	1.66	1.11	5.66	38.0	
07/10/95	730	14.2	7.22	690	17.62	0.0800	0.7400	22	14	5.32	0.48	6.02		
08/15/95	645	18.0	7.28	644	12.26	0.1300	0.6400	25	16	0.20	1.37	3.48		
10/11/95	640	15.8	7.04	649	7.75	0.7500	1.1900	20	15	0.32	1.17	3.94		
12/07/95	750	13.0	7.14	716	14.84	1.1400	1.7800	35	26	0.44	1.97	5.52		
02/05/96	845	10.3	7.17	858	12.96	0.9200	1.8500	30	22	0.75	1.07	8.58		
04/02/96	830	12.3	7.22	793	17.23	2.8100	3.9600	40	28	2.24	0.42	4.76		
05/23/96	855	7.0	7.61	93		0.6660	1.4500	43	31	1.31	1.16	4.92		
06/19/96	630	15.2	7.24	674	5.98	0.2590	0.4339	15	10	0.84	0.98	3.22		
07/15/96	830	18.3	7.41	676	35.40	0.2611	1.4662	88	60	4.98	0.37	9.65		
08/20/96	630	18.0	6.99	634	11.32	0.3308	0.9755	28	21	1.38	0.47	4.89		
10/09/96	845	16.8	7.12	166	11.03	0.5700	1.4500	31	22	1.70	0.17	5.64		
12/05/96	830	12.0	7.36	718	2.38	1.0800	1.3600	7	6	2.04	0.55	2.64		
02/24/97	830	10.0	7.15	684	4.18	1.2300	1.4300	9	8	0.45	0.54	2.94		
04/01/97	830	12.0	7.25	731	10.70	0.5600	1.2700	28	24	1.99	0.40	8.26		
05/22/97	620	14.0	7.22	747	4.30	0.2900	0.6200	10	9	1.21	0.62	2.20		
06/18/97	800	14.0	7.01	647	6.83	0.1200	0.5200	32	16	0.60	4.85	5.65		
07/14/97	645	18.0	7.11	678	8.28	0.0700	0.6400	33	24	0.38	1.03	3.32		
08/12/97	620	18.0	7.13	698	4.41	0.3000	0.8600	30	24	0.70	0.24	3.24		
10/08/97	630	17.0	7.28	813	7.57	0.9700	1.3100	25	20	2.11	0.51	2.70		
12/04/97	800	12.0	7.20	789	8.80	0.9400	1.3400	27	23	1.57	0.78	5.26		
02/09/98	630	11.0	7.21	770	5.19	0.9000	1.2700	20	12	3.70	0.99	6.68		
04/07/98	900	12.0	7.21	646	ns	0.2900	0.9700	47	39	2.12	6.15	7.40		
05/21/98	830	14.0	7.04	626	24.40	0.3270	1.3440	61	49	1.28	1.84	4.63		
06/17/98	845	14.0	7.45	640	9.50	0.2180	0.7550	30	23	0.47	0.34	2.41		
07/13/98	828	18.0	7.19	692	8.87	0.2010	0.6140	30	21	3.78	0.50	5.66		
08/18/98	700	18.0	7.29	730	10.78	0.3010	1.0520	41	30	1.25	1.00	5.35		
10/14/98	724	18.0	7.43	814	6.89	0.4490	0.8690	20	15	3.65	1.29	4.24		
12/10/98	735	12.0	7.21	860	12.00	0.9610	1.4110	27	21	1.55	0.92	3.39		
02/08/99	0730	10.0	6.96	674	12.36	0.9530	1.5950	43	31	3.00	1.00	6.48		
04/07/99	0900	12.0	7.43	898	4.20	0.8320	0.9970	8	6	1.36	0.44	2.18		
05/12/99	0825	13.9	6.61	776	13.00	0.5060	0.8750	24	16	0.02	1.02	3.40		
06/17/99	0810	15.1	6.87	656	46.00	0.1750	1.1030	40	29	0.13	3.29	5.95		
07/12/99	0835	18.4	6.65	720	f/e	0.8910	1.3820	31	23	2.81	<0.01	12.10		
08/17/99	0848	18.9	6.98	690	37.00	0.0660	0.5860	20	16	5.79	<0.01	6.98		
10/13/99	1135	18.5	7.13	802	8.00	0.8600	1.0960	11	10	1.07	0.28	2.29		
12/09/99	0805	13.4	6.96	560	5.90	0.5830	0.7520	11	10	0.54	0.30	1.20		
02/07/00	0830	11.7	7.02	738	6.7	0.750	0.920	9	7	0.74	1.40	5.41		
04/04/00	0850	14.0	7.20	895	10.6	0.1940	0.5310	18	14	0.46	0.38	2.92		
05/17/00	0820	17.0	7.11	582	8.6	0.7640	1.1510	19	14	0.66	0.92	2.28		
06/15/00	0815	19.0	7.03	787	7.6	0.2840	0.5250	12	10	0.25	0.31	1.94		
07/17/00	0820	19.20	6.69	696	11.60	4.1220	4.2900	12	10	5.32	0.56	8.01		
08/22/00	0730	21.5	6.92	975	38.0	3.3750	4.223	47	24	11.27	0.12	14.93		
10/11/00	1015	18.8	6.98	874	6.5	1.2900	1.8020	16	9	7.80	0.14	10.25		
12/07/00	0830	14.6	7.02	946	1.7	0.2990	0.5020	7	7	0.16	0.57	1.82		
02/05/01	0800	13.5	7.03	818	2.0	1.407	1.763	12	7	0.75	0.84	3.27		
04/03/01	n/m	13.1	7.07	735	3.0	0.4370	1.2660	39	29					
05/09/01	0925	14.0	6.83	536	167	0.7170	4.75	224	159					
06/14/01	0830	13.8	6.73	480	36.6	1.907	2.565	22	14					
07/16/01	n/m					3.5890	3.7950	17	8					
08/21/01	0830	18.4		386	74.5	1.1430	3.0340	101	81					
10/10/01	0900	17.0		338	8.7	0.1700	0.4820	18	9					
12/06/01	0800	10.7	7.39	400	23.1	3.0060	4.2380	6	2	9.56	0.06	13.66		
02/06/02	0830	8.0	6.87			1.453	1.318	19	15	8.84	0.07	12.07		
04/02/02	1105	9.0	7.23		12.9	0.636	1.182	16	11	10.94	1.74	12.82		
05/23/02	0800	12.6	6.27	215	7.45	0.805	1.045	6	3	0.47	1.09	3.22		
06/12/02	0935	15.5	6.17	340	11.8	0.43	0.922	10	6	0.49	0.49	3.24		
07/15/02	0920	19.0	6.50	342	10.1	0.415	0.753	25	16	1.00	1.14	4.40		
08/13/02	0730	17.7	6.34			0.15	0.469	17	12	0.46	0.39	1.99		
10/16/02	0720	15.0	7.06	415	4.52	0.63	0.809	8	3	0.26	0.41	2.08		
12/05/02	n/a													
2/3/2003	0811	9.9	7.04	417	10.3	1.243	1.644	22	19	0.89	2.53	4.74		
4/1/2003	0745	10.3	6.86	485	10.4	0.549	0.836	18	16	0.16	1.95	2.96		
5/15/2003	0725	13.0	6.58	495	13.4		3.074	39	28	0.22	6.87	9.39		
6/11/2003	0830	14.0	6.72	472	6.46	0.285	0.569	22	10	0.12	3.96	4.90		
7/14/2003	f/e	19.00	6.72		7.38	0.2430	0.4560	2	2	0.73	0.87	2.76		
8/12/2003	0755	19.10	6.49	327	6.04	1.433	1.6750	10	8	0.35	0.45	1.74		
10/8/2003	se													
12/4/2003	0645	13.5	0007	0323	0009	0.335	0.691	11	<1	0.08	0.36	1.89		
2/2/2004	0830	8.3	6.77	345	8.41	1.305	1.789	15	13	0.28	2.79	5.21		
4/6/2004	0816	12.6	6.68	365	7.9	1.025	1.368	7	3	0.35	0.78	2.94		
5/19/2004	0715	14.0	6.79	347	6.0	0.814	1.055	12	9	0.44	0.85	2.75		
6/8/2004	0815	16.1	6.79	373	6.4	0.419	0.587	7	5	0.58	0.44	2.55		
7/12/2004	n/a													
8/10/2004	n/a													
10/6/2004	0700	16.6	6.60	363	14.6	0.777	0.949	27	22	0.1	0.82	4.42		
12/1/2004	0900	10.2	6.91	323	3.6	0.8	1.053	9	4	6.35	0.11	8.13		
02/07/05	0935	10	6.92		58	1.67	2.57	18	14	18.4	0.04	25.7		
04/05/05	0845	10.9	6.50	418	157	2.988	8.542	217	178	3.03	0.66	18.7		
06/15/05	0815	14.3	6.54		19.9	0.719	1.248	30	26	2.04	0.58	5.01		
07/18/05		18.6	6.64	586	80.7	1.1	4.8	114	80	16	<0.01	22.2		
08/30/05	0915	19.2	6.63	427	33.8	0.463	2.349	47	28	10.9	0.03	17.1		
10/13/05	0815	15.6	6.69	446	8.6	0.742	0.885	6	6	3.51	0.03	6.08		
12/01/05	0911	11.1				0.68	1.56	17	10	2.55	0.86	6.6		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
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01/07/02
06/07/02
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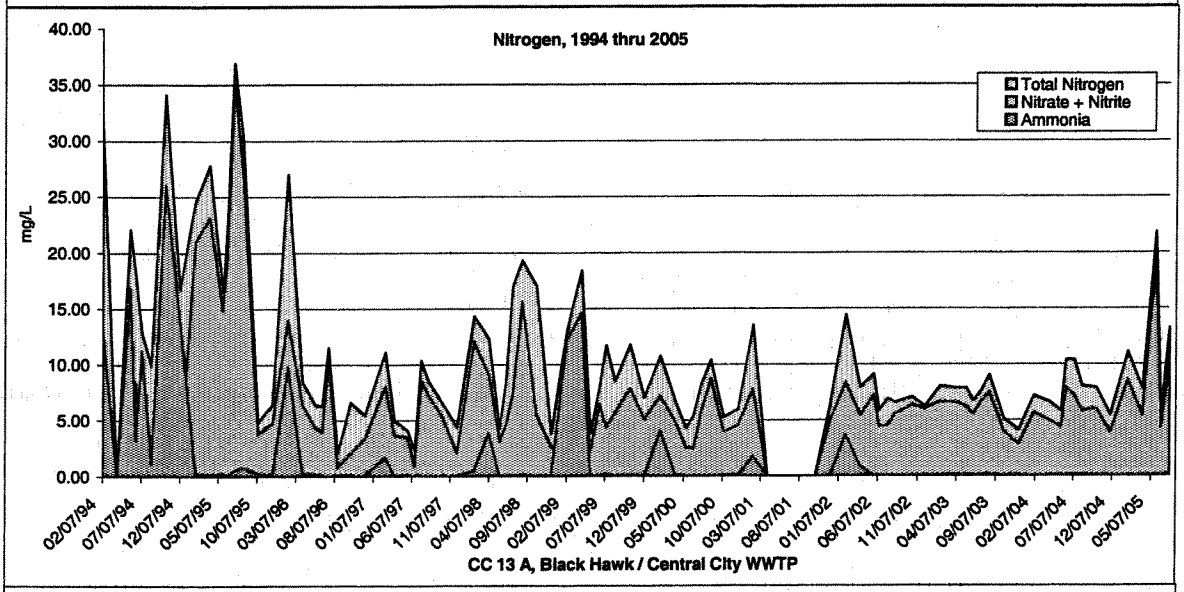
12/07/04
05/07/05
CC 13 A, Black Hawk / Central City WWTP


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
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06/07/02
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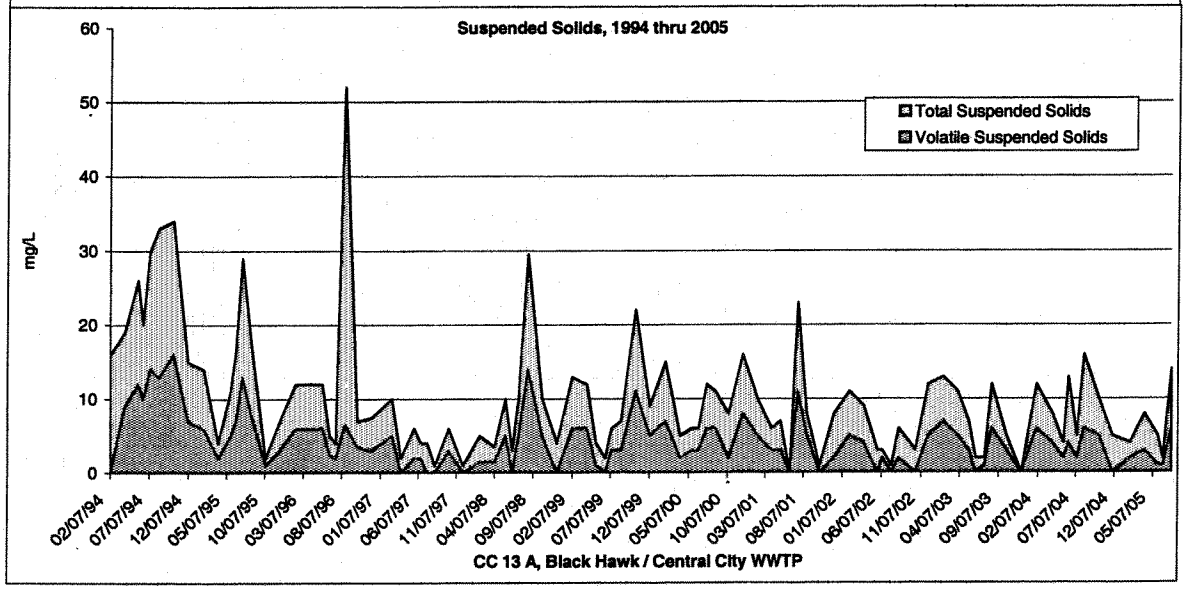
12/07/04
05/07/05
CC 13 A, Black Hawk / Central City WWTP


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
60
50
40
30
20
10
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
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10/07/00
03/07/01
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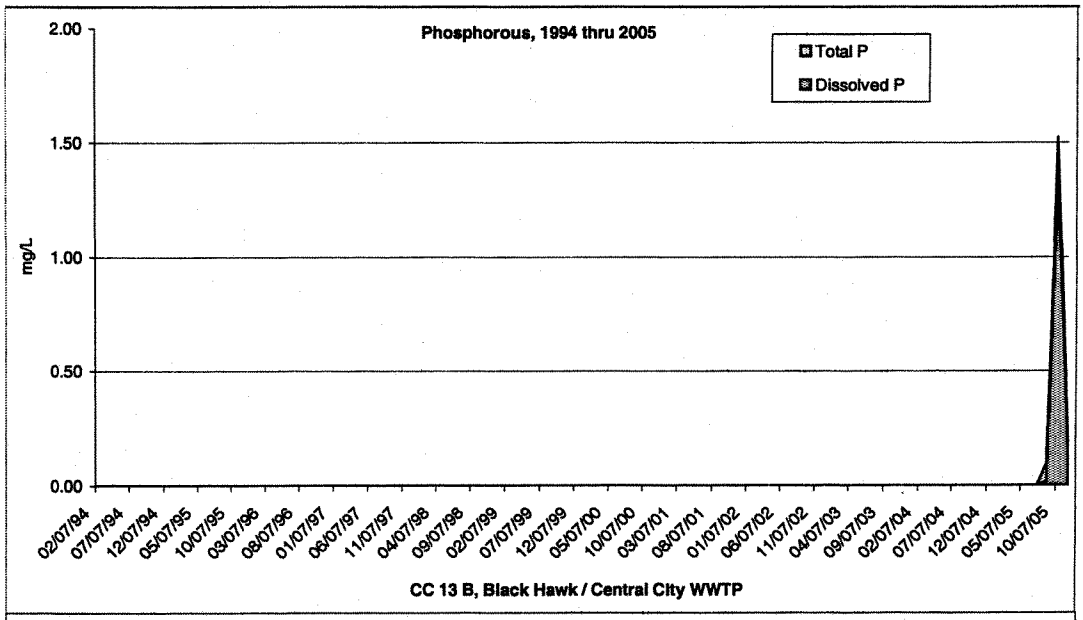
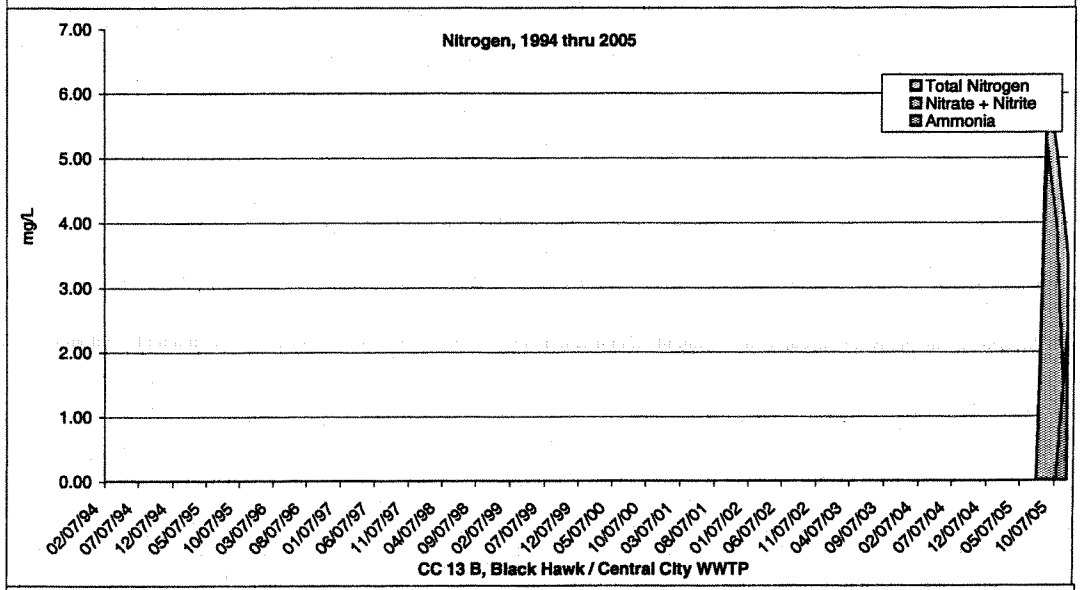
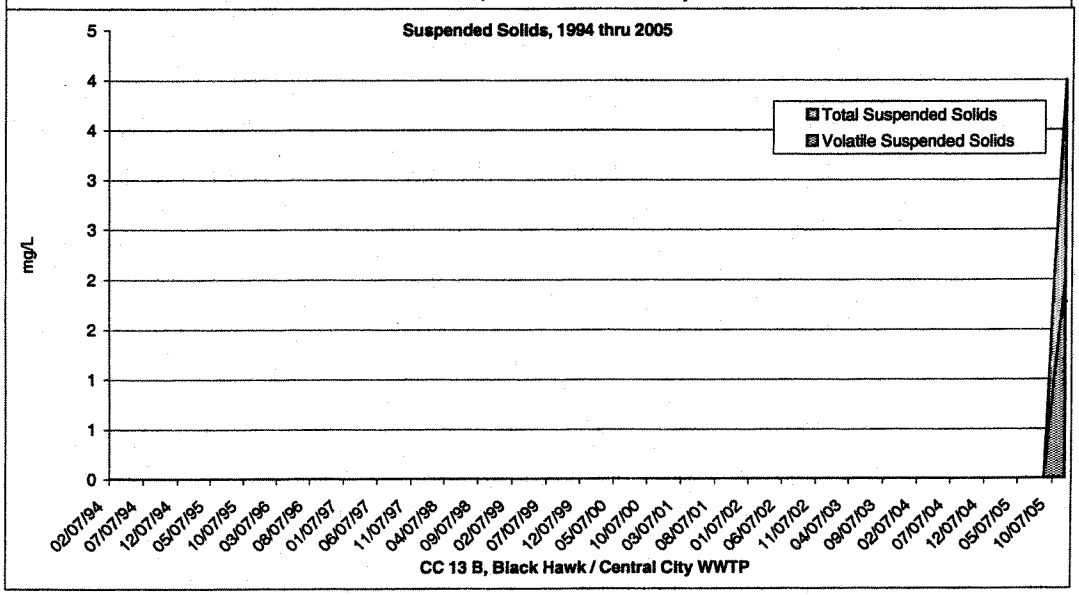
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
CC 13 A, Black Hawk / Central City WWTP

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC13A	**Black Hawk/Central City WWTP**													
02/07/94	1244	7.9	7.21	174	5.30	2.4600	6.1300	16		13.20	0.12	31.20		37.80
04/05/94	1015	9.6	6.87	592	5.15	2.3300	2.7800	10	9				66.7	
05/26/94	1025	14.1	6.61	611	4.90	3.7800	5.3800	14	12	16.80	0.21	22.10	57.2	34.50
06/15/94	950	17.8	6.53	375	4.77	2.6100	2.9700	10	10	3.26	8.40	18.20	59.7	11.80
07/11/94	1015	19.9	6.74	482	8.90	3.8200	4.6400	16	14	11.20	1.62	12.80	63.3	12.60
08/16/94	1010	17.0	6.85	634	6.60	0.5800	1.3400	20	13	1.14	3.68	9.92	58.9	4.34
10/12/94	1010	14.9	7.26	653	15.40	3.8500	4.9100	18	16	26.10	0.15	34.10	63.3	35.00
12/08/94	1040	6.9	7.31	691	2.50	0.6800	0.9300	8	7	13.85	0.86	16.72	60.7	19.60
02/06/95			7.04	955	3.11		0.3900	8	6	0.30	21.00	24.60	60.0	2.36
04/04/95	1010	12.1	7.19	588	0.78	2.5000	4.1400	2	2	0.15	23.15	27.80	65.0	
05/25/95	745	11.5	6.92	734	2.47	0.4200	0.5400	6	5	0.25	14.75	16.50	64.0	
08/14/95	1000	3.8	6.81	770	10.60	0.0500	0.2300	9	7	0.10	19.70	22.60	57.0	
07/10/95	1015	17.3	7.43	855	8.89	2.2200	2.8100	16	13	0.58	35.00	36.92		
08/15/95	950	21.2	7.40	756	3.28	2.4800	2.8300	10	8	0.83	26.60	30.00		
10/11/95	1015	15.0	7.34	509	0.57	2.5300	4.7900	1	1	0.28	3.60	4.87		
12/07/95	918	10.5	7.15	494	13.61	2.4800	2.7300	4	3	0.13	4.74	6.40		
02/05/96	1000		7.25	682	2.08	3.5800	4.5200	6	6	9.83	14.00	27.00		
04/02/96	1010	11.5	7.07	540	2.19	2.1600	2.8200	6	6	0.30	6.45	8.44		
05/23/96	937	17.0	7.50	597		3.6910	4.7000	6	6	0.21	4.42	6.42		
08/19/96	945		7.53	537	1.53	0.0504	2.1183	3	3	0.09	3.98	6.27		
07/15/96	1010	11.7	7.61	589	1.53	0.9459	2.1300	2	2	0.04	10.65	11.50		
08/20/96	1005	12.3	6.43	421	31.40	0.0127	0.0332	46	7	0.05	0.82	2.05		
10/09/96	945	16.3	7.49	189	2.59	0.0600	0.3200	4	4	0.12	2.10	6.62		
12/05/96	905	8.1	7.54	528	2.03	0.0900	0.3200	5	3	0.08	3.38	5.48		
02/24/97	1000	7.6	7.19	553	2.53	0.1500	0.3300	5	5	1.75	8.02	11.10		
04/01/97	1005	11.0	7.46	529	1.68	0.0376	0.1900	2	<1	0.05	3.65	5.01		
05/22/97	907	15.1	7.43	546	2.98	0.0800	0.3300	4	2	0.06	3.48	4.10		
08/18/97	955	16.4	6.95	540	1.24	0.0278	0.2200	2	2	0.04	0.85	2.33		
07/14/97	908	19.1	7.17	637	2.55	0.0500	0.3900	4	<1	0.06	8.60	10.35		
08/12/97		18.3	7.17	573	1.07	0.0500	0.1800	1	<1	0.02	7.28	8.51		
10/08/97	940	16.5	7.15	562	1.38	0.3000	0.4000	3	3	0.07	5.30	6.52		
12/04/97	910	8.6	7.40	643	1.11	0.0200	0.1300	1	<1	0.03	2.10	4.40		
02/09/98	910	8.8	7.19	653	1.29	0.0134	0.1500	4	2	0.54	11.95	14.30		
04/07/98	930	9.5	7.44	737	ns	0.0170	0.1000	2	2	3.90	9.12	12.30		
05/21/98	940	14.5	7.45	822	2.99	<0.05	0.2170	5	5	0.03	3.12	4.31		
08/17/98	920	16.7	7.73	788	1.57	0.0180	0.1350	3	<1	0.06	4.62	6.40		
07/13/98	920	19.2	7.24	691	1.98	1.1690	1.4470	5	5	0.07	7.34	17.00		
08/18/98	925	19.7	7.63	943	7.98	3.6460	4.0150	16	14	0.14	15.60	19.30		
10/14/98	900	17.5	7.96	663	2.11	0.0490	0.1840	5	5	0.07	5.52	16.99		
12/10/98	840	11.6	7.11	562	2.57	0.0140	0.2020	4	<1	0.04	2.57	3.83		
02/08/99	0845	9.0	6.86	685	2.50	0.1690	0.3510	7	6	12.20	2.36	12.96		
04/07/99	1030	11.6	7.02	623	2.35	0.0960	0.2780	6	6	14.60	2.50	18.40		
05/12/99	0755	13.5	6.77	320	2.09	0.0190	0.1230	3	1	0.04	2.32	3.83		
08/17/99	0940	18.0	7.44	632	1.00	0.0282	0.1230	2	<1	0.02	6.45	7.96		
07/12/99	1000	22.0	6.84	598	1.43	0.0274	0.1670	3	3	0.22	4.37	11.70		
08/17/99	0720	20.5	6.93	199	3.47	1.2830	1.4500	4	3	0.05	5.70	8.46		
10/13/99	0745	16.9	6.89	591	5.67	3.5990	3.8460	11	11	0.10	7.85	11.75		
12/09/99	0815	7.7	7.19	604	2.40	0.0560	0.2180	4	5	0.03	5.10	7.00		
02/07/00	0740	11.3	6.97	622	5.4	0.115	0.385	8	7	4.06	7.15	10.77		
04/04/00	0825	13.0	7.11	728	4.3	0.0730	0.2930	3	2	0.17	4.93	6.74		
05/17/00	0008	16.4	7.30	715	1.8	0.0364	0.1920	3	3	0.05	2.59	4.29		
08/15/00	0845	19.1	7.14	680	1.53	0.0384	0.1520	3	3	0.01	2.50	5.41		
07/17/00	0808	20.90	6.92	669	4.10	0.0910	0.3200	6	6	<0.01	5.87	8.27		
08/22/00	0757	22.7	7.28	728	2.6	3.6320	3.961	5	6	0.07	8.66	10.39		
10/11/00	1020	20.5	6.50	628	1.0	0.0580	0.8350	6	2	0.04	3.98	5.26		
12/07/00	1000	13.0	6.92	711	1.5	0.0980	0.3130	8	8	0.08	4.56	5.98		
02/05/01	0745	12.3	6.77	674	1.2	0.081	0.314	5	5	1.78	7.79	13.50		
04/03/01	0735	13.5	6.77	789	0.3	0.0510	0.1720	3	3					
05/09/01	1145	17.3	7.04	981	3.10	0.0278	0.199	4	3					
08/14/01	0630	17.0	7.01	650	1.99	0.148	0.340	<1	<1					
07/16/01	0800	21.70	6.99	704	7.23	6.0250	6.5480	12	11					
08/21/01	0730	20.3	7.32		2.1	0.0740	0.2180	3	5					
10/10/01	0730	18.2	7.44	778	2.2	0.6030	0.6830	1	<1					
12/06/01	1050		6.51	789	290	0.4570	0.5050	6	2	0.05	4.85	6.43		
02/04/02	0745	11.7	6.66		4.1	0.149	0.385	6	5	3.72	8.30	14.42		
04/02/02	0745	11.5			2.24	0.16	0.28	5	4	0.88	5.40	7.92		
05/23/02	0810	16.9	6.99	562	1.63	5.751	6.326	3	< 1	0.07	7.21	9.09		
08/12/02	0815	19.8	6.91	729	1.49	0.53	0.658	1	2	0.02	4.44	5.86		
07/15/02	1120	23.5	7.56	726	1.62	0.092	0.178	1	<1	0.08	4.52	6.90		
08/13/02	1128	20.8	6.68	808	2.7	0.12	0.176	4	2	0.04	5.55	6.58		
10/16/02	1105	18.9	7.14	841	1.44	1.214	1.276	3	<1	0.04	6.35	7.06		
12/05/02	1040	13.90	6.91	851	0.83	2.406	2.555	7	5	0.05	6.01	6.21		
2/3/2003	1222	14.7	7.02	856	2.6	0.053	0.218	6	7	0.07	6.63	8.03		
4/1/2003	0800	14.1	6.83	910	4.9	0.047	0.321	6	5	0.05	6.57	7.83		
5/15/2003	0820	17.6	7.07	958	2.21	0.975	3.088	4	3	0.06	6.24	7.67		
8/11/2003	0800	20.5	7.04	873	2.08	3.306	3.482	2	<1	0.05	5.47	6.70		
7/14/2003	0700	22.80	6.91	833	0.77	0.4080	0.5490	1	1	0.04	6.72	7.71		
8/12/2003	0800	22.30	6.87	777	3.21	1.605	2.3630	6	6	0.13	7.46	9.05		
10/8/2003	f/e	20.1	7.20	774	2.8	0.256	0.432	2	3	0.06	4.02	5.13		
12/4/2003	0955	14.7	7.21	883	2.54	0.068	0.359	<1	<1	0.05	2.85	4.13		
2/2/2004	1050	11	7.14	824	2.88	0.044	0.174	6	6	0.04	5.64	7.17		
4/6/2004	1030	16.6	6.89	898	2.2	0.055	0.22	4	4	0.06	4.91	6.57		
5/19/2004	1100	17.9	6.96	415	2.0	0.066	0.178	2	2	0.05	4.33	5.77		
6/8/2004	1000	20.6	6.96	856	5.0	2.226	2.639	9	4	0.07	7.83	10.4		
7/12/2004	0845	21.3	6.83	809	5.6	0.499	0.656	3	2	0.09	7.2	10.4		
8/10/2004	0730	21.0	6.67	853	3.5	2.143	2.386	10	6	0.11	5.81	8.05		
10/6/2004	0900	19.2	7.25	734	1.7	f/e	1.391	5	5	0.06	6.05	7.67		
12/1/2004	0930	12.4	6.96	715	1.5	0.099	0.202	5	<1	0.04	3.85	5.47		
02/07/05	1100				1.7	0.07	0.174	2	2	0.07	8.61	11.1		
04/05/05	0810	14.2	6.95	850	2	0.0597	0.195	5	3	0.06	5.38	7.78		
05/26/05	0755	16.9	7.29	1174	1.8	2.963	3.369	4	1	0.1	19.44	21.8		
06/15/05	0730	17.6	7.05	nm	1.18	0.027	0.147	1	1	<0.01	4.33	5.67		
07/18/05		22.1	6.90	913	9.7	0.164	1.03	8	6	0.18	10.3	13.2		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
2.00
1.50
1.00
0.50
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 13 B, Black Hawk / Central City WWTP


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 13 B, Black Hawk / Central City WWTP


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
5
4
4
3
3
2
2
1
1
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 13 B, Black Hawk / Central City WWTP

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC13B	**Black Hawk/Central City WWTP**													
02/07/94														
04/05/94														
05/26/94														
06/15/94														
07/11/94														
08/16/94														
10/12/94														
12/08/94														
02/06/95														
04/04/95														
05/25/95														
06/14/95														
07/10/95														
08/15/95														
10/11/95														
12/07/95														
02/05/96														
04/02/96														
05/23/96														
06/19/96														
07/15/96														
08/20/96														
10/09/96														
12/05/96														
02/24/97														
04/01/97														
05/22/97														
06/18/97														
07/14/97														
08/12/97														
10/08/97														
12/04/97														
02/09/98														
04/07/98														
05/21/98														
06/17/98														
07/13/98														
08/18/98														
10/14/98														
12/10/98														
02/08/99														
04/07/99														
05/12/99														
06/17/99														
07/12/99														
08/17/99														
10/13/99														
12/09/99														
02/07/00														
04/04/00														
05/17/00														
06/15/00														
07/17/00														
08/22/00														
10/11/00														
12/07/00														
02/05/01														
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07/16/01														
08/21/01														
10/10/01														
12/06/01														
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04/02/02														
05/23/02														
06/12/02														
07/15/02														
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10/16/02														
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2/3/2003														
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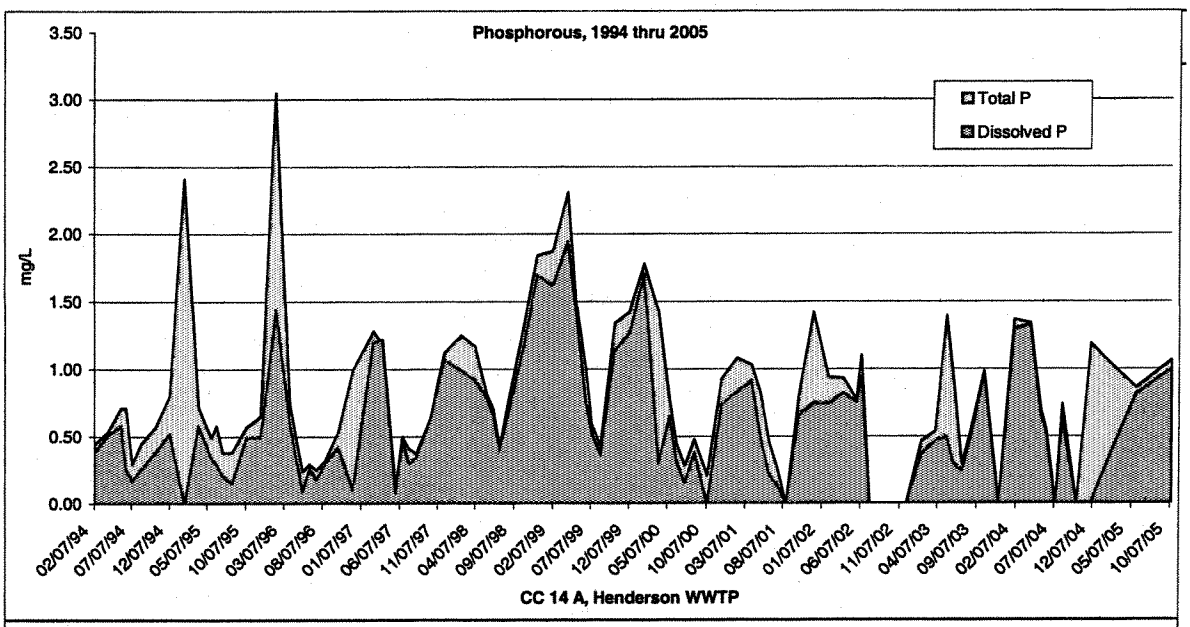
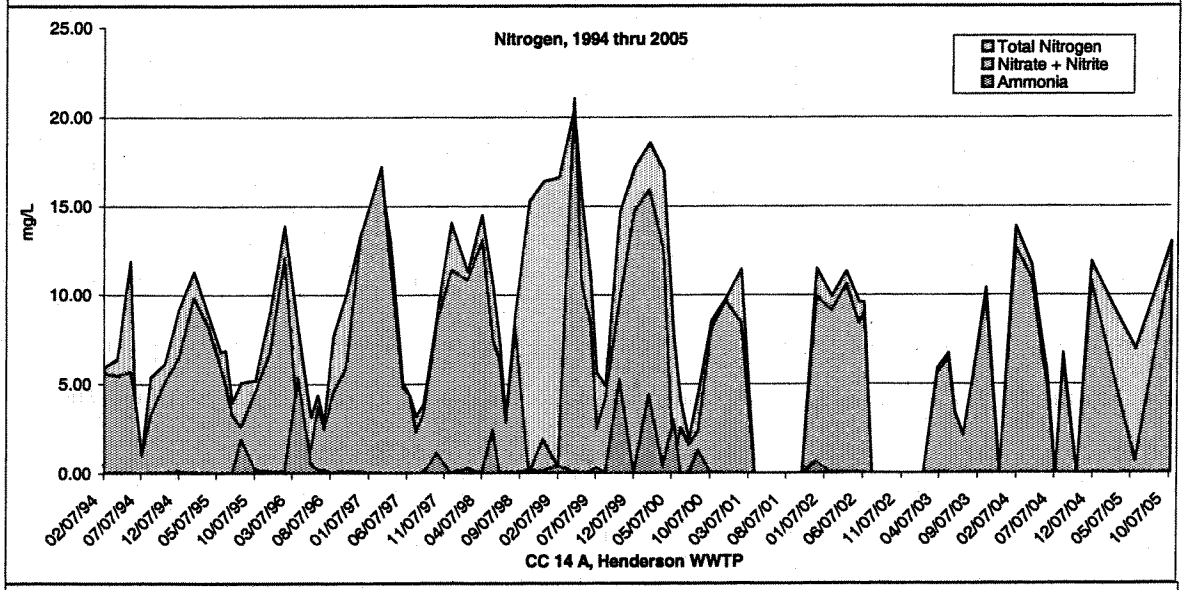
7/14/2003														
8/12/2003														
10/8/2003														
12/4/2003														
2/2/2004														
4/6/2004														
5/19/2004														
6/8/2004														
7/12/2004														
8/10/2004														
10/6/2004														
12/1/2004														
02/07/05														
04/05/05														
05/26/05														
06/15/05														
07/18/05														
08/30/05	1040	16.5	8.00	771	1	0.016	0.097	<1	<1	0.02	5.18	6.17		
10/13/05	1010	17.2		749	0.5	1.343	1.522	1	1	0.01	3.94	5.06		
12/01/05	0755	3.5				0.167	0.2	2	2	2.32	0.03	3.48		


Phosphorous, 1994 thru 2005
Total P
Dissolved P
mg/L
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 14 A, Henderson WWTP


Nitrogen, 1994 thru 2005
Total Nitrogen
Nitrate + Nitrite
Ammonia
mg/L
25.00
20.00
15.00
10.00
5.00
0.00
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
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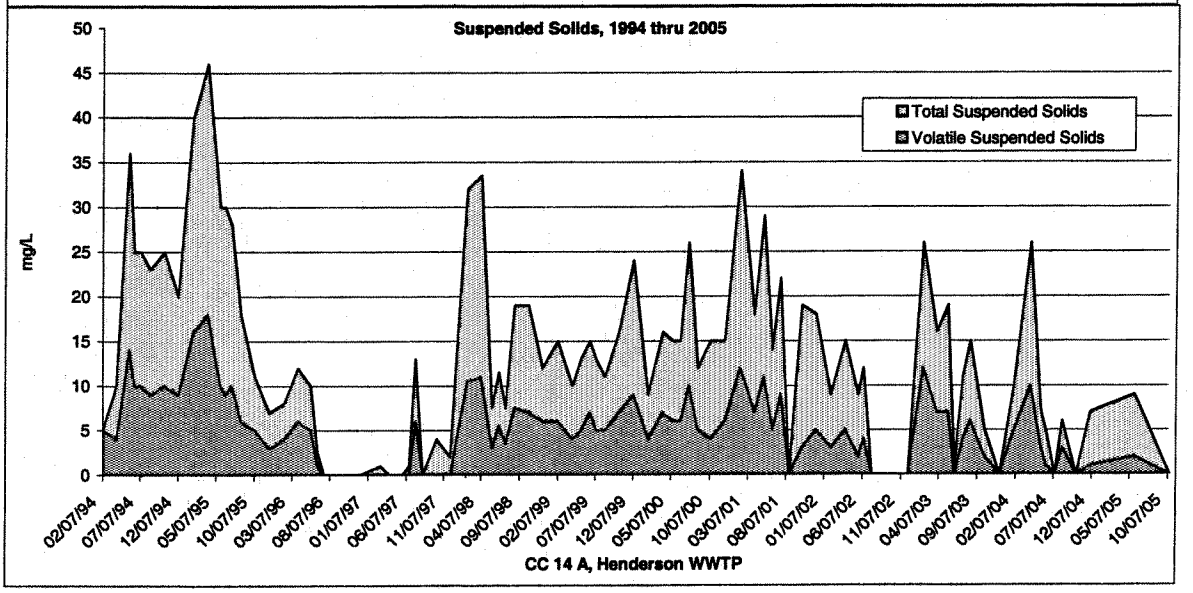
12/07/04
05/07/05
10/07/05
CC 14 A, Henderson WWTP


Suspended Solids, 1994 thru 2005
Total Suspended Solids
Volatile Suspended Solids
mg/L
50
45
40
35
30
25
20
15
10
5
0
02/07/94
07/07/94
12/07/94
05/07/95
10/07/95
03/07/96
08/07/96
01/07/97
06/07/97
11/07/97
04/07/98
09/07/98
02/07/99
07/07/99
12/07/99
05/07/00
10/07/00
03/07/01
08/07/01
01/07/02
06/07/02
11/07/02
04/07/03
09/07/03
02/07/04
07/07/04
12/07/04
05/07/05
10/07/05
CC 14 A, Henderson WWTP

Date	Time	Temp	pH	Cond.	Turb.	Diss. P	TP	TSS	VSS	NH3	NO3/NO2	TN	Chlorides	TKN
		deg C	s.u.	(uS/cm)	(NTU)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
CC14A	**Henderson WWTP**													
02/07/94	950	12.0	6.92	181	2.30	0.3800	0.4400		5	0.08	5.60	5.90		0.44
04/05/94	822	11.1	6.47	169	1.95	0.5100	0.5400	6	4	0.01	5.48	6.45	17.8	0.45
05/26/94	736	13.1	5.82	226	7.90	0.5800	0.7100	22	14	0.03	5.70	11.90	13.1	1.65
06/15/94	750	14.0	7.24	342	7.44	0.2500	0.7100	15	10	<0.01	4.10	4.10	40.8	0.61
07/11/94	735	13.0	7.50	417	8.50	0.1700	0.2900	15	10	<0.01	0.97	1.06	39.8	1.11
08/16/94	723	13.4	7.30	295	6.00	0.2600	0.4500	14	9	0.03	3.28	5.40	17.3	0.46
10/12/94	800	13.6	7.26	331	9.70	0.3800	0.5700	15	10	0.06	5.10	6.13	22.4	0.72
12/08/94	820	13.3	7.49	275	4.30	0.5200	0.6000	11	9	0.13	6.48	9.14	17.7	1.30
02/08/95	730	11.8	6.80	270	34.50		2.4100	24	16	0.07	9.85	11.30	26.0	2.76
04/04/95	710	12.0	7.31	307	13.39	0.5800	0.7200	28	18	0.06	8.22	8.96	29.0	
05/25/95	735	10.8	7.00	242	9.06	0.3400	0.4900	20	10	<0.01	5.95	6.80	29.0	
06/14/95	725	7.7	7.06	352	0.98	0.2900	0.5800	21	9	0.03	4.95	6.90	27.5	
07/10/95	800	14.5	7.59	423	5.67	0.2100	0.3800	18	10	0.04	3.28	3.98		
08/15/95	800	15.0	7.67	405	4.03	0.1500	0.3800	12	6	1.92	2.62	5.10		
10/11/95	800	16.3	7.01	336	3.90	0.4900	0.5700	8	5	0.22	4.58	5.22		
12/07/95	745	13.0	6.91	262	8.35	0.5000	0.6500	4	3	0.12	6.70	8.90		
02/05/96	755	11.8	6.96	335	3.03	1.4400	3.0500	4	4	0.09	12.10	13.90		
04/02/96	700	12.8	7.82	345	6.33	0.6000	0.7400	6	6	5.40	2.52	8.04		
05/23/96	630	12.3	7.89	475		0.0880	0.2400	5	5	0.57	1.36	3.16		
06/19/96	600	12.9	7.50	401	0.78	0.2600	0.2946	2	1	0.18	3.70	4.36		
07/15/96	715	12.9	7.48	451	0.83	0.1801	0.2501	<1	<1	0.19	2.51	2.82		
08/20/96	615	17.4	7.55	393	0.33	0.3022	0.3220	<1	<1	0.05	4.54	7.71		
10/09/96	630	14.2	7.46	171	1.12	0.4200	0.5300			0.12	5.92	10.00		
12/05/96	630	11.5	7.25	385	0.70	0.1000	0.9900	<1	<1	0.09	13.30	13.40		
02/24/97	830	8.9	7.33	428	0.55	1.2000	1.2800	1	<1	0.02	17.20	16.32		
04/01/97	600	12.9	7.84	466	0.50	1.2200	1.1800	<1	<1	<0.05	11.70	13.10		
05/22/97	630		7.45	467	0.76	0.0800	0.1200	<1	<1	0.01	4.86	5.07		
06/18/97	640	13.2	7.45	459	0.65	0.4700	0.5000	1	<1	0.04	4.38	4.38		
07/14/97	800	12.4	7.45	421	2.98	0.3000	0.4100	7	6	0.02	2.30	3.18		
08/12/97	735	15.5	7.73	398	0.89	0.3400	0.3700	<1	<1	0.02	3.28	3.83		
10/08/97	630	14.2	7.24	408	1.59	0.6400	0.6400	4	<1	1.17	8.50	8.96		
12/04/97	1000	12.2	7.23	389	1.80	1.0700	1.1200	2	<1	0.02	11.40	14.08		
02/09/98	800	12.0	7.21	314	13.30	0.9900	1.2500	22	11	0.30	10.85	11.30		
04/07/98	730	11.8	7.15	403	na	0.9200	1.1700	23	11		13.05	14.50		
05/21/98	1000	12.1	7.17	491	2.58	0.7900	0.8200	5	3	2.45	7.42	10.50		
06/17/98	700	11.2	7.56	372	3.35	0.6510	0.7050	6	6	0.03	6.25	7.39		
07/13/98	620	13.7	7.53	348	1.70	0.4000	0.4180	4	4	0.08	2.84	3.12		
08/18/98	1130	20.4	7.23	489	4.72	0.6830	0.7760	12	8	0.05	8.18	8.79		
10/14/98	715	15.1	7.68	414	6.08	1.1500	1.3000	12	7	0.15		15.28		
12/10/98	800	12.9	6.62	398	4.10	1.6950	1.8420	6	6	0.15	1.91	16.40		
02/08/99	0700	13.5	7.46	564	4.50	1.6180	1.8740	9	6	0.45	0.33	16.62		
04/07/99	0630	12.7	7.28	539	2.62	1.9440	2.3090	8	4	0.07	21.05	20.50		
05/12/99	0630	12.6	7.01	464	5.04	1.3880	1.4840	8	5	0.07	10.60	15.30		
06/17/99	0700	12.5	6.96	405	3.40	0.7590	1.0080	8	7	0.07	8.35	10.90		
07/12/99	0800	13.8	7.37	407	3.28	0.5210	0.5910	8	5	0.35	2.48	5.65		
08/17/99	0730	13.2	6.95	388	4.03	0.3640	0.4310	8	5	0.02	4.17	4.88		
10/13/99	0745	15.0	7.07	434	8.88	1.1380	1.3420	9	7	5.28	9.80	14.70		
12/09/99	0700	12.6	7.03	271	2.31	1.2620	1.4220	15	9	0.02	14.75	17.20		
02/07/00	0800	12.7	7.10	467	3.7	1.703	1.779	5	4	4.42	15.91	18.57		
04/04/00	0830	13.0	7.05	498	5.3	0.2990	1.4210	9	7	0.37	12.60	16.98		
05/17/00	0700	12.4	7.63	477	6.0	0.6450	0.7710	9	6	2.99	0.45	7.60		
06/15/00	0545	13.1	7.05	381	5.79	0.3080	0.4500	9	6	0.01	2.55	4.06		
07/17/00	0800	14.20	7.02	324	12.40	0.1520	0.2830	16	10	0.02	1.60	1.95		
08/22/00	0750	16.1	7.24	355	4.6	0.3760	0.478	7	5	1.29	2.38	4.49		
10/11/00	0850	12.5	7.34	374	6.8	n/m	0.2080	11	4	0.02	8.08	8.53		
12/07/00	0530	10.9	6.91	361	2.2	0.7400	0.9300	9	6	0.02	9.68	9.8		
02/05/01	0600	10.6	7.07	329	3.4	0.830	1.081	22	12	0.02	8.46	11.45		
04/03/01	0530	10.9	7.33	320	0.6	0.9090	1.0320	11	7					
05/09/01	0500	10.5	6.97	430	15.7	0.4960	0.822	18	11					
06/14/01	0600	11.1	6.67	360	8.45	0.212	0.456	9	5					
07/16/01	0700	13.30	7.15	342	11.0	0.1360	0.2630	13	9					
08/21/01	n/m													
10/10/01	0700	14.0	6.75	348	10.9	0.6550	0.8030	16	3					
12/06/01	0800	11.2	6.79	276	15.9	0.7470	1.4210	13	5	0.66	9.92	11.50		
02/04/02	0740	10.1	7.05		11.4	0.744	0.942	6	3	0.03	9.14	9.93		
04/02/02	0830				8.67	0.822	0.931	10	5	0.03	10.55	11.34		
05/23/02	0700	12.3	6.74	262	6.06	0.752	0.771	7	2	0.04	8.40	9.62		
06/12/02	0815	15.3	7.23	396	8.18	0.951	1.102	8	4	0.04	8.96	9.59		
07/15/02	n/a													
08/13/02	n/a													
10/16/02	n/a													
12/05/02	n/a													
2/3/2003	0830	10.1	6.67	475	7.7	0.366	0.465	14	12					
4/1/2003	0815	8.8	6.63	210	6.6	0.466	0.537	9	7	0.01	5.66	5.88		
5/15/2003	0745	9.8	6.82	281	6.81	0.496	1.393	12	7	0.01	6.41	6.74		
6/11/2003	0820	11.7	8.00	433	5.31	0.293	0.926	1	<1	<0.01	3.38	3.37		
7/14/2003	800.0	12.50	7.12	401	5.84	0.2430	0.2930	7	4	<0.01	2.14	2.14		
8/12/2003	0850	13.40	7.34	377	5.14	0.457	0.5090	9	6	0.01	4.77	4.8		
10/8/2003	f/e	13.9	6.95	398	3.1	0.969	0.985	3	2	0.02	10	10.4		
12/4/2003														
2/2/2004	0830	11.2	6.72	409	3.81	1.292	1.363	5	5	<0.01	12.7	13.88		
4/6/2004	0810	10.6	7.14	410	6.4	1.33	1.341	16	10	0.03	10.9	11.72		
5/19/2004	0815	11.9	7.40	415	3.1	0.65	0.697	4	3	<0.01	6.71	7.49		
6/8/2004	0800	14.5	7.15	411	1.6	0.533	0.545	4	1	0.01	5.11	5.71		
7/12/2004	n/a													
8/10/2004	n/m					0.627	0.738	3	3	<0.01	6.44	6.75		
10/6/2004	n/m													
12/1/2004	0800	11.7	6.84	237	2.4		1.189	6	1	0.01	10.8	11.9		
05/26/05	fe	10.8	7.23			0.815	0.861	7	2	0.01	0.66	6.96		
10/13/05						0.997	1.064			0.02	12	13		

AVERAGE NUMBERS (USED FOR 1994)

Dup (% RPD)

	Feb-94	Apr-94	May-94	Jun-94	Jul-94	Aug-94	Oct-94	Dec-94
Northglenn - TP			9.42	15.87	61.42	11.24	4.14	19.78
Westminster - TN			25.88	4.26	19.35	46.15	51.16	4.26
Allowable Limit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00

Spike (% recovery) off AVERAGE of duplicate & original

	Feb-94	Apr-94	May-94	Jun-94	Jul-94	Aug-94	Oct-94	Dec-94
Northglenn - TP			81.04	91.98	94.41	97.79	93.86	124.43
Westminster - TN			91.09	110.13	78.85	36.06	123.68	107.14
ACZ - TP			45.24	98.30	90.52	107.92	87.72	0.00
ACZ - TN						48.08	52.63	85.71
U. of Mo. - TP			99.14	100.48	-86.79	98.81	93.33	90.91
U. of Mo. - TN			137.65	93.67	96.15	96.15	84.21	102.86
Lower Limit	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00
Upper Limit	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00

AVERAGE NUMBERS (USED FOR 1995)

Dup (% RPD)

	Feb-95	Apr-95	May-95	Jun-95	Jul-95	Aug-95	Oct-95	Dec-95
Northglenn - TP	6.78	32.35	8.77	13.01	n/a	39.02	n/a	0.00
Westminster - TN	19.05	2.13	4.26	21.54	4.35	6.06	6.45	11.76
Allowable Limit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00

Spike (% recovery) off AVERAGE of original & duplicate #s

	Feb-95	Apr-95	May-95	Jun-95	Jul-95	Aug-95	Oct-95	Dec-95
Northglenn - TP	118.50	83.56	79.00	63.00	18.18	89.33	112.00	87.20
Westminster - TN	112.00	98.46	76.67	87.50	92.00	95.71	-1.67	90.00
ACZ - TP	70.00	n/a	80.00	n/a	n/a	n/a	106.67	32.00
ACZ - TN	80.00	92.31	-33.33	100.00	120.00	85.71	n/a	100.00
U. of Mo. - TP	40.00	80.00	86.67	40.00	50.91	80.00	106.67	
U. of Mo. - TN	92.00	52.31	133.33	85.00	92.00	94.29	0.00	
Lower Limit	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00
Upper Limit	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00

AVERAGE NUMBERS (USED FOR 1996)

Dup (% RPD)

	Feb-96	Apr-96	May-96	Jun-96	Jul-96	Aug-96	Oct-96	Dec-96
Northglenn - TP	n/a	10.53	26.36	24.00	n/a	11.65	2.82	1.19*
Westminster - TN	7.91	9.52	17.54	3.51	n/a	7.41	18.18	12.9*
Allowable Limit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00

Spike (% recovery) off AVERAGE of original & duplicate #s

	Feb-96	Apr-96	May-96	Jun-96	Jul-96	Aug-96	Oct-96	Dec-96
Northglenn - TP	82.00	88.40	89.09	96.33	119.00	39.56	76.44	103.00
Westminster - TN	96.36	112.00	16.36	98.33	115.00	51.11	128.89	137.14
U. of Mo. - TP	90.00	96.00	94.55	93.33	n/a	44.44	80.00	166.00
U. of Mo. - TN	87.27	96.00	101.82	73.33	n/a	48.89	106.67	105.70
Lower Limit	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00
Upper Limit	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00

QC Calcs. Result Calculations Page - AVERAGE NUMBERS (USED FOR 1997)

Dup (% RPD)

	Feb-97	Apr-97	May-97	Jun-97	Jul-97	Aug-97	Oct-97	Dec-97
Northglenn - TP	1.66	4.65	36.47	8.92	0.00	4.72	5.56	25.81
Westminster - TN	15.87	22.44	28.57	12.24	38.10	30.00	40.96	19.30
Allowable Limit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00

Spike (% recovery) off AVERAGE of original & duplicate #s

	Feb-97	Apr-97	May-97	Jun-97	Jul-97	Aug-97	Oct-97	Dec-97
Northglenn - TP	39.67	86.00	101.60	112.50	80.00	106.50	82.67	86.00
Westminster - TN	100.00	27.50	150.00	62.50	102.86	106.67	78.33	94.00
U. of Mo. - TP	93.33	80.00	24.00	110.00	71.11	90.00	86.60	90.00
U. of Mo. - TN	104.00	30.00	100.00	105.00	85.71	80.00	100.00	104.00
Lower Limit	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00
Upper Limit	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00

AVERAGE NUMBERS (USED FOR 1998)

Dup (% RPD)

	Feb-98	Apr-98	May-98	Jun-98	Jul-98	Aug-98	Oct-98	Dec-98
Northglenn - TP	0.00	11.68	22.45	7.26	17.61	1.57	4.03	5.33
Westminster - TN	3.03	13.33	5.26	11.32	20.69	22.22	14.29	4.16
Allowable Limit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00

Spike (% recovery) off AVERAGE of original & duplicate #s

	Feb-98	Apr-98	May-98	Jun-98	Jul-98	Aug-98	Oct-98	Dec-98
Northglenn - TP	81.45	98.00	77.33	91.33	82.50	82.80	87.56	61.33
Westminster - TN	107.27	76.00	80.00	135.00	80.00	100.00	91.43	51.43
U. of Mo. - TP	90.90	60.00	88.89	80.00	80.00	88.00	106.67	62.22
U. of Mo. - TN	76.36	100.00	85.71	66.67	85.00	96.00	91.43	80.00
Lower Limit	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00
Upper Limit	120.00	120.00	120.00	120.00	120.00	120.00	120.00	120.00

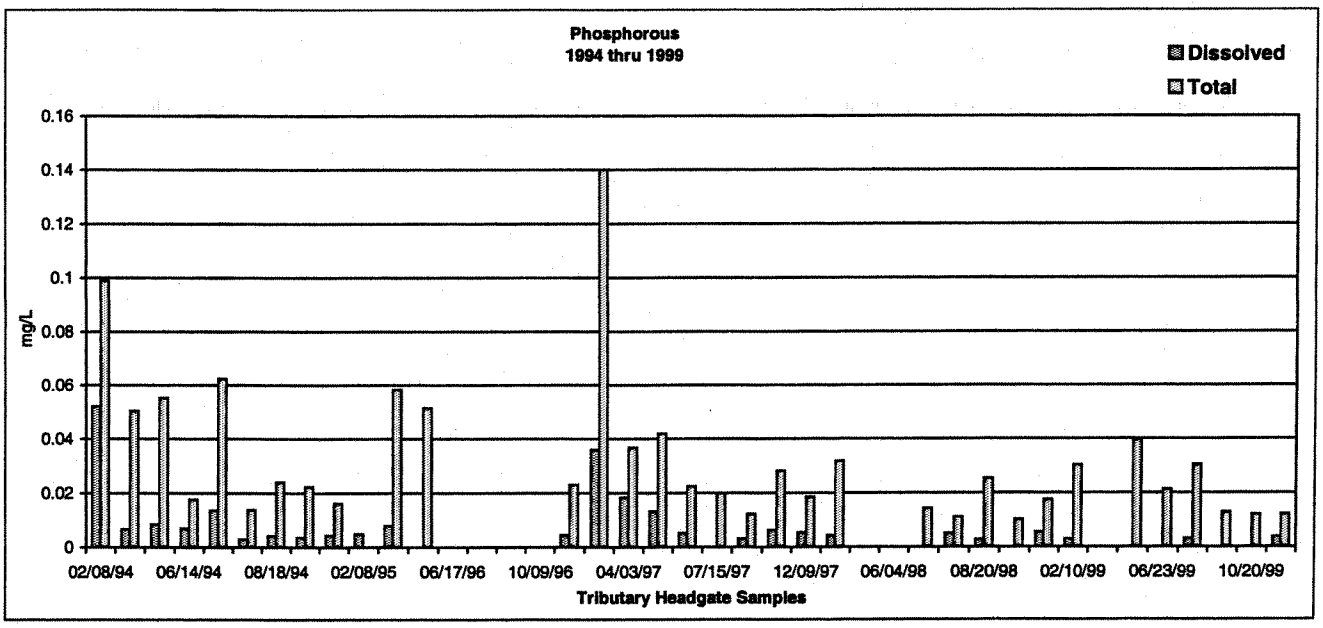
AVERAGE NUMBERS (USED FOR 1999)

Dup (% RPD)

	Feb-99	Apr-99	May-99	Jun-99	Jul-99	Aug-99	Oct-99	Dec-99
Northglenn - TP		34.78%	15.93%	7.09%	3.81%	13.33%	13.79%	3.88%
Westminster - TN	3.13%	2.01%	2.15%	3.17%	12.50%	8.80%	5.31%	0.00%
Allowable Limit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00

Spike (% recovery) off AVERAGE of original & duplicate #s

	Feb-99	Apr-99	May-99	Jun-99	Jul-99	Aug-99	Oct-99	Dec-99
Northglenn - TP		90.67%	76.00%	64.80%	83.56%	75.00%	93.33%	165.20%
Westminster - TN	86.67%	107.50%	94.00%	102.00%	91.43%	101.14%	91.67%	84.00%
U. of Mo. - TP	93.33%	97.78%	70.00%	152.00%	71.11%	100.00%	80.00%	
U. of Mo. - TN	86.67%	110.00%	96.00%	88.00%		102.86%	90.00%	
Lower Limit	80.00	80.00	80.00	80.00	80.00	80.00	80.00	
Upper Limit	120.00	120.00	120.00	120.00	120.00	120.00	120.00	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1994 thru 1999
Dissolved
Total
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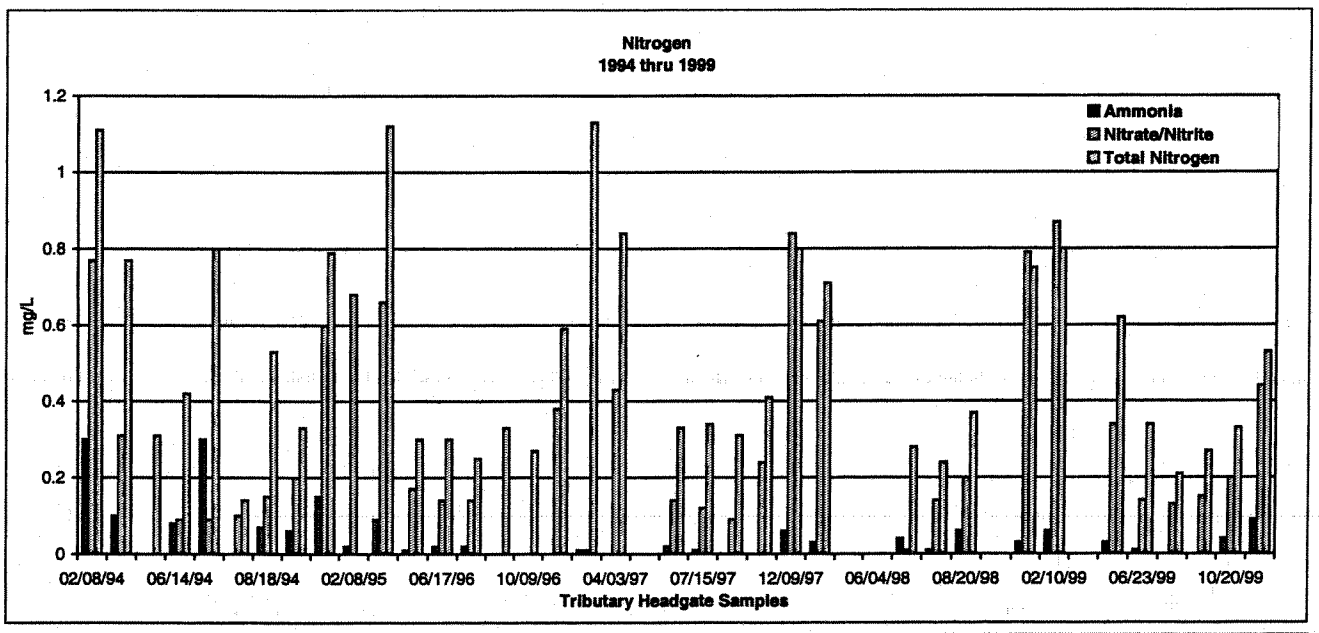
0.12
0.1
0.08
0.06
0.04
0.02
0
mg/L
02/08/94
06/14/94
08/18/94
02/08/95
06/17/96
10/09/96
04/03/97
07/15/97
12/09/97
06/04/98
08/20/98
02/10/99
06/23/99
10/20/99
Tributary Headgate Samples


Nitrogen
1994 thru 1999
Ammonia
Nitrate/Nitrite
Total Nitrogen
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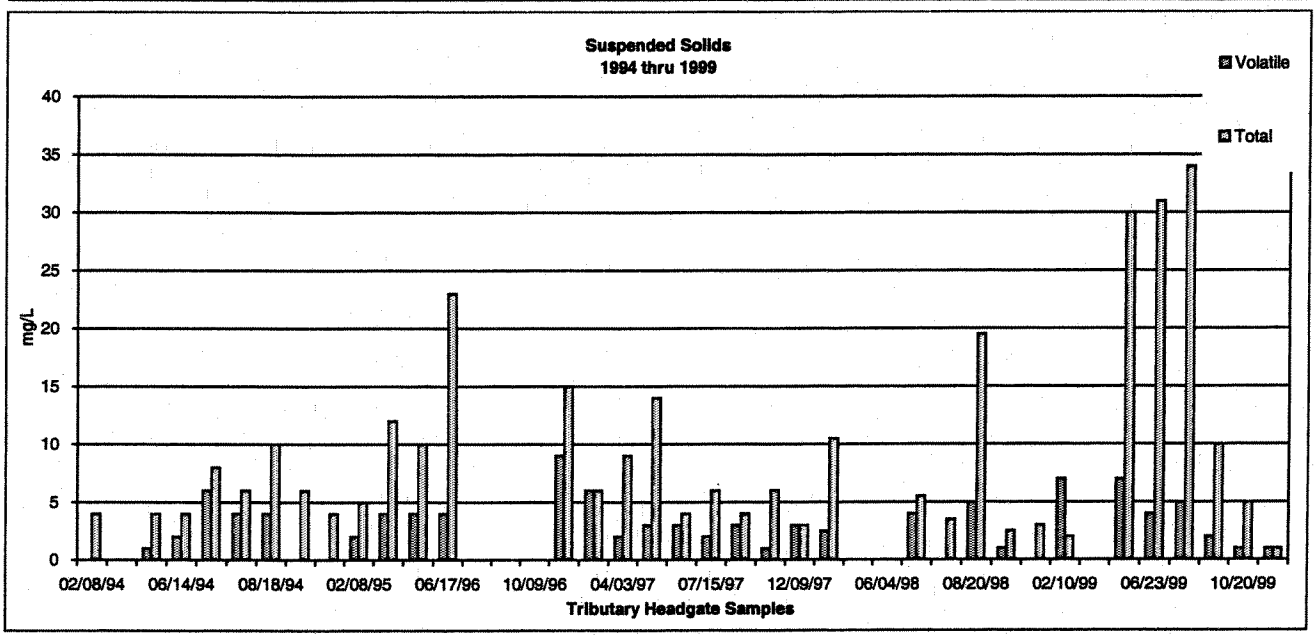
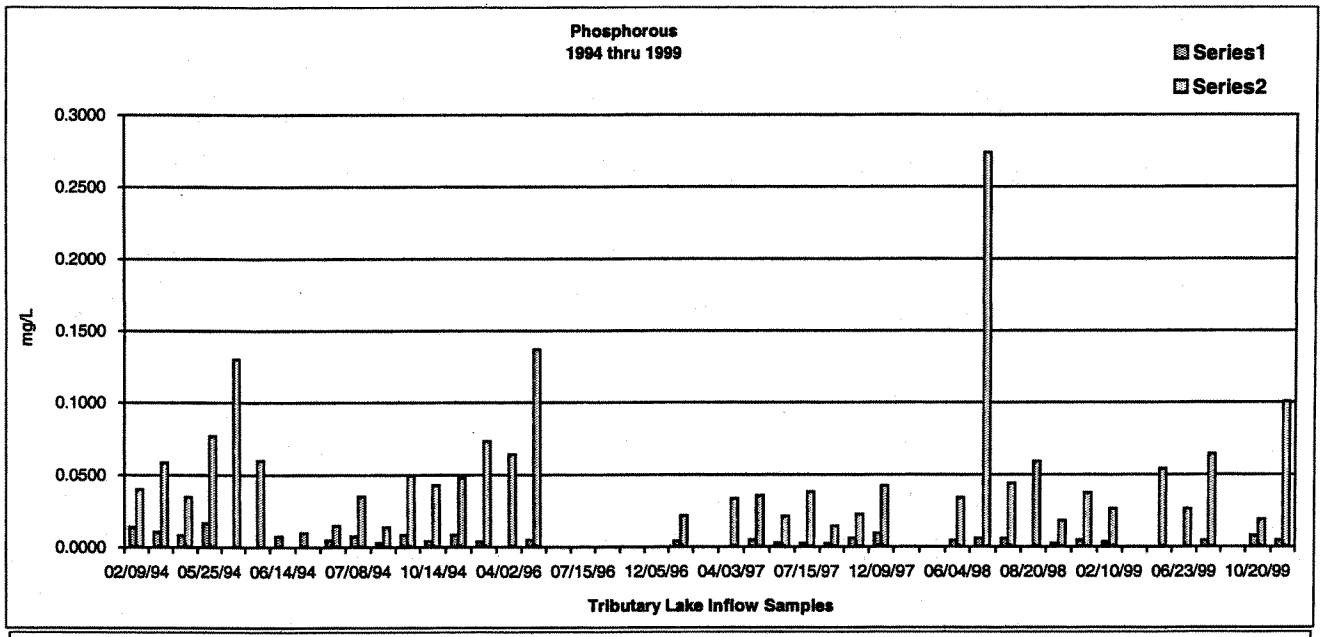
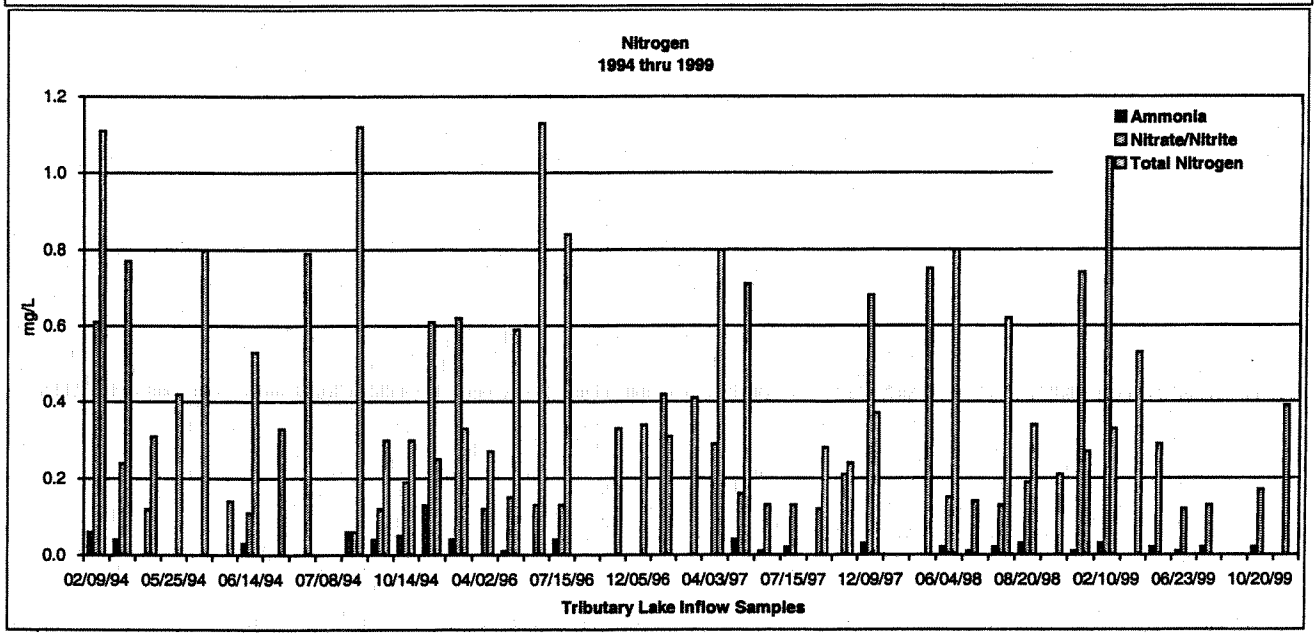
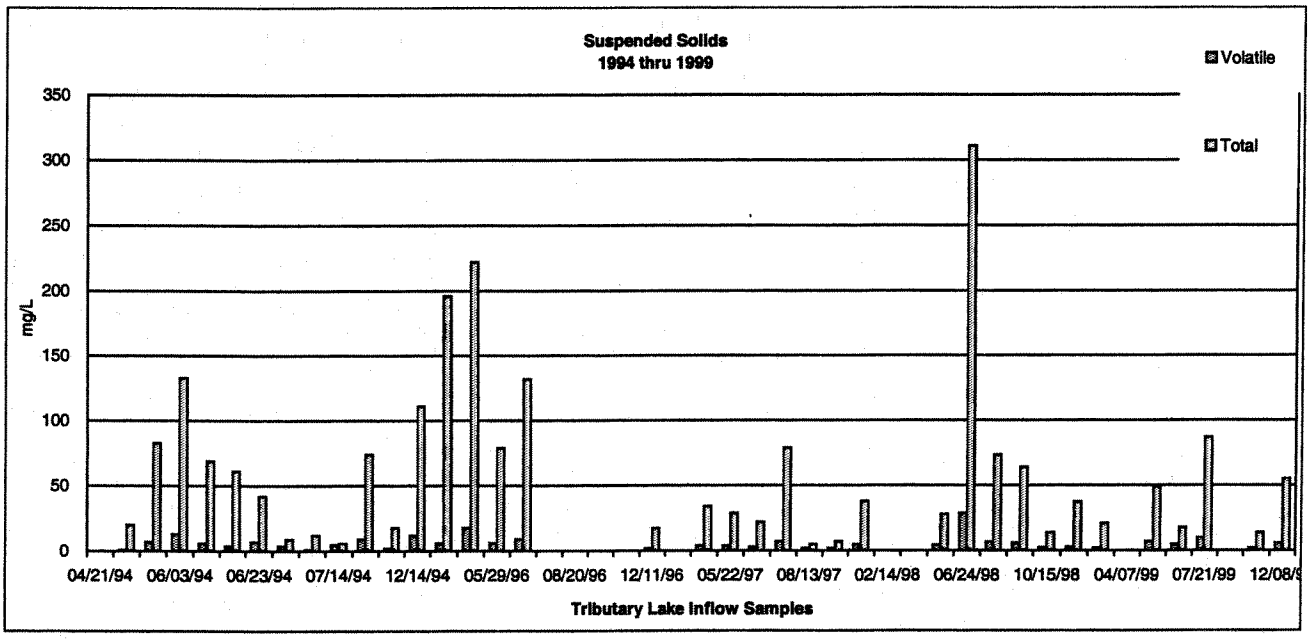
1
0.8
0.6
0.4
0.2
0
mg/L
02/08/94
06/14/94
08/18/94
02/08/95
06/17/96
10/09/96
04/03/97
07/15/97
12/09/97
06/04/98
08/20/98
02/10/99
06/23/99
10/20/99
Tributary Headgate Samples


Suspended Solids
1994 thru 1999
Volatile
Total
40
35
30
25
20
15
10
5
0
mg/L
02/08/94
06/14/94
08/18/94
02/08/95
06/17/96
10/09/96
04/03/97
07/15/97
12/09/97
06/04/98
08/20/98
02/10/99
06/23/99
10/20/99
Tributary Headgate Samples


Phosphorous
1994 thru 1999
Series1
Series2
0.3000
0.2500
0.2000
0.1500
0.1000
0.0500
0.0000
mg/L
02/09/94 05/25/94 06/14/94 07/08/94 10/14/94 04/02/96 07/15/96 12/05/96 04/03/97 07/15/97 12/09/97 06/04/98 08/20/98 02/10/99 06/23/99 10/20/99
Tributary Lake Inflow Samples


Nitrogen
1994 thru 1999
Ammonia
Nitrate/Nitrite
Total Nitrogen
1.2
1.0
0.8
0.6
0.4
0.2
0.0
mg/L
02/09/94 05/25/94 06/14/94 07/08/94 10/14/94 04/02/96 07/15/96 12/05/96 04/03/97 07/15/97 12/09/97 06/04/98 08/20/98 02/10/99 06/23/99 10/20/99
Tributary Lake Inflow Samples


Suspended Solids
1994 thru 1999
Volatile
Total
350
300
250
200
150
100
50
0
mg/L
04/21/94 06/03/94 06/23/94 07/14/94 12/14/94 05/29/96 08/20/96 12/11/96 05/22/97 08/13/97 02/14/98 06/24/98 10/15/98 04/07/99 07/21/99
Tributary Lake Inflow Samples

Appendix D

STANDLEY LAKE MANAGEMENT PLAN Revised 3-2005

I. Background

In December of 1993, in response to a request by the Standley Lake Cities for a Rulemaking Hearing for the establishment of water quality standards and resulting control regulations, a number of local governmental entities and private parties entered into the Upper Clear Creek Watershed Management Agreement ("WMA"), which provides a framework for water quality management in the upper Clear Creek Watershed. The WMA, in addition to other provisions, provided for:

1. The adoption of a narrative standard for Standley Lake that required maintenance of Standley Lake in a mesotrophic state as measured by a combination of relevant indicators;

2. The parties to conduct additional testing and monitoring; and

3. The parties to implement certain best management practices and controls on a voluntary basis, the results of which will be reported to the Colorado Water Quality Control Commission on an annual basis.

Pursuant to paragraph six of the WMA, the Standley Lake Cities, in consultation with other parties, agreed to develop a Standley Lake Management Plan by December 1994, to address in-lake nutrient loading and potential nutrient loading from lake activities, water supply operations, recreational activities, and activities in the watershed. The Standley Lake Cities implemented the plan in February 1995 as agreed.

This update of the Standley Lake Management Plan is intended to further address the requirements of paragraph six of the WMA and incorporate the Mission Statement and Goals of the Standley Lake Cities.

II. Discussion

Standley Lake, denominated Segment 2 of Big Dry Creek in the South Platte River Basin, is a terminal water storage reservoir providing municipal water supply to approximately 280,000 people in the water service areas of the Standley Lake Cities. Standley Lake also provides irrigation water supply for farmers under the Standley Division of the Farmers Reservoir and Irrigation Company ("FRICO"). The reservoir is located in the northwest metropolitan Denver area, in a drainage basin that is fed directly by Woman Creek and Upper Big Dry Creek. The majority of its water supply, however, is supplied by Clear Creek through three canals: The Church Ditch, the Farmers Highline Canal, and the Croke Canal. These canals draw water from Clear Creek above the City of Golden, and flow generally northward approximately 16 to 25 miles across a series of drainages to Standley Lake.

In the late 1970s and early 80s, the Standley Lake Cities became increasingly concerned over the water quality in Standley Lake due to issues surrounding upstream wastewater discharges and several incidents of taste and odor in the drinking water treated from Standley Lake. In addition, Standley Lake has experienced extended periods of severe oxygen depletion (anoxia) in the hypolimnion (lower cold water portion) of the lake during the period of summer stratification. Such anoxia can result in the release of various metals, as well as the recirculation of nutrients from the sediments in the lake's bottom. These releases create the potential for violations of drinking water standards, aesthetic concerns and higher water treatment costs.

Dr. Alex Horn, a consultant to the Standley Lake Cities, reviewed data from the Standley Lake Cities' lake monitoring programs and the USGS 1989-1990 study of Standley Lake. Dr. Horn believes that the cause of the summer anoxia in the hypolimnion is the die-off and decomposition of the spring algae bloom in the lake. As the algae decompose, oxygen is depleted in the lower layer of the lake. This oxygen depletion, in turn, can result in releases, as noted above, of various nuisance metals as well as nutrients from sediments in the lake bottom. Dr. Horn believes that the episodic taste and odor problems experienced in the fall have resulted from algae blooms that are encouraged by the recirculation, after lake turnover in the fall, of nutrients released from the decomposition of the spring algae bloom during the summer, as well as from nutrients released into the water column from the lake sediments during the period of anoxia in the summer. The spring bloom, Dr. Horn believes, results from the addition of highly bioavailable nutrients in the winter inflows to the reservoir. This analysis led the Standley Lake Cities to request the Rulemaking Hearing which in turn lead to the WMA, the Standley Lake Management Plan, and the Mission Statement and Goals of the Standley Lake Cities.

III. Scope of Plan

The following items detail the key actions that the Standley Lake Cities have implemented or will attempt to implement as part of the Standley Lake Management Plan in accordance with the WMA and Mission Statement and Goals of the Standley Lake Cities.

1. Standley Lake Eutrophication Model, Hydrosphere Resource Consultants, 1997:

   A. Development of a nutrient food chain model for the reservoir to explicitly simulate autochthonous carbon production in the system. This would allow one to assess the impact of settling and decomposing algae on hypolimnetic oxygen concentrations;

   B. Development of a mechanistic sediment oxygen demand ("SOD") model to simulate SOD as a function of the flux of organic carbon to the sediments.

   C. Conclusions of Standley Lake Eutrophication Model (Version 2, 2000, Hydrosphere):

1) Allochthonous Particulate Organic Matter ("POC") (external sources) shows a decrease in contribution to the SOD.
2) SOD is a function of settling organic matter in the reservoir. Eight percent of the overall SOD can be attributed to allochthonous POC, the rest is from settling algae and particulate matter.
3) The model under predicts hypolimnetic nitrate during the stratification period. Possible strong nitrate gradients in the hypolimnion during the summer may be the reason that the average hypolimnetic nitrate concentrations predicted by the SLEM do not match the values taken near the bottom of the reservoir.
4) Reservoir hydrology can play a significant role on the period of anoxia.
5) The reservoir is phosphorus limited. External phosphorus loadings represent over 90% of the total phosphorus loading to the reservoir. The remaining loading is a result of sediment releases during periods of anoxic conditions.

D. This model is scheduled to be updated in 2004-2005.

2. Regional Park IGA, 1994

A. The Standley Lake Cities entered into an IGA addressing recreational use of Standley Lake as a regional park.

B. The IGA includes the following controls as assurance that water quality will not be impacted from the users:

1) Water supply operations and water quality protection take precedence over recreation.
2) Allowed boat permits not to exceed 550, with limits for the maximum number of boats on the lake at any one time (150).
3) No personal watercraft (jet skis, etc.) allowed.
4) A permanent system for sanitary facilities.
5) No wake areas at 10-foot water depths.
6) All developed areas in the park will be drained away from the lake.
7) Recreation activities impacting water quality must be eliminated unless impacts can be mitigated.
8) No pre-1971 outboard motors will be allowed.

3. Stormwater Inflow Management

A. Canal Companies Bypass Policies. The Standley Lake Cities will support continuation of the Canal Company policies concerning stormwater structures.

B. Stormwater inflows entering Standley Lake will be bypassed under the following circumstances:

1) Standley Lake has not yet filled for the year, but snow-pack is at or above normal, senior calls are not in effect and not anticipated to be in effect so as to prevent Standley Lake from filling. Standley lake is therefore, reasonably certain to fill.
2) Standley Lake remains full and the water supply outlook for Clear Creek, published June 1st by the Soil Conservation Service ("SCS") shows water supplies at or above average and Clear Creek flows have been above average.

C. If the Canal Companies, after consultation with the Standley Lake Cities, determine to take Tributary Basin stormwater that otherwise would be bypassed by means of structures constructed by the Tributary Basin Entities, then the Tributary Basin Entities shall not be responsible for the quality of water so accepted into the canal as long as permanent BMPs are in place.

D. If it is determined that particulate matter within Clear Creek and the diversion canals contain significant oxygen demand, the Standley Lake Cities will support the adoption by the Canal Companies of a policy of monitoring water supply conditions and sediment loads in Clear Creek. This policy may forego diversion for several days during the peak sediment loading in Clear Creek during spring run-off provided snow-pack conditions, weather conditions, river calls, and the June 1st SCS water supply outlook make it certain that foregone diversions will not adversely affect water yield.

E. The Canal Companies will continue the current canal flushing practices that bypass Standley Lake. The Standley Lake Cities and the Canal Companies acknowledge the potential for loss of usable yield, but will accept such reasonably minimal losses.

4. Monitoring

A. The Standley Lake Cities began monitoring the water quality in Standley Lake in 1980 in response to taste and odor problems and concerns about water quality impacts from upstream wastewater discharges. The monitoring program has been modified over time and includes in-lake sampling at several points and a Remote Sensoring System.

B. Part one of the Standley Lake Monitoring Program includes sampling of the lake at four different points (10-00, 10-35, 10-70, 10-PZ) and the Water Treatment Plant intakes. Analysis, frequency, and criteria are displayed in *Table 1*.

Table 1.

ANALYSIS	FREQUENCY	CRITERIA
Profile (field measurements)	**All events**	
Metals (Soluble and acid extractable)	4/year	Winter,Runoff,Low DO,& After DO
F.Coliform & E.Coliform	1/month	
Gross Alpha/Beta	4/year	Winter,Runoff,Low DO,& After DO
Nutrients	2/month -> Every 2 wks->	December-February March-November
Suspended Solids (total and volatile)& T.Hardness	1/month -> Every 2 wks>	December-February March-November
Chlorophyll a (uncorrected) & Algae (count & ID)	All events	
BTEX	1/month	April-September
TOC	1/month	

C. Part two of the Standley Lake Monitoring Program is the Remote Underwater Sensoring System ("RUSS"). The RUSS contains water quality probes for pH, Conductivity, Dissolved Oxygen, Temperature, Turbidity and Chlorophyll-a. A profile is done with the RUSS twice per day of all parameters. The RUSS is deployed before run-off and removed in November.

5. Hypolimnetic Withdrawals

A. For one year, water will be withdrawn from Standley Lake at the higher of the two intakes for treatment. The next year, water will be withdrawn from the lower of the two intakes. The data will then be complied and evaluated. After the two years, the water resources, water quality, and water treatment personnel will develop an "action plan" for withdrawing water into the treatment plants. In the event that water

quality is not of the highest or causing treatment issues, the intakes can be changed pursuant to the action plan.

B. The action plan for withdrawals will be in place by 2006.

6. External Loadings

A. Each year water quality data from the inflows into Standley Lake will be evaluated for nutrients and metals. Loadings from these analytes will be calculated and compared to previous years.

B. In the event that any of the analytes show considerable increase in loadings, an action plan will be developed to determine the cause of these significant loadings.

C. A stormwater sampling program will be developed by spring of 2005 to determine loadings from storm events. This program will include several automatic samplers at various points in the basin and at the inflows to Standley Lake.

7. Eurasian Water Milfoil Integrated Pest Management Plan

A. Eurasian Water Milfoil (EWM) was discovered in Standley Lake in 1998. EWM is an invasive noxious weed that takes over and crowds out native species in the lake.

B. The Standley Lake Cities evaluated several different methods of controlling EWM. An ecologically safe and non-disruptive method was chosen in 2001. The method involves adding EWM weevils. These weevils will burrow in the stems and ultimately kill the plant. Although the weevils will not completely rid Standley Lake of EWM, they will keep it under control and minimize the overall mass.

C. This is a several tiered project that will last several years at a significant cost. The project was started in 2002, and in 2004, it was reported that the weevils were surviving and starting to make an impact on the milfoil.

D. Part of this plan includes water quality monitoring and determining the affects of EWM on water quality.

8. Water Quality Action Plan

A. Current and past lake data will be evaluated for trends. These trends will then be used to determine future conditions in the lake and avoid potentially negative impacts to the lake.

B. A comparison of algae, loadings, and in-lake concentrations also will be evaluated to determine causes of algal growth and anoxia.

C. If certain indicators are shown to cause significant degradation in the lake, the Standley Lake Cities will evaluate possible causes of impacts and resolve the problems through remediation or legislation.

9. Lakewatch and Trophic Status

A. In 2001, the City of Westminster purchased trending software called Lakewatch. This software was developed by Noel Burns, a consultant and limnologist from New Zealand. The purpose of this software is to evaluate trends in the lake and determine trophic status from several different components.

B. This software has been used for several years and has become an accepted tool for trending in Standley Lake by the Standley Lake Cities.

C. Continued evaluation of this data and software is being conducted on a yearly basis with the assistance and guidance of Noel Burns.

D. An accepted method to determine trophic status is continually being evaluated and studied. A model to determine Trophic Status specific to Standley Lake is being considered.

10. Quality Assurance Project Plan ("QAPP")

A. A QAPP for Standley Lake will be completed by 2006.

IV. Activities/Capital Improvements

1. Dam Renovation Project and Spillway

A. The construction phase of project began in August of 2002 and was completed in late summer of 2004.

B. The project included dam stability, new outlet works, new valve house and a new spillway. The cost of this project was approximately 35 million.

2. Crossing Permits

A. The Standley Lake Cities will continue to support the Canal Companies' current policy of seeking to address current and future pollution problems and issues related to stormwater and flooding controls when the opportunity arises in issuance of crossing permits or through other forms.

3. Watershed Protection Ordinances

   A. The Standley Lake Cities will evaluate, pursuant C.R.S. § (1) (b), watershed protection ordinances to address watershed activities with potential nutrient-loading effects. On December 8, 1994, the City of Northglenn adopted CB-1196 (Ordinance 1115), establishing a Watershed Protection Area and Permit Program.

4. Church Ditch By-Pass Project

   A. Negotiations regarding the potential conversion of a 4.92 mile section of the Church Ditch as a stormwater diversion structure to protect Standley Lake from pollutants entering the lake as a result of development in the tributary basin were restarted in 2003. Negotiations continued in 2004 with a potential ditch conversion in 2005 commensurate with the Mountain Shadow development. Participants include the Standley Lake cities, the City of Arvada, Jefferson County, CDOT, and developers in the Standley Lake Tributary basin. Basic overview of plan:

      - 4.92 miles of ditch to be used as a bypass structure
      - requires new SL delivery structure for all three cities (joint structure proposed)
      - Capacity of stormwater flows approximately 100cfs
      - Flows above 100cfs to be diverted into SL
      - Discharged to BDC
      - Area of ditch to become stormwater bypass is on West side of SL

V. Consulting

1. There are some tasks/studies that the Standley Lake Cities' staff may not have the expertise to accomplish. In those cases, consultants whose areas of expertise are required will be hired to complete some of the water quality tasks/studies for Standley Lake.

2. These consultants will be under contract through the Standley Lake IGA and will report findings directly to the IGA.

3. Several studies can be ongoing at one time and results will be made available, if possible, at the Standley Lake Cities' request.

VI. Water Quality Studies

1. Arbor and Associates Lake Studies, 1981-1988
2. USGS Lake Study, 1989-1990
3. Alex Horn, Standley Lake Evaluation, 1993
4. RBD/CDM, Clear Creek/Standley Lake Watershed Management Study, 1994
5. CDM Updates to Watershed Management Study, 1994

6. RBD Data Report, 1994
7. Hydrosphere Standley Lake Eutrophication Model, Version 1, 1997
8. Hydrosphere Standley Lake Eutrophication Model, Version 2, 2000
9. Noel Burns Trophic Status Study, 2002
10. CDM Updates to Watershed Management Study, 2004-2005
11. Hydrosphere Standley Lake Eutrophication Model Updates, 2004-2005