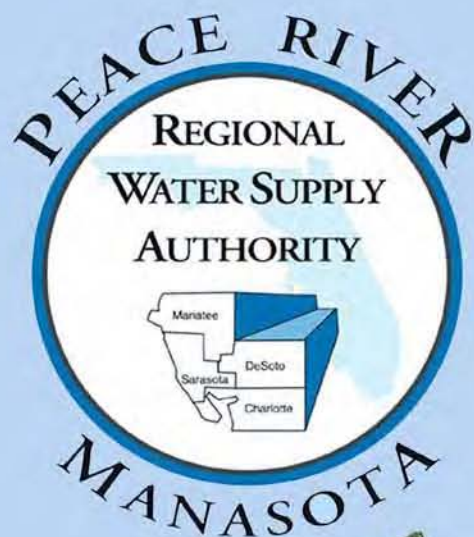
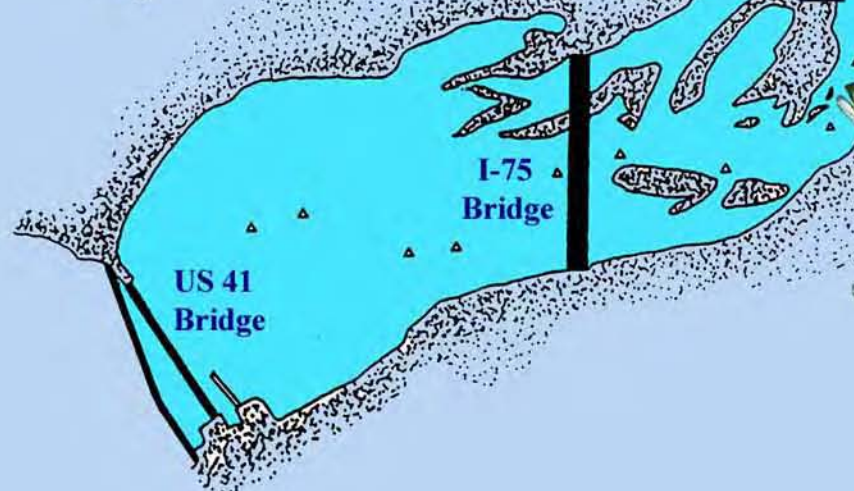




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2004 HBMP Data Report



Peace River Hydrobiological Monitoring Program 2004 Annual Data Report

Required by

**Southwest Florida Water Management District
Water Use Permit 2010420.03**

Prepared for

Peace River Regional Water Supply Facility

**Peace River / Manasota Regional
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- **U.S. Geological Survey (Tampa Office)** – was responsible for all data collected by the three tide gages and the associated measurements of surface and bottom conductivity, and provided all flow data used in this study.
 1. Peace River at Arcadia (02296750)
 2. Horse Creek near Arcadia (02297310)
 3. Joshua Creek near Nocatee (02297100)
 4. Shell Creek near Punta Gorda (02298202)
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- **Benchmark Laboratory** – conducted all HBMP water chemistry analyses conducted during 2004.
- **Dr. Susan Jensen** – conducted all phytoplankton taxonomic identifications.

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1.0 Introduction/Summary

1.1 Previous Studies and Reports

On December 10, 1975, the Consumptive Use Permit #7500016 for the Peace River Regional Water Supply Facility was signed between General Development Utilities, Inc. and the Southwest Florida Water Management District (District). In conjunction with this agreement, a comprehensive Hydrobiological Monitoring Program (HBMP) was set forth to assess the responses of various physical, chemical and biological characteristics of the Charlotte Harbor Estuary to changes in Peace River flow. The program was designed to evaluate the impacts and significance of natural salinity changes on the aquatic fauna and flora in upper Charlotte Harbor, and to determine if freshwater withdrawals by the Peace River Regional Water Supply Facility could be shown to alter these patterns. The area of study is shown in **Figure 1.1**.

Between 1979 and 2004, an ongoing series of individual reports have been submitted to the District, documenting the results of the HBMP during the period from January 1976 through December 2004. These reports include summarizations (findings) of data collected during the first four years of baseline monitoring, prior to the start of freshwater withdrawals, as well as comparisons of these data to the results obtained from the HBMP during subsequent years of water treatment plant operation. The period covered within this 2004 Annual Data Report follows directly upon that contained within the preceding 2003 Annual Data Report submitted in August 2003, as well as the 2002 Comprehensive Summary Report finalized in September 2004. This current data report includes unreported HBMP data collected over the period from January through December 2004, and represents the fifteenth year of data collection for the Peace River/Manasota Regional Water Supply Authority (Authority), the owner/operator of the Peace River Regional Water Supply Facility.

In 1976 the initial monitoring elements of the HBMP were designed to provide answers to specific questions raised by District staff during the original permitting process. These questions raised concerns regarding the potential for negative impacts that might be associated with possible salinity changes in Charlotte Harbor resulting from freshwater withdrawals. Analysis of data from pre- and post-water treatment plant operation, presented in the August 1982 Summary Report, indicated the need to revise the monitoring program. These revisions would better evaluate possible changes in the Charlotte Harbor system due to natural variations in freshwater inflows. Further modifications to the HBMP were made in 1985 and again in conjunction with the renewal of the Water Use Permit in November 1988. Under the 1988 permit, data reports were required to be submitted annually for the first through fifth years of the monitoring program. In addition, two expanded Comprehensive Summary Reports were submitted which included various comparative analyses of the data reported over the preceding periods of data. The first Comprehensive Summary Report was finalized in December 1993 and included analyses of long-term data collected between 1983 and 1991. The next Comprehensive Summary Report was filed in draft form in 1994, and as a final report in April 1995. This second Summary Report statistically summarized and evaluated the results of the HBMP elements conducted between 1976 and 1993. The most recent 2002 Comprehensive Summary Report (named for the period through which HBMP data were analyzed) both extended previous selected analyses of

study elements undertaken in conjunction with the preceding summary reports of long-term HBMP data, as well as presented new analyses of a number of program study elements. The primary findings and conclusions reached in the 2002 Comprehensive Summary Report were:

- That the analyses of HBMP data collected between 1976-2002 have shown that Facility withdrawals have had, or are expected to cause, small changes in salinity gradients and that these changes are within the normal natural range of tidal and seasonal ranges of variability found in the lower Peace River/upper Charlotte Harbor estuarine system. To date, the detected and predicted changes in salinity and/or spatial locations of isohalines resulting from Facility freshwater withdrawals have not been found to cause any pronounced or systematic changes in the salinity structure, water quality, or biological integrity of the affected estuarine communities of the lower Peace River/upper Charlotte Harbor estuarine system.
- The results and findings of the continuous recorder models presented in this report support the overall conclusions of previous reported statistical modeling efforts. These efforts have concluded that the maximum expected increases in salinity due to Facility withdrawals are expected to be difficult to detect within the normal daily range of tidal salinity variations during those periods when the Facility is potentially having its greatest influence. As long as salinity changes attributable to Facility withdrawals remain a fraction of the normal typical range of daily (let alone seasonal) salinity variations along the lower Peace River/upper Charlotte Harbor transect, no significant environmental changes in the estuarine system are expected as a result of increased salinity.
- The 130 cfs low flow cutoff criteria established by District staff in 1988 was based on plots of conductivity versus Peace River at Arcadia flow from HBMP data gathered at fixed monitoring sites located near the Facility's point of withdrawal. Analogous updated plots using data through 2002 indicate that the existing 130 cfs low flow threshold for withdrawals represents a conservative estimate to ensure minimal impacts to the lower Peace River/upper Charlotte Harbor estuary during periods of low freshwater inflow.
- The existing withdrawal schedule elements, which combines a 130 cfs low flow Arcadia gaged flow, with the requirement that diversions cannot exceed ten percent of the previous day's gaged flow, have been and are expected to continue to be extremely effective in preventing Facility withdrawals from having any apparent adverse harm on the lower Peace River estuarine system

1.2 Current Hydrobiological Monitoring Program

Based on the results of the 1993 and 1995 Summary HBMP Reports and additional analyses requested by District staff during the permit renewal process, an expanded HBMP was approved by the District in March 1996 as a part of Water Use Permit (WUP) #2010420.03 for implementation in 1996 and subsequent years. This 20 year Water Use Permit continues to require the submission of both Annual Data Reports as well as Comprehensive Summary

Documents after data collection for the 3rd and 5th years of each five-year period. Specific conditions within the permit include major expansions of both the physical and biological elements of the Hydrobiological Monitoring Program.

The analyses of long-term HBMP data provided in both the initial 2000 Midterm Interpretive Report (finalized in 2002) and the recent 2002 Comprehensive Summary Report (September 2004) further support previous monitoring program findings regarding the potential magnitude of the changes that might be attributed directly to facility withdrawals. The primary goals and objectives of these summary documents have been to provide the District with sufficient analyses to:

- Determine key relationships between ecological characteristics and freshwater inflows, and determine whether the biological health and productivity of the estuary are showing signs of stress related to natural periods of low freshwater inflow or potential negative influences of facility withdrawals.
- Assess the presence or absence of long-term trends for important HBMP variables.
- Evaluate the overall HBMP design and make recommendations regarding implementing modifications.
- Assess the presence or absence of adverse ecological impacts and determine the influence facility withdrawals may have contributed.
- Evaluate the environmental considerations that may be associated with additional future increased withdrawals from the river and the feasibility of increased water supplies.
- Assess and evaluate the effectiveness of the withdrawal schedule for preventing adverse environmental impacts.

The overall findings of these recent summary documents submitted to the District in conjunction with the 1996 permit requirements have indicated that:

- In response to increasing potable water demands, Peace River Facility withdrawals have steadily and progressively increased since being initiated in 1980. However, the magnitude of withdrawals has remained extremely small when compared to the natural seasonal variability of rates of freshwater inflow to the estuary. Currently average yearly Peace River Facility withdrawals comprise less than 1 percent of total freshwater flow at the mouth of the Peace River.
- Since its inception in 1976, the HBMP has incorporated numerous physical, chemical, and biological study elements directed toward assessing both the overall “health of the harbor” as well as direct and indirect adverse impacts potentially associated with facility withdrawals. To date, none of these monitoring efforts have been able to detect any significant impacts associated with facility withdrawals.

- The summary results of developed statistical salinity models have indicated that, on average, the influences of facility withdrawals on the salinity structure of the Lower Peace River between the U.S. 41 Bridge and the Peace River Facility has historically resulted in maximum changes of less than 0.3 ppt.
- Statistical models were also used to predict what the potential magnitude of salinity changes might be under the maximum permitted daily withdrawals during Arcadia flows between 200 and 1,000 cfs. Model results predict that a maximum salinity change of < 0.5 ppt would occur between River Kilometers 14 and 18 when Arcadia flows range between 400 and 1000 cfs. With Arcadia flows of 200 cfs, the results predict that similar changes in salinity (< 0.5 ppt) would occur further upstream.
- The results and findings of similar statistical models developed using data from the two HBMP continuous recorders concluded that the maximum expected increases in salinity due to facility withdrawals would be difficult to actually measure within the normal daily range of tidal salinity variations during the periods when the facility is potentially having its greatest influence.
- Long-term comparisons of upstream and downstream occurrences of selected indicator plant species along the lower Peace River have indicated that the distributions of the selected indicator species have not indicated any signs of systematic progressive changes over time.

As long as salinity changes attributable to facility withdrawals remain a fraction of the normal typical range of daily (and seasonal) salinity variations along the lower Peace River/upper Charlotte Harbor HBMP study monitoring transect, no significant measurable environmental changes in the estuarine system would be expected. To date, none of the conducted HBMP data analyses have shown that facility withdrawals have had, or are expected to cause, measurable negative physical or biological adverse impacts within the lower Peace River estuarine system.

1.2.1 Ongoing HBMP Program Study Elements

An explicit element of the updated HBMP was the development of standardized station descriptors to be applied across all program elements ([Figure 1.2](#)). As part of the required morphometric study (see description below), the “mouth” of the Peace River was defined using USGS standardized protocols as an imaginary line extending from Punta Gorda Point to Hog Island. [Figure 1.3](#) and [Table 1.1](#) provide a summary of the locations of all ongoing long-term fixed study elements and a cross-reference to previous station identifications. The following briefly outlines each of the current HBMP study elements.

1.2.2 Continuous Recorders

The primary goal of this element of the HBMP was to develop an extensive database of short-term (daily or more frequent) changes in surface and near-bottom salinity in the lower Peace River. These data, combined with corresponding gage height, freshwater flows and withdrawals, would then be used to develop detailed spatial and temporal relationships. A secondary goal was

to assess potential long-term changes in river salinity, which might be explained by predicted increases in sea level.

In 1996 the U.S. Geological Survey (USGS) installed automated 15-minute interval water level recorders at the following two locations:

1. At Boca Grande, which is the estuary's largest opening to the Gulf of Mexico.
2. Approximately 15.5 kilometers upstream of the river's mouth at Harbour Heights. The gaging station at Harbour Heights also measures surface and bottom conductivity at 15-minute intervals.

In November 1997 a third gage was installed at approximately River Kilometer (RK) 26.7 just downstream of the Peace River Facility. This gage also measures water level as well as surface and bottom conductivity at 15-minute intervals. The relative locations of each of these three USGS gages are depicted in [Figure 5.a](#).

1.2.3 Water Chemistry and Water Column Physical Profiles

There are a number of goals associated with the study elements in which physical and chemical water quality are measured. On an overall "health of the harbor" level, a primary goal is to collect sufficient long-term data to statistically describe spatial and seasonal variability in the water quality characteristics of the lower Peace River/upper Charlotte Harbor Estuary, and test for significant changes over time (trends). A second goal is to determine whether significant relationships exist between freshwater inflows and the seasonal/spatial variability of these water quality parameters. If such relationships can be shown, then the ultimate goal is to determine the potential magnitude of change that might result from permitted withdrawals, and compare such predictions with the range of observed natural variability.

Physical and chemical water quality parameters are measured within the lower Peace River/upper Charlotte Harbor Estuary under two different HBMP study elements.

1. During the first week of each month, water quality measurements (physical and chemical) are conducted at four "moving" salinity-based isohaline locations (0, 6, 12 and 20 ppt) along a river kilometer center-line running from the imaginary "mouth" of the Peace River upstream to above its junction with Horse Creek, and downstream to Boca Grande Pass. The relative monthly location of each sampling is based on the first occurrence of these specific isohalines (± 0.5 ppt), with freshwater being defined as the first occurrence of conductivities less than 500 ms. The isohaline sampling effort is undertaken in conjunction with the long-term phytoplankton elements of the HBMP.
2. Approximately two weeks after the collection of the "moving" isohalines, water column physical profiles are conducted, near high tide, at sixteen "fixed" locations along a transect running from just below the river's mouth upstream to a point just above the Peace River Facility (see [Figure 1.3](#) and [Table 1.1](#)). In addition, chemical water quality samples are taken at five of these locations.

Both of these water quality study HBMP elements include physical *in situ* water column profile measurements of characteristic parameters (temperature, dissolved oxygen, pH, conductivity and salinity) at 0.5 meter intervals from the surface to the bottom. In addition both efforts measure the penetration of photosynthetically active radiation (PAR) to determine ambient extinction coefficients at specific sampling locations. Both studies also include the analyses of an extensive list of chemical water quality parameters ([Table 1.2](#)). The only difference is that at the “fixed” sampling stations both sub-surface and near-bottom samples are collected at each of the five sites, while only sub-surface water chemistry samples are taken as part of the “moving” isohaline phytoplankton production study element.

During 2004, EarthBalance, Inc. (formerly Florida Environmental) conducted all fieldwork (physical water column profile measurements and water chemistry parameter sampling) associated with both the “moving” and “fixed” station HBMP monitoring elements. Benchmark EnviroAnalytical, Inc. was responsible for conducting all 2004 water chemistry analyses.

In response to the recommendations contained within the 2000 HBMP Midterm Interpretive Report, the number of water chemistry parameters associated with both the “moving” and “fixed” HBMP study elements was decreased from those originally specified in the 1996 monitoring conditions. These changes were made only after extensive consultation with both the HBMP Scientific Review Panel and District staff. As a result of this consultation, a revised/ reduced long-term water quality sampling parameter list was implemented in March 2003 ([Table 1.2](#)).

1.2.4 HBMP Study of Long-Term Changes in Vegetation

Identification of potential adverse effects to emergent vegetation and riverine wetlands caused by freshwater withdrawals initially requires determining the magnitude of the spatial and temporal responses of these vegetative communities to the natural variation resulting from extended periods of drought and flood. This step involves developing methodologies that allow differentiating between long-term natural changes in riverine vegetative patterns and withdrawal induced changes. The vegetative monitoring elements of the HBMP provide information for determining relationships between vegetation patterns and freshwater flows by observing the positions of the freshwater and salt-tolerant plant communities, especially in the salinity transitional zone of the river. A permanent shift of more salt-tolerant plants upriver could be an indication that withdrawals were impacting the river corridor wetlands, as long as natural variability (drought) or man-made causes could be eliminated. EarthBalance is currently conducting all vegetation elements of the HBMP studies.

Photointerpretation - This long-term element of the HBMP initially began in 1976. Initially aerial infra-red photography of the vegetative communities was taken yearly along the lower Peace River, starting at the U.S. 41 Bridge (River Kilometer 6.6) and extending upstream above the Peace River Facility to near the area where Horse Creek enters the river (river kilometer 39.5). Under the 1996 HBMP permit modifications, such aerial surveys continue to be conducted at two year intervals. All post-1996 aerial photography is taken in a corrected, GIS compatible format, thus allowing for accurate quantification of any observed changes. Photointerpretation of these images, in conjunction with field observations, will periodically be used to develop maps of the river’s vegetation associations. Both qualitative and quantitative data are being used to

assess potential changes associated with extended natural periods of both low and high freshwater inflows.

First and Last Occurrence of Indicator Plant Species – Since 1976, at approximately two year intervals, the first and last occurrence of a large number of indicator plant species has been recorded along the banks of the Peace River downstream of the Peace River Facility. As part of the vegetation study element of the HBMP, detailed maps using the standardized river kilometer scale are made, identifying the first and last occurrences of individual and substantial populations of key indicator species. The current permit requires a detailed photographic record be compiled in conjunction with this effort. These data are used in conjunction with the aerial photography to assess the influences of long-term natural variations in river flow.

Vegetation Transition Sites – Under the current permit, this portion of the HBMP study extends and expands the detailed monitoring begun in 1977 of plant communities along the river's banks at fixed locations. The vegetative communities at three permanent transect sites (see [Figure 1.4](#) and [Table 1.1](#)) are sampled at two-year intervals. At each monitoring location, three transects from the top of the bank to the water's edge are surveyed. The vegetation one meter to each side of the transects are identified, and the location and density recorded. These long-term data can be used to further assess the response of the riverine vegetative communities to natural variations in freshwater flows.

1.2.5 Phytoplankton Studies

Sub-surface samples are being collected in conjunction with the “moving” isohaline sampling of physical and chemical water quality characteristics described above.

Carbon Uptake – From June 1983 through December 1999, replicate (5) rates of carbon uptake were determined for each of three separate phytoplankton size fractions: 1) greater than 20 microns; 2) less than 20 microns and greater than 5 microns; and 3) those cells less than 5 microns at each of the four “moving” isohalines (0, 6, 12 and 20 ppt). Based on the extensive nature of the database gathered, further *in situ* carbon uptake measurements were deleted from the HBMP in 2000.

Chlorophyll *a* Biomass – Although direct carbon uptake measurements have been deleted from the HBMP, sub-surface samples for the measurement of chlorophyll *a* continue to be taken with regard to the estimation of phytoplankton biomass. However, as of 2002, the relative levels of chlorophyll *a* within each of three size fractions: 1) greater than 20 microns; 2) less than 20 microns and greater than 5 microns; and 3) those cells less than 5 microns, will no longer be determined.

Species Composition - Since 1989, monthly sub-surface phytoplankton samples have been collected, preserved and identified to the lowest practical taxon in conjunction with the carbon uptake measurements at each of the four isohalines. To date, the same individual (Dr. Susan Jensen) has conducted all taxonomic identifications.

1.3 Special Studies Associated with the HBMP

In addition to the current, ongoing elements of the HBMP outlined above, the revised HBMP program implemented in 1996 also required the Authority to conduct and/or contribute to a number of duration-limited studies designed to answer specific research questions. Comprehensive summaries of these special HBMP studies as well as other recent relevant reports by other research programs in the lower Peace River/upper Charlotte Harbor estuarine system were presented in Section 3 of the 2002 Comprehensive Summary Report.

1.4 Summary of 2004 Results

The following text and tables compare data collected during 2004 with similar average values for key parameters previously compiled during various elements of the ongoing long-term monitoring programs. Such key elements, include:

1. Peace River freshwater inflows and facility withdrawals.
2. Physical measurements such as water temperature, color and extinction coefficients.
3. Water quality characteristics such as nitrate/nitrite, ortho-phosphorus, nitrogen to phosphorus ratios, and reactive silica.
4. Biological measurements of phytoplankton biomass (chlorophyll *a*.)

In making comparisons of the 2004 data with averages of similar data collected over the preceding twenty-one year period (1983-2003), it should be noted that the very wet winter/spring El Niño of 1997/1998 was followed by very dry La Niña conditions that influenced southwest Florida and the entire Peace River watershed between 1999 and mid-2002 (see [Figures 2.3](#) and [2.4](#)). A weaker El Niño occurred at the end of 2002, and freshwater flows during both 2003 and 2004 were both well above average.

- **Flows** – Average mean daily Peace River flow at the Arcadia gage during 2004 was 1740 cfs, which was slightly less than the daily mean flow of 1853 cfs during 2003. However the average mean daily flow of 1740 cfs during 2004 was approximately thirteen times greater than the daily average mean flow of only 139 cfs that occurred in 2000 during the past drought. The extremely low average mean flow during 2000 was the lowest that has occurred during the twenty-nine year period of HBMP monitoring. Overall, gaged Peace River at Arcadia freshwater inflows during 2004 were approximately one hundred and ninety-five percent the average daily flow for the preceding long-term period 1976-2003 (see [Table 2.3](#)). The sum of average daily flows from the Peace River at Arcadia, Horse Creek, Joshua Creek, and Shell Creek during 2004 was roughly one hundred and eighty-two percent of the average daily flows for the period 1976-2003.
- **Withdrawals** – The Facility's mean average daily withdrawal during 2004 was 24.2 cfs. Overall withdrawals comprised 1.39 percent of the annual Arcadia gaged flow, and

0.87 percent of the combined lower Peace River gaged flow (Peace, Arcadia, Horse Creek, Joshua Creek and Shell Creek). Facility withdrawals exceeded ten percent of the gaged Peace River at Arcadia flows seventeen times or approximately four and a half percent of the time days. Such ascendances result from subsequent revisions by USGS of the provisional daily flow information available to the Authority at the time of actual withdrawals. Due to both the cutoff of 130 cfs (as measured at the USGS Arcadia gage) and Facility operations, there are often extended periods each year when the Peace River Facility does not withdraw any water from the river. During 2004, the facility did not withdraw any water approximately twenty percent of the time. As indicated, maximum withdrawals increased notably during the later half of 2002 due to the recently completed facility expansion, which resulted in an increase in the Authority's ability to treat and store larger daily amounts of freshwater when river flows are within the existing permit schedule.

Comparisons of means between 2004 and long-term averages for the following selected physical, chemical and biological water quality characteristics measured in conjunction with the "moving" and "fixed" HBMP study elements are presented in [Tables 3.8](#) and [4.5](#).

- **Temperature** – Median water temperatures during 2004 at each of the four isohalines were slightly lower than corresponding values measured over the preceding twenty-one year period (1982-2003). Such results may reflect differences in cloud cover resulting from the overall wetter than usual conditions and three hurricanes that passed near (or over) the area. Measured water temperatures in the freshwater isohaline during the spring of 2004 were slightly higher than those observed at the other three monitored salinity zones, possibly reflecting the increased heating of the more highly colored water. It should be noted, that the water temperatures measured during December 2004 were the warmest December values measured during the 1983-2004 period.
- **Water Color** – The average color levels throughout the estuary were markedly different than those recently observed during the 1999-2001 drought. Color levels, again as in 2003, were well above the long-term averages within each of the four isohalines as a result of the higher than average freshwater inflows during much of 2004. Comparatively, the greatest difference in color levels during 2004 when compared to the long-term averages occurred within the two higher isohalines (12 and 20 o/oo.)
- **Extinction Coefficient** – The rates of measured light attenuation at each of the four isohalines reflect both ambient color and phytoplankton biomass (chlorophyll *a*). Comparisons among the mean 2004 extinction values at the four isohalines indicate that even though water color throughout the estuary was slightly higher than average during 2004 due to greater than average freshwater inflows, light extinction coefficients at all four isohalines were below historical annual averages. It is possible that in both 2003 and 2004 higher than average freshwater inflows resulted in higher than average water color, which in turn suppressed normal spring levels of phytoplankton production (chlorophyll *a*), resulting in lower than average measurements of extinction coefficients.

- **Nitrite/Nitrate Nitrogen** - During 2004, the average concentrations of this major inorganic form of nitrogen were slightly lower than the long-term (1983-2003), historical annual averages observed at each of the four isohalines. Monthly comparisons of nitrite/nitrate concentrations among the isohalines show unusual marked declines of this form of inorganic nitrogen in the freshwater flows entering the estuary following the hurricanes in August and September. Typically monthly comparisons among the isohalines indicate nitrite/nitrate inorganic nitrogen concentrations in the lower Peace River/upper Charlotte Harbor Estuary are characterized by a distinct spatial gradient. Concentrations typically decrease rapidly with increasing salinity, with inorganic nitrogen levels within the 20 o/oo isohaline being near method detection limits throughout much of the year. Normally, estuarine inorganic nitrogen concentrations usually decline to their lowest levels during the relatively drier, late spring as phytoplankton populations respond to increasing water temperatures and light, and increased primary production removes available inorganic nitrogen. However, the higher than normal freshwater flows during the spring of 2004 also resulted in differences in the characteristic annual patterns of inorganic nitrogen concentrations in the upper reaches of the estuary.
- **Ortho-phosphorus** - Estuarine inorganic phosphorus concentrations in the lower Peace River and upper Charlotte Harbor are heavily influenced by the unusually “very” high natural levels found in the Peace River watershed. As a result, the observed differences in concentrations among the four isohalines simply reflect conservative dilution by Gulf waters. Unlike inorganic nitrogen, seasonal observed changes in phosphorus concentrations in the estuary are for the most part unaffected by biological uptake. Since the late 1970s there has been marked historical declines in inorganic phosphorus levels in the lower Peace River/upper Charlotte Harbor estuarine system due to declines in the combined influences of phosphate mining in the upper reaches of the basin. Inorganic phosphorus concentrations entering the estuary system from the Peace River watershed are typically lower during wetter periods, when a higher proportion of flow results from surface flow (rather than coming from groundwater, which is naturally richer in phosphorus). However, average inorganic phosphorus concentrations during 2004 were higher than the long-term averages (1983-2003) at each of the four isohalines. This was directly the result of unusually high phosphorus levels in the freshwater entering the estuary following Hurricanes Charley in August, and Frances and Jeanne in September.
- **Nitrogen to Phosphorus Atomic Ratios** – Calculated atomic inorganic nitrogen to phosphorus ratios for ambient measured concentrations in 2004, as indicated by the long-term averages, show nitrogen to always be the limiting macronutrient at each of the four isohalines.
- **Silica** – Measured concentrations of dissolved reactive silica in the lower Peace River/upper Charlotte Harbor estuarine system during 2004 reflected a continuation of the previously noted increasing pattern of higher values at all four isohalines. This increasing pattern was slightly interrupted by the extended drought during 1999-2001,

but seems to have accelerated starting late in 2002. Comparisons of long-term (1983-2003) annual average silica concentrations indicated that levels during 2004 were approximately double the long-term historic levels within all four salinity zones.

- **Chlorophyll *a*** – The seasonal patterns of freshwater inflows during 2004 were influenced by both much wetter than average conditions during the typically very dry early spring, and a wetter than average late summer wet-season. The resulting seasonal flow patterns combined to produce both higher than average inputs of inorganic nutrients, as well as higher than average levels of water color (resulting in greater light attenuation). Overall, phytoplankton production (chlorophyll *a*) levels in the lower Peace River/upper Charlotte estuary were slightly above the long-term (1983-2003) averages within each of the four salinity zones. Phytoplankton blooms within both the 6 and 12 o/oo isohalines occurred periodically during 2004. Taxonomic counts indicated that such “bloom” events within these salinity zones were typically characterized by high numbers of different dinoflagellates (Dinophyceae) or diatoms (Bacillariophyceae).

1.5 Conclusions

This document represents the eighth Annual Data Report submitted under the expanded Hydrobiological Monitoring Program (HBMP) initiated in 1996 in compliance with Water Use Permit 2010420.03. The graphical and summary analyzes presented in this document do not indicate any substantial changes, or atypical events in either the physical or biological data collected during 2004, other than those previously noted. These include:

- A series of somewhat unusual periods of increased freshwater inflow during the typically dry early spring.
- High late summer/fall freshwater inflows following the rainfall events associated with Hurricane Charlie in August and Frances, Ivan and Jeanne in September.
- A continuation of the previously noted long-term increase in reactive silica concentrations in the lower Peace River.
- Marked increases in inorganic phosphorus concentrations in the freshwater entering the estuary following the hurricanes.

These “limited” analyzes also do not suggest that there have been any long-term changes resulting from either current or historic water withdrawals by the Peace River Regional Water Supply Facility.

1.6 Permanent Data

All historic water quality and *in situ* data collected during the fixed and moving station elements of the HBMP used in the preparation of this document are provided on the HBMP 2004 Annual

Data Report CD in the directory labeled 2004 Data Sets, as files in ASCII, Excel and/or SAS formats. Table 1.3 provides a summary and links to descriptions of the variables within each of the SAS data sets.

Data Set Name	Time Period	Brief Description
HBMP SAS Data Sets		
Flwd04.sd2	1931-2004	Historic daily flow data for: Peace at Arcadia; Horse Creek near Arcadia; Joshua Creek near Nocatee; and Shell Creek near Punta Gorda. Historic daily Peace River Facility withdrawals. All values in cfs.
Cmov8304.sd2	1983-2004	Water quality, and phytoplankton biomass and uptake measurements from monthly surface samples collected at each of the four moving isohalines. Relative locations reflect distances from the river mouth in kilometers.
Hymov04.sd2	1983-2004	Monthly hydrolab <i>in situ</i> water quality measurements taken at 0.5 meter intervals at each of the four moving isohalines. Relative locations reflect distances from the river mouth in kilometers.
Hyfix04.sd2	1996-2004	Monthly <i>in situ</i> hydrolab water column profile data taken at 0.5 meter intervals from fixed sample locations from near the river's mouth to just upstream of the Treatment Facility.
Cfix9604.sd2	1996-2004	Monthly surface and bottom chemical water quality samples taken at five intervals from fixed sample locations from near the river's mouth to just upstream of the Treatment Facility.
Efix9604.sd2	1996-2004	Water column extinction coefficients collected at the fixed sampling locations.
Boca04.sd2	1996-2003	Water level at 15-minute intervals from the continuous recording gage near Boca Grande.
Ph04.sd2	1996-2004	Water Level, and surface and bottom conductivity and temperature at 15-minute intervals from the continuous recording gage on the Peace River near Harbor Heights (River Kilometer 15.5).
pr04.sd2	1997-2004	Water Level, and surface and bottom conductivity and temperature at 15-minute intervals from the continuous recording gage on the Peace River near Peace River Heights (River Kilometer 26.7).
Environmental Quality Laboratory Background Data Sets		
SAS Version 6.0.8 Data Sets		
Chall_2.sd2	1976-1990	EQL Charlotte Harbor background water chemistry data.
Hydroall.sd2	1976-1990	EQL Charlotte Harbor hydrolab water column profile data.
SAS Version 6.1.3 Data Sets		
Chem_v12.sd2	1976-1990	EQL Charlotte Harbor background water chemistry data.
Hall_v12.sd2	1976-1990	EQL Charlotte Harbor hydrolab water column profile data.

❖ **Note:** Click on the data set name to review a comprehensive listing of the data set contents.

1.7 Problems Encountered During 2004

Overall, very few data problems occurred during 2004, when compared to some of the difficulties that have occurred during previous years. The following outlines some of the problems and errors encountered during data collection for various elements of the HBMP monitoring program.

- **USGS Continuous Recorders** – Due to short-term instrument failures, a limited number of records for gage height, temperature and/or conductivity are unavailable for the Harbour Heights and Peace River Heights gaging sites during 2004.
- **Light Extinction** – due to instrument failure no light extinction values are available for September for the “moving” isohaline based stations.

2.0 Peace River Gaged Flows and Regional Water Supply Facility Withdrawals

The purpose of this section is to provide overviews of 2004 gaged river freshwater inflows to the lower Peace River estuary as well as freshwater withdrawals by Peace River Regional Water Supply Facility (PRF). This section also provides comparisons of the 2004 flow record and facility withdrawal levels with similar long-term information from the historic 1976-2004 period corresponding with HBMP monitoring.

Previously presented **Figures 1.1** and **1.2** depict the location of the Peace River Regional Water Supply Facility in relation to both the lower Peace River watershed and the lower Peace River/upper Charlotte Harbor estuary. As indicated, the point of Peace River Facility withdrawal is located in the tidal portion of the lower river estuarine system, in a reach of the river that is characterized by brackish conditions during periods of low freshwater inflow.

The primary USGS gages used for assessing long-term, yearly and seasonal patterns of freshwater inflows into the lower Peace River and upper Charlotte Harbor are summarized in Table 2.1. Both historic and recent (real time) flow data collected by USGS are obtained from the USGS Web Site (<http://fl.water.usgs.gov/Tampa/index.html>) and updated into the HBMP data records on a yearly basis. Since such data retrieval for the annual HBMP data reports occur early during each calendar year, all flow data for at least the current year should be considered “provisional” and subject to subsequent revision by USGS before being finalized for the past water year (October through September).

Table 2.1
Primary USGS Gages Used in HBMP Hydrology Analyses

USGS Gage Name	Gage Reference Number	Period Of Record (Complete Years)
Peace River At Arcadia	02296750	1932-2004
Joshua Creek At Nocatee	02297100	1951-2004
Horse Creek Near Arcadia	02297310	1951-2004
Shell Creek Near Punta Gorda	02298202	1966-2004
Myakka River Near Sarasota	02298830	1937-2004

2.1 2004 Gaged Flows to the Lower Peace River

Daily Peace River discharges (in cubic feet per second) at the USGS gaging station at Arcadia, Florida during the reporting period, January through December 2004, are depicted in **Figure 2.1**. Freshwater inflows during 2004 were characterized by a much wetter than normal spring dry-season (especially during March and May), a somewhat dryer than normal start of the summer wet-season (during June and July), higher than average flows during August, and near record flows during both September and October. Both the magnitude and duration of the high flows

observed in the Peace River watershed during the later part of the wet-season were directly influenced by the succession of four hurricanes (**Photo 2.1** depicts the approximate paths of these storms) that struck Florida during 2004.

- Hurricane Charlie during the second week in August (**Photos 2.2 & 2.3**), entered Charlotte Harbor and the eye generally followed a path northward through the Peace River Watershed
- Hurricane Frances during the first week in September brought additional extensive rainfall to the Peace River watershed as it moved diagonally across the state on a path from south of Fort Pierce to just north of Tampa before turning northward.
- Although the path of Hurricane Ivan during the second week September was well west of Florida's west coast (with landfall in the panhandle) the size of the storm influenced rainfall in the upper Peace River watershed.
- Hurricane Jeanne during the last week in September followed a very similar path across Florida (**Photo 2.4**) as Hurricane Frances three weeks earlier bring additional heavy rainfall throughout the Peace River watershed.

The high flows that characterized most of 2004, like those during the preceding year in 2003, were in marked contrast with the period of severe extended drought that began in 1999 and continued through early 2002.

The seasonal patterns of freshwater inflows during 2004 are further graphically presented in relation to the preceding long-term historical averages (1976-2003) in **Figure 2.2**. Statistical analyses were used to determine long-term average daily "exceedances" of the 10th, 25th, 50th (median), 75th and 90th percentiles for Peace River flow using the daily Arcadia gage record. Thus, the line presented in **Figure 2.2** for Q90 represents a level of freshwater inflow that, over the long-term 1976-2003 average, is only exceeded ten percent of the time on that particular day. This graphic clearly shows that gaged Peace River at Arcadia flows during 2004 were above the corresponding median (Q50) levels almost continually throughout the year (with the exception of the first part of the typical summer wet-season during June and July). During August through the end of November, 2004 flow levels continually exceeded the statistical Q90, and were thus in the upper ten percent of flows recorded for that date over the preceding long-term 1976-2003 period of HBMP monitoring.

Table 2.2
Comparisons of Freshwater Inflows During 2004 and the Period 1976-2004

Figure	Description
Figure 2.1	Daily Peace River flow at Arcadia (2004)
Figure 2.2	Daily Peace River flow at Arcadia in relation to long-term statistical averages
Figure 2.3	Daily Peace River flow at Arcadia (1976-2004)
Figure 2.4	Monthly mean Peace River flow at Arcadia (1976-2004)
Figure 2.5	3-month moving average Peace River flow at Arcadia (1976-2004)

Table 2.2
Comparisons of Freshwater Inflows During 2004 and the Period 1976-2004

Figure	Description
Figure 2.6	Total daily flow - Peace River + (Horse + Joshua + Shell) Creeks (2004)
Figure 2.7	Total daily flow - Peace River + (Horse + Joshua + Shell) Creeks (1976-2004)
Figure 2.8	Mean monthly flow - Peace River + (Horse + Joshua + Shell) Creeks (1976-2004)
Figure 2.9	3-month moving average flow - Peace River + (Horse + Joshua + Shell) Creeks (1976-2004)
Figure 2.10	Total daily gaged flow - (Peace + Myakka) Rivers + (Horse + Joshua + Shell) Creeks (1976-2004)
Figure 2.11	Total daily gaged flow - (Peace + Myakka) Rivers + (Horse + Joshua + Shell) Creeks (1976-2004)
Figure 2.12	Mean monthly gaged flow - (Peace + Myakka) Rivers + (Horse + Joshua + Shell) Creeks (1976-2004)
Figure 2.13	3-month moving average gaged flow - (Peace + Myakka) Rivers + (Horse + Joshua + Shell) Creeks (1976-2004)

Daily Peace River at Arcadia gage flows between 1976, the beginning of the HBMP and the most recent year (2004) are shown in [Figure 2.3](#). This figure clearly shows the magnitude of the extended drought that occurred between 1999 and 2002, and the higher than average flows that immediately followed during 2003 and 2004. Arcadia gaged flows over the same long-term period are further depicted as mean monthly values in [Figure 2.4](#) and again based on 3-month moving averages in [Figure 2.5](#). Plots similar to those above for total gaged flow entering Charlotte Harbor from the Peace River (Peace River at Arcadia + Horse Creek + Joshua Creek + Shell Creek) are shown in Figures 2.6 through 2.9. Figures 2.10 through 2.13 show comparative plots of daily, mean monthly and 3-month moving average total gaged freshwater inflows to upper Charlotte Harbor by including Myakka River flows (it should be noted that the USGS Myakka River near Sarasota gaging location does not include runoff from a substantial portion of the lower watershed.) Combined, these graphics clearly indicate the seasonal wetter than average conditions that characterized much of 2004, with higher than normal flows occurring during both the typically drier winter and spring months, and again from the later part of the summer wet-season through the late fall.

Comparison of the data displayed in [Figures 2.2](#) and [2.3](#) shows that Peace River average daily flow at Arcadia during 2004 was approximately 196 percent of that calculated over the preceding longer 1976-2003 period. The data displayed in [Figures 2.6](#) and [2.7](#) for the sum of average daily flows from the Peace River at Arcadia, Horse Creek, Joshua Creek, and Shell Creek indicate that total freshwater inflows to the lower Peace River estuary during 2004 were roughly 182 percent of the average over the longer preceding time period of HBMP monitoring (1976-2003).

2.2 Peace River Facility Withdrawals

Daily withdrawals from the Peace River (in cubic feet per second) by the Peace River Facility during 2004 are presented in [Figure 2.14](#). Two items of note are indicated in this figure. The first being that due to the low flow cutoff of 130 cfs (as measured at the USGS Arcadia gage), there are often extended periods (typically during the spring dry-season) each year when the

Peace River Facility does not withdraw water from the river. The second is that, due to the unusually wet conditions and higher than average freshwater flows that occurred during 2004, the Peace River Facility was able to withdraw water from the lower Peace River many more days than during the recent severe 1999-2002 drought.

Daily withdrawals since facility startup are shown from 1980-2004 in [Figure 2.15](#). This figure clearly indicates the increases in maximum withdrawals beginning in the later half of 2002 due to the recently completed facility expansion, and the Authority's increased ability to treat and store larger daily amounts of freshwater.

Plots of the monthly means and 3-month moving averages of withdrawals over this period are depicted in [Figures 2.16](#) and [2.17](#). The effects on water withdrawals from the recent long-term drought, the higher than average flows in both 2003 and 2004, as well as the 2002 facility expansion are clearly evident in [Figure 2.17](#). Various relationships between 2004 Arcadia gaged Peace River flows and Peace River Facility withdrawals are further depicted in [Figures 2.18](#) through [2.21](#).

Table 2.3
Comparisons of Facility Withdrawals and Freshwater Inflows
During 2004 and the Period 1980-2004

Figure	Description
Figure 2.14	Daily water treatment facility withdrawals (2004)
Figure 2.15	Daily water treatment facility withdrawals (1980-2004)
Figure 2.16	Monthly mean water treatment facility withdrawals (1980-2004)
Figure 2.17	3-month moving average water treatment facility withdrawals (1980-2004)
Figure 2.18	Peace River flows at Arcadia and water treatment facility withdrawals (2004)
Figure 2.19	Peace at Arcadia + Horse + Joshua + Shell Flows and water treatment facility withdrawals (2004)
Figure 2.20	Peace River flows at Arcadia vs. water treatment facility withdrawals (2004)
Figure 2.21	Peace River flows at Arcadia vs. % water treatment facility withdrawals (2004)

Facility withdrawals from the river during 2004 reached ten percent of the preceding daily gaged Peace River at Arcadia flow only a small number of days during the year. However, as indicated in [Figure 2.21](#), there were a number of times (sixteen) during 2004 when withdrawals exceeded this amount. The reason for these discrepancies stems from the way that stage/flow data are gathered. The Authority uses "provisional" preceding day flow data from the water level recorder at the USGS gaging station on the Peace River at Arcadia. Such "provisional" real-time data are obtained directly from the USGS Tampa office's Web Site a number of times each day by the Authority in order to determine an accurate working estimate of the preceding daily Arcadia flow on which to establish the current day's withdrawal schedule. However, after the fact, the USGS checks and evaluates the data from both the Arcadia gage stage recorder and periodic river cross section measurements collected a number of times each year. Based on such

quality assurance checks the USGS may make various revisions to the recent, real-time information before establishing finalized daily flow estimates for the preceding water year. Thus, the daily values used by the Authority are only “provisional” and can and are often changed as a result of ongoing USGS data quality assurance procedures weeks or even months later. It is therefore not uncommon for subsequent determinations of percent withdrawals, based on the finalized, revised USGS calculations of the initial “provisional” daily flows, to sometimes indicate that daily withdrawals, based on initial real-time flow information, exceeded the District’s permitted maximum ten percent.

2.3 Summary

Annual mean Peace River flows (gaged data only) at Arcadia and the U.S. 41 Bridge are summarized since 1976, the start of the HBMP, in [Table 2.4](#). Also included in this table are mean annual Peace River Facility withdrawals (since 1980), and the annual percentage facility withdrawals have comprised of measured gaged flows at both Arcadia and the U.S. 41 Bridge. Total Peace River Facility withdrawal during 2004 were approximately 1.39 percent of the total gaged freshwater flow measured at the USGS Arcadia gage, and 0.87 percent of the combined average daily flows of the Peace River, and Horse Creek, Joshua Creek, and Shell Creeks. During the entire period of Facility withdrawals 1980-2004, total combined withdrawals have been approximately 1.15 percent of the corresponding gaged Peace River at Arcadia flows and 0.67 percent of the corresponding combined daily flows of the Peace River, and Horse Creek, Joshua Creek, and Shell Creeks.

3.0 Phytoplankton and Water Chemistry at “Moving” Isohaline Locations

3.1 Introduction

The development of a comprehensive understanding of phytoplankton production and related community structure within the Charlotte Harbor system is fundamental in developing an understanding of the interrelated biological communities and physical processes within the estuary, including secondary production and nutrient cycling. A thorough understanding of those processes controlling phytoplankton production within Charlotte Harbor is necessary to quantify the estuary's immediate and long-term responses to various external inputs. The HBMP's ongoing, long-term investigation of production in the lower Peace River/upper Charlotte Harbor estuarine system attributable to phytoplankton assemblages meets these criteria by providing both:

- A measurement of populations and community structure that act as sensitive barometers of external change at a short (daily to weekly) temporal scale.
- Insight into basic spatial processes not only affecting water quality but having secondary widespread interrelations and effects upon other estuarine system components.

Phytoplankton production generally represents an immediately available food resource, unlike other estuarine production such as that associated with seagrass, mangrove and saltmarsh habitats, where much of the resource becomes available through secondary processes. Of the various inputs into the Charlotte Harbor estuarine system, phytoplankton production represents both the largest single component of primary production and a food source directly accessible to many filter and detrital feeding organisms. Phytoplankton production and community composition, due to the short generation times involved, have also been shown to be effective in demonstrating ephemeral, seasonal and long-term changes in water quality. Phytoplankton production represents a highly integrated estuarine component and can be used to provide information on both direct and predictive secondary impacts of external influences.

3.1.1 Current Long-Term Phytoplankton Study Elements

This report presents data collected during the twenty-second year (2004) of this unique long-term study of the relationships between phytoplankton productivity and Peace River flow into upper Charlotte Harbor. The continuation of phytoplankton studies under the 1996 SWFWMD Water Use Permit ensures development of a database sufficiently large enough to enhance the ongoing statistical evaluation of trends and develop a long-term understanding of differences in the harbor's responses to periods of both extended drought and unusually high freshwater inflows. In addition, the permit continues the collection and thorough taxonomic evaluation of the seasonal abundance and dominance of observed phytoplankton species. This portion of the study seeks to quantify the specific responses of major phytoplankton taxonomic groups to variations in the

periodicity of freshwater inflow, and assess the potential influences (if any) of Peace River Facility diversions.

The current HBMP study elements of phytoplankton production in the lower river and upper harbor are designed to develop the needed long-term database necessary to evaluate both short and long-term cycles in phytoplankton production in the upper estuarine system. Statistically comparable levels of phytoplankton ^{14}C fixation rates were measured monthly at each of four salinity-based isohaline locations between June 1983 and December 1999 (following which uptake rate measurements were discontinued). Although direct *in situ* measurements of phytoplankton carbon uptake rates are no longer being measured, determinations continue to be made of phytoplankton biomass (chlorophyll *a*), population structure, related physical parameters, water column light profiles and analysis of the major chemical constituents associated with phytoplankton growth. The four sampling locations in this study represent non-fixed surface salinity zones, such that the monthly location of each isohaline is dependent upon the preceding amount of freshwater inflow from the Peace River. Table 3.1 summarizes the historical statistical distributions of these isohalines. The four salinity sampling zones are:

- Station 101 = 0 o/oo
- Station 102 = 5-7 o/oo
- Station 103 = 11-13 o/oo
- Station 104 = 20-22 o/oo

Table 3.1

Summary Statistics of the Four Isohaline Locations (Kilometers) from the Peace River’s Mouth for the Period 1983-2004

Isohaline	Minimum	Maximum	Mean	Median
0 o/oo	3.4	37.6	21.7	20.9
6 o/oo	-16.3	27.5	12.4	12.1
12 o/oo	-30.1	24.5	7.3	8.6
20 o/oo	-36.3	18	-0.3	2.5

To date, the most upstream occurrence of the 0 o/oo isohaline sampling location has been just over a quarter mile upstream of the point where Horse Creek joins the Peace River (June 2000). The most downstream occurrence of the 20 o/oo isohaline sampling location has been in the Gulf of Mexico just off Boca Grande (September 1988) (see [Figure 3.1](#)).

The relative location of each of these four isohalines during 2004 is shown in [Figure 3.2](#), while long-term patterns for the period 1983-2004 are presented in [Figures 3.3](#) and [3.4](#). The influences of the extended drought conditions that influenced freshwater flows in the Peace River watershed between 2000 and 2002 are noticeable in the atypical upstream movements and near historic maximum extents of all four isohalines during this extended, unusually dry period following the 1997/1988 El Niño climatic event. Since the end of this most recent drought, the seasonal variability of the relative locations of each of these four measured isohalines have returned to

cyclical patterns similar to those previously observed during more normal annual hydrologic conditions.

Table 3.2
Comparisons of Isohaline Locations During 2004 and the Period 1983-2004

Figure	Description
Figure 3.1	Study area with most upstream and downstream locations of salinity sampling zones
Figure 3.2	Relative distance (km) from the mouth of the river (2004)
Figure 3.3	Relative distance from the mouth of the river of 0 and 6 ppt salinity sampling zones (1983-2004)
Figure 3.4	Relative distance from the mouth of the river of 12 and 20 ppt salinity sampling zones (1983-2004)
Figure 3.5	Box & whisker plots of relative distance (km) from the mouth of the river (2004 & 1983-2003)

The box and whisker plots presented in [Figure 3.5](#) summarize and compare the relative locations of each of the four “moving” isohaline sampling zones during both 2004 and over the preceding 1983-2003 monitoring period. The box indicates the median line (50th percentile) as well as the 25th and 75th percentiles respectively at the bottom and top. Whisker lines then extend from the 25th percentile to the 10th percentile and from the 75th percentile to the 90th percentile. Extreme values (outside the 10th-90th percentiles) are represented by dots at the end of the whiskers. In Figure 3.5, the zero reference line denotes the imaginary mouth of the Peace River as defined in the previous morphometric study. The influence of the higher than average freshwater inflows during 2004 is evident in the seasonal pattern of the locations during 2004 of all four of the HBMP isohalines, in comparison to the long-term 1983-2003 period of HBMP isohaline based monitoring.

3.2 Methods for Phytoplankton Study Elements

The methodologies used to measure and evaluate the physical, chemical, and biological parameters encompassed within this investigation are outlined and described within the following sections. Environmental Quality Laboratory, Inc. (EQL) was responsible for all aspects of the “moving” station monitoring between 1983 and July 2000, after which time EarthBalance, Inc. (formerly Florida Environmental) was contracted to conduct the physical water column measurements and collection of water chemistry samples for both the “moving” isohaline and “fixed” HBMP station elements. A number of EarthBalance staff previously worked on the HBMP while with EQL and all previously used field collection procedures have been maintained.

Since the initial inception of the HBMP monitoring program in 1976, all water chemistry analyses had been conducted by the Environmental Quality Laboratory, which was purchased in 2000 by ASCI, Inc. ASCI continued to conduct all HBMP chemical analyses through January 2002. However, due to concerns regarding QA/QC issues and the long-term stability of ASCI, in February 2002 the Authority changed to contract Benchmark EnviroAnalytical, Inc. located in

Palmetto, Florida. Benchmark conducted all chemistry analyses during 2004. All laboratory methods previously used by EQL/ASCI have been continued by Benchmark.

3.2.1 *In Situ* Measurements of Physical Parameters

Depth, temperature, dissolved oxygen, conductivity, and pH were measured *in situ* with Hydrolab Surveyor systems. Profiles were made from the surface to the bottom in 0.5m increments at each sampling station location. Depth measurements were determined on the basis of both pre-measured marks on the unit's cable and the unit's depth sensor.

Pre-sampling instrument calibrations were conducted within four hours prior to use. Temperature was measured with a linear resistance thermistor, factory calibrated and accurate to within ± 0.2 °C. Dissolved oxygen (DO) was measured with a temperature-compensated, passive, polarographic cell, which measures the partial pressure of oxygen as parts per million (ppm or mg/l) of oxygen, ± 0.2 ppm. The probe was calibrated using the oxygen tension of water-saturated air (temperature corrected) as a standard.

The conductivity probe was calibrated against a KCl solution of known conductivity. Probe response was then tested with a solution of known low and high conductivity to ensure that the reading was within ± 1.0 percent of the range selected. The probes are automatically temperature compensated to provide conductivity at 25 °C.

The Hydrolab pH probes are glass, KCl filled with silver/silver chloride reference electrodes and refillable junctions. They are automatically temperature compensated. Two buffer solutions of 7.0 and 10.0 pH (± 0.1 units) were used to calibrate the accuracy of the probe.

3.2.2 Light Profile

Light intensity profiles were utilized to gather sufficient data to calculate the water column extinction coefficient at each isohaline sampling location. A LI-COR quantum/radiometer/photometer equipped with an underwater quantum sensor was used to measure photosynthetically active radiation (400-700 nanometers). Light intensities ($\mu\text{Einsteins}/\text{m}^2/\text{sec}$) were measured in the air just above the water surface, again just below the surface, and at six selected depths (20, 40, 60, 80, and 100 cm). Light intensity profile data, by month, at each isohaline sampling location during 2004 are presented along with complete analyses in [Appendix B](#).

3.2.3 Chlorophyll *a*

Ambient chlorophyll *a* levels are widely used to estimate phytoplankton biomass. For these investigations, chlorophyll *a* concentrations were determined spectrometrically for: 1) greater than 20 microns, 2) 5 to 20 microns, and 3) less than 5 microns size fractions, from subsurface samples collected at each of the four isohalines. Chlorophyll *a* levels were determined for each of the three size fractions, both uncorrected and corrected for pheophytin, in order to provide comparable estimates of phytoplankton biomass.

3.2.4 Water Chemistry

Surface water samples were collected for analysis at each salinity-based station in pre-labeled, one-liter polyethylene containers. The containers were rinsed with sample water, filled and immediately placed in the dark on ice until returned to the laboratory following standard chain of custody and quality assurance procedures. Specific methods of analyses are listed in [Table 3.3](#).

In response to the recommendations contained within the 2000 HBMP Midterm Interpretive Report, the number of water chemistry parameters associated with both the “moving and “fixed” HBMP study elements were decreased from those originally specified in the 1996 monitoring conditions. These changes were made only after extensive consultation with both the HBMP Scientific Review Panel and District Staff. As a result of this coordination, all monitoring during 2004 was conducted using the revised/reduced long-term water quality sampling parameter list implemented starting in March 2003 ([Table 1.2](#)).

3.2.5 Population Structure

Surface water samples were collected for taxonomic analysis at each salinity-based station in conjunction with phytoplankton biomass measurements. Samples for microscopic investigation were placed in one-liter polyethylene containers and immediately fixed with 4 ml of Lugol's solution, which is the preferred preservative for samples that may include significant numbers of flagellates. The samples were placed on ice in the dark for transportation to the lab, where they were held in a refrigerator at 4 °C until prepared for counting. Extensive work has been completed in preparing a thorough photographic taxonomic inventory of the phytoplankton taxa seasonally present at the four salinity zones. To date over 500 taxa have been identified from samples collected. Samples were prepared for observation using a Zeiss inverted microscope utilizing the following settling procedures.

1. Samples were removed from the refrigerator and gently shaken to assure resuspension of all material.
2. Randomly selected subsamples totaling 5-200 ml (depending on the concentration of the material in the samples) were withdrawn and placed in 50 ml conical glass centrifuge tubes.
3. Three to four drops of iodine solution were then added at the top of the tubes, which were then allowed to stand for at least 24 hours.
4. At the end of the first settling period, the settled material in the bottom 2.5 ml and any cells adhering to the surface tension of each centrifuge tube was drawn off and placed in a 10 ml Zeiss inverted microscope settling chamber.
5. Two drops of iodine solution were again added to promote settling, and the composite samples were again allowed to stand undisturbed for 24 hours.

Once the samples were prepared, the counting chambers were placed on a Zeiss inverted microscope for phytoplankton identification. Taxonomic determinations to the lowest practical taxonomy level were conducted from random fields using a modified strip method. To determine community structure, a standardized number of cells are identified (500). The majority of the taxonomic work was conducted using a 100X objective and 16X wide field oculars. As each

observation was made, assigned genus and species codes are recorded. After having recorded the taxonomic determinations of 500 cells, additional notes on each sample were compiled using a combination of low and high power objectives. Determinations of the number of cells per unit volume were conducted on the same samples using a 10X ocular grid and 100X objective. The total number of cells in randomly selected fields, taken in a modified strip method, were recorded on a data sheet and appropriate dilution calculations made.

3.2.6 Taxonomic Determinations of Phytoplankton Community Structure

The collection of monthly samples for the analysis of phytoplankton community structure was begun in 1989 in conjunction with the long-term study of physical/chemical water quality and primary production at the four monitored salinity zones. Phytoplankton community structure has long been used in other studies as a tool in assessing both temporal and long-term changes in water quality in estuarine systems. A complete presentation of all the phytoplankton taxonomic data collected during 2004, listing: 1) the taxonomic structure, 2) percent composition of the major taxonomic groups, and 3) species diversity and evenness indices, is presented by salinity zone, month and year in [Appendix D](#).

Historically, microscopic surveys of phytoplankton samples collected concurrently with the chlorophyll *a* biomass estimates have generally indicated the relative dominance of the following groups.

- At the stations characterized by intermediate and higher salinities, the smallest phytoplankton size fraction (<5 microns) is often dominated by Cryptophyceae species (*Chroomanas* spp. and *Cryptomonas* spp.). Small Bacillariophyceae (*Thalassiosira* spp., *Nitzschia* spp., *Navicula* spp.) are also often significant portions of the nano-plankton components at these salinities.
- At the higher salinities, which are under greater influences from Gulf waters, chain-forming and larger diatoms frequently dominated the net-plankton size fraction. Seasonally important diatoms at these locations were *Skeletonema costatum*, *Asterionella glacialis*, *Odentella sinensis*, *Corethron criophilum*, *Coscinodiscus centralis*, and *Coscinodiscus eccentricus*, as well as species of *Chaetoceros* and *Rizosolenia*. Dinophyceae (*Ceratium* spp. and *Peridinium* spp.) were often seasonally common in the largest size fraction during the summer months at some of the higher salinity stations.
- At intermediate salinities, blooms of *Skeletonema costatum* were commonly associated with relative increases in carbon uptake and chlorophyll *a* within the largest size fraction. In certain instances, however, dinoflagellates (*Prorocentrum micans*, *P. minimum*, *Gymnodinium* spp. and *Gyrodinium* spp.) were also major components of the largest size fraction. Specifically, at 6 and 12 o/oo salinity at the mouth of the Peace River, the larger size fractions were seasonally dominated by blooms of *Gyrodinium splendens*.

- The picoplankton size fraction (< 5 microns) at the lower salinity stations often contained significant numbers of non-flagellated, smooth, circular to ovoid, green cells. Taxonomically, such cells probably include Cyanophyceae (*Synechoccus* spp., *Chroococcus* spp., *Anacystis* spp.) as well as Chlorophyceae (*Nannochloris* spp., *Chlorella* spp.). Small phytoflagellates (*Chlamydomonas* spp., *Carteria* spp., *Chroomonas* spp., *Cryptomonas* spp.) were also common components of the picoplankton at the lowest salinities. The larger size fractions in the riverine portions of the estuary are generally characterized by mixtures of Chlorophyceae (*Ankistrodesmus* spp., *Coelastrum* spp., *Crucigenia* spp., *Pediastrum* spp., *Scenedesmus* spp., *Tetraedron* spp.), Bacillariophyceae (*Cyclotella* spp., *Nitzschia* spp., *Navicula* spp., *Fragillaria* spp.), and Cyanophyceae (*Anabaena* spp., *Anacystis* spp.).

The phytoplankton counts from the 2004 samples were somewhat different than those reported during the recent extended drought. During the drought the small Cyanophyceae, *Synechoccus aquaticus*, dominated many of the samples. Although these taxa had historically been present, as the extended period of drought continued, it has become increasingly dominant in the Peace River/Charlotte Harbor phytoplankton samples. However, during both 2004, when freshwater inflows were generally above average, dinoflagellates (Dinophyceae) and diatoms (Bacillariophyceae) again became far more major components of the estuarine phytoplankton community structure at the brackish and higher salinity isohalines.

3.3 Physical and Water Chemistry Data Collected in the “Moving” Isohaline Locations in Conjunction with Phytoplankton Study Elements

Water quality data collected at the four “moving” isohaline locations in conjunction with the 2004 phytoplankton HBMP study element are presented and summarized in the following Tables and Figures. [Tables 3.4](#) and [3.5](#) summarize the determinations of a number of the key physical, chemical and biological measurements. Seasonal representations of selected parameters are further graphically presented in Figures 3.6 through 3.13 (see Table 3.6). Complete *in situ* physical water column profiles at each of the four salinity zones by month are presented in [Appendix A](#). Surface water chemistry results at each salinity zone during each month are presented in [Appendix C](#).

Relationships of the 2004 data to those data collected during the preceding twenty-one years of study (1983-2003) are shown for selected physical, chemical and biological measurements in Figures 3.14 through 3.21 (see Table 3.7). Further comparisons of these parameters are presented as box and whisker plots by salinity for both 2004 and long-term data collected between 1983-2003 in Figures 3.22 through 3.29. The box and whisker plots display a detailed distribution of the data, showing the median (50th percentile) at the center of the box and the 25th and 75th percentiles at the bottom and top of the box, respectively. The whiskers are lines that extend from the 25th percentile to the 10th percentile and 75th percentile to the 90th percentile. Extreme values (outside the 10th-90th percentiles) are represented by dots at the ends of the whiskers.

Table 3.6

Summary Tables and Graphics of Key Physical and Chemical Measurements for Data Collected in 2004 at the Four Isohaline Locations

Tables	Description
Table 3.4	Physical and chemical water quality parameters
Table 3.5	Physical and chemical water quality parameters - nutrients
Figures	Description
Figure 3.6	2004 Temperature at salinity sampling zones
Figure 3.7	2004 Color at salinity sampling zones
Figure 3.8	2004 Extinction coefficient at salinity sampling zones
Figure 3.9	2004 Nitrite/Nitrate at salinity sampling zones
Figure 3.10	2004 Ortho-phosphorus at salinity sampling zones
Figure 3.11	2004 Atomic N/P ratio at salinity sampling zones
Figure 3.12	2004 Silica at salinity sampling zones
Figure 3.13	2004 Chlorophyll a at salinity sampling zones

Table 3.7

Summary Graphics of Key Physical and Chemical Measurements for Data Collected During the Period 1983-2004 at the Four Isohaline Locations

Figure	Description
Figure 3.14	1983-2004 Temperature at salinity sampling zones
Figure 3.15	1983-2004 Color at salinity sampling zones
Figure 3.16	1983-2004 Extinction coefficient at salinity sampling zones
Figure 3.17	1983-2004 Nitrite/Nitrate at salinity sampling zones
Figure 3.18	1983-2004 Ortho-phosphorus at salinity sampling zones
Figure 3.19	1983-2004 Atomic nitrogen/phosphorus ratio at salinity sampling zones
Figure 3.20	1983-2004 Silica at salinity sampling zones
Figure 3.21	1983-2004 Chlorophyll a at salinity sampling zones
Figure 3.22	Box and whisker plots of temperature at salinity sampling zones (2004) & (1983-2003)
Figure 3.23	Box and whisker plots of color at salinity sampling zones (2004) & (1983-2003)
Figure 3.24	Box and whisker plots of extinction coefficient at salinity sampling zones (2004) & (1983-2003)
Figure 3.25	Box and whisker plots of nitrite/nitrate at salinity sampling zones 2004) & (1983-2003)
Figure 3.26	Box and whisker plots of ortho-phosphorus at salinity sampling zones (2004) & (1983-2003)
Figure 3.27	Box and whisker plots of atomic N/P ratio at salinity sampling zones (2004) & (1983-2003)

Table 3.7**Summary Graphics of Key Physical and Chemical Measurements for Data Collected During the Period 1983-2004 at the Four Isohaline Locations**

Figure	Description
Figure 3.28	Box and whisker plots of silica at salinity sampling zones (2004) & (1983-2003)
Figure 3.29	Box and whisker plots of chlorophyll a at salinity sampling zones (2004) & (1983-2003)

3.4 Summary

Statistical comparisons between mean 2004 values and long-term 1983-2003 averages for selected parameters are summarized in [Table 3.8](#). Overall the data collected during 2004 indicate:

- **Temperature** – Median water temperatures during 2004 at each of the four isohalines were slightly lower than corresponding values measured over the preceding twenty-one year period (1982-2003). Such results may reflect differences in cloud cover resulting from the overall wetter than usual conditions and three hurricanes that passed near (or over) the area. Measured water temperatures in the freshwater isohaline during the spring of 2004 were slightly higher those observed at the other three monitored salinity zones, possibly reflecting the increased heating of the more highly colored water. It should be noted, that the water temperatures measured during December 2004 were the warmest December values measured during the 1983-2004 period.
- **Water Color** – The average color levels throughout the estuary were markedly different than those recently observed during the 2000-2002 drought. Color levels, again as in 2003, were well above the long-term averages within each of the four isohalines as a result of the higher than average freshwater inflows during much of 2004. Comparatively, the greatest difference in color levels during 2004 when compared to the long-term averages occurred within the two higher isohalines (12 and 20 o/oo.)
- **Extinction Coefficient** – The rates of measured light attenuation at each of the four isohalines reflect both ambient color and phytoplankton biomass (chlorophyll *a*). Comparisons among the mean 2004 extinction values at the four isohalines indicate that even though water color throughout the estuary was slightly higher than average during 2004 due to greater than average freshwater inflows, light extinction coefficients at all four isohalines were below historical annual averages. It is possible that in both 2003 and 2004 higher than average freshwater inflows resulted in higher than average water color, which in turn suppressed normal spring levels of phytoplankton production (chlorophyll *a*), resulting in lower than average measurements of extinction coefficients.

- **Nitrite/Nitrate Nitrogen** - During 2004, the average concentrations of this major inorganic form of nitrogen were slightly lower than the long-term (1983-2003), historical annual averages observed at each of the four isohalines. Monthly comparisons of nitrite/nitrate concentrations among the isohalines show unusual marked declines of this form of inorganic nitrogen in the freshwater flows entering the estuary following the hurricanes in August and September. Typically monthly comparisons among the isohalines indicate nitrite/nitrate inorganic nitrogen concentrations in the lower Peace River/upper Charlotte Harbor Estuary are characterized by a distinct spatial gradient. Concentrations typically decrease rapidly with increasing salinity, with inorganic nitrogen levels within the 20 o/oo isohaline being near method detection limits throughout much of the year. Normally, estuarine inorganic nitrogen concentrations usually decline to their lowest levels during the relatively drier, late spring as phytoplankton populations respond to increasing water temperatures and light, and increased primary production removed available inorganic nitrogen. However, the higher than normal freshwater flows during the spring of 2004 also resulted in differences in the characteristic annual patterns of inorganic nitrogen concentrations in the upper reaches of the estuary.
- **Ortho-phosphorus** - Estuarine inorganic phosphorus concentrations in the lower Peace River and upper Charlotte Harbor are heavily influenced by the unusually “very” high natural levels found in the Peace River watershed. As a result, the observed differences in concentrations among the four isohalines simply reflect conservative dilution by Gulf waters. Unlike inorganic nitrogen, seasonal observed changes in phosphorus concentrations in the estuary are for the most part unaffected by biological uptake. Since the late 1970s there has been marked historical declines in inorganic phosphorus levels in the lower Peace River/upper Charlotte Harbor estuarine system due to declines in the combined influences of phosphate mining in the upper reaches of the basin. Inorganic phosphorus concentrations entering the estuary system from the Peace River watershed are typically lower during wetter periods, when a higher proportion of flow results from surface flow (rather than coming from groundwater, which is naturally richer in phosphorus). However, average inorganic phosphorus concentrations during 2004 were higher than the long-term averages (1983-2003) at each of the four isohalines. This was directly the result of unusually high phosphorus levels in the freshwater entering the estuary following Hurricanes Charley in August, and Frances and Jeanne in September.
- **Nitrogen to Phosphorus Atomic Ratios** – Calculated atomic inorganic nitrogen to phosphorus ratios for ambient measured concentrations in 2004, as indicated by the long-term averages, show nitrogen to always be the limiting macronutrient at each of the four isohalines.
- **Silica** – Measured concentrations of dissolved reactive silica in the lower Peace River/upper Charlotte Harbor estuarine system during 2004 reflected a continuation of the previously noted increasing pattern of higher values at all four isohalines. This increasing pattern was slightly interrupted by the extended drought during 2000-2002, but seems to have accelerated starting late in 2002. Comparisons of long-term (1983-

2003) annual average silica concentrations indicated that levels during 2004 were approximately double the long-term historic levels within all four salinity zones.

- **Chlorophyll *a*** – The seasonal patterns of freshwater inflows during 2004 were influenced by both much wetter than average conditions during the typically very dry early spring, and a wetter than average late summer wet-season. The resulting seasonal flow patterns combined to produce both higher than average inputs of inorganic nutrients, as well as higher than average levels of water color (resulting in greater light attenuation). Overall, phytoplankton production (chlorophyll *a*) levels in the lower Peace River/upper Charlotte estuary were slightly above the long-term (1983-2003) averages within each of the four salinity zones. Phytoplankton blooms within both the 6 and 12 o/oo isohalines occurred periodically during 2004. Taxonomic counts indicated that such “bloom” events within these salinity zones were typically characterized by high numbers of different dinoflagellates (Dinophyceae) or diatoms (Bacillariophyceae).

4.0 Water Chemistry Data Collected at “Fixed” Station Locations

4.1 Introduction

A number of the HBMP elements prior to 1996 had included collections of water quality data. The majority of these data, however, were limited to *in situ* physical measurements of water column characteristics. Such *in situ* water column profile data were collected during:

1. The monthly HBMP night trawl fish study conducted between 1976-1986.
2. The sea star and benthic invertebrate studies carried out between 1976 and 1984.
3. The long-term monthly fixed station study of water column characteristics undertaken between 1976 and 1986 at numerous fixed sites in the lower Peace River and upper Charlotte Harbor.

In addition, as discussed in [Section 3.0](#), both water column profiles and surface water chemistry samples have been collected monthly since 1983 at four “moving” isohaline locations in conjunction with the ongoing HBMP study of phytoplankton estuarine production.

Under the 1996 WUP permit renewal, the monitoring program was expanded to include water chemistry data collections at five fixed sampling locations from near the mouth of the river to upstream of the Peace River Facility. In addition, *in situ* physical water column profile sampling only was initiated at ten additional “fixed” sampling locations beyond the five “fixed” water chemistry sampling locations. These new HBMP water sampling and *in situ* water column investigations were initiated using sampling sites formerly utilized (1975-1990) by General Development Corporation’s Environmental Quality Laboratory (EQL) for similar long-term lower Peace River background monitoring. Beginning in 1998, an additional fixed monthly sampling site was added to correspond to the location of the third tide gage that was installed in 1997 at River Kilometer 26.7. The relative locations of these fixed sampling locations are shown in [Figure 4.1](#), while [Table 4.1](#) provides currently used river kilometers as well as previously used EQL station numbers and USGS river mile designations.

Long-term water chemistry data were gathered by EQL between the inception of the HBMP monitoring program in 1976 and 1990 at each of the five water quality monitoring locations in conjunction with General Development Corporation’s background monitoring program of the lower Peace River and Charlotte Harbor. Between 1990 and 1996, the District collected some monthly data at two of these locations (River Kilometers -2.4 and 6.6) as part of its Charlotte Harbor SWIM monitoring program, and Charlotte County also collected monthly data at these same two sites as background for the South Gulf Cove and Manchester Waterway Permit monitoring programs. As part of the 1996 expanded HBMP monitoring program, the Authority contracted the USGS to collect both the *in situ* hydrolab profile and water chemistry information at the “fixed” HBMP monitoring locations. In July 2000, EarthBalance, Inc. (formerly Florida Environmental) became responsible for all of the water chemistry and biological HBMP

fieldwork. This has included the taking of physical water column measurements and the collection of water chemistry samples for both the “moving” isohaline and “fixed” HBMP station elements. ASCI (formerly EQL) conducted both the “fixed” and “moving” HBMP chemical analyses through January 2002. However, due to concerns regarding QA/QC issues and the long-term stability of ASCI, in February 2002 the Authority changed to Benchmark EnviroAnalytical, Inc. located in Palmetto, Florida. Benchmark conducted all the chemistry samples collected during 2004. All laboratory methods previously used by EQL/ASCI have been continued by Benchmark.

4.2 Description of Fixed Station Data Collection

The following description provides an overview and summary of the procedures and methods used during the “fixed” station elements of the HBMP.

The “fixed” station water quality monitoring project consists of two categories of data collection.

1. Monthly physical water column *in situ* water quality measurements at 16 “fixed” sampling sites. *In situ* field measurements made at all sixteen physical water column profile sites include depth, pH, temperature, dissolved oxygen, and specific conductance. Field measurements are made at 0.5 m intervals, beginning at the surface and ending near the bottom.
2. Monthly sub-surface and near-bottom chemical water quality samples collected at five locations, spaced between the river’s mouth and just upstream of the facility along the established river kilometer centerline transect.

Near-surface and near-bottom samples collected at the five monthly water quality monitoring sites were analyzed between 1996 and 2003 for color, turbidity, alkalinity, total nutrients (ammonia nitrogen, ammonia plus organic nitrogen, nitrate plus nitrite nitrogen, nitrite nitrogen, ortho-phosphorus, phosphorus), total organic carbon, total inorganic carbon, dissolved organic carbon, dissolved silica, dissolved chloride, total suspended solids, volatile suspended solids, salinity (estimated from specific conductance), and chlorophyll *a*. As noted in [Section 1](#), several of these water quality parameters were dropped from the HBMP sampling design during 2003.

In response to the recommendations contained within the 2000 HBMP Midterm Interpretive Report, the number of water chemistry parameters associated with both the “moving and “fixed” HBMP study elements were decreased from those originally specified in the 1996 monitoring conditions. These changes were made only after extensive consultation with both the HBMP Scientific Review Panel and District staff. As a result of this coordination, the revised/reduced long-term water quality sampling parameter list was implemented starting in March 2003 ([Table 1.2](#)).

In situ field measurements made in conjunction with sampling at these water quality sites continue to include depth, pH, temperature, dissolved oxygen, specific conductance, and light characteristics.

4.3 Data Collection and Analyses

A detailed compilation of all procedures and protocols used during all elements of the HBMP has been compiled in the “Project and Quality Control Plan” submitted to the District in August 2002. All *in situ* physical water quality procedures and methods used in the “fixed” station HBMP monitoring during 2004 were analogous to previously described methods in [Section 3.0](#) for the “moving” isohaline study elements, with the added use of a Kemmerer to collect near-bottom water samples at each of the five water quality sampling locations.

4.4 Results and Conclusions

4.4.1 Physical Water Column Characteristics (2004)

The results for the period January through December 2004 of the *in situ* hydrolab water column profiles at the sixteen fixed stations are presented in [Appendix E](#). Complete analyses of the accompanying *in situ* water column light profile data are presented in detail in [Appendix F](#). These data are presented graphically in Figure 4.2 through Figure 4.6 (see Table 4.2).

Table 4.2
Summary Graphics of Mean Physical Water Column *In Situ* Water Quality Measurements at the Fixed Sampling Locations During 2004

Figure	Description
Figure 4.2a	Average temperature at river kilometers –2.4, 6.6, 8.4 and 10.5
Figure 4.2b	Average temperature at river kilometers 12.7, 12.8, 15.5 and 17.5
Figure 4.2c	Average temperature at river kilometers 20.1, 21.9, 23.6 and 24.7
Figure 4.2d	Average temperature at river kilometers 25.9, 29.5, 30.4 and 32.3
Figure 4.3a	Average dissolved oxygen at river kilometers –2.4, 6.6, 8.4 and 10.5
Figure 4.3b	Average dissolved oxygen at river kilometers 12.7, 12.8, 15.5 and 17.5
Figure 4.3c	Average dissolved oxygen at river kilometers 20.1, 21.9, 23.6 and 24.7
Figure 4.3d	Average dissolved oxygen at river kilometers 25.9, 29.5, 30.4 and 32.3
Figure 4.4a	Average pH at river kilometers –2.4, 6.6, 8.4 and 10.5
Figure 4.4b	Average pH at river kilometers 12.7, 12.8, 15.5 and 17.5
Figure 4.4c	Average pH at river kilometers 20.1, 21.9, 23.6 and 24.7
Figure 4.4d	Average pH at river kilometers 25.9, 29.5, 30.4 and 32.3
Figure 4.5a	1% Light depth at river kilometers –2.4, 6.6, 8.4 and 10.5
Figure 4.5b	1% Light depth at river kilometers 12.7, 12.8, 15.5 and 17.5

Table 4.2
Summary Graphics of Mean Physical Water Column *In Situ* Water Quality
Measurements at the Fixed Sampling Locations During 2004

Figure	Description
Figure 4.5c	1% Light depth at river kilometers 20.1, 21.9, 23.6 and 24.7
Figure 4.5d	1% Light depth at river kilometers 25.9, 29.5, 30.4 and 32.3
Figure 4.6a	Average specific conductance at river kilometers –2.4, 6.6, 8.4 and 10.5
Figure 4.6b	Average specific conductance at river kilometers 12.7, 12.8, 15.5 and 17.5
Figure 4.6c	Average specific conductance at river kilometers 20.1, 21.9, 23.6 and 24.7
Figure 4.6d	Average specific conductance at river kilometers 25.9, 29.5, 30.4 and 32.3

The following patterns and observations with regards to seasonal differences among the sixteen “fixed” sampling sites are shown and supported by these Figures.

- Previous results have indicated that within the downstream reaches of the river between River Kilometers 2.4 and 10.5, there is typically a wet-season depression of average water column dissolved oxygen levels in response to increased wet-season flows. This seasonal pattern typifies the widely documented hypoxic/anoxic conditions that typically result in upper Charlotte Harbor as a result of the extreme water column stratification that commonly occurs near the mouth of the river and upper regions of the harbor during the summer. This typical observed seasonal depression of average water column dissolved oxygen concentrations in this reach of the lower river is generally more intense and of greater duration than that observed at the more upstream monitoring sites. During 2004 average water column dissolved oxygen levels generally declined between March and July throughout the lower river and upper harbor as water temperatures and flows increased. However, as indicated, the entire lower Peace River and much of Charlotte Harbor was characterized by extreme hypoxic/anoxic conditions following Hurricane Charlie on August 13th. The 2004 HBMP data indicate that recovery from the historically unusual, wide spread depression of dissolved oxygen levels that occurred throughout the entire water column in the Charlotte Harbor estuary following Hurricane Charlie occurred more quickly in the harbor than the lower river.
- The 2004 HBMP data indicate that both the timing and magnitude of the ability of light to penetrate into the water column (1 percent depth) exhibit seasonal differences among the “fixed” monitoring sites along the HBMP lower Peace River/upper Charlotte Harbor sampling transect. In the estuarine systems, the extinction of light is often highly influenced by ambient chlorophyll concentrations (phytoplankton biomass). However, due to the “black water” characteristics of the freshwater flowing into the harbor, light extinction in the lower Peace River/upper Charlotte Harbor estuarine system is primarily mediated by water color. As expected, Figures 4a-4d indicate that water clarity is generally highest during the dry-season (April-May) reflecting reduced water color and low level nutrient inputs that would support enhanced phytoplankton

production. The influences of the relatively wetter than usual early spring and 2004 summer wet-season resulted in extended periods of high water color throughout the estuary and depressed light depths over much of the year.

- Figures 4.6a through 4.6d clearly show the influences of the wetter than average conditions and resulting high river flows during 2004 on the temporal and spatial patterns of conductivity (salinity) throughout the lower Peace River/upper Charlotte Harbor estuarine system. These comparisons are particularly dramatic when contrasted with those previously reported during the extended long-term drought that affected southwest Florida and the Peace River basin during much of the 1999-2002 period. During the drought, very high conductivities were observed even at the most upstream sampling locations each spring. In comparison, the 2004 conductivity data clearly indicate the extent and duration of low conductivity conditions both in the river and upper harbor during both the early spring (February-March) and the wetter than average 2004 summer wet-season. As the Figures indicate, high conductivity harbor waters were not observed much upstream of approximately River Kilometer twenty-six throughout the entire year.

4.4.2 Chemical Water Quality Characteristics (2004)

The 2004 water chemistry data for the five “fixed” water quality stations are presented in [Appendix G](#). Comparisons of surface and bottom samples for selected parameters are graphically summarized in Figure 4.7 through Figure 4.15 (see Table 4.3).

Table 4.3
Summary Graphics of Chemical Water Quality Measurements for Data
Collected During 2004 at the Fixed Sampling Locations
(River Kilometers –2.4, 6.6, 15.5, 23.6 and 30.4)

Figure	Description
Figure 4.7a	Subsurface color at fixed sampling stations (2004)
Figure 4.7b	Near bottom color at fixed sampling stations (2004)
Figure 4.8a	Subsurface total suspended solids at fixed sampling stations (2004)
Figure 4.8b	Near bottom total suspended solids at fixed sampling stations (2004)
Figure 4.9a	Subsurface nitrite/nitrate at fixed sampling stations (2004)
Figure 4.9b	Near bottom nitrite/nitrate at fixed sampling stations (2004)
Figure 4.10a	Subsurface total Kjeldahl Nitrogen at fixed sampling stations (2004)
Figure 4.10b	Near bottom total Kjeldahl Nitrogen at fixed sampling stations (2004)
Figure 4.11a	Subsurface ortho-phosphorus at fixed sampling stations (2004)
Figure 4.11b	Near bottom ortho-phosphorus at fixed sampling stations (2004)
Figure 4.12a	Subsurface silica at fixed sampling stations (2004)

Table 4.3
Summary Graphics of Chemical Water Quality Measurements for Data
Collected During 2004 at the Fixed Sampling Locations
(River Kilometers –2.4, 6.6, 15.5, 23.6 and 30.4)

Figure	Description
Figure 4.12b	Near bottom silica at fixed sampling stations (2004)
Figure 4.13a	Subsurface chlorophyll a at fixed sampling stations (2004)
Figure 4.13b	Near bottom chlorophyll a at fixed sampling stations (2004)

These graphics indicate that, for a number of water quality constituents, there were strong spatial and temporal seasonal differences within the areas of the lower Peace River/upper Charlotte Harbor Estuary represented by the five “fixed” water quality monitoring locations. In addition, further differences are also apparent both within and among sampling locations between subsurface and near-bottom samples. Water color, for example, is clearly seasonally higher further upstream, while late summer water color levels near the river’s mouth are often higher at the surface than near the bottom. During 2004 these differences between surface and bottom values were often not as apparent as during previous years, since the water column was often well mixed due to the periods of very high flows, and the strong winds associated with the hurricanes in August and September.

A number of other measured water quality parameters indicated strong seasonal relationships related to annual patterns of increasing and decreasing flow, while other seasonal patterns and spatial relationships for these water quality characteristics reflect far more complex relationships.

- The highest levels of total suspended solids near the surface of the water column often occurred during the spring and fall near the mouth of the river. These seasonal patterns probably reflect both temporal and spatial plankton production patterns in the upper estuary. Correspondingly, lowest levels occurred at all sites during the summer wet-season, while the very highest measured levels were observed near the bottom of the water column during the winter and spring.
- In the Charlotte Harbor estuarine system inorganic nitrite + nitrate nitrogen concentrations are typically the lowest during the peak of the spring dry-season, when high light and water temperatures resulted in increased phytoplankton production and freshwater inflows are low. In 2004, however, very low inorganic nitrogen levels were also observed during both August and September following Hurricane Charlie. The data indicated that there is often a distinct spatial gradient in inorganic nitrogen with higher levels progressively occurring upstream.
- Total Kjeldahl nitrogen concentrations were generally the highest at each of the sampling sites during the summer wet-season, reflecting the influences of increased freshwater inflows.

- As previously discussed (see [Section 3](#)), phosphorus concentrations in the Peace River estuary follow patterns typical of conservative water quality constituents. Estuarine inorganic phosphorus concentrations are primarily influenced by the dilution as high ambient levels in Peace River freshwater are diluted by saline Gulf water moving up the harbor. Thus the HBMP monitoring data typically indicate distinct spatial patterns in inorganic phosphorus concentrations among the sampling sites, with concentrations being markedly higher upstream than downstream. Following Hurricane Charlie in August 2004 (and the three subsequent storms in September), the data indicate that there were atypical marked increases in inorganic phosphorus levels associated with high levels of flow from the Peace River watershed.
- Reactive silica concentrations suggest a number of differing temporal and spatial patterns. During the spring dry-season, the data suggest that silica levels are depressed in the river corresponding with periods of increased chlorophyll *a* biomass (potentially reflecting uptake by diatoms in the phytoplankton). Then in May and June, with increasing water temperatures and the start of the summer wet-season, concentrations rapidly increased throughout the estuary, with the greatest increases occurring at the most downstream locations near the river’s mouth. At the most upstream sampling locations, reactive silica concentrations continued to reflect the recently observed pattern of increasing levels noted in previous HBMP reports.
- Chlorophyll *a* phytoplankton biomass patterns showed a number of seasonal peaks throughout the year that differed both seasonally and among sampling locations. As in previous years, the 2004 HBMP chlorophyll phytoplankton biomass data showed distinct increases both during the early spring (March) and fall (November). The common occurrence of such spring and fall phytoplankton increases has also been noted throughout the HBMP isohaline-based monitoring program (see [Section 3.0](#)). Unlike the August “moving” isohaline based samples that were collected prior to Hurricane Charlie, the “fixed” station samples that were collected following the hurricane showed very similar, high levels of chlorophyll at all but the most downstream location. It is not known whether these atypical results reflect algae blooms immediately following the storm, or “shredded” leaf material suspended in the water column.

4.4.3 Long-Term Physical and Chemical Water Quality Characteristics (1976-2004)

During the period 1975-1990, the Environmental Quality Laboratory (EQL) conducted an extensive, long-term monitoring program within the Charlotte Harbor estuarine system, independent of the requirements of the HBMP. These data included chemical water quality analyses of monthly surface and bottom samples, at the same locations, for many of the same parameters that were added to the HBMP permit requirements during 1996. Figures 4.16 through 4.35 (see Table 4.4) graphically compare the data, for a selected number of sub-surface and near-bottom measurements, gathered during the period 1976-1990 with those subsequently measured as part of the current HBMP effort during 1996-2004.

Table 4.4
Selected Long-Term Physical and Chemical Water Quality Data Collected
During the Periods 1976-1990 and 1996-2004 at the Fixed Sampling Locations
(River Kilometers –2.4, 6.6, 15.5, 23.6 and 30.4)

Figure	Description
Figure 4.14a	Long-term surface salinity River Kilometer –2.4
Figure 4.14b	Long-term surface salinity River Kilometer 6.6
Figure 4.14c	Long-term surface salinity River Kilometer 15.5
Figure 4.14d	Long-term surface salinity River Kilometer 23.6
Figure 4.14e	Long-term surface salinity River Kilometer 30.4
Figure 4.15a	Long-term bottom salinity River Kilometer –2.4
Figure 4.15b	Long-term bottom salinity River Kilometer 6.6
Figure 4.15c	Long-term bottom salinity River Kilometer 15.5
Figure 4.15d	Long-term bottom salinity River Kilometer 23.6
Figure 4.15e	Long-term bottom salinity River Kilometer 30.4
Figure 4.16a	Long-term surface dissolved oxygen levels River Kilometer –2.4
Figure 4.16b	Long-term surface dissolved oxygen levels River Kilometer 6.6
Figure 4.16c	Long-term surface dissolved oxygen levels River Kilometer 15.5
Figure 4.16d	Long-term surface dissolved oxygen levels River Kilometer 23.6
Figure 4.16e	Long-term surface dissolved oxygen levels River Kilometer 30.4
Figure 4.17a	Long-term bottom dissolved oxygen levels River Kilometer –2.4
Figure 4.17b	Long-term bottom dissolved oxygen levels River Kilometer 6.6
Figure 4.17c	Long-term bottom dissolved oxygen levels River Kilometer 15.5
Figure 4.17d	Long-term bottom dissolved oxygen levels River Kilometer 23.6
Figure 4.17e	Long-term bottom dissolved oxygen levels River Kilometer 30.4
Figure 4.18a	Long-term surface water color River Kilometer –2.4
Figure 4.18b	Long-term surface water color River Kilometer 6.6
Figure 4.18c	Long-term surface water color River Kilometer 15.5
Figure 4.18d	Long-term surface water color River Kilometer 23.6
Figure 4.18e	Long-term bottom water color River Kilometer 30.4
Figure 4.19a	Long-term bottom water color River Kilometer –2.4
Figure 4.19b	Long-term bottom water color River Kilometer 6.6
Figure 4.19c	Long-term bottom water color River Kilometer 15.5
Figure 4.19d	Long-term bottom water color River Kilometer 23.6

Table 4.4
Selected Long-Term Physical and Chemical Water Quality Data Collected
During the Periods 1976-1990 and 1996-2004 at the Fixed Sampling Locations
(River Kilometers –2.4, 6.6, 15.5, 23.6 and 30.4)

Figure	Description
Figure 4.19e	Long-term bottom water color River Kilometer 30.4
Figure 4.20a	Long-term surface nitrite/nitrate nitrogen River Kilometer –2.4
Figure 4.20b	surface nitrite/nitrate nitrogen River Kilometer 6.6
Figure 4.20c	Long-term surface nitrite/nitrate nitrogen River Kilometer 15.5
Figure 4.20d	Long-term surface nitrite/nitrate nitrogen River Kilometer 23.6
Figure 4.20e	Long-term surface nitrite/nitrate nitrogen River Kilometer 30.4
Figure 4.21a	Long-term bottom nitrite/nitrate nitrogen River Kilometer –2.4
Figure 4.21b	Long-term bottom nitrite/nitrate nitrogen River Kilometer 6.6
Figure 4.21c	Long-term bottom nitrite/nitrate nitrogen River Kilometer 15.5
Figure 4.21d	Long-term bottom nitrite/nitrate nitrogen River Kilometer 23.6
Figure 4.21e	Long-term bottom nitrite/nitrate nitrogen River Kilometer 30.4
Figure 4.22a	Long-term surface total Kjeldahl Nitrogen River Kilometer –2.4
Figure 4.22b	Long-term surface total Kjeldahl Nitrogen River Kilometer 6.6
Figure 4.22c	Long-term surface total Kjeldahl Nitrogen River Kilometer 15.5
Figure 4.22d	Long-term surface total Kjeldahl Nitrogen River Kilometer 23.6
Figure 4.22e	Long-term surface total Kjeldahl Nitrogen River Kilometer 30.4
Figure 4.23a	Long-term bottom total Kjeldahl Nitrogen River Kilometer –2.4
Figure 4.23b	Long-term bottom total Kjeldahl Nitrogen River Kilometer 6.6
Figure 4.23c	Long-term bottom total Kjeldahl Nitrogen River Kilometer 15.5
Figure 4.23d	Long-term bottom total Kjeldahl Nitrogen River Kilometer 23.6
Figure 4.23e	Long-term bottom total Kjeldahl Nitrogen River Kilometer 30.4
Figure 4.24a	Long-term surface ortho-phosphorus River Kilometer –2.4
Figure 4.24b	Long-term surface ortho-phosphorus River Kilometer 6.6
Figure 4.24c	Long-term surface ortho-phosphorus River Kilometer 15.5
Figure 4.24d	Long-term surface ortho-phosphorus River Kilometer 23.6
Figure 4.24e	Long-term surface ortho-phosphorus River Kilometer 30.4
Figure 4.25a	Long-term bottom ortho-phosphorus River Kilometer –2.4
Figure 4.25b	Long-term bottom ortho-phosphorus River Kilometer 6.6
Figure 4.25c	Long-term bottom ortho-phosphorus River Kilometer 15.5
Figure 4.25d	Long-term bottom ortho-phosphorus River Kilometer 23.6

Table 4.4
Selected Long-Term Physical and Chemical Water Quality Data Collected
During the Periods 1976-1990 and 1996-2004 at the Fixed Sampling Locations
(River Kilometers –2.4, 6.6, 15.5, 23.6 and 30.4)

Figure	Description
Figure 4.25e	Long-term bottom ortho-phosphorus River Kilometer 30.4
Figure 4.26a	Long-term surface silica River Kilometer –2.4
Figure 4.26b	Long-term surface silica River Kilometer 6.6
Figure 4.26c	Long-term surface silica River Kilometer 15.5
Figure 4.26d	Long-term surface silica River Kilometer 23.6
Figure 4.26e	Long-term surface silica River Kilometer 30.4
Figure 4.27a	Long-term bottom silica River Kilometer –2.4
Figure 4.27b	Long-term bottom silica River Kilometer 6.6
Figure 4.27c	Long-term bottom silica River Kilometer 15.5
Figure 4.27d	Long-term bottom silica River Kilometer 23.6
Figure 4.27e	Long-term bottom silica River Kilometer 30.4
Figure 4.28a	Long-term surface chlorophyll a River Kilometer –2.4
Figure 4.28b	Long-term surface chlorophyll a River Kilometer 6.6
Figure 4.28c	Long-term surface chlorophyll a River Kilometer 15.5
Figure 4.28d	Long-term surface chlorophyll a River Kilometer 23.6
Figure 4.28e	Long-term surface chlorophyll a River Kilometer 30.4
Figure 4.29a	Long-term bottom chlorophyll a River Kilometer -2.4 **
Figure 4.29b	Long-term bottom chlorophyll a River Kilometer 6.6 **
Figure 4.29c	Long-term bottom chlorophyll a River Kilometer 15.5 **
Figure 4.29d	Long-term bottom chlorophyll a River Kilometer 23.6 **
Figure 4.29e	Long-term bottom chlorophyll a River Kilometer 30.4 **

❖ Note: EQL samples not analyzed for chlorophyll a are indicated as “Zero”

❖ Plot scales may not include unusually high “outlier” data points

These presented graphical analyzes indicate a number of interesting patterns.

- Record high surface and bottom salinities occurred at each of the five HBMP “fixed” water quality monitoring locations during the recent extended drought that began in 1999 and extended through the first half of 2002. In both 2003 and 2004, by comparison, near record low salinity levels were observed both near the surface of the water column at the more downstream sampling sites.

- Salinities at the two most upstream sampling sites (River Kilometers 23.6 and 30.4) were generally higher during the recent 1999-2002 drought than during the similar extended drought that occurred in 1984 and 1985 following the 1983 El Niño.
- Near-bottom dissolved oxygen concentrations show clear seasonal cycles in response to summer wet-season freshwater inflows. Both the duration and magnitude of these periods of depressed dissolved oxygen concentrations increase towards the river’s mouth. The highly unusual period of hypoxic/anoxic conditions that immediately followed Hurricane Charlie are evident from both the subsurface and near bottom measurements taken throughout the lower river and upper harbor.
- Temporally, water color levels increase very quickly in response to changes in freshwater inflow. As expected, levels are spatially much higher upstream than near the mouth of the river, although very high color can reach well into the harbor during periods of high freshwater inflow such as occurred during much of 2004.
- Both inorganic nitrite + nitrate and total Kjeldahl nitrogen concentrations indicate very similar seasonal patterns and levels of annual variation over the entire twenty-eight year monitoring period. As expected, spatially inorganic nitrogen concentrations markedly increase moving upstream. Peaks in total Kjeldahl nitrogen levels at the upstream sampling locations are evident following Hurricane Charlie.
- Most of the previously reported apparent marked declines in inorganic phosphorus concentrations that have occurred in the lower Peace River/upper Charlotte Harbor estuary took place prior to 1985. Since that time inorganic phosphorus concentrations have shown fairly consistent seasonal patterns over a comparably narrow range of variation (excluding a few periodic data points). However, following Hurricane Charlie inorganic phosphorus levels in the river and harbor have shown marked increases to levels not seen for over twenty years.
- Plots of the long-term data clearly show that reactive silica concentrations have both increased and exhibit a much wider range of variation during the recent monitoring period when compared to data collected during the 1976-1990 period. Silica levels are much higher at the upstream sampling sites, and show a strong seasonal pattern.
- The long-term data show that there has been a marked decline in the very high chlorophyll *a* concentration “blooms” that commonly occurred during the late 70s and early 80s throughout the lower Peace River/upper Charlotte Harbor estuarine system. The unusual spikes in chlorophyll levels in August immediately following Hurricane Charlie are clearly evident.

Table 4.5 presents statistical summaries of mean near-surface values at each of the five “fixed” sampling locations during 2004, in comparison to previous data gathered during the six-year period 1996-2003.

5.0 Continuous Recorders

5.1 Overview

The U.S. Geological Survey (USGS) began a cooperative water quality data collection program with the Peace River/Manasota Regional Water Supply Authority (Authority) in August 1996. As part of this program, the USGS initiated continuous (15-minute intervals) monitoring of:

- Water level, surface and bottom specific conductance and temperature at the end of an existing private dock at Harbour Heights on the Peace River. The USGS designated this site as 02297460, and it is located at River Kilometer 15.5.
- Water level only at a site adjacent to Boca Grande. The USGS designated this site 2293332, and it is located approximately near River Kilometer –31.8.

In November 1997, at the request of the Authority, the USGS added a third gaging and conductance monitoring location (see [Figure 5.a](#)) designated by USGS as site 02297350 at a private dock near Peace River Heights. This site is located at River Kilometer 26.7 and measurements at this upstream location include water level, surface and bottom specific conductance, and corresponding measurements of temperature.

5.2 Field Activities at Continuous Recorder Sites

Water level is measured at each of the continuous recording sites (stations 2293332, 02297460 and 02297350) using a float sensor in a PVC stilling well (Rantz and others, 1982). Data is recorded at 15-minute intervals using a Campbell Scientific CR-10 electronic data logger. Near-surface and near-bottom specific conductance and temperature are measured in the Peace River at stations 02297460 and 02297350 using USGS combination temperature and specific conductance probes. Readings are averaged over a two-minute interval and are recorded at 15-minute intervals.

Near-surface sensors are suspended one-foot below the surface using a float in a stilling well. The near-bottom sensors are suspended about one-foot from the bottom in the same stilling well as the near-surface sensor.

Data are retrieved at approximately monthly intervals or more often as needed. Once data are retrieved, the calibration stability of the specific conductance and temperature sensors is checked using a field thermometer and specific conductance standards with values that bracket the range of expected values in the Peace River. The sensors are cleaned, inspected, and rechecked with the thermometer and specific conductance standards. If needed, the sensor readings are adjusted to the standard values. The sensors are considered calibrated if the temperature is within 0.5 °C and the specific conductance is within 5 percent of the standard values. Calibrations are recorded on calibration forms and these records are maintained by the USGS in Tampa, Florida.

5.3 Results from USGS Continuous Recorders (2004)

Summaries of the data gathered at each of the three USGS gages are presented in [Appendix I](#).

Gage height, as well as surface and bottom conductivity and temperature readings collected at 15-minute intervals at Harbour Heights on the Peace River (USGS Station 02297460, River Kilometer 15.5) are presented in Figures 5.1 through 5.5. Similar plots are shown in Figures 5.6 through 5.10 for the continuous gage at Peace River Heights on the Peace River (USGS Station 02297350, River Kilometer 26.7). Gage height data are depicted in Figure 5.11 for the 15-minute interval data collected during 2004 by the USGS at the Boca Grande Station (264312082153000). These graphics are summarized in Table 5.1.

The duration and magnitude of the higher than average freshwater flows in the Peace River watershed are clearly evident by the surface and bottom conductivities observed at both Peace River gages during the winter and summer of 2004. Conductivities indicative of the upstream movement of higher conductivity harbor waters were only evident at the more upstream recording gage during the typical spring dry-season (April-May) and in the late fall (November-December).

Table 5.1
Summary Graphics of 2004 Data from USGS Continuous Recorders

Figure	Description
Figure 5.1	Gage height (15-minute intervals) for Peace River fixed station at Harbour Heights – USGS Gage 02297460 (River Kilometer 15.5)
Figure 5.2	Surface conductivity (15-minute intervals) for Peace River fixed station at Harbour Heights – USGS Gage 02297460 (River Kilometer 15.5)
Figure 5.3	Bottom conductivity (15-minute intervals) for Peace River fixed station at Harbour Heights – USGS Gage 02297460 (River Kilometer 15.5)
Figure 5.4	Surface temperature (15-minute intervals) for Peace River fixed station at Harbour Heights – USGS Gage 02297460 (River Kilometer 15.5)
Figure 5.5	Bottom temperature (15-minute intervals) for Peace River fixed station at Harbour Heights – USGS Gage 02297460 (River Kilometer 15.5)
Figure 5.6	Gage height (15-minute intervals) for Peace River fixed station at Peace River Heights – USGS Gage 02297350 (River Kilometer 26.7)
Figure 5.7	Surface conductivity (15-minute intervals) for Peace River fixed station at Peace River Heights – USGS Gage 02297350 (River Kilometer 26.7)
Figure 5.8	Bottom conductivity (15-minute intervals) for Peace River fixed station at Peace River Heights – USGS Gage 02297350 (River Kilometer 26.7)
Figure 5.9	Surface temperature (15-minute intervals) for Peace River fixed station 02297350 (River Kilometer 26.7)
Figure 5.10	Bottom temperature (15-minute intervals) for Peace River fixed station at Peace River Heights – USGS Gage 02297350 (River Kilometer 26.7)
Figure 5.11a	Gage height (15-minute intervals) for Boca Grande
Figure 5.11b	Gage height (15-minute intervals) for Boca Grande

Comparisons of gage heights and both surface and bottom conductivity measurements at the two Peace River gage locations, Harbour Heights (River Kilometer 15.5) and Peace River Heights (River Kilometer 26.7), are presented in Figures 5.12 through 5.23 for the first two weeks in May 2004 (dry-season) and September 2004 (wet- season). An overview of these graphics is presented in Table 5.2.

Table 5.2

Summary Graphics of Comparisons of Stage Height and Surface and Bottom Conductivity During May and September 2004 at the Continuous Recorders

Figure	Description
Figure 5.12	Surface conductivity and stage height in May - station 02297460 (River Kilometer 15.5)
Figure 5.13	Bottom conductivity and stage height in May – station 02297460 (River Kilometer 15.5)
Figure 5.14	Surface and bottom conductivity in May - station 02297460 (River Kilometer 15.5)
Figure 5.15	Surface conductivity and stage height in September -station 02297460 (River Kilometer 15.5)
Figure 5.16	Bottom conductivity and stage height in September – station 02297460 (River Kilometer 15.5)
Figure 5.17	Surface and bottom conductivity in September – station 02297460 (River Kilometer 15.5)
Figure 5.18	Surface conductivity and stage height in May - station 02297350 (River Kilometer 26.7)
Figure 5.19	Bottom conductivity and stage height in May - station 02297350 (River Kilometer 26.7)
Figure 5.20	Surface and bottom conductivity in May – station 02297350 (River Kilometer 26.7).
Figure 5.21	Surface conductivity and stage height in September - station 02297350 (River Kilometer 26.7)
Figure 5.22	Bottom conductivity and stage height in September - station 02297350 (River Kilometer 26.7)
Figure 5.23	Surface and bottom conductivity in September - station 02297350 (River Kilometer 26.7)

This series of figures show the relative differing influences of the three hurricanes that influenced Charlotte Harbor and the Peace River watershed during August and September 2004 (see discussion in [Section 2](#)). [Figure 5.2](#) indicates that Hurricane Charlie during the second week in August had very little influence on the average daily variation in stage level at the downstream Harbour Heights gage (RK 15.5). Hurricanes Frances and Jeanne in comparison, which occurred during the first and last weeks of September, increased water levels in the upper harbor between 2-3 feet. The strong southerly winds associated with both storms, especially Jeanne, resulted in marked short-term increases in both bottom and surface salinities in the area of the Harbour Heights gage (see [Figure 5.3](#) and [5.4](#)). These two September hurricanes also caused similar increases in stage levels at the more upstream USGS gaging site at Peace River Heights (RK 26.7). However, as a result of high river flows during September these hurricanes did not result in measurable increases in either surface or bottom conductivities at this more upstream monitoring location (see [Figures 5.7](#) and [5.8](#)).

As indicated in previous HBMP annual reports, Figures 5.12 and 5.13 show that both surface and bottom conductivities at the downstream Harbour Heights site (River Kilometer 15.5) are very

strongly influenced by tide (water stage) during periods when river flows are relatively low. During May, in the dry-season, it was not uncommon for surface and bottom conductivities to vary 7000 to 13000 uS/cm (roughly 5 to 9 ppt salinity) over a tidal cycle. During September, in the wet-season, this area of the Peace River was characteristically far fresher and daily variations in both surface and near bottom conductivities resulting from tidal influences are greatly reduced.

At the more upstream continuous USGS gage at Peace River Heights (River Kilometer 26.7), the conductivity data collected showed fresh, hard water conditions with very little differences in conductivity (less than 50 uS/cm) resulting from tidal variations once flows increase early in May 2004. During the wet-season (September), conductivities were extremely low and showed no variations due to normal daily tidal cycles in water levels or resulting from Hurricane Frances during the period shown in [Figures 5.21](#) and [5.22](#).

6.0 Riparian Vegetation

6.1 Overview

The major elements of the lower Peace River vegetation HBMP monitoring program were initiated in 1976 as a part of the District's first Consumptive Use Permit for the Peace River Facility. These vegetation monitoring studies have been continued through the current Water Use Permit.

The primary goals associated with these monitoring efforts have been to:

- Provide long-term studies of the vegetative associations, along the lower Peace River over an approximately fifteen mile segment downstream of the Treatment Facility.
- Identify and document potential long-term changes in the patterns of the riverine vegetation communities downstream of the Facility.
- Determine if any observed changes in the location and/or abundances of identified potential indicator species can be shown to be associated with permitted water withdrawals.

An initial primary concern of District staff in the 1970's was the potential that freshwater withdrawals from the lower Peace River could significantly alter freshwater flows enough to result in measurable alterations of the vegetative associations within the river corridor immediately downstream of the facility. The nexus of this concern was based on the conceptual principle that natural gradation of vegetation along the lower Peace River is maintained and strongly influenced by the combined variations of brackish and saline water from Charlotte Harbor tidally moving upstream, and freshwater flows from the Peace River Basin moving downstream.

6.2 Vegetation Study Elements

The three components to the HBMP's long-term studies of the vegetation associations along the lower Peace River corridor are as follows:

1. The periodic identification of the first and last occurrences of conspicuous indicator vegetation within the approximate twenty-four kilometer (fifteen mile) study area, that extends from just upstream of the Water Treatment Facility, downstream to near the I-75 Bridge.
2. The identification of species and documentation of long-term community dynamics at representative fixed-point transitional monitoring locations.
3. The collection and interpretation of long-term false-color infrared aerial photographic documentation of large scale vegetation patterns within the lower river corridor.

6.2.1 First And Last Occurrences Of Conspicuous Indicators

An initial intensive vegetative survey of the lower Peace River corridor was first conducted in 1976 to establish a baseline for subsequent monitoring events. This initial survey consisted of extensive visual identification of the vegetation growing along the banks of the lower Peace River starting at the Barron Collier Bridge (U.S. 41). The survey continued upstream approximately twenty-six kilometers to near the S.R. 761 Bridge, immediately upstream of the Peace River Facility. The baseline information gathered in this original vegetation survey was used to develop a list of dominant and/or potentially salinity sensitive indicator plant species appropriate for use in developing a study of potential long-term shifts in vegetative associations along this lower river corridor (see Table 6.1). Since 1977, the first and last occurrences of the conspicuous indicator plants approximately between river kilometers 7 and 32 have been recorded at specific intervals (see Table 6.2). As a result of the modifications made under the newest Water Use Permit, vegetation monitoring now begins slightly farther upstream, near the I-75 Bridge (river kilometer 11) and continues to the same area above the Water Treatment Facility at the S.R. 761 Bridge.

Table 6.1
Conspicuous First & Last Indicators

Species Name (Scientific)	Common Name
<i>Ulmus americana</i>	American elm
<i>Colocasia esculenta</i>	Taro
<i>Quercus laurifolia</i>	Laural Oak
<i>Carya aquatica</i>	Water hickory
<i>Fraxinus caroliniana</i>	Water ash
<i>Sambucus canadensis</i>	Southern elderberry
<i>Acer rubrum</i>	Red maple
<i>Persea palustris</i>	Swamp bay
<i>Taxodium distichum</i>	Bald cypress
<i>Cladium jamaicense</i>	Sawgrass
<i>Serenoa repens</i>	Saw palmetto
<i>Quercus virginiana</i>	Live oak
<i>Myrica cerifera</i>	Wax myrtle
<i>Annona glabra</i>	Pond apple
<i>Scirpus validus</i>	Bulrush
<i>Typha domingensis</i>	Southern cattail
<i>Spartina bakeri</i>	Sand cordgrass
<i>Sabal palmetto</i>	Sabal palm
<i>Rhizophora mangle</i>	Red mangrove
<i>Juncus roemerianus</i>	Black needle rush

Table 6.1
Conspicuous First & Last Indicators

Species Name (Scientific)	Common Name
<i>Laguncularia racemosa</i>	White mangrove
<i>Schinus terebinthifolius</i>	Brazilian pepper
<i>Acrostichum danaeifolium</i>	Leather fern

Documentation of the first and last occurrence of these indicator species for each monitoring event has been based on the main occurrence of species rather than the occurrence of individual plants of each species. This is accomplished by the visual identification of individual taxa by biologists working from a slow-moving boat along each riverbank. The first and last occurrence of each species is saved both as a data set and documented as indicated in [Figure 6.1](#) for data gathered during 2004.

Since 1997, photographic records have been taken to provide additional permanent documentation of the first and last occurrences of the conspicuous indicator species.

Table 6.2
Timing Of Long-Term Vegetation Studies

Year	First & Last	Transition Sites	Aerials Surveys (# of Times)
1975			X (2)
1976			X (3)
1977	X	X	X (4)
1978			X (5)
1979			X (4)
1980			X (3)
1981	X	X	X (4)
1982	X	X	X (2)
1983	X	X	X (2)
1984	X	X	X (2)
1985			X
1986			X
1987			X
1988	X	X	X
1989			X
1990	X	X	X
1991	X	X	

Table 6.2
Timing Of Long-Term Vegetation Studies

Year	First & Last	Transition Sites	Aerials Surveys (# of Times)
1992			X
1993	X	X	X
1994			
1995	X	X	
1996			X
1997	X	X	
1998	X	X	
1999			X
2000	X	X	X
2002	X	X	X
2004	X	X	X

6.2.2 Long-Term Transect Studies

The second historic component of the vegetation study has been the monitoring of shoreline vegetation patterns at two fixed-point monitoring locations, representative of differing seasonally characteristic salinity regimes within the lower Peace River study area. Vegetation data have been collected at these locations since 1977 in the same time period as the boat surveys for the first and last occurrence of conspicuous indicator species. The long-term vegetation monitoring Site I is located near Harbour Heights (river kilometer 15.6), well downstream of the Water Treatment Facility in an area of the river which is typically brackish during all but the summer wet-season months. Site II, in comparison, is located upstream at river kilometer 22.3 in a region of the river that characteristically is representative of freshwater conditions during most of the year. However, during the normally drier months of the spring/early summer ambient salinity conditions within this reach of the river are often seasonally brackish. These two locations were selected as long-term monitor sites since they are representative of the upper and lower end of the seasonal transition zones between freshwater and brackish water along the lower Peace River. Under the new Water Use Permit of March 1996, significant modifications and expansions were made to the vegetation monitoring studies at the transition sites. This included the addition of a new, third monitoring station (Site III) located at river kilometer 20.4 in an area of the river between the previous two vegetation monitoring sites (see [Figure 6.2](#)).

Prior to 1997, the information gathered at these sites had historically been limited to the identification of vegetation either: 1) characteristic understory and overstory; or 2) along a single established line-transect, beginning above the shoreline and extending ten meters waterward. These earlier monitoring studies also included the identification and recording of the dominant upland vegetation taxa observed along an undefined upland area landward above the top of the bank at each site.

Under the current modifications of the Water Use Permit, the transitional site component of the vegetation monitoring program was expanded by the inclusion of two new transects at each location. In addition to the original single line site transects, these transition site vegetation studies now also include conducting surveys along belt transects to either side of the original line transects. The procedures utilized include the identification of not only the plant species present, but also consists of recording their location and establishing the relative densities of each taxa within one meter plots along the length of each transect.

Thus, the transition site HBMP vegetation study component now includes three fixed transitional monitoring sites. At each of these monitoring locations, three separate fixed vegetation transects are monitored at prescribed yearly intervals.

- One line-transect (based on previous monitoring procedures)
- One belt-transect located 25 feet upstream of the line-transect
- One belt-transect located 25 feet downstream of the line-transect

Each belt-transect has both an upstream and downstream sampling side. Following the previous line-transect methodology, the identification of vegetation along each of these three transects begins at an upland point above the shoreline (which are reasonably well defined at each of the sampling sites) and extends waterward 10 meters (**Figure 6.3**). In addition, at each of the three transitional sites, upland vegetation is identified in an area measuring 25 feet x 50 feet immediately adjacent to the transects. Data are graphically depicted as shown in **Figures 6.4, 6.5** and **6.6**. In order to assure repeatability, all transect locations and upland area boundaries have been marked with identifying PVC poles to fix the future identification of specific locations. In addition, specific reference points for each site have been permanently located with a global positioning system.

6.2.3 Aerial Photography

The third study element of the long-term investigations of the vegetation communities along this approximately twenty-six kilometer corridor of the lower Peace River has been based on the collection of comparable false-color infrared aerial photography. Initially, starting in 1975, infrared aerials were taken in the spring and fall of each year. After a sufficient amount of baseline data had been collected, the frequency was reduced to yearly and eventually extended to a biannual basis (see Table 6.2).

6.3 Results from 2004 Vegetation Study Elements

The actual dates on which each of the vegetation HBMP elements were conducted during 2004 are presented in Table 6.3.

Table 6.3
Timing Of 2004 HBMP Vegetation Study Elements

Element	Date
First and Last Occurrence of Conspicuous Indicator Species	May 20, 2004
Transition Site I:	May 25, 2004
Transition Site II:	May 25, 2004
Transition Site III:	May 25, 2004
Aerial Infra-Red Photography	December 2004

6.3.1 First and Last Occurrences of Conspicuous Indicator Species

A detail listing and photographic record of the 2004 results of the survey of first and last occurrences of conspicuous indicator plant species is summarized in Table 6.4, and graphically presented in [Figure 6.1](#). It should be noted when comparing these results with those from previous similar sampling efforts, that the data collected in 2002 represent conditions during an extended period of drought in the Peace River watershed, while the more recent 2004 data correspond to a period of much wetter than average conditions.

Table 6.4
First And Last Occurrence Of Conspicuous Plant Indicator Species, 2004

Photograph	Indicator Species And Location (River Kilometer)
Photo 1	Needlerush (<i>Juncus roemarianus</i>) at kilometer 12.2, west bank.
Photo 2	Leather fern (<i>Acrostichum danaeifolium</i>) at kilometer 12.2, west bank.
Photo 3	Softstem bulrush (<i>Scirpus validus</i>) first occurrence at kilometer 11.8, west bank.
Photo 4	Softstem bulrush and Cattail (<i>Typha domingensis</i>) first occurrence at kilometer 15.0, west bank.
Photo 5	Cabbage palm (<i>Sabal palmetto</i>), first occurrence at kilometer 16.8, west bank.
Photo 6	Sand cordgrass (<i>Spartina bakeri</i>) first occurrence at kilometer 17.3, west bank.
Photo 7	Sawgrass (<i>Cladium jamaicense</i>) first occurrence at kilometer 17.0, west bank.
Photo 8	Live oak (<i>Quercus virginiana</i>) and saw palmetto (<i>Serenoa repens</i>) first occurrences at kilometer 18.5, east bank.
Photo 9	Wax myrtle (<i>Myrica cerifera</i>) first occurrence at kilometer 18.5, east bank.
Photo 10	Sand cordgrass (<i>Spartina bakeri</i>) last occurrence at kilometer 20.2, west bank.
Photo 11	Pond apple (<i>Annona glabra</i>) first occurrence at kilometer 18.5, west bank.
Photo 12	Cypress (<i>Taxodium distichum</i>) first occurrence at kilometer 22.1, east bank.
Photo 13	Taro (<i>Colocassia esculenta</i>) first occurrence at kilometer 24.1, east bank,

Photo 14	Red Mangrove (<i>Rhizophora mangle</i>) last occurrence at kilometer 22.4, east bank.
Photo 15	White mangrove (<i>Laguncularia racemosa</i>) last occurrence at kilometer 21.3, east bank.
Photo 16	Black rush (<i>Juncus roemarianus</i>) last occurrence at kilometer 24.1, east bank.
Photo 17	Red maple (<i>Acer rubrum</i>) first occurrence at kilometer 22.1, east bank.
Photo 18	Laurel Oak (<i>Quercus laurifolia</i>), east bank, first occurrence at kilometer 22.2.
Photo 19	Brazilian pepper (<i>Schinus terebinthifolius</i>) last occurrence at kilometer 29.5, east bank.
Photo 20	Swamp bay (<i>Persea palustris</i>) first occurrence at kilometer 21.8, east bank.
Photo 21	Pond apple (<i>Annona glabra</i>) last occurrence at kilometer 28.1, west bank.
Photo 22	Sawgrass (<i>Cladium jamaicense</i>) at kilometer 26.0, west bank (last occurrence).
Photo 23	Elderberry (<i>Sambucus canadensis</i>) at kilometer 24.1, east bank (first occurrence).
Photo 24	American elm (<i>Ulmus americana</i>) first occurrence at kilometer 26.6, west bank.
Photo 25	Leather fern (<i>Acrostichum danaeifolium</i>) last occurrence at kilometer 30.5, west bank.
Photo 26	Cattail/Softstem bulrush (<i>Typha domingensis/ Scirpus validus</i>) last occurrence at kilometer 29.3, east bank.
Photo 27	Popash (<i>Fraxinus caroliniana</i>) first occurrence at kilometer 25.5, east bank.
Photo 28	Saw palmetto (<i>Serenoa repens</i>) last occurrence at kilometer 26.7, west bank.
Photo 29	Cabbage palm (<i>Sabal palmetto</i>) photographed at kilometer 30.4, west bank.
Photo 30	Water hickory (<i>Carya aquatica</i>) first occurrence at kilometer 24.2, east bank.

6.3.2 Surveys of Transition Sites

Table 6.5 provides an overall summary of the figures and tables developed from the vegetation data gathered during 2004 at each of the three long-term transition sites. Different colors are used in Tables 6.6, 6.11 and 6.16 to identify those time periods when taxonomic identifications were conducted by different groups of biologists from Environmental Quality Laboratory (red) and EarthBalance (black).

Table 6.5
Summary of Transition Site Surveys

Table / Figure	Description
Transition Site I	
Table 6.6	Species List
Figure 6.4	Line Transect
Table 6.7	Upstream Belt Transect -- Upstream Side
Table 6.8	Upstream Belt Transect -- Downstream Side
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Table 6.5
Summary of Transition Site Surveys

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6.3.3 Photographic Record of Transition Sites

Permanent photographic records are taken of the vegetation communities along each transect, at each of the three fixed transition sites.

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Transition Site Photographs

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Photo 35	Transition Site II – Line Transect
Photo 36	Transition Site II – Downstream Belt Transect - Midline
Transition Site III	
Photo 37	Transition Site III – Upstream Belt – Midline
Photo 38	Transition Site III – Line Transect

Table 6.21
Transition Site Photographs

Photograph	Transition Site I
Photo 39	Transition Site III – Downstream Belt Transect - Midline

6.4 Summary

Reviews of the 2004 data gathered in conjunction with each element of the HBMP vegetation monitoring program indicated that the recently collected data were consistent with those previously observed within the lower Peace River estuarine system. To date, the greatest observed changes have occurred in specific areas of near-shore emergent vegetation that has been effected by erosion and deposition during seasonally high flow events, as well as the shading influences of the expanded growth of Brazilian Pepper (*Schinus terebinthifolius*) along the banks of the river. A comprehensive review of recent HBMP vegetation aerial photography monitoring gathered following both extended high (1998) and low (2002) flow periods was presented in the recent 2002 Comprehensive Summary Report, finalized in September 2004. The results of these analyses indicated that there were no significant systematic changes in the weighted centers of abundances of the long-term spatial distributions of the major riparian vegetation assemblages along the lower Peace River between these two periods.

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2004 HBMP Tables

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- [Section 1](#) – Introduction / Summary
- [Section 2](#) – Gage Flows and Withdrawals
- [Section 3](#) – “Moving” Isohaline Monitoring
- [Section 4](#) – “Fixed” Station Monitoring
- [Section 6](#) – Riparian Vegetation

Table 1.1
HBMP Fixed Sampling Locations

USGS River Mile	USGS Location Number	Previous EQL Station Number	Additional Sampling	New River Kilometer designation based on Morphometric Study
Current <i>In Situ</i> Water Column Profile Sampling Locations				
CH6	265355082075500	9	Water Quality	-2.4
RM3.95	265640082033500	10	Water Quality	6.6
RM4.88	265724082024400	21		8.4
RM6.25	265727082012800	11		10.5
RM8.61	265711081595500	Shell Creek 9 (92)		12.7
RM8.6B	265819082003200	22		12.8
RM10.2	2297460	12	Water Quality/Tide Gage/Conductivity	15.5
RM11.2	270022081591000	23		17.5
RM 12.55	270124081592500	13		20.1
RM13.95	270235081592400	24		21.9
RM14.82	270318081593100	14	Water Quality	23.6
RM15.45	270337081595800	25		24.7
RM16.29	270418082001600	15		25.9
N/A	2297350	N/A	Tide Gage/ Conductivity	26.7
RM18.25	270451081595100	17		29.5
RM18.95	2297330	18	Water Quality	30.4
RM19.5	270537081585800	19		32.3
Vegetation Transect Locations				
N/A	N/A	I		15.6
N/A	N/A	II		22.3
N/A	N/A	III		20.4
Previous EQL Water Column and Chemistry Sampling Sites				
N/A	N/A	16		27.1
N/A	N/A	20		34.1

Table 1.2
HBMP Chemical Water Quality Parameters

Ongoing Long-term Analytes	Analytes Deleted Starting March 2003
Salinity	Alkalinity
Chloride	Turbidity
Color	Total Phosphorus
Silica	Inorganic Carbon
Ortho-Phosphorus	Total Organic Carbon
Nitrate + Nitrite Nitrogen	Dissolved Organic Carbon
Ammonia/Ammonium Nitrogen	
Total Kjeldahl Nitrogen	
Total Nitrogen	
Suspended Solids	
Volatile Solids	
Chlorophyll a	

Table 2.4

**Long-Term Yearly Mean Measurements of Peace River Flows
and Facility Withdrawals during HBMP Monitoring Period**

Year	Means (in cubic ft/sec)			Withdrawal as Percent of Gaged Flow at:	
	Peace River Flow at Arcadia	Peace Arcadia + Horse Creek + Joshua Creek + Shell Creek	Facility Withdrawal	Arcadia	US 41 Bridge
1976	703.3	959.6	No Withdrawals Until 1980		
1977	478.7	731.9			
1978	997.2	1525.8			
1979	1171.4	2080.5			
1980	495.2	726.3	3.93	0.66	0.45
1981	288.4	629.6	5.10	1.77	0.81
1982	1610.5	2746.9	5.91	0.37	0.21
1983	1371.3	2319.9	5.11	0.37	0.22
1984	567.0	1102.7	4.07	0.72	0.37
1985	368.9	680.7	7.24	1.96	1.06
1986	548.9	1013.6	7.50	1.37	0.74
1987	802.7	1357.8	7.59	0.95	0.56
1988	1054.0	1738.4	9.48	0.90	0.55
1989	373.6	699.0	9.60	2.57	1.37
1990	402.4	741.4	8.72	2.17	1.18
1991	771.1	1567.6	10.38	1.35	0.66
1992	784.6	1543.6	9.41	1.20	0.61
1993	698.5	1249.3	12.02	1.72	0.96
1994	1365.9	2359.0	11.65	0.85	0.52
1995	1708.1	3071.6	12.23	0.72	0.40
1996	598.2	928.8	12.46	2.08	1.34
1997	1059.9	1777.6	12.12	1.14	0.68
1998	1915.9	2921.3	15.43	0.81	0.53
1999	565.2	1142.5	12.8	2.26	1.15
2000	139.4	342.4	5.7	4.09	1.66
2001	1038.1	1914.7	7.9	0.76	0.41
2002	1180.7	2191.2	22.8	1.93	1.04
2003	1853.9	2920.0	26.1	1.41	0.89
2004	1740.3	2785.4	24.2	1.39	0.87

Table 3.3
Water Chemistry Methods

Parameter	Method	Detection Limit
Color	EPA 110.2	1.0 Co_Pt Units
Chloride	EPA 325.2	0.4 mg/l
Turbidity	EPA 180.1	0.1 NTU
Total Suspended Solids	EPA 160.2	0.8 mg/L
Volatile Suspended Solids	EPA 160.4	0.8 mg/L
Alkalinity	EPA 310.1	0.1 mg/l
NO ₂ +NO ₃ Nitrogen	EPA 353.2	0.002 mg/l
NH ₃ +NH ₄ Nitrogen	EPA 350.1	0.002 mg/l
Total Kjeldahl	EPA 351.2	0.1 mg/l
Ortho-Phosphorus	EPA 365.2	0.002 mg/l
Total Phosphorus	EPA 365.4	0.002 mg/l
Silica	EPA 370.1	0.05 mg/l
Inorganic Carbon	SM 5310 B	1.0 mg/l
Total Organic Carbon	EPA 415.1	1.0 mg/l
Dissolved Organic Carbon	SM 5310 B	1.0 mg/l
Iron	EPA 236.1	0.04 mg/l
Chlorophyll a	Fluorimetric SM 10200H.3	0.25 ug/l
	Spectrophotometric SM10200H.2	2.0 ug/l

Table 3.4**Physical and Chemical Water Quality Parameters**

Year	Month	Sample Location	Temperature (C)	Color (CPU)	Light Extinction Coefficient	Iron (mg/l)	Silica (mg/l)
2004	Jan	0 o/oo	19.0	90	1.7	0.18	5.47
2004	Jan	6 o/oo	18.9	120	1.2	0.11	4.45
2004	Jan	12 o/oo	19.1	120	1.3	0.11	2.86
2004	Jan	20 o/oo	18.5	50	1.3	0.16	1.03
2004	Feb	0 o/oo	22.1	130	1.8	0.16	4.62
2004	Feb	6 o/oo	22.6	100	2.3	0.09	2.32
2004	Feb	12 o/oo	22.6	80	1.1	0.11	0.23
2004	Feb	20 o/oo	22.2	50	1.2	0.11	0.01
2004	Mar	0 o/oo	22.7	120	4.6	0.36	4.10
2004	Mar	6 o/oo	23.1	120	2.3	0.28	3.36
2004	Mar	12 o/oo	22.2	80	1.8	0.18	1.35
2004	Mar	20 o/oo	21.9	50	1.2	0.13	0.38
2004	Apr	0 o/oo	23.2	40	1.1	0.08	2.50
2004	Apr	6 o/oo	21.0	60	2.4	0.23	3.87
2004	Apr	12 o/oo	21.1	60	1.3	0.09	3.00
2004	Apr	20 o/oo	20.2	30	1.2	0.10	1.76
2004	May	0 o/oo	26.7	120	2.5	0.20	5.08
2004	May	6 o/oo	26.0	100	2.2	0.14	4.49
2004	May	12 o/oo	25.7	80	2.1	0.15	3.58
2004	May	20 o/oo	25.2	40	1.1	0.14	2.43

Table 3.4 (continued)

Year	Month	Sample Location	Temperature (C)	Color (CPU)	Extinction Coefficient	Light Iron (mg/l)	Silica (mg/l)
2004	Jun	0 o/oo	31.1	40	2.5	0.07	2.02
2004	Jun	6 o/oo	28.6	70	1.3	0.18	4.80
2004	Jun	12 o/oo	29.2	120	2.5	0.14	4.82
2004	Jun	20 o/oo	28.7	45	1.3	0.14	2.60
2004	Jul	0 o/oo	30.9	120	1.5	0.32	5.67
2004	Jul	6 o/oo	31.8	120	2.2	0.23	4.65
2004	Jul	12 o/oo	31.0	90	1.0	0.12	2.70
2004	Jul	20 o/oo	31.8	40	0.9	0.11	1.32
2004	Aug	0 o/oo	29.6	280	4.8	0.89	7.75
2004	Aug	6 o/oo	30.1	180	5.3	0.43	7.73
2004	Aug	12 o/oo	30.4	120	1.7	0.14	5.66
2004	Aug	20 o/oo	30.3	60	1.2	0.29	3.48
2004	Sep	0 o/oo	27.7	300	.	0.59	7.98
2004	Sep	6 o/oo	28.4	200	.	0.63	8.12
2004	Sep	12 o/oo	27.9	150	.	0.39	7.80
2004	Sep	20 o/oo	27.9	100	.	0.13	5.64
2004	Oct	0 o/oo	29.3	300	4.2	0.68	5.57
2004	Oct	6 o/oo	29.1	200	2.7	0.44	5.89
2004	Oct	12 o/oo	28.8	200	2.2	0.39	5.34
2004	Oct	20 o/oo	28.6	150	1.3	0.06	3.61

Table 3.4 (continued)

Year	Month	Sample Location	Temperature (C)	Color (CPU)	Light Extinction Coefficient	Iron (mg/l)	Silica (mg/l)
2004	Nov	0 o/oo	23.4	175	2.8	0.46	8.44
2004	Nov	6 o/oo	23.4	150	3.3	0.66	5.41
2004	Nov	12 o/oo	23.4	150	3.8	0.75	3.77
2004	Nov	20 o/oo	23.3	100	1.8	0.52	1.92
2004	Dec	0 o/oo	20.8	120	2.4	0.37	7.99
2004	Dec	6 o/oo	24.1	90	2.6	0.35	1.55
2004	Dec	12 o/oo	23.1	70	2.8	0.93	0.63
2004	Dec	20 o/oo	23.4	60	2.1	0.19	0.34

Table 3.5
Physical and Chemical Water Quality Parameters - Nutrients

Year	Month	Sample Location	Ammonia/ Ammonium (mg/l)	Nitrite/ Nitrate (mg/l)	Total Kjeldahl Nitrogen (mg/l)	Orthophosphorus (mg/l)	Available N/P Atomic Ratio
2004	Jan	0 o/oo	0.010	0.676	0.76	0.770	2.0
2004	Jan	6 o/oo	0.030	0.035	3.50	0.420	0.4
2004	Jan	12 o/oo	0.030	0.021	2.08	0.220	0.5
2004	Jan	20 o/oo	0.020	0.021	0.38	0.140	0.7
2004	Feb	0 o/oo	0.020	0.485	1.02	0.720	1.6
2004	Feb	6 o/oo	0.040	0.243	1.15	0.410	1.6
2004	Feb	12 o/oo	0.040	0.057	0.75	0.270	0.8
2004	Feb	20 o/oo	0.030	0.021	0.68	0.190	0.6
2004	Mar	0 o/oo	0.050	0.252	0.86	0.610	1.1
2004	Mar	6 o/oo	0.030	0.248	0.84	0.400	1.6
2004	Mar	12 o/oo	0.040	0.125	0.84	0.270	1.4
2004	Mar	20 o/oo	0.110	0.020	0.40	0.140	2.1
2004	Apr	0 o/oo	0.010	0.556	0.97	1.160	1.1
2004	Apr	6 o/oo	0.010	0.094	3.06	0.500	0.5
2004	Apr	12 o/oo	0.010	0.010	1.97	0.340	0.1
2004	Apr	20 o/oo	0.010	0.010	0.99	0.180	0.3
2004	May	0 o/oo	0.030	0.430	0.92	0.890	1.2
2004	May	6 o/oo	0.030	0.274	1.09	0.620	1.1
2004	May	12 o/oo	0.030	0.120	1.06	0.440	0.8
2004	May	20 o/oo	0.020	0.038	0.70	0.310	0.4

Table 3.5 (continued)

Year	Month	Sample Location	Ammonia/ Ammonium (mg/l)	Nitrite/ Nitrate (mg/l)	Total Kjeldahl Nitrogen (mg/l)	Orthophosphorus (mg/l)	Available N/P Atomic Ratio
2004	Jun	0 o/oo	0.010	0.338	0.70	1.090	0.7
2004	Jun	6 o/oo	0.010	0.076	0.58	0.890	0.2
2004	Jun	12 o/oo	0.020	0.010	1.25	0.690	0.1
2004	Jun	20 o/oo	0.010	0.010	0.60	0.420	0.1
2004	Jul	0 o/oo	0.050	0.585	0.70	0.610	2.4
2004	Jul	6 o/oo	0.050	0.025	0.68	0.510	0.3
2004	Jul	12 o/oo	0.030	0.010	0.22	0.410	0.2
2004	Jul	20 o/oo	0.040	0.010	0.54	0.230	0.5
2004	Aug	0 o/oo	0.009	0.173	1.16	0.494	0.8
2004	Aug	6 o/oo	0.010	0.185	0.85	0.440	1.0
2004	Aug	12 o/oo	0.006	0.006	0.26	0.245	0.1
2004	Aug	20 o/oo	0.160	0.009	0.32	0.149	2.6
2004	Sep	0 o/oo	0.007	0.020	1.57	0.786	0.1
2004	Sep	6 o/oo	0.006	0.038	1.53	0.442	0.2
2004	Sep	12 o/oo	0.006	0.048	1.23	0.358	0.3
2004	Sep	20 o/oo	0.006	0.037	0.85	0.329	0.3
2004	Oct	0 o/oo	0.006	0.073	0.91	0.917	0.2
2004	Oct	6 o/oo	0.006	0.308	0.74	0.714	1.0
2004	Oct	12 o/oo	0.006	0.195	0.96	0.635	0.7
2004	Oct	20 o/oo	0.006	0.181	0.41	0.295	1.4
2004	Nov	0 o/oo	0.074	0.486	0.95	1.780	0.7
2004	Nov	6 o/oo	0.048	0.168	0.69	1.050	0.5
2004	Nov	12 o/oo	0.042	0.052	1.31	0.865	0.2
2004	Nov	20 o/oo	0.042	0.061	0.43	0.415	0.6

Table 3.5 (continued)

Year	Month	Sample Location	Ammonia/ Ammonium (mg/l)	Nitrite/ Nitrate (mg/l)	Total Kjeldahl Nitrogen (mg/l)	Orthophosphorus (mg/l)	Available N/P Atomic Ratio
2004	Dec	0 o/oo	0.006	0.957	1.13	1.850	1.2
2004	Dec	6 o/oo	0.006	0.085	1.77	0.959	0.2
2004	Dec	12 o/oo	0.010	0.021	0.81	0.793	0.1
2004	Dec	20 o/oo	0.016	0.004	0.71	0.590	0.1

Table 3.8
Mean Near Surface Values for Key Physical, Chemical and
Biological Measurements by Isohaline

Isohaline	TEMP	COLOR	N23	OP	NP	SI	EXC	CHLA
Summary of data from current year – 2004								
0 o/oo Salinity	25.5	153	0.419	0.973	0.5	5.60	2.7	14.5
6 o/oo Salinity	25.6	126	0.148	0.613	0.3	4.72	2.5	32.4
12 o/oo Salinity	25.4	110	0.056	0.461	0.2	3.48	2.0	55.2
20 o/oo Salinity	25.2	65	0.035	0.282	0.4	2.04	1.3	17.2
Summary of data from preceding period 1983-2003								
0 o/oo Salinity	24.9	142	0.499	0.725	0.8	2.87	2.9	9.0
6 o/oo Salinity	25.2	116	0.219	0.52	0.6	2.44	2.7	22.7
12 o/oo Salinity	25.1	87	0.102	0.365	0.4	1.91	2.2	23.4
20 o/oo Salinity	24.8	52	0.036	0.213	0.4	1.20	1.6	13.4

Temp = Temperature °C

Color = Color Co_Pt units mg/L

N23 = Nitrate/Nitrite nitrogen mg/L

OP = Orthophosphorus mg/L

NP = Atomic Inorganic nitrogen to phosphorus ratio

SI = Reactive silica mg/L

EXC = Extinction coefficient

CHLA = Chlorophyll a ug/L

Table 4.1
HBMP Fixed Sampling Locations

USGS River Mile	USGS Location Number	Previous EQL Station Number	Additional Sampling	New River Kilometer designation based on Morphometric Study
Current <i>In Situ</i> Water Column Profile Sampling Locations				
CH6	265355082075500	9	Water Quality	-2.4
RM3.95	265640082033500	10	Water Quality	6.6
RM4.88	265724082024400	21		8.4
RM6.25	265727082012800	11		10.5
RM8.61	265711081595500	Shell Creek 9 (92)		12.7
RM8.6B	265819082003200	22		12.8
RM10.2	2297460	12	Water Quality/Tide Gage/Conductivity	15.5
RM11.2	270022081591000	23		17.5
RM 12.55	270124081592500	13		20.1
RM13.95	270235081592400	24		21.9
RM14.82	270318081593100	14	Water Quality	23.6
RM15.45	270337081595800	25		24.7
RM16.29	270418082001600	15		25.9
N/A	2297350	N/A	Tide Gage/ Conductivity	26.7
RM18.25	270451081595100	17		29.5
RM18.95	2297330	18	Water Quality	30.4
RM19.5	270537081585800	19		32.3
Vegetation Transect Locations				
N/A	N/A	I		15.6
N/A	N/A	II		22.3
N/A	N/A	III		20.4
Previous EQL Water Column and Chemistry Sampling Sites				
N/A	N/A	16		27.1
N/A	N/A	20		34.1

Table 4.5

Mean Near Surface Values for Key Physical, Chemical and Biological Measurements at Fixed Sampling Sites

River Kilometer	Color	Iron	N23	TKN	OP	Si	Chla
Summary of data from current year – 2004							
-2.4	85	0.39	0.027	0.54	0.29	2.1	10.0
6.6	123	0.39	0.046	0.88	0.56	2.9	26.9
15.5	169	0.42	0.243	1.10	0.94	5.5	28.8
23.6	160	0.43	0.366	0.99	1.03	6.0	21.7
30.4	165	0.45	0.400	1.10	1.02	5.7	25.8
Summary of data from preceding period 1996-2003							
-2.4	56	0.37	0.044	0.74	0.19	2	16.9
6.6	89	0.32	0.096	0.84	0.27	2.7	11.0
15.5	139	0.36	0.246	1.14	0.49	4.2	16.6
23.6	145	0.38	0.464	1.03	0.63	5.0	11.6
30.4	147	0.35	0.538	1.03	0.67	4.9	7.7

Color = Color Co_Pt Units
Iron = Iron mg/L

TOC = Total Organic Carbon mg/L
N23 = Nitrite+Nitrate Nitrogen mg/L
TKN = Total Kjeldhal Nitrogen mg/L

OP = Ortho-phosphorus mg/L
SI = Reactive Silica mg/L
CHLA = Chlorophyll *a* ug/L

Table 6.6
Species List - Site 1 Growing On Land

Species		1983	1984	1985	1987	1991	1993	1997	1998	2000	2002	2004
<i>Axonopus affinis</i>	Carpetgrass	X										
<i>Ficus aurea</i>	Strangler fig	X	X									
<i>Hypericum setosum</i>	Hairy St. John's wort	X	X	X								
<i>Panicum ciliatum</i>	Fringed panic grass	X	X	X								
<i>Solidago microcephala</i>	Slender flat-top goldenrod	X	X	X								
<i>Juncus coriaceous</i>	Leathery rush	X		X								
<i>Phytolacca americana</i>	Pokeweed	X		X								
<i>Aristida stricta</i>	Wiregrass	X		X	X	X						
<i>Galactia elliotii</i>	Elliot's milk pea	X	X	X		X						
<i>Bumelia celastrina</i>	Safron plum	X	X		X	X						
<i>Foresteria segregata</i>	Florida privet	X	X	X	X	X						
<i>Myrica cerifera</i>	Wax myrtle	X	X	X	X	X						
<i>Pteridium aquilinum</i>	Lacy bracken	X	X	X	X	X						
<i>Chloris glauca</i>	Saltmarsh fingergrass	X		X	X	X	X					
<i>Opuntia compressa</i>	Tuna cactus	X	X	X	X	X	X					
<i>Panicum chamaelonche</i>	Panic grass	X	X	X	X	X	X					
<i>Quercus geminata</i>	Sand live oak	X	X	X	X	X	X					
<i>Tillandsia recurvata</i>	Ballmoss	X	X	X	X	X	X					
<i>Tillandsia usneoides</i>	Spanish moss	X	X	X	X	X	X					
<i>Amorpha fruticosa</i>	Dull-leaf indigo	X	X	X	X	X	X					
<i>Vitis rotundifolia</i>	Muscadine grape	X	X	X	X	X	X					

Table 6.6
Species List - Site 1 Growing On Land

Species		1983	1984	1985	1987	1991	1993	1997	1998	2000	2002	2004
<i>Ximenia americana</i>	Tallowwood	X	X	X	X	X	X					
<i>Laguncularia racemosa</i>	White mangrove	X	X	X	X	X	X					
<i>Rhizophora mangle</i>	Red mangrove	X	X	X	X	X	X					
<i>Erythrina herbacea</i>	Coral bean	X	X	X	X	X	X	X				
<i>Rhus copallina</i>	Winged sumac	X	X	X	X	X	X	X	X	X		
<i>Toxicodendron radicans</i>	Poison Ivy	X	X	X	X	X	X	X	X		X	X
<i>Bumelia reclinata</i>	Shrubby buckthorn	X	X	X	X	X	X	X	X	X	X	X
<i>Callicarpa americana</i>	Beauty berry	X	X	X	X	X	X	X	X	X	X	X
<i>Dalbergia ecastophyllum</i>	Coin vine	X	X	X	X	X	X	X	X	X	X	X
<i>Quercus virginiana</i>	Live oak	X	X	X	X	X	X	X	X	X	X	X
<i>Sabal palmetto</i>	Cabbage palm	X	X	X	X	X	X	X	X	X	X	X
<i>Schinus terebinthifolius</i>	Brazilian pepper	X	X	X	X	X	X	X	X	X	X	X
<i>Serenoa repens</i>	Saw palmetto	X	X	X	X	X	X	X	X	X	X	X
<i>Yucca aliofolia</i>	Spanish bayonet	X	X	X	X	X	X	X	X	X	X	
<i>Myrsine guianensis</i>	Myrsine	X	X	X	X	X	X	X	X	X	X	X
<i>Zamia integrifolia (palustris)</i>	Coontie	X	X	X	X	X	X	X	X			X
<i>Samolus parviflorus</i>	Water pimpernel	X	X	X	X	X				X	X	
<i>Tillandsia utriculata</i>	Giant air plant		X	X	X	X	X					
<i>Parthenocissus quinquefolia</i>	Virginia creeper		X	X	X	X	X					X
<i>Commelina erecta</i>	Dayflower		X									
<i>Crotalaria maritima</i>	Rabbit bells		X									
<i>Fimbristylis castanea</i>	Saltmarsh fimbristylis		X									

Table 6.6
Species List - Site 1 Growing On Land

Species		1983	1984	1985	1987	1991	1993	1997	1998	2000	2002	2004
<i>Caesalpinia crista</i>	Dwarf poinciana		X									
<i>Sesbania punicea</i>	Rattlebox		X	X								
<i>Andropogon glomeratus</i>	Bushy bluestem		X	X								
<i>Panicum virgatum</i>	Switchgrass			X								
<i>Tillandsia circinata</i>	Twisted airplant			X	X	X						
<i>Phlebodium aureum</i>	Golden polypody			X	X	X						
<i>Canavalia rosea</i>	June bean				X		X					
<i>Wedelia trilobata</i>	Creeping wedelia				X		X					
<i>Veronia gigantea</i>	Giant ironweed				X	X	X					
<i>Vigna luteola</i>	Cow pea				X	X	X					
<i>Lycium carolinianum</i>	Christmas berry					X						
<i>Randia aculeata</i>	White indigo berry						X					
<i>Sporobolus poiretii</i>	Smutgrass						X					
<i>Opuntia stricta</i>	Prickly pear							X				
<i>Stenotaphrum secundatum</i>	St. Augustine grass							X	X	X	X	X
<i>Tillandsia fasciculata</i>	Cardinal airpine							X	X			
<i>Rhus copallina</i>	Winged sumac											X
<i>Scleria sp.</i>	Nutrush											X
Total Number of Species		38	41	42	38	38	32	16	14	12	12	13

Table 6.6
Species List - Site 1 Growing in Water (shoreline and transects)

Species		1983	1984	1985	1987	1991	1993	1997	1998	2000	2002	2004
<i>Panicum hemitomon</i>	Maidencane	X										
<i>Alternanthera philoxeroides</i>	Alligator weed	X	X									
<i>Colocassia esculentum</i>	Wild taro	X	X									
<i>Annona glabra</i>	Pond apple	X		X								
<i>Eleocharis albida</i>	Saltmarsh spikerush	X	X	X								
<i>Panicum purpureascens</i>	Paragrass	X	X	X								
<i>Pluchea purpurascens</i>	Camphorweed	X	X	X	X							
<i>Scleria triglomerata</i>	Whipgrass	X	X		X	X						
<i>Cyperus distinctus</i>	Flatsedge	X	X	X	X	X						
<i>Carex lupulina</i>	Hopsedge	X	X	X	X	X	X					
<i>Solidago stricta</i>	Slim goldenrod	X	X	X	X	X	X					
<i>Conocarpus erecta</i>	Buttonwood	X	X	X	X	X	X					
<i>Distichlis spicata</i>	Saltgrass	X	X	X	X	X	X					
<i>Iva frutescens</i>	Big-leaf sumpweed	X	X	X	X	X	X					
<i>Bacopa monnieri</i>	Water hyssop	X	X	X		X	X					

Table 6.6
Species List - Site 1 Growing in Water (shoreline and transects)

Species		1983	1984	1985	1987	1991	1993	1997	1998	2000	2002	2004
<i>Blechnum serrulatum</i>	Swamp fern	X	X	X	X		X					
<i>Acrostichum danaeifolium</i>	Giant leather fern	X	X	X	X	X	X	X	X		X	X
<i>Dalbergia ecastophyllum</i>	Coin vine	X	X	X	X	X	X	X	X	X	X	X
<i>Laguncularia racemosa</i>	White mangrove	X	X		X	X	X	X	X	X	X	X
<i>Stenotaphrum secundatum</i>	St. Augustine grass	X	X	X	X	X	X	X	X	X	X	X
<i>Rhizophora mangle</i>	Red mangrove	X	X	X	X	X	X	X	X	X	X	X
<i>Juncus roemerianus</i>	Black needlerush	X	X	X	X	X	X		X		X	
<i>Scirpus validus</i>	Giant bulrush	X	X	X	X	X	X	X	X	X		
<i>Spartina bakerii</i>	Sand cordgrass	X	X	X	X		X					
<i>Amaranthus australis</i>	Waterhemp	X					X					
<i>Sesuvium portulacastrum</i>	Sea purslane			X			X					X
<i>Cladium jamaicensis</i>	Sawgrass				X	X	X					
<i>Serenoa repens</i>	Saw palmetto					X		X	X		X	X
<i>Schinus teribinthifolius</i>	Brazilian pepper					X	X	X	X	X	X	X
<i>Ambrosia artemisiifolia</i>	ragweed						X					
<i>Vigna luteola</i>	cow pea						X					
<i>Myrsine guiansis</i>	Myrsine							X	X	X	X	X
<i>Quercus virginiana</i>	Live oak							X	X		X	X
<i>Eleocharis baldwinnii</i>	Spikerush							X				
<i>Eleocharis geniculata</i>	Spikerush								X			

Table 6.6
Species List - Site 1 Growing in Water (shoreline and transects)

Species		1983	1984	1985	1987	1991	1993	1997	1998	2000	2002	2004
<i>Samolus parviflorus</i>	Water Pimpernel								X		X	
<i>Mikania scandens</i>	Climbing hempvine											X
<i>Scripus etuberculatus</i>	Swamp bulrush											X
Total Number of Species		25	22	20	18	18	21	11	13	7	11	12

Table 6.7
Transition Site I Upstream Belt Transect – Upstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Upland Species															
<i>Schinus terebinthifolius</i>	80	90	60	70	40										
<i>Stenotaphrum secundatum</i>	15														
<i>Hibiscus tiliaceus</i>	20	20	30	40	25										
<i>Quercus virginiana</i>	5														
% Coverage Upland Species	120	110	90	110	65										
Wetland Species															
<i>Rhizophora mangle</i>				30	90	100	100	70	30						
<i>Laguncularia racemosa</i>	10	20	70	20											
<i>Scirpus validus</i>										10					
% Coverage Wetland Species	10	20	70	50	90	100	100	70	30	10					

Table 6.8
Transition Site I Upstream Belt Transect – Downstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Upland Species															
<i>Schinus terebinthifolius</i>	65	95	90	90	70	35	8								
<i>Stenotaphrum secundatum</i>	20														
<i>Quercus virginiana</i>	10														
<i>Hibiscus tiliaceus</i>	30	35	20	30	15	20	10								
% Coverage Upland Species	125	130	110	120	85	55	18								
Wetland Species															
<i>Rhizophora mangle</i>				15	35	85	90	50	60	10					
<i>Scirpus validus</i>										2					
% Coverage Wetland Species				15	35	85	90	50	60	12					

Table 6.9
Transition Site I Downstream Belt Transect – Upstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Upland Species															
<i>Dalbergia ecastophyllum</i>	5	7													
<i>Serenoa repens</i>	20														
<i>Stenotaphrum secundatum</i>	30	25	20	3											
<i>Quercus virginiana</i>	60	70	15												
<i>Hibiscus tiliaceus</i>	15	25	40	20											
% Coverage Upland Species	130	127	75	23											
Wetland Species															
<i>Acrostichum danaeifolium</i>				4											
<i>Laguncularia racemosa</i>		5	70	90	40										
<i>Myrsine guiansis</i>	40	30													

Table 6.9
Transition Site I Downstream Belt Transect – Upstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
<i>Rhizophora mangle</i>		20	30	35	100	95	90	90	50						
% Coverage Wetland Species	40	37	100	129	140	95	90	90	50						

Table 6.10
Transition Site I Downstream Belt Transect – Downstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Upland Species															
<i>Quercus virginiana</i>	90	80	5												
<i>Serenoa repens</i>	60														
<i>Stenotaphrum secundatum</i>	45	15	15												
<i>Hibiscus tiliaceus</i>	30	40	40	5											
<i>Dalbergia ecastophyllum</i>	2														
<i>Mikania scandens</i>		3													
<i>Rapanea punctata</i>		10													
% Coverage Upland Species	227	148	60	5											
Wetland Species															
<i>Laguncularia racemosa</i>				80	40	10									

Table 6.10
Transition Site I Downstream Belt Transect – Downstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
<i>Rhizophora mangle</i>		20	30	60	90	90	95	95	60	3					
<i>Eleocharis vivipara</i>			2	4											
% Coverage Wetland Species		20	32	144	130	100	95	95	60	3					

Table 6.11
Species List - Site II Growing on Land

Species		1983	1984	1985	1987	1991	1993	1997	1998	2000	2002	2004
<i>Yucca aloifolia</i>	Spanish bayonet	X										
<i>Roystonea regia</i>	Royal palm	X										
<i>Psidium guajava</i>	Guava	X	X									
<i>Encyclia tampensis</i>	Butterfly orchid	X	X		X							
<i>Phytolacca americana</i>	Poke weed	X		X	X							
<i>Panicum ciliatum</i>	Roughhair witchgrass	X	X			X						
<i>Zanthoxylum fagara</i>	Wild lime	X	X	X	X	X						
<i>Chloris glauca</i>	Saltmarsh fingergrass	X		X	X	X						
<i>Andropogon glomeratus</i>	Bushy bluestem	X		X	X	X						
<i>Tillandsia usneoides</i>	Spanish moss	X	X	X	X	X						
<i>Tillandsia fasciculata</i>	Cardinal airpine	X	X	X	X		X					
<i>Ampelopsis arborea</i>	Pepper vine	X	X	X	X	X	X					
<i>Cephalanthus occidentalis</i>	Button bush	X	X	X	X	X	X					
<i>Quercus virginiana</i>	Live oak	X	X	X	X	X	X					
<i>Sabal palmetto</i>	Cabbage palm	X	X	X	X	X	X					
<i>Tillandsia utriculata</i>	Giant airplant	X	X	X	X	X	X					
<i>Urena lobata</i>	Caesar weed	X	X	X	X	X	X					
<i>Vigna luteola</i>	Cow pea	X	X	X	X	X	X					
<i>Vitis rotundifolia</i>	Muscadine	X	X	X	X	X	X					
<i>Ximenia americana</i>	Tallow wood	X	X	X	X	X	X					

Table 6.11
Species List - Site II Growing on Land

Species		1983	1984	1985	1987	1991	1993	1997	1998	2000	2002	2004
<i>Bumelia reclinatum</i>	Buckthorn	X	X	X	X	X	X		X	X	X	X
<i>Ipomoea alba</i>	Moon flower	X	X	X	X	X	X	X	X	X	X	X
<i>Myrica cerifera</i>	Wax myrtle	X	X	X	X	X	X	X	X	X	X	X
<i>Schinus terebinthifolius</i>	Brazilian pepper	X	X	X	X	X	X	X	X	X	X	X
<i>Myrsine guiansis</i>	Myrsine	X	X	X		X	X	X	X	X	X	X
<i>Persea palustris</i>	Swamp Bay	X	X	X	X	X	X	X	X		X	X
<i>Toxicodendron radicans</i>	Poinson ivy	X	X	X	X	X	X		X	X	X	X
<i>Parthenocissus quinquefoila</i>	Virginia creeper	X	X	X	X	X	X		X	X	X	
<i>Psychotria sp.</i>	Wild coffee	X	X	X	X	X	X		X		X	
<i>Smilax bona-nox</i>	Catbriar	X	X			X			X	X		
<i>Mikania scandens</i>	Climbing hempweed		X	X	X	X	X					
<i>Tillandsia recurvata</i>	Ball moss		X	X	X	X	X					
<i>Oplismenus setarius</i>	Armed grass		X	X	X	X						
<i>Callicarpa americana</i>	Beauty berry		X	X			X					
<i>Itea virginica</i>	Virginia sweet spire		X									
<i>Cornus foemina</i>	Swamp dogwood		X									
<i>Panicum maximum</i>	Guinea grass		X									
<i>Sabatia calycina</i>	Coastal rosegentian		X									
<i>Canovalia rosea</i>	June bean			X								
<i>Baccharis halimifolia</i>	Saltbush			X		X	X					
<i>Veronia gigantia</i>	Giant ironweed				X	X	X					

Table 6.11
Species List - Site II Growing on Land

Species		1983	1984	1985	1987	1991	1993	1997	1998	2000	2002	2004
<i>Galactia elliottii</i>	Elliot's milk pea					X	X					
<i>Galactia macreei</i>	Milk pea					X						
<i>Ipomoea trichocarpa</i>	Morning glory					X						
<i>Lythrum alatum</i>	Loosestrife					X						
<i>Psychotria undata</i>	Shiny wild coffee					X						
<i>Smilax laurifolia</i>	Bamboo vine						X					
<i>Panicum chamaleonce</i>	Panic grass						X					
<i>Panicum jorii</i>	Variable panic grass						X					
<i>Rhizophora mangle</i>	Red mangrove							X				
<i>Conocarpus erecta</i>	Buttonwood							X	X	X	X	
<i>Pontedaria cordata</i>	Pickeralweed								X		X	
<i>Panicum gymnocarpum</i>	Savanna panicum								X			
<i>Colocasia esculenta</i>	Taro								X	X	X	
<i>Dalbergia ecastophylum</i>	Coin vine								X	X	X	
<i>Acer rubrum</i>	Red maple									X	X	
<i>Acrostichum danaeifolium</i>	Giant leather fern									X	X	X
<i>Cladium jamaicensis</i>	Saw grass										X	
<i>Rumex verticillatus</i>	Swamp dock										X	
<i>Typha spp.</i>	Cattail										X	
<i>Annona glabra</i>	Pond apple										X	X
Total Number of Species		30	33	30	28	34	28	7	15	13	19	9

Table 6.11
Species List - Site II Growing in Water (shoreline and transects)

Species		1983	1984	1985	1987	1991	1993	1997	1998	2000	2002	2004
<i>Ptilimnium capillaceum</i>	Mock bishop weed	X	X									
<i>Ceratoperis pteridoides</i>	Water horn fern	X	X									
<i>Tripsacum dactyloides</i>	Eastern gama grass	X	X									
<i>Senecio glabellus</i>	Ragwort	X	X	X								
<i>Boehmeria cylindrica</i>	Button hemp	X	X		X							
<i>Ludwigia repens</i>	Marsh purslane	X	X		X							
<i>Sambucus simpsonii</i>	Southern elderberry	X	X	X	X							
<i>Cicuta mexicana</i>	Water hemlock	X	X	X	X							
<i>Cyperus distinctus</i>	Flatsedge	X	X	X	X	X						
<i>Spartina bakerii</i>	Sand cordgrass	X	X		X	X						
<i>Baccharis halimifolia</i>	Saltbush	X	X		X	X						
<i>Sagittaria lancifolia</i>	Lance leaved arrowhead	X	X		X	X	X					
<i>Iris hexagonia</i>	Iris	X	X	X	X		X					
<i>Polygonum hydropiperoides</i>	Swamp knotweed	X	X	X	X	X	X					
<i>Pontederia lanceolata</i>	Pickernelweed	X	X	X	X	X	X					X
<i>Solidago stricta</i>	Slim goldenrod	X	X	X	X	X	X					
<i>Alternanthera philoxeroides</i>	Alligator weed	X	X	X	X	X	X					
<i>Acer rubrum</i>	Red maple	X	X	X	X	X	X					
<i>Toxicodendron radicans</i>	Poison ivy	X	X	X	X	X	X	X	X	X	X	X

Table 6.11
Species List - Site II Growing in Water (shoreline and transects)

Species		1983	1984	1985	1987	1991	1993	1997	1998	2000	2002	2004
<i>Acrostichum danaeifolium</i>	Giant leather fern	X	X	X	X	X	X	X	X	X	X	X
<i>Caladium jamaicensis</i>	Saw grass	X	X	X	X	X	X	X	X	X	X	X
<i>Scirpus validus</i>	Giant bulrush	X	X	X	X	X	X	X	X	X	X	X
<i>Annona glabra</i>	Pond apple	X	X	X	X	X	X			X	X	X
<i>Samolus parviflorus</i>	Water spangles	X	X	X	X	X	X				X	X
<i>Pluchea purpurascens</i>	Camporweed	X	X	X	X	X	X				X	X
<i>Eichhinornia crassipes</i>	Water-hyacinth	X	X	X	X				X			
<i>Rumex verticillatus</i>	Swamp dock	X	X		X			X	X	X		X
<i>Typha domingensis</i>	Cattail	X	X				X	X	X		X	X
<i>Colocasia esculentum</i>	Taro	X	X		X				X	X	X	X
<i>Echinochloa crusgalli</i>	Barnyard grass		X									
<i>Eleocharis albida</i>	Saltmarsh spikerush		X	X								
<i>Bacopa monnieri</i>	Water hyssop			X								
<i>Panicum purpurescens</i>	Para grass			X								
<i>Amaranthus australis</i>	Southern amaranth					X	X					
<i>Pontederia cordata</i>	Pickerelweed					X		X	X	X	X	
<i>Rhizophora mangle</i>	Red mangrove					X	X	X	X	X		X
<i>Dalbergia ecastophyllum</i>	Coin vine						X	X	X	X	X	X
<i>Crinum americanum</i>	Swamp lily						X				X	
<i>Ludwigia octovalvis</i>	Shrubby water primrose						X					
<i>Sagittaria subulata</i>	Owl-leaf arrowhead						X					

Table 6.11
Species List - Site II Growing in Water (shoreline and transects)

Species		1983	1984	1985	1987	1991	1993	1997	1998	2000	2002	2004
<i>Ammannia teres</i>	Scarlet ammannia						X					
<i>Sclaria triglomerata</i>	Whip grass						X					
<i>Serenoa repens</i>	Saw palmetto							X				
<i>Dioscorea bulbifera</i>	Wild yam							X				
<i>Panicum gymnocarpum</i>	Savannah panicum							X	X			
<i>Myrica cerifera</i>	Wax myrtle							X	X	X		X
<i>Schinus teribinthifolius</i>	Brazilian pepper							X	X	X		X
<i>Persea palustris</i>	Swamp bay							X	X	X	X	X
<i>Mikania scandens</i>	Climbing hempweed							X	X	X	X	X
<i>Ficus aurea</i>	Strangler fig							X	X		X	
<i>Polygonum punctatum</i>	Smartweed							X			X	X
<i>Ipomoea alba</i>	Moon flower							X	X			X
<i>Psychotria sp.</i>	Wild coffee								X			
<i>Parthenocissus quinquefoila</i>	Virginia creeper								X	X	X	X
<i>Rumex crispus</i>	Curly dock								X	X	X	X
<i>Pistia stratiotes</i>	Water lettuce								X		X	
<i>Myrsine guianensis</i>	Myrsine								X	X		
<i>Atriplex spp.</i>	Saltbush										X	X
<i>Sambucus canadensis</i>	American elder										X	X
<i>Eupatorium capillifolium</i>	Dog fennel										X	X
<i>Diodia virginiana</i>	Virginia buttonwood										X	X
Total Number of Species		29	31	21	24	19	23	19	23	17	23	25

Table 6.12
Transition Site II Upstream Belt Transect – Upstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Upland Species															
<i>Persea palustris</i>	25	30													
<i>Schinus terebinthifolius</i>	100	100	130	130	100	60									
<i>Hibiscus tiliaceus</i>	20	40	30					12							
% Coverage Upland Species	145	170	160	130	100	60		12							
Wetland Species															
<i>Rhizophora mangle</i>						1	15	20	20						
<i>Scirpus validus</i>						3	60	90	70	60	100	50			
% Coverage Wetland Species						4	75	110	90	60	100	50			

Table 6.13
Transition Site II Upstream Belt Transect – Downstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Upland Species															
<i>Persea palustris</i>	10	10													
<i>Schinus terebinthifolius</i>	100	95	60	130	130	100	10	10							
<i>Hibiscus tiliaceus</i>	25	40	70			15									
<i>Cladium jamaicense</i>					10										
% Coverage Upland Species	135	145	130	130	140	115	10	10							
Wetland Species															
<i>Rhizophora mangle</i>						40	20	20							
<i>Scirpus validus</i>						3	45	70	85	80	90	45			
% Coverage Wetland Species	20			5	65	79	80	98	98	20					

Table 6.14
Transition Site II Downstream Belt Transect – Upstream Side
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Upland Species															
<i>Pluchea spp.</i>	10														
<i>Schinus terebinthifolius</i>	40	80	80	90	50										
% Coverage Upland Species	50	80	80	90	50										
Wetland Species															
<i>Acrostichum danaeifolium</i>	40	60	20												
<i>Annona glabra</i>	40	70													
<i>Cladium jamaicensis</i>	5	4	10		15										
<i>Ipomoea glabra</i>	5					4	40	40		10					
<i>Rhizophora mangle</i>													10		
<i>Samolus parviflorus</i>					40					10					
<i>Scirpus validus</i>						20	35	65	50	45	75	90	95	95	95

Table 6.14
Transition Site II Downstream Belt Transect – Upstream Side
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
<i>Myrica cerifera</i>	20														
<i>Persea palustris</i>	70														
<i>Panicum hemitomon</i>			3			5									
<i>Bacchiras halimifolia</i>			12						40	40					
<i>Pontederia cordata</i>					30	15									
<i>Colocasia esculenta</i>							10								
<i>Alternanthera philoxeroides</i>					50	65	80	75							
<i>Hibiscus tiliaceus</i>			60						20						
% Coverage Wetland Species	180	134	105		135	109	165	180	110	105	75	90	105	95	95

Table 6.15
Transition Site II Downstream Belt Transect – Downstream Side
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Upland Species															
<i>Eupatorium capillifolium</i>									5						
<i>Schinus terebinthifolius</i>	40	60	80	25	40										
% Coverage Upland Species	40	60	80	25	40				5						
Wetland Species															
<i>Acrostichum danaeifolium</i>	80	100	60	40											
<i>Annona glabra</i>	10	12	10												
<i>Cladium jamaicense</i>				40											
<i>Persea palustris</i>	60														
<i>Scirpus validus</i>					3	12	40	50	60	40	80	95	100	95	95
<i>Colocasia esculenta</i>			5	20	70	10	40								

Table 6.15
Transition Site II Downstream Belt Transect – Downstream Side
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
<i>Bacchirias halimifolia</i>			10						30	70	30				
<i>Ipomoea glabra</i>			6	40	20	5		30	20						
<i>Alternanthera philoxeroides</i>					60	90	70	80	5						
<i>Hibiscus tiliaceus</i>						10	4			20					
% Coverage Wetland Species	150	112	91	140	153	127	154	160	115	130	110	95	100	95	95

Table 6.16
Species List - Site III Growing on Land

Species		1997	1998	2000	2002	2004
<i>Psychotria undata</i>	Shining wild coffee	X				
<i>Acrostichum danaeifolium</i>	Giant leather fern	X				
<i>Cladium jamaicensis</i>	Saw grass	X				
<i>Myrsine guiansis</i>	Myrsine	X				X
<i>Persea palustris</i>	Swamp Bay	X				
<i>Vitis rotundifolia</i>	Muscadine grape	X	X			
<i>Quercus virginiana</i>	Live oak	X	X	X	X	X
<i>Schinus terebinthifolius</i>	Brazilian pepper	X	X	X	X	X
<i>Toxicodendron radicans</i>	Poison ivy	X	X	X	X	X
<i>Yucca aloifolia</i>	Spanish bayonet	X	X	X	X	X
<i>Zanthoxylum fagara</i>	Wild lime	X	X	X	X	X
<i>Blechnum serrulatum</i>	Swamp fern	X	X	X	X	X
<i>Myrsine guiansis</i>	Myrsine		X	X	X	
<i>Smilax bona-nex</i>	Catbriar		X	X	X	X
<i>Psychotria nervosa</i>	Wild coffee		X	X	X	X
<i>Persea palustris</i>	Swamp bay		X	X	X	
<i>Zamia integrifolia</i>	Coontie		X			
<i>Persea palustris</i>	Swamp bay					X
<i>Vitis spp</i>	Grapevine					X
<i>Sambucus canadensis</i>	Elderberry					X
<i>Hibiscus tiliaceus</i>	Sea hibiscus					X
Total Number of Species		12	12	10	10	13

Table 6.16
Species List - Site III Growing in Water (shoreline and transects)

Species		1997	1998	2000	2002	2004
<i>Quercus laurifolia</i>	Laurel oak	X				
<i>Psidium gjava</i>	Guava	X				
<i>Callicarpa americana</i>	Beauty berry	X				
<i>Acrostichum danaeifolium</i>	Giant leather fern	X			X	X
<i>Persea palustris</i>	Swamp bay	X			X	X
<i>Erythrina herbacea</i>	Coral bean	X	X			
<i>Eugenia axillaris</i>	White stopper	X	X			
<i>Ipomoea alba</i>	Moon flower	X	X			
<i>Psychotria nervosa</i>	Wild coffee	X	X		X	X
<i>Blechnum serrulatum</i>	Swamp fern	X	X	X	X	X
<i>Juncus roemerianus</i>	Black needlerush	X	X	X	X	X
<i>Myrsine guianensis</i>	Myrsine	X	X	X	X	X
<i>Parthenocissus quinquefolia</i>	Virginia creeper	X	X	X	X	X
<i>Quercus virginiana</i>	Live oak	X	X	X	X	X
<i>Scirpus validus</i>	Giant bulrush	X	X	X	X	X
<i>Schinus terebinthifolius</i>	Brazilian pepper	X	X	X	X	X
<i>Smilax noca-nox</i>	Catbrier	X	X	X	X	X
<i>Toxicodendron radicans</i>	Poison ivy	X	X	X	X	X
<i>Zamia integrifolia</i>	Coontie	X	X	X	X	X
<i>Zanthoxylum fagara</i>	Wild lime	X	X		X	X
<i>Bumelia reclinata</i>	Shrubby Buckthorn		X	X	X	X
<i>Colocasia esculenta</i>	Taro		X			

Table 6.16
Species List - Site III Growing in Water (shoreline and transects)

Species		1997	1998	2000	2002	2004
<i>Ludwigia repens</i>	Red ludwigia		X			
<i>Dalbergia ecastophyllum</i>	Coin vine		X		X	X
<i>Rhizophora mangle</i>	Red mangrove				X	X
<i>Spartina bakeri</i>	Cordgrass				X	
<i>Hibiscus radiatus</i>	Sea hibiscus					X
Total Species		20	19	11	18	18

Table 6.17
Transition Site III Upstream Belt Transect – Upstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Upland Species															
<i>Bumelia reclinata</i>	10														
<i>Quercus virginiana</i>	40	80	80	90	50										
<i>Zamia pumila</i>	25														
<i>Smilax bona-nox</i>	15	15													
<i>Schinus terebinthifolius</i>	30	65	15	6	7										
<i>Pteridium aquilinum</i>	5														
<i>Parthenocissus quinquefolia</i>	10	10	3												
<i>Hibiscus tiliaceus</i>	60	50													
% Coverage Upland Species	195	220	98	96	57										
Wetland Species															
<i>Juncus roemerianus</i>							12	7	2						

Table 6.17
Transition Site III Upstream Belt Transect – Upstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
<i>Scirpus validus</i>			20	3	12	20	55	65	70	10		7	2		
% Coverage Wetland Species			20	3	12	20	67	72	72	10		7	2		

Table 6.18
Transition Site III Upstream Belt Transect – Downstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Upland Species															
<i>Bumelia reclinata</i>	70	20													
<i>Quercus virginiana</i>	50	25	40	10	5										
<i>Schinus terebinthifolius</i>	30	40	50	80	60	3									
<i>Smilax bona-nox</i>	10	40	30												
<i>Zamia pumila</i>	1														
<i>Pteridium aquilinum</i>	5														
<i>Zanthoxylum fagara</i>	10														
<i>Hibiscus tiliaceus</i>	30														
% Coverage Upland Species	206	125	120	90	65	3									

Table 6.18
Transition Site III Upstream Belt Transect – Downstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Wetland Species															
<i>Juncus roemerianus</i>							10	10	2						
<i>Myrsine guiansis</i>	5														
<i>Scirpus validus</i>			4	4	10	5	45	70	65	10		10	2		
% Coverage Wetland Species	5		4	4	10	5	55	80	67	10		10	2		

Table 6.19
Transition Site III Downstream Belt Transect – Upstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Upland Species															
<i>Quercus virginiana</i>	50	20	5												
<i>Schinus terebinthifolius</i>	25	40	60	60	30	15									
<i>Smilax bona-nox</i>	30	8													
<i>Toxicodendron radicans</i>	12														
<i>Psychotria spp.</i>	25														
<i>Myrsine guianensis</i>		25													
% Coverage Upland Species	142	93	65	60	30	15									
Wetland Species															
<i>Blechnum serrulatum</i>	15	10													
<i>Juncus roemerianus</i>	40	80	40	40	95	10									
% Coverage Wetland Species	55	90	40	40	95	10									

Table 6.20
Transition Site III Downstream Belt Transect – Downstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
Upland Species															
<i>Quercus virginiana</i>	35	30	20	10											
<i>Schinus terebinthifolius</i>	20	40	35	20											
<i>Smilax bona-nox</i>	30	15													
<i>Toxicodendron radicans</i>	8														
<i>Acrosticum danaeifolium</i>		25	30	55											
<i>Myrsine guianensis</i>	15														
% Coverage Upland Species	118	110	85	85											
Wetland Species															
<i>Juncus roemarianus</i>	35	70	40	15	85	7									
<i>Scirpus validus</i>							3	1	2						

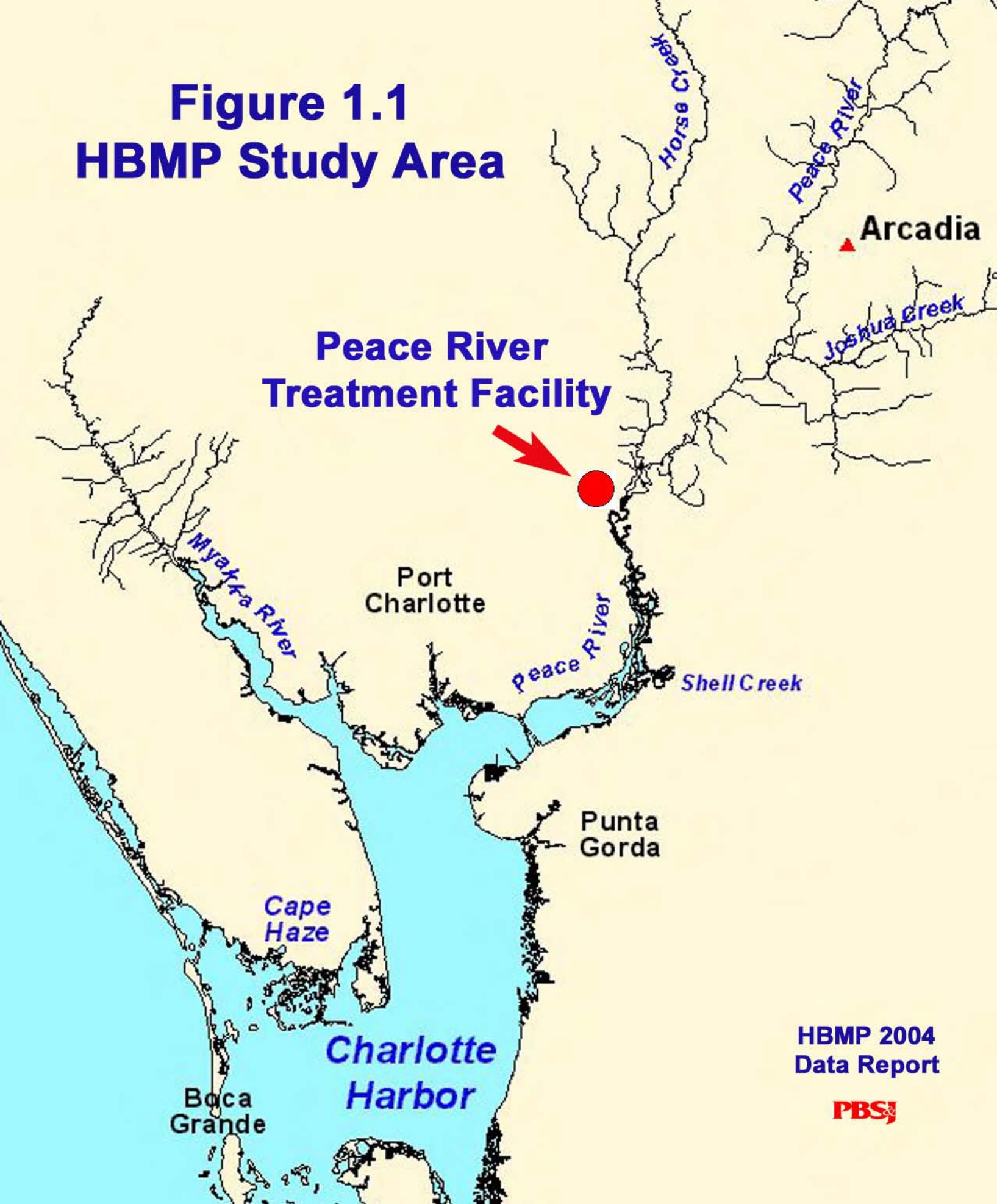
Table 6.20
Transition Site III Downstream Belt Transect – Downstream Side 2004
Percent Waterward from Shoreline

	0-1m	1-2m	2-3m	3-4m	4-5m	5-6m	6-7m	7-8m	8-9m	9-10m	10-11m	11-12m	12-13m	13-14m	14-15m
<i>Blechnum serrulatum</i>	10	10													
<i>Rhizophora mangle</i>					7										
% Coverage Wetland Species	45	80	40	15	92	7	3	1	2						

2004 HBMP Figures

- [Section 1](#) – Introduction / Summary
- [Section 2](#) – Gage Flows and Withdrawals
- [Section 3](#) – “Moving” Isohaline Monitoring
- [Section 4](#) – “Fixed” Station Monitoring
- [Section 5](#) – Continuous Recorders
- [Section 6](#) – Riparian Vegetation

Figure 1.1
HBMP Study Area



HBMP 2004
Data Report



Figure 1.2

**Relative Location
of the Facility**

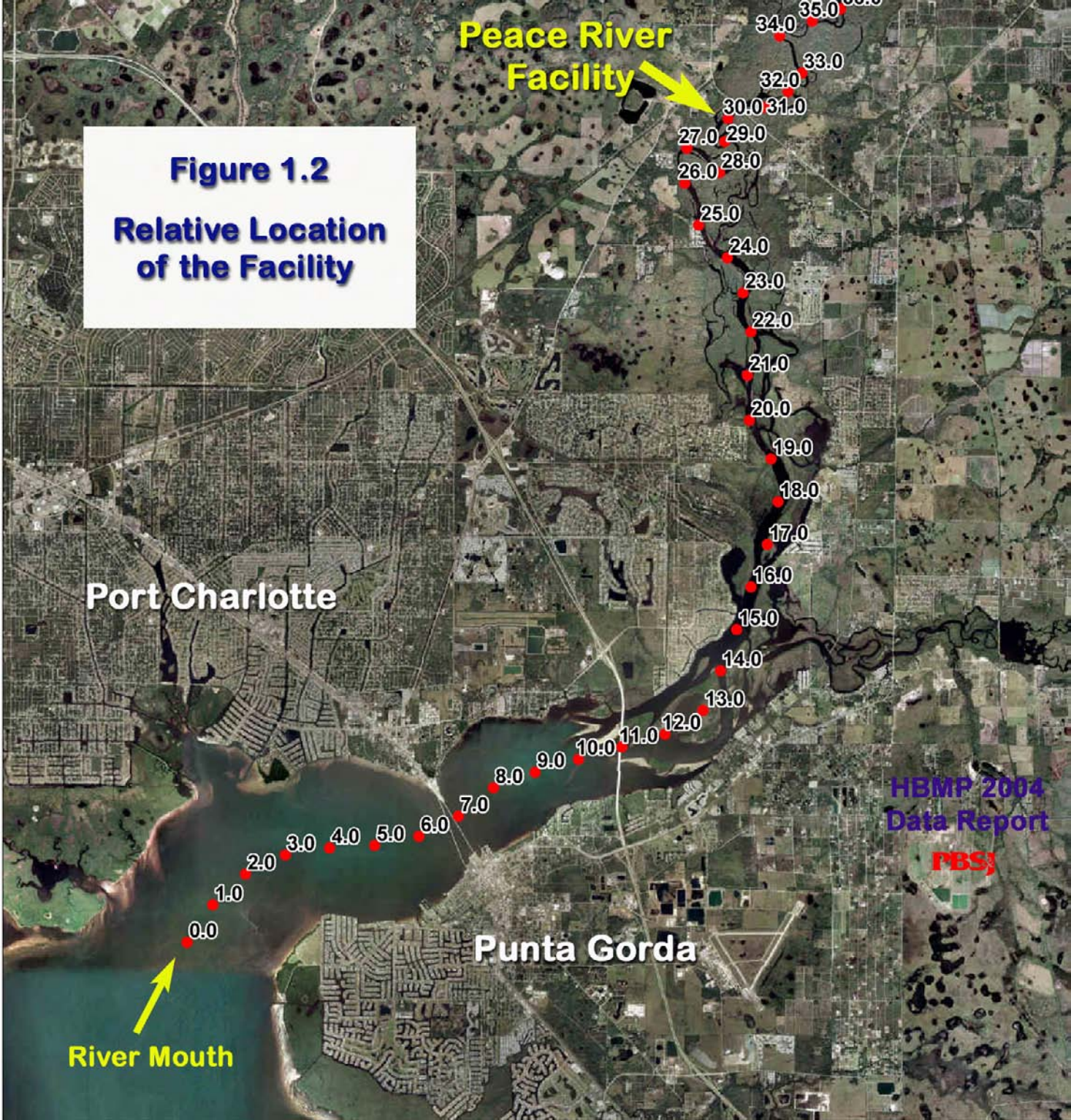
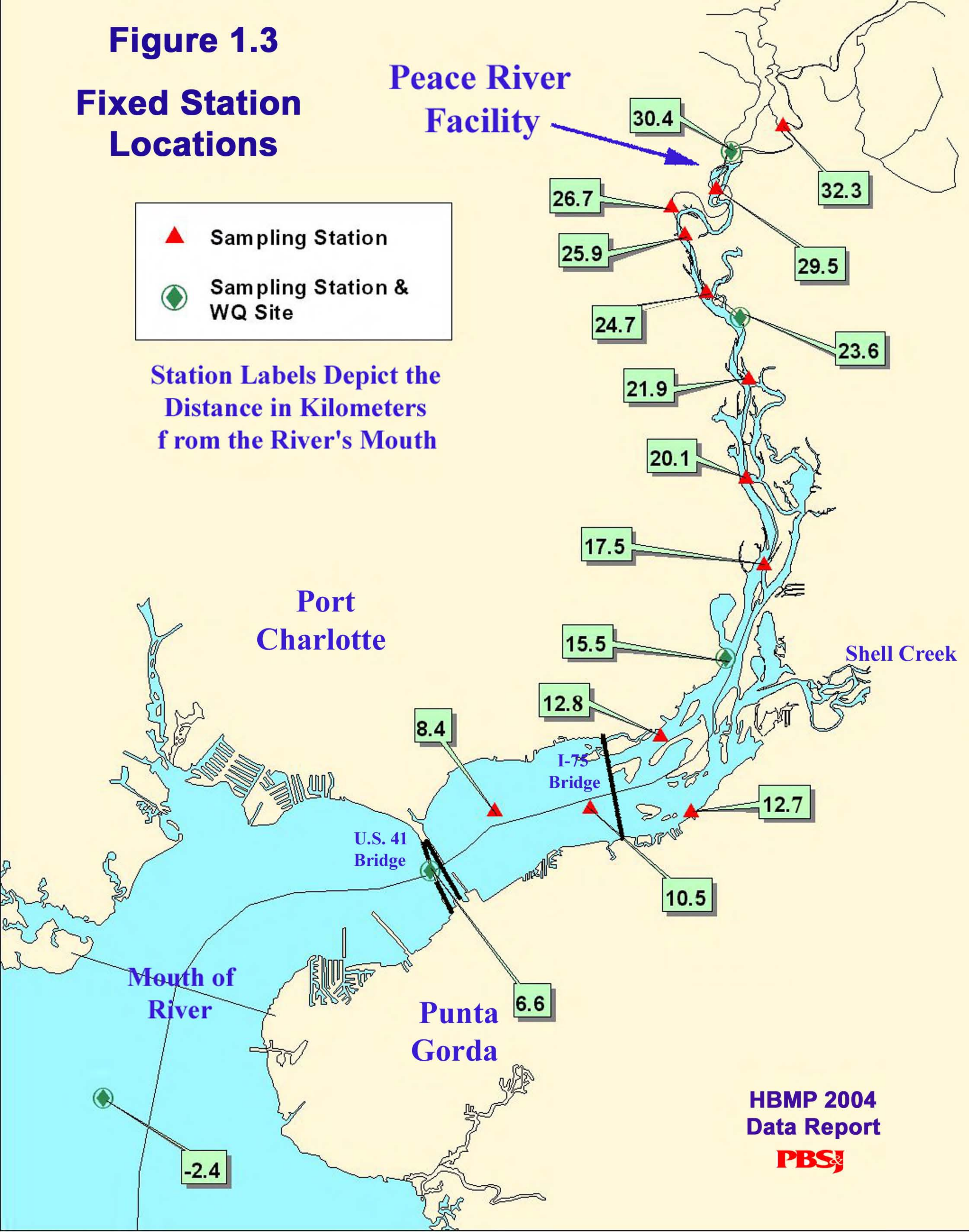


Figure 1.3
Fixed Station
Locations



**PEACE RIVER
REGIONAL WATER
SUPPLY FACILITY**

Horse Creek

Figure 1.4

Vegetation Transect Locations

Site II
(22.3 km)

Site III
(20.4 km)

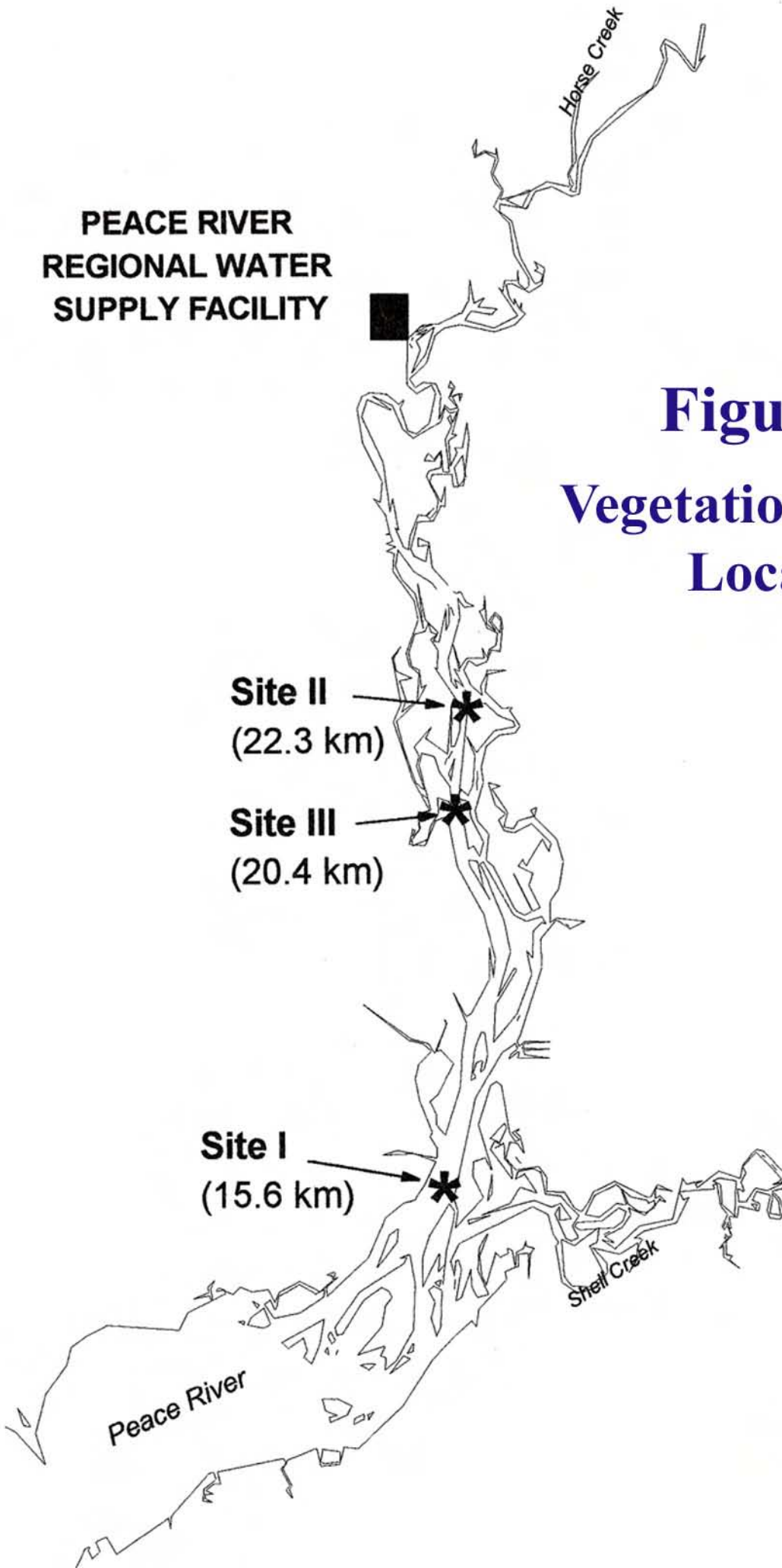
Site I
(15.6 km)

Shell Creek

Peace River

**HBMP 2004
Data Report**

PBSJ



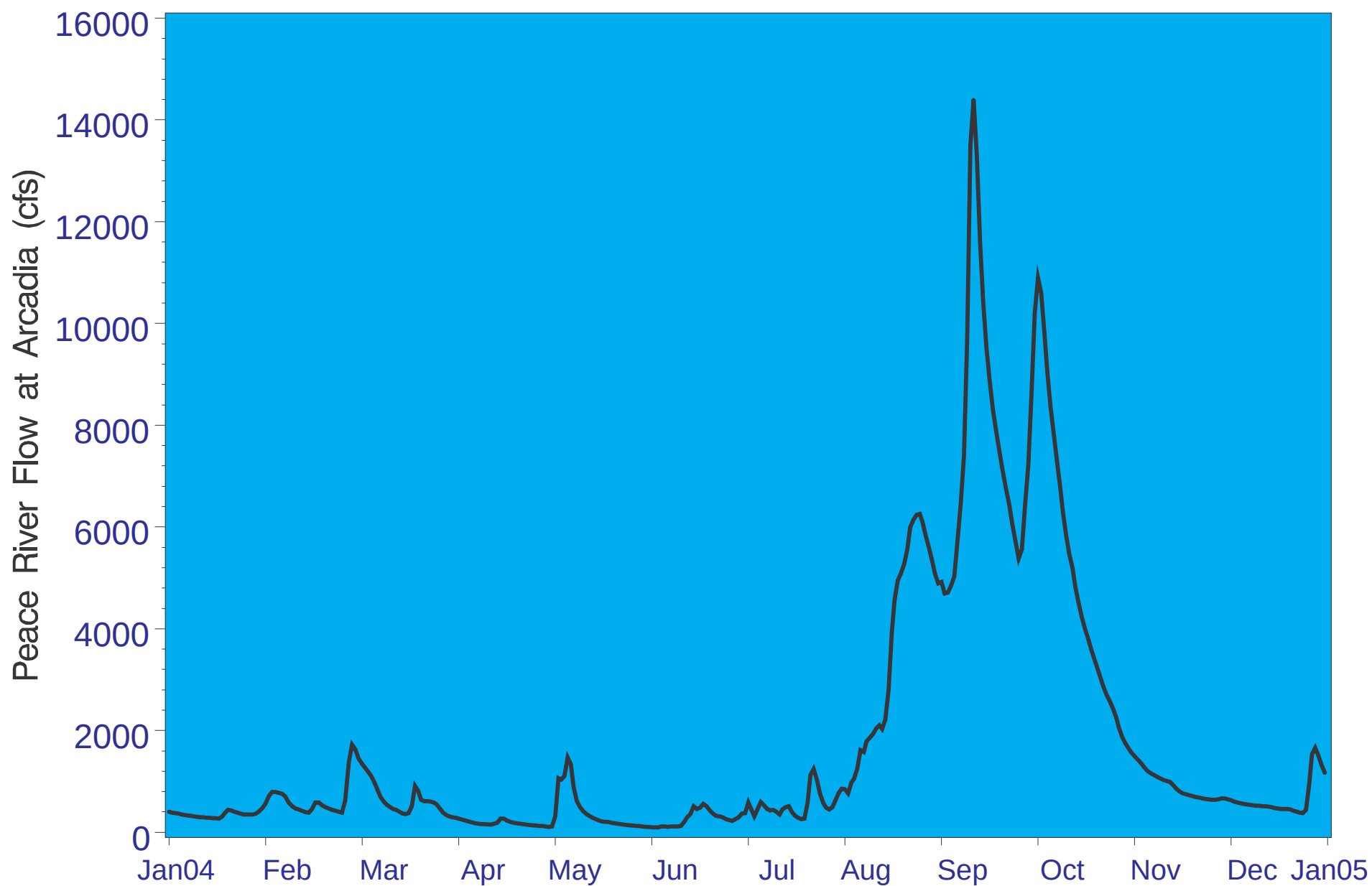


Figure 2.1 Daily Peace River flow at Arcadia (2004)

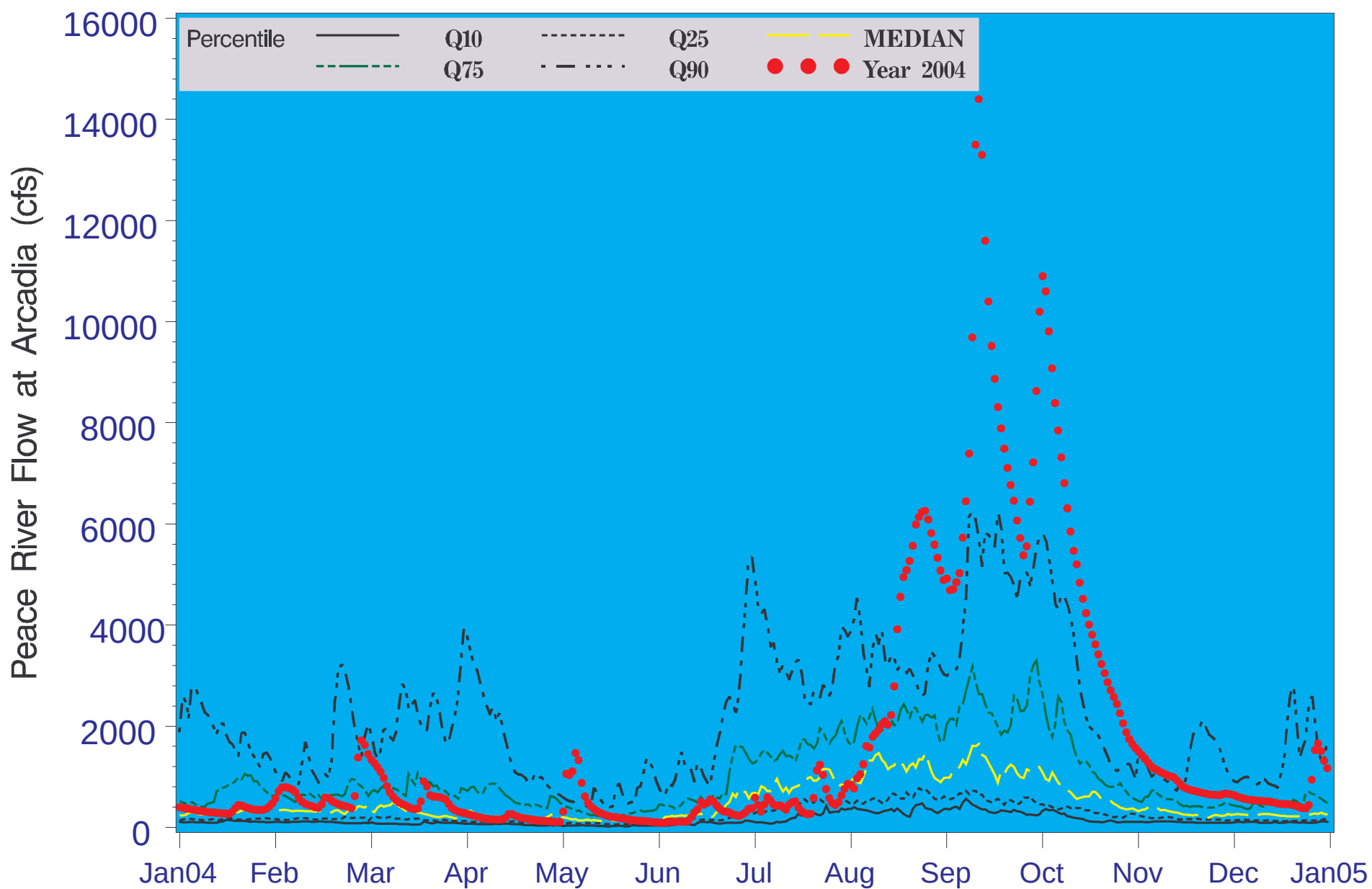


Figure 2.2 Daily Peace River flow at Arcadia in relation to long-term statistical averages

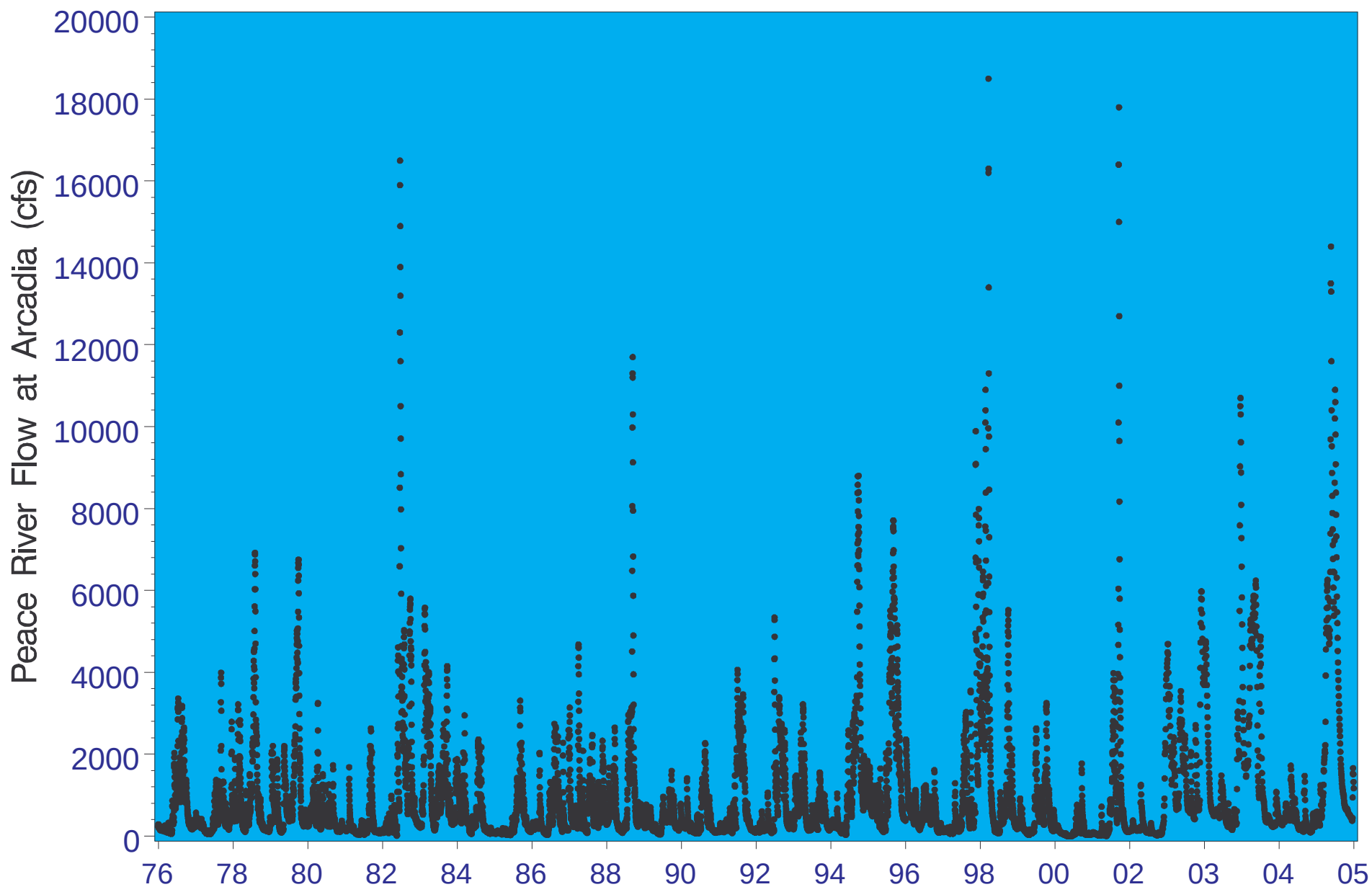


Figure 2.3 Daily Peace River flow at Arcadia (1976-2004)

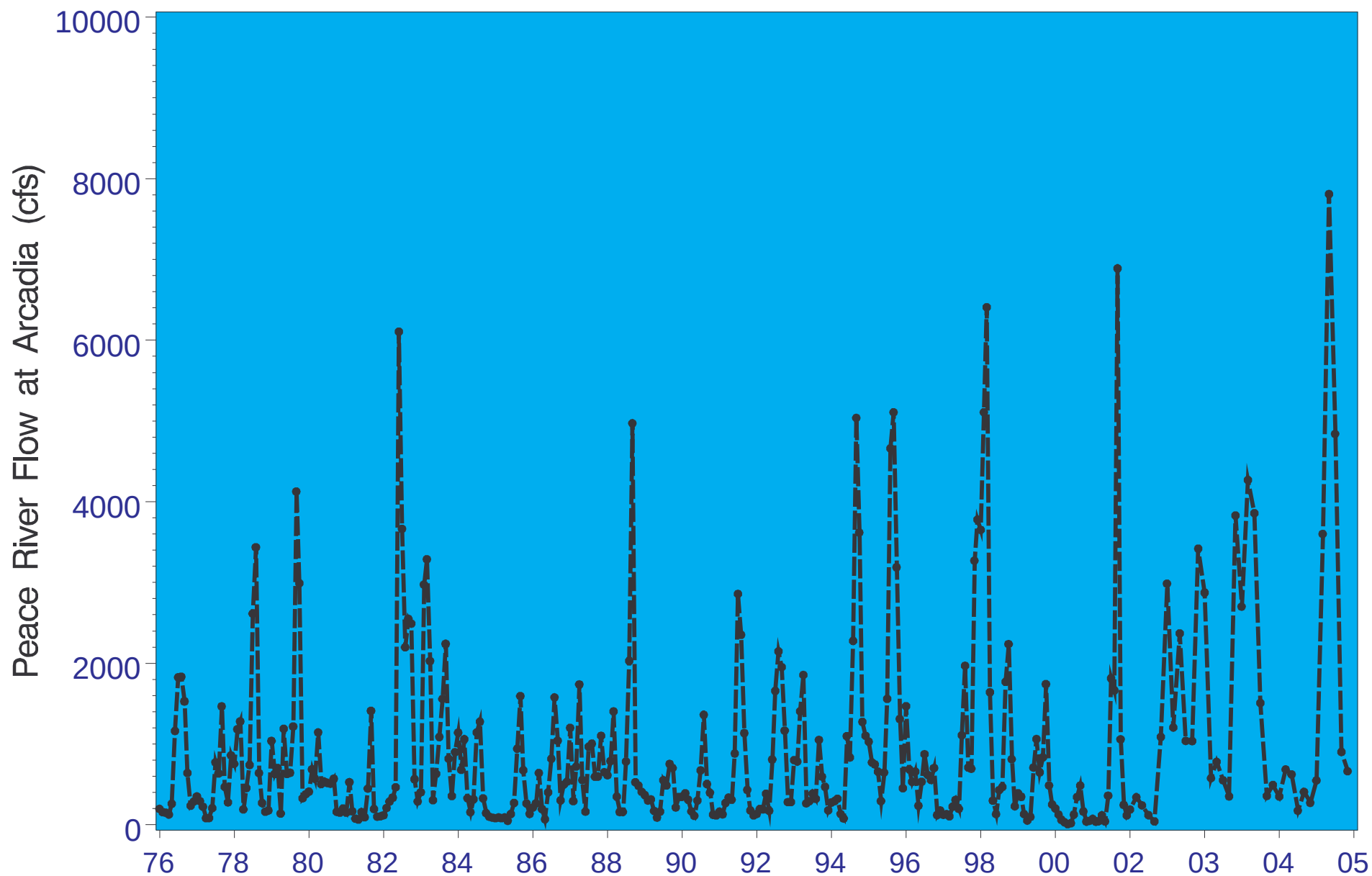


Figure 2.4 Monthly mean Peace River flow at Arcadia (1976-2004)

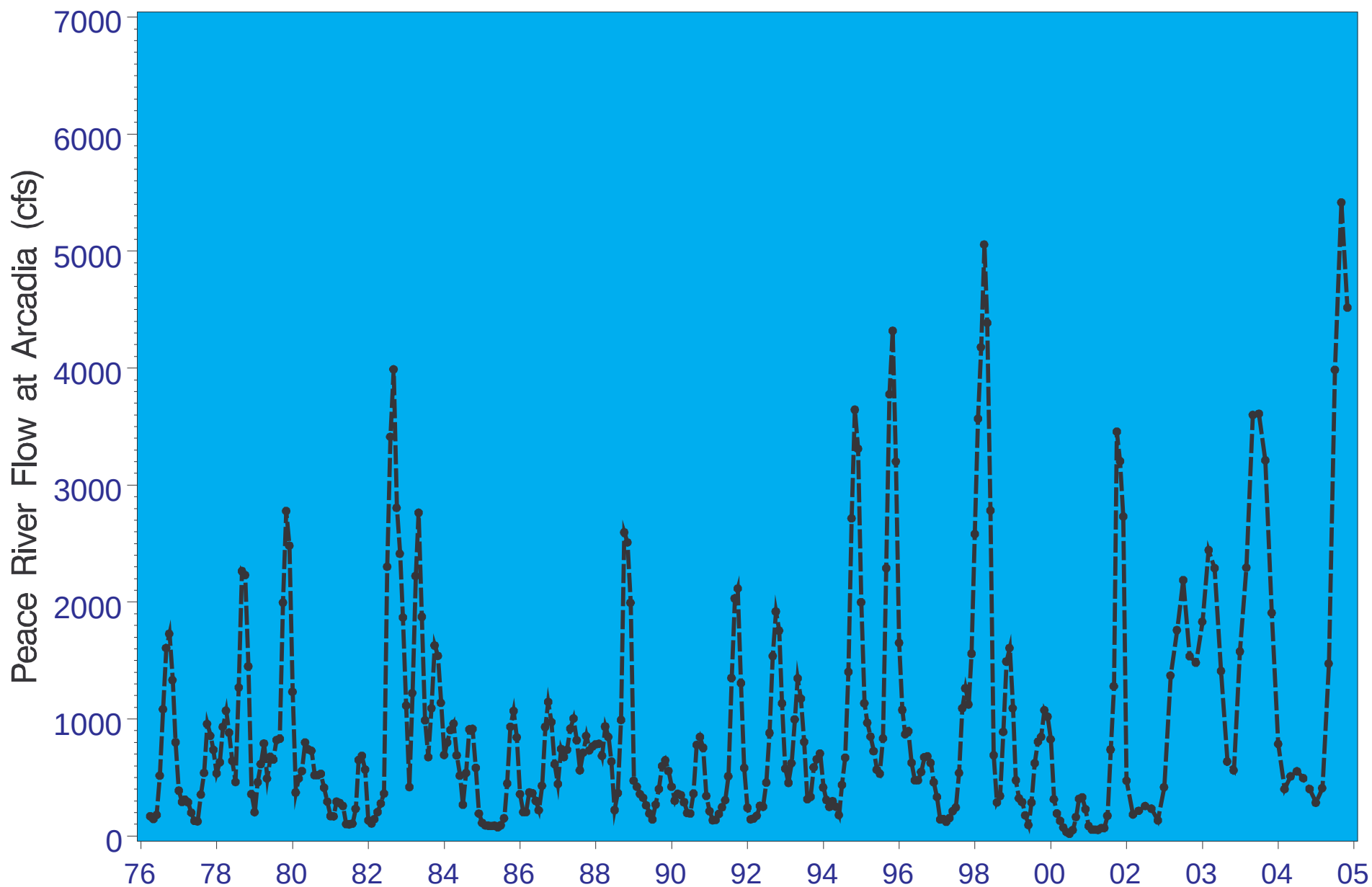


Figure 2.5 3-Month moving average Peace River flow at Arcadia (1976-2004)

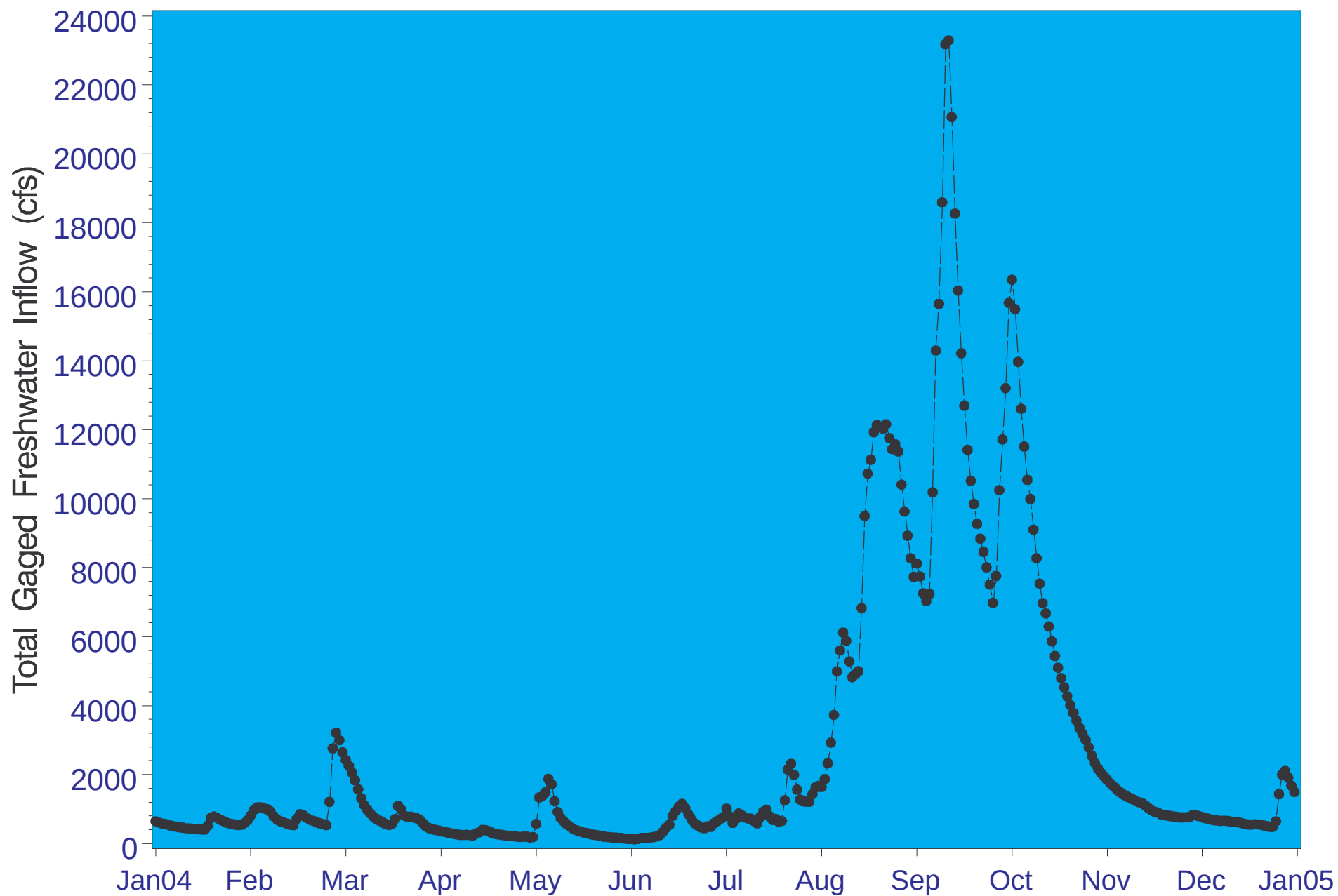


Figure 2.6 Total daily gaged flow - Peace River + Horse, Joshua and Shell Creeks (2004)

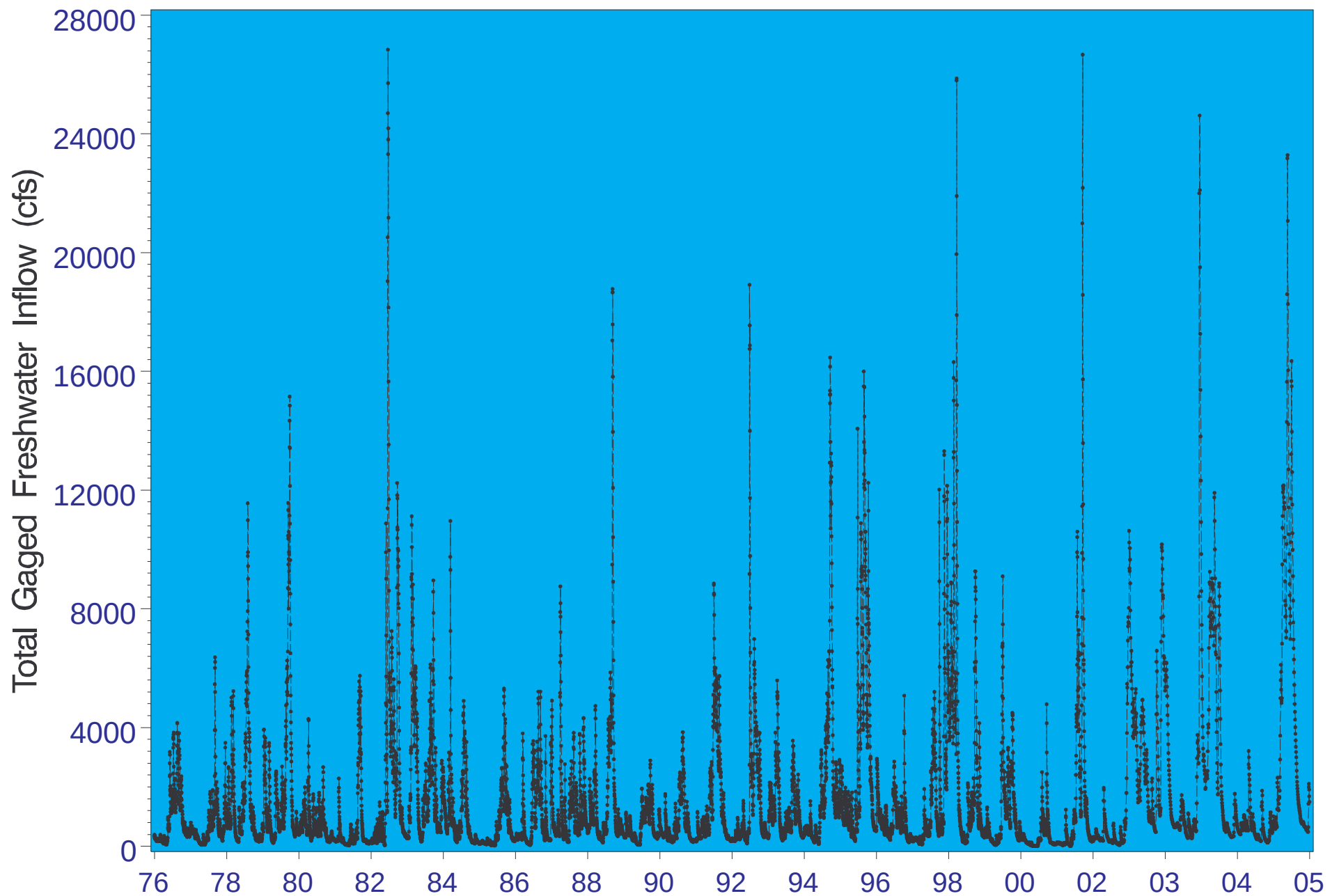


Figure 2.7 Total daily gaged flow - Peace River at Arcadia + Horse, Joshua and Shell Creeks (1976-2004)

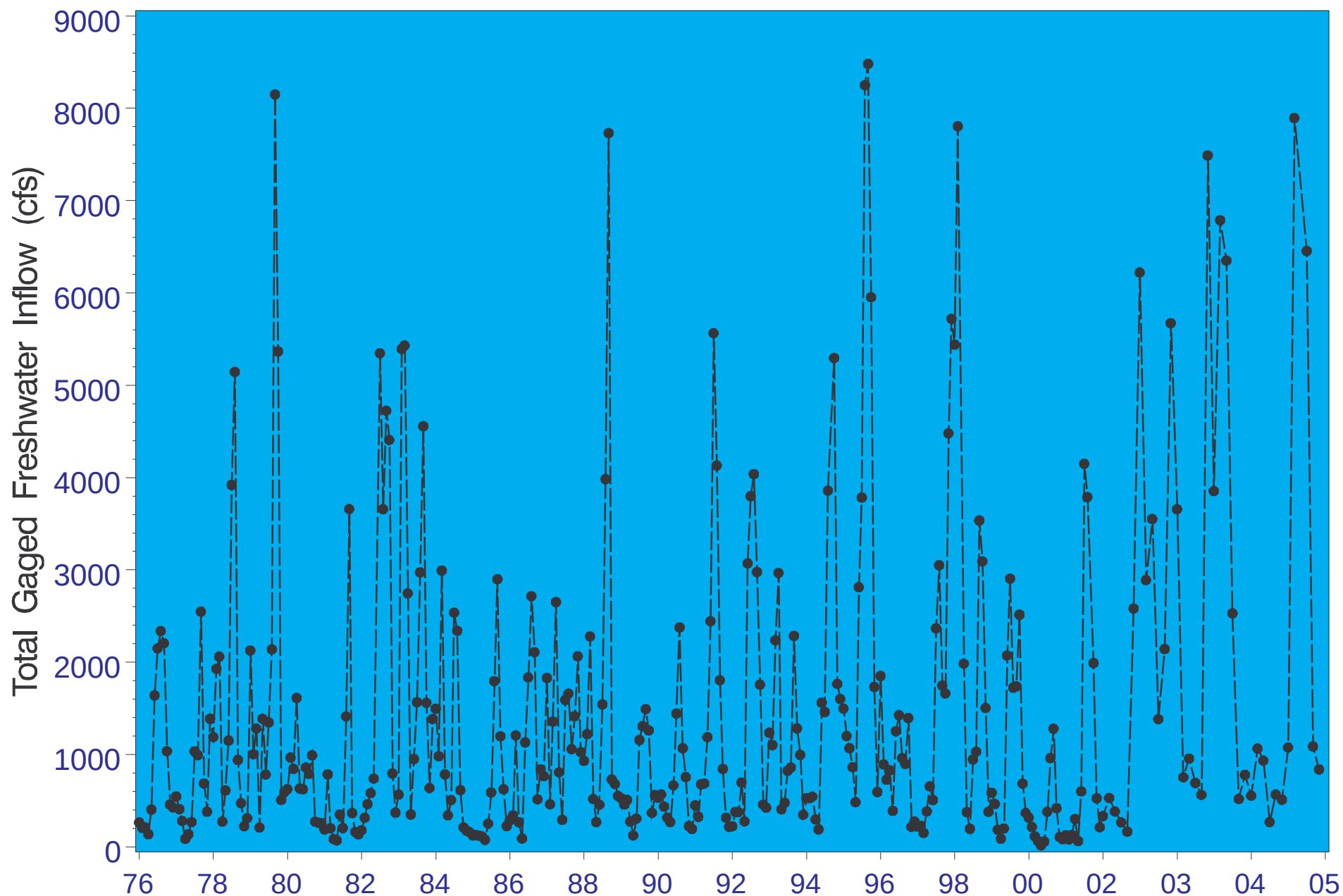


Figure 2.8 Mean monthly flow - Peace River + Horse, Joshua and Shell Creeks (1976-2004)

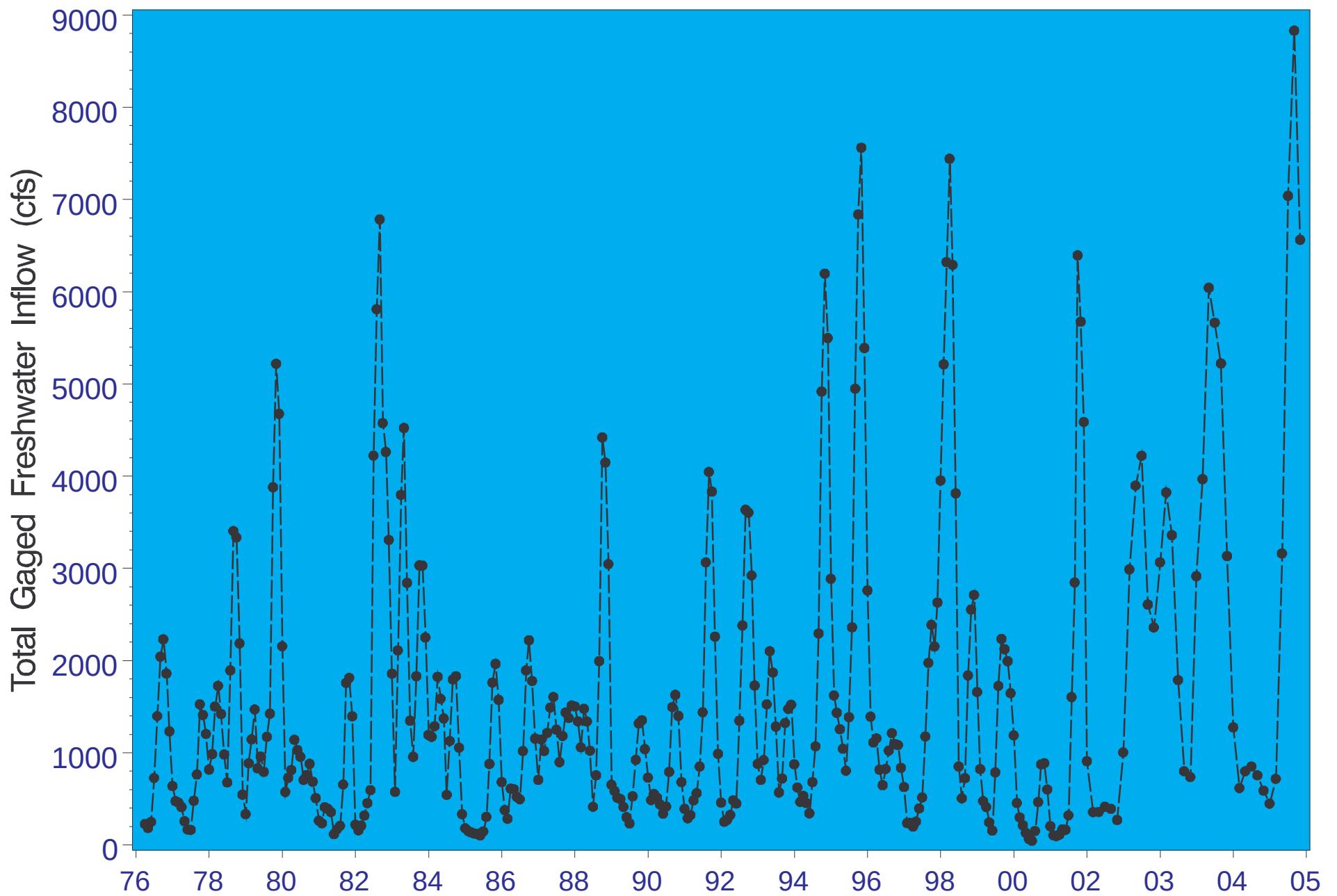


Figure 2.9 3-Month moving average flow - Peace River + Horse, Joshua and Shell Creeks (1976-2004)

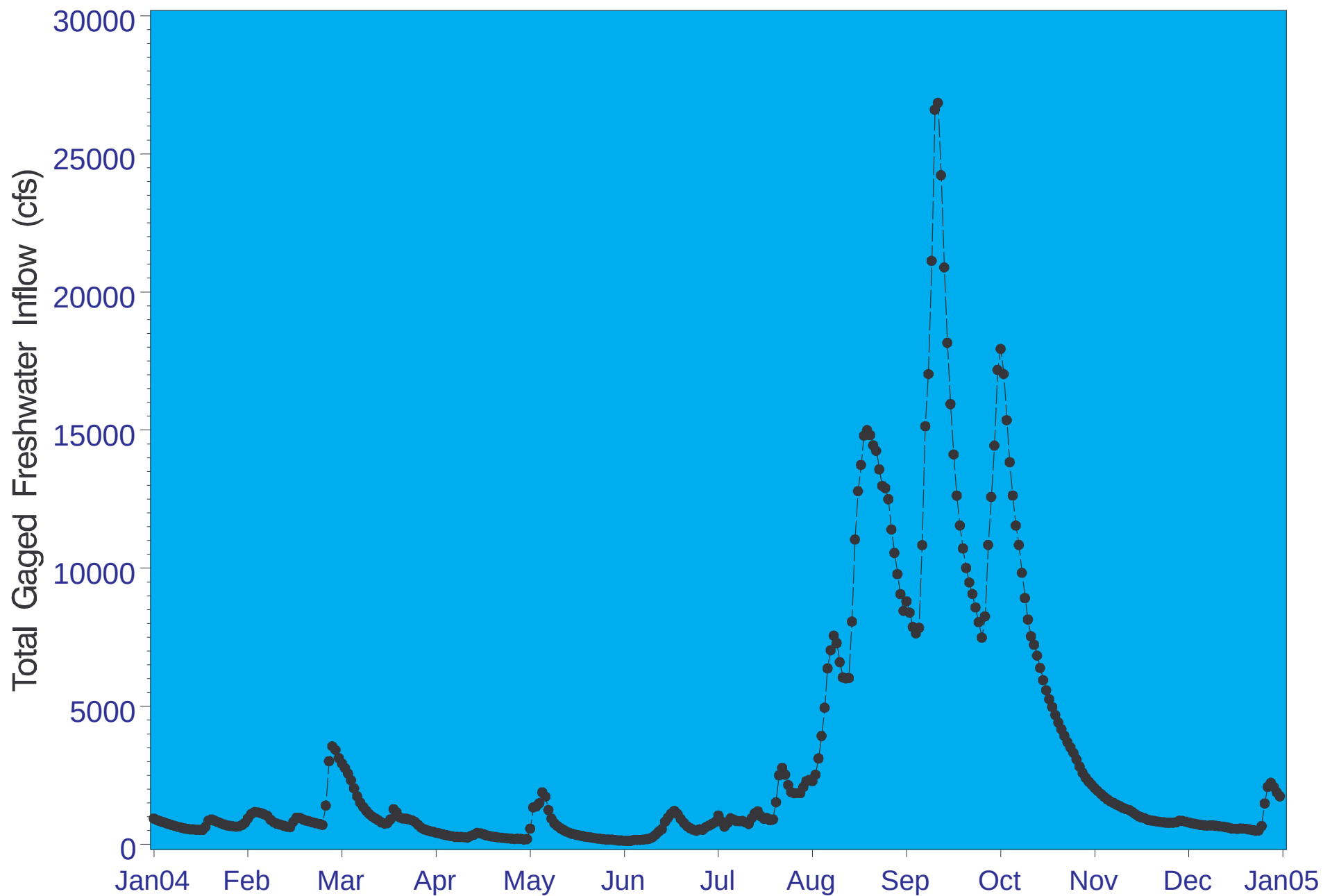


Figure 2.10 Total daily gage flow -Peace & Myakka Rivers + Horse, Joshua and Shell Creeks (2004)

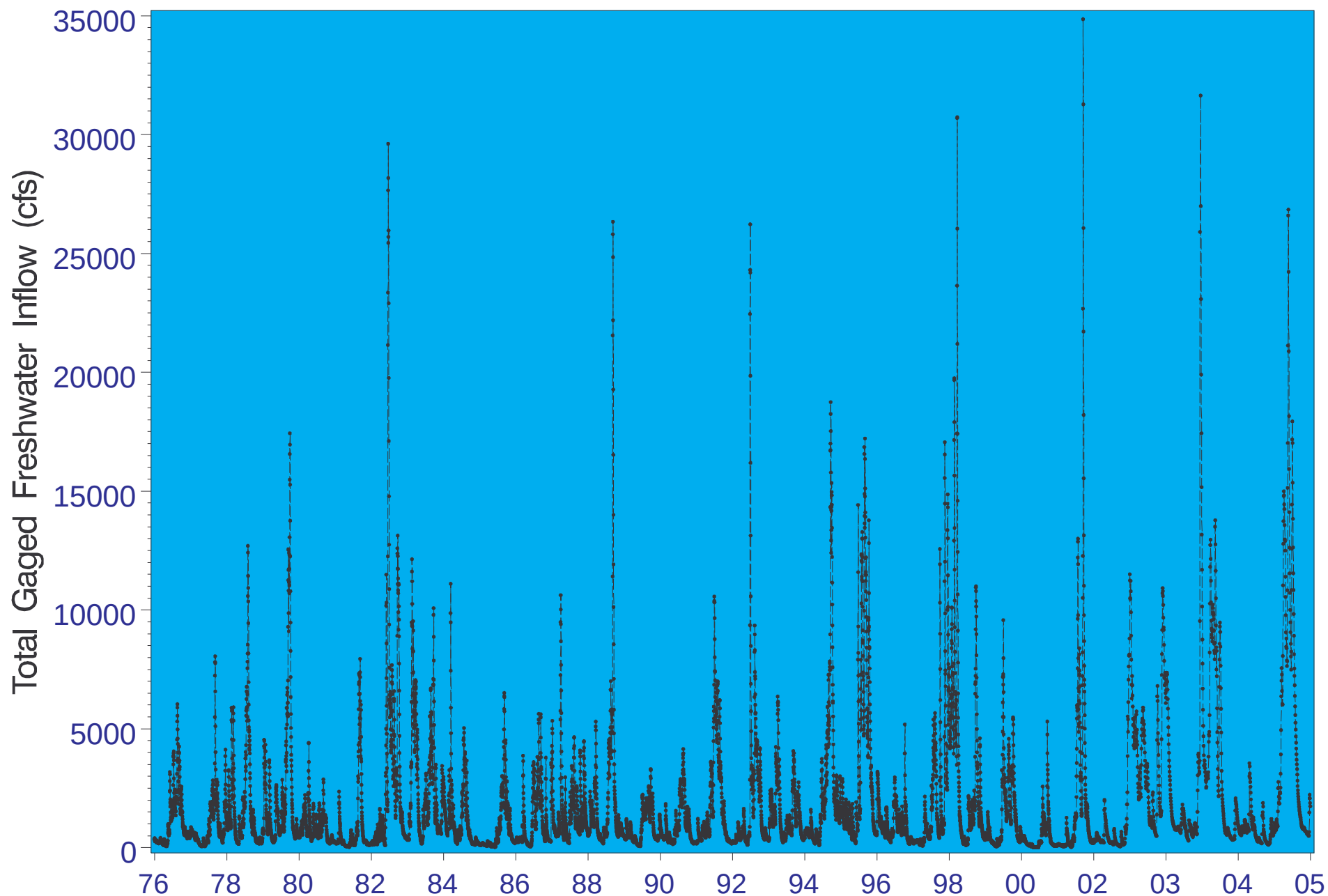


Figure 2.11 Total daily gaged flow - Peace & Mykka Rivers + Horse, Joshua and Shell Creeks (1976-2004)

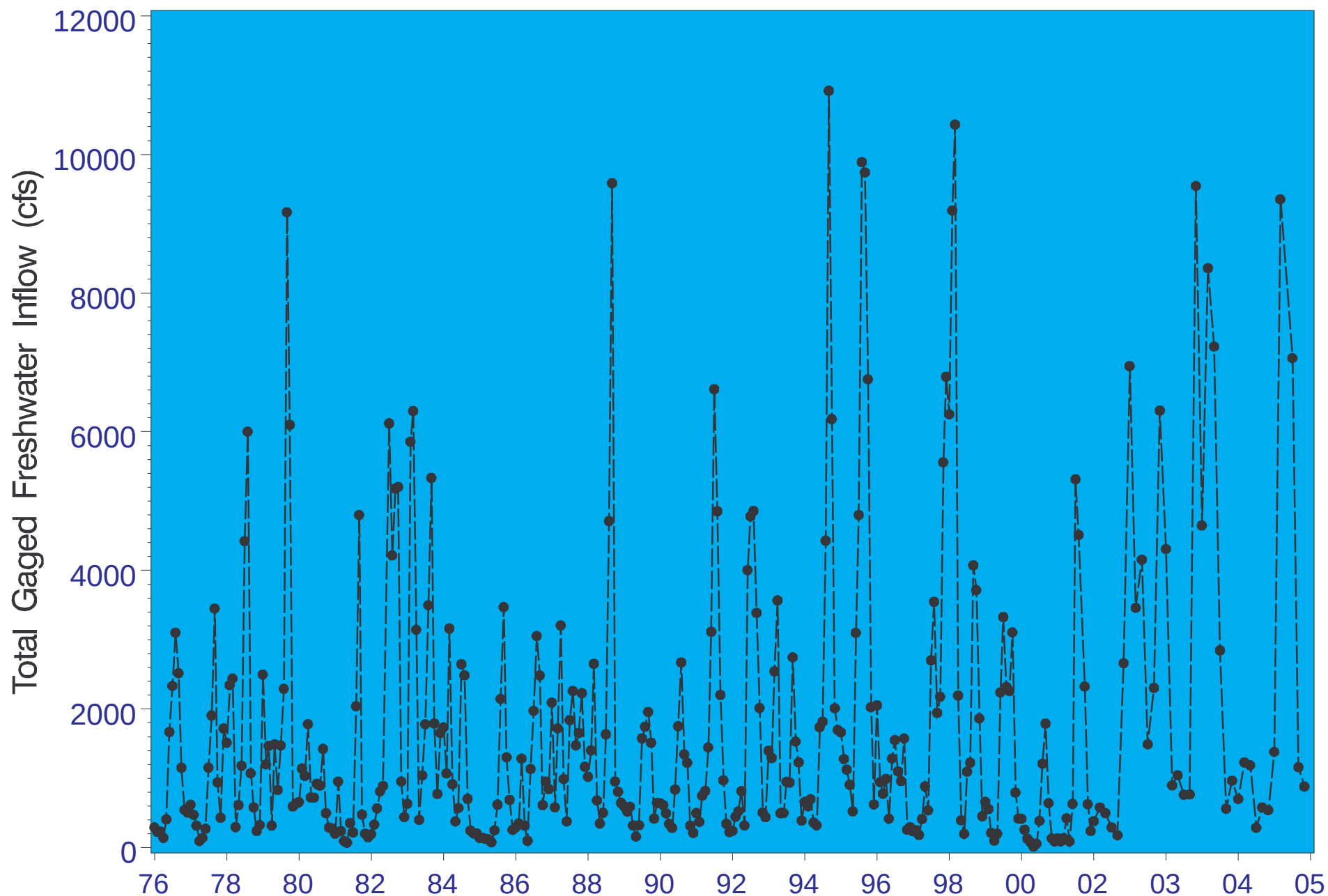


Figure 2.12 Mean monthly flow - Peace & Myakka Rivers + Horse, Joshua and Shell Creeks (1976-2004)

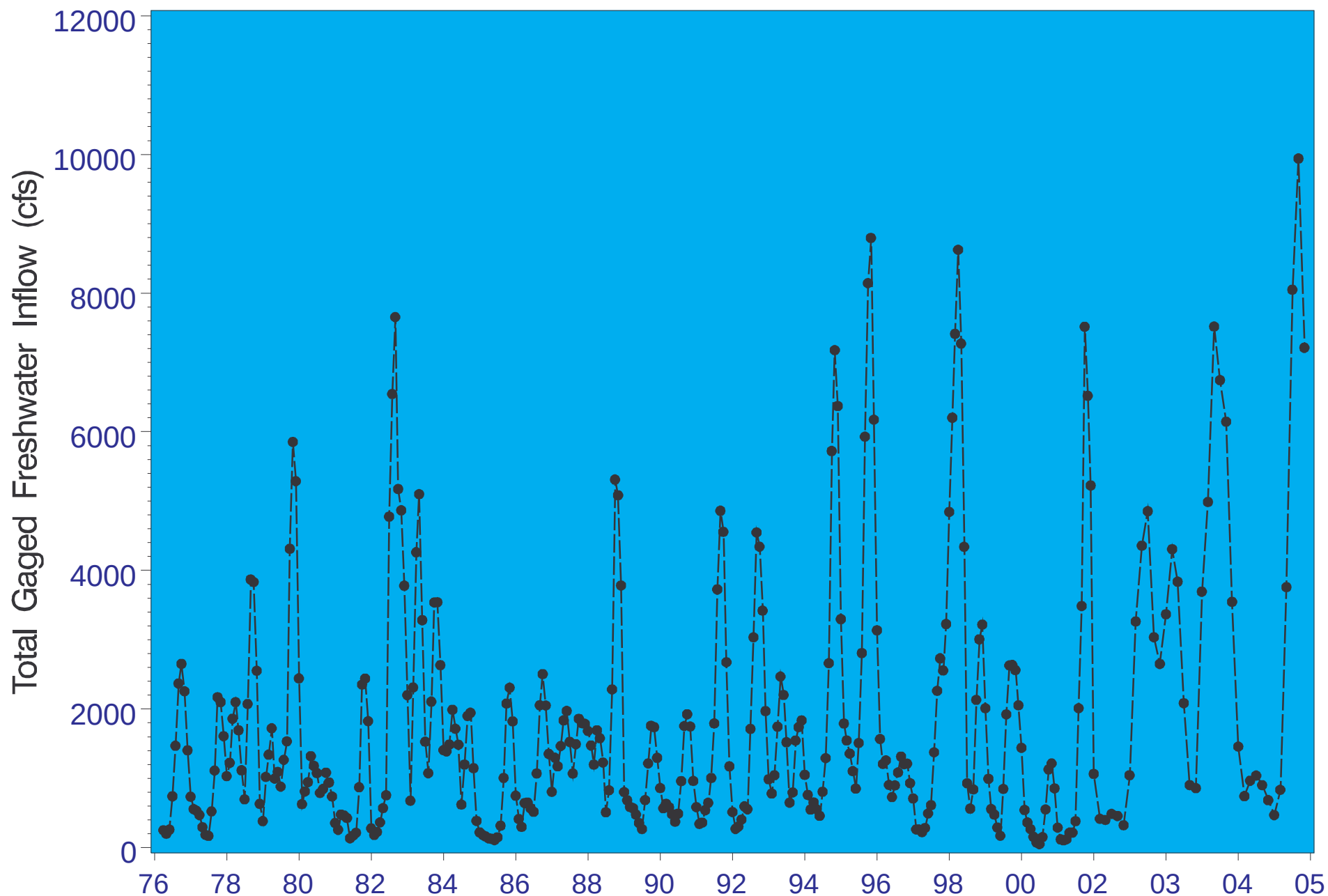


Figure 2.13 3-Month moving average flow - Peace & Myakka Rivers + Horse, Joshua and Shell Creeks (1976-2004)

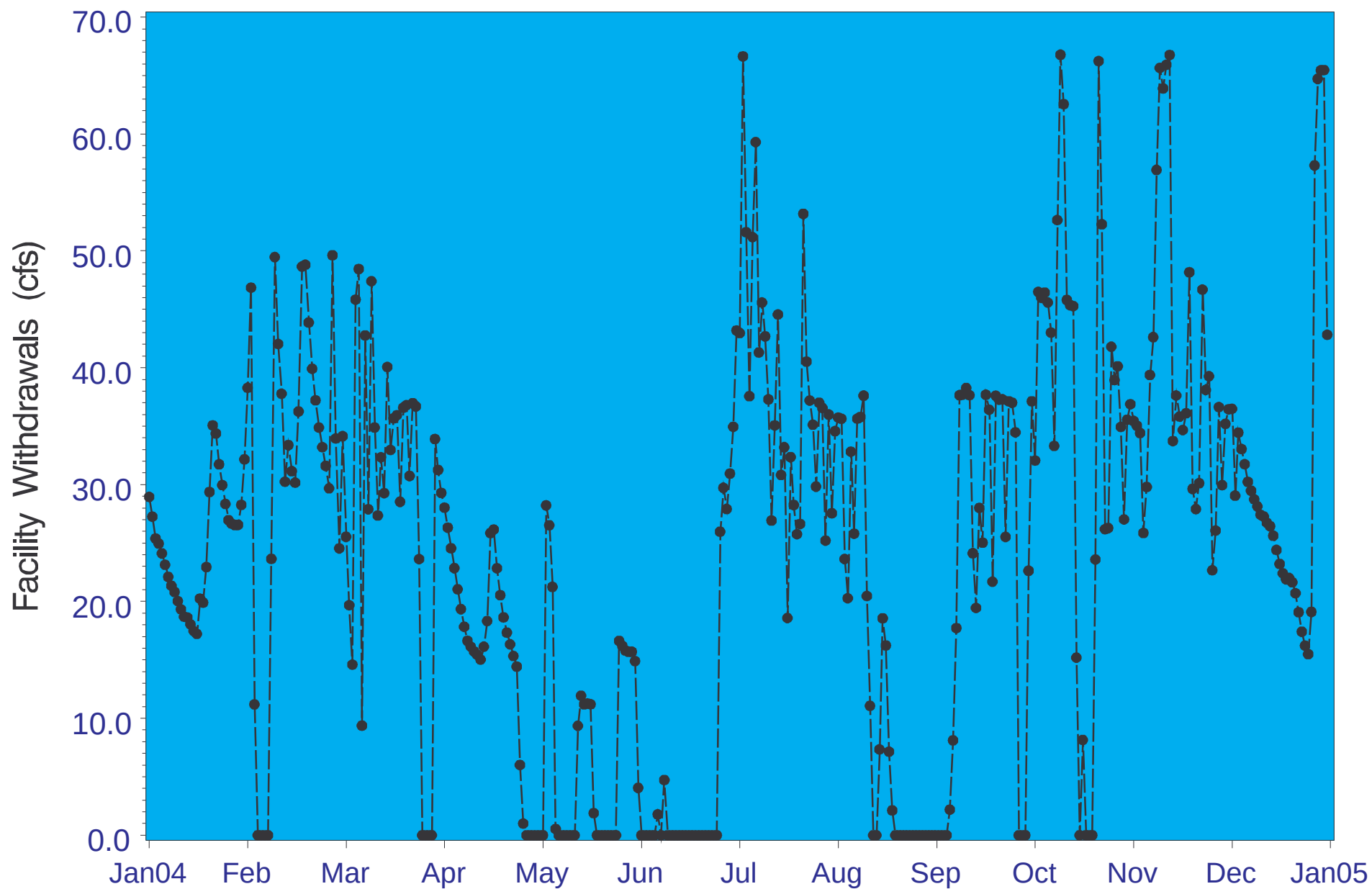


Figure 2.14 Daily water treatment facility withdrawals (2004)

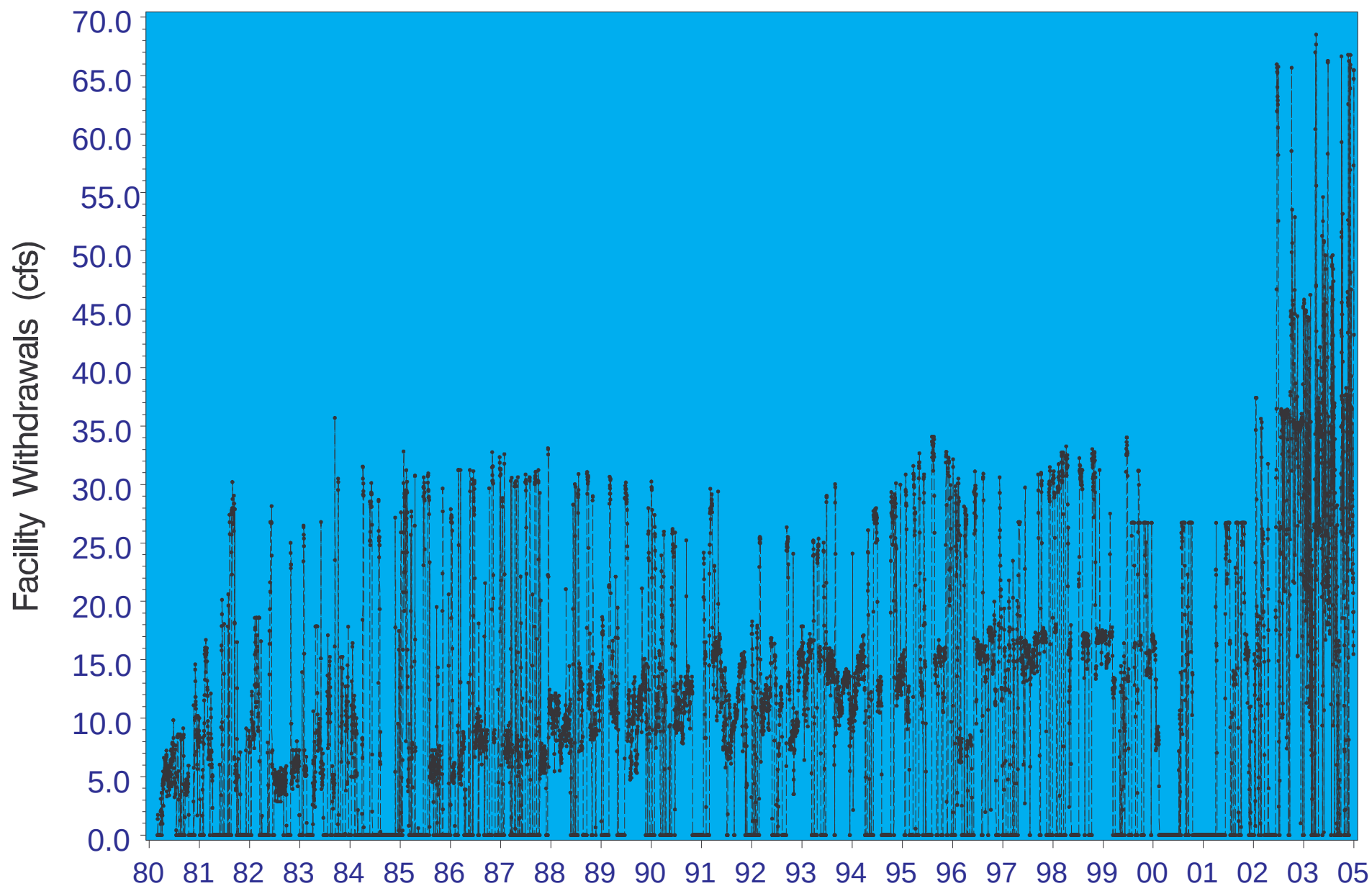


Figure 2.15 Daily water treatment facility withdrawals (1980-2004)

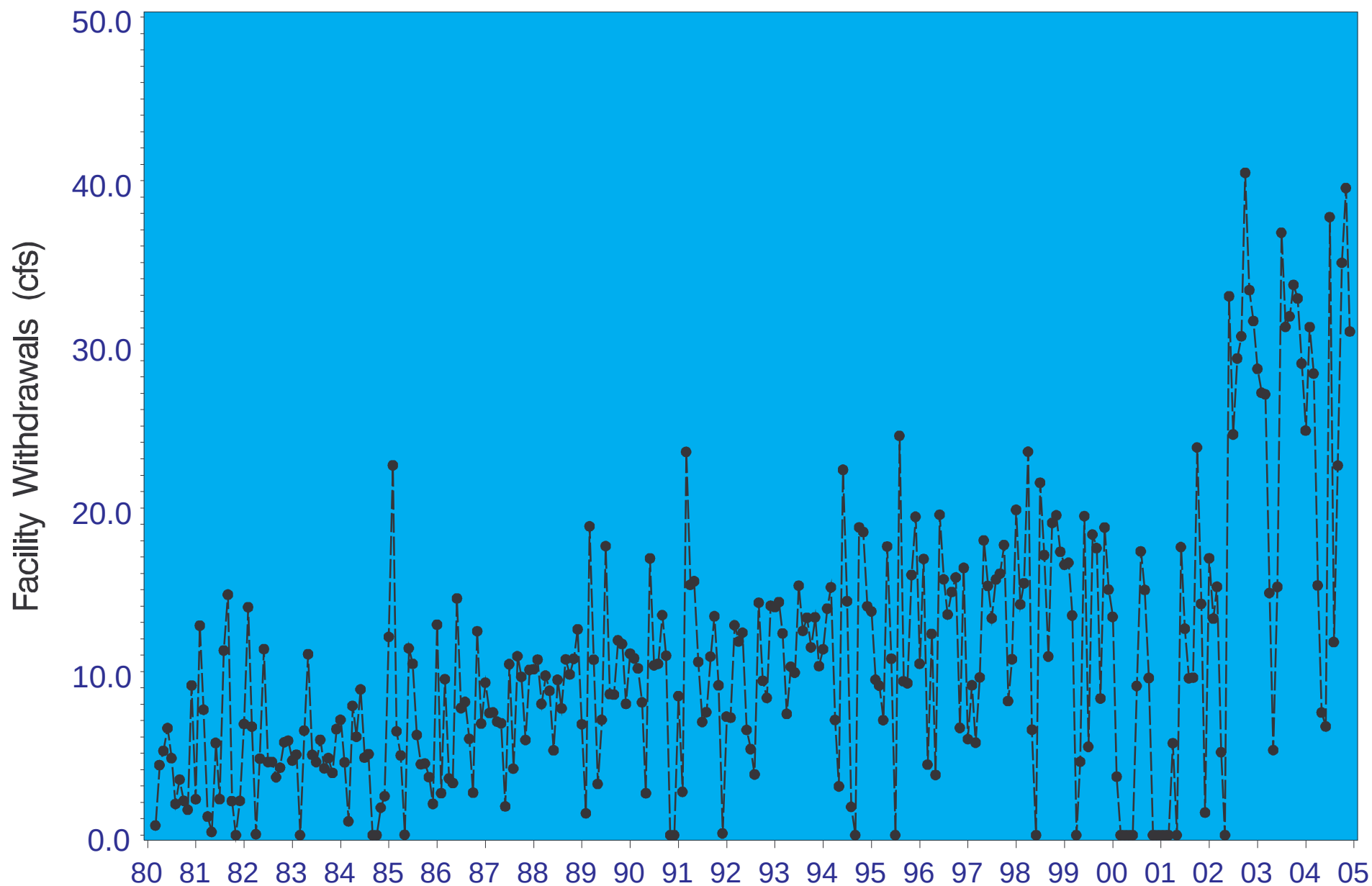


Figure 2.16 Monthly mean water treatment facility withdrawals (1980-2004)

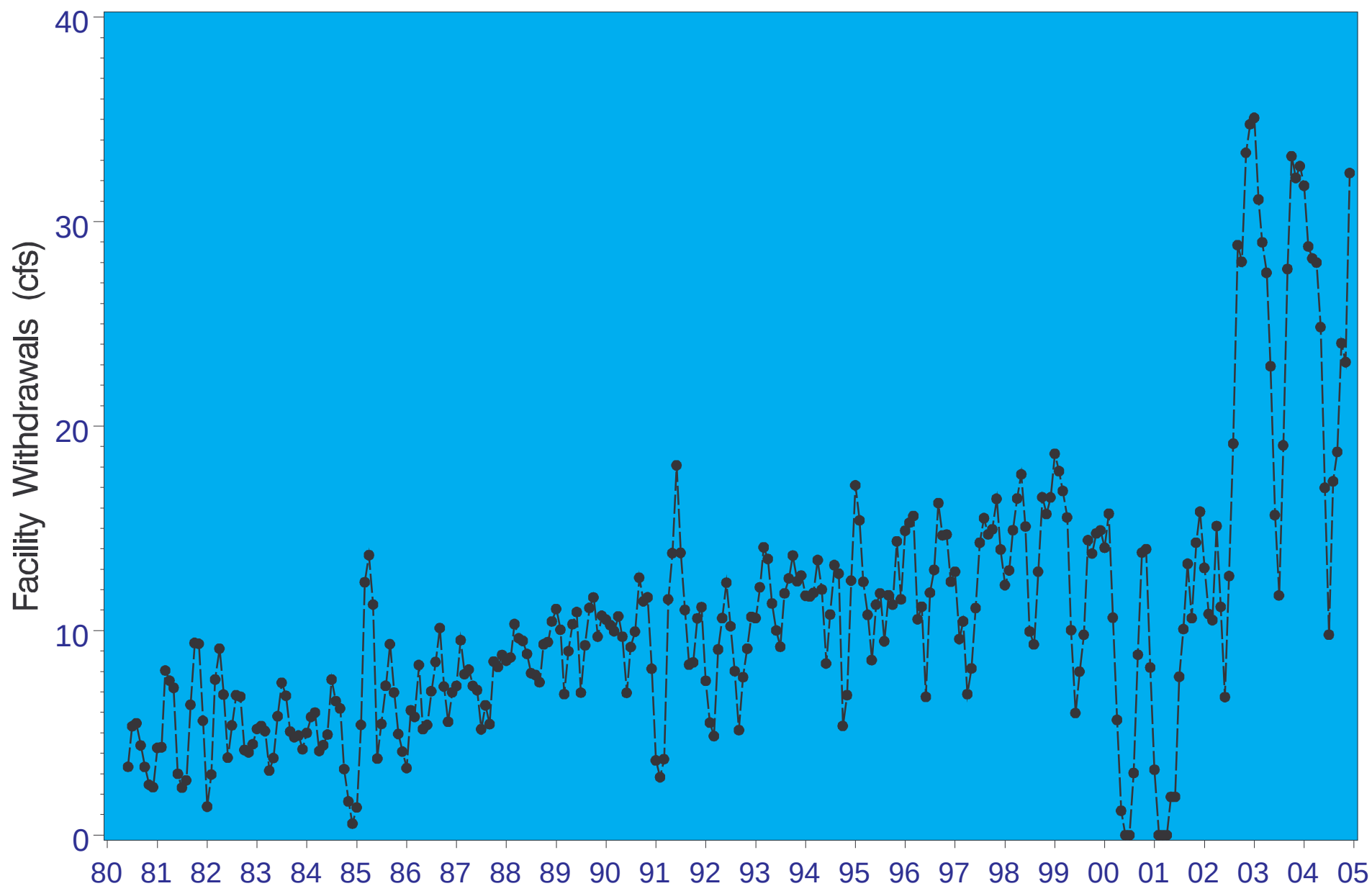


Figure 2.17 3-Month moving average water treatment facility withdrawals (1980-2004)

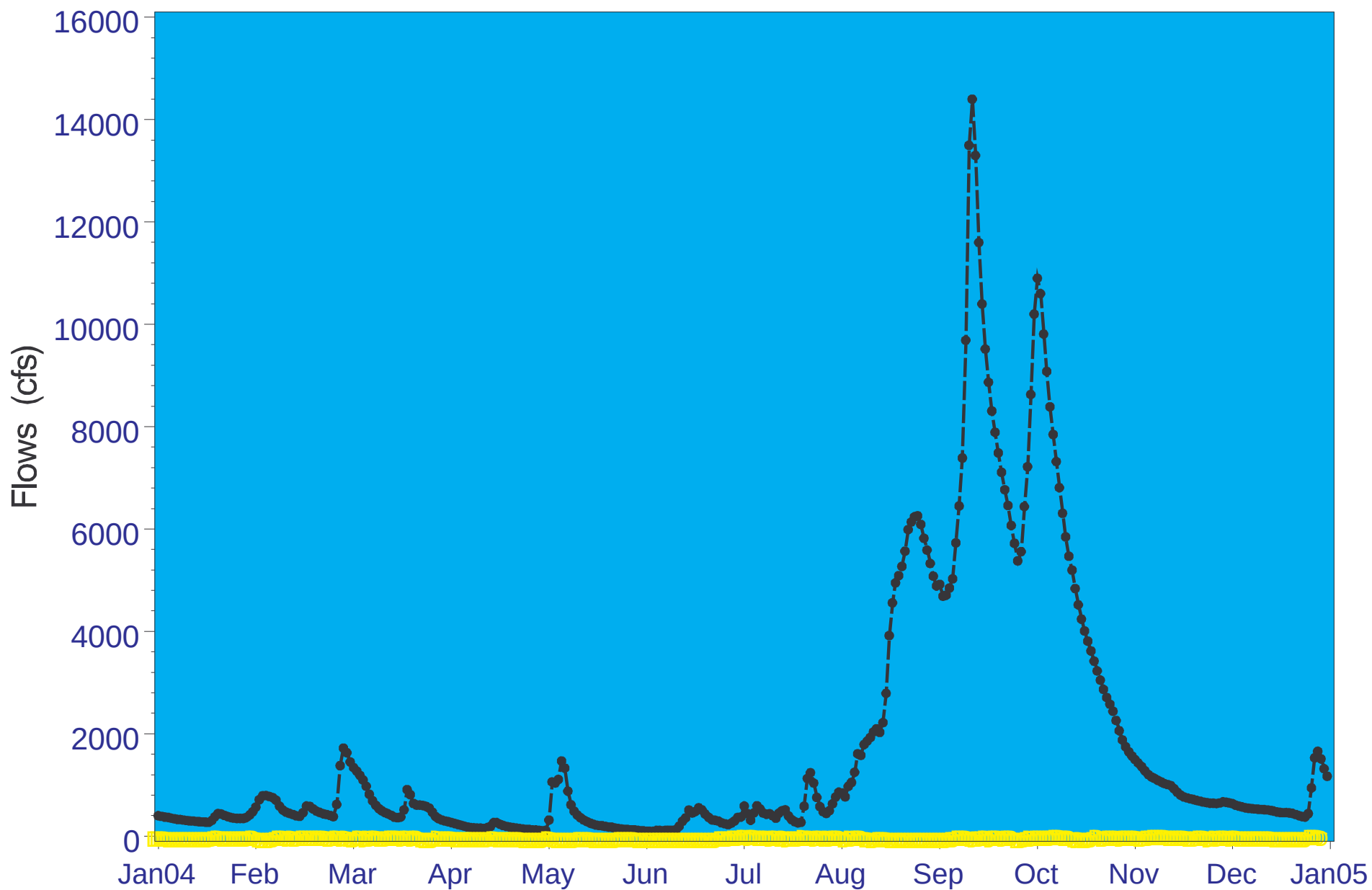


Figure 2.18 Peace River flows at Arcadia and water treatment facility withdrawals (2004)

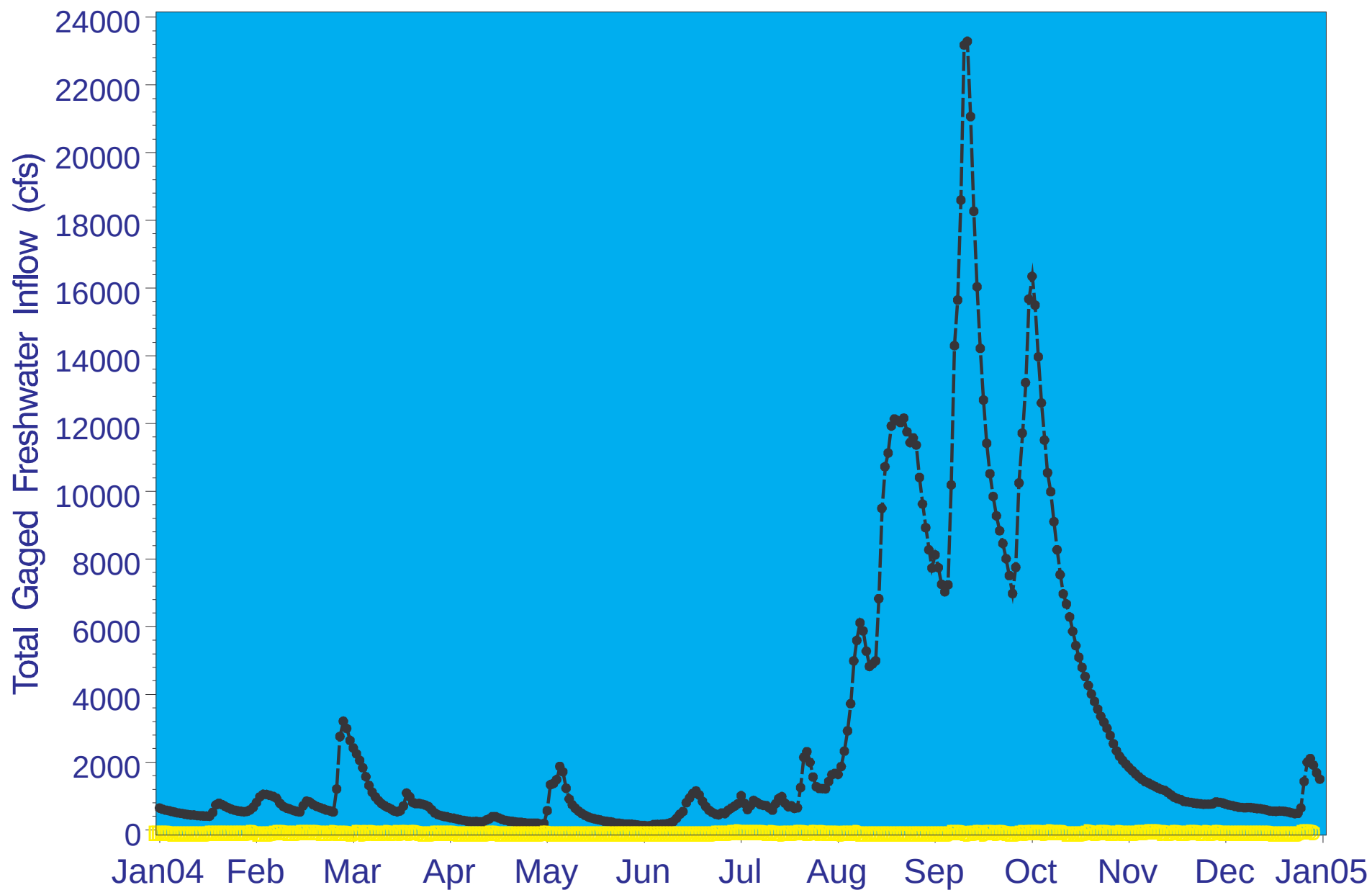


Figure 2.19 Total flow - Peace River + Horse + Joshua + Shell Creeks and Withdrawal

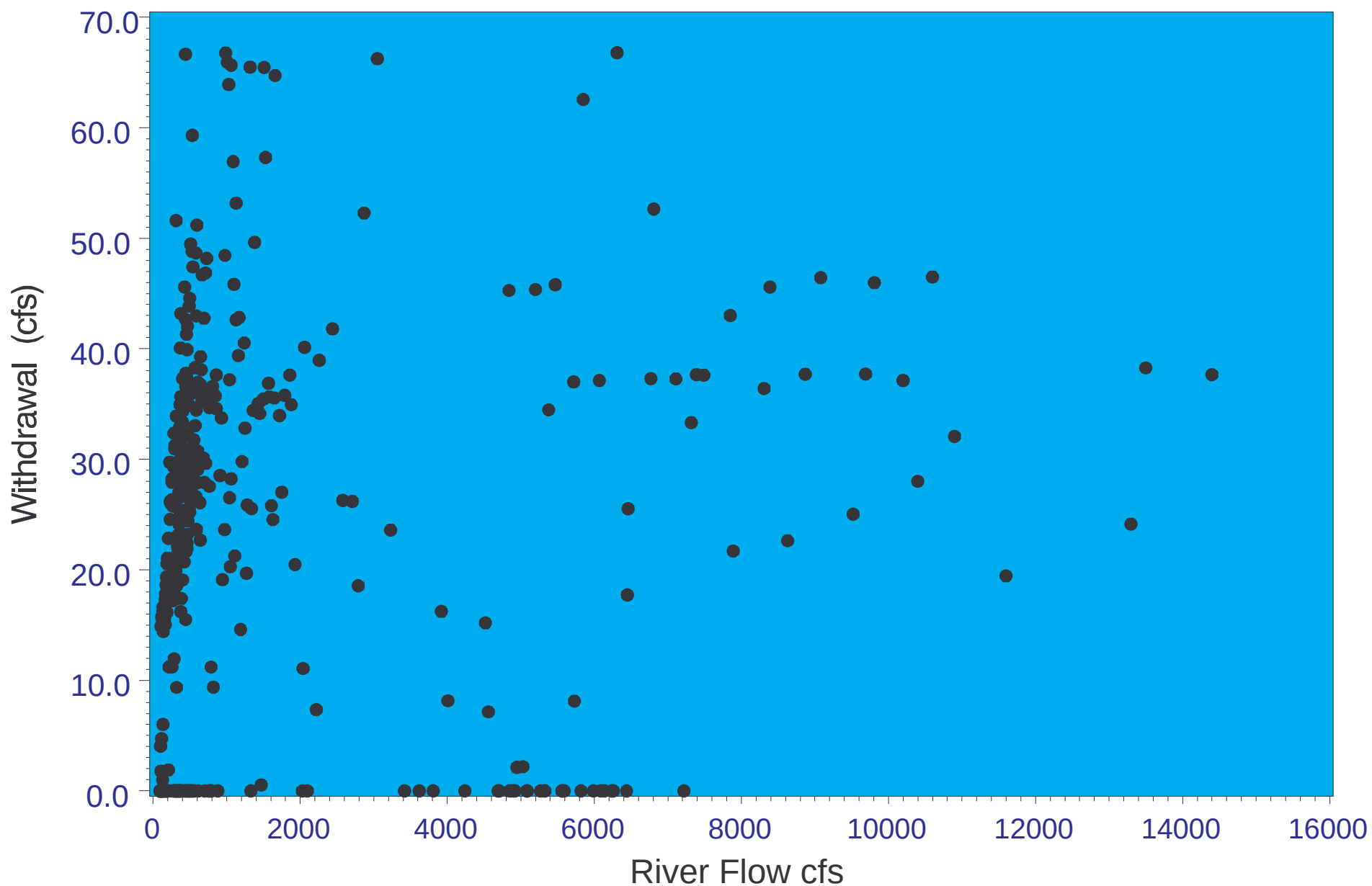


Figure 2.20 Peace River flows at Arcadia vs. water treatment facility withdrawals (2004)

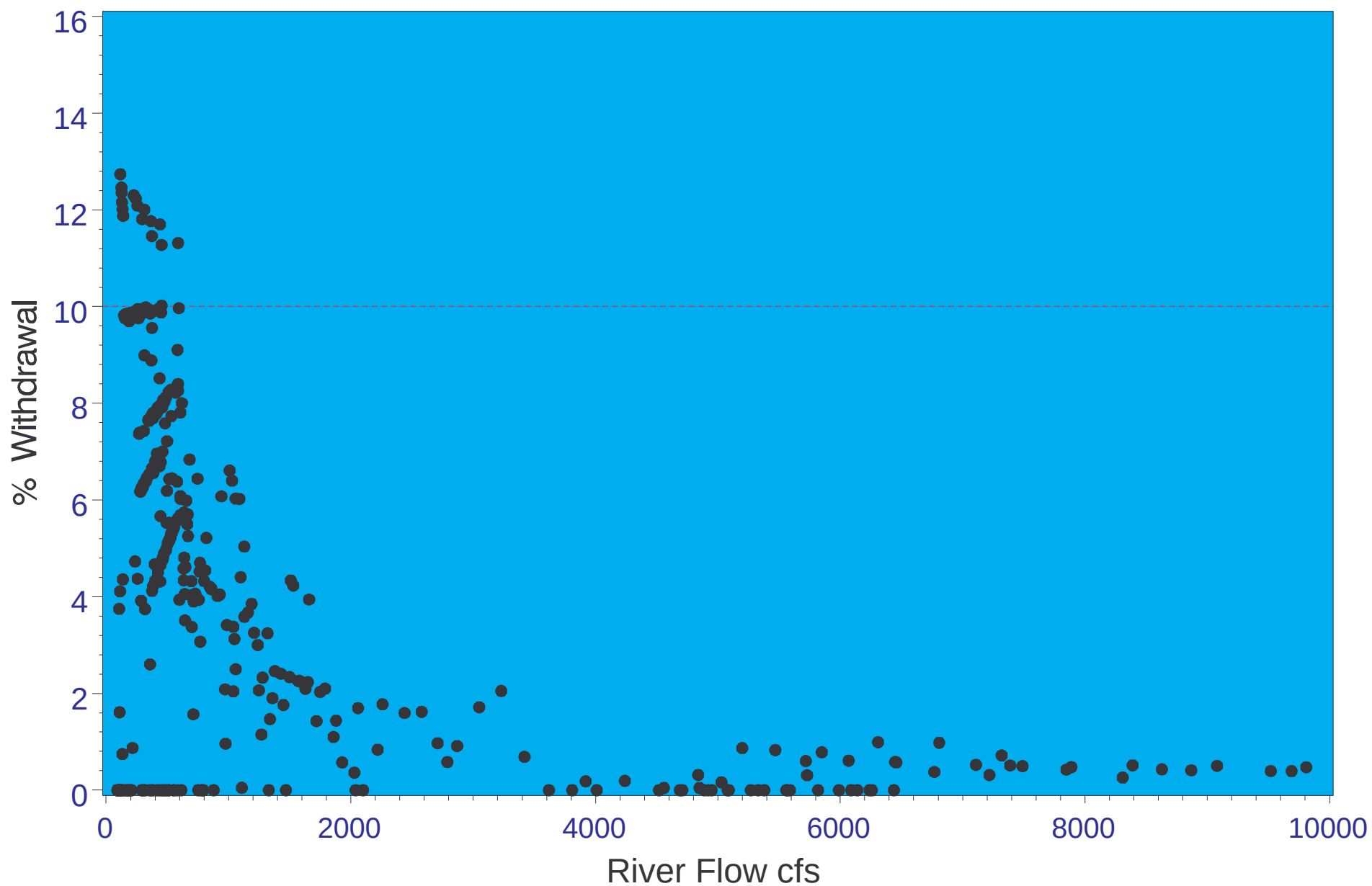
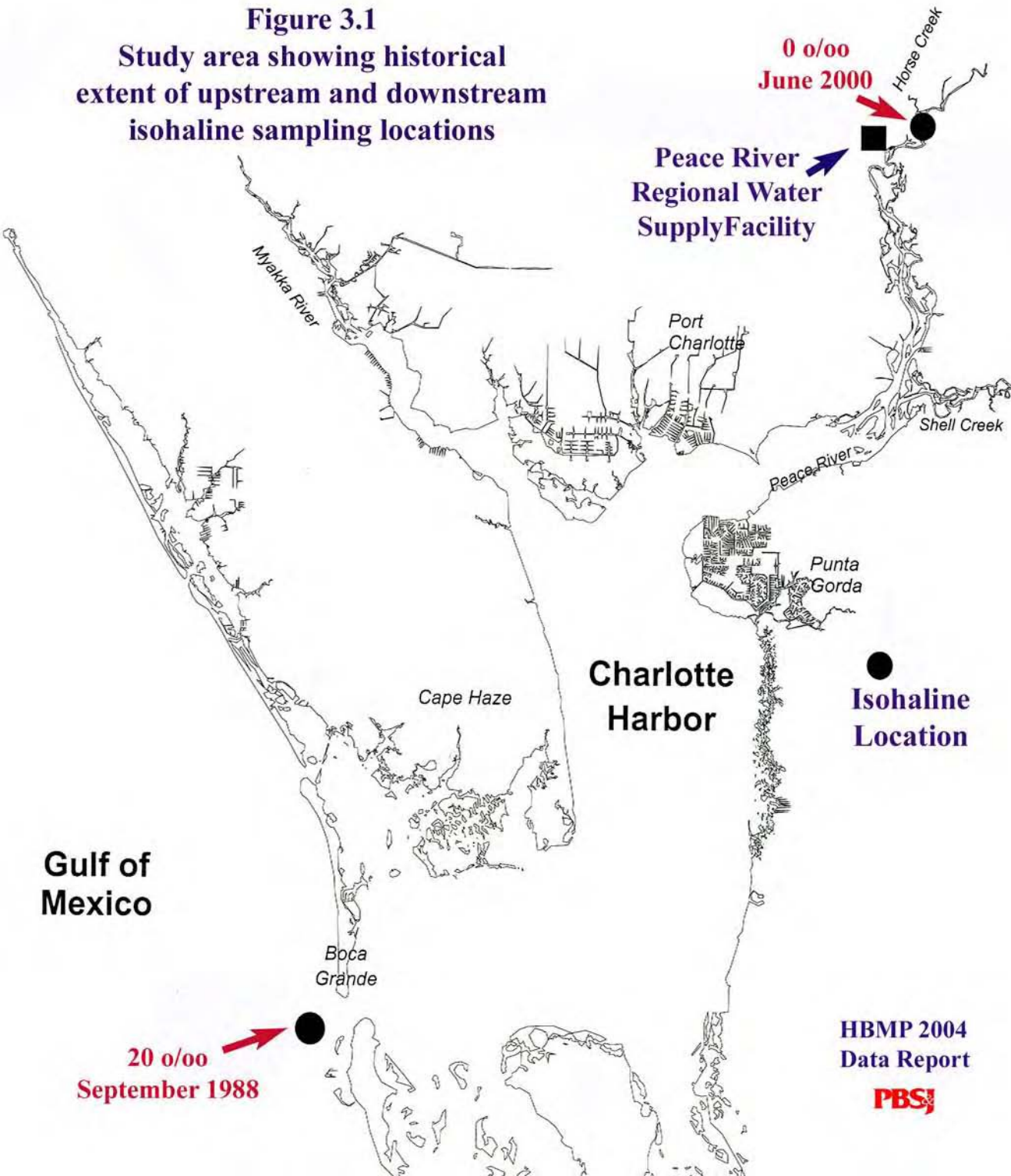


Figure 2.21 Peace River flows at Arcadia vs. % water treatment facility withdrawals (2004)

Figure 3.1
Study area showing historical
extent of upstream and downstream
isohaline sampling locations



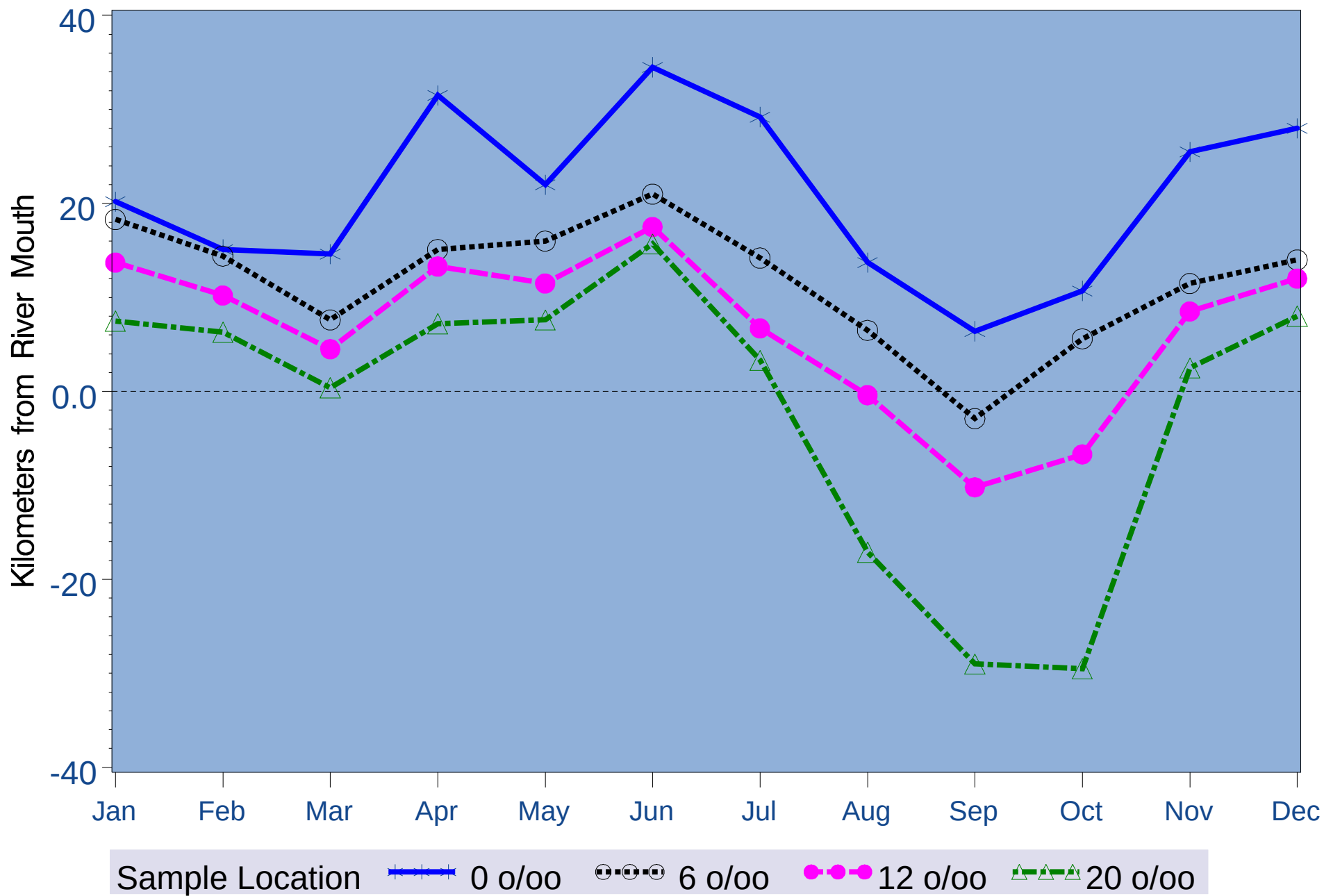


Figure 3.2 Relative distance (km) from the mouth of the river (2004)

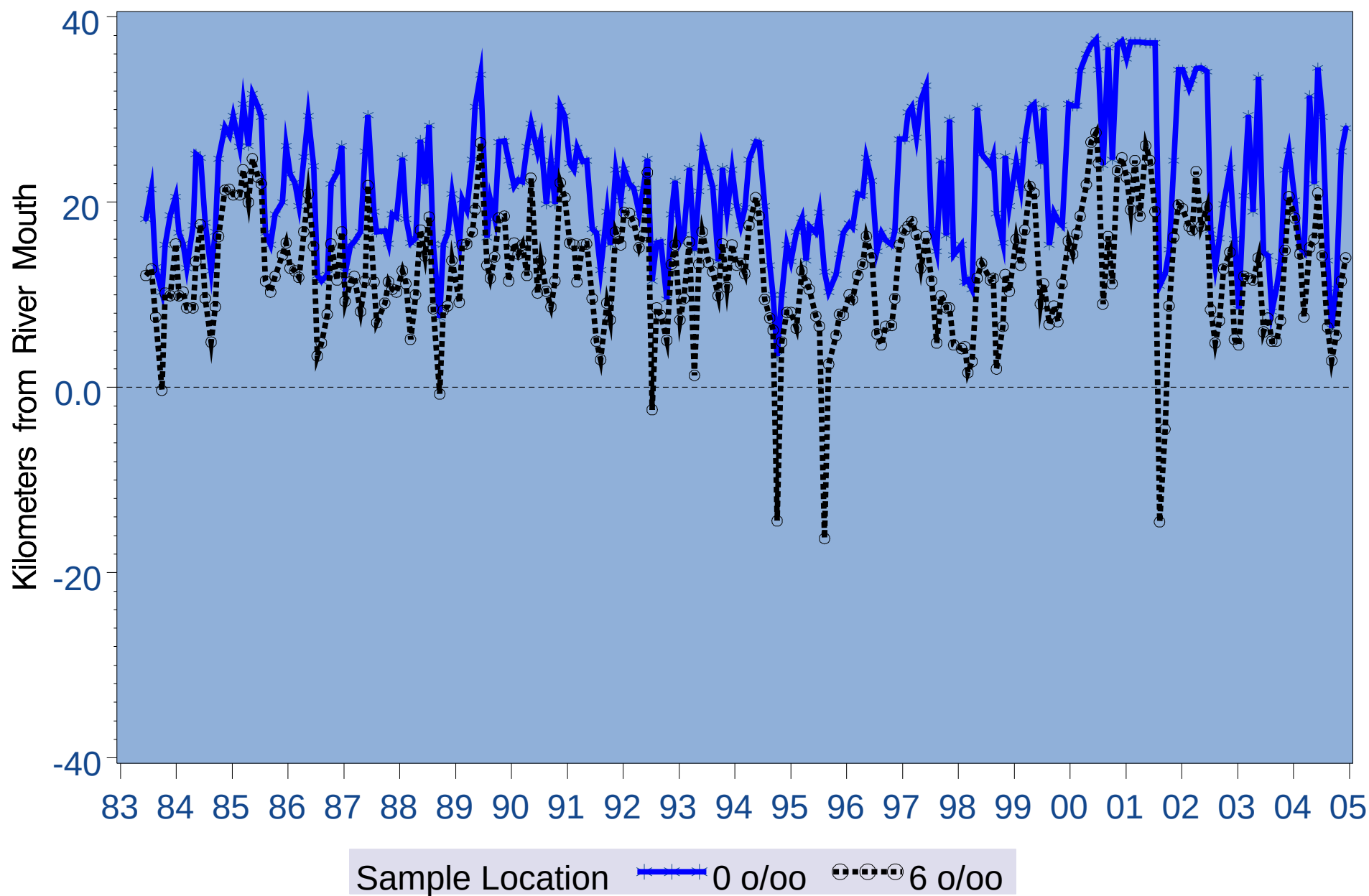


Figure 3.3 Relative distance (km) from the mouth of the river of 0 and 6 ppt salinity sampling zones (1983-2004)

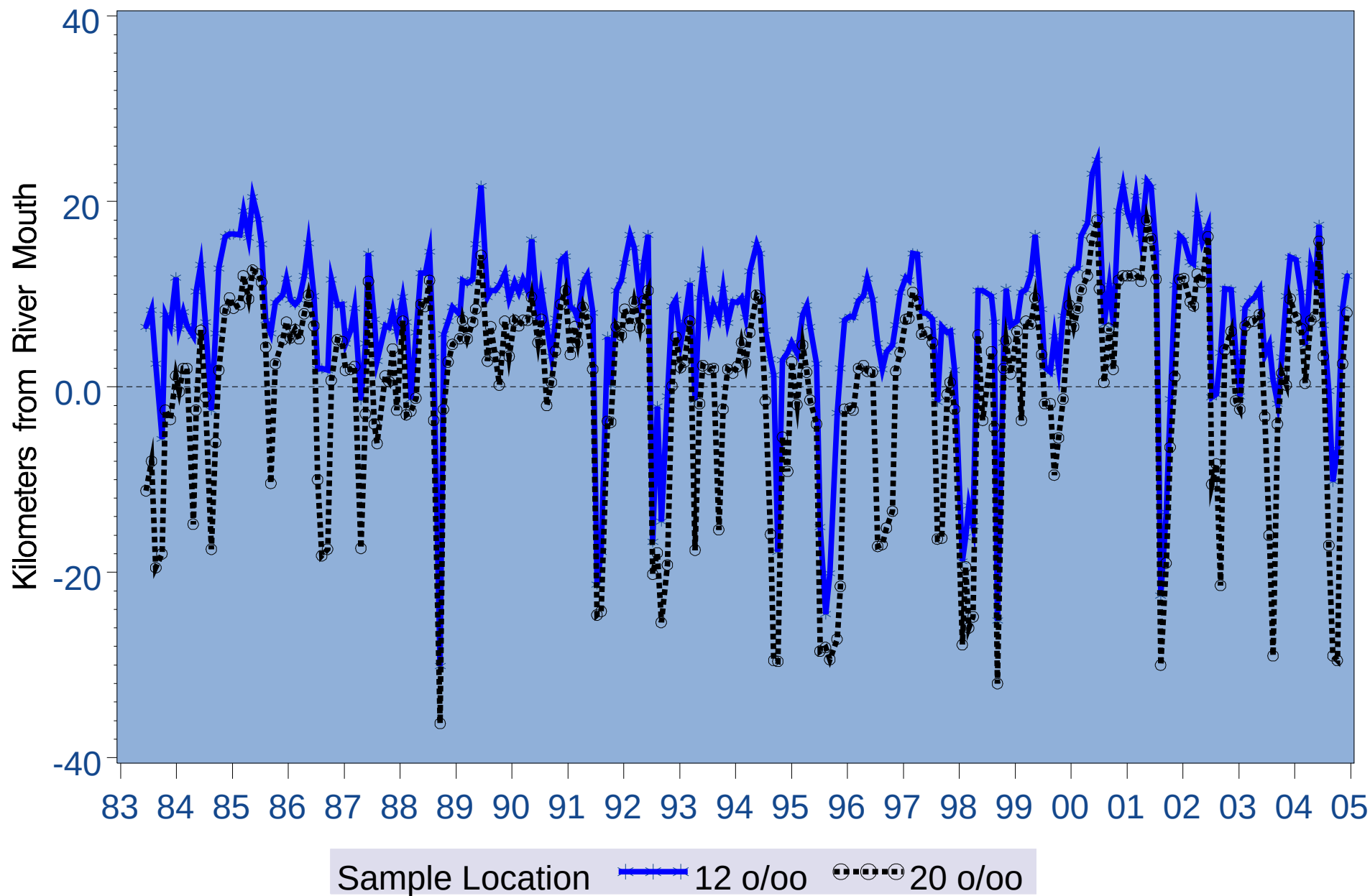


Figure 3.4 Relative distance (km) from the mouth of the river of 12 and 20 ppt salinity sampling zones (1983-2004)

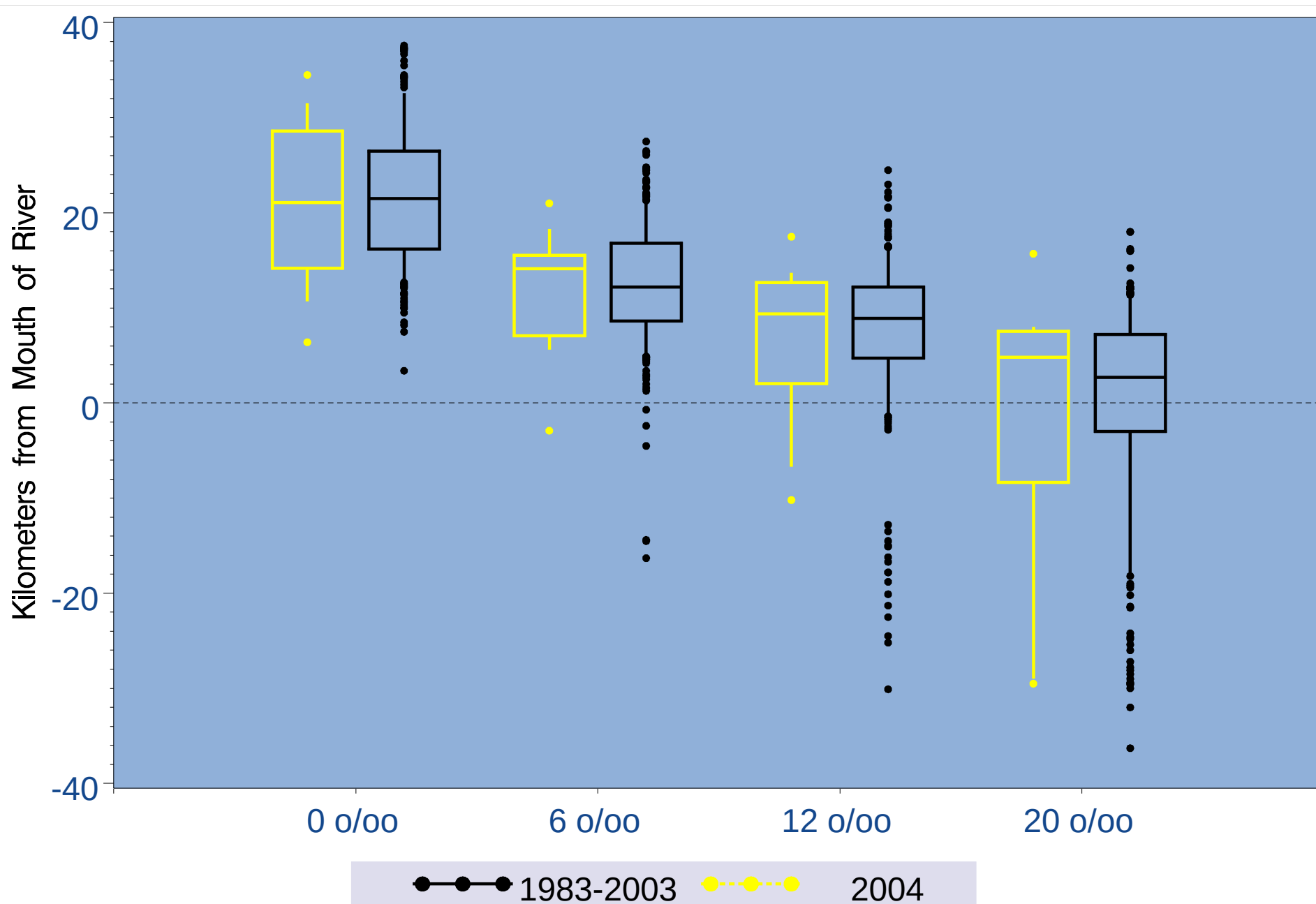


Figure 3.5 Box & whiskers of distance (km) of salinity zones from the mouth of the river

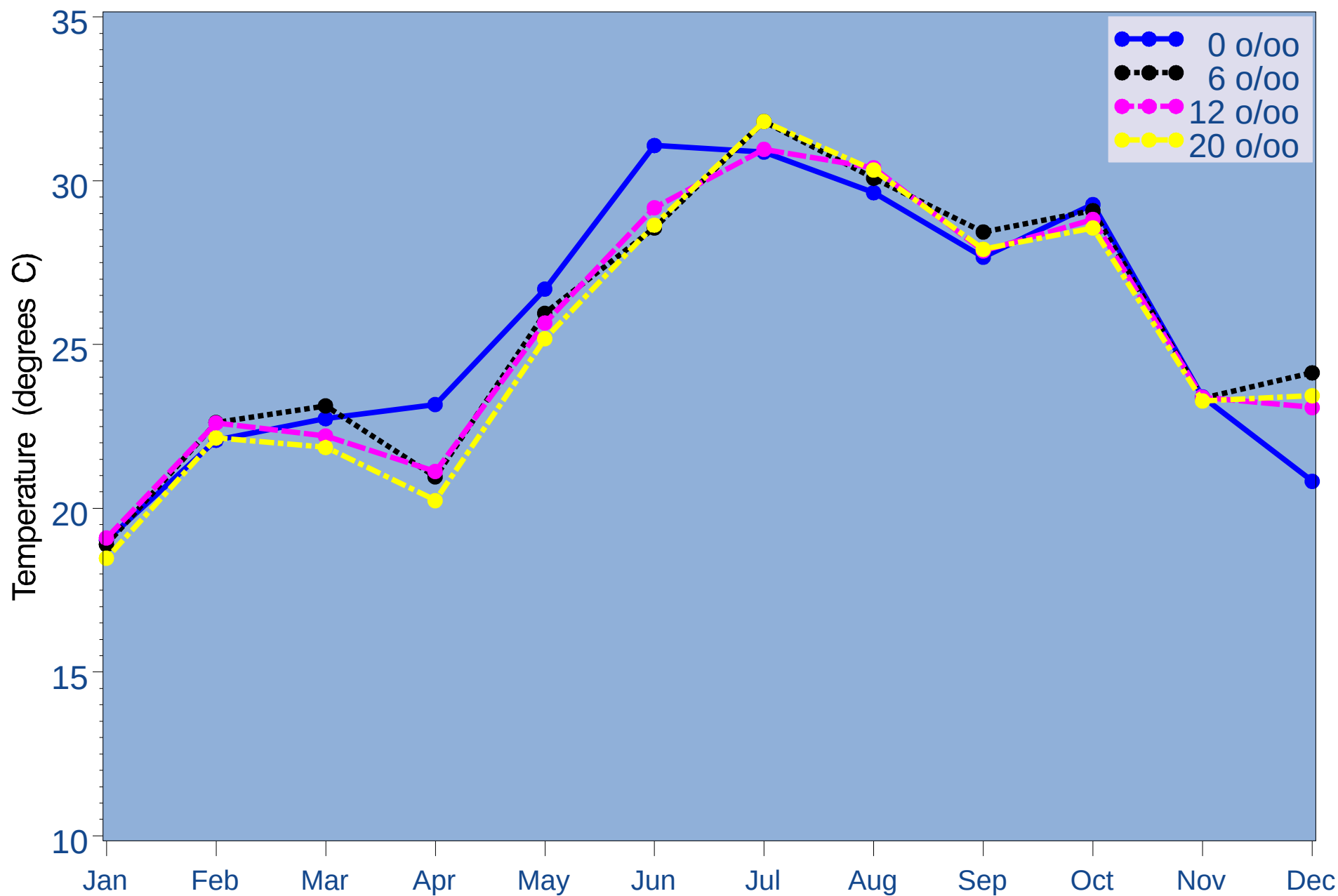


Figure 3.6 Temperature at each of the four salinity based sampling zones (2004)

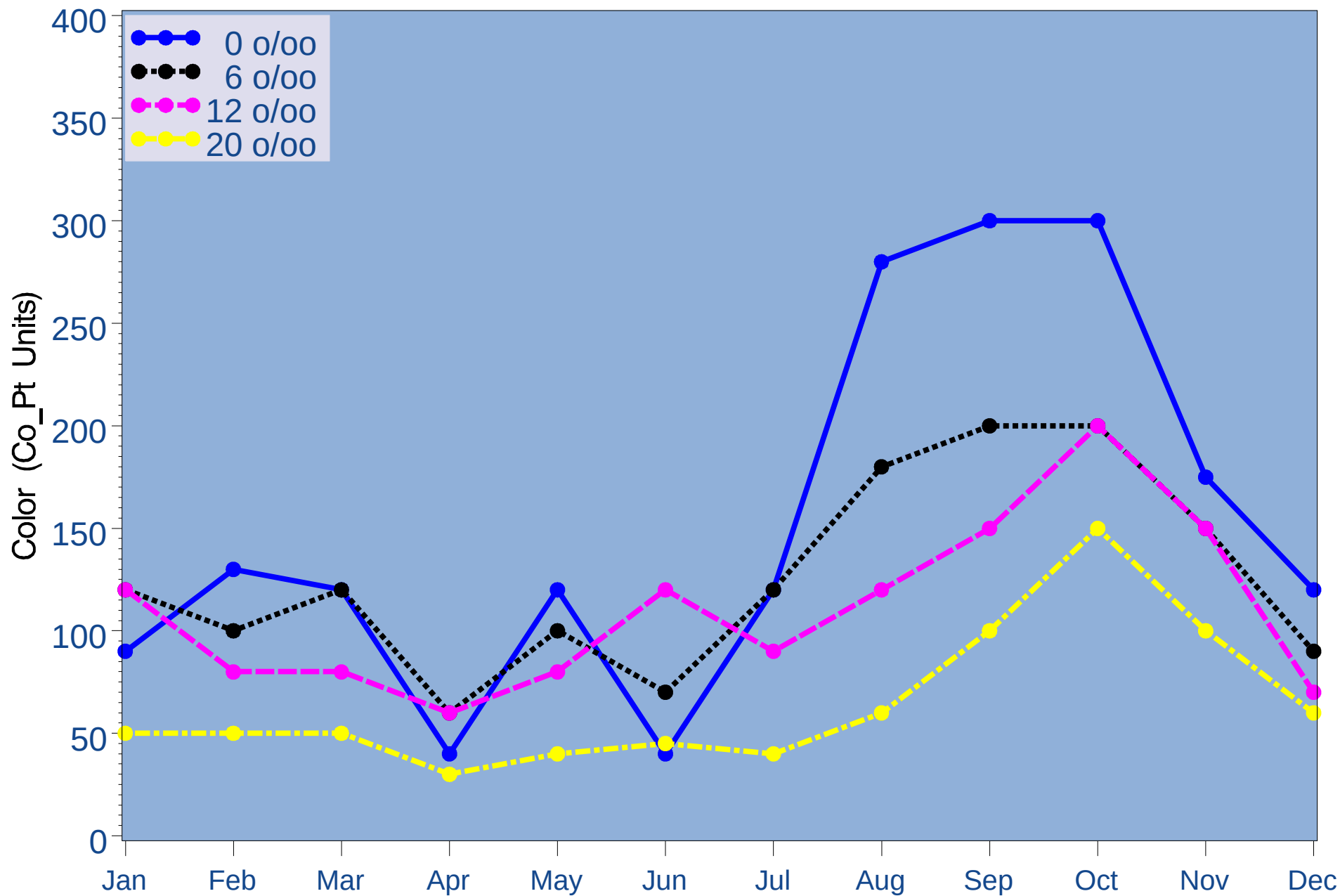


Figure 3.7 Color at each of the four salinity based sampling zones (2004)

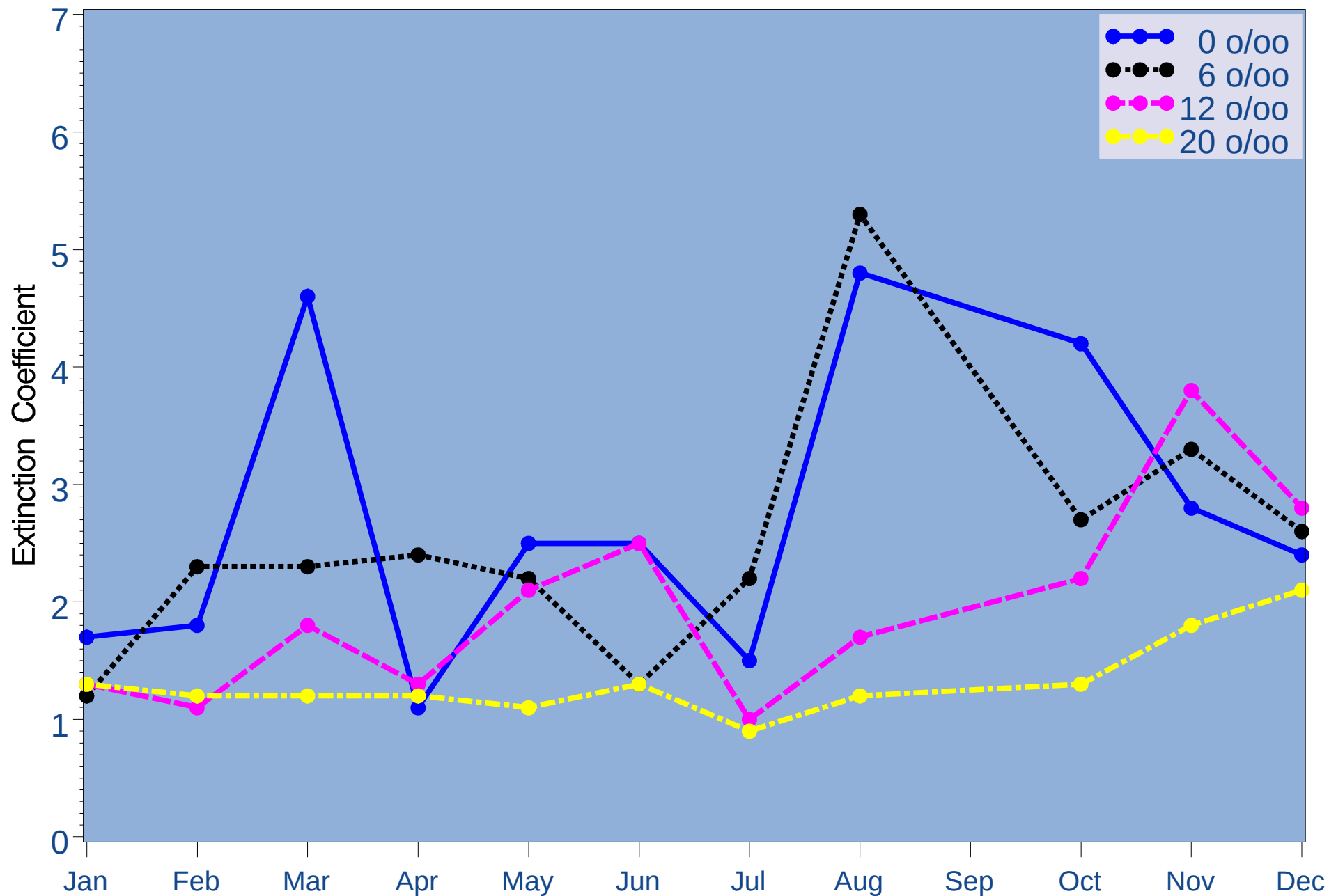


Figure 3.8 Extinction coefficient at each of the salinity based sampling zones (2004)

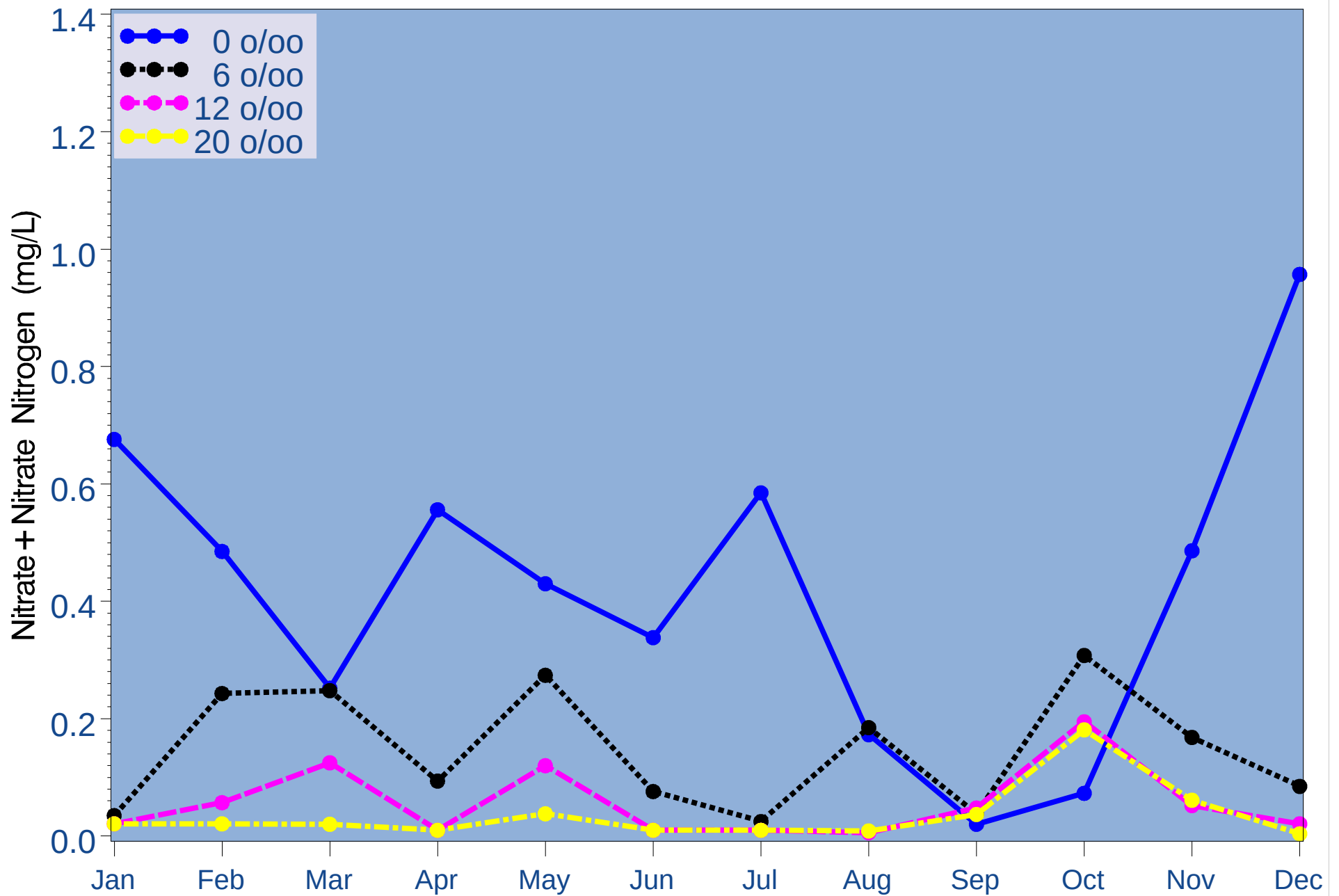


Figure 3.9 Nitrite+nitrate nitrogen at each of the four salinity based sampling zones (2004)

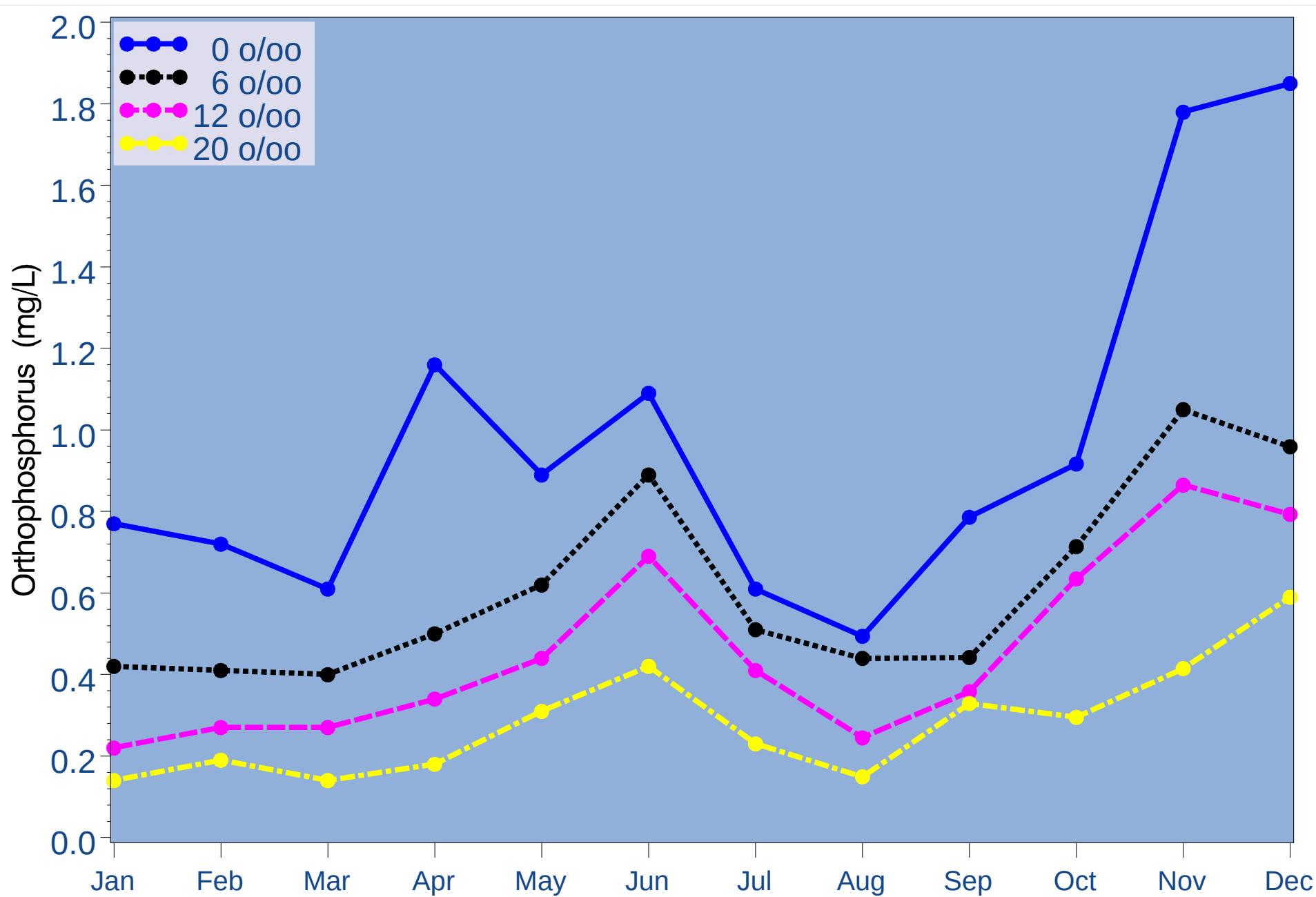


Figure 3.10 Orthophosphorus at each of the four salinity based sampling zones (2004)

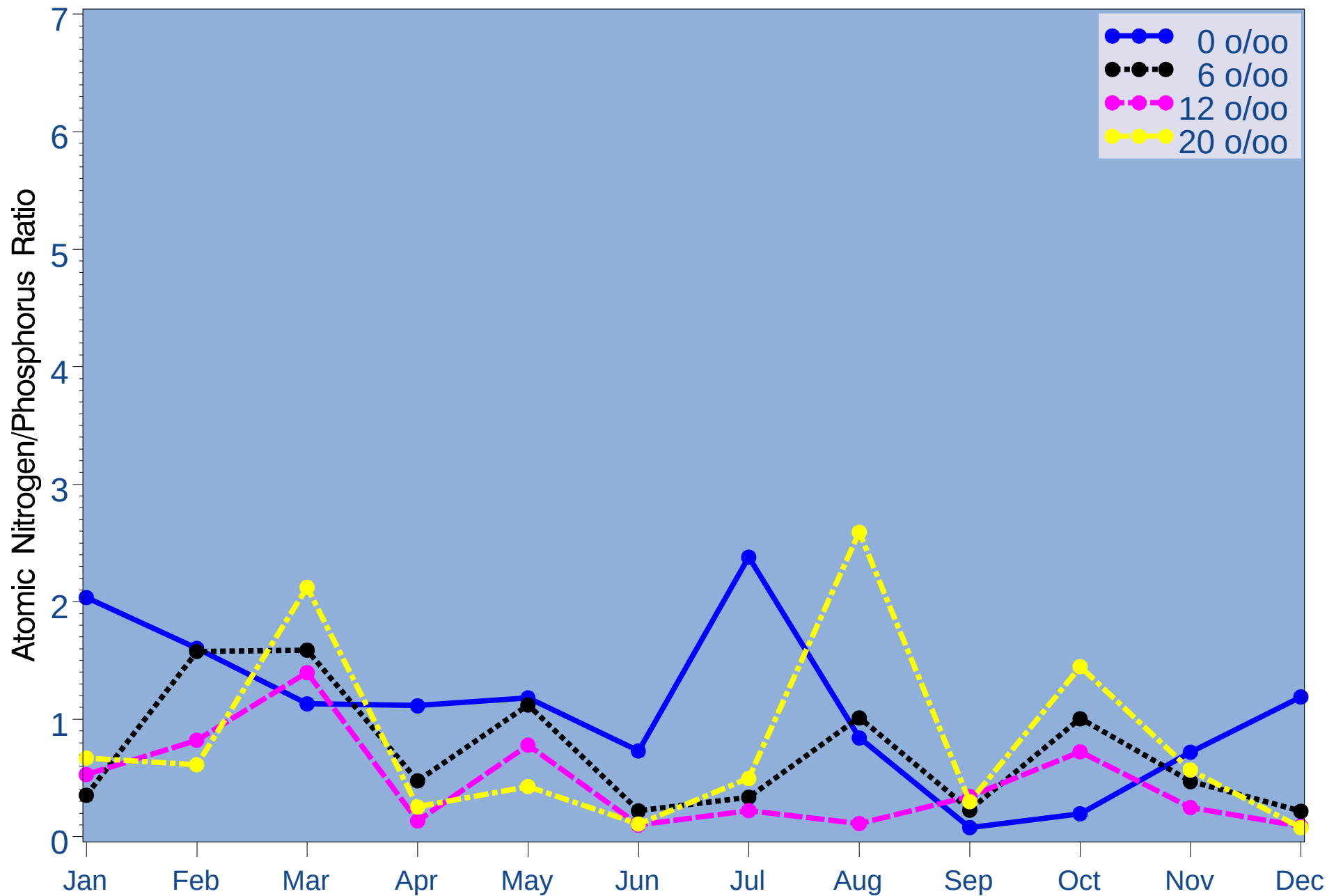


Figure 3.11 Atomic N/P ratio at each of the four salinity based sampling zones (2004)

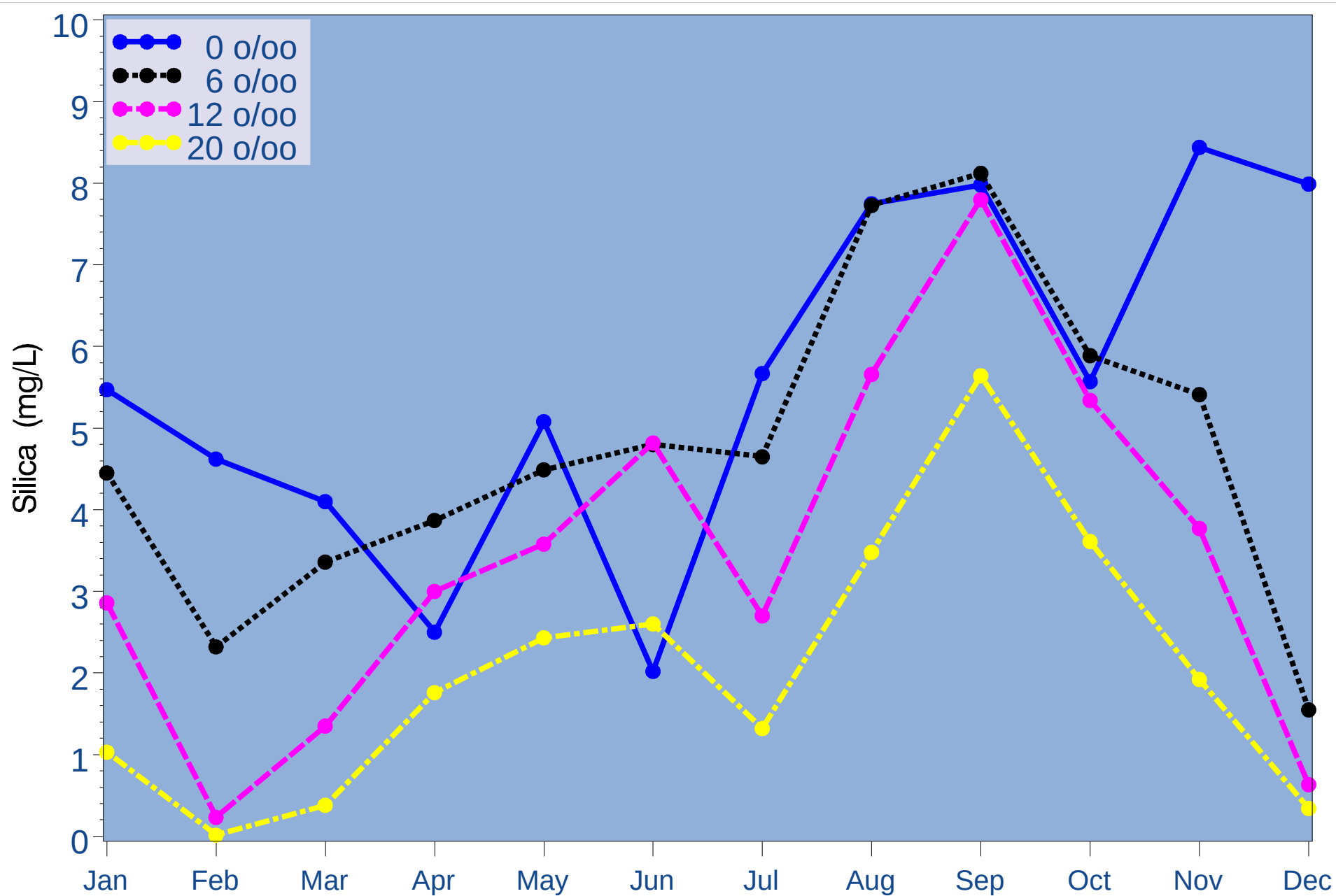


Figure 3.12 Silica at each of the four salinity based sampling zones (2004)

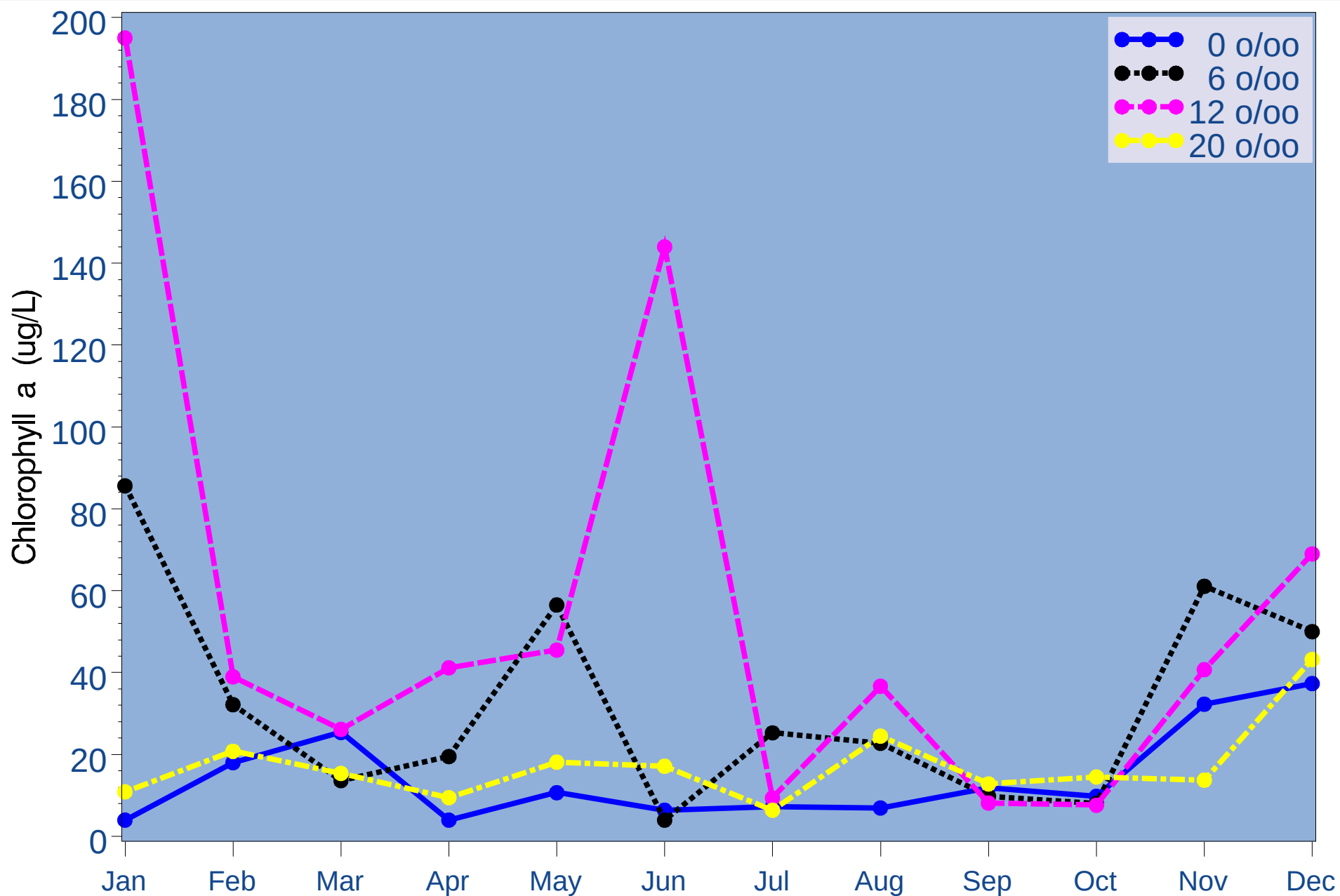


Figure 3.13 Chlorophyll a at each of the four salinity based sampling zones (2004)

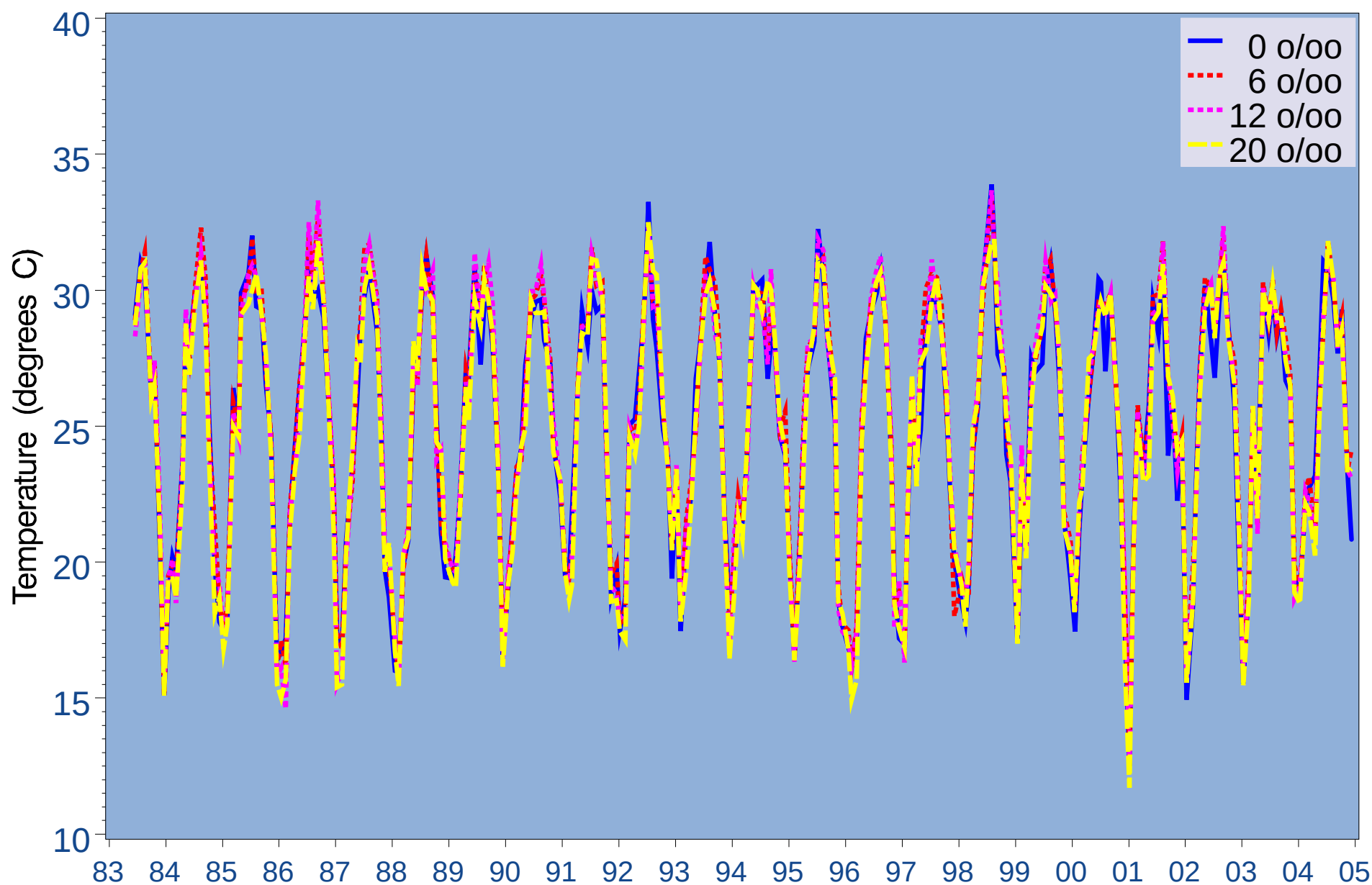


Figure 3.14 Temperature at each isohaline based sampling zone (1983-2004)

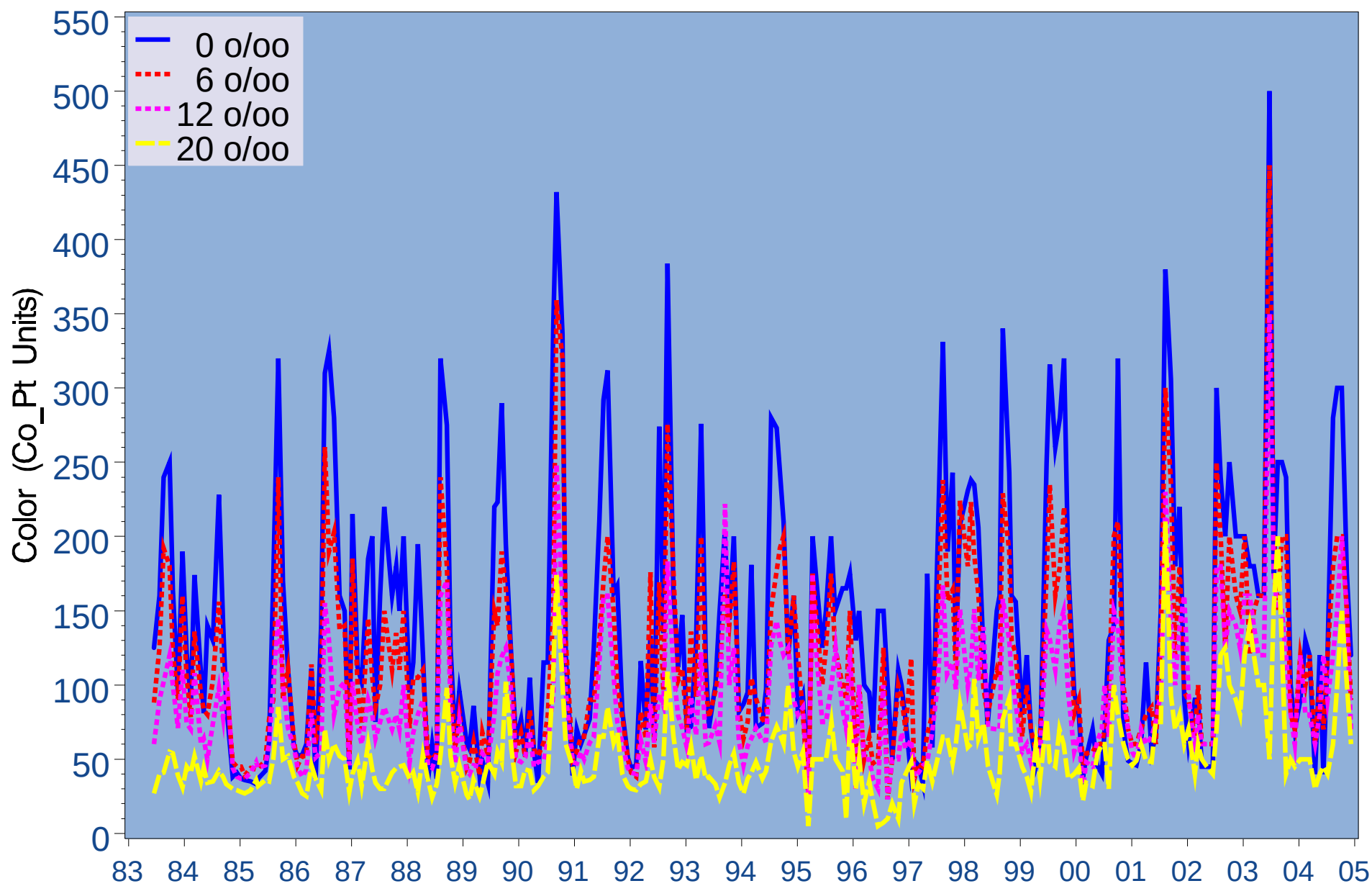


Figure 3.15 Color at each isohaline based sampling zone (1983-2004)

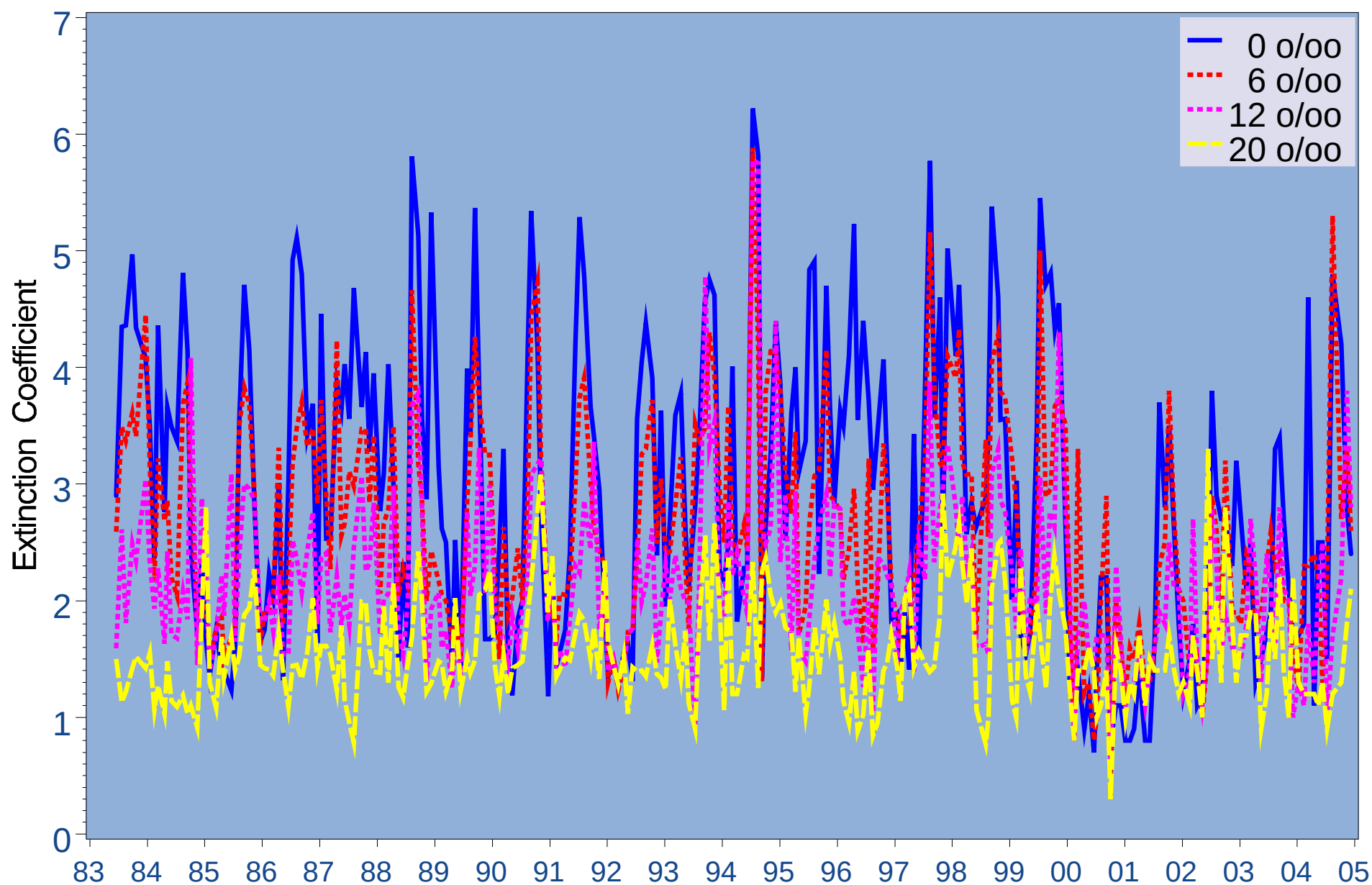


Figure 3.16 Extinction coefficient at each isohaline based sampling zone (1983-2004)

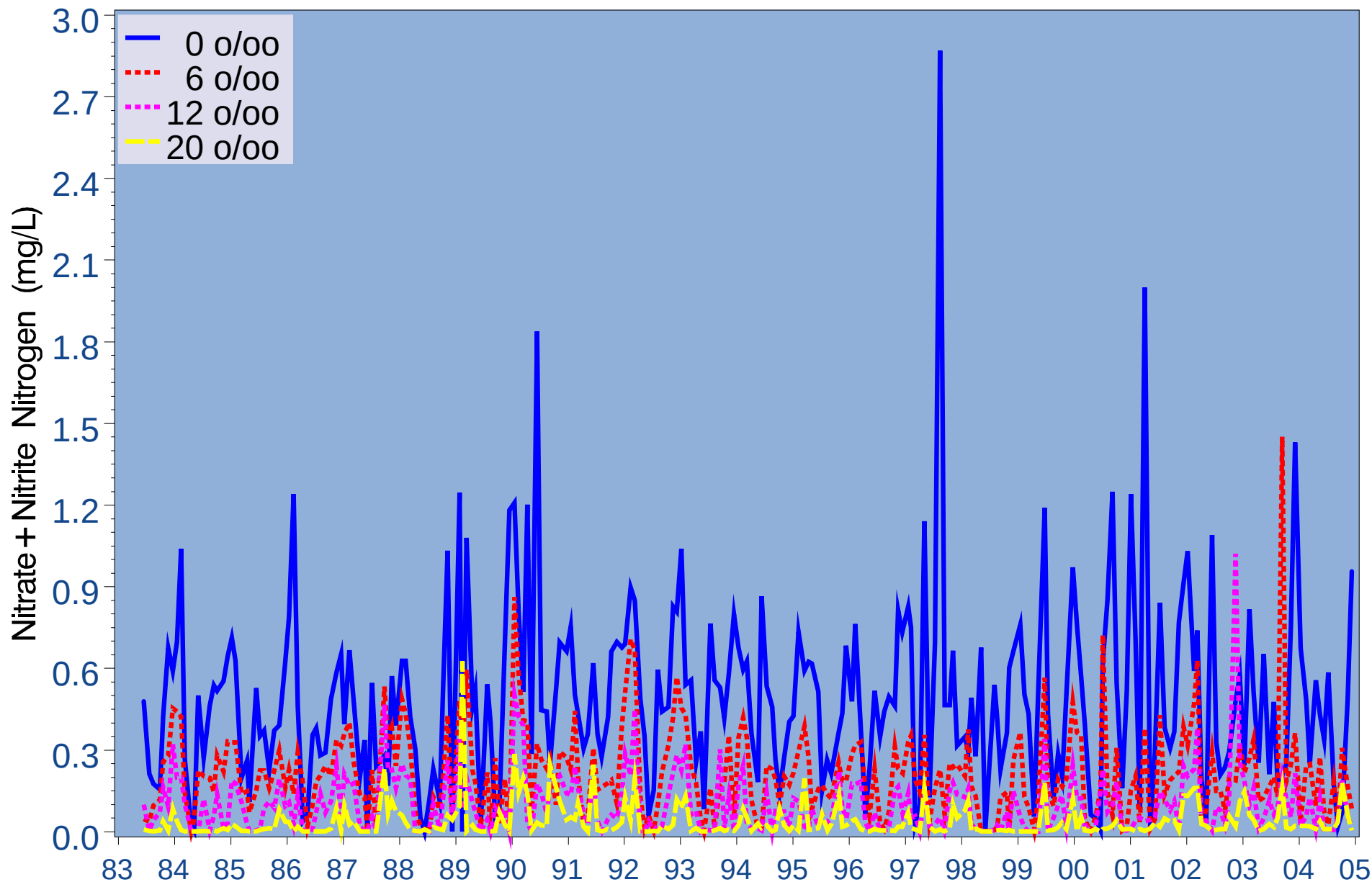


Figure 3.17 Nitrate/nitrite at each isohaline based sampling zone (1983-2004)

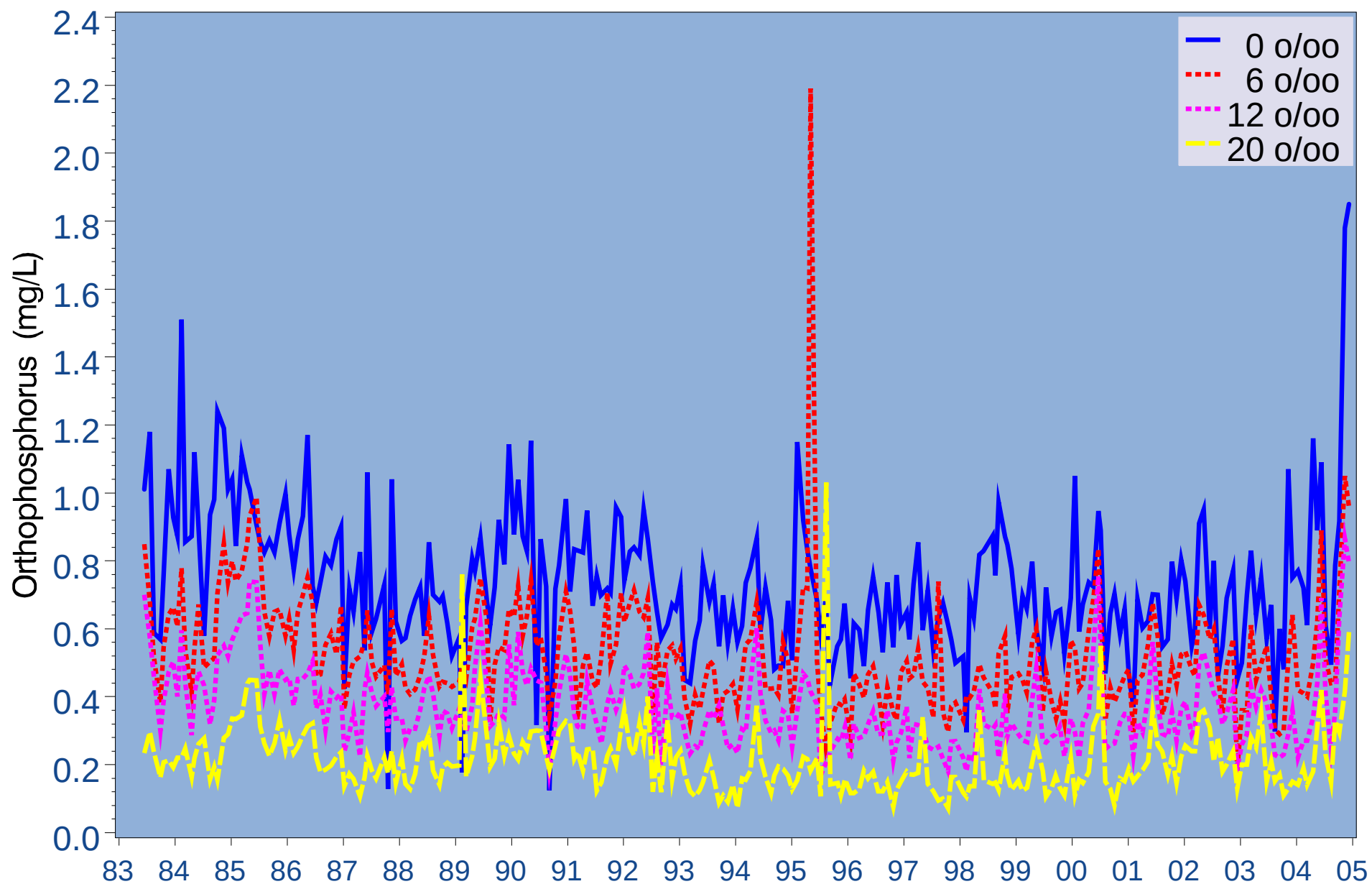


Figure 3.18 Orthophosphorus at each isohaline based sampling zone (1983-2004)

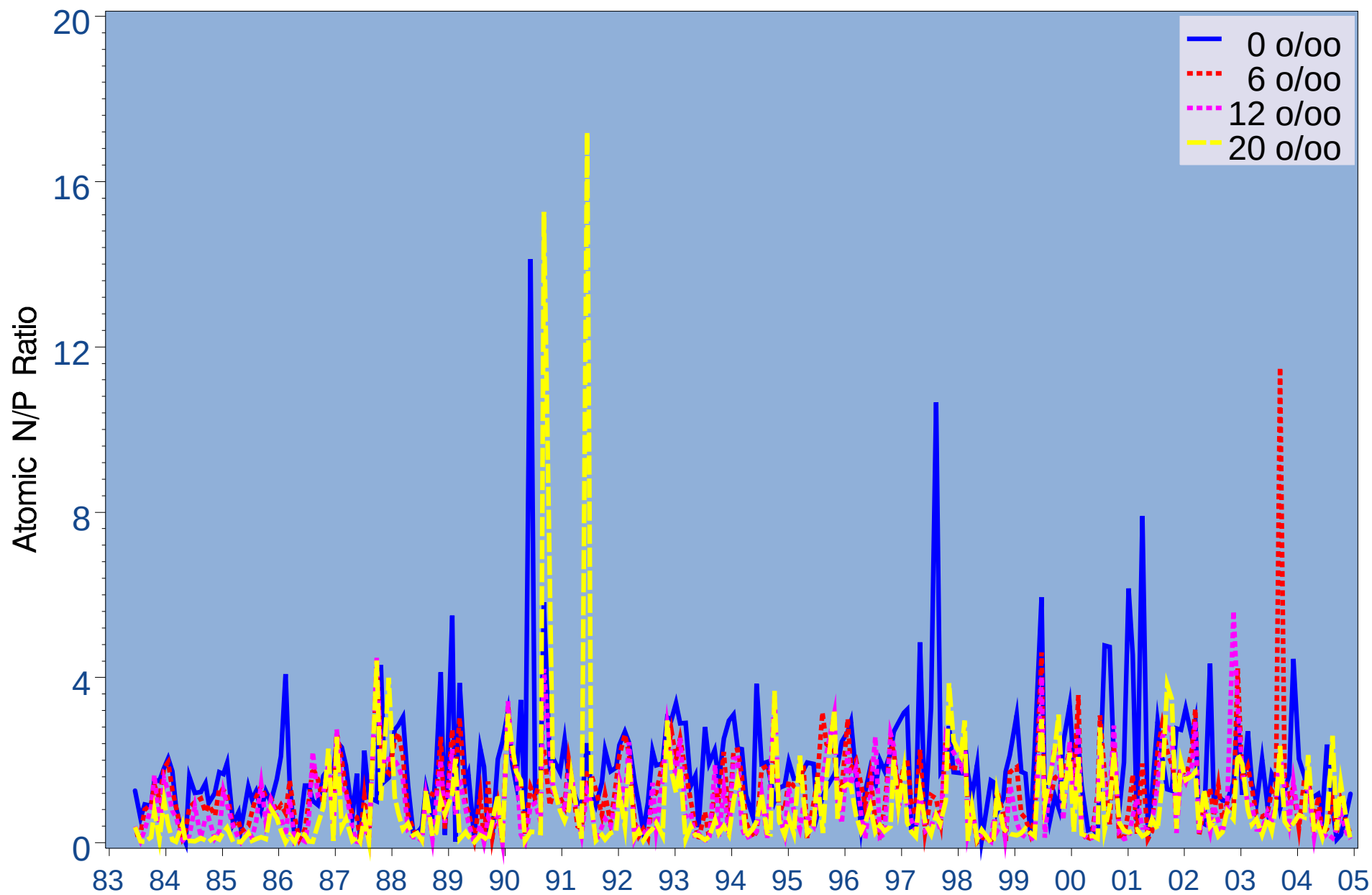


Figure 3.19 Atomic nitrogen/phosphorus ratio at each isohaline based sampling zone (1983-2004)

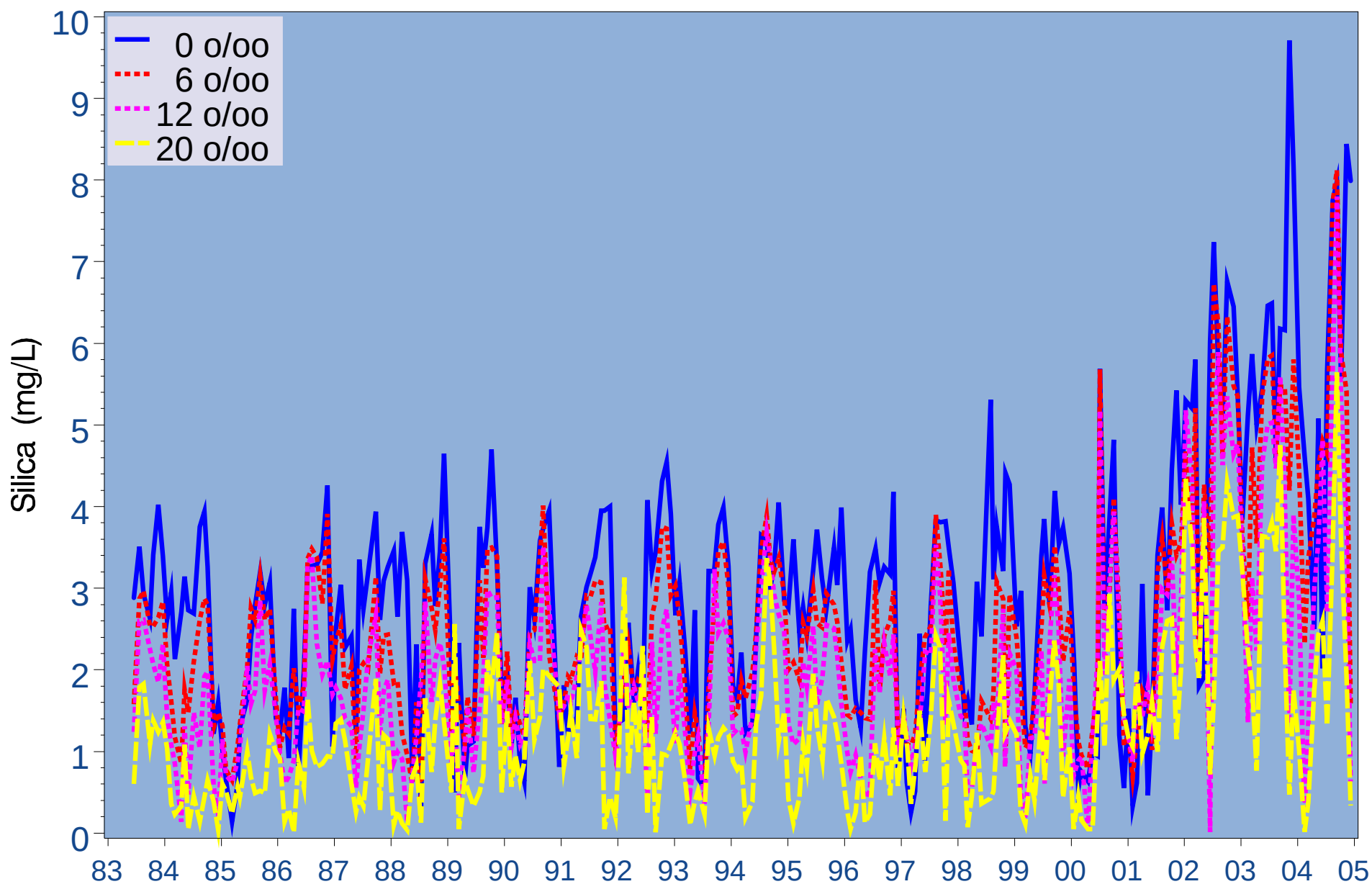


Figure 3.20 Silica at each isohaline based sampling zone (1983-2004)

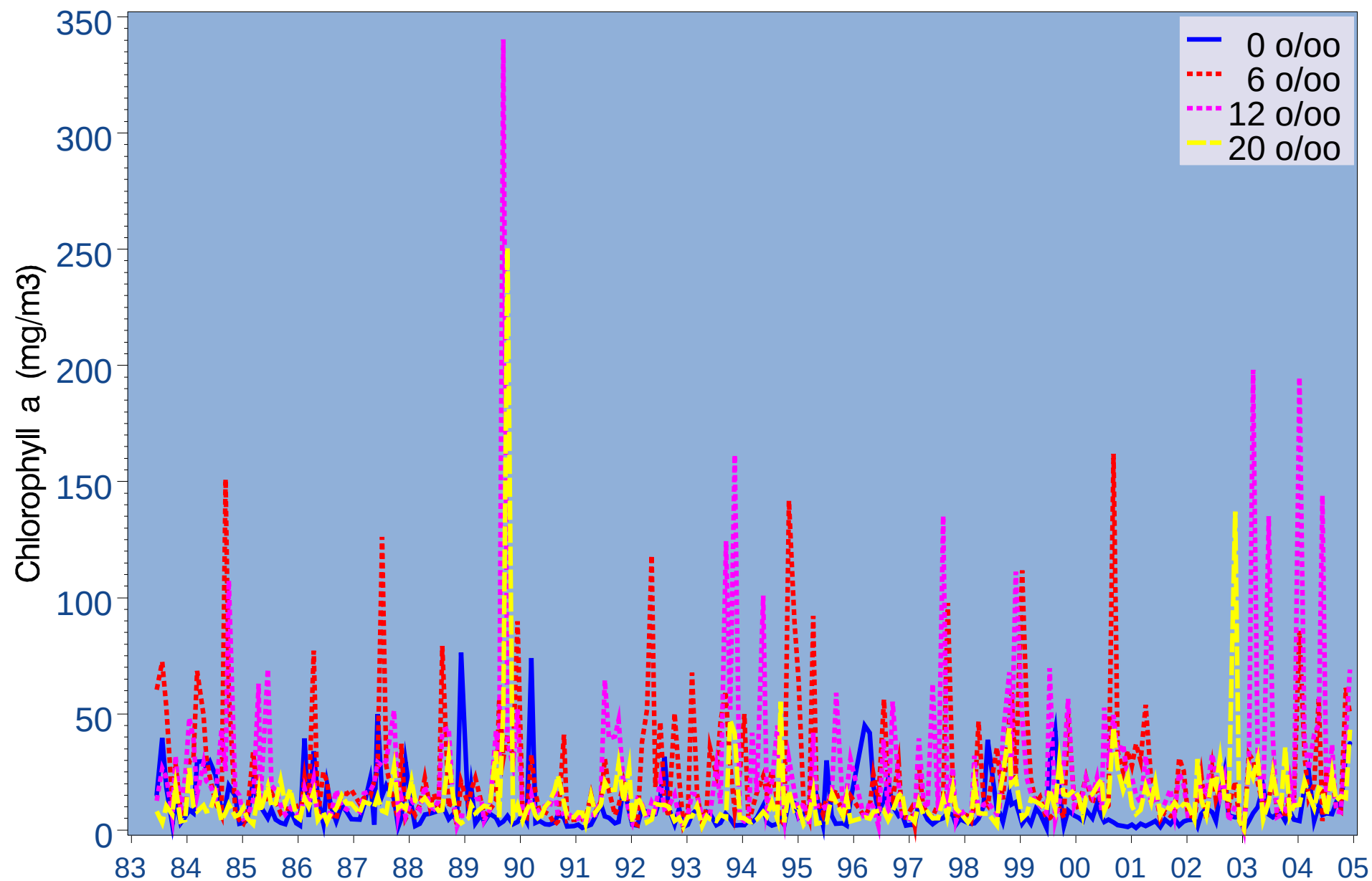


Figure 3.21 Chlorophyll a (mg/m3) at each isohaline based sampling zone (1983-2004)

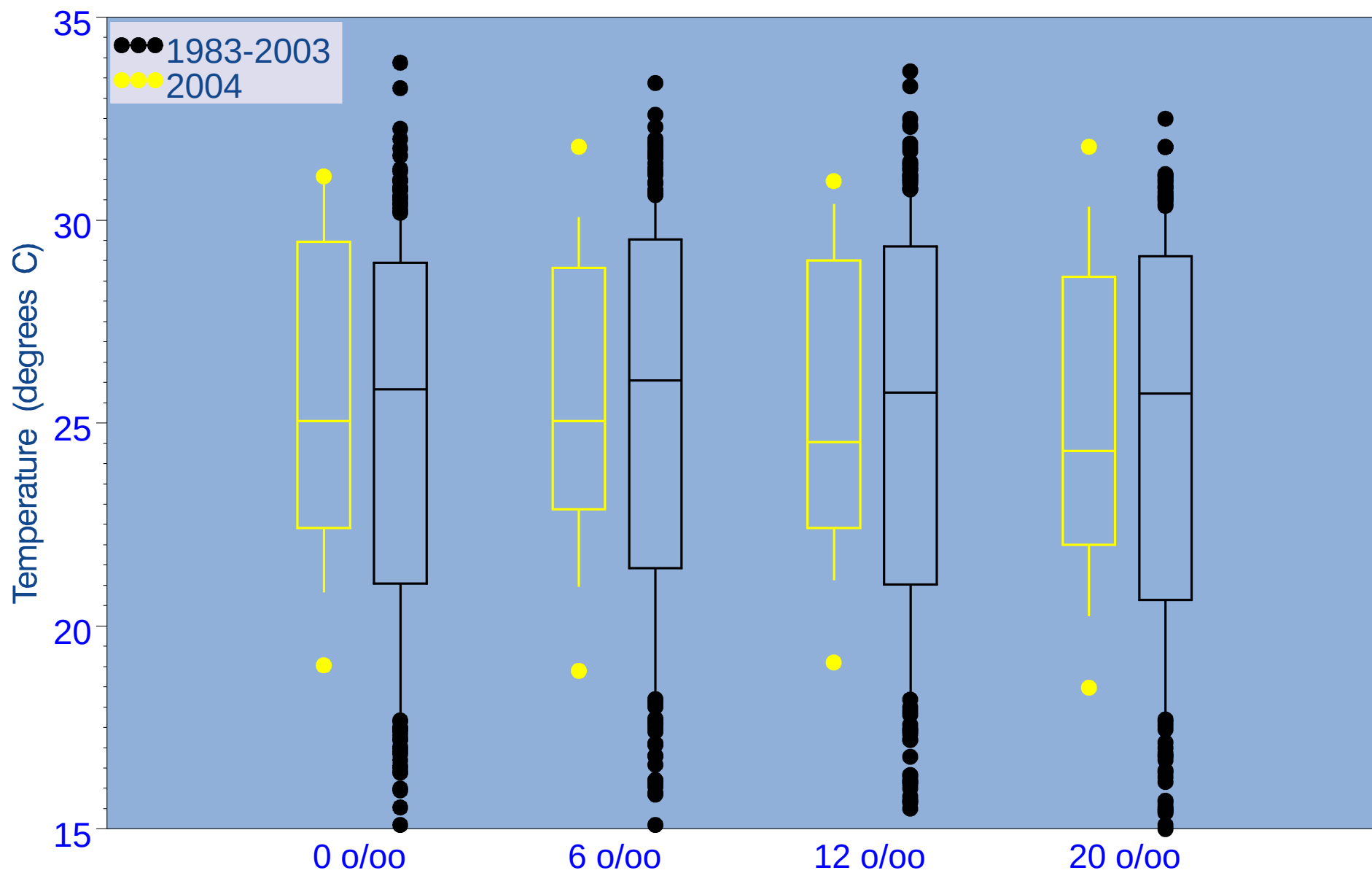


Figure 3.22 Box and whisker plots of temperature at salinity sampling zones

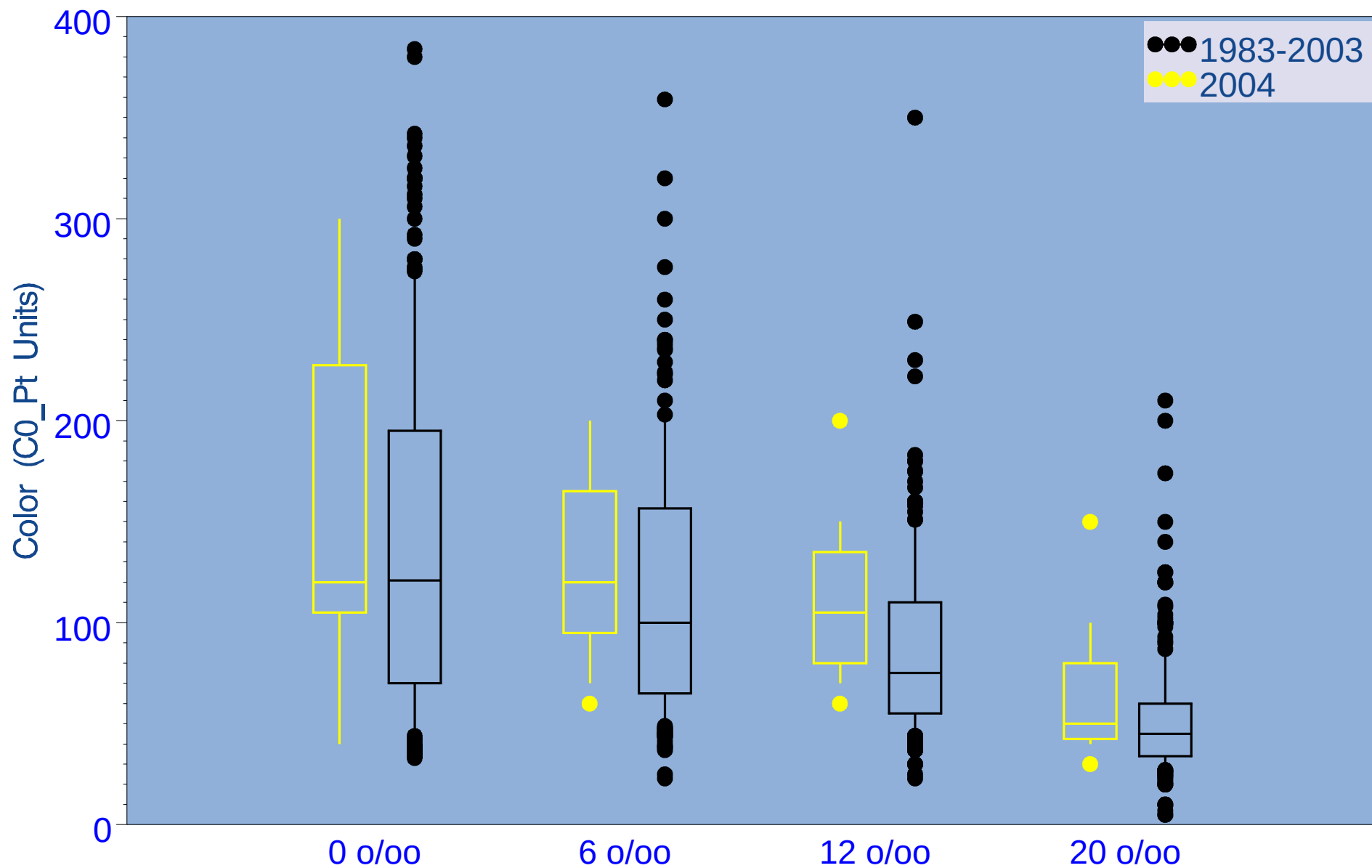


Figure 3.23 Box and whisker plots of Color at salinity sampling zones

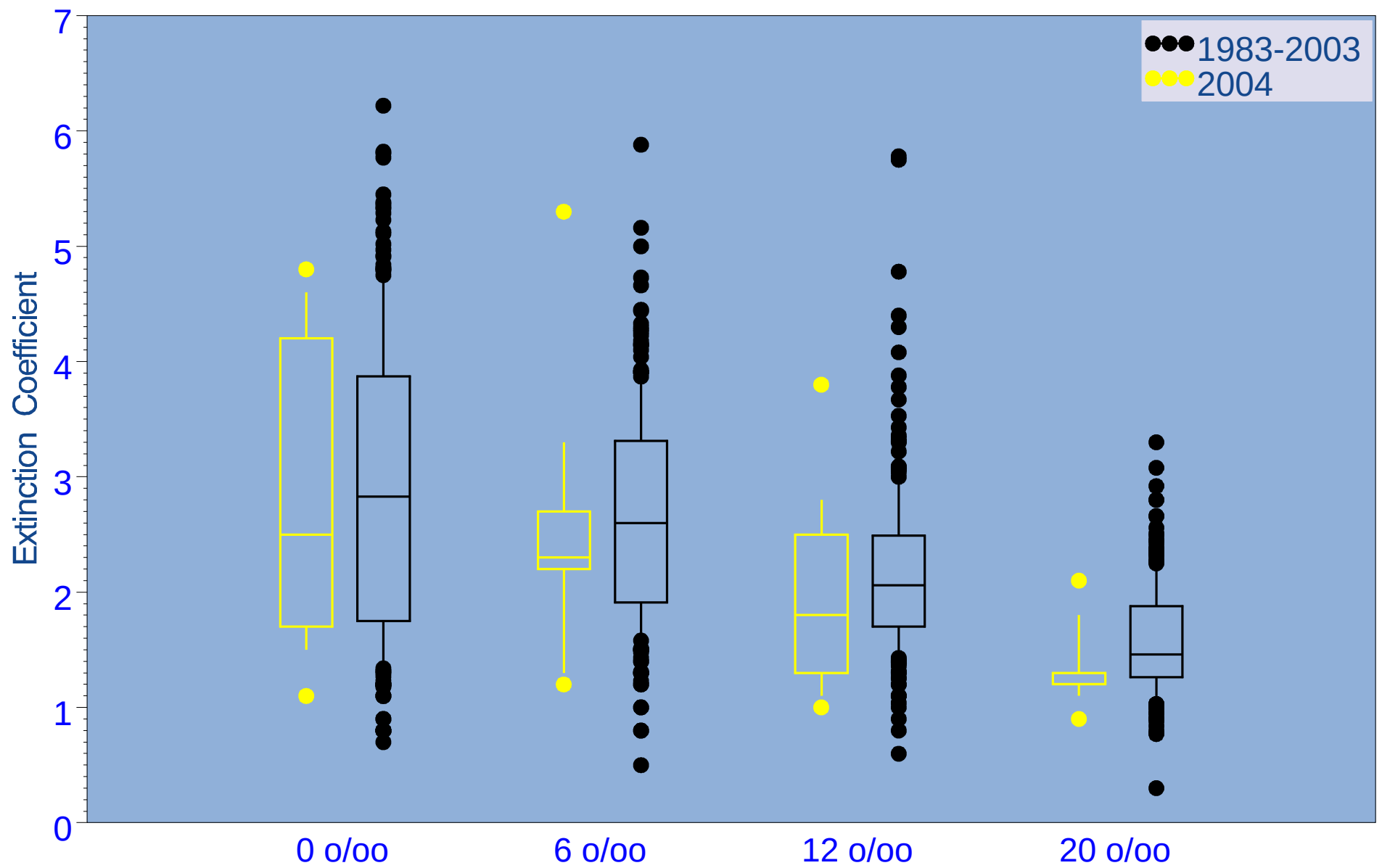


Figure 3.24 Box and whisker plots of extinction coefficient at salinity sampling zones

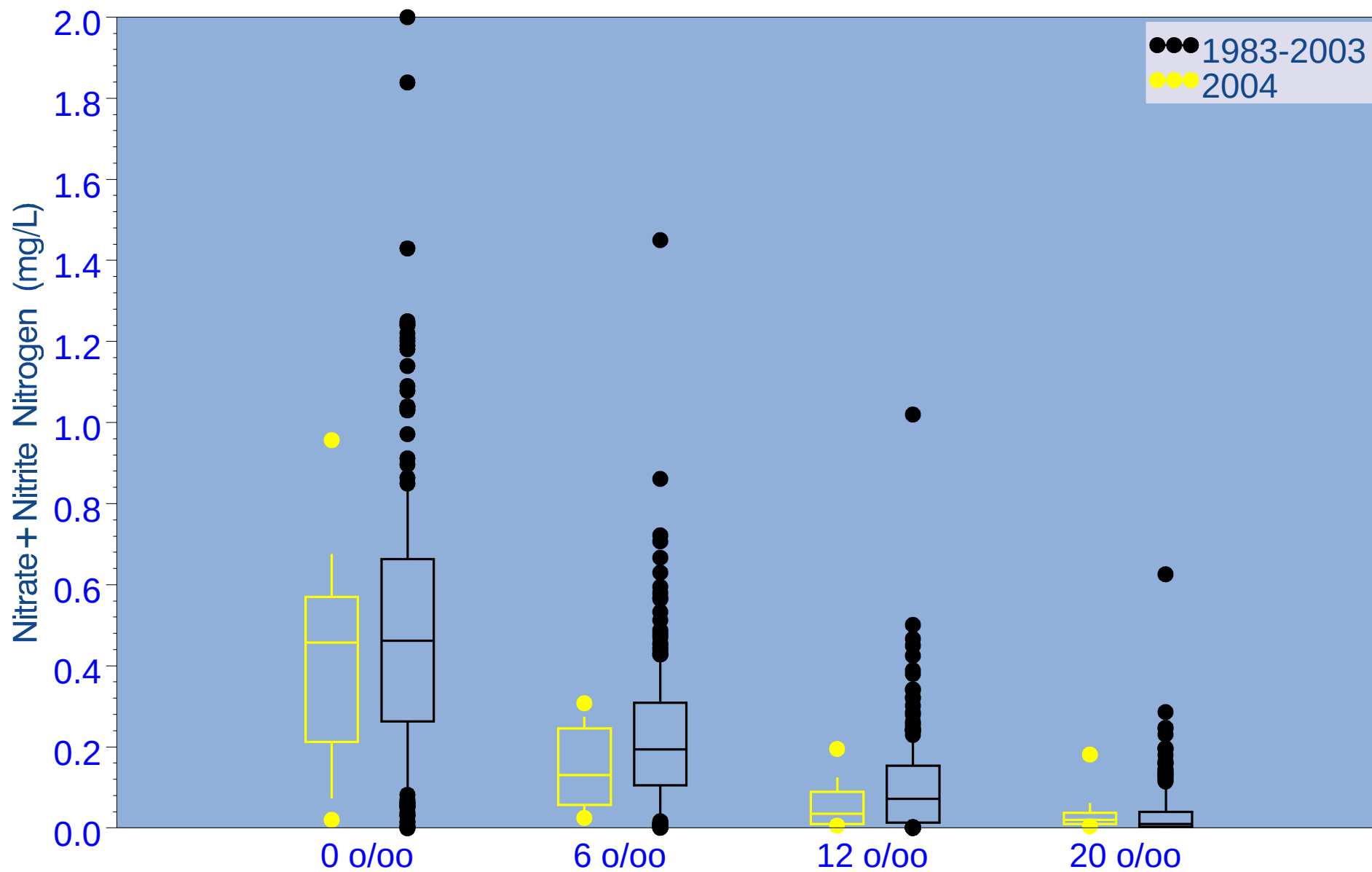


Figure 3.25 Box and whisker plots of nitrite/nitrate at salinity sampling zones

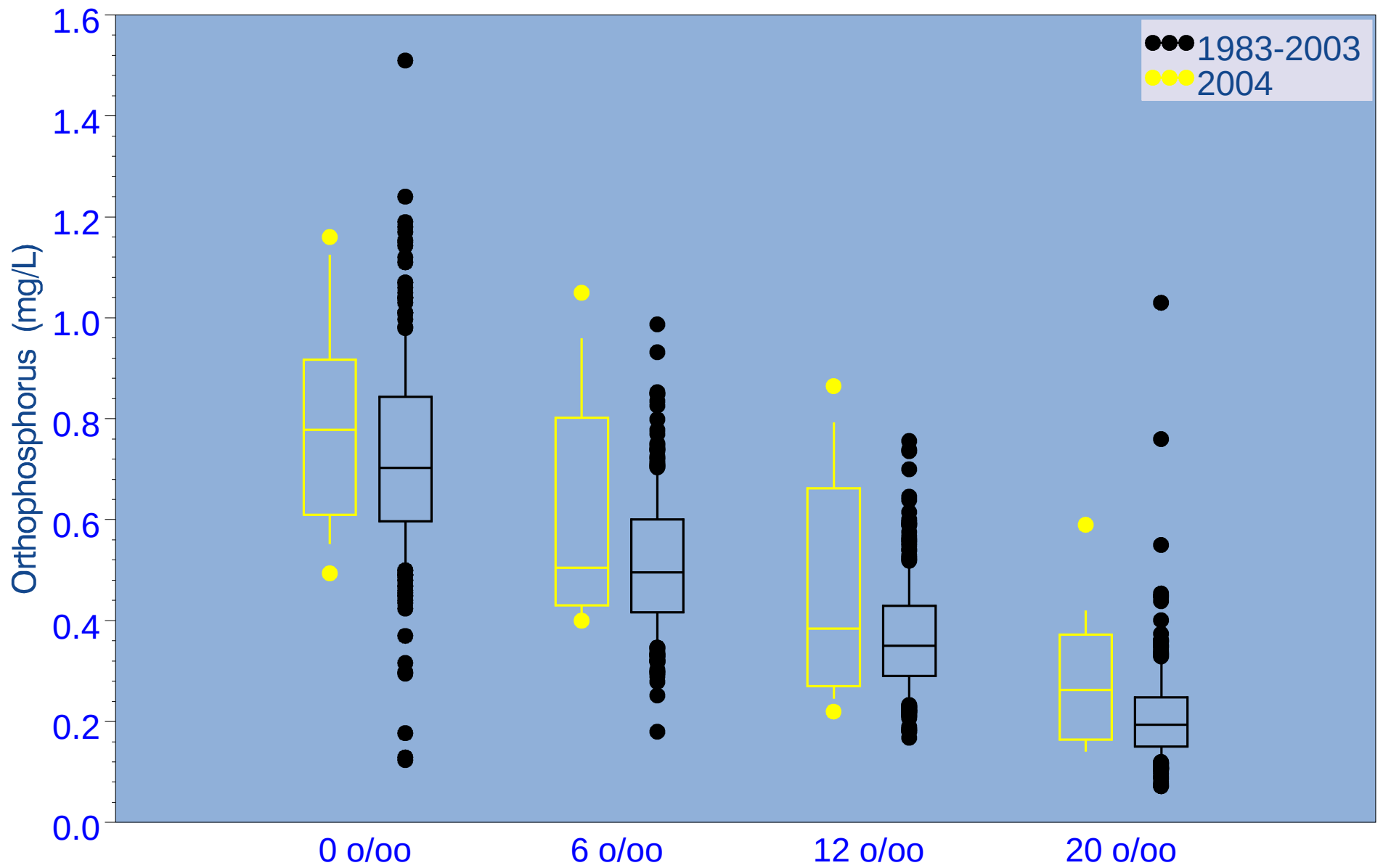


Figure 3.26 Box and whisker plots of ortho-phosphorus at salinity sampling zones

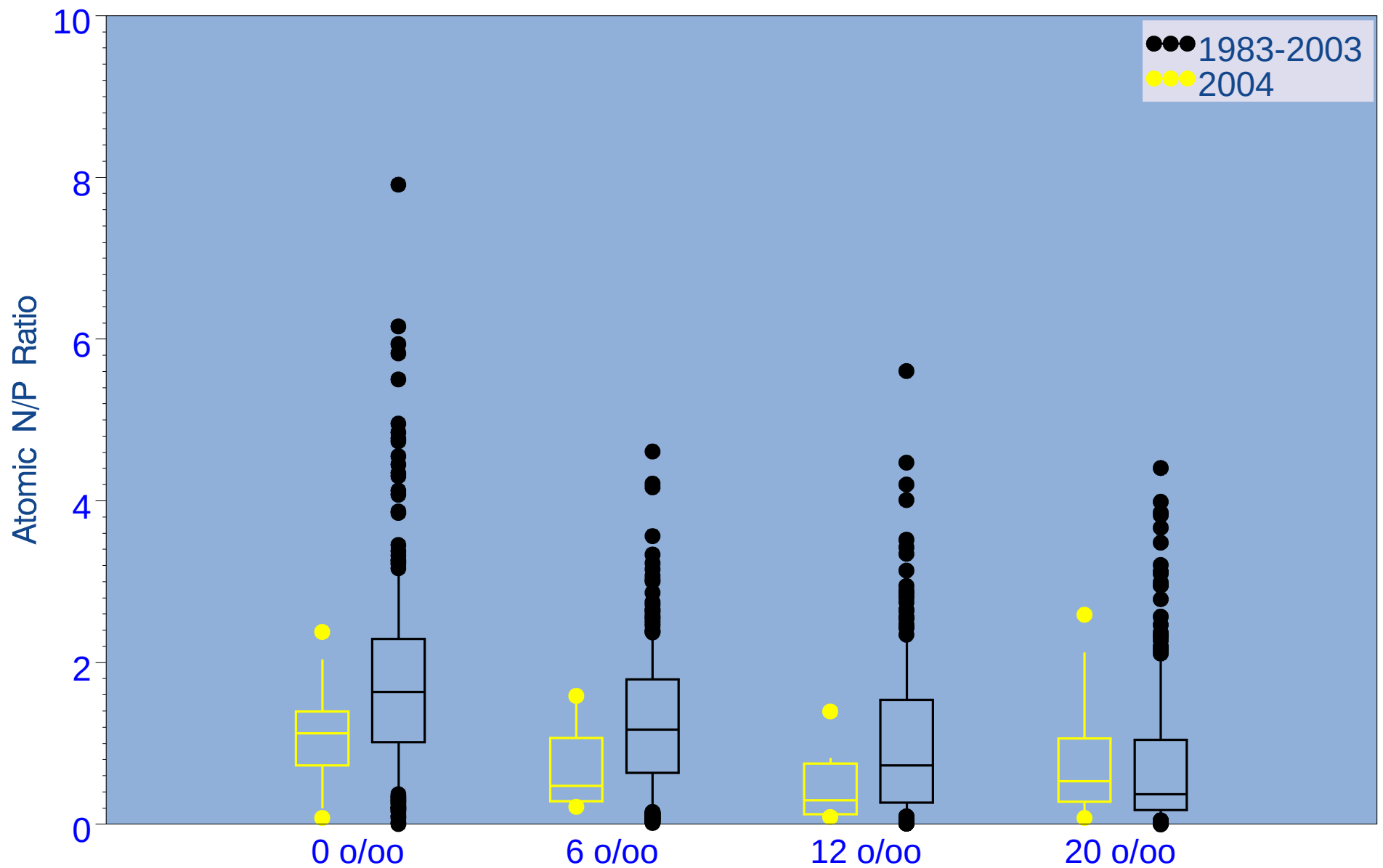


Figure 3.27 Box and whisker plots of atomic N/P ratio at salinity sampling zones

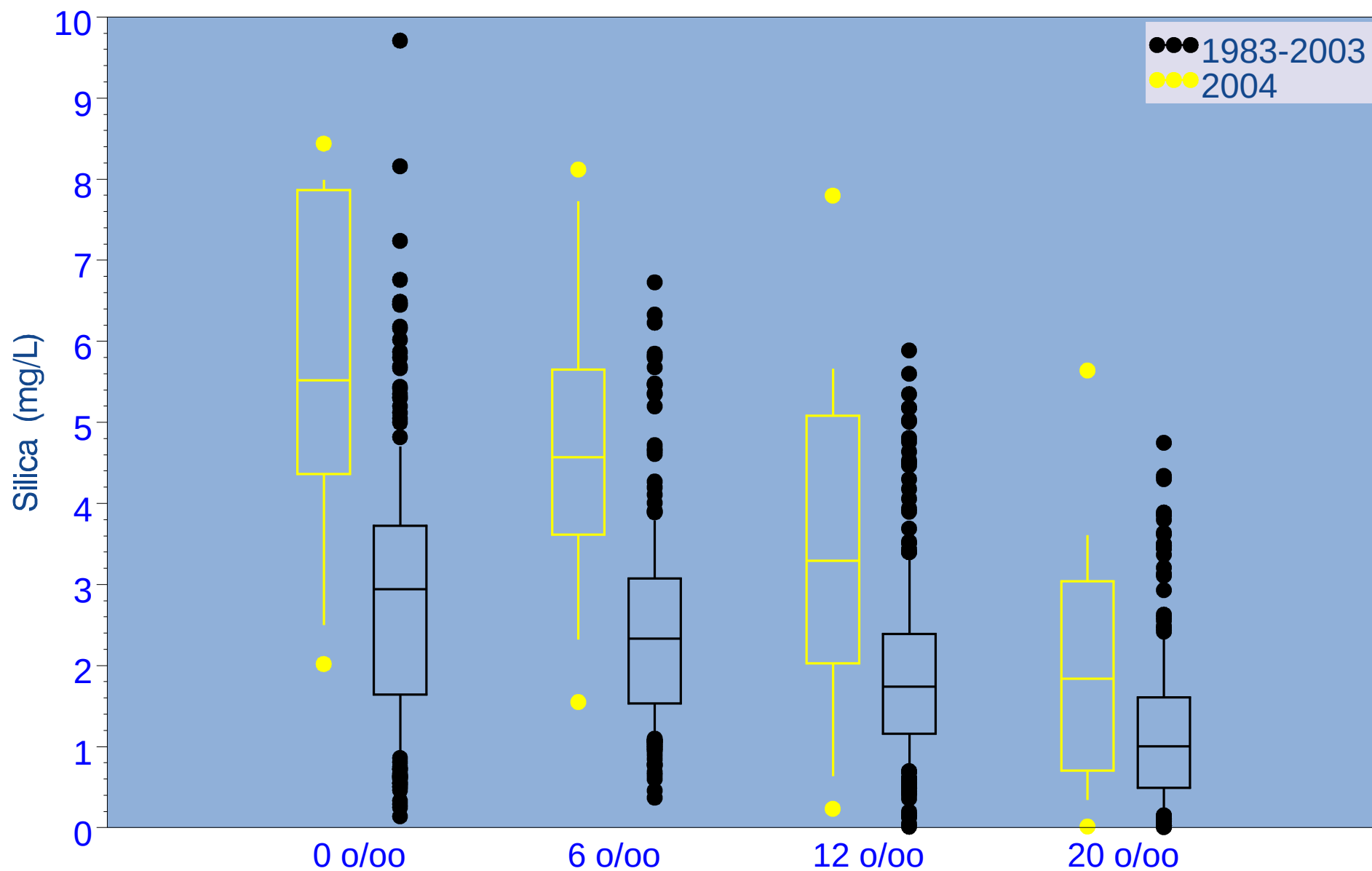


Figure 3.28 Box and whisker plots of silica at salinity sampling zones

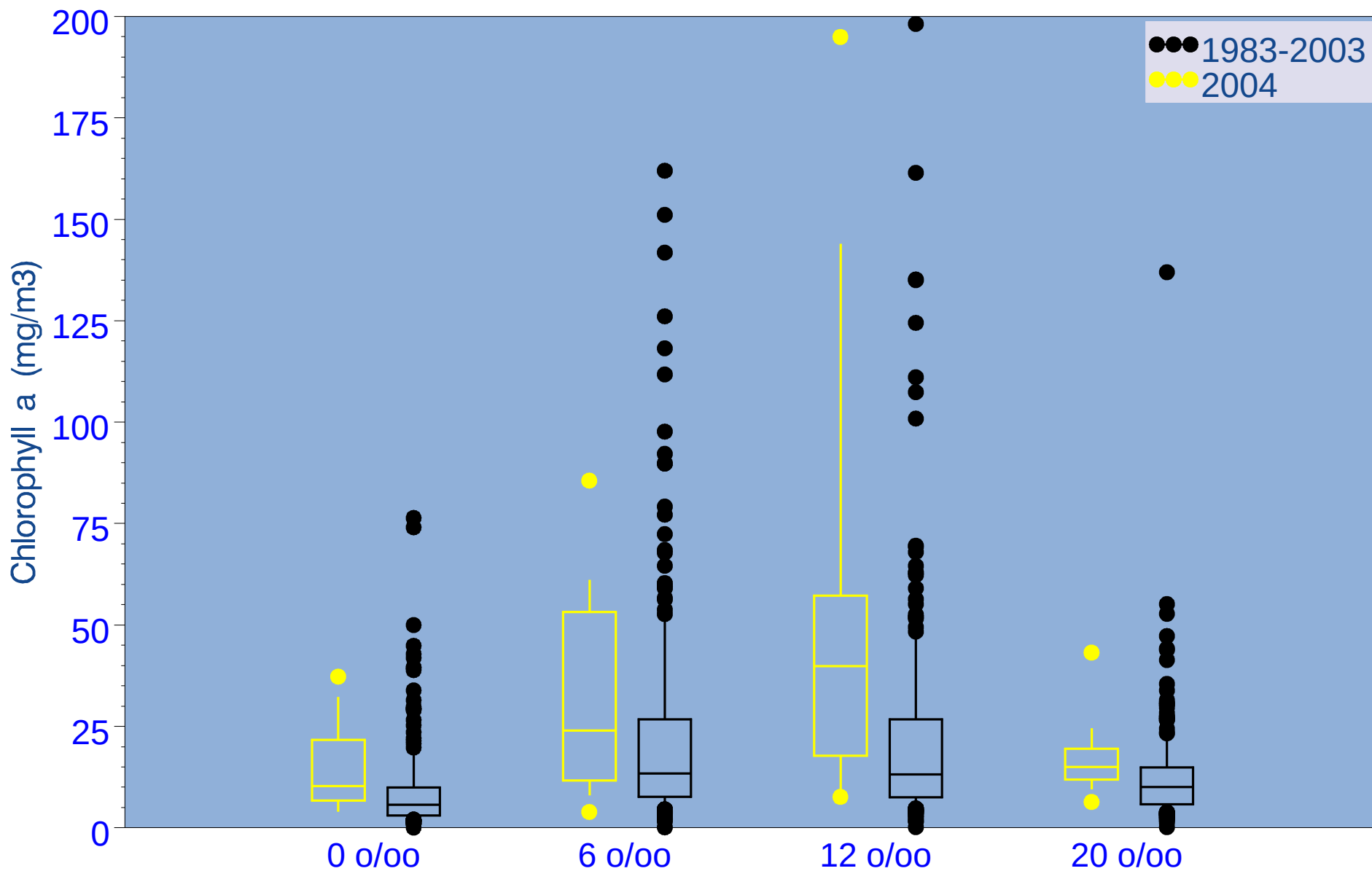


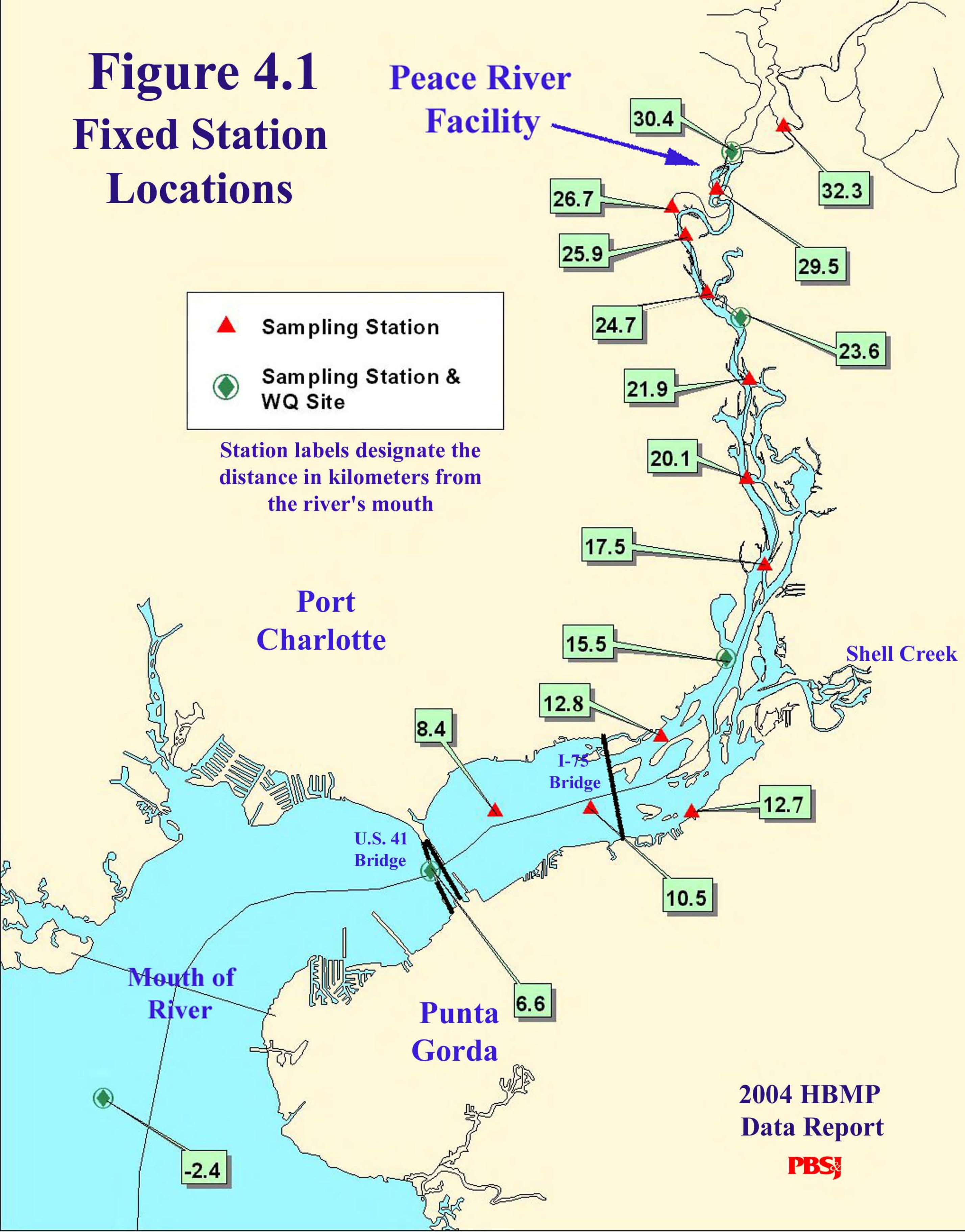
Figure 3.29 Box and whisker plots of chlorophyll a (mg/m³) at salinity sampling zones

Figure 4.1 Fixed Station Locations

Peace River
Facility



Station labels designate the
distance in kilometers from
the river's mouth



2004 HBMP
Data Report

PBS

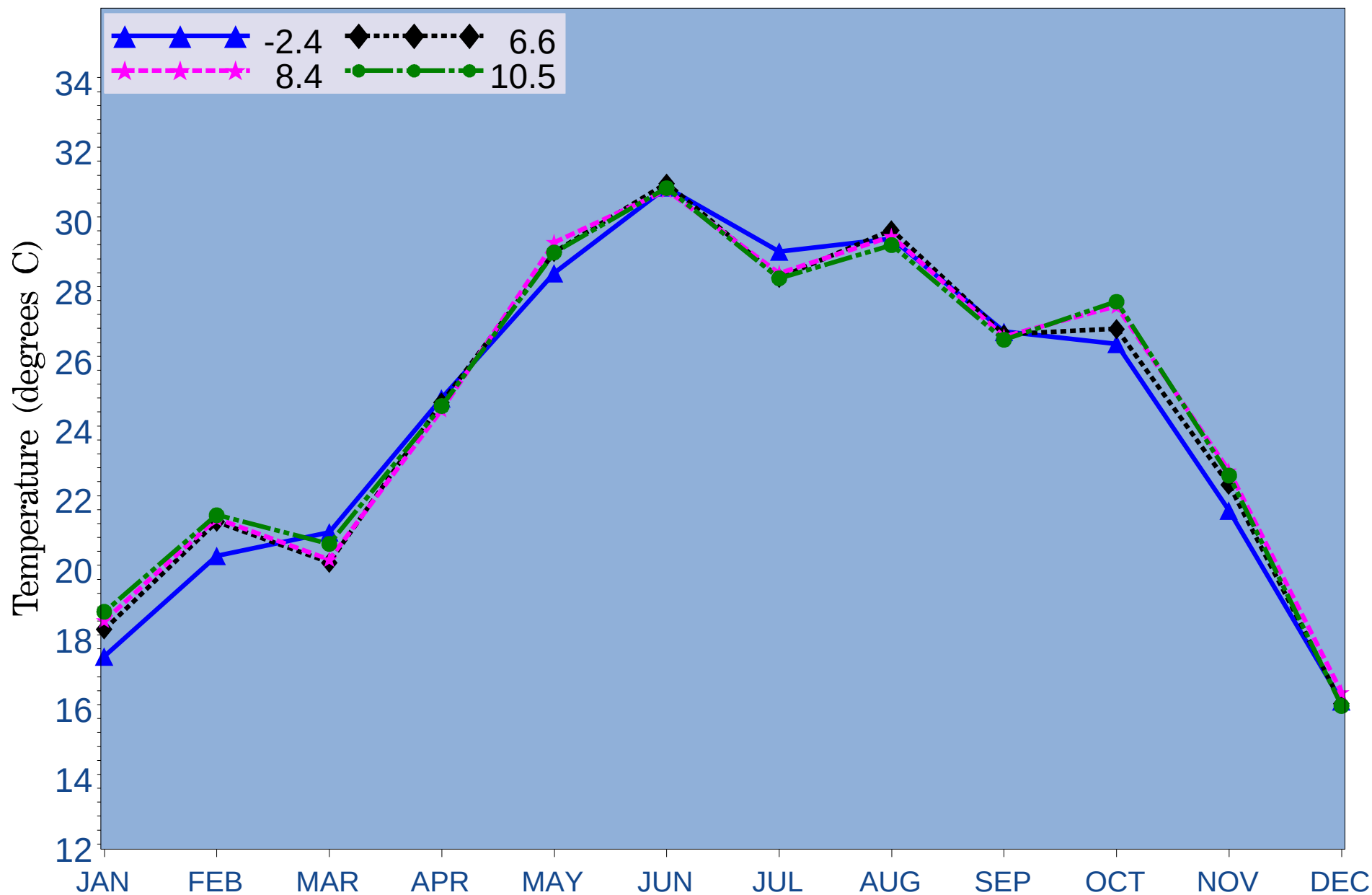


Figure 4.2a 2004 temperature at river kilometers -2.4, 6.6, 8.4 and 10.5

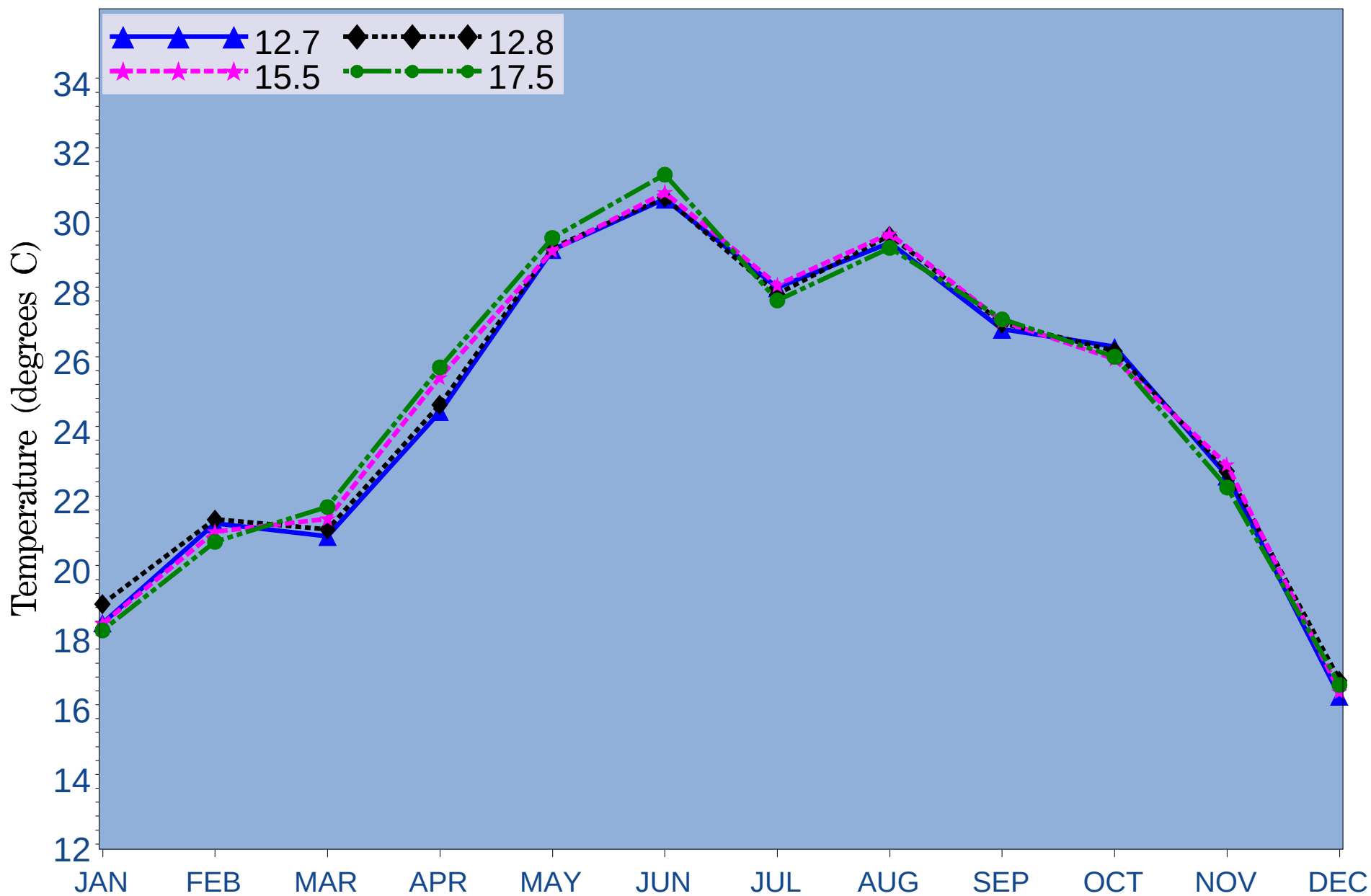


Figure 4.2b 2004 temperature at river kilometers 12.7, 12.8, 15.5 and 17.5

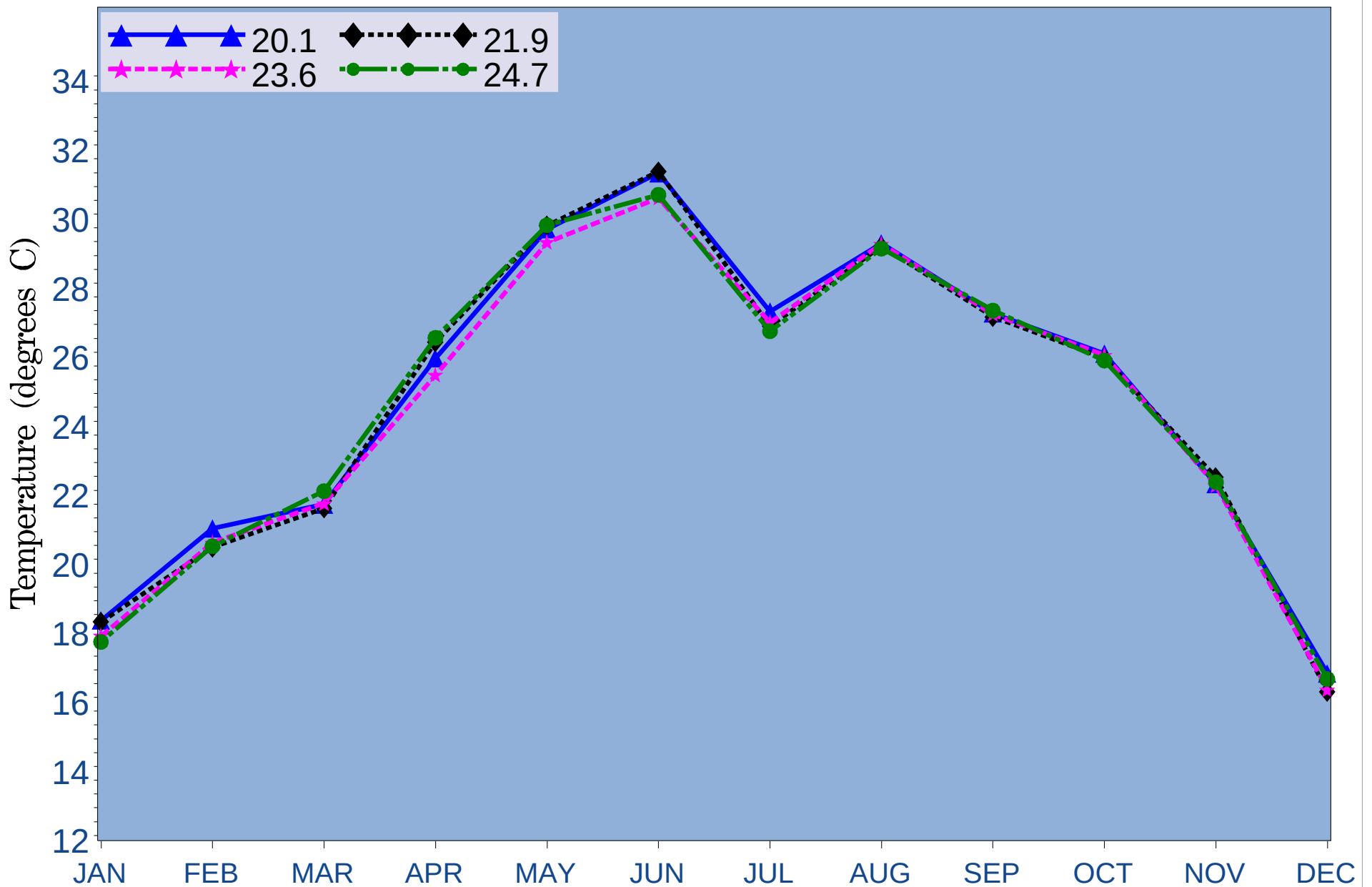


Figure 4.2c 2004 temperature at river kilometers 20.1, 21.9, 23.6 and 24.7

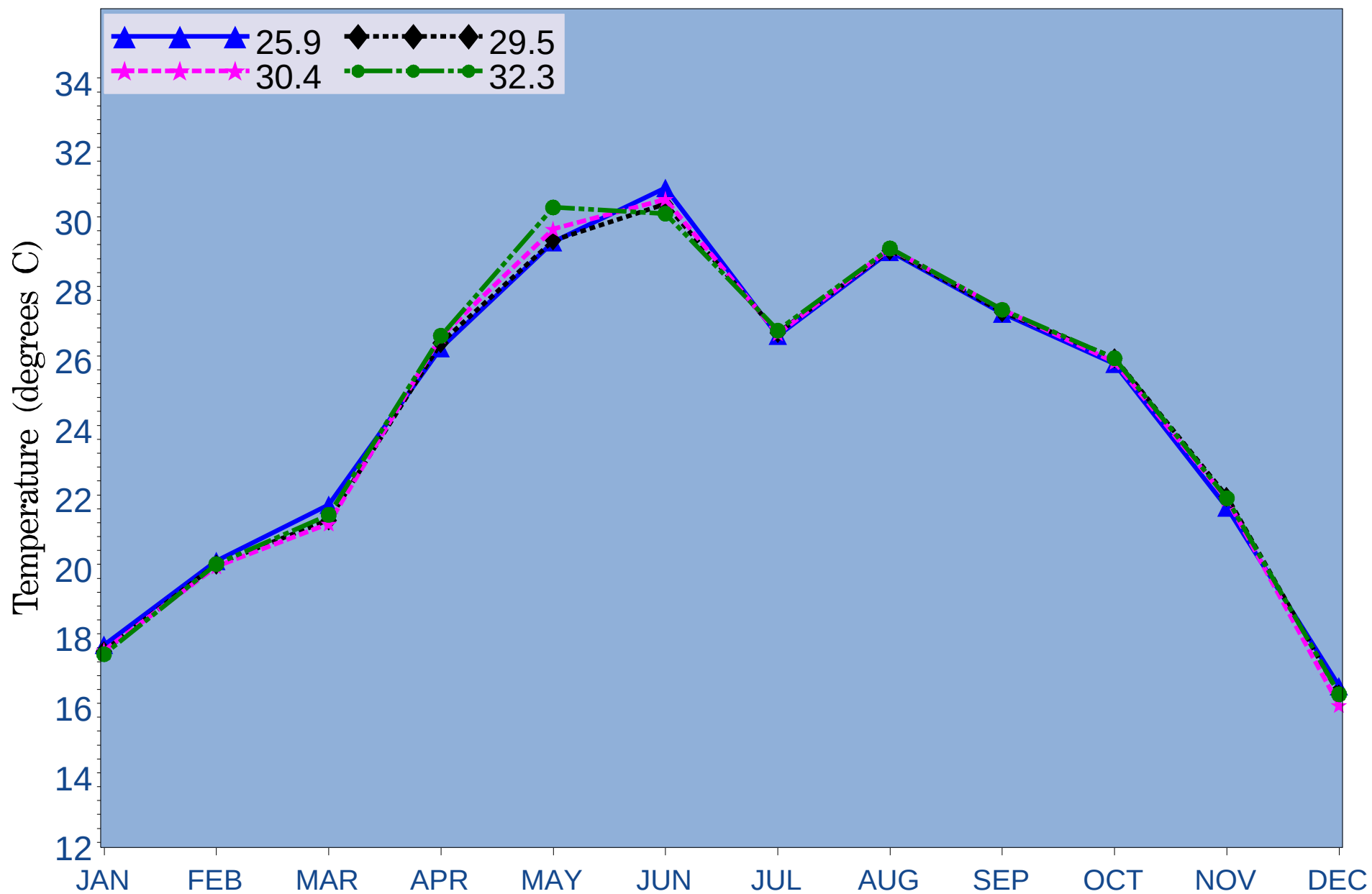


Figure 4.2d 2004 temperature at river kilometers 25.9, 29.5, 30.4 and 32.3

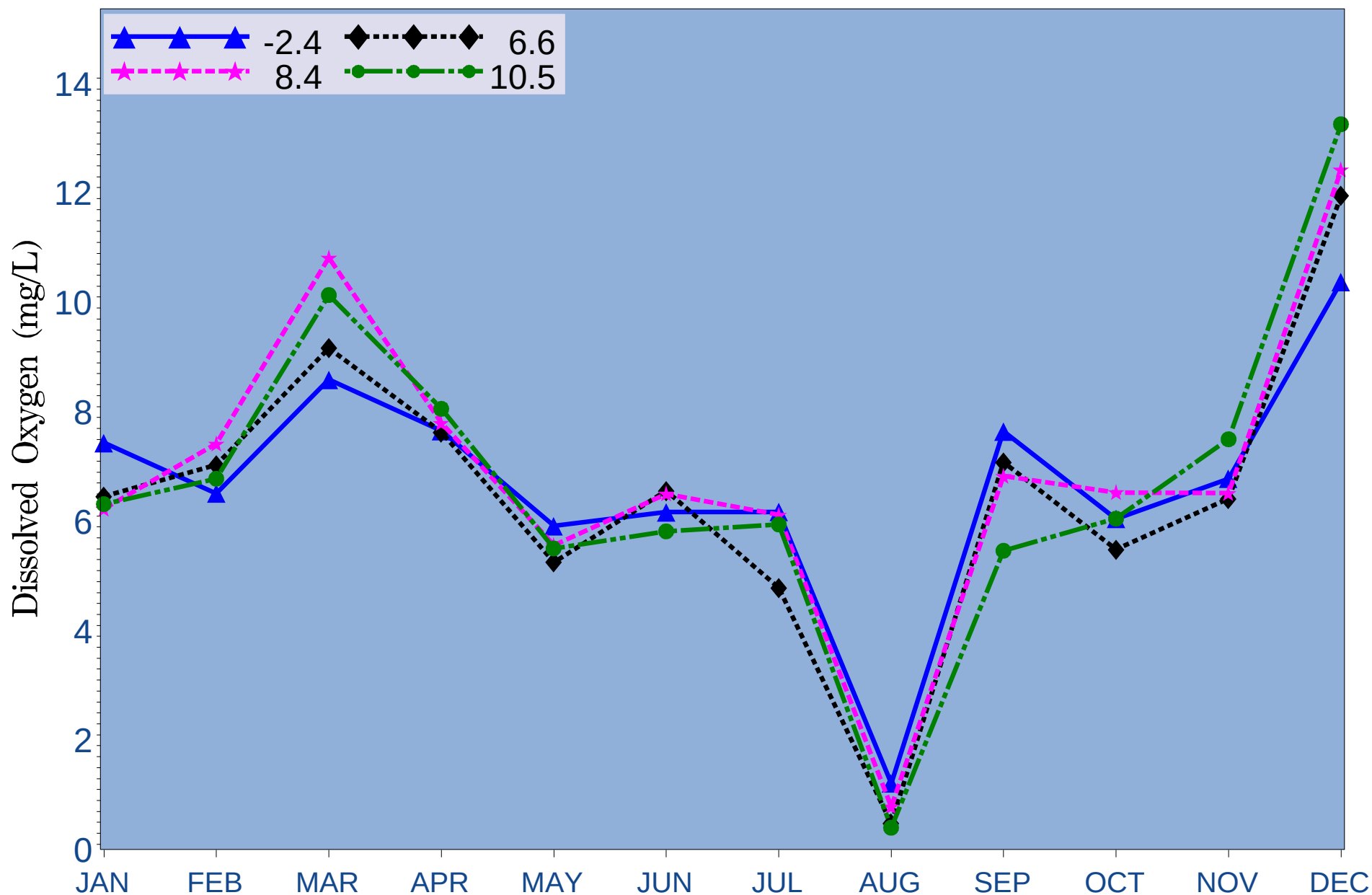


Figure 4.3a 2004 dissolved oxygen at river kilometers -2.4, 6.6, 8.4 and 10.5

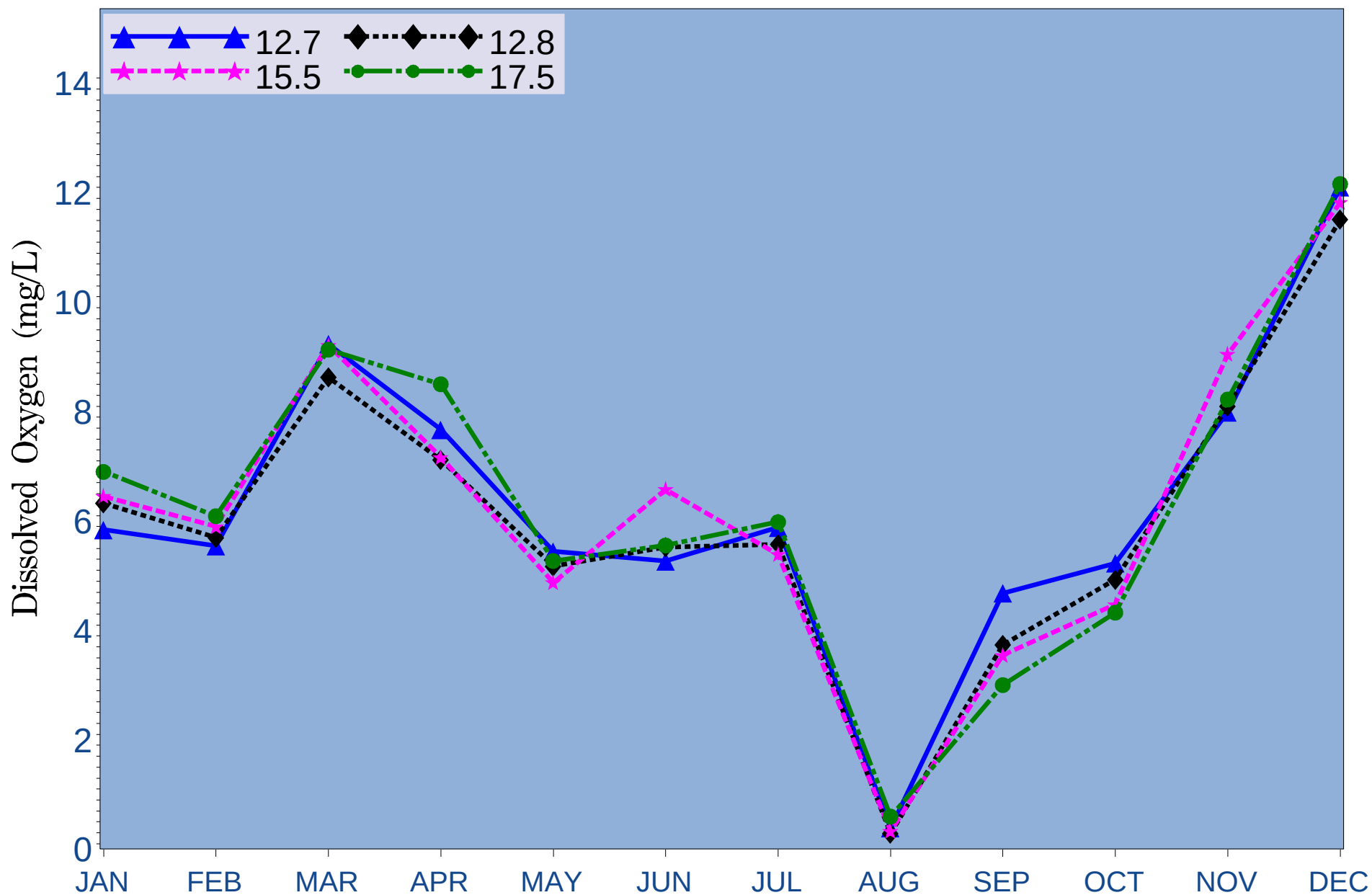


Figure 4.3b 2004 dissolved oxygen at river kilometers 12.7, 12.8, 15.5 and 17.5

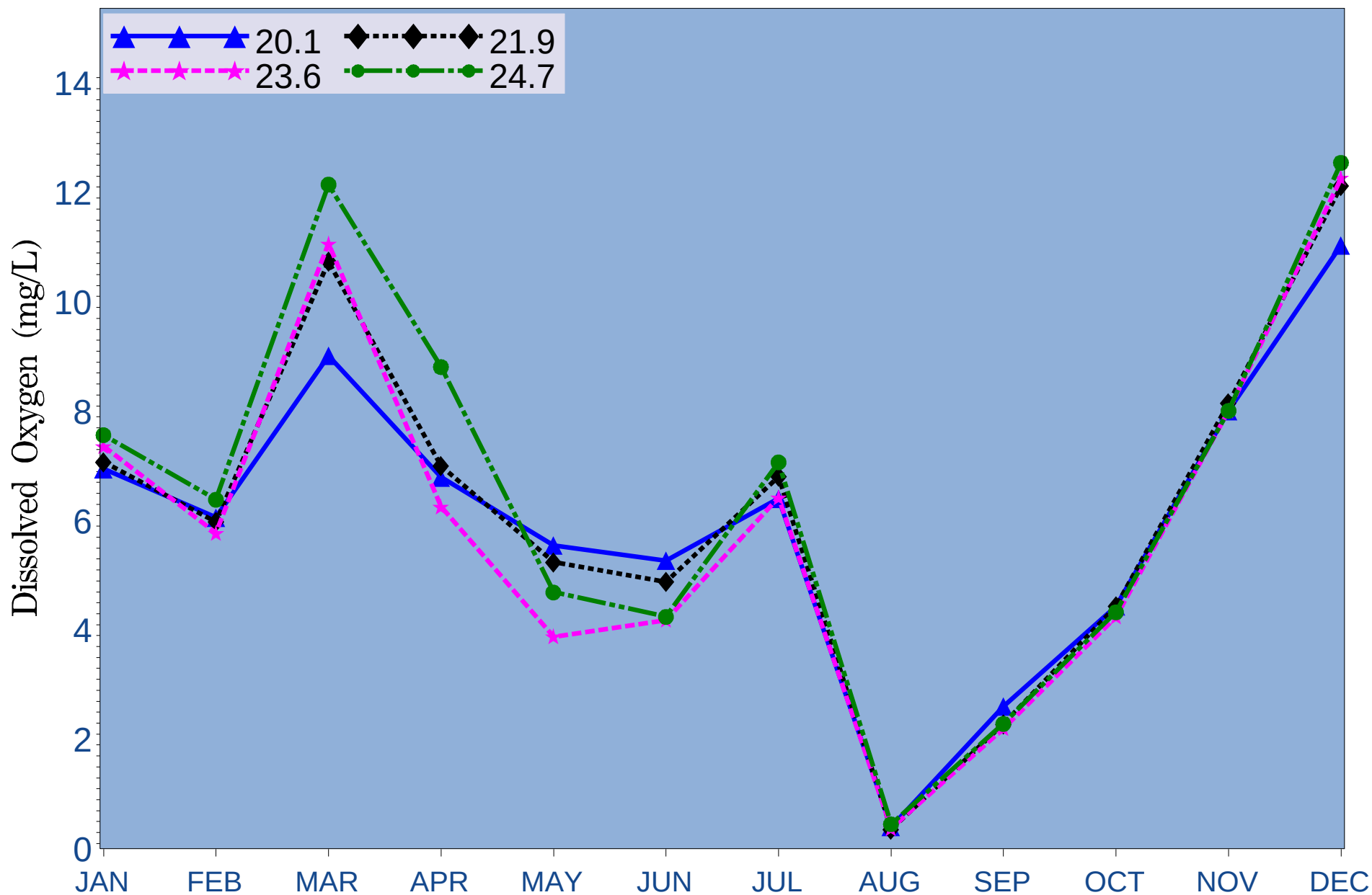


Figure 4.3c 2004 dissolved oxygen at river kilometers 20.1, 21.9, 23.6 and 24.7

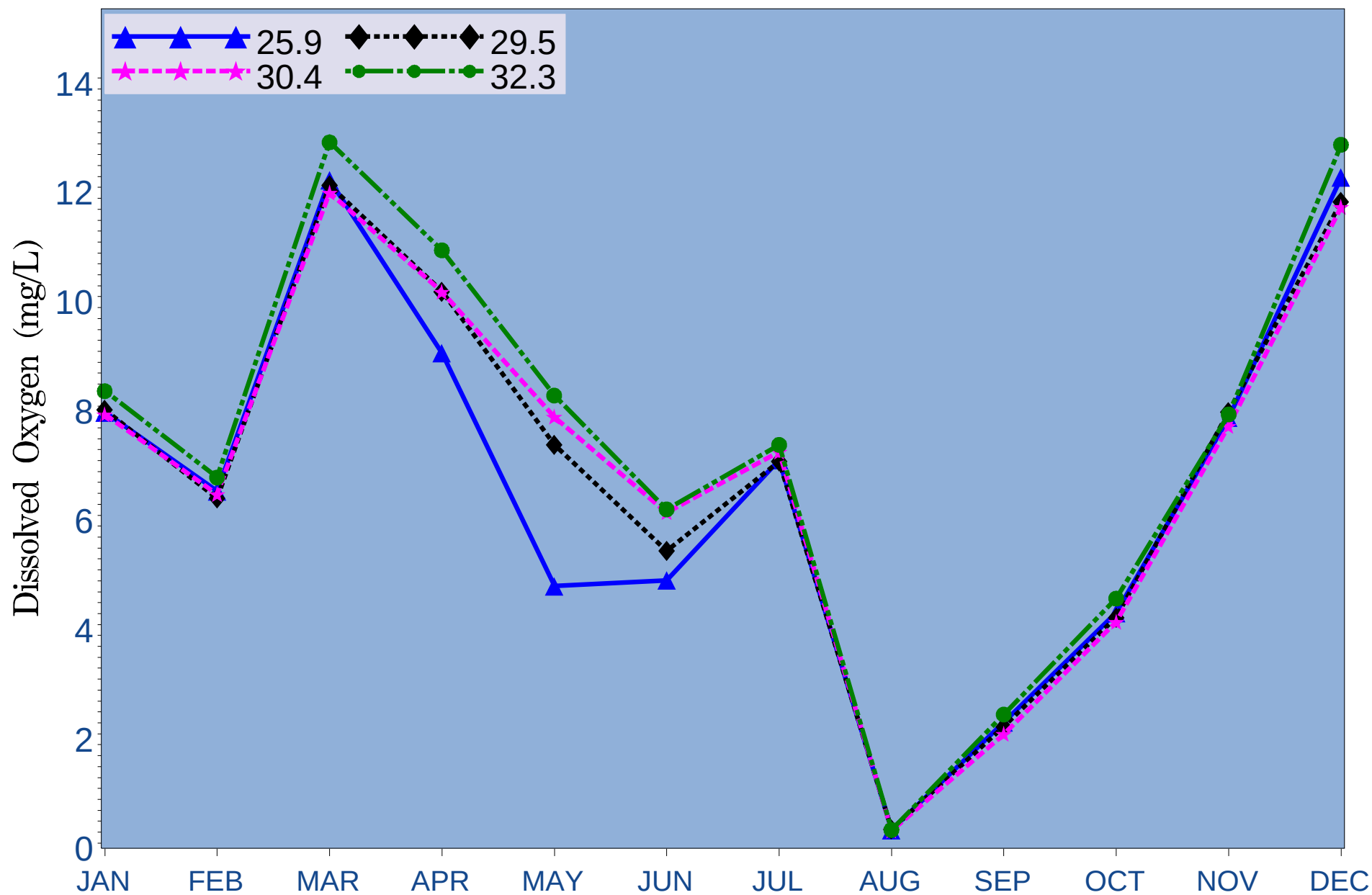


Figure 4.3d 2004 dissolved oxygen at river kilometers 25.9, 29.5, 30.4 and 32.3

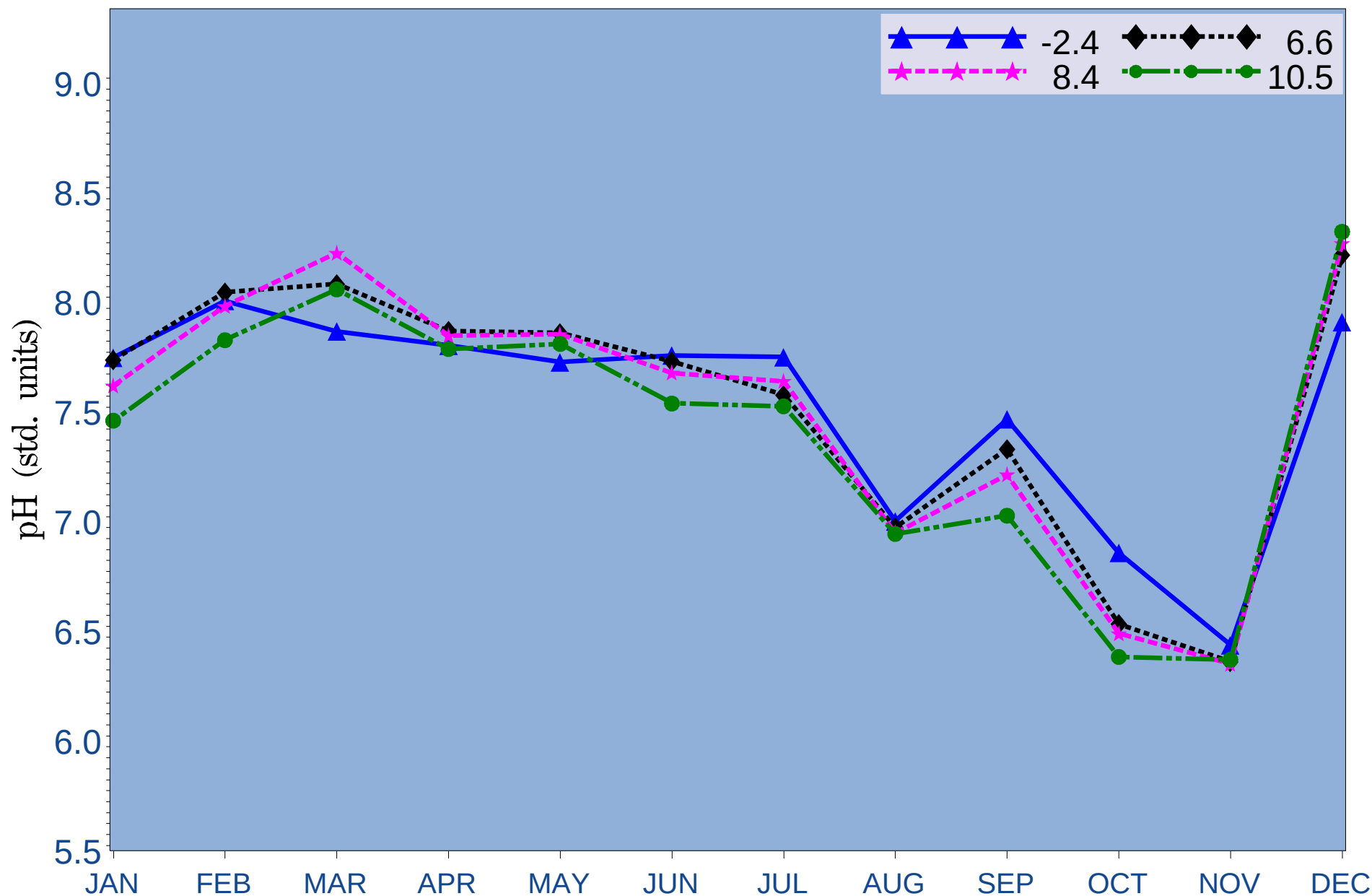


Figure 4.4a 2004 pH at river kilometers -2.4, 6.6, 8.4 and 10.5

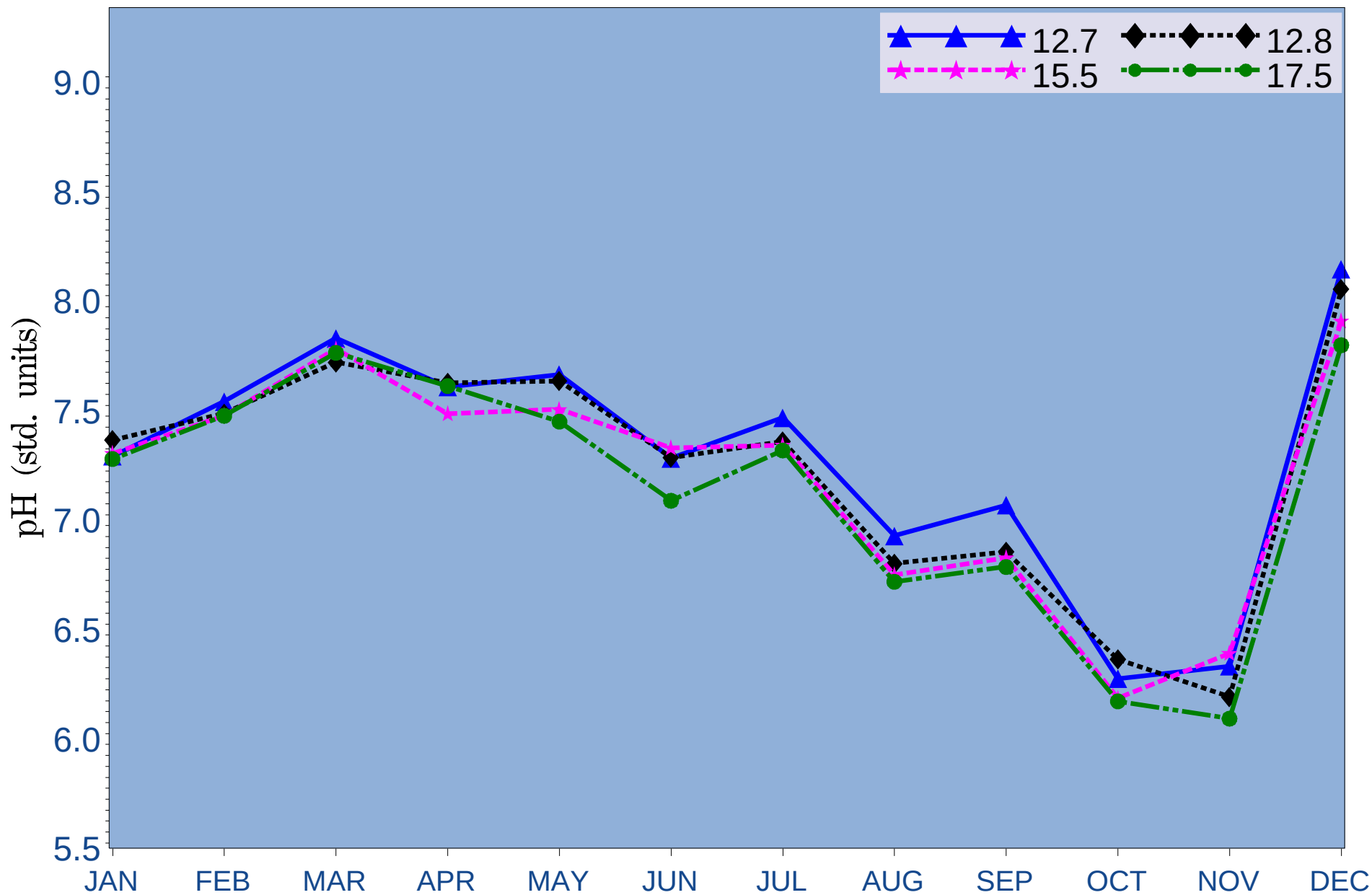


Figure 4.4b 2004 pH at river kilometers 12.7, 12.8, 15.5 and 17.5

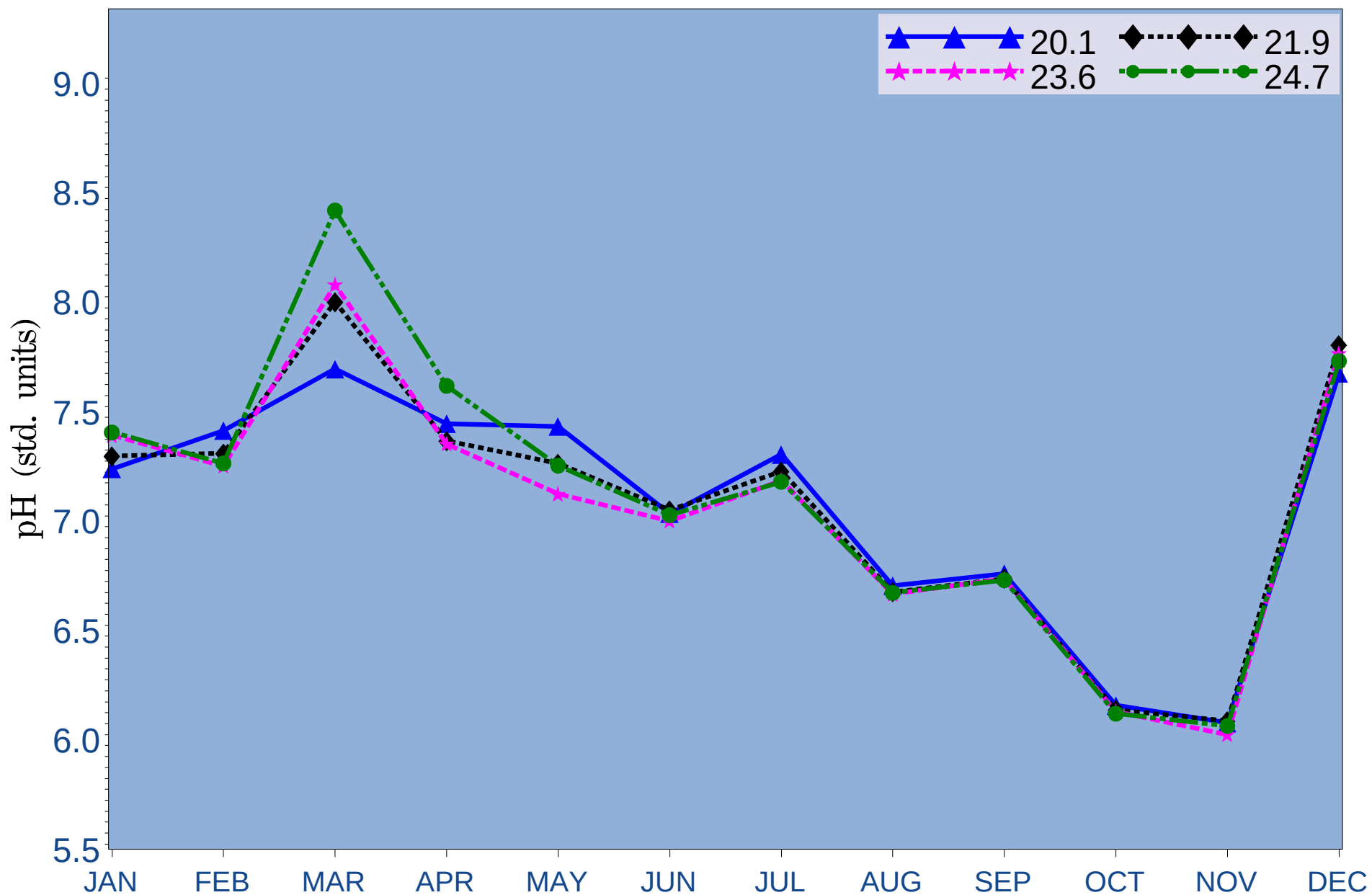


Figure 4.4c 2004 pH at river kilometers 20.1, 21.9, 23.6 and 24.7

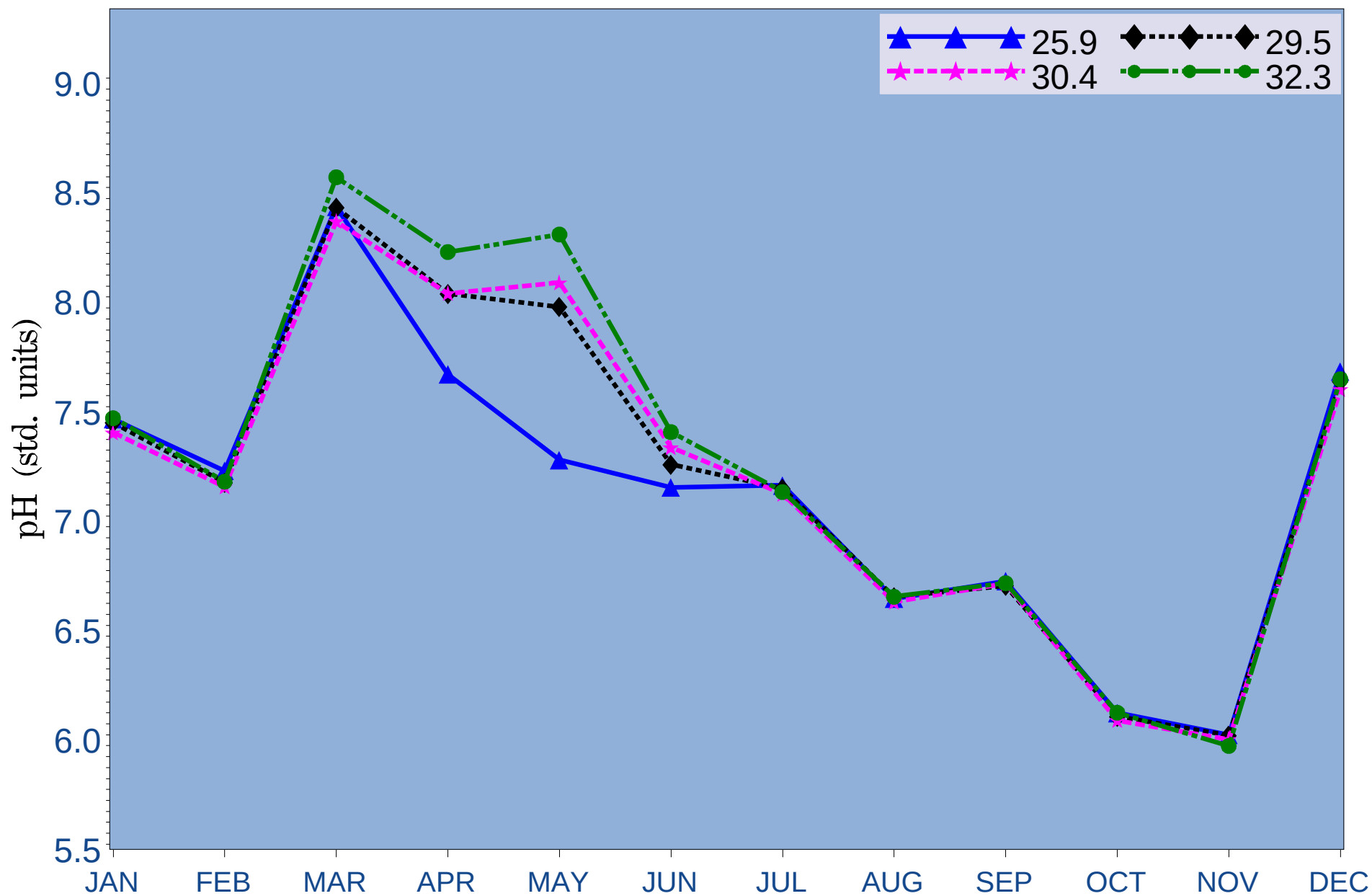


Figure 4.4d 2004 pH at river kilometers 25.9, 29.5, 30.4 and 32.3

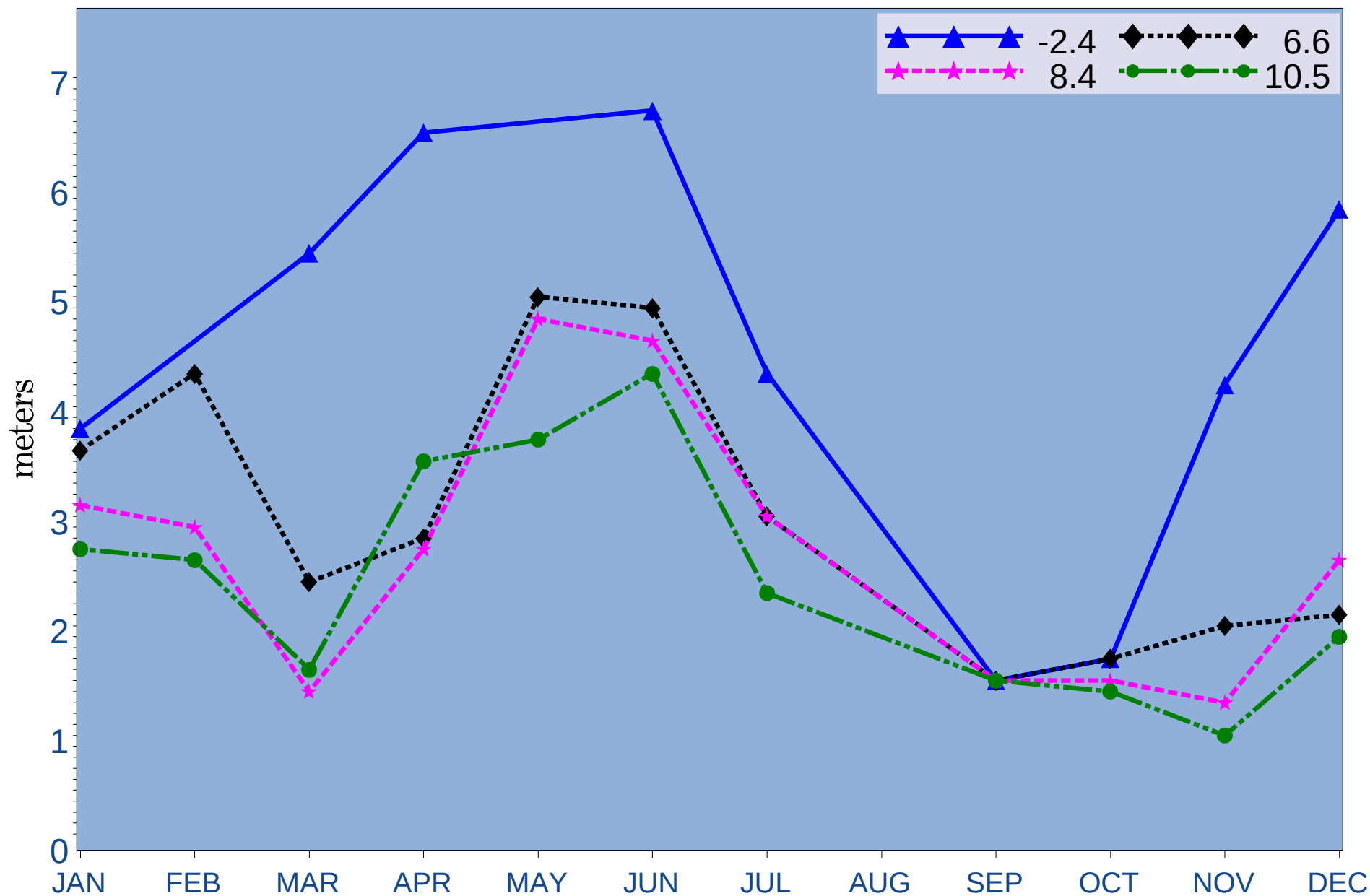


Figure 4.5a 2004 1% light depth at river kilometers -2.4, 6.6, 8.4 and 10.5

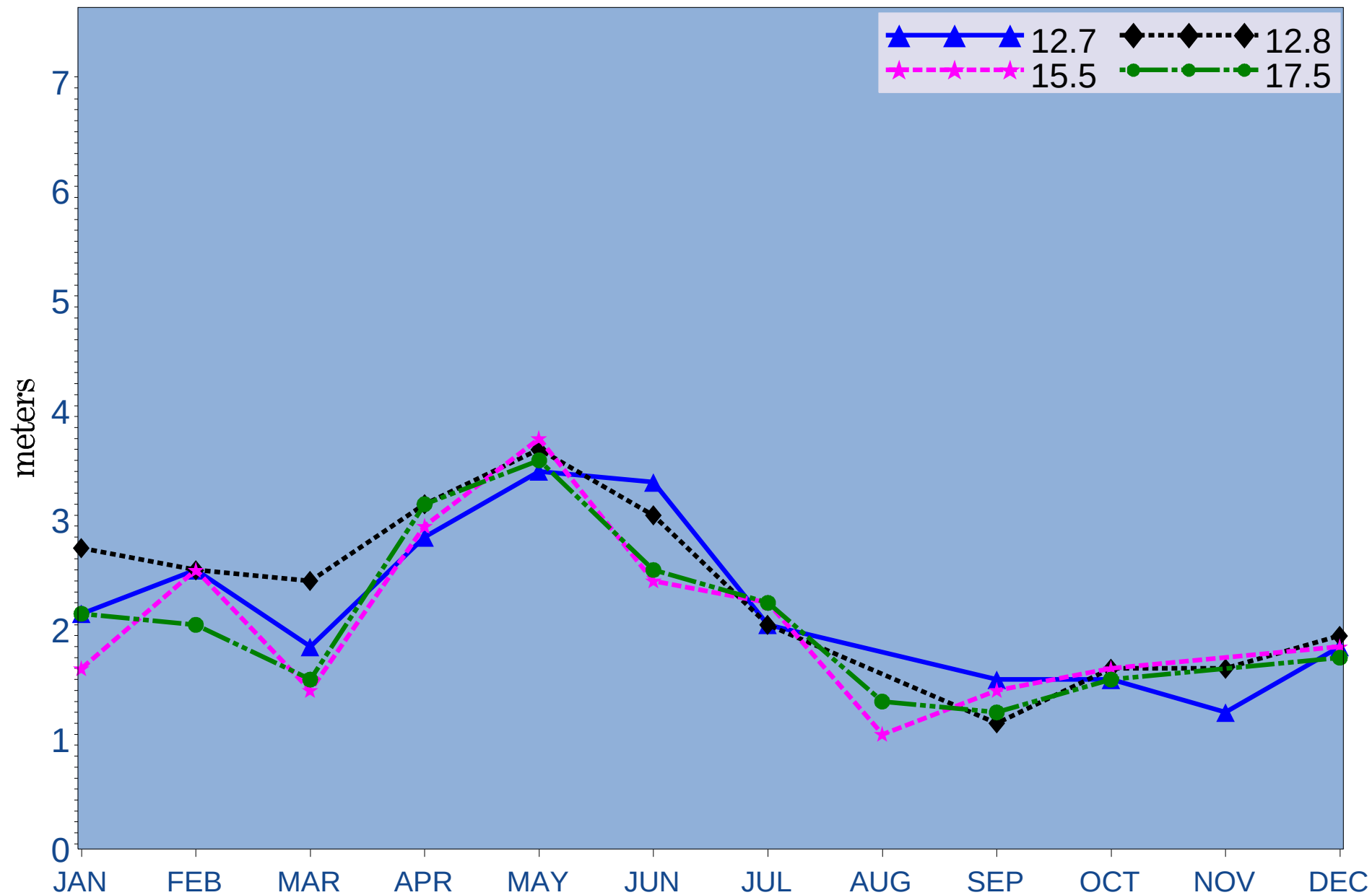


Figure 4.5b 2004 1% light depth at river kilometers 12.7, 12.8, 15.5 and 17.5

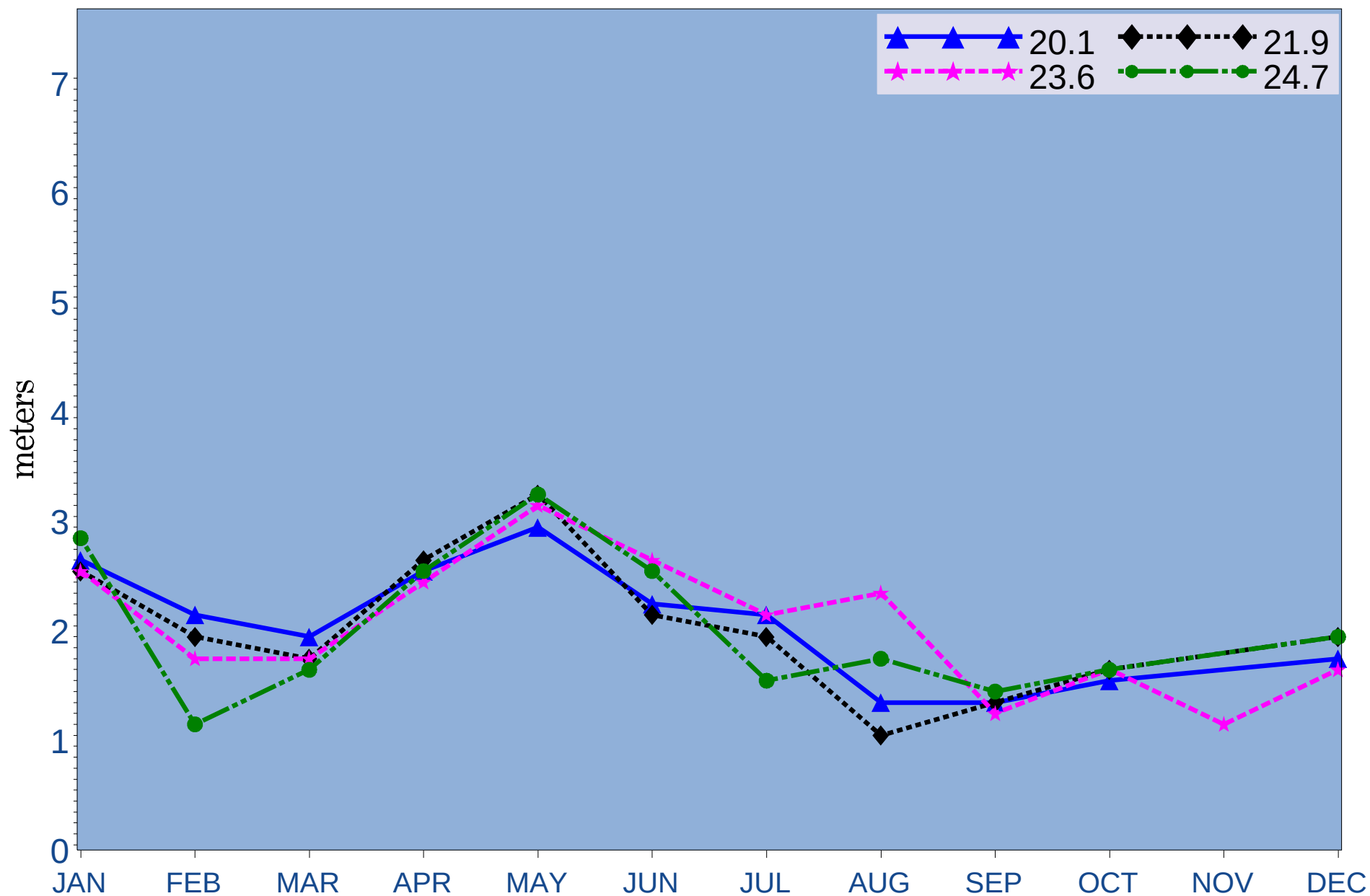


Figure 4.5c 2004 1% light depth at river kilometers 20.1, 21.9, 23.6 and 24.7

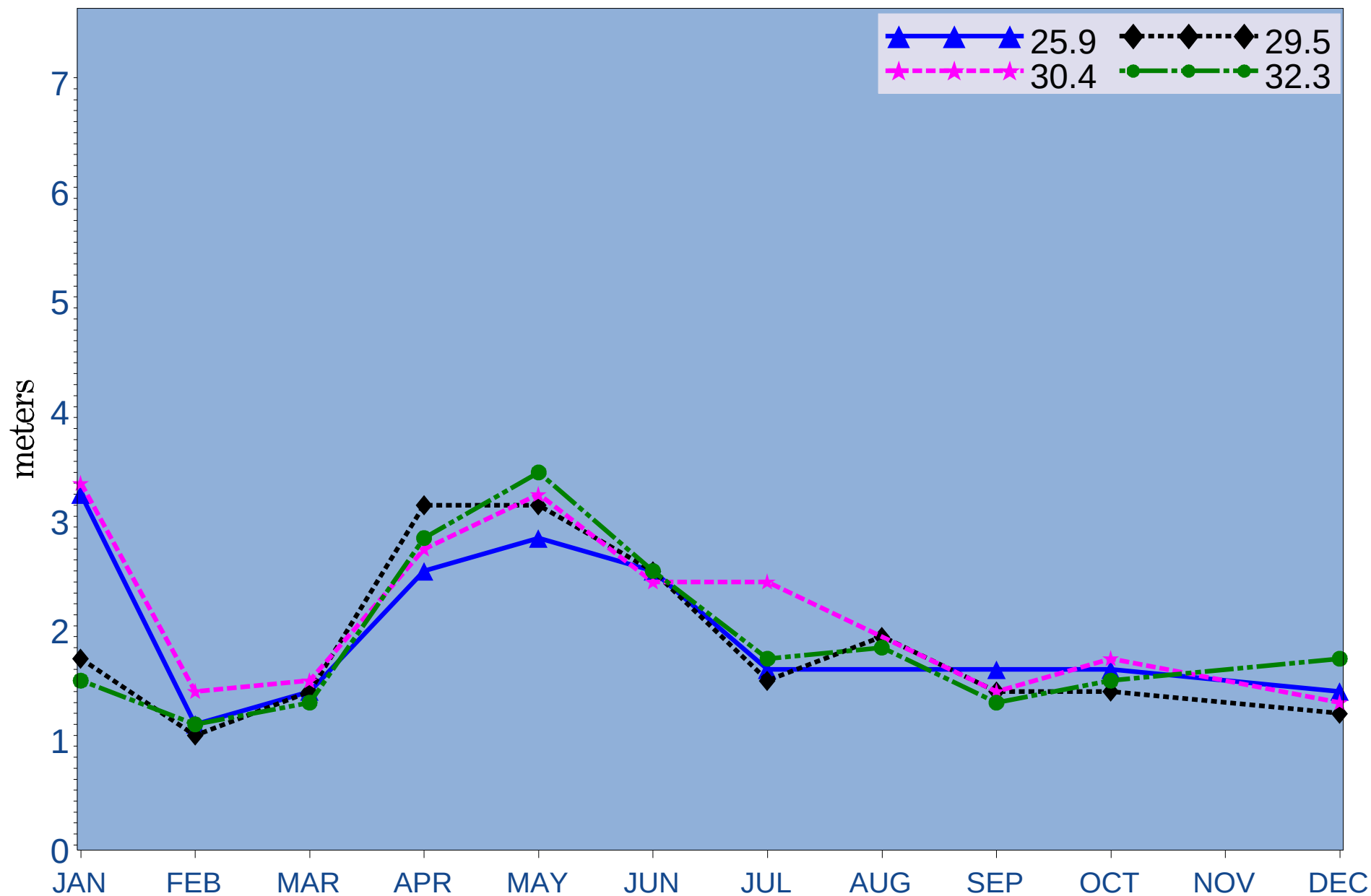


Figure 4.5d 2004 1% light depth at river kilometers 25.9, 29.5, 30.4 and 32.3

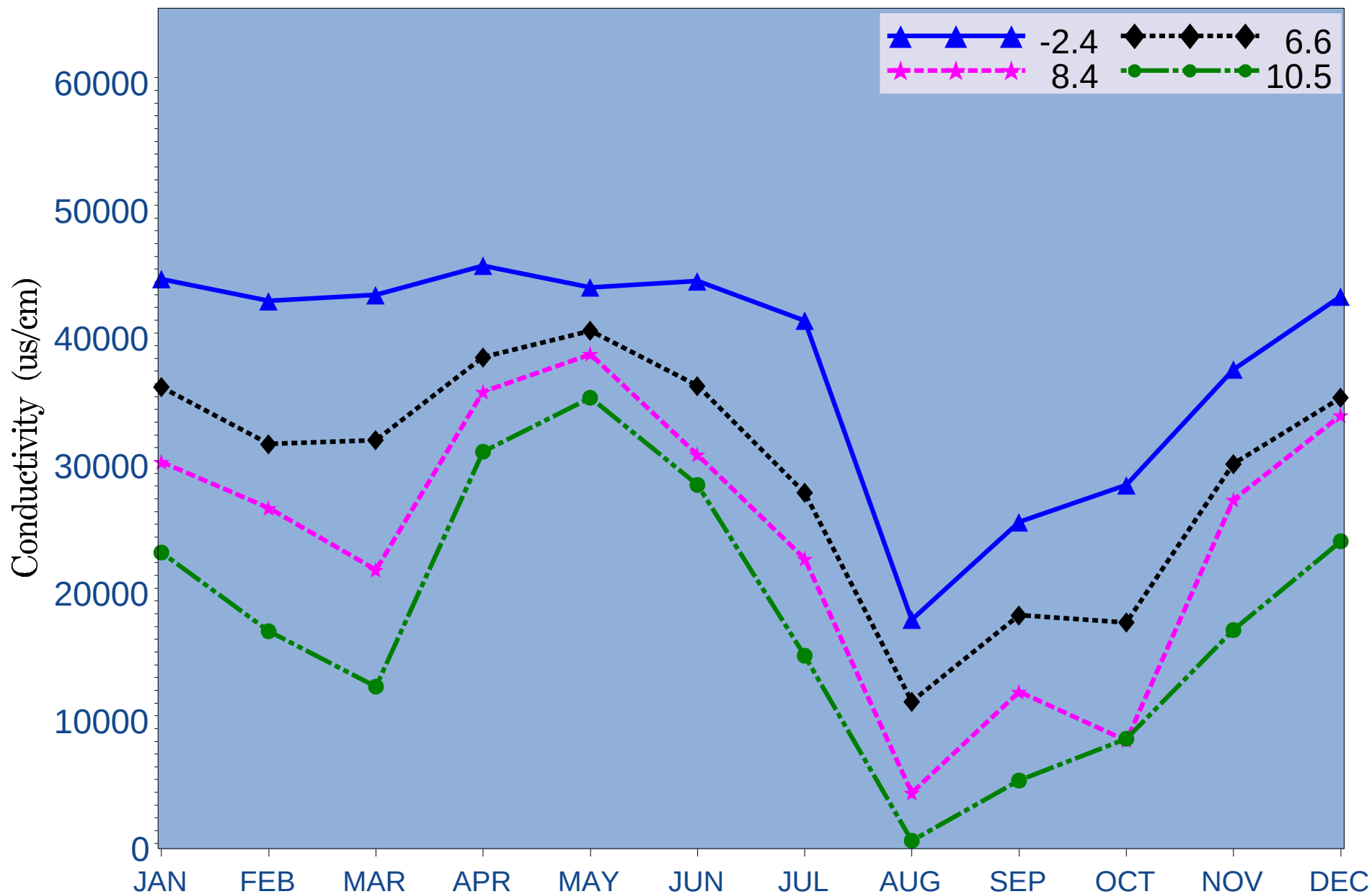


Figure 4.6a 2004 specific conductance at river kilometers -2.4, 6.6, 8.4 and 10.5

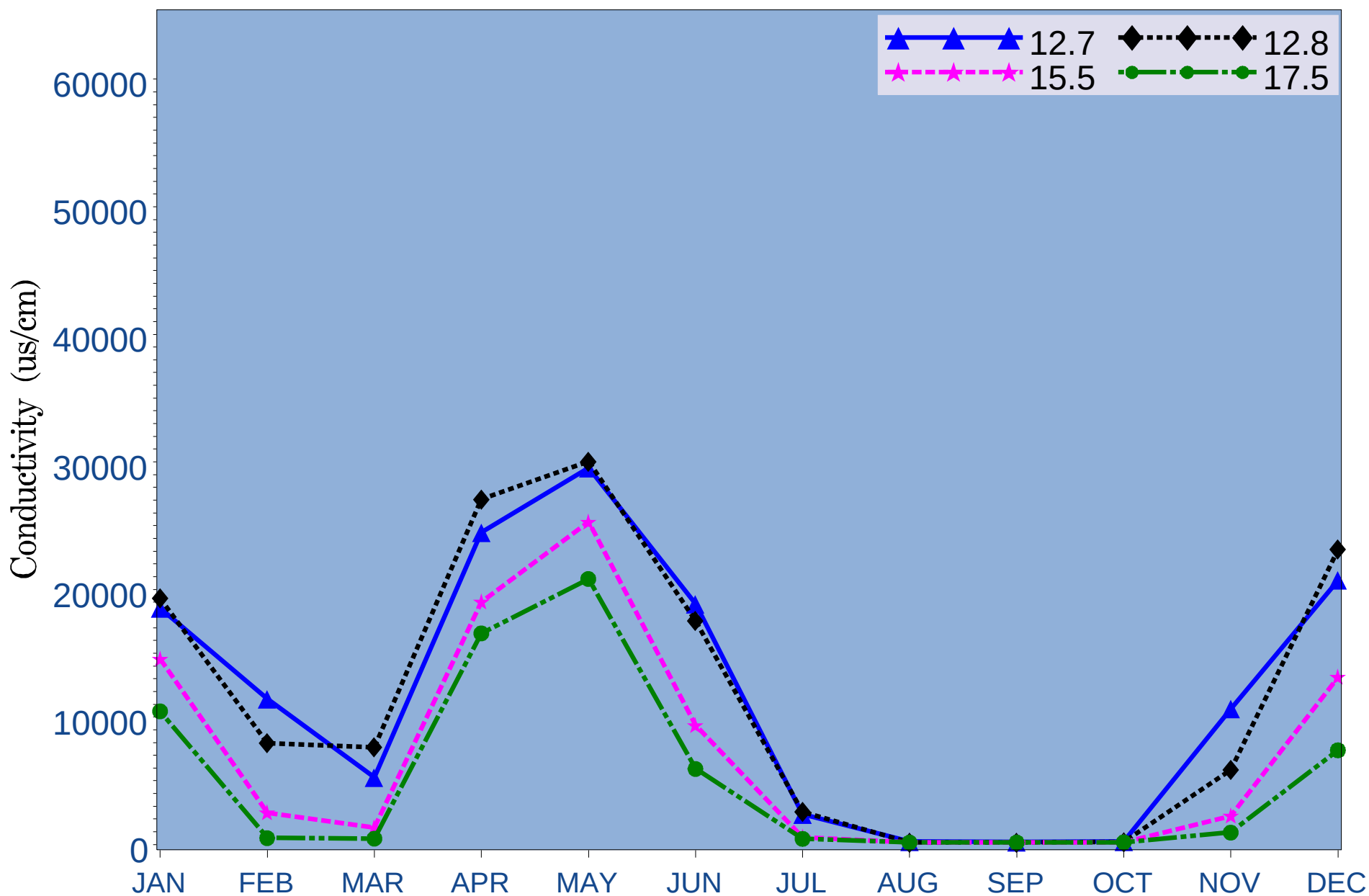


Figure 4.6b 2004 specific conductance at river kilometers 12.7, 12.8, 15.5 and 17.5

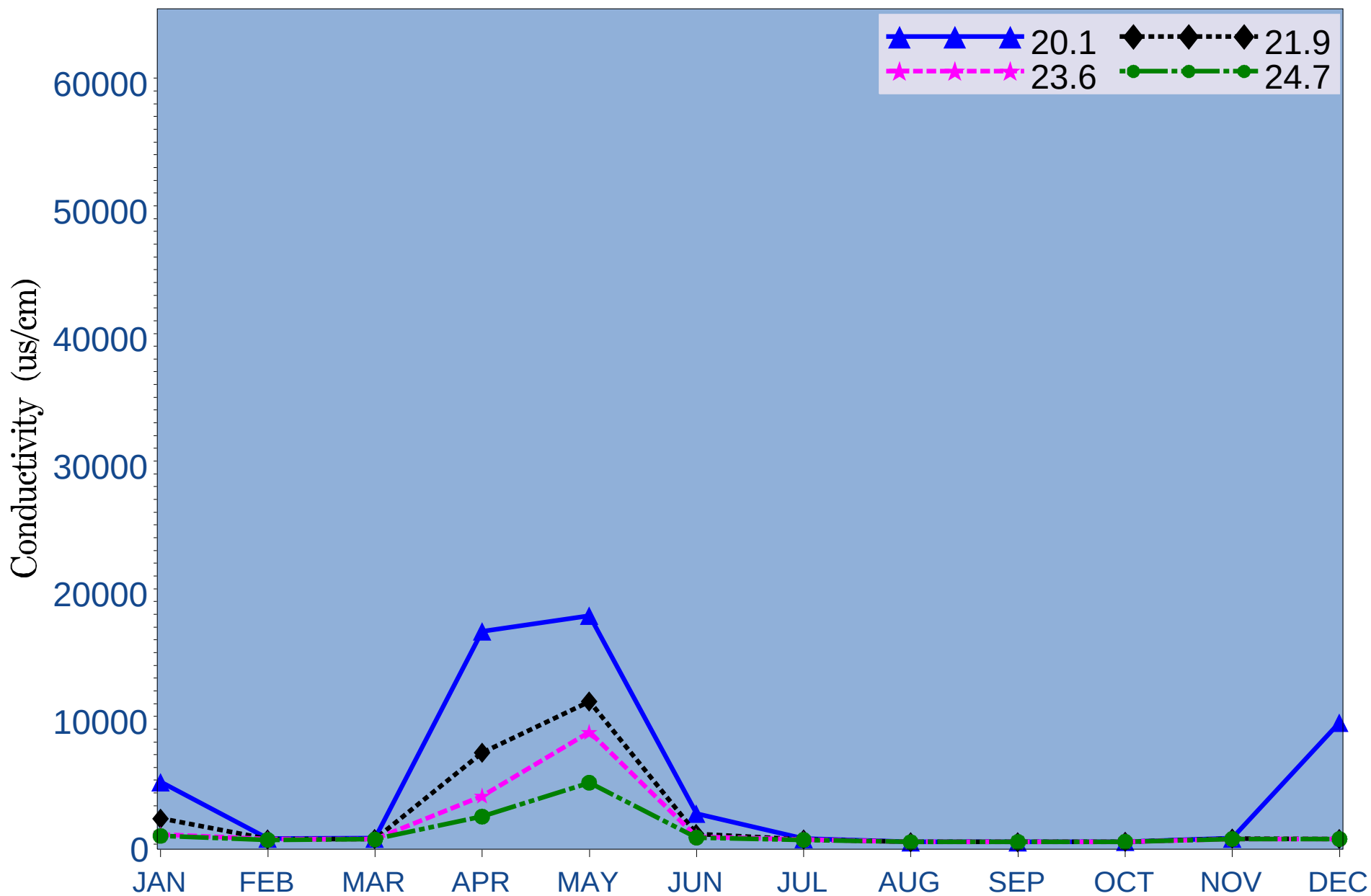


Figure 4.6c 2004 specific conductance at river kilometers 20.1, 21.9, 23.6 and 24.7

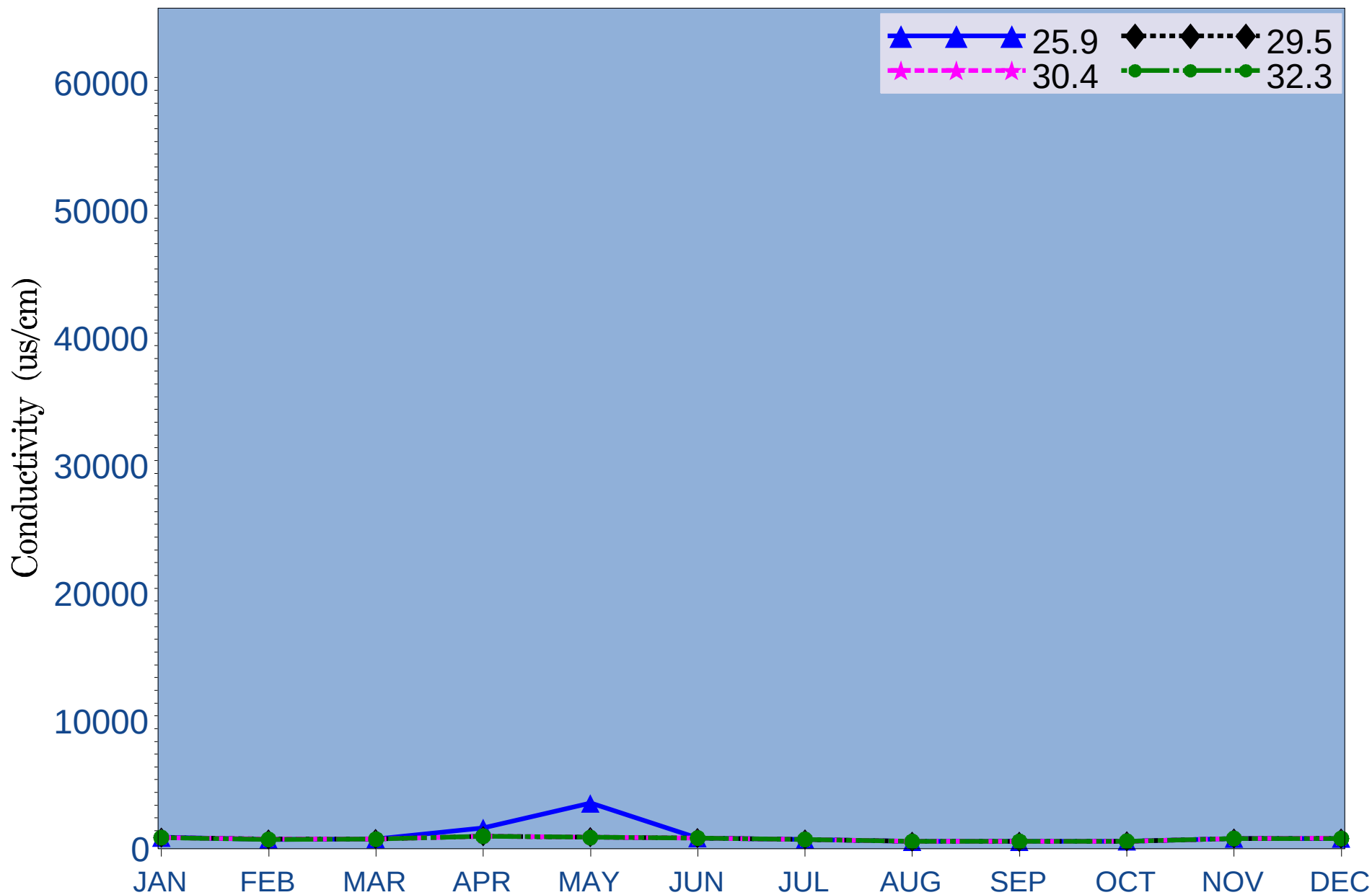


Figure 4.6d 2004 specific conductance at river kilometers 25.9, 29.5, 30.4 and 32.3

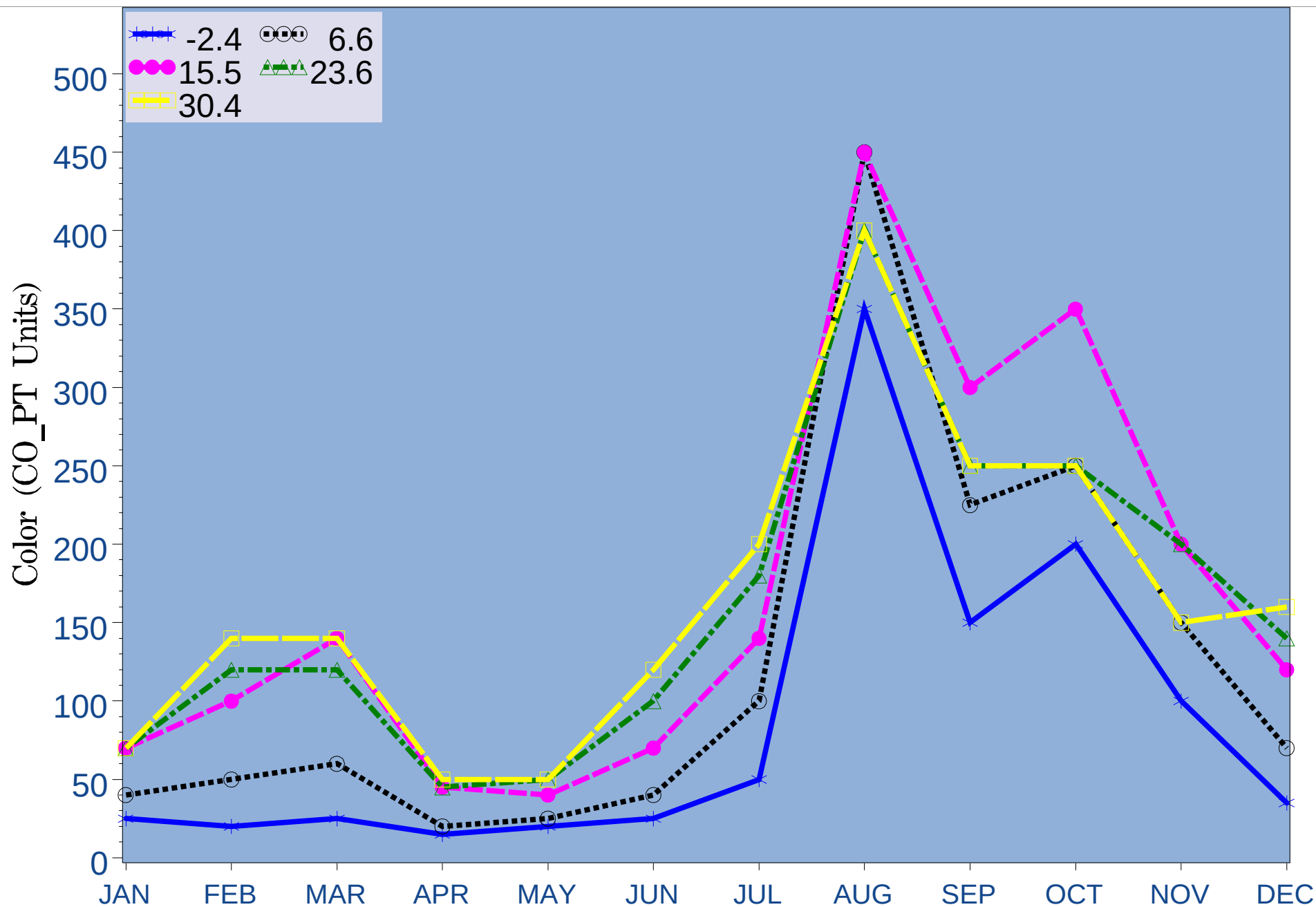


Figure 4.7a Subsurface color at fixed sampling stations (2004)

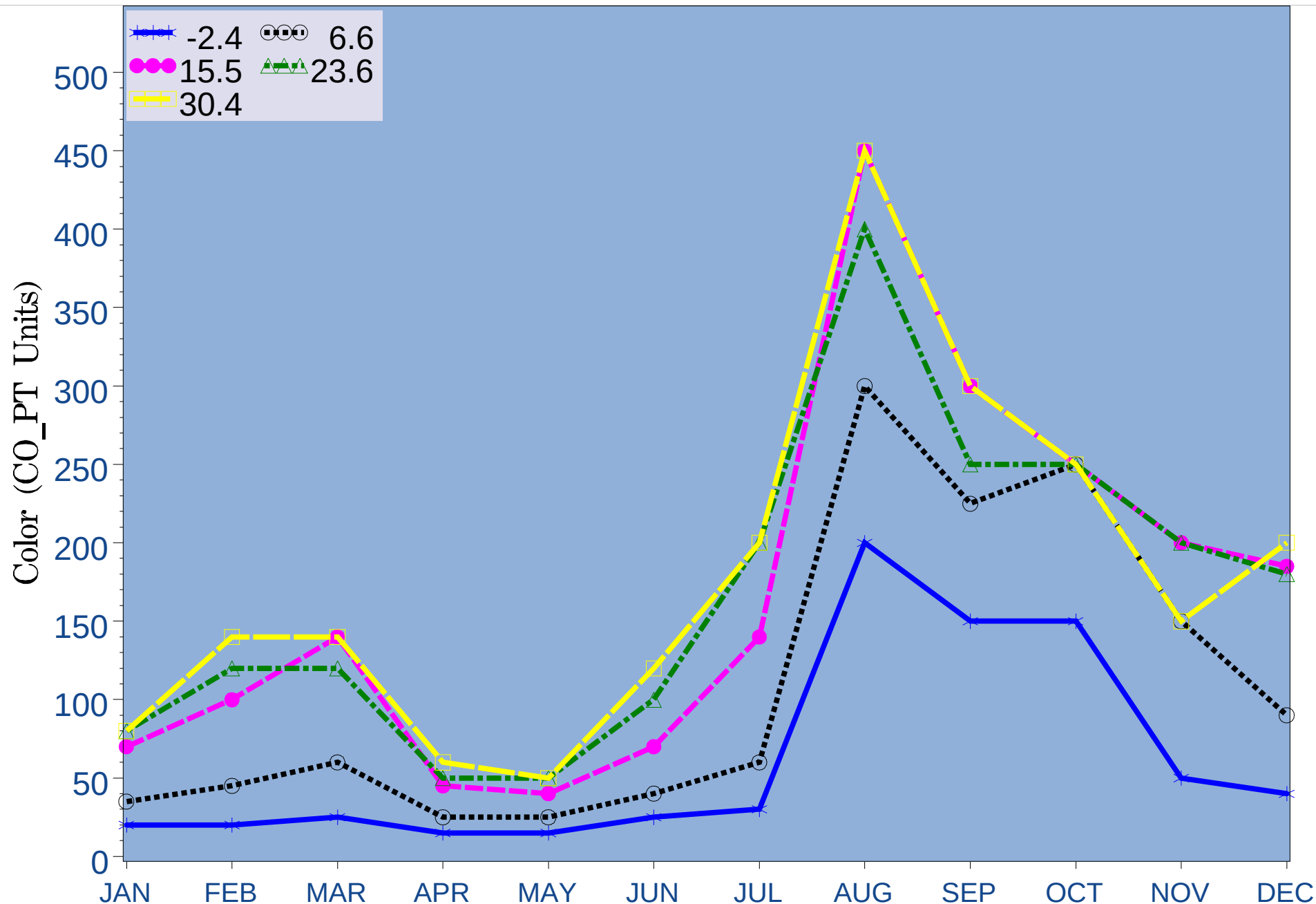


Figure 4.7b Near bottom color at fixed sampling stations (2004)

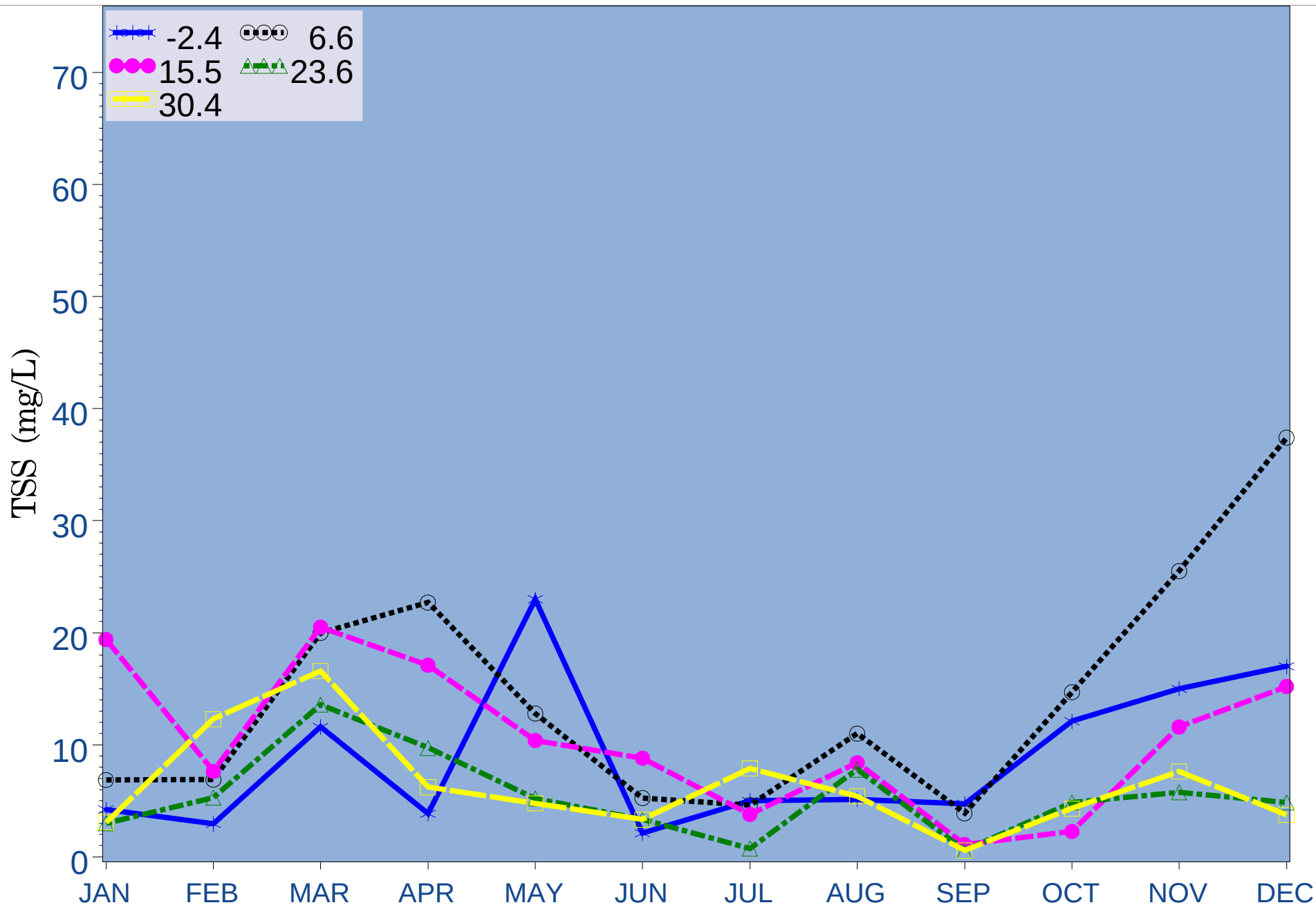


Figure 4.8a Subsurface total suspended solids at fixed sampling stations (2004)

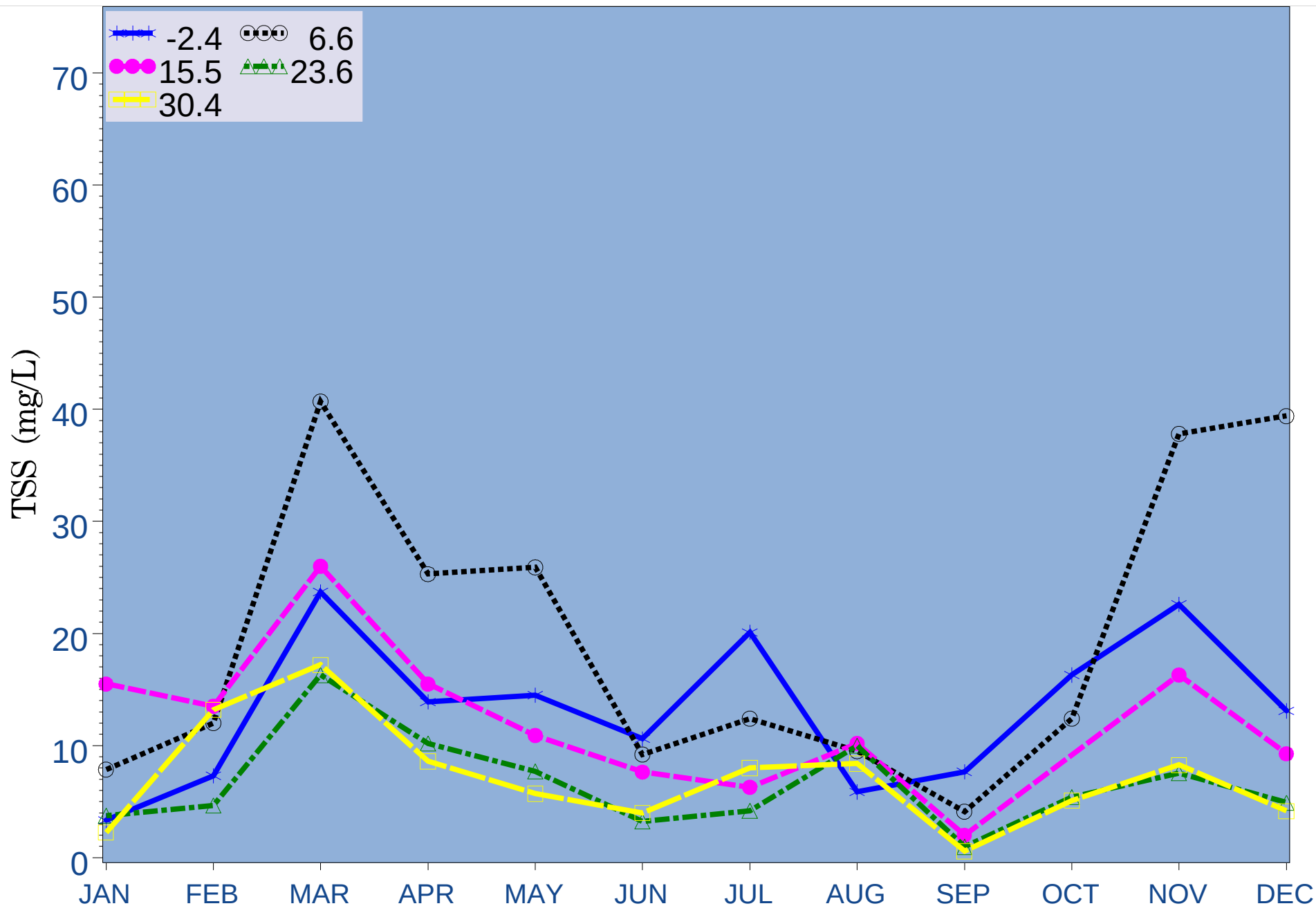


Figure 4.8b Near bottom total suspended solids at fixed sampling stations (2004)

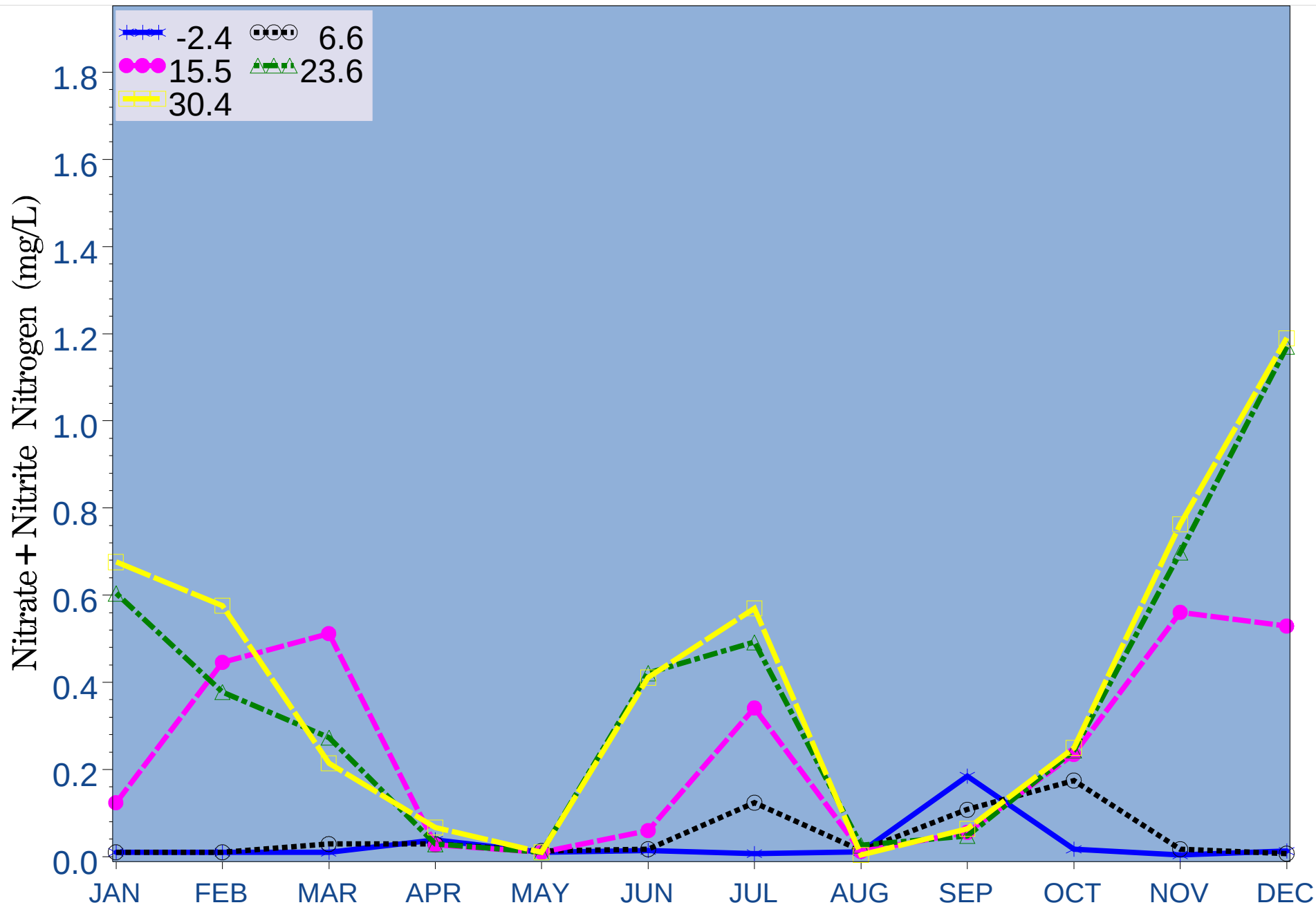


Figure 4.9a Subsurface nitrate/nitrite nitrogen at fixed sampling stations (2004)

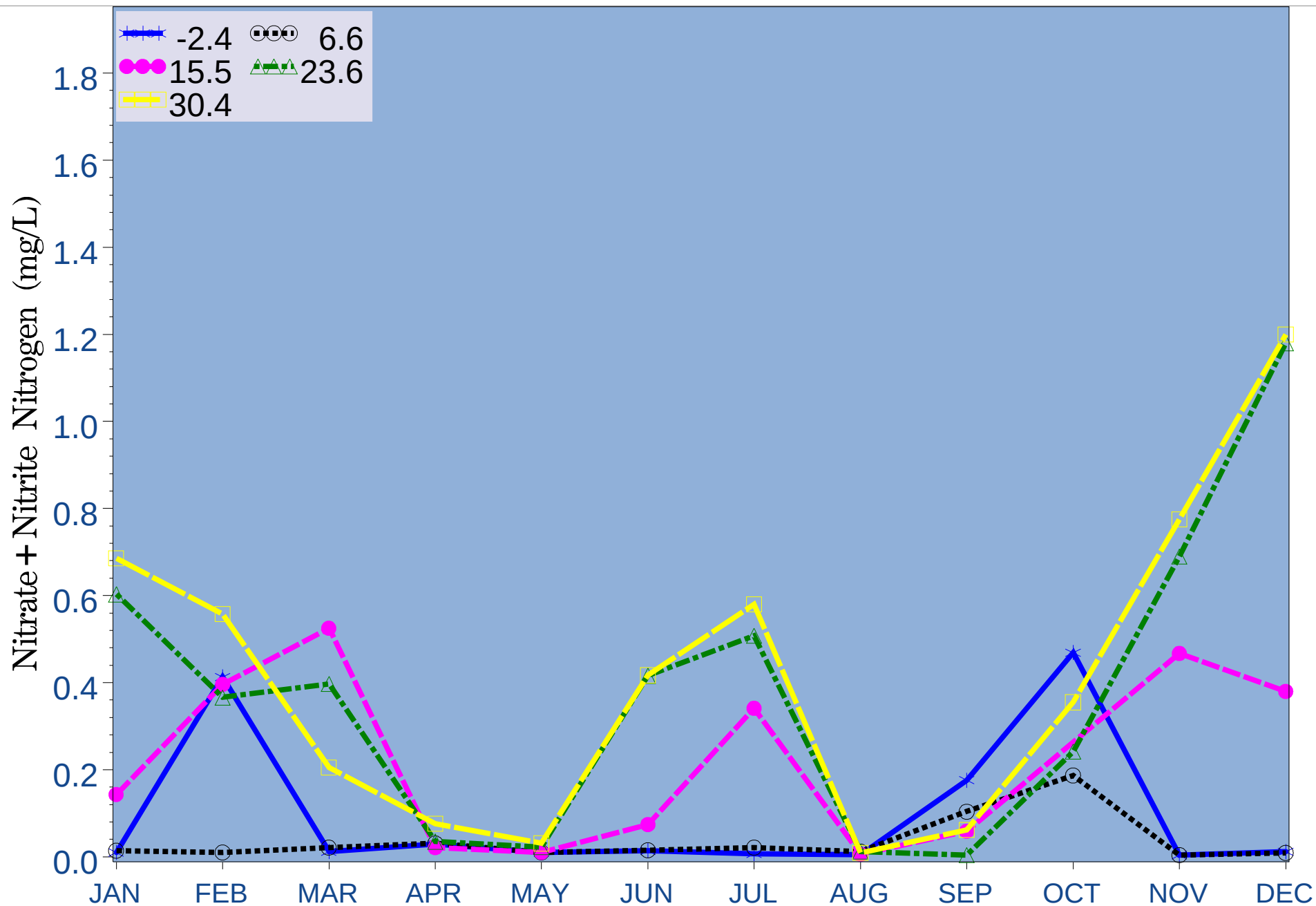


Figure 4.9b Near bottom nitrate/nitrite nitrogen at fixed sampling stations (2004)

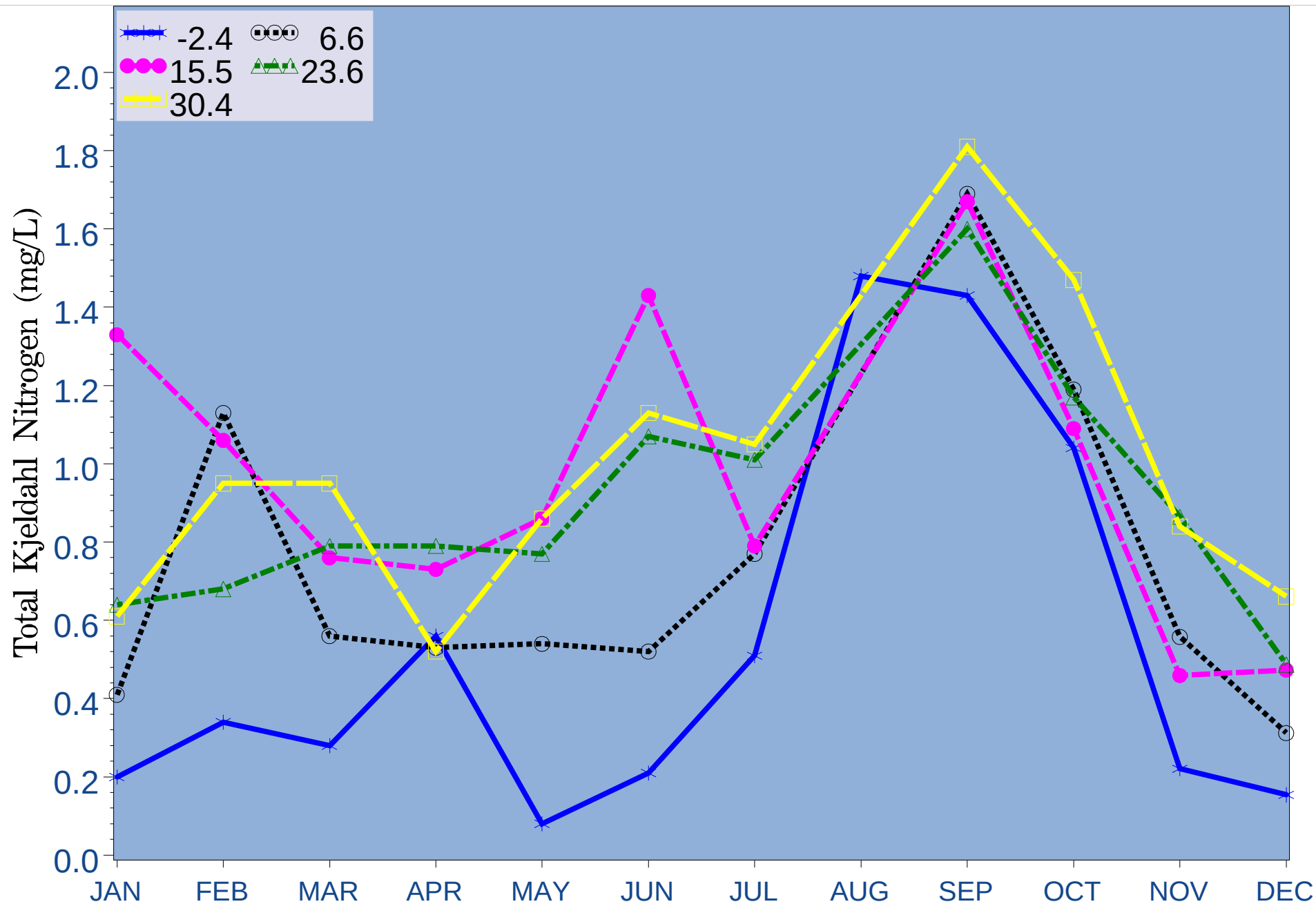


Figure 4.10a Subsurface total Kjeldahl nitrogen at fixed sampling stations (2004)

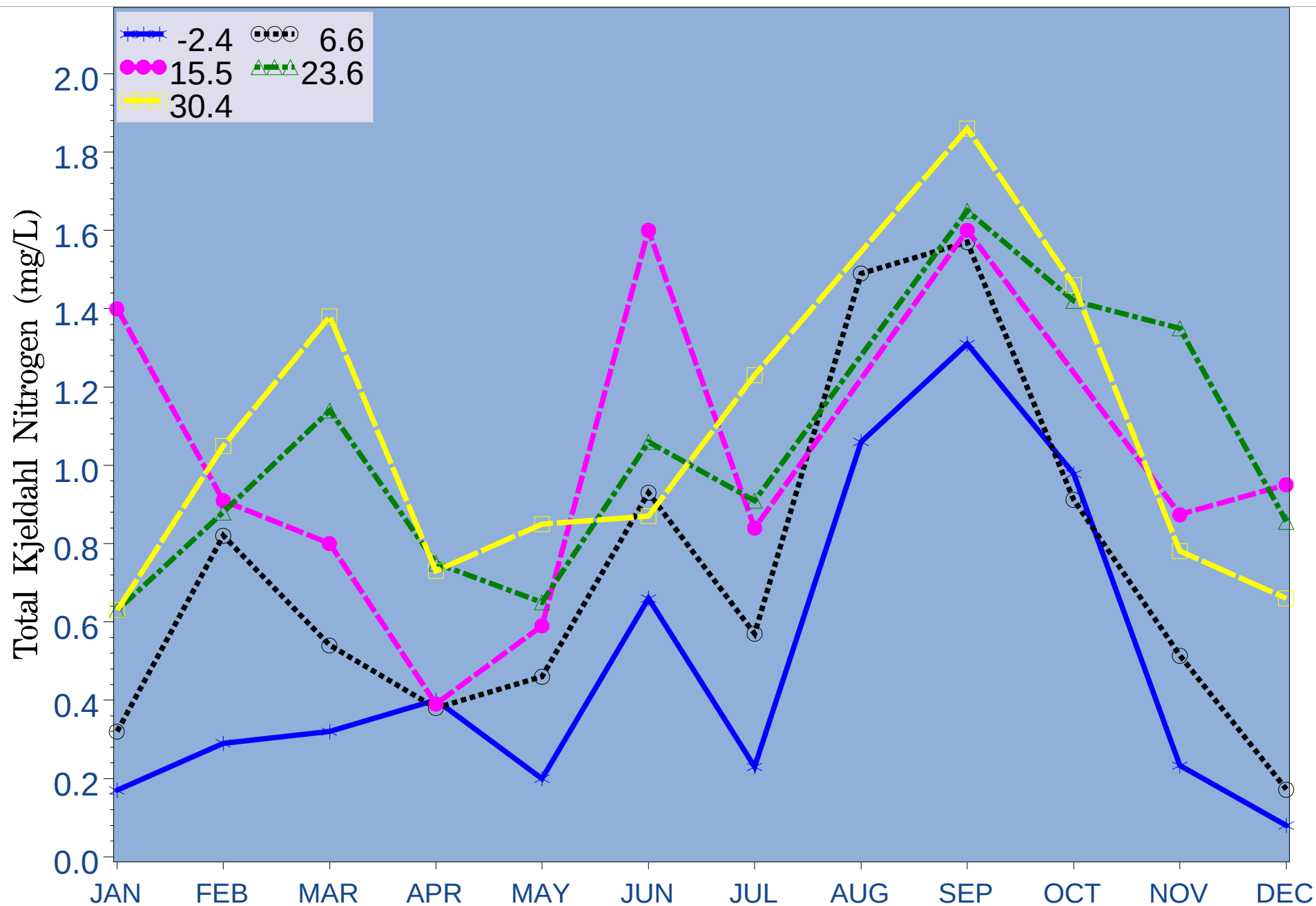


Figure 4.10b Near bottom total Kjeldahl nitrogen at fixed sampling stations (2004)

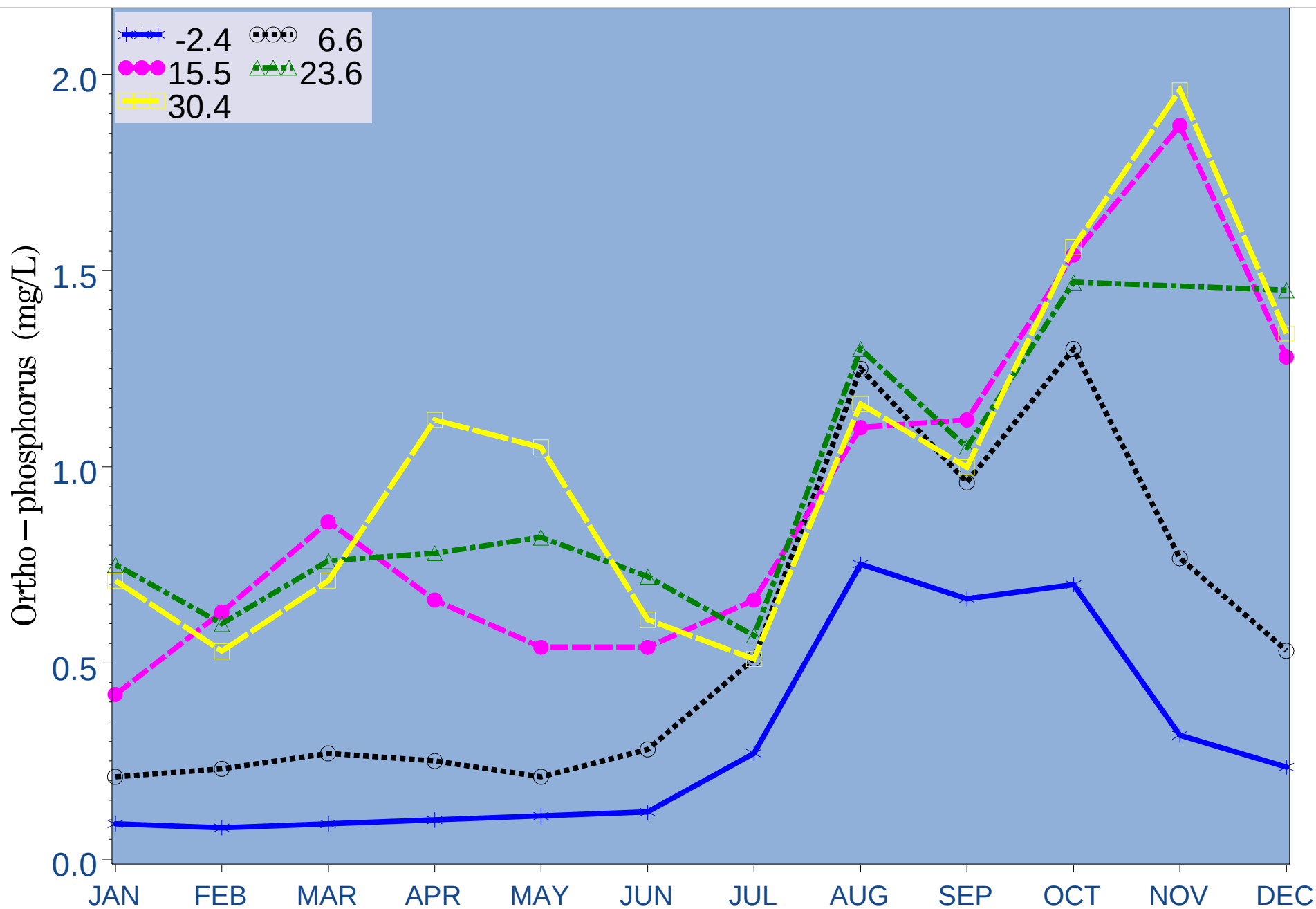


Figure 4.11a Subsurface ortho-phosphorus at fixed sampling stations (2004)

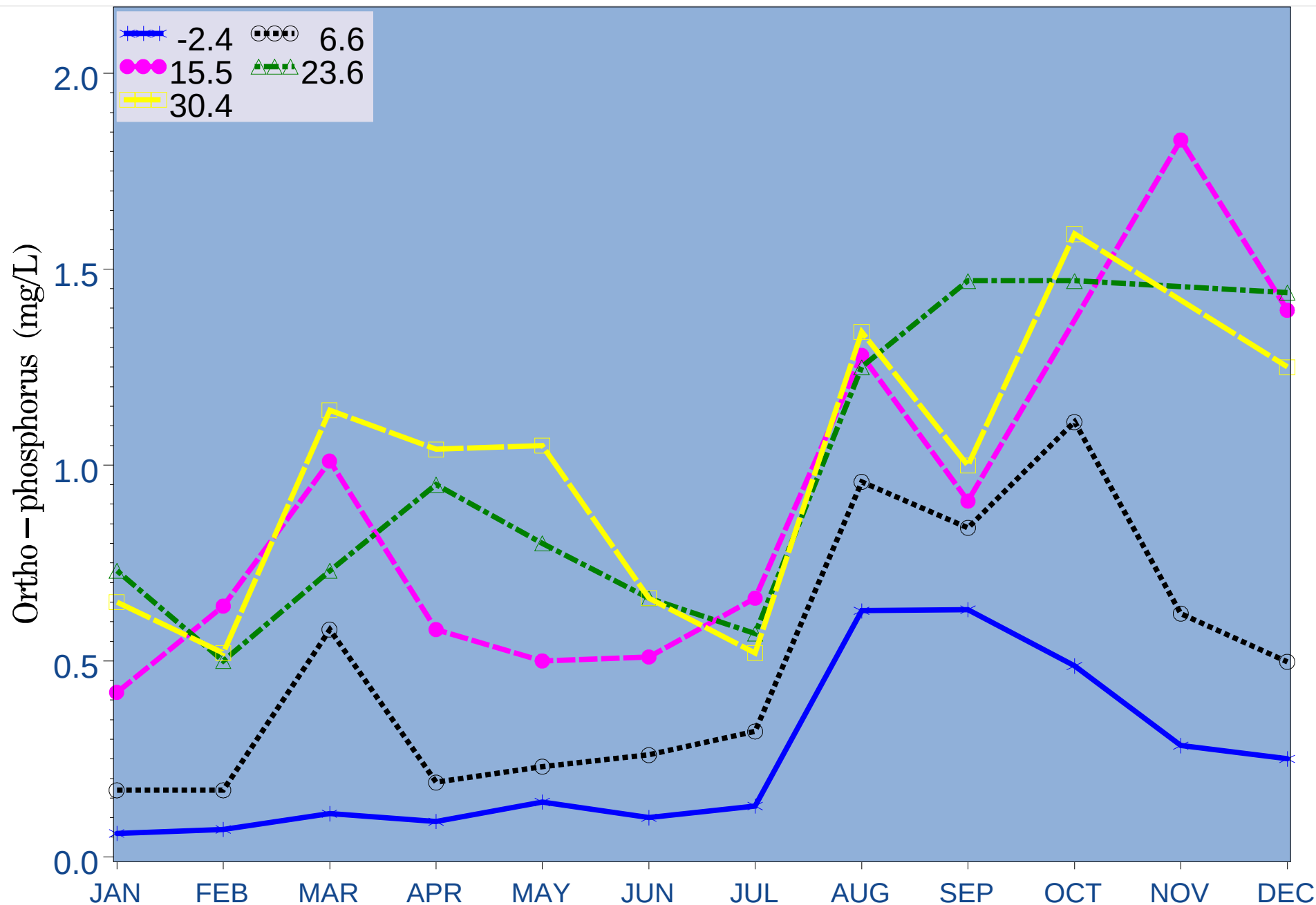


Figure 4.11b Near bottom orth-o-phosphorus at fixed sampling stations (2004)

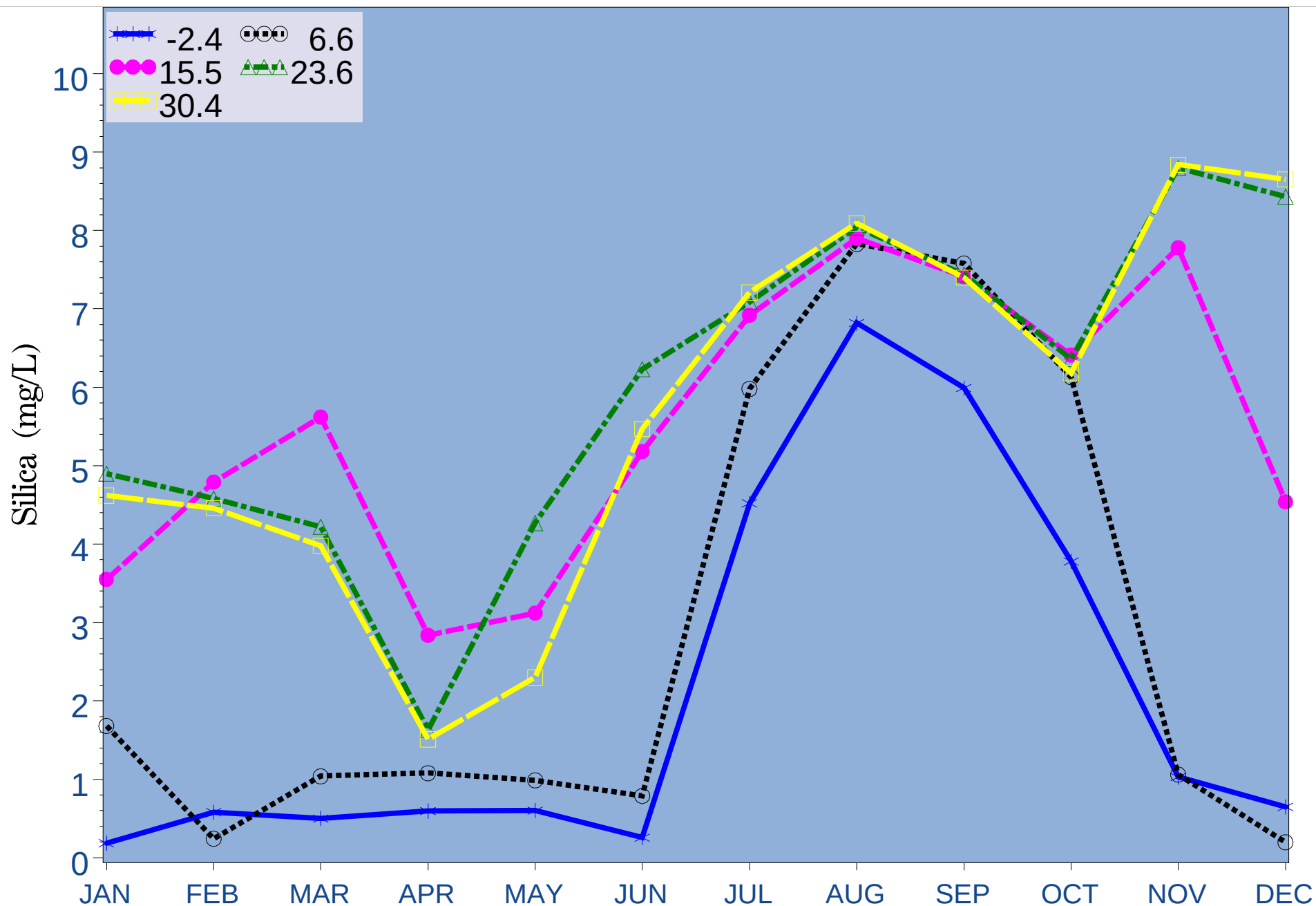


Figure 4.12a Subsurface silica at fixed sampling stations (2004)

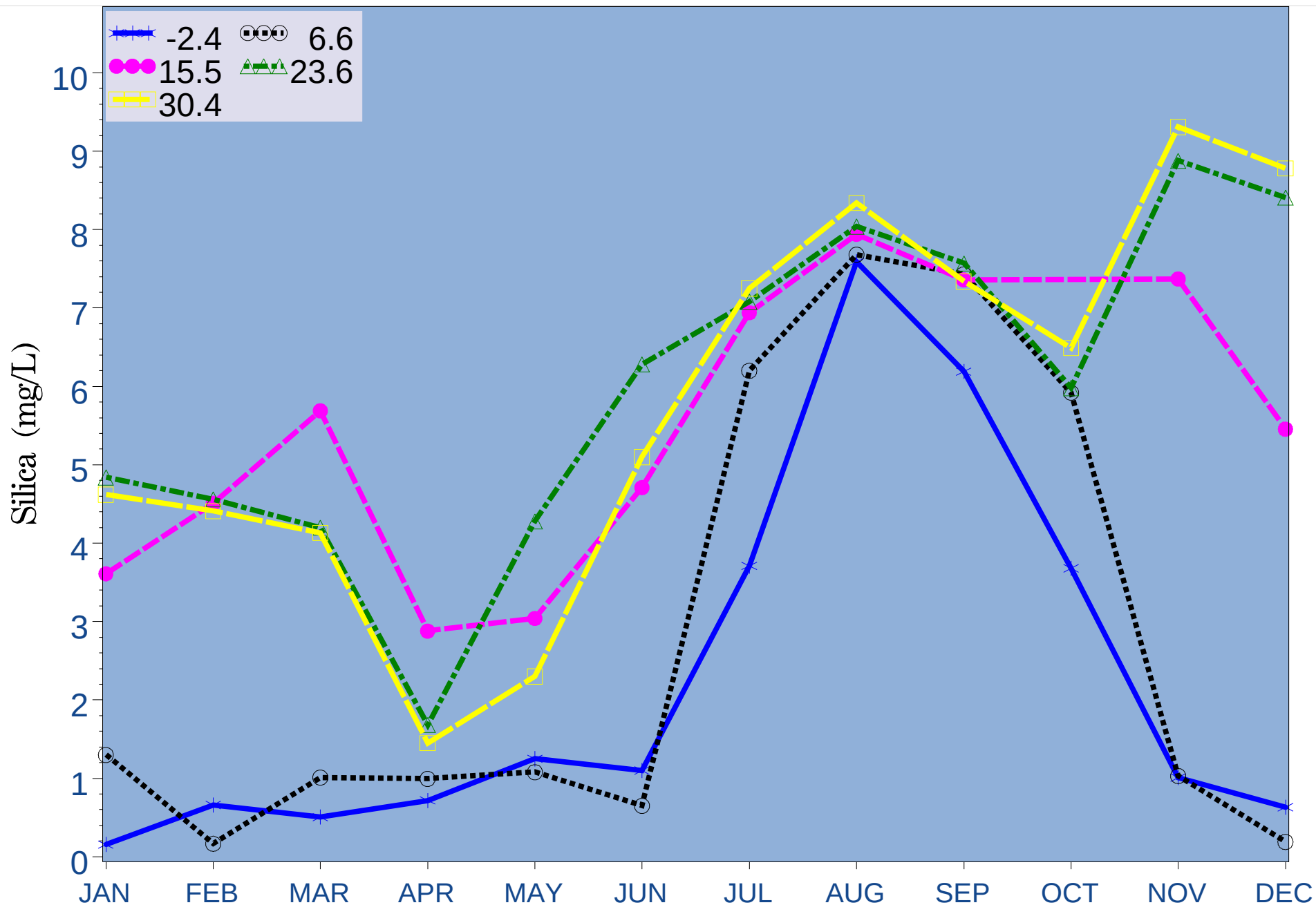


Figure 4.12b Near bottom silica at fixed sampling stations (2004)

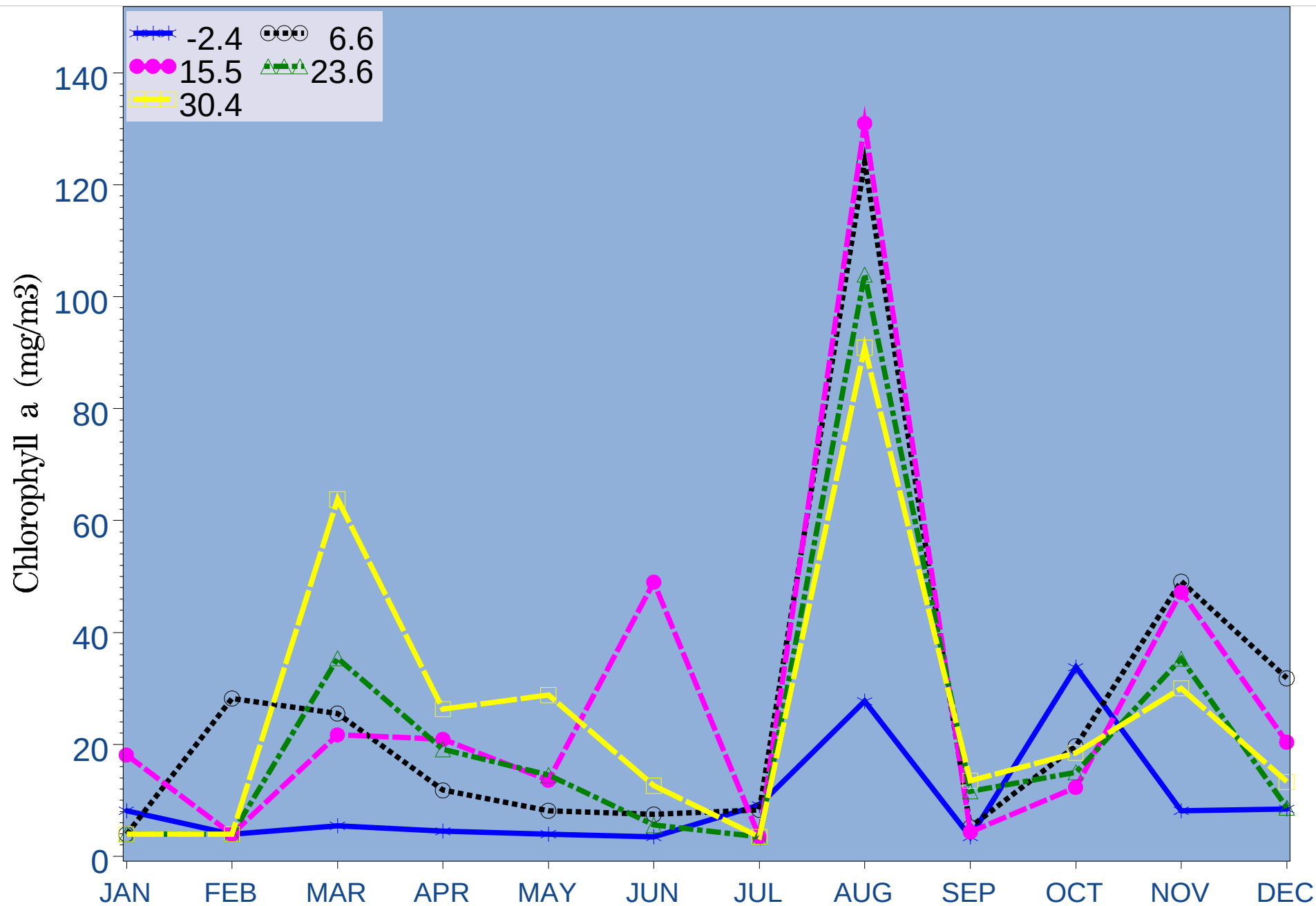


Figure 4.13a Subsurface chlorophyll a (mg/m³) at fixed stations (2004)

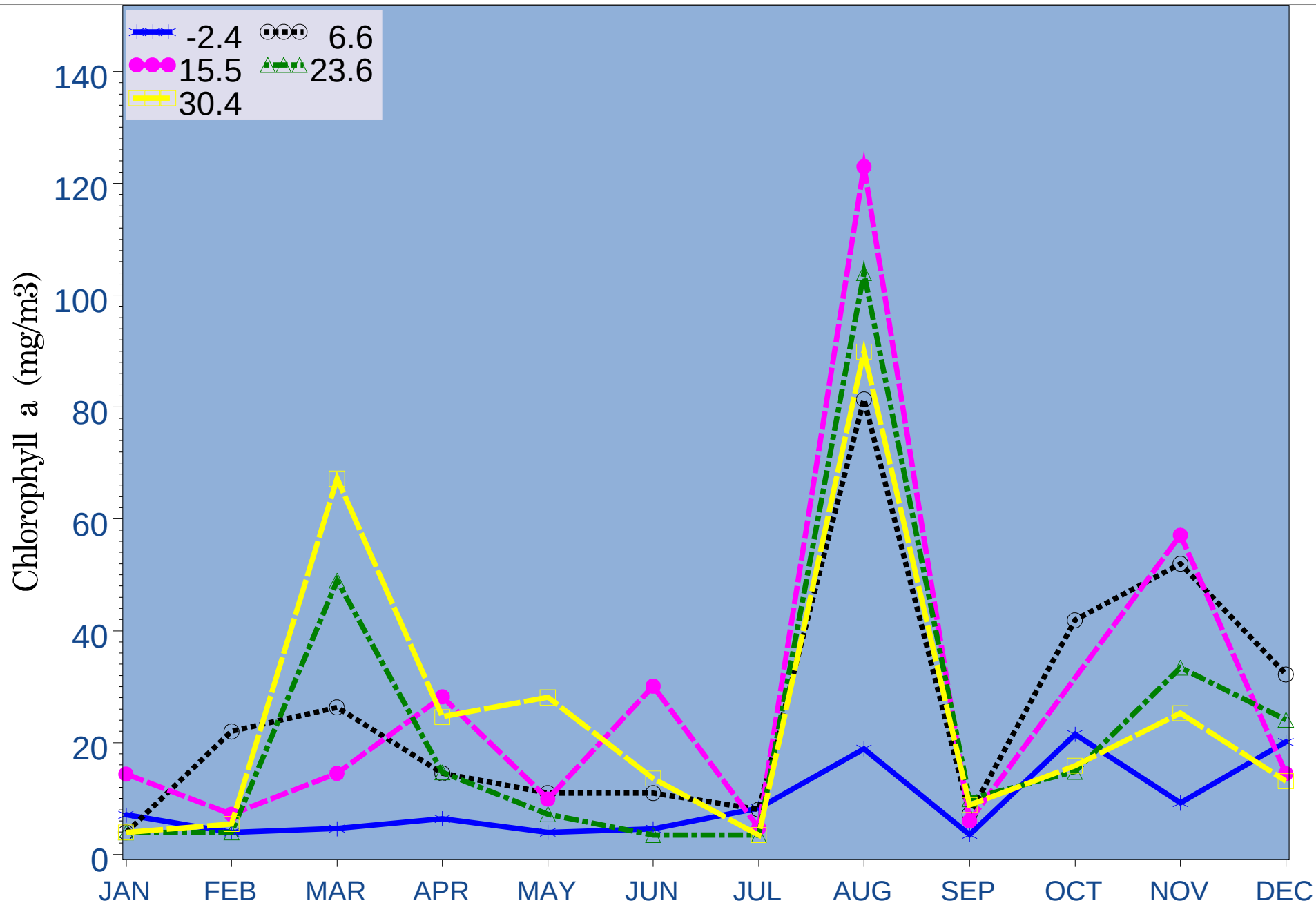


Figure 4.13b Near bottom chlorophyll a (mg/m³) at fixed stations (2004)

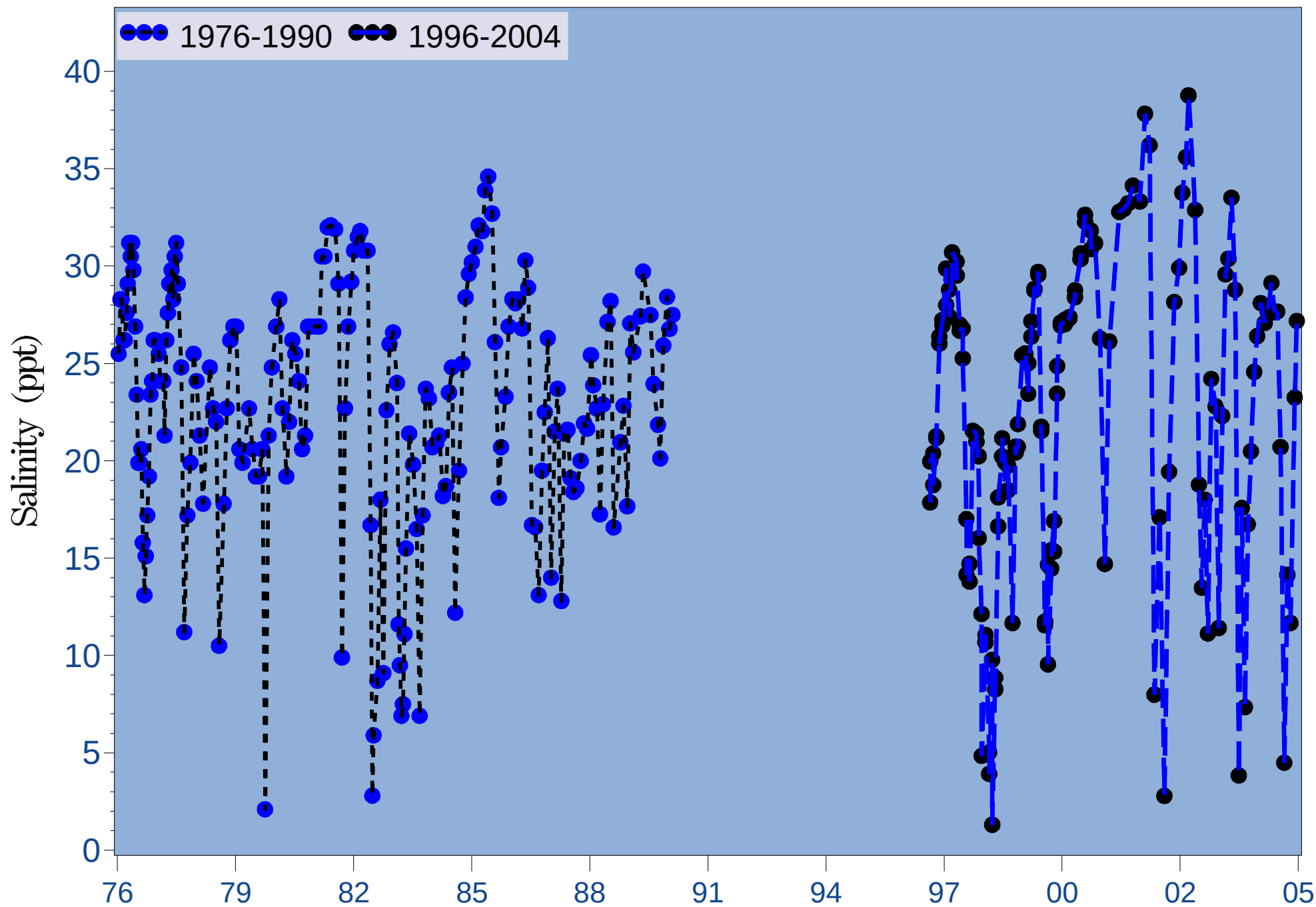


Figure 4.14a Long-term surface salinity at river kilometer -2.4

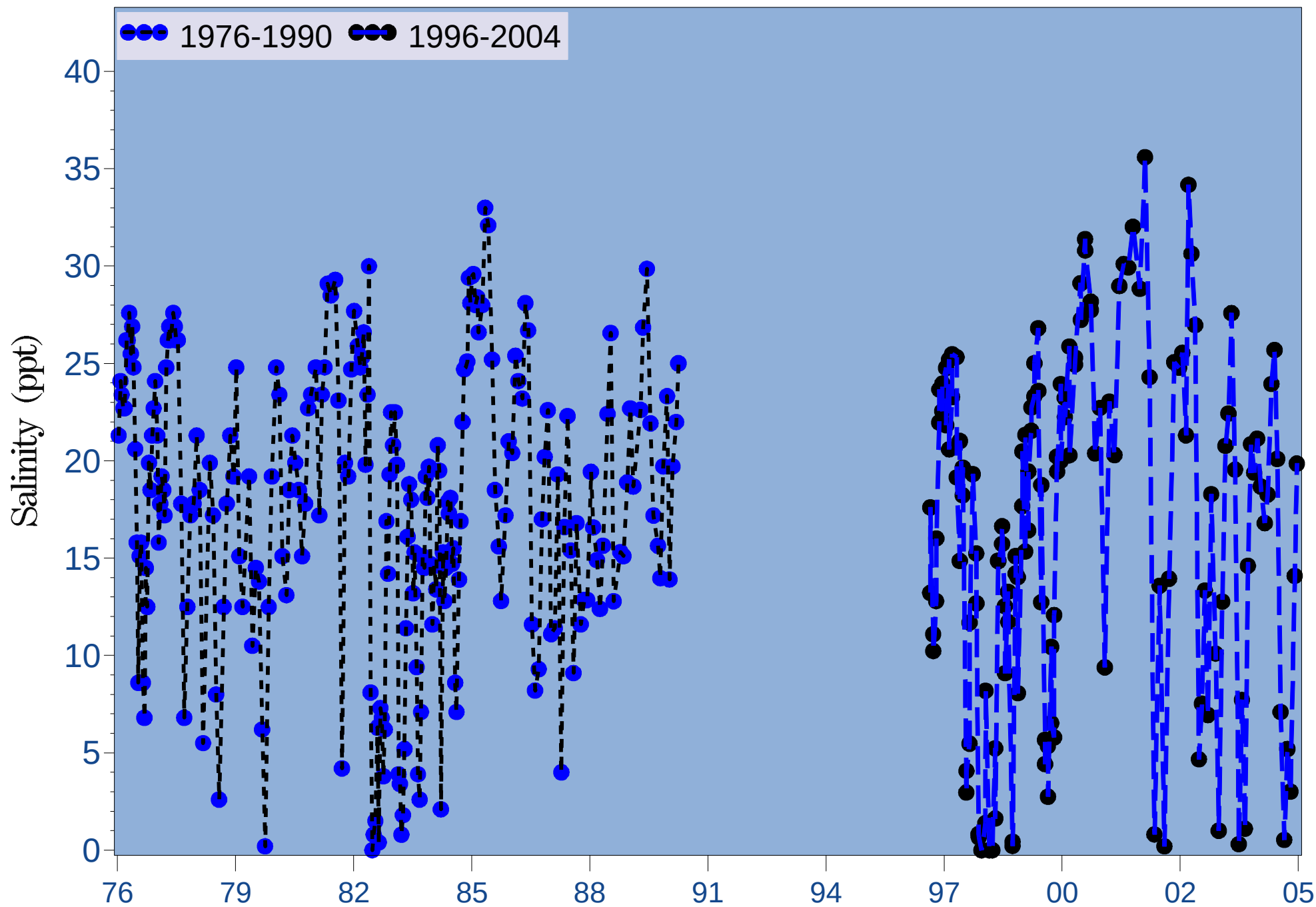


Figure 4.14b Long-term surface salinity at river kilometer 6.6

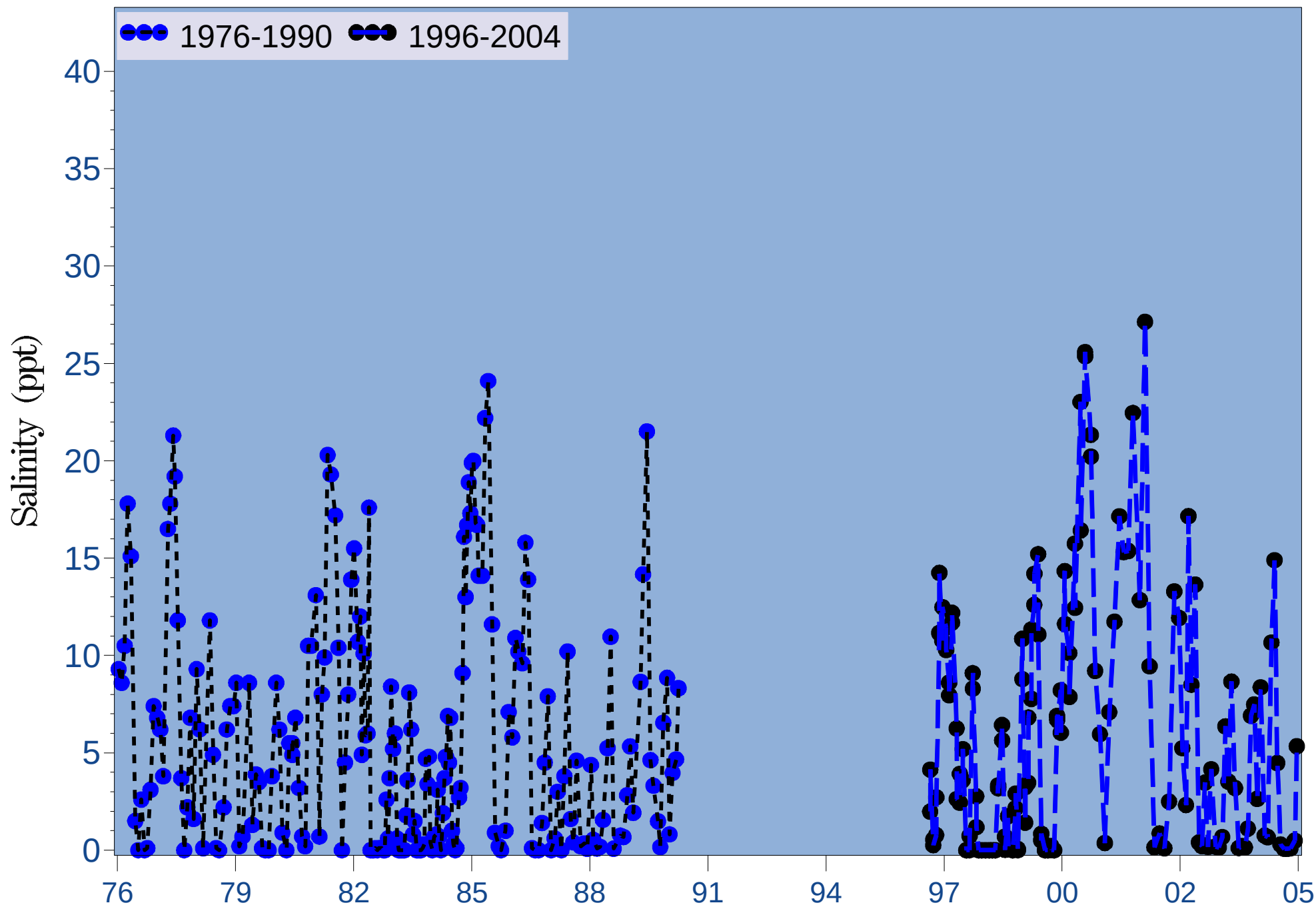


Figure 4.14c Long-term surface salinity at river kilometer 15.5

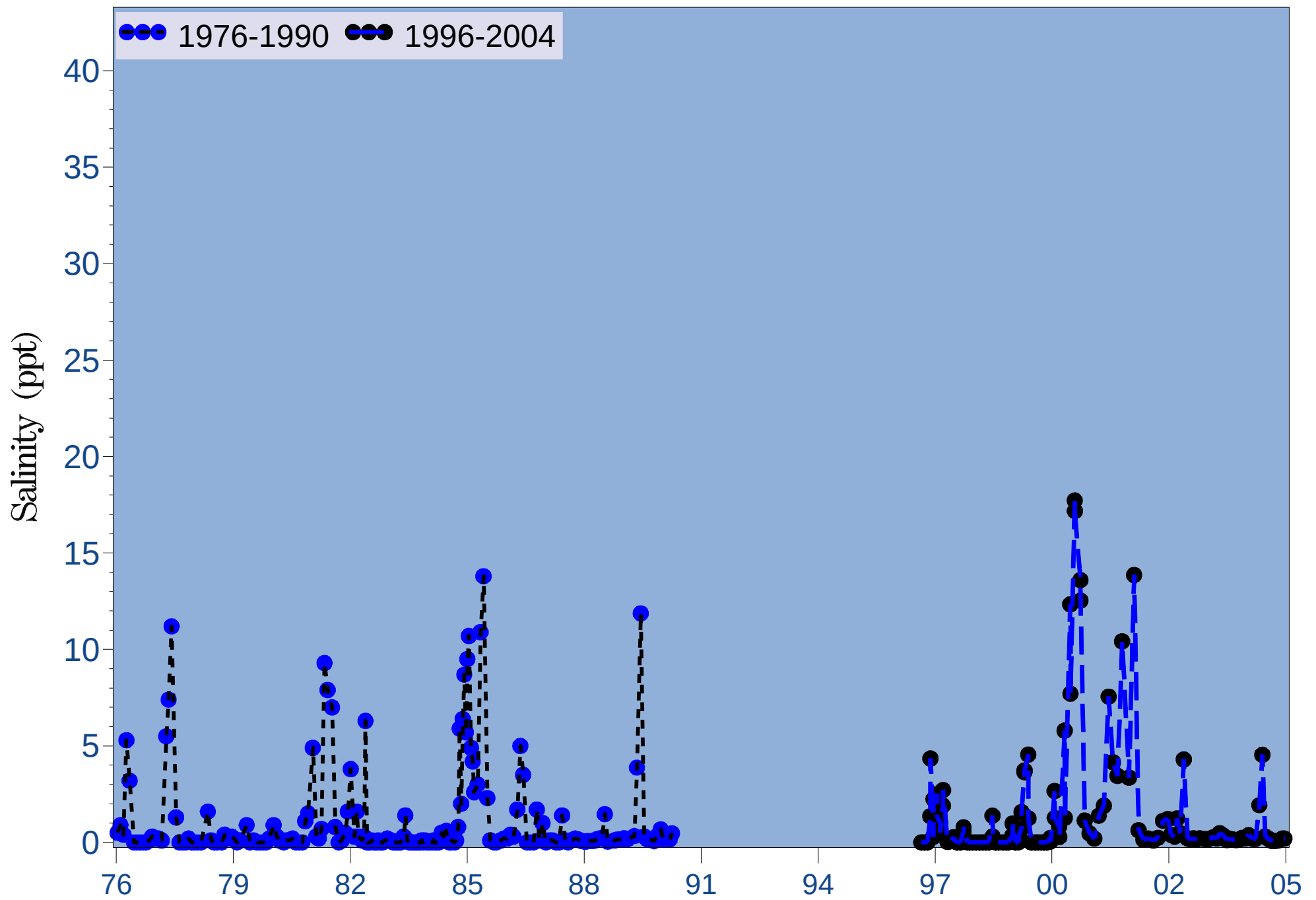


Figure 4.14d Long-term surface salinity at river kilometer 23.6

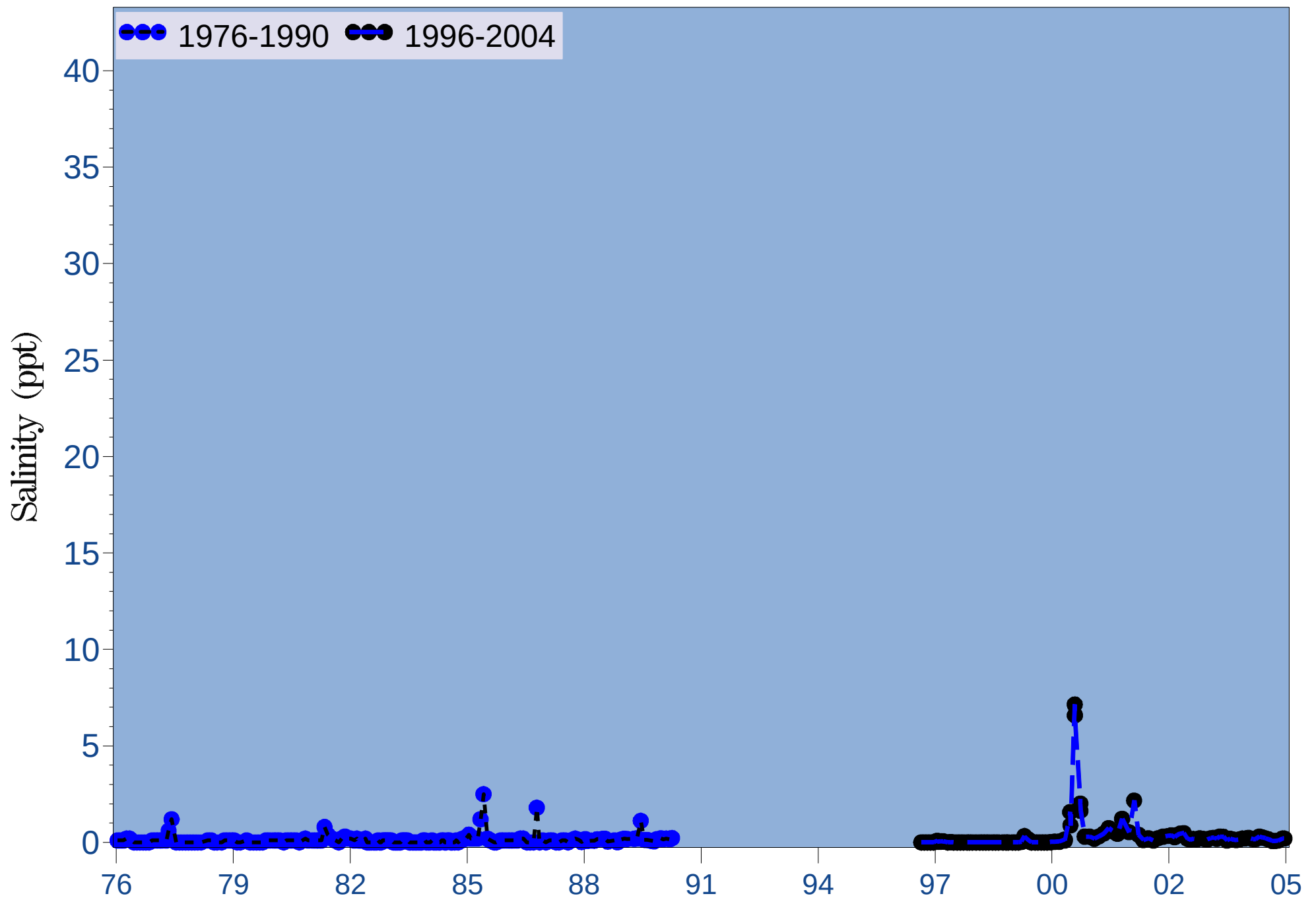


Figure 4.14e Long-term surface salinity at river kilometer 30.4

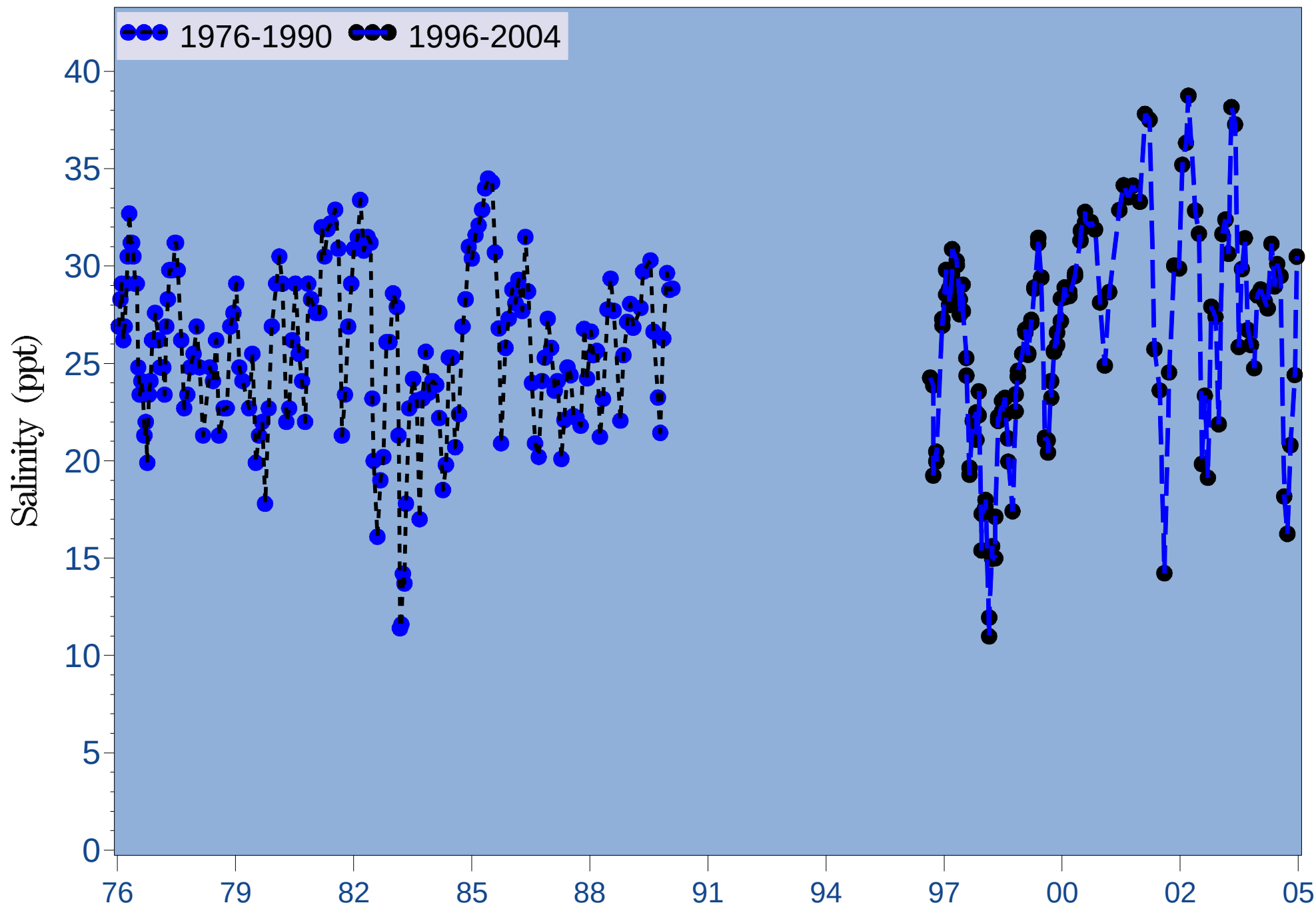


Figure 4.15a Long-term bottom salinity at river kilometer -2.4

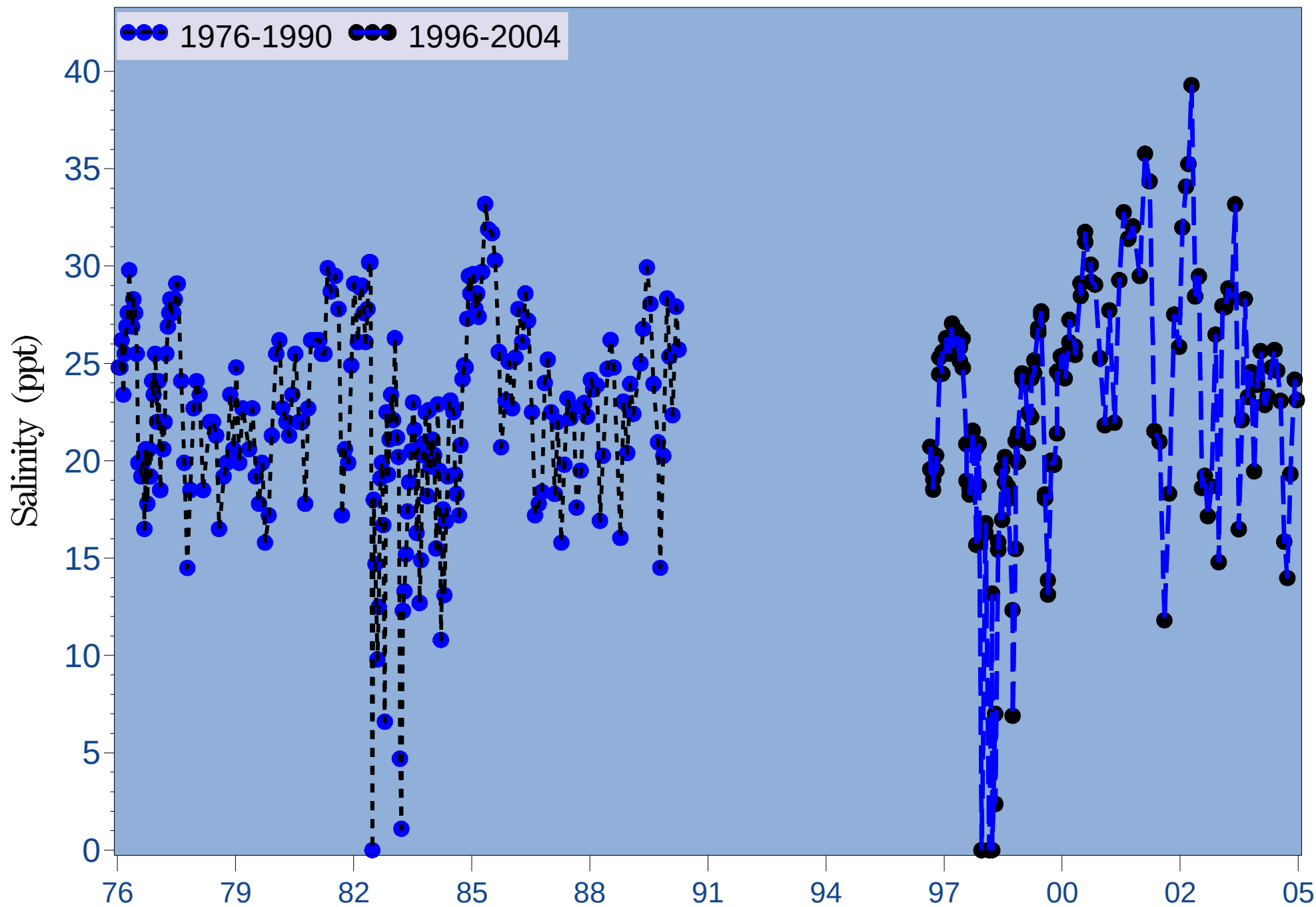


Figure 4.15b Long-term bottom salinity at river kilometer 6.6

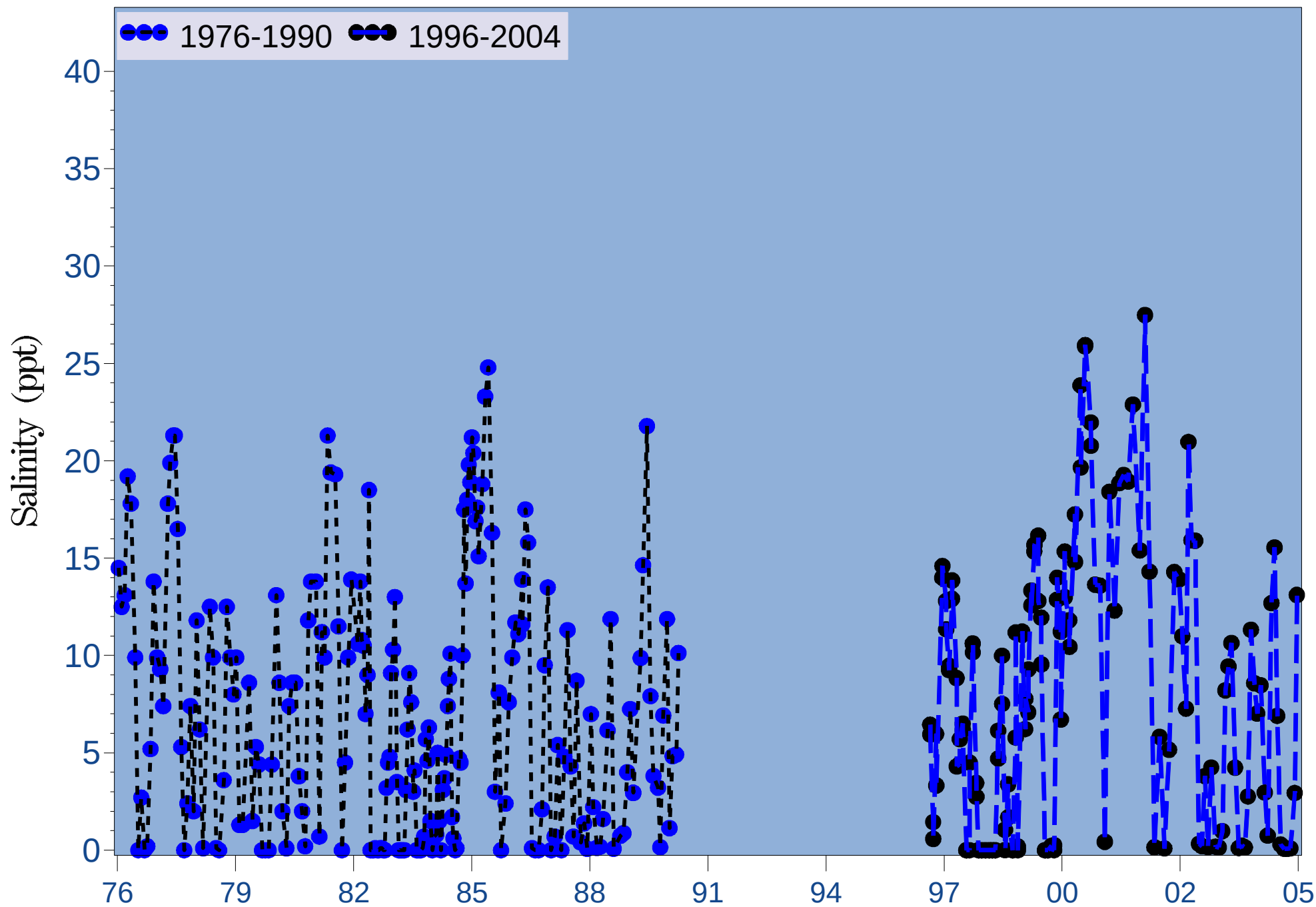


Figure 4.15c Long-term bottom salinity at river kilometer 15.5

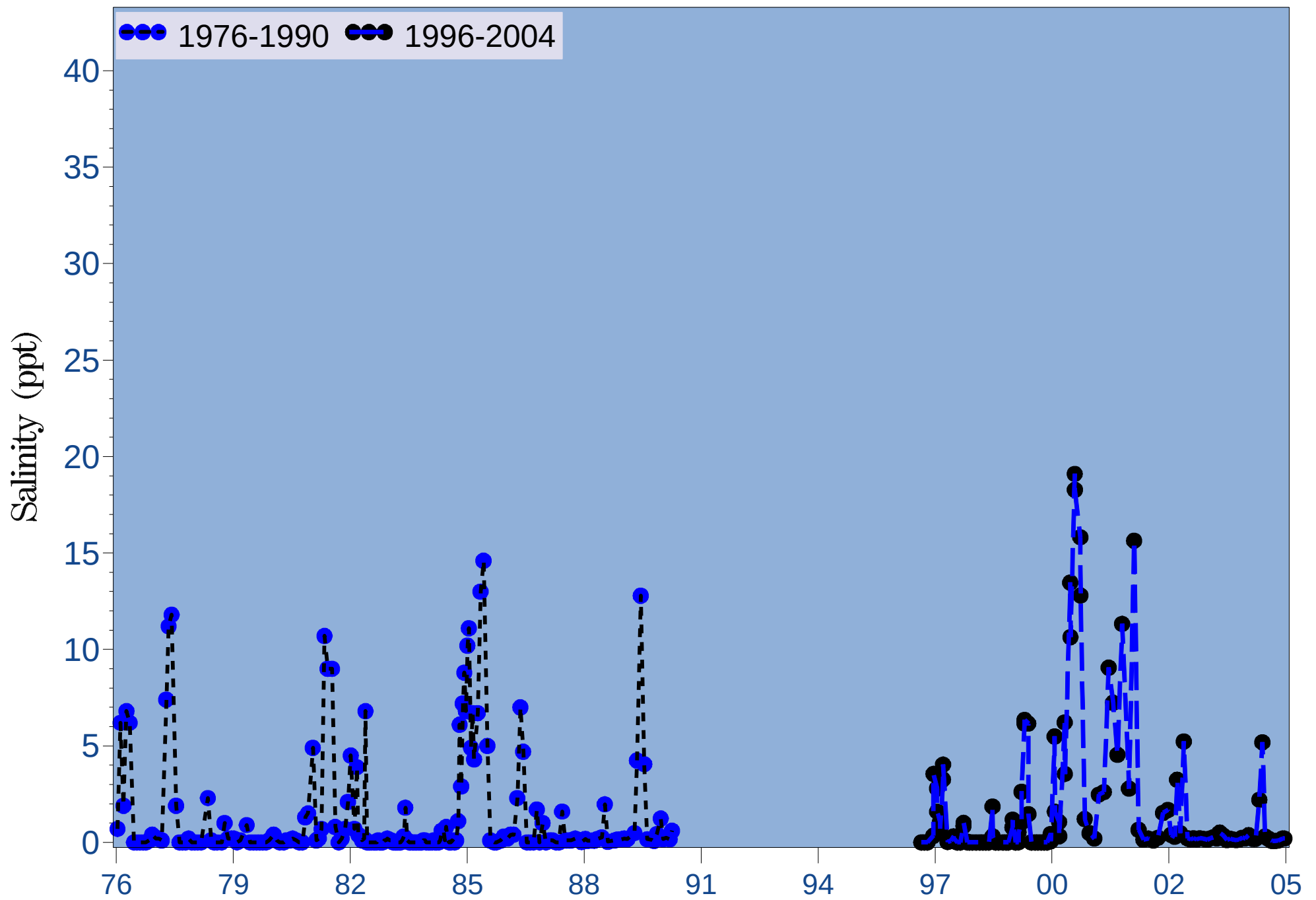


Figure 4.15d Long-term bottom salinity at river kilometer 23.6

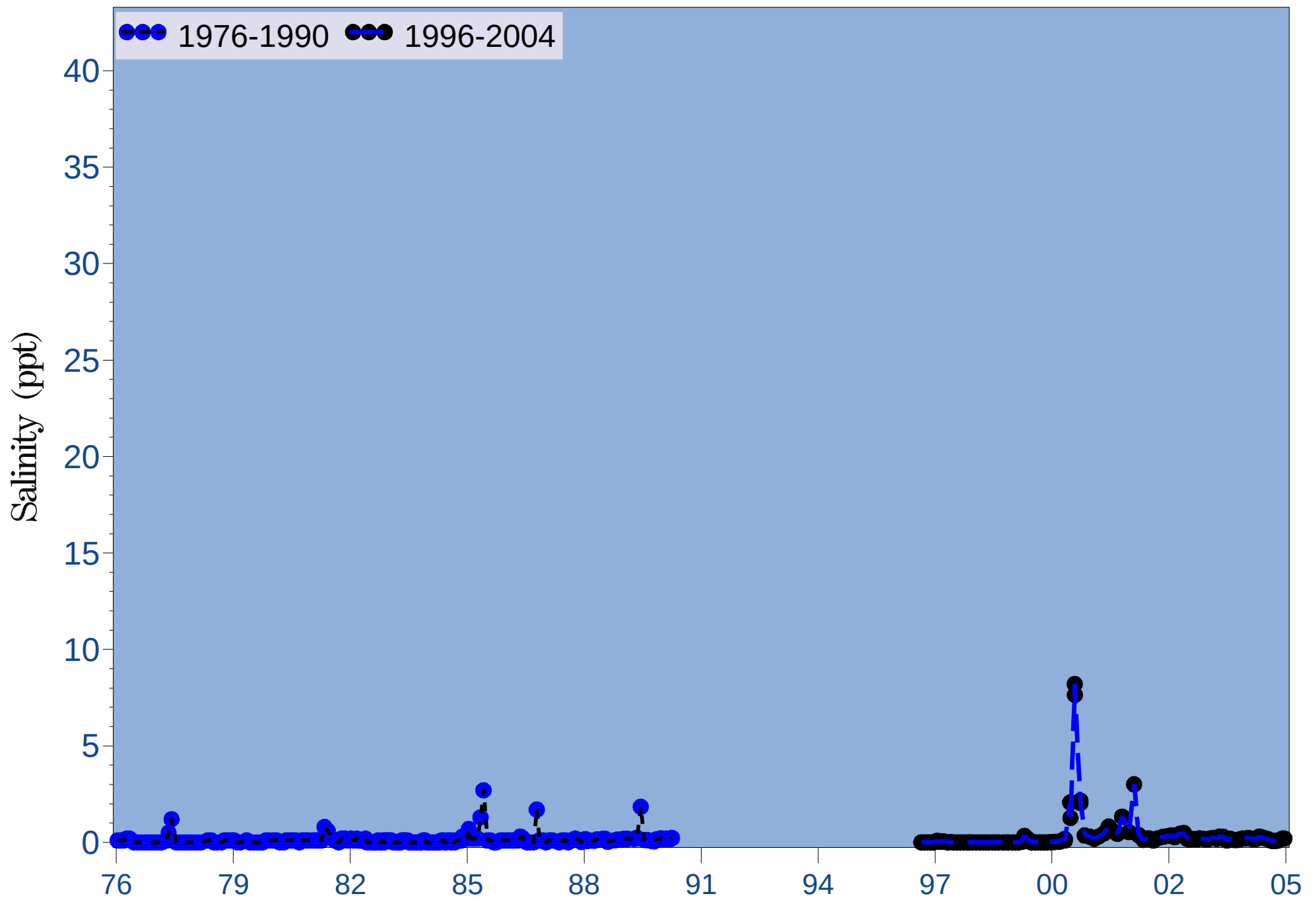


Figure 4.15e Long-term bottom salinity at river kilometer 30.4

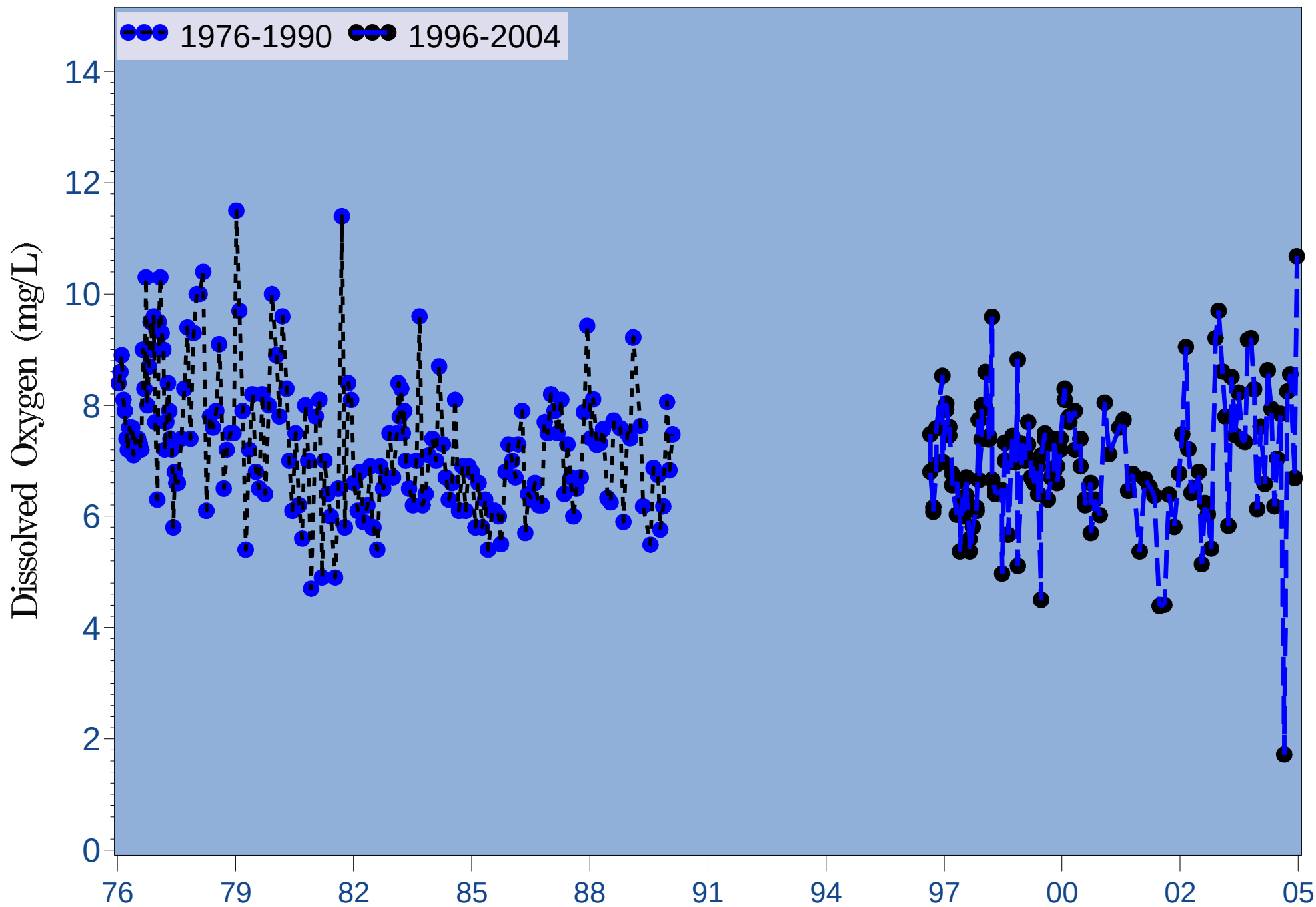


Figure 4.16a Long-term surface dissolved oxygen at river kilometer -2.4

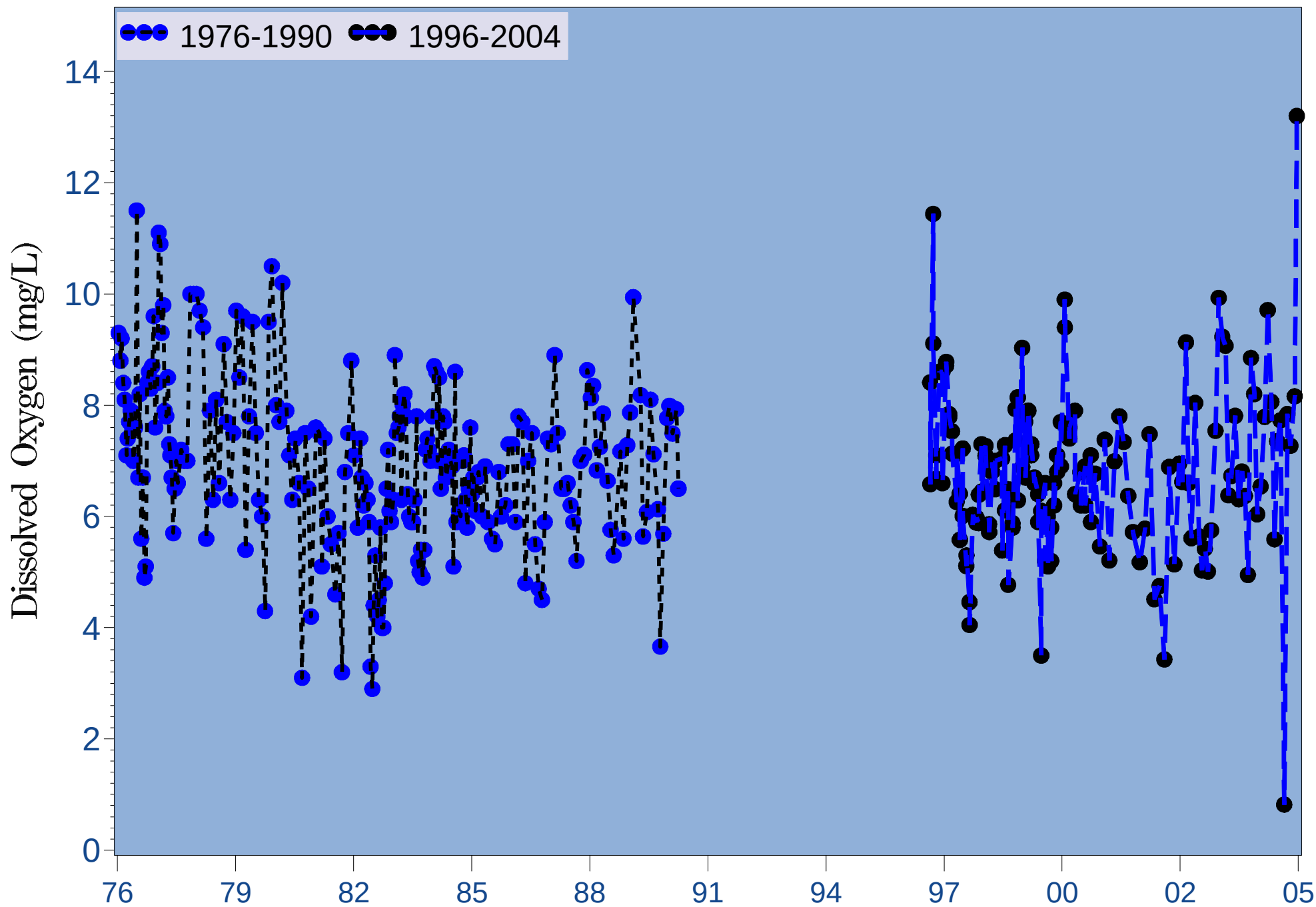


Figure 4.16b Long-term surface dissolved oxygen at river kilometer 6.6

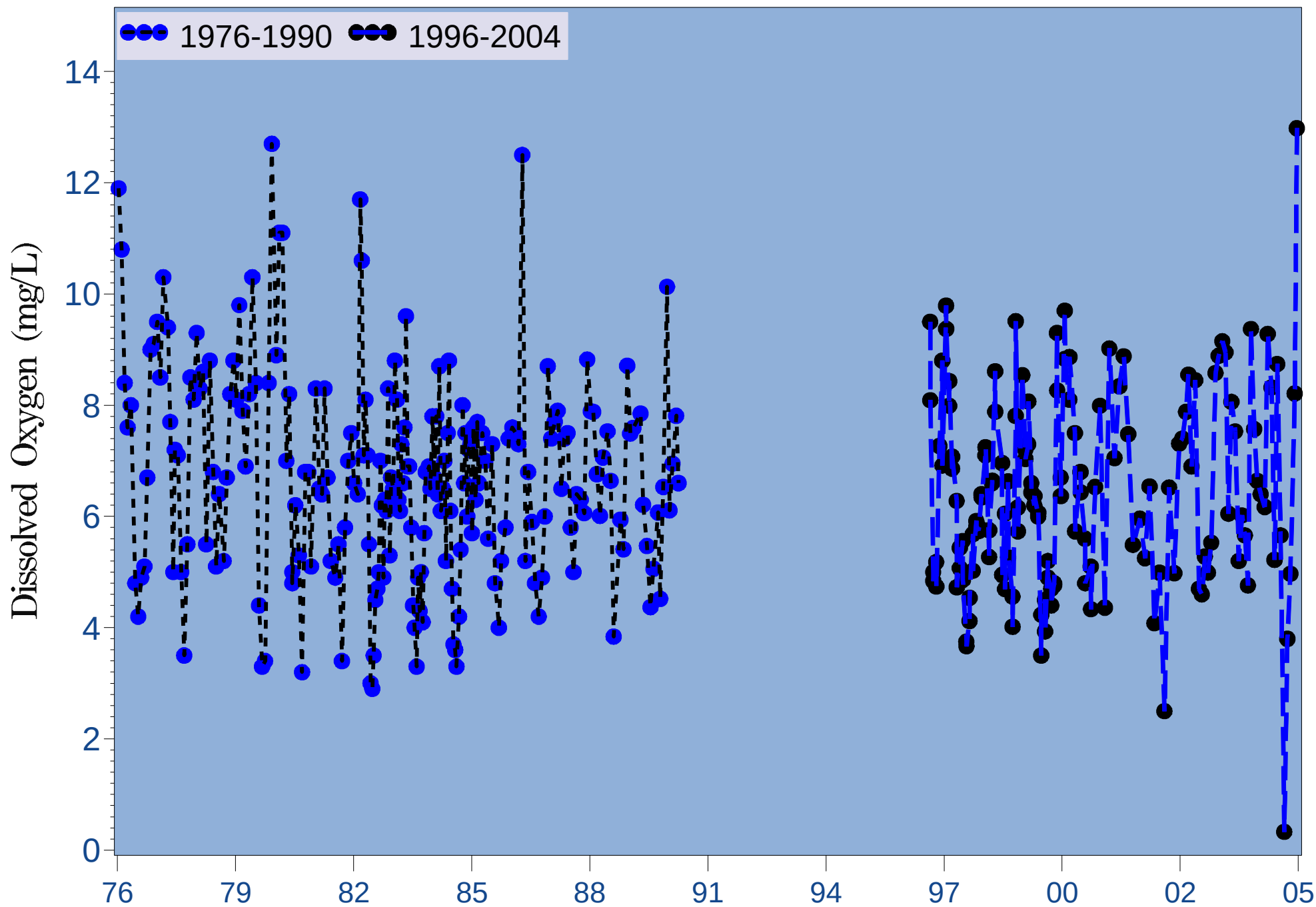


Figure 4.16c Long-term surface dissolved oxygen at river kilometer 15.5

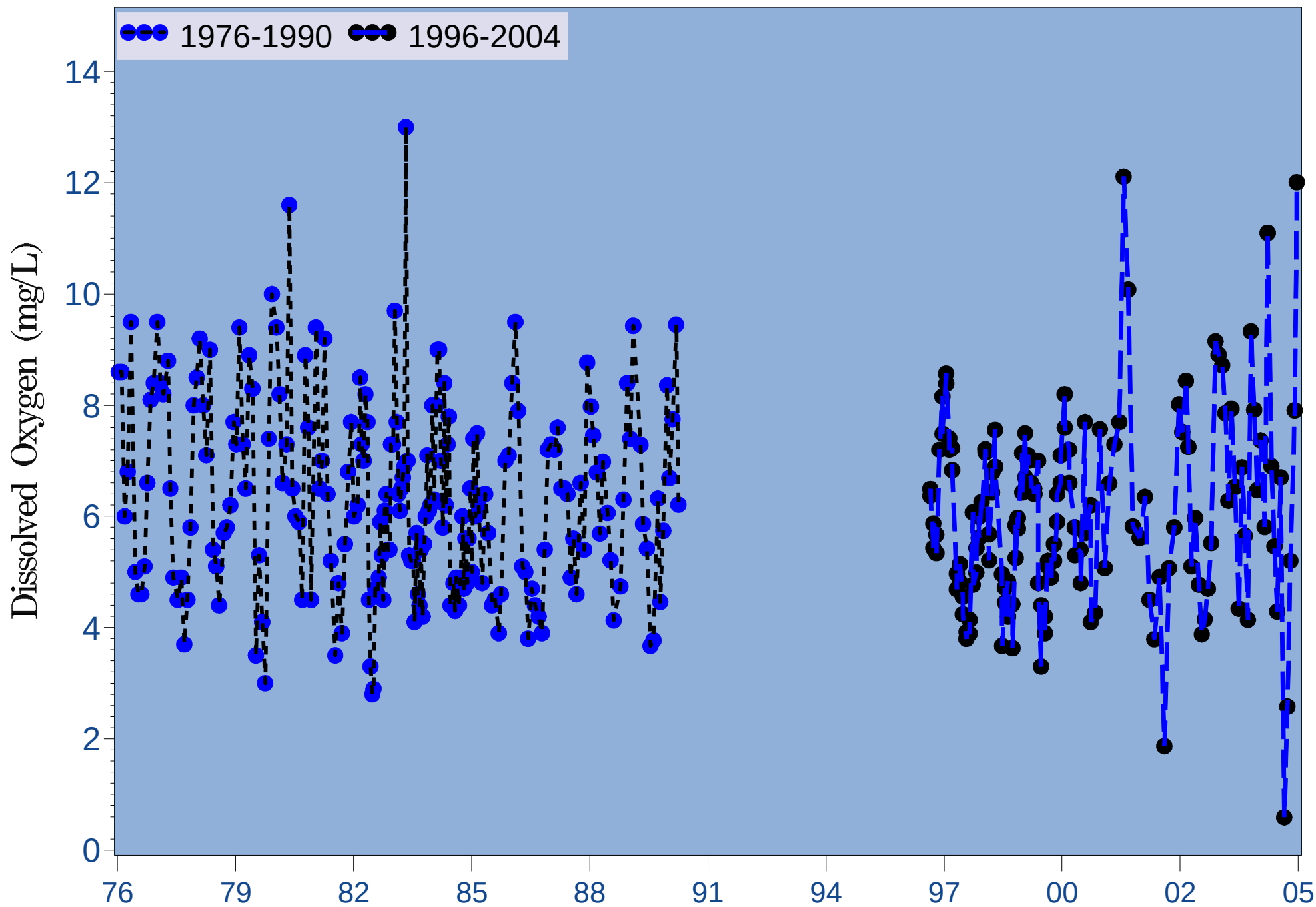


Figure 4.16d Long-term surface dissolved oxygen at river kilometer 23.6

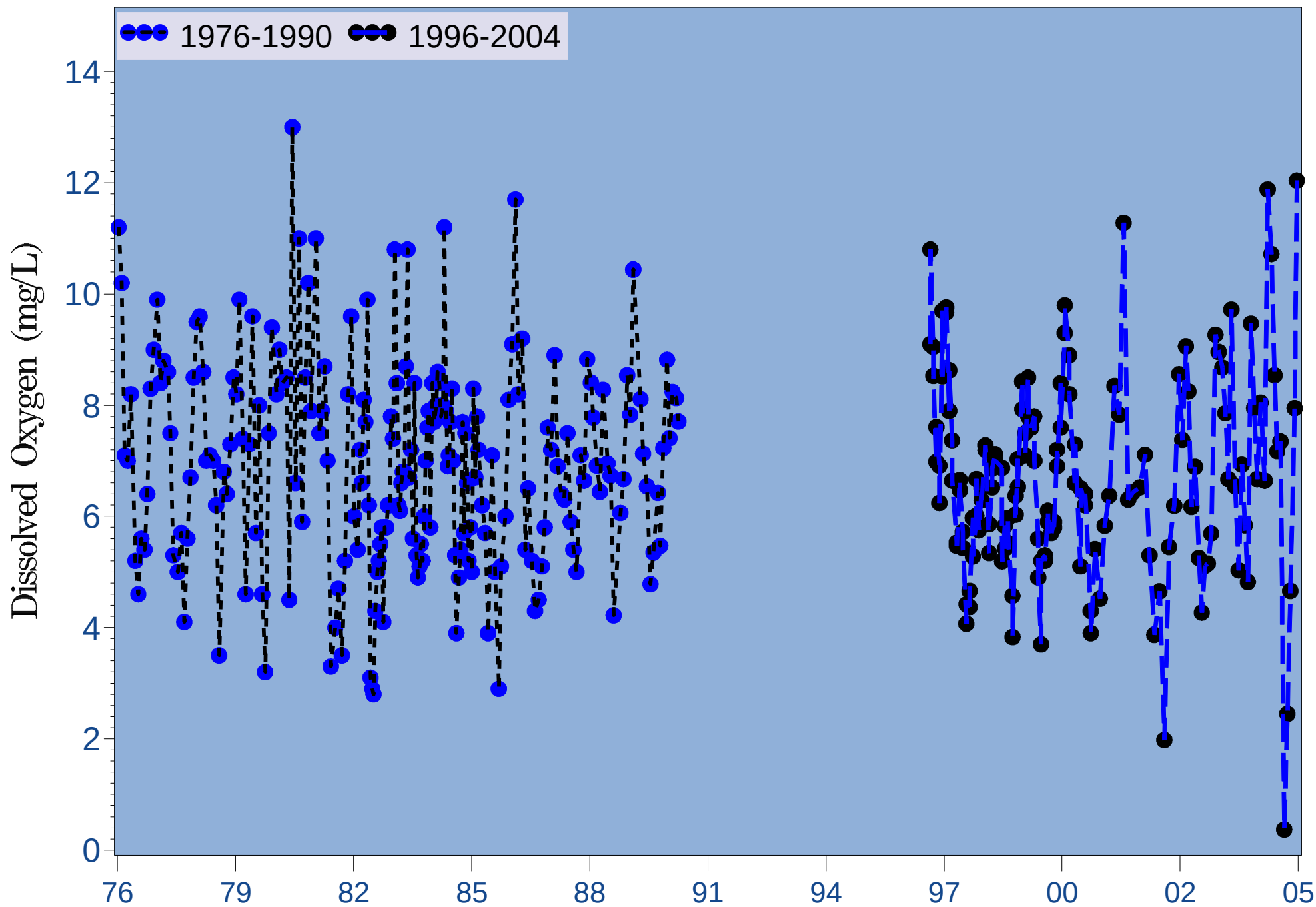


Figure 4.16e Long-term surface dissolved oxygen at river kilometer 30.4

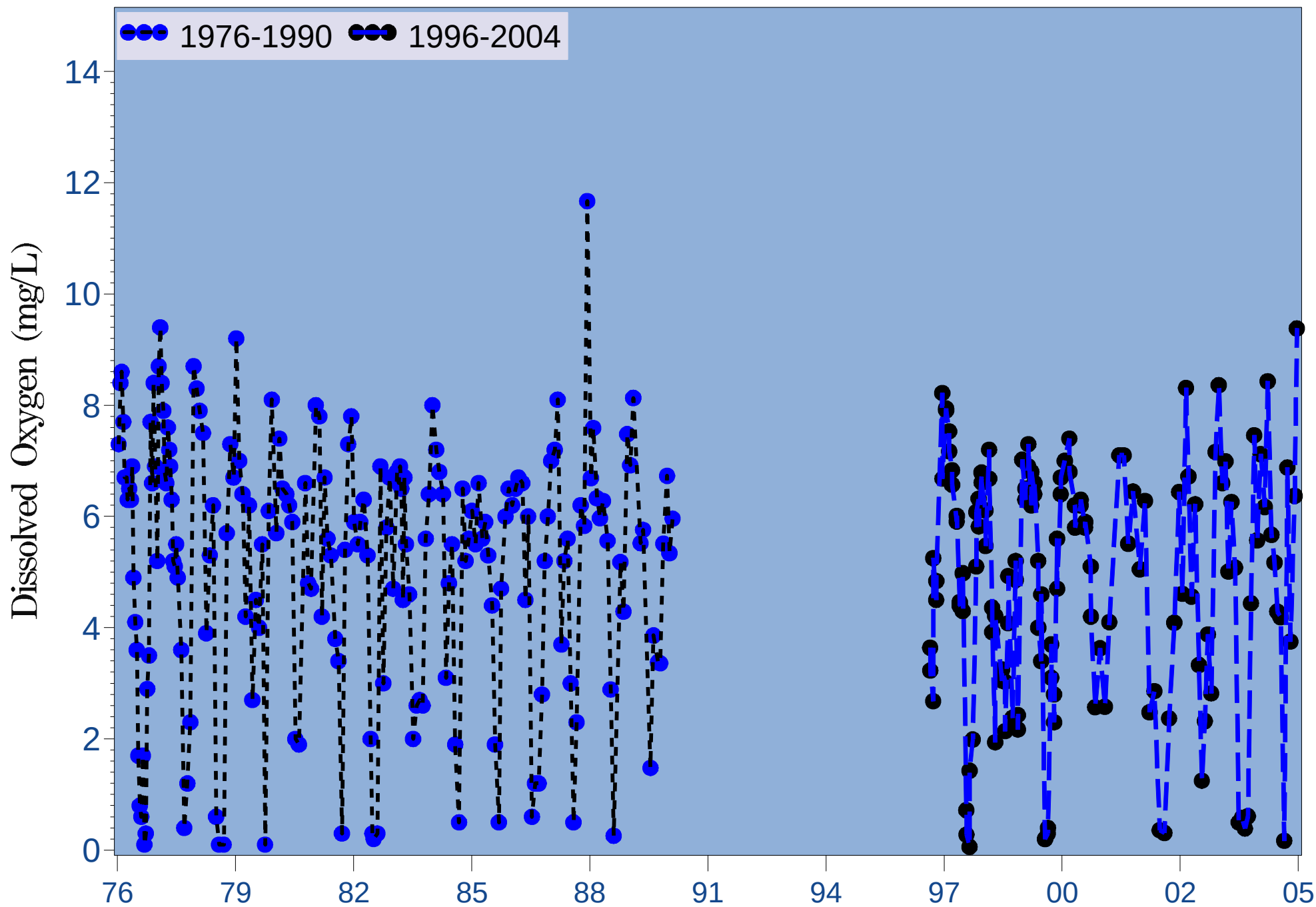


Figure 4.17a Long-term bottom dissolved oxygen at river kilometer -2.4

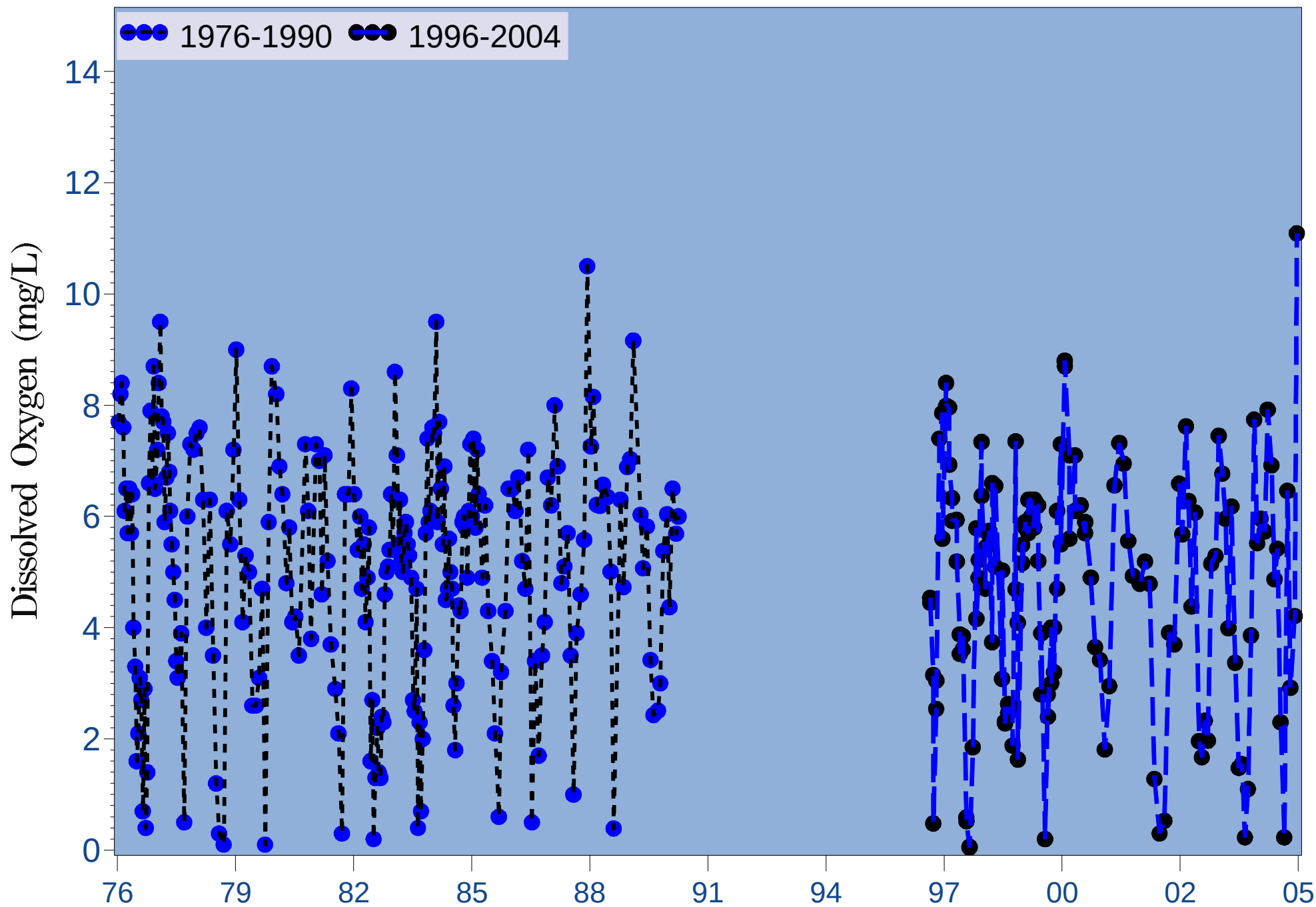


Figure 4.17b Long-term bottom dissolved oxygen at river kilometer 6.6

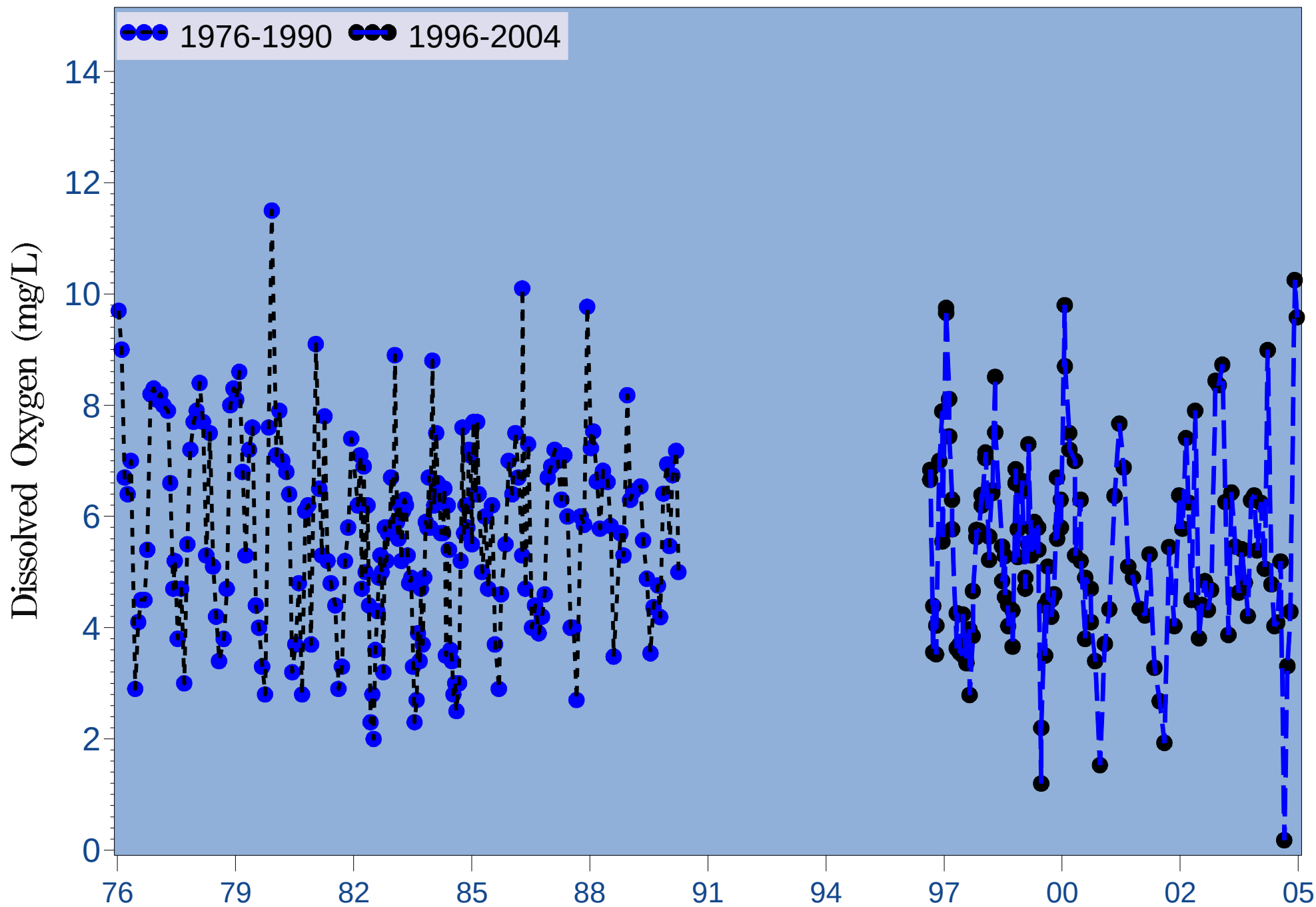


Figure 4.17c Long-term bottom dissolved oxygen at river kilometer 15.5

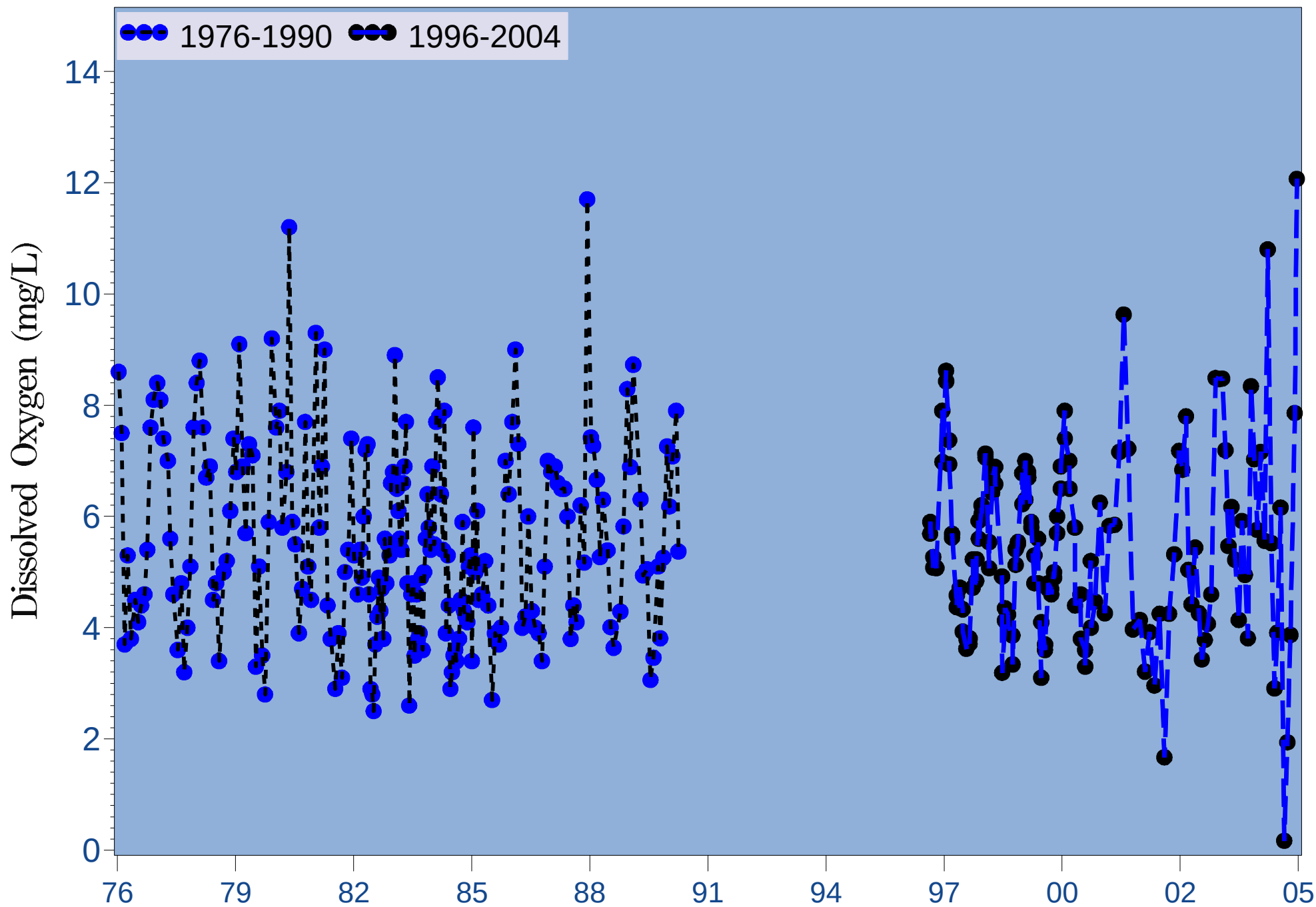


Figure 4.17d Long-term bottom dissolved oxygen at river kilometer 23.6

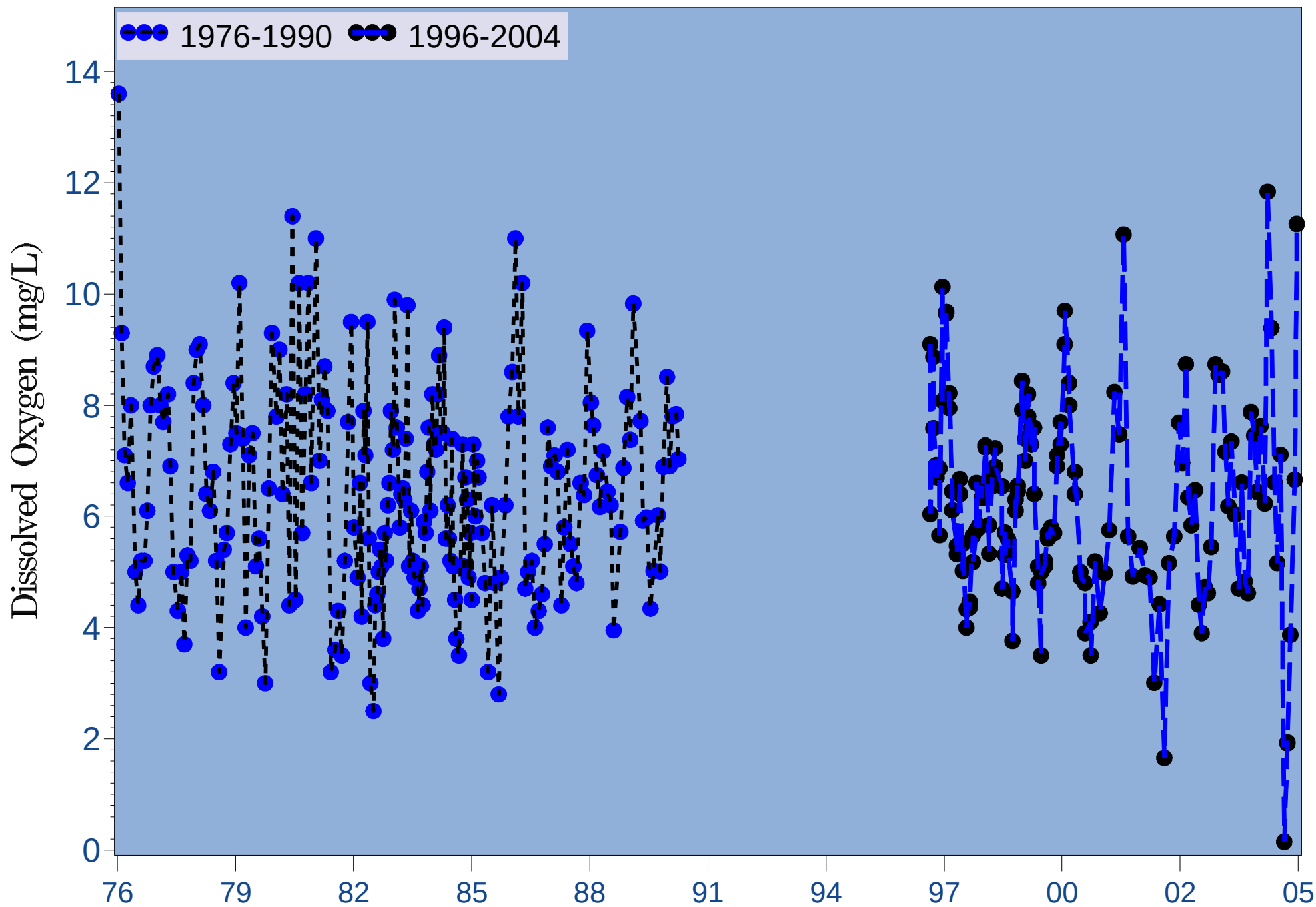


Figure 4.17e Long-term bottom dissolved oxygen at river kilometer 30.4

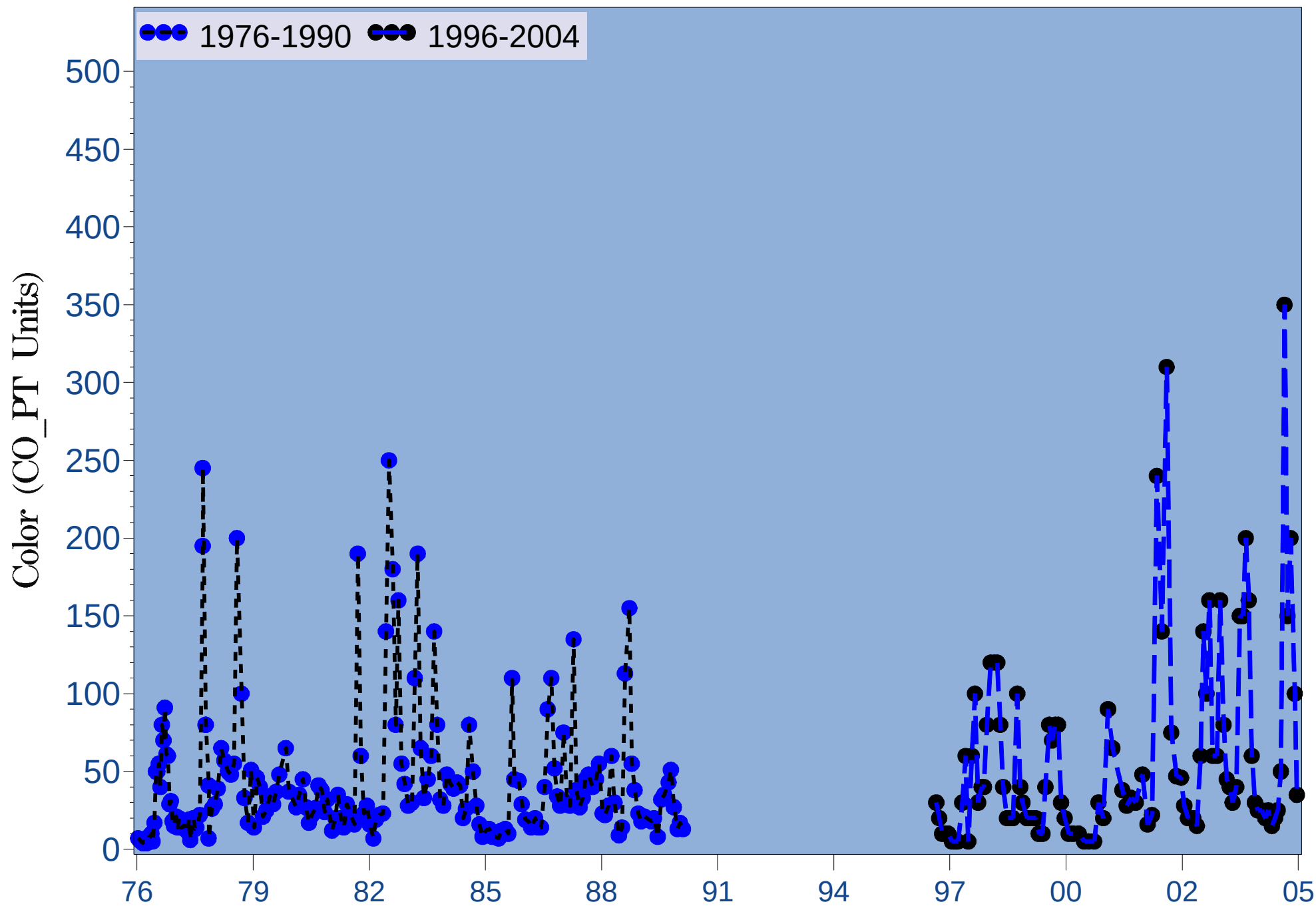


Figure 4.18a Long-term surface color at river kilometer -2.4

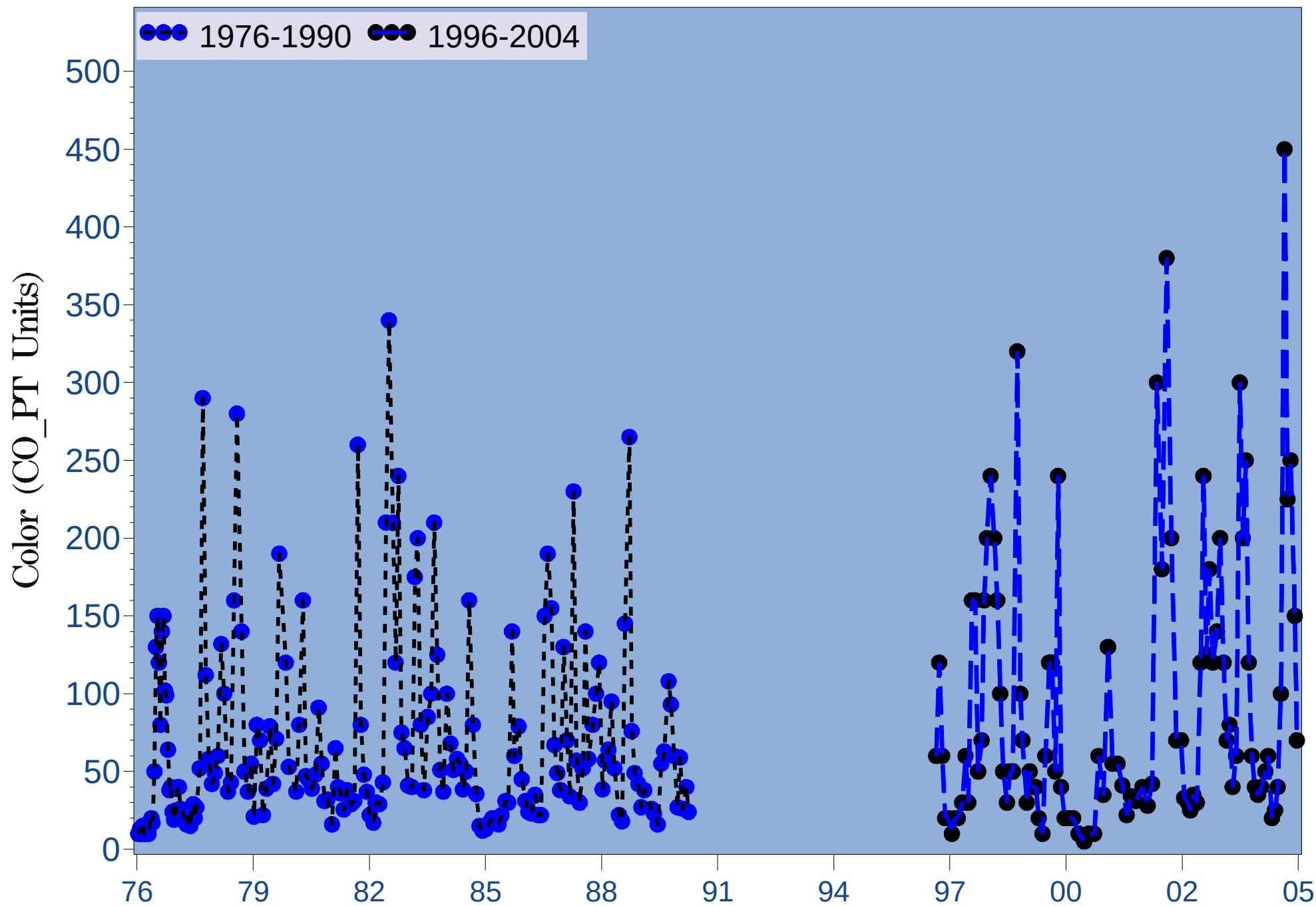


Figure 4.18b Long-term surface color at river kilometer 6.6

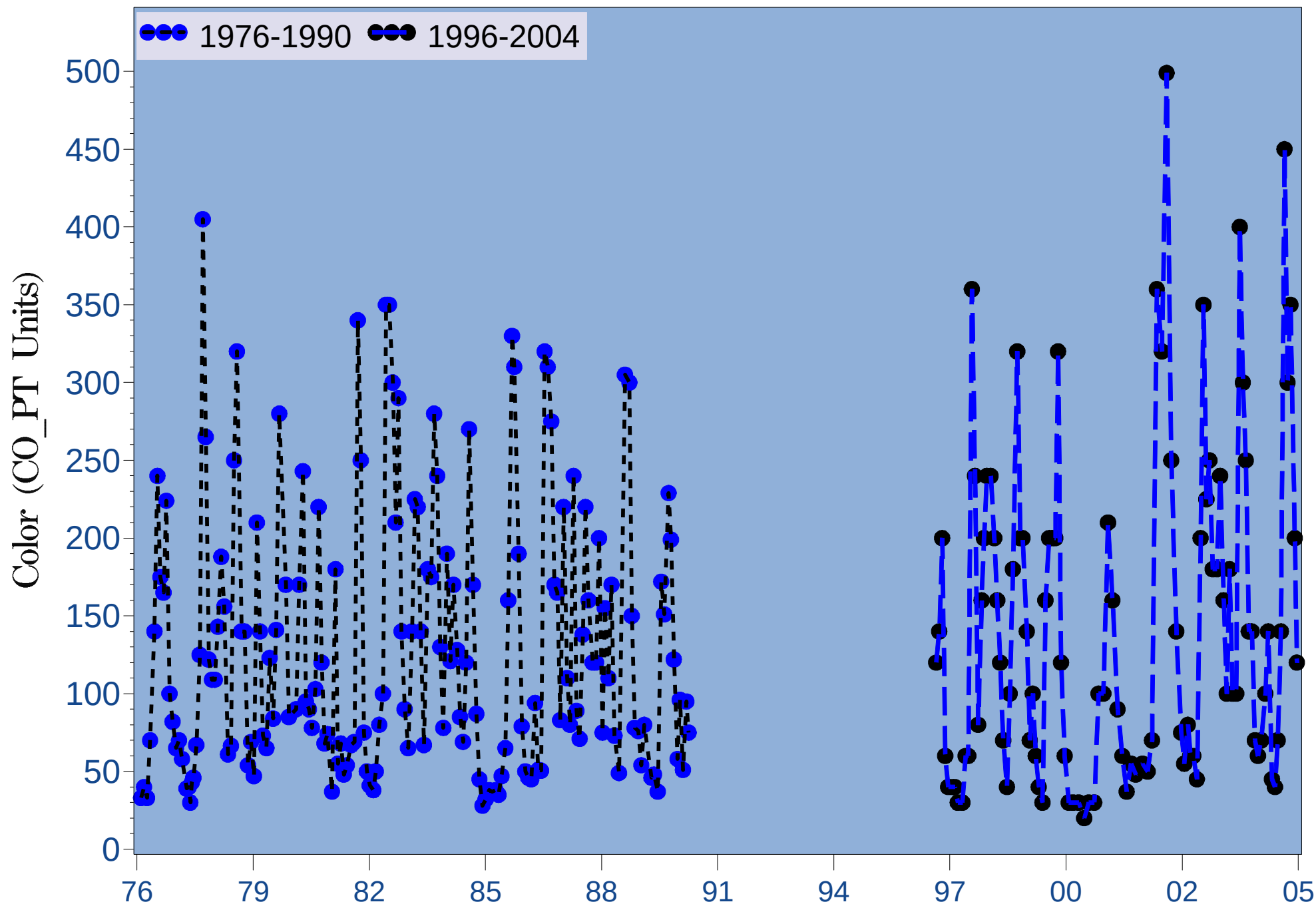


Figure 4.18c Long-term surface color at river kilometer 15.5

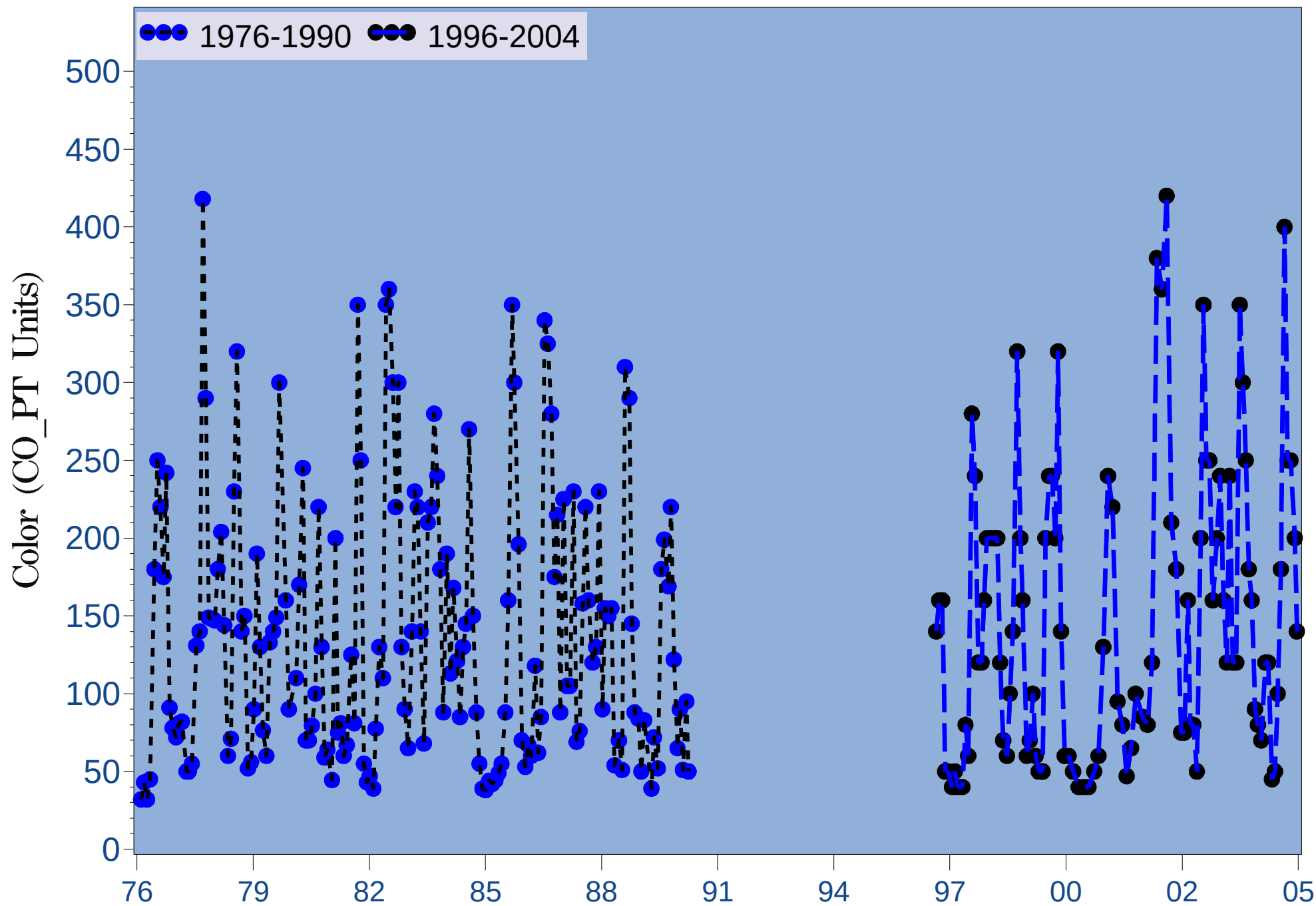


Figure 4.18d Long-term surface color at river kilometer 23.6

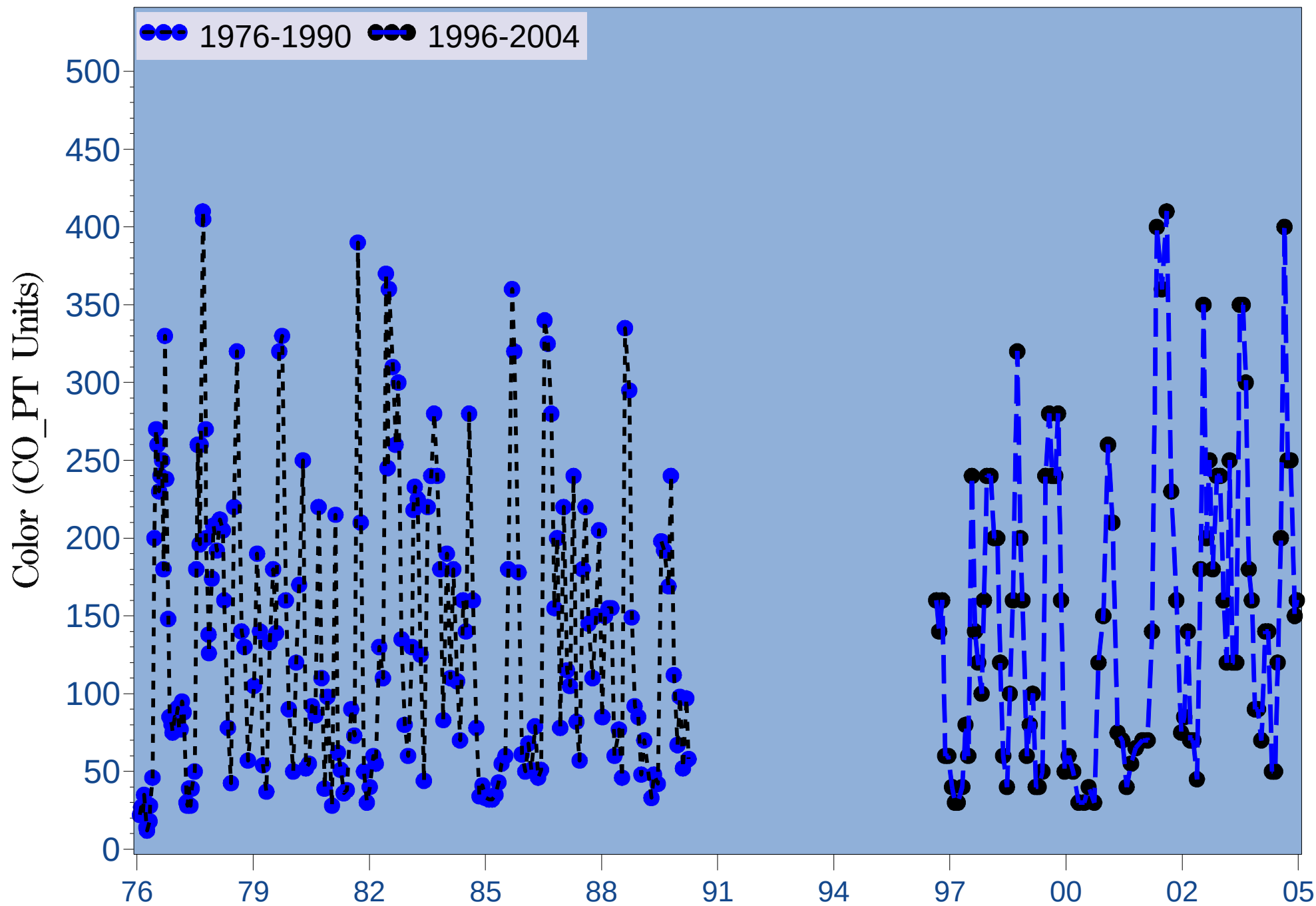


Figure 4.18e Long-term surface color at river kilometer 30.4

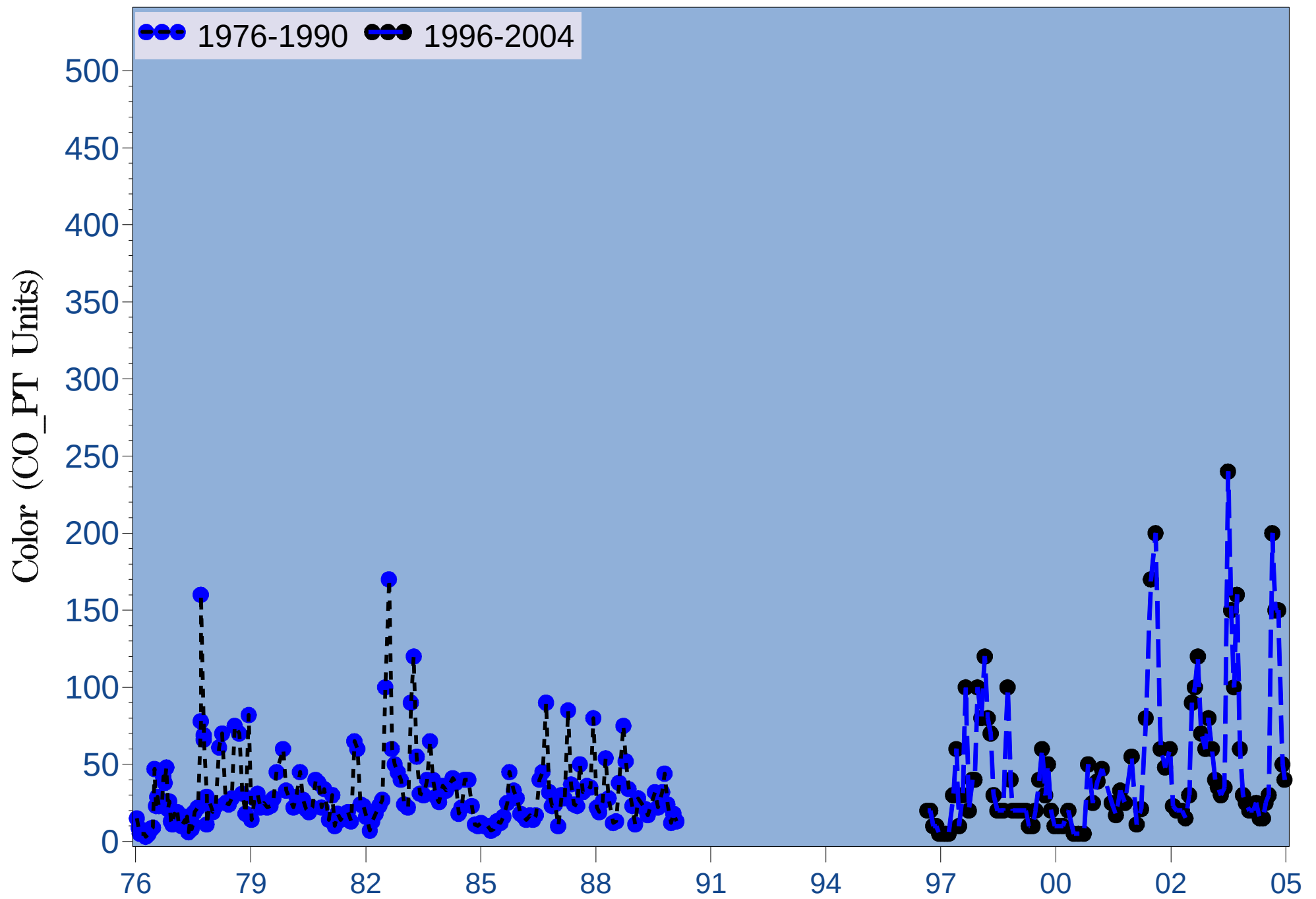


Figure 4.19a Long-term bottom color at river kilometer -2.4

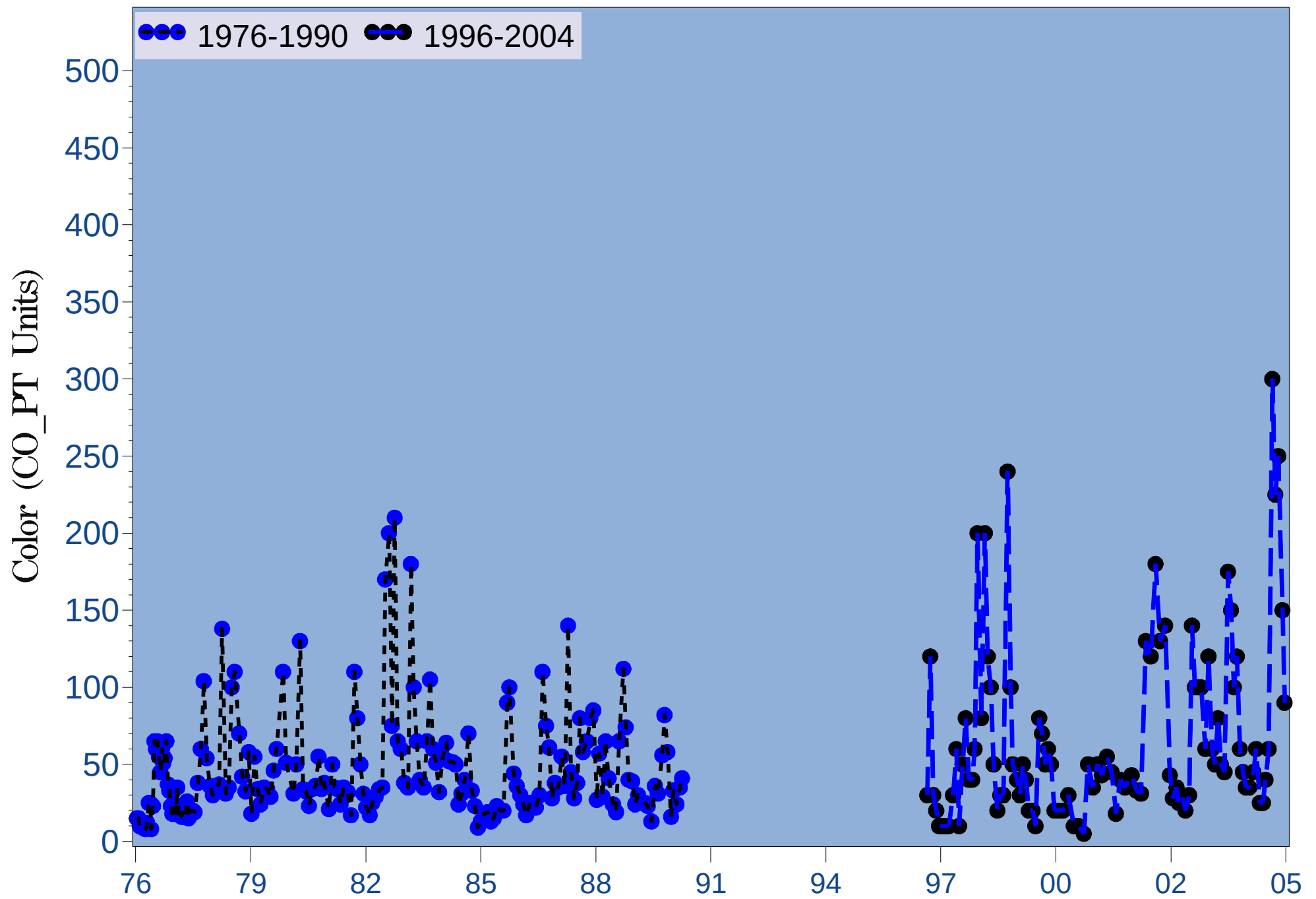


Figure 4.19b Long-term bottom color at river kilometer 6.6

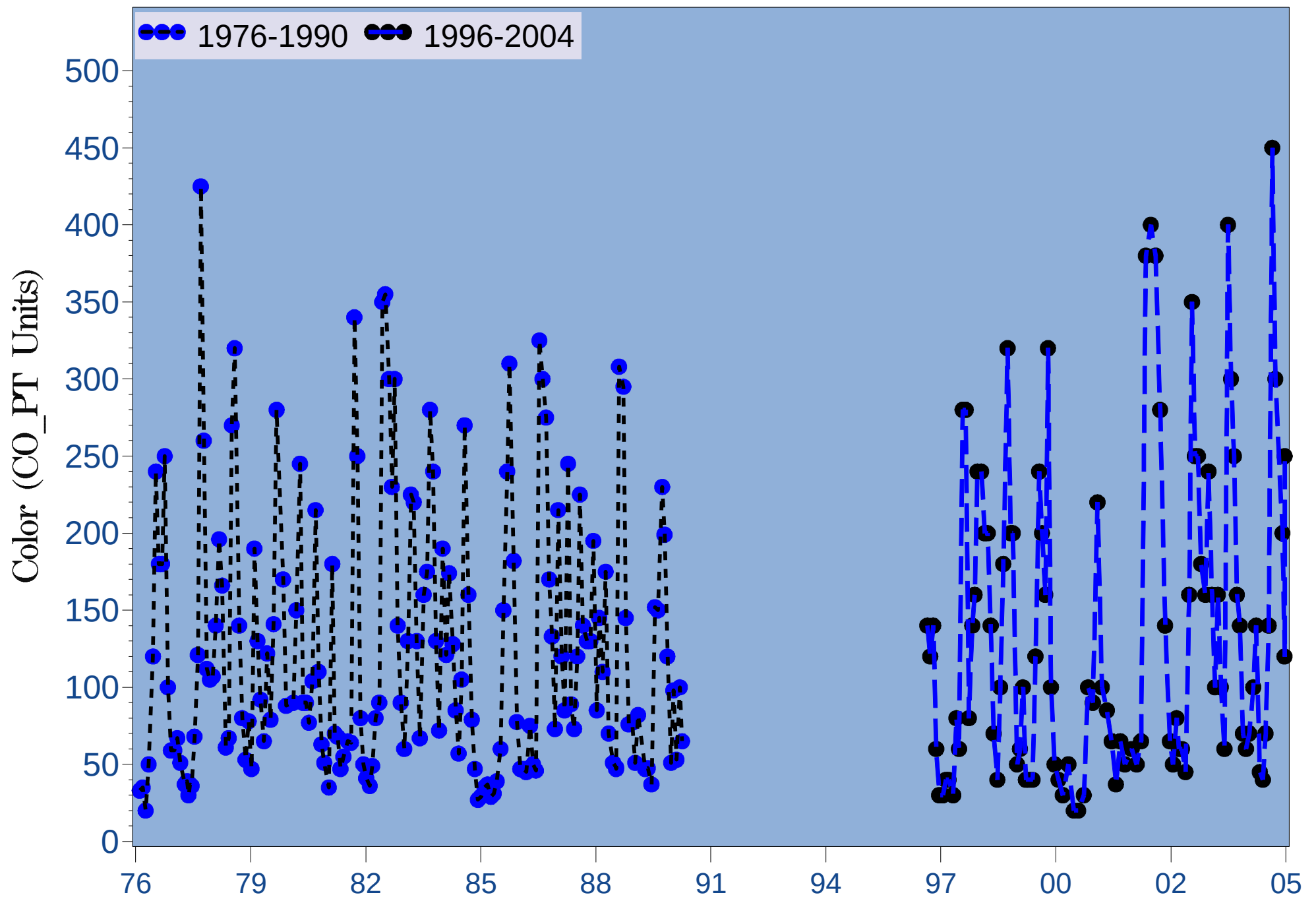


Figure 4.19c Long-term bottom color at river kilometer 15.5

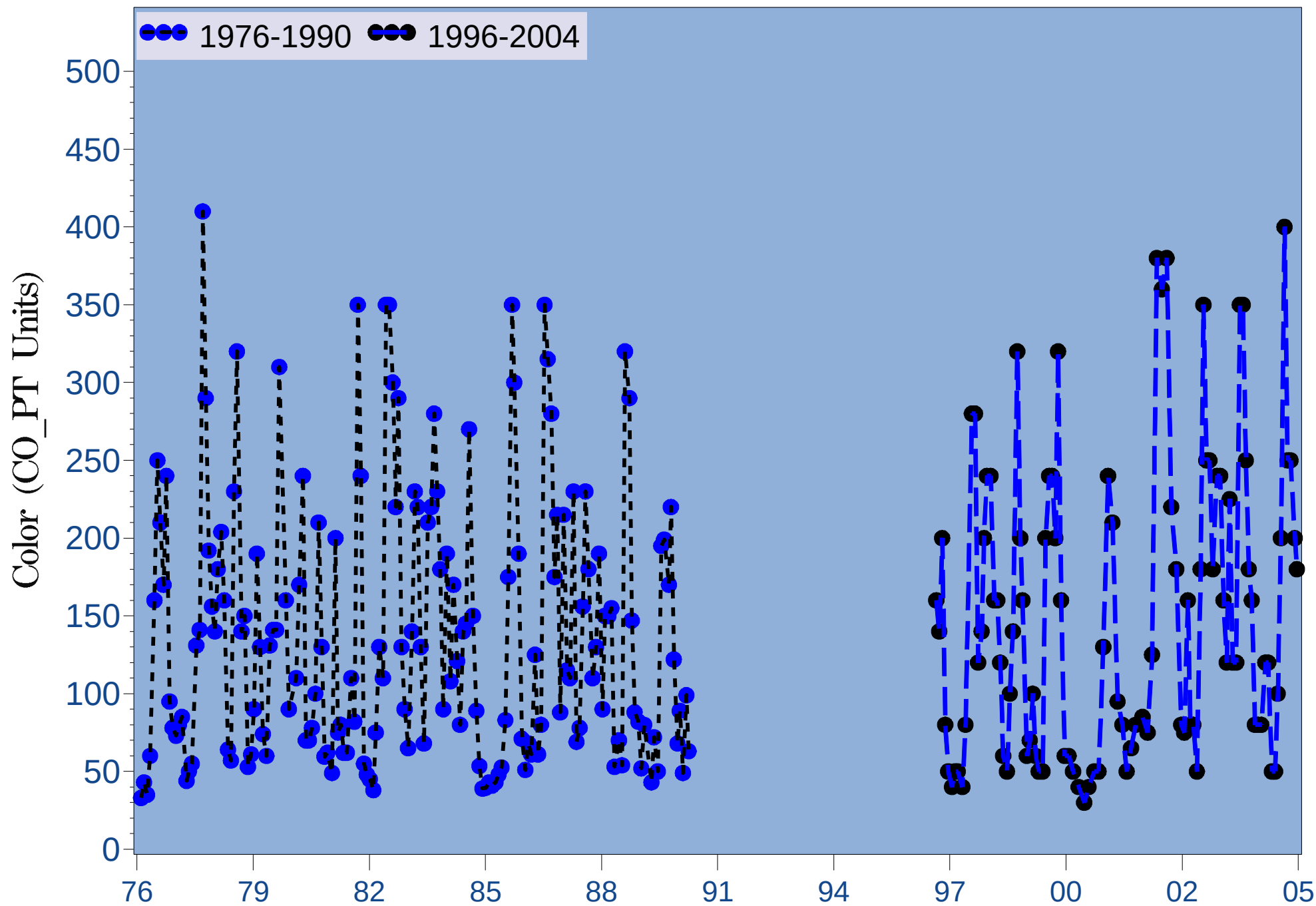


Figure 4.19d Long-term bottom color at river kilometer 23.6

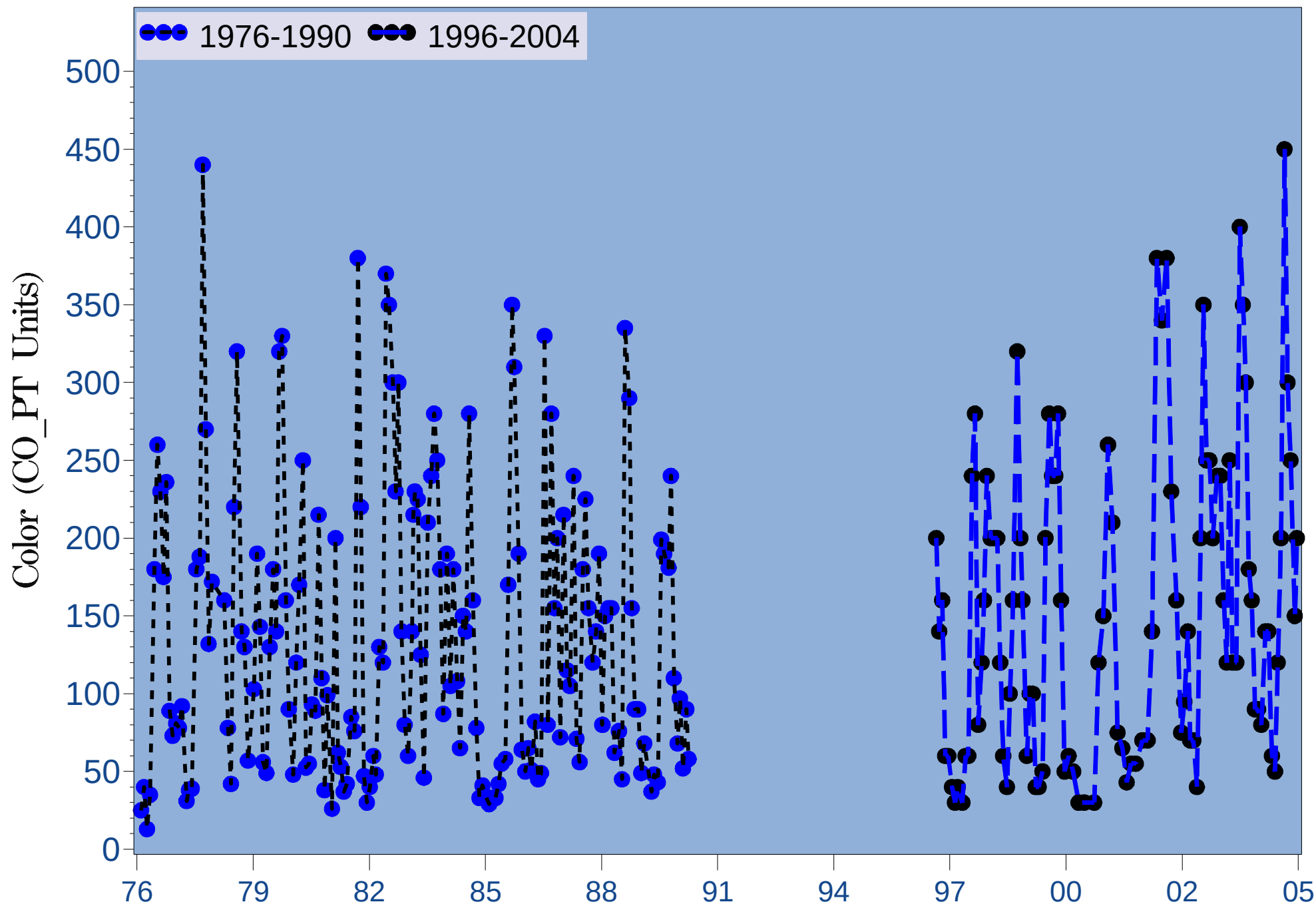


Figure 4.19e Long-term bottom color at river kilometer 30.4

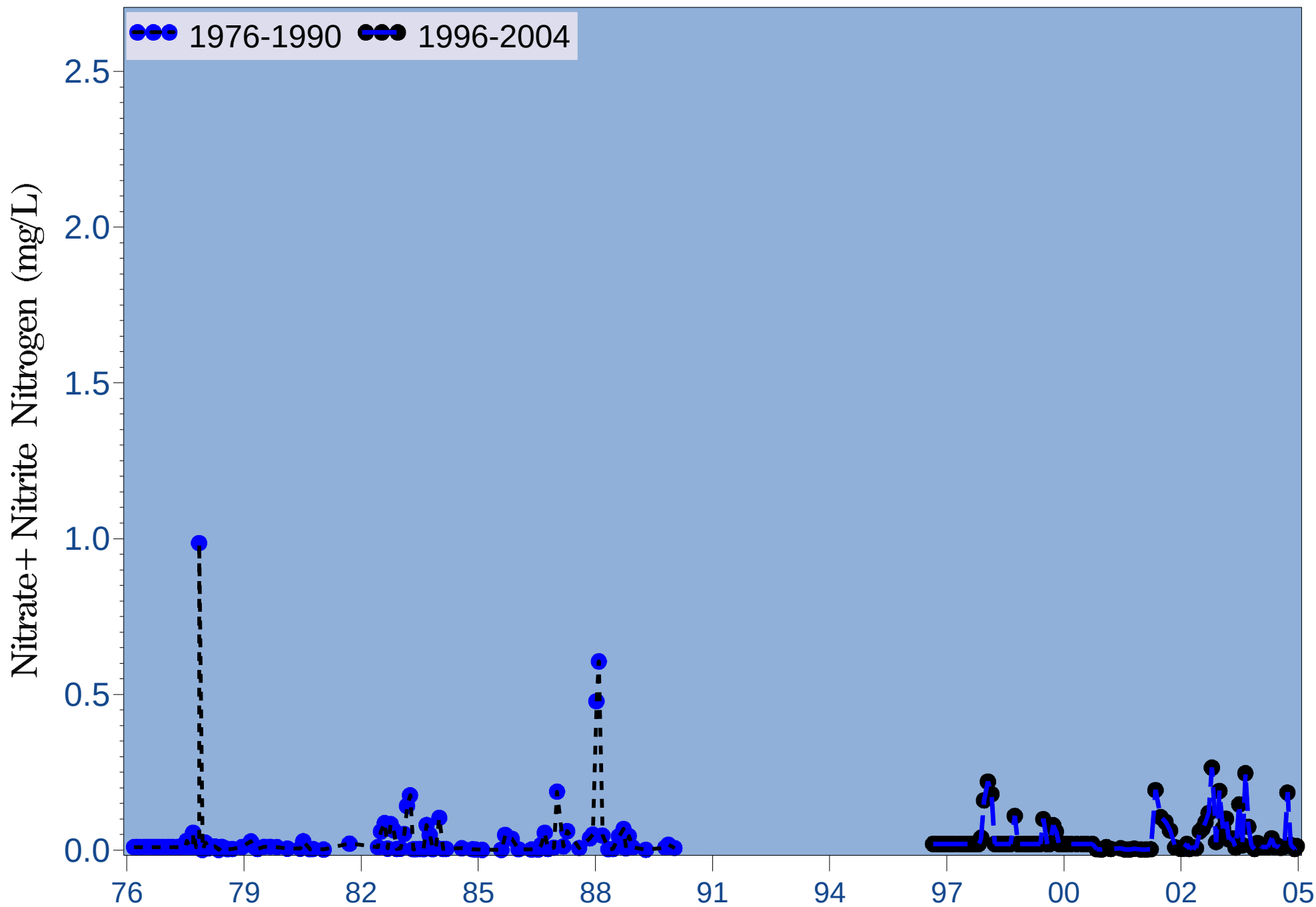


Figure 4.20a Long-term surface nitrate/nitrite nitrogen at river kilometer -2.4

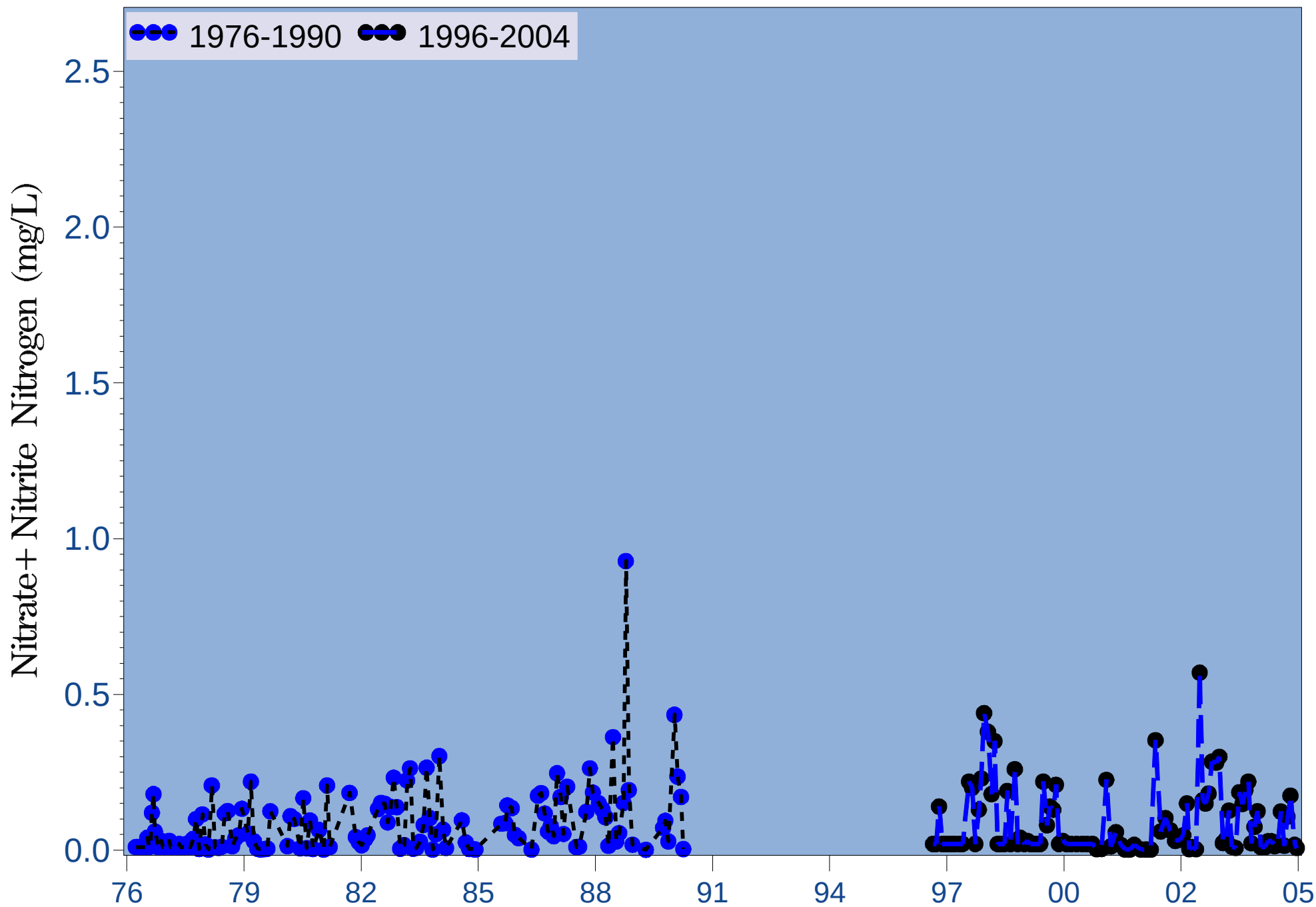


Figure 4.20b Long-term surface nitrate/nitrite nitrogen at river kilometer 6.6

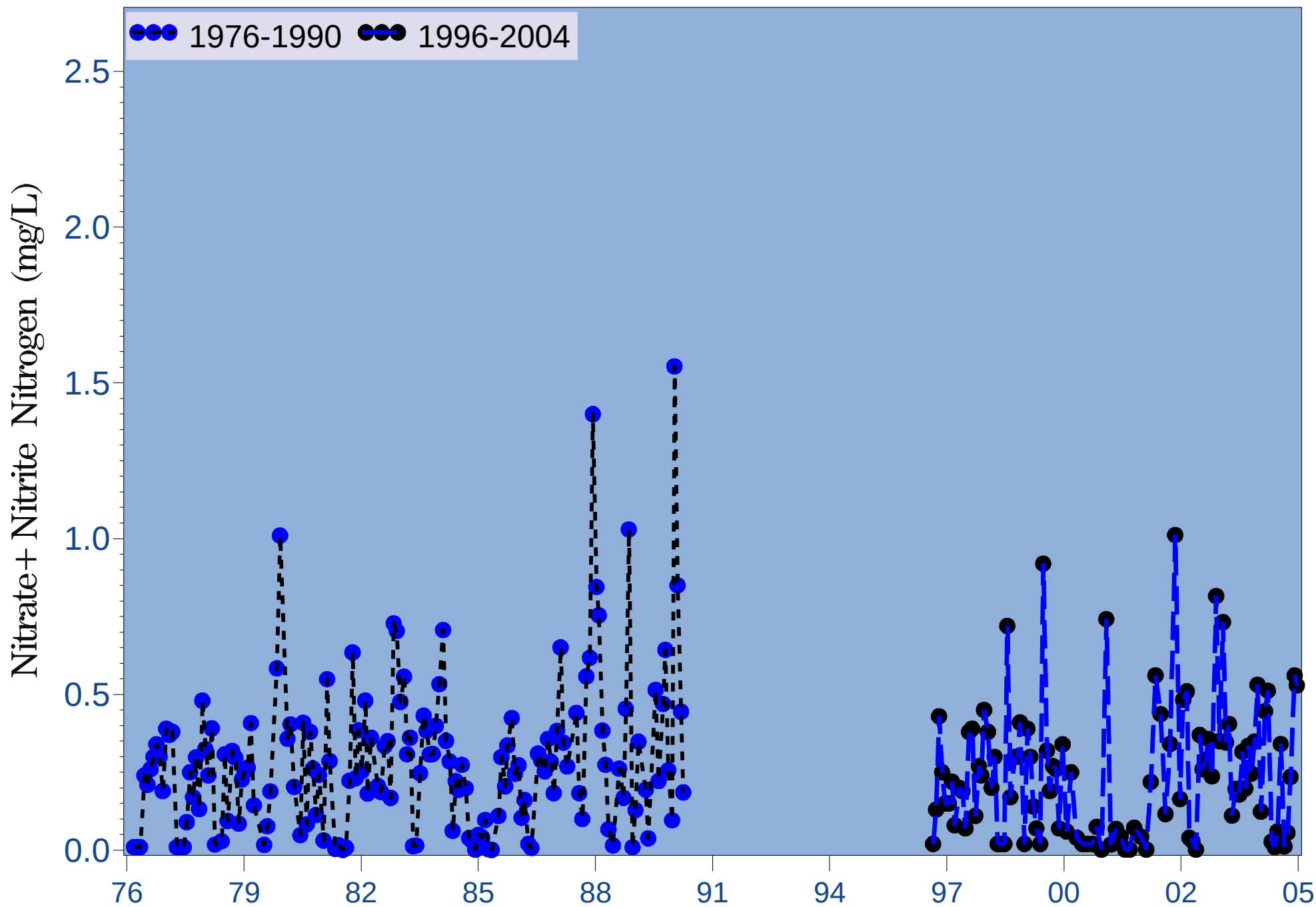


Figure 4.20c Long-term surface nitrate/nitrite nitrogen at river kilometer 15.5

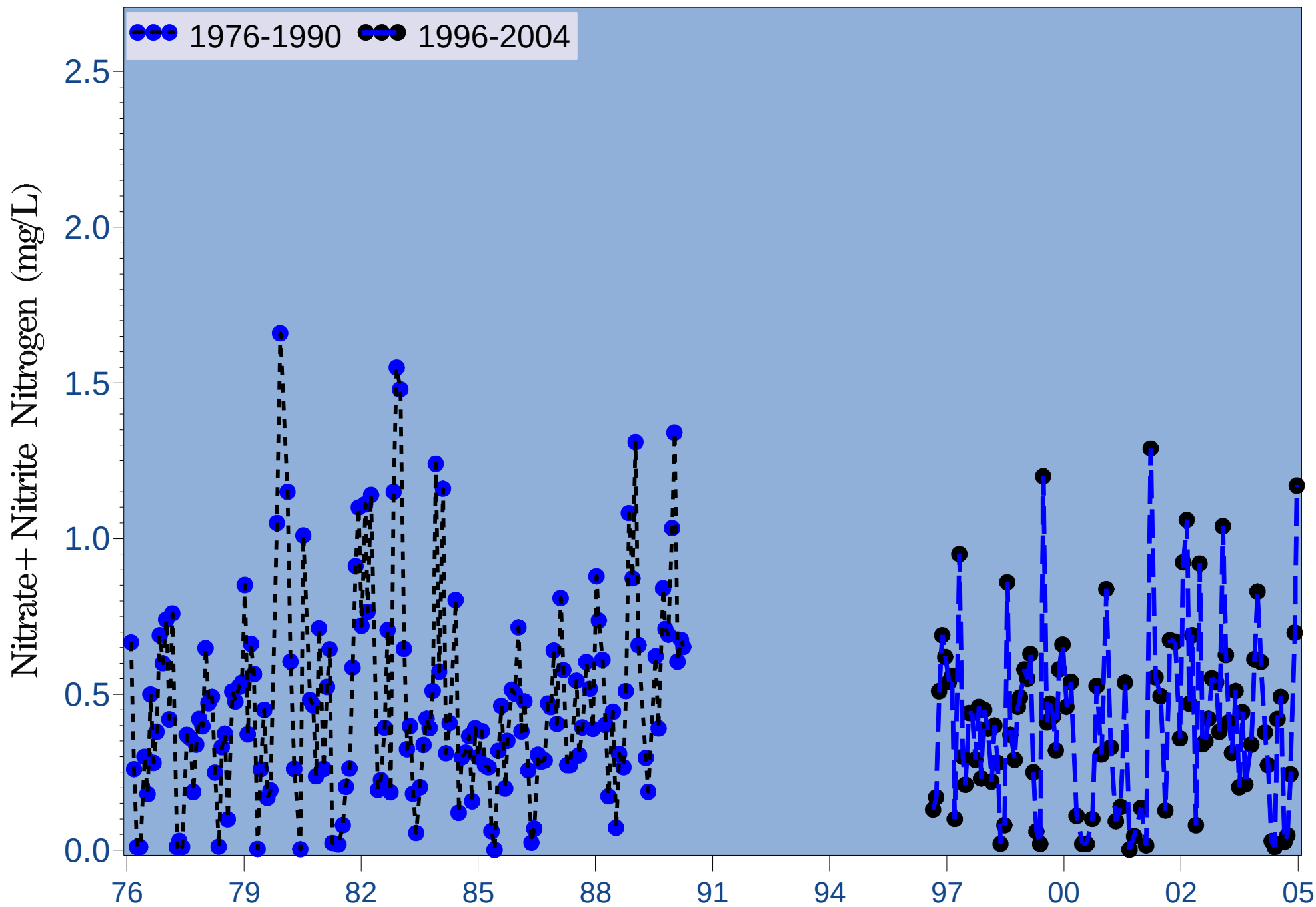


Figure 4.20d Long-term surface nitrate/nitrite nitrogen at river kilometer 23.6

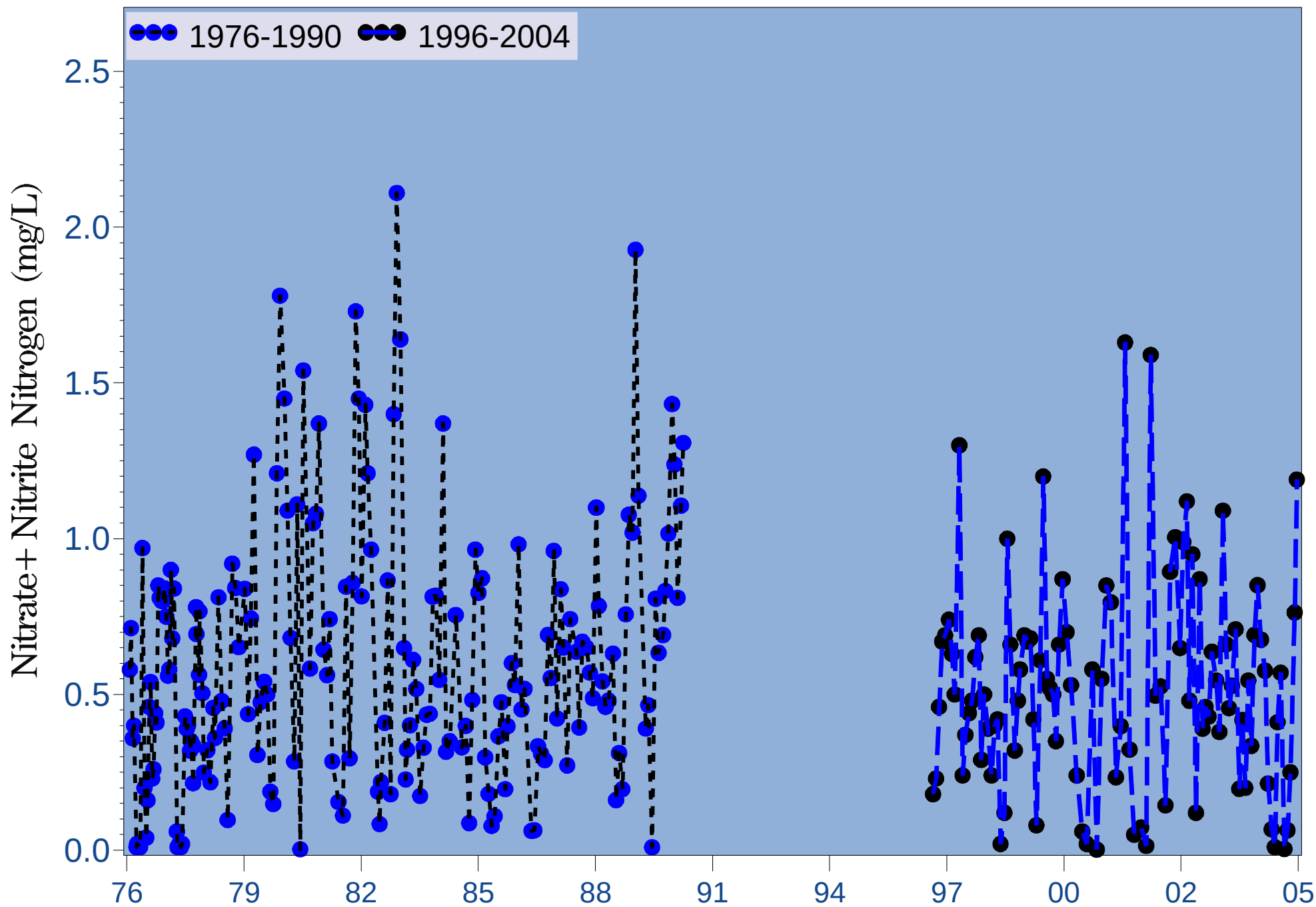


Figure 4.20e Long-term surface nitrate/nitrite nitrogen at river kilometer 30.4

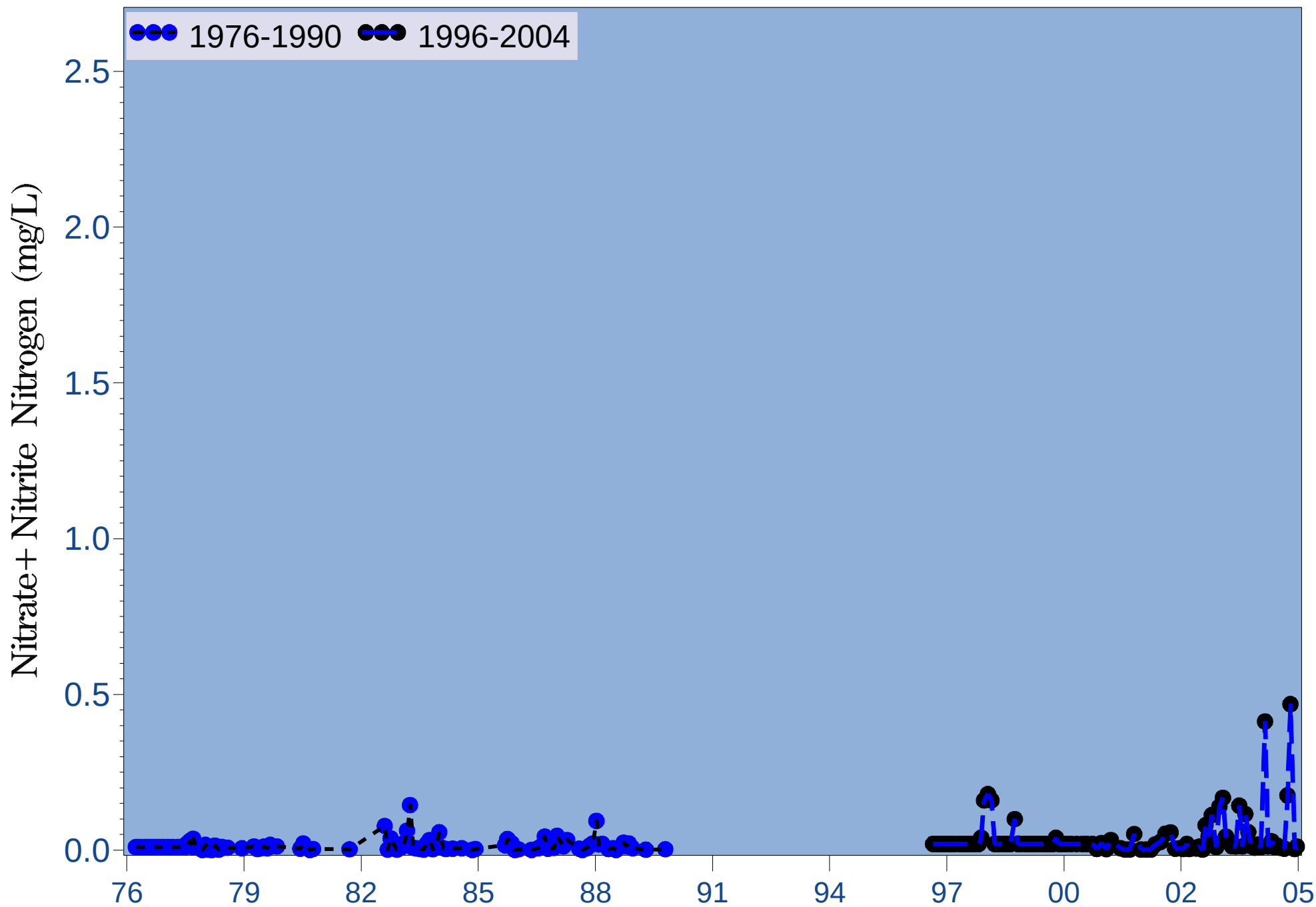


Figure 4.21a Long-term bottom nitrate/nitrite nitrogen at river kilometer -2.4

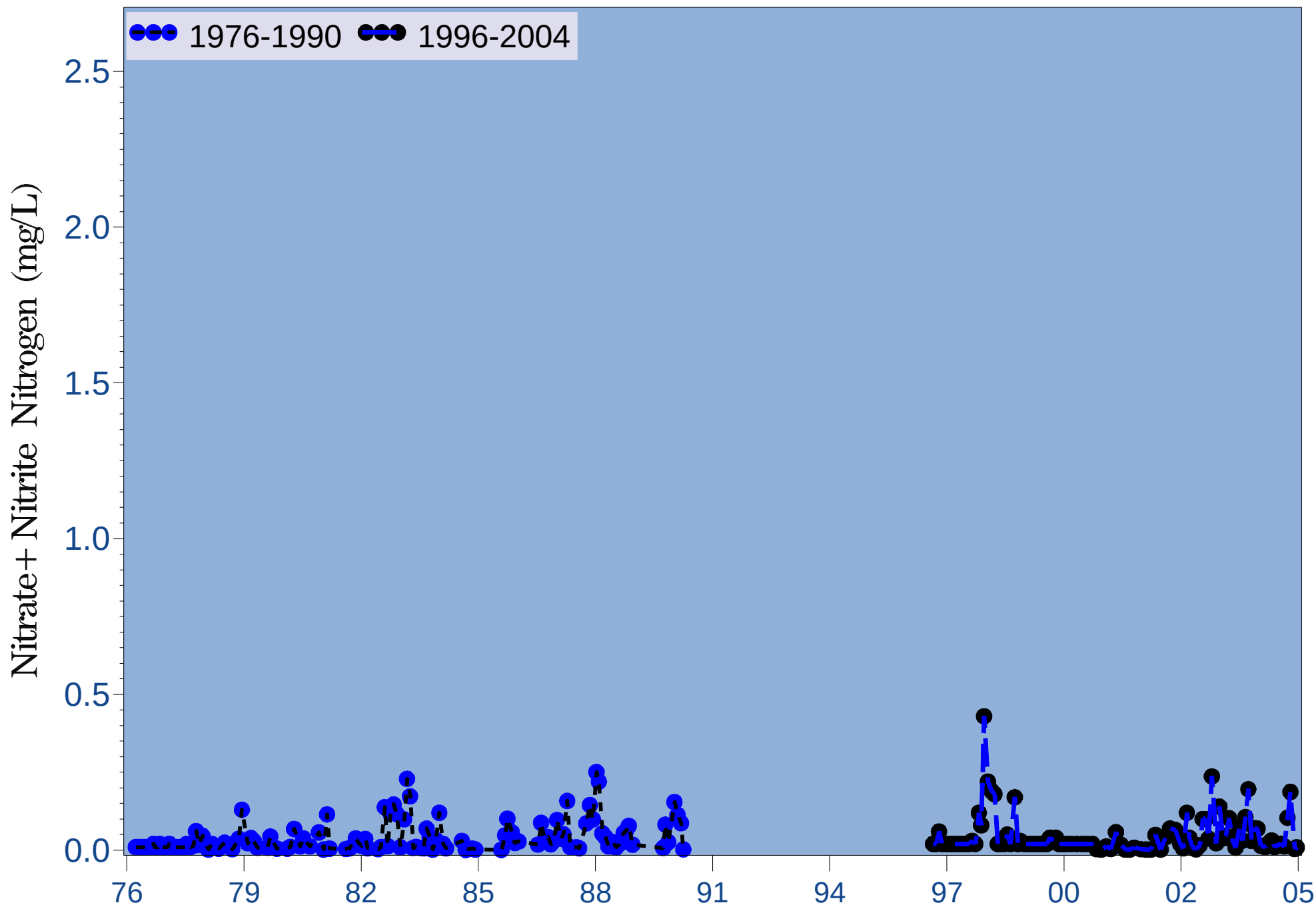


Figure 4.21b Long-term bottom nitrate/nitrite nitrogen at river kilometer 6.6

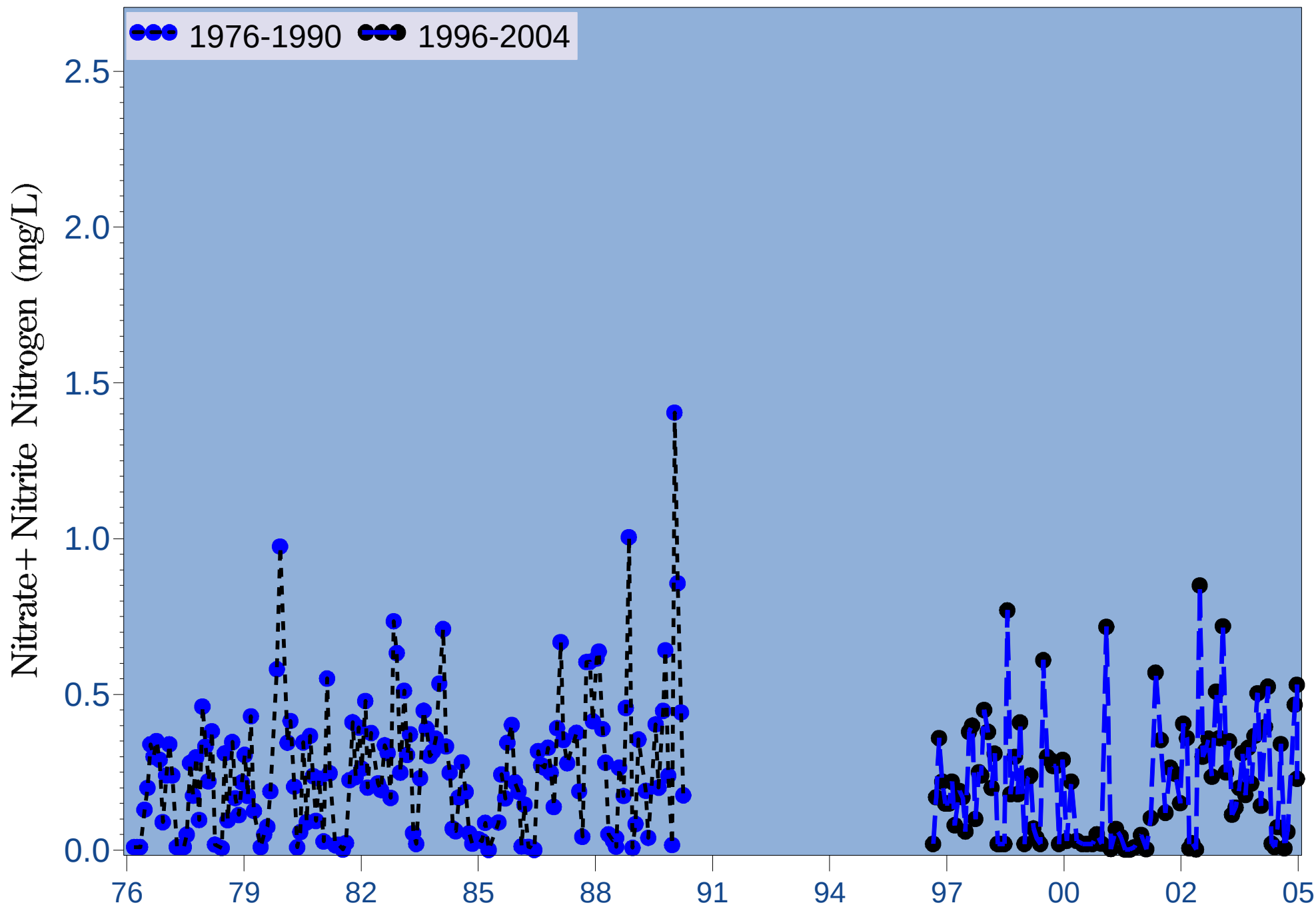


Figure 4.21c Long-term bottom nitrate/nitrite nitrogen at river kilometer 15.5

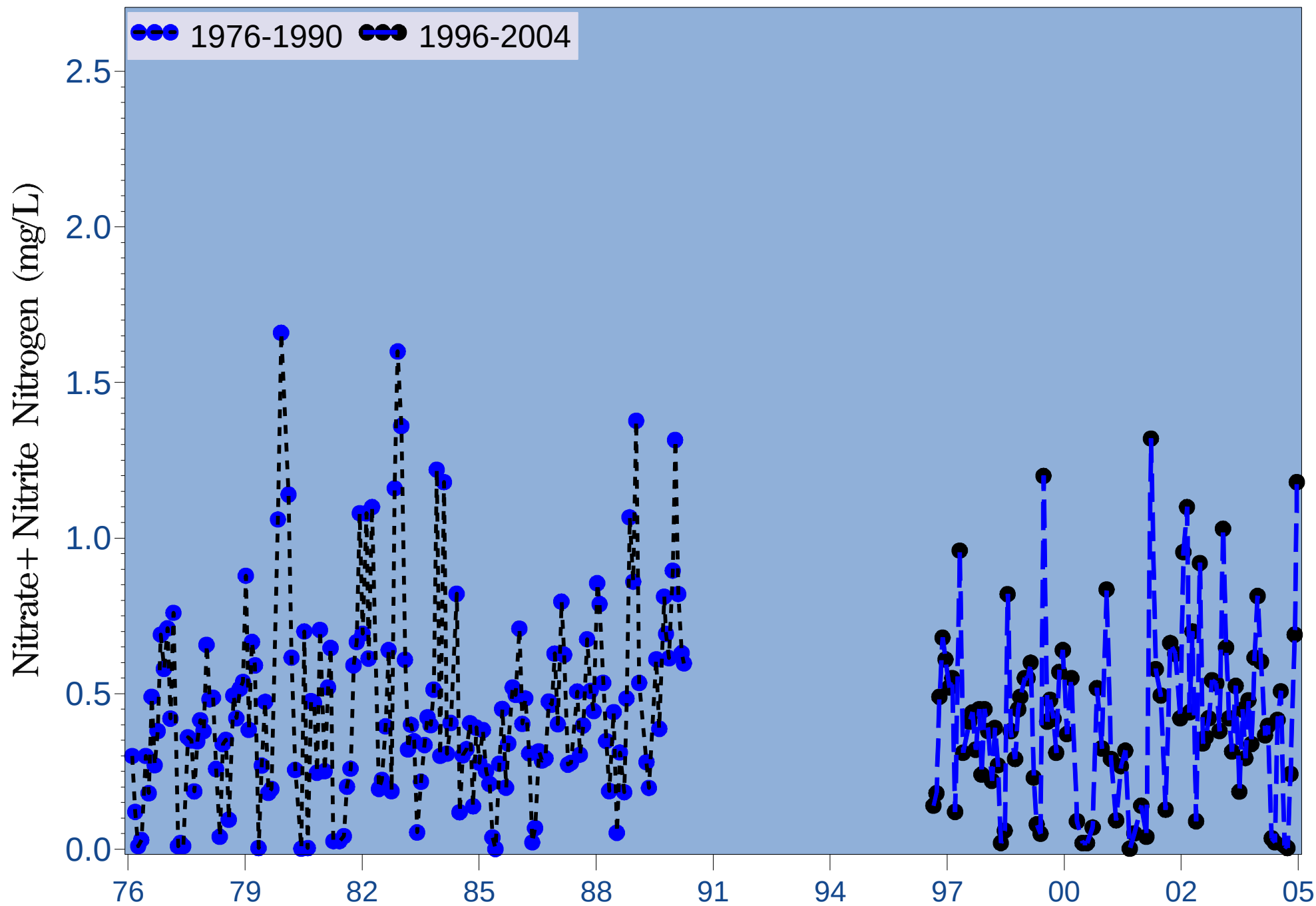


Figure 4.21d Long-term bottom nitrate/nitrite nitrogen at river kilometer 23.6

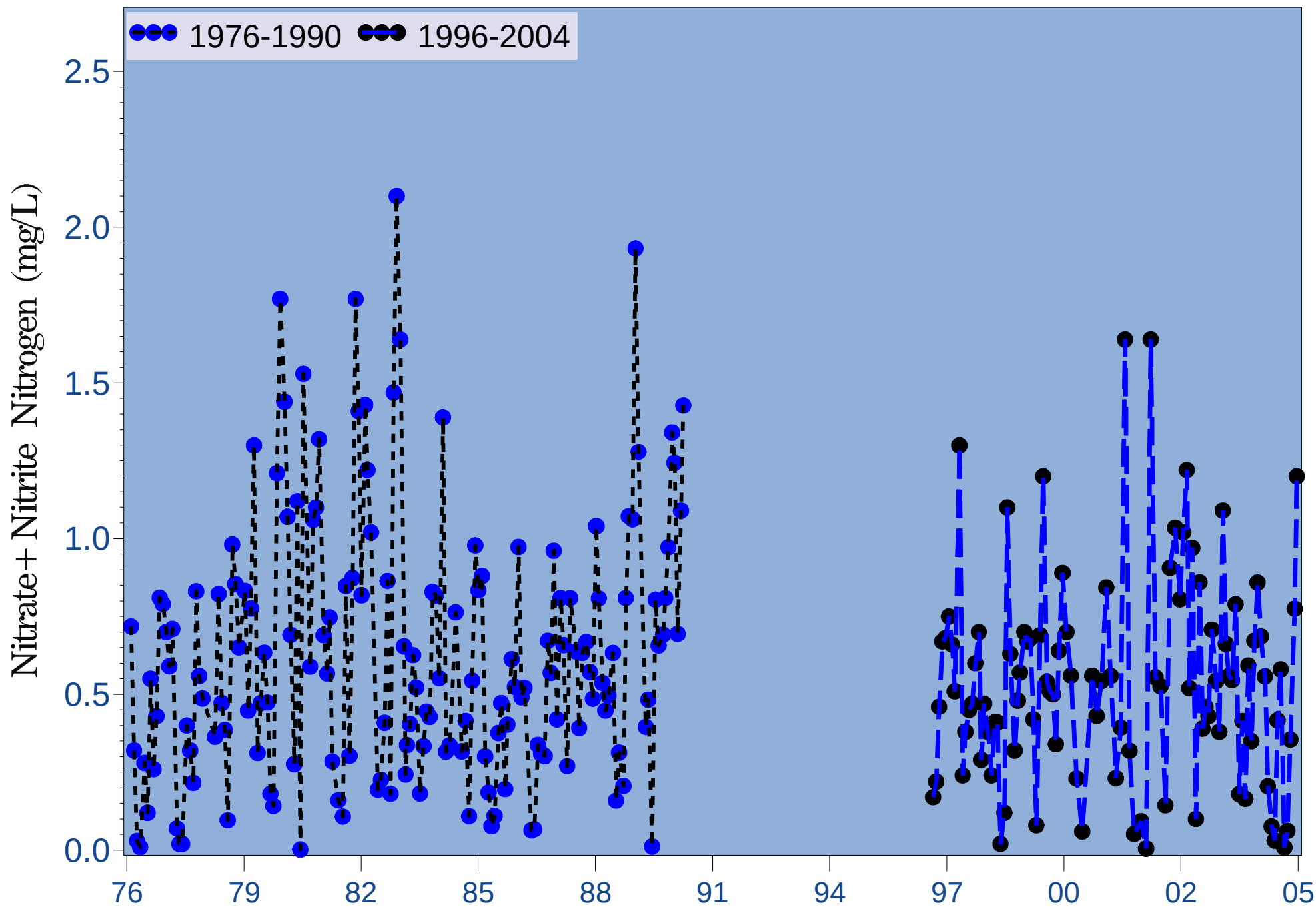


Figure 4.21e Long-term bottom nitrate/nitrite nitrogen at river kilometer 30.4

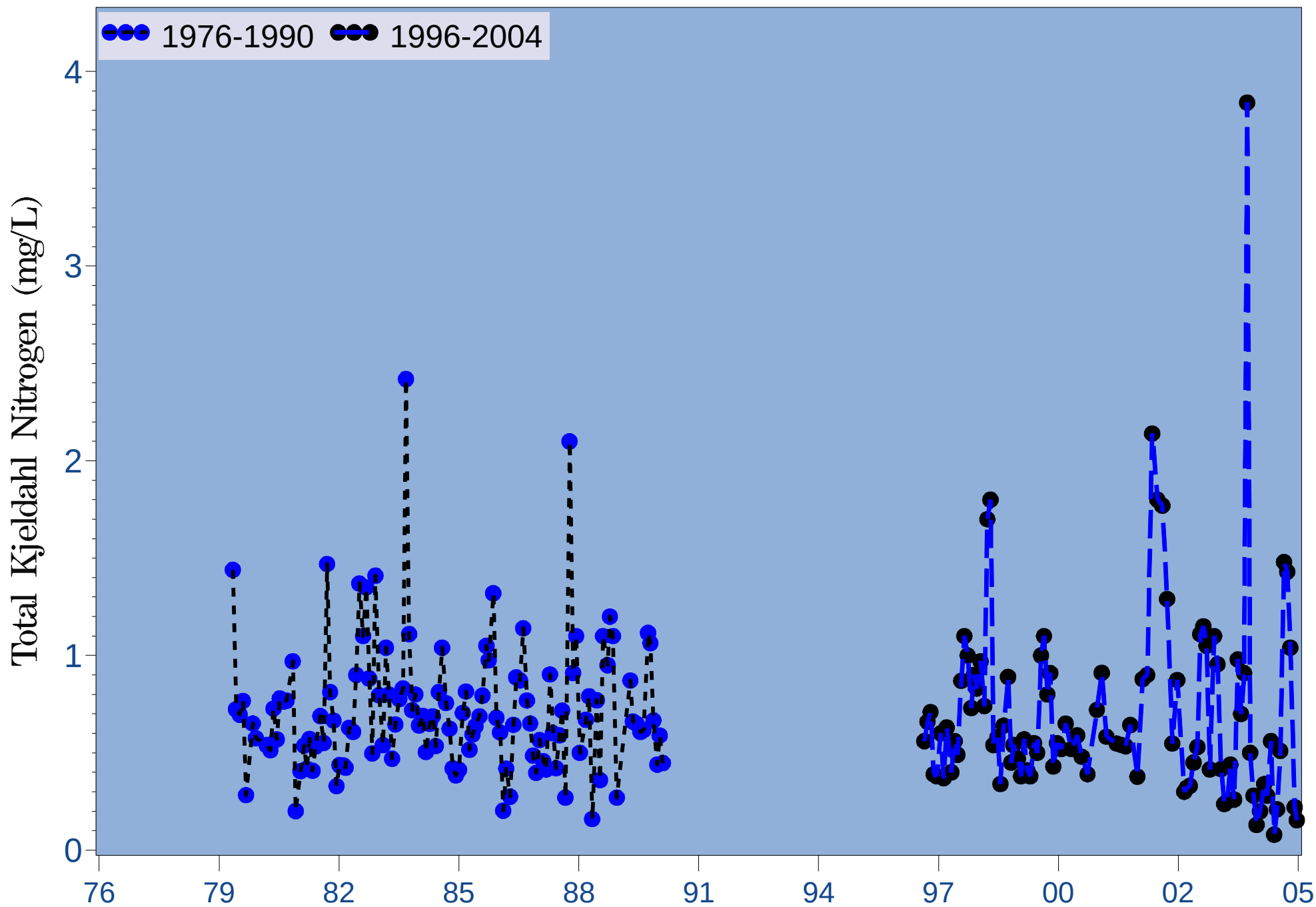


Figure 4.22a Long-term surface total Kjeldahl nitrogen at river kilometer -2.4

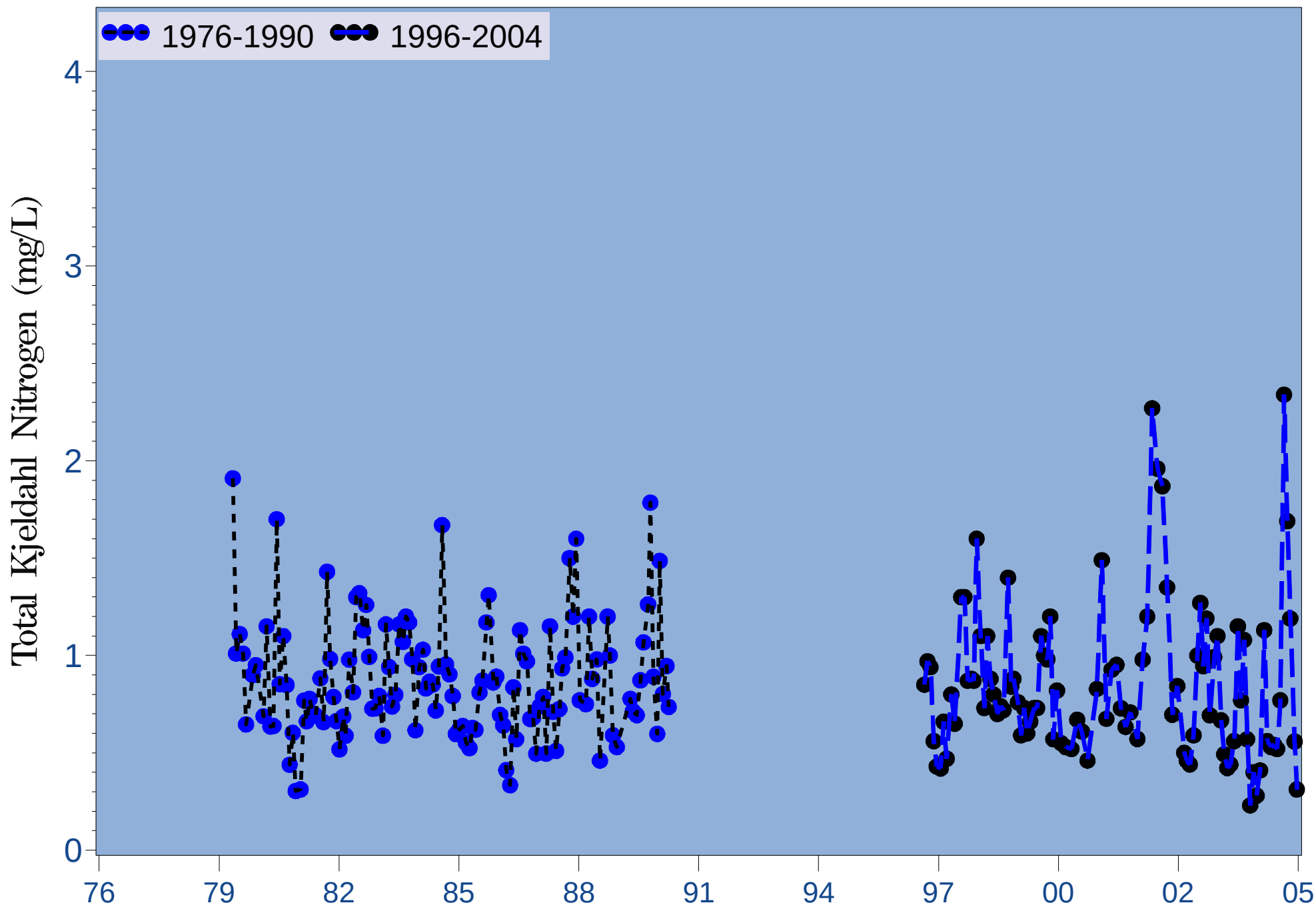


Figure 4.22b Long-term surface total Kjeldahl nitrogen at river kilometer 6.6

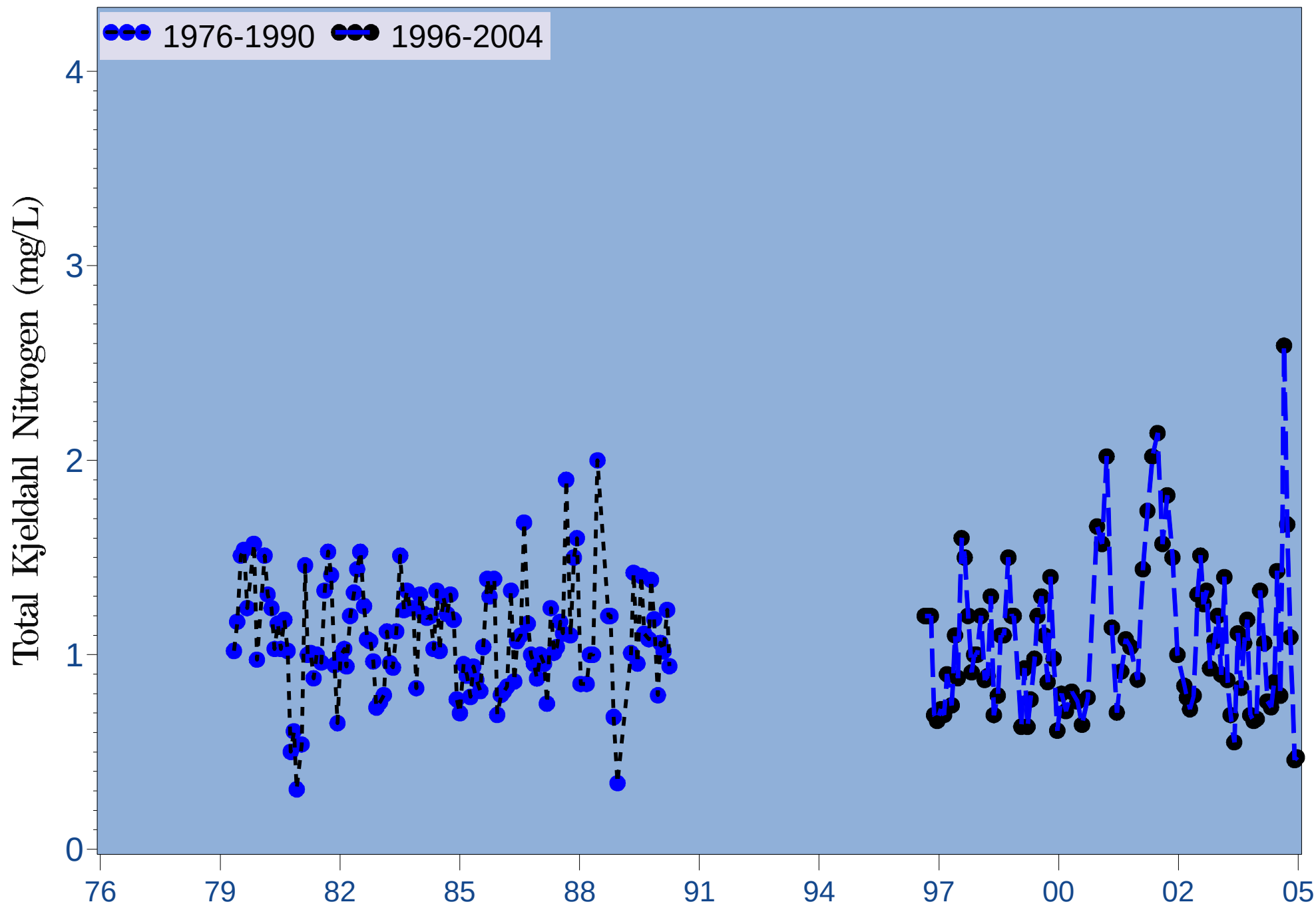


Figure 4.22c Long-term surface total Kjeldahl nitrogen at river kilometer 15.5

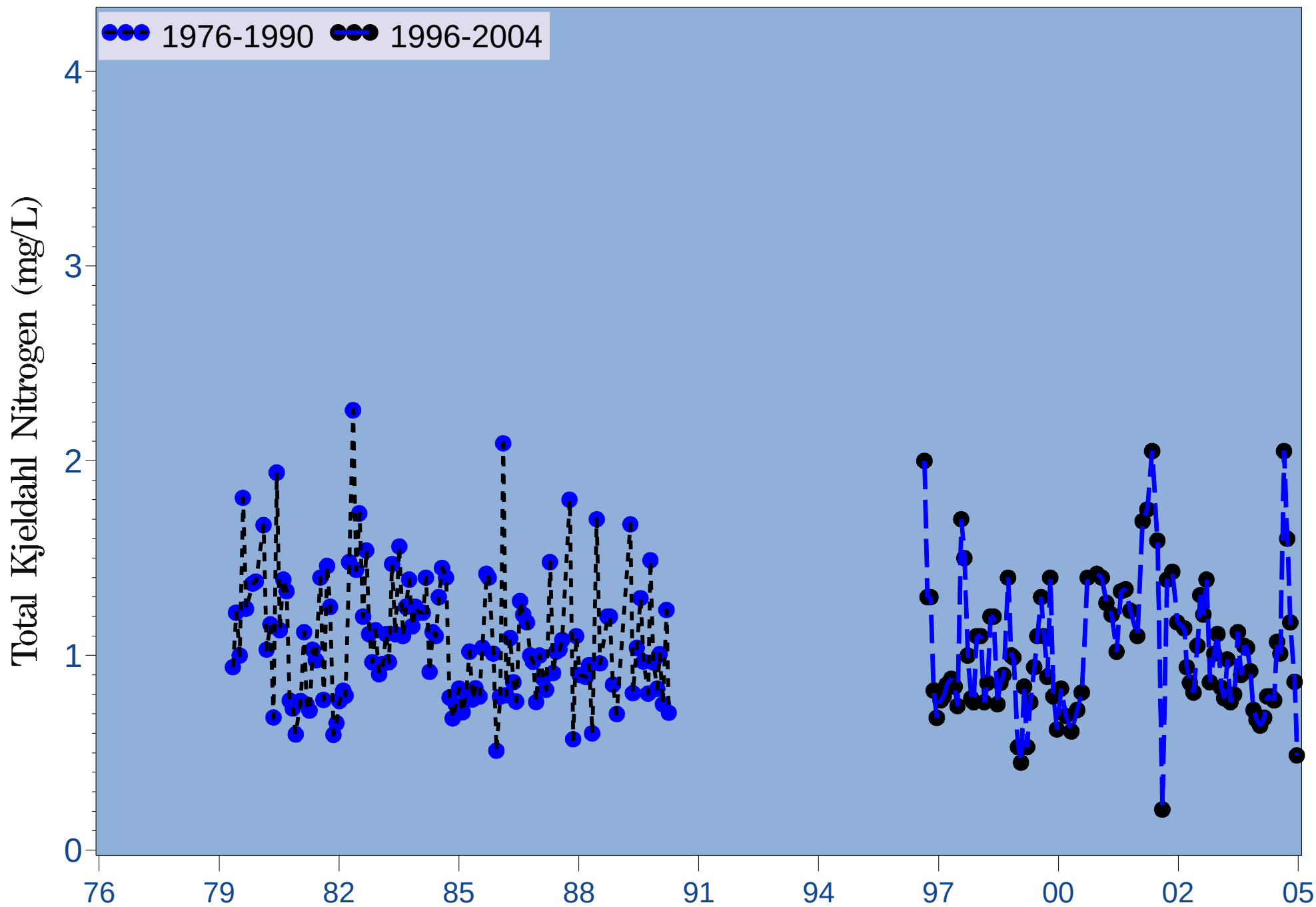


Figure 4.22d Long-term surface total Kjeldahl nitrogen at river kilometer 23.6

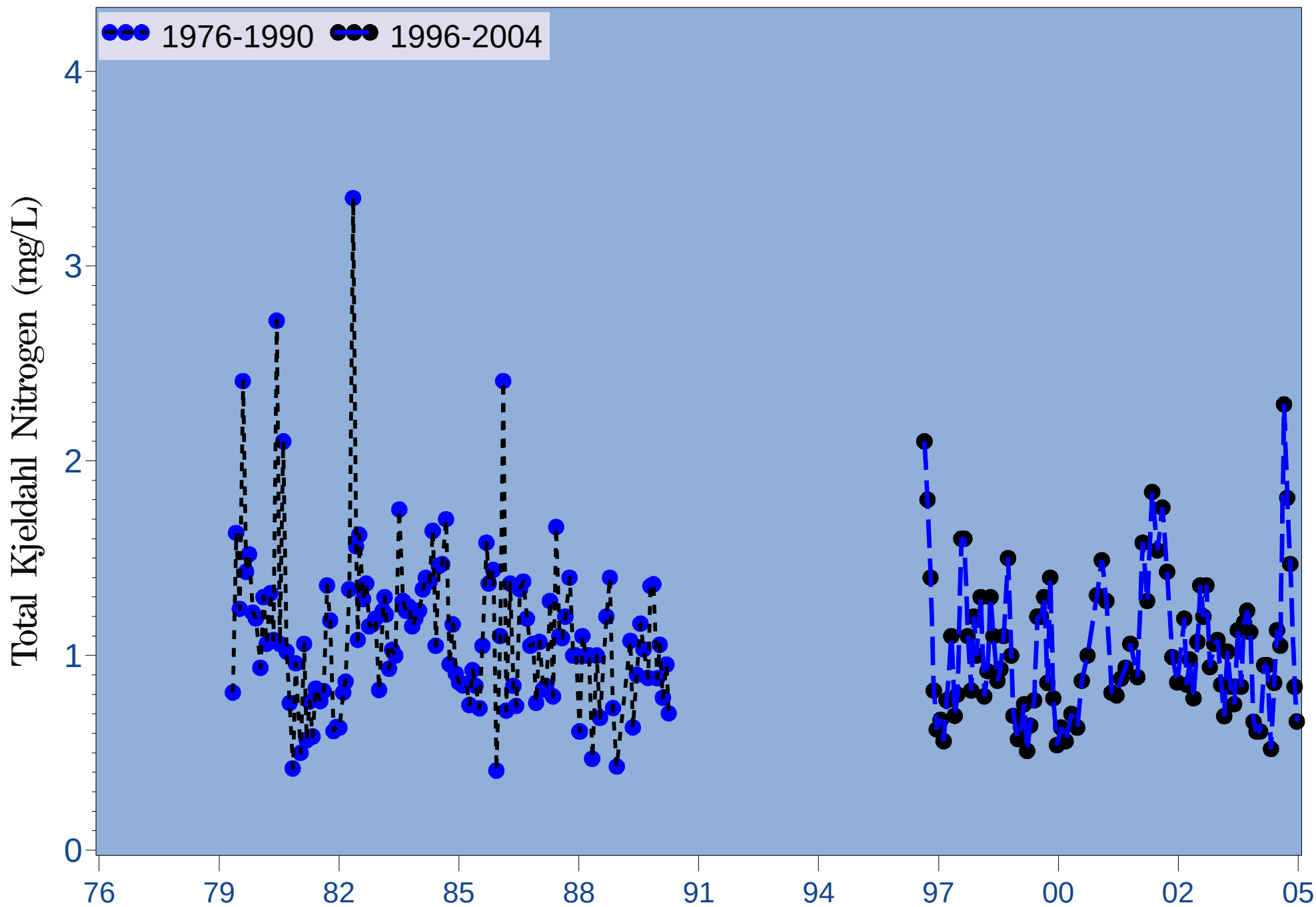


Figure 4.22e Long-term surface total Kjeldahl nitrogen at river kilometer 30.4

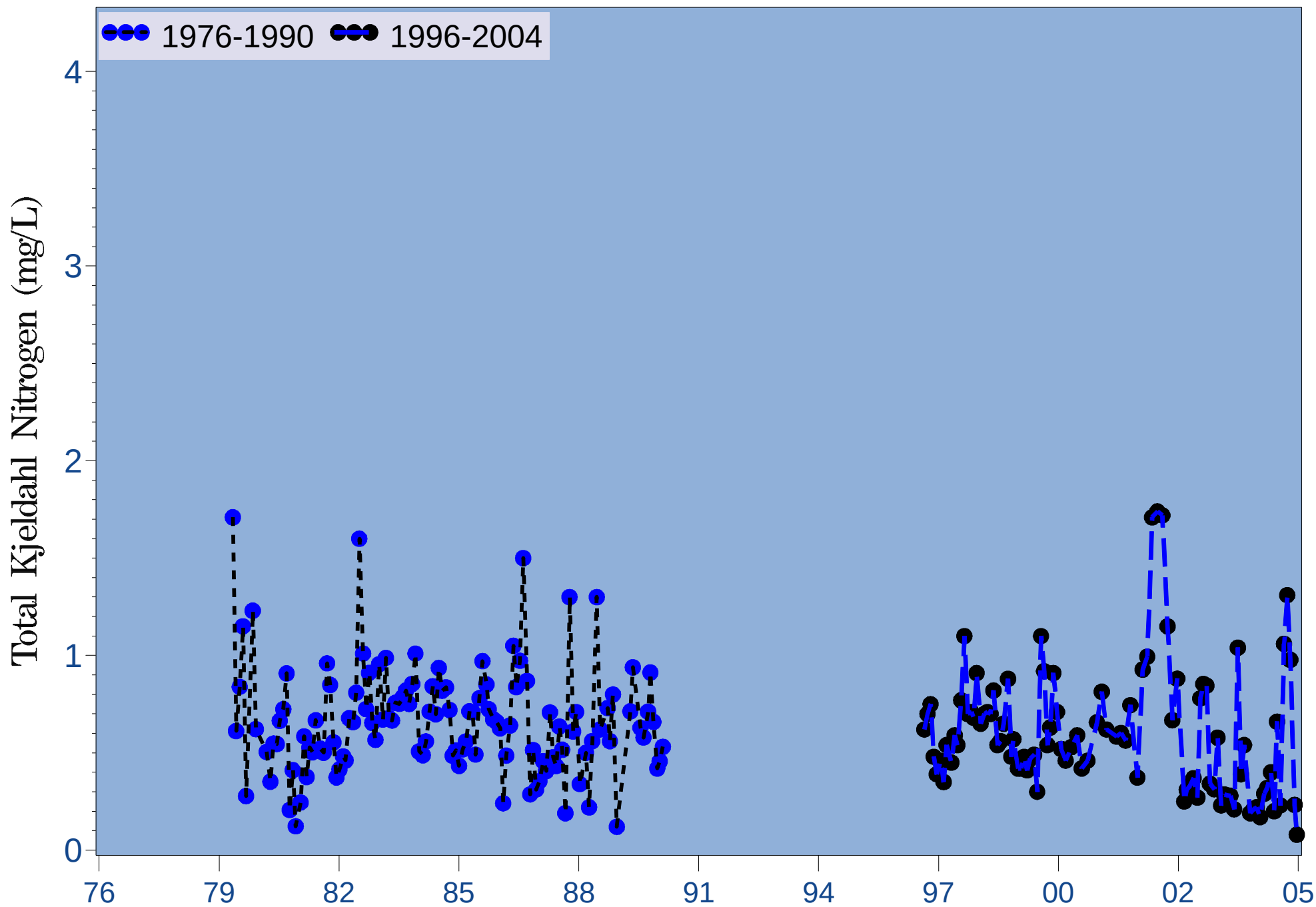


Figure 4.23a Long-term bottom total Kjeldhal nitrogen at river kilometer -2.4

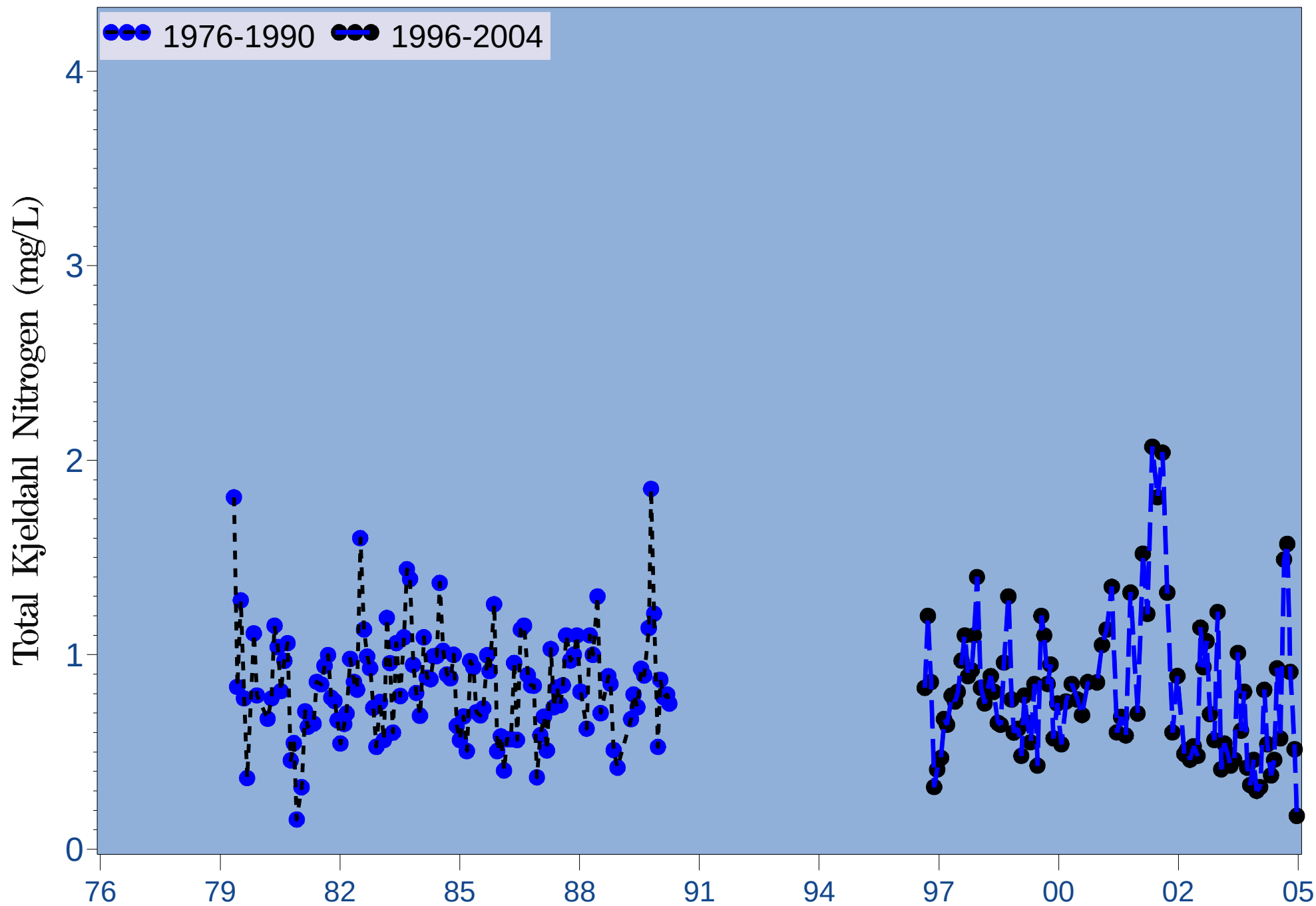


Figure 4.23b Long-term bottom total Kjeldhal nitrogen at river kilometer 6.6

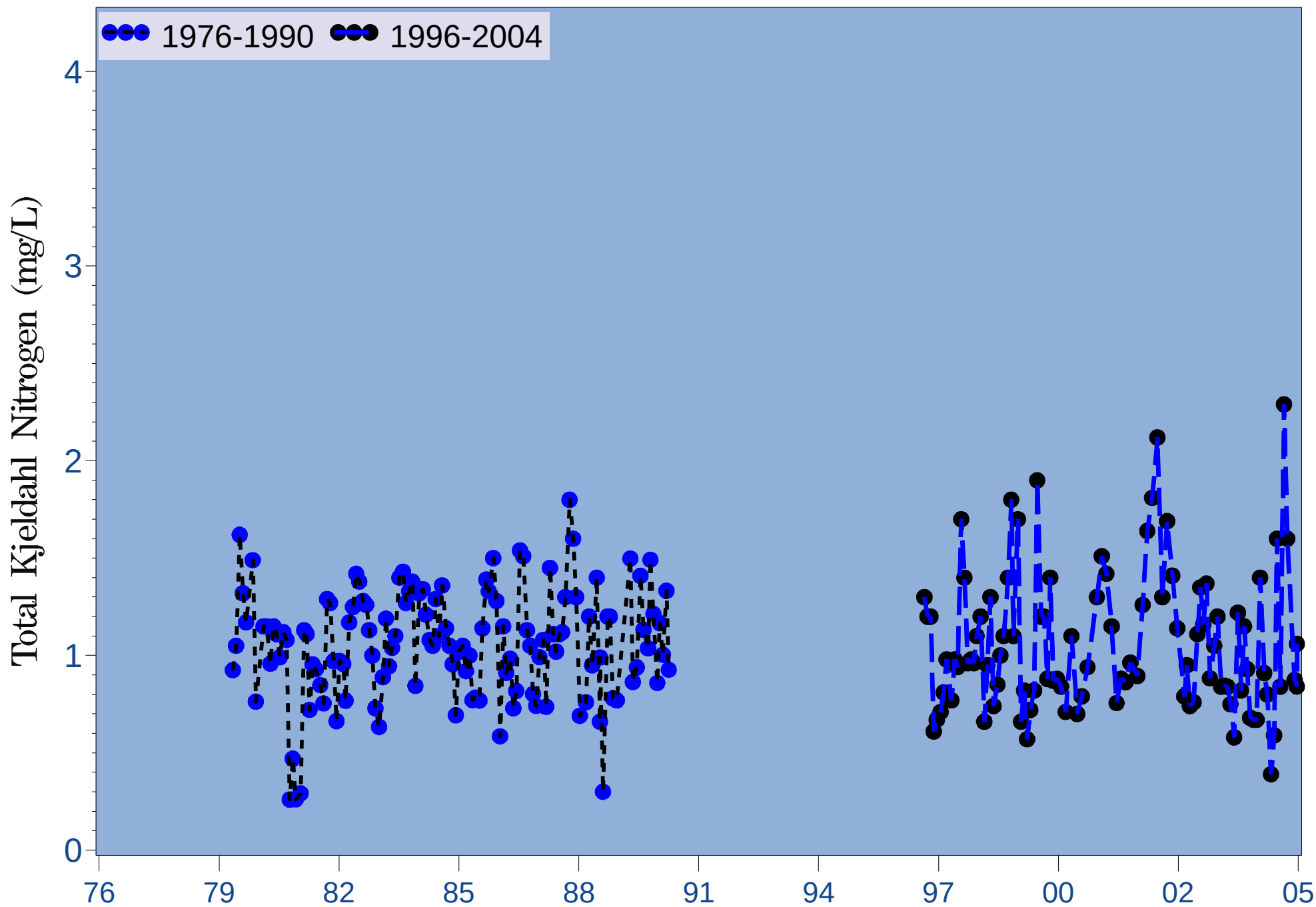


Figure 4.23c Long-term bottom total Kjeldhal nitrogen at river kilometer 15.5

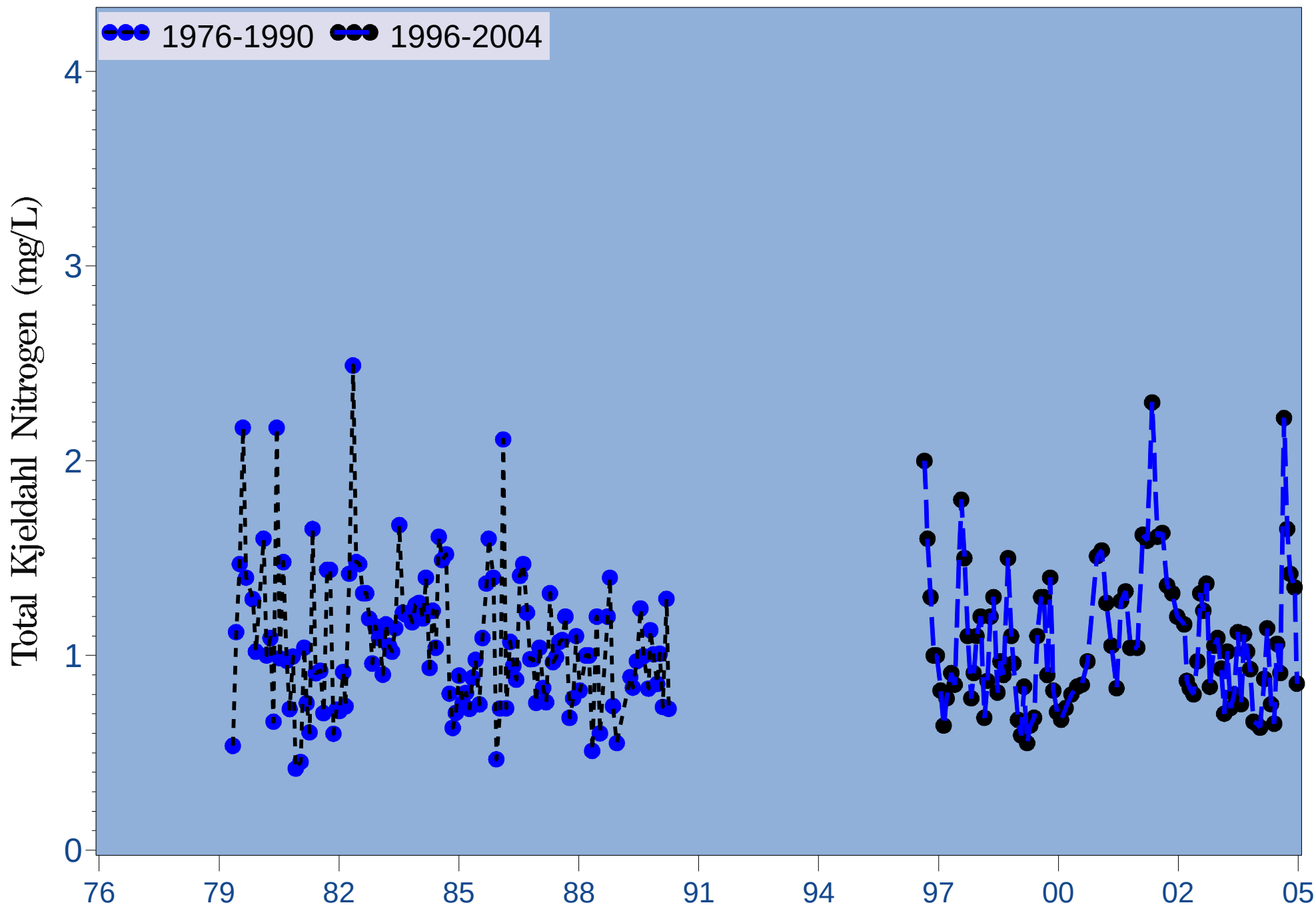


Figure 4.23d Long-term bottom total Kjeldhal nitrogen at river kilometer 23.6

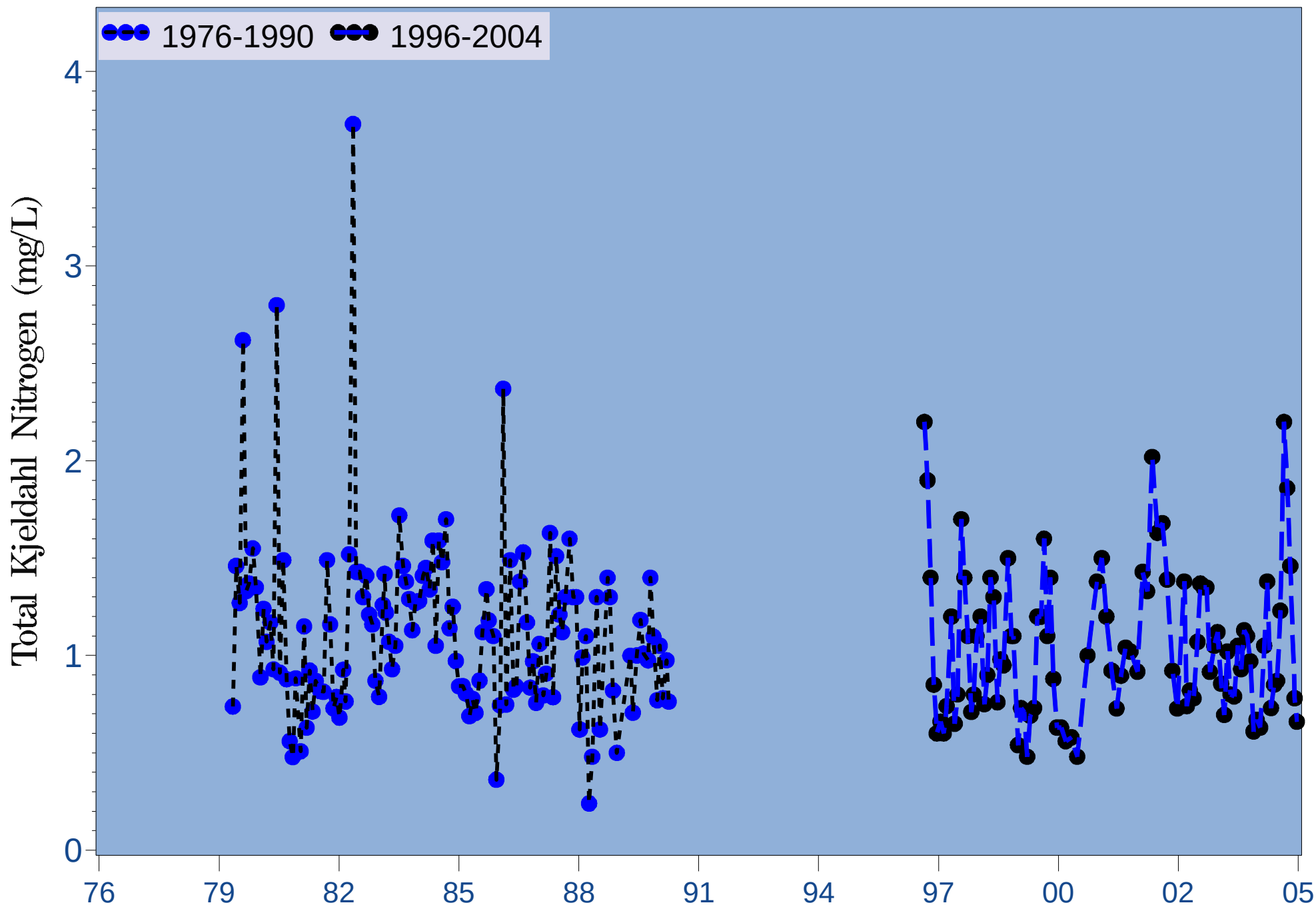


Figure 4.23e Long-term bottom total Kjeldhal nitrogen at river kilometer 30.4

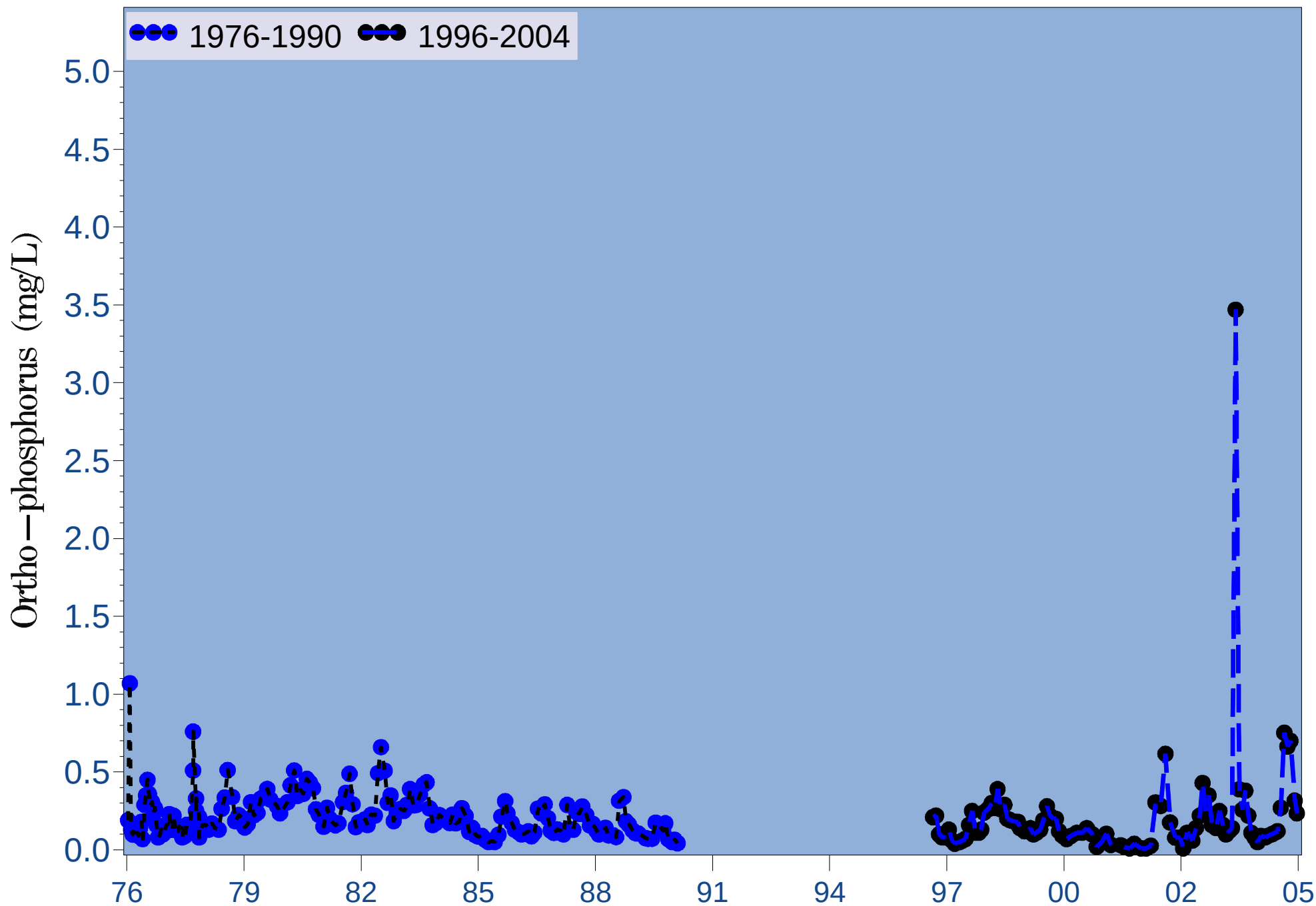


Figure 4.24a Long-term surface ortho-phosphorus at river kilometer -2.4

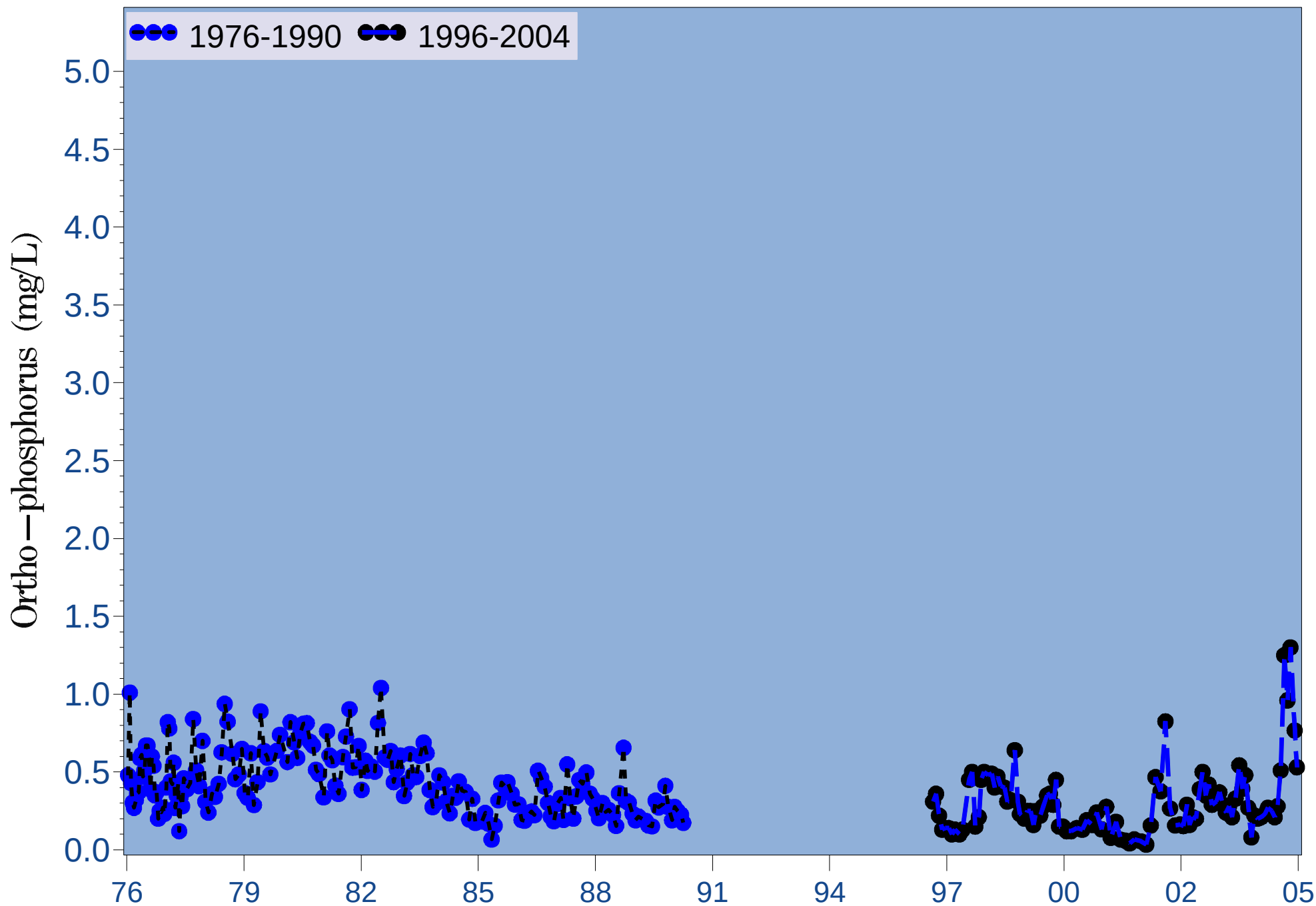


Figure 4.24b Long-term surface ortho-phosphorus at river kilometer 6.6

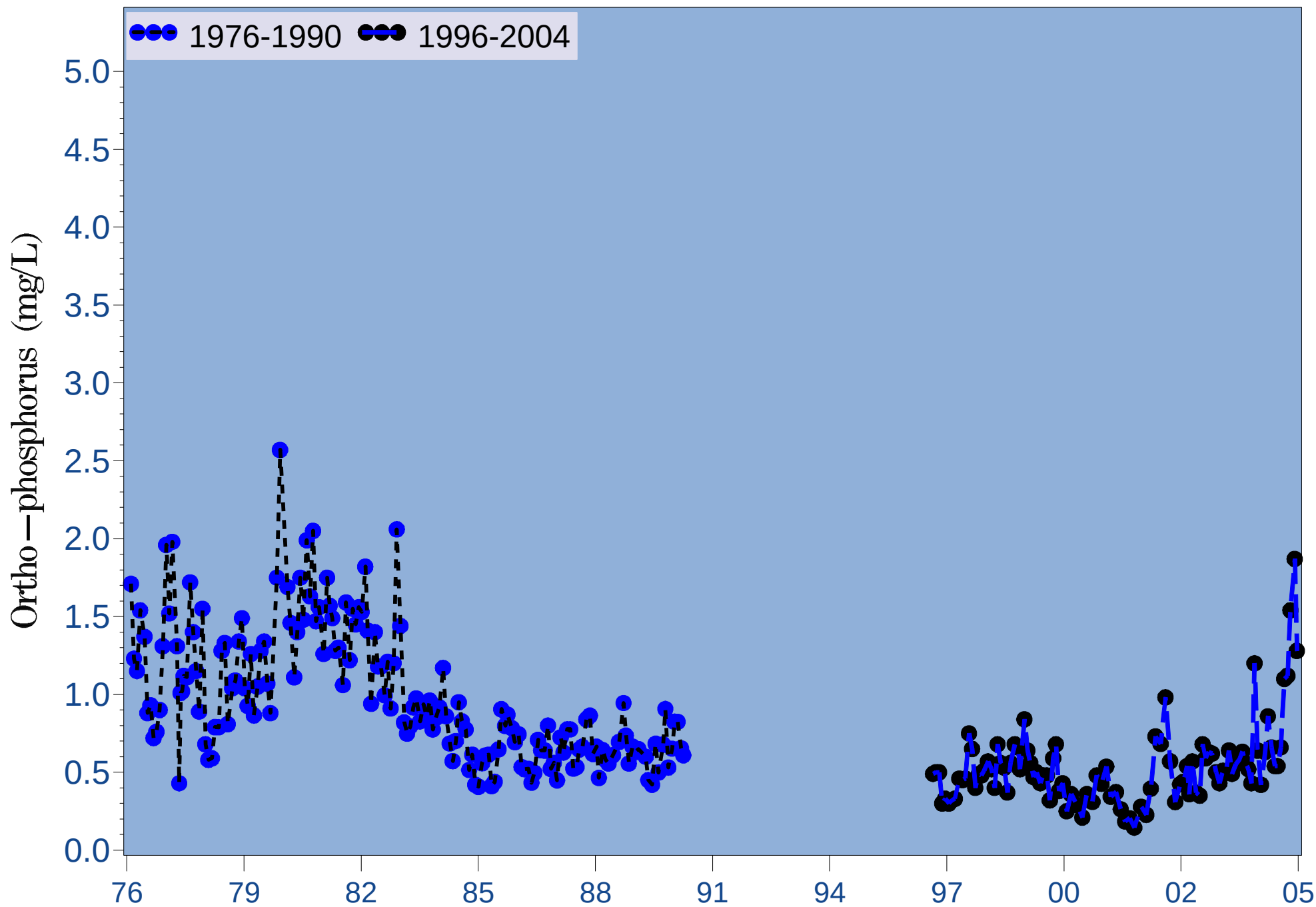


Figure 4.24c Long-term surface ortho-phosphorus at river kilometer 15.5

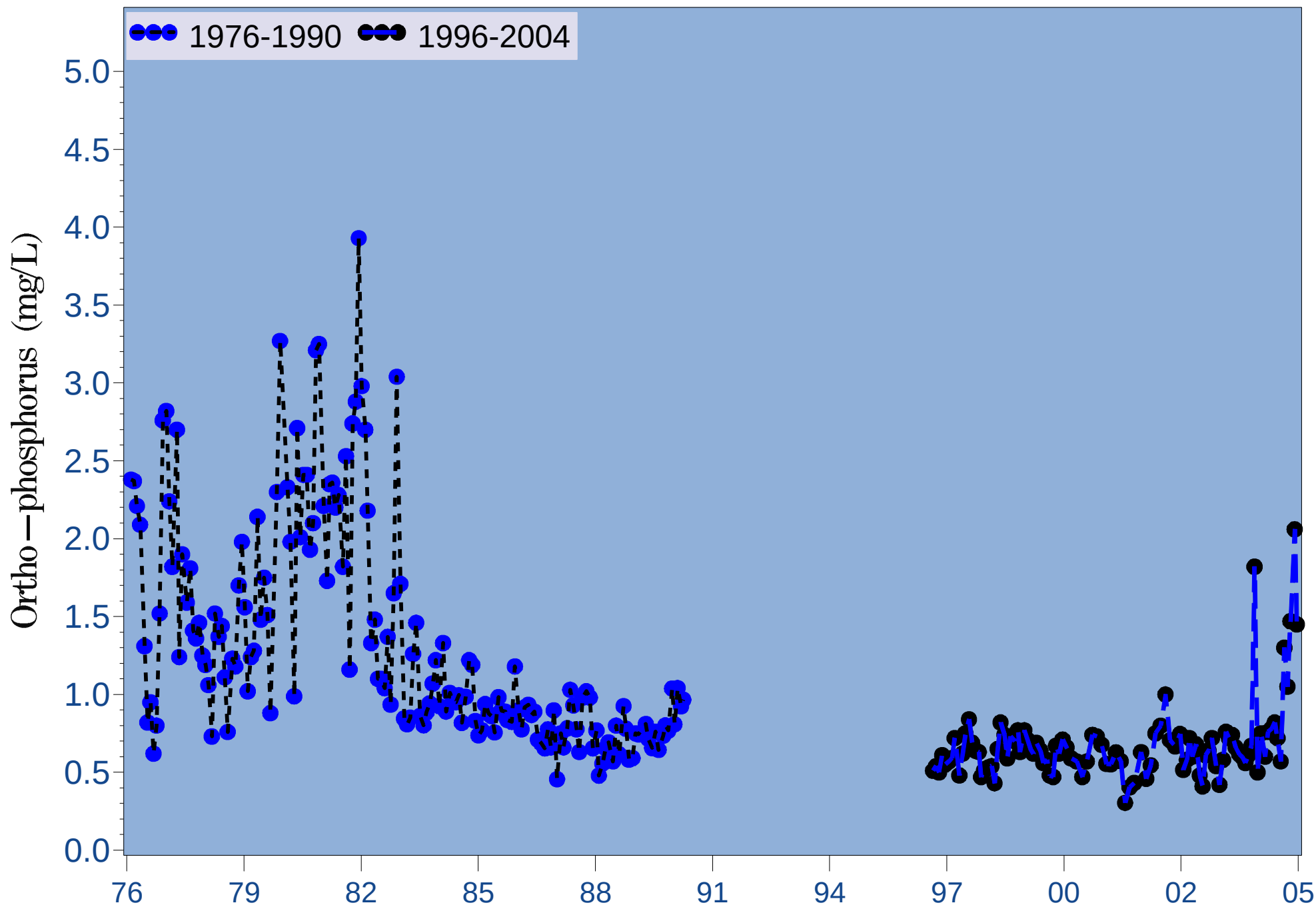


Figure 4.24d Long-term surface ortho-phosphorus at river kilometer 23.6

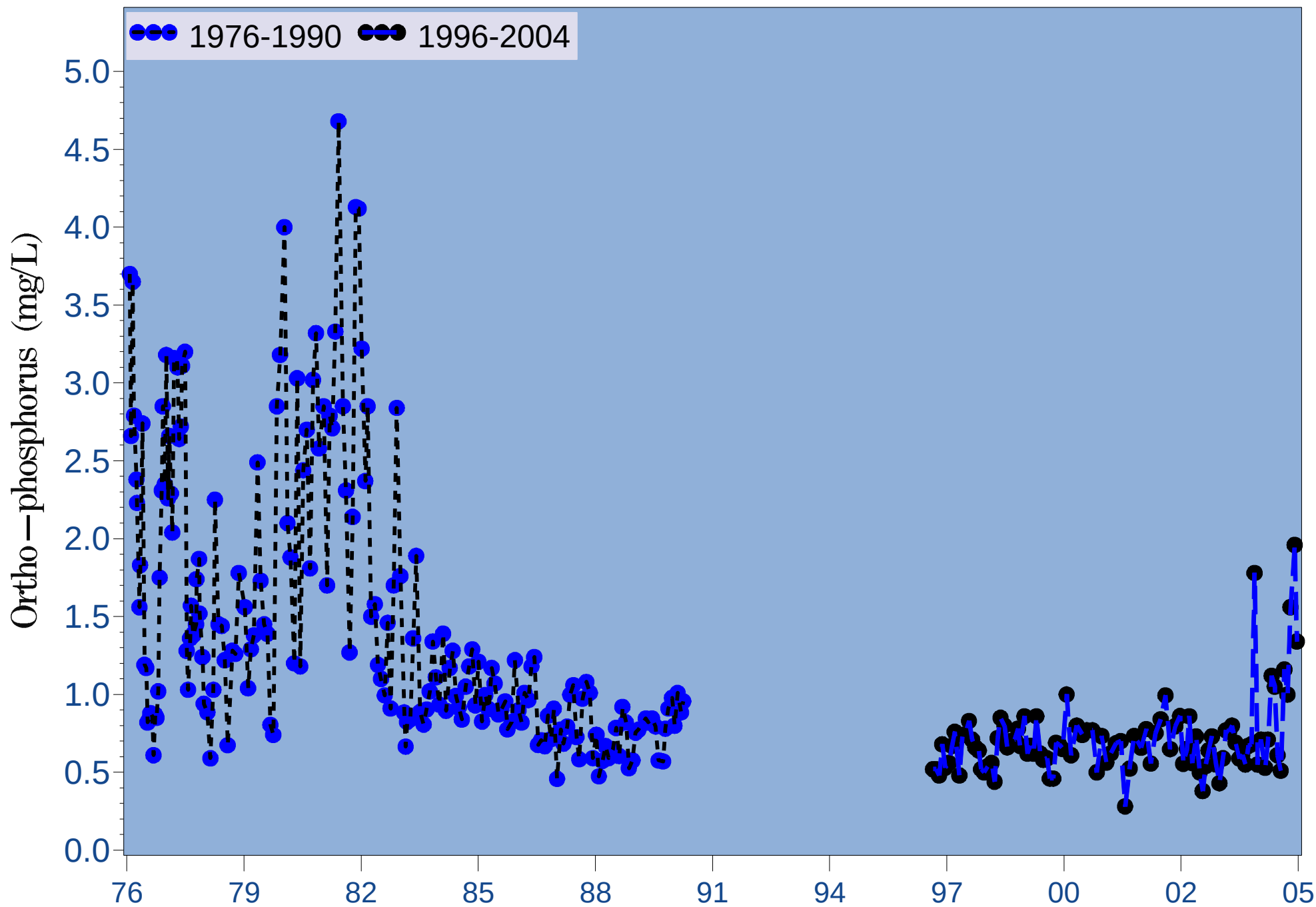


Figure 4.24e Long-term surface ortho-phosphorus at river kilometer 30.4

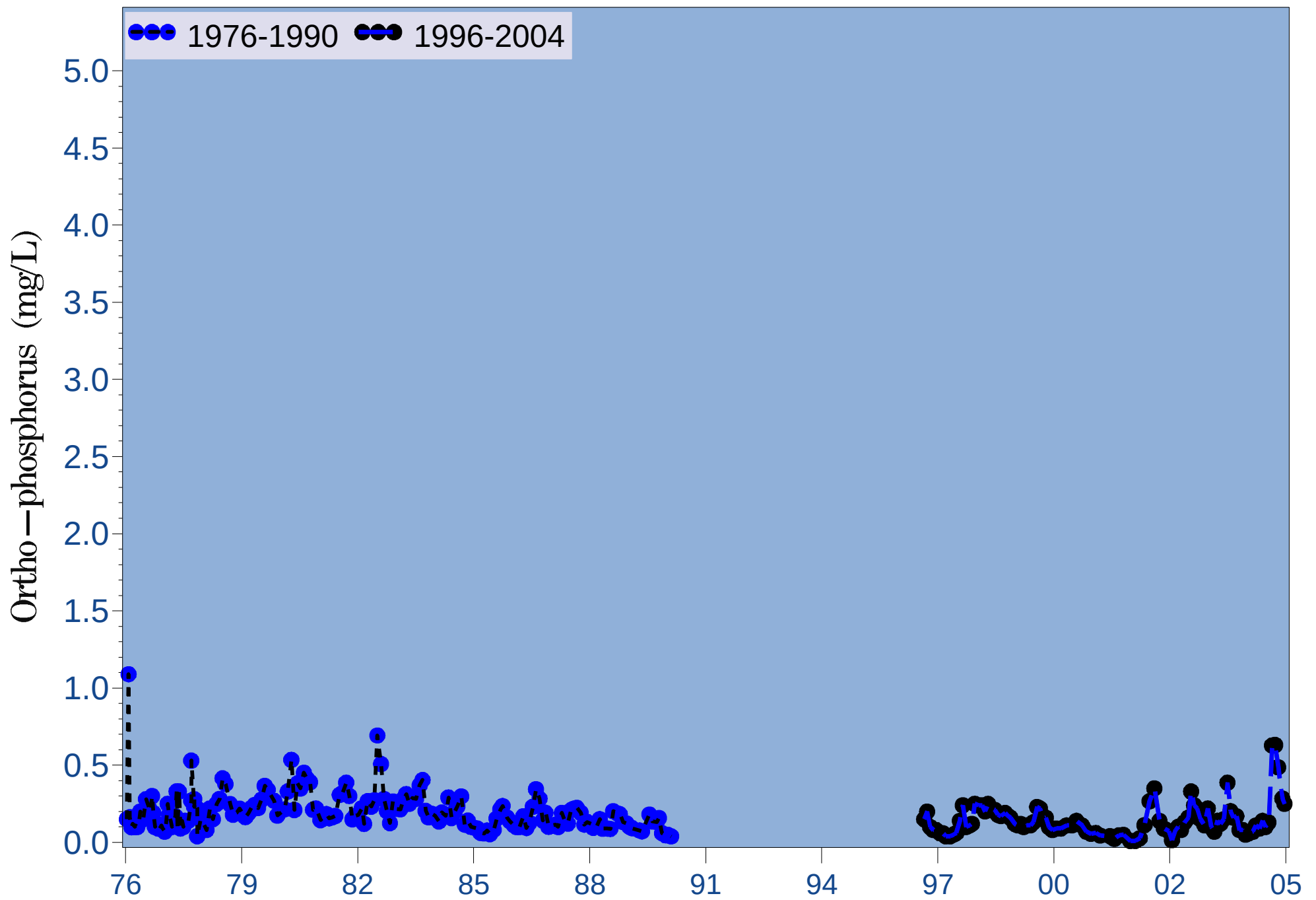


Figure 4.25a Long-term bottom ortho-phosphorus at river kilometer -2.4

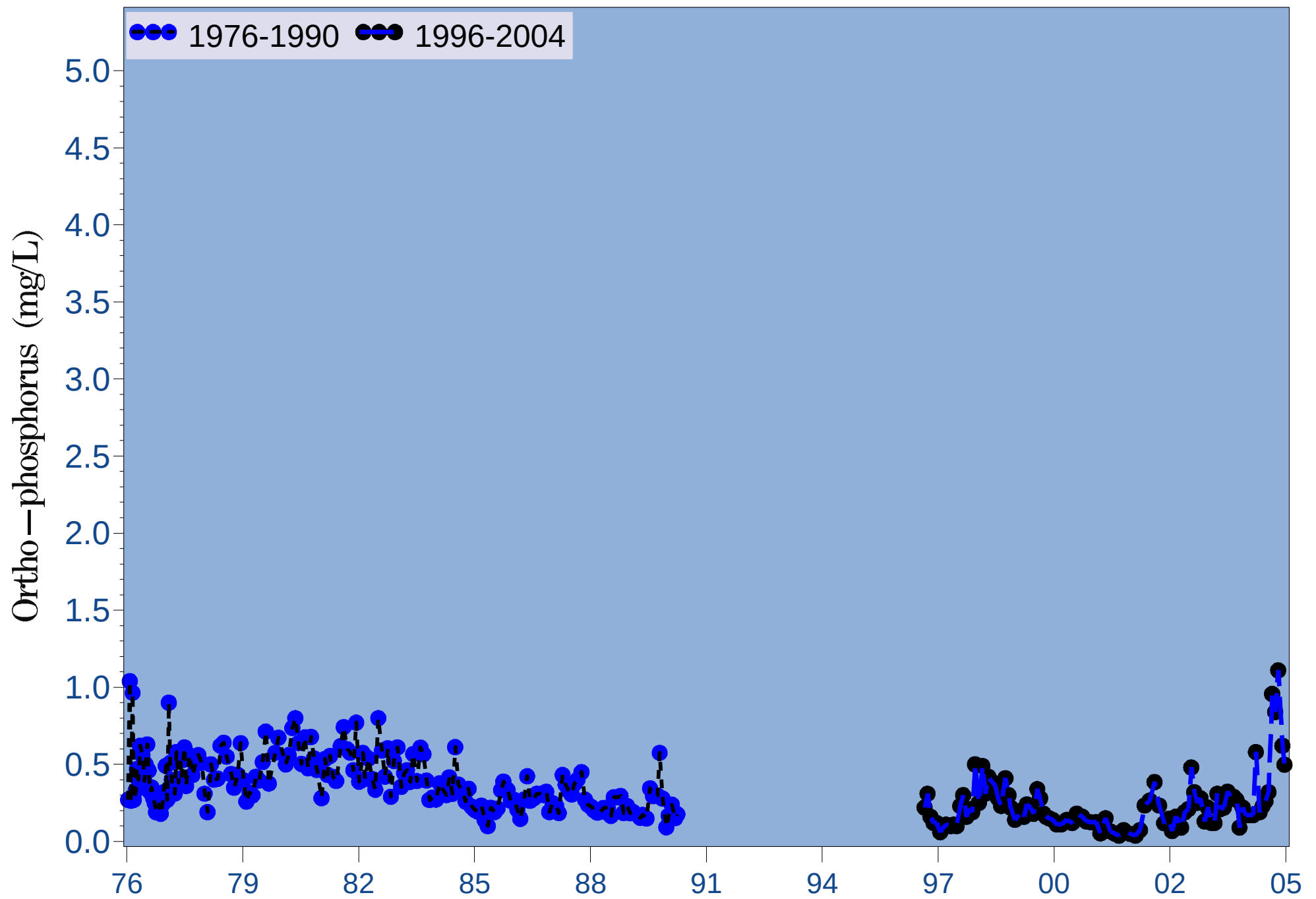


Figure 4.25b Long-term bottom ortho-phosphorus at river kilometer 6.6

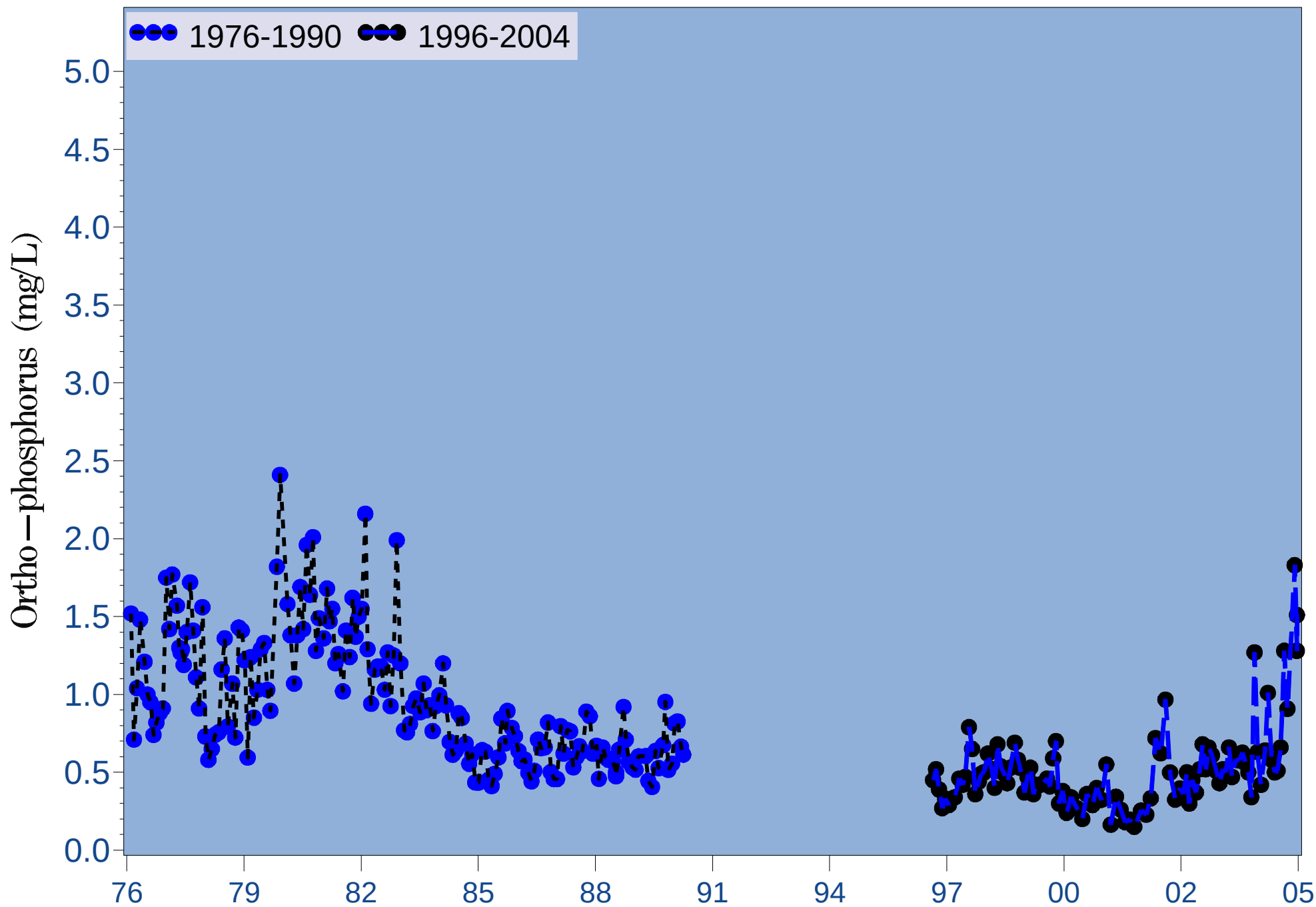


Figure 4.25c Long-term bottom ortho-phosphorus at river kilometer 15.5

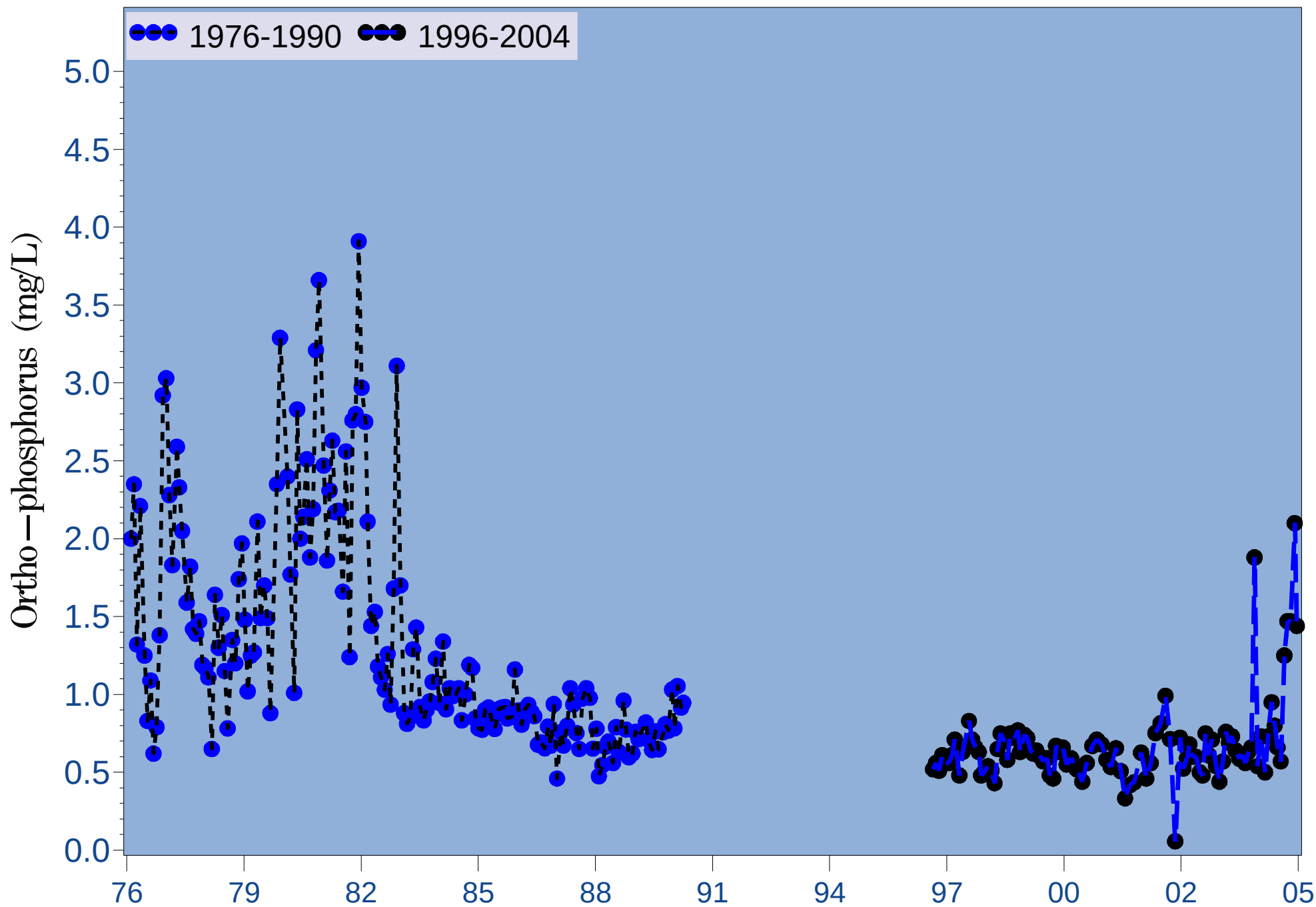


Figure 4.25d Long-term bottom ortho-phosphorus at river kilometer 23.6

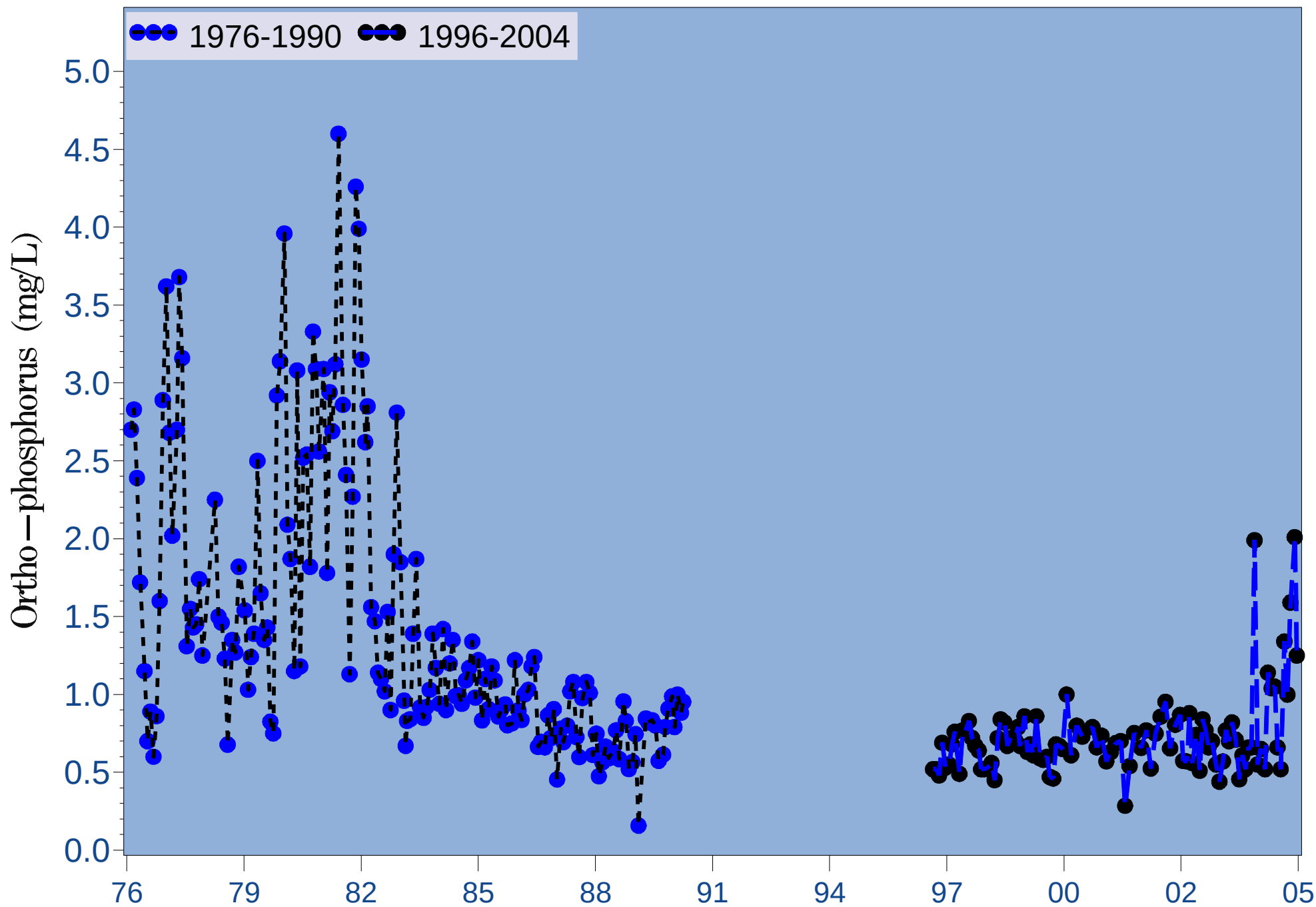


Figure 4.25e Long-term bottom ortho-phosphorus at river kilometer 30.4

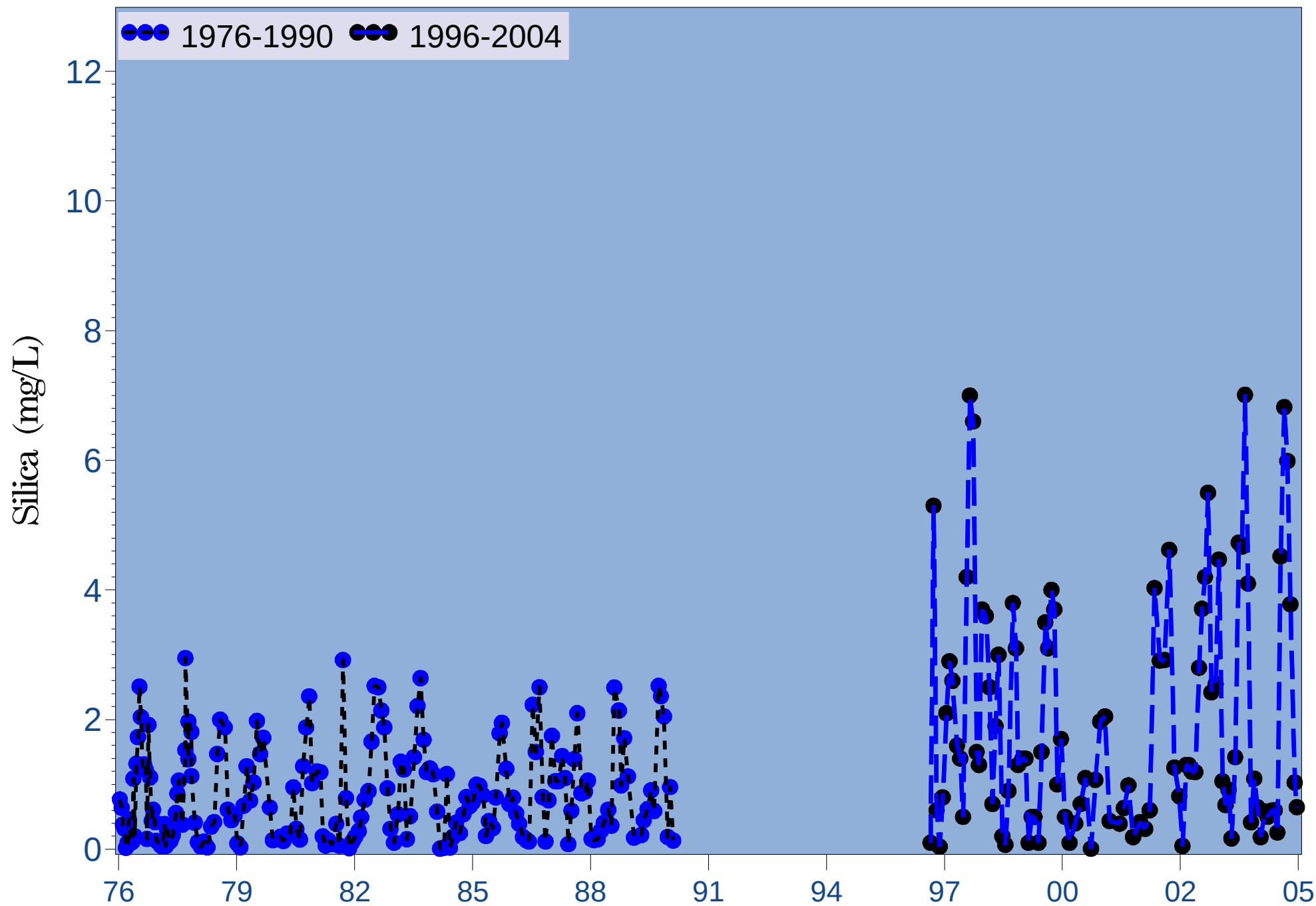


Figure 4.26a Long-term surface silica at river kilometer -2.4

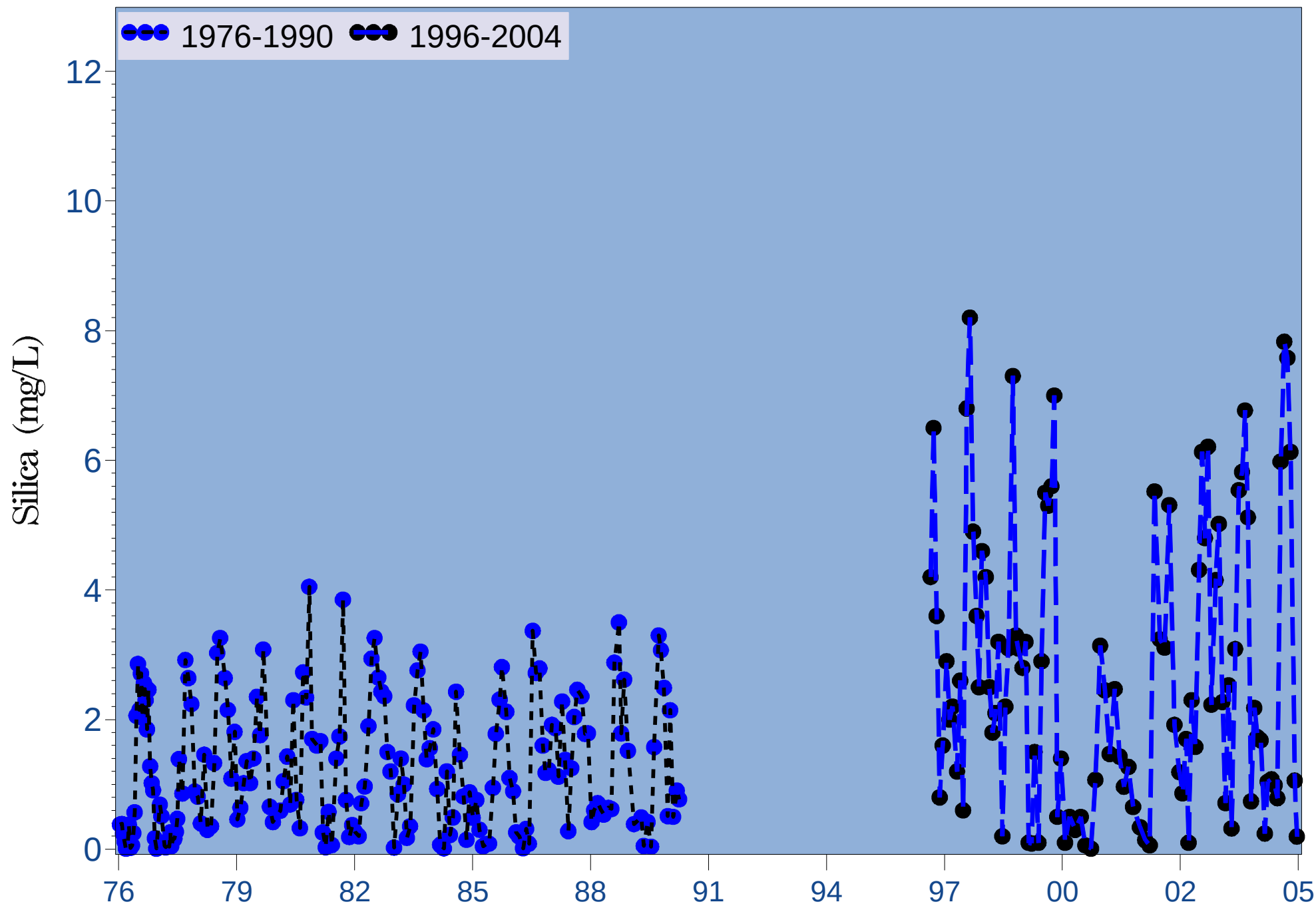


Figure 4.26b Long-term surface silica at river kilometer 6.6

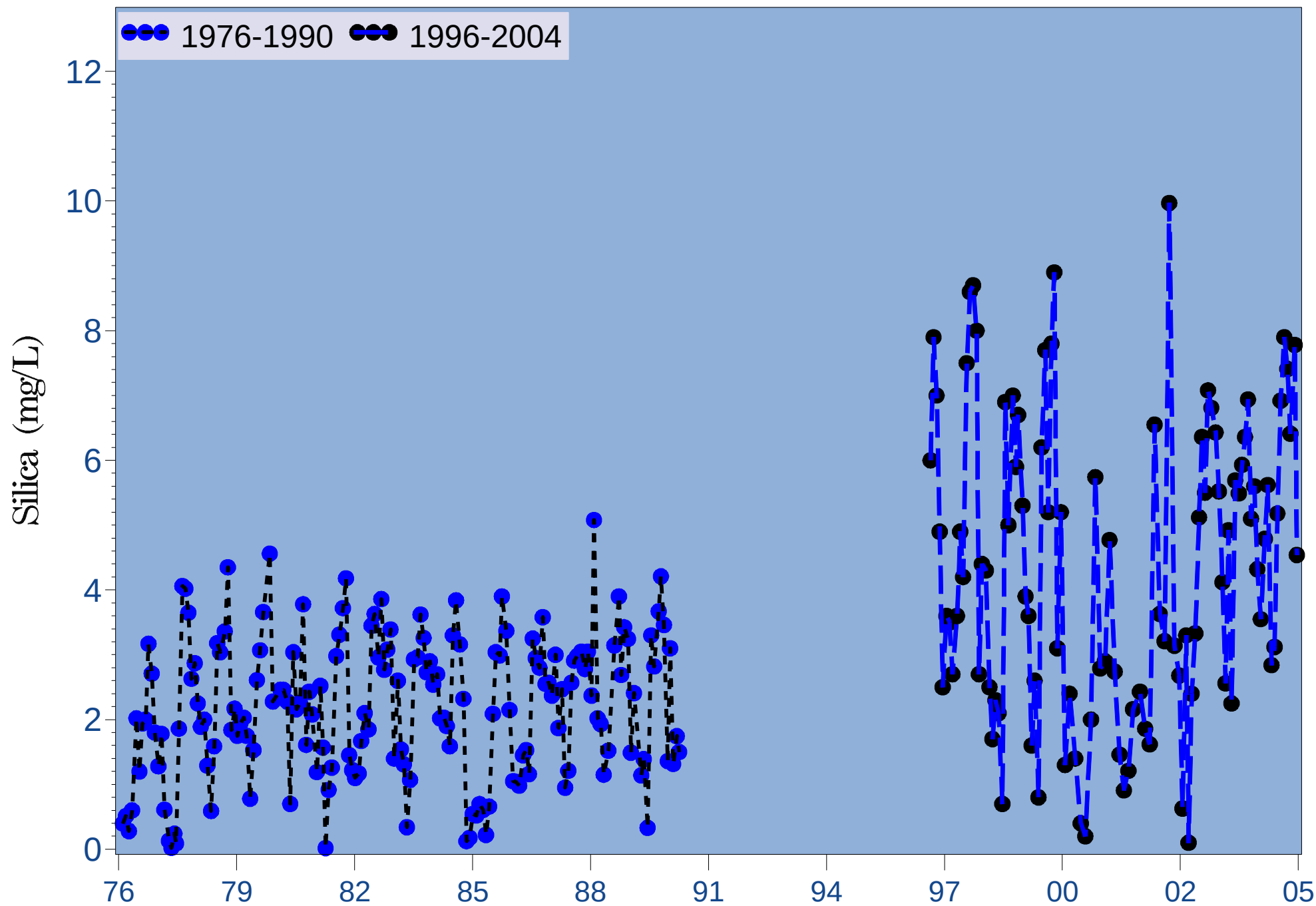


Figure 4.26c Long-term surface silica at river kilometer 15.5

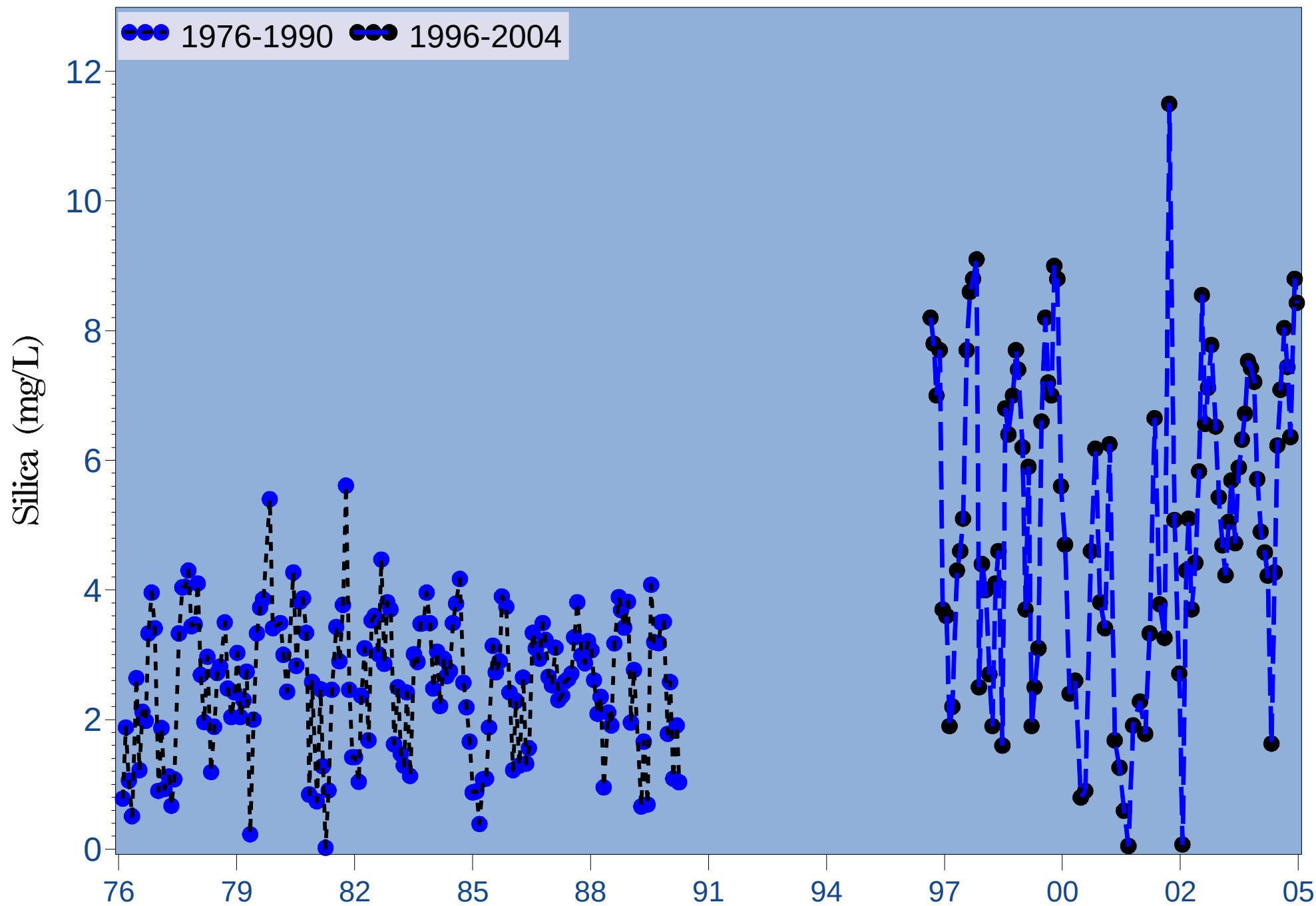


Figure 4.26d Long-term surface silica at river kilometer 23.6

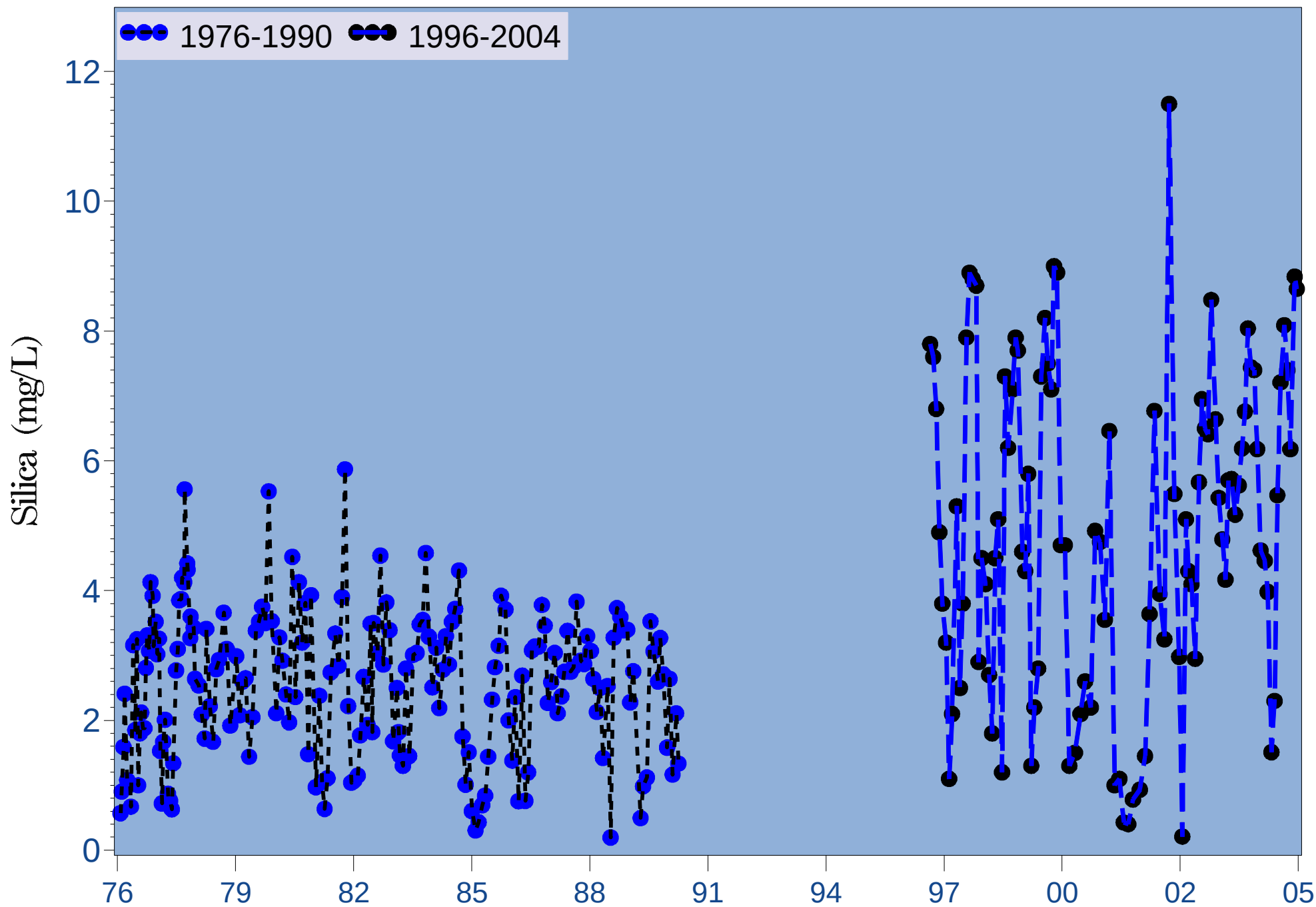


Figure 4.26e Long-term surface silica at river kilometer 30.4

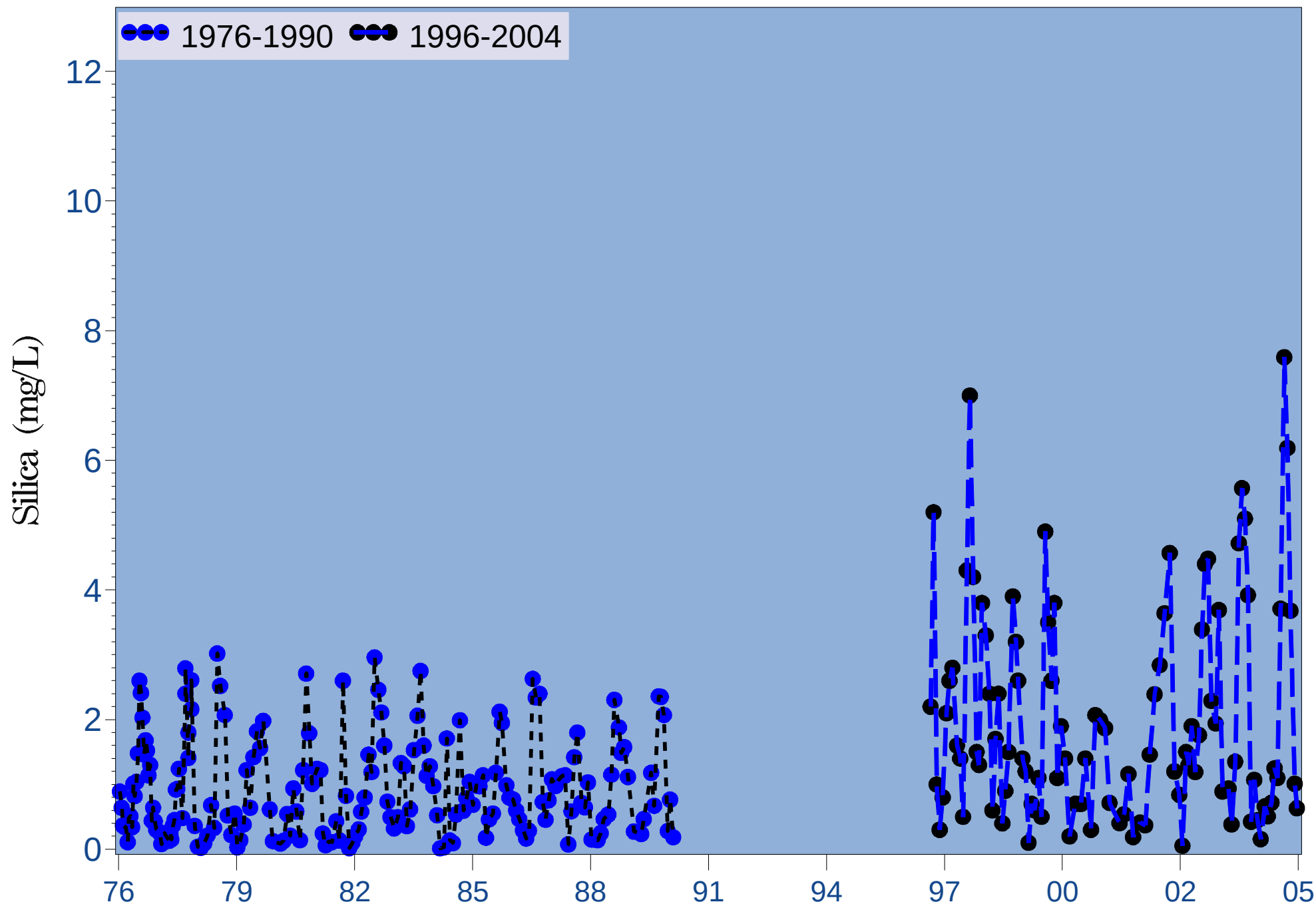


Figure 4.27a Long-term bottom silica at river kilometer -2.4

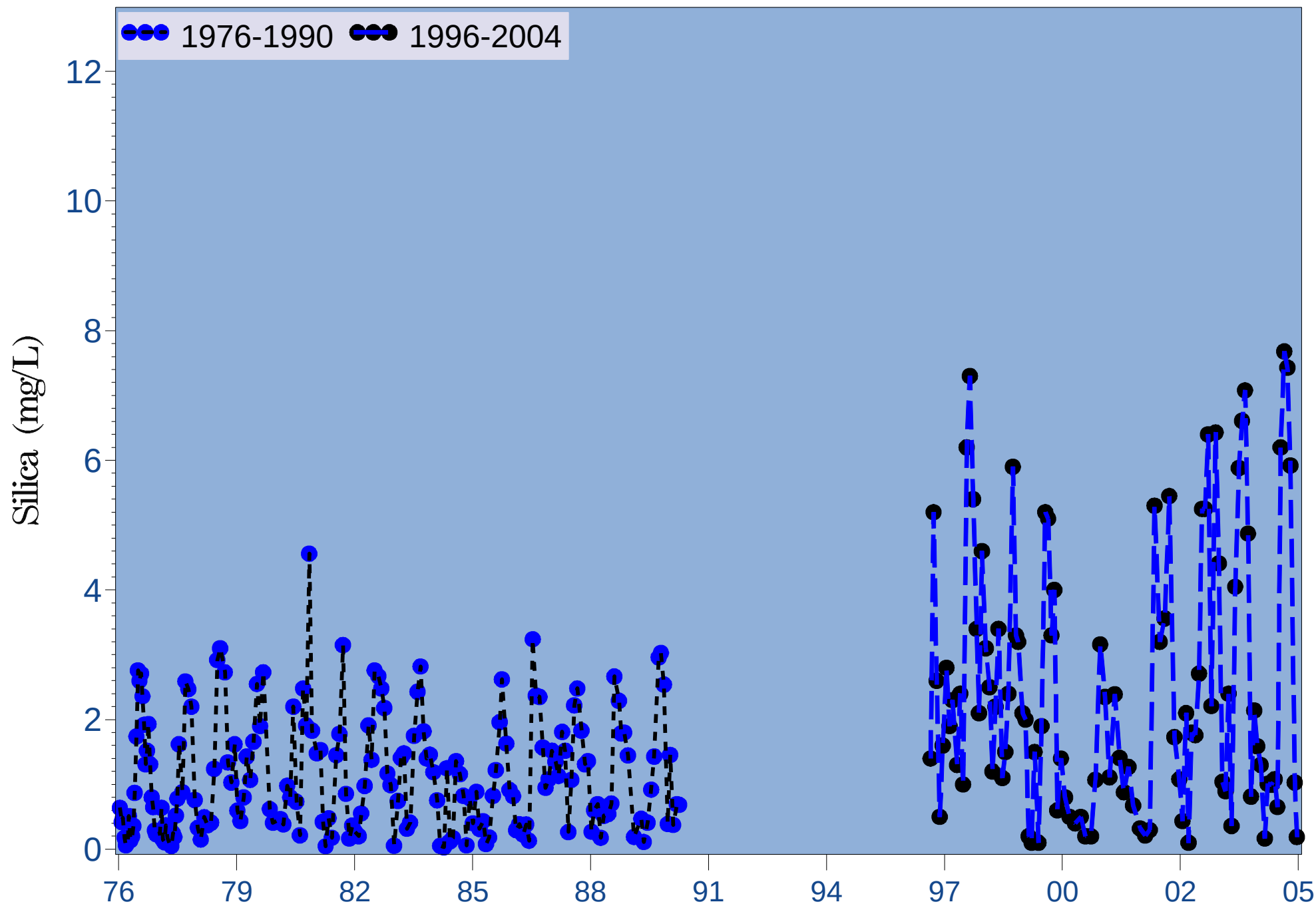


Figure 4.27b Long-term bottom silica at river kilometer 6.6

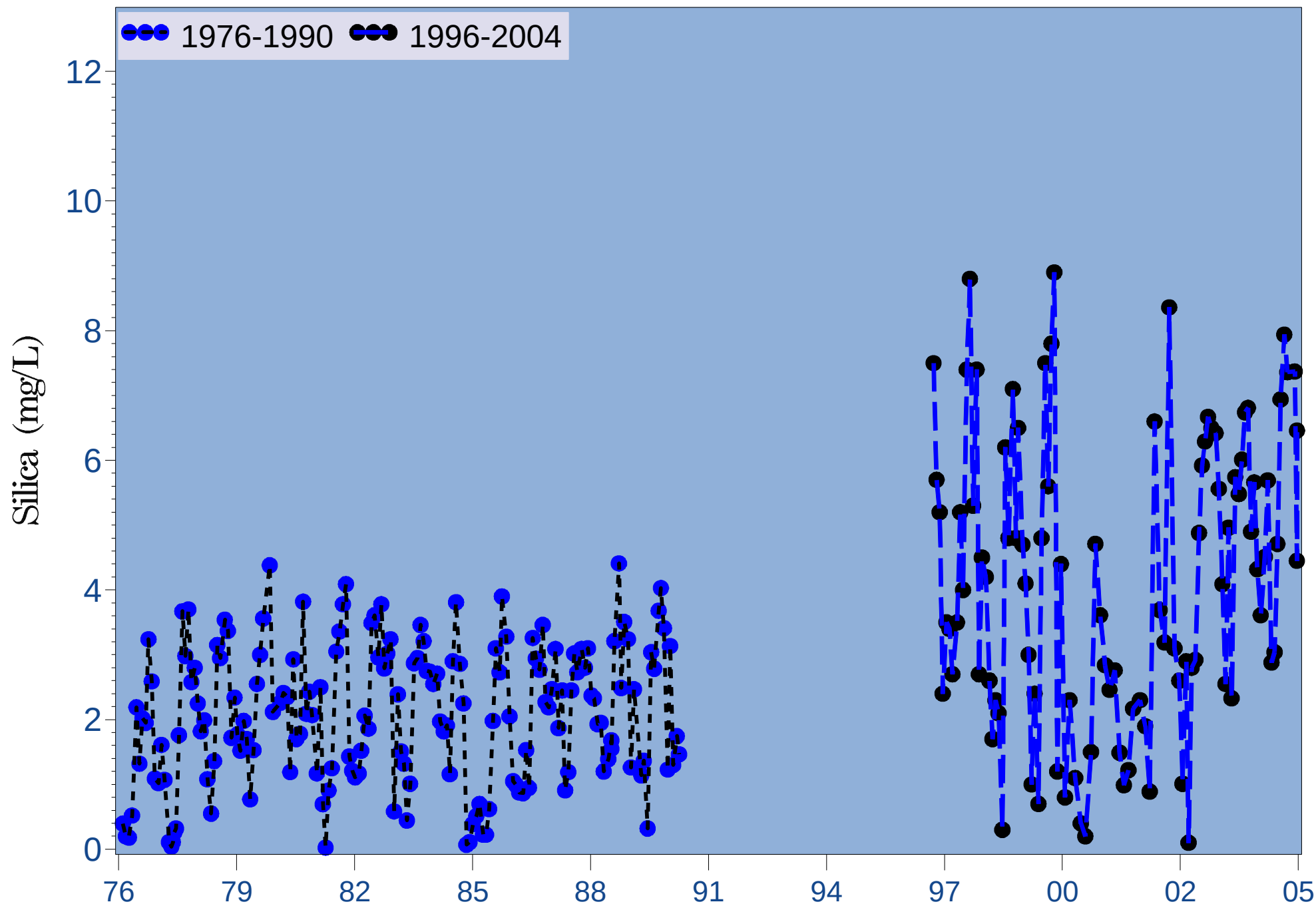


Figure 4.27c Long-term bottom silica at river kilometer 15.5

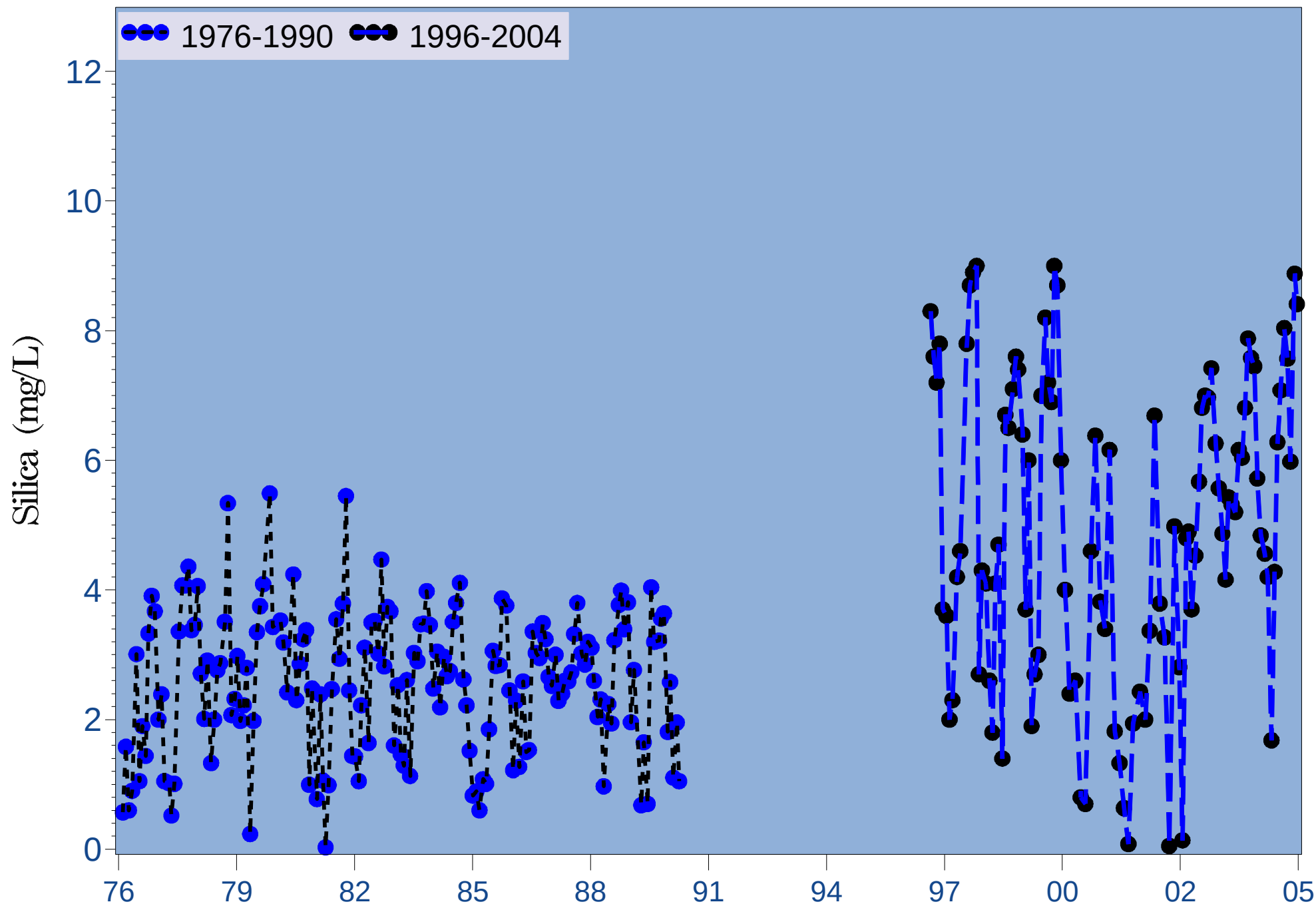


Figure 4.27d Long-term bottom silica at river kilometer 23.6

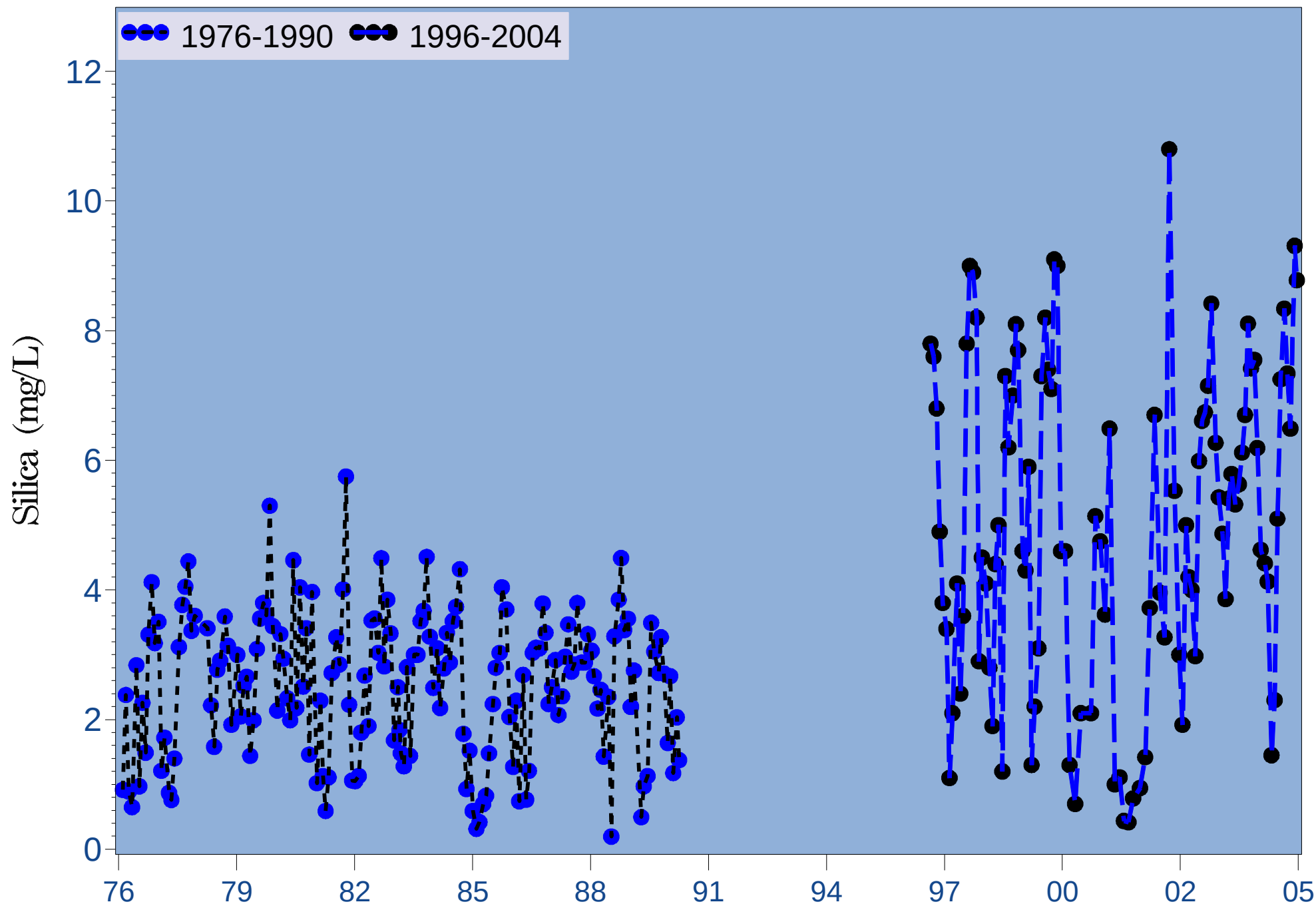


Figure 4.27e Long-term bottom silica at river kilometer 30.4

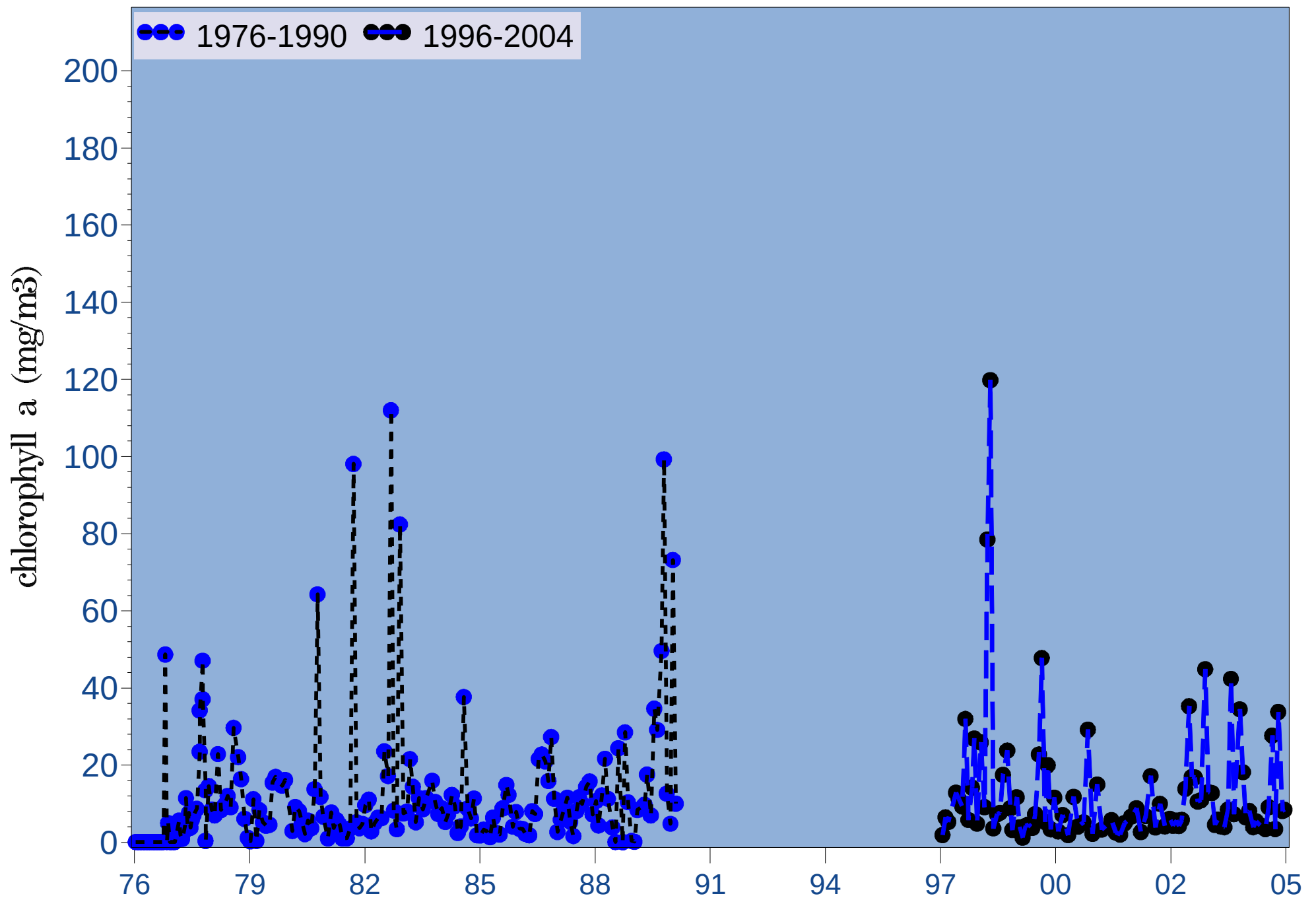


Figure 4.28a Long-term surface chlorophyll a at river kilometer -2.4

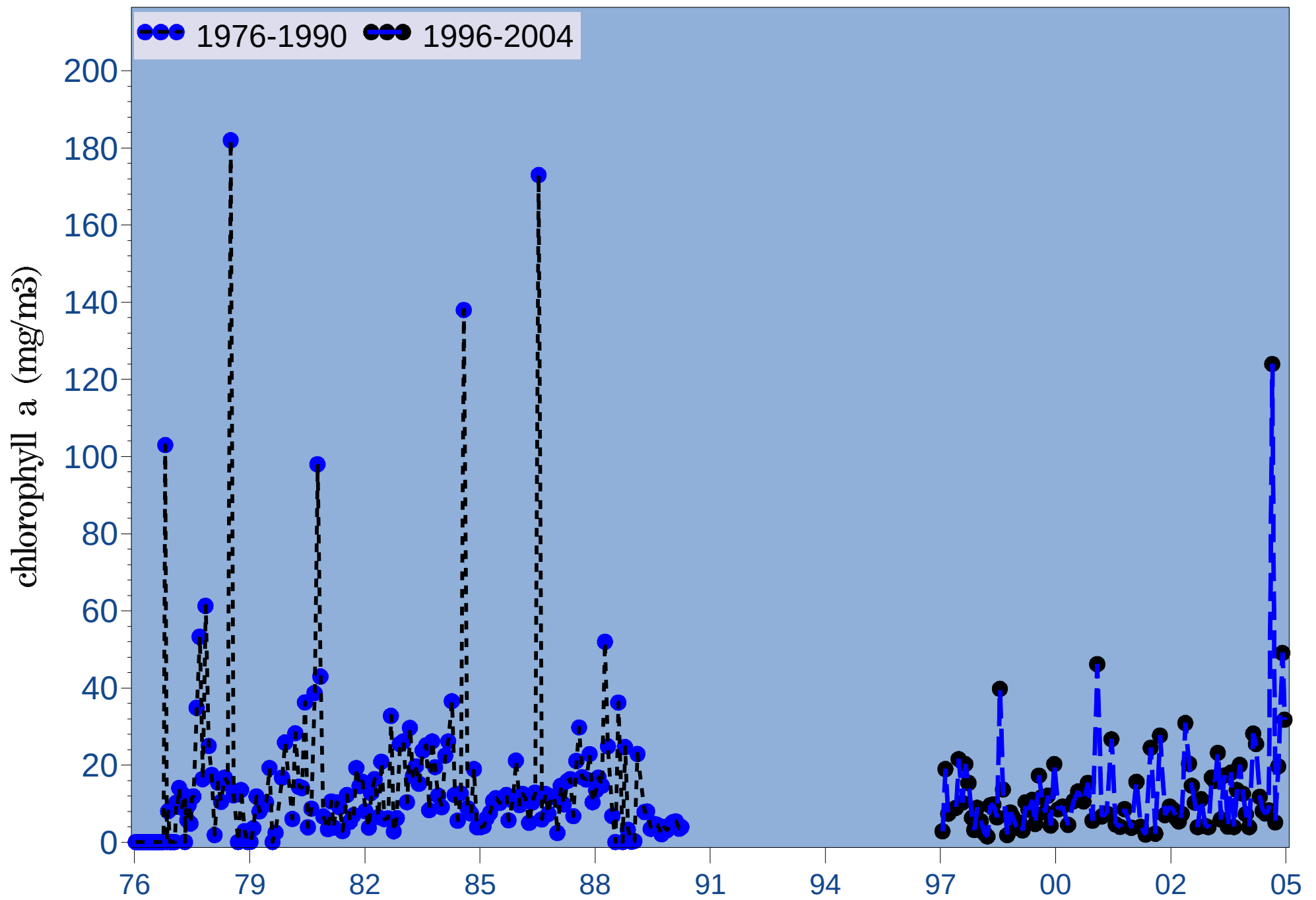


Figure 4.28b Long-term surface chlorophyll a at river kilometer 6.6

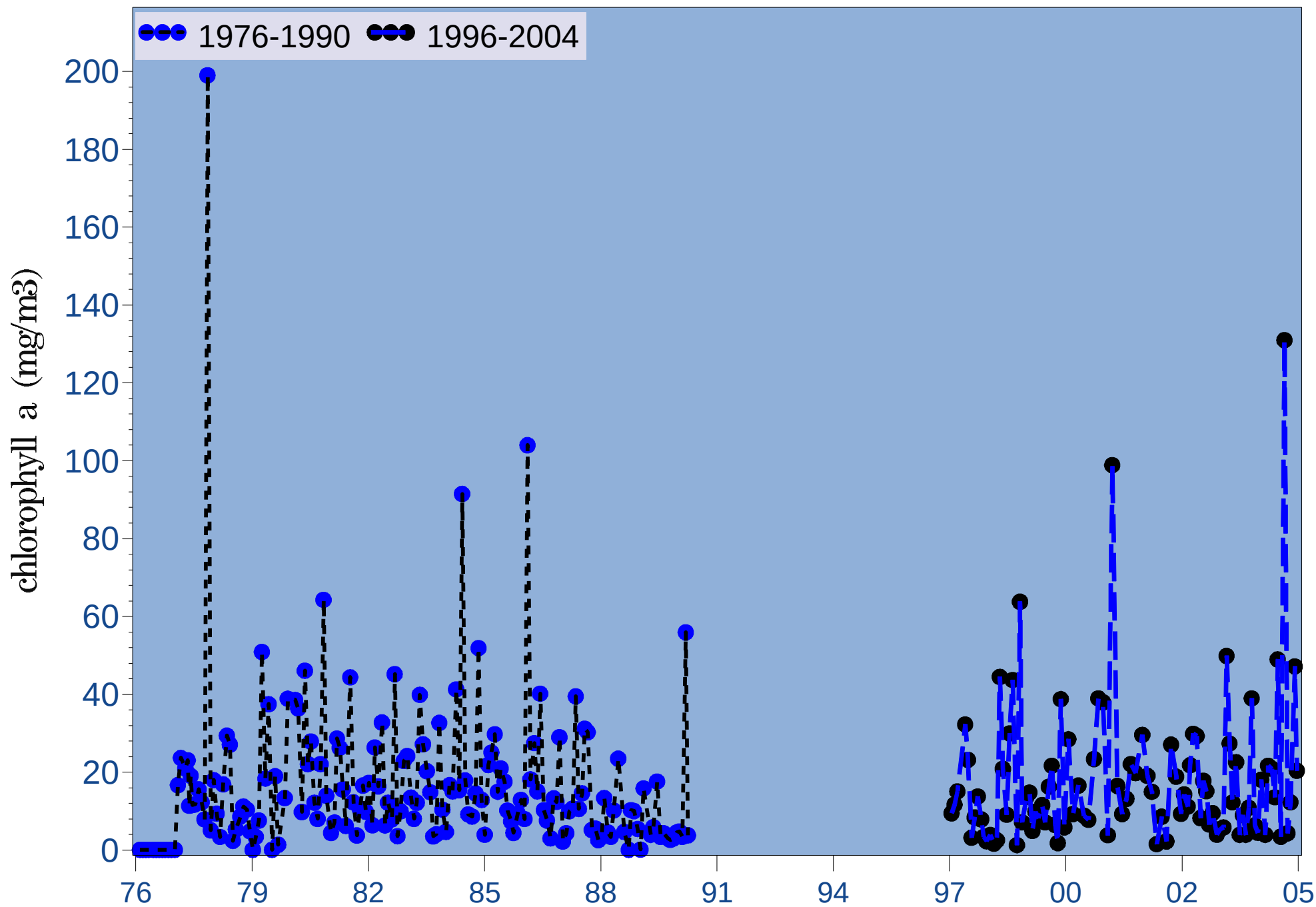


Figure 4.28c Long-term surface chlorophyll a at river kilometer 15.5

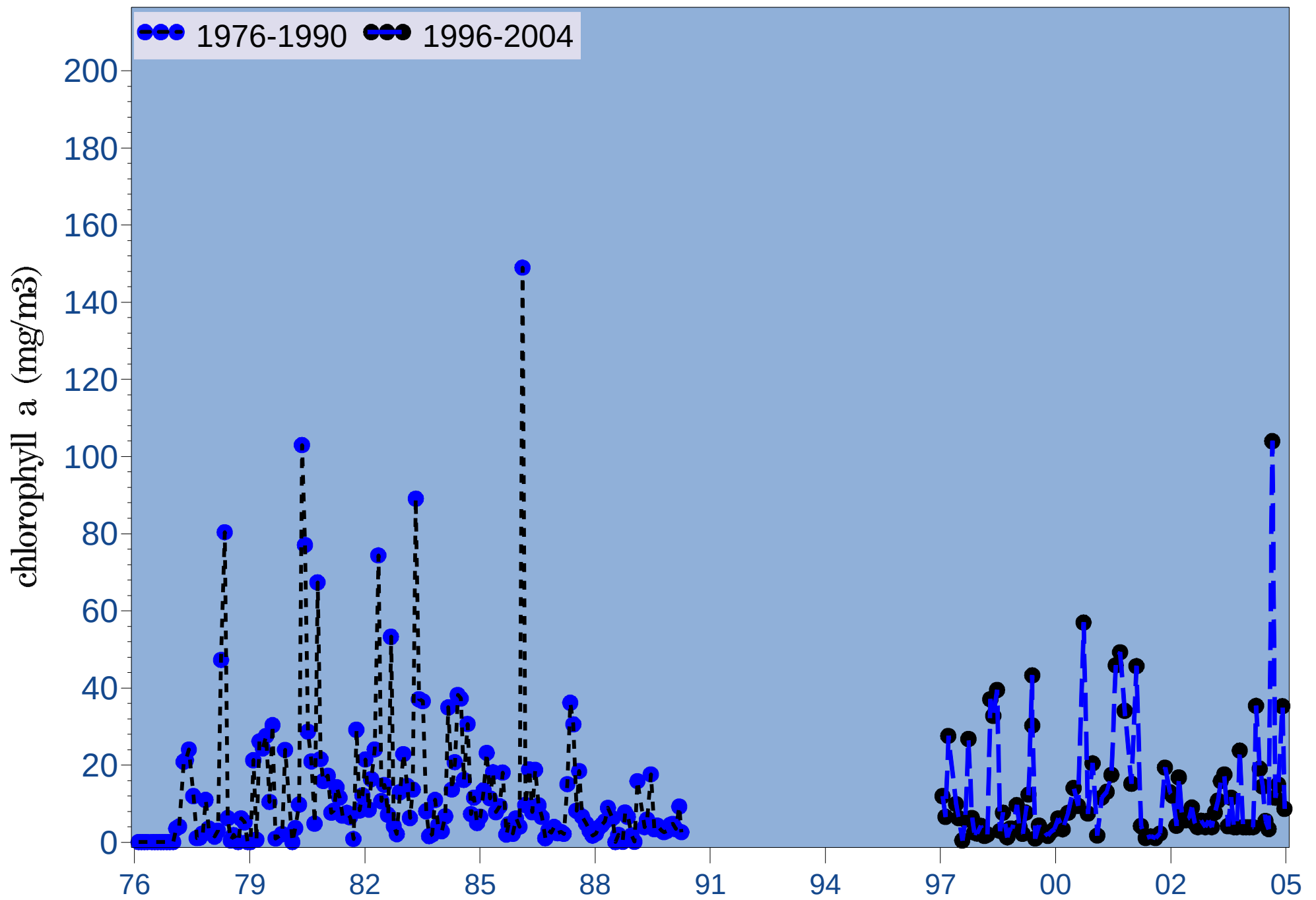


Figure 4.28d Long-term surface chlorophyll a at river kilometer 23.6

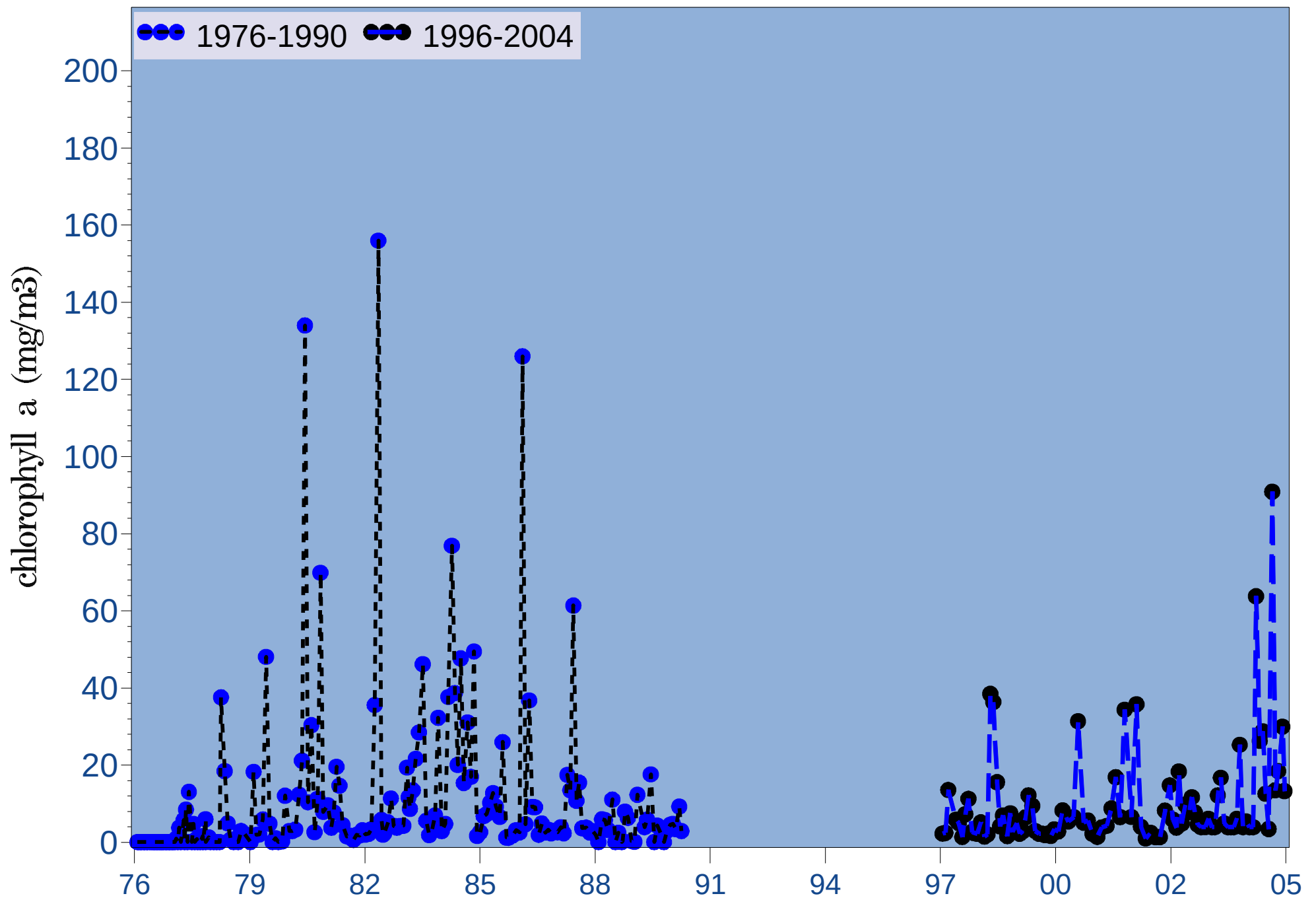


Figure 4.28e Long-term surface chlorophyll a at river kilometer 30.4

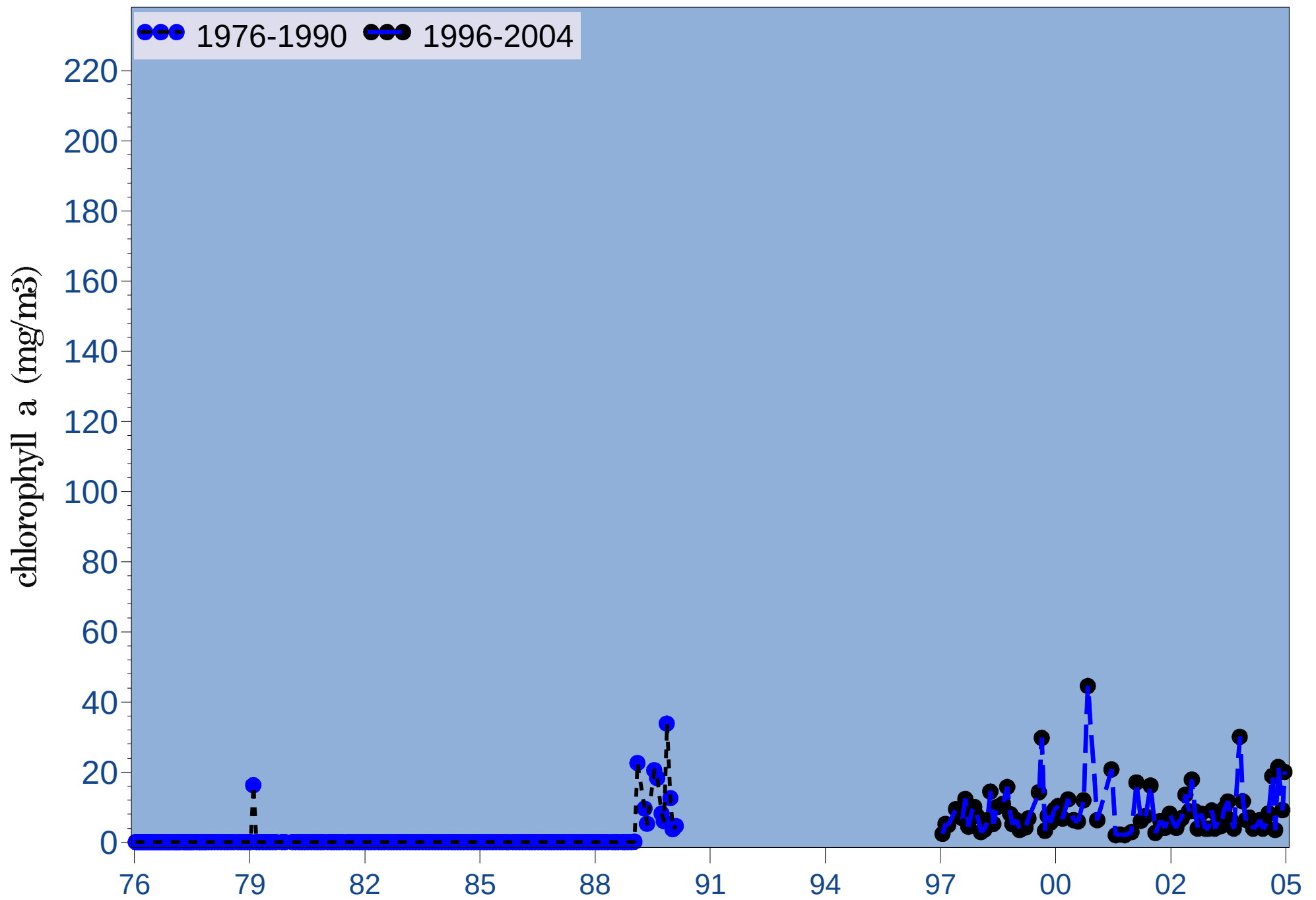


Figure 4.29a Long-term bottom chlorophyll a at river kilometer -2.4

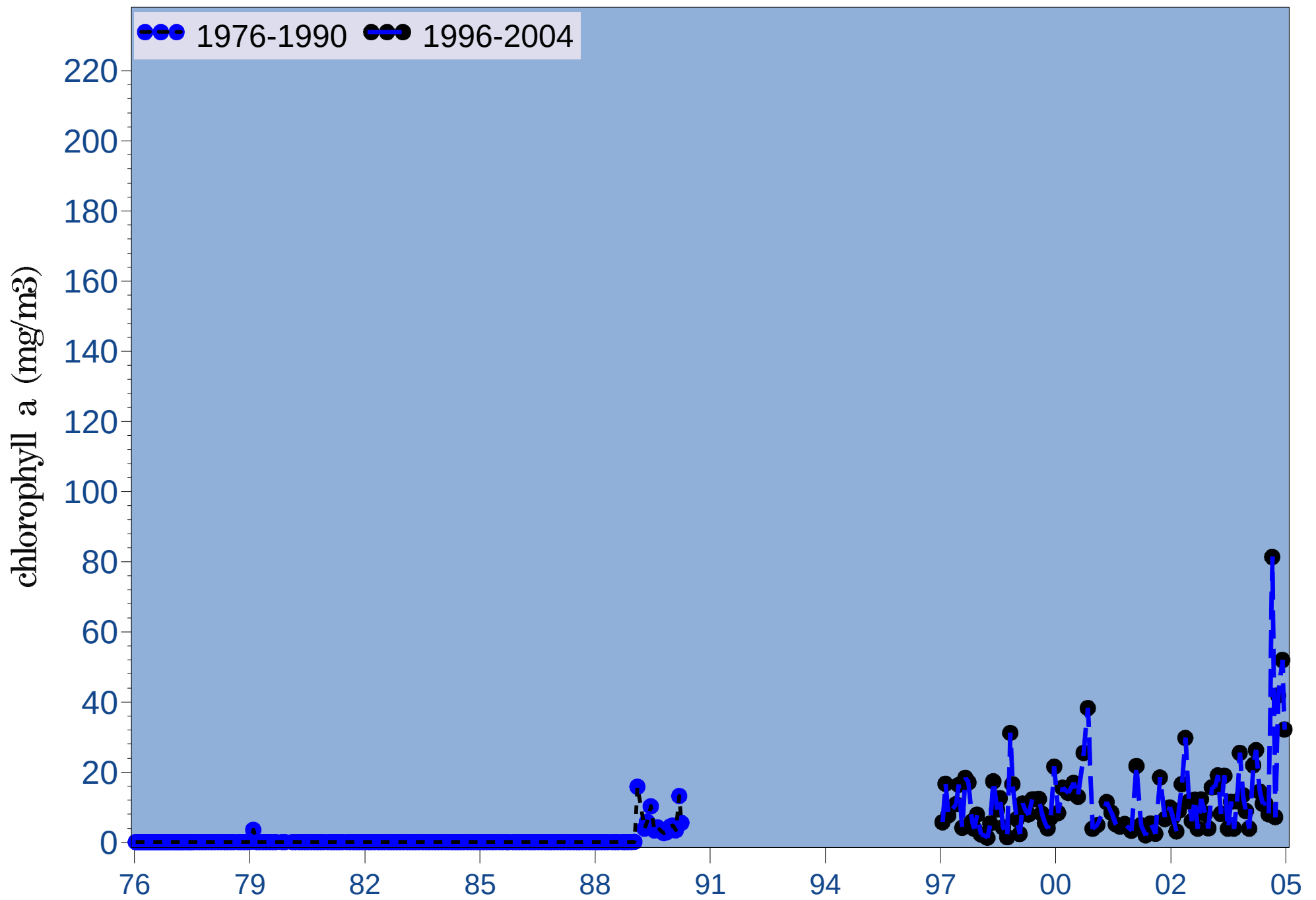


Figure 4.29b Long-term bottom chlorophyll a at river kilometer 6.6

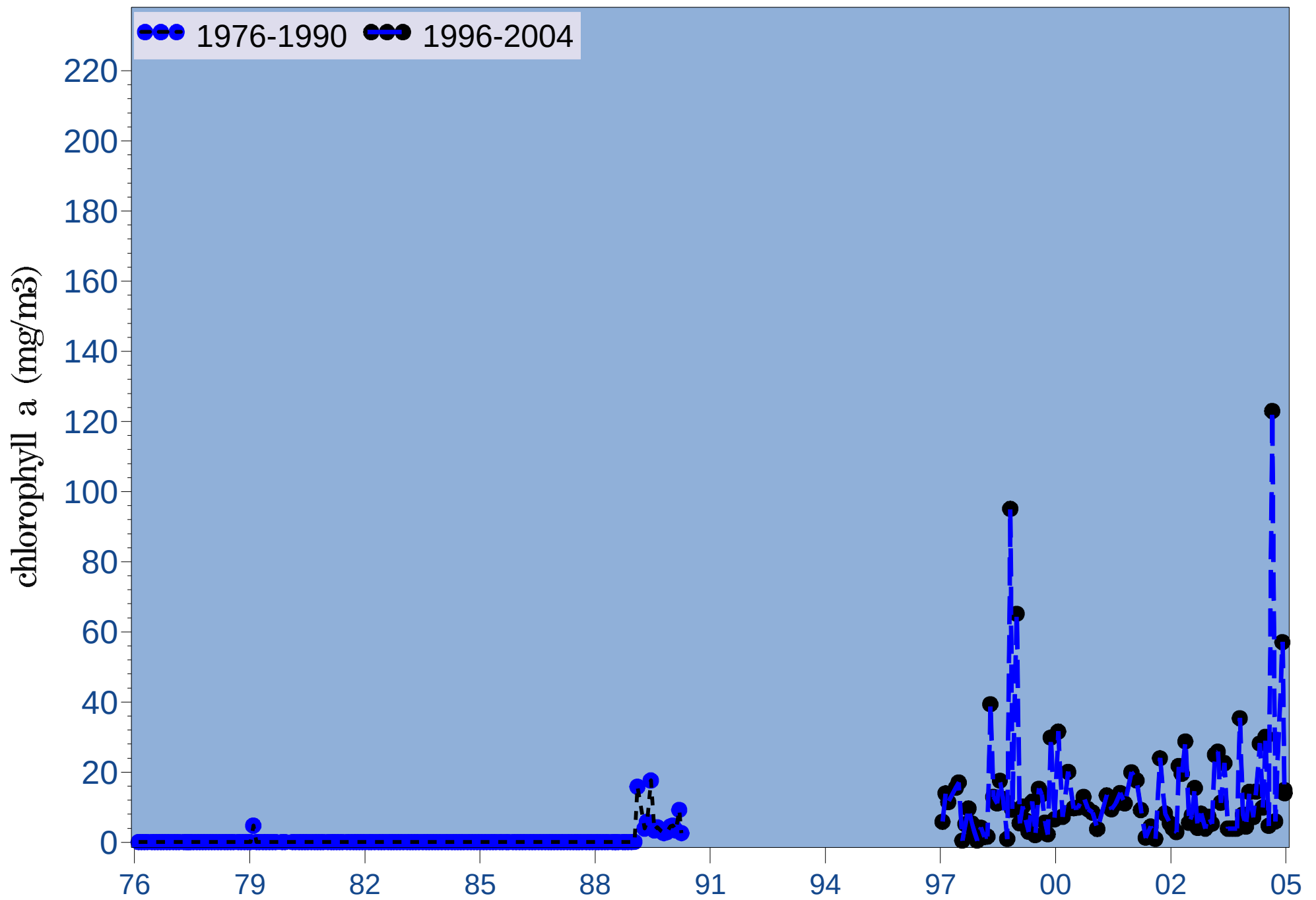


Figure 4.29c Long-term bottom chlorophyll a at river kilometer 15.5

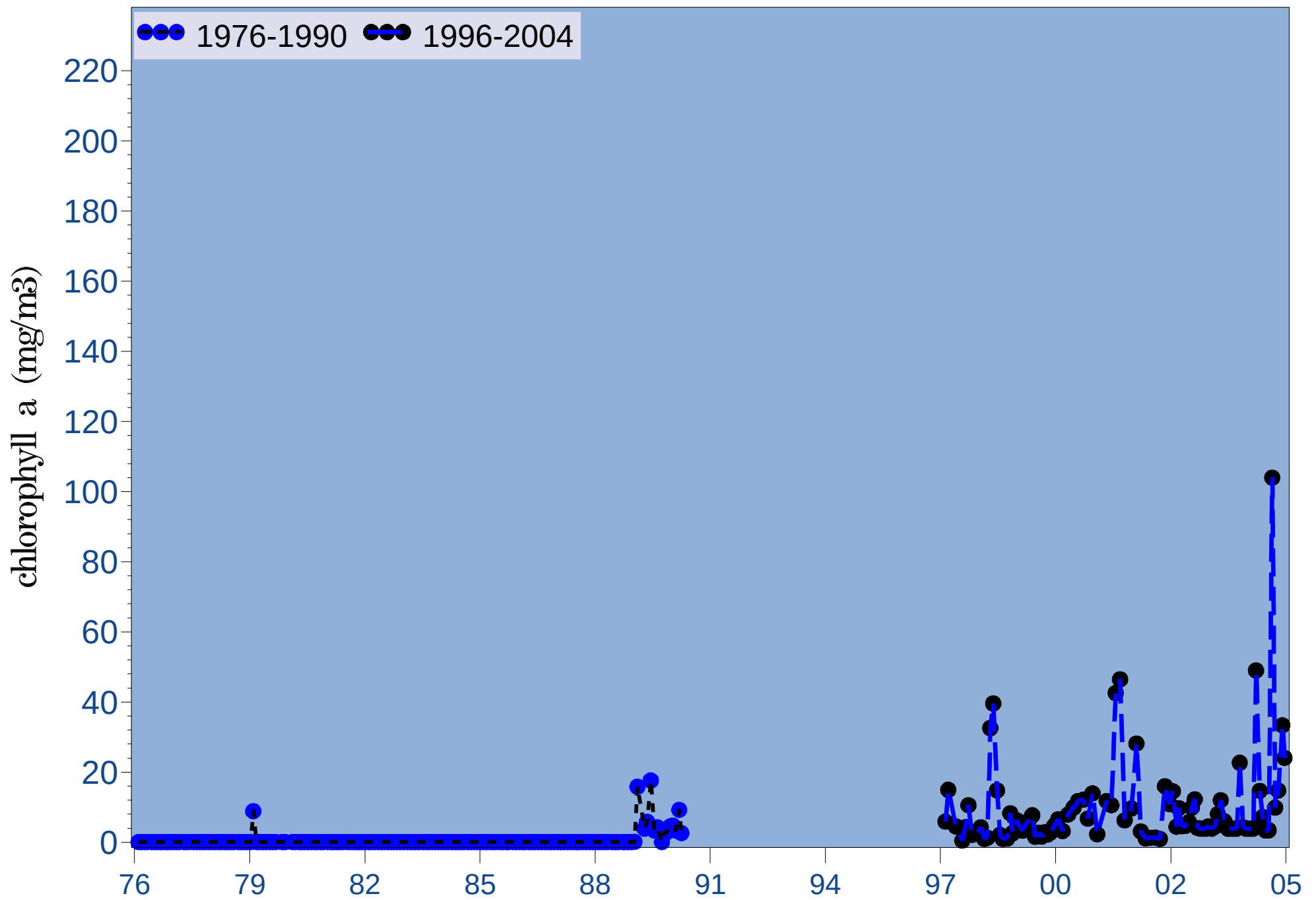


Figure 4.29d Long-term bottom chlorophyll a at river kilometer 23.6

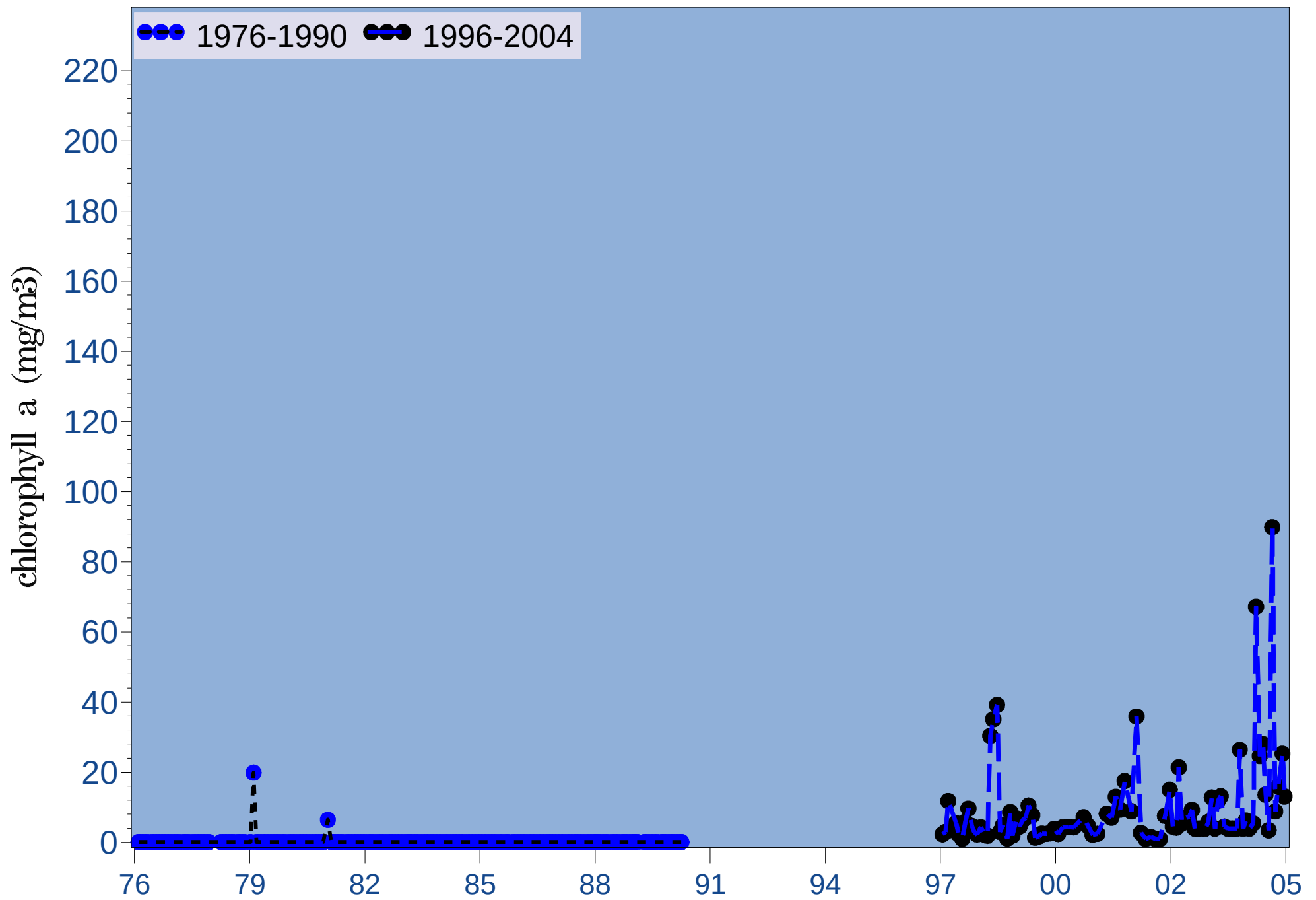
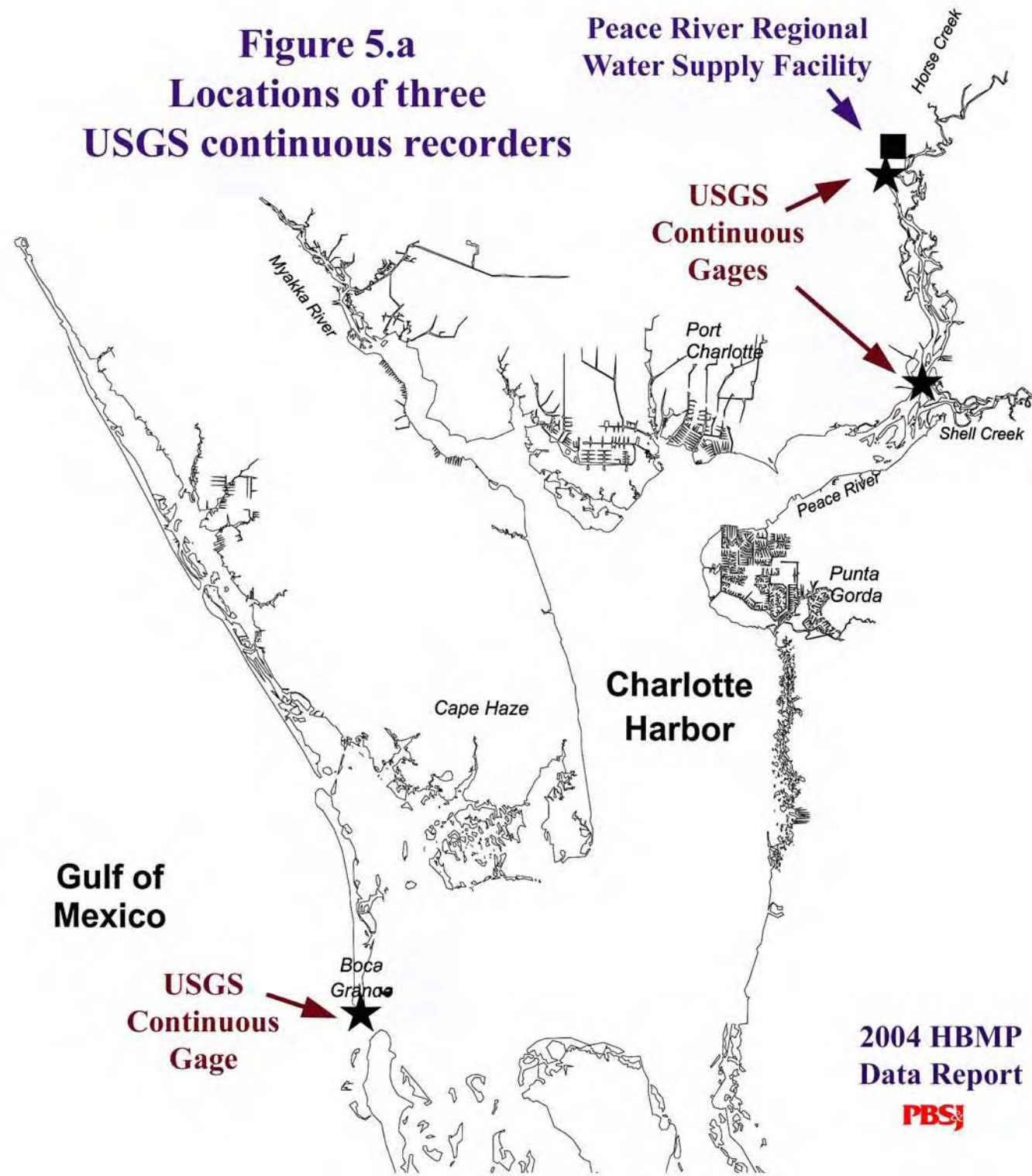


Figure 4.29e Long-term bottom chlorophyll a at river kilometer 30.4

Figure 5.a
Locations of three
USGS continuous recorders



2004 HBMP
Data Report

PBSJ

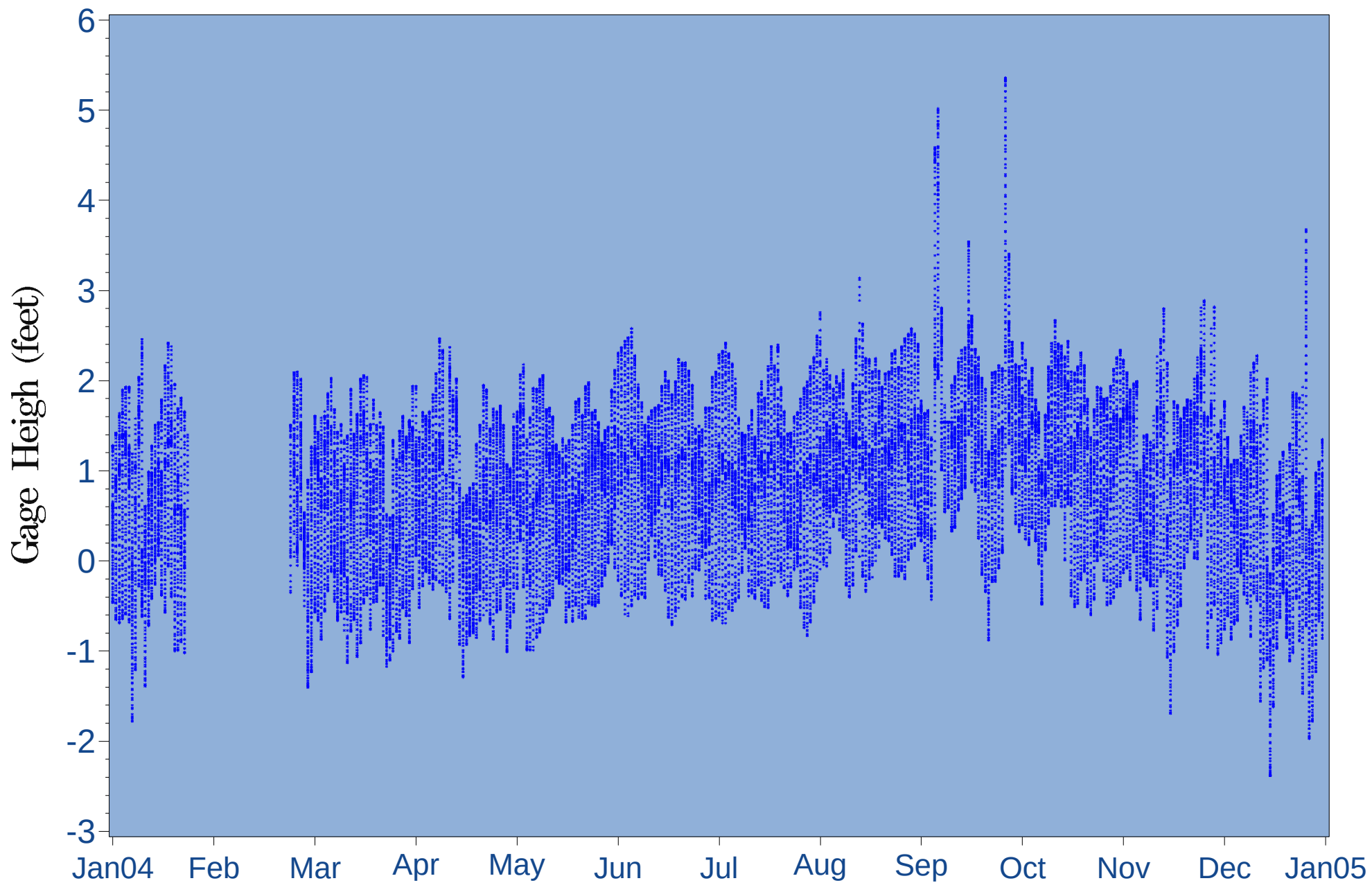


Figure 5.1 Gage height (15-min intervals) for Peace River fixed station at Harbour Heights - USGS Gage 02297460 (River Kilometer=15.5)

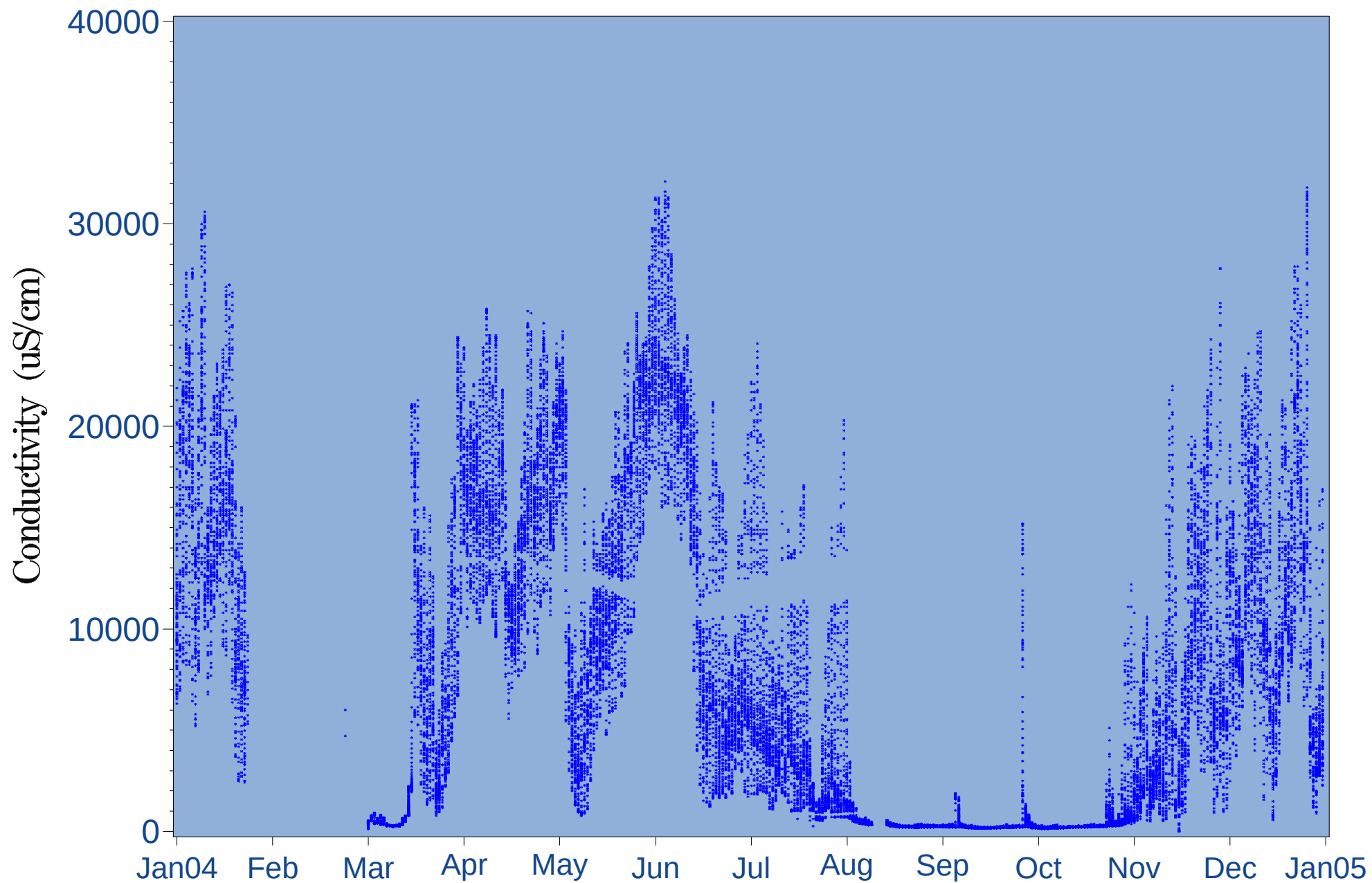


Figure 5.2 Surface conductivity (15-min intervals) for Peace River fixed station at Harbour Heights - USGS Gage 02297460 (River Kilometer=15.5)

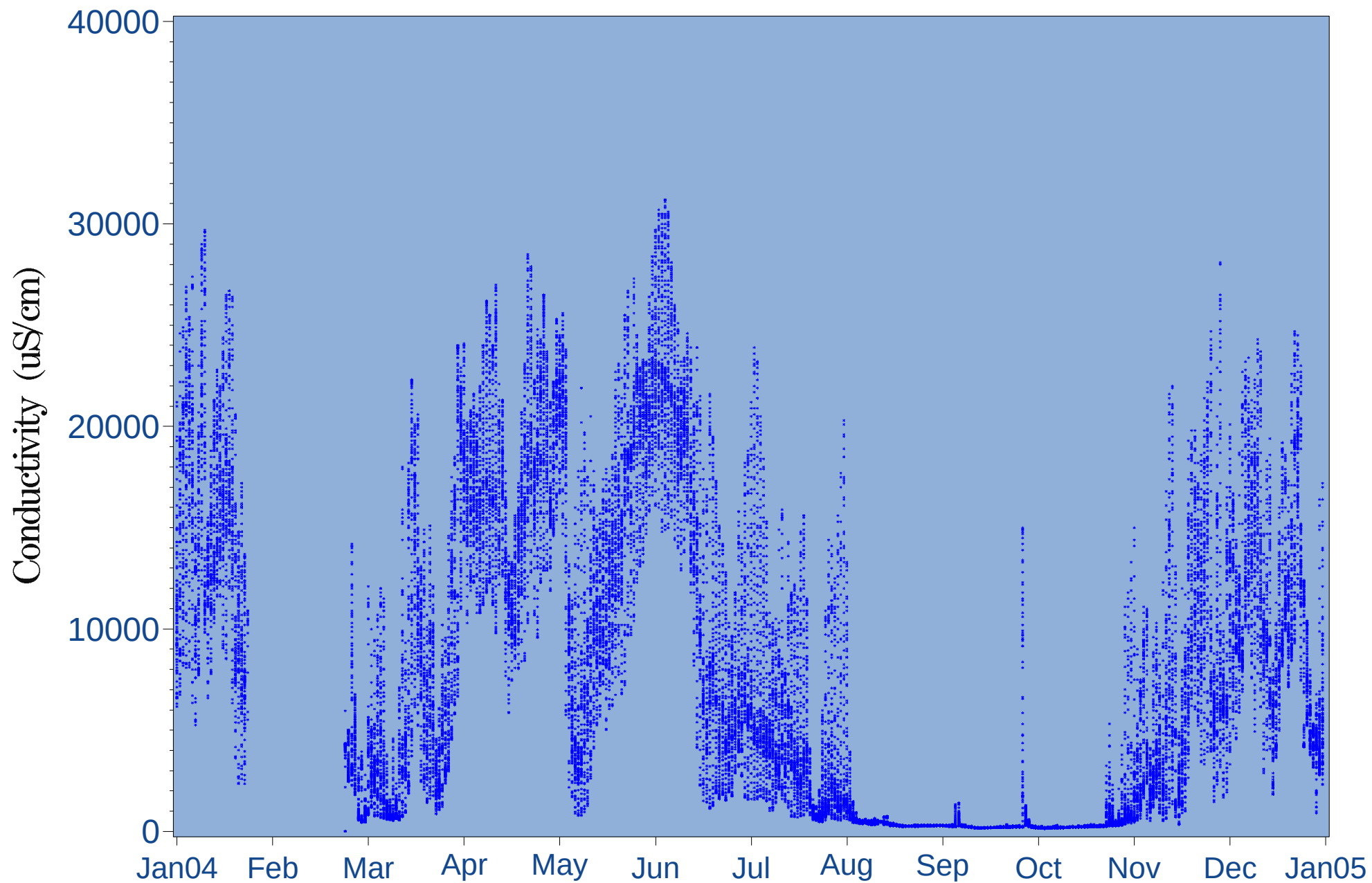


Figure 5.3 Bottom conductivity (15-min intervals) for Peace River fixed station at Harbour Heights - USGS Gage 02297460 (River Kilometer=15.5)

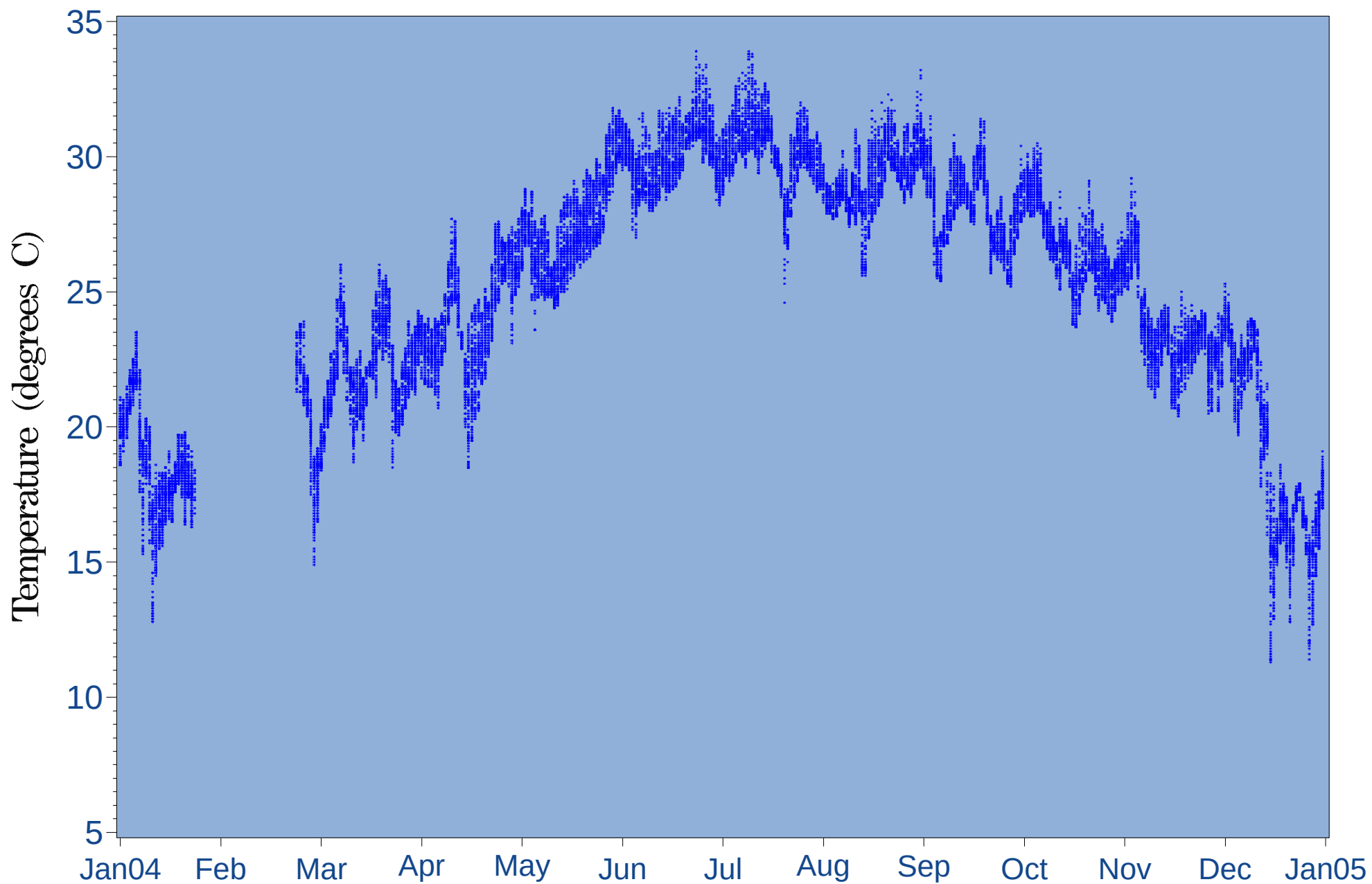


Figure 5.4 Surface temperature (15-min intervals) for Peace River fixed station at Harbour Heights - USGS Gage 02297460 (River Kilometer=15.5)

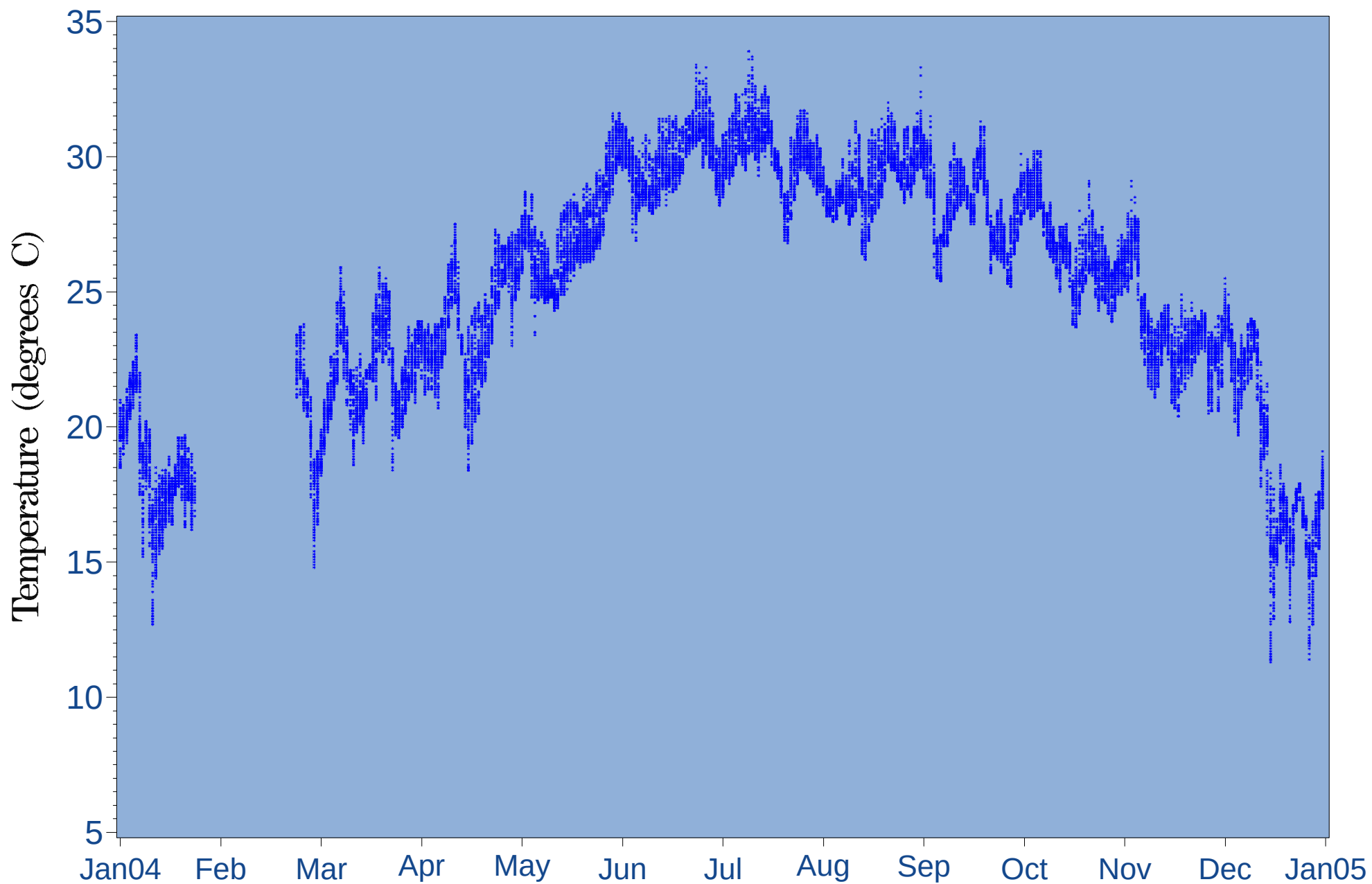


Figure 5.5 Bottom temperature (15-min intervals) for Peace River fixed station at Harbour Heights - USGS Gage 02297460 (River Kilometer=15.5)

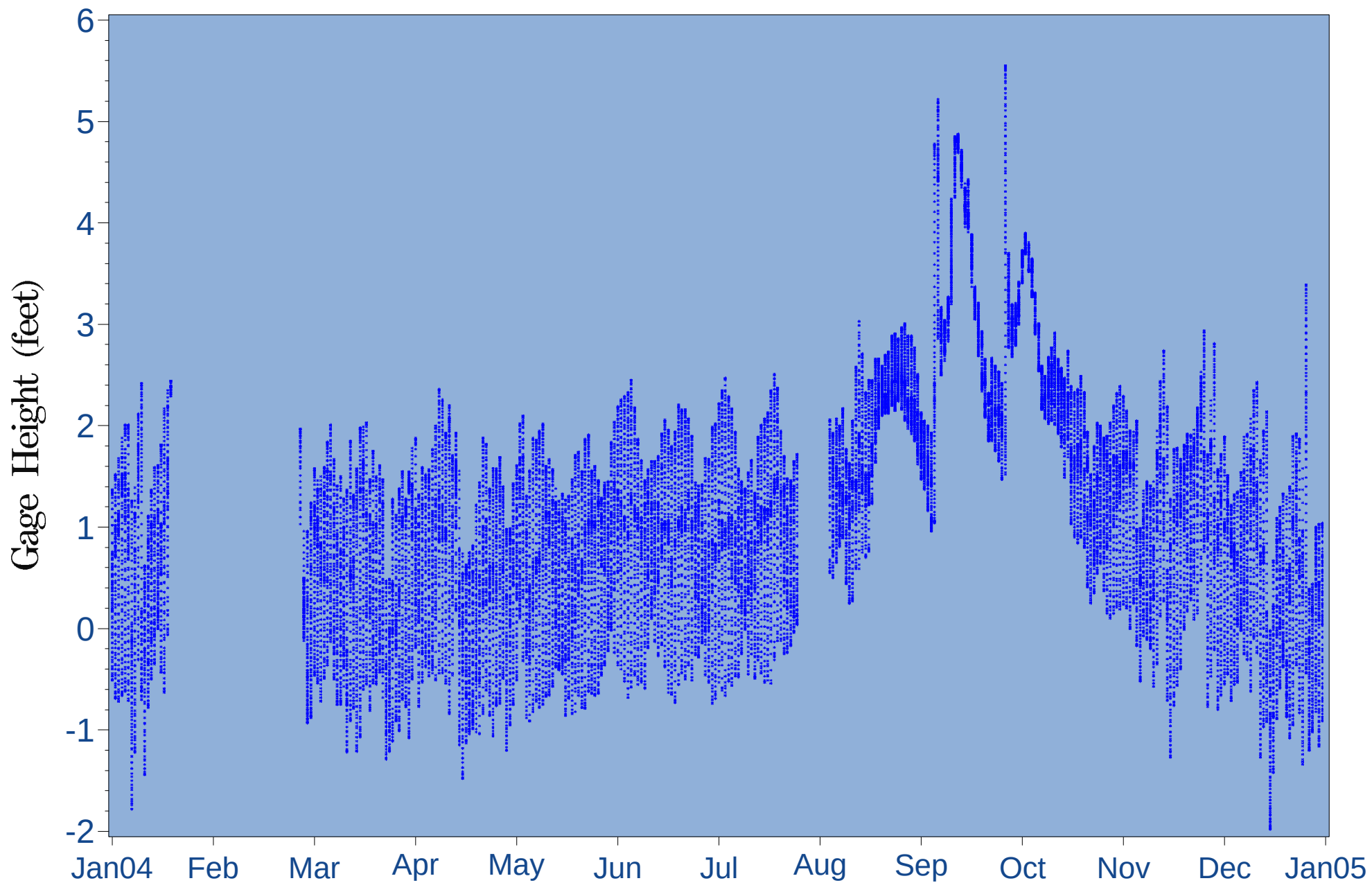


Figure 5.6 Gage height (15-min intervals) for Peace River fixed station at Peace River Heights - USGS gage 02297350 (River Kilometer=26.7)

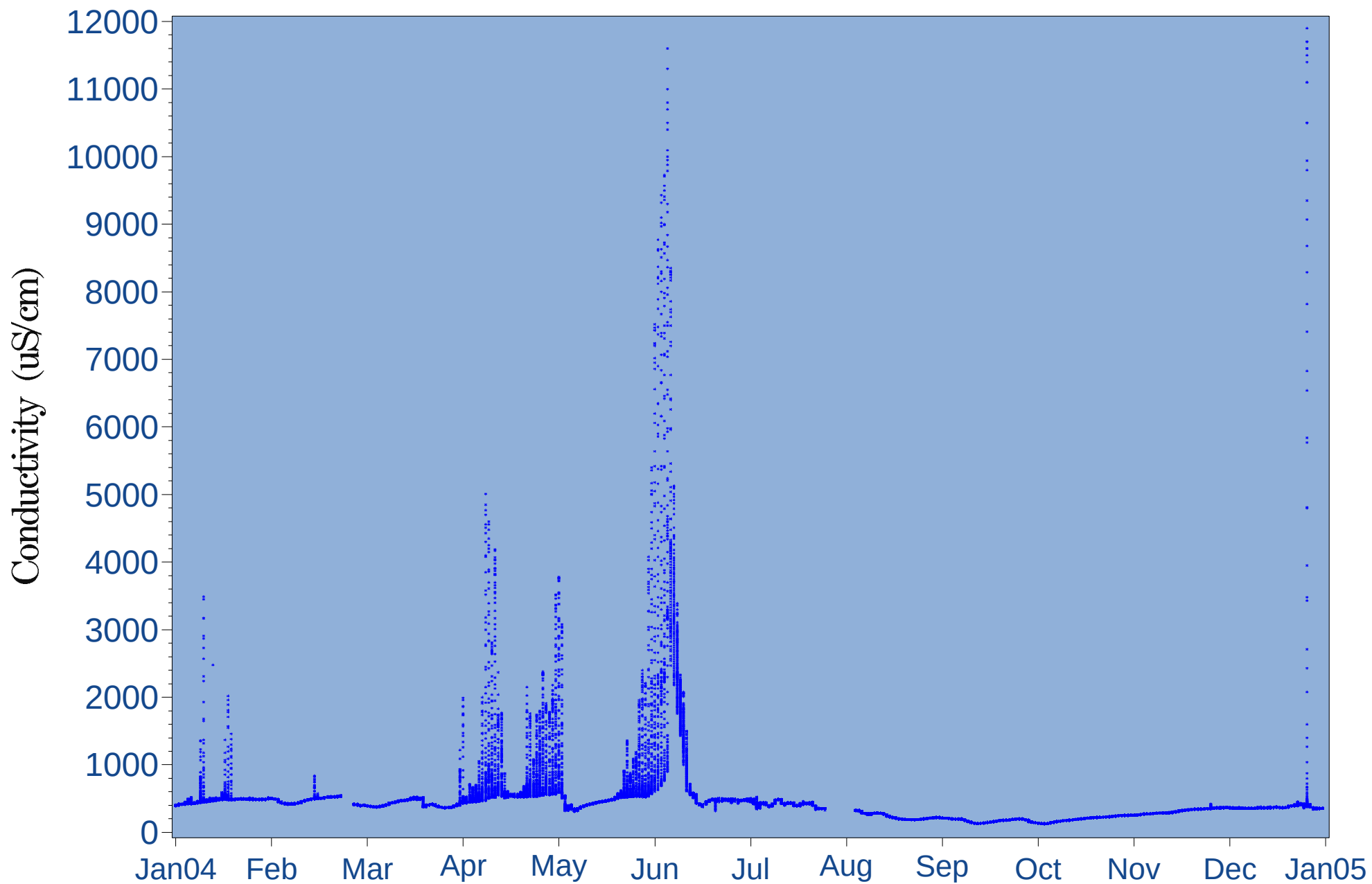


Figure 5.7 Surface conductivity (15-min intervals) for Peace River fixed station at Peace River Heights - USGS gage 02297350 (River Kilometer=26.7)

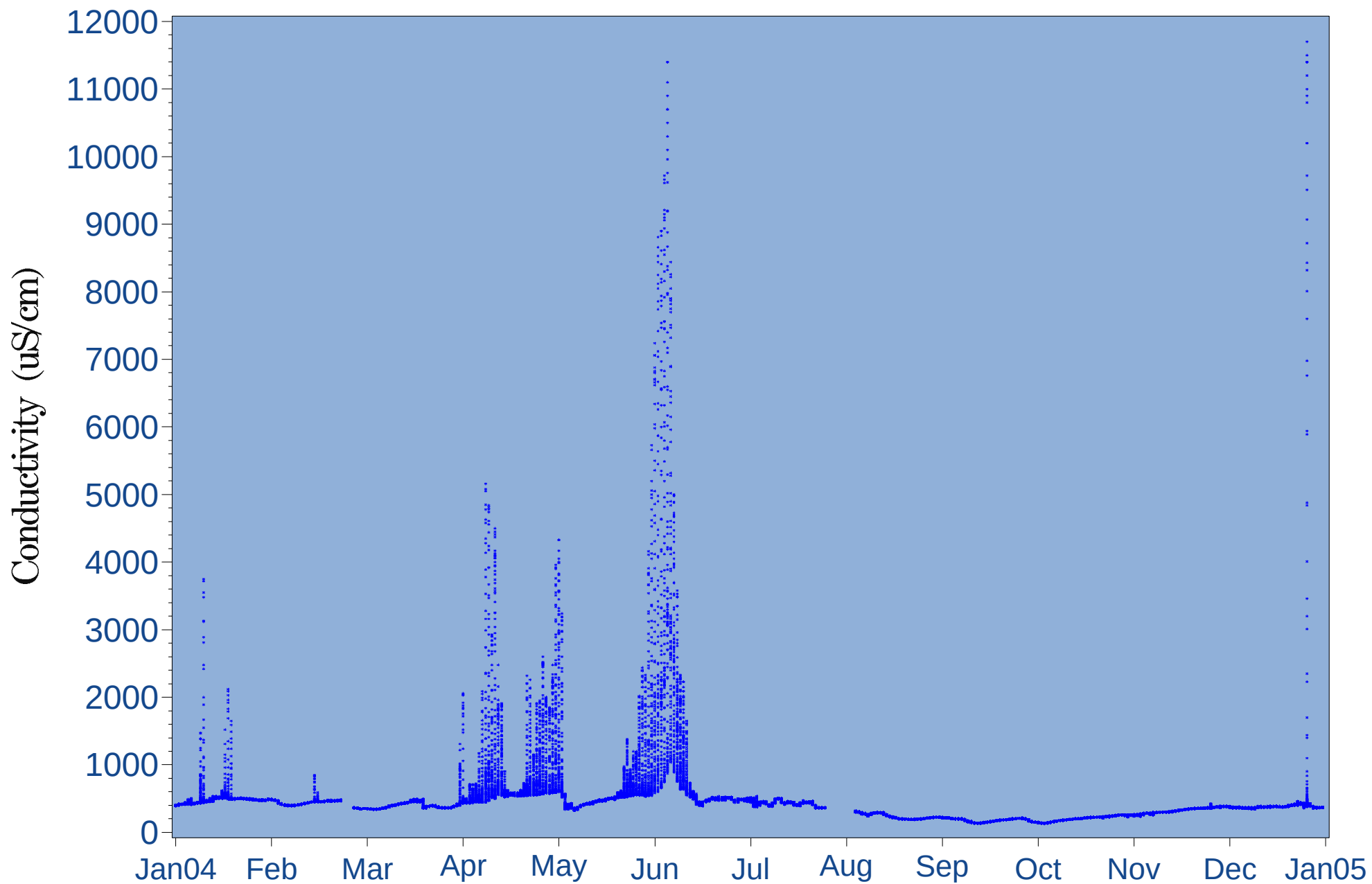


Figure 5.8 Bottom conductivity (15-min intervals) for Peace River fixed station at Peace River Heights - USGS gage 02297350 (River Kilometer=26.7)

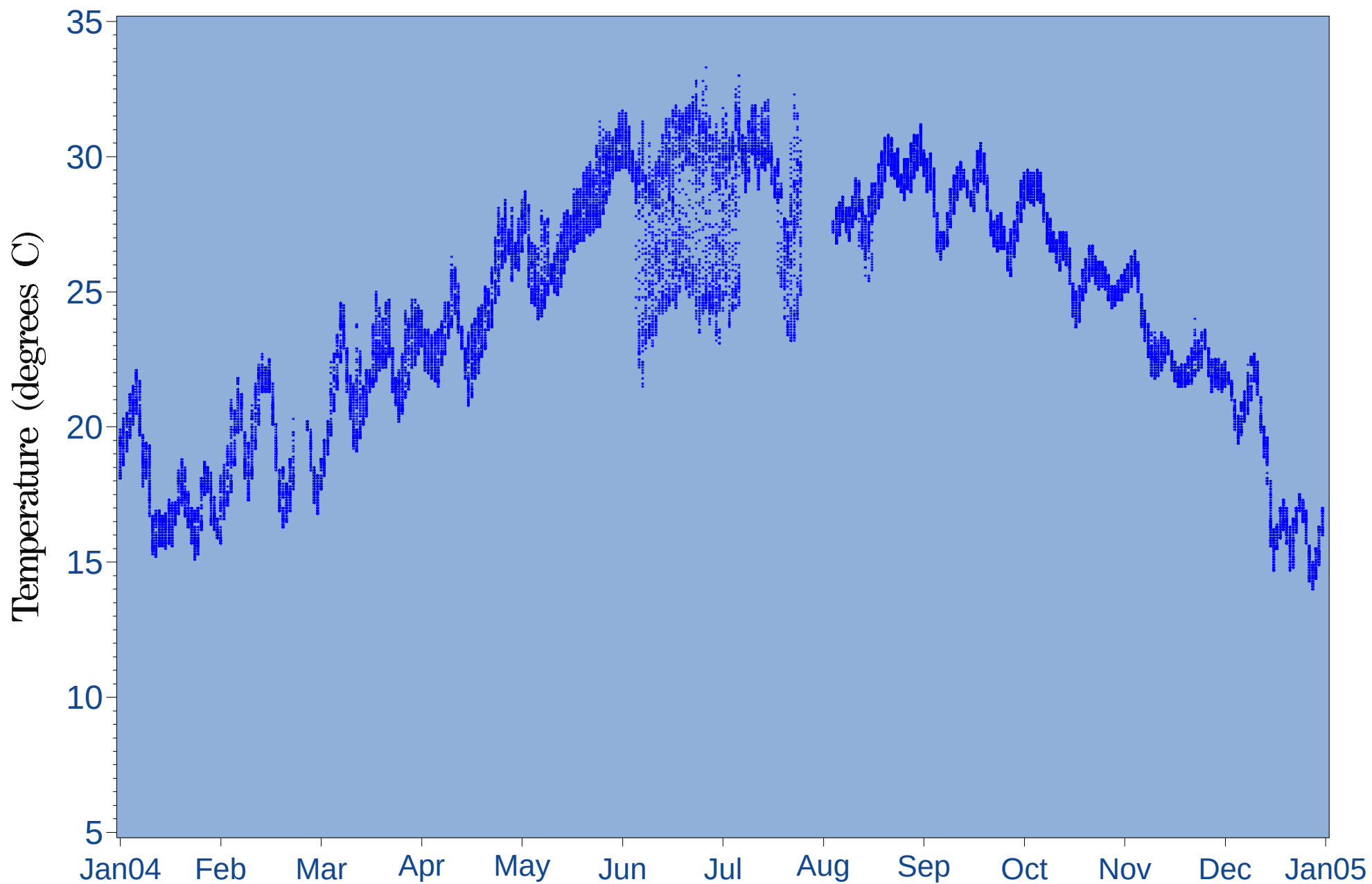


Figure 5.9 Surface temperature (15-min intervals) for Peace River fixed station at Peace River Heights - USGS gage 02297350 (River Kilometer=26.7)

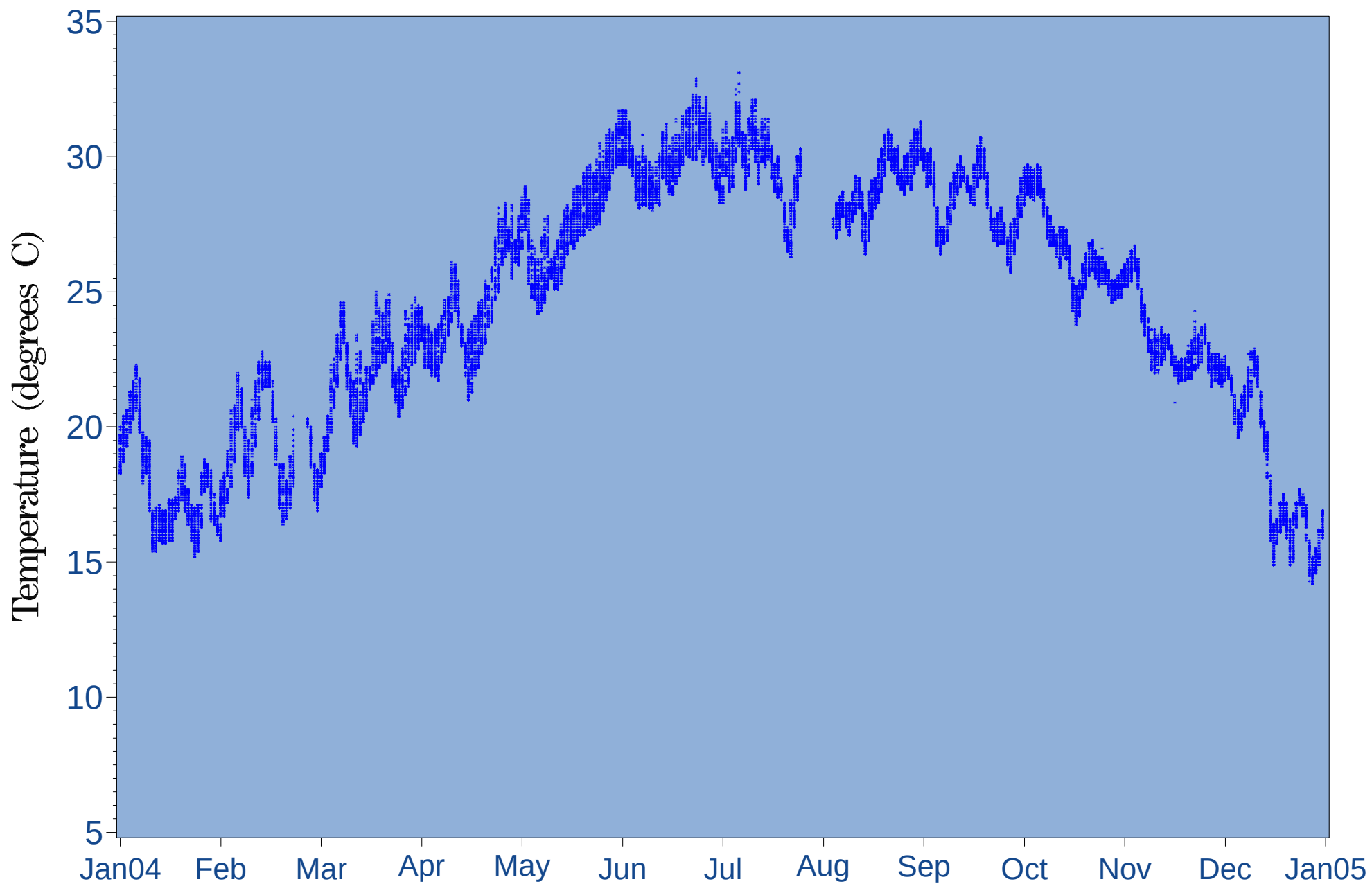


Figure 5.10 Bottom temperature (15-min intervals) for Peace River fixed station at Peace River Heights - USGS gage 02297350 (River Kilometer=26.7)

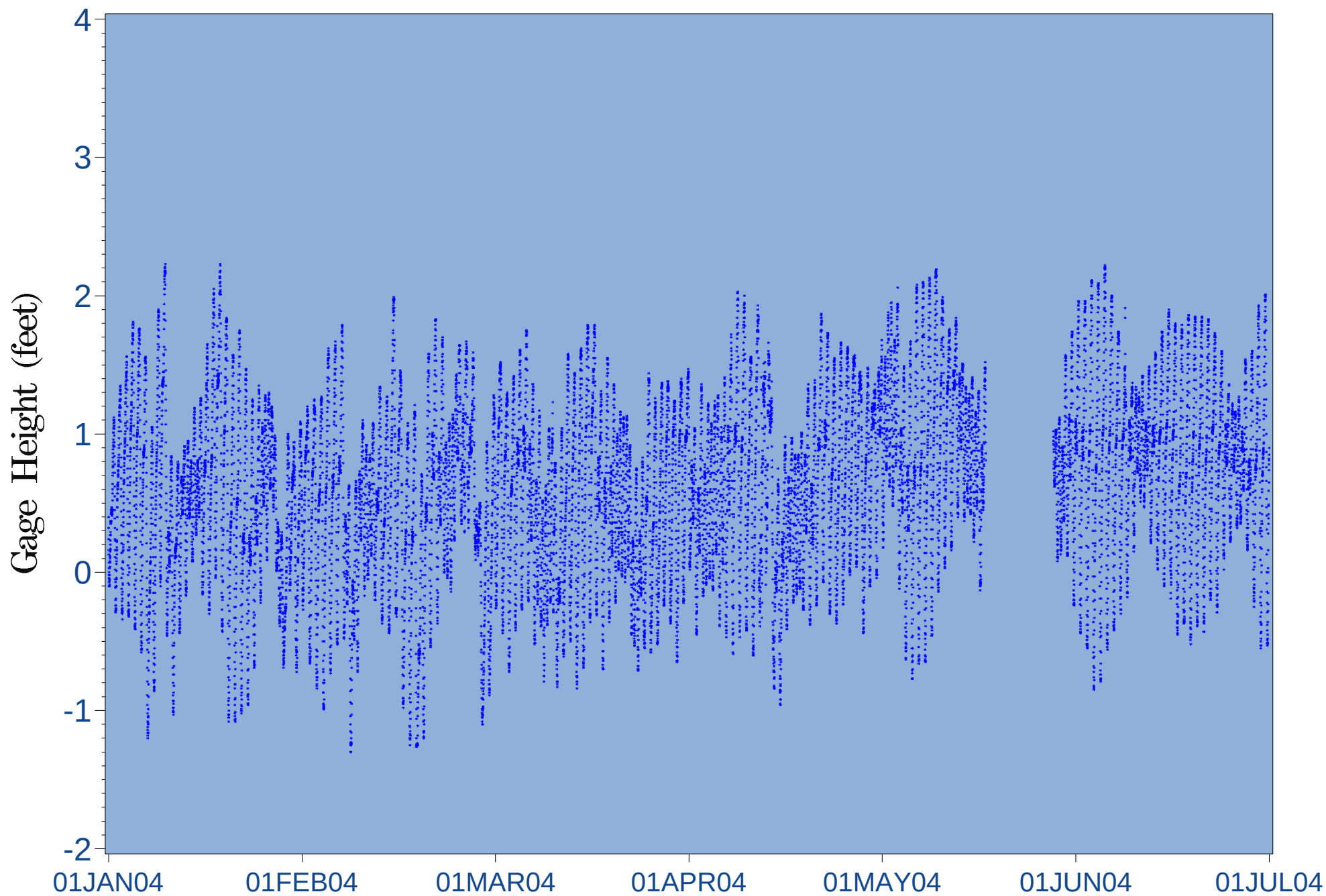


Figure 5.11a Gage height (15-minute intervals) for Boca Grande

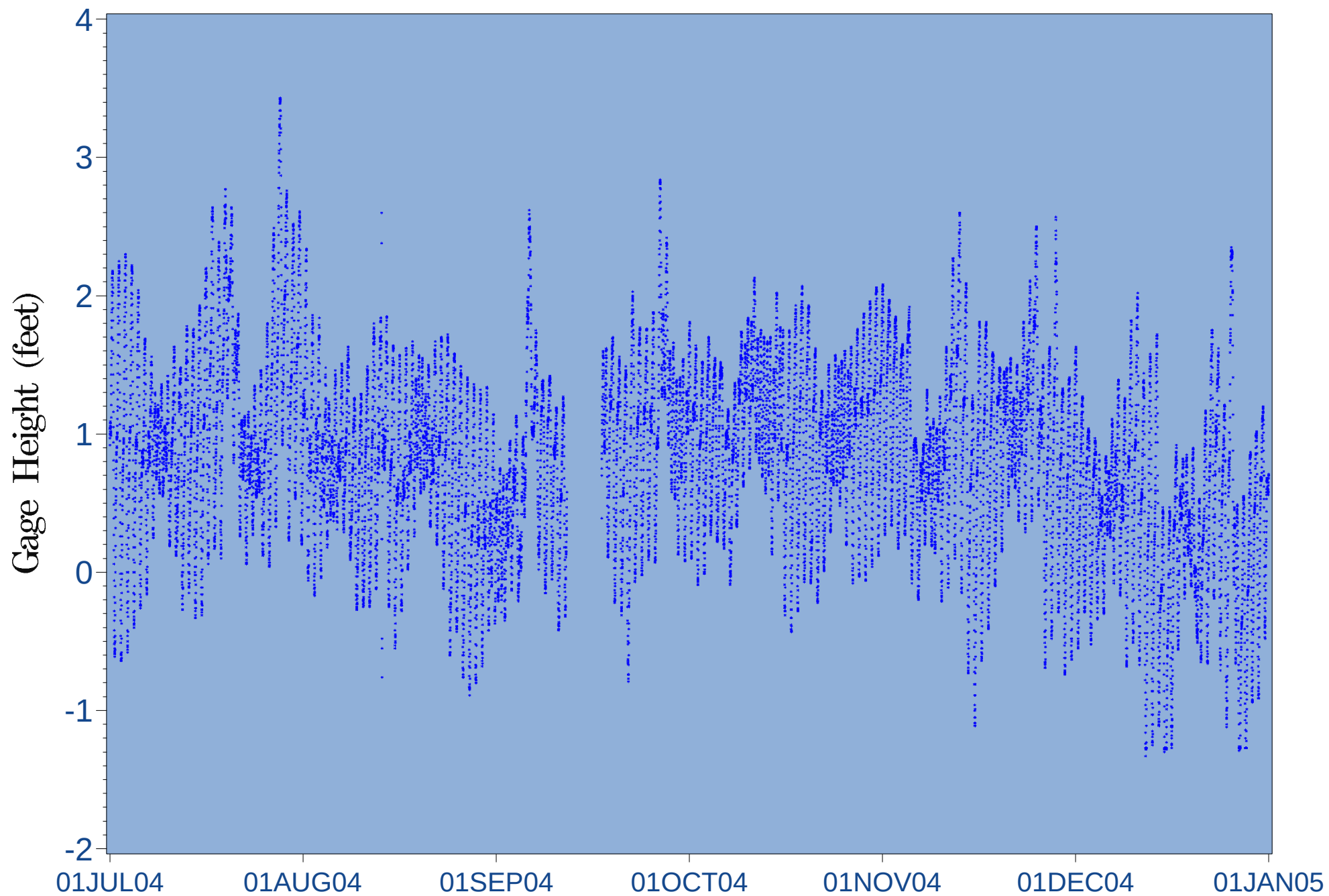


Figure 5.11b Gage height (15-minute intervals) for Boca Grande

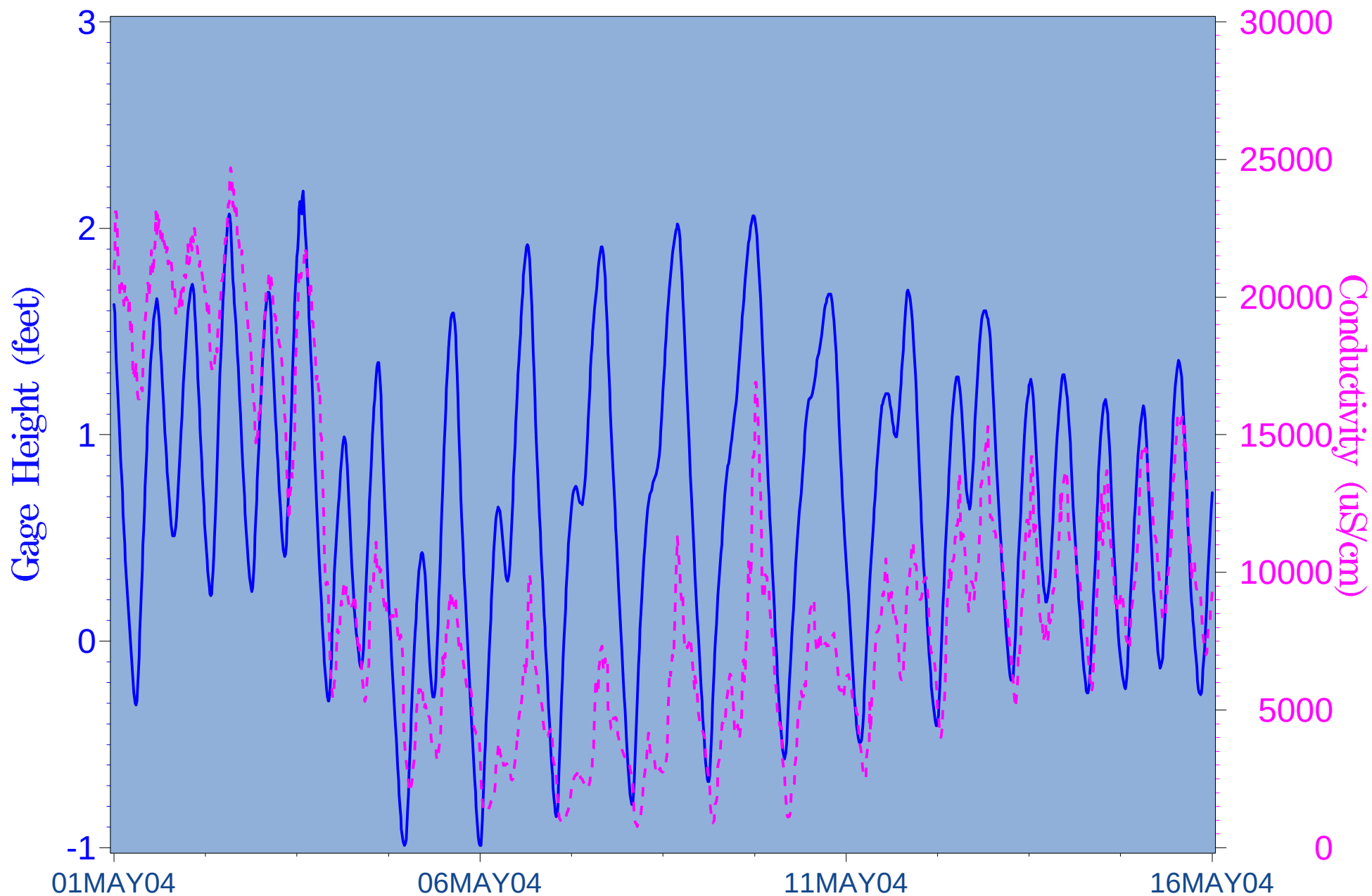


Figure 5.12 Surface conductivity in May at Harbour Heights
- USGS Gage 02297460 (River Kilometer 15.5)

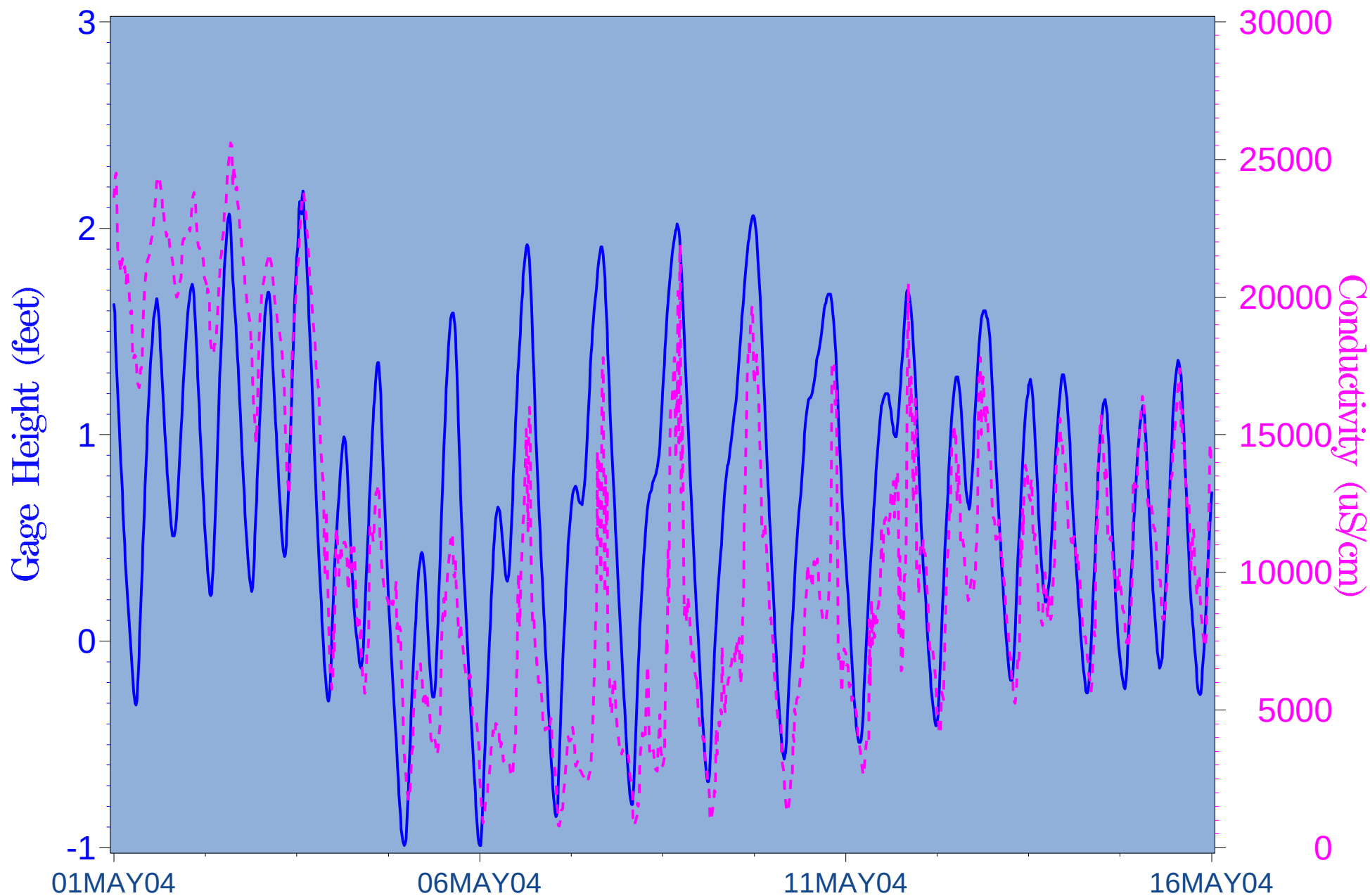


Figure 5.13 Bottom conductivity in May at Harbour Heights
- USGS Gage 02297460 (River Kilometer 15.5)

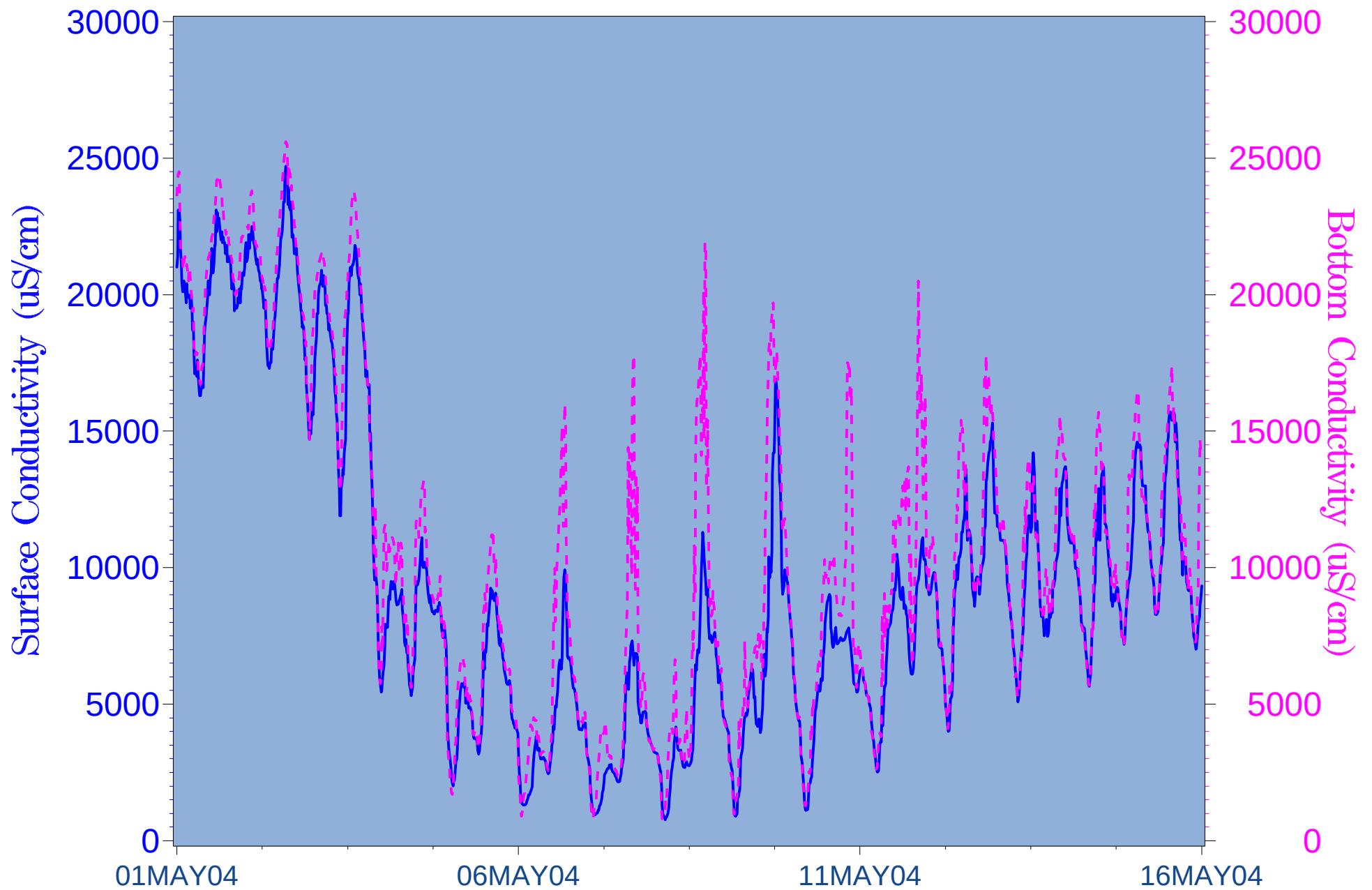


Figure 5.14 Surface & bottom conductivity in May at Harbour Heights
- USGS Gage 02297460 (River Kilometer 15.5)

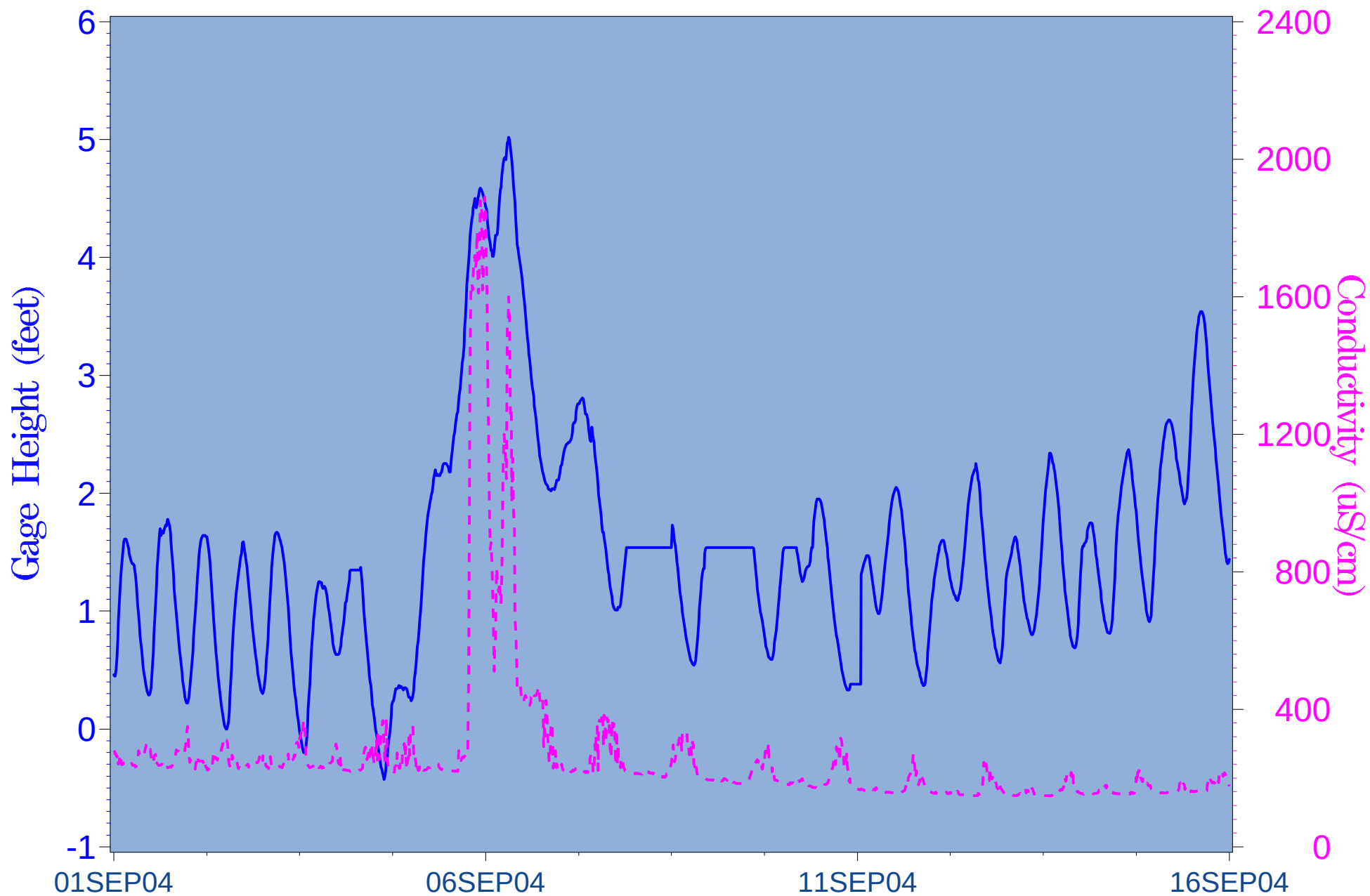


Figure 5.15 Surface conductivity in September at Harbour Heights
- USGS Gage 02297460 (River Kilometer 15.5)

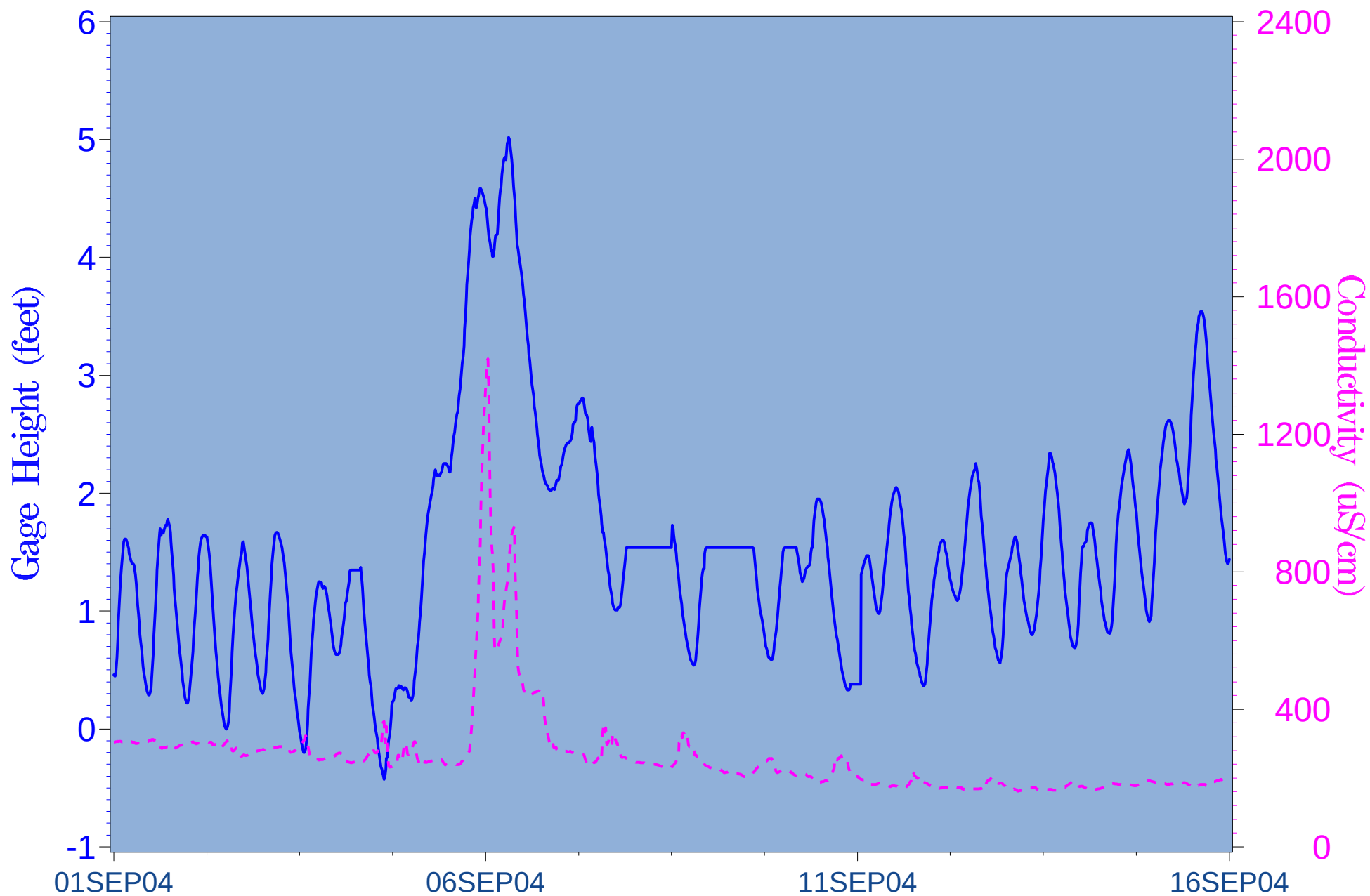


Figure 5.16 Bottom conductivity in September at Harbour Heights
- USGS Gage 02297460 (River Kilometer 15.5)

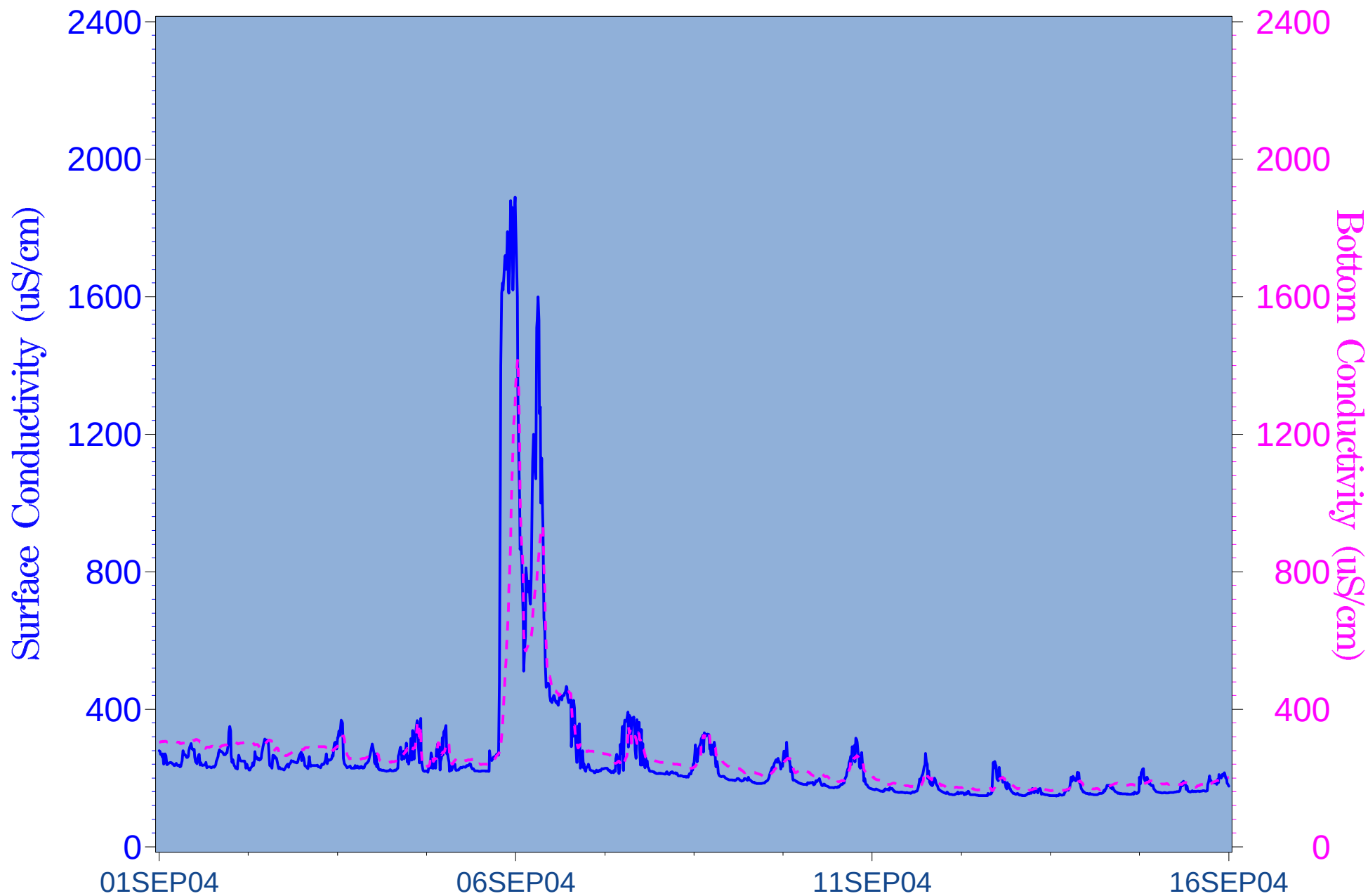


Figure 5.17 Surface and bottom conductivity in September at Harbour Heights
- USGS Gage 02297460 (River Kilometer 15.5)

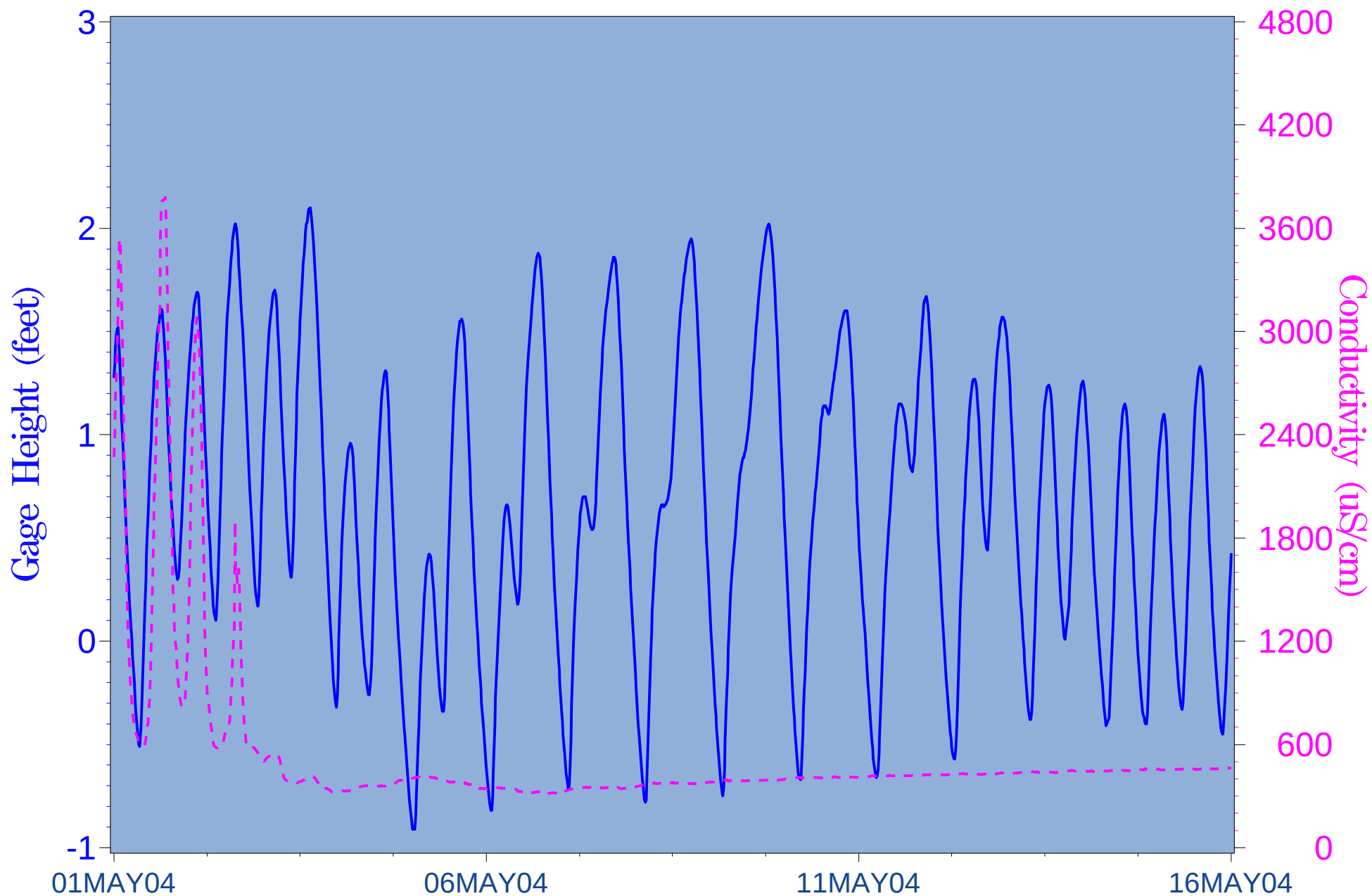


Figure 5.18 Surface conductivity in May
- USGS Gage 02297350 (River Kilometer 26.7)

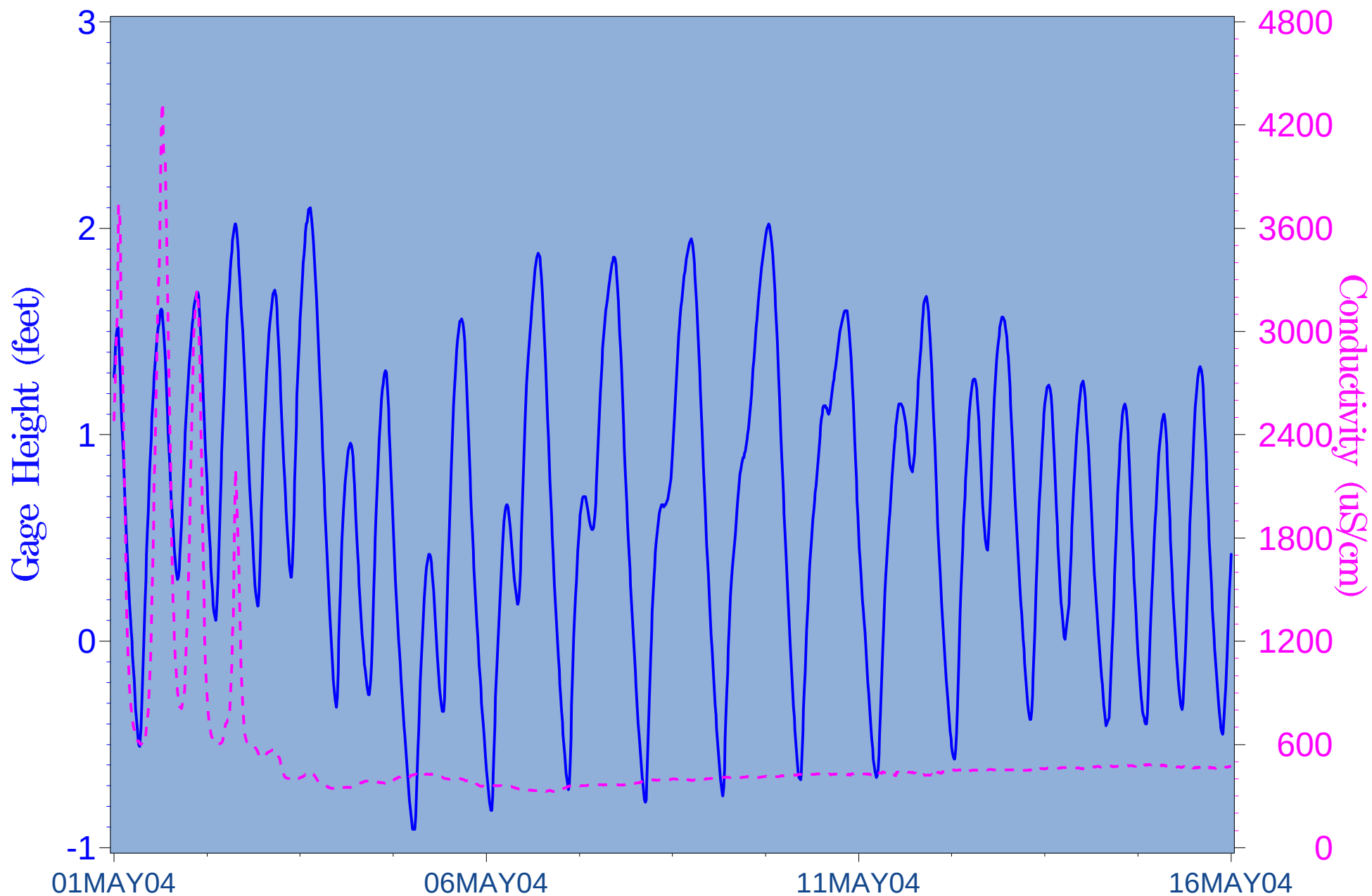


Figure 5.19 Bottom conductivity in May
- USGS Gage 02297350 (River Kilometer 26.7)

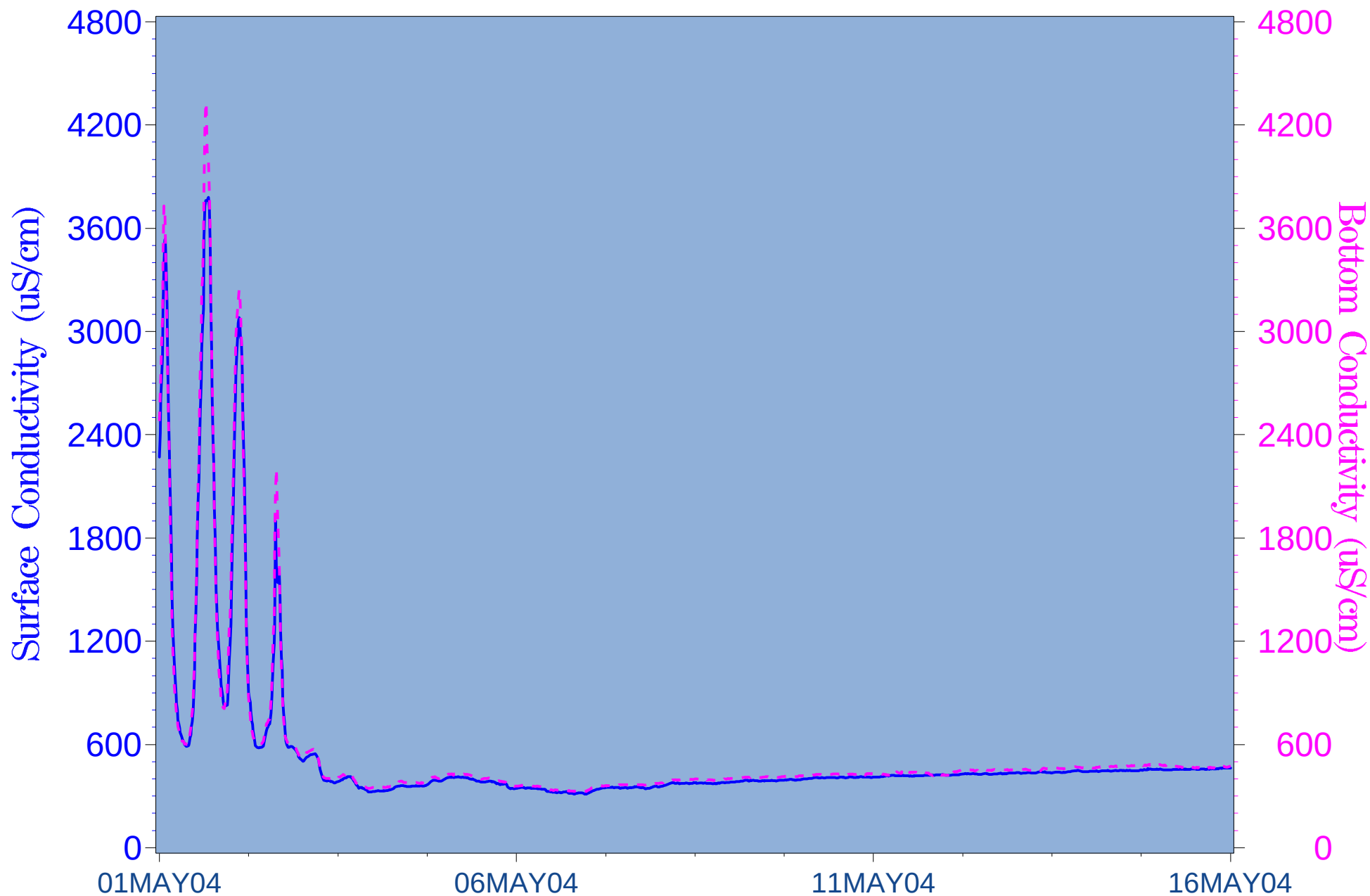


Figure 5.20 Surface and bottom conductivity in May
- USGS Gage 02297350 (River Kilometer 26.7)

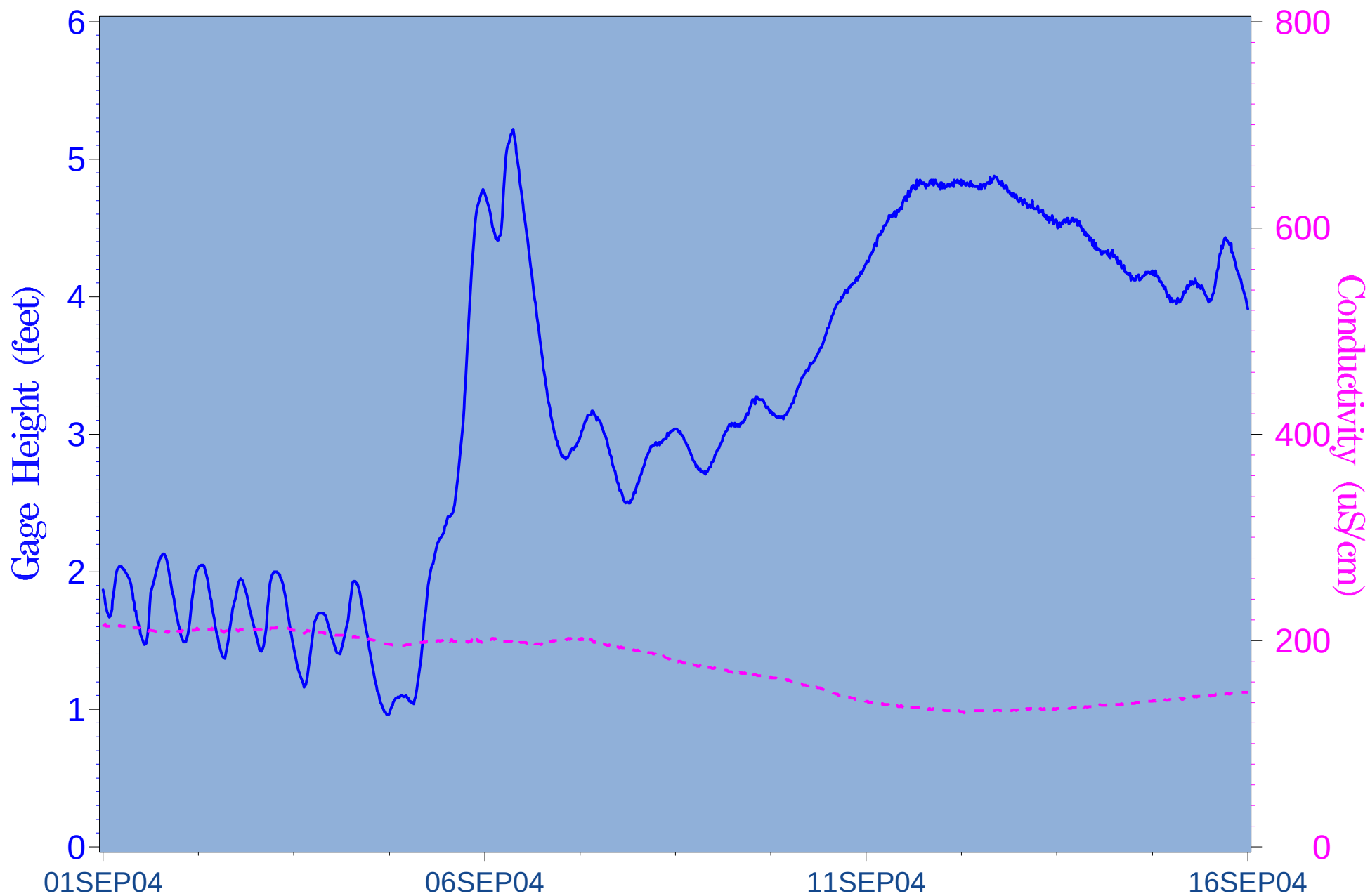


Figure 5.21 Surface conductivity in September
- USGS Gage 02297350 (River Kilometer 26.7)

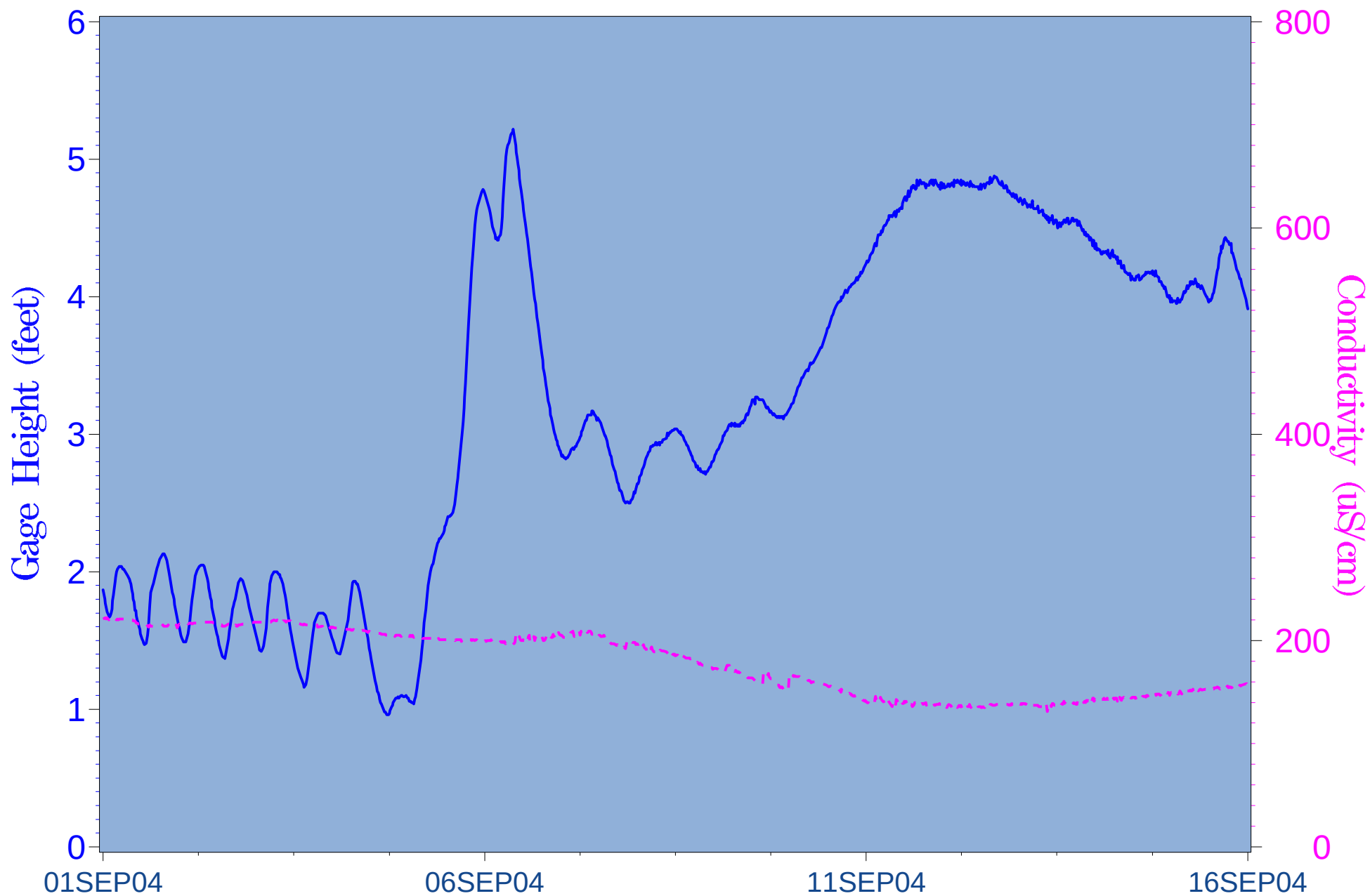


Figure 5.22 Bottom conductivity in September
- USGS Gage 02297350 (River Kilometer 26.7)

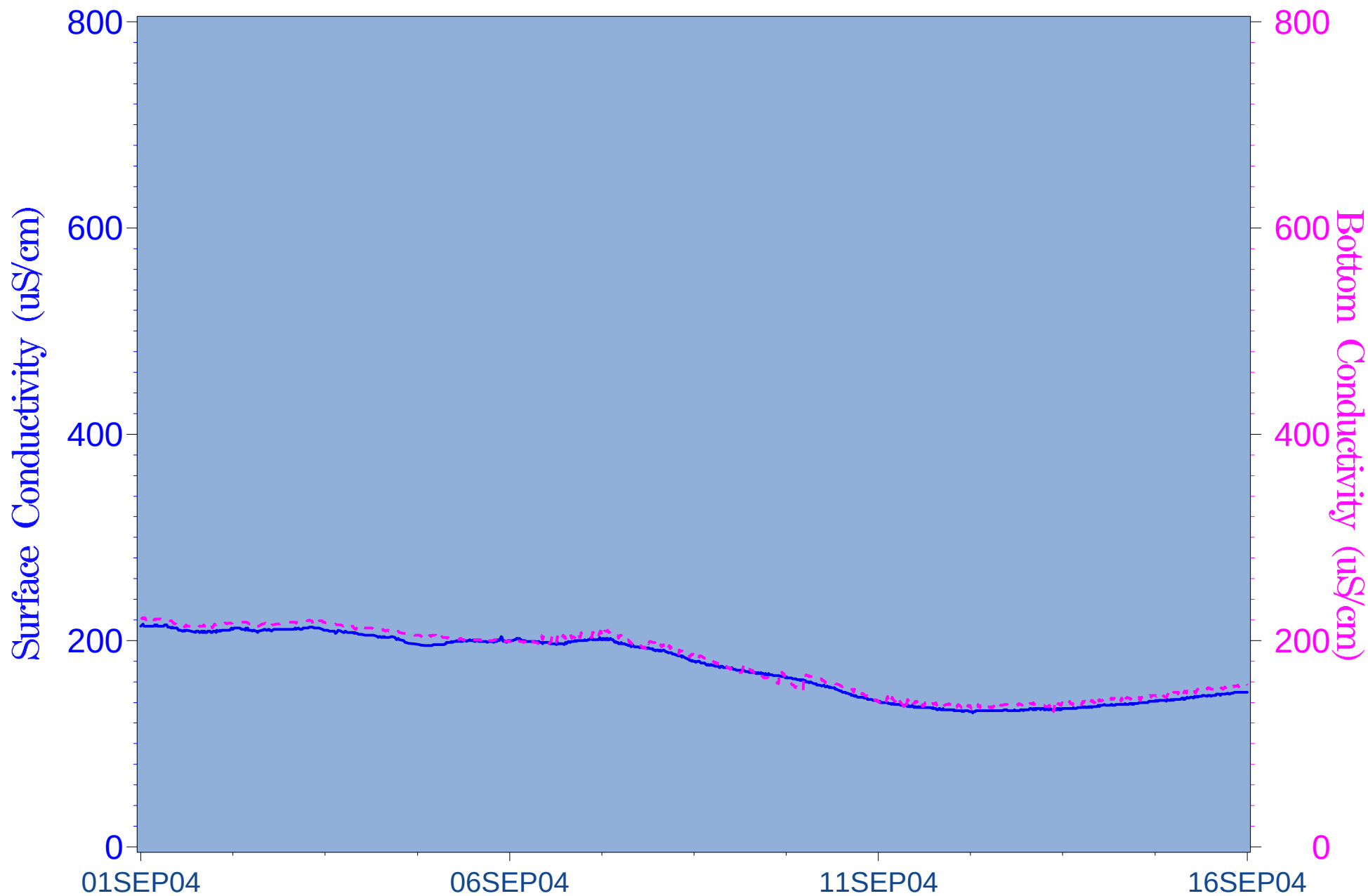


Figure 5.23 Surface and bottom conductivity in September
- USGS Gage 02297350 (River Kilometer 26.7)

Figure 6.1
First & Last Occurrences of
Conspicuous Indicator Species
2004

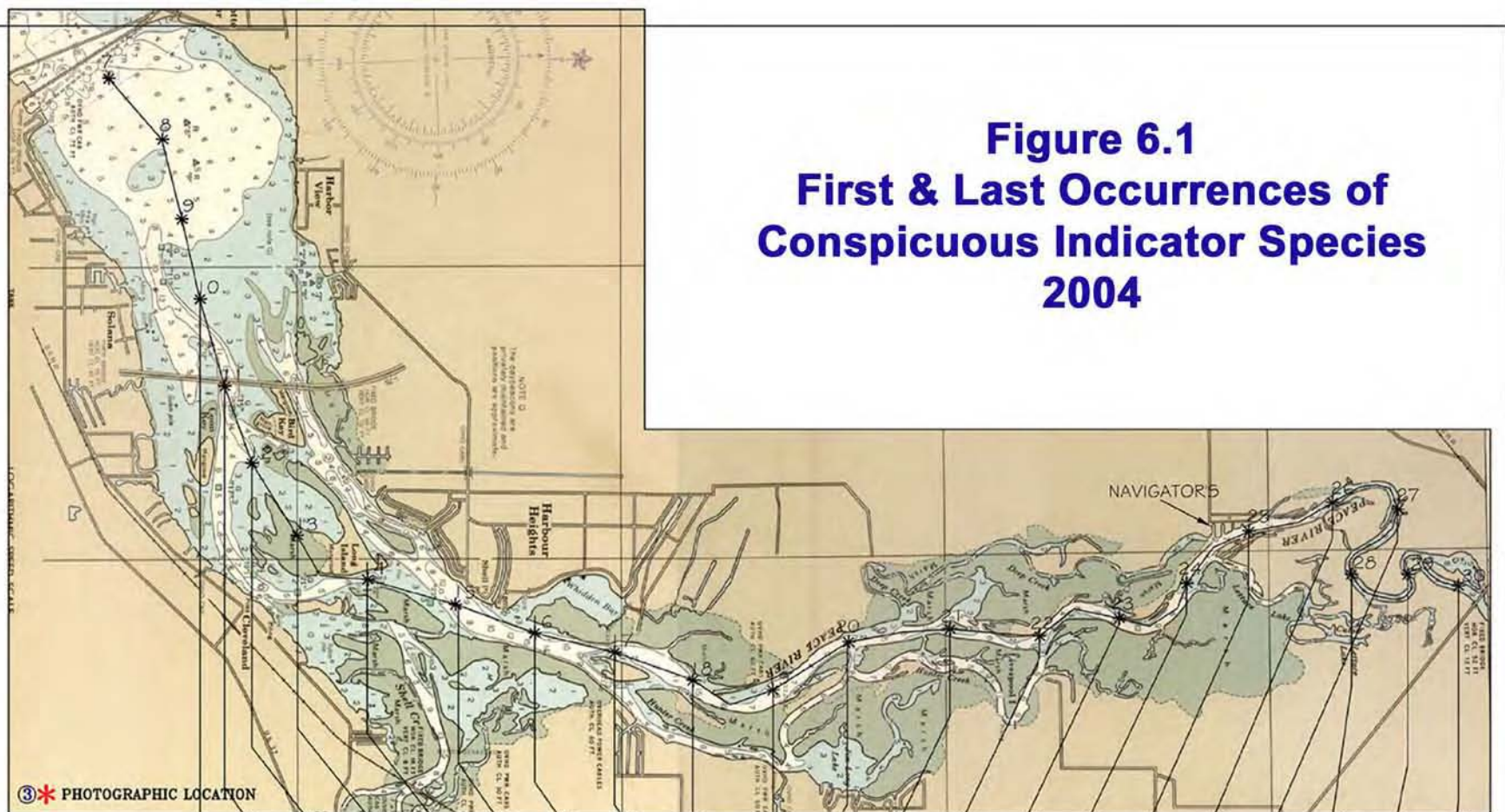


Figure 6.2
Vegetation Transect
Locations

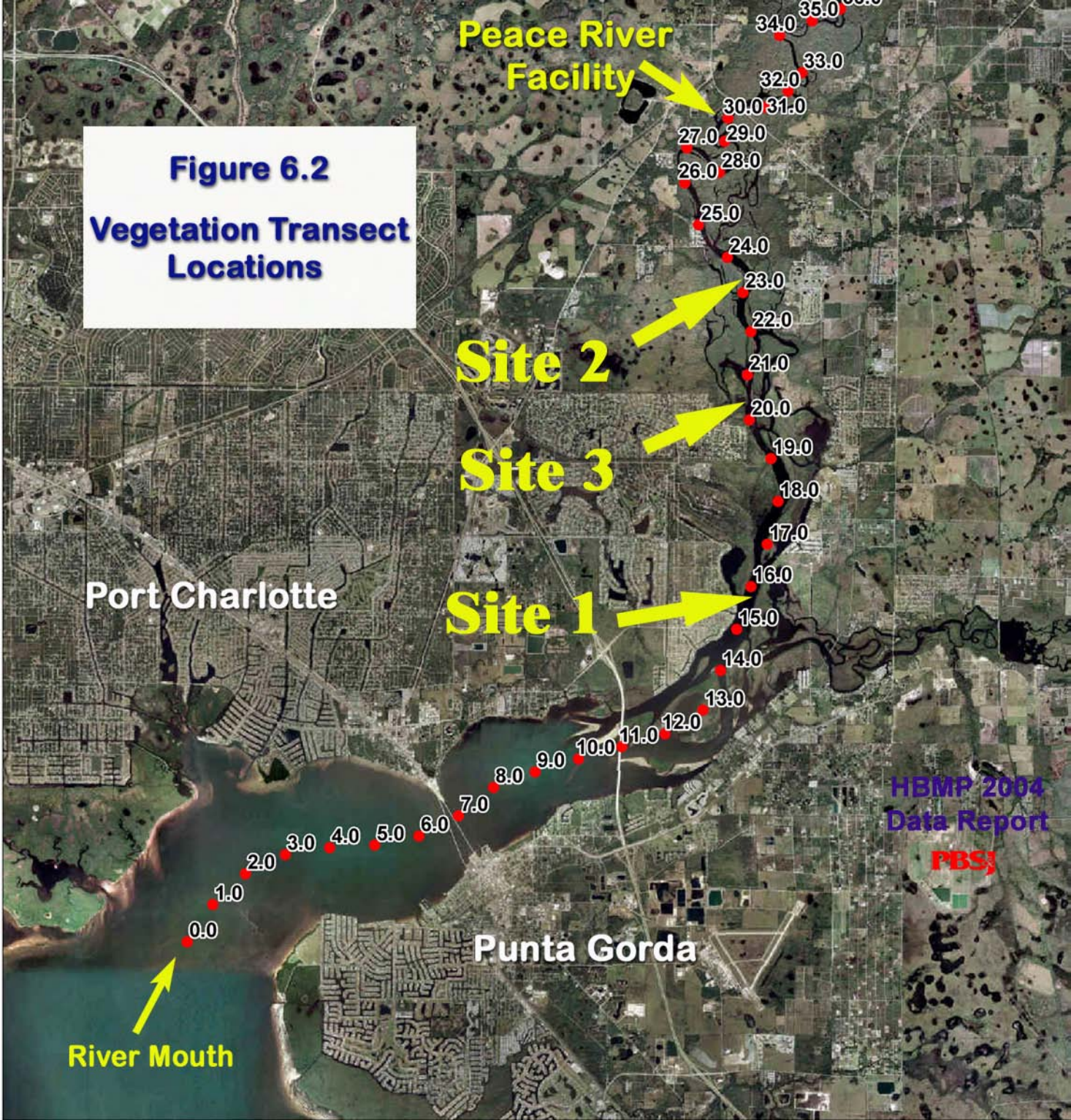
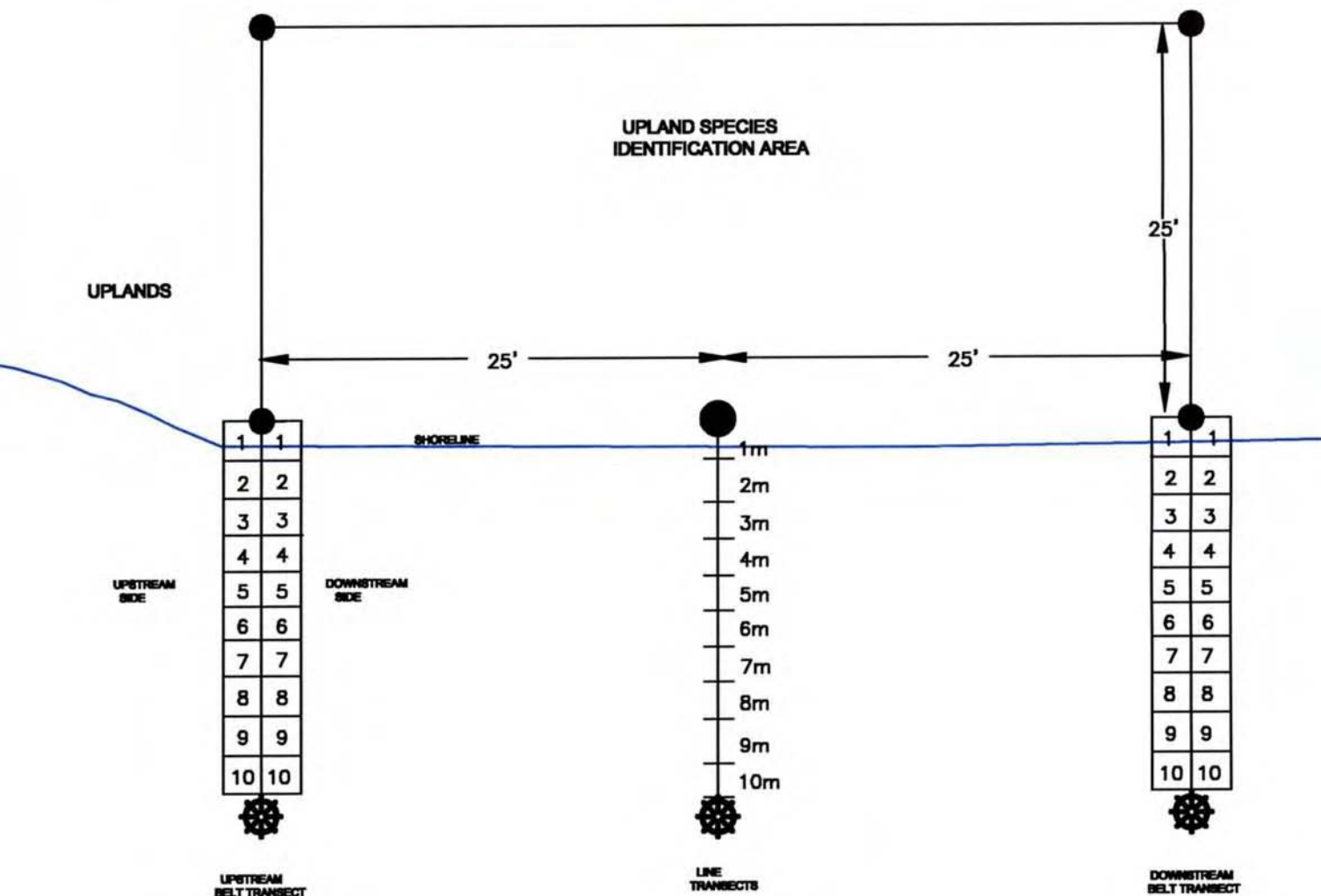


Figure 6.3

Diagram of Belt Transect Method



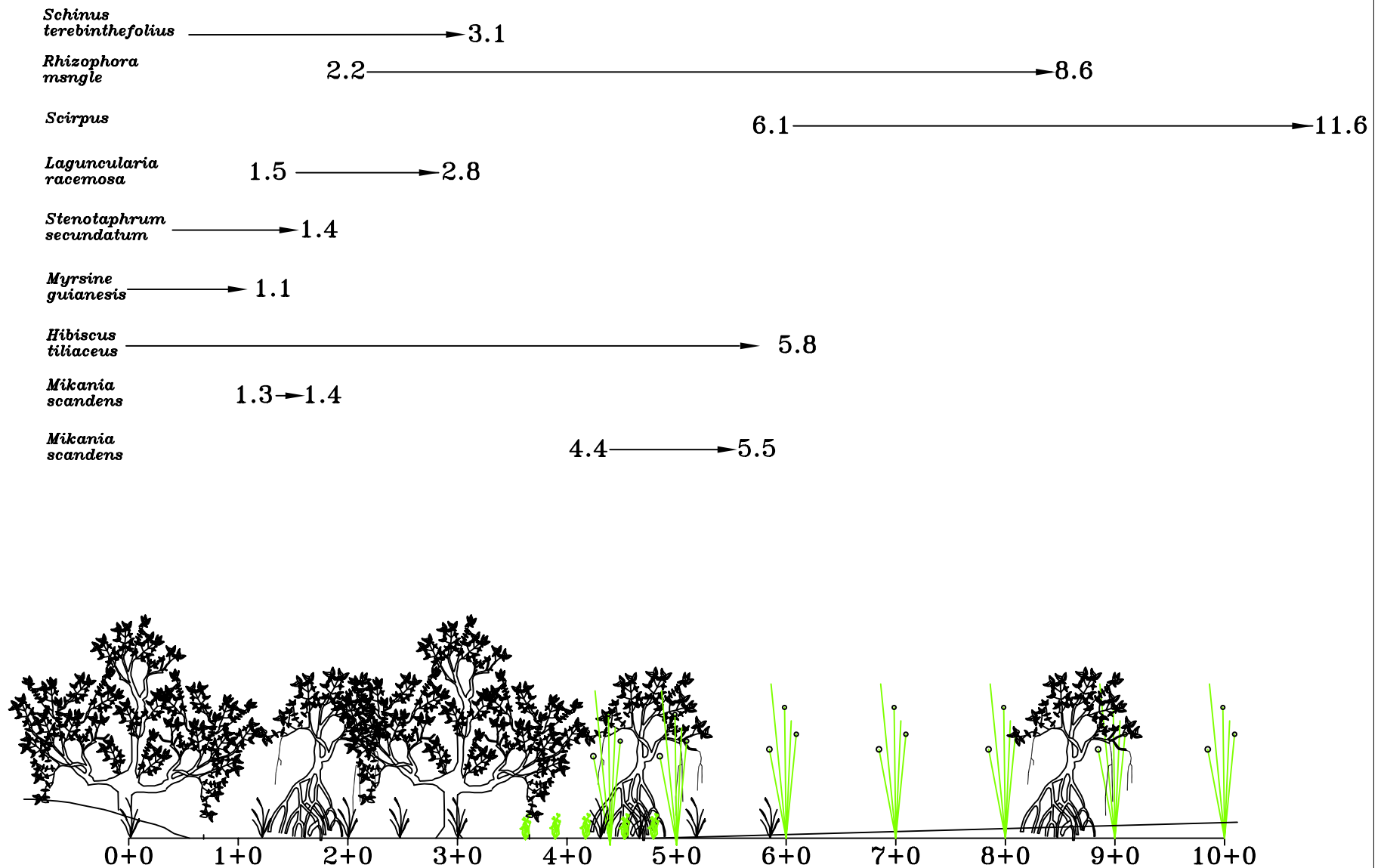
Peace River



- PHOTOGRAPHIC LOCATION

2004 HBMP
Data Report

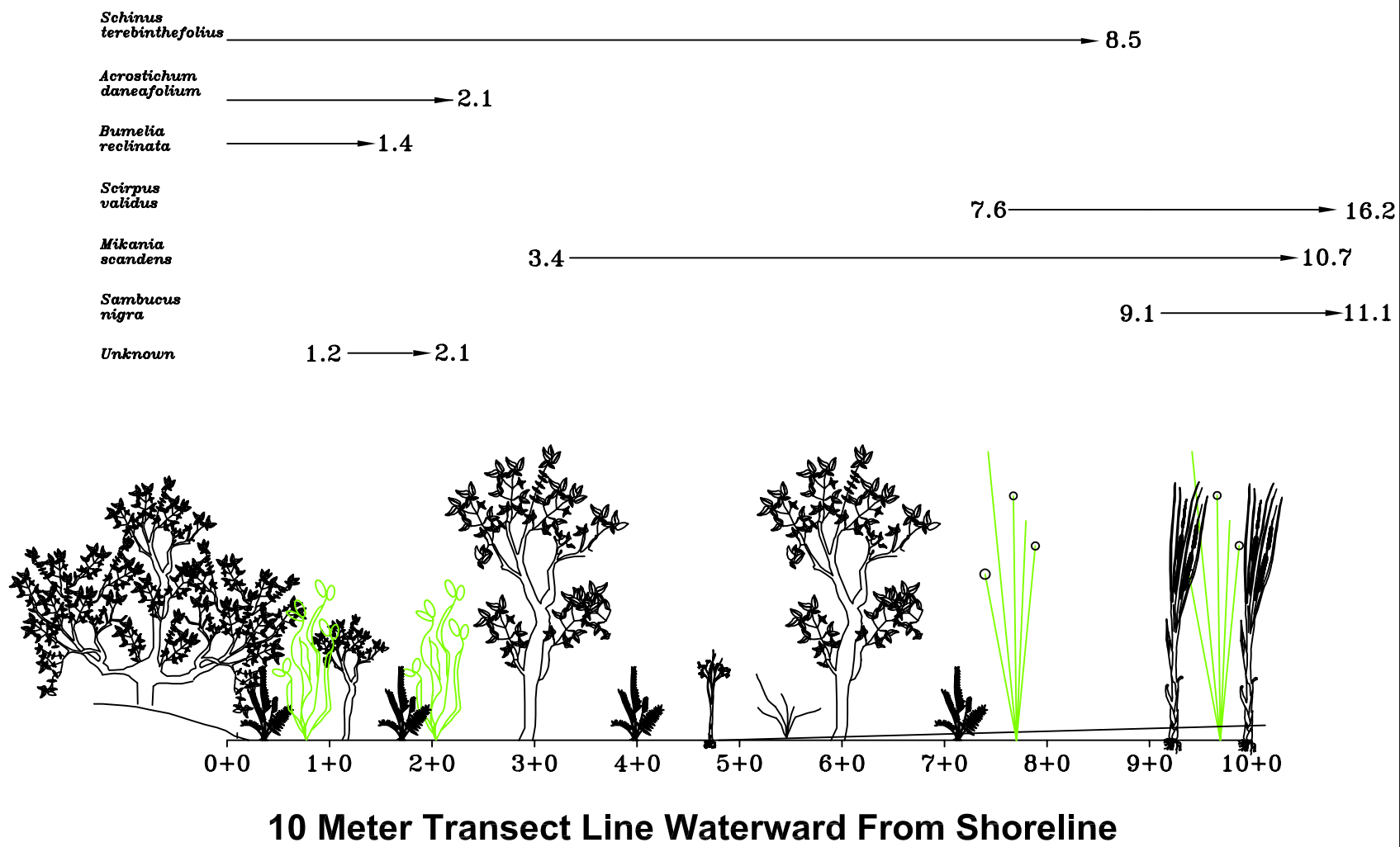
Figure 6.4 Transition Site I - Midline Transect



10 Meter Transect Line Waterward From Shoreline

2004 HBMP Data Report

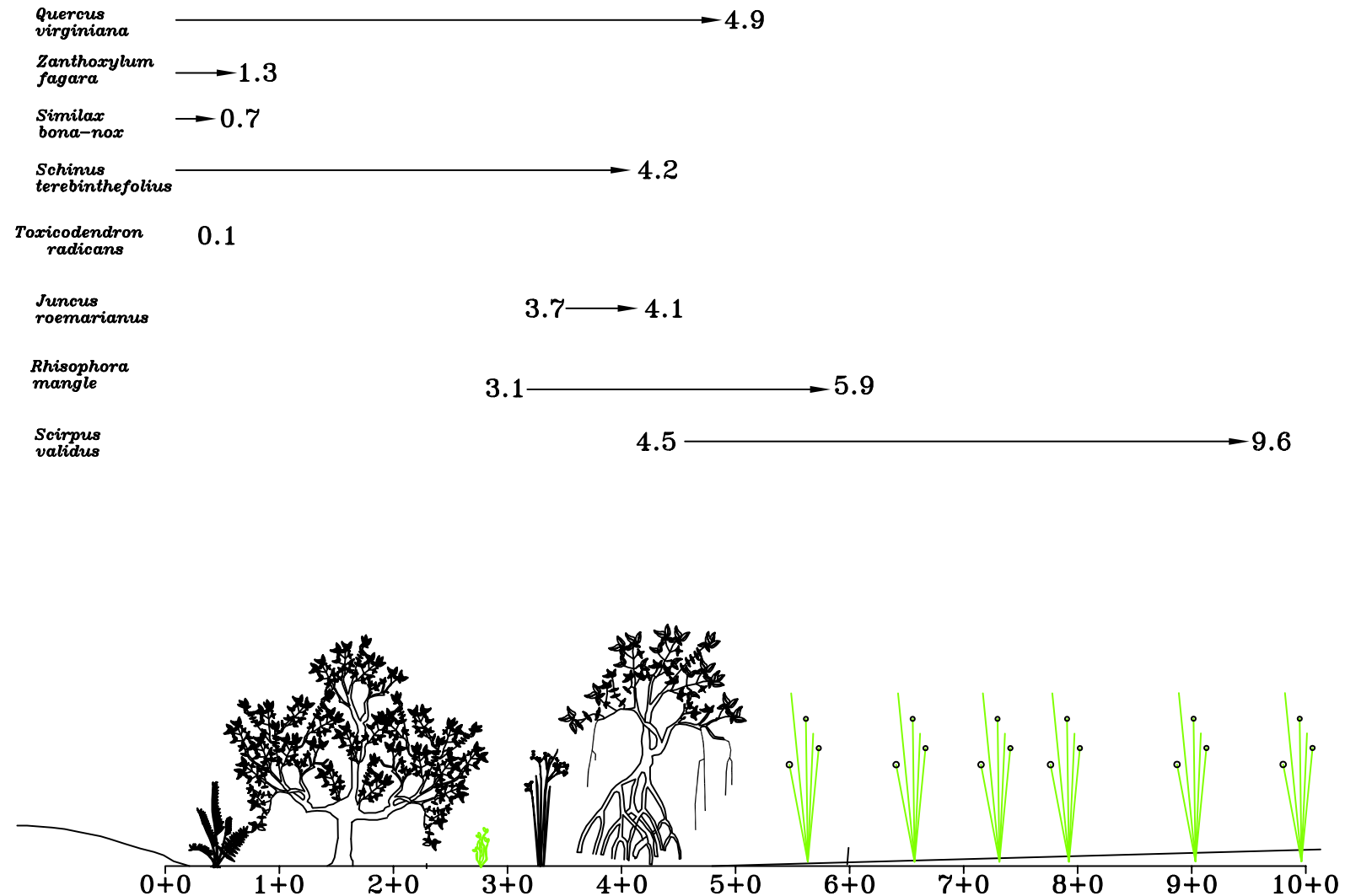
Figure 6.5 Transition Site II - Midline Transect



10 Meter Transect Line Waterward From Shoreline

2004 HBMP Data Report

Figure 6.6 Transition Site III - Midline Transect



10 Meter Transect Line Waterward From Shoreline

2004 HBMP Data Report

2004 HBMP

Graphics & Photographs

- **Section 2 – Gage Flows and Withdrawals**
 1. 2004 Hurricane Tracts
 2. Hurricane Charlie
 3. Hurricane Charlie
 4. Hurricane Paths versus Peace River Watershed
- **Section 6 – Riparian Vegetation**
 1. Indicator Species
 2. Transect Site I
 3. Transect Site II
 4. Transect Site III

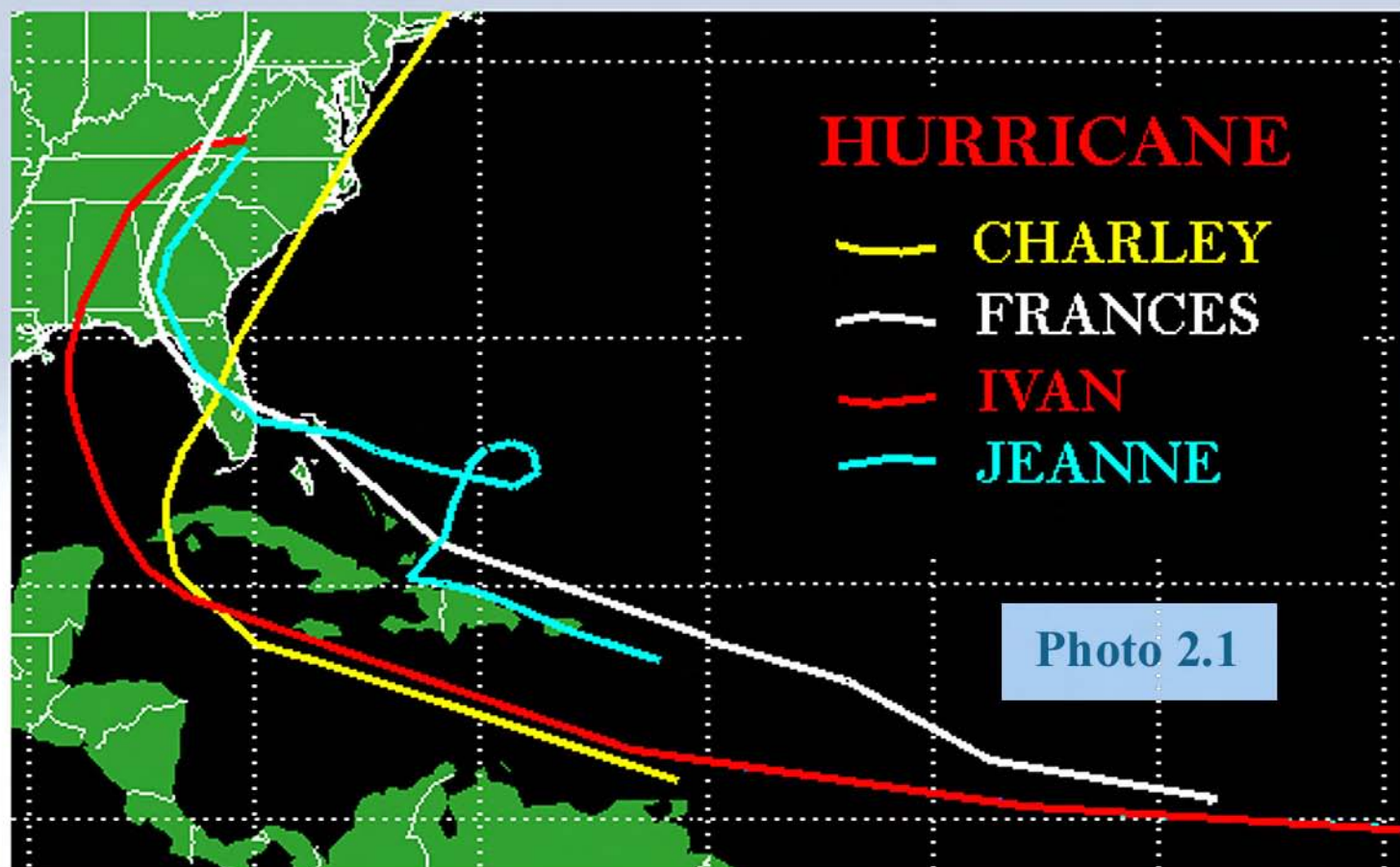


Photo 2.2

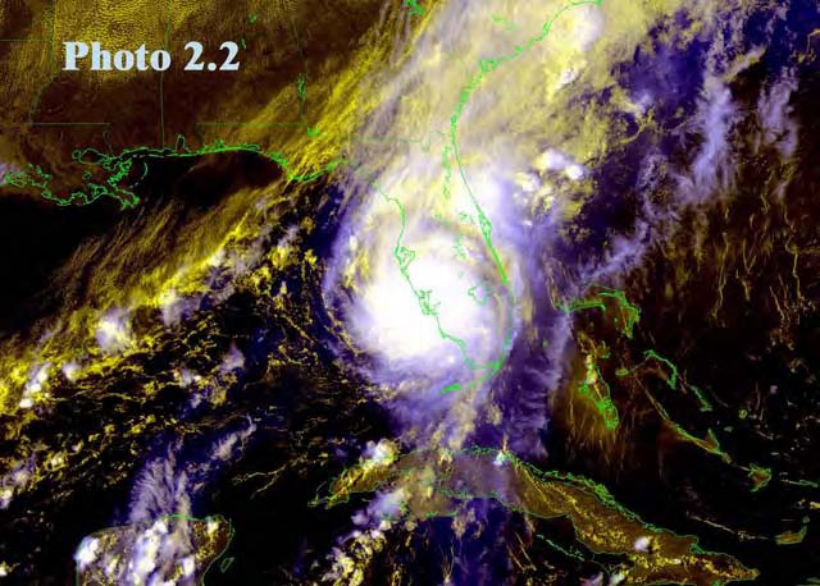


Photo 2.3



Photo 2.4





Photo 1, Needlerush (*Juncus roemarianus*), kilometer 12.2, west bank, first occurrence - 2004.



Photo 2, Leather fern (*Acrostichum danaeifolium*) at kilometer 12.2, west bank first occurrence - 2004.



Photo 3, Softstem bulrush (*Scirpus validus*) first occurrence, kilometer 11.8, west bank - 2004.



Photo 4, Softstem bulrush (*Scirpus validus*) and cattail (*Typha domingensis*) association at kilometer 15.0, west bank, first occurrence - 2004.



Photo 5, Cabbage palm (*Sabal palmetto*) at kilometer 16.8, west bank, first occurrence - 2004.



Photo 6, Sand cordgrass (*Spartina bakeri*) at kilometer 17.3, west bank, first occurrence - 2004.



Photo 7, Sawgrass (*Cladium jamaicense*) at kilometer 17.0, west bank, first occurrence - 2004.



Photo 8, Live oak (*Quercus virginiana*) and Saw Palmetto (*Serenoa repens*) at kilometer 18.5, east bank, first occurrence-2004



Photo 9, Wax myrtle (*Myrica cerifera*) at kilometer 18.5, east bank,
first occurrence-2004



Photo 10, Sand cordgrass (*Spartina bakeri*) at kilometer 20.2, west bank, last occurrence - 2004.



Photo 11, Pond apple (*Annona glabra*) at kilometer 18.5, west bank, first occurrence - 2004.



Photo 12, Cypress (*Taxodium distichum*) at kilometer 22.1, east bank, first occurrence - 2004.



Photo 13, Taro (*Colocassia esculenta*) at kilometer 24.1, east bank, first occurrence - 2004.



Photo 14, Red Mangrove (*Rhizophora mangle*) at kilometer 22.4, east bank last occurrence - 2004.



Photo 15, White mangrove (*Laguncularia racemosa*) at kilometer 21.3, east bank last occurrence - 2004.



Photo 16, Black rush (*Juncus roemarianus*) at kilometer 24.1, east bank, last occurrence - 2004.



Photo 17, Red maple (*Acer rubrum*) at kilometer 22.1, east bank, first occurrence - 2004.



Photo 18, Laurel Oak (*Quercus laurifolia*), east bank, at kilometer 22.2, first occurrence- 2004.



Photo 19, Brazilian pepper (*Schinus terebinthifolius*) at kilometer 29.5, east bank, last occurrence - 2004.



Photo 20, Swamp bay (*Persea palustris*) at kilometer 21.8, east bank, first occurrence - 2004.



Photo 21, Pond apple (*Annona glabra*) at kilometer 28.1, west bank, last occurrence - 2004.



Photo 22, Sawgrass (*Cladium jamaicense*) at kilometer 26.0, west bank, last occurrence - 2004.



Photo 23, Elderberry (*Sambucus canadensis*) at kilometer 24.1, east bank, first occurrence - 2004.



Photo 24, American elm (*Ulmus americana*) at kilometer 26.6, west bank, first occurrence - 2004.



Photo 25, Leather fern (*Acrostichum danaeifolium*) at kilometer 30.5, west bank, extends past bridge last occurrence - 2004.



Photo 26, Cattail/Softstem bulrush (*Typha domingensis*/*Scirpus validus*)
at kilometer 29.3, east bank, last occurrence - 2004.



Photo 27, Popash (*Fraxinus caroliniana*) at kilometer 25.5, east bank, first occurrence - 2004.



Photo 28, Saw palmetto (*Serenoa repens*) at kilometer 26.7, west bank, last occurrence - 2004.



Photo 29, Cabbage palm (*Sabal palmetto*) at kilometer 30.4, west bank, extends past bridge last occurrence - 2004.



Photo 30, Water hickory (*Carya aquatica*) at kilometer 24.2, east bank, first occurrence - 2004.



Photo 31, Transition Site I - Upstream Belt Transects - Midline 2004.



Photo 32, Transition Site I - Line Transect 2004.



Photo 33, Transition Site I - Downstream Belt Transects - Midline 2004.



Photo 34, Transition Site II - Upstream Belt Transects - Midline 2004.



Photo 35, Transition Site II - Line Transect 2004.



Photo 36, Transition Site II - Downstream Belt Transects - Midline 2004.



Photo 37, Transition Site III - Upstream Belt Transects - Midline 2004.



Photo 38, Transition Site III - Line Transect 2004.



Photo 39, Transition Site III - Downstream Belt Transects - Midline 2004.

SAS Data Sets

Data Set Name	Time Period	Brief Description
HBMP SAS Data Sets		
Flwd04.sd2	1931-2004	Historic daily flow data for: Peace at Arcadia; Horse Creek near Arcadia; Joshua Creek near Nocatee; and Shell Creek near Punta Gorda. Historic daily Peace River Facility withdrawals. All values in cfs.
Cmov8304.sd2	1983-2004	Water quality, and phytoplankton biomass and uptake measurements from monthly surface samples collected at each of the four moving isohalines. Relative locations reflect distances from the river mouth in kilometers.
Hymov04.sd2	1983-2004	Monthly hydrolab <i>in situ</i> water quality measurements taken at 0.5 meter intervals at each of the four moving isohalines. Relative locations reflect distances from the river mouth in kilometers.
Hyfix04.sd2	1996-2004	Monthly <i>in situ</i> hydrolab water column profile data taken at 0.5 meter intervals from fixed sample locations from near the river's mouth to just upstream of the Treatment Facility.
Cfix9604.sd2	1996-2004	Monthly surface and bottom chemical water quality samples taken at five intervals from fixed sample locations from near the river's mouth to just upstream of the Treatment Facility.
Efix9604.sd2	1996-2004	Water column extinction coefficients collected at the fixed sampling locations.
Boca04.sd2	1996-2003	Water level at 15-minute intervals from the continuous recording gage near Boca Grande.
Ph04.sd2	1996-2004	Water Level, and surface and bottom conductivity and temperature at 15-minute intervals from the continuous recording gage on the Peace River near Harbor Heights (River Kilometer 15.5).
pr04.sd2	1997-2004	Water Level, and surface and bottom conductivity and temperature at 15-minute intervals from the continuous recording gage on the Peace River near Peace River Heights (River Kilometer 26.7).
Environmental Quality Laboratory Background Data Sets		
SAS Version 6.0.8 Data Sets		
Chall_2.sd2	1976-1990	EQL Charlotte Harbor background water chemistry data.
Hydroall.sd2	1976-1990	EQL Charlotte Harbor hydrolab water column profile data.
SAS Version 6.1.3 Data Sets		
Chem_v12.sd2	1976-1990	EQL Charlotte Harbor background water chemistry data.
Hall_v12.sd2	1976-1990	EQL Charlotte Harbor hydrolab water column profile data.

Data Set Name	FLWD04.sas7bdat	Observations	26939
Member Type	DATA	Variables	16
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Last Modified	Friday, April 08, 2005 11:29:04 AM	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	WINDOWS_32		
Encoding	wlatin1 Western (Windows)		

Engine/Host Dependent Information	
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Number of Data Set Pages	284
First Data Page	1
Max Obs per Page	95
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Number of Data Set Repairs	0
Release Created	9.0101M3
Host Created	XP_PRO

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Label
11	BARTOW	Num	8		Peace at Bartow flow (cfs)
16	BIGS	Num	8		Big Slough at North Port flow (cfs)
10	DATE	Num	8	MMDDYY8.	
8	DAY	Num	8		
12	FTMEADE	Num	8		Peace at Ft Meade flow (cfs)
1	HORSE	Num	8		Horse Flow (cfs)
3	JOSHUA	Num	8		Joshua Flow (cfs)
7	MONTH	Num	8		
15	MYAKKA	Num	8		Myakka near Sarasota flow (cfs)
2	PEACE	Num	8		Peace Flow (cfs)
14	PRAIRIE	Num	8		Prairie Creek flow (cfs)
9	SASDATE	Num	8		
4	SHELL	Num	8		Shell Flow (cfs)
5	WITH	Num	8	8.2	Withdrawal (cfs)
6	YEAR	Num	8		
13	ZOLFO	Num	8		Peace at Zolfo flow (cfs)

Data Set Name	CMOV8304.sas7bdat	Observations	1096
Member Type	DATA	Variables	56
Engine	V9	Indexes	0
Created	Friday, April 08, 2005 11:29:04 AM	Observation Length	448
Last Modified	Friday, April 08, 2005 11:29:04 AM	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	WINDOWS_32		
Encoding	wlatin1 Western (Windows)		

Engine/Host Dependent Information

Data Set Page Size	16384
Number of Data Set Pages	31
First Data Page	1
Max Obs per Page	36
Obs in First Data Page	19
Number of Data Set Repairs	0
Release Created	9.0101M3
Host Created	XP_PRO

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Label
47	ALK	Num	8		Alkalinity (mg/l)
24	CF1	Num	8	8.1	Chlorophyll a >20 um Fraction (mg/m3)
25	CF2	Num	8	8.1	Chlorophyll a 20><5 um Fraction (mg/m3)
26	CF3	Num	8	8.1	Chlorophyll a 5> um Fraction (mg/m3)
27	CF4	Num	8	8.1	% Chlorophyll a >20 um Size Fraction
28	CF5	Num	8	8.1	% Chlorophyll a 20><5 um Size Fraction
29	CF6	Num	8	8.1	% Chlorophyll a 5> um Size Fraction
15	CHLA	Num	8	8.1	Chlorophyll-a (ug/l)
54	CHLB	Num	8		Chlorophyll b (mg/m3)
55	CHLC	Num	8		Chlorophyll c (mg/m3)
44	CL	Num	8	8.1	Chloride (mg/l)
7	COLOR	Num	8	8.	Color (CPU)
45	DATE	Num	8	DATE8.	Date
5	DAY	Num	8	8.	Day
4	DIS	Num	8	8.1	Distance (km)
42	DOC	Num	8	8.2	Dissolved Organic Carbon (mg/l)
50	DOP	Num	8		Dissolved Orthophosphate (mg/L)
14	EXC	Num	8	8.2	Light Extinction Coefficient
18	F1	Num	8	8.2	Uptake >20 um Fraction (mg Carbon/m3/E)
19	F2	Num	8	8.2	Uptake 20><5 um Fract. (mg Carbon/m3/E)
20	F3	Num	8	8.2	Uptake 5> um Fraction (mg Carbon/m3/E)
21	F4	Num	8	8.1	% Carbon Uptake >20 um Size Fraction
22	F5	Num	8	8.1	% Carbon Uptake 20><5 um Size Fraction
23	F6	Num	8	8.1	% Carbon Uptake 5> um Size Fraction
32	IOC	Num	8	8.2	Inorganic Carbon (mg/l)
43	IRON	Num	8	8.2	Iron (mg/l)
6	LIGHT	Num	8	8.1	Light Same Day (Einsteins)
2	MONTH	Num	8	8.	Month
9	N23	Num	8	8.3	Nitrite/Nitrate (mg/l)
56	NH3	Num	8	8.3	Ammonia/Ammonium (mg/l)
8	NH34	Num	8	8.3	Ammonia/Ammonium (mg/l)
11	NP	Num	8	8.1	Available N/P Ratio
33	NPA	Num	8	8.1	Available N/P Atomic Ratio
35	ONIT	Num	8	8.2	TKN - NH4 (mg/l)
10	OP	Num	8	8.3	Orthophosphorus (mg/l)
37	OPD01	Num	8	8.2	Depth 1% of Surface Light Remains (m)
38	OPD10	Num	8	8.2	Depth 10% of Surface Light Remains (m)
39	OPD50	Num	8	8.2	Depth 50% of Surface Light Remains (m)

Data Set Name CMOV8304.sas7bdat (continued)

17	P2	Num	8	8.2	Carbon Uptake (mg Carbon/m3/hr)
16	P3	Num	8	8.2	Carbon Uptake (mg Carbon/m3/E)
46	SASDATE	Num	8		SAS Date
13	SI	Num	8	8.2	Silica (mg/l)
51	SOURCE	Char	3		
3	STATION	Num	8	8.	Sample Location
30	TKN	Num	8	8.2	Total Kjeldahl Nitrogen (mg/l)
36	TN	Num	8	8.2	TKN + N23 (mg/l)
12	TNTP	Num	8	8.1	Total N/P Ratio
34	TNTPA	Num	8	8.1	Total N/P Atomic Ratio
41	TOC	Num	8	8.2	Total Organic Carbon (mg/l)
31	TP	Num	8	8.3	Total Phosphorus (mg/l)
48	TSS	Num	8		Total Suspended Solids (mg/l)
40	TURB	Num	8	8.2	Turbidity
52	TYPE	Char	6		
49	VSS	Num	8		Volatile Suspended Solids (mg/L)
1	YEAR	Num	8	8.	Year
53	time	Num	8	TIME5.	

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Member Type	DATA	Variables	17
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Data Set Type		Sorted	NO
Label			
Data Representation	WINDOWS_32		
Encoding	wlatin1 Western (Windows)		

Engine/Host Dependent Information

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First Data Page	1
Max Obs per Page	90
Obs in First Data Page	69
Number of Data Set Repairs	0
Release Created	9.0101M3
Host Created	XP_PRO

Alphabetic List of Variables and Attributes

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7	COND	Num	8	8.1	Conductivity
12	DATE	Num	8	DATE7.	DayMonthYear
3	DAY	Num	8	4.	Day
4	DEPTH	Num	8	4.1	Sample Depth (m)
13	DIS	Num	8	8.1	Distance (km)
6	DO	Num	8	8.1	Dissolved Oxygen (mg/l)
2	MONTH	Num	8	8.	Month
9	ORP	Num	8	5.	Oxidation Reduction Potential
8	PH	Num	8	8.1	pH
10	SAL	Num	8	8.1	Salinity (ppt)
11	SASDATE	Num	8	6.	SAS Date
14	SOURCE	Char	4		Data Source
16	STATION	Num	8	6.	
5	TEMP	Num	8	8.1	Temperature (C)
15	TYPE	Char	6		Moving or Fixed
1	YEAR	Num	8	8.	Year
17	time	Num	8	TIME5.	

Data Set Name	HYFIX04.sas7bdat	Observations	12598
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Engine	V9	Indexes	0
Created	Friday, April 08, 2005 11:29:04 AM	Observation Length	128
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Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
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Encoding	wlatin1 Western (Windows)		

Engine/Host Dependent Information	
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First Data Page	1
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Obs in First Data Page	74
Number of Data Set Repairs	0
Release Created	9.0101M3
Host Created	XP_PRO

Alphabetic List of Variables and Attributes					
#	Variable	Type	Len	Format	Label
12	COND	Num	8	8.	Specific Conductance (us/cm)
6	DATE	Num	8	DATE7.	Date
10	DAY	Num	8		Day
5	DEPTH	Num	8	8.1	Sampling Depth (m)
4	DIS	Num	8		River Kilometer of Site Location
13	DO	Num	8	8.2	Dissolved Oxygen (mg/L)
9	MONTH	Num	8	8.	Month
14	PH	Num	8	8.2	pH Water Whole Field (std.units)
16	SAL	Num	8	8.1	Salinity (ppt)
3	SASDATE	Num	8		SAS Date
1	SOURCE	Char	4		Collected By
15	STATION	Num	8	6.	
11	TEMP	Num	8	8.1	Temperature (C)
7	TIME	Num	8	TIME5.	Time
2	TYPE	Char	5		Moving or Fixed
8	YEAR	Num	8	8.	Year

Data Set Name	CFIX9604.sas7bdat	Observations	1008
Member Type	DATA	Variables	40
Engine	V9	Indexes	0
Created	Friday, April 08, 2005 11:29:04 AM	Observation Length	312
Last Modified	Friday, April 08, 2005 11:29:04 AM	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	WINDOWS_32		
Encoding	wlatin1 Western (Windows)		

Engine/Host Dependent Information

Data Set Page Size	16384
Number of Data Set Pages	20
First Data Page	1
Max Obs per Page	52
Obs in First Data Page	34
Number of Data Set Repairs	0
Release Created	9.0101M3
Host Created	XP_PRO

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Label
23	ALK	Num	8		Alkalinity Lab (mg/L as CAC03)
33	CF1	Num	8		> 20 um Size Fraction
34	CF2	Num	8		20> <5 um Size Fraction
35	CF3	Num	8		> 5 um Size Fraction
32	CHLA	Num	8 8.2		Chlorophyll a (ug/L)
39	CHLB	Num	8 8.2		Chlorophyll b (mg/m3)
40	CHLC	Num	8 8.2		Chlorophyll c (mg/m3)
19	CL	Num	8		Chloride Dissolved (mg/l as Cl)
11	COLOR	Num	8		Color (Platinum-cobalt units)
1	DATE	Num	8	DATE7.	Date
4	DAY	Num	8		Day
9	DEP	Char	3	\$3.	Surface or Bottom Sample
6	DIS	Num	8		Distance from Mouth of River
17	DOC	Num	8		Carbon, Organic dissolved (mg/l as C)
25	DOP	Num	8		Dissolved Orthophosphate (mg/L)
18	IOC	Num	8		Carbon, Inorganic Total (mg/l as C)
36	IRON	Num	8		Iron (mg/L)
3	MONTH	Num	8		Month
15	N23	Num	8		Nitrogen, NO2+NO3 Total (mg/l as N)
37	NH34	Num	8		Ammonia/Ammonium (mg/l)
26	NP	Num	8 8.1		Ration of Availiable Nitrogen to Phosphorus
28	NPA	Num	8 8.1		Atomic Ration of Availiable Nitrogen to Phosphorus
30	ONIT	Num	8		Organic Nitrogen (mg/L)
22	OP	Num	8		Phosphorus Ortho Total (mg/l as P)
5	SASDATE	Num	8		SAS Date
20	SI	Num	8		Silica, Dissolved (mg/l as SI02)
7	SOURCE	Char	4		Collected By
24	STATION	Num	8		Station Number
14	TKN	Num	8		Nitrogen, Total Kjeldahl (mg/l as N)
31	TN	Num	8		Total Nitrogen (mg/L)
27	TNTP	Num	8 8.1		Ration of Total Nitrogen to Phosphorus
29	TNTPA	Num	8 8.1		Atomic Ration of Total Nitrogen to Phosphorus
16	TOC	Num	8		Carbon, Organic Total (mg/l as C)
21	TP	Num	8		Phosphorus, Phosphorus Total (mg/l as P)
13	TSS	Num	8		Residue Volatile, suspended (mg/l)
10	TURB	Num	8		Turbidity (NTU)
8	TYPE	Char	5		Moving or Fixed
12	VSS	Num	8		Residue Total at 105 degC susp (mg/l)
2	YEAR	Num	8		Year
38	time	Num	8	TIME5.	

Data Set Name EFIX9604.sas7bdat

Member Type	DATA	Observations	1040
Engine	V9	Variables	13
Created	Friday, April 08, 2005 11:29:04 AM	Indexes	0
		Observation Length	96
Last Modified	Friday, April 08, 2005 11:29:04 AM	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	WINDOWS_32		
Encoding	wlatin1 Western (Windows)		

Engine/Host Dependent Information

Data Set Page Size	8192
Number of Data Set Pages	13
First Data Page	1
Max Obs per Page	84
Obs in First Data Page	60
Number of Data Set Repairs	0
Release Created	9.0101M3
Host Created	XP_PRO

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Label
9	DATE	Num	8	DATE8.	Sampling Date
2	DAY	Num	8		Day
12	DIS	Num	8		River Kilometer
5	EXC	Num	8		Extinction Coefficient
1	MONTH	Num	8		Month
6	OPD01	Num	8		1% Light Depth
7	OPD10	Num	8		10% Light Depth
8	OPD50	Num	8		50% Light Depth
10	SASDATE	Num	8		
13	SOURCE	Char	3		
4	STATION	Num	8		EQL Station #
11	TYPE	Char	5		
3	YEAR	Num	8		Year

Data Set Name BOCA04.sas7bdat

Member Type	DATA	Observations	280688
Engine	V9	Variables	10
Created	Friday, April 08, 2005 11:29:05 AM	Indexes	0
		Observation Length	80
Last Modified	Friday, April 08, 2005 11:29:05 AM	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	WINDOWS_32		
Encoding	wlatin1 Western (Windows)		

Engine/Host Dependent Information

Data Set Page Size	8192
Number of Data Set Pages	2780
First Data Page	1
Max Obs per Page	101
Obs in First Data Page	76
Number of Data Set Repairs	0
Release Created	9.0101M3
Host Created	XP_PRO

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Label
2	DATE	Num	8	DATE7.	Date
7	DAY	Num	8		Day
1	GAGE	Char	15		USGS Gage Number
4	GHEIGHT	Num	8		Gage Height (feet)
6	MONTH	Num	8		Month
8	SASDATE	Num	8		SAS Date
10	SOURCE	Char	4		
3	TIME	Num	8	TIME5.	Time
9	TYPE	Char	4		
5	YEAR	Num	8		Year

Data Set Name PH04.sas7bdat

Member Type DATA
Engine V9
Created Friday, April 08,
2005 11:29:08 AM
Last Modified Friday, April 08,
2005 11:29:08 AM
Protection
Data Set Type
Label
Data Representation WINDOWS_32
Encoding wlatin1 Western (Windows)

Observations 274743
Variables 15
Indexes 0
Observation Length 112
Deleted Observations 0
Compressed NO
Sorted NO

Engine/Host Dependent Information

Data Set Page Size 12288
Number of Data Set Pages 2521
First Data Page 1
Max Obs per Page 109
Obs in First Data Page 85
Number of Data Set Repairs 0
Release Created 9.0101M3
Host Created XP_PRO

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Label
6	CONDBOT	Num	8		Bottom Conductance (uS/cm @25C)
5	CONDSURF	Num	8		Surface Conductance (uS/cm @25C)
2	DATE	Num	8	DATE7.	Date
11	DAY	Num	8		Day
15	DIS	Num	8		Distance from Mouth of River
1	GAGE	Char	8		USGS Gage Number
4	GHEIGHT	Num	8		Gage Height (feet)
10	MONTH	Num	8		Month
12	SASDATE	Num	8		SAS Date
13	SOURCE	Char	4		Collected By
8	TEMPBOT	Num	8		Bottom Temperature (degrees C)
7	TEMPSURF	Num	8		Surface Temperature (degrees C)
3	TIME	Num	8	TIME5.	Time
14	TYPE	Char	4		Moving, Fixed or Gage
9	YEAR	Num	8		Year

Data Set Name PR04.sas7bdat

Member Type DATA
Engine V9
Created Friday, April 08,
2005 11:29:11 AM
Last Modified Friday, April 08,
2005 11:29:11 AM
Protection
Data Set Type
Label
Data Representation WINDOWS_32
Encoding wlatin1 Western (Windows)

Observations 237574
Variables 15
Indexes 0
Observation Length 112
Deleted Observations 0
Compressed NO
Sorted NO

Engine/Host Dependent Information

Data Set Page Size 12288
Number of Data Set Pages 2180
First Data Page 1
Max Obs per Page 109
Obs in First Data Page 85
Number of Data Set Repairs 0
Release Created 9.0101M3
Host Created XP_PRO

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Label
6	CONDBOT	Num	8		Bottom Conductance (uS/cm @25C)
5	CONDSURF	Num	8		Surface Conductance (uS/cm @25C)
2	DATE	Num	8	DATE7.	Date
11	DAY	Num	8		Day
15	DIS	Num	8		Distance from Mouth of River
1	GAGE	Char	8		USGS Gage Number
4	GHEIGHT	Num	8		Gage Height (feet)
10	MONTH	Num	8		Month
12	SASDATE	Num	8		SAS Date
13	SOURCE	Char	4		Collected By
8	TEMPBOT	Num	8		Bottom Temperature (degrees C)
7	TEMPSURF	Num	8		Surface Temperature (degrees C)
3	TIME	Num	8	TIME5.	Time
14	TYPE	Char	4		Moving, Fixed or Gage
9	YEAR	Num	8		Year

Data Set Name CHALL_2.sas7bdat

Member Type	DATA	Observations	3546
Engine	V9	Variables	37
Created	Friday, April 08, 2005 11:29:14 AM	Indexes	0
		Observation Length	296
Last Modified	Friday, April 08, 2005 11:29:14 AM	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	WINDOWS_32		
Encoding	wlatin1 Western (Windows)		

Engine/Host Dependent Information

Data Set Page Size	16384
Number of Data Set Pages	65
First Data Page	1
Max Obs per Page	55
Obs in First Data Page	38
Number of Data Set Repairs	0
Release Created	9.0101M3
Host Created	XP_PRO

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Format	Label
24	ALK	Num	8	6.1	Alkalinity-CaCO3 (mg/l)
26	CA	Num	8	6.1	Calcium Hardness (mg/l)
13	CHLA	Num	8	7.1	Chlorophyll a (ug/l)
14	CL	Num	8	7.1	Chloride (mg/l)
17	COLOR	Num	8	5.	Color (CPU)
3	D	Num	8		Day
23	DAY	Num	8		Day
18	DEPTH	Num	8		
37	DO	Num	8		Dissolved Oxygen (mg/l)
19	DOC	Num	8		Dissolved Organic Carbon (mg/l)
31	F	Num	8	6.2	Fluoride (mg/l)
32	FC	Num	8	5.	Fecal Coliform Bacteria (c/100 ml)
20	FE	Num	8		Iron (mg/l)
33	FS	Num	8	5.	Fecal Strep. Bacteria (c/100 ml)
25	HARD	Num	8	5.	Hardness-CaCO3 (mg/l)
11	IOC	Num	8	7.1	Inorganic Carbon (mg/l)
2	M	Num	8		Month
27	MG	Num	8	6.1	Magnesium Hardness (mg/l)
22	MONTH	Num	8		Month
4	N23	Num	8	6.3	Nitrite/Nitrate (mg/l)
5	NH3	Num	8	6.3	Ammonia/Ammonium (mg/l)
8	OP	Num	8	6.3	Orthophosphorus (mg/l)
30	PH	Num	8		
15	SASDATE	Num	8		SAS Date
9	SI	Num	8	6.2	Silica (mg/l)
28	S04	Num	8	6.1	Sulfate (mg/l)
16	STATION	Num	8		Station Number
34	TC	Num	8	5.	Total Coliform Bacteria (c/100 ml)
36	TCOL	Num	8		Total Coliform Bacteria (c/100 ml)
29	TDS	Num	8	5.	Total Dissolved Solids (mg/l)
35	TEMP	Num	8		
6	TKN	Num	8	6.2	Total Kjeldahl Nitrogen (mg/l)
10	TOC	Num	8	7.1	Total Organic Carbon (mg/l)
7	TP	Num	8	6.2	Total Phosphorus (mg/l)
12	TURB	Num	8	4.1	turbidity (NTU)
1	Y	Num	8		Year
21	YEAR	Num	8		Year

Data Set Name	HYDROALL.sas7bdat	Observations	22515
Member Type	DATA	Variables	13
Engine	V9	Indexes	0
Created	Friday, April 08, 2005 11:29:14 AM	Observation Length	104
Last Modified	Friday, April 08, 2005 11:29:14 AM	Deleted Observations	0
Protection		Compressed	NO
Data Set Type		Sorted	NO
Label			
Data Representation	WINDOWS_32		
Encoding	wlatin1 Western (Windows)		

Engine/Host Dependent Information

Data Set Page Size	12288
Number of Data Set Pages	193
First Data Page	1
Max Obs per Page	117
Obs in First Data Page	94
Number of Data Set Repairs	0
Release Created	9.0101M3
Host Created	XP_PRO

Alphabetic List of Variables and Attributes

#	Variable	Type	Len	Label
7	COND	Num	8	Conductivity (mmho)
3	DAY	Num	8	Day
5	DEPTH	Num	8	Depth (meters)
6	DO	Num	8	Dissolved Oxygen (mg/l)
2	MONTH	Num	8	Month
9	ORP	Num	8	Oxidation Reduction Potential
8	PH	Num	8	pH
10	SAL	Num	8	Salinity o/oo
12	SASDATE	Num	8	SAS Date
11	SAT	Num	8	Percent Oxygen Saturation
4	STATION	Num	8	Station Number
13	TEMP	Num	8	Temperature (C)
1	YEAR	Num	8	Year

- Appendix A** Summary Of *In Situ* Physical Water Column Data Collected At “Moving” Isohaline Stations
- Appendix B** Complete Analysis Of Light Profiles at “Moving” Isohaline Stations
- Appendix C** Summary Of Surface Water Chemistry Data Collected In Conjunction With “Moving” Isohaline Stations
- Appendix D** Phytoplankton Taxonomy Summary Results Of Monthly Sampling
- Appendix E** Summary Of *In Situ* Physical Water Column Data Collected At “Fixed” Sampling Locations
- Appendix F** Complete Analysis of Light Profiles at “Fixed” Sampling Stations
- Appendix G** Summary Of Water Chemistry Data Collected In Conjunction With “Fixed” Isohaline Stations
- Appendix H** Gaged Freshwater Inflows To The Lower Peace River And Facility Withdrawals
- Appendix I** Mean Daily Data from the “Continuous” USGS Gages
- Gage Height – Boca Grande, Harbour Heights and Peace River Heights
 - Temperature – Harbour Heights and Peace River Heights
 - Conductivity – Harbour Heights and Peace River Heights

Appendix A

Summary Of *In Situ* Physical Water Column Data Collected At “Moving” Isohaline Stations

----- Month=January STATION=0 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	January	9	0 o/oo	20.2	0.2	19.0	5.6	7.5	499.7	0.3
2004	January	9	0 o/oo	20.2	0.5	18.9	5.5	7.5	517.4	0.3
2004	January	9	0 o/oo	20.2	1.0	18.8	5.4	7.5	536.1	0.3
2004	January	9	0 o/oo	20.2	1.5	18.8	5.4	7.4	555.3	0.3

----- Month=January STATION=6 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	January	9	6 o/oo	18.3	0.2	18.9	8.2	8.2	10576.0	6.1
2004	January	9	6 o/oo	18.3	0.5	18.5	7.3	8.1	11899.0	6.9
2004	January	9	6 o/oo	18.3	1.0	18.5	7.9	8.2	12667.0	7.3
2004	January	9	6 o/oo	18.3	1.5	18.6	8.1	8.3	12779.0	7.4
2004	January	9	6 o/oo	18.3	2.0	18.5	7.6	8.2	13636.0	8.0
2004	January	9	6 o/oo	18.3	2.5	18.4	7.6	8.2	14177.0	8.2

----- Month=January STATION=12 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	January	9	12 o/oo	13.7	0.2	19.1	9.4	8.6	20197.0	12.0
2004	January	9	12 o/oo	13.7	0.5	18.9	9.0	8.5	21519.0	12.9
2004	January	9	12 o/oo	13.7	1.0	18.6	7.9	8.3	23260.0	14.0
2004	January	9	12 o/oo	13.7	1.5	18.2	7.2	8.2	25111.0	15.5
2004	January	9	12 o/oo	13.7	2.0	18.1	7.0	8.2	26254.0	16.1
2004	January	9	12 o/oo	13.7	2.5	18.4	7.1	8.2	27071.0	16.4

----- Month=January STATION=20 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	January	9	20 o/oo	7.5	0.2	18.5	6.6	8.1	32673.0	20.2
2004	January	9	20 o/oo	7.5	0.5	18.2	6.5	8.1	33122.0	20.7
2004	January	9	20 o/oo	7.5	1.0	17.8	6.0	8.1	35483.0	22.3
2004	January	9	20 o/oo	7.5	1.5	17.6	5.9	8.0	36146.0	22.8
2004	January	9	20 o/oo	7.5	2.0	17.6	5.8	8.0	36187.0	22.9

----- Month=January STATION=#18 -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	January	9	#18	30.4	0.2	18.0	6.4	7.7	433.3	0.2
2004	January	9	#18	30.4	0.5	17.9	6.3	7.7	431.9	0.2
2004	January	9	#18	30.4	1.0	17.7	6.4	7.7	432.4	0.2
2004	January	9	#18	30.4	1.5	17.7	6.4	7.7	431.7	0.2
2004	January	9	#18	30.4	2.0	17.7	6.3	7.7	432.8	0.2
2004	January	9	#18	30.4	2.5	17.7	6.3	7.7	432.8	0.2
2004	January	9	#18	30.4	3.0	17.6	6.4	7.7	432.8	0.2
2004	January	9	#18	30.4	3.5	17.7	6.3	7.7	432.6	0.2

----- Month=February STATION=0 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	February	13	0 o/oo	15.1	0.2	22.1	7.1	7.6	495.5	0.3
2004	February	13	0 o/oo	15.1	0.5	21.9	6.9	7.6	504.7	0.3
2004	February	13	0 o/oo	15.1	1.0	21.8	6.8	7.6	507.7	0.3
2004	February	13	0 o/oo	15.1	1.5	21.8	6.8	7.6	506.5	0.3
2004	February	13	0 o/oo	15.1	2.0	21.8	6.8	7.6	509.9	0.3

----- Month=February STATION=6 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	February	13	6 o/oo	14.4	0.2	22.6	7.9	7.8	10685.0	6.0
2004	February	13	6 o/oo	14.4	0.5	22.6	7.6	7.8	13060.0	7.2
2004	February	13	6 o/oo	14.4	1.0	22.6	7.3	7.9	18969.0	11.4
2004	February	13	6 o/oo	14.4	1.5	22.7	7.3	8.0	22897.0	13.8
2004	February	13	6 o/oo	14.4	2.0	22.7	7.0	7.9	23855.0	14.4
2004	February	13	6 o/oo	14.4	2.5	22.5	5.9	7.5	27077.0	16.7

----- Month=February STATION=12 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	February	13	12 o/oo	10.2	0.2	22.6	9.3	8.3	20247.0	12.2
2004	February	13	12 o/oo	10.2	0.5	22.7	8.7	8.2	29261.0	18.1
2004	February	13	12 o/oo	10.2	1.0	22.5	7.9	8.2	33278.0	20.9
2004	February	13	12 o/oo	10.2	1.5	22.4	7.7	8.2	33470.0	21.0
2004	February	13	12 o/oo	10.2	2.0	22.3	7.5	8.1	33811.0	21.2

----- Month=February STATION=20 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	February	13	20 o/oo	6.3	0.2	22.2	9.0	8.3	32005.0	20.1
2004	February	13	20 o/oo	6.3	0.5	22.0	8.4	8.3	35918.0	22.6
2004	February	13	20 o/oo	6.3	1.0	21.3	7.4	8.1	40909.0	26.3
2004	February	13	20 o/oo	6.3	1.5	21.0	7.1	8.0	42074.0	27.1
2004	February	13	20 o/oo	6.3	2.0	20.7	7.0	8.0	43185.0	27.9
2004	February	13	20 o/oo	6.3	2.5	20.7	6.9	8.0	43218.0	27.9

----- Month=February STATION=#18 -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	February	13	#18	30.4	0.2	21.3	7.6	7.7	423.4	0.2
2004	February	13	#18	30.4	0.5	21.3	7.5	7.7	423.0	0.2
2004	February	13	#18	30.4	1.0	21.3	7.4	7.7	423.1	0.2
2004	February	13	#18	30.4	1.5	21.2	7.4	7.7	423.5	0.2
2004	February	13	#18	30.4	2.0	21.2	7.3	7.7	423.8	0.2
2004	February	13	#18	30.4	2.5	21.2	7.2	7.7	424.3	0.2
2004	February	13	#18	30.4	3.0	21.2	7.2	7.7	423.6	0.2
2004	February	13	#18	30.4	3.5	21.2	7.2	7.7	423.8	0.2

----- Month=March STATION=0 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	March	9	0 o/oo	14.6	0.2	22.7	7.5	7.5	497.5	0.3
2004	March	9	0 o/oo	14.6	0.5	22.6	7.4	7.5	499.6	0.3
2004	March	9	0 o/oo	14.6	1.0	22.6	7.4	7.5	501.5	0.3
2004	March	9	0 o/oo	14.6	1.5	22.6	7.4	7.5	509.9	0.3
2004	March	9	0 o/oo	14.6	2.0	22.6	7.3	7.5	511.6	0.3
2004	March	9	0 o/oo	14.6	2.5	22.6	7.4	7.5	512.3	0.3

----- Month=March STATION=6 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	March	9	6 o/oo	7.6	0.2	23.1	9.0	8.0	10653.0	6.0
2004	March	9	6 o/oo	7.6	0.5	22.5	8.6	7.9	14369.0	7.4
2004	March	9	6 o/oo	7.6	1.0	22.3	6.9	7.8	28676.0	17.6
2004	March	9	6 o/oo	7.6	1.5	22.3	6.2	7.8	34175.0	21.4
2004	March	9	6 o/oo	7.6	2.0	22.3	6.2	7.8	34203.0	21.5

----- Month=March STATION=12 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	March	9	12 o/oo	4.5	0.2	22.2	8.6	8.0	20876.0	12.1
2004	March	9	12 o/oo	4.5	0.5	22.1	8.3	8.0	22043.0	13.3
2004	March	9	12 o/oo	4.5	1.0	22.0	7.2	7.9	34793.0	21.7
2004	March	9	12 o/oo	4.5	1.5	22.1	6.6	7.9	41403.0	26.6
2004	March	9	12 o/oo	4.5	2.0	22.3	6.1	7.9	42331.0	27.2
2004	March	9	12 o/oo	4.5	2.5	22.3	6.1	7.9	42409.0	27.3

----- Month=March STATION=20 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	March	9	20 o/oo	0.4	0.2	21.9	7.7	8.0	32114.0	20.1
2004	March	9	20 o/oo	0.4	0.5	21.9	7.7	8.0	39620.0	24.9
2004	March	9	20 o/oo	0.4	1.0	21.8	7.5	8.0	40554.0	26.0
2004	March	9	20 o/oo	0.4	1.5	21.9	7.2	8.0	41647.0	26.8
2004	March	9	20 o/oo	0.4	2.0	21.9	7.2	8.0	41826.0	26.9
2004	March	9	20 o/oo	0.4	2.5	22.0	7.1	8.0	42307.0	27.2
2004	March	9	20 o/oo	0.4	3.0	22.3	6.5	7.9	44188.0	28.5
2004	March	9	20 o/oo	0.4	3.5	22.4	6.3	7.9	44701.0	28.9

----- Month=March STATION=#18 -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	March	9	#18	30.4	0.2	21.8	8.4	7.6	386.6	0.2
2004	March	9	#18	30.4	0.5	21.9	8.4	7.6	387.0	0.2
2004	March	9	#18	30.4	1.0	21.7	8.3	7.5	386.0	0.2
2004	March	9	#18	30.4	1.5	21.7	8.2	7.5	386.2	0.2
2004	March	9	#18	30.4	2.0	21.7	8.2	7.5	386.1	0.2
2004	March	9	#18	30.4	2.5	21.6	8.2	7.5	386.3	0.2
2004	March	9	#18	30.4	3.0	21.6	8.2	7.5	385.8	0.2
2004	March	9	#18	30.4	3.5	21.6	8.2	7.5	386.1	0.2

----- Month=April STATION=0 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	April	16	0 o/oo	31.5	0.2	23.2	10.9	7.9	496.4	0.3
2004	April	16	0 o/oo	31.5	0.5	23.1	10.8	7.9	509.9	0.3
2004	April	16	0 o/oo	31.5	1.0	21.6	10.8	7.9	508.8	0.3
2004	April	16	0 o/oo	31.5	1.5	21.3	10.9	7.9	508.2	0.3
2004	April	16	0 o/oo	31.5	2.0	21.2	10.5	7.9	509.1	0.3
2004	April	16	0 o/oo	31.5	2.5	21.1	10.4	7.8	509.4	0.3

----- Month=April STATION=6 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	April	16	6 o/oo	15.1	0.2	21.0	9.6	7.5	10056.0	6.1
2004	April	16	6 o/oo	15.1	0.5	21.0	9.6	7.5	11134.0	6.3
2004	April	16	6 o/oo	15.1	1.0	20.9	9.5	7.5	11102.0	6.3
2004	April	16	6 o/oo	15.1	1.5	20.9	9.4	7.5	11072.0	6.3

----- Month=April STATION=12 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	April	16	12 o/oo	13.3	0.2	21.1	12.2	8.1	20038.0	11.9
2004	April	16	12 o/oo	13.3	0.5	21.1	11.9	8.0	21669.0	12.6
2004	April	16	12 o/oo	13.3	1.0	21.0	11.0	8.0	24015.0	14.6
2004	April	16	12 o/oo	13.3	1.5	20.9	9.1	7.8	32885.0	20.6
2004	April	16	12 o/oo	13.3	2.0	20.8	8.9	7.8	32966.0	20.6

----- Month=April STATION=20 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	April	16	20 o/oo	7.2	0.2	20.2	10.5	8.0	32150.0	20.1
2004	April	16	20 o/oo	7.2	0.5	20.2	10.6	8.0	32312.0	20.2
2004	April	16	20 o/oo	7.2	1.0	20.3	10.4	8.0	36604.0	23.3
2004	April	16	20 o/oo	7.2	1.5	20.9	8.8	7.9	42011.0	27.0
2004	April	16	20 o/oo	7.2	2.0	21.0	8.5	7.9	42655.0	27.2
2004	April	16	20 o/oo	7.2	2.5	21.0	8.5	7.9	42340.0	27.3

----- Month=April STATION=#18 -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	April	16	#18	30.4	0.2	22.3	11.1	8.0	527.3	0.3
2004	April	16	#18	30.4	0.5	22.9	11.1	8.0	527.5	0.3
2004	April	16	#18	30.4	1.0	22.8	10.9	8.0	527.7	0.3
2004	April	16	#18	30.4	1.5	22.8	10.9	8.0	527.5	0.3
2004	April	16	#18	30.4	2.0	22.8	10.8	8.0	527.7	0.3
2004	April	16	#18	30.4	2.5	22.7	10.7	8.0	527.7	0.3
2004	April	16	#18	30.4	3.0	22.5	10.8	8.0	526.6	0.3
2004	April	16	#18	30.4	3.5	22.4	10.7	8.0	526.0	0.3

----- Month=May STATION=0 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	May	14	0 o/oo	22.0	0.2	26.7	6.0	7.6	496.2	0.3
2004	May	14	0 o/oo	22.0	0.5	26.5	5.8	7.6	496.9	0.3
2004	May	14	0 o/oo	22.0	1.0	26.4	5.8	7.6	495.6	0.3
2004	May	14	0 o/oo	22.0	1.5	26.4	5.8	7.5	521.7	0.3
2004	May	14	0 o/oo	22.0	2.0	26.4	5.8	7.5	514.4	0.3
2004	May	14	0 o/oo	22.0	2.5	26.4	5.7	7.5	522.1	0.3
2004	May	14	0 o/oo	22.0	3.0	26.3	5.7	7.5	519.9	0.3
2004	May	14	0 o/oo	22.0	3.5	26.3	5.7	7.5	526.0	0.3
2004	May	14	0 o/oo	22.0	4.0	26.3	5.6	7.5	532.5	0.3

----- Month=May STATION=6 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	May	14	6 o/oo	16.0	0.2	26.0	7.1	7.6	10820.0	6.1
2004	May	14	6 o/oo	16.0	0.5	25.9	7.2	7.6	11661.0	6.6
2004	May	14	6 o/oo	16.0	1.0	25.8	5.8	7.5	15939.0	9.8
2004	May	14	6 o/oo	16.0	1.5	26.0	4.7	7.5	26589.0	16.2
2004	May	14	6 o/oo	16.0	2.0	26.1	4.5	7.5	29005.0	17.9
2004	May	14	6 o/oo	16.0	2.5	26.1	4.5	7.5	29064.0	17.9

----- Month=May STATION=12 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	May	14	12 o/oo	11.5	0.2	25.7	6.9	7.7	20027.0	12.0
2004	May	14	12 o/oo	11.5	0.5	25.7	6.8	7.7	21303.0	12.8
2004	May	14	12 o/oo	11.5	1.0	25.6	6.2	7.7	26199.0	15.9
2004	May	14	12 o/oo	11.5	1.5	25.6	5.8	7.7	28783.0	17.7
2004	May	14	12 o/oo	11.5	2.0	25.5	5.7	7.7	28892.0	17.8

----- Month=May STATION=20 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	May	14	20 o/oo	7.6	0.2	25.2	6.6	7.9	32102.0	20.2
2004	May	14	20 o/oo	7.6	0.5	25.2	6.6	7.9	32718.0	20.5
2004	May	14	20 o/oo	7.6	1.0	25.2	6.6	7.9	33008.0	20.6
2004	May	14	20 o/oo	7.6	1.5	25.4	5.5	7.8	38803.0	24.7
2004	May	14	20 o/oo	7.6	2.0	25.4	4.8	7.8	38880.0	24.8

----- Month=May STATION=#18 -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	May	14	#18	30.4	0.2	27.0	7.1	7.7	477.5	0.2
2004	May	14	#18	30.4	0.5	27.1	6.9	7.7	477.6	0.2
2004	May	14	#18	30.4	1.0	27.0	6.8	7.7	477.3	0.2
2004	May	14	#18	30.4	1.5	26.9	6.7	7.7	474.5	0.2
2004	May	14	#18	30.4	2.0	26.8	6.7	7.7	475.6	0.2
2004	May	14	#18	30.4	2.5	26.7	6.7	7.7	477.2	0.2
2004	May	14	#18	30.4	3.0	26.7	6.6	7.7	476.8	0.2
2004	May	14	#18	30.4	3.5	26.6	6.5	7.7	476.4	0.2

----- Month=June STATION=0 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	June	9	0 o/oo	34.5	0.2	31.1	7.5	7.8	530.4	0.3
2004	June	9	0 o/oo	34.5	0.5	29.7	7.2	7.8	530.4	0.3

----- Month=June STATION=6 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	June	9	6 o/oo	21.0	0.2	28.6	5.2	7.0	10461.0	6.0
2004	June	9	6 o/oo	21.0	0.5	29.8	4.6	7.0	11373.0	6.5
2004	June	9	6 o/oo	21.0	1.0	29.8	4.5	6.9	11346.0	6.5
2004	June	9	6 o/oo	21.0	1.5	29.6	4.3	6.9	11375.0	6.5
2004	June	9	6 o/oo	21.0	2.5	29.1	3.8	6.9	11447.0	6.5
2004	June	9	6 o/oo	21.0	3.0	29.0	3.7	6.9	11457.0	6.5
2004	June	9	6 o/oo	21.0	20.0	29.3	4.1	6.9	11414.0	6.5

----- Month=June STATION=12 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	June	9	12 o/oo	17.5	0.2	29.2	9.9	7.6	20391.0	12.1
2004	June	9	12 o/oo	17.5	0.5	28.9	7.6	7.3	20841.0	12.5
2004	June	9	12 o/oo	17.5	1.0	28.6	5.8	7.2	21341.0	12.7
2004	June	9	12 o/oo	17.5	1.5	28.4	5.5	7.1	21247.0	12.7
2004	June	9	12 o/oo	17.5	2.0	28.4	5.4	7.1	21236.0	12.7

The SAS System

----- Month=June STATION=20 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	June	9	20 o/oo	15.7	0.2	28.7	6.6	7.5	32287.0	20.3
2004	June	9	20 o/oo	15.7	0.5	28.7	6.4	7.5	32672.0	20.4
2004	June	9	20 o/oo	15.7	1.0	28.6	6.1	7.5	32816.0	20.6
2004	June	9	20 o/oo	15.7	1.5	28.5	6.0	7.5	33195.0	20.8
2004	June	9	20 o/oo	15.7	2.0	28.5	5.9	7.5	33365.0	20.9
2004	June	9	20 o/oo	15.7	2.5	28.5	5.8	7.5	33451.0	21.0
2004	June	9	20 o/oo	15.7	3.0	28.6	5.4	7.5	34017.0	21.2
2004	June	9	20 o/oo	15.7	3.5	28.5	5.3	7.5	34155.0	21.4
2004	June	9	20 o/oo	15.7	4.0	28.6	5.2	7.5	34307.0	21.6

----- Month=June STATION=#18 -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	June	9	#18	30.4	0.2	29.2	6.4	7.7	597.3	0.3
2004	June	9	#18	30.4	0.5	29.2	6.1	7.7	601.8	0.3
2004	June	9	#18	30.4	1.0	28.9	6.1	7.6	610.6	0.3
2004	June	9	#18	30.4	1.5	28.6	6.1	7.6	640.3	0.3
2004	June	9	#18	30.4	2.0	28.5	6.0	7.6	643.3	0.3
2004	June	9	#18	30.4	2.5	28.5	5.8	7.6	640.2	0.3
2004	June	9	#18	30.4	3.0	28.4	5.5	7.6	639.2	0.3
2004	June	9	#18	30.4	3.5	28.4	5.6	7.6	639.9	0.3

----- Month=July STATION=0 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	July	7	0 o/oo	29.2	0.2	30.9	7.0	7.5	361.3	0.2
2004	July	7	0 o/oo	29.2	0.5	30.2	6.8	7.4	362.9	0.2
2004	July	7	0 o/oo	29.2	1.0	30.2	6.7	7.4	362.9	0.2
2004	July	7	0 o/oo	29.2	1.5	30.2	6.6	7.4	362.6	0.2
2004	July	7	0 o/oo	29.2	2.0	30.2	6.7	7.4	363.3	0.2

----- Month=July STATION=6 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	July	7	6 o/oo	14.2	0.2	31.8	6.7	7.3	10600.0	6.0
2004	July	7	6 o/oo	14.2	0.5	31.9	6.5	7.3	11381.0	6.5
2004	July	7	6 o/oo	14.2	1.0	31.9	5.9	7.3	12345.0	7.1
2004	July	7	6 o/oo	14.2	1.5	31.9	5.7	7.3	13172.0	7.5
2004	July	7	6 o/oo	14.2	2.0	30.7	5.5	7.3	14166.0	8.3

----- Month=July STATION=12 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	July	7	12 o/oo	6.7	0.2	31.0	6.9	7.7	19050.0	12.0
2004	July	7	12 o/oo	6.7	0.5	31.0	6.7	7.7	21234.0	13.8
2004	July	7	12 o/oo	6.7	1.0	30.9	6.2	7.7	30967.0	19.6
2004	July	7	12 o/oo	6.7	1.5	30.9	4.9	7.6	36472.0	22.8
2004	July	7	12 o/oo	6.7	2.0	31.2	4.4	7.6	37186.0	23.5
2004	July	7	12 o/oo	6.7	2.5	31.2	4.2	7.6	37235.0	23.6

Month=July STATION=20 o/oo

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	July	7	20 o/oo	3.3	0.2	31.8	6.0	7.7	33591.0	20.2
2004	July	7	20 o/oo	3.3	0.5	31.4	6.2	7.8	36674.0	23.2
2004	July	7	20 o/oo	3.3	1.0	30.7	5.6	7.8	39860.0	25.7
2004	July	7	20 o/oo	3.3	1.5	30.6	5.2	7.8	41663.0	26.8
2004	July	7	20 o/oo	3.3	2.0	30.6	5.1	7.8	41719.0	26.8

Month=July STATION=#18

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	July	7	#18	30.4	0.2	30.1	7.0	7.6	362.4	0.2
2004	July	7	#18	30.4	0.5	29.9	6.9	7.6	362.2	0.2
2004	July	7	#18	30.4	1.0	29.8	6.7	7.5	362.6	0.2
2004	July	7	#18	30.4	1.5	29.8	6.6	7.5	363.9	0.2
2004	July	7	#18	30.4	2.0	29.8	6.6	7.5	362.8	0.2
2004	July	7	#18	30.4	2.5	29.8	6.5	7.4	363.7	0.2
2004	July	7	#18	30.4	3.0	29.8	6.4	7.4	363.5	0.2
2004	July	7	#18	30.4	3.5	29.8	6.5	7.4	363.9	0.2

Month=August STATION=0 o/oo

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	August	12	0 o/oo	13.7	0.2	29.6	5.0	6.8	383.8	0.2
2004	August	12	0 o/oo	13.7	0.5	29.6	4.9	6.8	384.1	0.2
2004	August	12	0 o/oo	13.7	1.0	29.6	4.9	6.7	384.3	0.2
2004	August	12	0 o/oo	13.7	1.5	29.6	4.9	6.7	384.6	0.2
2004	August	12	0 o/oo	13.7	2.0	29.6	4.8	6.7	382.5	0.2
2004	August	12	0 o/oo	13.7	2.5	29.6	4.8	6.7	381.7	0.2

----- Month=August STATION=6 o/oo -----										
Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	August	12	6 o/oo	6.5	0.2	30.1	7.2	7.0	10486.0	6.0
2004	August	12	6 o/oo	6.5	0.5	30.0	7.1	7.0	10487.0	6.0
2004	August	12	6 o/oo	6.5	1.0	30.0	7.0	7.0	10486.0	6.0
2004	August	12	6 o/oo	6.5	1.5	29.9	6.9	7.0	10602.0	6.1
2004	August	12	6 o/oo	6.5	2.0	30.1	2.9	6.8	21073.0	11.9
2004	August	12	6 o/oo	6.5	2.5	30.0	1.3	6.8	24333.0	14.8
----- Month=August STATION=12 o/oo -----										
Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	August	12	12 o/oo	0.4	0.2	30.4	9.2	7.9	20252.0	12.1
2004	August	12	12 o/oo	0.4	0.5	30.4	8.9	7.9	20261.0	12.1
2004	August	12	12 o/oo	0.4	1.0	30.4	8.9	7.9	20277.0	12.1
2004	August	12	12 o/oo	0.4	1.5	30.3	8.8	7.9	20369.0	12.1
2004	August	12	12 o/oo	0.4	2.0	30.3	8.8	7.9	20528.0	12.3
2004	August	12	12 o/oo	0.4	2.5	30.3	8.8	7.9	20652.0	12.3
2004	August	12	12 o/oo	0.4	3.0	30.1	1.5	7.1	27943.0	16.7
2004	August	12	12 o/oo	0.4	3.5	29.4	0.3	7.0	37386.0	23.7
2004	August	12	12 o/oo	0.4	4.0	29.2	0.2	7.0	37418.0	23.7
2004	August	12	12 o/oo	0.4	4.5	29.2	0.2	7.0	37488.0	23.8
----- Month=August STATION=20 o/oo -----										
Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	August	12	20 o/oo	17.1	0.2	30.3	6.8	7.7	31967.0	19.9
2004	August	12	20 o/oo	17.1	0.5	30.4	6.7	7.7	31972.0	19.9
2004	August	12	20 o/oo	17.1	1.0	30.4	3.0	7.7	31980.0	19.9
2004	August	12	20 o/oo	17.1	1.5	30.3	6.5	7.7	32168.0	20.0
2004	August	12	20 o/oo	17.1	2.0	30.2	6.7	7.7	32483.0	20.3
2004	August	12	20 o/oo	17.1	2.5	30.2	6.0	7.6	32683.0	20.5
2004	August	12	20 o/oo	17.1	3.0	29.7	1.1	7.1	35580.0	22.4
2004	August	12	20 o/oo	17.1	3.5	29.4	0.3	7.1	37623.0	23.9
2004	August	12	20 o/oo	17.1	4.0	29.3	0.2	7.1	38181.0	24.4
2004	August	12	20 o/oo	17.1	4.5	29.3	0.2	7.1	38936.0	24.8

----- Month=August STATION=#18 -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	August	12	#18	30.4	0.2	28.5	5.5	6.8	241.1	0.1
2004	August	12	#18	30.4	0.5	28.4	5.2	6.7	241.8	0.1
2004	August	12	#18	30.4	1.0	28.4	5.2	6.7	242.0	0.1
2004	August	12	#18	30.4	1.5	28.4	5.2	6.7	241.6	0.1
2004	August	12	#18	30.4	2.0	28.4	5.2	6.7	241.6	0.1
2004	August	12	#18	30.4	2.5	28.4	5.1	6.7	241.9	0.1
2004	August	12	#18	30.4	3.0	28.4	5.1	6.7	241.6	0.1
2004	August	12	#18	30.4	3.5	28.4	5.0	6.7	242.0	0.1
2004	August	12	#18	30.4	4.0	28.4	5.0	6.7	242.0	0.1

----- Month=September STATION=0 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	September	8	0 o/oo	6.4	0.2	27.7	3.0	6.9	490.8	0.2
2004	September	8	0 o/oo	6.4	0.5	27.6	2.9	6.9	502.4	0.2
2004	September	8	0 o/oo	6.4	1.0	27.6	2.7	6.9	602.3	0.3
2004	September	8	0 o/oo	6.4	1.5	27.2	2.5	6.7	2438.0	1.4
2004	September	8	0 o/oo	6.4	2.0	27.2	2.8	6.8	9002.0	5.0

----- Month=September STATION=6 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	September	8	6 o/oo	2.9	0.2	28.4	5.7	7.5	10566.0	6.0
2004	September	8	6 o/oo	2.9	0.5	28.5	5.6	7.5	10580.0	6.0
2004	September	8	6 o/oo	2.9	1.0	28.3	5.7	7.5	11639.0	7.1
2004	September	8	6 o/oo	2.9	1.5	28.1	5.8	7.5	14597.0	8.4
2004	September	8	6 o/oo	2.9	2.0	27.3	5.2	7.5	17399.0	10.6
2004	September	8	6 o/oo	2.9	2.5	27.2	4.8	7.5	20233.0	12.0
2004	September	8	6 o/oo	2.9	3.0	27.3	4.3	7.5	22548.0	13.6
2004	September	8	6 o/oo	2.9	3.5	27.1	4.6	7.5	24274.0	14.7
2004	September	8	6 o/oo	2.9	4.0	27.2	4.4	7.5	24855.0	15.1

----- Month=September STATION=12 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	September	8	12 o/oo	10.2	0.2	27.9	5.7	7.6	20389.0	12.1
2004	September	8	12 o/oo	10.2	0.5	27.8	5.7	7.6	20310.0	12.1
2004	September	8	12 o/oo	10.2	1.0	27.4	5.5	7.6	20251.0	12.1
2004	September	8	12 o/oo	10.2	1.5	27.4	5.5	7.6	20193.0	12.0
2004	September	8	12 o/oo	10.2	2.0	27.1	5.4	7.6	21382.0	12.8
2004	September	8	12 o/oo	10.2	2.5	27.0	5.5	7.6	22031.0	13.2
2004	September	8	12 o/oo	10.2	3.0	27.0	5.5	7.6	22519.0	13.6
2004	September	8	12 o/oo	10.2	3.5	27.2	5.7	7.6	23350.0	14.1
2004	September	8	12 o/oo	10.2	4.0	27.4	5.3	7.6	24667.0	15.0
2004	September	8	12 o/oo	10.2	4.5	27.3	5.3	7.6	25182.0	15.3
2004	September	8	12 o/oo	10.2	5.0	27.1	4.2	7.6	30399.0	18.9
2004	September	8	12 o/oo	10.2	5.5	27.0	4.1	7.6	32352.0	20.2
2004	September	8	12 o/oo	10.2	6.0	26.9	3.8	7.5	33683.0	21.1

----- Month=September STATION=20 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	September	8	20 o/oo	29.0	0.2	27.9	6.1	7.8	32964.0	20.5
2004	September	8	20 o/oo	29.0	0.5	27.8	6.1	7.8	32784.0	20.5
2004	September	8	20 o/oo	29.0	1.0	27.4	6.0	7.8	32780.0	20.5
2004	September	8	20 o/oo	29.0	1.5	27.3	5.9	7.8	32905.0	20.6
2004	September	8	20 o/oo	29.0	2.0	27.3	5.2	7.7	35243.0	23.5
2004	September	8	20 o/oo	29.0	2.5	27.3	3.6	7.7	44844.0	29.7

----- Month=September STATION=#18 -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	September	8	#18	30.4	0.2	27.6	1.2	6.8	132.3	0.1
2004	September	8	#18	30.4	0.5	27.7	1.0	6.7	131.0	0.1
2004	September	8	#18	30.4	1.0	27.6	1.0	6.7	134.7	0.1
2004	September	8	#18	30.4	1.5	27.6	1.0	6.7	135.9	0.1
2004	September	8	#18	30.4	2.0	27.6	1.0	6.7	136.3	0.1
2004	September	8	#18	30.4	2.5	27.6	1.0	6.7	134.7	0.1
2004	September	8	#18	30.4	3.0	27.6	1.0	6.7	135.4	0.1
2004	September	8	#18	30.4	3.5	27.6	0.9	6.7	134.9	0.1
2004	September	8	#18	30.4	4.0	27.6	0.9	6.7	134.9	0.1

----- Month=October STATION=0 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	October	6	0 o/oo	10.7	0.2	29.3	2.7	6.7	482.9	0.4
2004	October	6	0 o/oo	10.7	0.5	29.1	2.6	6.7	681.2	0.4
2004	October	6	0 o/oo	10.7	1.0	29.2	2.7	6.7	876.5	0.4
2004	October	6	0 o/oo	10.7	1.5	29.2	2.5	6.6	1009.0	0.5
2004	October	6	0 o/oo	10.7	2.0	29.1	2.6	6.7	1035.0	0.4
2004	October	6	0 o/oo	10.7	2.5	29.1	2.5	6.6	1030.0	0.5
2004	October	6	0 o/oo	10.7	3.0	29.1	2.4	6.6	1307.0	0.6

----- Month=October STATION=6 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	October	6	6 o/oo	5.6	0.2	29.1	3.3	6.8	11602.0	6.1
2004	October	6	6 o/oo	5.6	0.5	29.1	3.2	6.9	13645.0	7.4
2004	October	6	6 o/oo	5.6	1.0	29.0	3.2	6.9	16665.0	9.5
2004	October	6	6 o/oo	5.6	1.5	28.8	3.5	7.1	22512.0	12.2
2004	October	6	6 o/oo	5.6	2.0	28.8	3.5	7.4	31556.0	19.7
2004	October	6	6 o/oo	5.6	2.5	28.8	3.4	7.4	31610.0	19.7

----- Month=October STATION=12 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	October	6	12 o/oo	6.7	0.2	28.8	4.0	7.2	21117.0	12.4
2004	October	6	12 o/oo	6.7	0.5	28.8	4.0	7.2	21281.0	12.9
2004	October	6	12 o/oo	6.7	1.0	28.7	3.8	7.3	23961.0	14.1
2004	October	6	12 o/oo	6.7	1.5	28.6	3.4	7.4	30357.0	17.2
2004	October	6	12 o/oo	6.7	2.0	28.5	3.3	7.4	32720.0	20.4
2004	October	6	12 o/oo	6.7	2.5	28.5	3.2	7.4	32728.0	20.5

----- Month=October STATION=20 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	October	6	20 o/oo	29.5	0.2	28.6	5.4	7.7	33331.0	20.5
2004	October	6	20 o/oo	29.5	0.5	28.6	5.0	7.7	33321.0	20.8
2004	October	6	20 o/oo	29.5	1.0	28.6	5.2	7.7	33268.0	20.8
2004	October	6	20 o/oo	29.5	1.5	28.6	4.9	7.7	33190.0	20.8
2004	October	6	20 o/oo	29.5	2.0	28.4	4.9	7.7	33263.0	20.8
2004	October	6	20 o/oo	29.5	2.5	28.3	4.8	7.7	33305.0	20.9
2004	October	6	20 o/oo	29.5	3.0	28.2	4.2	7.7	35280.0	22.6
2004	October	6	20 o/oo	29.5	3.5	28.3	2.2	7.6	41710.0	27.8
2004	October	6	20 o/oo	29.5	4.0	28.3	2.1	7.6	43226.0	27.9

----- Month=October STATION=#18 -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	October	6	#18	30.4	0.2	29.1	1.8	6.7	111.2	0.0
2004	October	6	#18	30.4	0.5	29.1	1.2	6.6	110.9	0.0
2004	October	6	#18	30.4	1.0	29.1	1.2	6.6	111.4	0.0
2004	October	6	#18	30.4	1.5	29.2	1.0	6.6	109.1	0.0

----- Month=November STATION=0 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	November	10	0 o/oo	25.5	0.2	23.4	7.0	6.4	251.9	0.1
2004	November	10	0 o/oo	25.5	0.5	23.0	6.9	6.4	252.6	0.1
2004	November	10	0 o/oo	25.5	1.0	22.9	6.7	6.4	252.6	0.1
2004	November	10	0 o/oo	25.5	1.5	22.8	6.6	6.3	252.3	0.1
2004	November	10	0 o/oo	25.5	2.0	22.7	6.6	6.3	252.7	0.1
2004	November	10	0 o/oo	25.5	2.5	22.7	6.5	6.3	251.6	0.1
2004	November	10	0 o/oo	25.5	3.0	22.6	6.1	6.3	251.8	0.1

----- Month=November STATION=6 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	November	10	6 o/oo	11.5	0.2	23.4	6.9	6.6	10462.0	6.1
2004	November	10	6 o/oo	11.5	0.5	23.4	6.7	6.6	11006.0	6.2
2004	November	10	6 o/oo	11.5	1.0	23.3	6.7	6.6	11837.0	6.7
2004	November	10	6 o/oo	11.5	1.5	23.3	6.6	6.5	12783.0	7.3
2004	November	10	6 o/oo	11.5	2.0	23.2	6.0	6.4	15794.0	9.1
2004	November	10	6 o/oo	11.5	2.5	23.1	5.8	6.3	17528.0	10.3
2004	November	10	6 o/oo	11.5	3.0	23.1	6.0	6.3	17843.0	10.5

----- Month=November STATION=12 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	November	10	12 o/oo	8.5	0.2	23.4	6.6	6.5	19981.0	11.9
2004	November	10	12 o/oo	8.5	0.5	23.4	6.5	6.5	19040.0	11.3
2004	November	10	12 o/oo	8.5	1.0	23.4	6.3	6.5	19999.0	12.0
2004	November	10	12 o/oo	8.5	1.5	23.1	5.8	6.4	20323.0	12.2
2004	November	10	12 o/oo	8.5	2.0	23.1	5.7	6.4	20063.0	12.1
2004	November	10	12 o/oo	8.5	2.5	23.2	5.6	6.3	20745.0	12.4

----- Month=November STATION=20 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	November	10	20 o/oo	2.5	0.2	23.3	5.6	6.4	32077.0	20.0
2004	November	10	20 o/oo	2.5	0.5	23.3	5.4	6.4	33027.0	20.7
2004	November	10	20 o/oo	2.5	1.0	23.3	5.3	6.4	33482.0	20.9
2004	November	10	20 o/oo	2.5	1.5	23.3	5.3	6.4	34067.0	21.4
2004	November	10	20 o/oo	2.5	2.0	23.2	5.3	6.4	34089.0	21.6

The SAS System

----- Month=November STATION=#18 -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	November	10	#18	30.4	0.2	22.7	6.8	6.4	251.3	0.1
2004	November	10	#18	30.4	0.5	22.7	6.7	6.3	251.2	0.1
2004	November	10	#18	30.4	1.0	22.7	6.6	6.2	251.5	0.1
2004	November	10	#18	30.4	1.5	22.7	6.6	6.2	251.7	0.1
2004	November	10	#18	30.4	2.0	22.7	6.7	6.2	252.1	0.1
2004	November	10	#18	30.4	2.5	22.7	6.7	6.2	252.4	0.1
2004	November	10	#18	30.4	3.0	22.7	6.6	6.2	252.4	0.1

----- Month=December STATION=0 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	December	8	0 o/oo	28.0	0.2	20.8	7.5	5.9	349.4	0.2
2004	December	8	0 o/oo	28.0	0.5	20.7	7.3	5.8	349.1	0.2
2004	December	8	0 o/oo	28.0	1.0	20.7	6.7	5.9	349.1	0.2
2004	December	8	0 o/oo	28.0	1.5	20.6	6.6	5.8	349.5	0.2
2004	December	8	0 o/oo	28.0	2.0	20.5	6.8	5.8	348.2	0.2

----- Month=December STATION=6 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	December	8	6 o/oo	14.0	0.2	24.1	8.5	6.3	20151.0	12.0
2004	December	8	6 o/oo	14.0	0.5	23.1	7.8	6.3	22214.0	13.0
2004	December	8	6 o/oo	14.0	1.0	23.1	7.8	6.3	22395.0	13.4
2004	December	8	6 o/oo	14.0	1.5	23.0	7.5	6.3	22940.0	13.8
2004	December	8	6 o/oo	14.0	2.0	23.1	7.5	6.2	22897.0	13.8
2004	December	8	6 o/oo	14.0	2.5	22.9	7.2	6.2	22998.0	13.8

----- Month=December STATION=12 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	December	8	12 o/oo	12.0	0.2	23.1	8.3	6.4	26218.0	16.0
2004	December	8	12 o/oo	12.0	0.5	23.1	7.7	6.3	26927.0	16.6
2004	December	8	12 o/oo	12.0	1.0	22.8	7.3	6.4	27235.0	16.8
2004	December	8	12 o/oo	12.0	1.5	22.8	7.2	6.4	27355.0	16.8
2004	December	8	12 o/oo	12.0	2.0	22.8	7.1	6.3	27364.0	16.8

----- Month=December STATION=20 o/oo -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	December	8	20 o/oo	8.0	0.2	23.4	8.1	6.6	32075.0	20.0
2004	December	8	20 o/oo	8.0	0.5	22.7	7.0	6.4	33177.0	20.8
2004	December	8	20 o/oo	8.0	1.0	22.6	6.9	6.4	33216.0	20.8

----- Month=December STATION=#18 -----

Year	Month	Day	STATION	Distance (km)	Sample Depth (m)	Temperature (C)	Dissolved Oxygen (mg/l)	pH	Conductivity	Salinity (ppt)
2004	December	8	#18	30.4	0.2	22.6	7.6	6.1	352.7	0.2
2004	December	8	#18	30.4	0.5	22.2	7.7	6.0	353.1	0.2
2004	December	8	#18	30.4	1.0	21.5	7.3	5.9	353.3	0.2
2004	December	8	#18	30.4	1.5	20.8	6.9	5.8	352.4	0.2
2004	December	8	#18	30.4	2.0	20.6	7.0	5.8	353.1	0.2
2004	December	8	#18	30.4	2.5	20.5	6.5	5.8	353.6	0.2
2004	December	8	#18	30.4	3.0	20.4	6.6	5.8	353.9	0.2

Appendix B

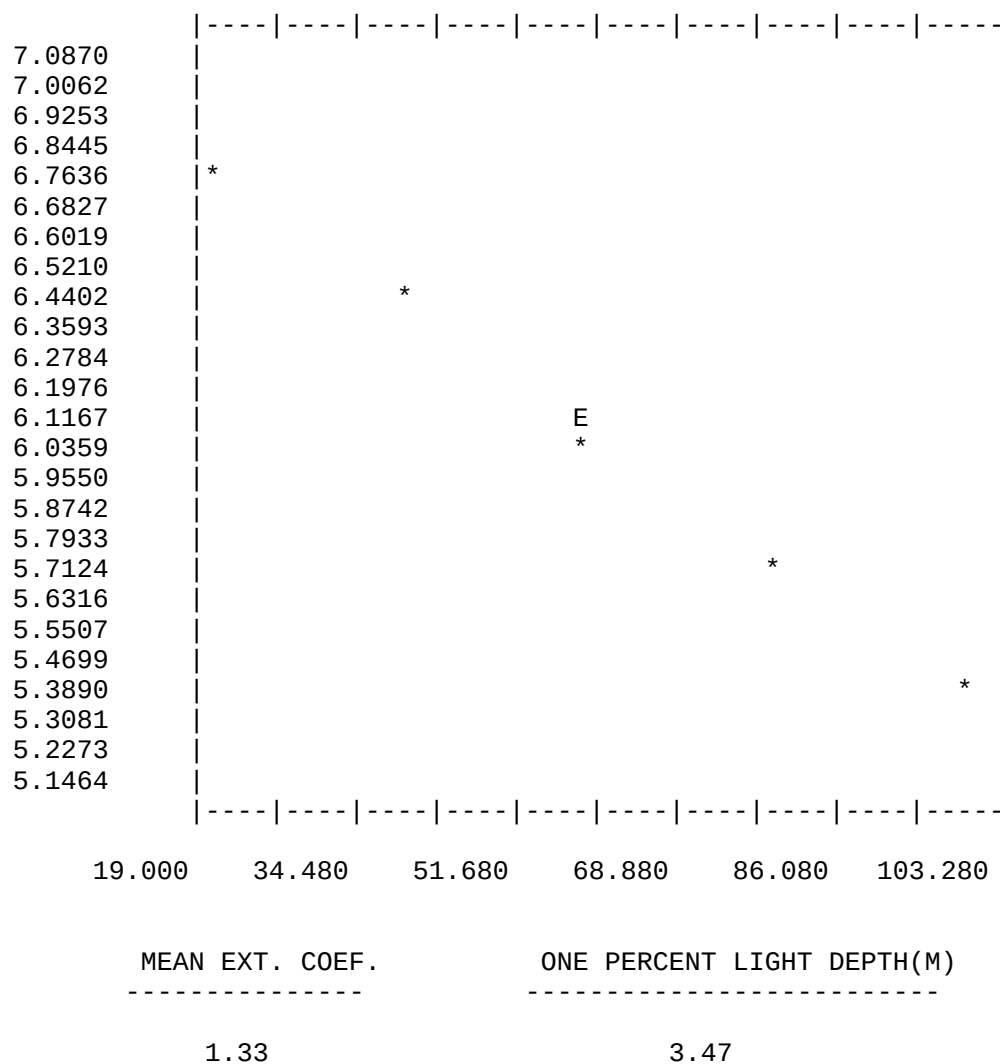
Complete Analysis Of Light Profiles At “Moving” Ishohaline Stations

LIGHT PROFILE ANALYSES - FOR 1/ 9/2004

ISOHALINE - 20 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.10390	-0.01772	0.99844	0.99688
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	851.	6.74759	6.74955
2	40.	620.	6.43133	6.39521
3	60.	402.	5.99894	6.04086
4	80.	289.	5.66988	5.68652
5	100.	211.	5.35659	5.33217

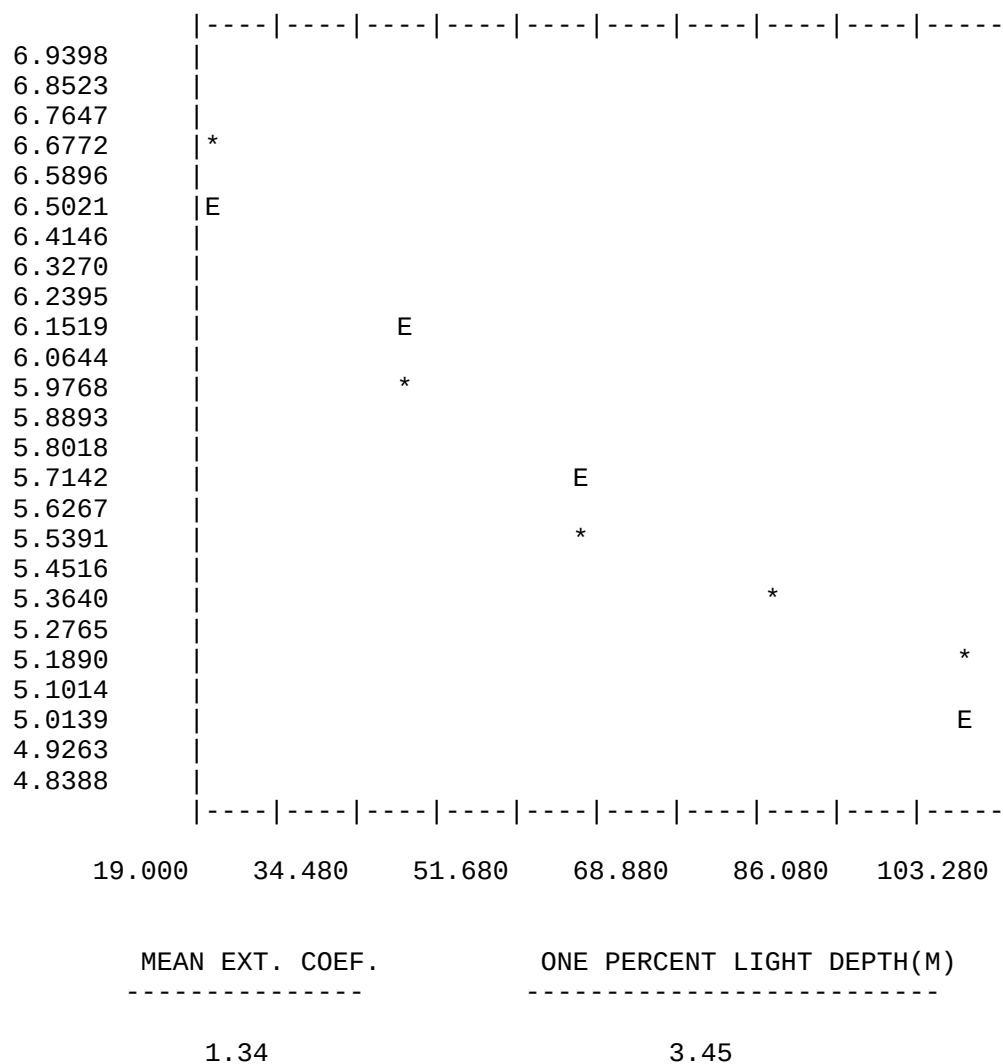


LIGHT PROFILE ANALYSES - FOR 1/ 9/2004

ISOHALINE - 12 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.78314	-0.01782	0.96239	0.92620
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	741.	6.60935	6.42677
2	40.	387.	5.96101	6.07040
3	60.	250.	5.52545	5.71404
4	80.	206.	5.33272	5.35767
5	100.	170.	5.14166	5.00131

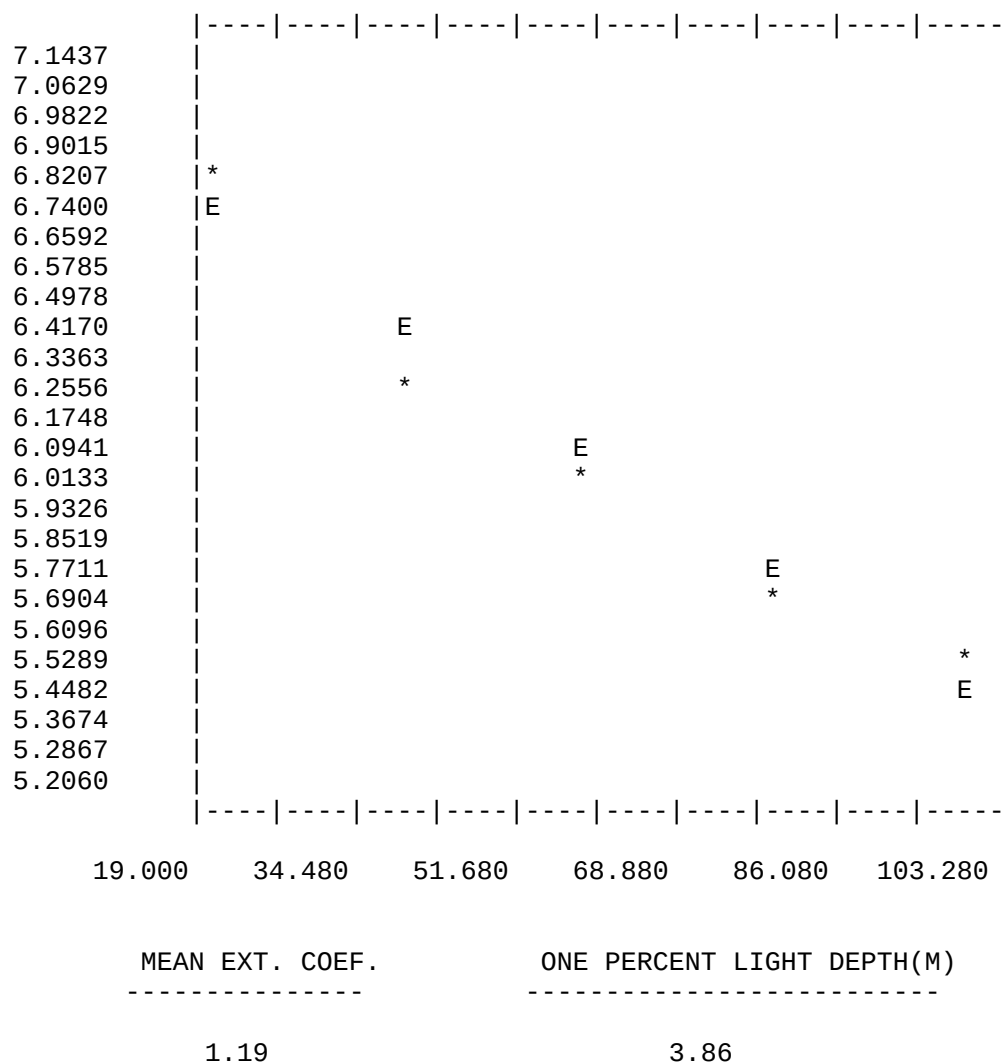


LIGHT PROFILE ANALYSES - FOR 1/ 9/2004

ISOHALINE - 6 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.98715	-0.01592	0.97702	0.95456
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	900.	6.80351	6.66871
2	40.	513.	6.24222	6.35027
3	60.	378.	5.93754	6.03184
4	80.	294.	5.68698	5.71340
5	100.	241.	5.48894	5.39496

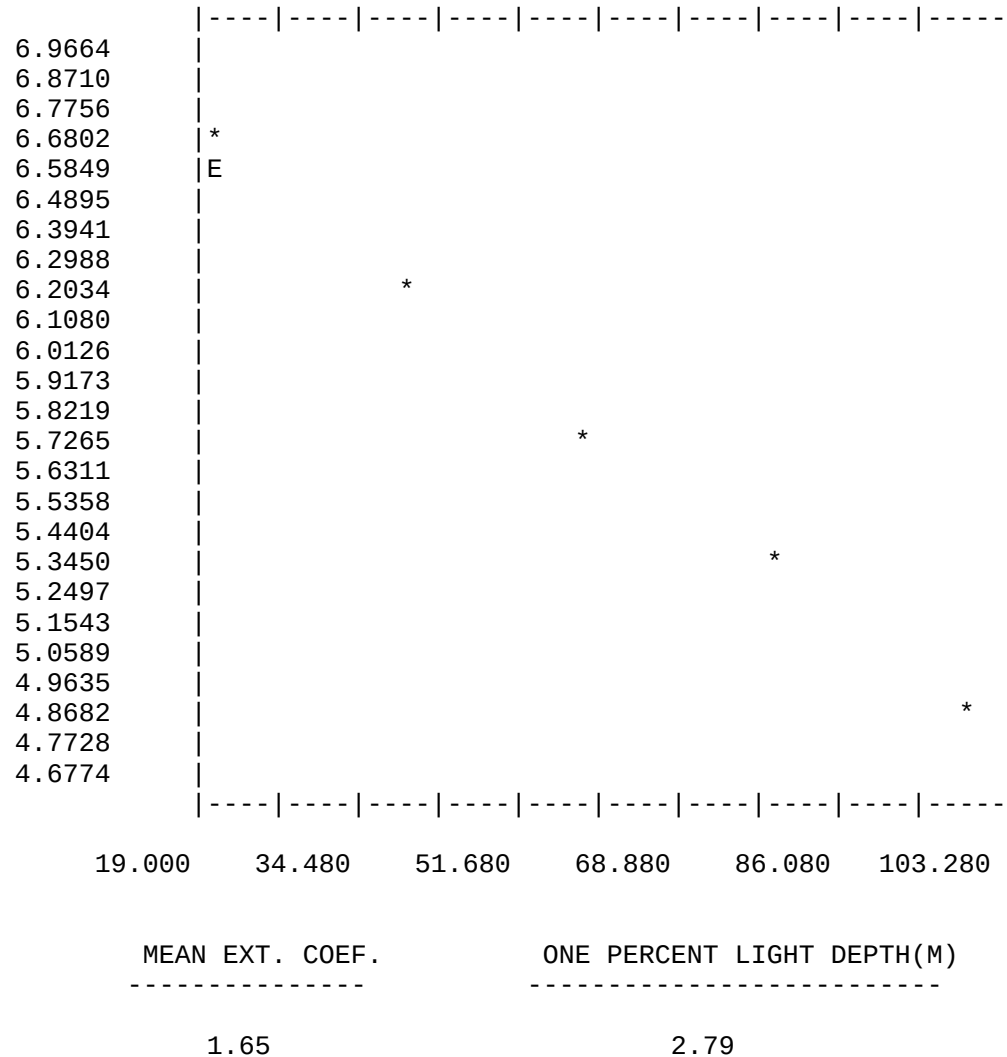


LIGHT PROFILE ANALYSES - FOR 1/ 9/2004

ISOHALINE - 0 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
7.02360		-0.02200	0.99774	0.99549
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	760.	6.63463	6.58352
2	40.	451.	6.11368	6.14344
3	60.	280.	5.63835	5.70336
4	80.	195.	5.27811	5.26329
5	100.	127.	4.85203	4.82321

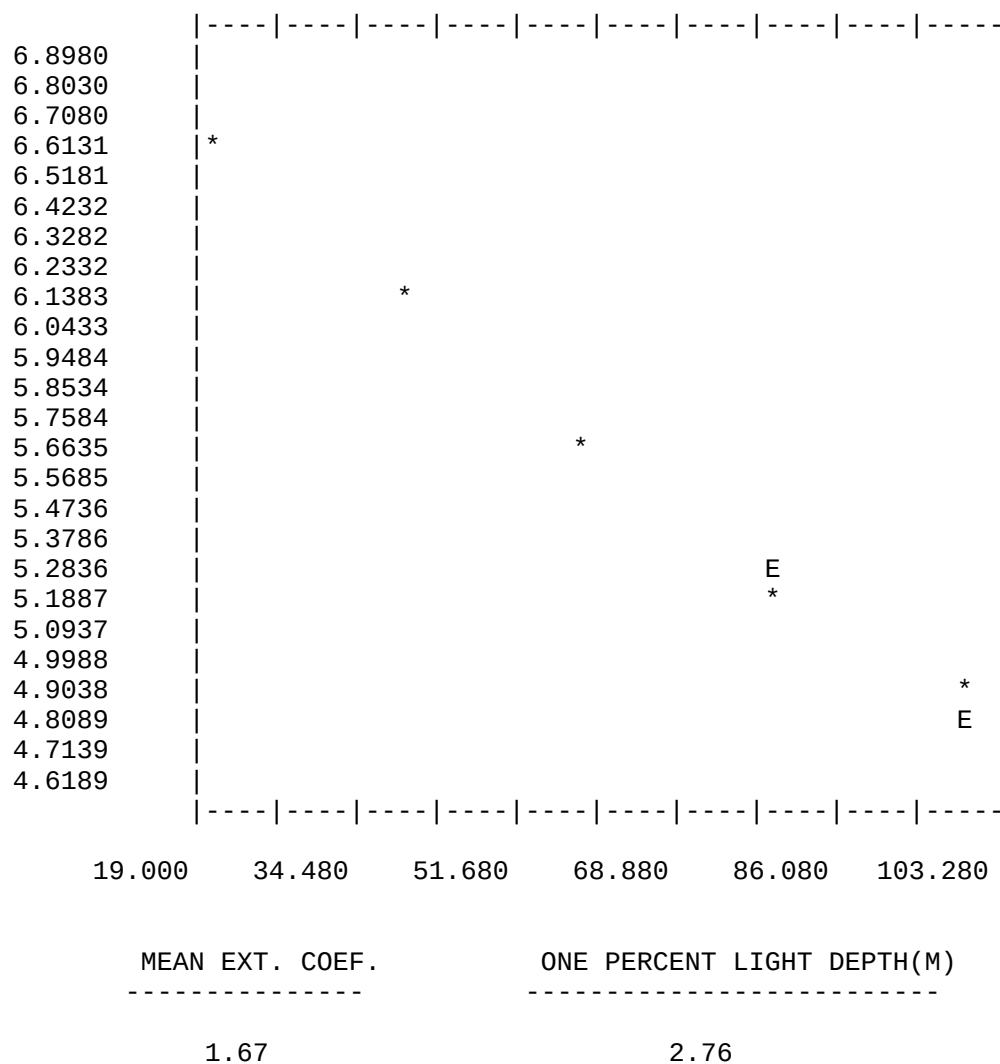


LIGHT PROFILE ANALYSES - FOR 1/ 9/2004

LOCATION STATION - 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.98532		-0.02223	0.99763	0.99528
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	712.	6.56948	6.54067
2	40.	451.	6.11368	6.09602
3	60.	264.	5.57973	5.65137
4	80.	177.	5.18178	5.20672
5	100.	122.	4.81218	4.76207

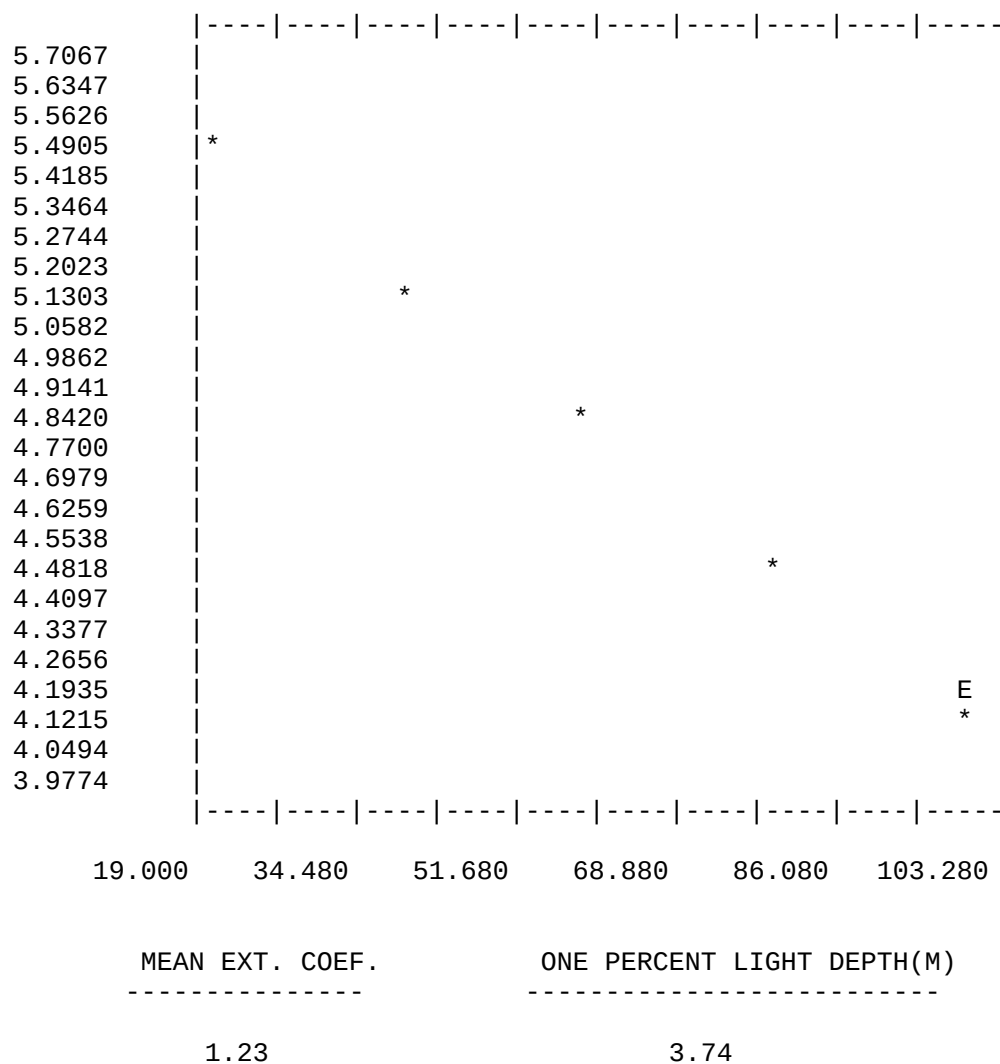


LIGHT PROFILE ANALYSES - FOR 2/13/2004

ISOHALINE - 20 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.76322	-0.01641	0.99930	0.99859
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	225.	5.42054	5.43496
2	40.	164.	5.10595	5.10670
3	60.	122.	4.81218	4.77844
4	80.	84.	4.44265	4.45018
5	100.	60.	4.11087	4.12191

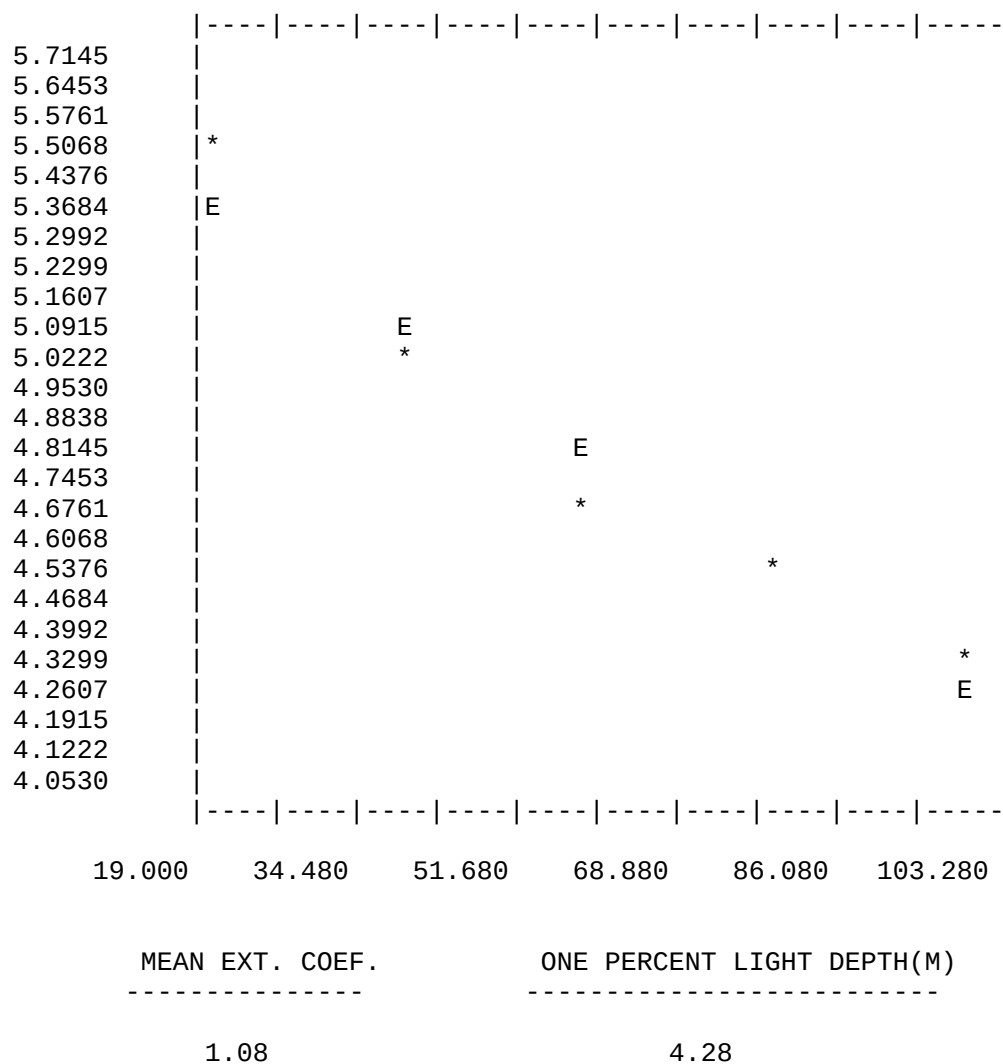


LIGHT PROFILE ANALYSES - FOR 2/13/2004

ISOHALINE - 12 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.62917	-0.01436	0.97727	0.95506
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	230.	5.44242	5.34202
2	40.	150.	5.01728	5.05488
3	60.	101.	4.62497	4.76774
4	80.	87.	4.47734	4.48059
5	100.	71.	4.27667	4.19345

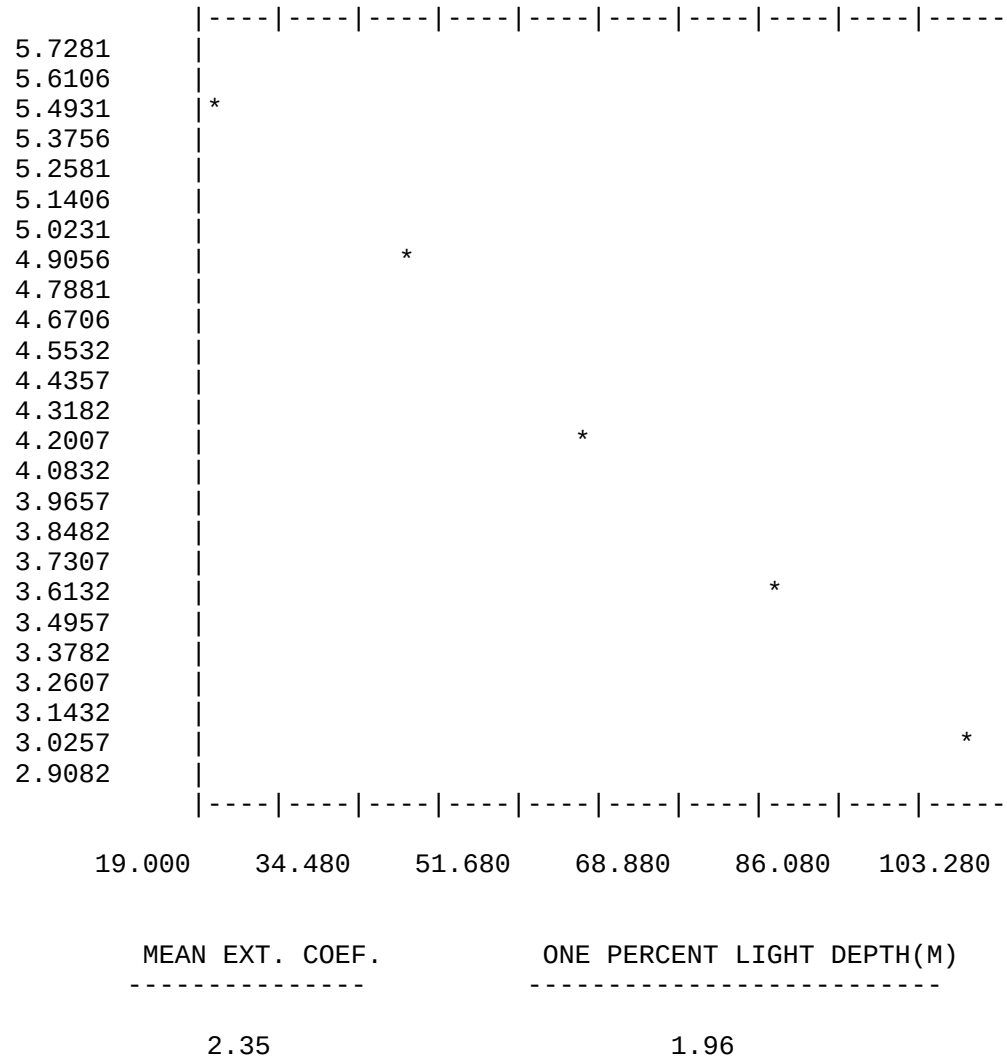


LIGHT PROFILE ANALYSES - FOR 2/13/2004

ISOHALINE - 6 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.07091		-0.03133	0.99962	0.99925
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	233.	5.45532	5.44426
2	40.	124.	4.82831	4.81760
3	60.	62.	4.14313	4.19095
4	80.	35.	3.58352	3.56429
5	100.	18.	2.94444	2.93763

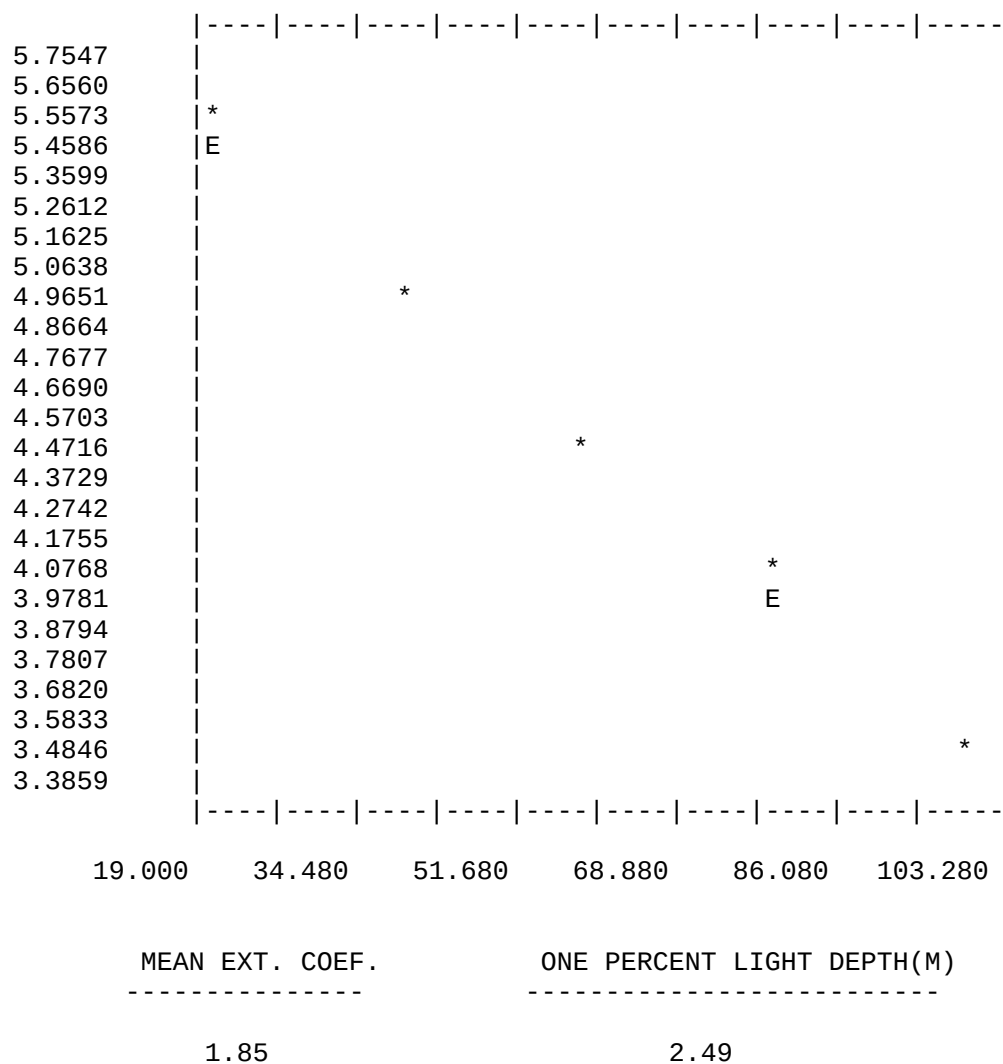


LIGHT PROFILE ANALYSES - FOR 2/13/2004

ISOHALINE - 0 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.92206	-0.02462	0.99828	0.99656
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	239.	5.48064	5.42970
2	40.	131.	4.88280	4.93734
3	60.	81.	4.40672	4.44498
4	80.	53.	3.98898	3.95261
5	100.	31.	3.46574	3.46025

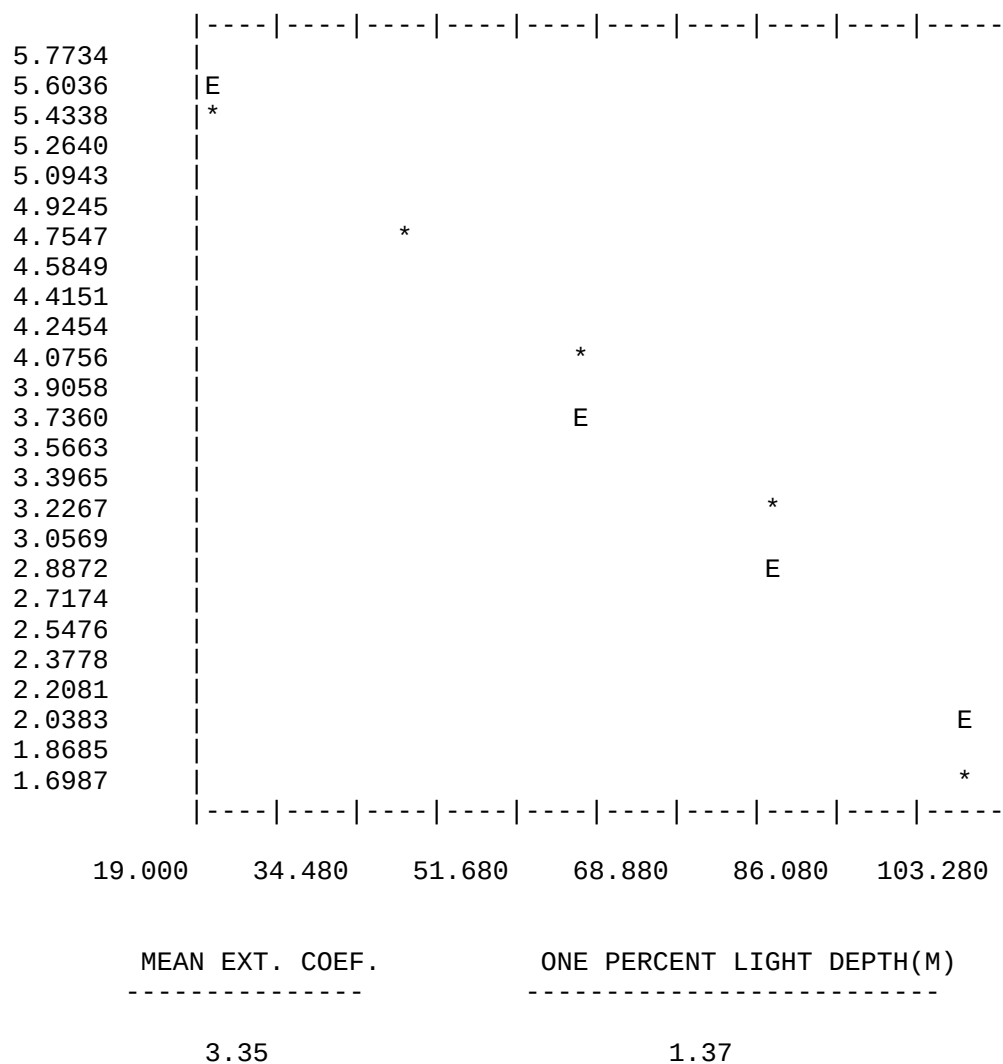


LIGHT PROFILE ANALYSES - FOR 2/13/2004

LOCATION STATION - 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.39258	-0.04471	0.98480	0.96983
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	202.	5.31321	5.49843
2	40.	101.	4.62497	4.60428
3	60.	49.	3.91202	3.71014
4	80.	21.	3.09104	2.81599
5	100.	4.	1.60944	1.92184

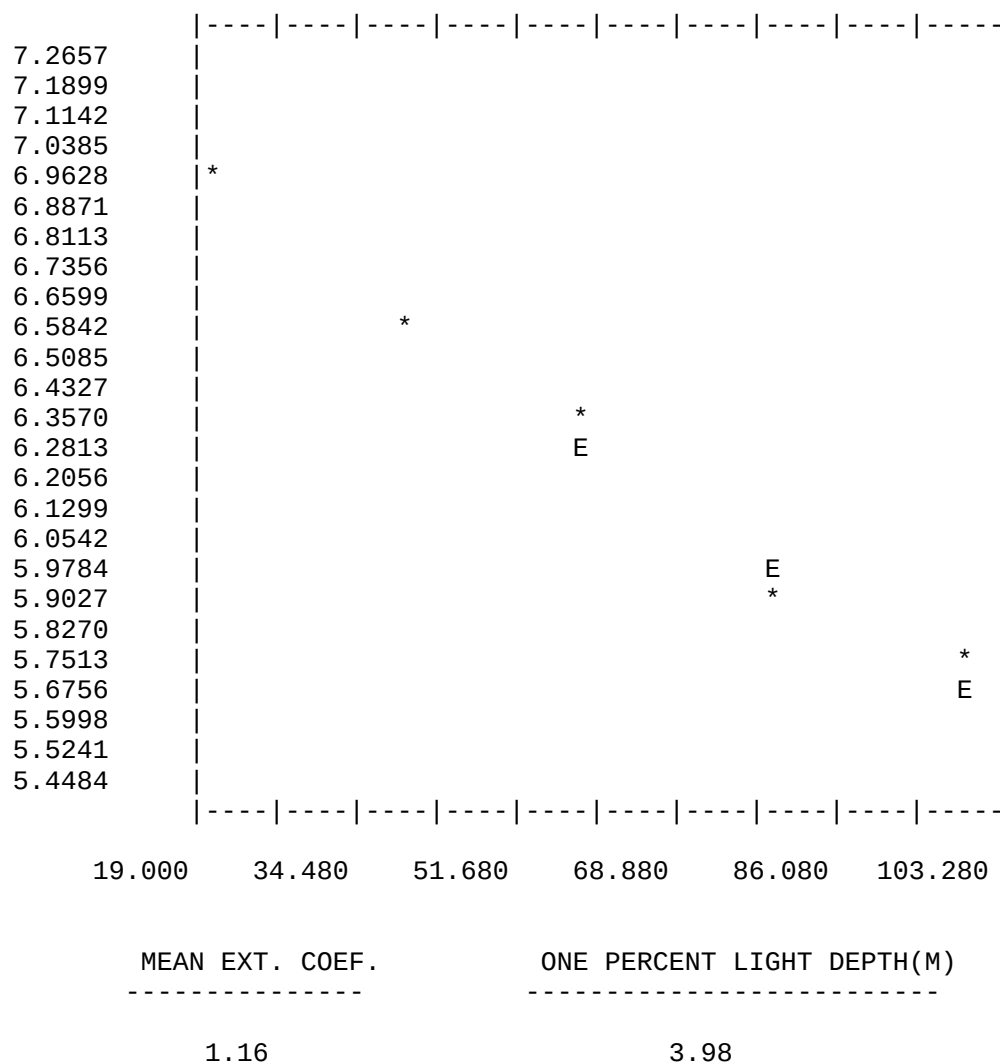


LIGHT PROFILE ANALYSES - FOR 3/ 9/2004

ISOHALINE - 20 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.19651	-0.01541	0.99445	0.98893
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1011.	6.91968	6.88830
2	40.	700.	6.55251	6.58008
3	60.	537.	6.28786	6.27187
4	80.	360.	5.88888	5.96366
5	100.	301.	5.71043	5.65544

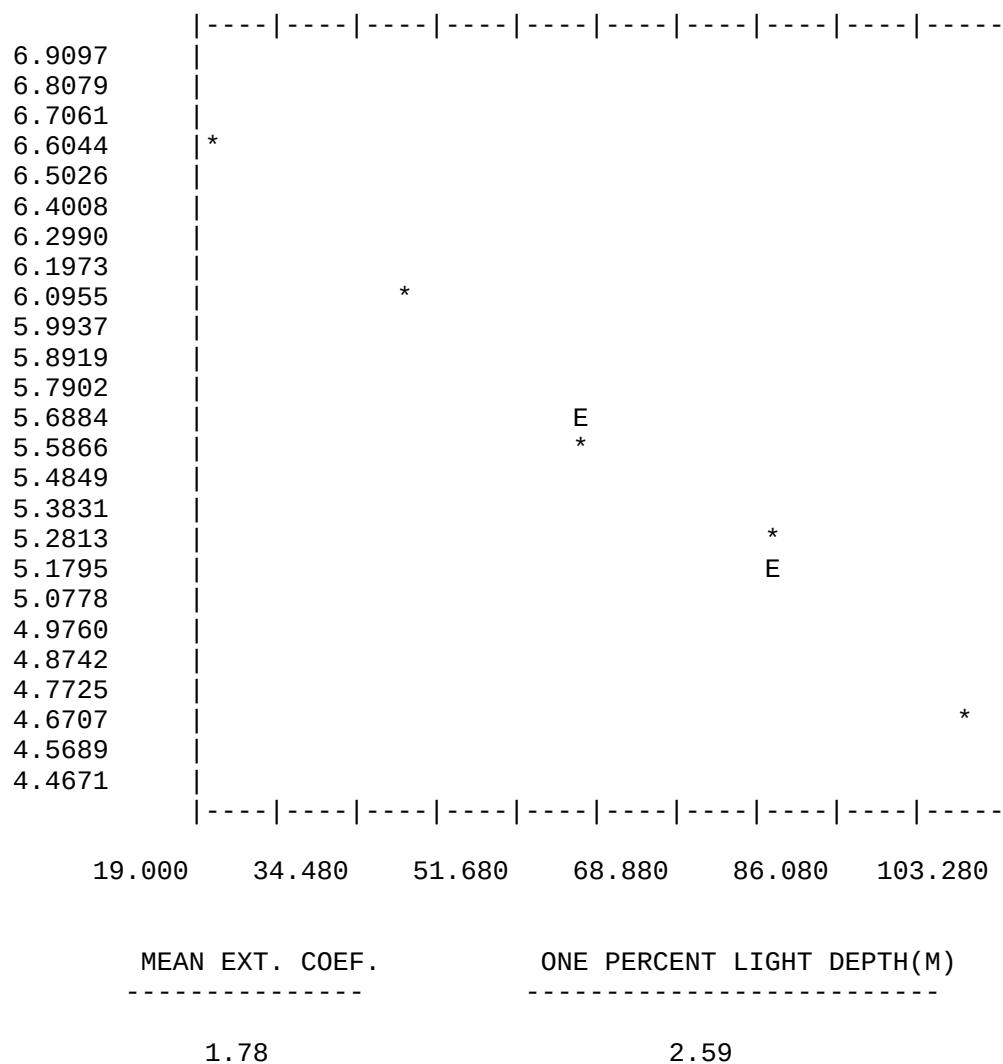


LIGHT PROFILE ANALYSES - FOR 3/ 9/2004

ISOHALINE - 12 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.02606	-0.02375	0.99492	0.98987
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	720.	6.58064	6.55107
2	40.	413.	6.02587	6.07608
3	60.	258.	5.55683	5.60110
4	80.	189.	5.24702	5.12611
5	100.	98.	4.59512	4.65112

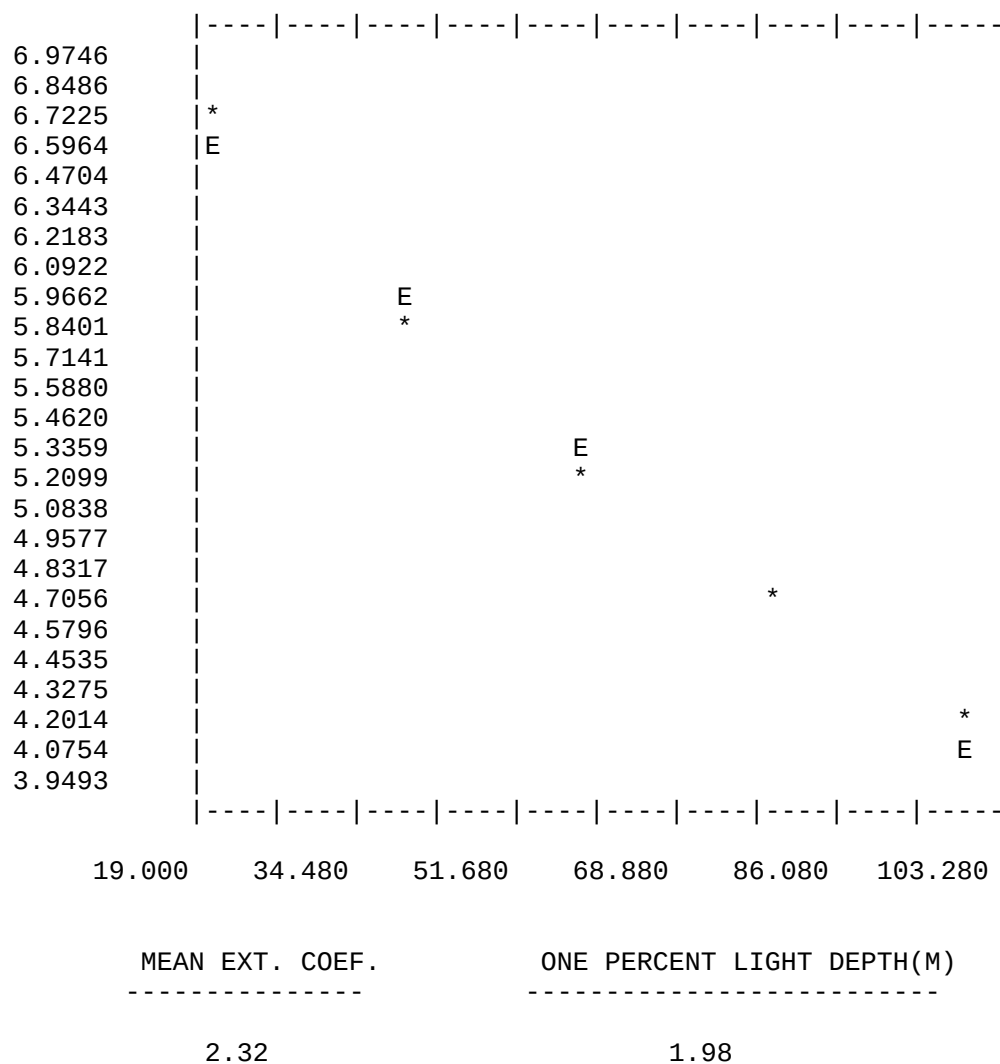


LIGHT PROFILE ANALYSES - FOR 3/ 9/2004

ISOHALINE - 6 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.12266	-0.03098	0.99310	0.98624
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	766.	6.64249	6.50302
2	40.	323.	5.78074	5.88339
3	60.	172.	5.15329	5.26376
4	80.	100.	4.61512	4.64412
5	100.	61.	4.12713	4.02449

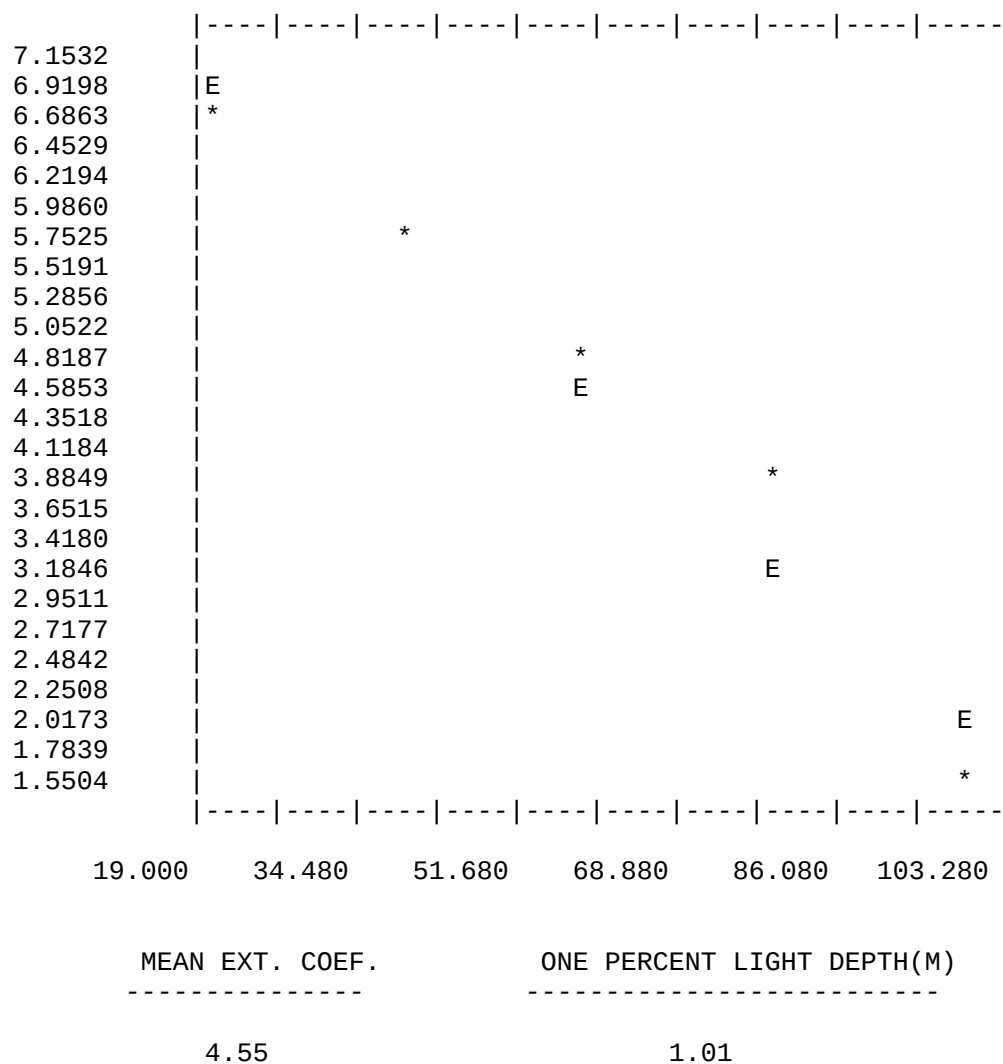


LIGHT PROFILE ANALYSES - FOR 3/ 9/2004

ISOHALINE - 0 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
8.02598		-0.06067	0.97281	0.94636
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	640.	6.46303	6.81261
2	40.	296.	5.69373	5.59925
3	60.	106.	4.67283	4.38589
4	80.	40.	3.71357	3.17253
5	100.	3.	1.38629	1.95917

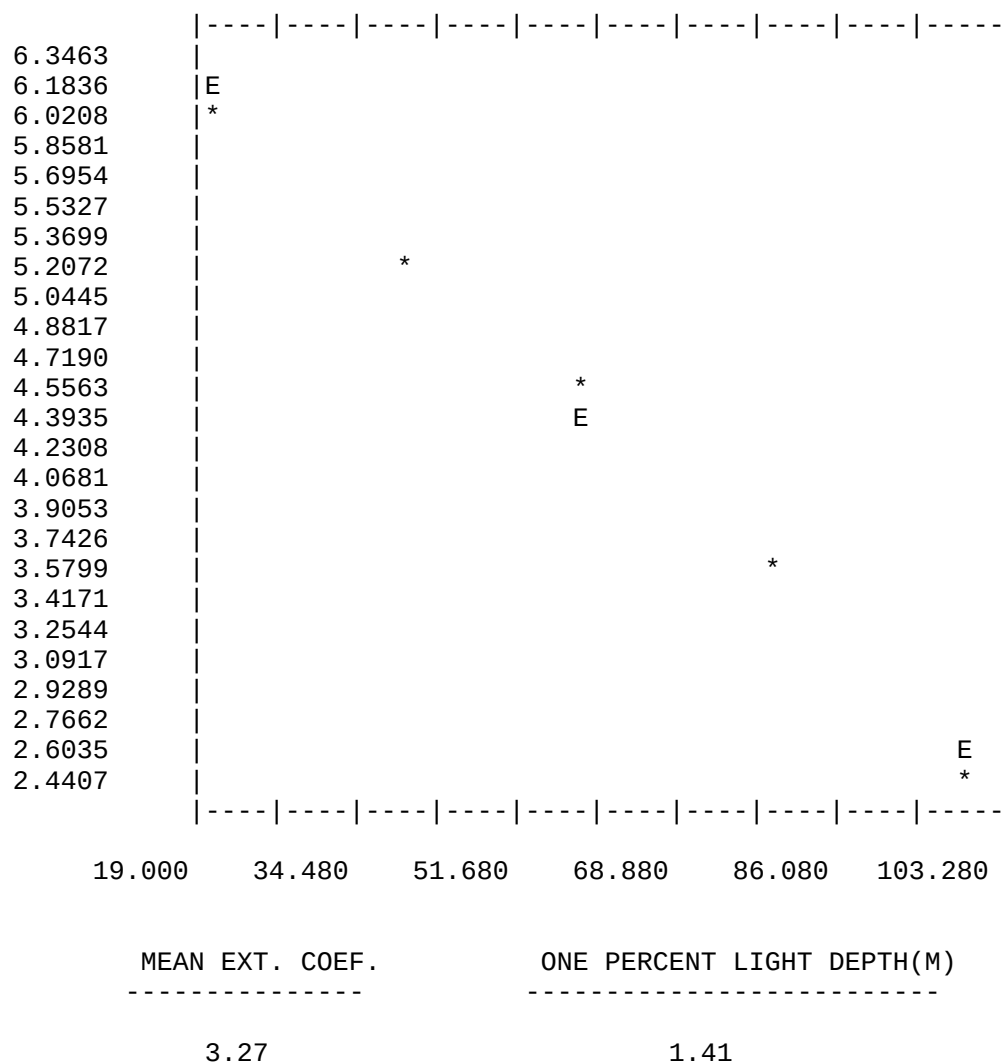


LIGHT PROFILE ANALYSES - FOR 3/ 9/2004

LOCATION STATION - 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.91698	-0.04364	0.99552	0.99106
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	396.	5.98394	6.04411
2	40.	165.	5.11199	5.17124
3	60.	84.	4.44265	4.29836
4	80.	34.	3.55535	3.42549
5	100.	10.	2.39790	2.55262

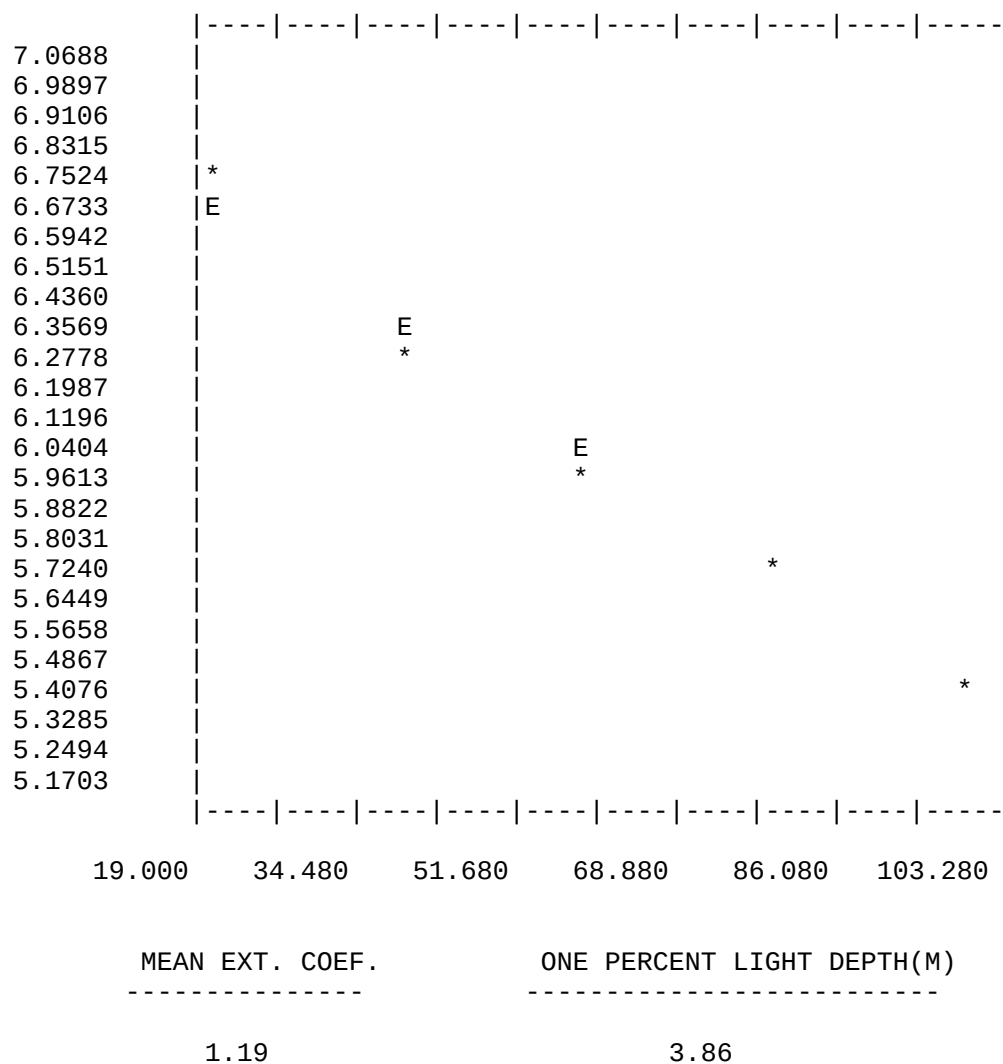


LIGHT PROFILE ANALYSES - FOR 4/16/2004

ISOHALINE - 20 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.94978		-0.01591	0.98604	0.97228
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	838.	6.73221	6.63165
2	40.	501.	6.21860	6.31352
3	60.	369.	5.91350	5.99539
4	80.	305.	5.72359	5.67726
5	100.	218.	5.38907	5.35914

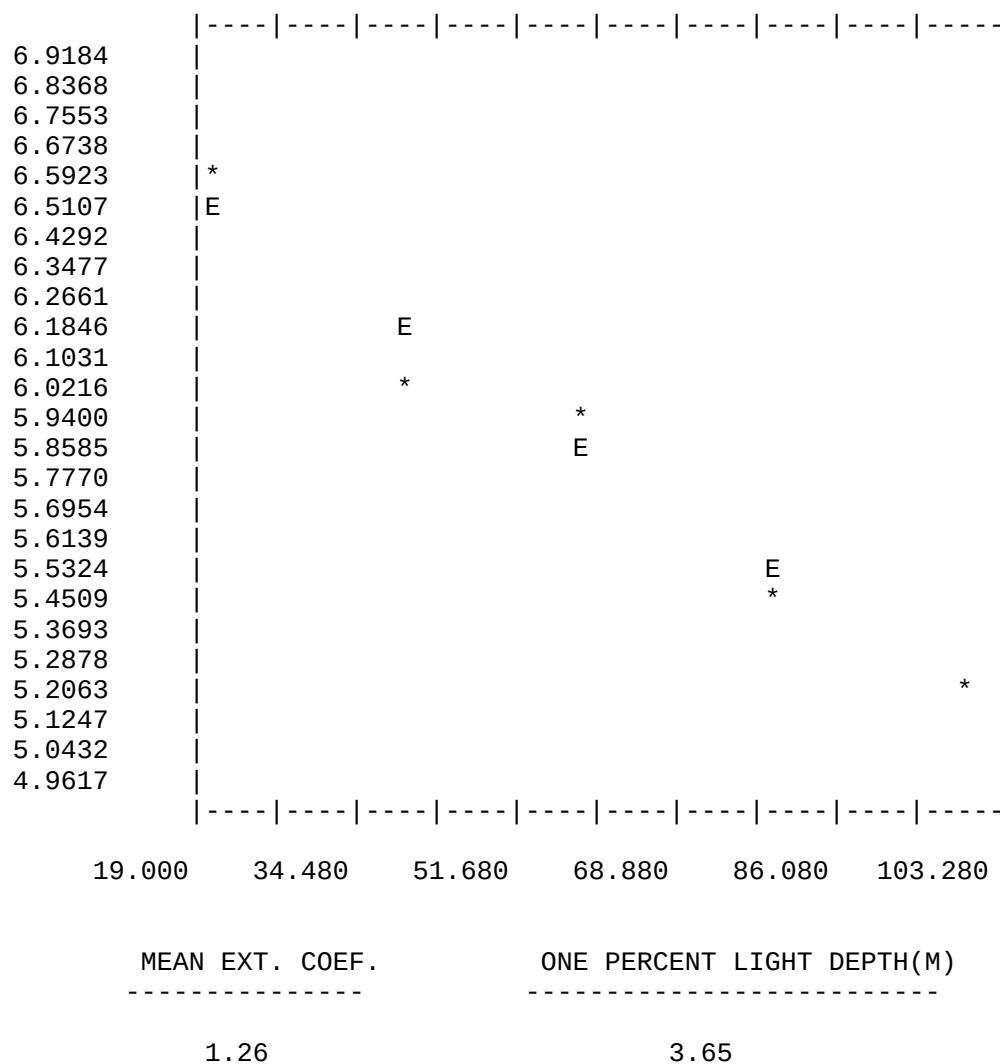


LIGHT PROFILE ANALYSES - FOR 4/16/2004

ISOHALINE - 12 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.82085	-0.01684	0.97823	0.95693
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	726.	6.58893	6.48408
2	40.	389.	5.96615	6.14731
3	60.	359.	5.88610	5.81054
4	80.	231.	5.44674	5.47377
5	100.	174.	5.16479	5.13700

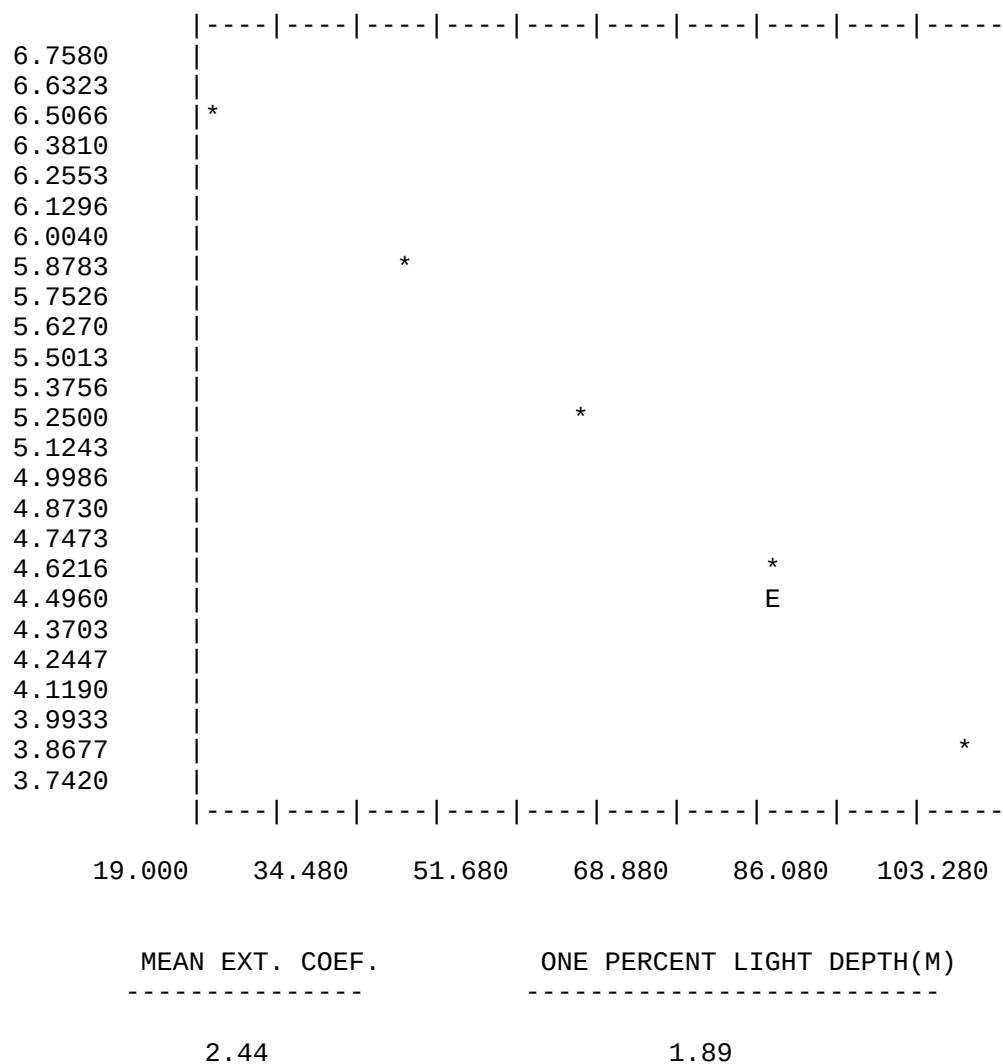


LIGHT PROFILE ANALYSES - FOR 4/16/2004

ISOHALINE - 6 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.08470	-0.03249	0.99961	0.99923
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	623.	6.43615	6.43492
2	40.	320.	5.77144	5.78513
3	60.	168.	5.12990	5.13535
4	80.	92.	4.53260	4.48557
5	100.	44.	3.80666	3.83579

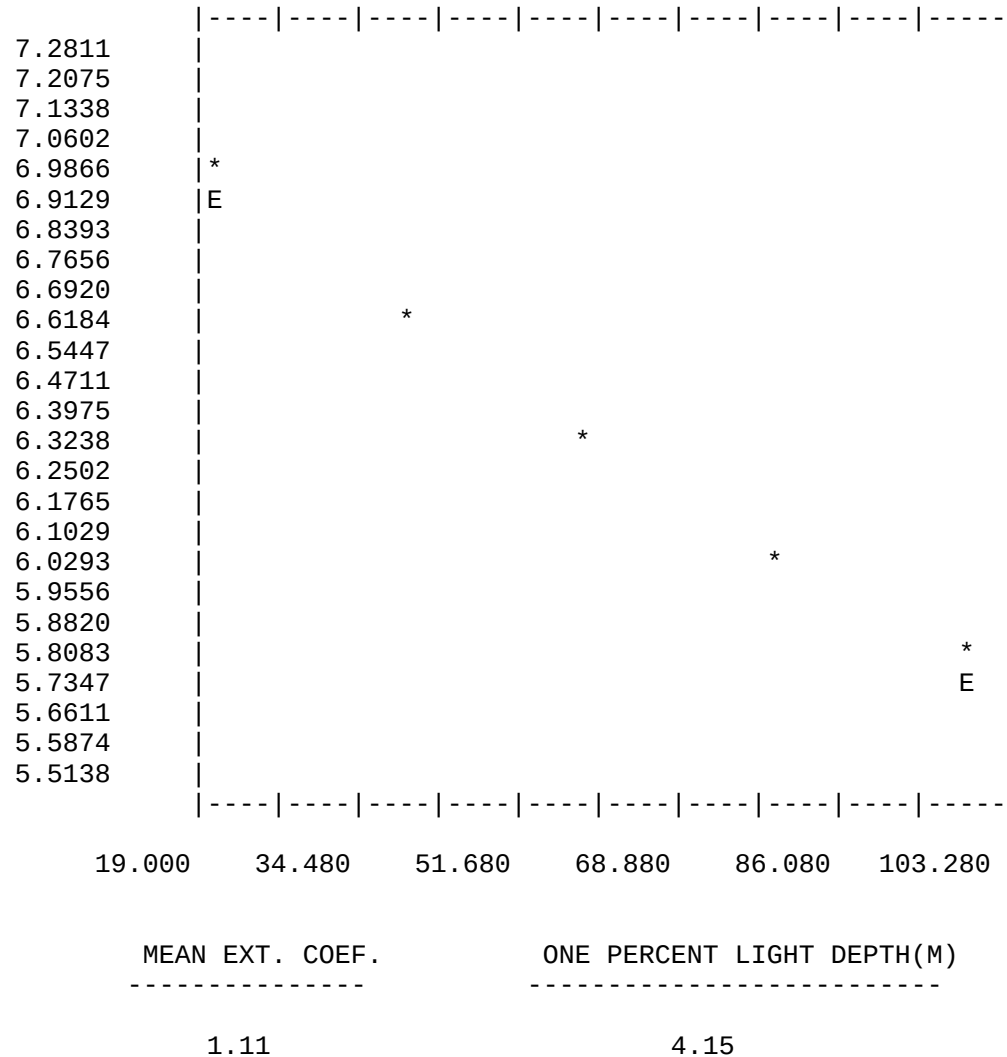


LIGHT PROFILE ANALYSES - FOR 4/16/2004

ISOHALINE - 0 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
7.20434		-0.01478	0.99896	0.99793
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1026.	6.93440	6.90877
2	40.	729.	6.59304	6.61320
3	60.	544.	6.30079	6.31763
4	80.	408.	6.01372	6.02206
5	100.	312.	5.74620	5.72649

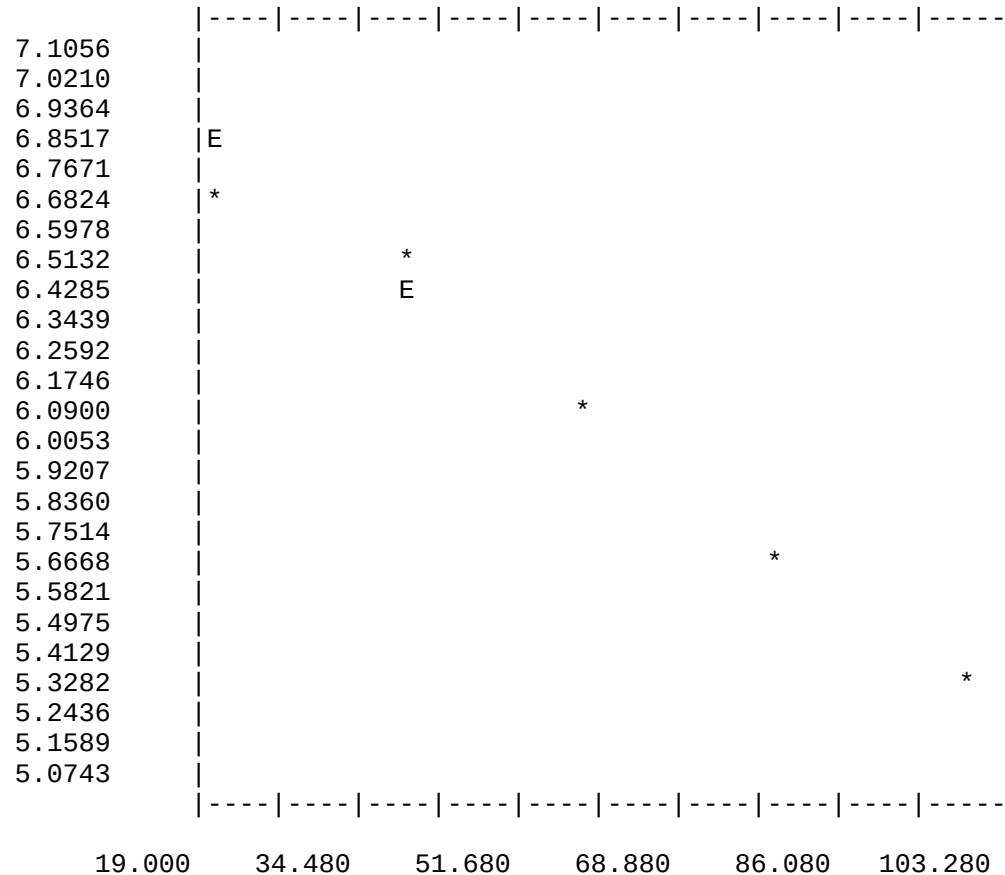


LIGHT PROFILE ANALYSES - FOR 4/16/2004

LOCATION STATION - 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.13826	-0.01855	0.99212	0.98431
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	794.	6.67834	6.76727
2	40.	671.	6.51026	6.39628
3	60.	416.	6.03309	6.02529
4	80.	284.	5.65249	5.65430
5	100.	190.	5.25227	5.28331



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.39

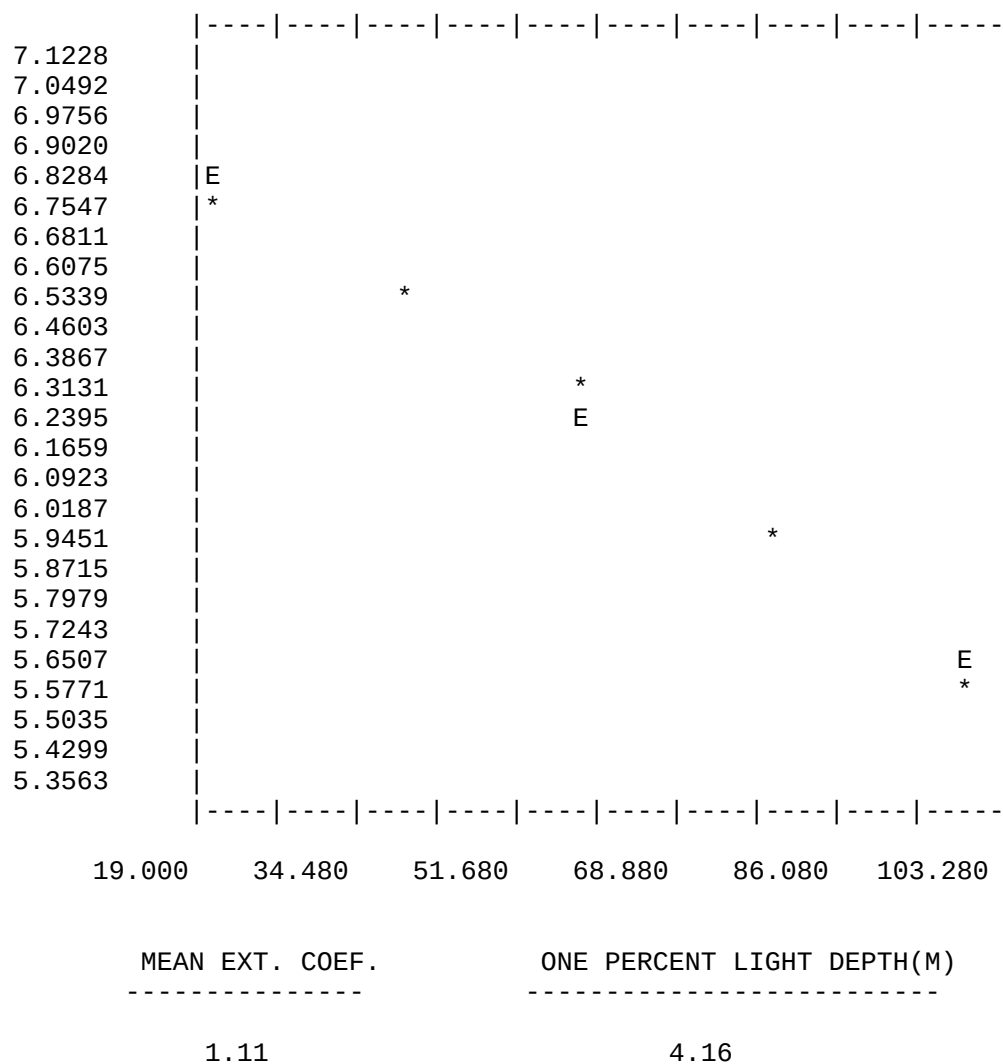
3.31

LIGHT PROFILE ANALYSES - FOR 5/14/2004

ISOHALINE - 20 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.07906	-0.01477	0.98988	0.97987
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	822.	6.71296	6.78359
2	40.	681.	6.52503	6.48813
3	60.	538.	6.28972	6.19266
4	80.	355.	5.87493	5.89720
5	100.	259.	5.56068	5.60173

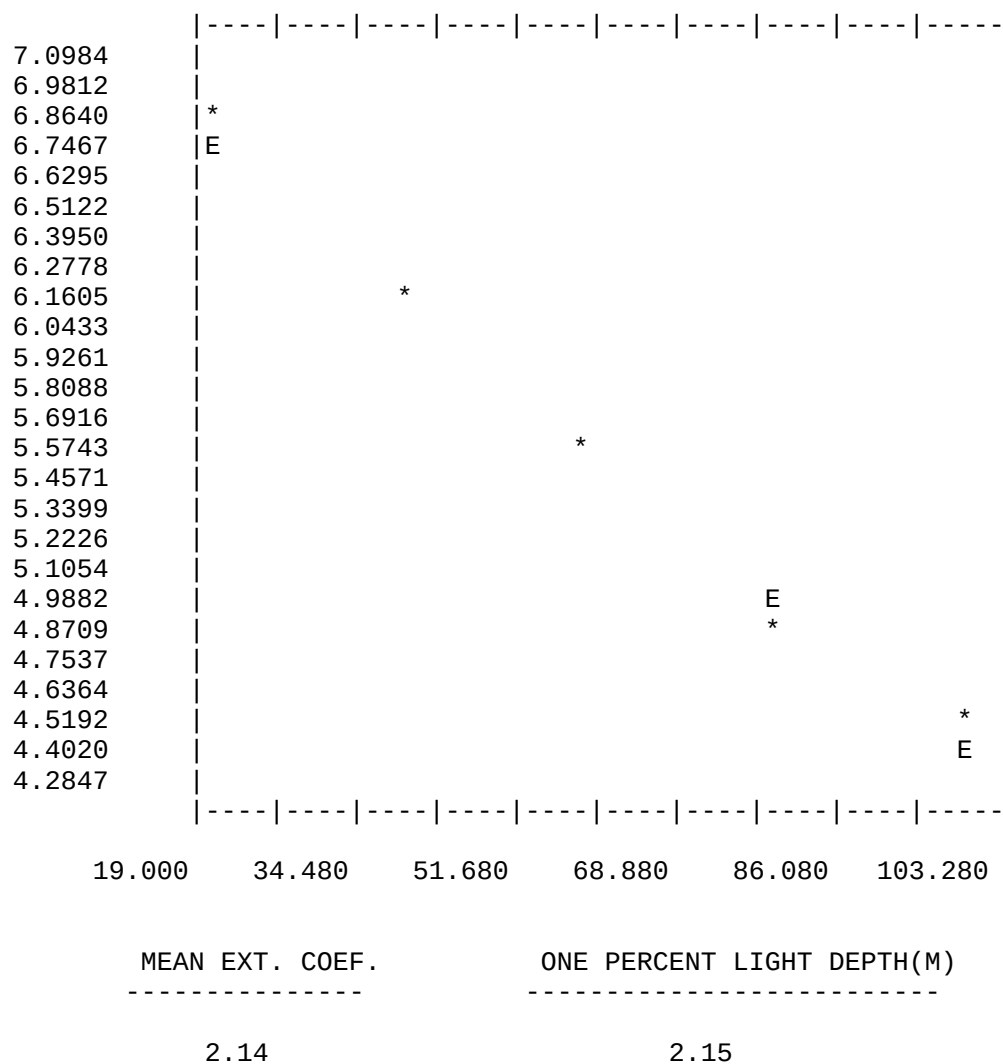


LIGHT PROFILE ANALYSES - FOR 5/14/2004

ISOHALINE - 12 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.24591	-0.02859	0.99342	0.98688
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	862.	6.76041	6.67409
2	40.	422.	6.04737	6.10227
3	60.	245.	5.50533	5.53046
4	80.	124.	4.82831	4.95864
5	100.	90.	4.51086	4.38683

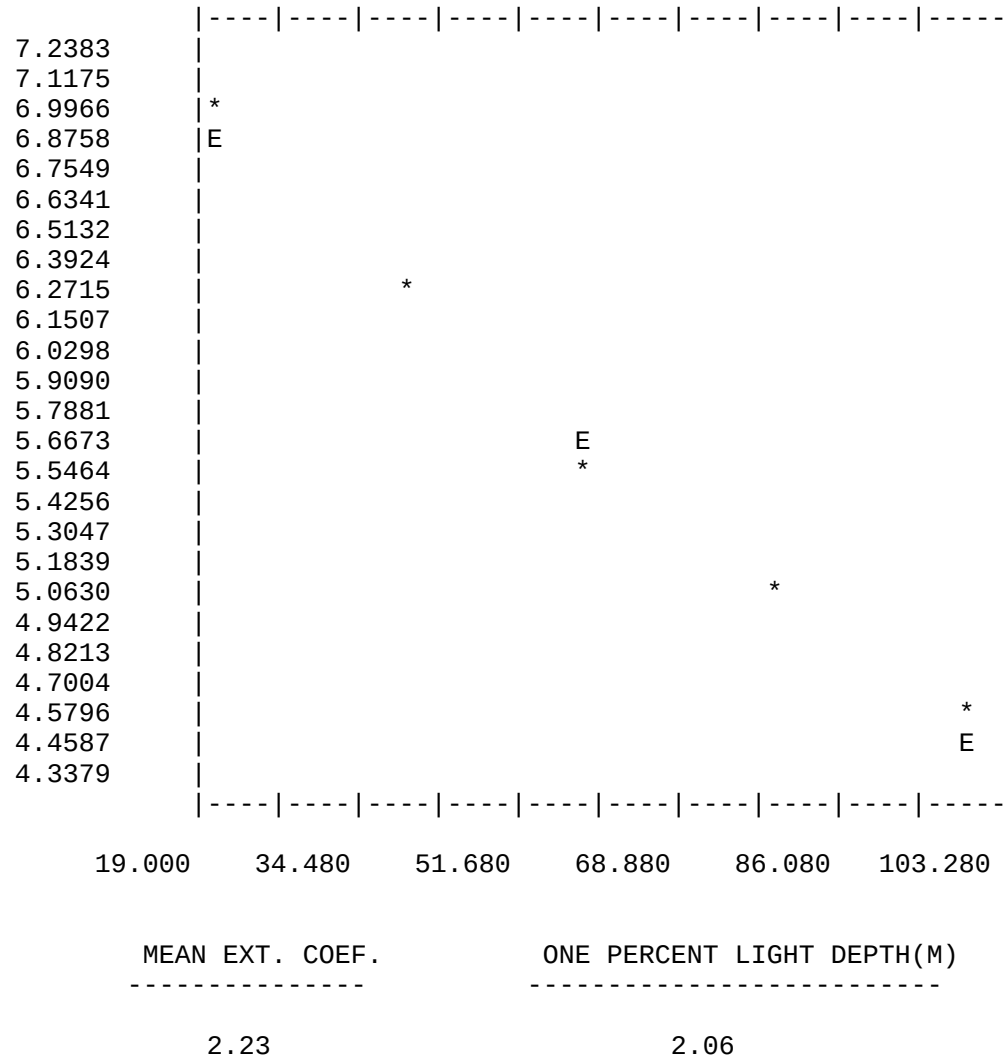


LIGHT PROFILE ANALYSES - FOR 5/14/2004

ISOHALINE - 6 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
7.41698		-0.02978	0.99633	0.99267
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	985.	6.89366	6.82138
2	40.	497.	6.21060	6.22578
3	60.	253.	5.53733	5.63019
4	80.	144.	4.97673	5.03459
5	100.	92.	4.53260	4.43899

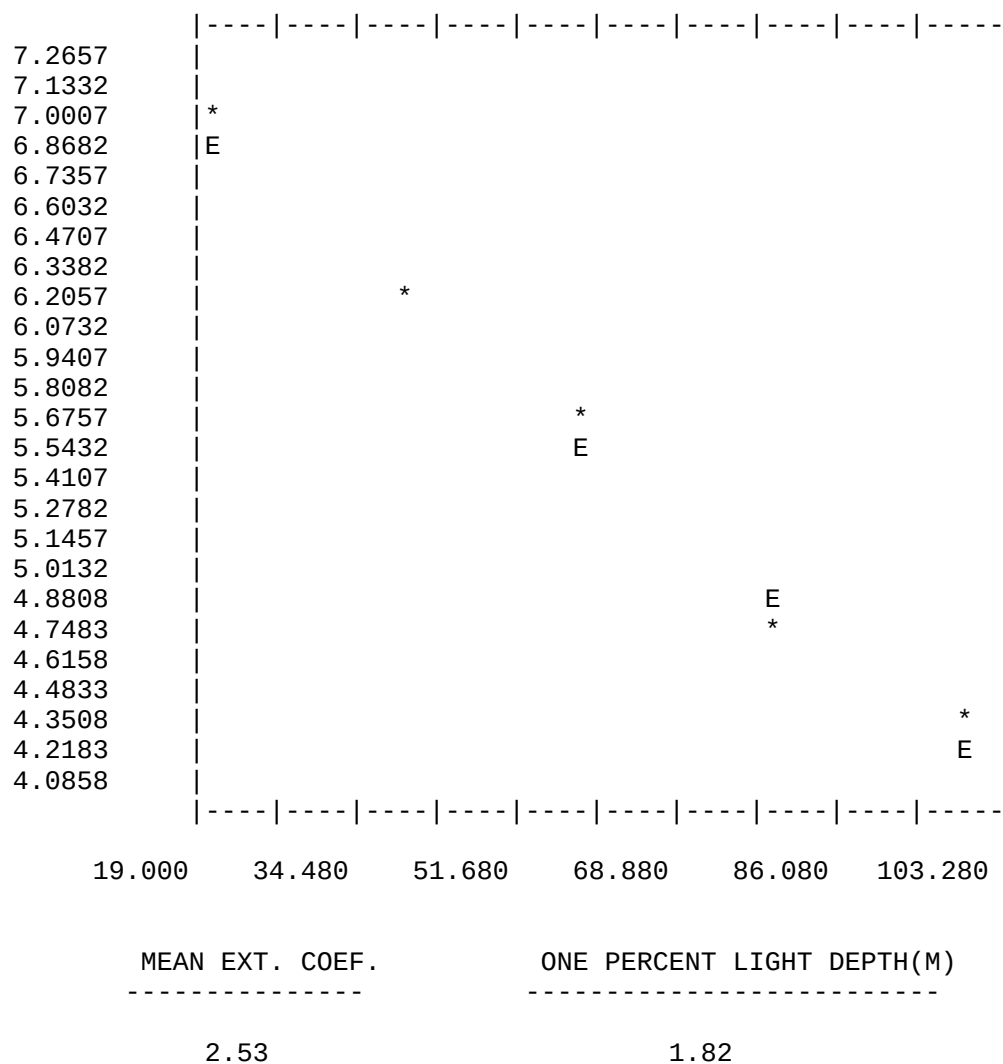


LIGHT PROFILE ANALYSES - FOR 5/14/2004

ISOHALINE - 0 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.54122	-0.03380	0.99577	0.99156
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1011.	6.91968	6.86524
2	40.	439.	6.08677	6.18927
3	60.	273.	5.61313	5.51330
4	80.	112.	4.72739	4.83732
5	100.	67.	4.21951	4.16135

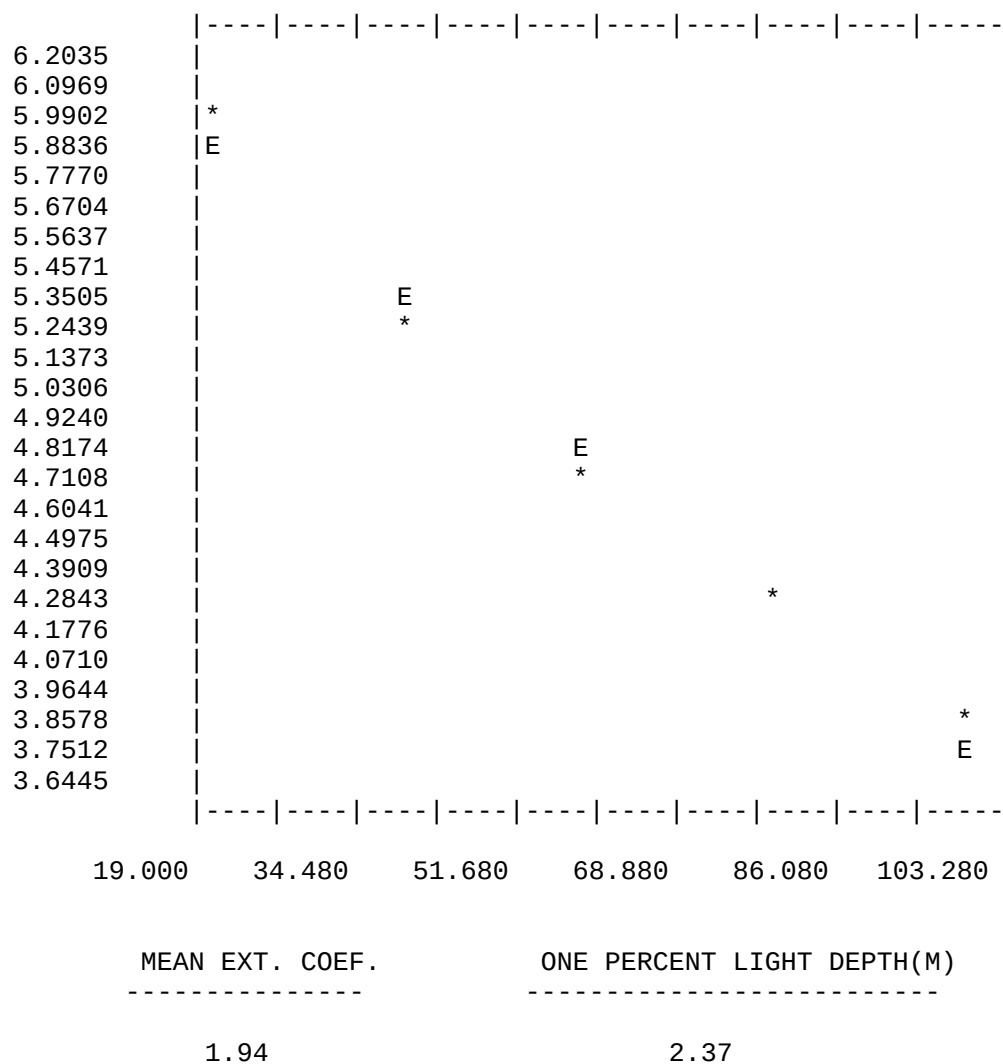


LIGHT PROFILE ANALYSES - FOR 5/14/2004

LOCATION STATION - 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.31348	-0.02589	0.99258	0.98521
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	367.	5.90808	5.79560
2	40.	182.	5.20949	5.27773
3	60.	105.	4.66344	4.75986
4	80.	65.	4.18965	4.24199
5	100.	45.	3.82864	3.72412

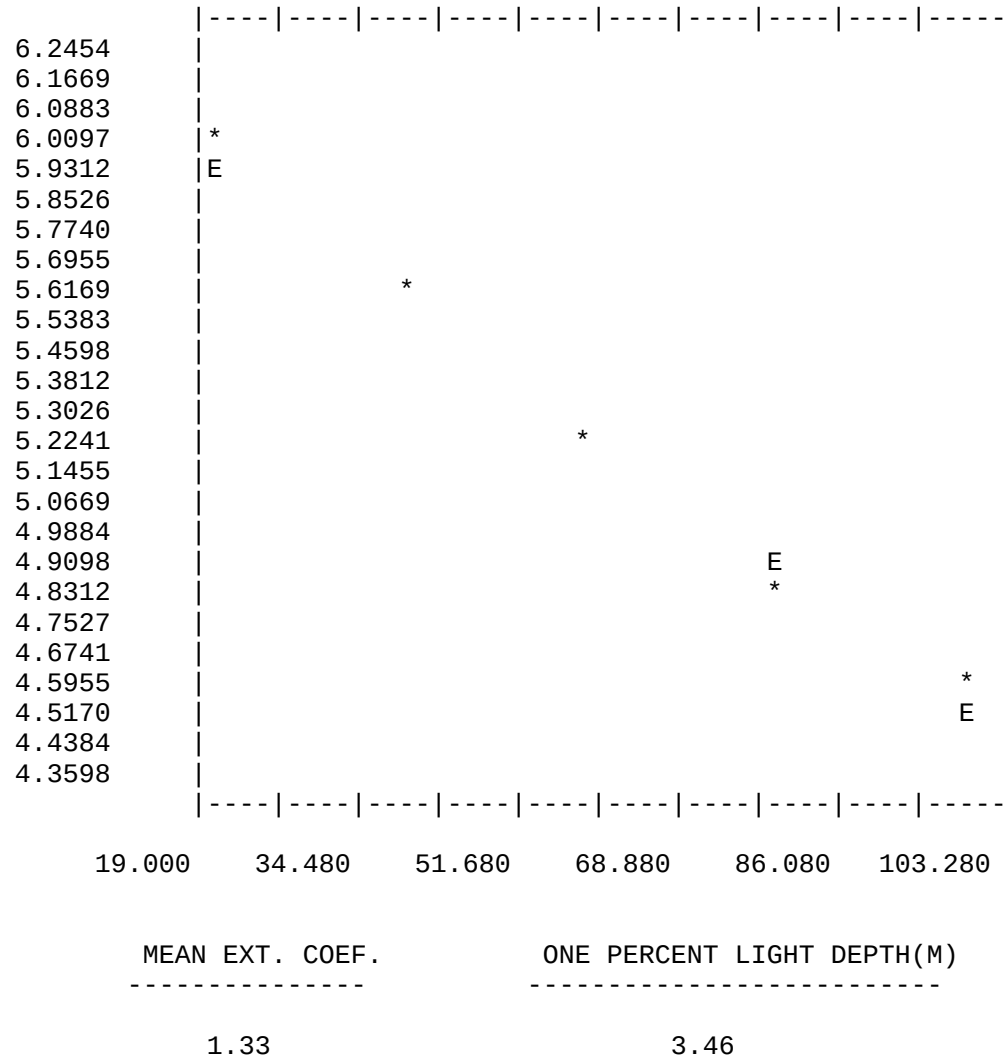


LIGHT PROFILE ANALYSES - FOR 6/ 9/2004

ISOHALINE - 20 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.27977		-0.01773	0.99524	0.99051
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	382.	5.94803	5.92513
2	40.	266.	5.58725	5.57049
3	60.	177.	5.18178	5.21585
4	80.	119.	4.78749	4.86121
5	100.	96.	4.57471	4.50657

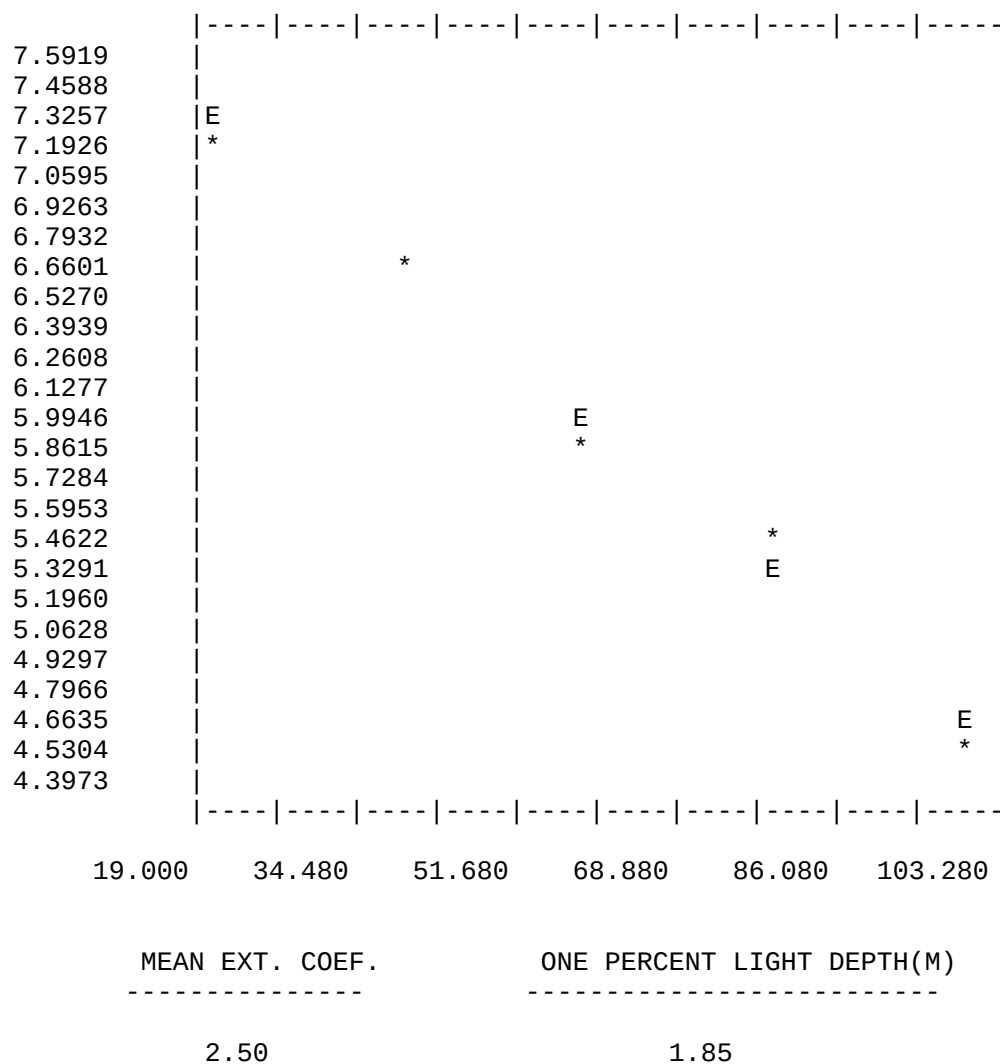


LIGHT PROFILE ANALYSES - FOR 6/ 9/2004

ISOHALINE - 12 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
7.89578		-0.03327	0.99588	0.99178
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1291.	7.16395	7.23036
2	40.	776.	6.65544	6.56494
3	60.	342.	5.83773	5.89952
4	80.	210.	5.35186	5.23410
5	100.	88.	4.48864	4.56868

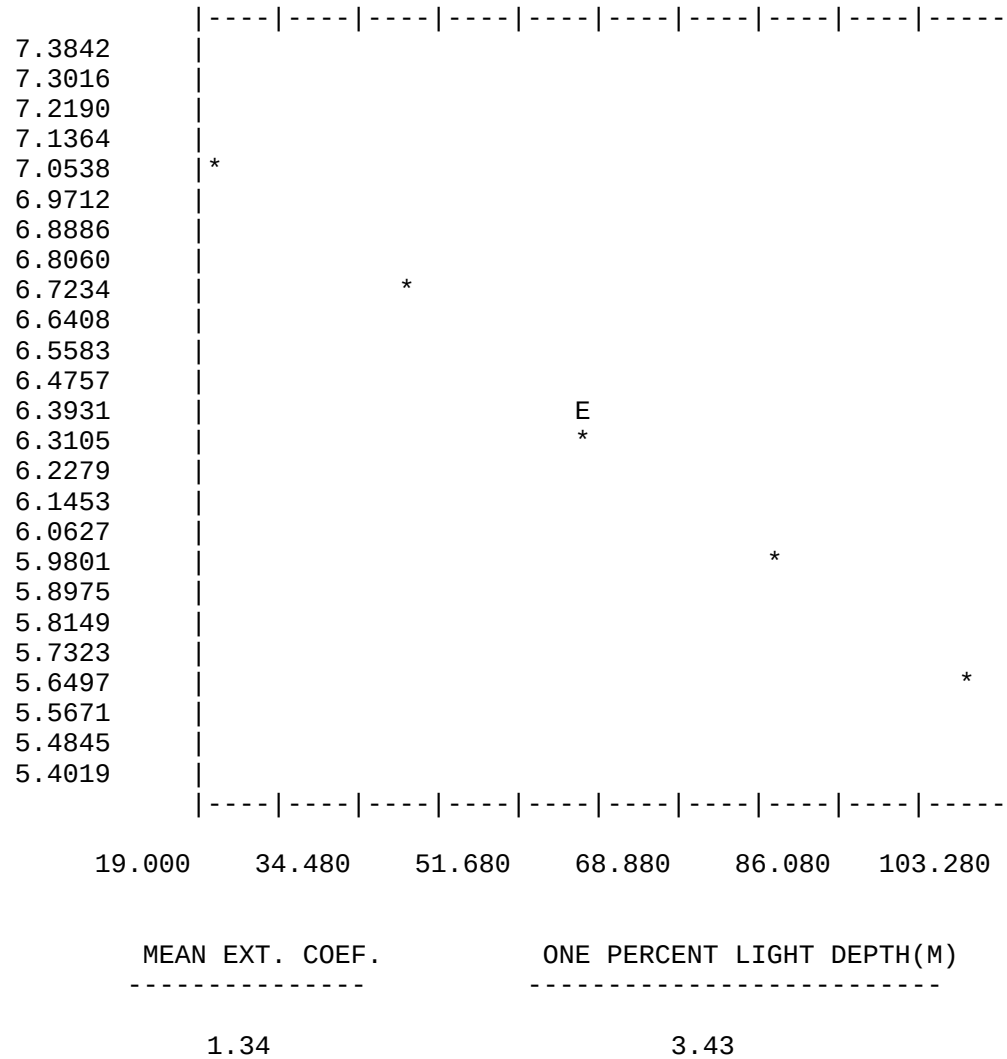


LIGHT PROFILE ANALYSES - FOR 6/ 9/2004

ISOHALINE - 6 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
7.39090		-0.01792	0.99965	0.99929
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1117.	7.01930	7.03258
2	40.	811.	6.69950	6.67425
3	60.	548.	6.30810	6.31593
4	80.	383.	5.95064	5.95761
5	100.	270.	5.60212	5.59929

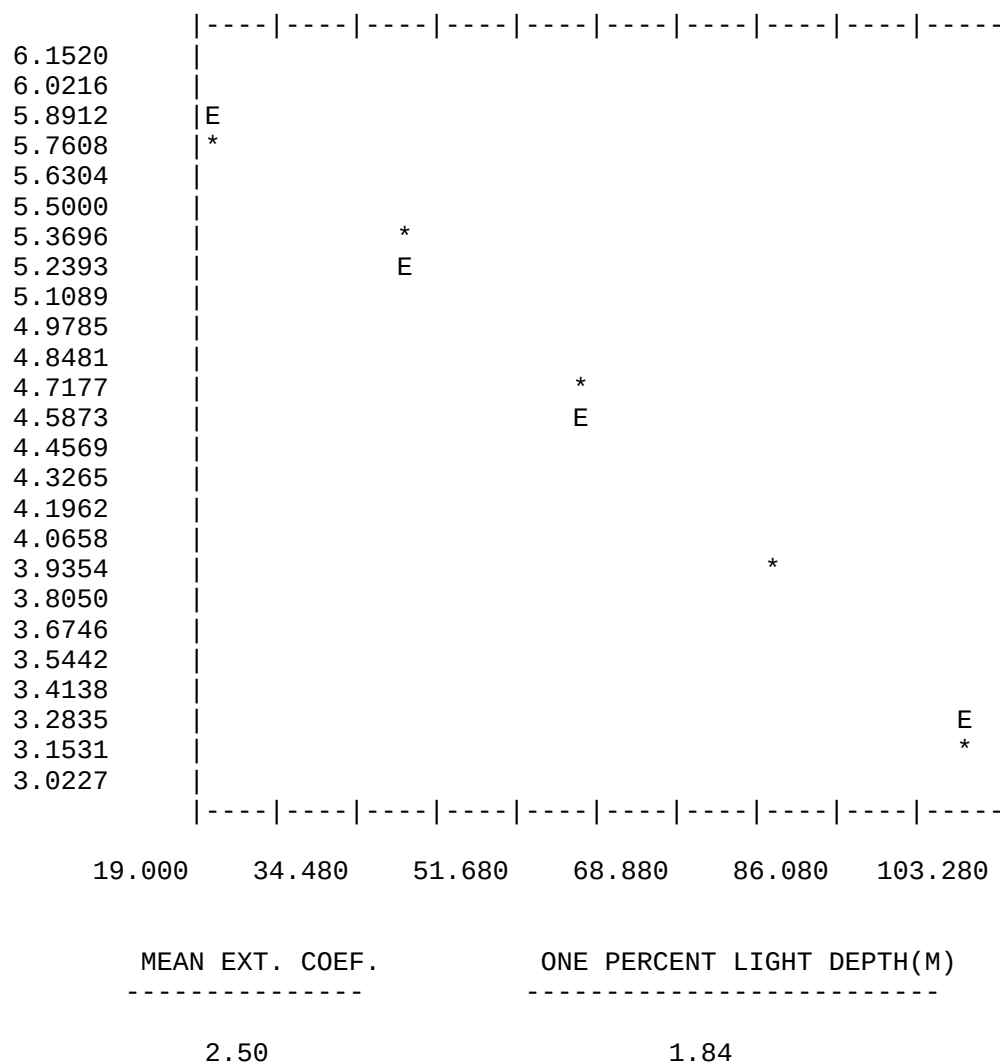


LIGHT PROFILE ANALYSES - FOR 6/ 9/2004

ISOHALINE - 0 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.52699		-0.03340	0.98982	0.97974
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	291.	5.67675	5.85901
2	40.	209.	5.34711	5.19104
3	60.	100.	4.61512	4.52307
4	80.	50.	3.93183	3.85509
5	100.	20.	3.04452	3.18712

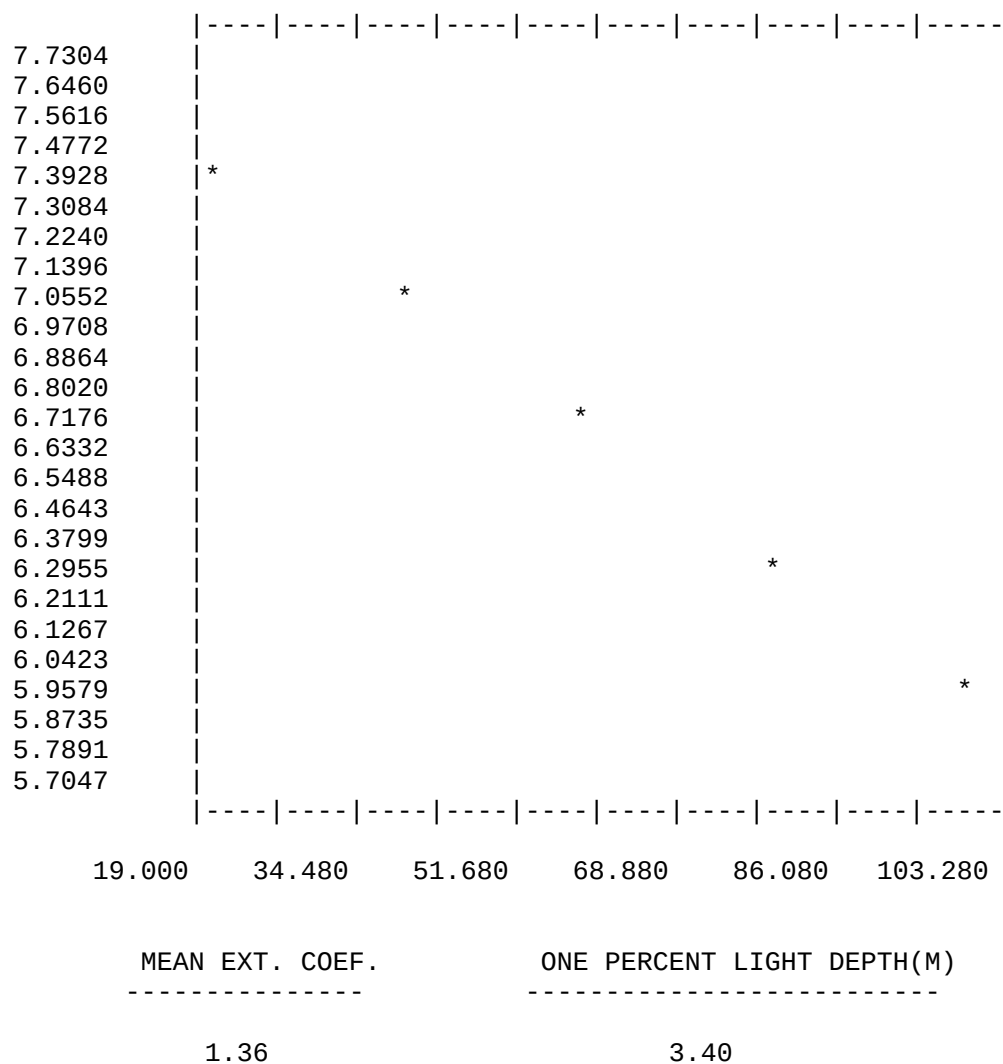


LIGHT PROFILE ANALYSES - FOR 6/ 9/2004

LOCATION STATION - 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
7.72386		-0.01808	0.99955	0.99909
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1559.	7.35244	7.36231
2	40.	1104.	7.00760	7.00076
3	60.	780.	6.66057	6.63921
4	80.	519.	6.25383	6.27766
5	100.	372.	5.92158	5.91611

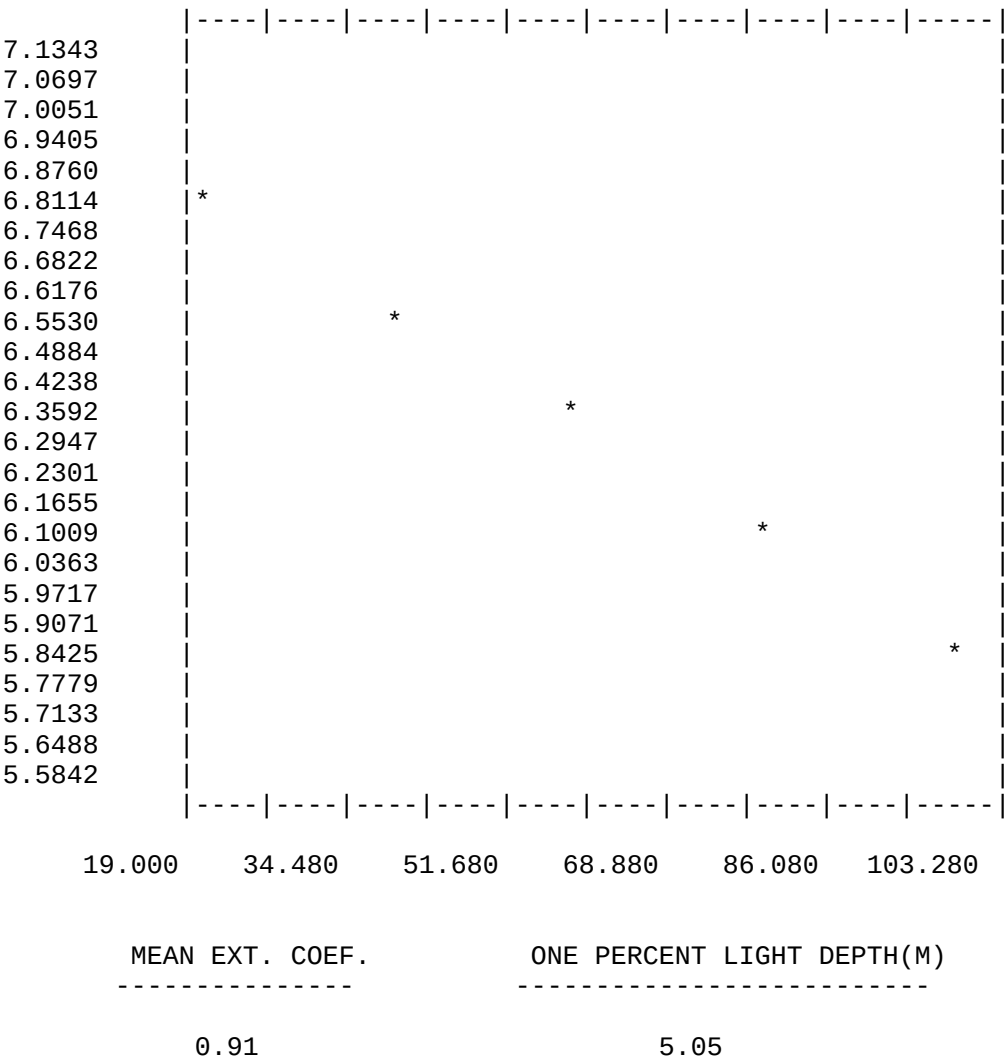


LIGHT PROFILE ANALYSES - FOR 7/ 7/2004

ISOHALINE - 20 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
7.02566		-0.01216	0.99960	0.99921
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	892.	6.79459	6.78255
2	40.	680.	6.52356	6.53943
3	60.	543.	6.29895	6.29632
4	80.	422.	6.04737	6.05320
5	100.	335.	5.81711	5.81009

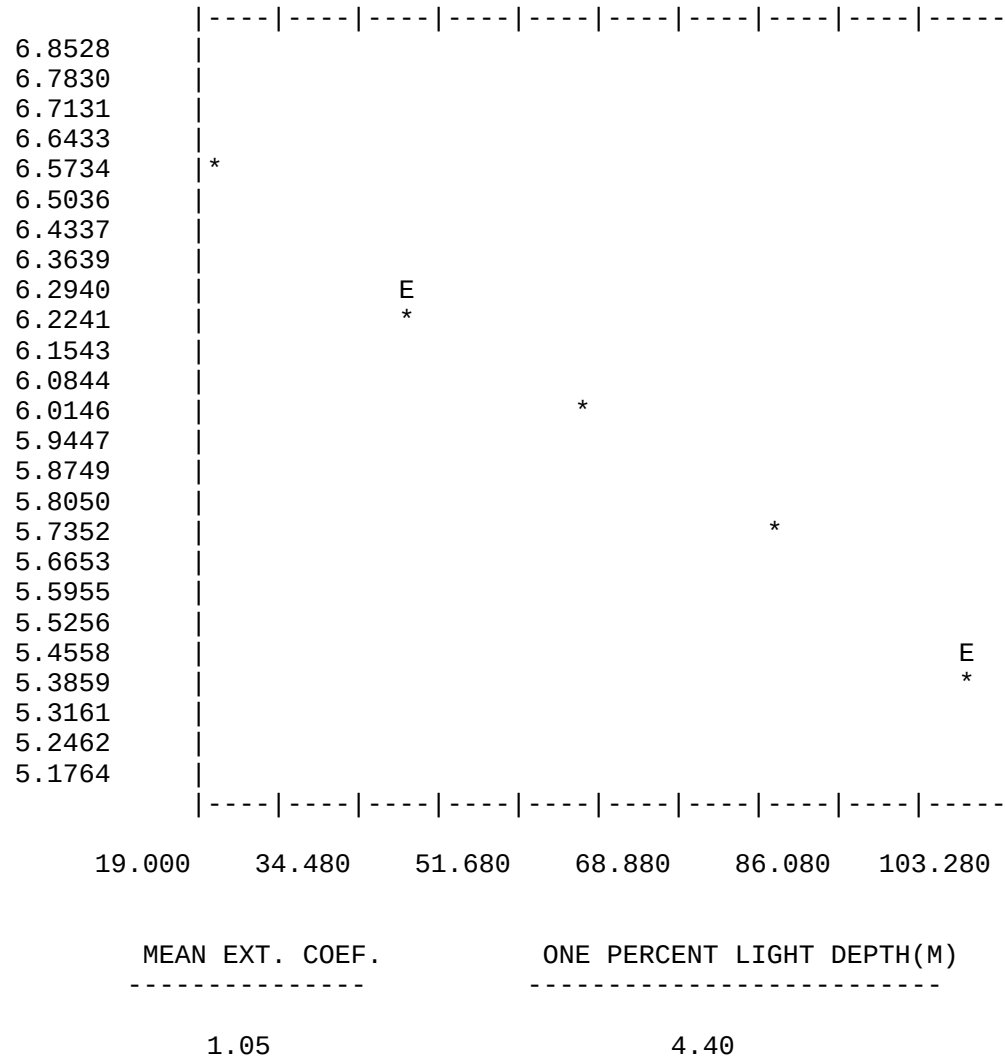


LIGHT PROFILE ANALYSES - FOR 7/ 7/2004

ISOHALINE - 12 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.79267		-0.01397	0.99787	0.99574
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	682.	6.52649	6.51337
2	40.	489.	6.19441	6.23406
3	60.	392.	5.97381	5.95475
4	80.	299.	5.70378	5.67545
5	100.	215.	5.37528	5.39614

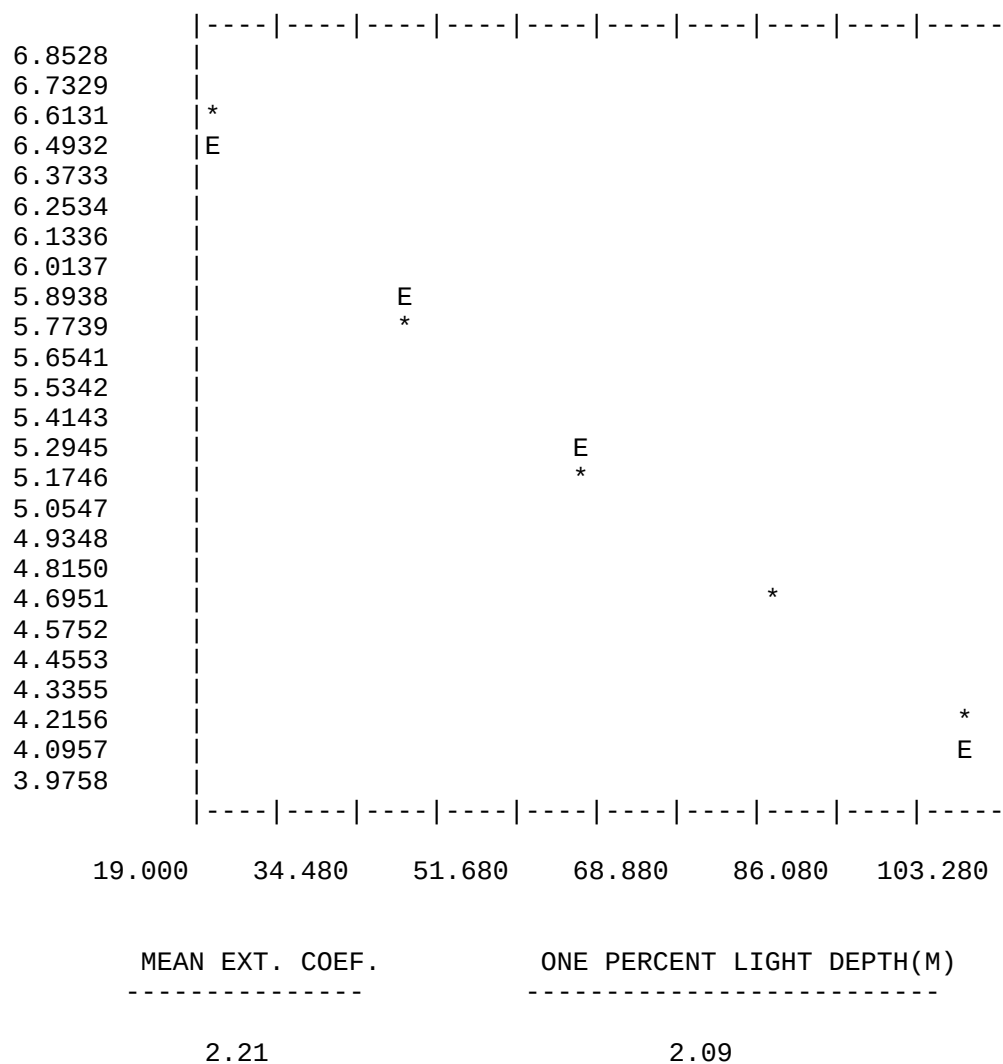


LIGHT PROFILE ANALYSES - FOR 7/ 7/2004

ISOHALINE - 6 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
7.00288		-0.02944	0.99492	0.98987
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	682.	6.52649	6.41408
2	40.	312.	5.74620	5.82529
3	60.	170.	5.14166	5.23649
4	80.	101.	4.62497	4.64770
5	100.	62.	4.14313	4.05890

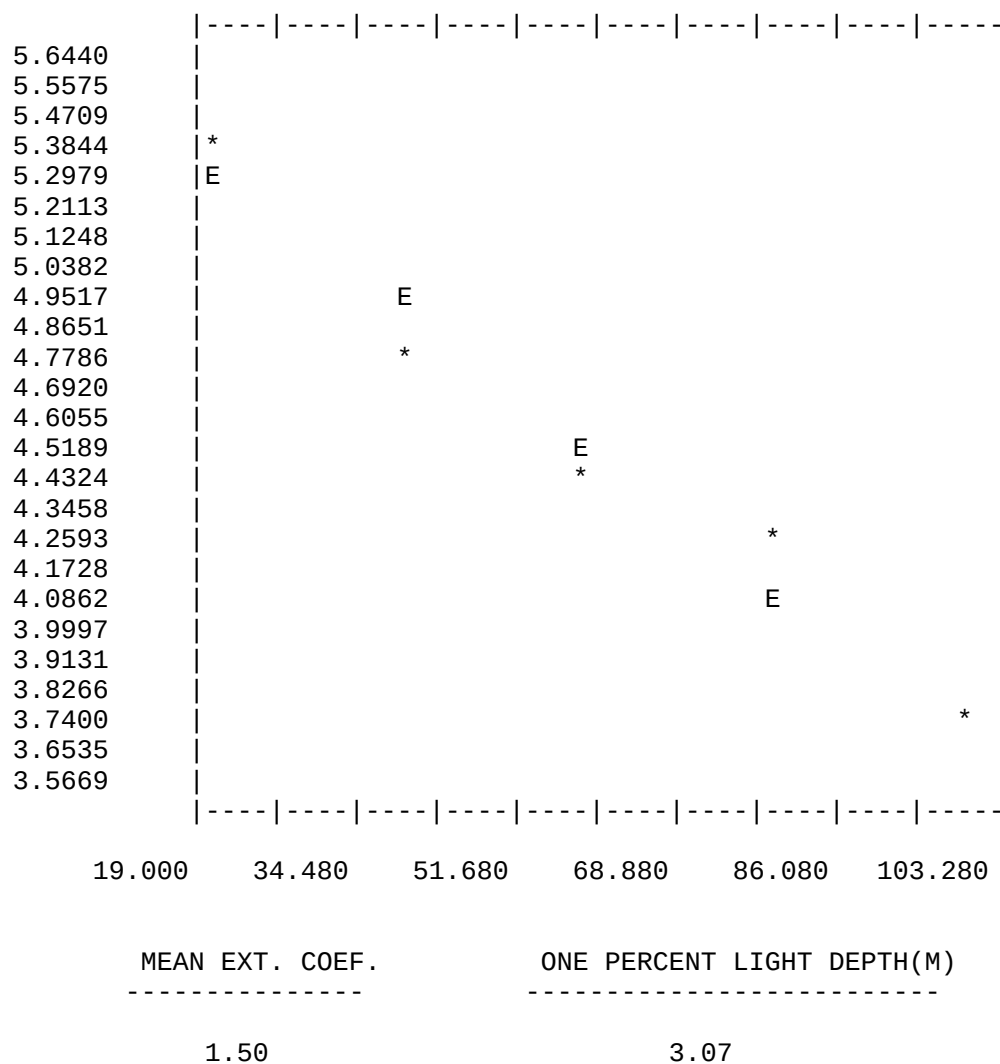


LIGHT PROFILE ANALYSES - FOR 7/ 7/2004

ISOHALINE - 0 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.68494	-0.02002	0.98866	0.97745
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	215.	5.37528	5.28450
2	40.	117.	4.77068	4.88405
3	60.	82.	4.41884	4.48360
4	80.	65.	4.18965	4.08316
5	100.	38.	3.66356	3.68271

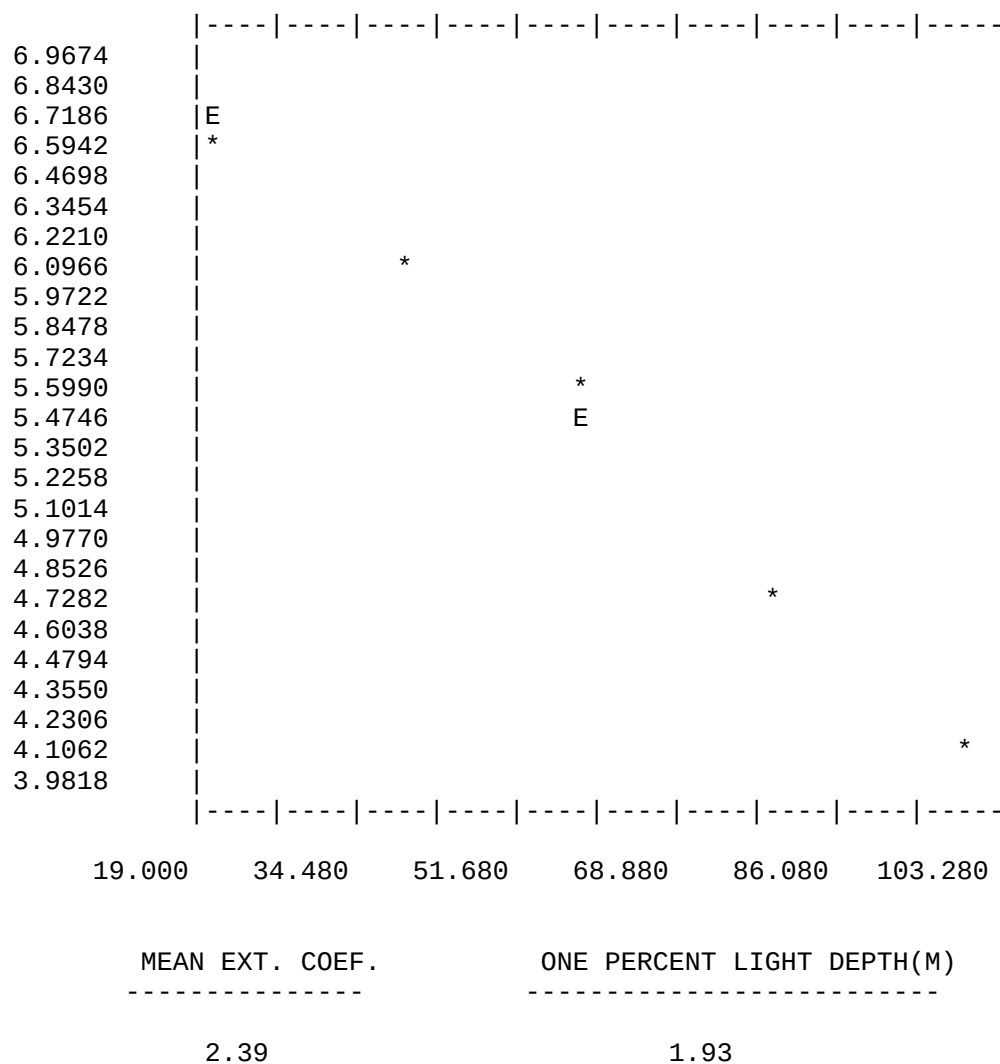


LIGHT PROFILE ANALYSES - FOR 7/ 7/2004

LOCATION STATION - 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.27307	-0.03187	0.99784	0.99569
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	729.	6.59304	6.63562
2	40.	399.	5.99146	5.99816
3	60.	238.	5.47646	5.36071
4	80.	107.	4.68213	4.72326
5	100.	57.	4.06044	4.08580

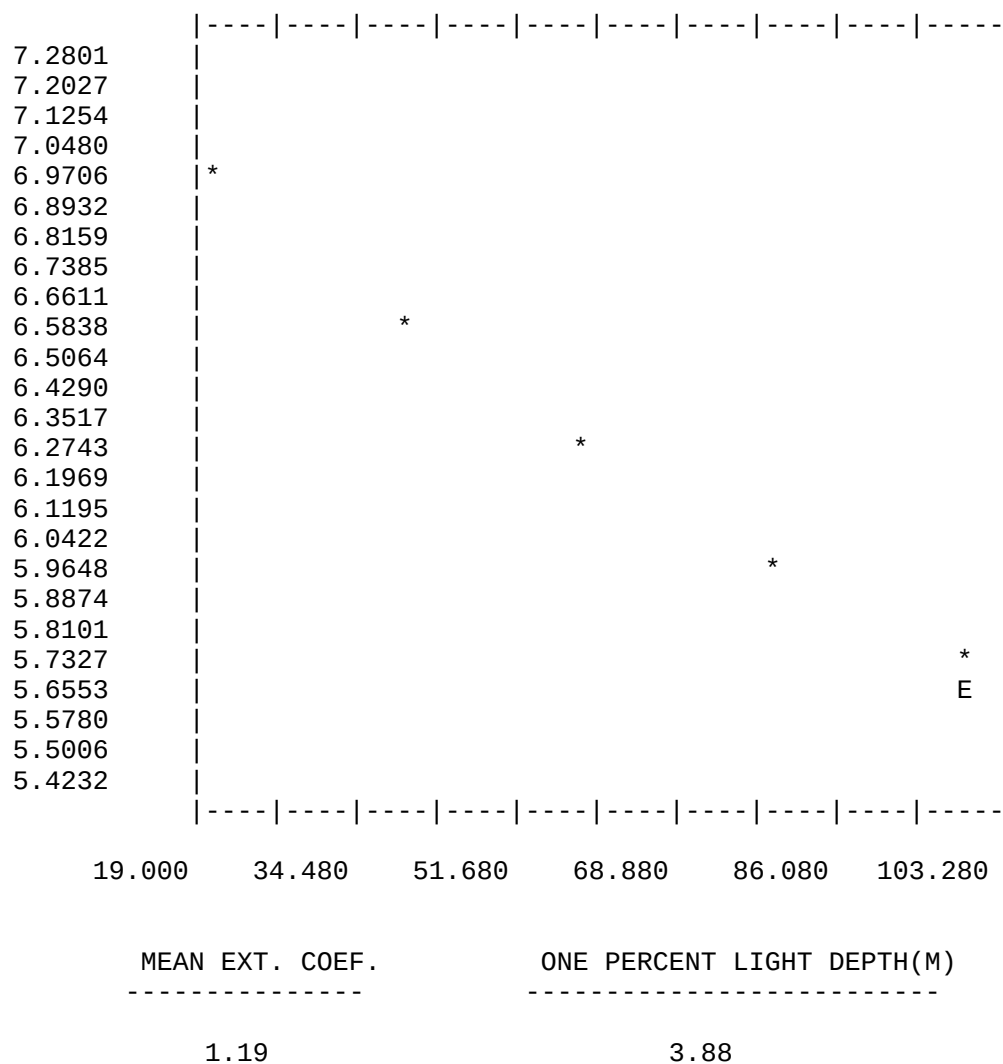


LIGHT PROFILE ANALYSES - FOR 8/12/2004

ISOHALINE - 20 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.21081	-0.01584	0.99682	0.99365
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1025.	6.93342	6.89408
2	40.	698.	6.54965	6.57736
3	60.	514.	6.24417	6.26064
4	80.	365.	5.90263	5.94392
5	100.	290.	5.67332	5.62719

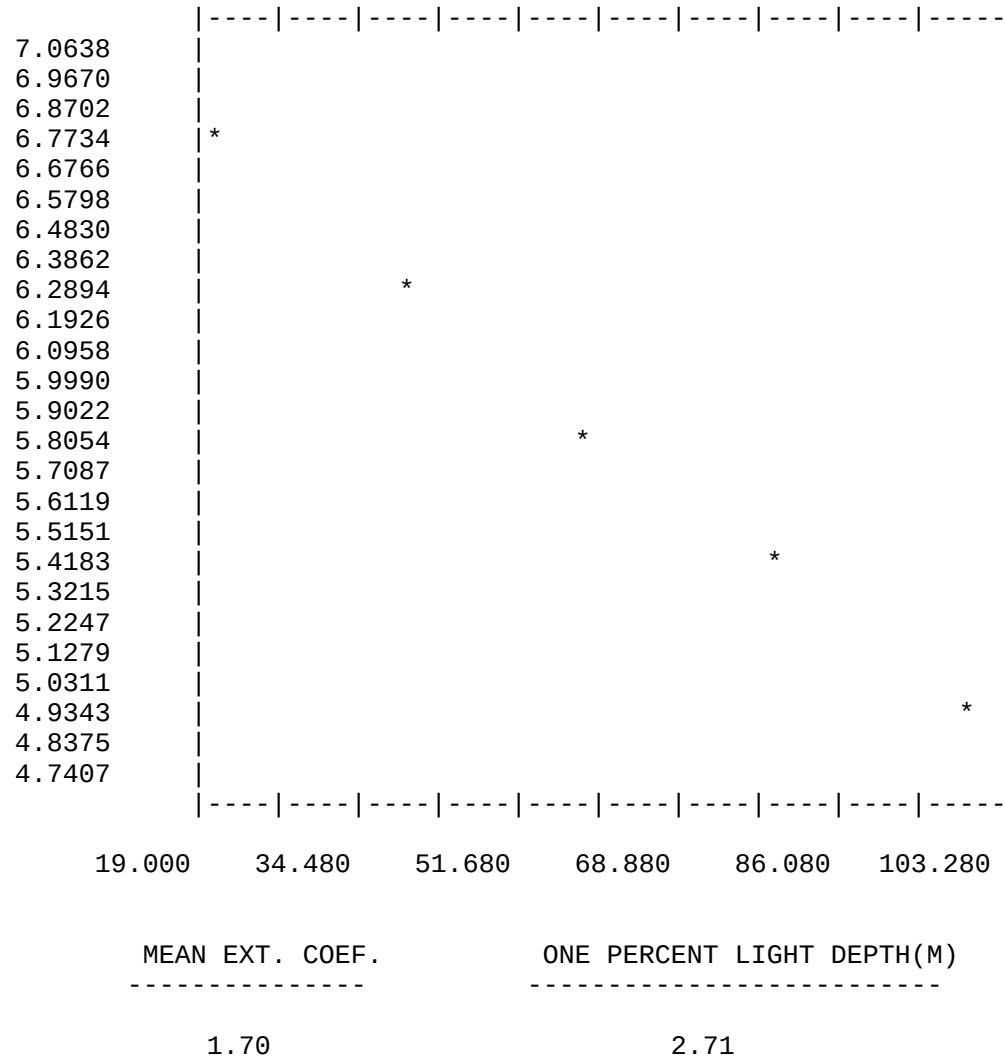


LIGHT PROFILE ANALYSES - FOR 8/12/2004

ISOHALINE - 12 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
7.15411		-0.02266	0.99940	0.99880
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	834.	6.72743	6.70095
2	40.	509.	6.23441	6.24779
3	60.	316.	5.75890	5.79463
4	80.	209.	5.34711	5.34146
5	100.	134.	4.90527	4.88830

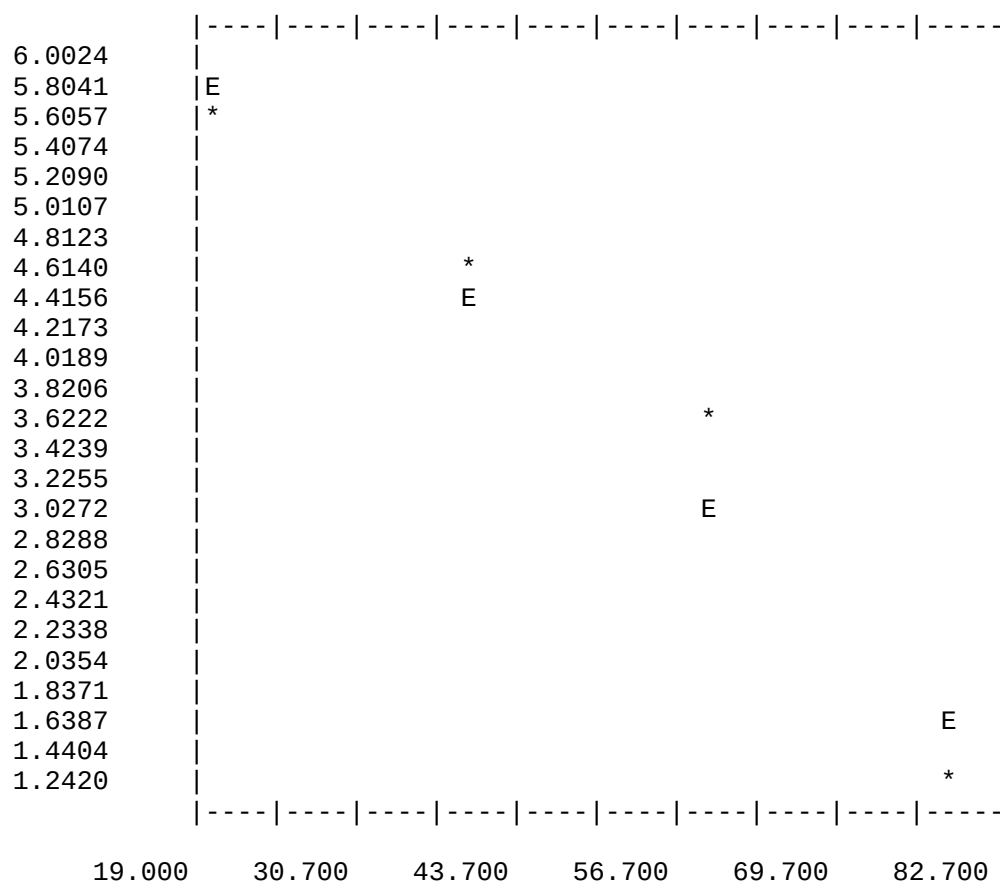


LIGHT PROFILE ANALYSES - FOR 8/12/2004

ISOHALINE - 6 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.11996	-0.07017	0.97287	0.94647
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	226.	5.42495	5.71660
2	40.	88.	4.48864	4.31323
3	60.	30.	3.43399	2.90986
4	80.	2.	1.09861	1.50650



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

5.26

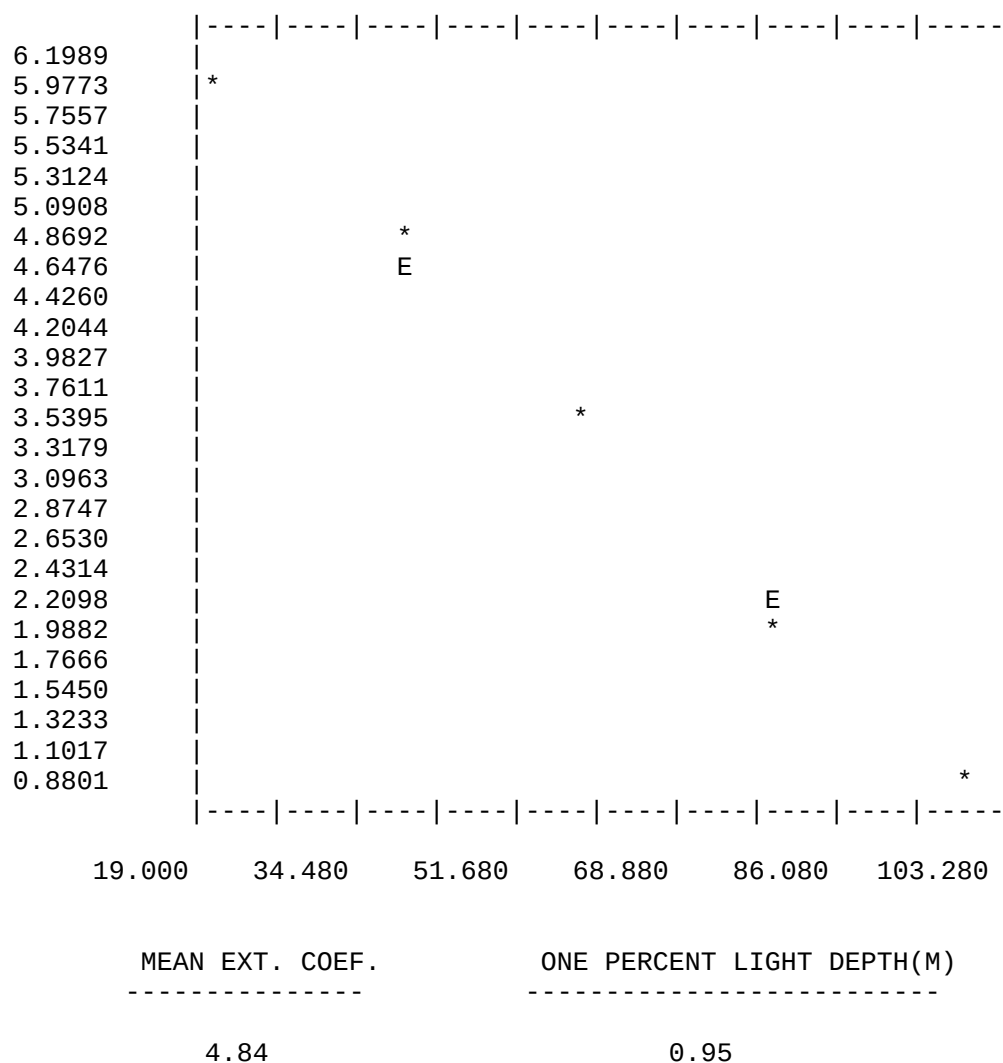
0.88

LIGHT PROFILE ANALYSES - FOR 8/12/2004

ISOHALINE - 0 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.19485	-0.06456	0.99805	0.99611
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	320.	5.77144	5.90373
2	40.	109.	4.70048	4.61261
3	60.	32.	3.49651	3.32150
4	80.	6.	1.94591	2.03038
5	100.	1.	0.69315	0.73926

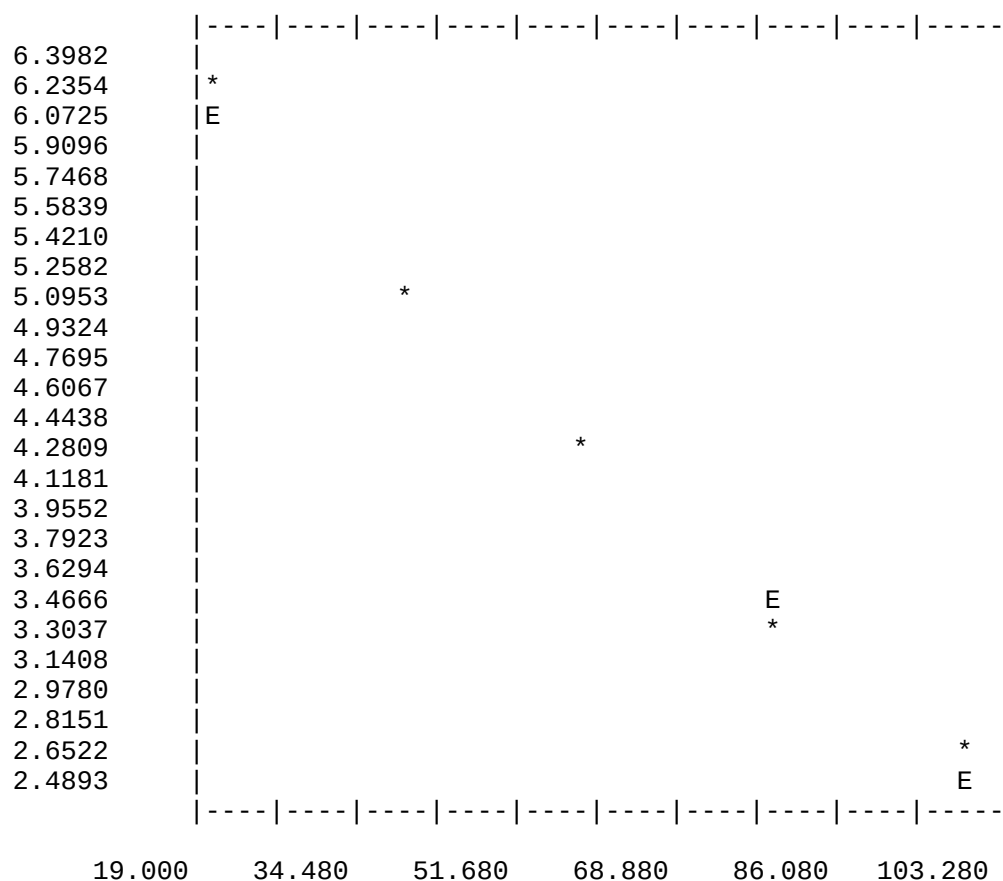


LIGHT PROFILE ANALYSES - FOR 8/12/2004

LOCATION STATION - 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.84710	-0.04398	0.99684	0.99369
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	442.	6.09357	5.96746
2	40.	147.	4.99721	5.08783
3	60.	61.	4.12713	4.20819
4	80.	25.	3.25810	3.32856
5	100.	12.	2.56495	2.44892



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.30

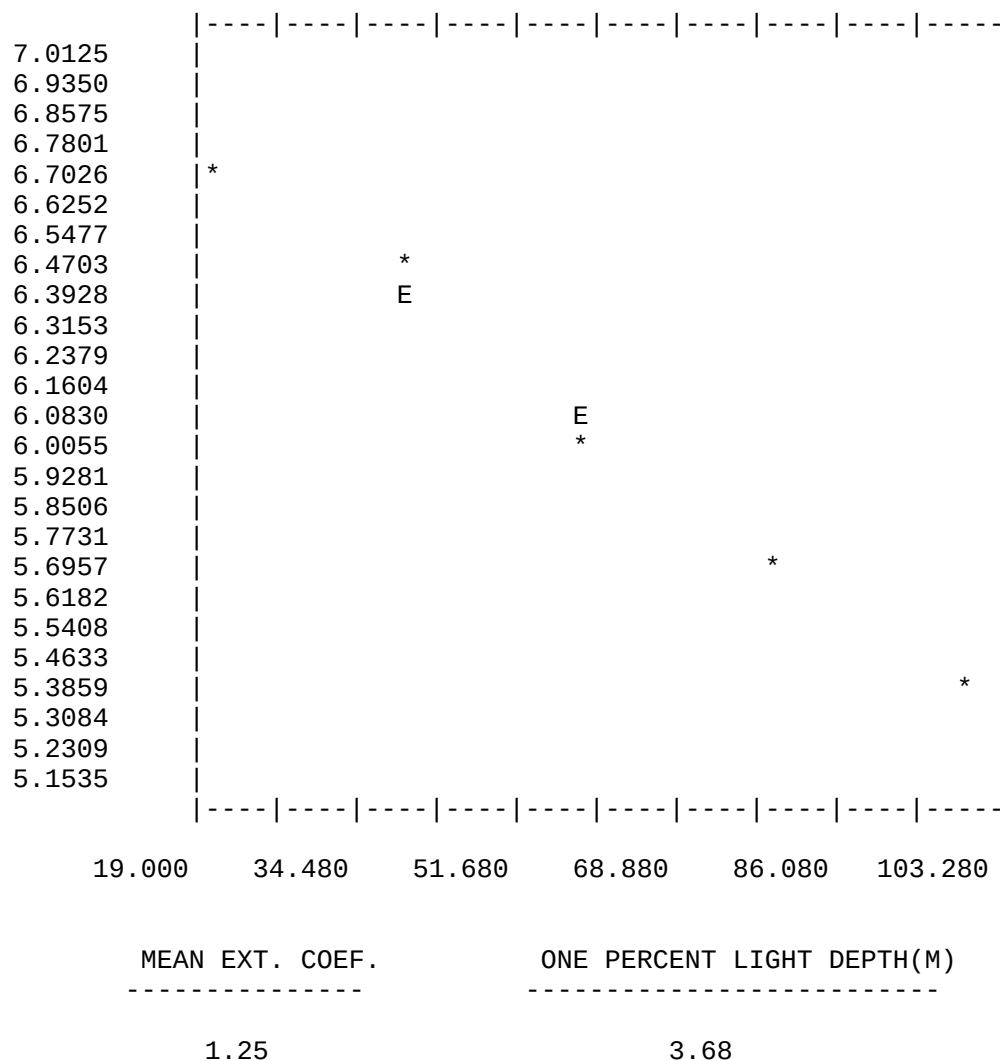
1.40

LIGHT PROFILE ANALYSES - FOR10/ 6/2004

ISOHALINE - 20 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.01236	-0.01669	0.99497	0.98997
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	763.	6.63857	6.67853
2	40.	620.	6.43133	6.34470
3	60.	389.	5.96615	6.01087
4	80.	288.	5.66643	5.67703
5	100.	210.	5.35186	5.34320

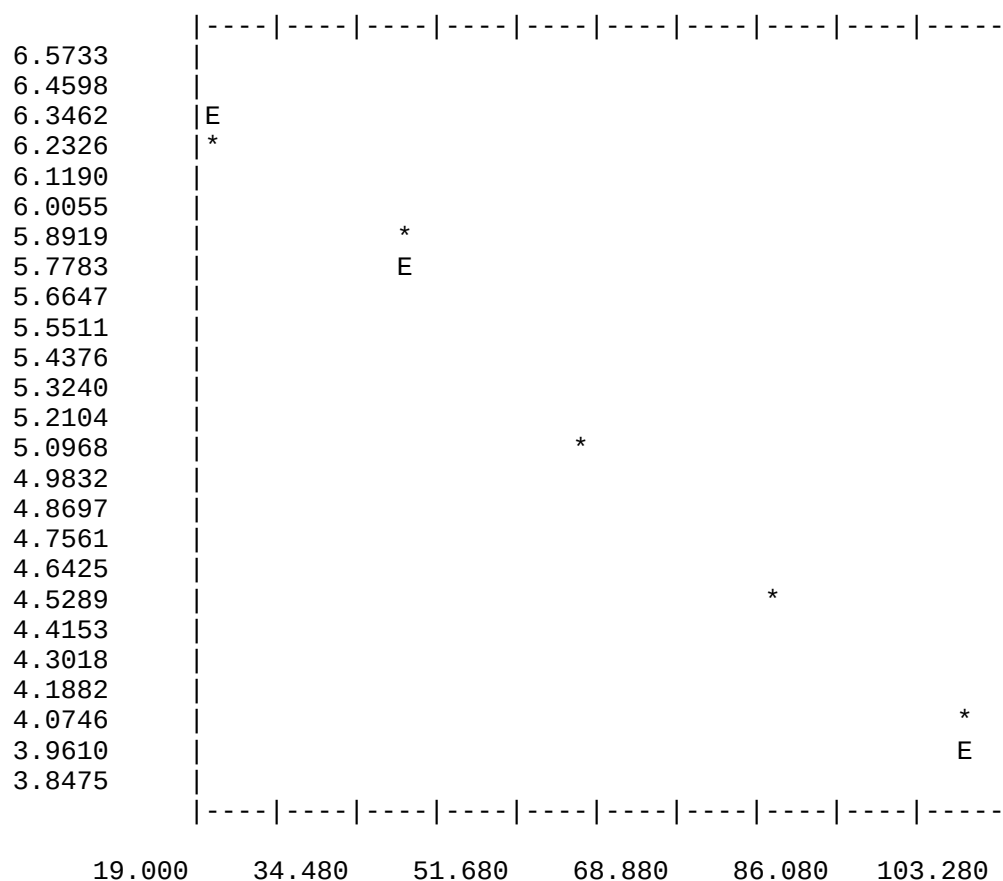


LIGHT PROFILE ANALYSES - FOR10/ 6/2004

ISOHALINE - 12 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.84281	-0.02912	0.99613	0.99227
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	499.	6.21461	6.26033
2	40.	330.	5.80212	5.67785
3	60.	151.	5.02388	5.09536
4	80.	86.	4.46591	4.51288
5	100.	52.	3.97029	3.93039



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.18

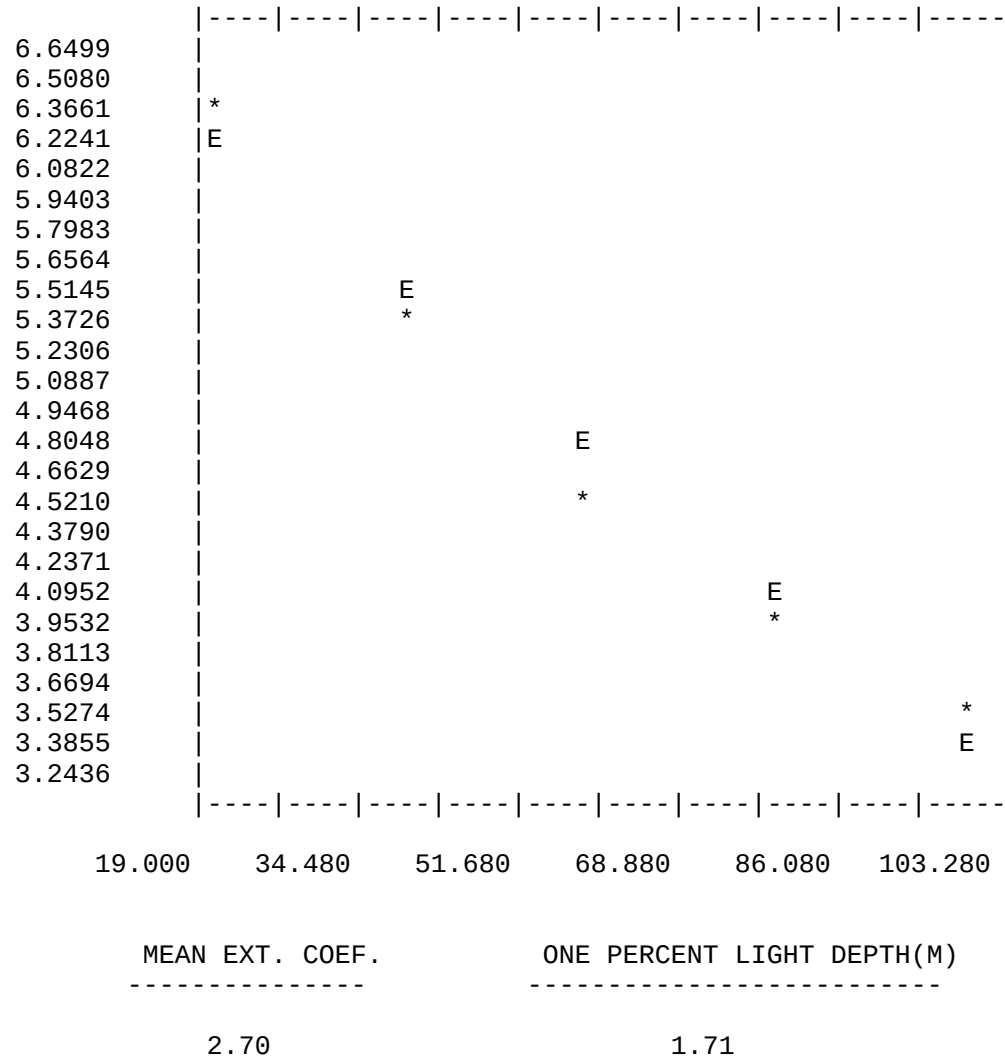
2.11

LIGHT PROFILE ANALYSES - FOR10/ 6/2004

ISOHALINE - 6 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.86326		-0.03598	0.98522	0.97067
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	562.	6.33328	6.14358
2	40.	210.	5.35186	5.42391
3	60.	90.	4.51086	4.70423
4	80.	45.	3.82864	3.98455
5	100.	32.	3.49651	3.26488

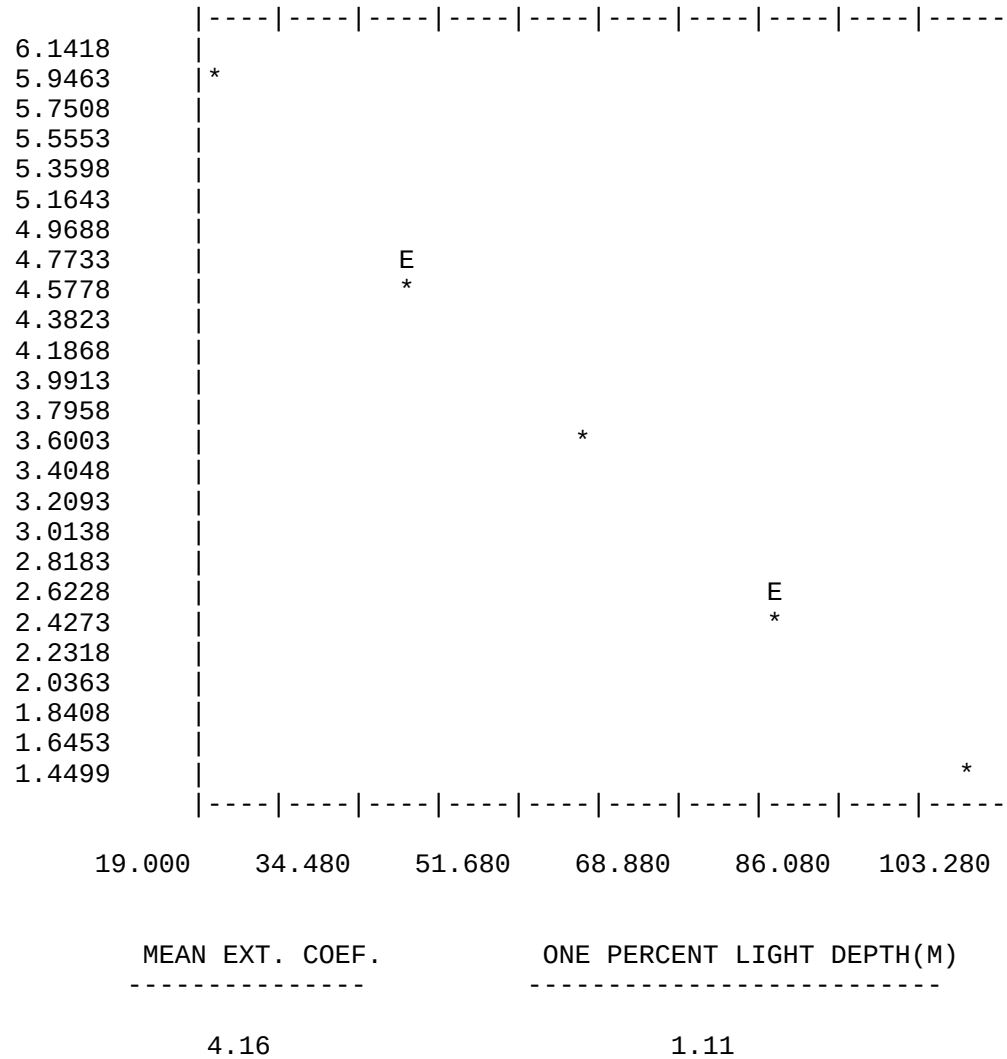


LIGHT PROFILE ANALYSES - FOR10/ 6/2004

ISOHALINE - 0 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.87181		-0.05551	0.99915	0.99831
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	346.	5.84932	5.76152
2	40.	96.	4.57471	4.65124
3	60.	32.	3.49651	3.54095
4	80.	10.	2.39790	2.43066
5	100.	3.	1.38629	1.32037

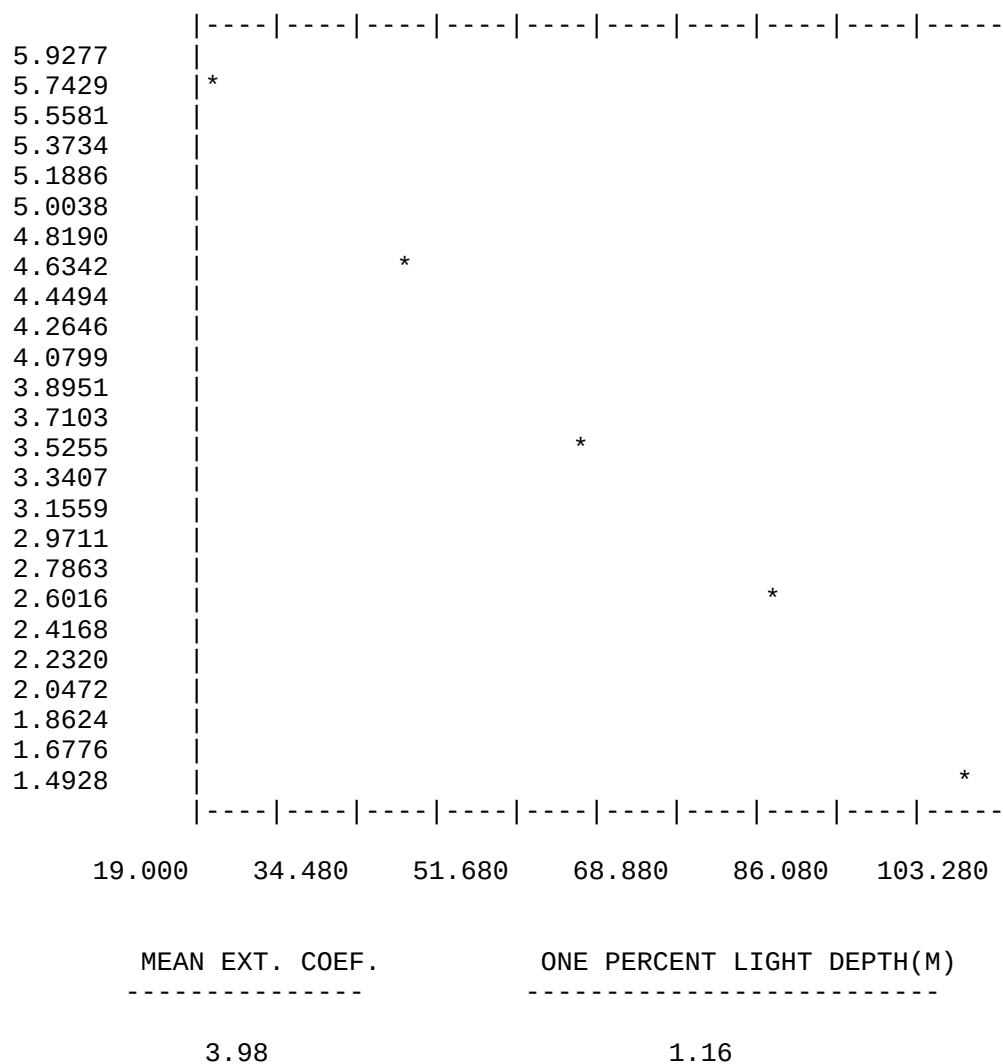


LIGHT PROFILE ANALYSES - FOR10/ 6/2004

LOCATION STATION - 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.68095		-0.05304	0.99944	0.99888
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	282.	5.64545	5.62013
2	40.	96.	4.57471	4.55932
3	60.	29.	3.40120	3.49851
4	80.	11.	2.48491	2.43770
5	100.	3.	1.38629	1.37689

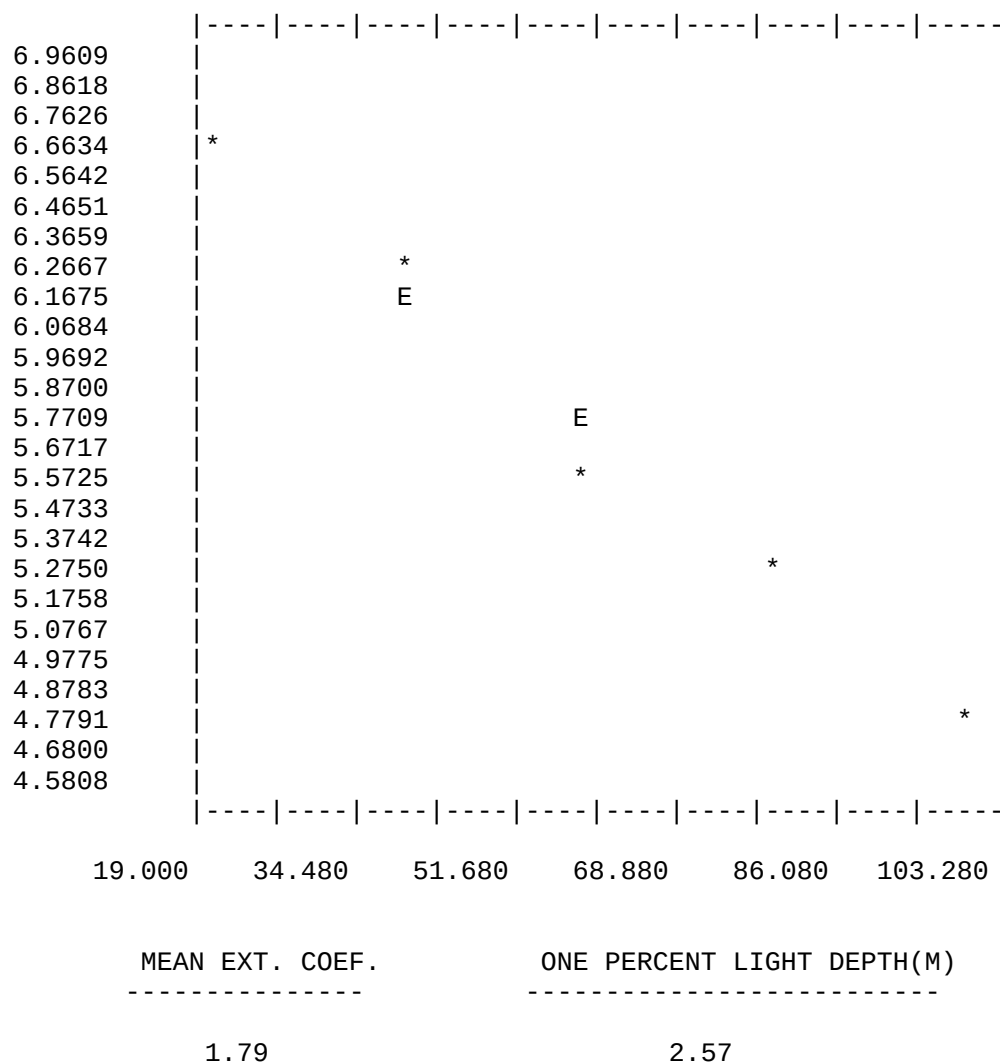


LIGHT PROFILE ANALYSES - FOR11/10/2004

ISOHALINE - 20 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.10745	-0.02390	0.99568	0.99139
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	746.	6.61607	6.62946
2	40.	505.	6.22654	6.15147
3	60.	260.	5.56452	5.67347
4	80.	188.	5.24175	5.19548
5	100.	111.	4.71850	4.71749

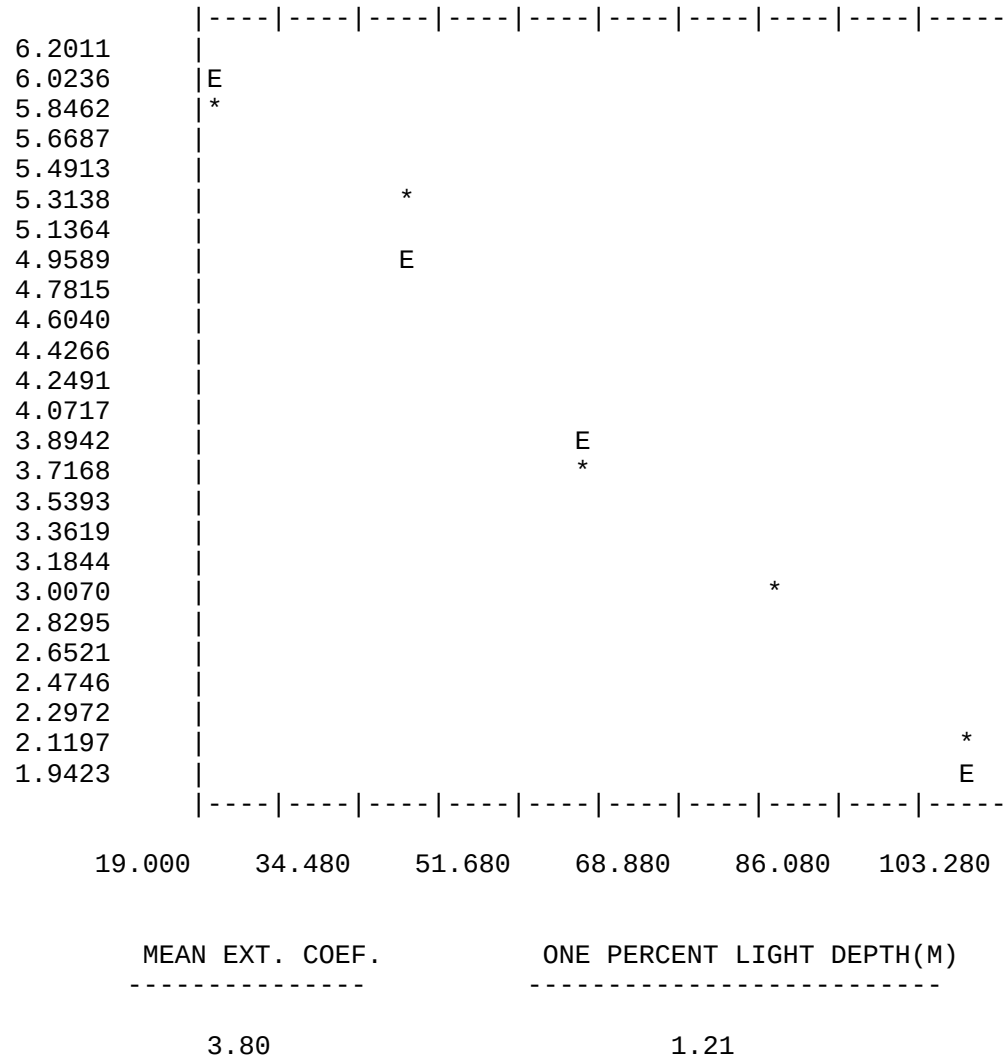


LIGHT PROFILE ANALYSES - FOR11/10/2004

ISOHALINE - 12 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.91780		-0.05060	0.98876	0.97764
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	329.	5.79909	5.90579
2	40.	189.	5.24702	4.89377
3	60.	35.	3.58352	3.88175
4	80.	16.	2.83321	2.86973
5	100.	6.	1.94591	1.85772

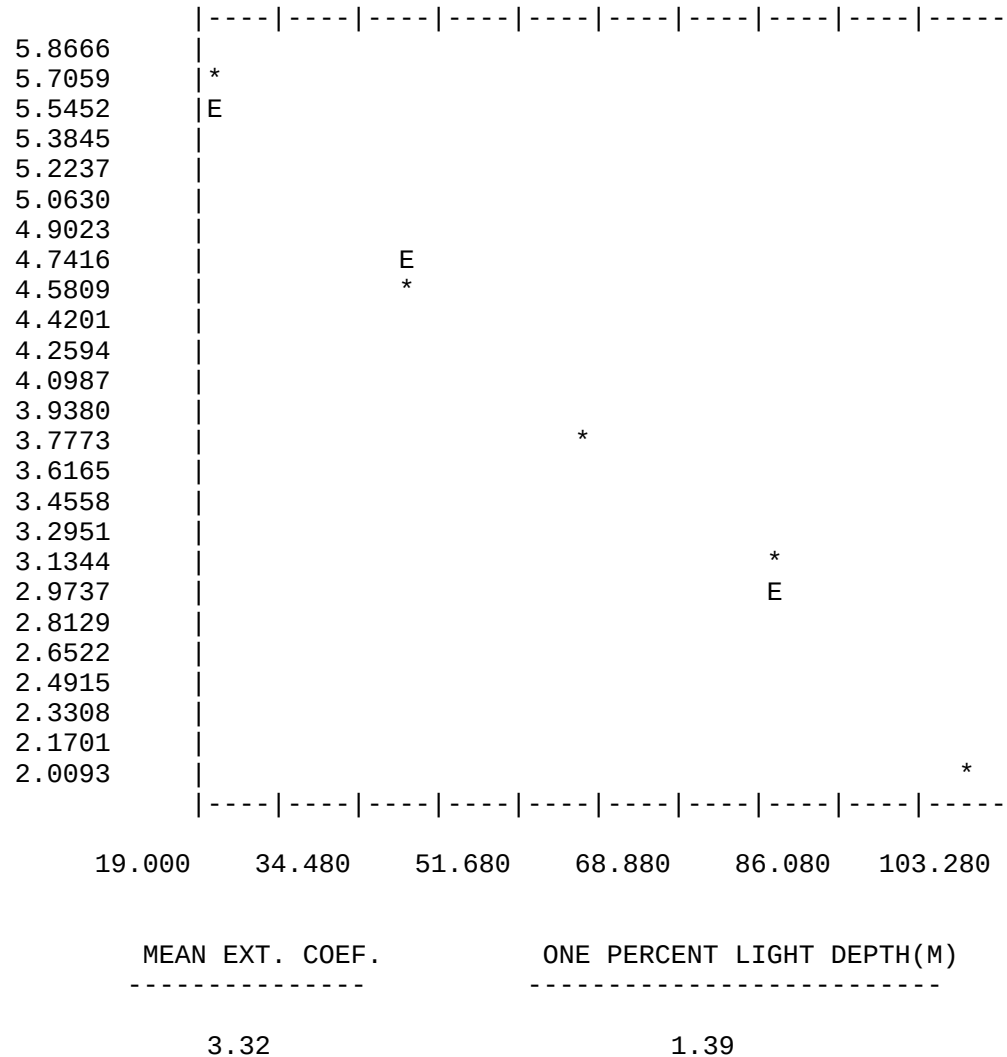


LIGHT PROFILE ANALYSES - FOR11/10/2004

ISOHALINE - 6 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.41633		-0.04420	0.99818	0.99636
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	266.	5.58725	5.53225
2	40.	94.	4.55388	4.64817
3	60.	41.	3.73767	3.76409
4	80.	19.	2.99573	2.88001
5	100.	6.	1.94591	1.99592

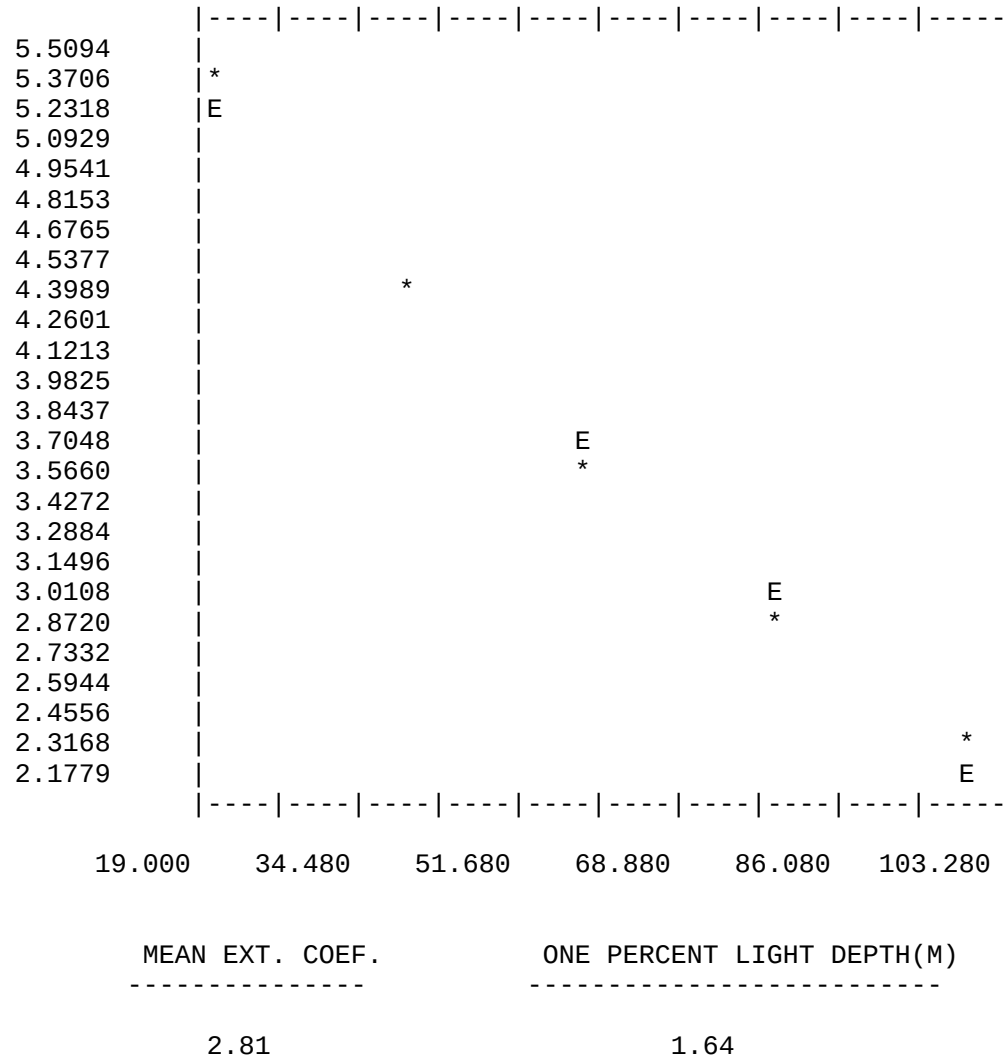


LIGHT PROFILE ANALYSES - FOR11/10/2004

ISOHALINE - 0 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
5.89561		-0.03749	0.99432	0.98866
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	189.	5.24702	5.14578
2	40.	79.	4.38203	4.39595
3	60.	33.	3.52636	3.64612
4	80.	15.	2.77259	2.89629
5	100.	9.	2.30259	2.14645

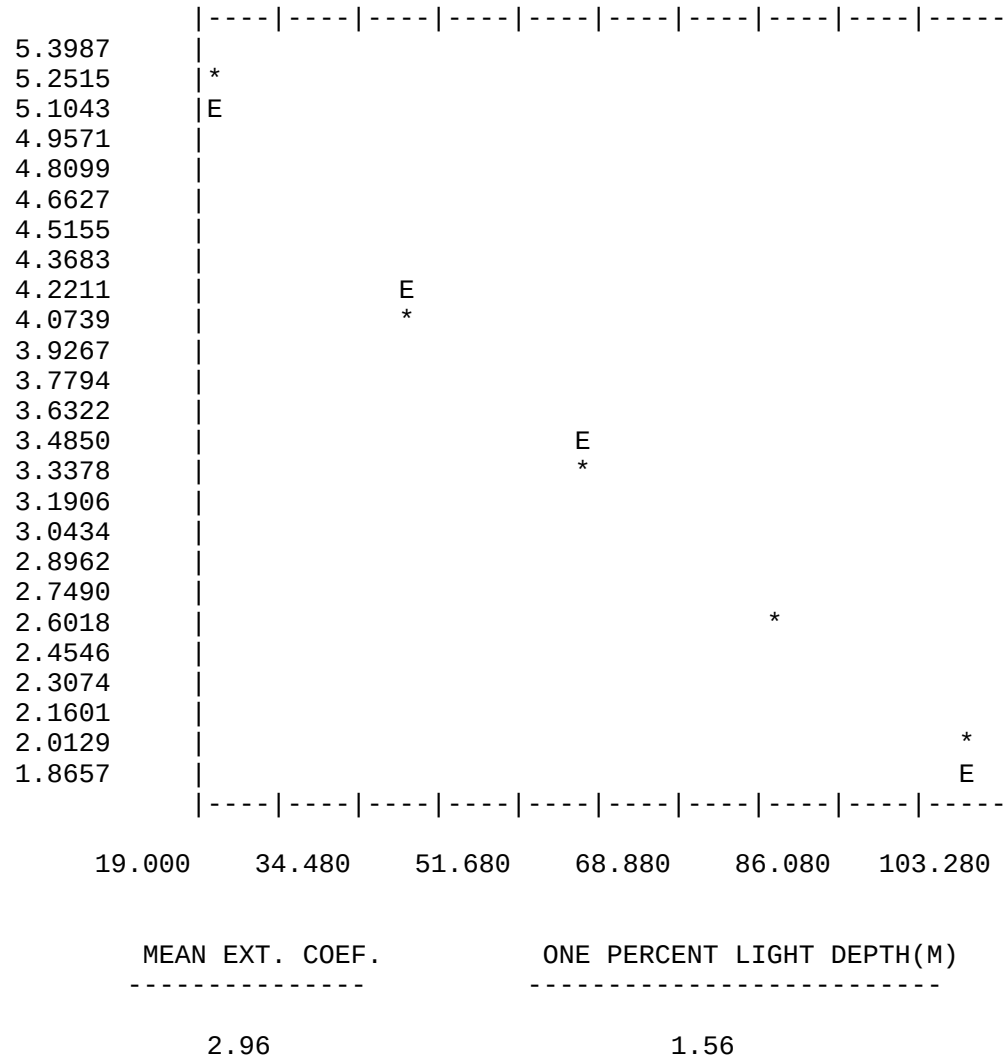


LIGHT PROFILE ANALYSES - FOR11/10/2004

LOCATION STATION - 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
5.75247		-0.03943	0.99263	0.98532
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	170.	5.14166	4.96377
2	40.	57.	4.06044	4.17507
3	60.	24.	3.21888	3.38637
4	80.	12.	2.56495	2.59767
5	100.	6.	1.94591	1.80897

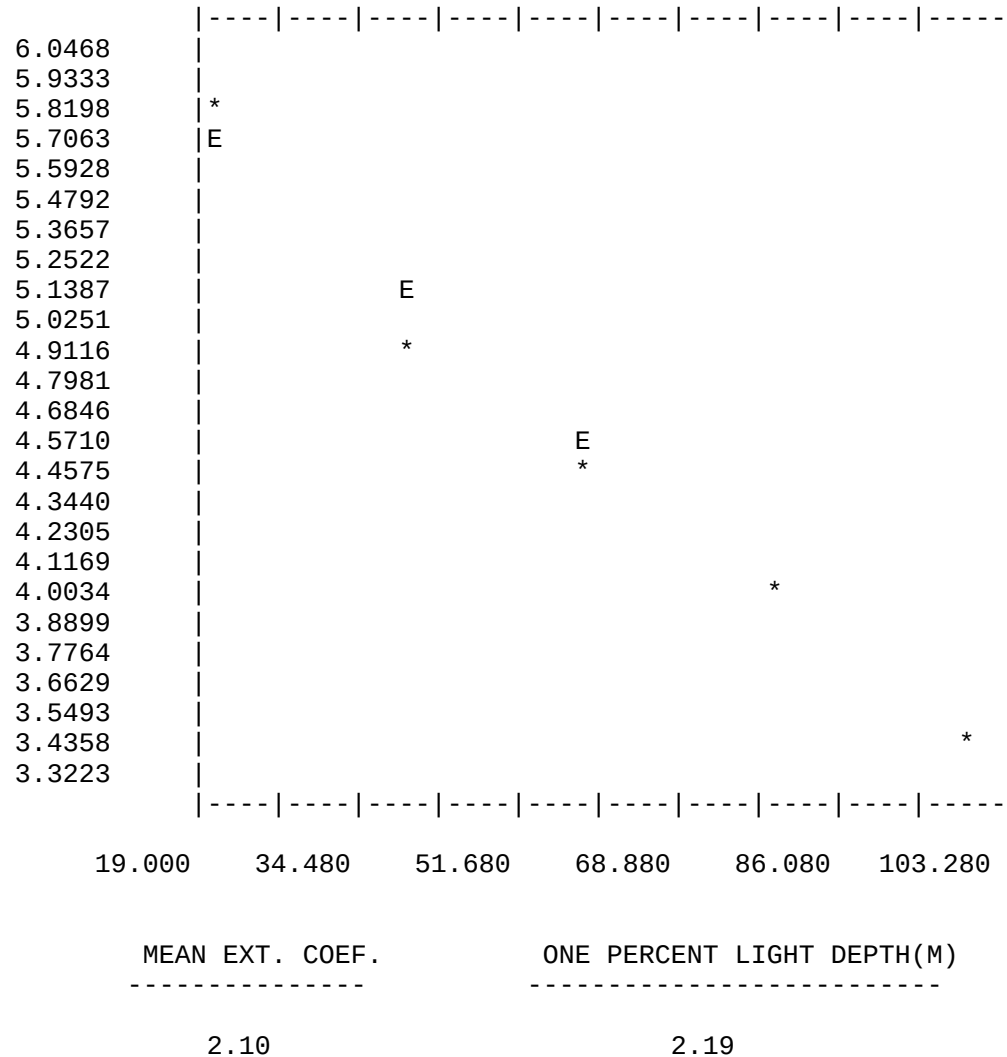


LIGHT PROFILE ANALYSES - FOR12/ 8/2004

ISOHALINE - 20 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.17957		-0.02802	0.99220	0.98447
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	316.	5.75890	5.61918
2	40.	134.	4.90527	5.05880
3	60.	84.	4.44265	4.49841
4	80.	51.	3.95124	3.93803
5	100.	30.	3.43399	3.37764

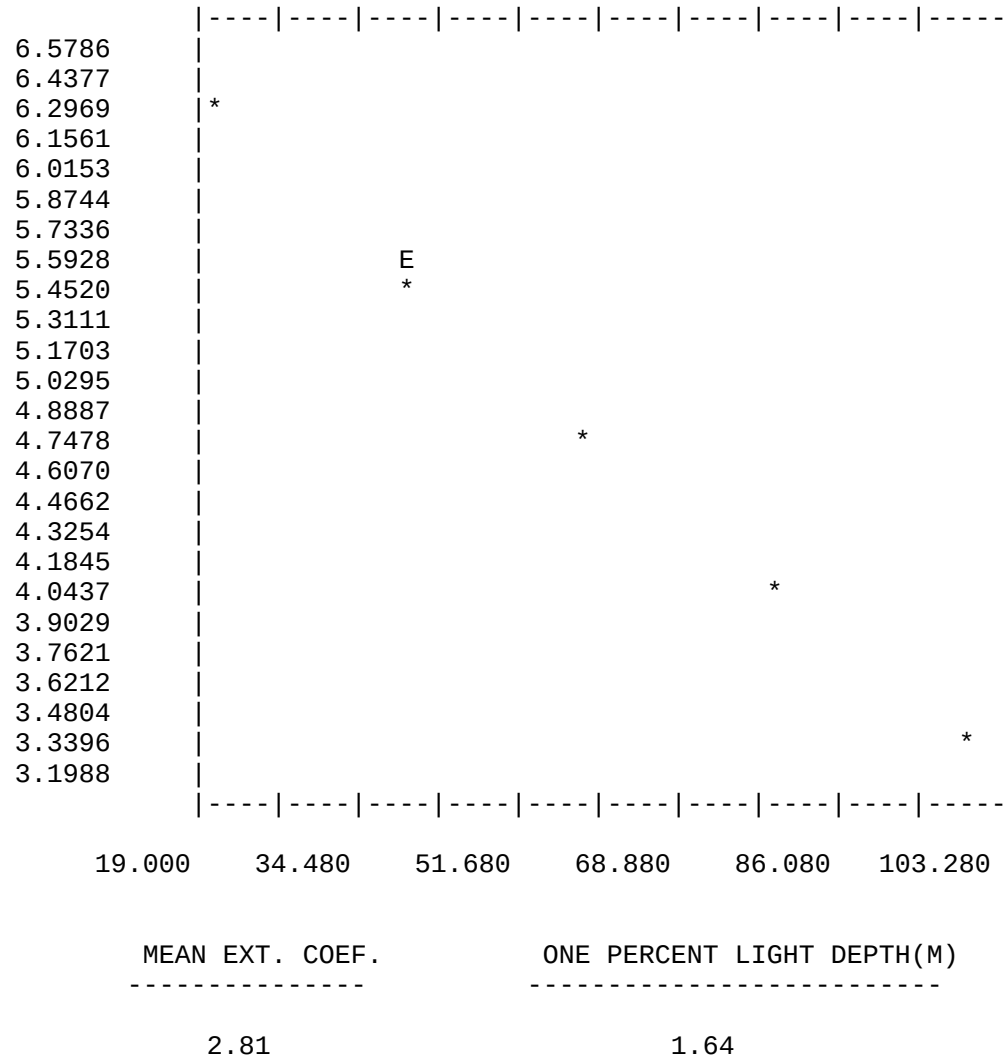


LIGHT PROFILE ANALYSES - FOR12/ 8/2004

ISOHALINE - 12 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.97139		-0.03748	0.99920	0.99841
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	525.	6.26530	6.22171
2	40.	227.	5.42935	5.47202
3	60.	106.	4.67283	4.72234
4	80.	55.	4.02535	3.97266
5	100.	24.	3.21888	3.22297

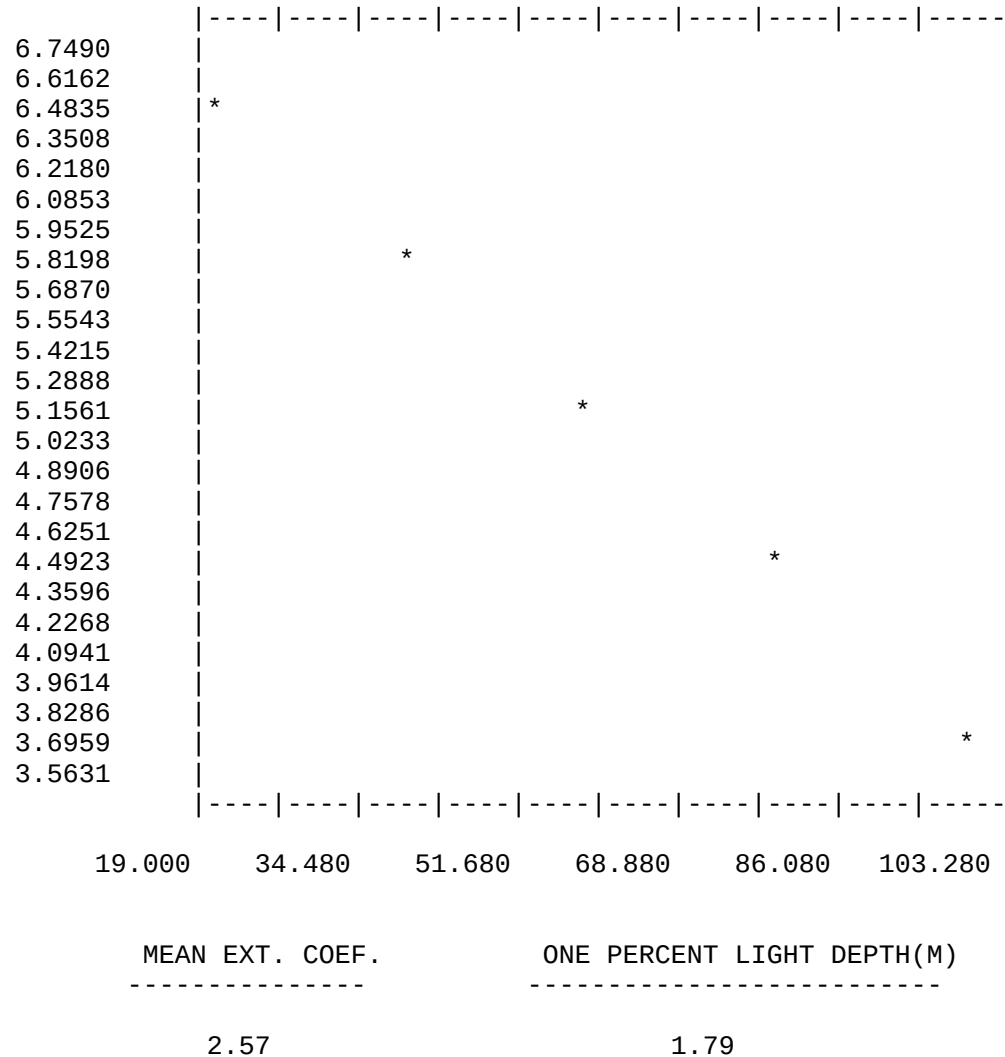


LIGHT PROFILE ANALYSES - FOR12/ 8/2004

ISOHALINE - 6 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
7.11253		-0.03425	0.99734	0.99469
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	584.	6.37161	6.42761
2	40.	331.	5.80513	5.74269
3	60.	151.	5.02388	5.05778
4	80.	87.	4.47734	4.37286
5	100.	36.	3.61092	3.68794

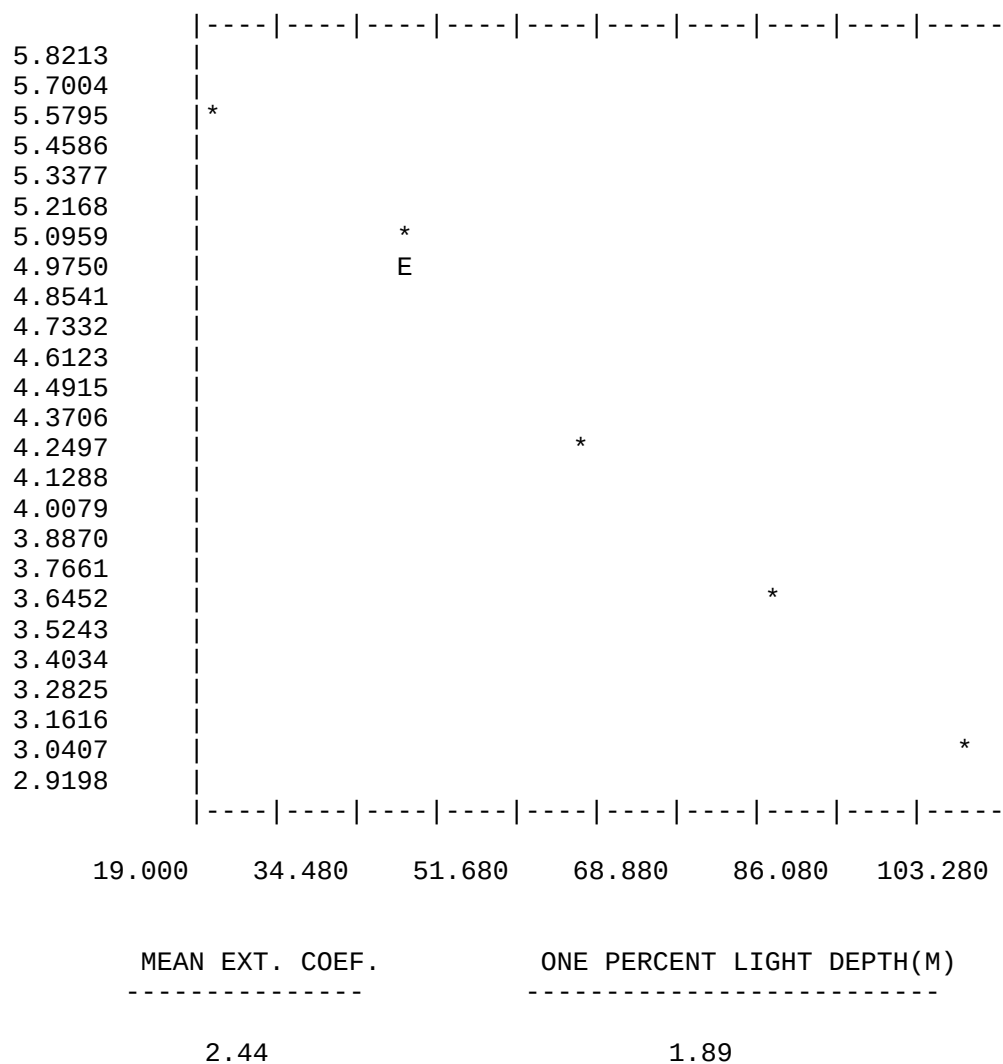


LIGHT PROFILE ANALYSES - FOR12/ 8/2004

ISOHALINE - 0 PPT

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.19353	-0.03247	0.99751	0.99503
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	250.	5.52545	5.54408
2	40.	146.	4.99043	4.89462
3	60.	63.	4.15888	4.24517
4	80.	34.	3.55535	3.59572
5	100.	19.	2.99573	2.94626

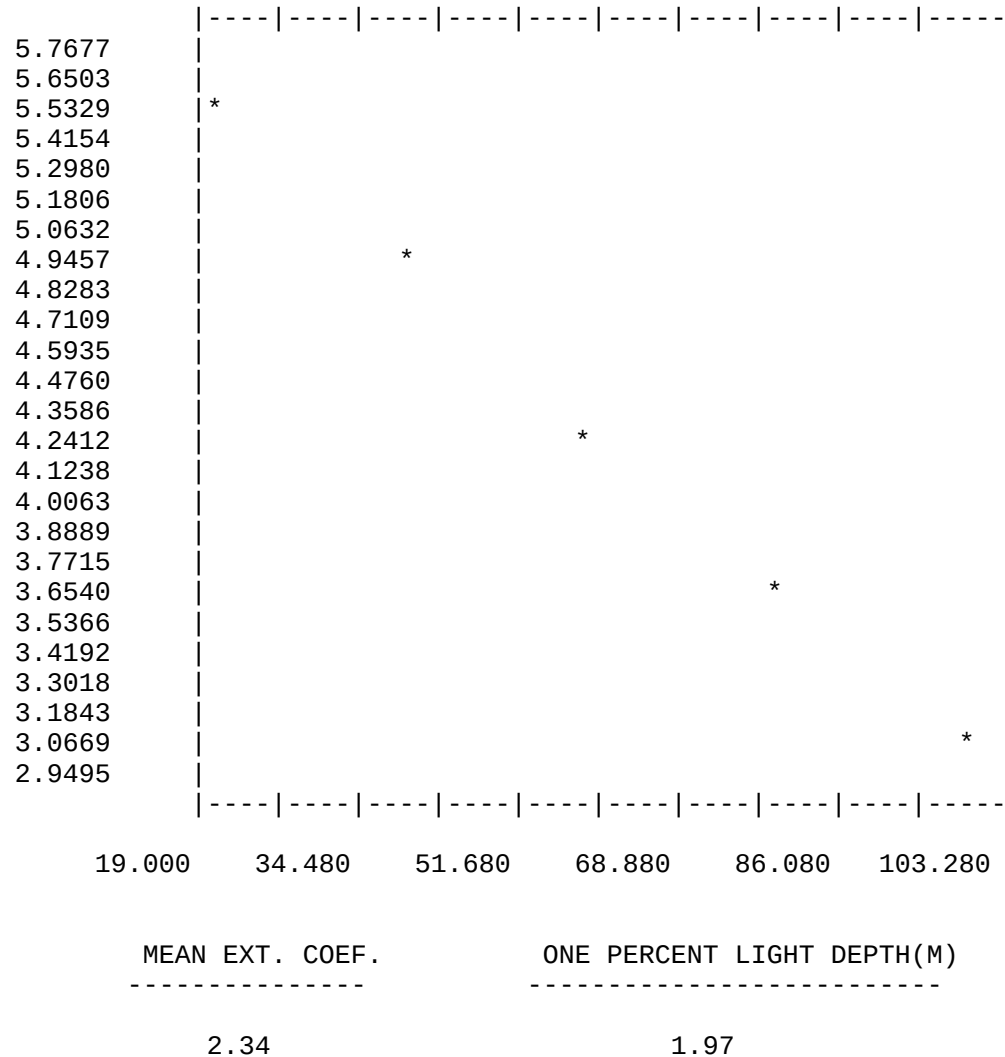


LIGHT PROFILE ANALYSES - FOR12/ 8/2004

LOCATION - STATION 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.09509	-0.03114	0.99973	0.99946
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	242.	5.49306	5.47230
2	40.	126.	4.84419	4.84950
3	60.	65.	4.18965	4.22671
4	80.	36.	3.61092	3.60392
5	100.	19.	2.99573	2.98112



Appendix C

Summary Of Surface Water Chemistry Data Collected In Conjunction With “Moving” Isohaline Stations

Moving Station Water Quality Data from Benchmark

Date	Sample Location	Distance (km)	Color (CPU)	Total Suspended Solids (mg/l)	Volatile Suspended Solids (mg/L)	Chloride (mg/l)	Iron (mg/l)	Chlorophyll-a (ug/l)
09JAN04	0 o/oo	20.2	90	2.0	2.0	60.5	0.179	3.9
09JAN04	6 o/oo	18.3	120	19.8	17.0	3529.0	0.114	85.6
09JAN04	12 o/oo	13.7	120	44.8	37.2	6448.0	0.113	195.0
09JAN04	20 o/oo	7.5	50	13.7	6.8	10997.0	0.157	10.9
09JAN04	#18	30.4	100	3.7	2.4	38.5	0.212	3.9
13FEB04	0 o/oo	15.1	130	2.3	2.0	54.5	0.159	18.0
13FEB04	6 o/oo	14.4	100	7.3	5.9	2559.0	0.087	32.2
13FEB04	12 o/oo	10.2	80	10.5	5.6	4898.0	0.107	39.0
13FEB04	20 o/oo	6.3	50	13.5	5.6	10597.0	0.108	20.8
13FEB04	#18	30.4	140	3.3	2.6	23.5	0.191	9.7
09MAR04	0 o/oo	14.6	120	18.2	6.8	73.4	0.363	25.4
09MAR04	6 o/oo	7.6	120	12.1	4.1	2069.0	0.284	13.6
09MAR04	12 o/oo	4.5	80	13.4	4.8	5698.0	0.183	26.1
09MAR04	20 o/oo	0.4	50	13.1	4.4	10197.0	0.129	15.4
09MAR04	#18	30.4	140	7.1	2.2	30.5	0.280	11.7
16APR04	0 o/oo	31.5	40	2.4	1.3	36.0	0.076	3.9
16APR04	6 o/oo	15.1	60	23.2	9.2	3249.0	0.230	19.5
16APR04	12 o/oo	13.3	60	13.5	7.9	5948.0	0.086	41.2
16APR04	20 o/oo	7.2	30	10.1	4.1	10197.0	0.098	9.5
16APR04	#18	30.4	60	4.9	1.9	40.2	0.092	11.8
14MAY04	0 o/oo	22.0	120	8.2	3.6	47.4	0.198	10.7
14MAY04	6 o/oo	16.0	100	9.9	4.8	3099.0	0.144	56.5
14MAY04	12 o/oo	11.5	80	13.0	6.4	5798.0	0.149	45.5
14MAY04	20 o/oo	7.6	40	14.7	5.6	10097.0	0.143	18.1
14MAY04	#18	30.4	80	3.9	1.9	26.2	0.170	10.7
09JUN04	0 o/oo	34.5	40	3.3	1.2	40.9	0.073	6.4
09JUN04	6 o/oo	21.0	70	4.1	1.8	2549.0	0.180	3.9
09JUN04	12 o/oo	17.5	120	13.9	8.4	6418.0	0.142	144.0
09JUN04	20 o/oo	15.7	45	15.6	6.7	10785.0	0.139	17.1
09JUN04	#18	30.4	45	4.1	2.0	56.9	0.108	11.0
07JUL04	0 o/oo	29.2	120	10.0	3.4	25.7	0.315	7.2
07JUL04	6 o/oo	14.2	120	13.6	6.1	2915.0	0.231	25.3
07JUL04	12 o/oo	6.7	90	8.9	3.4	5805.0	0.121	9.4
07JUL04	20 o/oo	3.3	40	12.4	4.4	12091.0	0.112	6.4
07JUL04	#18	30.4	100	6.8	2.1	24.9	0.303	7.3

Moving Station Water Quality Data from Benchmark

Date	Sample Location	Distance (km)	Color (CPU)	Total Suspended Solids (mg/l)	Volatile Suspended Solids (mg/L)	Chloride (mg/l)	Iron (mg/l)	Chlorophyll-a (ug/l)
12AUG04	0 o/oo	13.7	280	6.4	3.7	73.9	0.889	6.9
12AUG04	6 o/oo	6.5	180	6.8	4.3	3114.0	0.428	22.7
12AUG04	12 o/oo	-0.4	120	8.5	5.9	6399.0	0.143	36.7
12AUG04	20 o/oo	-17.1	60	9.0	6.2	11026.0	0.290	24.5
12AUG04	#18	30.4	300	9.6	3.1	24.0	0.758	6.5
08SEP04	0 o/oo	6.4	300	12.0	6.7	93.2	0.593	11.8
08SEP04	6 o/oo	-2.9	200	13.4	4.8	2995.0	0.628	9.8
08SEP04	12 o/oo	-10.2	150	13.2	5.2	5940.0	0.391	8.2
08SEP04	20 o/oo	-29.0	100	9.3	4.2	10044.0	0.131	12.8
08SEP04	#18	30.4	300	3.4	2.8	14.7	0.395	15.2
06OCT04	0 o/oo	10.7	300	3.6	3.6	151.0	0.676	9.8
06OCT04	6 o/oo	5.6	200	18.6	5.0	4424.0	0.444	8.0
06OCT04	12 o/oo	-6.7	200	11.6	4.7	6694.0	0.392	7.6
06OCT04	20 o/oo	-29.5	150	8.0	5.4	11928.0	0.060	14.5
06OCT04	#18	30.4	250	5.9	4.2	10.6	0.621	7.1
10NOV04	0 o/oo	25.5	175	7.0	4.3	19.6	0.461	32.3
10NOV04	6 o/oo	11.5	150	28.4	11.4	2574.0	0.661	61.1
10NOV04	12 o/oo	8.5	150	49.2	18.0	5453.0	0.750	40.7
10NOV04	20 o/oo	2.5	100	50.2	16.2	10599.0	0.521	13.7
10NOV04	#18	30.4	225	11.0	5.6	19.2	0.527	31.0
08DEC04	0 o/oo	28.0	120	4.9	3.3	28.0	0.374	37.3
08DEC04	6 o/oo	14.0	90	32.8	14.8	9008.0	0.349	50.0
08DEC04	12 o/oo	12.0	70	38.6	14.8	8351.0	0.933	69.0
08DEC04	20 o/oo	8.0	60	22.7	8.6	10695.0	0.187	43.2
08DEC04	#18	30.4	60	5.1	3.6	29.2	0.464	47.2

Moving Station Water Quality Data from Benchmark

Date	Sample Location	Distance (km)	Ammonia/Ammonium (mg/l)	Nitrite/Nitrate (mg/l)	Total Kjeldahl Nitrogen (mg/l)	Orthophosphorus (mg/l)	Available N/P Atomic Ratio	Silica (mg/l)
09JAN04	0 o/oo	20.2	0.010	0.676	0.76	0.770	2.0	5.47
09JAN04	6 o/oo	18.3	0.030	0.035	3.50	0.420	0.4	4.45
09JAN04	12 o/oo	13.7	0.030	0.021	2.08	0.220	0.5	2.86
09JAN04	20 o/oo	7.5	0.020	0.021	0.38	0.140	0.7	1.03
09JAN04	#18	30.4	0.020	0.748	0.67	0.820	2.1	5.43
13FEB04	0 o/oo	15.1	0.020	0.485	1.02	0.720	1.6	4.62
13FEB04	6 o/oo	14.4	0.040	0.243	1.15	0.410	1.6	2.32
13FEB04	12 o/oo	10.2	0.040	0.057	0.75	0.270	0.8	0.23
13FEB04	20 o/oo	6.3	0.030	0.021	0.68	0.190	0.6	0.01
13FEB04	#18	30.4	0.030	0.631	0.83	0.810	1.9	4.90
09MAR04	0 o/oo	14.6	0.050	0.252	0.86	0.610	1.1	4.10
09MAR04	6 o/oo	7.6	0.030	0.248	0.84	0.400	1.6	3.36
09MAR04	12 o/oo	4.5	0.040	0.125	0.84	0.270	1.4	1.35
09MAR04	20 o/oo	0.4	0.110	0.020	0.40	0.140	2.1	0.38
09MAR04	#18	30.4	0.080	0.477	0.85	0.750	1.7	5.01
16APR04	0 o/oo	31.5	0.010	0.556	0.97	1.160	1.1	2.50
16APR04	6 o/oo	15.1	0.010	0.094	3.06	0.500	0.5	3.87
16APR04	12 o/oo	13.3	0.010	0.010	1.97	0.340	0.1	3.00
16APR04	20 o/oo	7.2	0.010	0.010	0.99	0.180	0.3	1.76
16APR04	#18	30.4	0.010	0.485	1.04	1.260	0.9	2.98
14MAY04	0 o/oo	22.0	0.030	0.430	0.92	0.890	1.2	5.08
14MAY04	6 o/oo	16.0	0.030	0.274	1.09	0.620	1.1	4.49
14MAY04	12 o/oo	11.5	0.030	0.120	1.06	0.440	0.8	3.58
14MAY04	20 o/oo	7.6	0.020	0.038	0.70	0.310	0.4	2.43
14MAY04	#18	30.4	0.020	0.531	0.66	0.960	1.3	4.97
09JUN04	0 o/oo	34.5	0.010	0.338	0.70	1.090	0.7	2.02
09JUN04	6 o/oo	21.0	0.010	0.076	0.58	0.890	0.2	4.80
09JUN04	12 o/oo	17.5	0.020	0.010	1.25	0.690	0.1	4.82
09JUN04	20 o/oo	15.7	0.010	0.010	0.60	0.420	0.1	2.60
09JUN04	#18	30.4	0.010	0.113	0.78	1.260	0.2	2.08
07JUL04	0 o/oo	29.2	0.050	0.585	0.70	0.610	2.4	5.67
07JUL04	6 o/oo	14.2	0.050	0.025	0.68	0.510	0.3	4.65
07JUL04	12 o/oo	6.7	0.030	0.010	0.22	0.410	0.2	2.70
07JUL04	20 o/oo	3.3	0.040	0.010	0.54	0.230	0.5	1.32
07JUL04	#18	30.4	0.050	0.612	0.89	0.670	2.3	5.59

Moving Station Water Quality Data from Benchmark

Date	Sample Location	Distance (km)	Ammonia/Ammonium (mg/l)	Nitrite/Nitrate (mg/l)	Total Kjeldahl Nitrogen (mg/l)	Orthophosphorus (mg/l)	Available N/P Atomic Ratio	Silica (mg/l)
12AUG04	0 o/oo	13.7	0.009	0.173	1.16	0.494	0.8	7.75
12AUG04	6 o/oo	6.5	0.010	0.185	0.85	0.440	1.0	7.73
12AUG04	12 o/oo	-0.4	0.006	0.006	0.26	0.245	0.1	5.66
12AUG04	20 o/oo	-17.1	0.160	0.009	0.32	0.149	2.6	3.48
12AUG04	#18	30.4	0.060	0.331	1.09	0.695	1.3	8.53
08SEP04	0 o/oo	6.4	0.007	0.020	1.57	0.786	0.1	7.98
08SEP04	6 o/oo	-2.9	0.006	0.038	1.53	0.442	0.2	8.12
08SEP04	12 o/oo	-10.2	0.006	0.048	1.23	0.358	0.3	7.80
08SEP04	20 o/oo	-29.0	0.006	0.037	0.85	0.329	0.3	5.64
08SEP04	#18	30.4	0.009	0.032	1.47	0.727	0.1	7.31
06OCT04	0 o/oo	10.7	0.006	0.073	0.91	0.917	0.2	5.57
06OCT04	6 o/oo	5.6	0.006	0.308	0.74	0.714	1.0	5.89
06OCT04	12 o/oo	-6.7	0.006	0.195	0.96	0.635	0.7	5.34
06OCT04	20 o/oo	-29.5	0.006	0.181	0.41	0.295	1.4	3.61
06OCT04	#18	30.4	0.006	0.069	1.21	1.070	0.2	5.84
10NOV04	0 o/oo	25.5	0.074	0.486	0.95	1.780	0.7	8.44
10NOV04	6 o/oo	11.5	0.048	0.168	0.69	1.050	0.5	5.41
10NOV04	12 o/oo	8.5	0.042	0.052	1.31	0.865	0.2	3.77
10NOV04	20 o/oo	2.5	0.042	0.061	0.43	0.415	0.6	1.92
10NOV04	#18	30.4	0.053	0.499	1.68	1.720	0.7	8.51
08DEC04	0 o/oo	28.0	0.006	0.957	1.13	1.850	1.2	7.99
08DEC04	6 o/oo	14.0	0.006	0.085	1.77	0.959	0.2	1.55
08DEC04	12 o/oo	12.0	0.010	0.021	0.81	0.793	0.1	0.63
08DEC04	20 o/oo	8.0	0.016	0.004	0.71	0.590	0.1	0.34
08DEC04	#18	30.4	0.006	1.010	1.19	1.850	1.3	8.08

Appendix D

Phytoplankton Taxonomy Summary Results Of Monthly Sampling

MONTH 1 YEAR 2004 0 PPT ISOHALIEN

CHLOROPHYTA	
Chlymentomonas sp.	15
EUGLENOPHYTA	
Eutreptilla sp.	11
PYROPHYTA	
Cryptomonas curvata	3
Cryptomonas erosa	15
Cryptomonas ovata	5
Cryptomonas sp.1	242
CHRYSOPHYTA	
BACILLARIOPHYCEAE	
Nitzschia spp.	1
Skeletonema costatum	85
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	99
Merismopedia glauca	24

NUMBER OF TAXA 10 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	2.0
EUGLENO+PYROPHYTA (FLAGALLATES)	36.1
DINOFLAGALLATES	0.0
BACILLARIOPHYCEAE (DIATOMS)	11.2
CYANOPHYTA (BLUE-GREEN ALGAE)	16.1

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.50	0.652	MARGALEV	1.45	
PIELOU BASE 10	0.65	0.652	SIMPSON	3.26	0.770
MACINTOSH	0.467	0.652	SHELDON		0.449
EXP. PIELOU	4.49		HEIP		0.388

MONTH 1 YEAR 2004 6 PPT ISOHALIEN

EUGLENOPHYTA	
Euglena sp.	5
PYROPHYTA	
Cryptomonas erosa	53
Cryptomonas sp.1	7
PYROPHYTA	
DINOPHYCEAE	
Peridinium cerasus	3
Prorocentrum micans	432

NUMBER OF TAXA 5 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	11.6
DINOFLAGELLATES	77.7
BACILLARIOPHYCEAE (DIATOMS)	0.0
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	0.50	0.311	MARGALEV	0.64	
PIELOU BASE 10	0.22	0.311	SIMPSON	1.32	0.302
MACINTOSH	0.135	0.234	SHELDON		0.330
EXP. PIELOU	1.65		HEIP		0.162

MONTH 1 YEAR 2004 12 PPT ISOHALIEN

EUGLENOPHYTA	
Euglena sp.	3
PYROPHYTA	
Cryptomonas erosa	47
PYROPHYTA	
DINOPHYCEAE	
Dinophysis caudata	1
Peridinium cerasus	12
Prorocentrum micans	431
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	6

NUMBER OF TAXA 6 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	9.1
DINOFLAGELLATES	81.2
BACILLARIOPHYCEAE (DIATOMS)	1.1
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	0.54	0.299	MARGALEV	0.80	
PIELOU BASE 10	0.23	0.299	SIMPSON	1.33	0.297
MACINTOSH	0.139	0.224	SHELDON		0.285
EXP. PIELOU	1.71		HEIP		0.142

MONTH 1 YEAR 2004 20 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas erosa	32
Cryptomonas ovata	11
Cryptomonas sp.1	23
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	5
Gymnodinium simplex	9
Peridinium cerasus	1
Prorocentrum micans	356
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	31
Entomoneis alata	7
Gyrosigma/Pleurosigma sp.1	1
Nitzschia palea	9
Rhizosolenia calcar-avis	4
Rhizosolenia stolterfothii	3
Skeletonema costatum	8

NUMBER OF TAXA 14 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	11.7
DINOFLAGELLATES	65.5
BACILLARIOPHYCEAE (DIATOMS)	11.1
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.23	0.465	MARGALEV	2.09	
PIELOU BASE 10	0.53	0.465	SIMPSON	1.93	0.518
MACINTOSH	0.293	0.382	SHELDON		0.244
EXP. PIELOU	3.41		HEIP		0.185

MONTH 2 YEAR 2004 0 PPT ISOHALIEN

CHLOROPHYTA	
Crucigenia fenestrata	4
Scenedesmus quadricauda v. Westii	52
EUGLENOPHYTA	
Euglena acus	1
Cryptomonas erosa	1
Cryptomonas sp.1	17
PYROPHYTA	
DINOPHYCEAE	
Gonyalux palustre	2
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Nitzschia palea	2
Skeletonema costatum	29
Diploneis	1
CYANOPHYTA	
Anabaena spiroides v. crassa	343
Oscillatoria rubescens (trichome)	5

NUMBER OF TAXA 12 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	11.8
EUGLENO+PYROPHYTA (FLAGELLATES)	4.0
DINOFLAGELLATES	0.4
BACILLARIOPHYCEAE (DIATOMS)	6.7
CYANOPHYTA (BLUE-GREEN ALGAE)	73.3

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.15	0.463	MARGALEV	1.77	
PIELOU BASE 10	0.50	0.463	SIMPSON	2.03	0.553
MACINTOSH	0.311	0.418	SHELDON		0.263
EXP. PIELOU	3.16		HEIP		0.197

MONTH 2 YEAR 2004 6 PPT ISOHALIEN

CHLOROPHYTA	
Scenedesmus quadricauda v. Westii	24
Spermatozoopsis exultans	2
PYROPHYTA	
Cryptomonas sp.1	42
PYROPHYTA	
DINOPHYCEAE	
Amphidinium crassum	1
Gonyalux palustre	28
Peridinium cerasus	7
Prorocentrum micans	1
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	9
CYANOPHYTA	
Anabaena spiroides v. crassa	209
Coelosphaerium sp.	73
Lyngbya contorta (trichome)	104

NUMBER OF TAXA 11 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	4.8
EUGLENO+PYROPHYTA (FLAGELLATES)	7.7
DINOFLAGELLATES	6.8
BACILLARIOPHYCEAE (DIATOMS)	1.7
CYANOPHYTA (BLUE-GREEN ALGAE)	71.2

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.67	0.695	MARGALEV	1.61	
PIELOU BASE 10	0.72	0.695	SIMPSON	3.96	0.822
MACINTOSH	0.521	0.712	SHELDON		0.481
EXP. PIELOU	5.29		HEIP		0.429

MONTH 2 YEAR 2004 12 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas erosa	13
Cryptomonas sp.1	7
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	2
Peridinium cerasus	3
Prorocentrum micans	211
CHRYSOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	82
Gyrosigma/Pleurosigma sp.1	3
CYANOPHYTA	
Anabaena spiroides v. crassa	179

NUMBER OF TAXA 8 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGALLATES)	3.8
DINOFLAGALLATES	41.5
BACILLARIOPHYCEAE (DIATOMS)	16.3
CYANOPHYTA (BLUE-GREEN ALGAE)	34.4

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.27	0.609	MARGALEV	1.13	
PIELOU BASE 10	0.55	0.609	SIMPSON	2.99	0.761
MACINTOSH	0.442	0.653	SHELDON		0.444
EXP. PIELOU	3.55		HEIP		0.364

MONTH 2 YEAR 2004 20 PPT ISOHALIEN

CHLOROPHYTA	
Chlymentomonas sp.	7
EUGLENOPHYTA	
Eutreptilla sp.	6
PYROPHYTA	
Cryptomonas sp.1	85
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	5
Peridinium cerasus	6
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Bacillaria paradoxa	5
Biddulphia sinensis	251
Entomoneis alata	26
Gyrosigma/Pleurosigma sp.1	8
Nitzschia reversa	6
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	87
Oscillatoria rubescens (trichome)	8

NUMBER OF TAXA 12 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	1.2
EUGLENO+PYROPHYTA (FLAGELLATES)	15.6
DINOFLAGELLATES	1.9
BACILLARIOPHYCEAE (DIATOMS)	50.6
CYANOPHYTA (BLUE-GREEN ALGAE)	16.2

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.55	0.623	MARGALEV	1.77	
PIELOU BASE 10	0.67	0.623	SIMPSON	3.17	0.747
MACINTOSH	0.459	0.617	SHELDON		0.392
EXP. PIELOU	4.70		HEIP		0.337

MONTH 3 YEAR 2004 0 PPT ISOHALIEN

CHLOROPHYTA	
Crucigenia fenestrata	4
Pediastrum duplex v. reticulum	53
Scenedesmus quadricauda v. Westii	58
Spermatozoopsis exultans	5
PYROPHYTA	
Cryptomonas erosa	8
Cryptomonas sp.1	63
PYROPHYTA	
DINOPHYCEAE	
Peridinium cerasus	4
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Gyrosigma/Pleurosigma sp.1	1
Navicula spp.	3
Nitzschia palea	2
Nitzschia sigma	1
CYANOPHYTA	
Anabaena spiroides v. crassa	68
Coelosphaerium sp.	69
Lyngbya contorta (trichome)	33
Merismopedia sp.	121
Spriulina sp.1	7

NUMBER OF TAXA 16 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	21.0
EUGLENO+PYROPHYTA (FLAGELLATES)	12.4
DINOFLAGELLATES	0.7
BACILLARIOPHYCEAE (DIATOMS)	1.2
CYANOPHYTA (BLUE-GREEN ALGAE)	52.2

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	2.14	0.773	MARGALEV	2.41	
PIELOU BASE 10	0.93	0.773	SIMPSON	7.05	0.915
MACINTOSH	0.653	0.831	SHELDON		0.533
EXP. PIELOU	8.53		HEIP		0.502

MONTH 3 YEAR 2004 6 PPT ISOHALIEN

CHLOROPHYTA	
Chlymentomonas sp.	3
Pediastrum simplex	8
Scenedesmus bijuga	2
Scenedesmus quadricauda v. Westii	64
Spermatozoopsis exultans	3
PYROPHYTA	
Cryptomonas erosa	2
Cryptomonas sp.1	71
PYROPHYTA	
DINOPHYCEAE	
Gonyalux palustre	7
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	5
Cyclotella sp.	1
Nitzschia spp.	1
CYANOPHYTA	
Anabaena spiroides v. crassa	111
Coelosphaerium sp.	215
Oscillatoria rubescens (trichome)	5

NUMBER OF TAXA 15 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	14.0
EUGLENO+PYROPHYTA (FLAGELLATES)	12.8
DINOFLAGELLATES	1.2
BACILLARIOPHYCEAE (DIATOMS)	1.2
CYANOPHYTA (BLUE-GREEN ALGAE)	58.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.61	0.594	MARGALEV	2.25	
PIELOU BASE 10	0.70	0.594	SIMPSON	3.68	0.781
MACINTOSH	0.501	0.646	SHELDON		0.333
EXP. PIELOU	4.99		HEIP		0.285

MONTH 3 YEAR 2004 12 PPT ISOHALIEN

CHLOROPHYTA	
Scenedesmus quadricauda v. Westii	53
EUGLENOPHYTA	
Eutreptilla sp.	13
PYROPHYTA	
Cryptomonas sp.1	107
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	7
Gonyalux palustre	3
Prorocentrum micans	12
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	146
Coscinodiscus eccentricus	3
Entomoneis alata	13
Nitzschia palea	10
Skeletonema costatum	73
CYANOPHYTA	
Anabaena spiroides v. crassa	60

NUMBER OF TAXA 12 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	8.7
EUGLENO+PYROPHYTA (FLAGELLATES)	19.8
DINOFLAGELLATES	3.6
BACILLARIOPHYCEAE (DIATOMS)	40.4
CYANOPHYTA (BLUE-GREEN ALGAE)	9.9

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.94	0.781	MARGALEV	1.77	
PIELOU BASE 10	0.84	0.781	SIMPSON	5.54	0.894
MACINTOSH	0.602	0.808	SHELDON		0.581
EXP. PIELOU	6.97		HEIP		0.543

MONTH 3 YEAR 2004 20 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas sp.1	93
PYROPHYTA	
DINOPHYCEAE	
Prorocentrum micans	16
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	285
Entomoneis alata	75
Gyrosigma/Pleurosigma sp.1	7
Navicula spp.	5
Nitzschia palea	16
Nitzschia reversa	1
Nitzschia tryblionella	2

NUMBER OF TAXA 9 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	15.7
DINOFLAGELLATES	2.7
BACILLARIOPHYCEAE (DIATOMS)	65.9
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.28	0.582	MARGALEV	1.29	
PIELOU BASE 10	0.56	0.582	SIMPSON	2.60	0.693
MACINTOSH	0.398	0.570	SHELDON		0.399
EXP. PIELOU	3.59		HEIP		0.324

MONTH 4 YEAR 2004 0 PPT ISOHALIEN

CHLOROPHYTA	
Oocystis sp.	4
Scenedesmus quadricauda v. Westii	76
Spermatozoopsis exultans	18
Staurostrum sp.	1
PYROPHYTA	
Cryptomonas curvata	1
Cryptomonas ovata	2
Cryptomonas sp.1	26
PYROPHYTA	
DINOPHYCEAE	
Gonyalux palustre	1
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Cyclotella sp.	6
Cymbella sp.	15
Gyrosigma/Pleurosigma sp.1	1
Navicula spp.	20
Nitzschia palea	6
Nitzschia spp.	5
Skeletonema costatum	19
Thalassionema nitzschioides Grun.	20
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	3
Coelosphaerium sp.	36
Merismopedia sp.	224

NUMBER OF TAXA 20 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	19.3
EUGLENO+PYROPHYTA (FLAGELLATES)	5.7
DINOFLAGELLATES	0.2
BACILLARIOPHYCEAE (DIATOMS)	17.9
CYANOPHYTA (BLUE-GREEN ALGAE)	51.3

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	2.00	0.667	MARGALEV	3.06	
PIELOU BASE 10	0.87	0.667	SIMPSON	4.17	0.800
MACINTOSH	0.534	0.657	SHELDON		0.369
EXP. PIELOU	7.38		HEIP		0.336

MONTH 4 YEAR 2004 6 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas ovata	5
Cryptomonas sp.1	255
PYROPHYTA	
DINOPHYCEAE	
Peridinium cerasus	95
CHRY SOPHYTA	
BACILLARIOPHYCEAE	
Cyclotella sp.	21
Gyrosigma/Pleurosigma sp.1	2
Nitzschia palea	26
Nitzschia reversa	1
Skeletonema costatum	36
Surirella sp.	5
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	11

NUMBER OF TAXA 11 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGALLATES)	36.3
DINOFLAGALLATES	13.2
BACILLARIOPHYCEAE (DIATOMS)	12.7
CYANOPHYTA (BLUE-GREEN ALGAE)	1.5

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.56	0.649	MARGALEV	1.61	
PIELOU BASE 10	0.68	0.649	SIMPSON	3.19	0.755
MACINTOSH	0.460	0.629	SHELDON		0.431
EXP. PIELOU	4.74		HEIP		0.374

MONTH 4 YEAR 2004 12 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas sp.1	27
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	1
Peridinium cerasus	436
CHRY SOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	4
Entomoneis alata	23
Gyrosigma/Pleurosigma sp.1	4
Nitzschia reversa	1
Nitzschia tryblionella	4

NUMBER OF TAXA 8 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGALLATES)	5.1
DINOFLAGALLATES	82.9
BACILLARIOPHYCEAE (DIATOMS)	6.8
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	0.56	0.269	MARGALEV	1.13	
PIELOU BASE 10	0.24	0.269	SIMPSON	1.31	0.268
MACINTOSH	0.131	0.193	SHELDON		0.219
EXP. PIELOU	1.75		HEIP		0.107

MONTH 4 YEAR 2004 20 PPT ISOHALIEN

PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	107
Gonyalux palustre	1
Peridinium cerasus	47
Prorocentrum micans	10
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	60
Coscinodiscus eccentricus	3
Cyclotella sp.	2
Entomoneis alata	21
Gyrosigma/Pleurosigma sp.1	11
Navicula spp.	17
Nitzschia spp.	11
Skeletonema costatum	210

NUMBER OF TAXA 12 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	0.0
DINOFLAGELLATES	33.0
BACILLARIOPHYCEAE (DIATOMS)	67.0
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.73	0.696	MARGALEV	1.77	
PIELOU BASE 10	0.75	0.696	SIMPSON	4.00	0.818
MACINTOSH	0.524	0.703	SHELDON		0.470
EXP. PIELOU	5.64		HEIP		0.422

MONTH 5 YEAR 2004 0 PPT ISOHALIEN

CHLOROPHYTA	
Chlymentomonas sp.	2
Scenedesmus quadricauda v. Westii	45
Spermatozoopsis exultans	21
PYROPHYTA	
Cryptomonas curvata	19
Cryptomonas ovata	93
Cryptomonas sp.1	292
PYROPHYTA	
DINOPHYCEAE	
Gonyalux palustre	25
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Cymbella sp.	3

NUMBER OF TAXA 8 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	7.5
EUGLENO+PYROPHYTA (FLAGELLATES)	44.7
DINOFLAGELLATES	2.8
BACILLARIOPHYCEAE (DIATOMS)	0.3
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.30	0.627	MARGALEV	1.13	
PIELOU BASE 10	0.57	0.627	SIMPSON	2.57	0.698
MACINTOSH	0.393	0.581	SHELDON		0.460
EXP. PIELOU	3.68		HEIP		0.383

MONTH 5 YEAR 2004 6 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas sp.1	17
PYROPHYTA	
DINOPHYCEAE	
Gymnodinium splendens	460
Peridinium cerasus	23

NUMBER OF TAXA 3 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGALLATES)	3.3
DINOFLAGALLATES	93.4
BACILLARIOPHYCEAE (DIATOMS)	0.0
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	0.33	0.303	MARGALEV	0.32	
PIELOU BASE 10	0.14	0.303	SIMPSON	1.18	0.225
MACINTOSH	0.082	0.185	SHELDON		0.465
EXP. PIELOU	1.40		HEIP		0.198

MONTH 5 YEAR 2004 12 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas sp.1	27
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	1
Peridinium cerasus	436
CHRY SOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	4
Entomoneis alata	23
Gyrosigma/Pleurosigma sp.1	4
Nitzschia reversa	1
Nitzschia tryblionella	4

NUMBER OF TAXA 8 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGALLATES)	5.1
DINOFLAGALLATES	82.9
BACILLARIOPHYCEAE (DIATOMS)	6.8
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	0.56	0.269	MARGALEV	1.13	
PIELOU BASE 10	0.24	0.269	SIMPSON	1.31	0.268
MACINTOSH	0.131	0.193	SHELDON		0.219
EXP. PIELOU	1.75		HEIP		0.107

MONTH 5 YEAR 2004 20 PPT ISOHALIEN

PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	107
Gonyalux palustre	1
Peridinium cerasus	47
Prorocentrum micans	10
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	60
Coscinodiscus eccentricus	3
Cyclotella sp.	2
Entomoneis alata	21
Gyrosigma/Pleurosigma sp.1	11
Navicula spp.	17
Nitzschia spp.	11
Skeletonema costatum	210

NUMBER OF TAXA 12 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	0.0
DINOFLAGELLATES	33.0
BACILLARIOPHYCEAE (DIATOMS)	67.0
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.73	0.696	MARGALEV	1.77	
PIELOU BASE 10	0.75	0.696	SIMPSON	4.00	0.818
MACINTOSH	0.524	0.703	SHELDON		0.470
EXP. PIELOU	5.64		HEIP		0.422

MONTH 6 YEAR 2004 0 PPT ISOHALIEN

CHLOROPHYTA	
Scenedesmus quadricauda v. Westii	15
Spermatozoopsis exultans	53
EUGLENOPHYTA	
Euglena spirogyra	1
PYROPHYTA	
Cryptomonas sp.1	21
CHRYSTOPHYTA	
Calycomonas ovalis	7
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Nitzschia palea	3
Skeletonema costatum	17
Stephanodiscus	3
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	340
Merismopedia glauca	40

NUMBER OF TAXA 10 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	13.1
EUGLENO+PYROPHYTA (FLAGELLATES)	4.2
DINOFLAGELLATES	0.0
BACILLARIOPHYCEAE (DIATOMS)	4.4
CYANOPHYTA (BLUE-GREEN ALGAE)	72.9

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.19	0.516	MARGALEV	1.45	
PIELOU BASE 10	0.52	0.516	SIMPSON	2.07	0.573
MACINTOSH	0.318	0.445	SHELDON		0.328
EXP. PIELOU	3.28		HEIP		0.254

MONTH 6 YEAR 2004 6 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas curvata	11
Cryptomonas ovata	95
Cryptomonas sp.1	75
PYROPHYTA	
DINOPHYCEAE	
Peridinium cerasus	1
Prorocentrum micans	9
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Nitzschia spp.	7
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	301
Oscillatoria rubescens (trichome)	1

NUMBER OF TAXA 8 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	26.6
DINOFLAGELLATES	1.5
BACILLARIOPHYCEAE (DIATOMS)	1.0
CYANOPHYTA (BLUE-GREEN ALGAE)	44.3

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.15	0.551	MARGALEV	1.13	
PIELOU BASE 10	0.50	0.551	SIMPSON	2.37	0.661
MACINTOSH	0.367	0.542	SHELDON		0.393
EXP. PIELOU	3.15		HEIP		0.307

MONTH 6 YEAR 2004 12 PPT ISOHALIEN

PYROPHYTA		
Cryptomonas erosa		2
Cryptomonas ovata		54
Cryptomonas sp.1		16
PYROPHYTA		
DINOPHYCEAE		
Gymnodinium splendens		276
Prorocentrum micans		11
CYANOPHYTA		
Synechocystis aquaticus Sauvageau		141

NUMBER OF TAXA 6 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	12.6
DINOFLAGELLATES	50.2
BACILLARIOPHYCEAE (DIATOMS)	0.0
CYANOPHYTA (BLUE-GREEN ALGAE)	24.7

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.14	0.637	MARGALEV	0.80	
PIELOU BASE 10	0.50	0.637	SIMPSON	2.52	0.723
MACINTOSH	0.387	0.625	SHELDON		0.522
EXP. PIELOU	3.13		HEIP		0.426

MONTH 6 YEAR 2004 20 PPT ISOHALIEN

EUGLENOPHYTA	
Eutreptilla sp.	9
PYROPHYTA	
Cryptomonas sp.1	44
PYROPHYTA	
DINOPHYCEAE	
Gymnodinium splendens	305
Prorocentrum micans	3
CHRYSOPHYTA	
BACILLARIOPHYCEAE	
Coscinodiscus eccentricus	1
Skeletonema costatum	49
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	89

NUMBER OF TAXA 7 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	9.7
DINOFLAGELLATES	56.6
BACILLARIOPHYCEAE (DIATOMS)	9.2
CYANOPHYTA (BLUE-GREEN ALGAE)	16.4

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.17	0.599	MARGALEV	0.97	
PIELOU BASE 10	0.51	0.599	SIMPSON	2.37	0.675
MACINTOSH	0.367	0.564	SHELDON		0.458
EXP. PIELOU	3.21		HEIP		0.368

MONTH 7 YEAR 2004 0 PPT ISOHALIEN

CHLOROPHYTA	
Protococcus viridis	65
Scenedesmus quadricauda v. Westii	48
Spermatozoopsis exultans	11
PYROPHYTA	
Cryptomonas sp.1	53
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Cyclotella sp.	10
Navicula spp.	17
Nitzschia palea	15
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	275
Gloeocystic gigas	6

NUMBER OF TAXA 9 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	22.4
EUGLENO+PYROPHYTA (FLAGELLATES)	9.6
DINOFLAGELLATES	0.0
BACILLARIOPHYCEAE (DIATOMS)	7.6
CYANOPHYTA (BLUE-GREEN ALGAE)	50.8

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.49	0.679	MARGALEV	1.29	
PIELOU BASE 10	0.65	0.679	SIMPSON	2.92	0.739
MACINTOSH	0.434	0.622	SHELDON		0.494
EXP. PIELOU	4.45		HEIP		0.431

MONTH 7 YEAR 2004 6 PPT ISOHALIEN

CHLOROPHYTA	
Oocystis sp.	53
Spermatozoopsis exultans	6
PYROPHYTA	
Cryptomonas curvata	1
Cryptomonas ovata	57
Cryptomonas sp.1	193
PYROPHYTA	
DINOPHYCEAE	
Peridinium cerasus	7
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	17
Cyclotella sp.	13
Entomoneis alata	2
Nitzschia palea	17
Rhizosolenia fragellissima	7
Skeletonema costatum	40
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	87

NUMBER OF TAXA 13 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	7.9
EUGLENO+PYROPHYTA (FLAGELLATES)	33.4
DINOFLAGELLATES	0.9
BACILLARIOPHYCEAE (DIATOMS)	12.8
CYANOPHYTA (BLUE-GREEN ALGAE)	11.6

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.89	0.737	MARGALEV	1.93	
PIELOU BASE 10	0.82	0.737	SIMPSON	4.68	0.852
MACINTOSH	0.563	0.744	SHELDON		0.510
EXP. PIELOU	6.63		HEIP		0.469

MONTH 7 YEAR 2004 12 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas sp.1	97
PYROPHYTA	
DINOPHYCEAE	
Gymnodinium splendens	25
CHRY SOPHYTA	
Calycomonas ovalis	3
CHRY SOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	77
Ceratulina pelagica	27
Coscinodiscus eccentricus	8
Cyclotella sp.	2
Entomoneis alata	1
Rhodosolenia setigera	12
Skeletonema costatum	73
Surirella sp.	2
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	133
Merismopedia glauca	40

NUMBER OF TAXA 13 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	16.2
DINOFLAGELLATES	4.2
BACILLARIOPHYCEAE (DIATOMS)	33.8
CYANOPHYTA (BLUE-GREEN ALGAE)	29.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.99	0.777	MARGALEV	1.93	
PIELOU BASE 10	0.87	0.777	SIMPSON	6.02	0.903
MACINTOSH	0.620	0.820	SHELDON		0.564
EXP. PIELOU	7.33		HEIP		0.527

MONTH 7 YEAR 2004 20 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas sp.1	22
PYROPHYTA	
DINOPHYCEAE	
Prorocentrum micans	28
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	149
Ceratulina pelagica	15
Nitzschia palea	8
Nitzschia spp.	5
CYANOPHYTA	
Anabaena spiroides v. crassa	3
Synechocystis aquaticus Sauvageau	270

NUMBER OF TAXA 8 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	4.2
DINOFLAGELLATES	5.4
BACILLARIOPHYCEAE (DIATOMS)	33.9
CYANOPHYTA (BLUE-GREEN ALGAE)	52.3

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.24	0.597	MARGALEV	1.13	
PIELOU BASE 10	0.54	0.597	SIMPSON	2.59	0.701
MACINTOSH	0.396	0.585	SHELDON		0.432
EXP. PIELOU	3.46		HEIP		0.351

MONTH 8 YEAR 2004 0 PPT ISOHALIEN

CHLOROPHYTA	
Chlymentomonas sp.	3
Scenedesmus quadricauda v. Westii	17
Spermatozoopsis exultans	13
EUGLENOPHYTA	
Euglena acus	1
PYROPHYTA	
Cryptomonas erosa	17
Cryptomonas sp.1	130
PYROPHYTA	
DINOPHYCEAE	
Gonyalux palustre	37
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Entomoneis alata	2
Nitzschia palea	10
CYANOPHYTA	
Anabaena spiroides v. crassa	47
Synechocystis aquaticus Sauvageau	127
Coelosphaerium sp.	83
Spirulina laxa	13

NUMBER OF TAXA 13 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	5.1
EUGLENO+PYROPHYTA (FLAGELLATES)	22.9
DINOFLAGELLATES	5.7
BACILLARIOPHYCEAE (DIATOMS)	1.9
CYANOPHYTA (BLUE-GREEN ALGAE)	41.7

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.97	0.770	MARGALEV	1.93	
PIELOU BASE 10	0.86	0.770	SIMPSON	5.61	0.890
MACINTOSH	0.605	0.800	SHELDON		0.554
EXP. PIELOU	7.20		HEIP		0.517

MONTH 8 YEAR 2004 6 PPT ISOHALIEN

CHLOROPHYTA	
Chlymentomonas sp.	2
Scenedesmus quadricauda v. Westii	24
Spermatozoopsis exultans	3
EUGLENOPHYTA	
Eutreptilla sp.	59
PYROPHYTA	
Cryptomonas erosa	13
Cryptomonas ovata	5
Cryptomonas sp.1	181
PYROPHYTA	
DINOPHYCEAE	
Gonyalux palustre	15
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Skeletonema costatum	139
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	52
Merismopedia sp.	7

NUMBER OF TAXA 11 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	4.1
EUGLENO+PYROPHYTA (FLAGELLATES)	36.9
DINOFLAGELLATES	2.1
BACILLARIOPHYCEAE (DIATOMS)	19.9
CYANOPHYTA (BLUE-GREEN ALGAE)	8.4

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.72	0.716	MARGALEV	1.61	
PIELOU BASE 10	0.75	0.716	SIMPSON	4.21	0.839
MACINTOSH	0.537	0.734	SHELDON		0.506
EXP. PIELOU	5.56		HEIP		0.456

MONTH 8 YEAR 2004 12 PPT ISOHALIEN

CHLOROPHYTA	
Chlymentomonas sp.	22
PYROPHYTA	
Cryptomonas sp.1	17
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	7
Gonyalux palustre	7
Peridinium cerasus	1
Prorocentrum micans	13
CHRYSTOPHYTA	
Calycomonas wulfie	3
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Rhizosolenia fragellissima	9
Skeletonema costatum	71
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	350

NUMBER OF TAXA 10 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	4.3
EUGLENO+PYROPHYTA (FLAGELLATES)	3.3
DINOFLAGELLATES	5.4
BACILLARIOPHYCEAE (DIATOMS)	15.5
CYANOPHYTA (BLUE-GREEN ALGAE)	67.7

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.11	0.482	MARGALEV	1.45	
PIELOU BASE 10	0.48	0.482	SIMPSON	1.94	0.539
MACINTOSH	0.296	0.413	SHELDON		0.303
EXP. PIELOU	3.03		HEIP		0.226

MONTH 8 YEAR 2004 20 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas erosa	11
Cryptomonas sp.1	85
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	195
Gonyalux palustre	6
Gymnodinium splendens	1
Prorocentrum micans	29
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia rhombus	31
Coscinodiscus eccentricus	1
Nitzschia palea	3
Thalassionema nitzschioides Grun.	2
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	136

NUMBER OF TAXA 11 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	16.1
DINOFLAGELLATES	38.8
BACILLARIOPHYCEAE (DIATOMS)	6.2
CYANOPHYTA (BLUE-GREEN ALGAE)	22.8

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.57	0.657	MARGALEV	1.61	
PIELOU BASE 10	0.68	0.657	SIMPSON	3.80	0.811
MACINTOSH	0.510	0.698	SHELDON		0.439
EXP. PIELOU	4.83		HEIP		0.383

MONTH 9 YEAR 2004 0 PPT ISOHALIEN

CHLOROPHYTA	
Scenedesmus quadricauda v. Westii	51
EUGLENOPHYTA	
Euglena acus	11
Euglena elastica	38
Eutreptilla sp.	45
Cryptomonas erosa	55
Cryptomonas sp.1	171
PYROPHYTA	
DINOPHYCEAE	
Gonyalux palustre	19
Prorocentrum micans	5
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Nitzschia reversa	9
Skeletonema costatum	19
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	65
Phormidium fragile (trichome)	11

NUMBER OF TAXA 13 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	7.0
EUGLENO+PYROPHYTA (FLAGELLATES)	44.1
DINOFLAGELLATES	3.3
BACILLARIOPHYCEAE (DIATOMS)	3.9
CYANOPHYTA (BLUE-GREEN ALGAE)	10.5

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	2.07	0.806	MARGALEV	1.93	
PIELOU BASE 10	0.90	0.806	SIMPSON	5.73	0.894
MACINTOSH	0.609	0.806	SHELDON		0.608
EXP. PIELOU	7.91		HEIP		0.576

MONTH 9 YEAR 2004 6 PPT ISOHALIEN

CHLOROPHYTA	
Oocystis sp.	40
Spermatozoopsis exultans	12
EUGLENOPHYTA	
Eutreptilla sp.	7
PYROPHYTA	
Cryptomonas sp.1	221
PYROPHYTA	
DINOPHYCEAE	
Gonyalux palustre	5
Gymnodinium splendens	3
CHRYSTOPHYTA	
Calycomonas wulfie	8
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Entomoneis alata	2
Nitzschia tryblionella	3
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	184
Phormidium fragile (trichome)	15

NUMBER OF TAXA 11 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	7.2
EUGLENO+PYROPHYTA (FLAGELLATES)	31.6
DINOFLAGELLATES	1.1
BACILLARIOPHYCEAE (DIATOMS)	0.7
CYANOPHYTA (BLUE-GREEN ALGAE)	27.6

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.38	0.576	MARGALEV	1.61	
PIELOU BASE 10	0.60	0.576	SIMPSON	2.95	0.727
MACINTOSH	0.437	0.598	SHELDON		0.362
EXP. PIELOU	3.98		HEIP		0.298

MONTH 9 YEAR 2004 12 PPT ISOHALIEN

CHLOROPHYTA	
Chlymentomonas sp.	5
PYROPHYTA	
Cryptomonas ovata	13
Cryptomonas sp.1	52
PYROPHYTA	
DINOPHYCEAE	
Prorocentrum micans	45
CHRYSTOPHYTA	
Calycomonas wulfie	7
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Coscinodiscus eccentricus	8
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	370

NUMBER OF TAXA 7 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.9
EUGLENO+PYROPHYTA (FLAGELLATES)	11.5
DINOFLAGELLATES	8.0
BACILLARIOPHYCEAE (DIATOMS)	1.4
CYANOPHYTA (BLUE-GREEN ALGAE)	65.5

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	0.94	0.484	MARGALEV	0.97	
PIELOU BASE 10	0.41	0.484	SIMPSON	1.76	0.504
MACINTOSH	0.258	0.396	SHELDON		0.366
EXP. PIELOU	2.56		HEIP		0.261

MONTH 9 YEAR 2004 20 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas sp.1	281
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	111
Gonyalux palustre	7
Prorocentrum micans	19
CHRY SOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	28
Coscinodiscus eccentricus	21
Cyclotella sp.	13
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	20

NUMBER OF TAXA 8 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	36.0
DINOFLAGELLATES	17.5
BACILLARIOPHYCEAE (DIATOMS)	7.9
CYANOPHYTA (BLUE-GREEN ALGAE)	2.6

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.36	0.654	MARGALEV	1.13	
PIELOU BASE 10	0.59	0.654	SIMPSON	2.67	0.715
MACINTOSH	0.407	0.601	SHELDON		0.487
EXP. PIELOU	3.90		HEIP		0.414

MONTH 10 YEAR 2004 0 PPT ISOHALIEN

CHLOROPHYTA	
Protococcus viridis	39
Scenedesmus acuminatus	13
Scenedesmus quadricauda v. Westii	13
Spermatozoopsis exultans	17
EUGLENOPHYTA	
Eutreptilla sp.	13
Phacus pleuronectes	7
Cryptomonas curvata	5
Cryptomonas erosa	42
Cryptomonas sp.1	51
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Navicula spp.	7
Nitzschia palea	11
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	119
Coelosphaerium sp.	150
Phormidium fragile (trichome)	10

NUMBER OF TAXA 15 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	13.8
EUGLENO+PYROPHYTA (FLAGELLATES)	19.8
DINOFLAGELLATES	0.0
BACILLARIOPHYCEAE (DIATOMS)	3.0
CYANOPHYTA (BLUE-GREEN ALGAE)	46.9

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	2.10	0.776	MARGALEV	2.25	
PIELOU BASE 10	0.91	0.776	SIMPSON	5.72	0.884
MACINTOSH	0.609	0.784	SHELDON		0.545
EXP. PIELOU	8.17		HEIP		0.512

MONTH 10 YEAR 2004 6 PPT ISOHALIEN

CHLOROPHYTA	
Chlymentomonas sp.	5
Protococcus viridis	95
Scenedesmus quadricauda v. Westii	24
Spermatozoopsis exultans	15
EUGLENOPHYTA	
Eutreptilla sp.	15
PYROPHYTA	
Cryptomonas sp.1	35
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Cyclotella undulata	3
Cyclotella sp.	15
Navicula spp.	2
Rhizosolenia setigera	6
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	160
Coelosphaerium sp.	125

NUMBER OF TAXA 12 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	26.0
EUGLENO+PYROPHYTA (FLAGELLATES)	9.3
DINOFLAGELLATES	0.0
BACILLARIOPHYCEAE (DIATOMS)	4.9
CYANOPHYTA (BLUE-GREEN ALGAE)	53.3

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.83	0.735	MARGALEV	1.77	
PIELOU BASE 10	0.79	0.735	SIMPSON	4.73	0.861
MACINTOSH	0.566	0.760	SHELDON		0.517
EXP. PIELOU	6.21		HEIP		0.474

MONTH 10 YEAR 2004 12 PPT ISOHALIEN

CHLOROPHYTA	
Scenedesmus bijuga v. alternans	98
PYROPHYTA	
Cryptomonas sp.1	69
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Cyclotella sp.	63
Navicula spp.	4
Nitzschia palea	6
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	260

NUMBER OF TAXA 6 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	17.2
EUGLENO+PYROPHYTA (FLAGELLATES)	12.1
DINOFLAGELLATES	0.0
BACILLARIOPHYCEAE (DIATOMS)	12.8
CYANOPHYTA (BLUE-GREEN ALGAE)	45.7

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.29	0.717	MARGALEV	0.80	
PIELOU BASE 10	0.56	0.717	SIMPSON	2.91	0.787
MACINTOSH	0.433	0.699	SHELDON		0.603
EXP. PIELOU	3.62		HEIP		0.523

MONTH 10 YEAR 2004 20 PPT ISOHALIEN

EUGLENOPHYTA	
Eutreptilla sp.	44
PYROPHYTA	
Cryptomonas sp.1	4
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	7
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	2
Nitzschia palea	7
Skeletonema costatum	166
CYANOPHYTA	
Synechocystis aquaticus Sauvageau	270

NUMBER OF TAXA 7 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	9.5
DINOFLAGELLATES	1.4
BACILLARIOPHYCEAE (DIATOMS)	34.7
CYANOPHYTA (BLUE-GREEN ALGAE)	53.6

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.09	0.562	MARGALEV	0.97	
PIELOU BASE 10	0.47	0.562	SIMPSON	2.44	0.688
MACINTOSH	0.376	0.578	SHELDON		0.426
EXP. PIELOU	2.98		HEIP		0.330

MONTH 11 YEAR 2004 0 PPT ISOHALIEN

CHLOROPHYTA	
Crucigenia fenestrata	12
Oocystis sp.	17
Pediastrum duplex v. reticulum	22
Scenedesmus quadricauda v. Westii	95
Spermatozoopsis exultans	3
Staurostrum sp.	7
EUGLENOPHYTA	
Euglena acus	1
Eutreptilla sp.	3
Cryptomonas curvata	5
Cryptomonas erosa	16
Cryptomonas ovata	2
Cryptomonas sp.1	20
PYROPHYTA	
DINOPHYCEAE	
Gonyalux palustre	3
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Asterionella gracilis	11
Nitzschia palea	1
Skeletonema costatum	77
CYANOPHYTA	
Anabaena spiroides v. crassa	10
Synechocystis aquaticus Sauvageau	34
Coelosphaerium sp.	134
Lyngbya contorta (trichome)	4
Merismopedia sp.	16

NUMBER OF TAXA 22 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	29.1
EUGLENO+PYROPHYTA (FLAGELLATES)	8.8
DINOFLAGELLATES	0.6
BACILLARIOPHYCEAE (DIATOMS)	16.6
CYANOPHYTA (BLUE-GREEN ALGAE)	36.9

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	2.34	0.756	MARGALEV	3.38	
PIELOU BASE 10	1.01	0.756	SIMPSON	6.89	0.896
MACINTOSH	0.648	0.787	SHELDON		0.470
EXP. PIELOU	10.34		HEIP		0.445

MONTH 11 YEAR 2004 6 PPT ISOHALIEN

CHLOROPHYTA	
Oocystis sp.	4
Scenedesmus quadricauda v. Westii	22
Spermatozoopsis exultans	1
EUGLENOPHYTA	
Eutreptilla sp.	1
Cryptomonas ovata	2
Cryptomonas sp.1	16
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Asterionella gracilis	4
Navicula spp.	4
Nitzschia palea	2
Nitzschia reversa	1
Skeletonema costatum	358
CYANOPHYTA	
Anabaena spiroides v. crassa	1
Coelosphaerium sp.	31
Merismopedia sp.	46

NUMBER OF TAXA 15 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	5.3
EUGLENO+PYROPHYTA (FLAGELLATES)	3.7
DINOFLAGELLATES	0.0
BACILLARIOPHYCEAE (DIATOMS)	72.2
CYANOPHYTA (BLUE-GREEN ALGAE)	15.3

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.15	0.424	MARGALEV	2.25	
PIELOU BASE 10	0.50	0.424	SIMPSON	1.89	0.505
MACINTOSH	0.286	0.368	SHELDON		0.210
EXP. PIELOU	3.15		HEIP		0.154

MONTH 11 YEAR 2004 12 PPT ISOHALIEN

CHLOROPHYTA	
Chlymentomonas sp.	1
Crucigenia fenestrata	2
Pediastrum duplex v. reticulum	5
Scenedesmus quadricauda v. Westii	8
Spermatozoopsis exultans	2
PYROPHYTA	
Cryptomonas ovata	6
Cryptomonas sp.1	29
PYROPHYTA	
DINOPHYCEAE	
Gymnodinium splendens	3
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Coscinodiscus eccentricus	1
Cyclotella sp.	1
Navicula spp.	1
Skeletonema costatum	441

NUMBER OF TAXA 12 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	3.4
EUGLENO+PYROPHYTA (FLAGELLATES)	6.5
DINOFLAGELLATES	0.6
BACILLARIOPHYCEAE (DIATOMS)	83.0
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	0.57	0.228	MARGALEV	1.77	
PIELOU BASE 10	0.25	0.228	SIMPSON	1.28	0.238
MACINTOSH	0.121	0.163	SHELDON		0.147
EXP. PIELOU	1.76		HEIP		0.069

MONTH 11 YEAR 2004 20 PPT ISOHALIEN

EUGLENOPHYTA	
Eutreptilla sp.	2
PYROPHYTA	
Cryptomonas sp.1	2
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	6
Dinophysis caudata	1
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	1
Coscinodiscus eccentricus	1
Cyclotella sp.	1
Rhodosolenia setigera	2
Skeletonema costatum	484

NUMBER OF TAXA 9 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	0.8
DINOFLAGELLATES	1.4
BACILLARIOPHYCEAE (DIATOMS)	97.4
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	0.20	0.091	MARGALEV	1.29	
PIELOU BASE 10	0.09	0.091	SIMPSON	1.07	0.071
MACINTOSH	0.033	0.048	SHELDON		0.136
EXP. PIELOU	1.22		HEIP		0.028

MONTH 12 YEAR 2004 0 PPT ISOHALIEN

CHLOROPHYTA	
Pediastrum duplex v. reticulum	80
Scenedesmus quadricauda v. Westii	72
Staurostrum sp.	1
EUGLENOPHYTA	
Euglena acus	4
Phacus pleuronectes	16
PYROPHYTA	
Cryptomonas curvata	16
Cryptomonas erosa	74
Cryptomonas sp.1	44
PYROPHYTA	
DINOPHYCEAE	
Gonyalux palustre	24
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Gyrosigma/Pleurosigma sp.1	1
Navicula spp.	1
Nitzschia palea	1
Skeletonema costatum	58
Stephanodiscus	1
CYANOPHYTA	
Coelosphaerium sp.	74
Lyngbya contorta (trichome)	16
Merismopedia sp.	16

NUMBER OF TAXA 18 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	24.2
EUGLENO+PYROPHYTA (FLAGELLATES)	24.3
DINOFLAGELLATES	3.8
BACILLARIOPHYCEAE (DIATOMS)	9.8
CYANOPHYTA (BLUE-GREEN ALGAE)	16.7

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	2.30	0.796	MARGALEV	2.74	
PIELOU BASE 10	1.00	0.796	SIMPSON	8.49	0.934
MACINTOSH	0.687	0.859	SHELDON		0.555
EXP. PIELOU	9.99		HEIP		0.529

MONTH 12 YEAR 2004 6 PPT ISOHALIEN

CHLOROPHYTA	
Scenedesmus quadricauda v. Westii	8
EUGLENOPHYTA	
Eutreptilla sp.	1
PYROPHYTA	
Cryptomonas ovata	5
Cryptomonas sp.1	338
PYROPHYTA	
DINOPHYCEAE	
Gymnodinium splendens	1
Peridinium cerasus	26
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	40
Entomoneis alata	4
Nitzschia tryblionella	1
Skeletonema costatum	76

NUMBER OF TAXA 10 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.9
EUGLENO+PYROPHYTA (FLAGELLATES)	40.8
DINOFLAGELLATES	3.2
BACILLARIOPHYCEAE (DIATOMS)	14.4
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.09	0.476	MARGALEV	1.45	
PIELOU BASE 10	0.48	0.476	SIMPSON	2.04	0.567
MACINTOSH	0.314	0.439	SHELDON		0.299
EXP. PIELOU	2.99		HEIP		0.221

MONTH 12 YEAR 2004 12 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas ovata	3
Cryptomonas sp.1	67
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	2
Peridinium cerasus	117
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	260
Nitzschia tryblionella	1
Skeletonema costatum	50

NUMBER OF TAXA 7 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	12.3
DINOFLAGELLATES	20.9
BACILLARIOPHYCEAE (DIATOMS)	54.6
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	1.24	0.640	MARGALEV	0.97	
PIELOU BASE 10	0.54	0.640	SIMPSON	2.83	0.755
MACINTOSH	0.425	0.652	SHELDON		0.496
EXP. PIELOU	3.47		HEIP		0.412

MONTH 12 YEAR 2004 20 PPT ISOHALIEN

PYROPHYTA	
Cryptomonas sp.1	97
PYROPHYTA	
DINOPHYCEAE	
Certaum hircus	19
Peridinium cerasus	31
CHRYSTOPHYTA	
BACILLARIOPHYCEAE	
Biddulphia sinensis	353

NUMBER OF TAXA 4 TOTAL NUMBER OF INDIVIDUALS 500.

PERCENT WITHIN MAJOR TAXONOMIC GROUPS

CHLOROPHYTA (GREEN ALGAE)	0.0
EUGLENO+PYROPHYTA (FLAGELLATES)	16.2
DINOFLAGELLATES	8.4
BACILLARIOPHYCEAE (DIATOMS)	59.1
CYANOPHYTA (BLUE-GREEN ALGAE)	0.0

DIVERSITY AND EVENNESS INDICES

	DIVERSITY	EVENNESS		DIVERSITY	EVENNESS
PIELOU BASE E	0.86	0.621	MARGALEV	0.48	
PIELOU BASE 10	0.37	0.621	SIMPSON	1.85	0.612
MACINTOSH	0.277	0.528	SHELDON		0.591
EXP. PIELOU	2.36		HEIP		0.455

Appendix E

Summary Of *In Situ* Physical Water Column Data Collected At “Fixed” Sampling Locations

----- Month=January STATION=9 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	9	-2.4	0.2	17.6	7.62	7.69	43593	28.1
2004	January	19	9	-2.4	0.5	17.5	7.52	7.67	43827	28.3
2004	January	19	9	-2.4	1.0	17.5	7.40	7.66	44201	28.6
2004	January	19	9	-2.4	1.5	17.5	7.35	7.69	44296	28.7
2004	January	19	9	-2.4	2.0	17.4	7.35	7.73	44322	28.7
2004	January	19	9	-2.4	2.5	17.3	7.12	7.76	44481	28.8
2004	January	19	9	-2.4	3.0	17.3	7.20	7.80	44506	28.8
2004	January	19	9	-2.4	3.5	17.3	7.12	7.81	44506	28.8

----- Month=January STATION=10 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	10	6.6	0.2	19.0	6.54	7.65	30104	18.7
2004	January	19	10	6.6	0.5	18.1	6.57	7.71	33667	21.2
2004	January	19	10	6.6	1.0	18.1	6.56	7.73	35699	22.5
2004	January	19	10	6.6	1.5	17.9	6.15	7.75	39186	25.2
2004	January	19	10	6.6	2.0	17.8	5.96	7.74	40136	25.6

----- Month=January STATION=11 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	11	10.5	0.2	19.0	6.81	7.51	21890	13.1
2004	January	19	11	10.5	0.5	18.8	6.47	7.46	22096	13.3
2004	January	19	11	10.5	1.0	18.7	6.21	7.40	22506	13.5
2004	January	19	11	10.5	1.5	18.5	5.89	7.42	23620	14.4
2004	January	19	11	10.5	2.0	18.4	5.70	7.40	23871	14.4

----- Month=January STATION=12 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	12	15.5	0.2	18.5	6.40	7.32	14457	8.4
2004	January	19	12	15.5	0.5	18.4	6.45	7.30	14531	8.4
2004	January	19	12	15.5	1.0	18.3	6.37	7.27	14573	8.5
2004	January	19	12	15.5	1.5	18.3	6.30	7.26	14585	8.5
2004	January	19	12	15.5	2.0	18.3	6.25	7.25	14605	8.5

----- Month=January STATION=13 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	13	20.1	0.2	18.3	6.97	7.28	4464	2.5
2004	January	19	13	20.1	0.5	18.3	6.94	7.24	4601	2.5
2004	January	19	13	20.1	1.0	18.2	6.90	7.22	4656	2.6
2004	January	19	13	20.1	1.5	18.3	6.83	7.22	4782	2.6
2004	January	19	13	20.1	2.0	18.2	6.88	7.20	4853	2.7
2004	January	19	13	20.1	2.5	18.2	6.81	7.19	4947	2.8
2004	January	19	13	20.1	3.0	18.2	6.78	7.19	5263	2.9
2004	January	19	13	20.1	3.5	18.2	6.65	7.18	5411	3.0

----- Month=January STATION=14 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	14	23.6	0.2	17.8	7.37	7.40	734	0.4
2004	January	19	14	23.6	0.5	17.8	7.26	7.37	729	0.4
2004	January	19	14	23.6	1.0	17.8	7.30	7.37	730	0.4
2004	January	19	14	23.6	1.5	17.8	7.25	7.36	736	0.4
2004	January	19	14	23.6	2.0	17.8	7.25	7.36	735	0.4
2004	January	19	14	23.6	2.5	17.8	7.26	7.36	735	0.4
2004	January	19	14	23.6	3.0	17.7	7.22	7.36	735	0.4
2004	January	19	14	23.6	3.5	17.7	7.16	7.36	736	0.4

----- Month=January STATION=15 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	15	25.9	0.2	17.8	7.99	7.47	491	0.3
2004	January	19	15	25.9	0.5	17.7	7.90	7.45	491	0.3
2004	January	19	15	25.9	1.0	17.6	7.84	7.43	491	0.3
2004	January	19	15	25.9	1.5	17.7	7.80	7.42	492	0.3

----- Month=January STATION=17 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	17	29.5	0.2	17.7	7.96	7.45	472	0.2
2004	January	19	17	29.5	0.5	17.7	8.00	7.44	473	0.2
2004	January	19	17	29.5	1.0	17.7	7.96	7.43	473	0.2
2004	January	19	17	29.5	1.5	17.5	7.93	7.42	473	0.2
2004	January	19	17	29.5	2.0	17.5	7.92	7.42	473	0.2
2004	January	19	17	29.5	2.5	17.5	7.92	7.42	472	0.2
2004	January	19	17	29.5	3.0	17.4	7.89	7.42	472	0.2
2004	January	19	17	29.5	3.5	17.4	7.91	7.42	473	0.2
2004	January	19	17	29.5	4.0	17.4	7.89	7.41	472	0.2

----- Month=January STATION=18 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	18	30.4	0.2	18.1	8.05	7.42	472	0.2
2004	January	19	18	30.4	0.5	18.1	8.00	7.42	472	0.2
2004	January	19	18	30.4	1.0	18.0	7.91	7.40	473	0.2
2004	January	19	18	30.4	1.5	17.5	7.91	7.39	472	0.2
2004	January	19	18	30.4	2.0	17.9	7.87	7.38	472	0.2
2004	January	19	18	30.4	2.5	17.2	7.80	7.37	472	0.2
2004	January	19	18	30.4	3.0	17.0	7.72	7.35	472	0.2
2004	January	19	18	30.4	3.5	17.0	7.68	7.35	472	0.2
2004	January	19	18	30.4	4.0	17.0	7.63	7.34	473	0.2

Appendix E

----- Month=January STATION=19 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	19	32.3	0.2	17.5	8.29	7.47	470	0.2
2004	January	19	19	32.3	0.5	17.5	8.29	7.45	470	0.2
2004	January	19	19	32.3	1.0	17.5	8.29	7.44	469	0.2
2004	January	19	19	32.3	1.5	17.3	8.22	7.43	470	0.2

----- Month=January STATION=21 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	21	8.4	0.2	18.7	6.35	7.59	28409	17.4
2004	January	19	21	8.4	0.5	18.4	6.24	7.58	28779	17.8
2004	January	19	21	8.4	1.0	18.3	6.13	7.59	29253	18.1
2004	January	19	21	8.4	1.5	18.2	5.80	7.63	33069	21.0

----- Month=January STATION=22 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	22	12.8	0.2	19.0	6.65	7.38	18625	11.0
2004	January	19	22	12.8	0.5	19.0	6.41	7.36	18726	11.0
2004	January	19	22	12.8	1.0	18.8	6.33	7.34	18933	11.2
2004	January	19	22	12.8	1.5	18.9	6.29	7.34	19202	11.4
2004	January	19	22	12.8	2.0	18.9	6.07	7.33	19877	11.8
2004	January	19	22	12.8	2.5	18.8	5.98	7.32	19825	11.8
2004	January	19	22	12.8	3.0	18.8	5.87	7.32	19999	11.9

Appendix E

----- Month=January STATION=23 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	23	17.5	0.2	18.4	7.41	7.35	9047	5.1
2004	January	19	23	17.5	0.5	18.3	7.07	7.28	9745	5.2
2004	January	19	23	17.5	1.0	18.0	6.53	7.21	11249	6.4
2004	January	19	23	17.5	1.5	17.9	6.20	7.18	11796	6.8

----- Month=January STATION=24 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	24	21.9	0.2	18.2	7.10	7.33	1983	1.1
2004	January	19	24	21.9	0.5	18.2	7.00	7.29	1997	1.1
2004	January	19	24	21.9	1.0	18.2	6.96	7.27	2010	1.1
2004	January	19	24	21.9	1.5	18.2	6.97	7.27	1987	1.1
2004	January	19	24	21.9	2.0	18.2	6.94	7.25	2030	1.1
2004	January	19	24	21.9	2.5	18.2	6.88	7.25	2031	1.1
2004	January	19	24	21.9	3.0	18.2	6.96	7.25	2028	1.1

----- Month=January STATION=25 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	25	24.7	0.2	17.7	7.63	7.41	639	0.3
2004	January	19	25	24.7	0.5	17.7	7.53	7.39	638	0.3
2004	January	19	25	24.7	1.0	17.6	7.47	7.37	638	0.3
2004	January	19	25	24.7	1.5	17.6	7.36	7.37	638	0.3
2004	January	19	25	24.7	2.0	17.6	7.34	7.37	638	0.3

----- Month=January STATION=92 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	January	19	92	12.7	0.2	18.8	6.00	7.30	18187	10.7
2004	January	19	92	12.7	0.5	18.6	5.97	7.29	18275	10.8
2004	January	19	92	12.7	1.0	18.5	5.86	7.28	18479	10.9
2004	January	19	92	12.7	1.5	18.4	5.73	7.27	18448	10.9
2004	January	19	92	12.7	2.0	18.3	5.66	7.27	18664	11.0
2004	January	19	92	12.7	2.5	18.2	5.59	7.25	18675	11.0
2004	January	19	92	12.7	3.0	18.1	5.56	7.24	18734	11.1
2004	January	19	92	12.7	3.5	18.1	5.55	7.24	18778	11.1

----- Month=February STATION=9 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	9	-2.4	0.2	20.5	6.58	7.99	42130	27.1
2004	February	26	9	-2.4	0.5	20.5	6.54	7.99	42094	27.1
2004	February	26	9	-2.4	1.0	20.4	6.48	7.99	42070	27.1
2004	February	26	9	-2.4	1.5	20.3	6.43	7.98	42113	27.1
2004	February	26	9	-2.4	2.0	20.3	6.41	7.99	42243	27.2
2004	February	26	9	-2.4	2.5	20.2	6.39	7.98	42592	27.5
2004	February	26	9	-2.4	3.0	20.1	6.30	7.98	43167	27.9
2004	February	26	9	-2.4	3.5	20.0	6.17	7.98	43668	28.2

----- Month=February STATION=10 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	10	6.6	0.2	21.7	7.79	8.11	27409	16.8
2004	February	26	10	6.6	0.5	21.4	7.72	8.11	27950	16.8
2004	February	26	10	6.6	1.0	21.3	7.19	8.05	30129	18.1
2004	February	26	10	6.6	1.5	21.3	6.89	8.00	31473	19.5
2004	February	26	10	6.6	2.0	21.0	6.26	7.96	34495	21.5
2004	February	26	10	6.6	2.5	20.9	5.73	7.91	36265	22.9

----- Month=February STATION=11 -----

Appendix E

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	11	10.5	0.2	21.8	6.69	7.73	13336	7.7
2004	February	26	11	10.5	0.5	21.8	7.12	7.84	14800	8.6
2004	February	26	11	10.5	1.0	21.6	6.85	7.84	16034	9.5
2004	February	26	11	10.5	1.5	21.1	6.39	7.80	18965	11.2
2004	February	26	11	10.5	2.0	20.9	6.37	7.82	20073	11.9

----- Month=February STATION=12 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	12	15.5	0.2	21.1	6.17	7.54	1419	0.8
2004	February	26	12	15.5	0.5	21.1	6.12	7.52	1432	0.8
2004	February	26	12	15.5	1.0	21.1	6.06	7.50	1474	0.8
2004	February	26	12	15.5	1.5	20.8	5.84	7.45	1997	1.0
2004	February	26	12	15.5	2.0	20.9	5.74	7.42	2550	1.4
2004	February	26	12	15.5	2.5	20.9	5.61	7.41	3110	1.7
2004	February	26	12	15.5	3.0	21.0	5.06	7.33	5423	3.0

----- Month=February STATION=13 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	13	20.1	0.2	20.9	6.14	7.43	428	0.2
2004	February	26	13	20.1	0.5	20.9	6.02	7.39	429	0.2
2004	February	26	13	20.1	1.0	20.9	5.93	7.38	428	0.2
2004	February	26	13	20.1	1.5	20.9	5.85	7.37	429	0.2
2004	February	26	13	20.1	2.0	20.9	5.86	7.38	430	0.2

----- Month=February STATION=14 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	14	23.6	0.2	20.5	5.81	7.27	374	0.2
2004	February	26	14	23.6	0.5	20.5	5.70	7.23	375	0.2
2004	February	26	14	23.6	1.0	20.5	5.66	7.23	376	0.2
2004	February	26	14	23.6	1.5	20.5	5.68	7.22	375	0.2
2004	February	26	14	23.6	2.0	20.5	5.66	7.22	375	0.2
2004	February	26	14	23.6	2.5	20.5	5.65	7.21	375	0.2
2004	February	26	14	23.6	3.0	20.5	5.56	7.21	375	0.2

----- Month=February STATION=15 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	15	25.9	0.2	20.1	6.70	7.25	332	0.2
2004	February	26	15	25.9	0.5	20.1	6.43	7.20	333	0.2
2004	February	26	15	25.9	1.0	20.1	6.20	7.17	333	0.2

----- Month=February STATION=17 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	17	29.5	0.2	20.0	6.57	7.24	341	0.2
2004	February	26	17	29.5	0.5	20.0	6.44	7.17	341	0.2
2004	February	26	17	29.5	1.0	20.0	6.33	7.15	341	0.2
2004	February	26	17	29.5	1.5	20.1	6.29	7.15	340	0.2
2004	February	26	17	29.5	2.0	20.0	6.32	7.13	341	0.2
2004	February	26	17	29.5	2.5	20.0	6.24	7.13	341	0.2
2004	February	26	17	29.5	3.0	20.0	6.18	7.14	341	0.2
2004	February	26	17	29.5	3.5	20.0	6.22	7.13	341	0.2
2004	February	26	17	29.5	4.0	20.0	6.20	7.13	341	0.2

----- Month=February STATION=18 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	18	30.4	0.2	20.0	6.64	7.18	338	0.2
2004	February	26	18	30.4	0.5	20.0	6.48	7.14	338	0.2
2004	February	26	18	30.4	1.0	19.9	6.41	7.14	339	0.2
2004	February	26	18	30.4	1.5	19.9	6.34	7.13	339	0.2
2004	February	26	18	30.4	2.0	19.9	6.36	7.12	339	0.2
2004	February	26	18	30.4	2.5	19.9	6.33	7.12	339	0.2
2004	February	26	18	30.4	3.0	19.9	6.26	7.11	339	0.2
2004	February	26	18	30.4	3.5	19.9	6.23	7.12	339	0.2

----- Month=February STATION=19 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	19	32.3	0.2	20.0	6.92	7.20	329	0.2
2004	February	26	19	32.3	0.5	20.0	6.62	7.14	329	0.2
2004	February	26	19	32.3	1.0	20.0	6.54	7.13	330	0.2

----- Month=February STATION=21 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	21	8.4	0.2	21.8	8.14	8.08	19056	11.3
2004	February	26	21	8.4	0.5	21.4	7.43	8.01	22928	13.6
2004	February	26	21	8.4	1.0	21.1	7.90	7.89	30300	19.2
2004	February	26	21	8.4	1.5	21.1	5.80	7.86	32811	20.4

----- Month=February STATION=22 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	22	12.8	0.2	21.7	5.99	7.51	5689	3.1
2004	February	26	22	12.8	0.5	21.7	5.89	7.48	6160	3.4
2004	February	26	22	12.8	1.0	21.6	5.77	7.47	6944	3.9
2004	February	26	22	12.8	1.5	21.1	5.48	7.44	7655	4.3
2004	February	26	22	12.8	2.0	21.1	5.46	7.44	8618	4.8
2004	February	26	22	12.8	2.5	21.0	5.33	7.45	9792	5.3
2004	February	26	22	12.8	3.0	21.0	5.26	7.45	10870	6.2

----- Month=February STATION=23 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	23	17.5	0.2	20.7	6.33	7.53	518	0.3
2004	February	26	23	17.5	0.5	20.7	6.06	7.46	518	0.3
2004	February	26	23	17.5	1.0	20.7	5.95	7.44	518	0.3
2004	February	26	23	17.5	1.5	20.7	5.84	7.42	518	0.3
2004	February	26	23	17.5	2.0	20.6	5.77	7.41	516	0.3

----- Month=February STATION=24 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	24	21.9	0.2	20.5	6.10	7.33	375	0.2
2004	February	26	24	21.9	0.5	20.4	5.90	7.29	375	0.2
2004	February	26	24	21.9	1.0	20.3	5.87	7.28	375	0.2
2004	February	26	24	21.9	1.5	20.3	5.84	7.28	375	0.2
2004	February	26	24	21.9	2.0	20.3	5.82	7.27	375	0.2
2004	February	26	24	21.9	2.5	20.3	5.76	7.26	374	0.2

----- Month=February STATION=25 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	25	24.7	0.2	20.5	6.52	7.31	335	0.2
2004	February	26	25	24.7	0.5	20.5	6.34	7.25	335	0.2
2004	February	26	25	24.7	1.0	20.5	6.27	7.22	335	0.2
2004	February	26	25	24.7	1.5	20.3	6.16	7.21	335	0.2
2004	February	26	25	24.7	2.0	20.2	6.15	7.21	334	0.2

----- Month=February STATION=92 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	February	26	92	12.7	0.2	21.8	6.20	7.59	6285	3.5
2004	February	26	92	12.7	0.5	21.7	6.05	7.55	6301	3.5
2004	February	26	92	12.7	1.0	21.1	5.58	7.49	7815	4.4
2004	February	26	92	12.7	1.5	21.1	5.39	7.47	8621	4.8
2004	February	26	92	12.7	2.0	21.0	5.18	7.48	12360	7.1
2004	February	26	92	12.7	2.5	21.0	5.17	7.50	14694	8.5
2004	February	26	92	12.7	3.0	21.0	5.12	7.53	16794	9.9
2004	February	26	92	12.7	3.5	21.0	4.88	7.53	18405	10.6

----- Month=March STATION=9 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	9	-2.4	0.2	20.9	8.63	7.79	42938	27.7
2004	March	24	9	-2.4	0.5	20.9	8.54	7.79	42947	27.7
2004	March	24	9	-2.4	1.0	20.9	8.49	7.81	42887	27.7
2004	March	24	9	-2.4	1.5	20.9	8.48	7.82	42938	27.7
2004	March	24	9	-2.4	2.0	20.9	8.49	7.83	42928	27.7
2004	March	24	9	-2.4	2.5	20.9	8.42	7.86	42918	27.7
2004	March	24	9	-2.4	3.0	21.0	8.44	7.91	43090	27.8
2004	March	24	9	-2.4	3.5	21.0	8.43	7.95	43163	27.8

----- Month=March STATION=10 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	10	6.6	0.2	20.0	9.71	8.09	29580	18.3
2004	March	24	10	6.6	0.5	20.0	9.46	8.09	29440	18.2
2004	March	24	10	6.6	1.0	20.0	9.31	8.08	30185	18.5
2004	March	24	10	6.6	1.5	20.0	8.94	8.05	32143	20.0
2004	March	24	10	6.6	2.0	20.4	7.92	8.00	36633	23.3

----- Month=March STATION=11 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	11	10.5	0.2	20.7	10.46	8.07	11663	6.7
2004	March	24	11	10.5	0.5	20.8	10.38	8.06	11667	6.7
2004	March	24	11	10.5	1.0	20.7	10.19	8.05	11686	6.7
2004	March	24	11	10.5	1.5	20.7	10.14	8.04	12005	6.8
2004	March	24	11	10.5	2.0	20.5	9.76	8.02	12411	7.2
2004	March	24	11	10.5	2.5	20.3	9.30	7.98	14329	8.0

----- Month=March STATION=12 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	12	15.5	0.2	21.4	9.28	7.77	1278	0.7
2004	March	24	12	15.5	0.5	21.4	9.09	7.75	1286	0.7
2004	March	24	12	15.5	1.0	21.4	9.12	7.75	1303	0.7
2004	March	24	12	15.5	1.5	21.4	9.11	7.75	1326	0.7
2004	March	24	12	15.5	2.0	21.3	8.99	7.77	1424	0.8

----- Month=March STATION=13 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	13	20.1	0.2	21.6	9.12	7.67	448	0.2
2004	March	24	13	20.1	0.5	21.6	9.12	7.67	449	0.2
2004	March	24	13	20.1	1.0	21.6	8.98	7.67	447	0.2
2004	March	24	13	20.1	1.5	21.6	8.86	7.68	447	0.2
2004	March	24	13	20.1	2.0	21.6	8.75	7.67	447	0.2
2004	March	24	13	20.1	2.5	21.6	8.75	7.67	446	0.2
2004	March	24	13	20.1	3.0	21.6	8.87	7.67	446	0.2
2004	March	24	13	20.1	3.5	21.6	8.89	7.67	446	0.2

----- Month=March STATION=14 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	14	23.6	0.2	21.6	11.10	8.09	387	0.2
2004	March	24	14	23.6	0.5	21.7	11.27	8.13	385	0.2
2004	March	24	14	23.6	1.0	21.7	11.08	8.06	386	0.2
2004	March	24	14	23.6	1.5	21.7	11.06	8.09	385	0.2
2004	March	24	14	23.6	2.0	21.6	10.87	8.02	388	0.2
2004	March	24	14	23.6	2.5	21.6	10.78	8.03	388	0.2
2004	March	24	14	23.6	3.0	21.6	10.75	8.01	388	0.2
2004	March	24	14	23.6	3.5	21.6	10.80	8.02	388	0.2

----- Month=March STATION=15 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	15	25.9	0.2	21.7	12.32	8.43	359	0.2
2004	March	24	15	25.9	0.5	21.7	12.18	8.41	359	0.2
2004	March	24	15	25.9	1.0	21.7	12.17	8.42	360	0.2
2004	March	24	15	25.9	1.5	21.7	11.88	8.39	360	0.2

----- Month=March STATION=17 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	17	29.5	0.2	21.2	12.10	8.39	357	0.2
2004	March	24	17	29.5	0.5	21.3	12.16	8.44	357	0.2
2004	March	24	17	29.5	1.0	21.3	12.17	8.44	357	0.2
2004	March	24	17	29.5	1.5	21.3	12.04	8.39	357	0.2
2004	March	24	17	29.5	2.0	21.3	11.93	8.39	357	0.2
2004	March	24	17	29.5	2.5	21.3	11.99	8.41	357	0.2
2004	March	24	17	29.5	3.0	21.3	12.00	8.41	357	0.2
2004	March	24	17	29.5	3.5	21.3	11.94	8.40	357	0.2

----- Month=March STATION=18 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	18	30.4	0.2	21.2	11.88	8.38	354	0.2
2004	March	24	18	30.4	0.5	21.2	11.99	8.35	354	0.2
2004	March	24	18	30.4	1.0	21.2	11.98	8.35	354	0.2
2004	March	24	18	30.4	1.5	21.2	11.96	8.34	354	0.2
2004	March	24	18	30.4	2.0	21.2	11.87	8.34	354	0.2
2004	March	24	18	30.4	2.5	21.2	11.84	8.33	354	0.2
2004	March	24	18	30.4	3.0	21.2	11.84	8.34	355	0.2
2004	March	24	18	30.4	3.5	21.2	11.84	8.33	354	0.2

----- Month=March STATION=19 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	19	32.3	0.2	21.2	12.95	8.54	346	0.2
2004	March	24	19	32.3	0.5	21.5	12.92	8.55	347	0.2
2004	March	24	19	32.3	1.0	21.5	12.74	8.55	347	0.2
2004	March	24	19	32.3	1.5	21.5	12.70	8.55	346	0.2

----- Month=March STATION=21 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	21	8.4	0.2	20.2	10.90	8.21	21266	12.7
2004	March	24	21	8.4	0.5	20.2	10.80	8.21	21293	12.7
2004	March	24	21	8.4	1.0	20.2	10.77	8.21	21331	12.8
2004	March	24	21	8.4	1.5	20.2	10.40	8.18	21801	13.0

----- Month=March STATION=22 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	22	12.8	0.2	21.3	9.30	7.74	5702	3.1
2004	March	24	22	12.8	0.5	21.3	9.01	7.73	5700	3.1
2004	March	24	22	12.8	1.0	21.2	8.95	7.72	5710	3.2
2004	March	24	22	12.8	1.5	21.2	8.87	7.72	5758	3.2
2004	March	24	22	12.8	2.0	21.2	8.80	7.73	5859	3.2
2004	March	24	22	12.8	2.5	21.2	8.90	7.73	5934	3.3
2004	March	24	22	12.8	3.0	20.0	5.89	7.51	18782	11.0

----- Month=March STATION=23 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	23	17.5	0.2	21.7	9.21	7.74	474	0.2
2004	March	24	23	17.5	0.5	21.7	8.93	7.74	475	0.2
2004	March	24	23	17.5	1.0	21.7	8.96	7.74	476	0.2

----- Month=March STATION=24 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	24	21.9	0.2	21.5	10.92	7.99	391	0.2
2004	March	24	24	21.9	0.5	21.5	10.82	7.99	390	0.2
2004	March	24	24	21.9	1.0	21.5	10.62	7.98	391	0.2
2004	March	24	24	21.9	1.5	21.5	10.63	7.98	391	0.2
2004	March	24	24	21.9	2.0	21.5	10.52	7.97	391	0.2
2004	March	24	24	21.9	2.5	21.5	10.51	7.97	391	0.2
2004	March	24	24	21.9	3.0	21.4	10.45	7.96	391	0.2

----- Month=March STATION=25 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	25	24.7	0.2	22.1	11.77	8.27	379	0.2
2004	March	24	25	24.7	0.5	22.1	11.98	8.37	371	0.2
2004	March	24	25	24.7	1.0	21.9	12.22	8.45	373	0.2
2004	March	24	25	24.7	1.5	21.9	12.08	8.44	371	0.2
2004	March	24	25	24.7	2.0	21.9	12.19	8.45	367	0.2

----- Month=March STATION=92 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	March	24	92	12.7	0.2	20.9	9.48	7.82	4970	2.7
2004	March	24	92	12.7	0.5	20.9	9.24	7.81	5020	2.8
2004	March	24	92	12.7	1.0	20.9	9.06	7.82	5207	2.9
2004	March	24	92	12.7	1.5	20.9	9.07	7.81	5302	2.9
2004	March	24	92	12.7	2.0	20.8	8.98	7.80	5509	3.0
2004	March	24	92	12.7	2.5	20.7	9.00	7.78	5566	3.2

----- Month=April STATION=9 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	9	-2.4	0.2	24.7	7.94	7.64	44946	29.1
2004	April	28	9	-2.4	0.5	24.8	7.86	7.63	44953	29.1
2004	April	28	9	-2.4	1.0	24.8	7.82	7.72	44924	29.1
2004	April	28	9	-2.4	1.5	24.8	7.78	7.83	44906	29.1
2004	April	28	9	-2.4	2.0	24.8	7.76	7.86	44915	29.1
2004	April	28	9	-2.4	2.5	24.8	7.81	7.88	44898	29.1
2004	April	28	9	-2.4	3.0	24.8	7.81	7.89	44906	29.1
2004	April	28	9	-2.4	3.5	25.1	5.67	7.80	47743	31.2

----- Month=April STATION=10 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	10	6.6	0.2	24.6	8.06	7.85	37715	24.0
2004	April	28	10	6.6	0.5	24.6	7.84	7.86	37809	24.0
2004	April	28	10	6.6	1.0	24.6	7.65	7.86	37756	24.0
2004	April	28	10	6.6	1.5	24.7	7.18	7.84	38311	24.4
2004	April	28	10	6.6	2.0	25.0	6.92	7.83	38833	24.8

----- Month=April STATION=11 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	11	10.5	0.2	24.6	8.40	7.75	29285	18.1
2004	April	28	11	10.5	0.5	24.6	8.24	7.76	29533	18.4
2004	April	28	11	10.5	1.0	24.6	7.99	7.77	31103	19.3
2004	April	28	11	10.5	1.5	24.6	7.84	7.77	31338	19.5
2004	April	28	11	10.5	2.0	24.6	7.67	7.77	31426	19.6
2004	April	28	11	10.5	2.5	24.6	7.62	7.77	31464	19.6

----- Month=April STATION=12 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	12	15.5	0.2	25.5	8.32	7.57	18110	10.7
2004	April	28	12	15.5	0.5	25.5	8.19	7.57	18129	10.7
2004	April	28	12	15.5	1.0	25.4	7.63	7.51	18443	10.9
2004	April	28	12	15.5	1.5	25.4	6.41	7.40	19171	11.4
2004	April	28	12	15.5	2.0	25.3	4.78	7.26	21212	12.7

----- Month=April STATION=13 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	13	20.1	0.2	26.3	11.41	7.92	12664	7.3
2004	April	28	13	20.1	0.5	26.3	11.19	7.92	12481	7.1

----- Month=April STATION=13
(continued) -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	13	20.1	1.0	25.9	8.48	7.64	13648	7.9
2004	April	28	13	20.1	1.5	25.5	6.40	7.28	15743	9.4
2004	April	28	13	20.1	2.0	25.5	4.80	7.19	18347	10.7
2004	April	28	13	20.1	2.5	25.7	4.10	7.16	19745	11.7
2004	April	28	13	20.1	3.0	25.7	3.75	7.14	20296	12.1
2004	April	28	13	20.1	3.5	25.8	3.42	7.12	20504	12.2

----- Month=April STATION=14 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	14	23.6	0.2	25.5	6.90	7.39	3549	1.9
2004	April	28	14	23.6	0.5	25.5	6.73	7.39	3544	1.9
2004	April	28	14	23.6	1.0	25.4	6.55	7.37	3549	1.9
2004	April	28	14	23.6	1.5	25.2	5.94	7.31	3731	2.0
2004	April	28	14	23.6	2.0	25.2	5.95	7.31	3781	2.1
2004	April	28	14	23.6	2.5	25.3	5.91	7.30	3823	2.1
2004	April	28	14	23.6	3.0	25.3	5.75	7.29	3986	2.2
2004	April	28	14	23.6	3.5	25.3	5.52	7.27	4061	2.2

----- Month=April STATION=15 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	15	25.9	0.2	26.5	9.39	7.71	1174	0.6
2004	April	28	15	25.9	0.5	26.4	9.11	7.67	1185	0.6
2004	April	28	15	25.9	1.0	26.1	8.77	7.62	1255	0.7
2004	April	28	15	25.9	1.5	25.9	8.60	7.59	1272	0.7

----- Month=April STATION=17 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	17	29.5	0.2	26.6	10.60	8.09	584	0.3
2004	April	28	17	29.5	0.5	26.6	10.51	8.08	584	0.3
2004	April	28	17	29.5	1.0	26.6	10.52	8.08	584	0.3
2004	April	28	17	29.5	1.5	26.6	10.50	8.09	583	0.3
2004	April	28	17	29.5	2.0	26.6	10.62	8.09	583	0.3
2004	April	28	17	29.5	2.5	26.3	10.25	8.05	583	0.3
2004	April	28	17	29.5	3.0	26.1	9.43	7.91	583	0.3
2004	April	28	17	29.5	3.5	26.0	9.24	7.88	582	0.3
2004	April	28	17	29.5	4.0	26.0	9.19	7.87	582	0.3

----- Month=April STATION=18 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	18	30.4	0.2	27.0	10.72	8.13	580	0.3
2004	April	28	18	30.4	0.5	26.9	10.74	8.12	581	0.3
2004	April	28	18	30.4	1.0	26.8	10.51	8.06	579	0.3
2004	April	28	18	30.4	1.5	26.6	10.42	8.07	580	0.3
2004	April	28	18	30.4	2.0	26.5	9.85	7.98	579	0.3
2004	April	28	18	30.4	2.5	26.3	9.60	7.94	580	0.3
2004	April	28	18	30.4	3.0	26.2	9.46	7.92	579	0.3
2004	April	28	18	30.4	3.5	26.2	9.39	7.91	579	0.3

----- Month=April STATION=19 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	19	32.3	0.2	27.1	11.77	8.34	580	0.3
2004	April	28	19	32.3	0.5	26.7	10.93	8.24	581	0.3
2004	April	28	19	32.3	1.0	26.4	10.63	8.19	582	0.3
2004	April	28	19	32.3	1.5	26.4	10.38	8.13	582	0.3
2004	April	28	19	32.3	2.0	26.3	10.53	8.13	581	0.3

----- Month=April STATION=21 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	21	8.4	0.2	24.5	7.94	7.83	34945	22.0
2004	April	28	21	8.4	0.5	24.5	7.85	7.83	34953	22.0
2004	April	28	21	8.4	1.0	24.5	7.82	7.83	34966	22.0
2004	April	28	21	8.4	1.5	24.4	7.18	7.81	36675	23.2

----- Month=April STATION=22 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	22	12.8	0.2	24.7	7.75	7.58	23237	14.0
2004	April	28	22	12.8	0.5	24.8	7.62	7.58	23152	13.9
2004	April	28	22	12.8	1.0	24.7	7.38	7.58	23609	14.2
2004	April	28	22	12.8	1.5	24.7	7.15	7.59	25477	15.5
2004	April	28	22	12.8	2.0	24.6	7.05	7.60	26958	16.5
2004	April	28	22	12.8	2.5	24.5	6.62	7.65	30647	19.0
2004	April	28	22	12.8	3.0	24.5	6.43	7.62	31698	19.7
2004	April	28	22	12.8	3.5	24.5	6.16	7.62	31689	19.7

----- Month=April STATION=23 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	23	17.5	0.2	25.8	9.45	7.69	15413	8.9
2004	April	28	23	17.5	0.5	25.8	9.55	7.70	15187	8.8
2004	April	28	23	17.5	1.0	25.8	9.39	7.68	15399	9.0
2004	April	28	23	17.5	1.5	25.5	5.23	7.28	20252	12.1

----- Month=April STATION=24 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	24	21.9	0.2	26.7	7.98	7.43	5357	3.0
2004	April	28	24	21.9	0.5	26.5	7.32	7.38	6948	3.7
2004	April	28	24	21.9	1.0	26.4	7.03	7.35	7024	3.9
2004	April	28	24	21.9	1.5	26.3	7.12	7.37	7247	4.0
2004	April	28	24	21.9	2.0	26.4	7.19	7.37	7584	4.2
2004	April	28	24	21.9	2.5	26.0	6.00	7.26	7979	4.5
2004	April	28	24	21.9	3.0	25.9	5.68	7.24	8006	4.5

----- Month=April STATION=25 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	25	24.7	0.2	26.5	8.93	7.62	2155	1.2
2004	April	28	25	24.7	0.5	26.4	8.83	7.62	2094	1.1
2004	April	28	25	24.7	1.0	26.4	8.77	7.61	2173	1.2
2004	April	28	25	24.7	1.5	26.4	8.71	7.59	2176	1.2
2004	April	28	25	24.7	2.0	26.4	8.54	7.57	2150	1.2
2004	April	28	25	24.7	2.5	26.4	8.49	7.56	2145	1.2

----- Month=April STATION=92 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	April	28	92	12.7	0.2	24.3	8.34	7.60	22945	13.8
2004	April	28	92	12.7	0.5	24.3	8.09	7.60	23078	14.0
2004	April	28	92	12.7	1.0	24.4	7.76	7.61	24121	14.9
2004	April	28	92	12.7	1.5	24.5	7.36	7.58	25176	15.3
2004	April	28	92	12.7	2.0	24.5	7.27	7.57	25208	15.3
2004	April	28	92	12.7	2.5	24.5	7.10	7.57	25335	15.4
2004	April	28	92	12.7	3.0	24.5	7.08	7.56	25336	15.4

----- Month=May STATION=9 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	9	-2.4	0.2	28.8	6.18	7.67	42866	27.6
2004	May	27	9	-2.4	0.5	28.6	6.01	7.65	42888	27.6
2004	May	27	9	-2.4	1.0	28.5	6.08	7.65	42855	27.6
2004	May	27	9	-2.4	1.5	28.3	6.00	7.66	42842	27.6
2004	May	27	9	-2.4	2.0	28.5	5.99	7.68	43295	28.0
2004	May	27	9	-2.4	2.5	28.5	5.95	7.70	43545	28.1
2004	May	27	9	-2.4	3.0	28.3	5.74	7.74	44305	28.7
2004	May	27	9	-2.4	3.5	28.1	5.23	7.77	44746	29.0
2004	May	27	9	-2.4	4.0	28.0	5.17	7.83	44747	29.0

----- Month=May STATION=10 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	10	6.6	0.2	29.1	5.59	7.86	40189	25.7
2004	May	27	10	6.6	0.5	29.2	5.39	7.86	40153	25.7
2004	May	27	10	6.6	1.0	29.0	5.13	7.84	40127	25.7
2004	May	27	10	6.6	1.5	28.9	5.03	7.83	40169	25.7
2004	May	27	10	6.6	2.0	28.9	4.91	7.82	40182	25.7
2004	May	27	10	6.6	2.5	28.9	4.87	7.82	40172	25.7

----- Month=May STATION=11 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	11	10.5	0.2	29.2	5.90	7.82	34287	21.5
2004	May	27	11	10.5	0.5	29.0	5.63	7.81	34416	21.7
2004	May	27	11	10.5	1.0	29.0	5.39	7.79	34897	22.0
2004	May	27	11	10.5	1.5	28.9	5.40	7.79	34896	22.0
2004	May	27	11	10.5	2.0	29.0	5.42	7.79	35049	22.1
2004	May	27	11	10.5	2.5	28.9	5.27	7.78	35178	22.2
2004	May	27	11	10.5	3.0	28.9	4.83	7.74	35730	22.5

----- Month=May STATION=12 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	12	15.5	0.2	29.7	5.22	7.51	24542	14.9
2004	May	27	12	15.5	0.5	29.3	5.15	7.53	25195	15.3
2004	May	27	12	15.5	1.0	29.3	5.14	7.53	25304	15.4
2004	May	27	12	15.5	1.5	29.2	4.95	7.52	25488	15.5
2004	May	27	12	15.5	2.0	28.4	4.16	7.41	25601	15.6
2004	May	27	12	15.5	2.5	28.4	4.03	7.39	25581	15.6

----- Month=May STATION=13 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	13	20.1	0.2	30.7	7.57	7.70	16148	9.4
2004	May	27	13	20.1	0.5	30.5	7.75	7.74	16311	9.5
2004	May	27	13	20.1	1.0	29.5	6.65	7.52	17462	10.3
2004	May	27	13	20.1	1.5	29.1	5.10	7.33	18425	10.9
2004	May	27	13	20.1	2.0	28.8	3.10	7.10	19345	11.5
2004	May	27	13	20.1	2.5	28.8	2.54	7.06	19685	11.7

----- Month=May STATION=14 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	14	23.6	0.2	30.5	5.46	7.27	8110	4.5
2004	May	27	14	23.6	0.5	30.5	5.40	7.26	8136	4.6
2004	May	27	14	23.6	1.0	30.1	4.93	7.22	8170	4.6
2004	May	27	14	23.6	1.5	28.7	3.18	7.04	8990	5.1
2004	May	27	14	23.6	2.0	28.6	3.18	7.04	8988	5.1
2004	May	27	14	23.6	2.5	28.6	3.00	7.03	9006	5.1
2004	May	27	14	23.6	3.0	28.6	2.99	7.02	9140	5.2
2004	May	27	14	23.6	3.5	28.6	2.98	7.01	9197	5.2
2004	May	27	14	23.6	4.0	28.6	2.91	7.01	9210	5.2

----- Month=May STATION=15 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	15	25.9	0.2	30.2	5.28	7.33	2993	1.2
2004	May	27	15	25.9	0.5	29.5	4.96	7.29	3170	1.7
2004	May	27	15	25.9	1.0	29.0	4.65	7.25	3144	1.7
2004	May	27	15	25.9	1.5	28.9	4.38	7.21	3261	1.8
2004	May	27	15	25.9	2.0	28.9	4.25	7.20	3271	1.8

----- Month=May STATION=17 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	17	29.5	0.2	29.9	8.16	8.09	512	0.3
2004	May	27	17	29.5	0.5	29.9	8.15	8.12	508	0.3
2004	May	27	17	29.5	1.0	29.8	8.02	8.13	507	0.3
2004	May	27	17	29.5	1.5	29.7	7.90	8.11	504	0.3
2004	May	27	17	29.5	2.0	29.2	7.48	7.99	507	0.3
2004	May	27	17	29.5	2.5	29.1	6.89	7.86	513	0.3
2004	May	27	17	29.5	3.0	29.0	6.68	7.84	512	0.3
2004	May	27	17	29.5	3.5	29.0	6.63	7.83	512	0.3
2004	May	27	17	29.5	4.0	28.9	6.56	7.80	514	0.3
2004	May	27	17	29.5	4.5	28.9	6.44	7.78	515	0.3

----- Month=May STATION=18 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	18	30.4	0.2	30.3	8.54	8.21	499	0.3
2004	May	27	18	30.4	0.5	30.4	8.48	8.22	499	0.3
2004	May	27	18	30.4	1.0	30.1	8.41	8.17	498	0.3
2004	May	27	18	30.4	1.5	29.7	8.32	8.17	496	0.3
2004	May	27	18	30.4	2.0	29.4	7.66	8.05	496	0.3
2004	May	27	18	30.4	2.5	29.3	7.24	7.95	498	0.3
2004	May	27	18	30.4	3.0	29.2	7.12	7.92	501	0.3
2004	May	27	18	30.4	3.5	28.9	6.61	7.84	499	0.3

----- Month=May STATION=19 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	19	32.3	0.2	31.0	8.86	8.42	482	0.2
2004	May	27	19	32.3	0.5	31.0	8.96	8.43	483	0.2
2004	May	27	19	32.3	1.0	30.4	8.66	8.37	483	0.2
2004	May	27	19	32.3	1.5	29.9	8.00	8.24	481	0.2
2004	May	27	19	32.3	2.0	29.8	7.79	8.20	481	0.2
2004	May	27	19	32.3	2.5	29.6	6.89	8.06	481	0.2

Appendix E

----- Month=May STATION=21 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	21	8.4	0.2	29.4	5.88	7.84	37321	23.7
2004	May	27	21	8.4	0.5	29.3	5.55	7.84	38401	24.4
2004	May	27	21	8.4	1.0	29.3	5.45	7.83	38469	24.5
2004	May	27	21	8.4	1.5	29.2	5.25	7.83	38704	24.7
2004	May	27	21	8.4	2.0	29.1	5.19	7.82	38754	24.7

----- Month=May STATION=22 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	22	12.8	0.2	29.9	5.41	7.63	29769	18.4
2004	May	27	22	12.8	0.5	29.7	5.38	7.63	29666	18.3
2004	May	27	22	12.8	1.0	29.3	5.09	7.63	29695	18.3
2004	May	27	22	12.8	1.5	28.7	5.00	7.62	30298	18.8
2004	May	27	22	12.8	2.0	28.6	4.94	7.61	30383	18.8
2004	May	27	22	12.8	2.5	28.6	4.62	7.55	30330	18.8

----- Month=May STATION=23 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	23	17.5	0.2	30.0	5.28	7.43	20121	12.0
2004	May	27	23	17.5	0.5	29.5	5.16	7.42	20422	12.1
2004	May	27	23	17.5	1.0	29.4	5.29	7.45	20740	12.4
2004	May	27	23	17.5	1.5	29.2	5.12	7.43	21292	12.7
2004	May	27	23	17.5	2.0	29.0	5.01	7.40	21596	12.9

----- Month=May STATION=24 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	24	21.9	0.2	30.0	5.45	7.28	9544	5.4

----- Month=May STATION=24
(continued) -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	24	21.9	0.5	29.7	5.55	7.29	9657	5.4
2004	May	27	24	21.9	1.0	29.3	4.53	7.16	9804	5.6
2004	May	27	24	21.9	1.5	29.1	4.28	7.13	10960	6.2
2004	May	27	24	21.9	2.0	30.0	5.53	7.29	12638	7.3
2004	May	27	24	21.9	2.5	29.8	5.39	7.26	12805	7.4
2004	May	27	24	21.9	3.0	29.8	5.26	7.26	12821	7.4

----- Month=May STATION=25 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	25	24.7	0.2	30.0	5.17	7.38	3510	1.9
2004	May	27	25	24.7	0.5	30.2	5.33	7.31	4210	2.3
2004	May	27	25	24.7	1.0	29.9	4.80	7.22	5188	2.8
2004	May	27	25	24.7	1.5	29.6	4.37	7.17	5544	3.1
2004	May	27	25	24.7	2.0	28.7	3.29	7.07	5570	3.1

----- Month=May STATION=92 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	May	27	92	12.7	0.2	29.2	5.71	7.63	28498	17.6
2004	May	27	92	12.7	0.5	29.2	5.58	7.64	28508	17.6
2004	May	27	92	12.7	1.0	29.0	5.30	7.63	29461	18.2
2004	May	27	92	12.7	1.5	29.1	5.37	7.64	29742	18.4
2004	May	27	92	12.7	2.0	29.1	5.39	7.65	29820	18.4
2004	May	27	92	12.7	2.5	29.2	5.25	7.66	29971	18.5
2004	May	27	92	12.7	3.0	29.1	5.16	7.65	30054	18.6
2004	May	27	92	12.7	3.5	28.9	5.00	7.63	30076	18.6

----- Month=June STATION=9 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	9	-2.4	0.2	30.8	7.04	7.61	42917	27.7
2004	June	21	9	-2.4	0.5	30.8	6.96	7.75	42917	27.7
2004	June	21	9	-2.4	1.0	30.8	6.91	7.78	42944	27.7
2004	June	21	9	-2.4	1.5	30.8	6.74	7.79	43065	27.7
2004	June	21	9	-2.4	2.0	30.9	6.35	7.79	43817	28.3
2004	June	21	9	-2.4	2.5	31.1	5.85	7.77	44444	28.8
2004	June	21	9	-2.4	3.0	31.0	5.70	7.76	44627	28.9
2004	June	21	9	-2.4	3.5	30.9	4.79	7.71	45492	29.5
2004	June	21	9	-2.4	4.0	30.8	4.29	7.66	46311	30.1

----- Month=June STATION=10 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	10	6.6	0.2	30.7	7.35	7.72	32220	20.1
2004	June	21	10	6.6	0.5	30.6	7.11	7.74	32930	20.5
2004	June	21	10	6.6	1.0	30.6	6.81	7.75	35052	22.1
2004	June	21	10	6.6	1.5	31.1	6.17	7.70	37632	23.9
2004	June	21	10	6.6	2.0	31.4	5.88	7.68	38626	24.6
2004	June	21	10	6.6	2.5	31.4	5.42	7.66	38696	24.6

----- Month=June STATION=11 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	11	10.5	0.2	30.8	6.66	7.53	24332	14.7
2004	June	21	11	10.5	0.5	30.9	6.63	7.53	24345	14.8
2004	June	21	11	10.5	1.0	30.8	6.27	7.52	24730	15.0
2004	June	21	11	10.5	1.5	30.9	5.39	7.51	28689	17.5
2004	June	21	11	10.5	2.0	30.9	5.39	7.53	30820	19.1
2004	June	21	11	10.5	2.5	30.8	4.87	7.50	31814	19.8
2004	June	21	11	10.5	3.0	30.7	4.84	7.50	31932	19.9

----- Month=June STATION=12 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	12	15.5	0.2	31.2	8.74	7.61	8018	4.5
2004	June	21	12	15.5	0.5	31.1	8.77	7.62	7962	4.4
2004	June	21	12	15.5	1.0	31.0	7.21	7.43	8274	4.6
2004	June	21	12	15.5	1.5	30.5	5.16	7.09	9319	5.2
2004	June	21	12	15.5	2.0	30.4	4.90	7.07	10463	6.0
2004	June	21	12	15.5	2.5	30.2	4.09	7.01	12058	6.9

----- Month=June STATION=13 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	13	20.1	0.2	31.6	5.89	7.11	2320	1.3
2004	June	21	13	20.1	0.5	31.5	5.64	7.07	2325	1.3
2004	June	21	13	20.1	1.0	31.5	5.50	7.05	2331	1.3
2004	June	21	13	20.1	1.5	31.4	5.31	7.01	2342	1.3
2004	June	21	13	20.1	2.0	31.0	4.95	7.00	2389	1.3
2004	June	21	13	20.1	2.5	30.9	4.85	6.96	2439	1.3
2004	June	21	13	20.1	3.0	30.8	4.60	6.94	2440	1.3
2004	June	21	13	20.1	3.5	30.8	4.62	6.94	2445	1.3

----- Month=June STATION=14 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	14	23.6	0.2	30.5	4.29	7.01	584	0.3
2004	June	21	14	23.6	0.5	30.5	4.14	6.99	582	0.3
2004	June	21	14	23.6	1.0	30.5	4.15	6.95	582	0.3
2004	June	21	14	23.6	1.5	30.5	4.08	6.98	582	0.3
2004	June	21	14	23.6	2.0	30.5	4.10	6.98	581	0.3
2004	June	21	14	23.6	2.5	30.5	4.09	6.97	582	0.3
2004	June	21	14	23.6	3.0	30.5	4.04	6.97	581	0.3
2004	June	21	14	23.6	3.5	30.5	4.00	6.97	582	0.3
2004	June	21	14	23.6	4.0	30.5	4.02	6.97	583	0.3
2004	June	21	14	23.6	4.5	30.5	3.91	6.97	584	0.3

----- Month=June STATION=15 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	15	25.9	0.2	31.8	5.34	7.19	436	0.2
2004	June	21	15	25.9	0.5	30.9	4.78	7.13	436	0.2
2004	June	21	15	25.9	1.0	30.3	4.60	7.11	438	0.2
2004	June	21	15	25.9	1.5	30.3	4.52	7.09	437	0.2

----- Month=June STATION=17 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	17	29.5	0.2	31.0	5.95	7.42	436	0.2
2004	June	21	17	29.5	0.5	30.9	5.94	7.30	435	0.2
2004	June	21	17	29.5	1.0	30.8	5.60	7.26	435	0.2
2004	June	21	17	29.5	1.5	30.5	5.77	7.24	435	0.2
2004	June	21	17	29.5	2.0	30.3	5.36	7.22	435	0.2
2004	June	21	17	29.5	2.5	30.2	5.25	7.20	436	0.2
2004	June	21	17	29.5	3.0	30.0	5.26	7.19	436	0.2
2004	June	21	17	29.5	3.5	30.0	4.67	7.18	435	0.2
2004	June	21	17	29.5	4.0	30.0	4.60	7.17	435	0.2
2004	June	21	17	29.5	4.5	30.0	5.09	7.17	435	0.2

Appendix E

----- Month=June STATION=18 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	18	30.4	0.2	31.6	7.17	7.44	435	0.2
2004	June	21	18	30.4	0.5	31.4	6.90	7.41	435	0.2
2004	June	21	18	30.4	1.0	30.8	6.41	7.35	436	0.2
2004	June	21	18	30.4	1.5	30.4	6.10	7.32	436	0.2
2004	June	21	18	30.4	2.0	30.2	5.86	7.27	437	0.2
2004	June	21	18	30.4	2.5	30.0	5.26	7.25	438	0.2
2004	June	21	18	30.4	3.0	29.9	5.54	7.25	436	0.2
2004	June	21	18	30.4	3.5	29.8	5.16	7.21	437	0.2

----- Month=June STATION=19 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	19	32.3	0.2	30.5	6.88	7.47	427	0.2
2004	June	21	19	32.3	0.5	30.4	6.62	7.44	427	0.2
2004	June	21	19	32.3	1.0	30.4	6.09	7.42	427	0.2
2004	June	21	19	32.3	1.5	29.9	6.10	7.36	428	0.2
2004	June	21	19	32.3	2.0	29.9	5.89	7.34	428	0.2
2004	June	21	19	32.3	2.5	29.8	5.72	7.33	428	0.2
2004	June	21	19	32.3	3.0	29.8	5.45	7.32	429	0.2

----- Month=June STATION=21 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	21	8.4	0.2	30.8	7.22	7.66	25811	15.8
2004	June	21	21	8.4	0.5	30.8	7.15	7.67	26720	16.4
2004	June	21	21	8.4	1.0	30.7	6.46	7.70	31640	19.7
2004	June	21	21	8.4	1.5	30.7	6.00	7.67	33913	21.2
2004	June	21	21	8.4	2.0	30.8	5.19	7.58	34154	21.4

----- Month=June STATION=22 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	22	12.8	0.2	31.0	6.89	7.40	14317	8.3
2004	June	21	22	12.8	0.5	31.0	7.46	7.48	14450	8.4
2004	June	21	22	12.8	1.0	31.0	7.07	7.45	14531	8.4
2004	June	21	22	12.8	1.5	30.3	4.78	7.15	16472	9.6
2004	June	21	22	12.8	2.0	30.2	4.84	7.17	17507	10.3
2004	June	21	22	12.8	2.5	30.1	4.42	7.14	18817	11.1
2004	June	21	22	12.8	3.0	30.4	4.32	7.15	20362	12.1
2004	June	21	22	12.8	3.0	30.7	3.61	7.15	23900	14.5

----- Month=June STATION=23 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	23	17.5	0.2	31.6	6.18	7.15	5373	3.0
2004	June	21	23	17.5	0.5	31.5	5.86	7.10	5546	3.1
2004	June	21	23	17.5	1.0	31.3	5.65	7.07	5813	3.2
2004	June	21	23	17.5	1.5	31.0	4.96	7.01	6321	3.5
2004	June	21	23	17.5	2.0	30.8	4.62	6.99	6647	3.7

----- Month=June STATION=24 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	24	21.9	0.2	31.5	5.21	7.09	742	0.4
2004	June	21	24	21.9	0.5	31.2	4.89	7.04	796	0.4
2004	June	21	24	21.9	1.0	31.2	4.77	7.03	802	0.4
2004	June	21	24	21.9	1.5	31.2	4.67	7.02	803	0.4
2004	June	21	24	21.9	2.0	31.2	4.74	7.01	803	0.4
2004	June	21	24	21.9	2.5	31.2	4.70	7.01	804	0.4
2004	June	21	24	21.9	3.0	31.2	4.69	7.01	805	0.4
2004	June	21	24	21.9	3.5	31.2	4.59	7.00	811	0.4

----- Month=June STATION=25 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	25	24.7	0.2	30.7	4.48	7.04	503	0.3
2004	June	21	25	24.7	0.5	30.8	4.44	7.03	502	0.3
2004	June	21	25	24.7	1.0	30.6	4.21	7.00	501	0.3
2004	June	21	25	24.7	1.5	30.5	4.00	6.99	496	0.3
2004	June	21	25	24.7	2.0	30.4	3.92	6.98	493	0.3
2004	June	21	25	24.7	2.5	30.4	3.82	6.98	493	0.3

----- Month=June STATION=92 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	June	21	92	12.7	0.2	30.8	6.68	7.37	14567	8.5
2004	June	21	92	12.7	0.5	30.8	6.48	7.36	14669	8.5
2004	June	21	92	12.7	1.0	30.7	6.29	7.34	14733	8.6
2004	June	21	92	12.7	1.5	30.3	4.91	7.21	15627	9.1
2004	June	21	92	12.7	2.0	30.4	4.77	7.21	19744	11.7
2004	June	21	92	12.7	2.5	30.4	4.55	7.23	22139	13.3
2004	June	21	92	12.7	3.0	30.4	4.33	7.20	22675	13.6
2004	June	21	92	12.7	3.5	30.5	4.26	7.20	22760	13.7
2004	June	21	92	12.7	4.0	30.5	4.24	7.20	22789	13.7

----- Month=July STATION=9 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	9	-2.4	0.2	28.1	7.85	7.70	33201	20.7
2004	July	22	9	-2.4	0.5	28.1	7.92	7.74	33296	20.8
2004	July	22	9	-2.4	1.0	28.6	8.21	7.79	36125	22.9
2004	July	22	9	-2.4	1.5	29.3	7.58	7.85	42107	27.1
2004	July	22	9	-2.4	2.0	29.4	5.33	7.81	44066	28.5
2004	July	22	9	-2.4	2.5	29.4	4.15	7.78	44184	28.6
2004	July	22	9	-2.4	3.0	29.1	5.09	7.91	44870	29.1
2004	July	22	9	-2.4	3.5	29.7	4.34	7.09	45454	29.5
2004	July	22	9	-2.4	4.0	29.7	4.19	7.89	45438	29.5

----- Month=July STATION=10 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	10	6.6	0.2	27.4	7.73	7.69	12301	7.1
2004	July	22	10	6.6	0.5	27.5	7.44	7.70	16897	9.9
2004	July	22	10	6.6	1.0	28.3	5.51	7.60	27760	17.1
2004	July	22	10	6.6	1.5	28.8	2.73	7.44	35220	22.2
2004	July	22	10	6.6	2.0	28.8	2.41	7.45	36231	22.9
2004	July	22	10	6.6	2.5	28.8	2.30	7.45	36502	23.1

----- Month=July STATION=11 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	11	10.5	0.2	28.1	7.26	7.58	6065	3.4
2004	July	22	11	10.5	0.5	28.0	6.43	7.48	7625	4.3
2004	July	22	11	10.5	1.0	28.1	5.93	7.45	10568	6.0
2004	July	22	11	10.5	1.5	28.2	5.42	7.45	14666	8.7
2004	July	22	11	10.5	2.0	28.2	5.57	7.54	19999	11.9
2004	July	22	11	10.5	2.5	28.5	5.39	7.53	21641	13.0
2004	July	22	11	10.5	3.0	28.6	4.94	7.50	22412	13.5

----- Month=July STATION=12 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	12	15.5	0.2	28.1	5.66	7.38	575	0.3
2004	July	22	12	15.5	0.5	28.1	5.29	7.31	576	0.3
2004	July	22	12	15.5	1.0	28.1	5.20	7.30	577	0.3
2004	July	22	12	15.5	1.5	28.0	5.21	7.31	576	0.3
2004	July	22	12	15.5	2.0	28.0	5.20	7.30	578	0.3
2004	July	22	12	15.5	2.5	28.0	5.19	7.31	577	0.3

----- Month=July STATION=13 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	13	20.1	0.2	27.2	6.60	7.36	418	0.2
2004	July	22	13	20.1	0.5	27.2	6.44	7.29	414	0.2
2004	July	22	13	20.1	1.0	27.2	6.32	7.28	412	0.2
2004	July	22	13	20.1	1.5	27.2	6.31	7.27	413	0.2
2004	July	22	13	20.1	2.0	27.2	6.21	7.26	414	0.2
2004	July	22	13	20.1	2.5	27.2	6.17	7.26	414	0.2
2004	July	22	13	20.1	3.0	27.2	6.09	7.25	414	0.2

----- Month=July STATION=14 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	14	23.6	0.2	27.4	6.70	7.23	371	0.2
2004	July	22	14	23.6	0.5	27.0	6.48	7.18	365	0.2
2004	July	22	14	23.6	1.0	26.8	6.43	7.17	365	0.2
2004	July	22	14	23.6	1.5	26.8	6.32	7.16	367	0.2

----- Month=July STATION=14
(continued) -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	14	23.6	2.0	26.8	6.22	7.15	369	0.2
2004	July	22	14	23.6	2.5	26.8	6.20	7.15	369	0.2
2004	July	22	14	23.6	3.0	26.8	6.18	7.14	370	0.2
2004	July	22	14	23.6	3.5	26.8	6.22	7.14	369	0.2
2004	July	22	14	23.6	4.0	26.8	6.16	7.14	371	0.2

Appendix E

----- Month=July STATION=15 -----										
Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	15	25.9	0.2	26.6	7.14	7.20	324	0.2
2004	July	22	15	25.9	0.5	26.6	7.03	7.14	325	0.2
2004	July	22	15	25.9	1.0	26.6	6.93	7.11	325	0.2
2004	July	22	15	25.9	1.5	26.6	6.95	7.11	325	0.2
----- Month=July STATION=17 -----										
Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	17	29.5	0.2	27.4	7.16	7.19	327	0.2
2004	July	22	17	29.5	0.5	27.3	7.14	7.15	329	0.2
2004	July	22	17	29.5	1.0	26.6	7.05	7.14	328	0.2
2004	July	22	17	29.5	1.5	26.5	7.03	7.12	328	0.2
2004	July	22	17	29.5	2.0	26.5	6.93	7.12	329	0.2
2004	July	22	17	29.5	2.5	26.5	6.95	7.11	330	0.2
2004	July	22	17	29.5	3.0	26.4	6.93	7.11	328	0.2
2004	July	22	17	29.5	3.5	26.4	6.85	7.10	327	0.2
2004	July	22	17	29.5	4.0	26.4	6.82	7.09	328	0.2
----- Month=July STATION=18 -----										
Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	18	30.4	0.2	26.9	7.35	7.16	327	0.2
2004	July	22	18	30.4	0.5	26.8	7.11	7.12	332	0.2
2004	July	22	18	30.4	1.0	26.8	7.16	7.11	335	0.2
2004	July	22	18	30.4	1.5	26.6	7.20	7.10	325	0.2
2004	July	22	18	30.4	2.0	26.5	7.19	7.09	326	0.2
2004	July	22	18	30.4	2.5	26.5	7.16	7.09	326	0.2
2004	July	22	18	30.4	3.0	26.5	7.08	7.08	326	0.2
2004	July	22	18	30.4	3.5	26.6	7.07	7.08	326	0.2
2004	July	22	18	30.4	4.0	26.6	7.11	7.07	327	0.2
----- Month=July STATION=19 -----										

Appendix E

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	19	32.3	0.2	26.8	7.39	7.16	324	0.2
2004	July	22	19	32.3	0.5	26.7	7.31	7.11	326	0.2
2004	July	22	19	32.3	1.0	26.7	7.31	7.10	326	0.2
2004	July	22	19	32.3	1.5	26.7	7.26	7.10	326	0.2
2004	July	22	19	32.3	2.0	26.7	7.27	7.10	327	0.2
2004	July	22	19	32.3	2.5	26.7	7.19	7.09	327	0.2

----- Month=July STATION=21 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	21	8.4	0.2	28.1	7.51	7.66	11099	6.3
2004	July	22	21	8.4	0.5	28.6	5.85	7.59	23505	14.2
2004	July	22	21	8.4	1.0	28.5	5.94	7.64	24545	14.8
2004	July	22	21	8.4	1.5	28.4	5.61	7.62	26061	15.9
2004	July	22	21	8.4	2.0	28.4	5.18	7.58	26259	16.0

----- Month=July STATION=22 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	22	12.8	0.2	27.9	5.74	7.39	1214	0.7
2004	July	22	22	12.8	0.5	27.9	5.66	7.36	1211	0.6
2004	July	22	22	12.8	1.0	27.9	5.66	7.37	1221	0.7
2004	July	22	22	12.8	1.5	27.8	5.44	7.37	1242	0.7
2004	July	22	22	12.8	2.0	27.7	5.34	7.31	1947	1.0
2004	July	22	22	12.8	2.5	27.7	5.30	7.29	3201	1.7
2004	July	22	22	12.8	3.0	27.7	5.30	7.29	4762	2.6
2004	July	22	22	12.8	3.5	27.8	5.35	7.30	5799	3.2

----- Month=July STATION=23 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	23	17.5	0.2	27.7	6.12	7.32	455	0.2
2004	July	22	23	17.5	0.5	27.6	5.98	7.30	454	0.2
2004	July	22	23	17.5	1.0	27.6	5.81	7.29	457	0.2
2004	July	22	23	17.5	1.5	27.6	5.80	7.28	456	0.2
2004	July	22	23	17.5	2.0	27.6	5.71	7.28	457	0.2

----- Month=July STATION=24 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	24	21.9	0.2	26.9	7.11	7.27	358	0.2
2004	July	22	24	21.9	0.5	26.8	6.83	7.22	361	0.2
2004	July	22	24	21.9	1.0	26.8	6.75	7.20	359	0.2
2004	July	22	24	21.9	1.5	26.7	6.67	7.19	361	0.2
2004	July	22	24	21.9	2.0	26.7	6.61	7.18	362	0.2
2004	July	22	24	21.9	2.5	26.7	6.49	7.18	364	0.2
2004	July	22	24	21.9	3.0	26.7	6.48	7.18	364	0.2

----- Month=July STATION=25 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	25	24.7	0.2	26.7	7.21	7.24	326	0.2
2004	July	22	25	24.7	0.5	26.6	7.06	7.16	327	0.2
2004	July	22	25	24.7	1.0	26.6	6.95	7.14	328	0.2
2004	July	22	25	24.7	1.5	26.6	6.83	7.12	328	0.2
2004	July	22	25	24.7	2.0	26.6	6.80	7.12	328	0.2

----- Month=July STATION=92 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	July	22	92	12.7	0.2	28.2	6.26	7.53	2001	1.1
2004	July	22	92	12.7	0.5	28.1	6.00	7.47	2031	1.1
2004	July	22	92	12.7	1.0	27.9	5.79	7.45	2064	1.1
2004	July	22	92	12.7	1.5	27.9	5.75	7.44	2236	1.2
2004	July	22	92	12.7	2.0	27.9	5.64	7.43	2322	1.3
2004	July	22	92	12.7	2.5	28.0	5.61	7.41	2689	1.5
2004	July	22	92	12.7	3.0	28.0	5.65	7.41	2781	1.5
2004	July	22	92	12.7	3.5	28.0	5.57	7.41	2793	1.5

----- Month=August STATION=9 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	9	-2.4	0.2	29.1	1.72	6.83	8020	4.5
2004	August	25	9	-2.4	0.5	29.1	1.45	6.82	8030	4.5
2004	August	25	9	-2.4	1.0	29.1	1.44	6.82	8020	4.5
2004	August	25	9	-2.4	1.5	29.0	1.45	6.82	8085	4.5
2004	August	25	9	-2.4	2.0	29.6	0.57	6.82	15612	9.1
2004	August	25	9	-2.4	2.5	29.9	2.70	7.34	25580	15.3
2004	August	25	9	-2.4	3.0	29.7	0.34	7.08	26233	16.0
2004	August	25	9	-2.4	3.5	29.5	0.20	7.13	28722	17.7
2004	August	25	9	-2.4	4.0	29.4	0.17	7.16	29454	18.2

----- Month=August STATION=10 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	10	6.6	0.2	29.3	0.82	6.97	973	0.5
2004	August	25	10	6.6	0.5	29.4	0.44	6.92	1325	0.7
2004	August	25	10	6.6	1.0	29.4	0.37	6.86	2595	1.4
2004	August	25	10	6.6	1.5	29.9	0.31	6.87	8161	4.5
2004	August	25	10	6.6	2.0	29.9	0.27	6.92	16319	9.5
2004	August	25	10	6.6	2.5	29.8	0.23	7.03	22441	13.4
2004	August	25	10	6.6	3.0	29.6	0.23	7.09	25993	15.9

----- Month=August STATION=11 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	11	10.5	0.2	30.3	0.62	6.97	258	0.1
2004	August	25	11	10.5	0.5	29.2	0.35	6.94	241	0.1
2004	August	25	11	10.5	1.0	29.0	0.28	6.93	223	0.1
2004	August	25	11	10.5	1.5	29.0	0.23	6.92	234	0.1
2004	August	25	11	10.5	2.0	29.0	0.20	6.90	204	0.1
2004	August	25	11	10.5	2.5	28.9	0.23	6.89	197	0.1
2004	August	25	11	10.5	3.0	28.9	0.21	6.90	193	0.1

----- Month=August STATION=12 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	12	15.5	0.2	31.5	0.33	6.75	166	0.1
2004	August	25	12	15.5	0.5	29.3	0.25	6.75	164	0.1
2004	August	25	12	15.5	1.0	29.1	0.21	6.72	164	0.1
2004	August	25	12	15.5	1.5	29.1	0.21	6.71	165	0.1
2004	August	25	12	15.5	2.0	29.1	0.19	6.71	165	0.1
2004	August	25	12	15.5	2.5	29.1	0.18	6.71	165	0.1

----- Month=August STATION=13 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	13	20.1	0.2	29.3	0.59	6.70	165	0.1
2004	August	25	13	20.1	0.5	29.2	0.39	6.70	163	0.1
2004	August	25	13	20.1	1.0	29.2	0.33	6.69	162	0.1
2004	August	25	13	20.1	1.5	29.1	0.25	6.69	162	0.1
2004	August	25	13	20.1	2.0	29.1	0.23	6.68	162	0.1
2004	August	25	13	20.1	2.5	29.1	0.21	6.67	162	0.1
2004	August	25	13	20.1	3.0	29.1	0.24	6.66	162	0.1
2004	August	25	13	20.1	3.5	29.1	0.18	6.66	163	0.1

----- Month=August STATION=14 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	14	23.6	0.2	29.2	0.59	6.64	165	0.1
2004	August	25	14	23.6	0.5	29.2	0.36	6.65	165	0.1
2004	August	25	14	23.6	1.0	29.2	0.30	6.65	165	0.1
2004	August	25	14	23.6	1.5	29.1	0.22	6.65	166	0.1
2004	August	25	14	23.6	2.0	29.1	0.22	6.65	165	0.1
2004	August	25	14	23.6	2.5	29.1	0.19	6.64	166	0.1
2004	August	25	14	23.6	3.0	29.1	0.23	6.64	166	0.1
2004	August	25	14	23.6	3.5	29.1	0.19	6.63	167	0.1
2004	August	25	14	23.6	4.0	29.1	0.17	6.63	166	0.1

----- Month=August STATION=15 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	15	25.9	0.2	29.0	0.49	6.62	159	0.1
2004	August	25	15	25.9	0.5	29.0	0.21	6.63	159	0.1
2004	August	25	15	25.9	1.0	29.0	0.17	6.62	159	0.1
2004	August	25	15	25.9	1.5	29.0	0.15	6.62	159	0.1
2004	August	25	15	25.9	2.0	29.0	0.19	6.62	159	0.1

----- Month=August STATION=17 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	17	29.5	0.2	28.7	0.62	6.64	158	0.1
2004	August	25	17	29.5	0.5	28.9	0.31	6.62	159	0.1
2004	August	25	17	29.5	1.0	29.0	0.32	6.63	159	0.1
2004	August	25	17	29.5	1.5	29.0	0.24	6.66	158	0.1
2004	August	25	17	29.5	2.0	29.1	0.21	6.66	157	0.1
2004	August	25	17	29.5	2.5	29.1	0.17	6.67	158	0.1
2004	August	25	17	29.5	3.0	29.1	0.17	6.60	159	0.1
2004	August	25	17	29.5	3.5	29.1	0.17	6.60	159	0.1
2004	August	25	17	29.5	4.0	29.1	0.16	6.61	158	0.1
2004	August	25	17	29.5	4.5	29.2	0.17	6.61	158	0.1

----- Month=August STATION=18 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	18	30.4	0.2	28.9	0.37	6.63	169	0.1
2004	August	25	18	30.4	0.5	29.0	0.31	6.63	161	0.1
2004	August	25	18	30.4	1.0	29.0	0.27	6.61	159	0.1
2004	August	25	18	30.4	1.5	29.1	0.25	6.62	159	0.1
2004	August	25	18	30.4	2.0	29.1	0.22	6.61	159	0.1
2004	August	25	18	30.4	2.5	29.1	0.18	6.61	158	0.1
2004	August	25	18	30.4	3.0	29.1	0.17	6.62	159	0.1
2004	August	25	18	30.4	3.5	29.1	0.17	6.62	157	0.1
2004	August	25	18	30.4	4.0	29.1	0.22	6.60	157	0.1
2004	August	25	18	30.4	4.5	29.1	0.17	6.57	158	0.1
2004	August	25	18	30.4	5.0	29.2	0.15	6.55	160	0.1

----- Month=August STATION=19 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	19	32.3	0.2	28.9	0.62	6.66	166	0.1
2004	August	25	19	32.3	0.5	29.0	0.32	6.66	167	0.1
2004	August	25	19	32.3	1.0	29.1	0.22	6.67	161	0.1
2004	August	25	19	32.3	1.5	29.1	0.17	6.62	156	0.1
2004	August	25	19	32.3	2.0	29.2	0.17	6.61	157	0.1
2004	August	25	19	32.3	2.5	29.2	0.15	6.56	157	0.1
2004	August	25	19	32.3	3.0	29.2	0.15	6.64	156	0.1
2004	August	25	19	32.3	3.5	29.2	0.13	6.63	158	0.1

----- Month=August STATION=21 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	21	8.4	0.2	29.6	1.99	7.01	230	0.1
2004	August	25	21	8.4	0.5	29.2	0.43	6.97	246	0.2
2004	August	25	21	8.4	1.0	29.3	0.39	6.99	436	0.2
2004	August	25	21	8.4	1.5	29.2	0.34	6.78	1485	1.1
2004	August	25	21	8.4	2.0	30.0	0.27	6.88	17367	10.2

----- Month=August STATION=22 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	22	12.8	0.2	31.0	0.27	6.88	173	0.1
2004	August	25	22	12.8	0.5	29.3	0.22	6.82	171	0.1
2004	August	25	22	12.8	1.0	29.3	0.22	6.78	169	0.1
2004	August	25	22	12.8	1.5	29.3	0.16	6.76	171	0.1
2004	August	25	22	12.8	2.0	29.3	0.15	6.75	171	0.1
2004	August	25	22	12.8	2.5	29.3	0.17	6.75	172	0.1
2004	August	25	22	12.8	3.0	29.2	0.17	6.74	172	0.1
2004	August	25	22	12.8	3.5	29.2	0.14	6.74	173	0.1

----- Month=August STATION=23 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	23	17.5	0.2	29.2	0.90	6.73	161	0.1
2004	August	25	23	17.5	0.5	29.1	0.53	6.70	161	0.1
2004	August	25	23	17.5	1.0	29.1	0.41	6.69	162	0.1
2004	August	25	23	17.5	1.5	29.1	0.35	6.68	162	0.1
2004	August	25	23	17.5	2.0	29.1	0.31	6.67	161	0.1

----- Month=August STATION=24 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	24	21.9	0.2	29.2	0.37	6.66	162	0.1
2004	August	25	24	21.9	0.5	29.1	0.29	6.66	162	0.1
2004	August	25	24	21.9	1.0	29.1	0.24	6.66	163	0.1
2004	August	25	24	21.9	1.5	29.1	0.25	6.65	162	0.1
2004	August	25	24	21.9	2.0	29.1	0.22	6.65	163	0.1

Month=August STATION=24
(continued)

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	24	21.9	2.5	29.0	0.22	6.64	162	0.1
2004	August	25	24	21.9	3.0	29.1	0.21	6.64	162	0.1

Month=August STATION=25

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	25	24.7	0.2	29.0	0.68	6.66	158	0.1
2004	August	25	25	24.7	0.5	29.0	0.41	6.66	158	0.1
2004	August	25	25	24.7	1.0	29.0	0.33	6.66	159	0.1
2004	August	25	25	24.7	1.5	29.0	0.33	6.65	159	0.1
2004	August	25	25	24.7	2.0	29.0	0.27	6.64	159	0.1
2004	August	25	25	24.7	2.0	29.0	0.21	6.63	159	0.1
2004	August	25	25	24.7	2.5	29.0	0.23	6.64	159	0.1

Month=August STATION=92

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	August	25	92	12.7	0.2	31.0	0.68	6.91	213	0.1
2004	August	25	92	12.7	0.5	29.3	0.35	6.90	235	0.1
2004	August	25	92	12.7	1.0	29.1	0.24	6.89	230	0.1
2004	August	25	92	12.7	1.5	29.0	0.22	6.89	225	0.1
2004	August	25	92	12.7	2.0	29.0	0.25	6.89	220	0.1
2004	August	25	92	12.7	2.5	28.9	0.18	6.90	246	0.1
2004	August	25	92	12.7	3.0	28.9	0.21	6.91	264	0.1
2004	August	25	92	12.7	3.5	28.9	0.17	6.94	288	0.1

Month=September STATION=9

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	9	-2.4	0.2	26.5	8.25	7.40	23425	14.1
2004	September	23	9	-2.4	0.5	26.5	8.27	7.41	23435	14.2
2004	September	23	9	-2.4	1.0	26.5	8.14	7.42	23416	14.1
2004	September	23	9	-2.4	1.5	26.5	8.04	7.43	23444	14.1
2004	September	23	9	-2.4	2.0	26.7	7.27	7.44	26563	16.2
2004	September	23	9	-2.4	2.5	26.9	7.08	7.46	26593	16.3
2004	September	23	9	-2.4	3.0	26.9	7.00	7.47	26585	16.3
2004	September	23	9	-2.4	3.5	26.9	6.98	7.48	26577	16.3
2004	September	23	9	-2.4	4.0	27.0	6.88	7.49	26586	16.3

Month=September STATION=10

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	10	6.6	0.2	26.3	7.84	7.27	9280	5.2
2004	September	23	10	6.6	0.5	26.3	7.50	7.25	9819	5.6
2004	September	23	10	6.6	1.0	26.6	7.01	7.28	15675	8.8
2004	September	23	10	6.6	1.5	26.9	6.71	7.33	21606	12.9
2004	September	23	10	6.6	2.0	26.9	6.78	7.35	22401	13.6
2004	September	23	10	6.6	2.5	26.8	6.56	7.34	23191	14.0
2004	September	23	10	6.6	3.0	26.8	6.46	7.34	23192	14.0

Month=September STATION=11

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	11	10.5	0.2	26.4	5.80	7.06	1213	0.7
2004	September	23	11	10.5	0.5	26.5	5.58	7.05	1148	0.6
2004	September	23	11	10.5	1.0	26.4	5.45	7.01	1789	1.0
2004	September	23	11	10.5	1.5	26.3	5.31	6.99	2076	1.1
2004	September	23	11	10.5	2.0	26.4	5.06	6.90	6566	4.9
2004	September	23	11	10.5	2.5	26.9	4.98	7.02	16833	9.8

Month=September STATION=12

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	12	15.5	0.2	27.0	3.80	6.83	163	0.1
2004	September	23	12	15.5	0.5	27.0	3.43	6.80	162	0.1
2004	September	23	12	15.5	1.0	27.0	3.36	6.80	163	0.1
2004	September	23	12	15.5	1.5	27.0	3.33	6.80	163	0.1
2004	September	23	12	15.5	2.0	27.0	3.31	6.79	163	0.1

Month=September STATION=13

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	13	20.1	0.2	27.2	3.08	6.76	162	0.1
2004	September	23	13	20.1	0.5	27.1	2.55	6.74	162	0.1
2004	September	23	13	20.1	1.0	27.1	2.45	6.74	163	0.1
2004	September	23	13	20.1	1.5	27.1	2.43	6.73	162	0.1
2004	September	23	13	20.1	2.0	27.1	2.43	6.73	163	0.1
2004	September	23	13	20.1	2.5	27.1	2.40	6.73	163	0.1
2004	September	23	13	20.1	3.0	27.1	2.36	6.73	163	0.1
2004	September	23	13	20.1	3.5	27.1	2.35	6.73	163	0.1

Month=September STATION=14

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	14	23.6	0.2	27.2	2.58	6.74	163	0.1
2004	September	23	14	23.6	0.5	27.1	2.25	6.72	163	0.1
2004	September	23	14	23.6	1.0	27.1	2.15	6.72	163	0.1
2004	September	23	14	23.6	1.5	27.1	2.08	6.71	163	0.1
2004	September	23	14	23.6	2.0	27.1	2.03	6.71	164	0.1
2004	September	23	14	23.6	2.5	27.1	2.01	6.71	164	0.1
2004	September	23	14	23.6	3.0	27.1	2.01	6.70	164	0.1
2004	September	23	14	23.6	3.5	27.1	2.00	6.71	164	0.1
2004	September	23	14	23.6	4.0	27.1	1.95	6.70	164	0.1
2004	September	23	14	23.6	4.5	27.1	1.94	6.70	164	0.1

Month=September STATION=15

Appendix E

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	15	25.9	0.2	27.2	2.61	6.72	162	0.1
2004	September	23	15	25.9	0.5	27.2	2.24	6.69	162	0.1
2004	September	23	15	25.9	1.0	27.2	2.09	6.70	162	0.1
2004	September	23	15	25.9	1.5	27.2	2.09	6.70	162	0.1
2004	September	23	15	25.9	2.0	27.2	2.03	6.70	163	0.1

----- Month=September STATION=17 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	17	29.5	0.2	27.3	3.13	6.69	166	0.1
2004	September	23	17	29.5	0.5	27.3	2.15	6.69	165	0.1
2004	September	23	17	29.5	1.0	27.3	2.04	6.68	163	0.1
2004	September	23	17	29.5	1.5	27.3	1.88	6.66	163	0.1
2004	September	23	17	29.5	2.0	27.3	1.91	6.68	164	0.1
2004	September	23	17	29.5	2.5	27.3	1.86	6.68	164	0.1
2004	September	23	17	29.5	3.0	27.3	1.94	6.69	165	0.1

----- Month=September STATION=18 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	18	30.4	0.2	27.3	2.45	6.71	167	0.1
2004	September	23	18	30.4	0.5	27.3	2.20	6.70	167	0.1
2004	September	23	18	30.4	1.0	27.3	2.10	6.70	166	0.1
2004	September	23	18	30.4	1.5	27.4	1.93	6.69	165	0.1
2004	September	23	18	30.4	2.0	27.4	1.86	6.69	165	0.1
2004	September	23	18	30.4	2.5	27.4	1.85	6.68	164	0.1
2004	September	23	18	30.4	3.0	27.4	1.85	6.68	164	0.1
2004	September	23	18	30.4	3.5	27.4	1.81	6.68	164	0.1
2004	September	23	18	30.4	4.0	27.3	1.92	6.69	166	0.1
2004	September	23	18	30.4	4.0	27.3	1.94	6.69	166	0.1

----- Month=September STATION=19 -----

River

Appendix E

Year	Month	Day	STATION	Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	19	32.3	0.2	27.4	3.35	6.71	167	0.1
2004	September	23	19	32.3	0.5	27.3	2.40	6.69	166	0.1
2004	September	23	19	32.3	1.0	27.3	2.17	6.69	166	0.1
2004	September	23	19	32.3	1.5	27.3	2.15	6.69	165	0.1
2004	September	23	19	32.3	2.0	27.3	2.12	6.69	166	0.1
2004	September	23	19	32.3	2.5	27.3	2.15	6.69	166	0.1
2004	September	23	19	32.3	3.0	27.3	2.12	6.69	166	0.1

----- Month=September STATION=21 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	21	8.4	0.2	26.5	7.45	7.24	4589	2.6
2004	September	23	21	8.4	0.5	26.5	7.14	7.15	4823	2.8
2004	September	23	21	8.4	1.0	26.4	6.68	7.16	11786	6.3
2004	September	23	21	8.4	1.5	26.6	6.22	7.20	19064	11.3
2004	September	23	21	8.4	2.0	26.8	6.16	7.21	19134	11.3

----- Month=September STATION=22 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	22	12.8	0.2	27.0	4.01	6.89	167	0.1
2004	September	23	22	12.8	0.5	27.0	3.83	6.89	167	0.1
2004	September	23	22	12.8	1.0	27.0	3.65	6.85	161	0.1
2004	September	23	22	12.8	1.5	26.9	3.47	6.80	162	0.1
2004	September	23	22	12.8	2.0	26.9	3.54	6.82	163	0.1
2004	September	23	22	12.8	2.5	27.0	3.55	6.80	163	0.1
2004	September	23	22	12.8	3.0	26.9	3.53	6.80	164	0.1
2004	September	23	22	12.8	3.5	26.9	3.50	6.80	164	0.1

Month=September STATION=23

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	23	17.5	0.2	27.1	3.19	6.79	162	0.1
2004	September	23	23	17.5	0.5	27.1	2.94	6.77	162	0.1
2004	September	23	23	17.5	1.0	27.1	2.86	6.76	162	0.1
2004	September	23	23	17.5	1.5	27.1	2.79	6.75	162	0.1
2004	September	23	23	17.5	2.0	27.1	2.73	6.74	163	0.1

Month=September STATION=24

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	24	21.9	0.2	27.0	2.40	6.73	162	0.1
2004	September	23	24	21.9	0.5	27.0	2.25	6.72	163	0.1
2004	September	23	24	21.9	1.0	27.0	2.16	6.71	163	0.1
2004	September	23	24	21.9	1.5	27.0	2.13	6.71	163	0.1
2004	September	23	24	21.9	2.0	27.0	2.11	6.71	163	0.1
2004	September	23	24	21.9	2.5	27.0	2.10	6.71	163	0.1
2004	September	23	24	21.9	3.0	27.0	2.11	6.70	163	0.1

Month=September STATION=25

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	25	24.7	0.2	27.2	2.73	6.75	161	0.1
2004	September	23	25	24.7	0.5	27.2	2.23	6.70	163	0.1
2004	September	23	25	24.7	1.0	27.2	2.09	6.70	163	0.1
2004	September	23	25	24.7	1.5	27.2	2.07	6.70	163	0.1
2004	September	23	25	24.7	2.0	27.2	2.02	6.70	163	0.1
2004	September	23	25	24.7	2.5	27.2	1.99	6.69	163	0.1

----- Month=September STATION=92 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	September	23	92	12.7	0.2	26.9	5.51	7.19	197	0.1
2004	September	23	92	12.7	0.5	26.9	5.03	7.09	197	0.1
2004	September	23	92	12.7	1.0	26.8	4.65	7.05	190	0.1
2004	September	23	92	12.7	1.5	26.8	4.44	7.03	192	0.1
2004	September	23	92	12.7	2.0	26.7	4.34	7.02	193	0.1
2004	September	23	92	12.7	2.5	26.7	4.25	7.00	193	0.1
2004	September	23	92	12.7	3.0	26.7	4.23	6.99	194	0.1
2004	September	23	92	12.7	3.5	26.7	4.20	6.98	195	0.1

----- Month=October STATION=9 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	9	-2.4	0.2	27.0	8.56	7.05	19711	11.7
2004	October	21	9	-2.4	0.5	26.9	8.51	7.05	19861	11.8
2004	October	21	9	-2.4	1.0	26.7	8.50	7.09	21573	12.9
2004	October	21	9	-2.4	1.5	26.7	8.00	7.08	25416	15.5
2004	October	21	9	-2.4	2.0	26.1	4.37	6.65	33211	20.8
2004	October	21	9	-2.4	2.5	26.0	4.10	6.66	33233	20.8
2004	October	21	9	-2.4	3.0	26.0	3.92	6.65	33230	20.8
2004	October	21	9	-2.4	3.5	26.0	3.83	6.64	33240	20.8
2004	October	21	9	-2.4	4.0	26.0	3.75	6.65	33260	20.8

----- Month=October STATION=10 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	10	6.6	0.2	27.0	7.27	6.57	5268	3.0
2004	October	21	10	6.6	0.5	27.0	7.21	6.51	6557	3.7
2004	October	21	10	6.6	1.0	26.9	7.01	6.47	8066	4.4
2004	October	21	10	6.6	1.5	27.0	4.50	6.52	23847	14.4
2004	October	21	10	6.6	2.0	26.5	3.41	6.49	29058	17.9
2004	October	21	10	6.6	2.5	26.3	2.92	6.50	31105	19.3

----- Month=October STATION=11 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	11	10.5	0.2	27.0	6.25	6.38	2472	1.4
2004	October	21	11	10.5	0.5	27.0	6.48	6.33	3060	1.7
2004	October	21	11	10.5	1.0	27.5	6.05	6.31	7299	4.2
2004	October	21	11	10.5	1.5	28.0	5.66	6.37	11619	6.9
2004	October	21	11	10.5	2.0	28.0	5.63	6.38	12325	7.1
2004	October	21	11	10.5	2.5	28.0	5.64	6.39	12409	7.1

----- Month=October STATION=12 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	12	15.5	0.2	26.0	4.97	6.22	190	0.1
2004	October	21	12	15.5	0.5	26.0	4.43	6.17	190	0.1
2004	October	21	12	15.5	1.0	25.9	4.20	6.16	190	0.1
2004	October	21	12	15.5	1.5	25.9	4.21	6.14	190	0.1
2004	October	21	12	15.5	2.0	25.9	4.15	6.14	190	0.1
2004	October	21	12	15.5	2.5	25.9	4.29	6.14	190	0.1

----- Month=October STATION=13 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	13	20.1	0.2	26.0	4.71	6.17	188	0.1
2004	October	21	13	20.1	0.5	26.0	4.39	6.13	188	0.1
2004	October	21	13	20.1	1.0	26.0	4.22	6.14	188	0.1
2004	October	21	13	20.1	1.5	26.0	4.16	6.13	188	0.1
2004	October	21	13	20.1	2.0	26.0	4.38	6.13	188	0.1
2004	October	21	13	20.1	2.5	26.0	4.33	6.12	188	0.1
2004	October	21	13	20.1	3.0	26.0	4.16	6.12	188	0.1

----- Month=October STATION=14 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	14	23.6	0.2	26.0	5.20	6.15	188	0.1
2004	October	21	14	23.6	0.5	25.9	4.21	6.11	188	0.1
2004	October	21	14	23.6	1.0	25.9	4.09	6.11	188	0.1
2004	October	21	14	23.6	1.5	25.9	4.05	6.10	188	0.1
2004	October	21	14	23.6	2.0	25.9	4.03	6.10	188	0.1
2004	October	21	14	23.6	2.5	25.9	3.94	6.10	188	0.1
2004	October	21	14	23.6	3.0	25.9	3.96	6.09	188	0.1
2004	October	21	14	23.6	3.5	25.9	3.93	6.09	188	0.1
2004	October	21	14	23.6	4.0	25.9	3.87	6.09	188	0.1

----- Month=October STATION=15 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	15	25.9	0.2	25.8	4.41	6.11	188	0.1
2004	October	21	15	25.9	0.5	25.8	4.21	6.10	188	0.1
2004	October	21	15	25.9	1.0	25.8	4.03	6.10	188	0.1
2004	October	21	15	25.9	1.5	25.8	4.21	6.09	188	0.1

----- Month=October STATION=17 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	17	29.5	0.2	26.3	6.12	6.18	190	0.1
2004	October	21	17	29.5	0.5	26.0	4.32	6.09	188	0.1
2004	October	21	17	29.5	1.0	26.0	4.11	6.08	188	0.1
2004	October	21	17	29.5	1.5	25.9	3.95	6.08	188	0.1
2004	October	21	17	29.5	2.0	25.8	4.01	6.08	188	0.1
2004	October	21	17	29.5	2.5	25.9	3.92	6.08	188	0.1
2004	October	21	17	29.5	3.0	25.9	3.87	6.07	188	0.1
2004	October	21	17	29.5	3.5	25.9	3.77	6.07	188	0.1
2004	October	21	17	29.5	4.0	25.9	3.72	6.06	188	0.1
2004	October	21	17	29.5	4.5	25.9	3.82	6.06	188	0.1
2004	October	21	17	29.5	5.0	25.9	3.84	6.06	188	0.1

----- Month=October STATION=18 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	18	30.4	0.2	25.9	4.66	6.09	189	0.1
2004	October	21	18	30.4	0.5	25.8	4.10	6.07	189	0.1
2004	October	21	18	30.4	1.0	25.8	3.99	6.07	189	0.1
2004	October	21	18	30.4	1.5	25.8	3.99	6.07	189	0.1
2004	October	21	18	30.4	2.0	25.8	3.97	6.07	188	0.1
2004	October	21	18	30.4	2.5	25.8	3.93	6.06	188	0.1
2004	October	21	18	30.4	3.0	25.8	3.90	6.06	189	0.1
2004	October	21	18	30.4	3.5	25.8	4.01	6.05	187	0.1
2004	October	21	18	30.4	4.0	25.8	3.87	6.05	188	0.1

----- Month=October STATION=19 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	19	32.3	0.2	25.9	4.94	6.14	189	0.1
2004	October	21	19	32.3	0.5	25.9	4.27	6.10	189	0.1
2004	October	21	19	32.3	1.0	25.9	4.47	6.10	188	0.1
2004	October	21	19	32.3	1.5	25.9	4.26	6.09	188	0.1
2004	October	21	19	32.3	2.0	25.9	4.31	6.09	188	0.1
2004	October	21	19	32.3	2.5	25.9	4.61	6.09	188	0.1

----- Month=October STATION=21 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	21	8.4	0.2	27.3	7.07	6.51	2975	1.6
2004	October	21	21	8.4	0.5	27.3	7.33	6.50	4012	2.2
2004	October	21	21	8.4	1.0	27.4	6.10	6.48	11375	6.2
2004	October	21	21	8.4	1.5	27.8	5.21	6.38	13880	8.1

----- Month=October STATION=22 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	22	12.8	0.2	26.2	5.22	6.41	199	0.1
2004	October	21	22	12.8	0.5	26.2	4.87	6.35	200	0.1
2004	October	21	22	12.8	1.0	26.2	4.80	6.34	200	0.1
2004	October	21	22	12.8	1.5	26.2	4.78	6.35	200	0.1
2004	October	21	22	12.8	2.0	26.2	4.79	6.32	200	0.1
2004	October	21	22	12.8	2.5	26.2	4.66	6.31	200	0.1
2004	October	21	22	12.8	3.0	26.2	4.69	6.30	200	0.1

----- Month=October STATION=23 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	23	17.5	0.2	26.1	4.51	6.19	190	0.1
2004	October	21	23	17.5	0.5	26.0	4.29	6.15	190	0.1
2004	October	21	23	17.5	1.0	26.0	4.15	6.14	190	0.1
2004	October	21	23	17.5	1.5	26.0	4.13	6.13	190	0.1
2004	October	21	23	17.5	2.0	26.0	4.05	6.13	190	0.1

----- Month=October STATION=24 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	24	21.9	0.2	26.0	4.70	6.14	188	0.1
2004	October	21	24	21.9	0.5	25.9	4.36	6.12	188	0.1
2004	October	21	24	21.9	1.0	25.8	4.35	6.11	188	0.1
2004	October	21	24	21.9	1.5	25.8	4.31	6.11	187	0.1
2004	October	21	24	21.9	2.0	25.8	4.28	6.11	188	0.1
2004	October	21	24	21.9	2.5	25.8	4.24	6.10	188	0.1
2004	October	21	24	21.9	3.0	25.8	4.12	6.10	188	0.1

----- Month=October STATION=25 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	25	24.7	0.2	25.8	4.48	6.10	188	0.1
2004	October	21	25	24.7	0.5	25.8	4.23	6.10	188	0.1
2004	October	21	25	24.7	1.0	25.8	4.21	6.10	188	0.1
2004	October	21	25	24.7	1.5	25.7	4.15	6.09	187	0.1
2004	October	21	25	24.7	2.0	25.7	4.08	6.09	188	0.1

----- Month=October STATION=92 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	October	21	92	12.7	0.2	26.3	5.10	6.28	213	0.1
2004	October	21	92	12.7	0.5	26.3	5.18	6.25	220	0.1
2004	October	21	92	12.7	1.0	26.4	5.27	6.27	252	0.1
2004	October	21	92	12.7	1.5	26.3	5.07	6.25	228	0.1
2004	October	21	92	12.7	2.0	26.3	5.23	6.25	237	0.1
2004	October	21	92	12.7	2.5	26.3	5.14	6.24	239	0.1
2004	October	21	92	12.7	3.0	26.3	5.17	6.24	239	0.1
2004	October	21	92	12.7	3.5	26.3	4.89	6.23	241	0.1

----- Month=November STATION=9 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	9	-2.4	0.2	21.7	6.69	6.41	36725	23.3
2004	November	30	9	-2.4	0.5	21.7	6.73	6.41	36751	23.3
2004	November	30	9	-2.4	1.0	21.6	6.76	6.42	36768	23.3
2004	November	30	9	-2.4	1.5	21.6	6.85	6.42	36862	23.3
2004	November	30	9	-2.4	2.0	21.5	6.69	6.42	37056	23.5
2004	November	30	9	-2.4	2.5	21.5	6.68	6.42	37526	23.8
2004	November	30	9	-2.4	3.0	21.5	6.37	6.40	38300	24.4

Month=November STATION=10

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	10	6.6	0.2	22.7	8.16	6.51	23251	14.1
2004	November	30	10	6.6	0.5	22.7	8.11	6.50	23524	14.2
2004	November	30	10	6.6	1.0	22.2	7.14	6.44	25869	15.8
2004	November	30	10	6.6	1.5	22.1	5.92	6.32	30211	18.6
2004	November	30	10	6.6	2.0	22.1	4.35	6.13	37483	23.8
2004	November	30	10	6.6	2.5	22.2	4.21	6.13	38090	24.2

Month=November STATION=11

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	11	10.5	0.2	22.8	8.76	6.44	11848	6.8
2004	November	30	11	10.5	0.5	22.7	7.79	6.40	14491	8.6
2004	November	30	11	10.5	1.0	22.5	7.72	6.37	15208	8.8
2004	November	30	11	10.5	1.5	22.5	7.07	6.32	18154	10.7
2004	November	30	11	10.5	2.0	22.4	5.68	6.21	23914	15.1

Month=November STATION=12

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	12	15.5	0.2	22.5	8.21	6.21	953	0.5
2004	November	30	12	15.5	0.5	22.5	8.40	6.18	972	0.5
2004	November	30	12	15.5	1.0	23.7	10.25	6.71	4799	2.9

----- Month=November STATION=13 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	13	20.1	0.2	22.3	7.97	6.09	450	0.2
2004	November	30	13	20.1	0.5	22.2	7.96	6.07	451	0.2
2004	November	30	13	20.1	1.0	22.2	7.89	6.04	450	0.2
2004	November	30	13	20.1	1.5	22.1	7.92	6.04	452	0.2
2004	November	30	13	20.1	2.0	22.1	7.81	6.03	453	0.2

----- Month=November STATION=14 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	14	23.6	0.2	22.2	7.91	6.04	404	0.2
2004	November	30	14	23.6	0.5	22.2	7.92	6.02	404	0.2
2004	November	30	14	23.6	1.0	22.2	8.01	6.00	404	0.2
2004	November	30	14	23.6	1.5	22.0	7.84	5.97	403	0.2
2004	November	30	14	23.6	2.0	22.0	7.86	5.97	403	0.2

----- Month=November STATION=15 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	15	25.9	0.2	21.6	7.81	6.03	392	0.2
2004	November	30	15	25.9	0.5	21.7	7.92	6.02	392	0.2
2004	November	30	15	25.9	1.0	21.6	7.70	6.00	393	0.2
2004	November	30	15	25.9	1.5	21.7	7.79	5.99	393	0.2
2004	November	30	15	25.9	2.0	21.6	7.76	5.97	394	0.2
2004	November	30	15	25.9	2.5	21.6	7.74	5.99	393	0.2

Month=November STATION=17

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	17	29.5	0.2	22.1	8.09	6.02	399	0.2
2004	November	30	17	29.5	0.5	21.9	7.99	6.01	396	0.2
2004	November	30	17	29.5	1.0	22.1	7.91	6.01	398	0.2
2004	November	30	17	29.5	1.5	21.9	7.97	6.00	396	0.2
2004	November	30	17	29.5	2.0	21.9	7.75	5.98	395	0.2
2004	November	30	17	29.5	2.5	21.9	7.91	6.00	396	0.2
2004	November	30	17	29.5	3.0	22.0	7.75	5.99	397	0.2
2004	November	30	17	29.5	3.5	21.8	7.76	5.96	394	0.2

Month=November STATION=18

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	18	30.4	0.2	21.8	7.95	6.01	397	0.2
2004	November	30	18	30.4	0.5	22.1	7.81	5.99	396	0.2
2004	November	30	18	30.4	1.0	22.0	7.85	5.98	397	0.2
2004	November	30	18	30.4	1.5	21.8	7.83	5.97	397	0.2
2004	November	30	18	30.4	2.0	21.8	7.69	5.96	397	0.2
2004	November	30	18	30.4	2.5	21.8	6.66	5.96	397	0.2

Month=November STATION=19

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	19	32.3	0.2	22.0	8.08	5.97	395	0.2
2004	November	30	19	32.3	0.5	21.9	7.87	5.96	396	0.2
2004	November	30	19	32.3	1.0	21.9	7.70	5.95	396	0.2
2004	November	30	19	32.3	1.5	21.9	7.75	5.95	395	0.2
2004	November	30	19	32.3	2.0	21.9	7.89	5.95	396	0.2
2004	November	30	19	32.3	2.5	21.9	7.91	5.94	396	0.2
2004	November	30	19	32.3	3.0	21.9	7.89	5.94	396	0.2
2004	November	30	19	32.3	3.5	21.9	7.64	5.94	396	0.2
2004	November	30	19	32.3	4.0	21.9	7.89	5.94	396	0.2

----- Month=November STATION=21 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	21	8.4	0.2	23.3	9.64	6.69	17657	10.4
2004	November	30	21	8.4	0.5	23.0	8.98	6.64	19039	11.3
2004	November	30	21	8.4	1.0	22.3	3.78	6.04	35394	22.6
2004	November	30	21	8.4	1.5	22.3	3.26	5.94	35600	22.7

----- Month=November STATION=22 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	22	12.8	0.2	22.9	8.39	6.19	4207	2.3
2004	November	30	22	12.8	0.5	22.8	8.22	6.17	4743	2.6
2004	November	30	22	12.8	1.0	22.7	8.03	6.19	5128	2.8
2004	November	30	22	12.8	1.5	22.6	7.98	6.17	5743	3.2
2004	November	30	22	12.8	2.0	22.7	7.40	6.12	9466	5.2

----- Month=November STATION=23 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	23	17.5	0.2	22.4	8.23	6.16	538	0.3
2004	November	30	23	17.5	0.5	22.3	8.24	6.11	537	0.3
2004	November	30	23	17.5	1.0	22.3	8.16	6.09	538	0.3
2004	November	30	23	17.5	1.5	22.3	8.24	6.07	559	0.3
2004	November	30	23	17.5	2.0	22.2	8.00	6.01	1055	0.6
2004	November	30	23	17.5	2.5	22.0	7.88	5.97	2490	1.3

Month=November STATION=24

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	24	21.9	0.2	22.5	8.17	6.11	433	0.2
2004	November	30	24	21.9	0.5	22.5	8.17	6.09	433	0.2
2004	November	30	24	21.9	1.0	22.4	8.09	6.06	430	0.2
2004	November	30	24	21.9	1.5	22.3	8.00	6.04	426	0.2
2004	November	30	24	21.9	2.0	22.3	7.91	6.04	426	0.2
2004	November	30	24	21.9	2.5	22.3	7.96	6.03	426	0.2

Month=November STATION=25

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	25	24.7	0.2	22.3	7.88	6.05	397	0.2
2004	November	30	25	24.7	0.5	22.2	7.94	6.04	397	0.2
2004	November	30	25	24.7	1.0	22.2	7.87	6.04	396	0.2
2004	November	30	25	24.7	1.5	22.3	7.95	6.03	396	0.2

Month=November STATION=92

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	November	30	92	12.7	0.2	23.1	9.00	6.45	6697	3.7
2004	November	30	92	12.7	0.5	22.5	7.97	6.29	9164	5.2
2004	November	30	92	12.7	1.0	22.4	7.35	6.25	12740	7.6
2004	November	30	92	12.7	1.5	22.4	7.25	6.24	13921	8.1

----- Month=December STATION=9 -----										
Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	9	-2.4	0.2	16.0	10.68	7.86	42296	27.2
2004	December	20	9	-2.4	0.5	16.0	10.51	7.86	42274	27.2
----- Month=December STATION=9 (continued) -----										
Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	9	-2.4	1.0	16.0	10.49	7.88	42271	27.2
2004	December	20	9	-2.4	1.5	16.0	10.26	7.89	42288	27.2
2004	December	20	9	-2.4	2.0	16.0	10.35	7.90	42290	27.2
2004	December	20	9	-2.4	2.5	16.0	10.24	7.91	42290	27.2
2004	December	20	9	-2.4	3.0	16.0	10.34	7.91	42385	27.3
2004	December	20	9	-2.4	3.5	16.8	9.38	7.89	46855	30.5
----- Month=December STATION=10 -----										
Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	10	6.6	0.2	16.0	13.20	8.31	31864	19.9
2004	December	20	10	6.6	0.5	16.1	12.56	8.27	32813	20.5
2004	December	20	10	6.6	1.0	16.0	11.64	8.17	35312	22.3
2004	December	20	10	6.6	1.5	16.0	11.34	8.14	36481	23.1
2004	December	20	10	6.6	2.0	16.0	11.30	8.14	36568	23.1
2004	December	20	10	6.6	2.5	16.0	11.09	8.14	36551	23.1

----- Month=December STATION=11 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	11	10.5	0.2	15.7	14.07	8.36	21262	12.7
2004	December	20	11	10.5	0.5	15.8	14.14	8.36	21262	12.7
2004	December	20	11	10.5	1.0	15.8	14.00	8.36	21384	12.8
2004	December	20	11	10.5	1.5	16.0	12.59	8.25	25466	15.5
2004	December	20	11	10.5	2.0	16.6	11.01	8.17	28999	18.4

----- Month=December STATION=12 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	12	15.5	0.2	16.5	12.98	7.95	9464	5.3
2004	December	20	12	15.5	0.5	16.4	12.56	7.91	10102	5.7
2004	December	20	12	15.5	1.0	16.1	12.10	7.88	11156	6.3
2004	December	20	12	15.5	1.5	16.2	11.41	7.88	13501	7.8
2004	December	20	12	15.5	2.0	16.8	9.58	7.81	21367	13.1

----- Month=December STATION=13 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	13	20.1	0.2	16.4	13.29	7.88	1133	0.6
2004	December	20	13	20.1	0.5	16.3	12.55	7.72	2815	1.5
2004	December	20	13	20.1	1.0	16.3	12.20	7.71	2860	1.5
2004	December	20	13	20.1	1.5	16.3	12.09	7.70	3106	1.7
2004	December	20	13	20.1	2.0	16.8	10.54	7.51	13145	7.6
2004	December	20	13	20.1	2.5	17.0	9.95	7.59	16197	9.5
2004	December	20	13	20.1	3.0	17.2	8.58	7.55	18255	10.8
2004	December	20	13	20.1	3.5	17.3	8.31	7.55	18653	11.0

Month=December STATION=14

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	14	23.6	0.2	16.3	12.01	7.77	397	0.2
2004	December	20	14	23.6	0.5	16.3	12.54	7.73	397	0.2
2004	December	20	14	23.6	1.0	16.2	12.36	7.74	396	0.2
2004	December	20	14	23.6	1.5	16.2	12.29	7.74	396	0.2
2004	December	20	14	23.6	2.0	16.2	12.00	7.74	395	0.2
2004	December	20	14	23.6	2.5	16.2	11.88	7.74	395	0.2
2004	December	20	14	23.6	3.0	16.2	12.07	7.74	395	0.2

Month=December STATION=15

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	15	25.9	0.2	16.5	12.41	7.69	401	0.2
2004	December	20	15	25.9	0.5	16.5	12.21	7.66	402	0.2
2004	December	20	15	25.9	1.0	16.5	12.11	7.65	403	0.2
2004	December	20	15	25.9	1.5	16.5	12.00	7.64	402	0.2

Month=December STATION=17

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	17	29.5	0.2	16.2	12.42	7.66	406	0.2
2004	December	20	17	29.5	0.5	16.5	12.05	7.62	404	0.2
2004	December	20	17	29.5	1.0	16.4	11.92	7.62	405	0.2
2004	December	20	17	29.5	1.5	16.2	11.51	7.61	409	0.2
2004	December	20	17	29.5	2.0	16.3	11.45	7.61	406	0.2
2004	December	20	17	29.5	2.5	16.3	11.36	7.60	409	0.2
2004	December	20	17	29.5	3.0	16.2	11.66	7.60	408	0.2
2004	December	20	17	29.5	3.5	16.0	11.52	7.59	411	0.2

Month=December STATION=18

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	18	30.4	0.2	16.2	12.04	7.58	409	0.2
2004	December	20	18	30.4	0.5	16.0	11.92	7.57	408	0.2
2004	December	20	18	30.4	1.0	15.9	11.87	7.57	408	0.2
2004	December	20	18	30.4	1.5	15.9	11.77	7.58	408	0.2
2004	December	20	18	30.4	2.0	15.8	11.49	7.58	408	0.2
2004	December	20	18	30.4	2.5	15.8	11.12	7.58	408	0.2
2004	December	20	18	30.4	3.0	15.8	11.26	7.58	408	0.2

Month=December STATION=19

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	19	32.3	0.2	16.3	13.98	7.67	404	0.2
2004	December	20	19	32.3	0.5	16.3	12.50	7.61	403	0.2
2004	December	20	19	32.3	1.0	16.3	12.38	7.61	403	0.2
2004	December	20	19	32.3	1.5	16.3	12.26	7.61	403	0.2

Month=December STATION=21

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	21	8.4	0.2	16.2	13.73	8.35	32757	20.5
2004	December	20	21	8.4	0.5	16.2	13.61	8.34	32554	20.5
2004	December	20	21	8.4	1.0	16.2	13.26	8.29	33142	20.7
2004	December	20	21	8.4	1.5	16.7	8.70	8.01	35704	23.2

Month=December STATION=22

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	22	12.8	0.2	16.2	13.57	8.06	12240	7.0
2004	December	20	22	12.8	0.5	16.2	13.48	8.10	13263	7.6
2004	December	20	22	12.8	1.0	16.3	12.26	8.03	15999	9.5
2004	December	20	22	12.8	1.5	16.3	11.41	8.08	23991	14.6
2004	December	20	22	12.8	2.0	17.0	11.07	8.04	26489	16.3
2004	December	20	22	12.8	2.5	17.4	9.57	7.99	34761	22.1
2004	December	20	22	12.8	3.0	17.6	8.54	7.92	35241	22.2

Month=December STATION=23

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	23	17.5	0.2	16.7	13.13	7.85	4702	2.5
2004	December	20	23	17.5	0.5	16.6	12.61	7.80	5619	3.1
2004	December	20	23	17.5	1.0	16.6	11.83	7.74	7601	4.2
2004	December	20	23	17.5	1.5	16.5	10.68	7.71	11664	6.6

Month=December STATION=24

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	24	21.9	0.2	16.2	12.83	7.83	400	0.2
2004	December	20	24	21.9	0.5	16.2	12.30	7.78	400	0.2
2004	December	20	24	21.9	1.0	16.1	12.08	7.76	400	0.2
2004	December	20	24	21.9	1.5	16.2	11.79	7.77	400	0.2
2004	December	20	24	21.9	2.0	16.1	11.55	7.77	401	0.2
2004	December	20	24	21.9	2.5	16.1	11.59	7.77	400	0.2

----- Month=December STATION=25 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	25	24.7	0.2	16.5	13.00	7.76	405	0.2
2004	December	20	25	24.7	0.5	16.5	12.49	7.69	401	0.2
2004	December	20	25	24.7	1.0	16.5	12.25	7.69	400	0.2
2004	December	20	25	24.7	1.5	16.5	12.05	7.69	400	0.2

----- Month=December STATION=92 -----

Year	Month	Day	STATION	River Kilometer of Site Location	Sampling Depth (m)	Temperature (C)	Dissolved Oxygen (mg/L)	pH Water Whole Field (std.units)	Specific Conductance (us/cm)	Salinity (ppt)
2004	December	20	92	12.7	0.2	15.9	14.23	8.25	14516	8.4
2004	December	20	92	12.7	0.5	15.9	13.88	8.24	14626	8.5
2004	December	20	92	12.7	1.0	15.6	13.36	8.16	15222	9.0
2004	December	20	92	12.7	1.5	15.7	12.23	8.12	18273	10.8
2004	December	20	92	12.7	2.0	16.0	10.51	8.02	22966	13.9
2004	December	20	92	12.7	2.5	17.1	10.07	8.02	28478	17.5
2004	December	20	92	12.7	3.0	17.5	9.77	8.04	30989	19.2

Appendix F

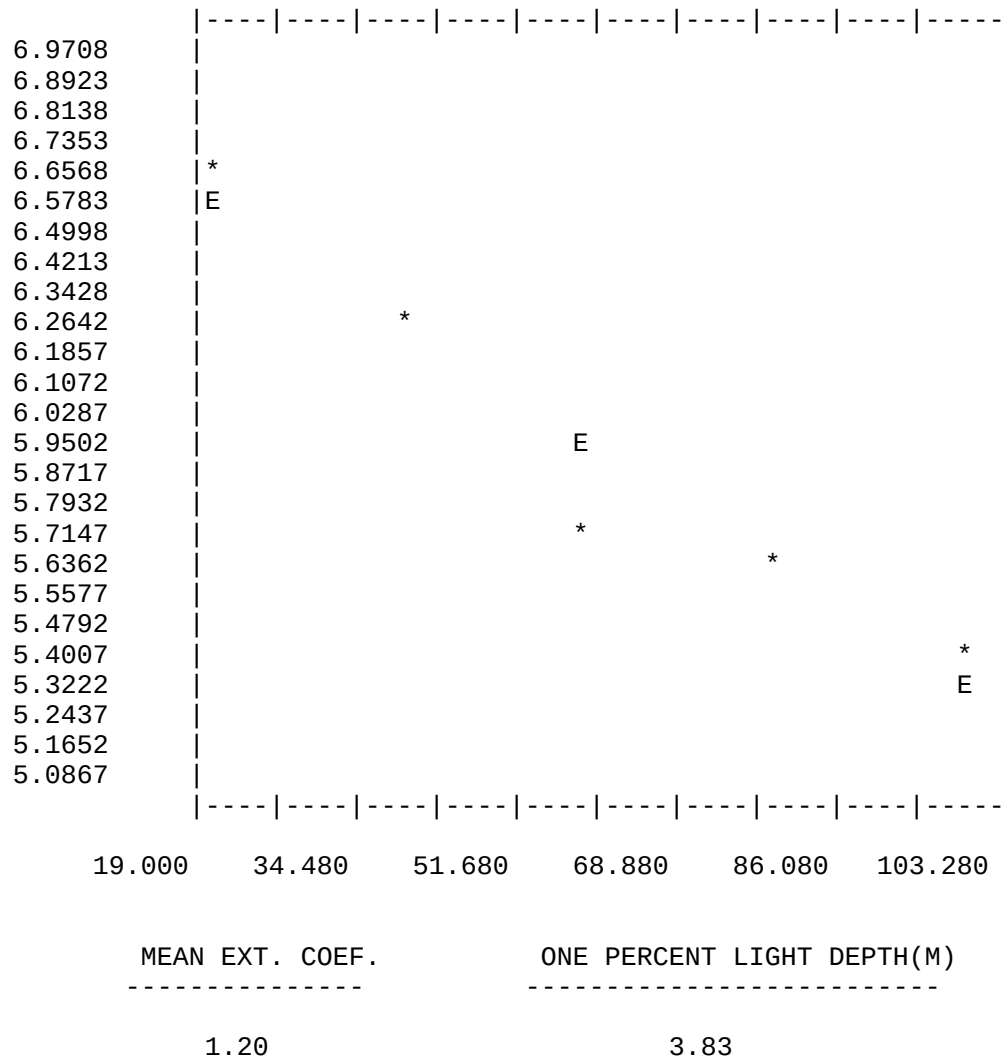
Complete Analysis Of Light Profiles At “Fixed” Sampling Stations

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 9

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.87296	-0.01601	0.97496	0.95055
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	763.	6.63883	6.55273
2	40.	511.	6.23852	6.23249
3	60.	302.	5.71340	5.91226
4	80.	277.	5.62726	5.59203
5	100.	208.	5.34329	5.27179



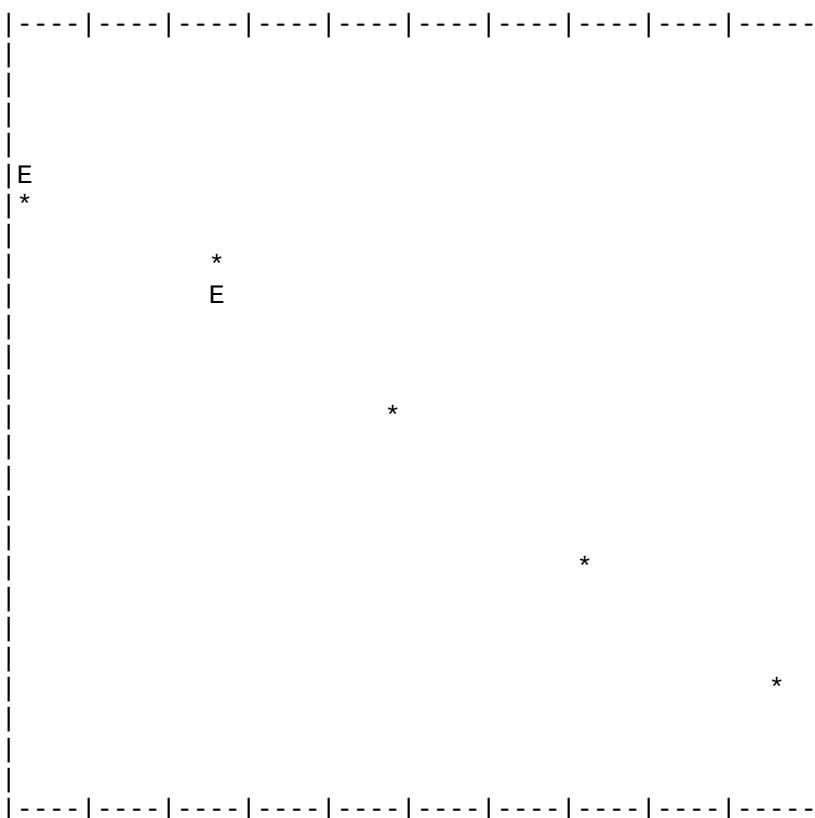
LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 10

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.09370	-0.01689	0.99538	0.99077
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	811.	6.69975	6.75599
2	40.	650.	6.47789	6.41828
3	60.	456.	6.12534	6.08057
4	80.	298.	5.69944	5.74286
5	100.	220.	5.40042	5.40515

7.0938
7.0153
6.9367
6.8582
6.7796
6.7011
6.6226
6.5440
6.4655
6.3870
6.3084
6.2299
6.1514
6.0728
5.9943
5.9158
5.8372
5.7587
5.6801
5.6016
5.5231
5.4445
5.3660
5.2875
5.2089



19.000 34.480 51.680 68.880 86.080 103.280

MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.27

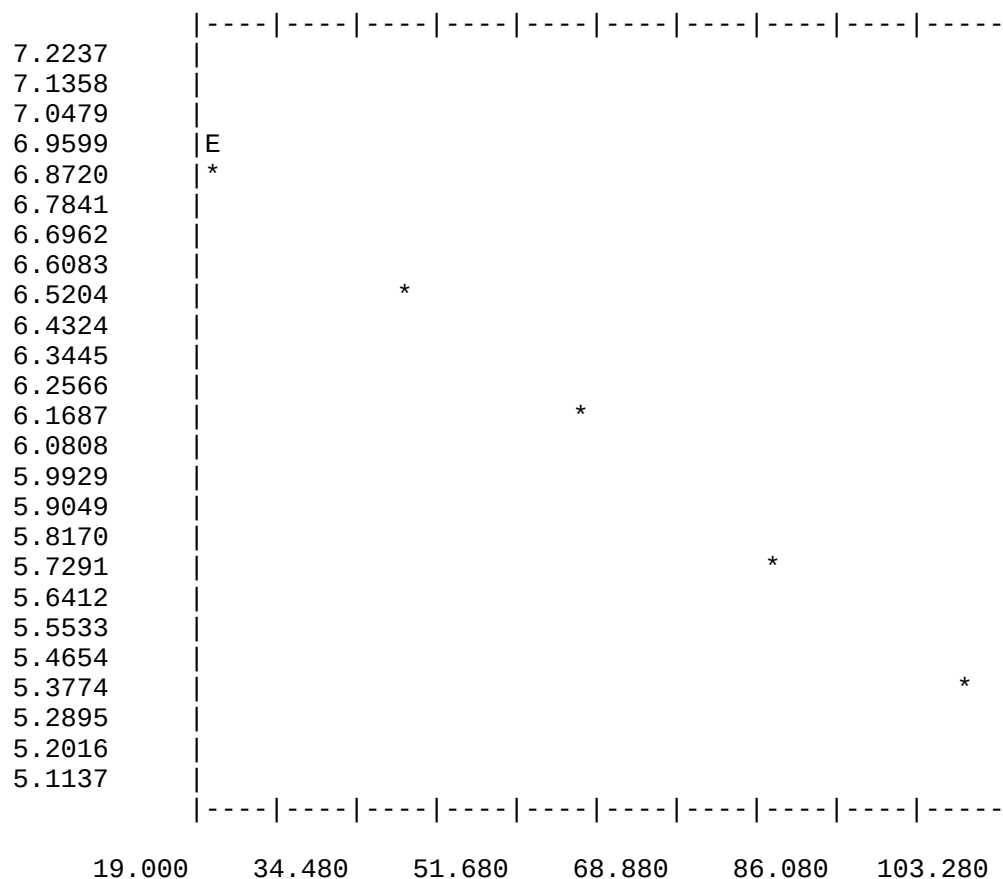
3.64

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 21

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.27670	-0.01985	0.99959	0.99919
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	954.	6.86140	6.87971
2	40.	664.	6.49994	6.48273
3	60.	447.	6.10479	6.08574
4	80.	290.	5.67229	5.68875
5	100.	197.	5.29029	5.29177



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.49

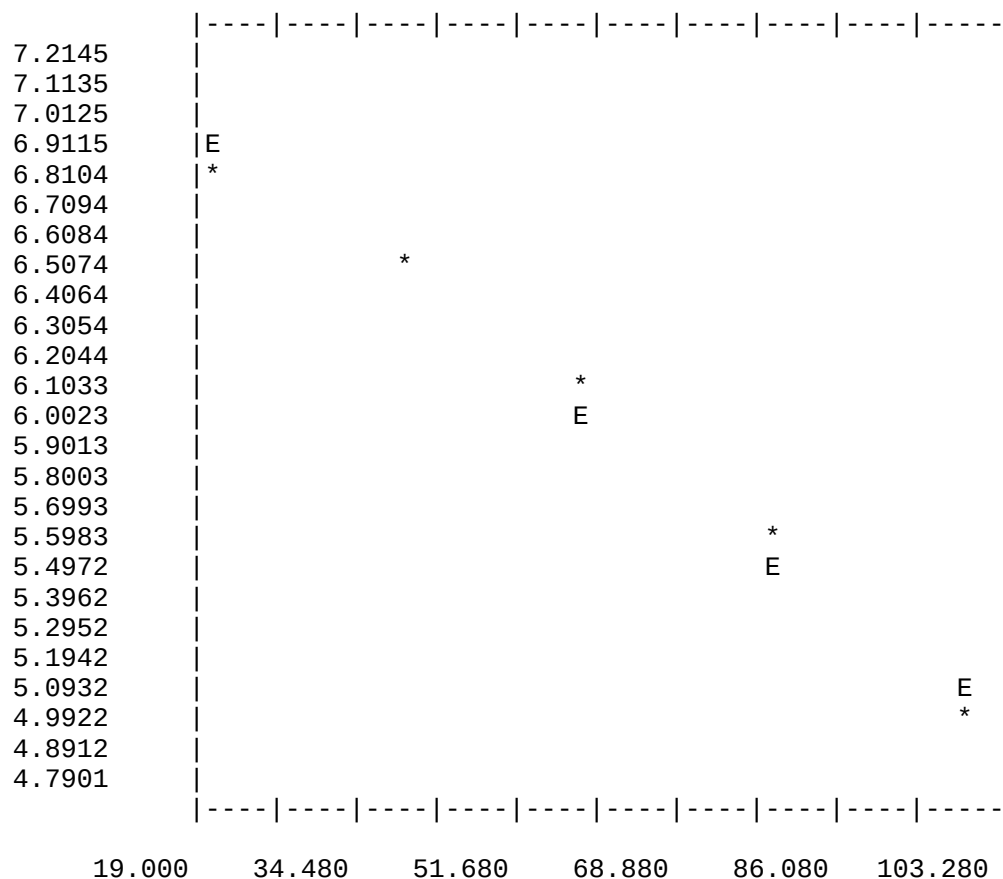
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LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 11

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.33209	-0.02306	0.99455	0.98912
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	894.	6.79638	6.87096
2	40.	631.	6.44873	6.40983
3	60.	404.	6.00413	5.94870
4	80.	258.	5.55837	5.48758
5	100.	138.	4.93591	5.02645



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.73

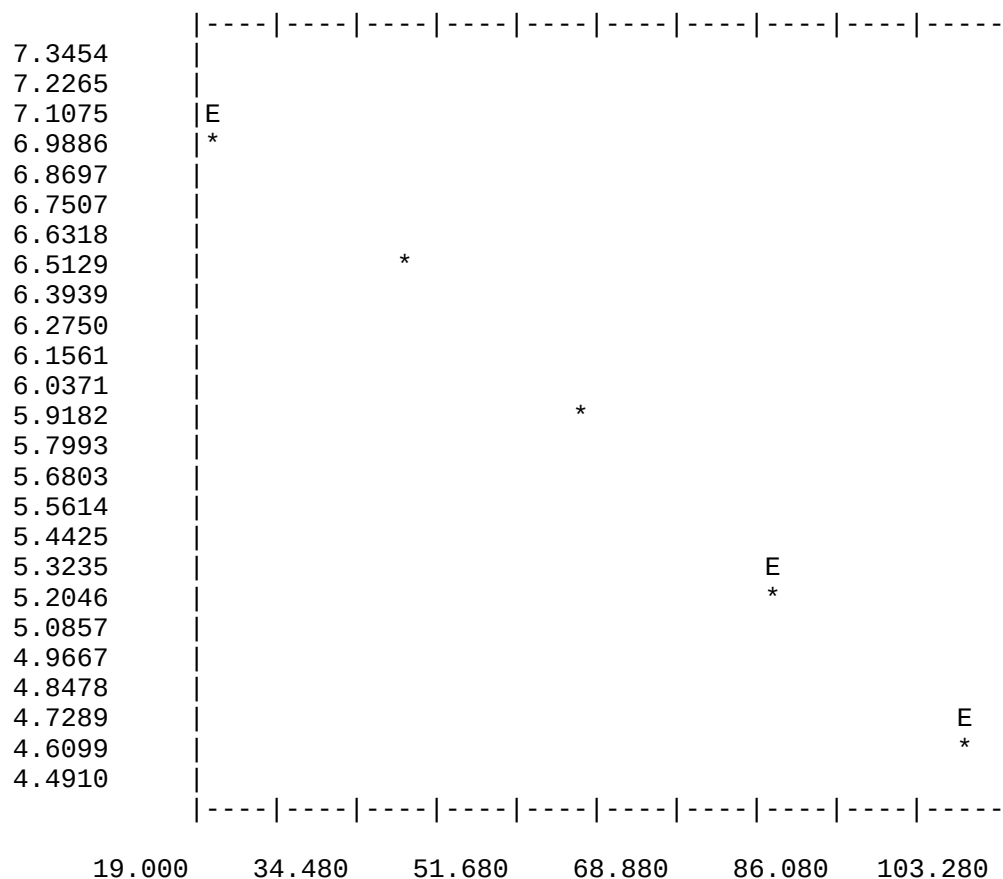
2.66

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 92

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.58906	-0.02967	0.99701	0.99403
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1004.	6.91234	6.99563
2	40.	652.	6.48096	6.40221
3	60.	357.	5.88137	5.80878
4	80.	174.	5.16707	5.21536
5	100.	99.	4.60217	4.62193



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.23

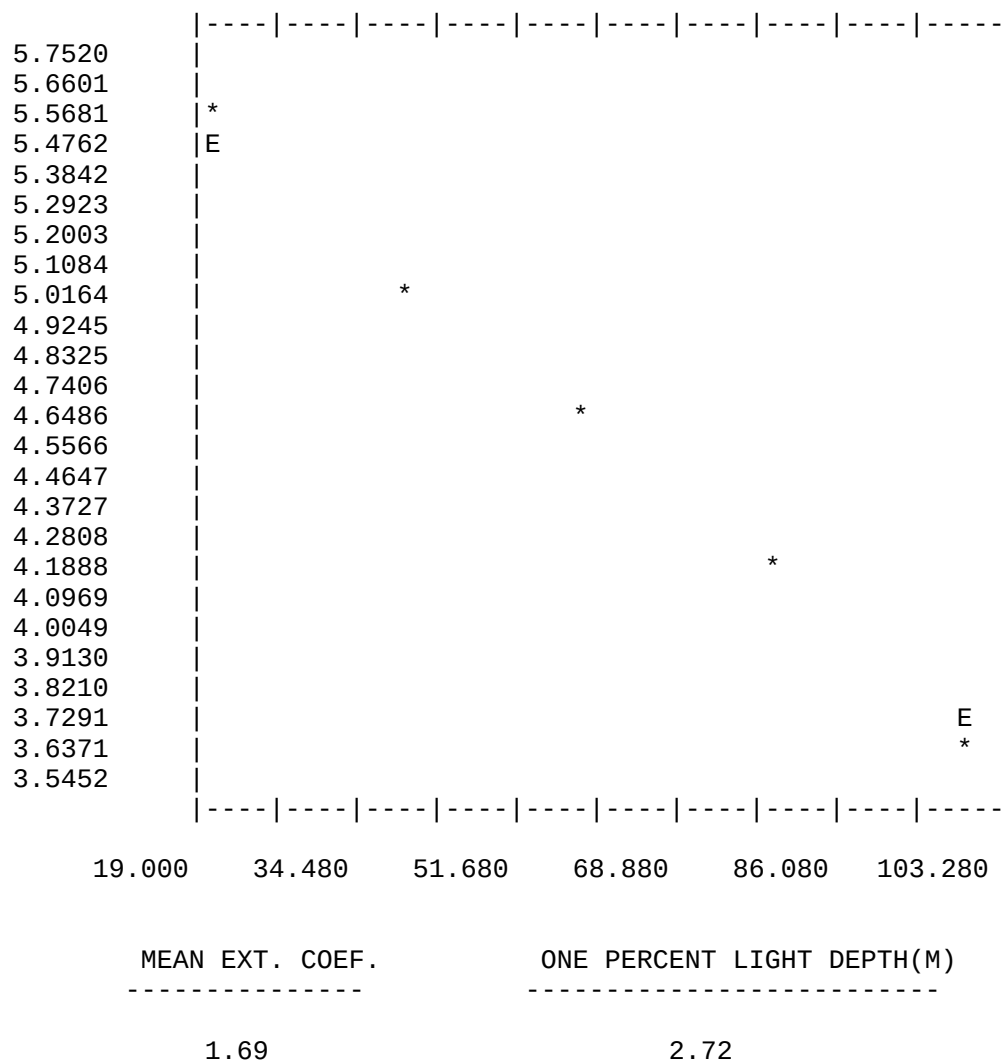
2.07

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 22

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.91755	-0.02255	0.99900	0.99801
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	238.	5.47814	5.46656
2	40.	145.	4.98086	5.01557
3	60.	96.	4.57161	4.56458
4	80.	63.	4.15732	4.11359
5	100.	37.	3.63495	3.66259

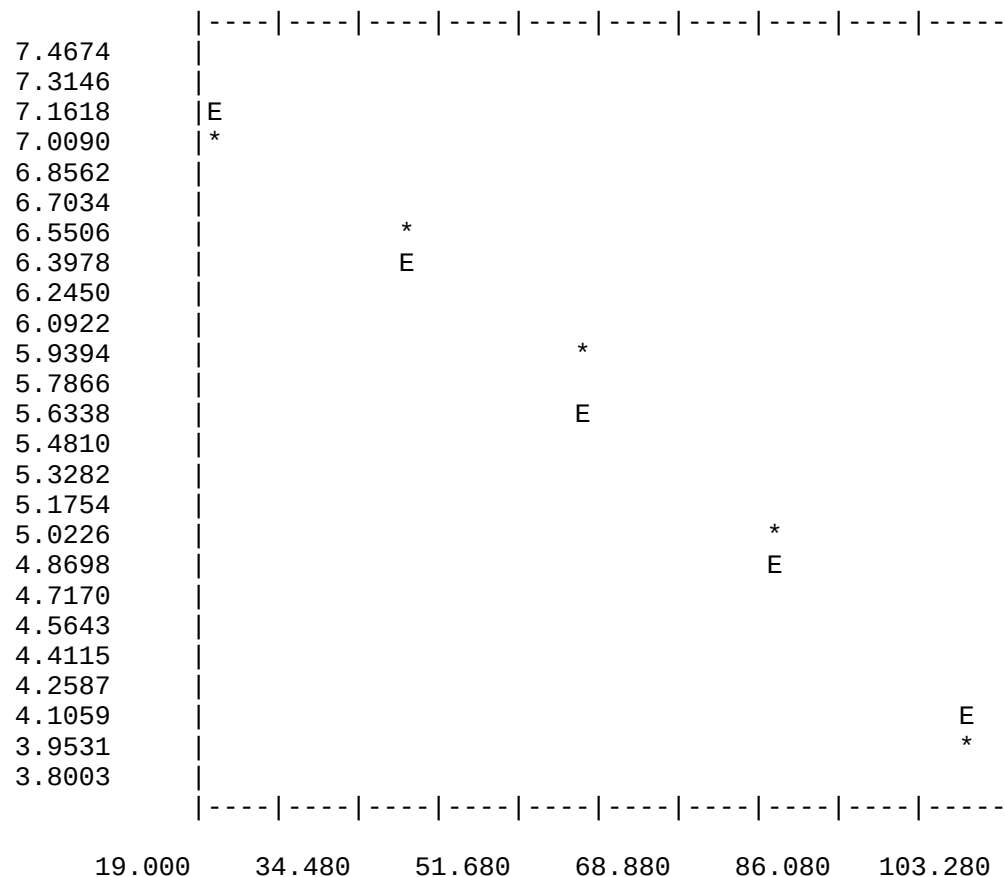


LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 12

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.87152	-0.03799	0.98451	0.96926
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1002.	6.91035	7.11177
2	40.	603.	6.40308	6.35201
3	60.	350.	5.86107	5.59226
4	80.	140.	4.94734	4.83250
5	100.	45.	3.83945	4.07275



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.85

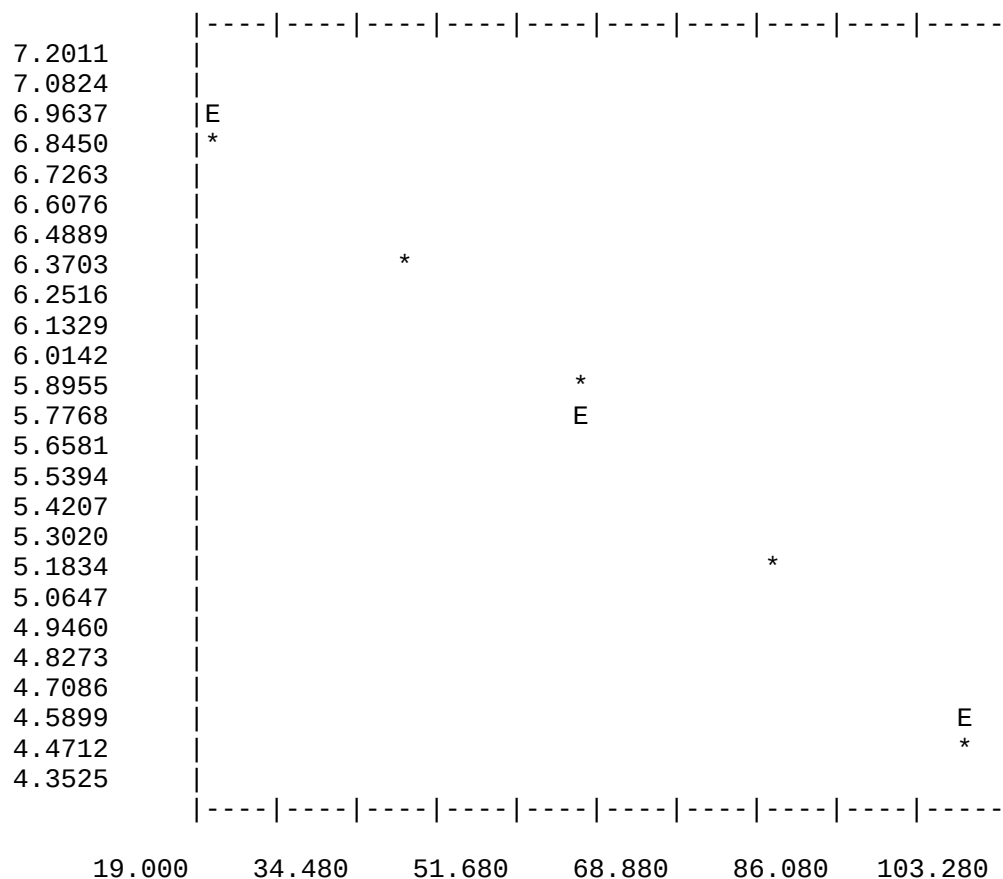
1.62

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 23

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.43660	-0.02892	0.99445	0.98892
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	858.	6.75565	6.85818
2	40.	557.	6.32436	6.27976
3	60.	340.	5.83188	5.70134
4	80.	169.	5.13815	5.12292
5	100.	85.	4.45667	4.54451



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.17

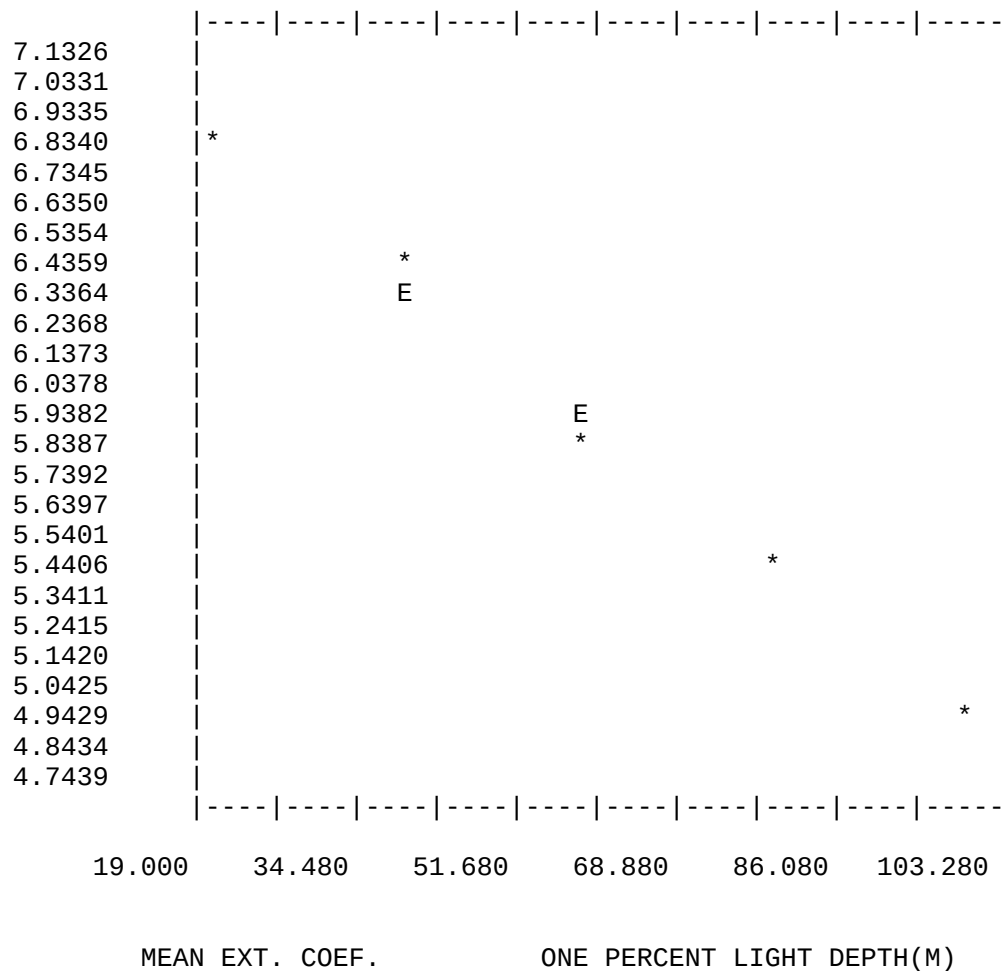
2.12

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 13

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.26900	-0.02380	0.99856	0.99712
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	861.	6.75984	6.79296
2	40.	591.	6.38300	6.31692
3	60.	332.	5.80814	5.84088
4	80.	213.	5.36457	5.36484
5	100.	132.	4.88884	4.88880



1.79

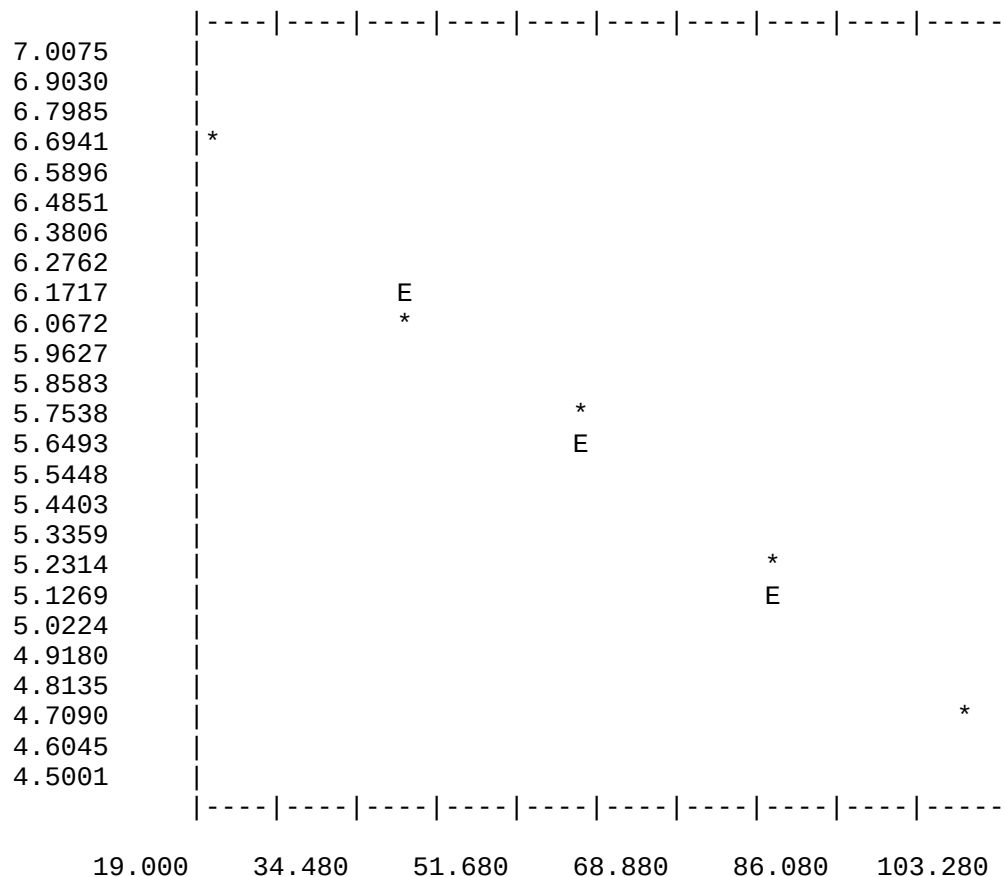
2.58

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 24

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.10872	-0.02479	0.99577	0.99157
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	790.	6.67380	6.61298
2	40.	401.	5.99769	6.11724
3	60.	290.	5.67504	5.62150
4	80.	169.	5.13403	5.12576
5	100.	101.	4.62693	4.63002



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.86

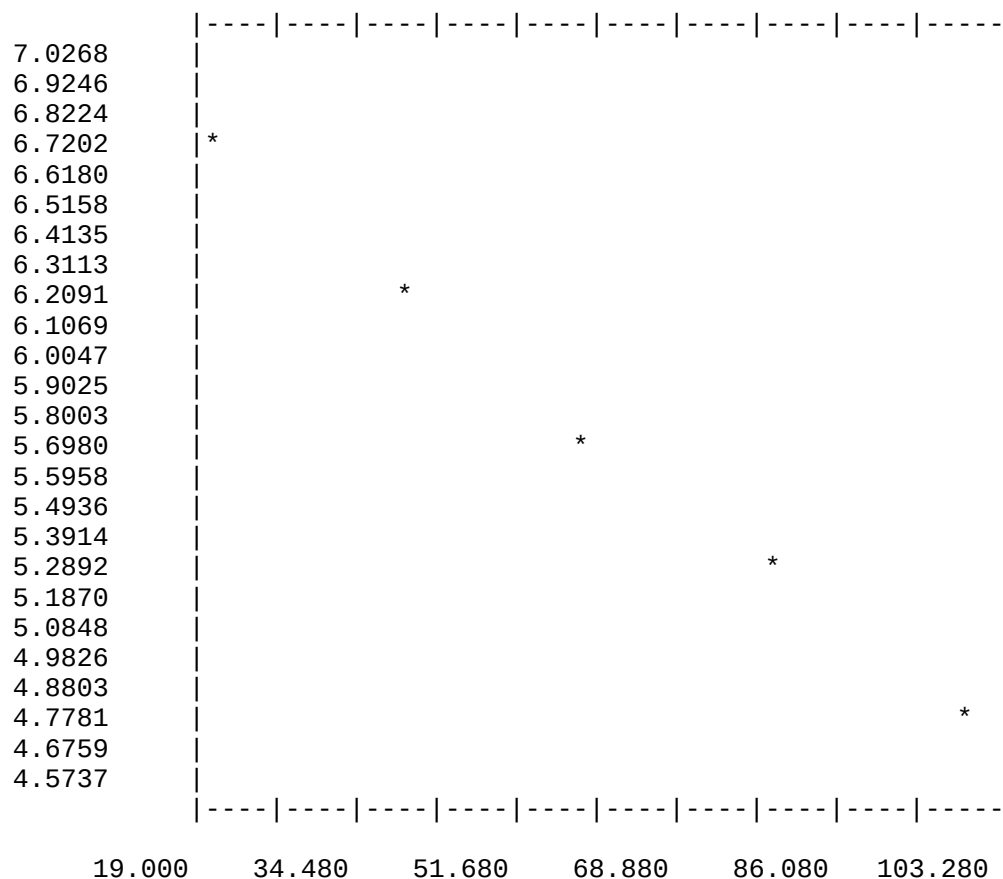
2.48

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 14

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.14958	-0.02430	0.99789	0.99579
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	805.	6.69221	6.66353
2	40.	473.	6.16121	6.17748
3	60.	276.	5.62546	5.69143
4	80.	194.	5.27146	5.20538
5	100.	110.	4.70682	4.71933



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.82

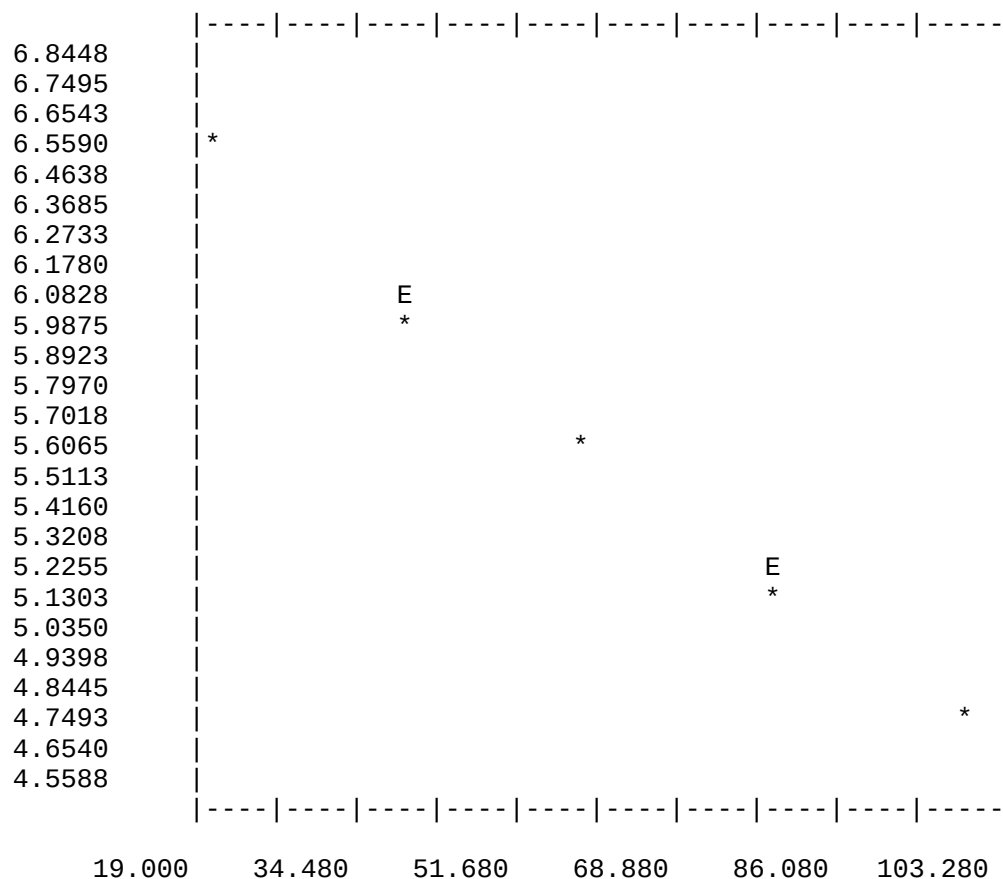
2.53

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 25

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.91476	-0.02216	0.99813	0.99627
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	677.	6.51885	6.47150
2	40.	390.	5.96999	6.02823
3	60.	267.	5.59099	5.58497
4	80.	165.	5.11500	5.14171
5	100.	112.	4.73004	4.69845



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.66

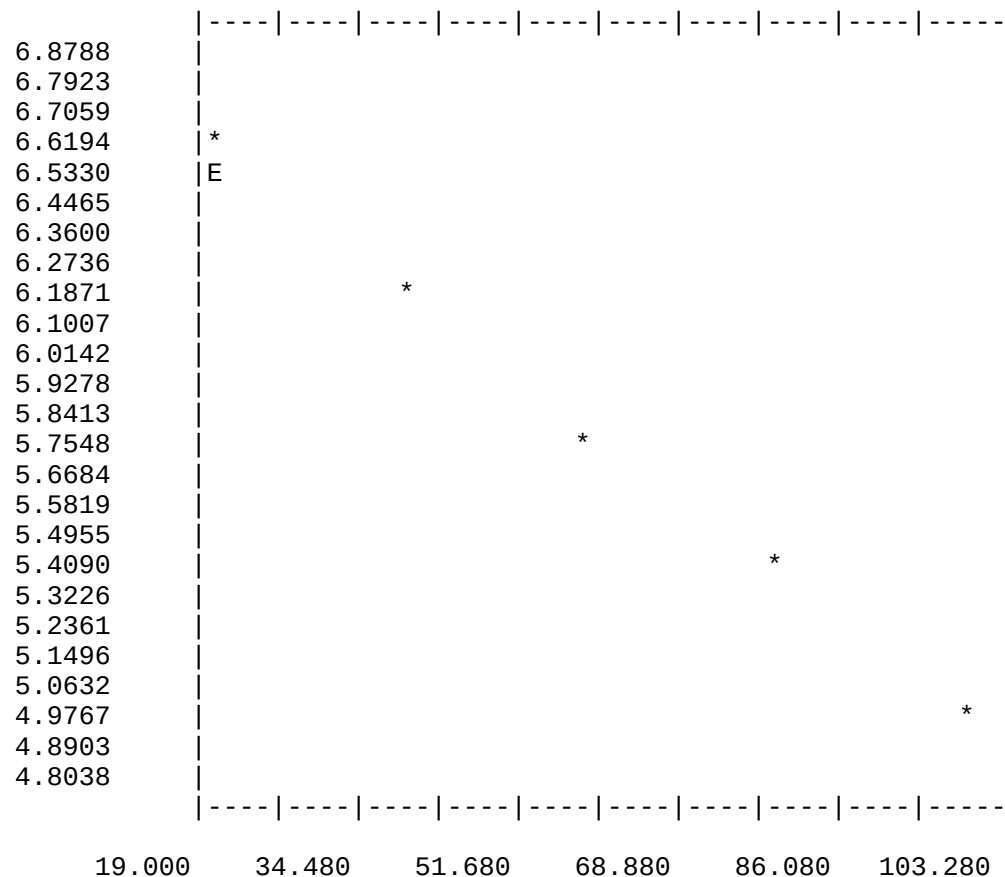
2.77

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 15

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.90551	-0.01938	0.99790	0.99579
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	699.	6.55122	6.51786
2	40.	447.	6.10479	6.13022
3	60.	295.	5.69171	5.74258
4	80.	220.	5.39952	5.35493
5	100.	142.	4.96564	4.96729



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.45

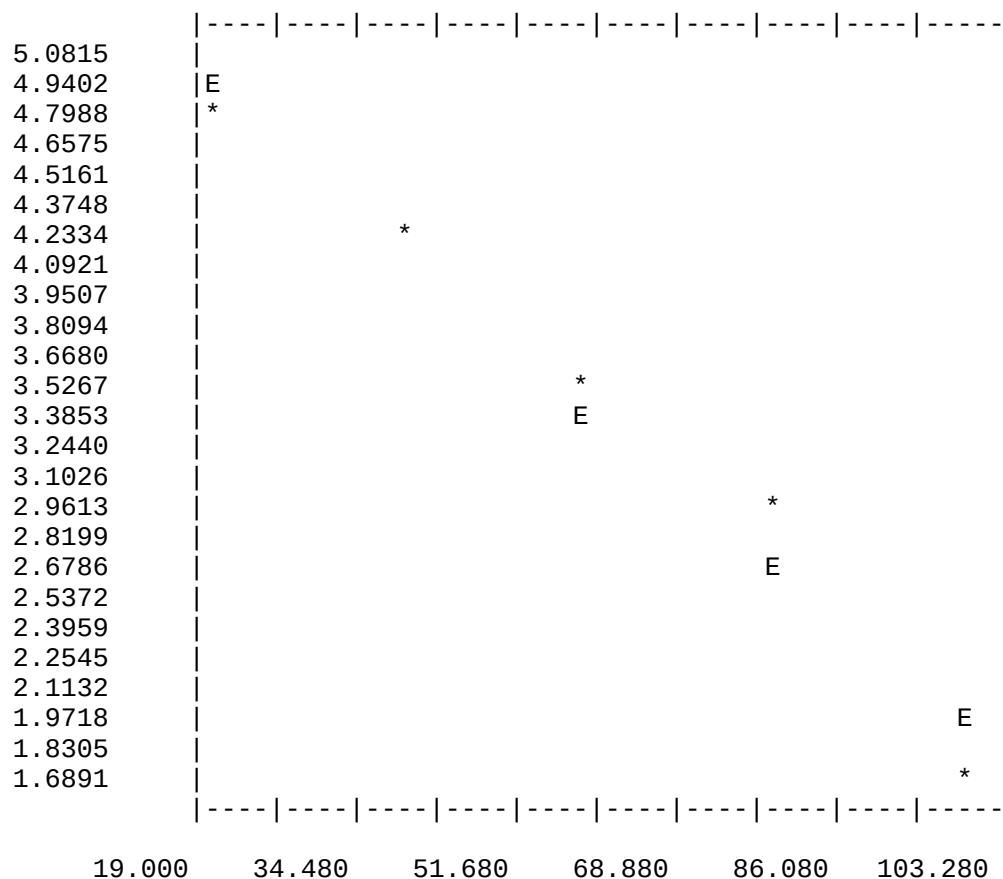
3.17

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 17

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.58046	-0.03705	0.98641	0.97301
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	111.	4.71492	4.83954
2	40.	59.	4.09434	4.09861
3	60.	32.	3.49347	3.35769
4	80.	16.	2.85647	2.61677
5	100.	4.	1.62924	1.87584



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.78

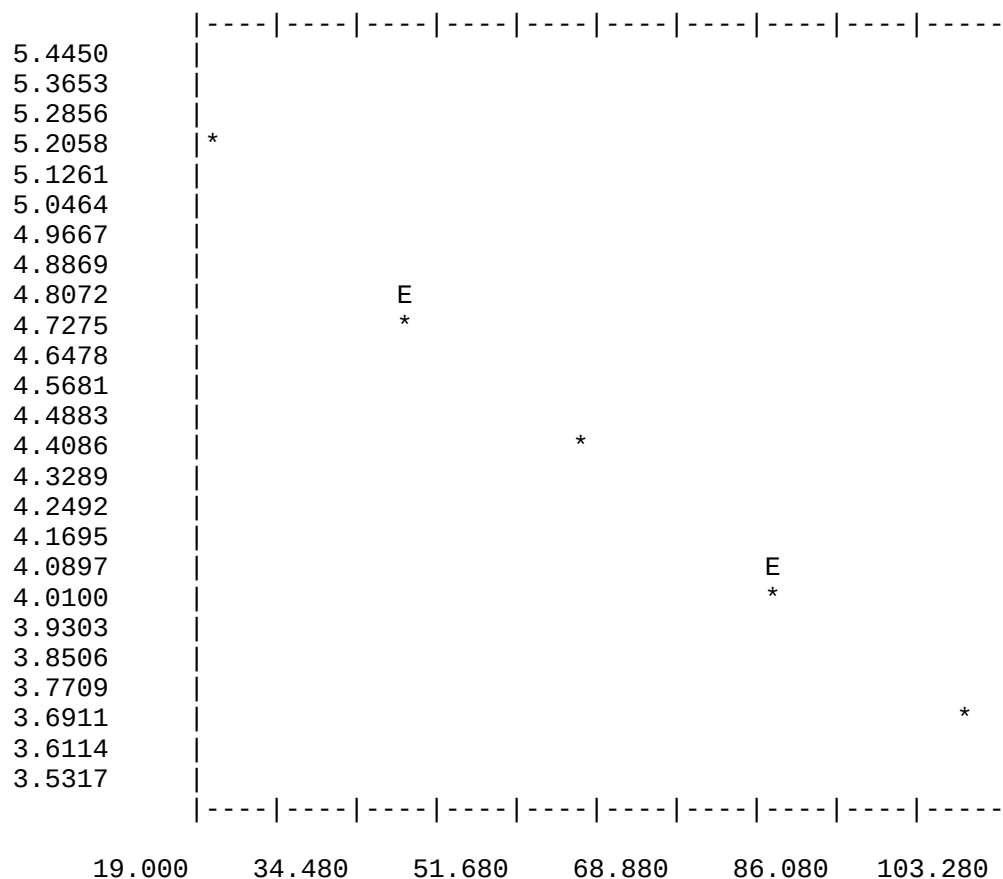
1.66

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.52258	-0.01889	0.99847	0.99695
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	178.	5.18571	5.14479
2	40.	111.	4.72028	4.76701
3	60.	79.	4.37952	4.38922
4	80.	54.	4.00733	4.01143
5	100.	38.	3.65325	3.63365



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.42

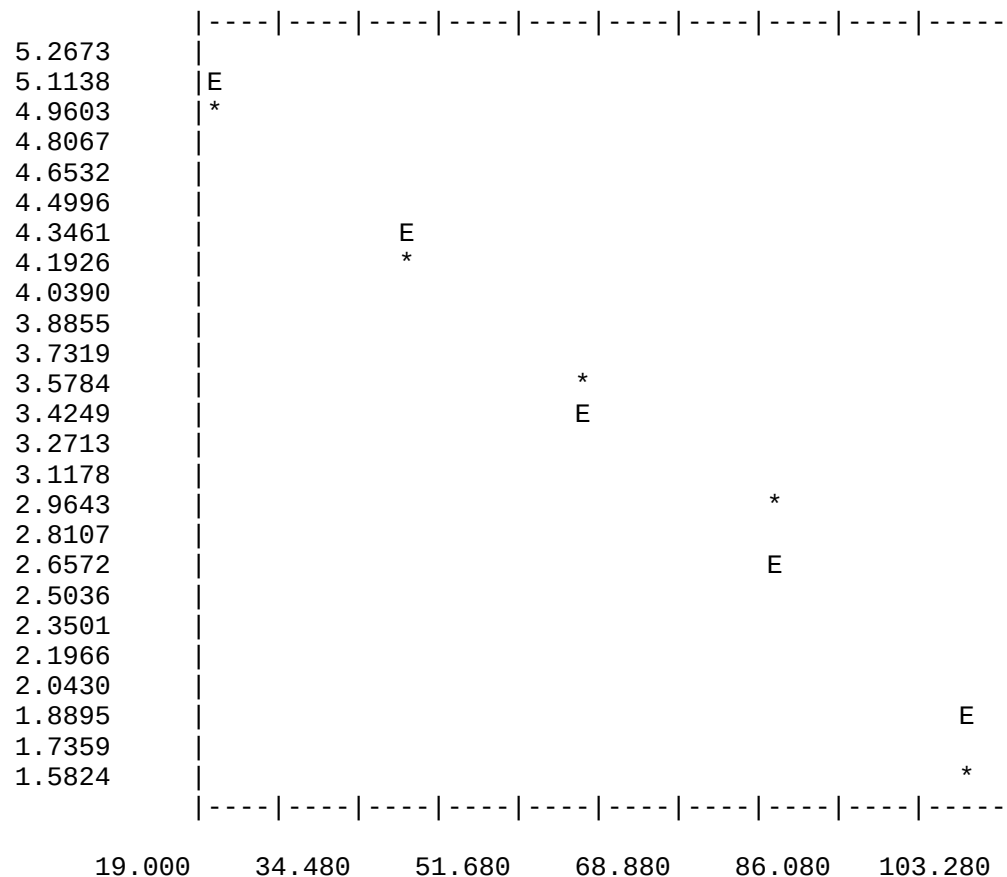
3.25

LIGHT PROFILE ANALYSES - FOR 1/19/2004

STATION LOCATION 19

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.83097	-0.04072	0.98778	0.97570
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	136.	4.91998	5.01650
2	40.	63.	4.16356	4.20204
3	60.	32.	3.49953	3.38757
4	80.	16.	2.85071	2.57311
5	100.	3.	1.50408	1.75864



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.05

1.51

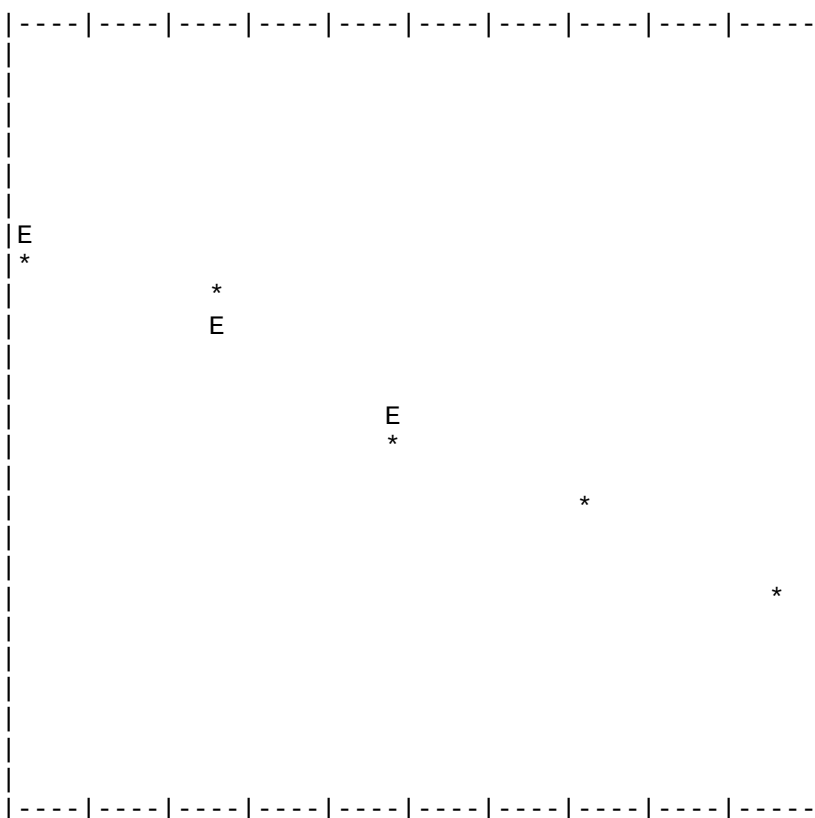
LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 9

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.28463	-0.00792	0.98934	0.97879
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1204.	7.09440	7.12630
2	40.	1124.	7.02572	6.96796
3	60.	880.	6.78072	6.80962
4	80.	782.	6.66339	6.65128
5	100.	653.	6.48387	6.49294

7.4826
7.4297
7.3768
7.3239
7.2709
7.2180
7.1651
7.1122
7.0593
7.0064
6.9534
6.9005
6.8476
6.7947
6.7418
6.6888
6.6359
6.5830
6.5301
6.4772
6.4243
6.3713
6.3184
6.2655
6.2126



19.000 34.480 51.680 68.880 86.080 103.280

MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

0.59

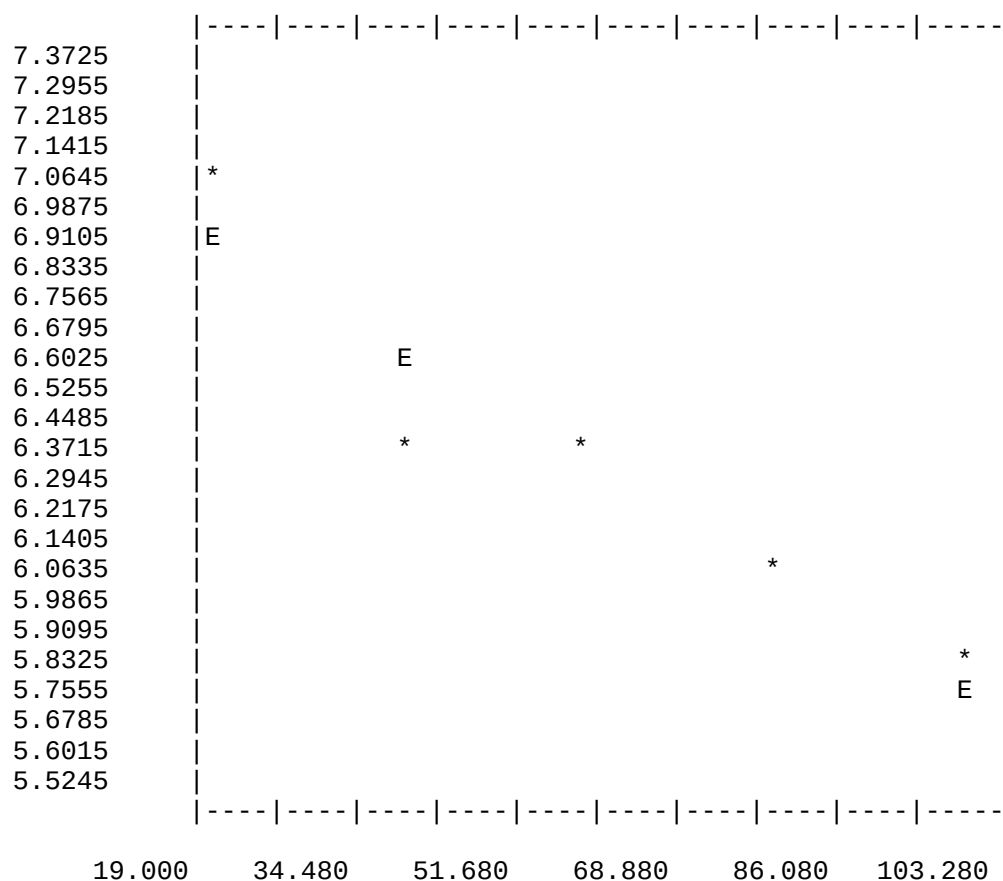
7.76

LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 10

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.15357	-0.01419	0.95865	0.91901
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1119.	7.02144	6.86970
2	40.	583.	6.37059	6.58582
3	60.	549.	6.30974	6.30195
4	80.	419.	6.04121	6.01807
5	100.	318.	5.76676	5.73420



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.06

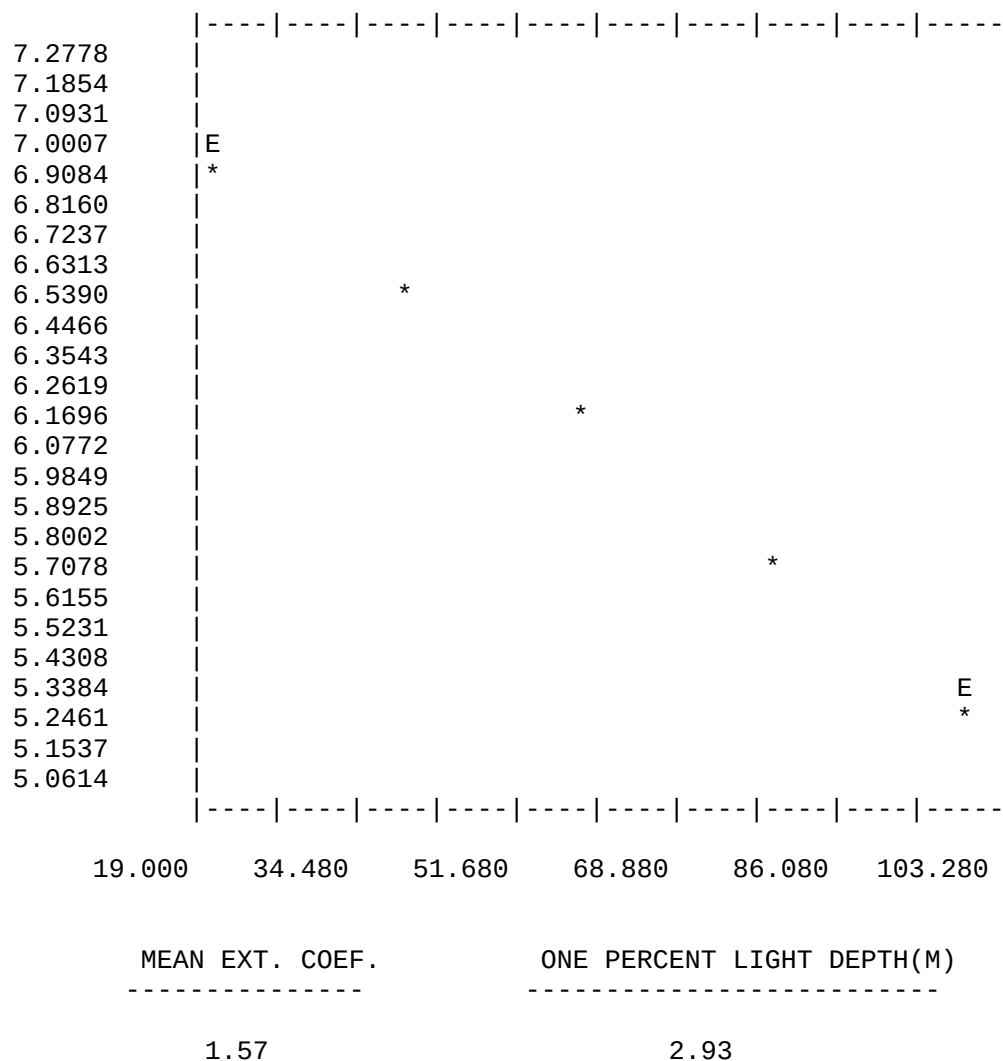
4.33

LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 21

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.35085	-0.02098	0.99842	0.99685
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	995.	6.90425	6.93124
2	40.	670.	6.50862	6.51162
3	60.	471.	6.15677	6.09201
4	80.	286.	5.65983	5.67239
5	100.	186.	5.23057	5.25278

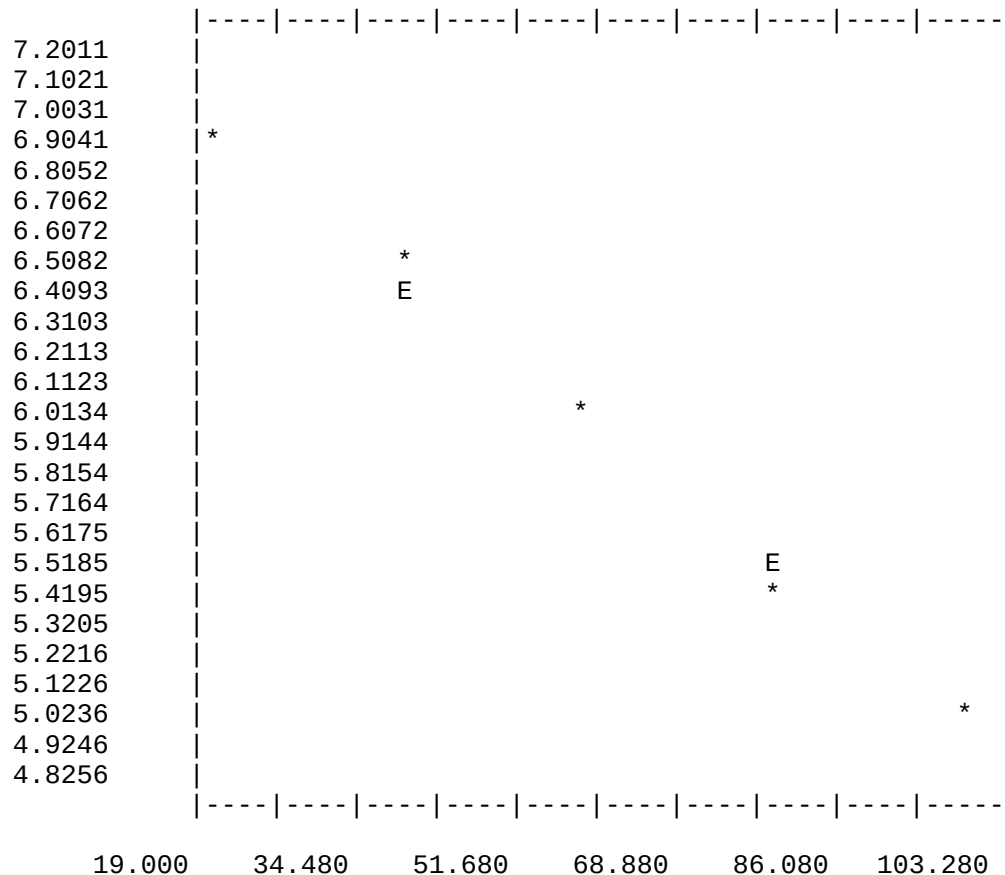


LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 11

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.32883	-0.02353	0.99862	0.99724
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	921.	6.82633	6.85816
2	40.	626.	6.44174	6.38748
3	60.	372.	5.92077	5.91680
4	80.	221.	5.40268	5.44612
5	100.	146.	4.99247	4.97544



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.77

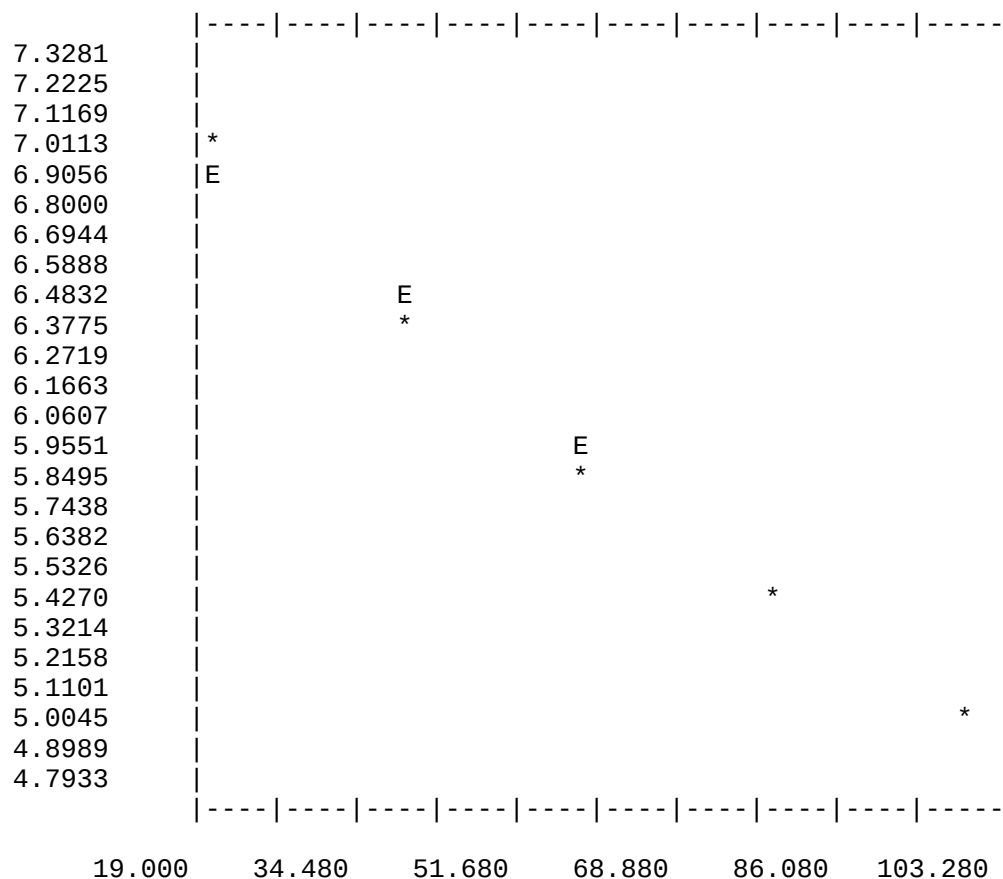
2.61

LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 92

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.38347	-0.02449	0.99547	0.99097
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1073.	6.97915	6.89365
2	40.	572.	6.35089	6.40384
3	60.	340.	5.83100	5.91403
4	80.	222.	5.40717	5.42421
5	100.	148.	5.00193	4.93440



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.84

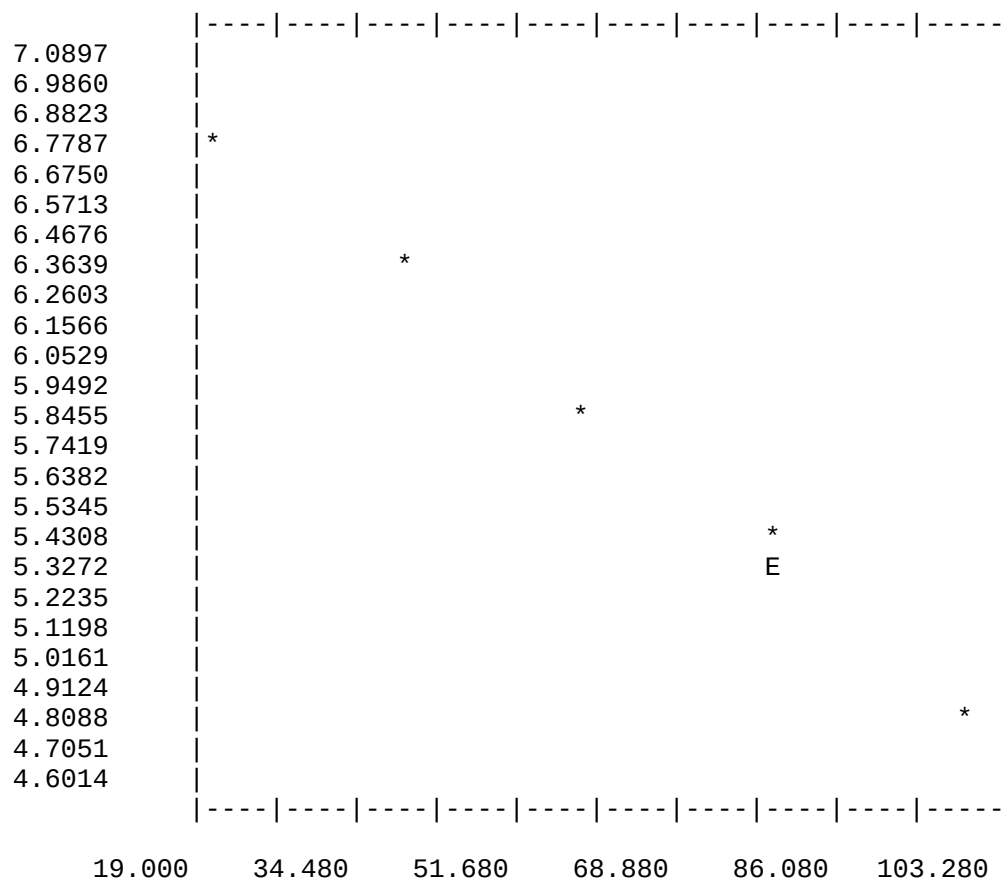
2.51

LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 22

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.24037	-0.02441	0.99726	0.99454
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	805.	6.69221	6.75209
2	40.	546.	6.30536	6.26380
3	60.	332.	5.80754	5.77551
4	80.	207.	5.33802	5.28723
5	100.	113.	4.73444	4.79894



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.83

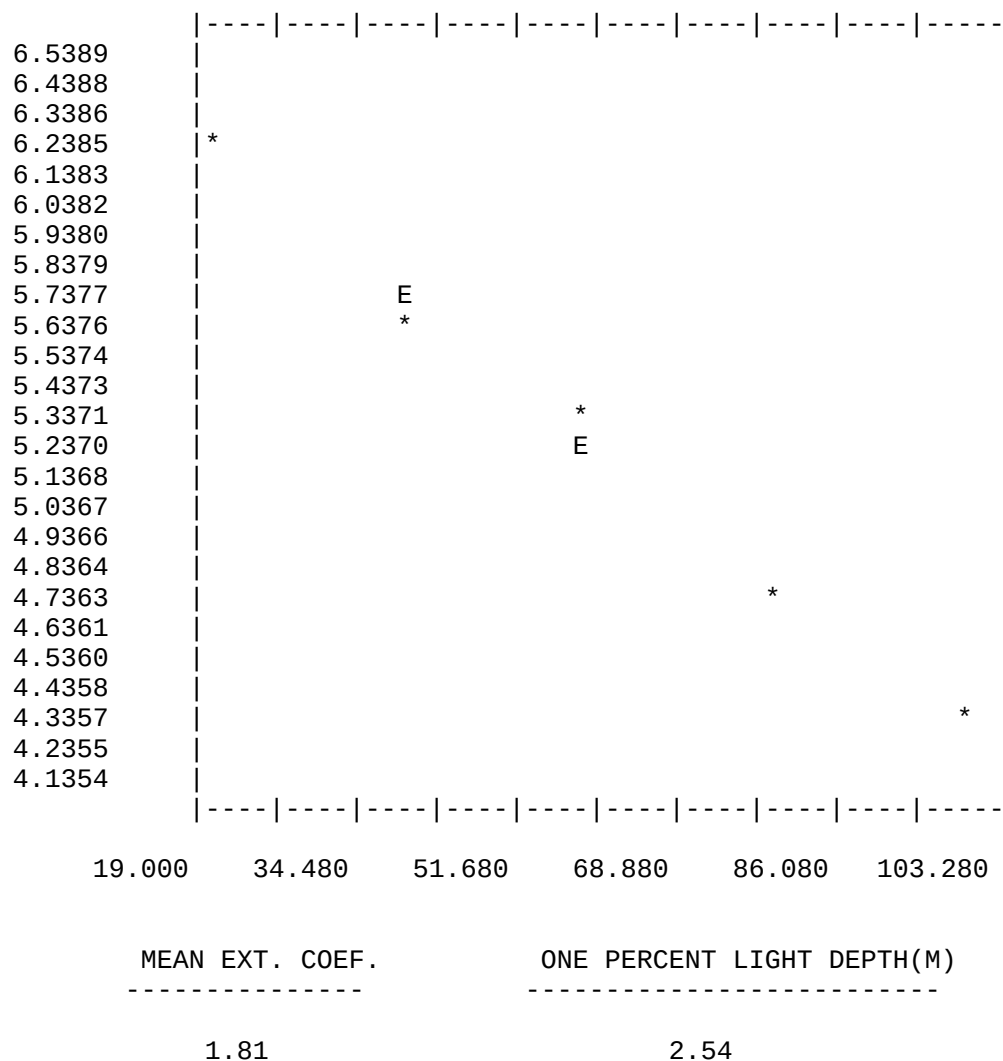
2.52

LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 12

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.66499	-0.02417	0.99423	0.98850
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	505.	6.22752	6.18151
2	40.	267.	5.59099	5.69804
3	60.	202.	5.31271	5.21456
4	80.	106.	4.67189	4.73109
5	100.	70.	4.26970	4.24761

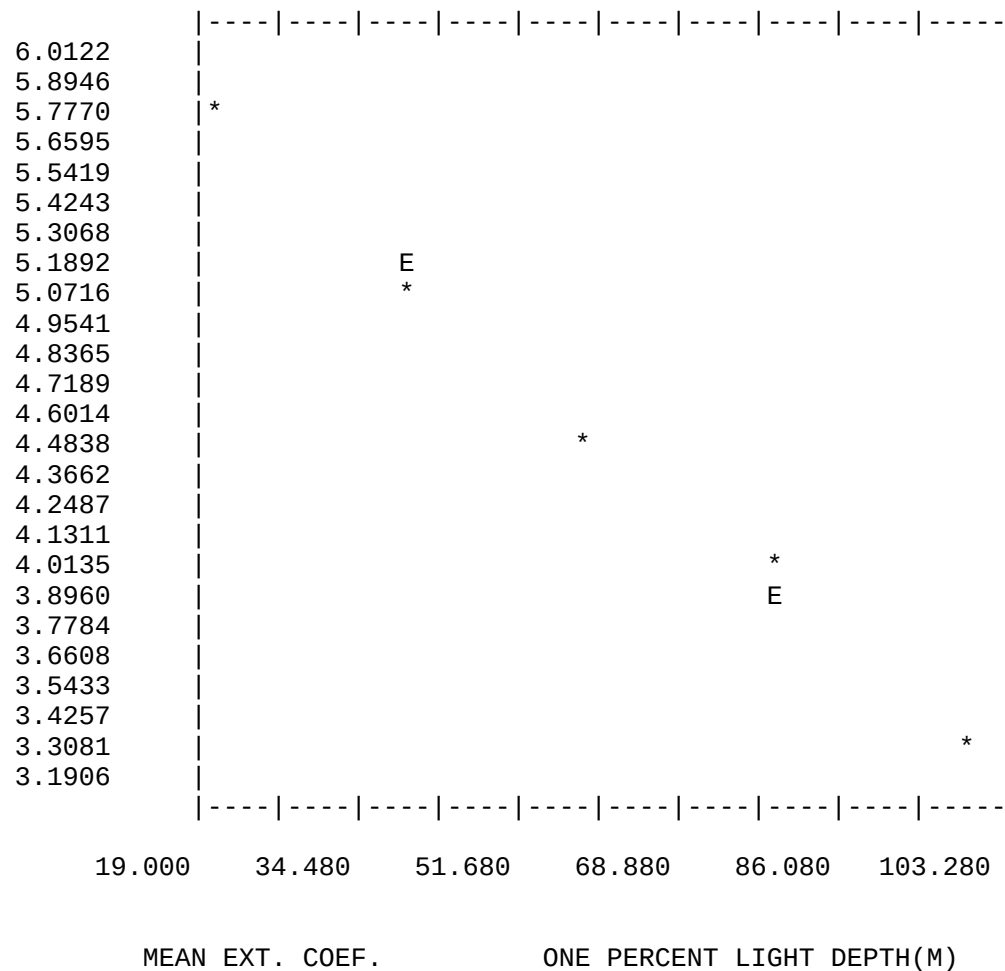


LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 23

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.28519	-0.03005	0.99727	0.99454
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	306.	5.72587	5.68412
2	40.	149.	5.00997	5.08306
3	60.	85.	4.45783	4.48199
4	80.	53.	3.98155	3.88093
5	100.	24.	3.23475	3.27986



2.25

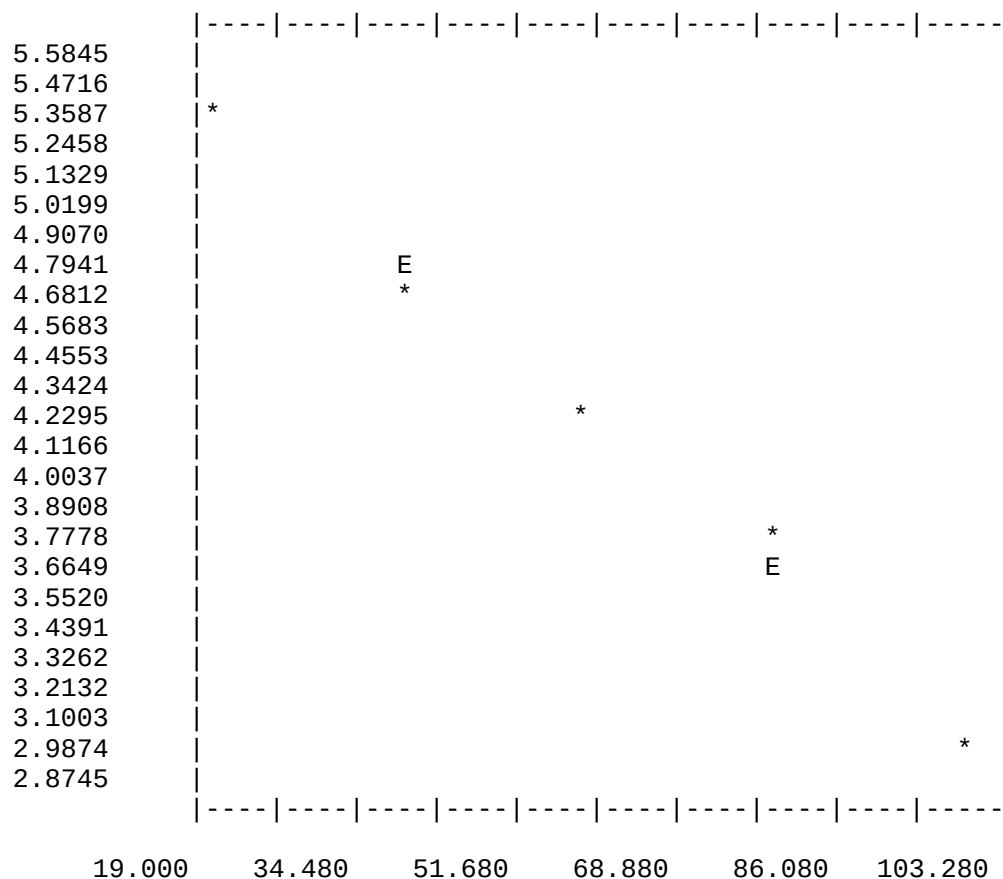
2.04

LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 13

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.89165	-0.02908	0.99674	0.99349
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	203.	5.31861	5.31001
2	40.	106.	4.67189	4.72836
3	60.	63.	4.15732	4.14671
4	80.	39.	3.67883	3.56506
5	100.	17.	2.90690	2.98341



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.18

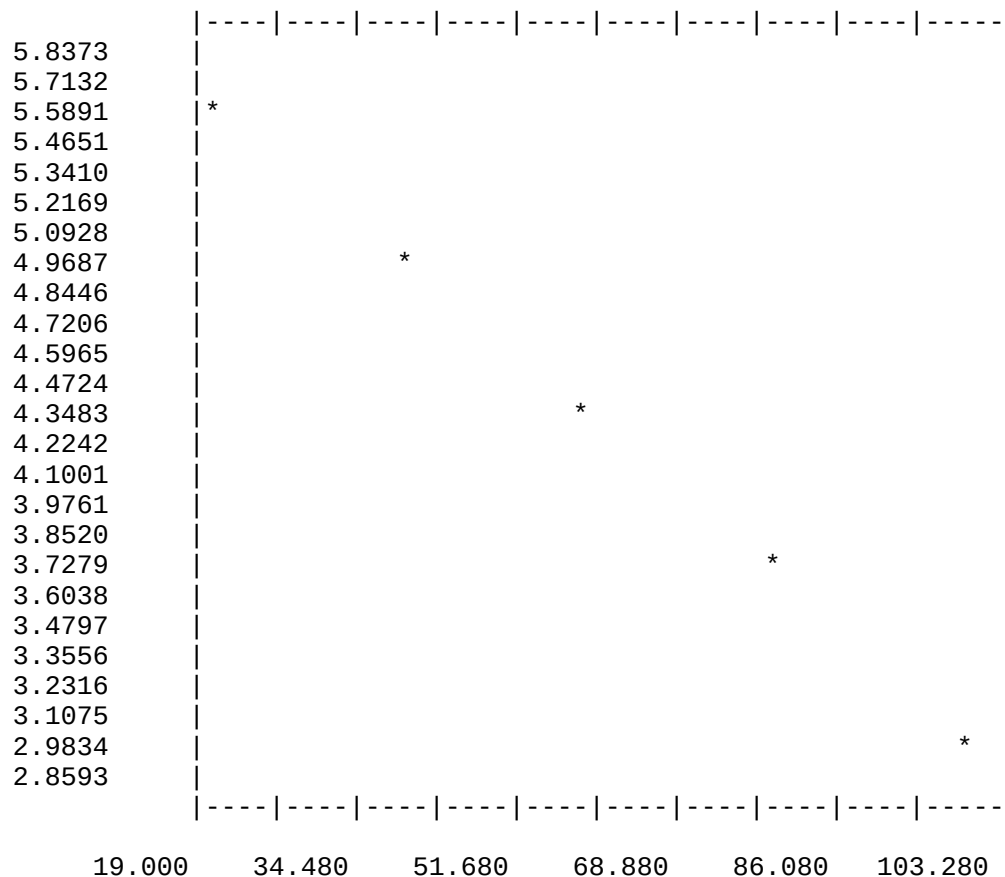
2.11

LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 24

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.20860	-0.03246	0.99778	0.99556
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	251.	5.52943	5.55933
2	40.	134.	4.90823	4.91006
3	60.	71.	4.27110	4.26079
4	80.	40.	3.71601	3.61152
5	100.	17.	2.87920	2.96225



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.43

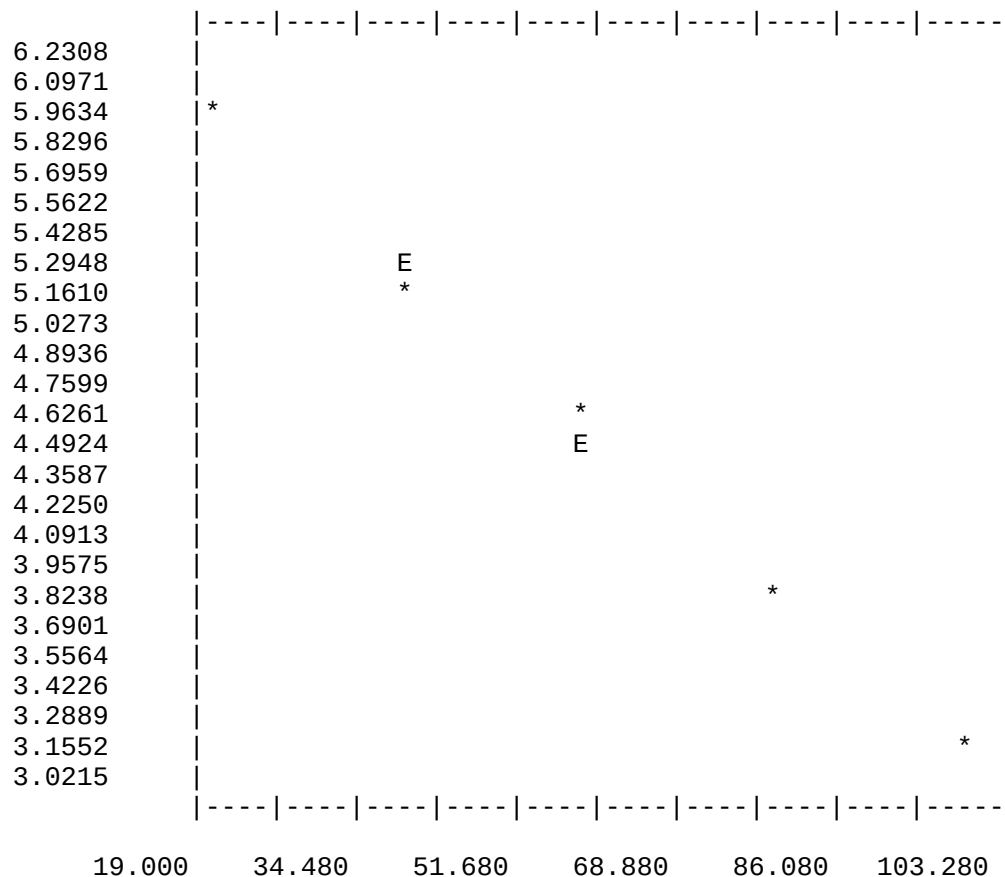
1.89

LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 14

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.59940	-0.03545	0.99688	0.99376
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	377.	5.93410	5.89047
2	40.	155.	5.05242	5.18154
3	60.	97.	4.58497	4.47262
4	80.	42.	3.75185	3.76369
5	100.	20.	3.03975	3.05476



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.66

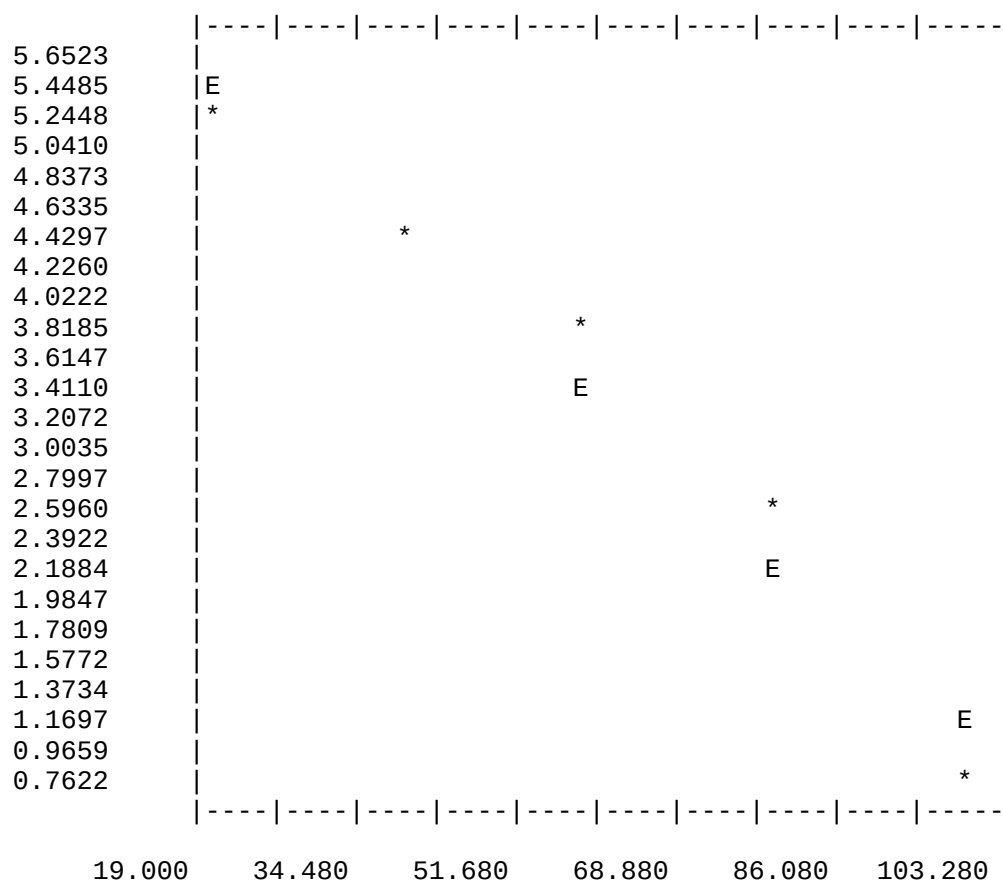
1.73

LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 25

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.46676	-0.05418	0.97525	0.95112
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	165.	5.11078	5.38313
2	40.	69.	4.24992	4.29949
3	60.	38.	3.67122	3.21586
4	80.	11.	2.45959	2.13223
5	100.	1.	0.58779	1.04860



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

4.06

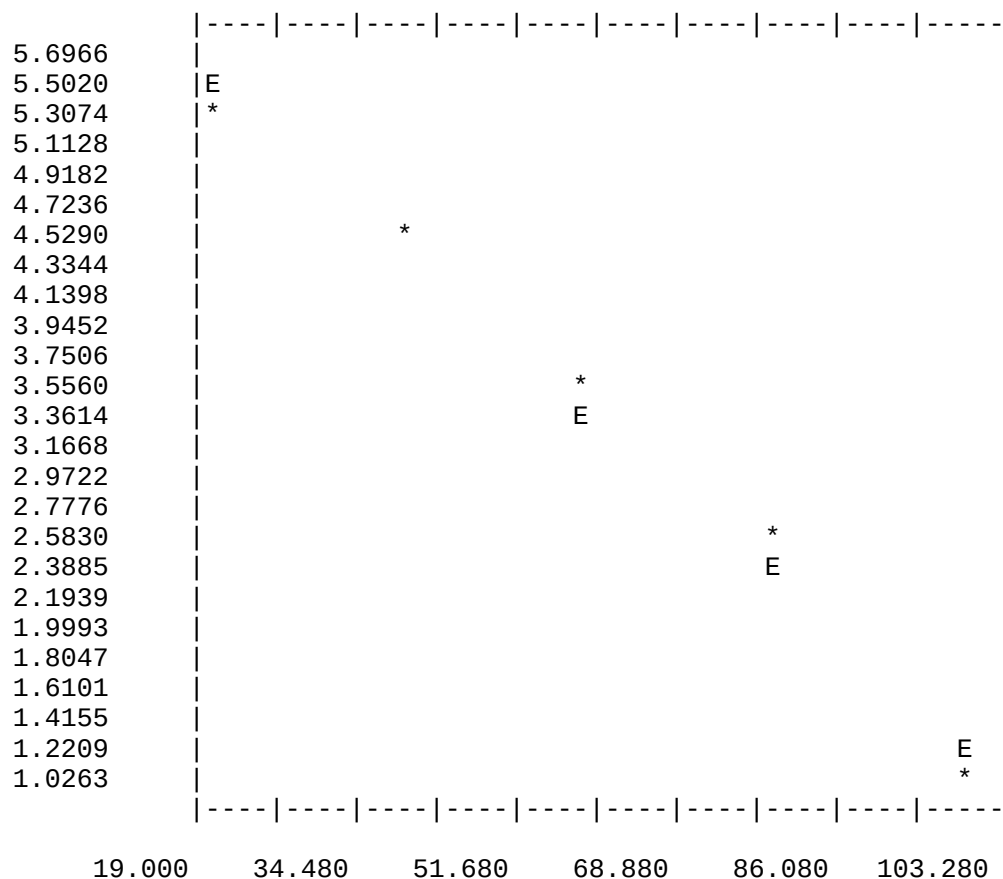
1.13

LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 15

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.49341	-0.05341	0.99094	0.98195
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	184.	5.21982	5.42530
2	40.	83.	4.42604	4.35719
3	60.	32.	3.49043	3.28907
4	80.	10.	2.43361	2.22096
5	100.	1.	0.87547	1.15285



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

4.01

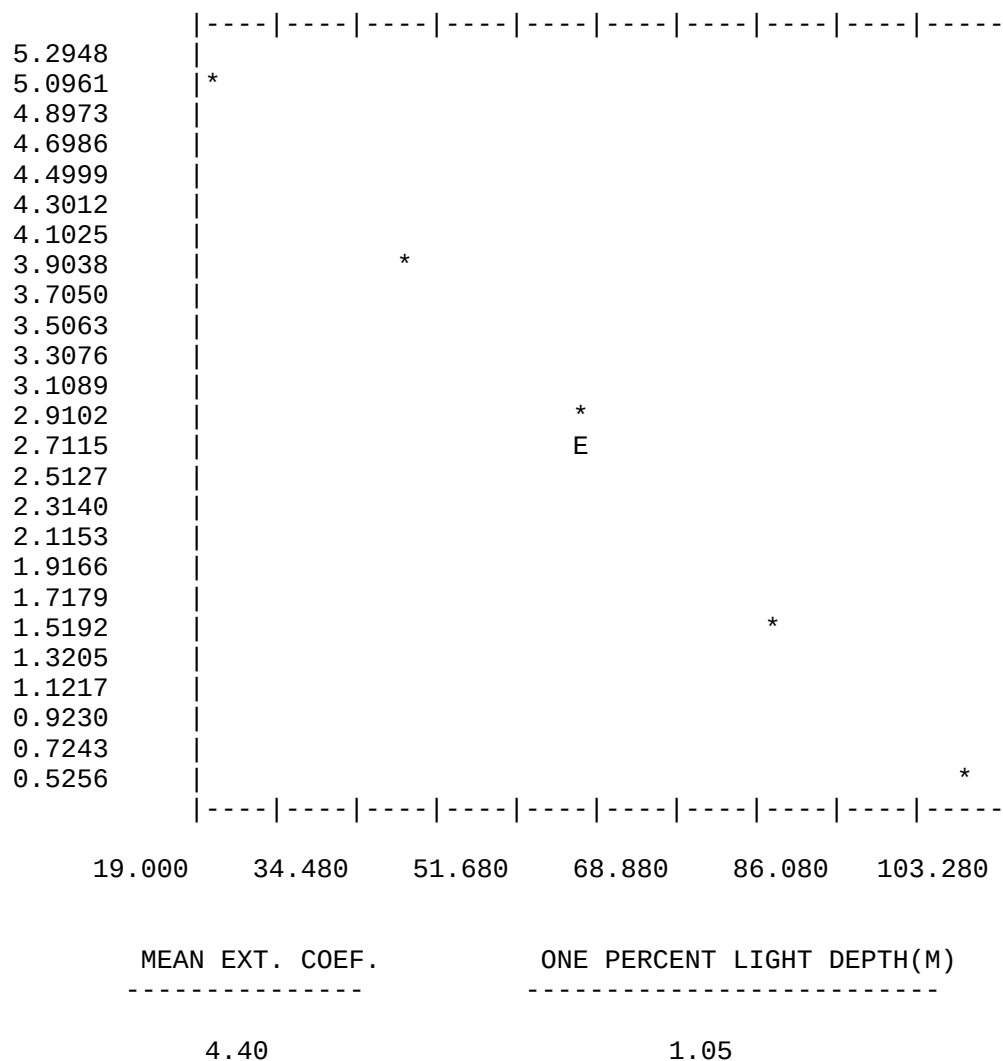
1.15

LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 17

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.21728	-0.05873	0.99785	0.99570
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	147.	4.99924	5.04263
2	40.	48.	3.89386	3.86800
3	60.	16.	2.83321	2.69336
4	80.	3.	1.33500	1.51871
5	100.	0.	0.40547	0.34407

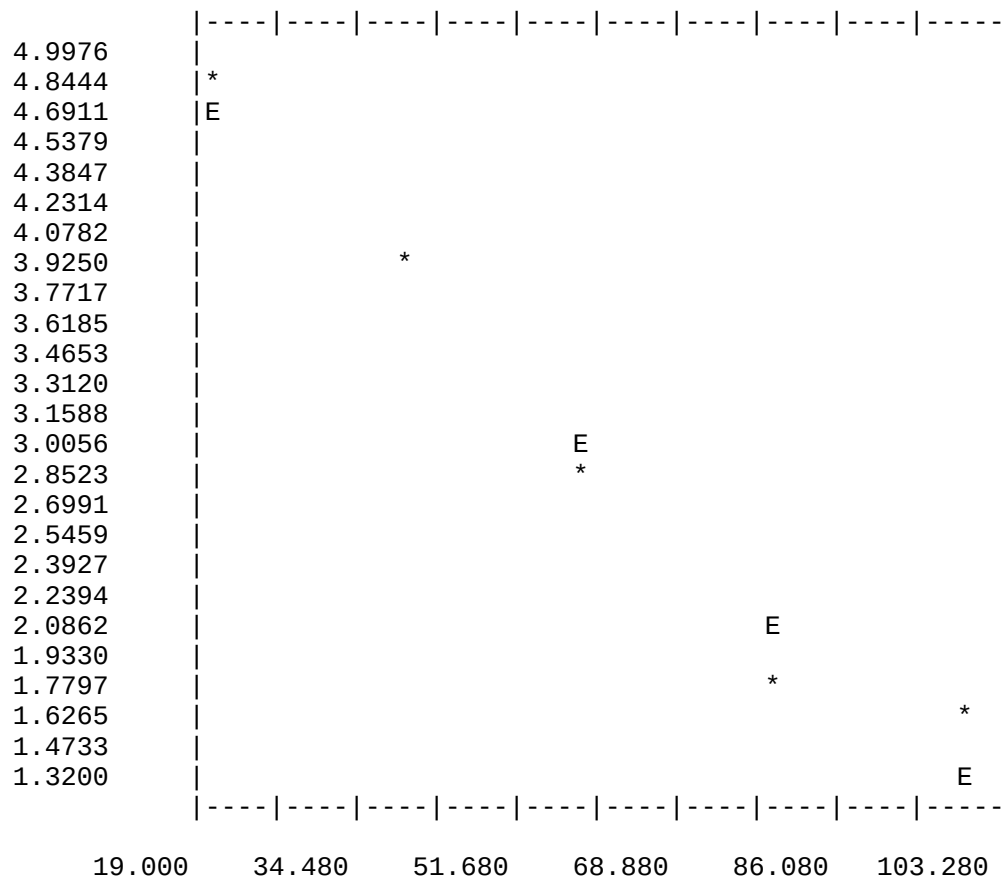


LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.48204	-0.04254	0.98491	0.97004
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	116.	4.75961	4.63128
2	40.	44.	3.81551	3.78051
3	60.	15.	2.77259	2.92974
4	80.	5.	1.77495	2.07898
5	100.	4.	1.52606	1.22821



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.19

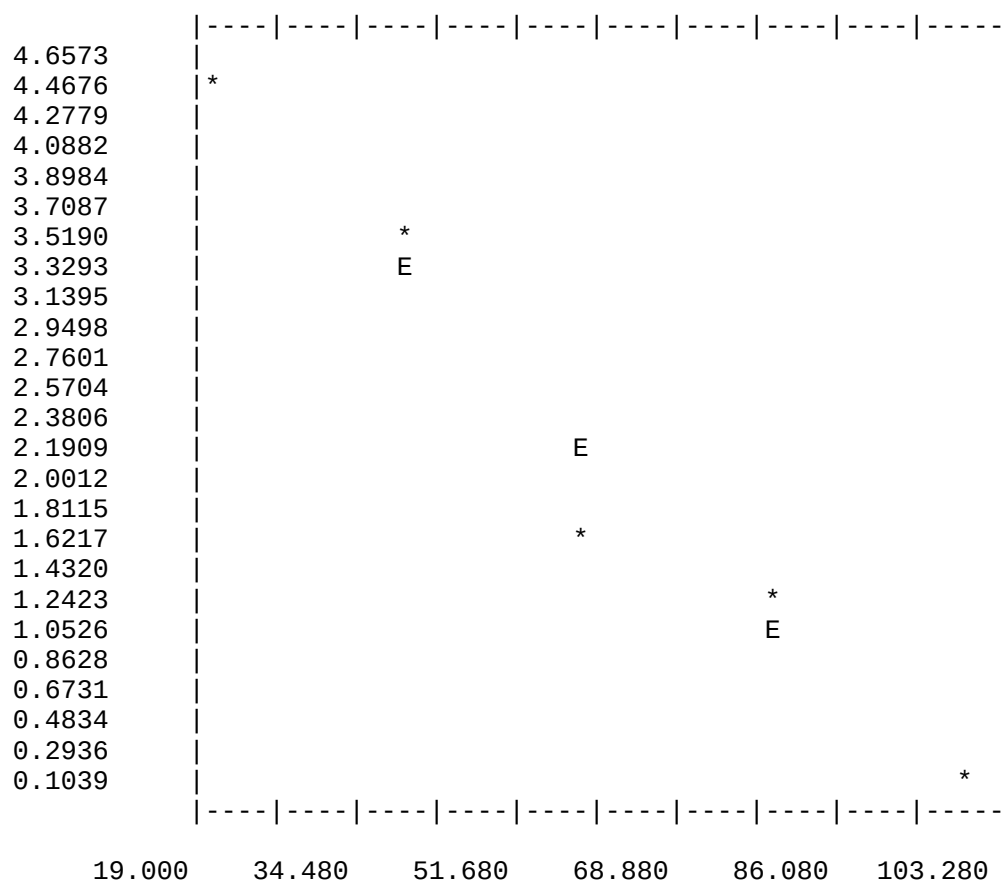
1.44

LIGHT PROFILE ANALYSES - FOR 2/26/2004

STATION LOCATION 19

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.41316	-0.05503	0.98472	0.96967
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	83.	4.43557	4.31246
2	40.	29.	3.39115	3.21177
3	60.	4.	1.56862	2.11107
4	80.	2.	1.06471	1.01038
5	100.	0.	0.09531	-0.09032



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

4.13

1.12

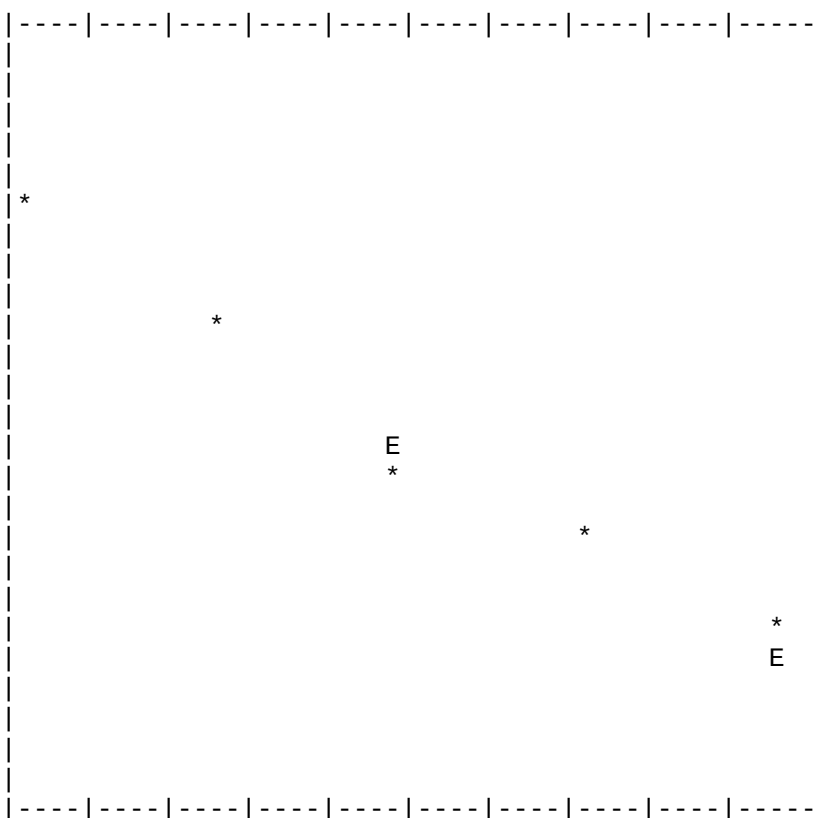
LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 9

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.16821	-0.01146	0.99429	0.98861
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1064.	6.97073	6.93904
2	40.	820.	6.71052	6.70986
3	60.	613.	6.41967	6.48068
4	80.	514.	6.24475	6.25150
5	100.	426.	6.05772	6.02232

7.3193
7.2553
7.1914
7.1275
7.0636
6.9997
6.9357
6.8718
6.8079
6.7440
6.6800
6.6161
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6.4883
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6.3604
6.2965
6.2326
6.1687
6.1047
6.0408
5.9769
5.9130
5.8491
5.7851



19.000 34.480 51.680 68.880 86.080 103.280

MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

0.86

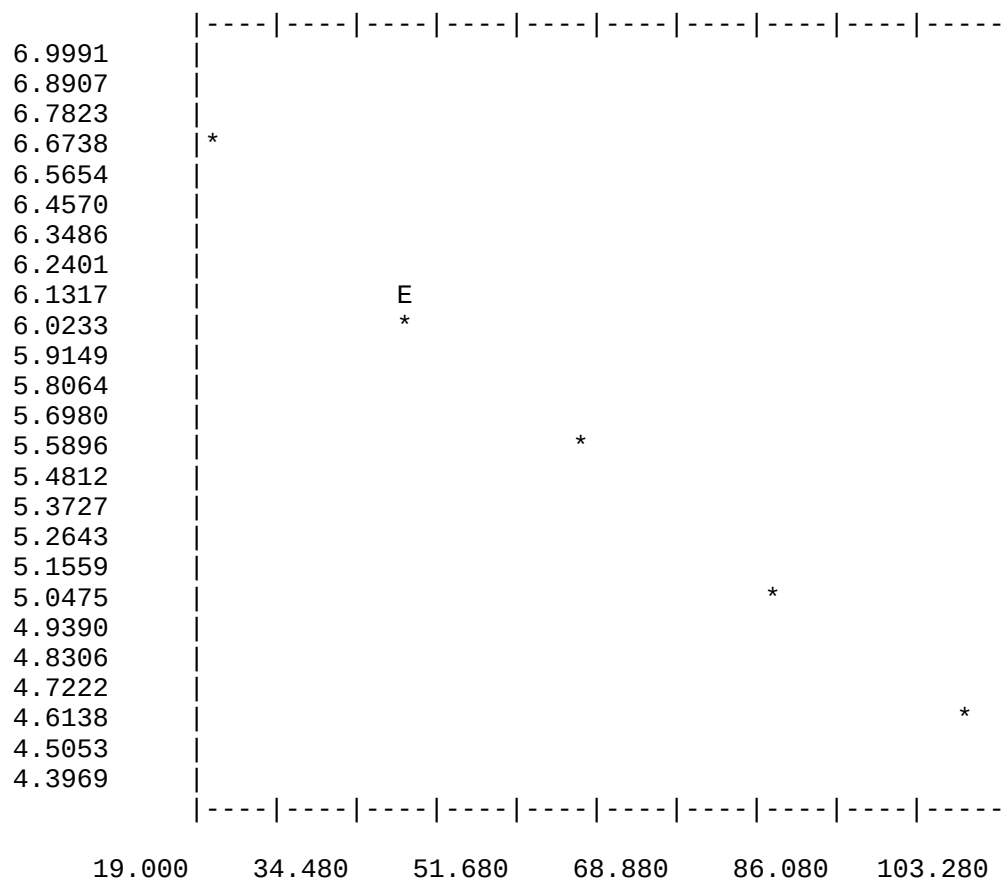
5.36

LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 10

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.08103	-0.02567	0.99527	0.99055
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	784.	6.66581	6.56766
2	40.	390.	5.96973	6.05430
3	60.	239.	5.48230	5.54094
4	80.	148.	5.00596	5.02757
5	100.	97.	4.58088	4.51421



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.93

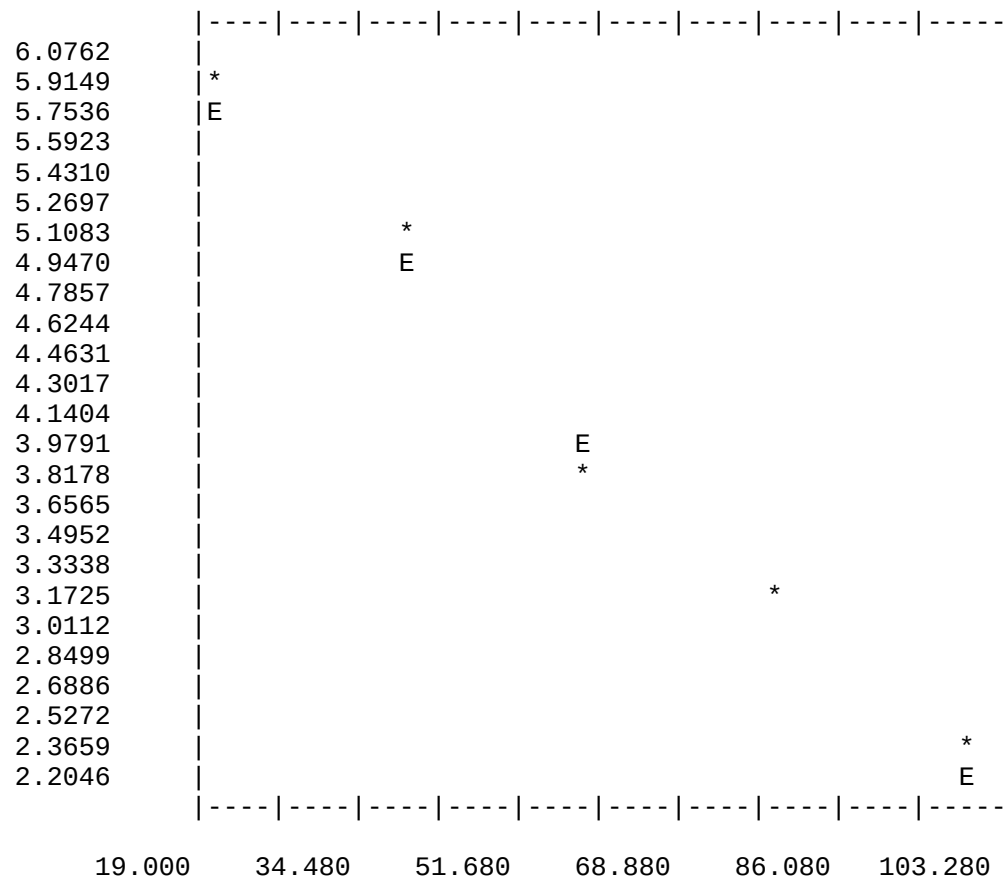
2.39

LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 21

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.63752	-0.04487	0.99380	0.98763
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	325.	5.78690	5.74018
2	40.	142.	4.96424	4.84285
3	60.	39.	3.68387	3.94551
4	80.	19.	3.02042	3.04818
5	100.	9.	2.27213	2.15084



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.37

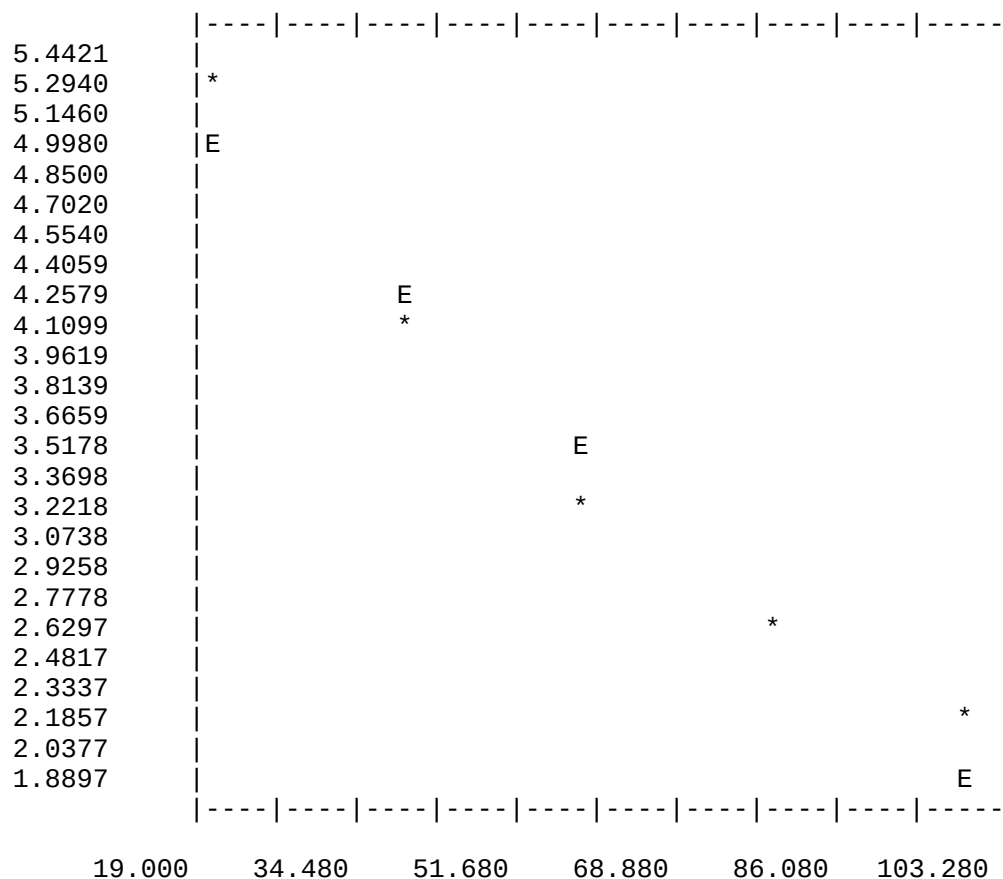
1.37

LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 11

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.72417	-0.03891	0.98343	0.96713
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	177.	5.18291	4.94600
2	40.	57.	4.06732	4.16783
3	60.	21.	3.11352	3.38966
4	80.	11.	2.51770	2.61149
5	100.	7.	2.06686	1.83332



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.92

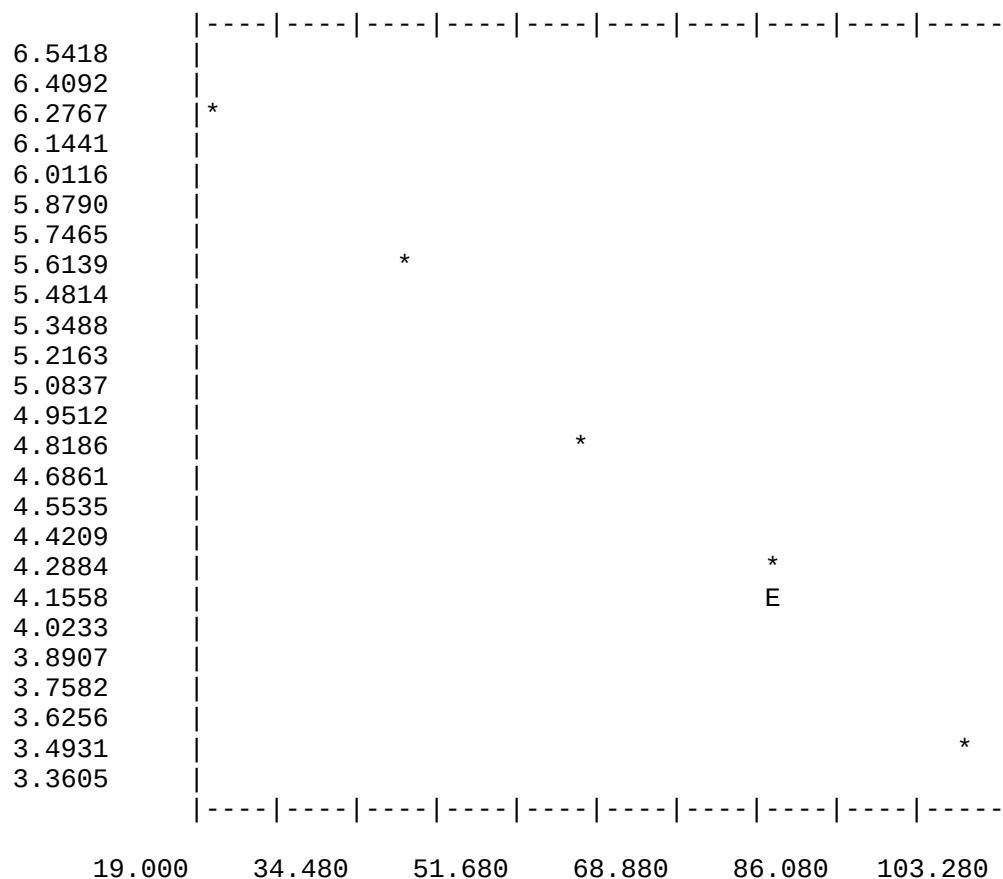
1.58

LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 92

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.90695	-0.03499	0.99885	0.99771
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	507.	6.23028	6.20721
2	40.	245.	5.50696	5.50747
3	60.	112.	4.72916	4.80773
4	80.	64.	4.17439	4.10799
5	100.	29.	3.39786	3.40824



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.62

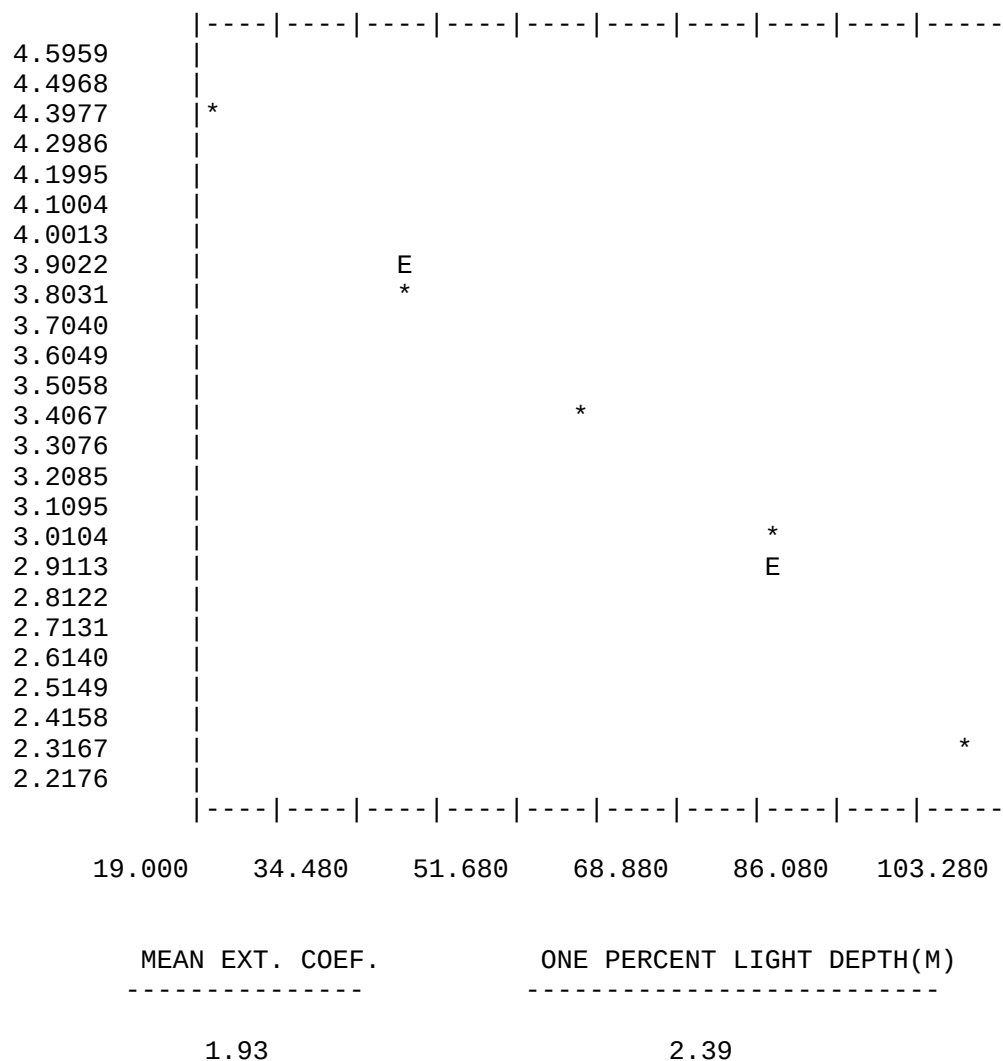
1.75

LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 22

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	4.88444	-0.02571	0.99520	0.99042
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	79.	4.37701	4.37031
2	40.	43.	3.78646	3.85618
3	60.	28.	3.37759	3.34205
4	80.	18.	2.93916	2.82792
5	100.	8.	2.23001	2.31379

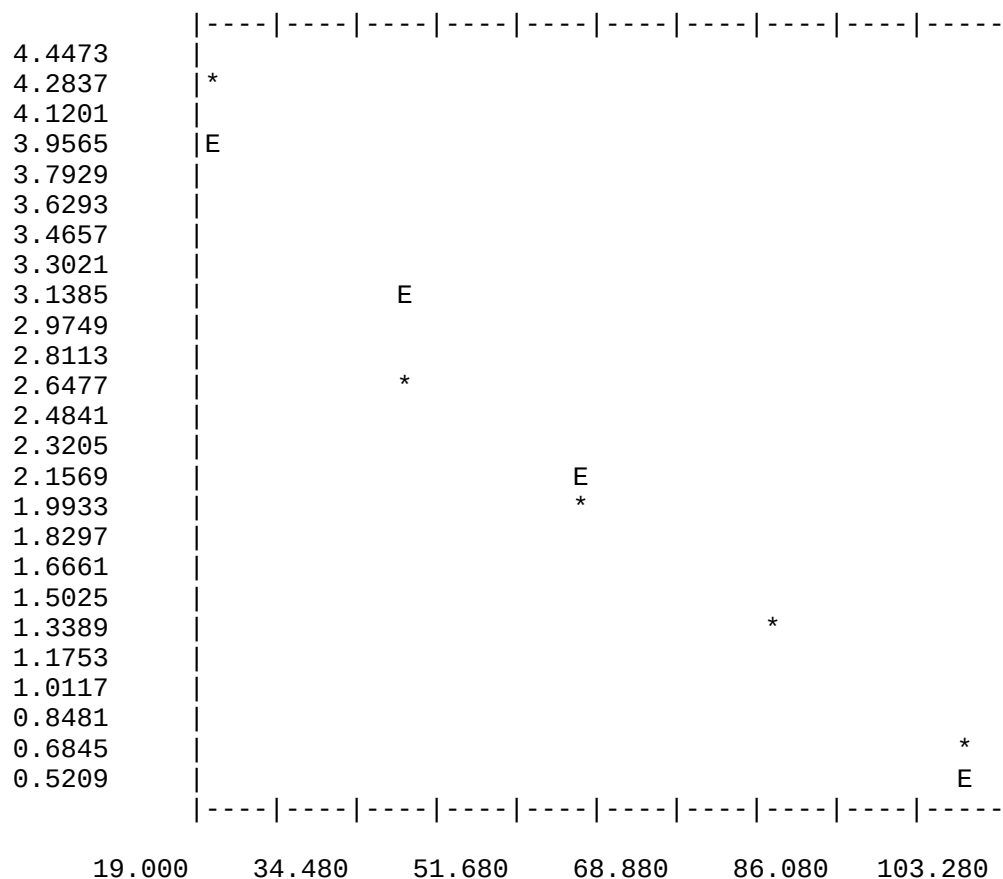


LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 12

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	4.72816	-0.04352	0.97699	0.95452
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	68.	4.23555	3.85774
2	40.	13.	2.62467	2.98732
3	60.	6.	1.93152	2.11690
4	80.	2.	1.19392	1.24648
5	100.	1.	0.59884	0.37606



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.26

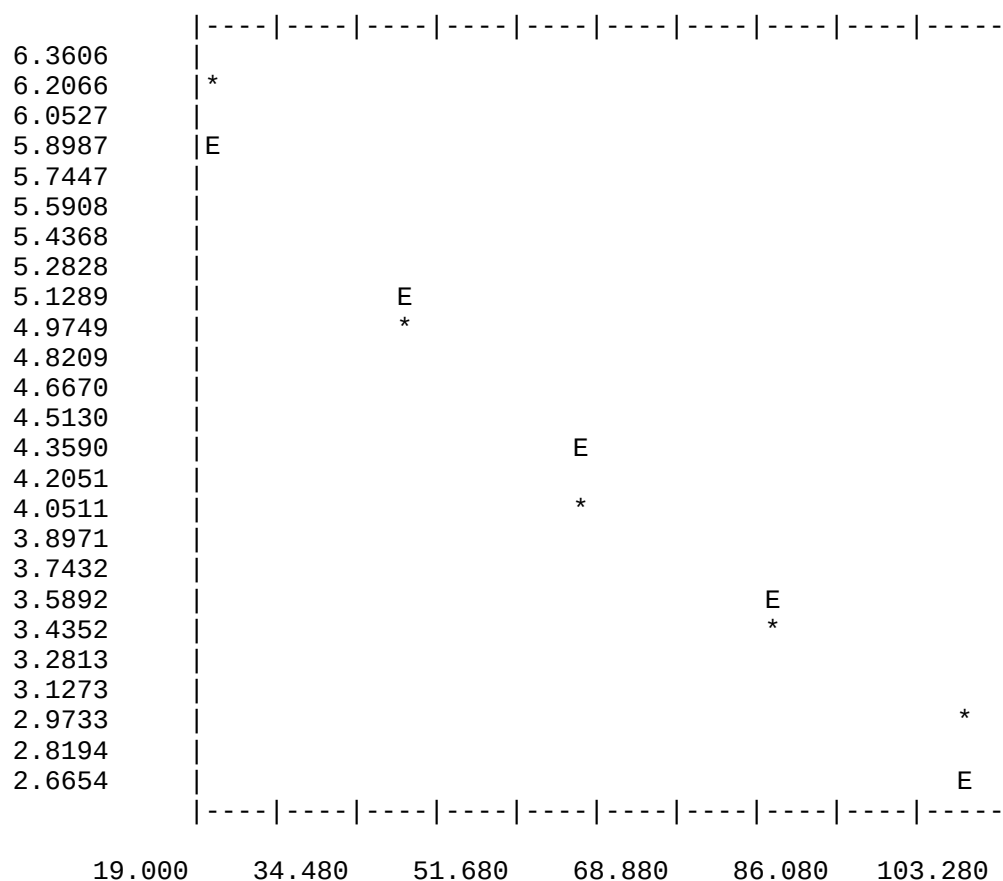
1.41

LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 23

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.60789	-0.03964	0.98668	0.97353
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	426.	6.05772	5.81503
2	40.	127.	4.85281	5.02218
3	60.	56.	4.04130	4.22933
4	80.	27.	3.34990	3.43648
5	100.	16.	2.84491	2.64362



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.97

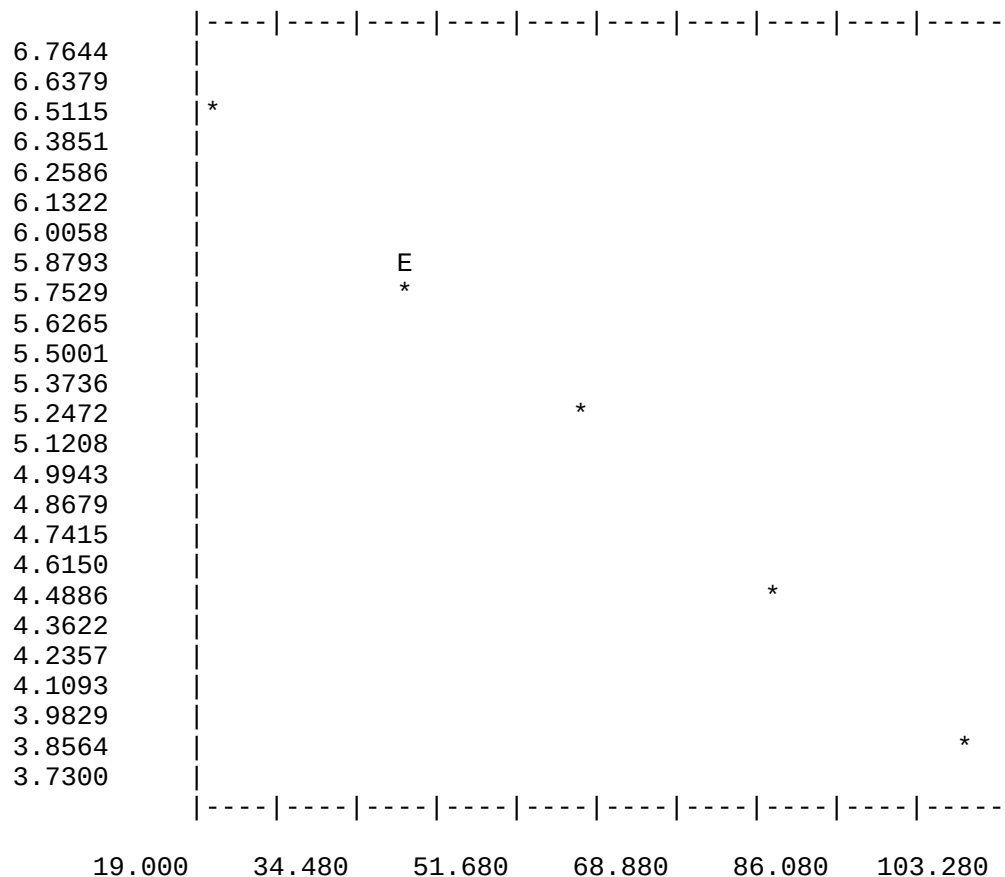
1.55

LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 13

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.09869	-0.03282	0.99860	0.99721
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	621.	6.43278	6.44226
2	40.	310.	5.74076	5.78582
3	60.	185.	5.22467	5.12939
4	80.	85.	4.45551	4.47296
5	100.	43.	3.79324	3.81653



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.46

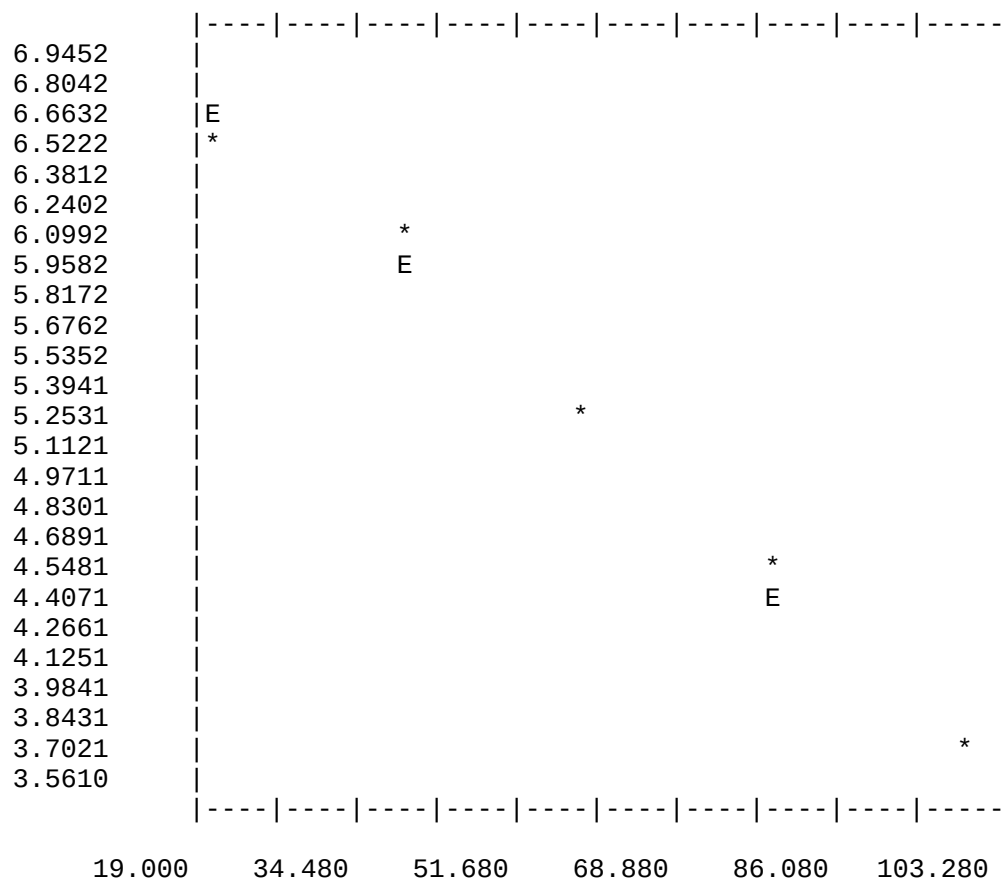
1.87

LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 24

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.35566	-0.03706	0.99638	0.99277
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	664.	6.50054	6.61450
2	40.	413.	6.02707	5.87334
3	60.	166.	5.11680	5.13218
4	80.	82.	4.41643	4.39101
5	100.	36.	3.60005	3.64985



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.78

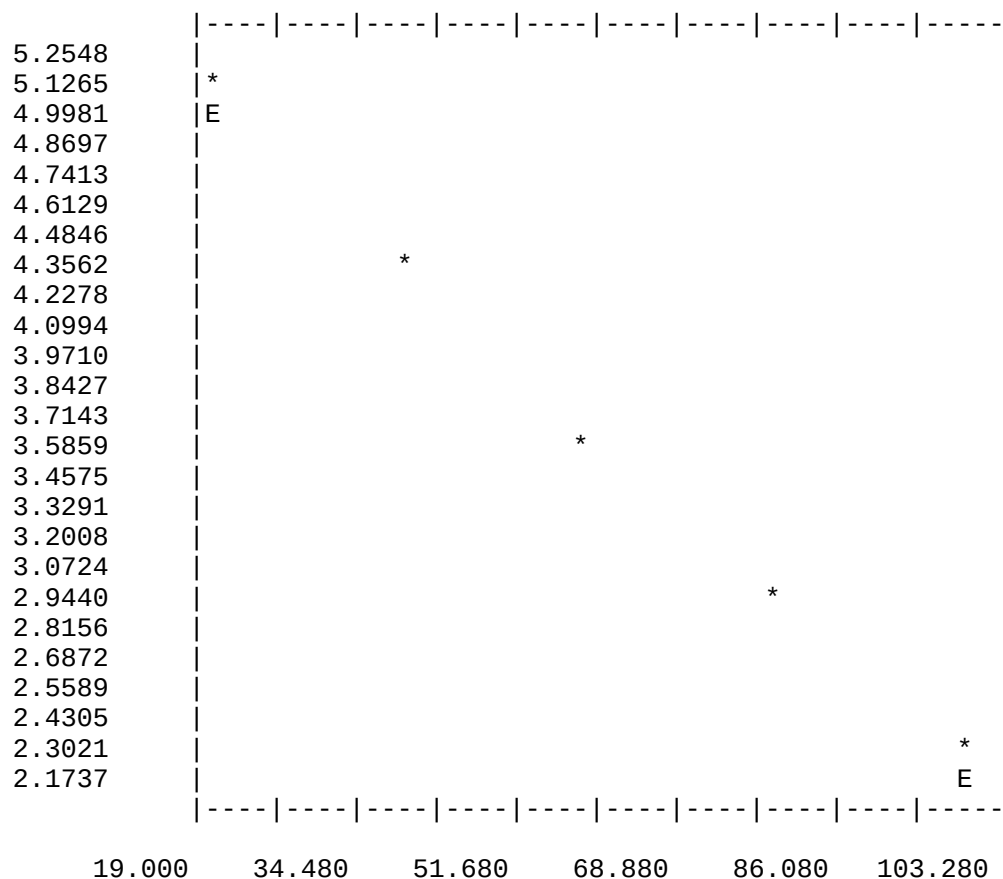
1.66

LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 14

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.67672	-0.03524	0.99972	0.99945
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	148.	5.00462	4.97197
2	40.	68.	4.23844	4.26722
3	60.	34.	3.54385	3.56247
4	80.	16.	2.85071	2.85773
5	100.	8.	2.17475	2.15298



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.64

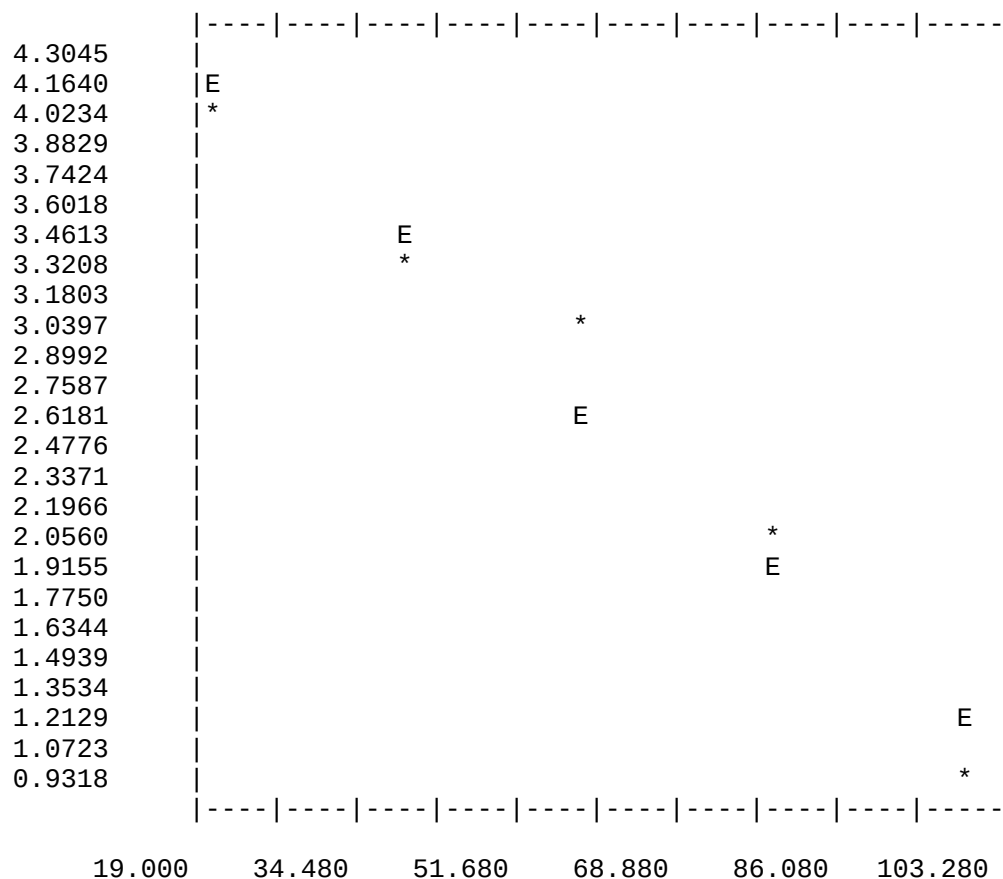
1.74

LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 25

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	4.85343	-0.03770	0.97999	0.96038
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	52.	3.97218	4.09951
2	40.	24.	3.23475	3.34559
3	60.	18.	2.94444	2.59167
4	80.	6.	1.97408	1.83775
5	100.	1.	0.83291	1.08383



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.83

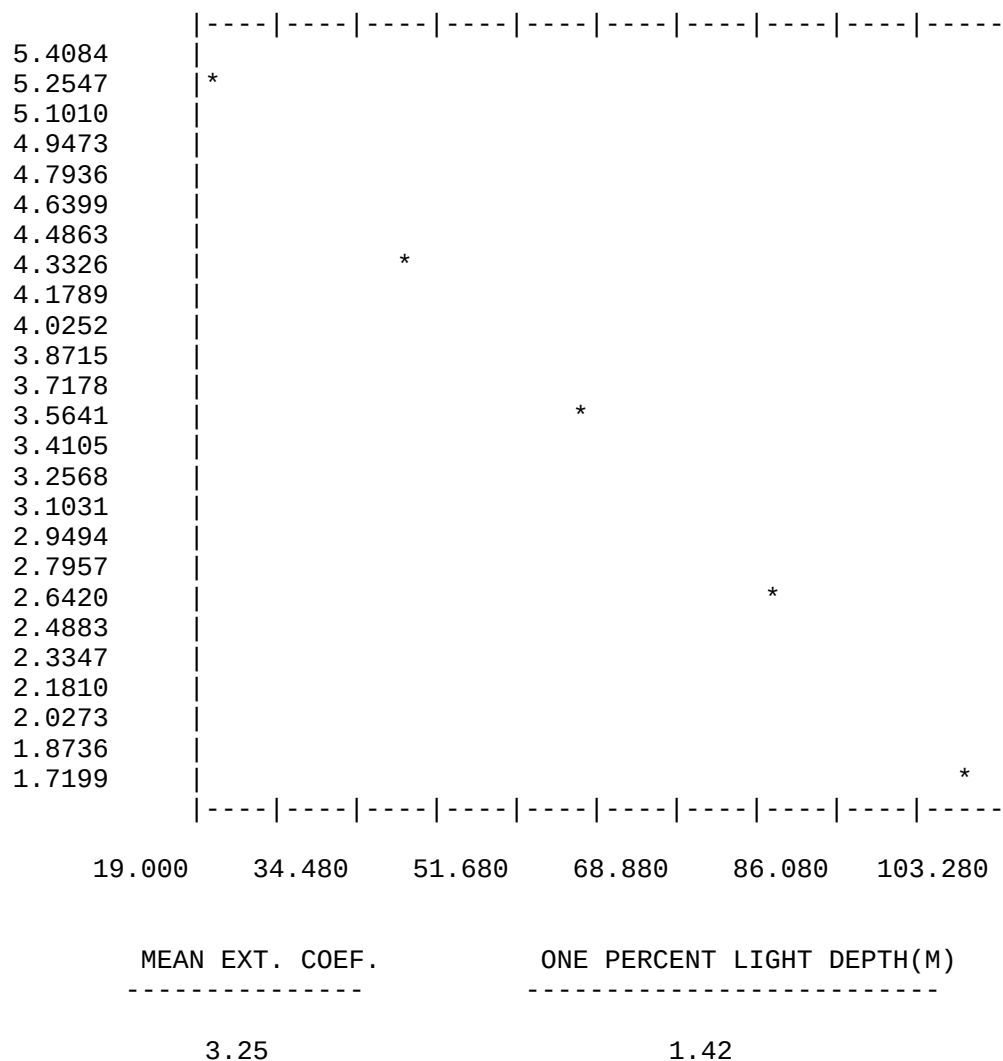
1.63

LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 15

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.01807	-0.04336	0.99975	0.99950
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	167.	5.12277	5.15083
2	40.	72.	4.28909	4.28359
3	60.	31.	3.45632	3.41636
4	80.	12.	2.56495	2.54912
5	100.	4.	1.64866	1.68188

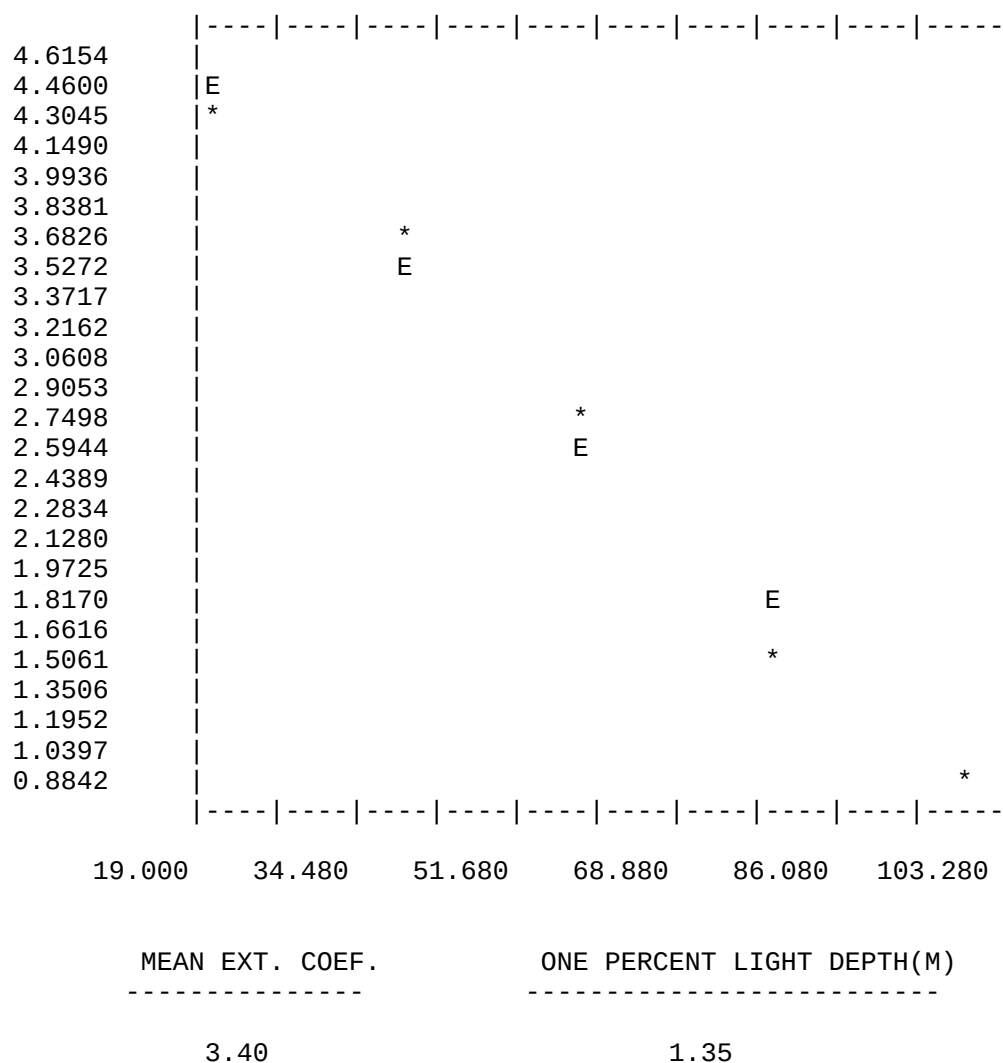


LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 17

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.30279	-0.04536	0.99427	0.98857
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	71.	4.27249	4.39565
2	40.	38.	3.67377	3.48852
3	60.	13.	2.64617	2.58139
4	80.	3.	1.48160	1.67426
5	100.	1.	0.83291	0.76712

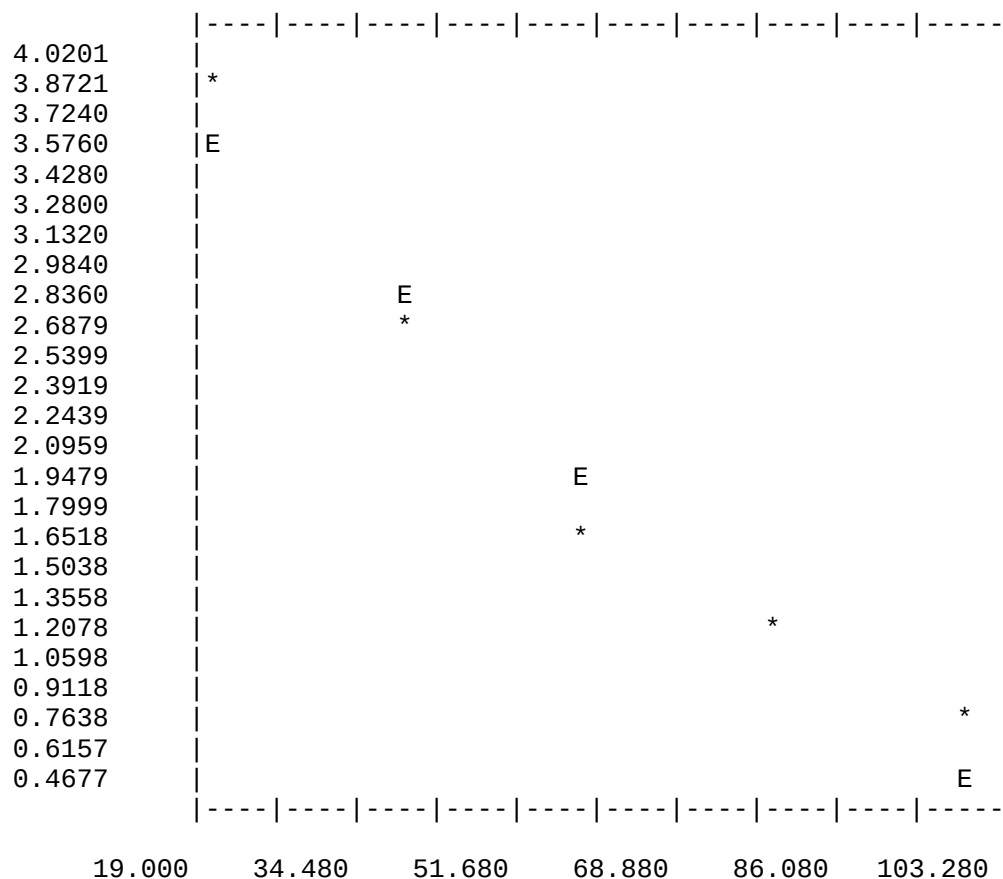


LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	4.31922	-0.03983	0.97181	0.94442
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	45.	3.82864	3.52268
2	40.	13.	2.62467	2.72614
3	60.	3.	1.50408	1.92961
4	80.	2.	1.06471	1.13307
5	100.	1.	0.62594	0.33653



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.99

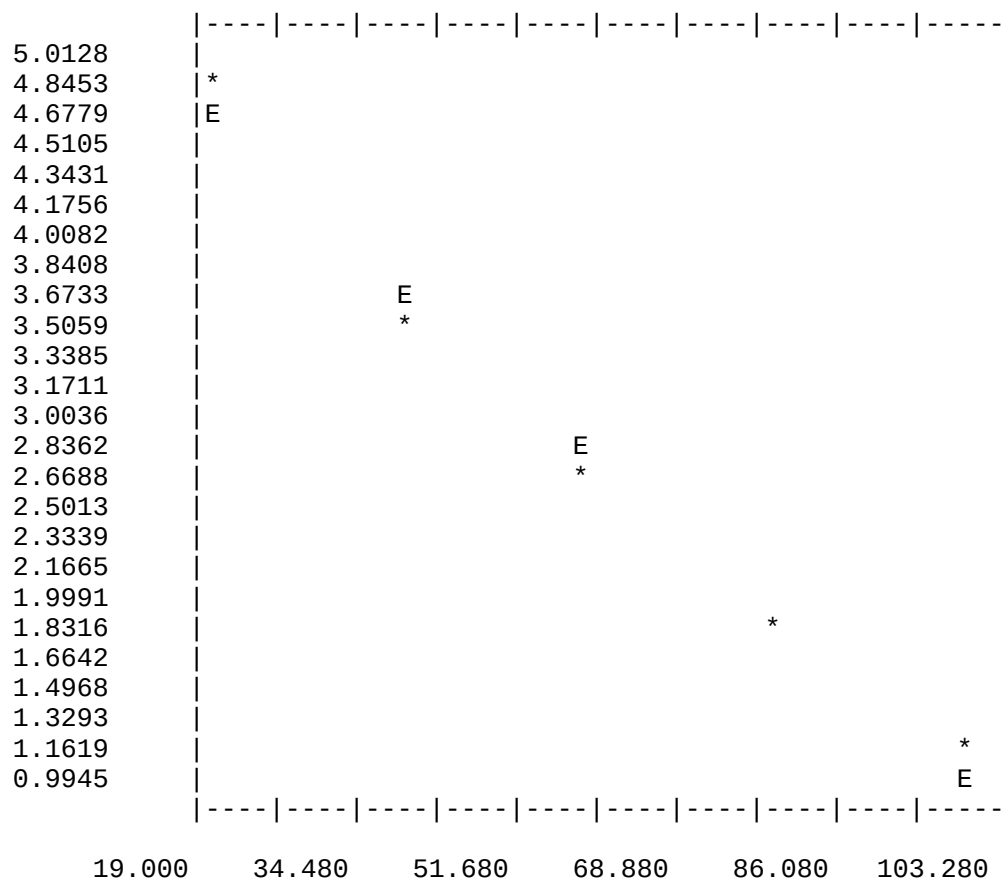
1.54

LIGHT PROFILE ANALYSES - FOR 3/24/2004

STATION LOCATION 19

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.46980	-0.04599	0.99218	0.98442
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	117.	4.77407	4.54996
2	40.	30.	3.44999	3.63012
3	60.	12.	2.55723	2.71027
4	80.	5.	1.74047	1.79043
5	100.	2.	1.02962	0.87059



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.45

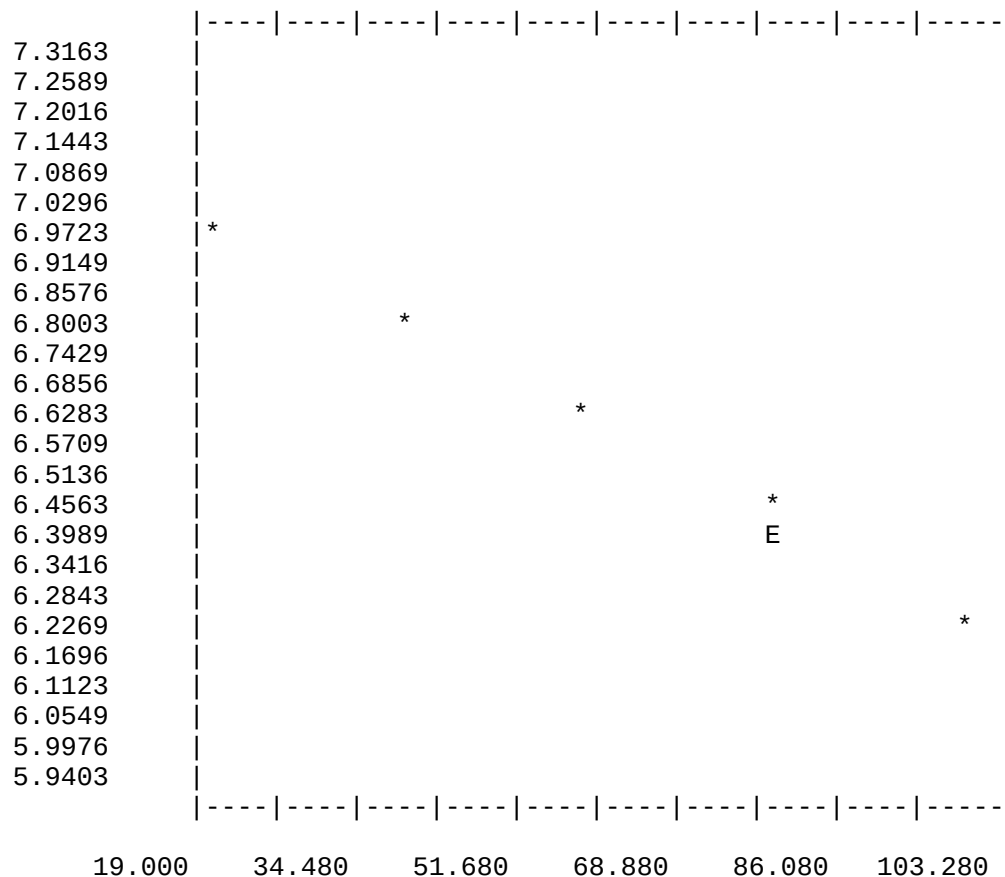
1.34

LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 9

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.15777	-0.00949	0.99817	0.99635
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1045.	6.95244	6.96789
2	40.	894.	6.79716	6.77800
3	60.	720.	6.58036	6.58811
4	80.	612.	6.41804	6.39823
5	100.	488.	6.19257	6.20834



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

0.71

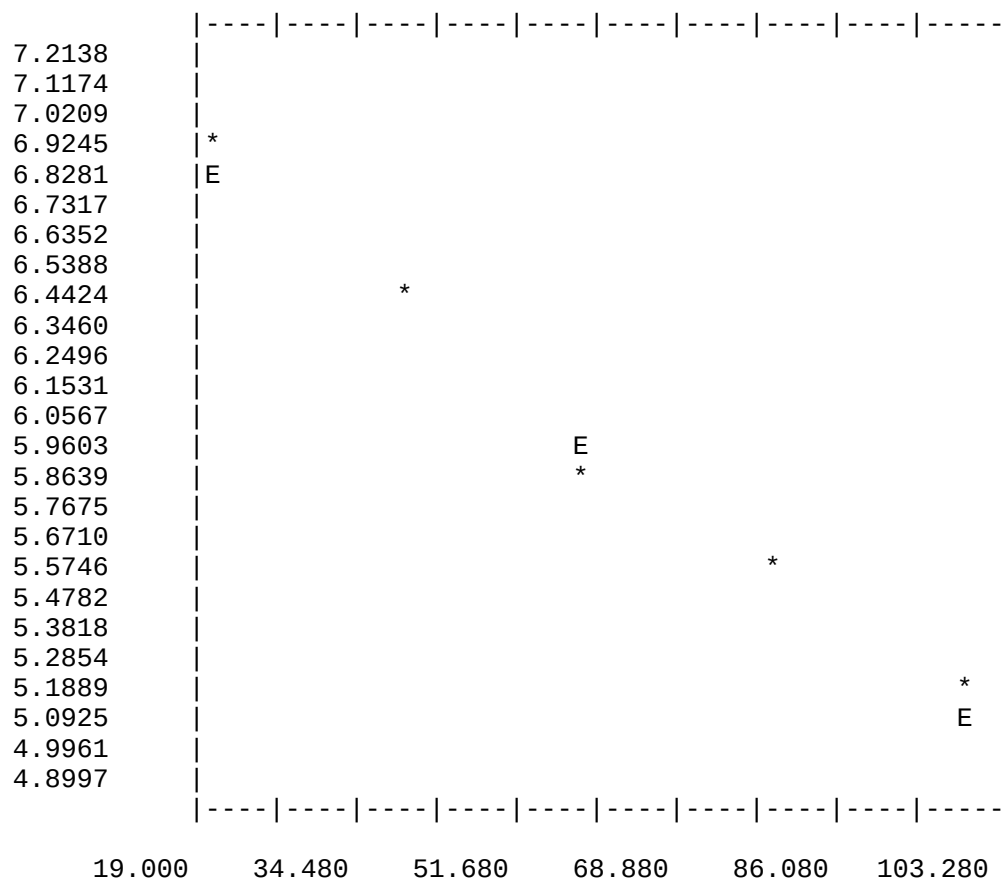
6.47

LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 10

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.24886	-0.02193	0.99525	0.99051
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	962.	6.87026	6.81030
2	40.	579.	6.36303	6.37174
3	60.	337.	5.82423	5.93318
4	80.	243.	5.49881	5.49462
5	100.	165.	5.10958	5.05606



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.64

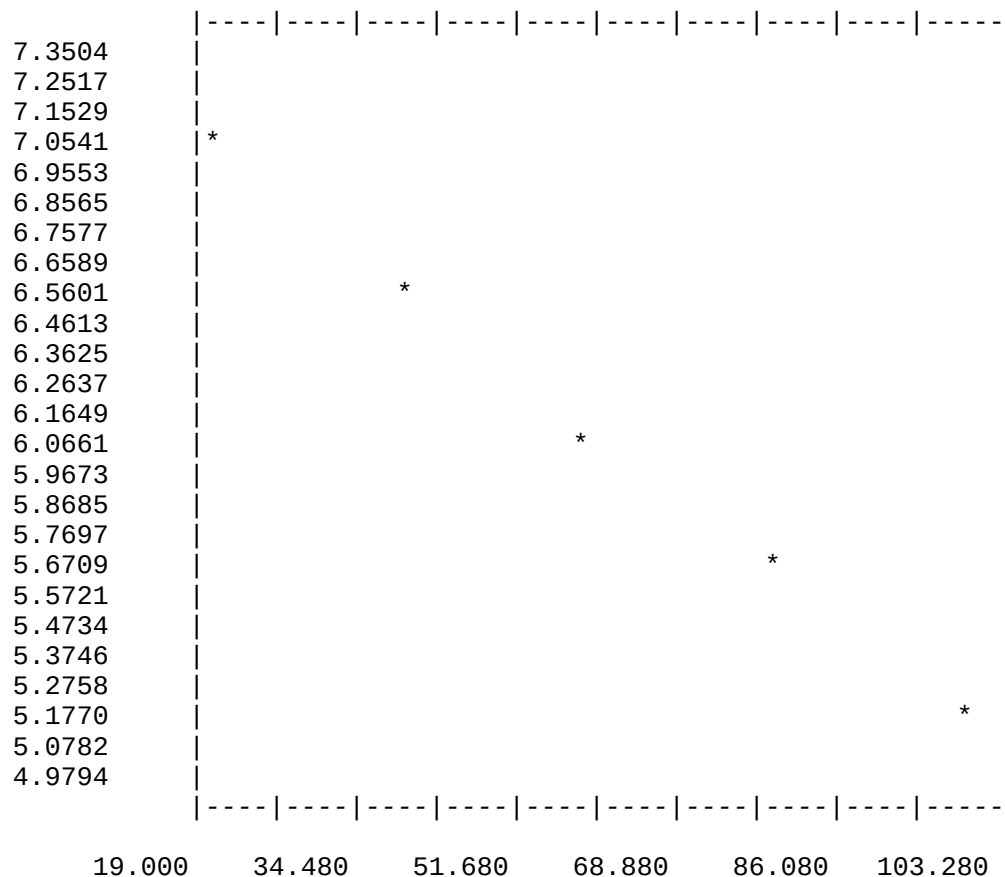
2.80

LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 21

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.44034	-0.02303	0.99937	0.99874
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1096.	7.00043	6.97977
2	40.	677.	6.51944	6.51919
3	60.	409.	6.01543	6.05861
4	80.	270.	5.60101	5.59803
5	100.	173.	5.15675	5.13746



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.73

2.67

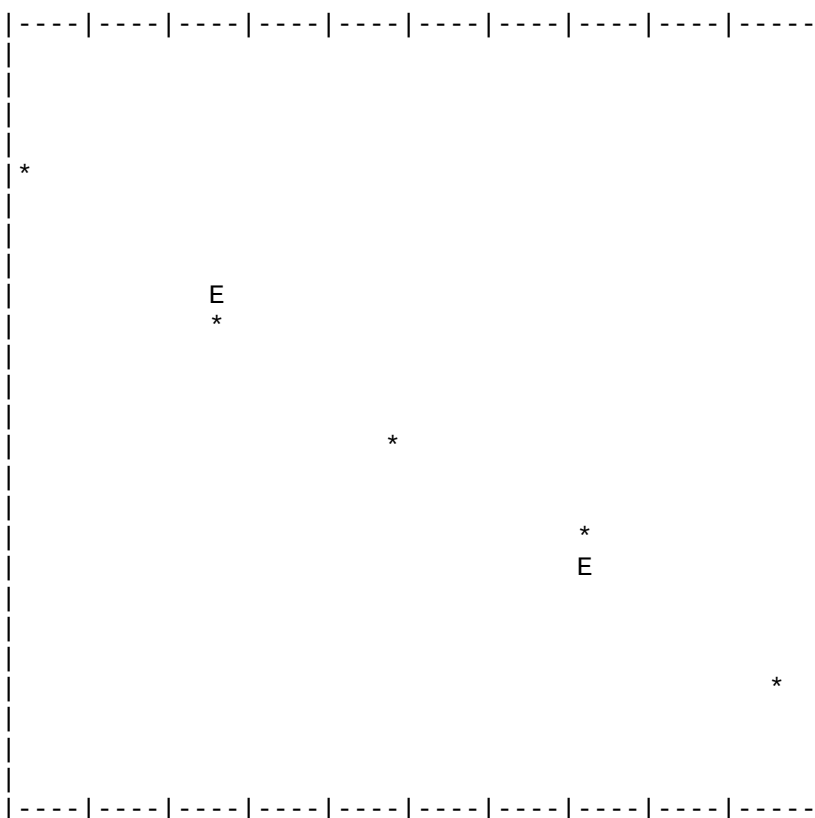
LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 11

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.34875	-0.01732	0.99677	0.99355
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1132.	7.03271	7.00244
2	40.	758.	6.63147	6.65614
3	60.	521.	6.25728	6.30983
4	80.	411.	6.02151	5.96352
5	100.	271.	5.60617	5.61722

7.3843
7.3020
7.2197
7.1373
7.0550
6.9727
6.8903
6.8080
6.7256
6.6433
6.5610
6.4786
6.3963
6.3139
6.2316
6.1493
6.0669
5.9846
5.9022
5.8199
5.7376
5.6552
5.5729
5.4905
5.4082



19.000 34.480 51.680 68.880 86.080 103.280

MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.30

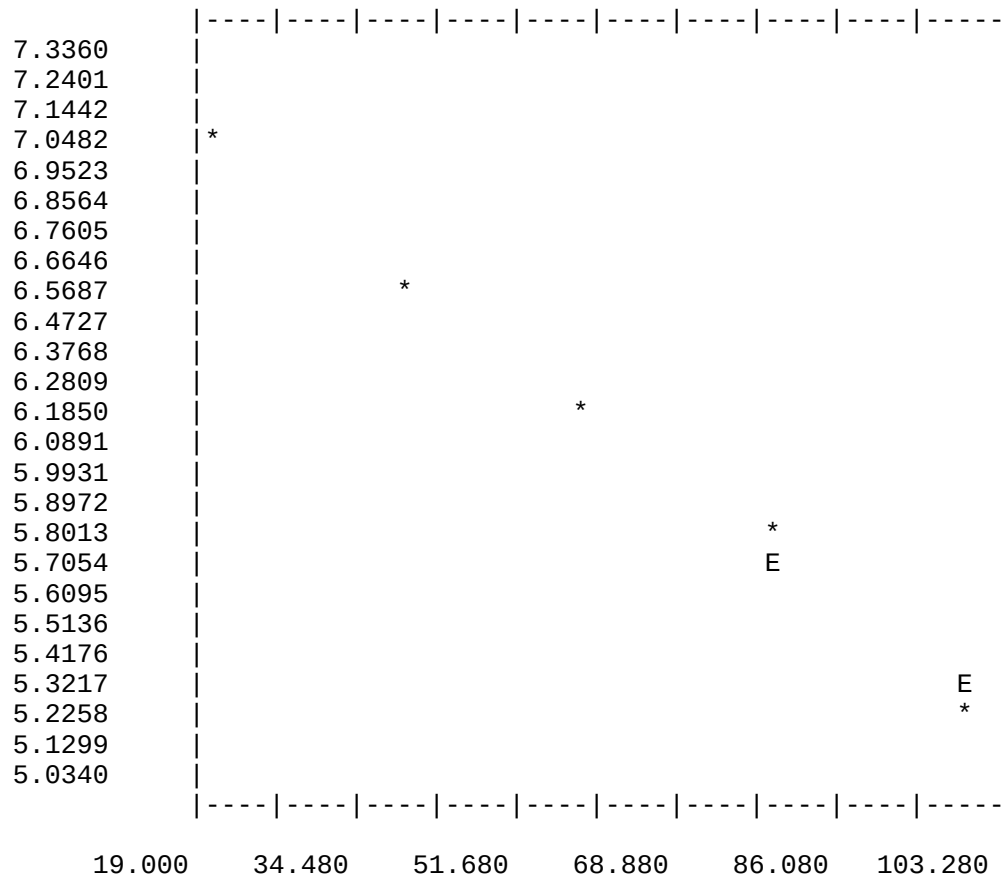
3.55

LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 92

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.40181	-0.02173	0.99829	0.99659
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1081.	6.98666	6.96723
2	40.	656.	6.48768	6.53265
3	60.	444.	6.09875	6.09807
4	80.	304.	5.71933	5.66349
5	100.	180.	5.19794	5.22892



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.63

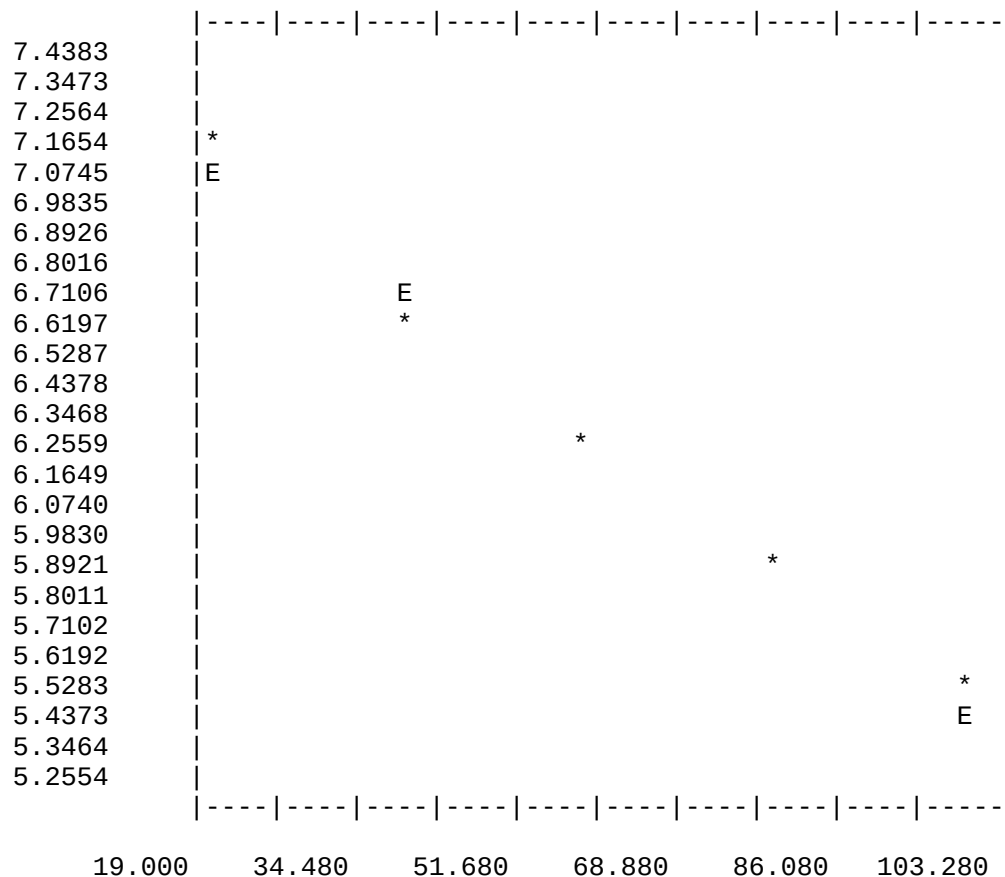
2.83

LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 22

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.41468	-0.01978	0.99629	0.99260
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1192.	7.08406	7.01900
2	40.	716.	6.57535	6.62332
3	60.	480.	6.17691	6.22765
4	80.	335.	5.81711	5.83197
5	100.	240.	5.48480	5.43629



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.48

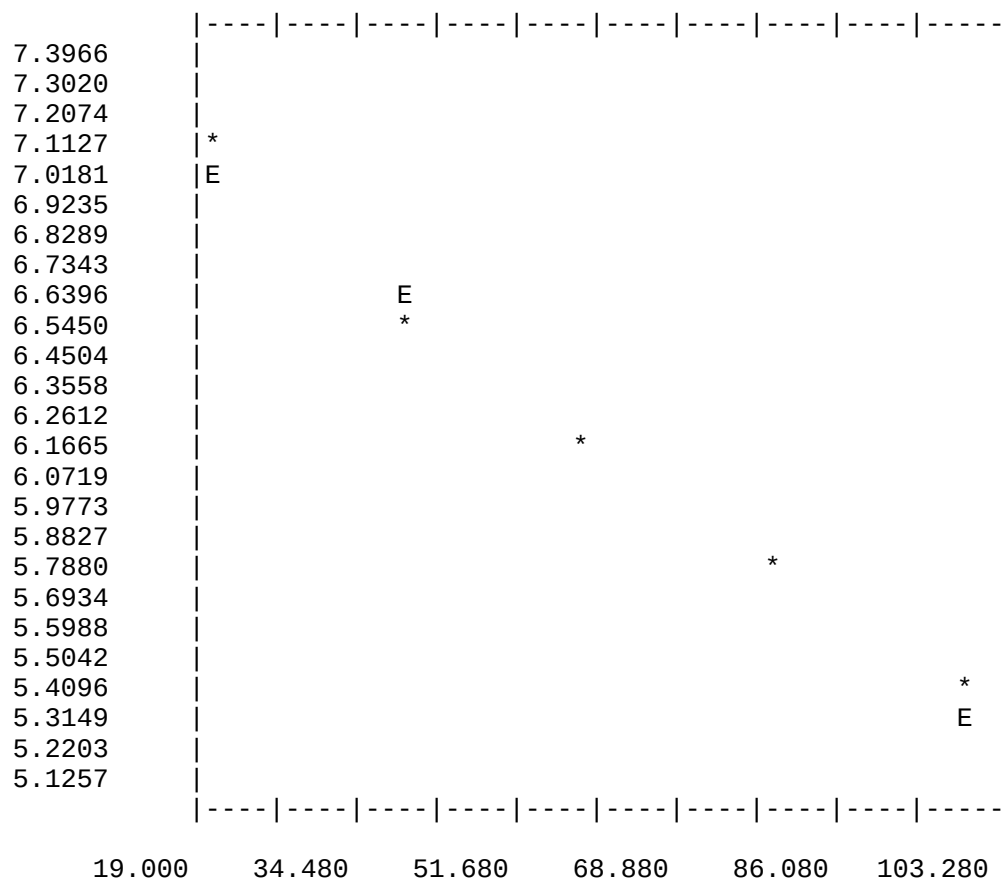
3.10

LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 12

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.43195	-0.02136	0.99862	0.99724
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1145.	7.04438	7.00474
2	40.	691.	6.53973	6.57752
3	60.	464.	6.14139	6.15031
4	80.	297.	5.69575	5.72310
5	100.	205.	5.33030	5.29588



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.60

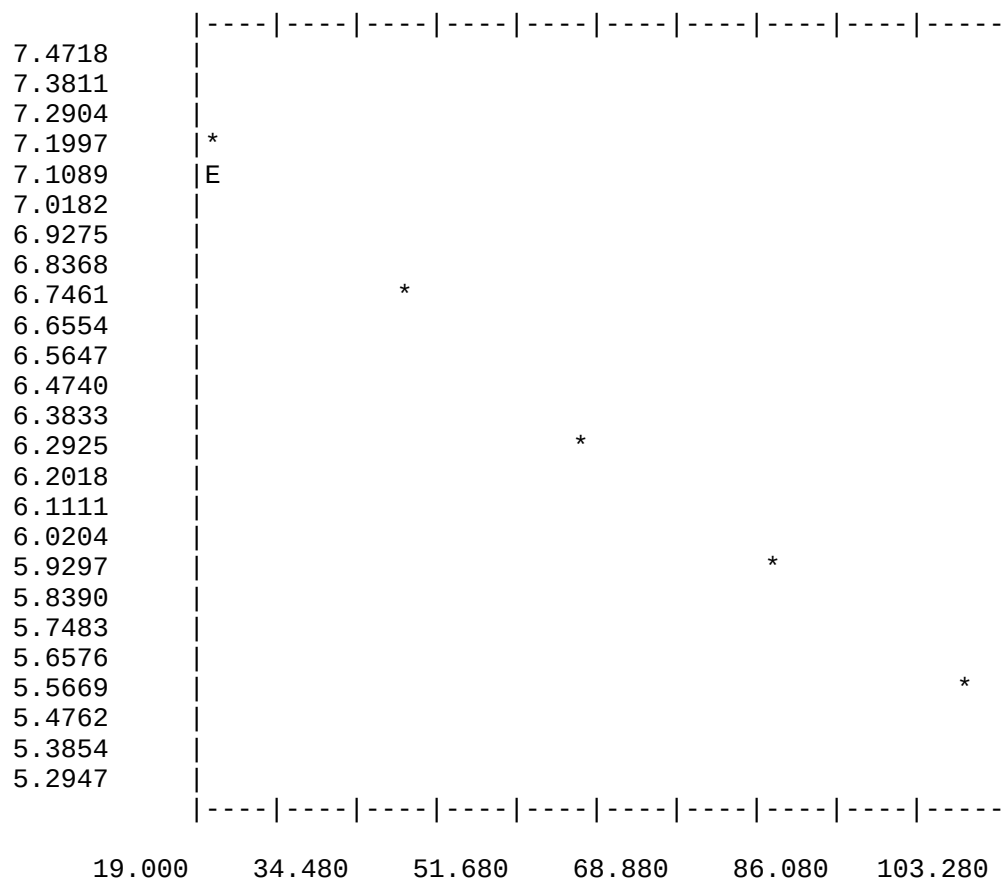
2.87

LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 23

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.48277	-0.02005	0.99808	0.99616
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1230.	7.11599	7.08180
2	40.	794.	6.67784	6.68083
3	60.	501.	6.21880	6.27986
4	80.	354.	5.87324	5.87889
5	100.	247.	5.51343	5.47792



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.50

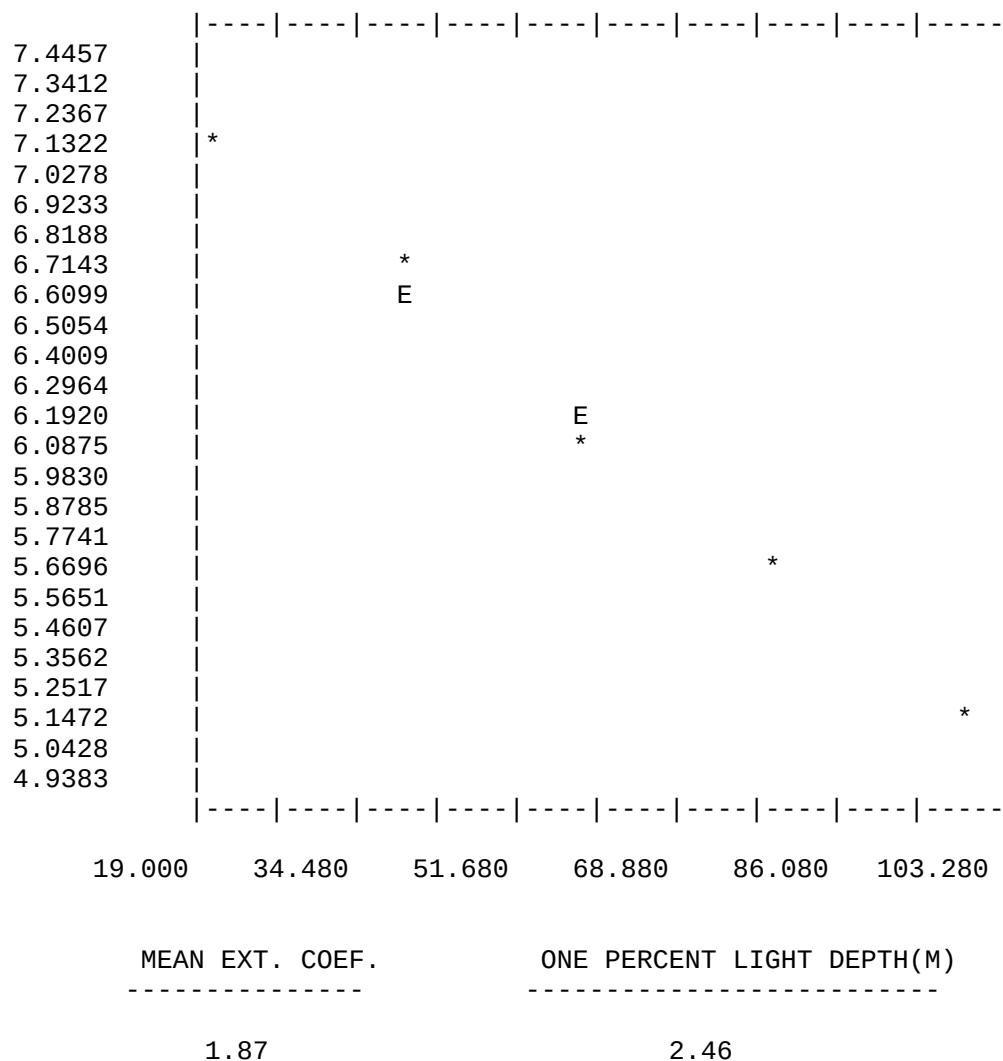
3.06

LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 13

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.58962	-0.02493	0.99790	0.99580
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1198.	7.08941	7.09110
2	40.	757.	6.63029	6.59259
3	60.	408.	6.01494	6.09408
4	80.	283.	5.64756	5.59557
5	100.	161.	5.08821	5.09706

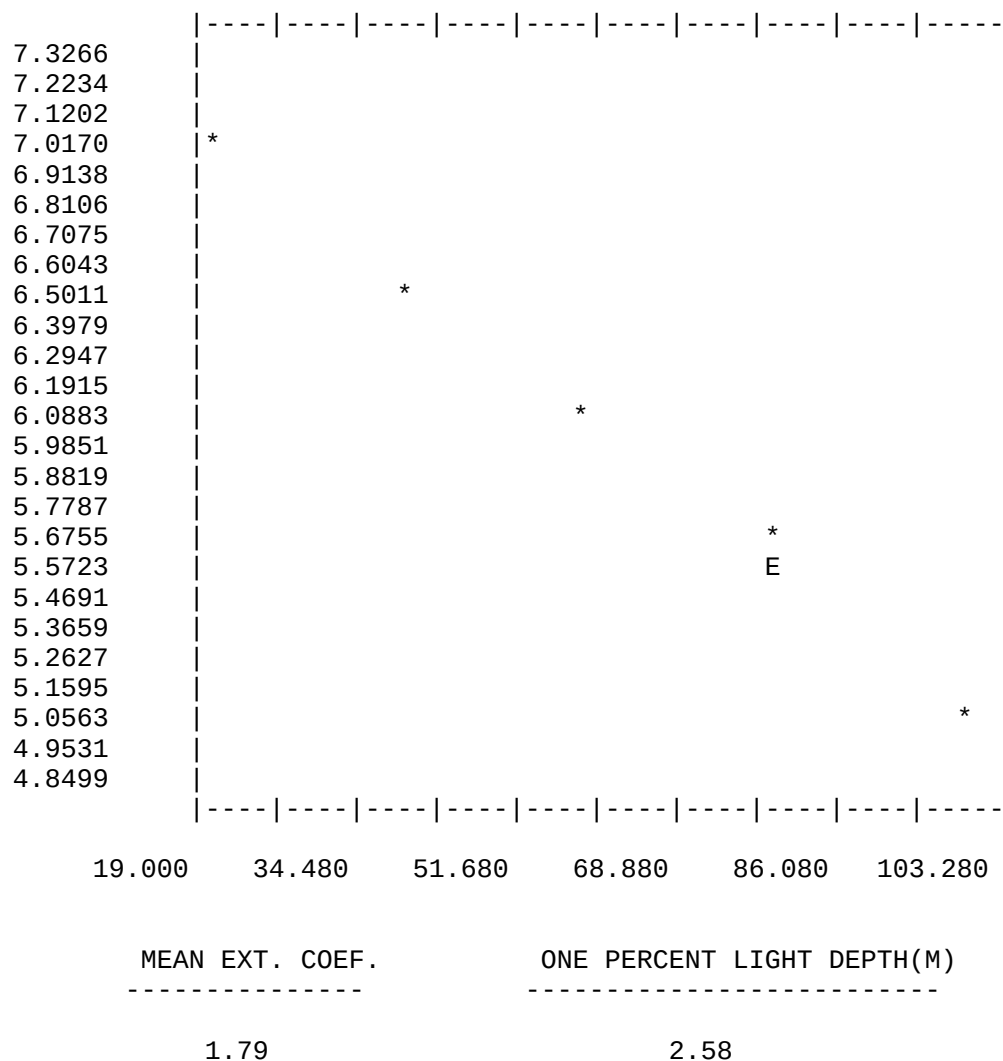


LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 24

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.43986	-0.02384	0.99640	0.99282
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1071.	6.97775	6.96309
2	40.	625.	6.44015	6.48631
3	60.	402.	5.99844	6.00953
4	80.	279.	5.63479	5.53275
5	100.	147.	4.99654	5.05598

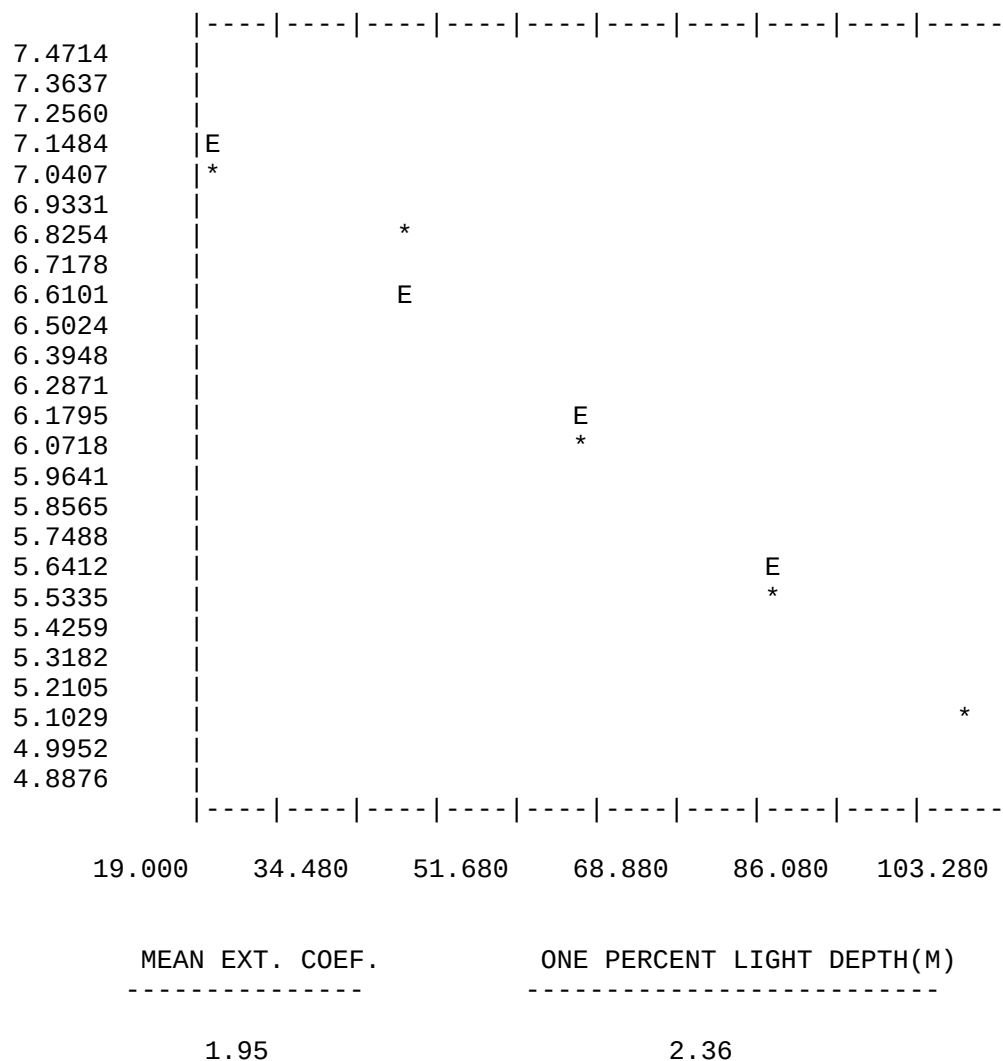


LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 14

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.63660	-0.02605	0.98925	0.97862
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1103.	7.00670	7.11558
2	40.	894.	6.79716	6.59455
3	60.	407.	6.01078	6.07353
4	80.	245.	5.50574	5.55251
5	100.	155.	5.04729	5.03148

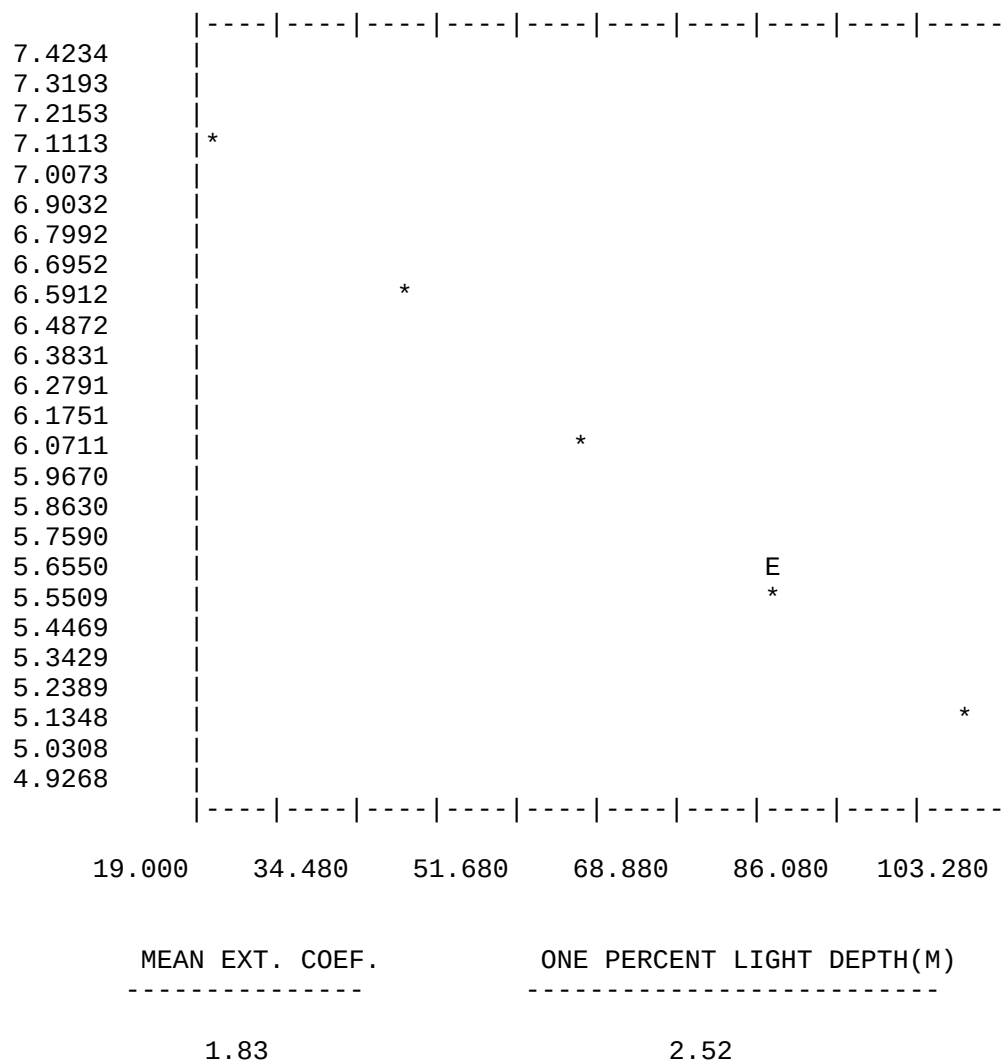


LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 25

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.51244	-0.02436	0.99835	0.99671
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1175.	7.06987	7.02527
2	40.	676.	6.51841	6.53810
3	60.	405.	6.00685	6.05093
4	80.	252.	5.53260	5.56376
5	100.	167.	5.12694	5.07660

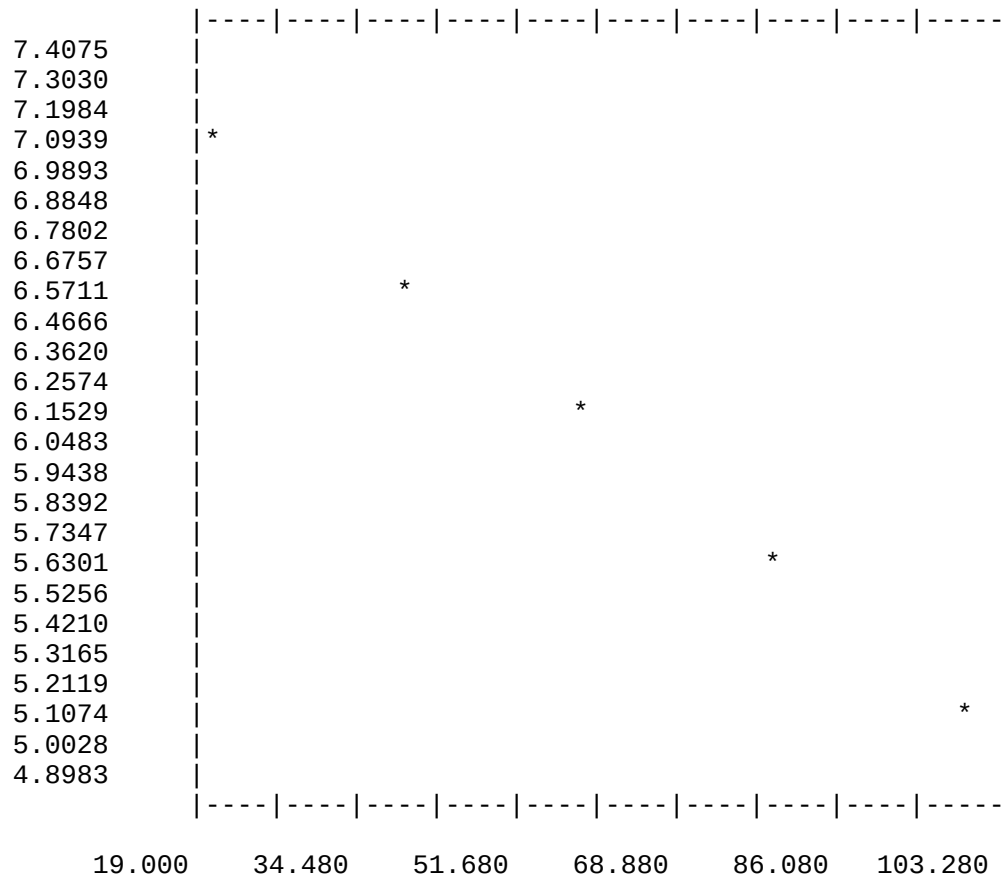


LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 15

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.55346	-0.02493	0.99986	0.99972
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1142.	7.04115	7.05479
2	40.	710.	6.56695	6.55613
3	60.	428.	6.06262	6.05747
4	80.	262.	5.57063	5.55881
5	100.	154.	5.04600	5.06015



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.87

2.46

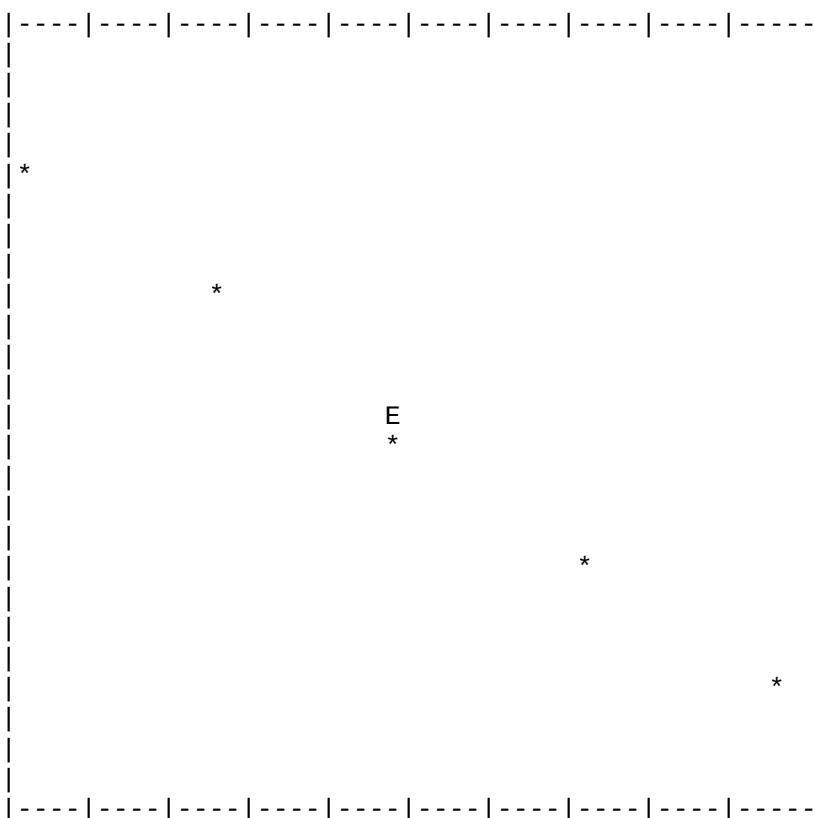
LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 17

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.48261	-0.01958	0.99909	0.99817
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1210.	7.09920	7.09093
2	40.	827.	6.71889	6.69925
3	60.	527.	6.26834	6.30757
4	80.	365.	5.90236	5.91589
5	100.	256.	5.54908	5.52422

7.4542
7.3659
7.2777
7.1894
7.1012
7.0129
6.9247
6.8364
6.7482
6.6599
6.5717
6.4835
6.3952
6.3070
6.2187
6.1305
6.0422
5.9540
5.8657
5.7775
5.6892
5.6010
5.5127
5.4245
5.3362



19.000 34.480 51.680 68.880 86.080 103.280

MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.47

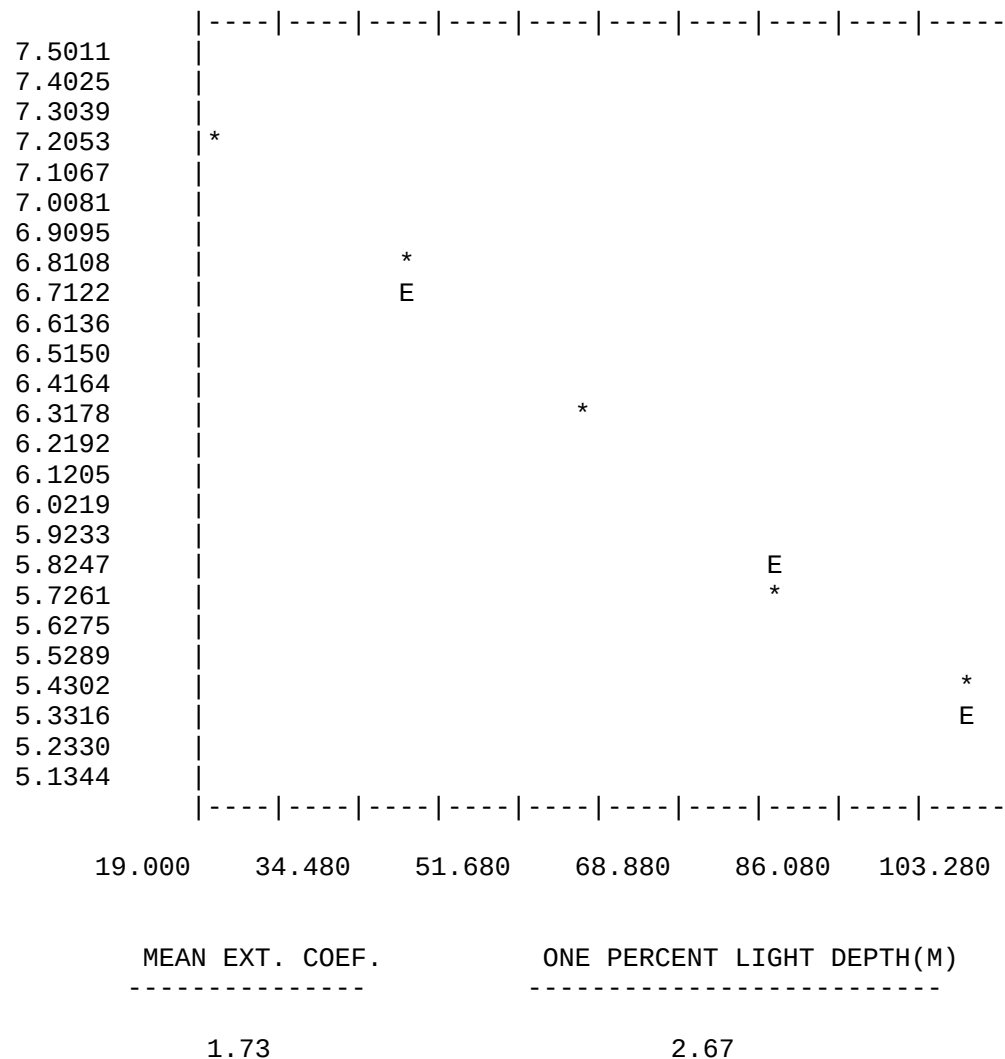
3.14

LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.60472	-0.02304	0.99795	0.99591
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1245.	7.12745	7.14394
2	40.	825.	6.71720	6.68316
3	60.	513.	6.24144	6.22238
4	80.	294.	5.68731	5.76160
5	100.	207.	5.33850	5.30082



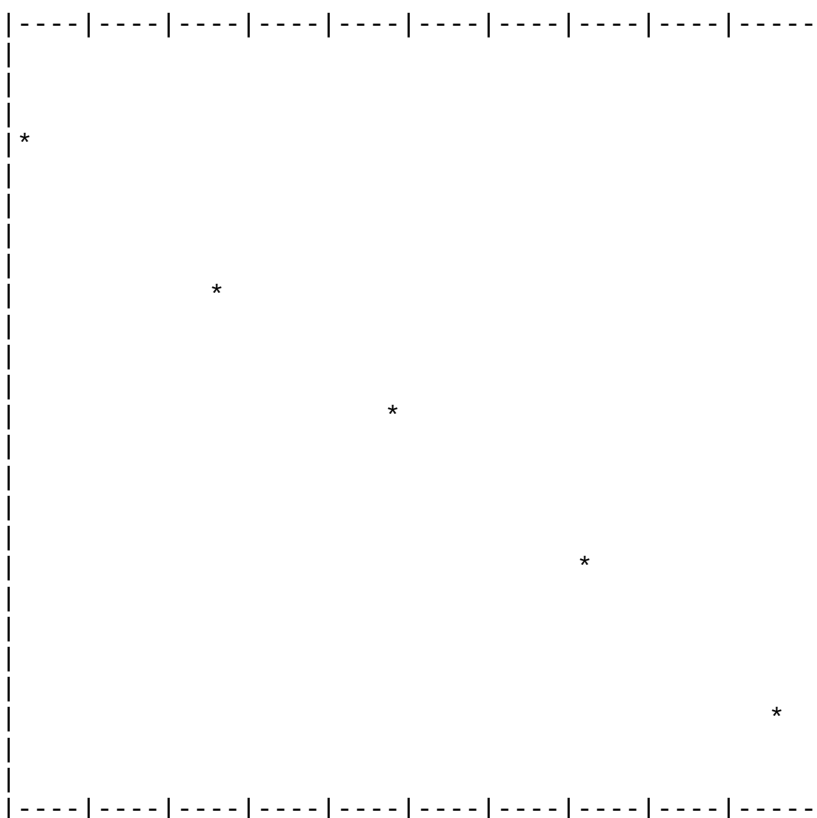
LIGHT PROFILE ANALYSES - FOR 4/28/2004

STATION LOCATION 19

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.33809	-0.02176	0.99983	0.99967
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	990.	6.89922	6.90297
2	40.	649.	6.47728	6.46785
3	60.	417.	6.03596	6.03272
4	80.	263.	5.57784	5.59760
5	100.	175.	5.17332	5.16248

7.2481
7.1544
7.0606
6.9669
6.8731
6.7794
6.6856
6.5919
6.4981
6.4044
6.3106
6.2169
6.1231
6.0294
5.9356
5.8419
5.7481
5.6544
5.5606
5.4669
5.3731
5.2794
5.1856
5.0919
4.9981



19.000 34.480 51.680 68.880 86.080 103.280

MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.63

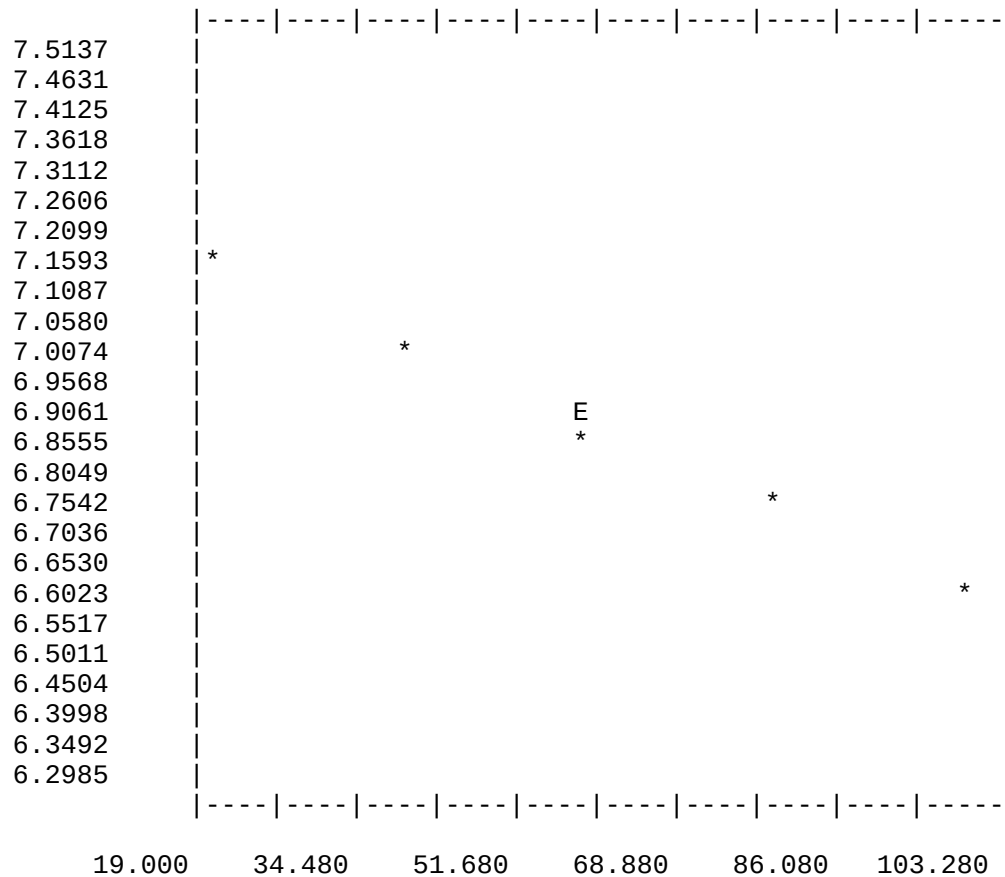
2.82

LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 9

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.28423	-0.00707	0.99881	0.99762
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1281.	7.15594	7.14273
2	40.	1086.	6.99127	7.00123
3	60.	940.	6.84684	6.85973
4	80.	829.	6.72106	6.71823
5	100.	722.	6.58355	6.57673



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

0.53

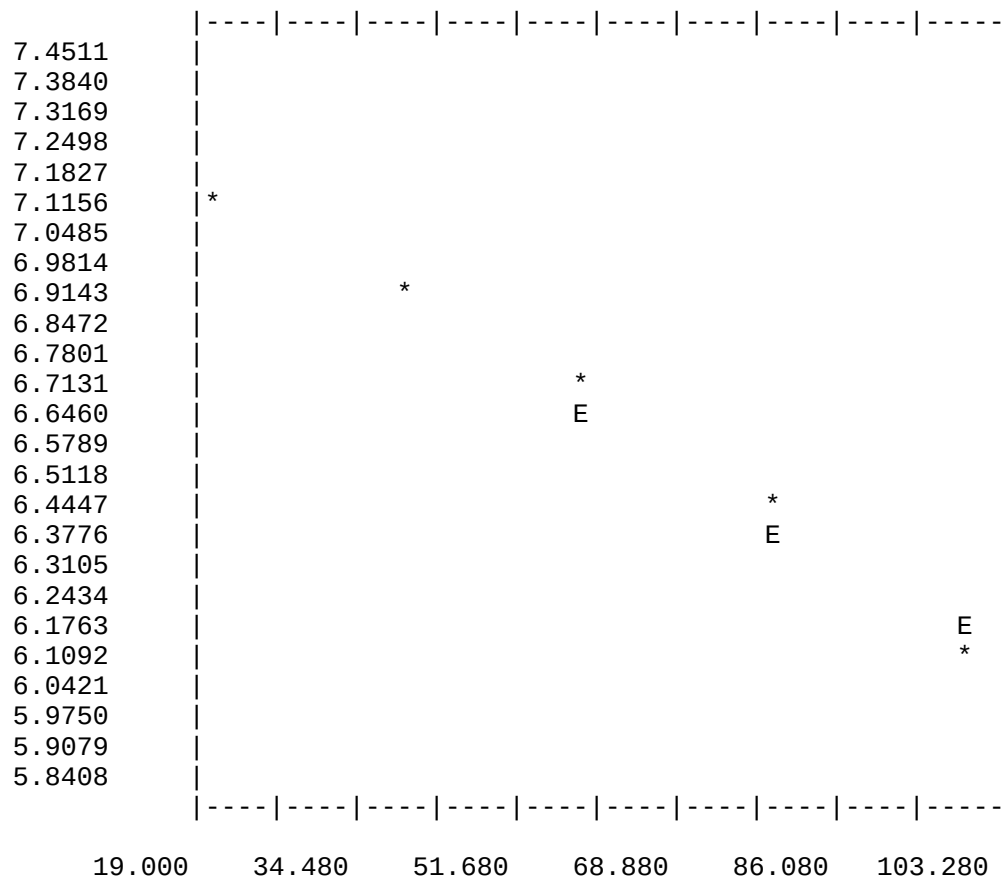
8.68

LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 10

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.34004	-0.01219	0.99430	0.98863
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1156.	7.05384	7.09627
2	40.	961.	6.86933	6.85249
3	60.	779.	6.65878	6.60872
4	80.	591.	6.38401	6.36495
5	100.	435.	6.07764	6.12118



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

0.91

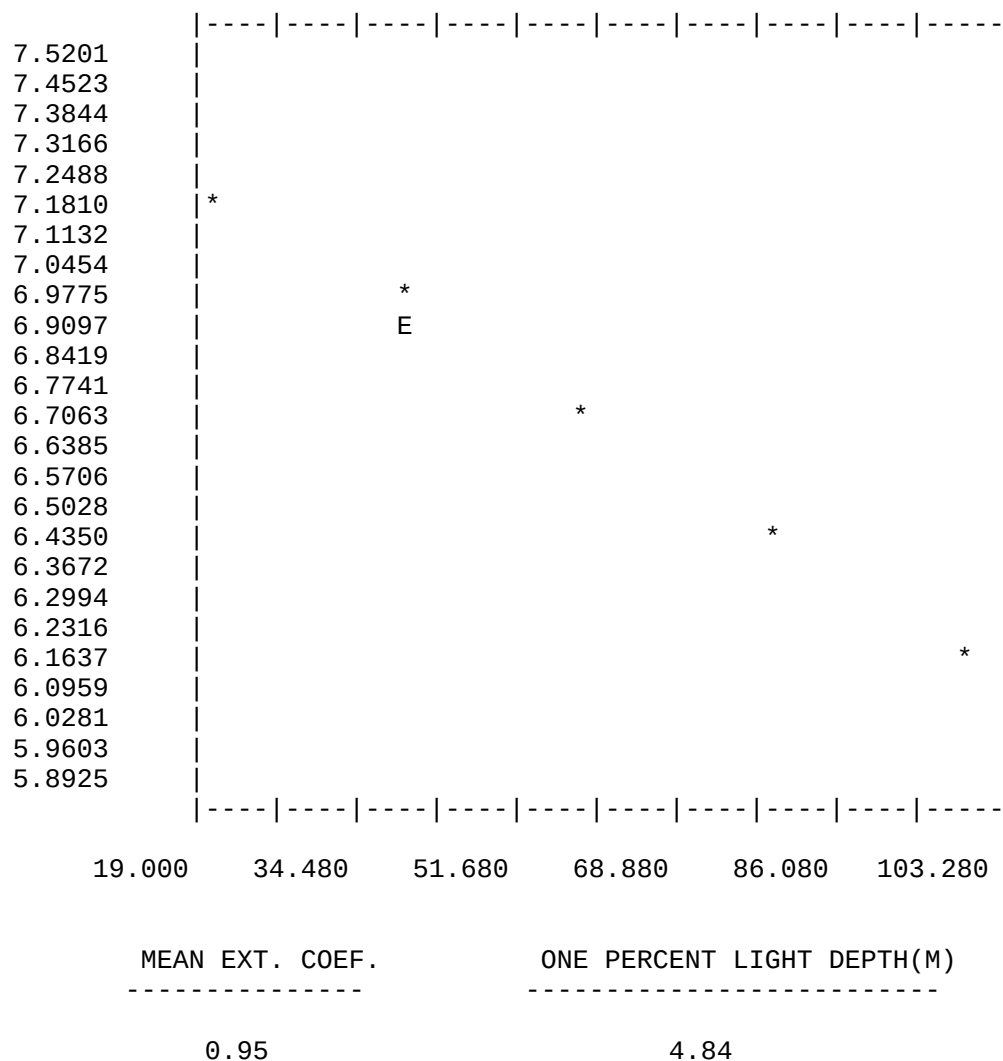
5.04

LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 21

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.41570	-0.01269	0.99917	0.99833
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1270.	7.14772	7.16198
2	40.	1015.	6.92373	6.90826
3	60.	772.	6.65054	6.65454
4	80.	613.	6.41951	6.40082
5	100.	459.	6.13123	6.14710

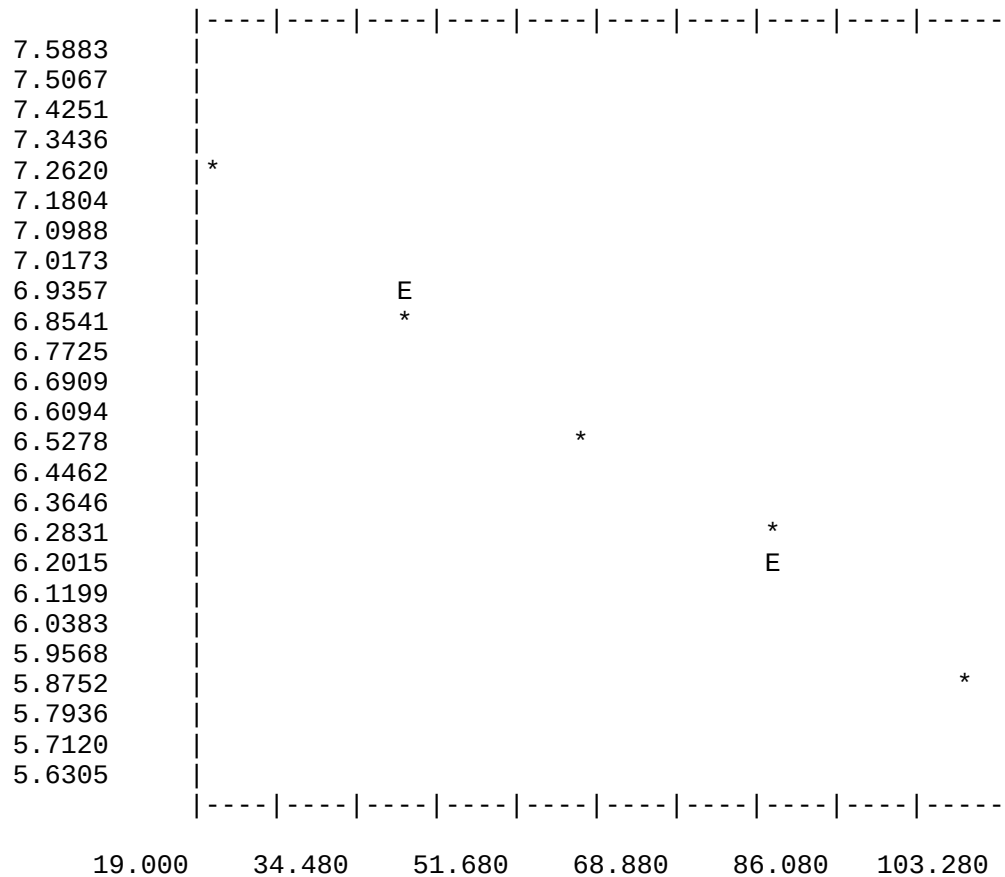


LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 11

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.52618	-0.01676	0.99742	0.99484
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1375.	7.22694	7.19106
2	40.	902.	6.80528	6.85595
3	60.	667.	6.50489	6.52084
4	80.	505.	6.22614	6.18572
5	100.	343.	5.84093	5.85061



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.26

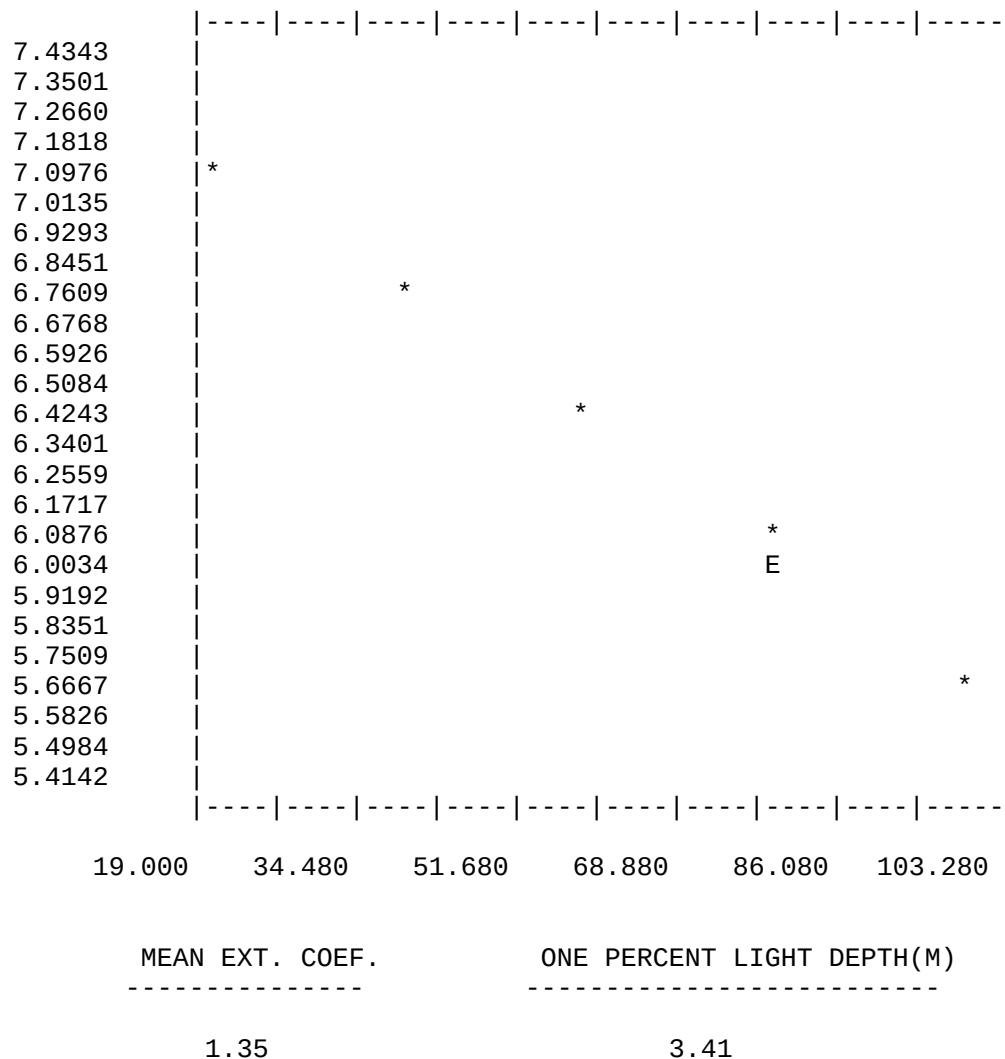
3.66

LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 92

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.44081	-0.01803	0.99846	0.99692
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1143.	7.04194	7.08030
2	40.	858.	6.75612	6.71978
3	60.	585.	6.37400	6.35927
4	80.	408.	6.01372	5.99875
5	100.	272.	5.61057	5.63824



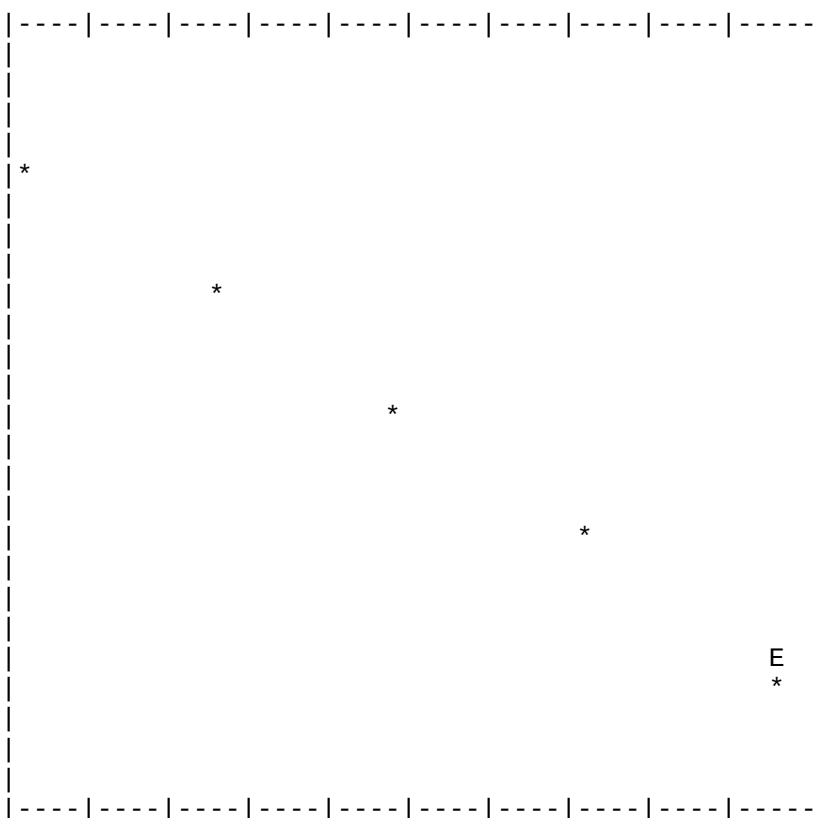
LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 22

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.39514	-0.01685	0.99712	0.99424
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1137.	7.03712	7.05821
2	40.	828.	6.71998	6.72128
3	60.	601.	6.39959	6.38435
4	80.	447.	6.10524	6.04742
5	100.	286.	5.65983	5.71049

7.4111
7.3298
7.2484
7.1670
7.0856
7.0043
6.9229
6.8415
6.7602
6.6788
6.5974
6.5160
6.4347
6.3533
6.2719
6.1906
6.1092
6.0278
5.9464
5.8651
5.7837
5.7023
5.6210
5.5396
5.4582



19.000 34.480 51.680 68.880 86.080 103.280

MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.26

3.64

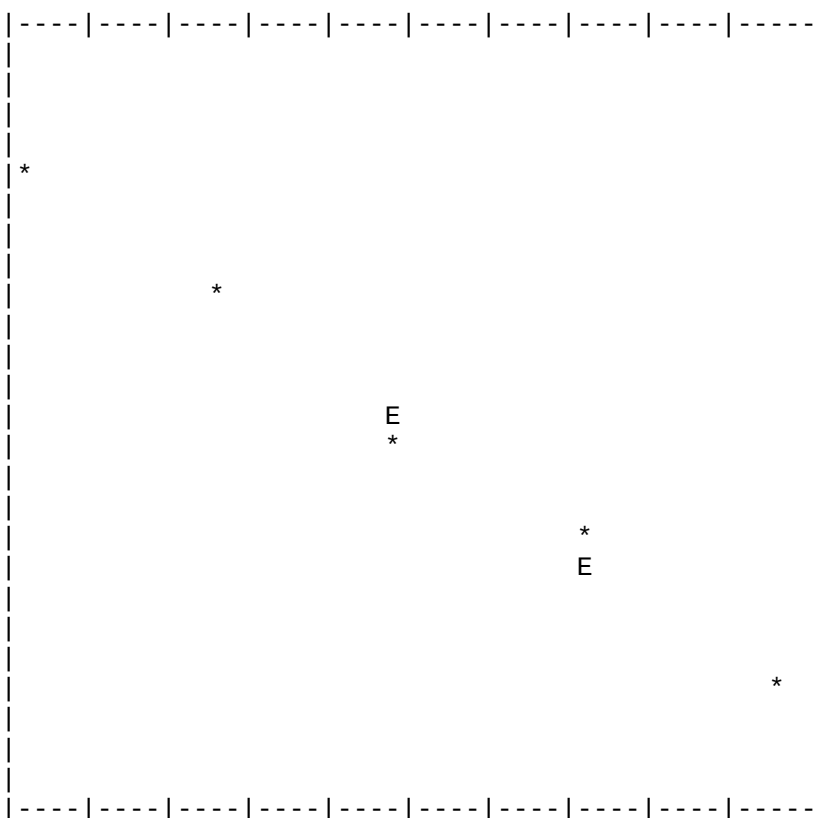
LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 12

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.44616	-0.01682	0.99857	0.99714
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1236.	7.12012	7.10974
2	40.	863.	6.76192	6.77331
3	60.	607.	6.41067	6.43688
4	80.	466.	6.14547	6.10045
5	100.	312.	5.74620	5.76402

7.4761
7.3954
7.3147
7.2341
7.1534
7.0727
6.9920
6.9113
6.8306
6.7499
6.6692
6.5885
6.5079
6.4272
6.3465
6.2658
6.1851
6.1044
6.0237
5.9430
5.8623
5.7816
5.7010
5.6203
5.5396



19.000 34.480 51.680 68.880 86.080 103.280

MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.26

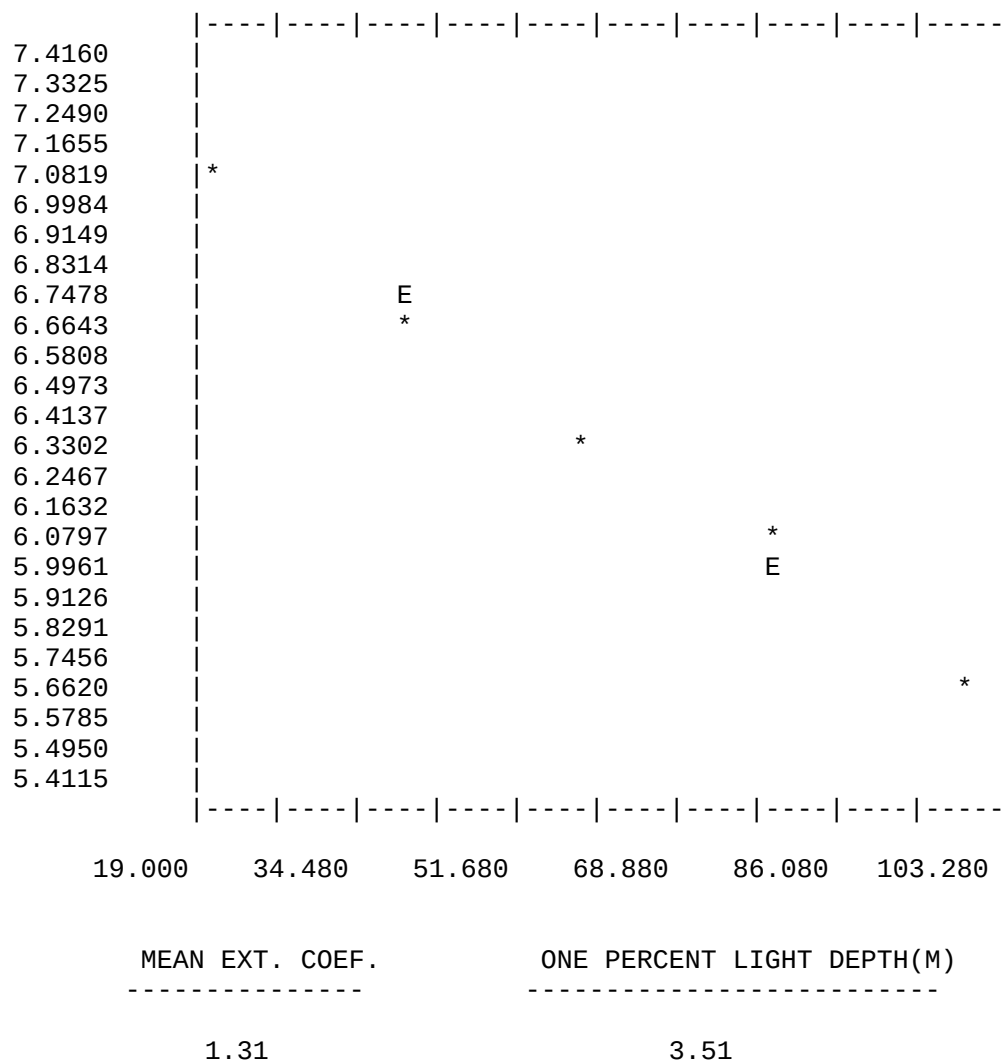
3.65

LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 23

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.37058	-0.01749	0.99659	0.99320
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1167.	7.06288	7.02082
2	40.	738.	6.60597	6.67106
3	60.	550.	6.31192	6.32130
4	80.	409.	6.01738	5.97154
5	100.	272.	5.60837	5.62178

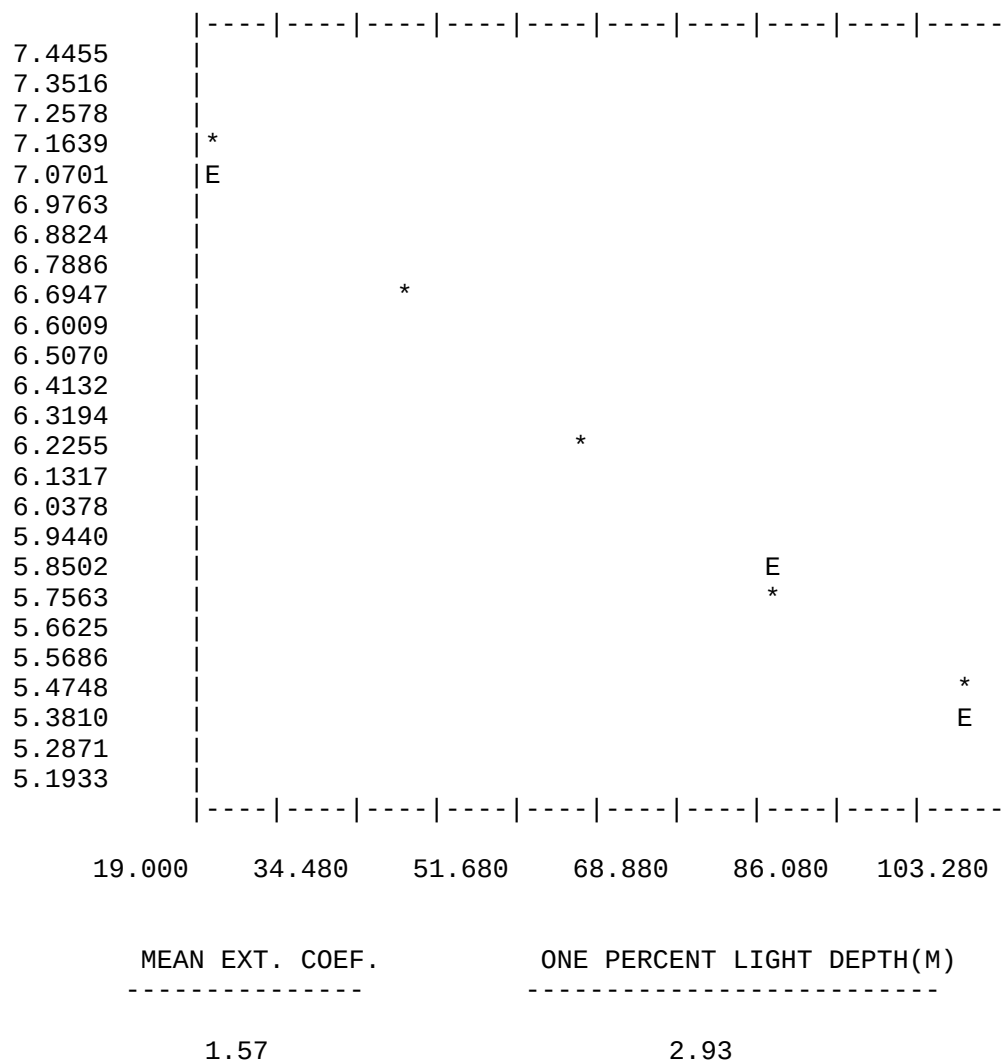


LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 13

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.46073	-0.02093	0.99680	0.99362
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1200.	7.09091	7.04215
2	40.	737.	6.60354	6.62356
3	60.	474.	6.16289	6.20498
4	80.	309.	5.73560	5.78640
5	100.	228.	5.43197	5.36782

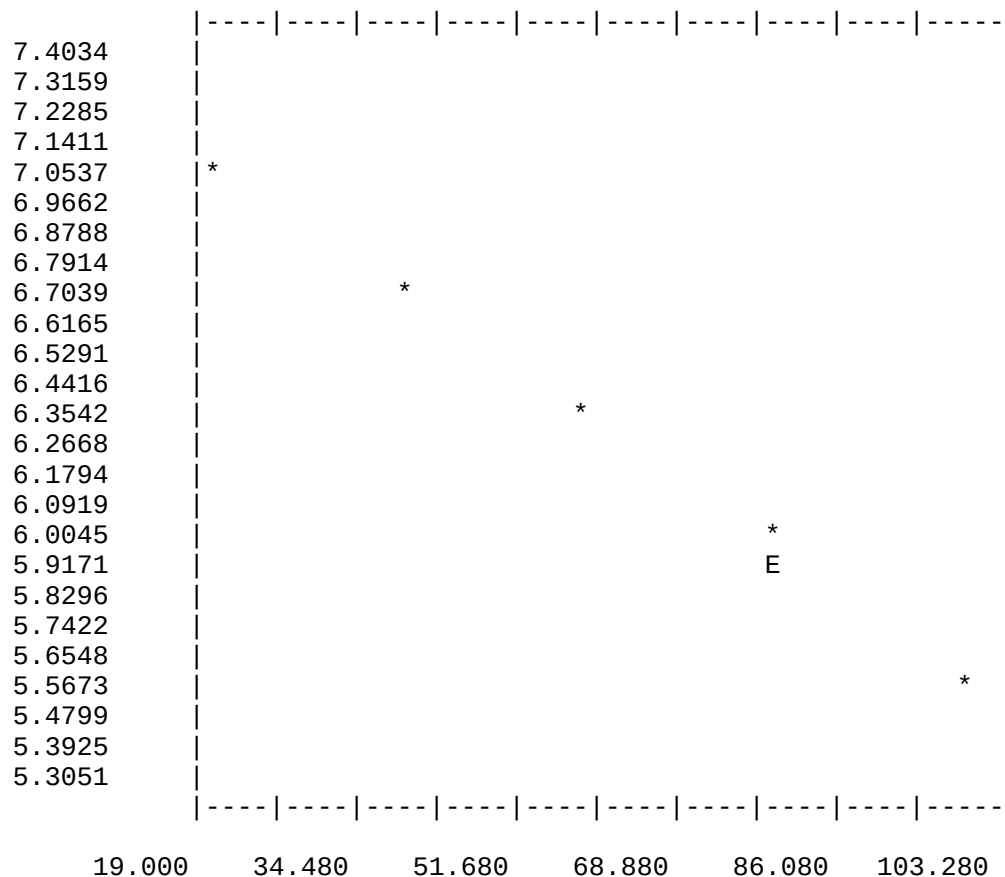


LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 24

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.42965	-0.01894	0.99787	0.99575
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1105.	7.00832	7.05084
2	40.	812.	6.70061	6.67202
3	60.	555.	6.32023	6.29321
4	80.	381.	5.94463	5.91439
5	100.	242.	5.49224	5.53558



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.42

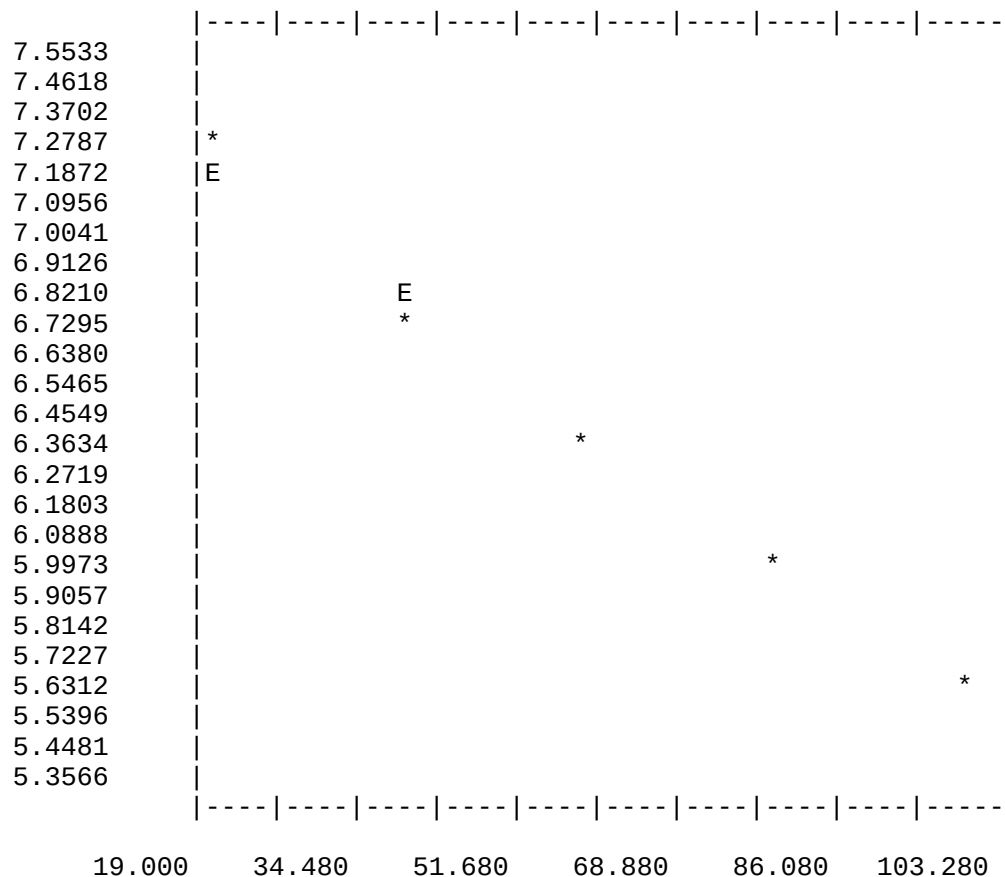
3.24

LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 14

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.52728	-0.01985	0.99672	0.99345
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1330.	7.19361	7.13025
2	40.	787.	6.66924	6.73323
3	60.	551.	6.31319	6.33620
4	80.	373.	5.92372	5.93917
5	100.	264.	5.58124	5.54215



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.49

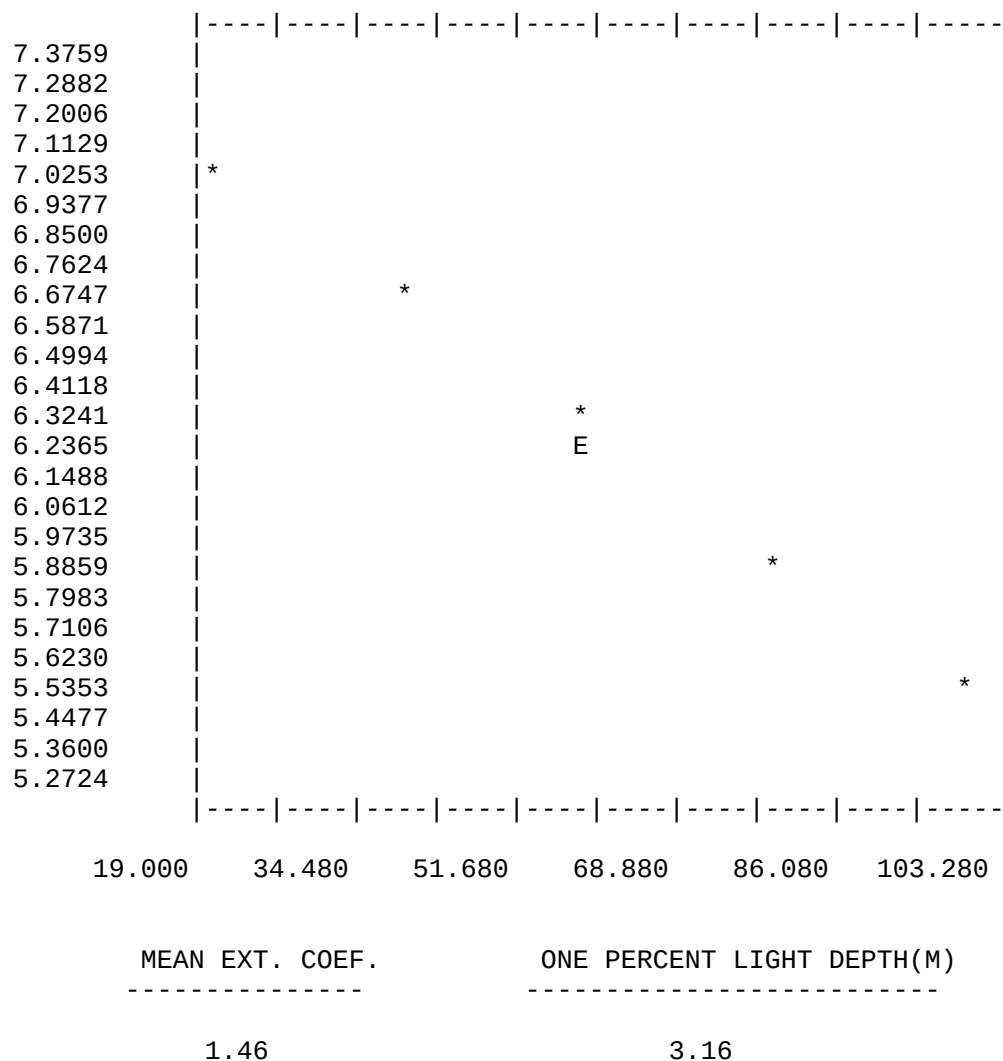
3.09

LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 25

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.40139	-0.01944	0.99970	0.99940
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1123.	7.02465	7.01263
2	40.	738.	6.60597	6.62388
3	60.	515.	6.24533	6.23512
4	80.	340.	5.83159	5.84636
5	100.	236.	5.46806	5.45761

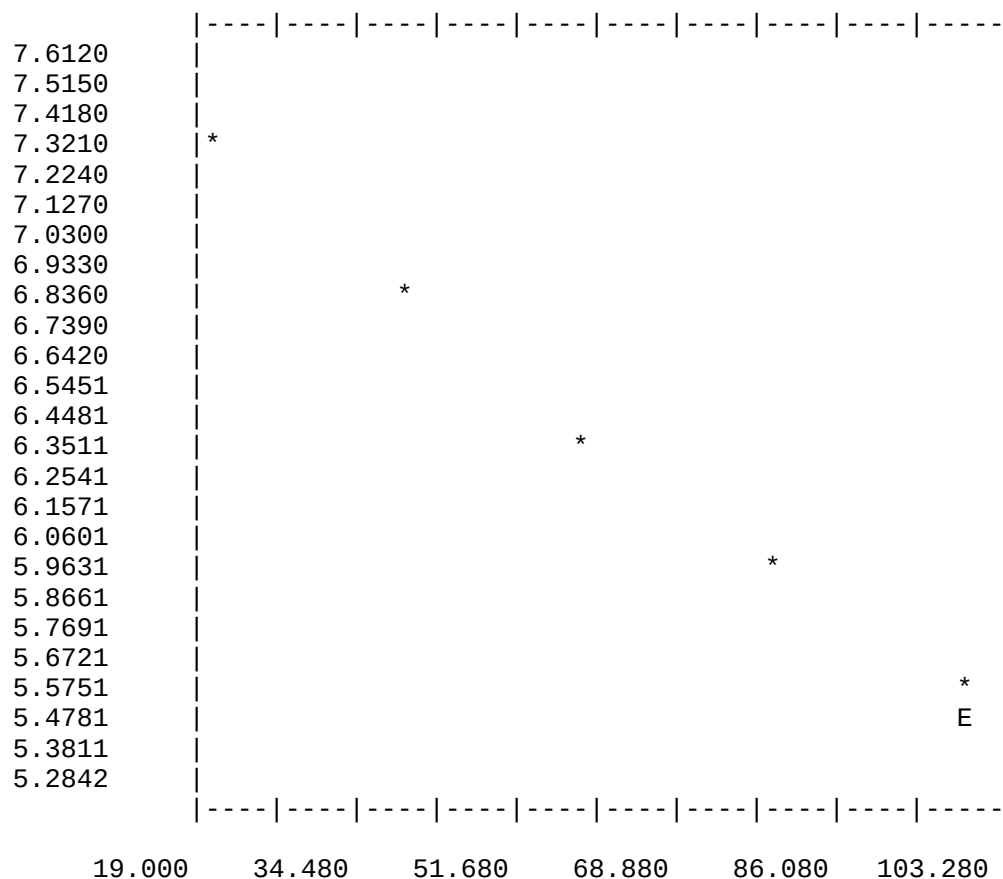


LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 15

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.67826	-0.02218	0.99794	0.99588
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1406.	7.24950	7.23464
2	40.	918.	6.82383	6.79102
3	60.	532.	6.27871	6.34741
4	80.	358.	5.88332	5.90379
5	100.	244.	5.50167	5.46017



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.66

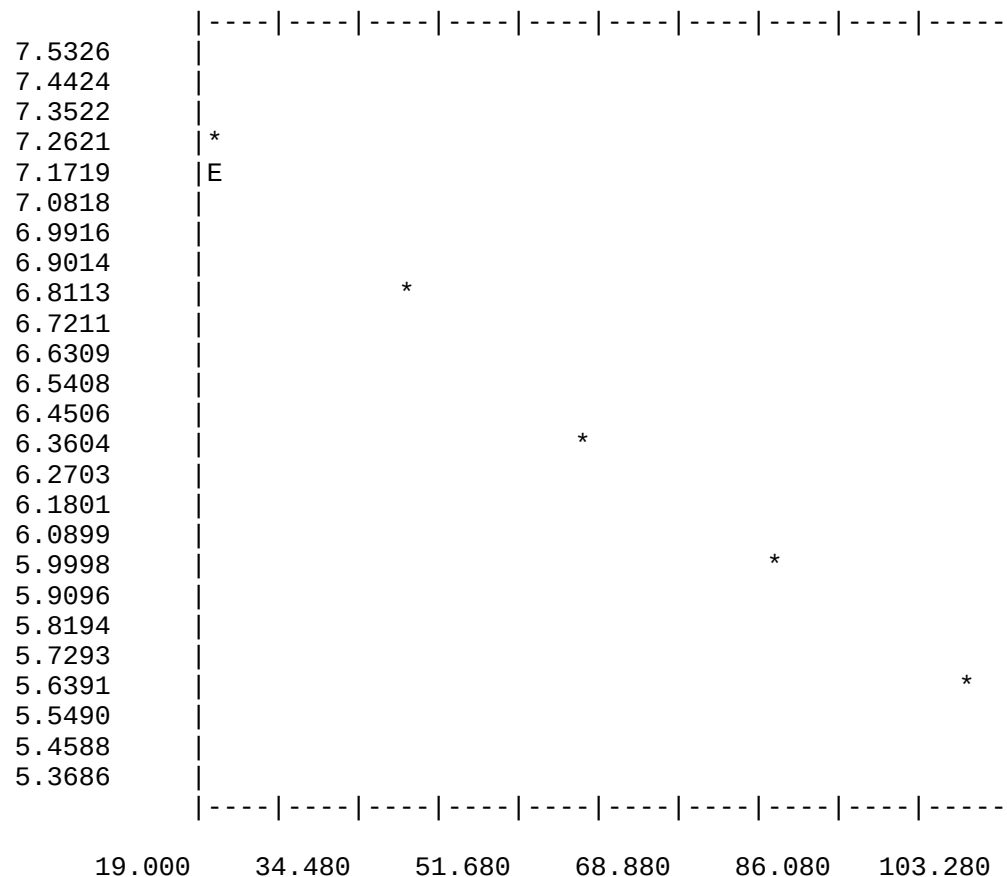
2.77

LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 17

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.54506	-0.01989	0.99868	0.99736
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1304.	7.17388	7.14730
2	40.	841.	6.73637	6.74954
3	60.	545.	6.30317	6.35179
4	80.	396.	5.98444	5.95403
5	100.	259.	5.56107	5.55627



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.49

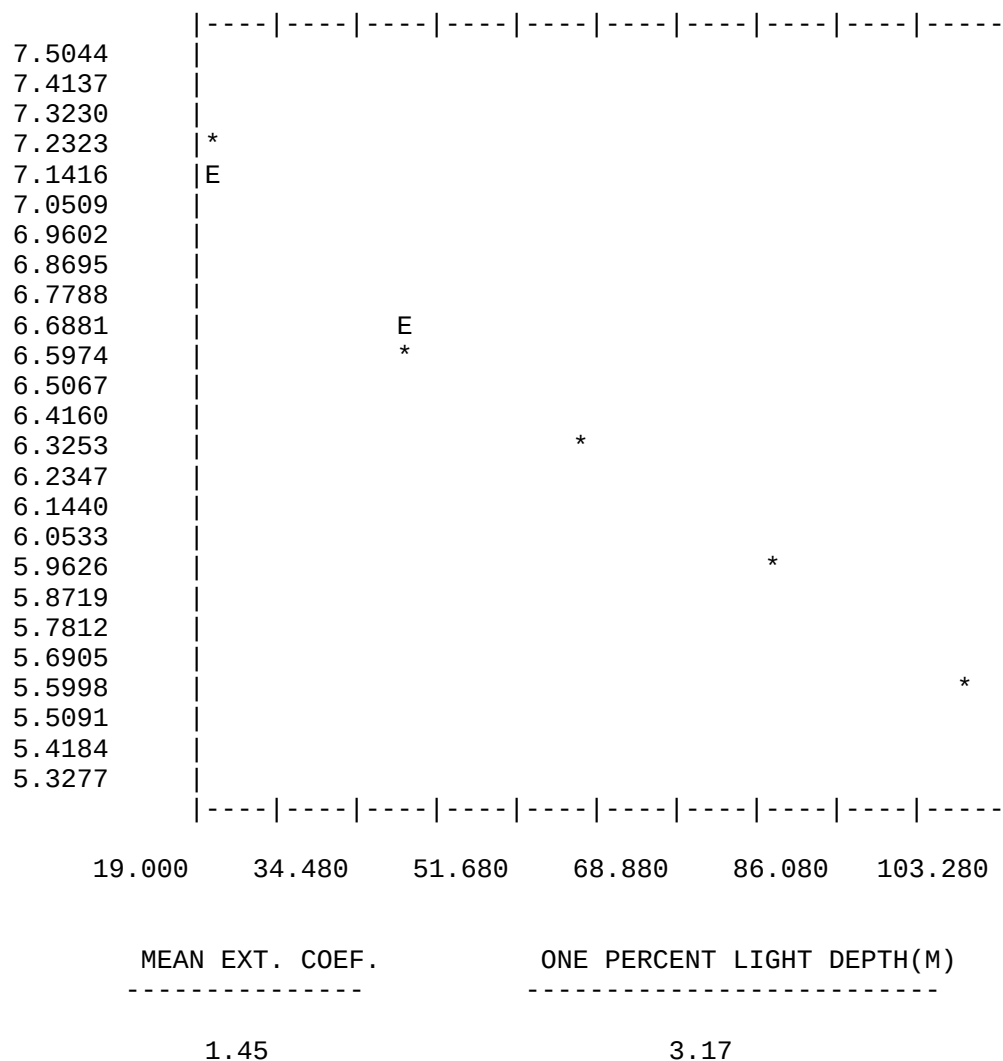
3.09

LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.44895	-0.01936	0.99396	0.98796
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1269.	7.14701	7.06169
2	40.	727.	6.59044	6.67444
3	60.	515.	6.24572	6.28718
4	80.	362.	5.89358	5.89992
5	100.	259.	5.55914	5.51266

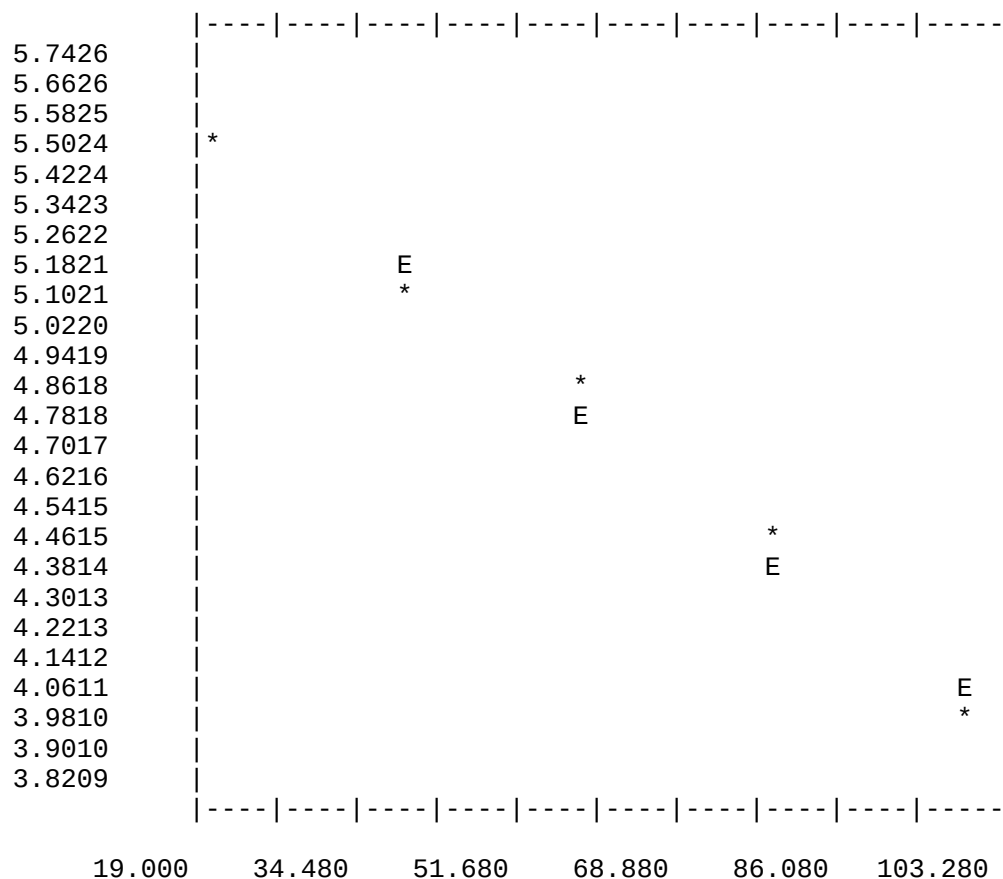


LIGHT PROFILE ANALYSES - FOR 5/27/2004

STATION LOCATION 19

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.83416	-0.01825	0.99143	0.98294
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	227.	5.42935	5.46919
2	40.	158.	5.06827	5.10421
3	60.	128.	4.85904	4.73923
4	80.	81.	4.40183	4.37426
5	100.	50.	3.93769	4.00928



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.37

3.36

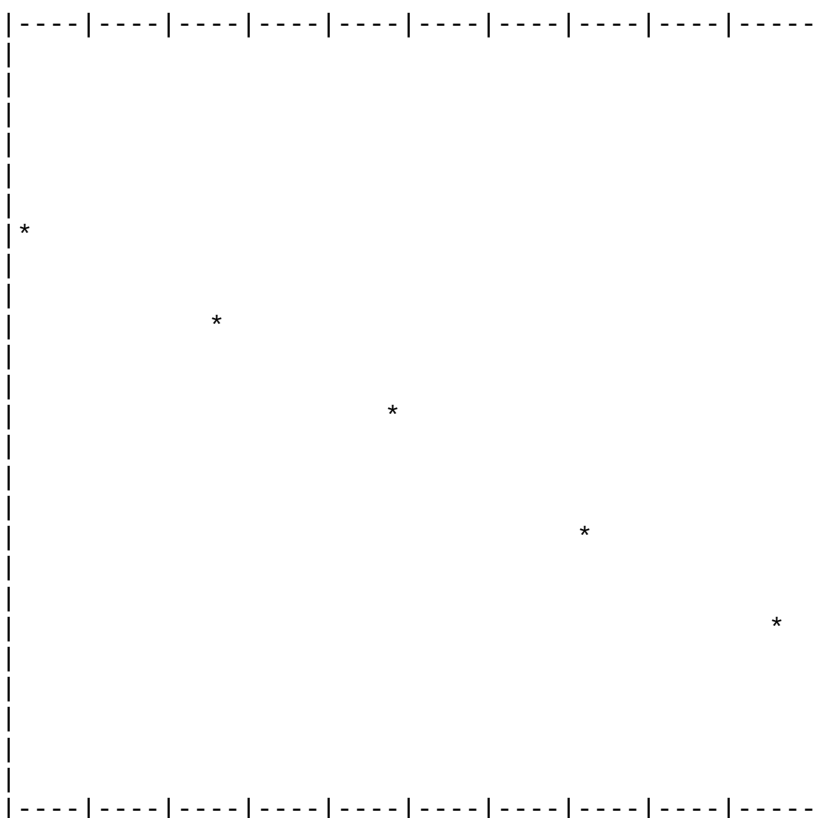
LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 9

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.29078	-0.00916	0.99684	0.99369
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1224.	7.11037	7.10765
2	40.	994.	6.90254	6.92451
3	60.	877.	6.77742	6.74137
4	80.	692.	6.54117	6.55824
5	100.	586.	6.37537	6.37510

7.4659
7.4095
7.3531
7.2967
7.2404
7.1840
7.1276
7.0712
7.0148
6.9585
6.9021
6.8457
6.7893
6.7329
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6.6202
6.5638
6.5074
6.4510
6.3946
6.3383
6.2819
6.2255
6.1691
6.1127



19.000 34.480 51.680 68.880 86.080 103.280

MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

0.69

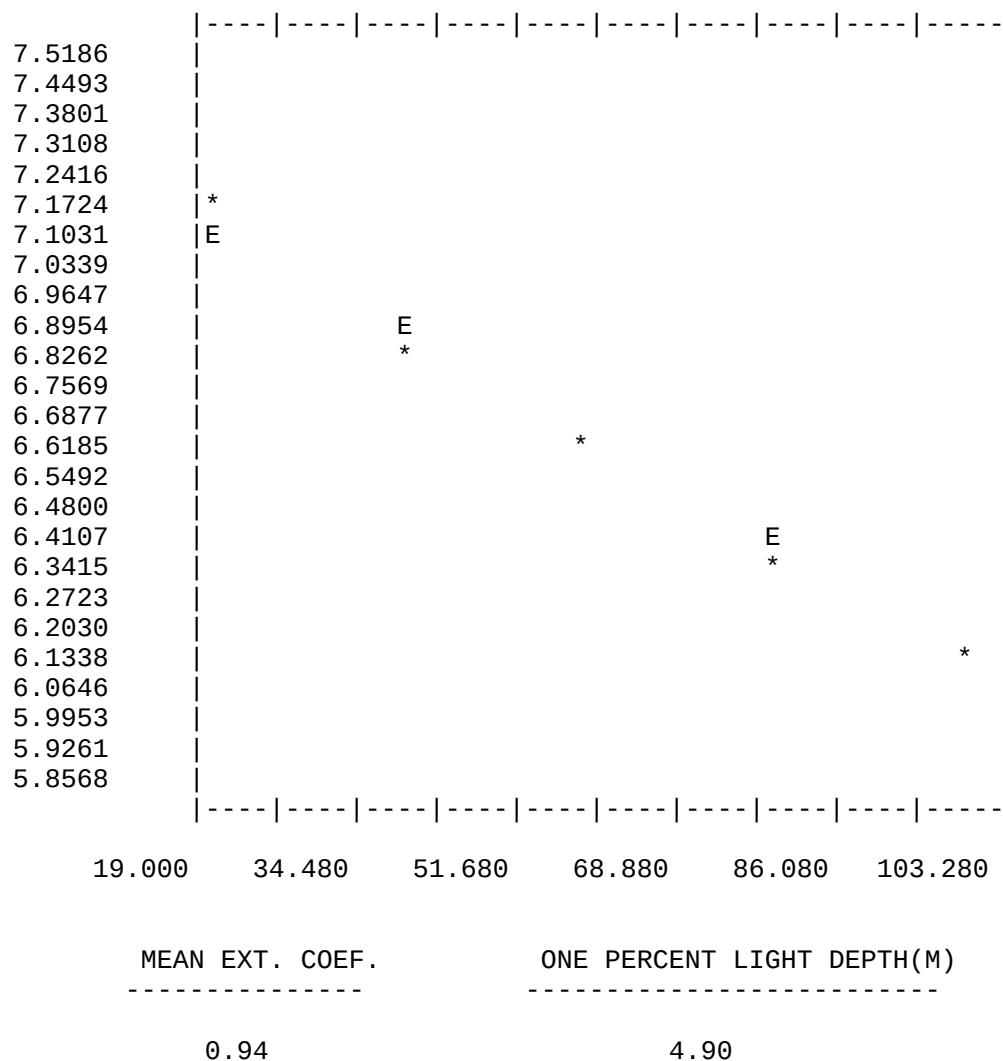
6.71

LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 10

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.34548	-0.01253	0.99116	0.98239
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1287.	7.16054	7.09482
2	40.	869.	6.76826	6.84417
3	60.	719.	6.57870	6.59351
4	80.	564.	6.33736	6.34286
5	100.	455.	6.12271	6.09220



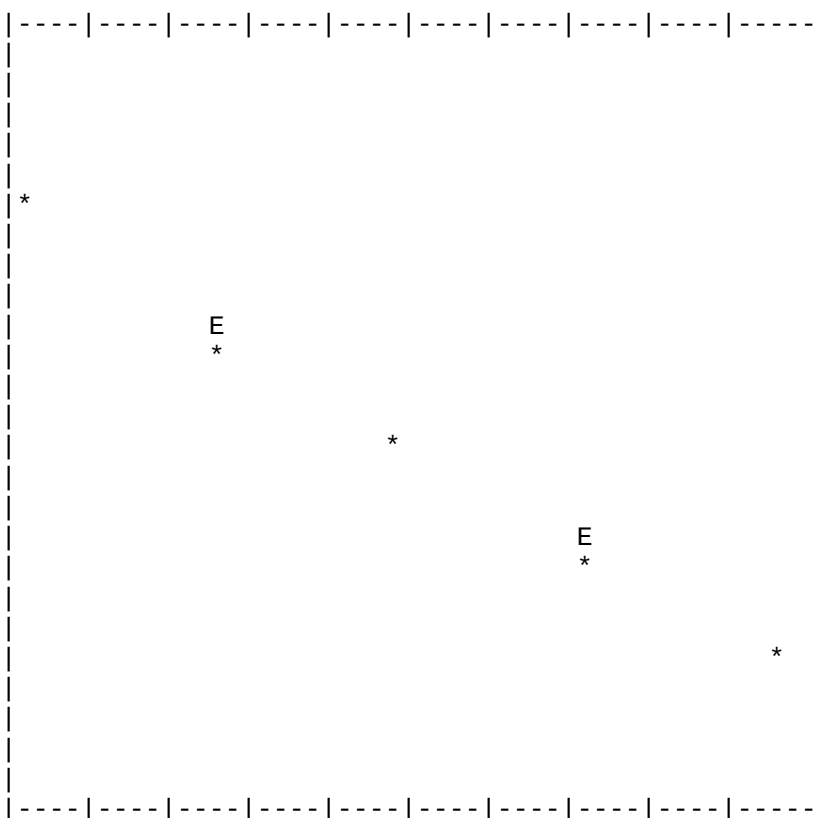
LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 21

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.47063	-0.01331	0.99447	0.98897
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1418.	7.25757	7.20443
2	40.	991.	6.89962	6.93823
3	60.	758.	6.63147	6.67203
4	80.	595.	6.39024	6.40583
5	100.	483.	6.18126	6.13963

7.6204
7.5489
7.4774
7.4059
7.3344
7.2629
7.1914
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6.5478
6.4763
6.4047
6.3332
6.2617
6.1902
6.1187
6.0472
5.9757
5.9042



19.000 34.480 51.680 68.880 86.080 103.280

MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.00

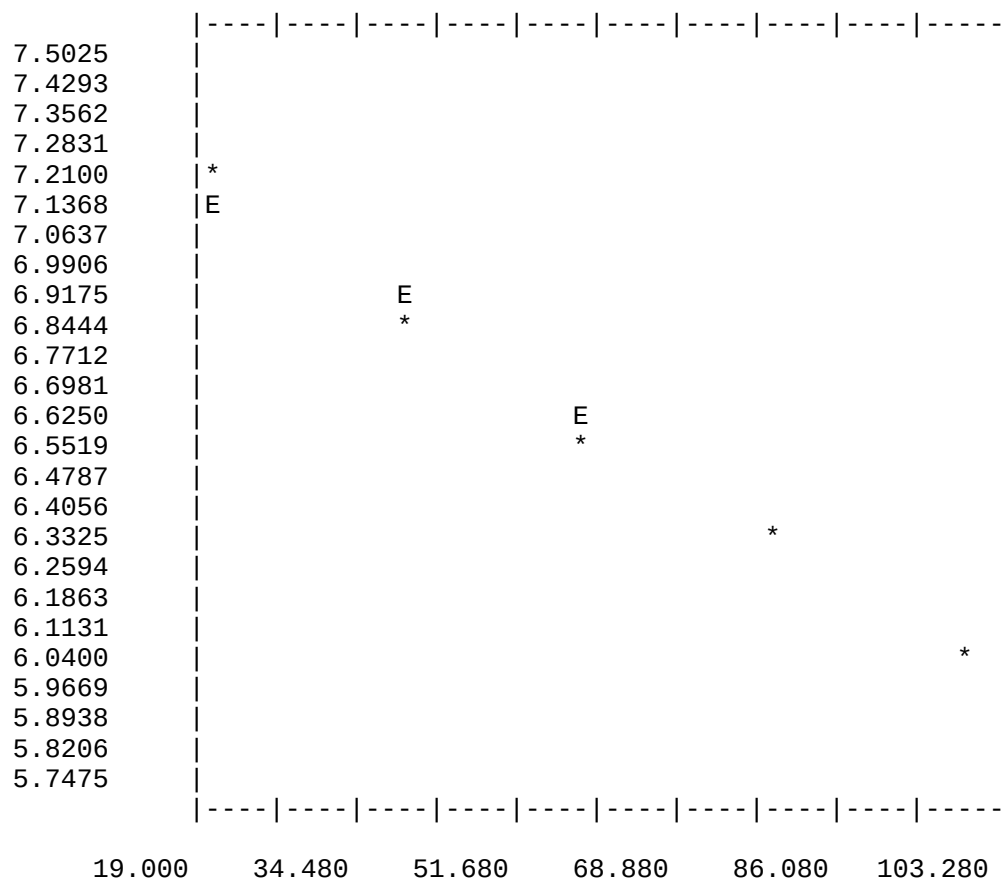
4.61

LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 11

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.42463	-0.01444	0.99897	0.99794
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1267.	7.14520	7.13585
2	40.	936.	6.84247	6.84706
3	60.	686.	6.53175	6.55828
4	80.	543.	6.29895	6.26950
5	100.	392.	5.97305	5.98072



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.08

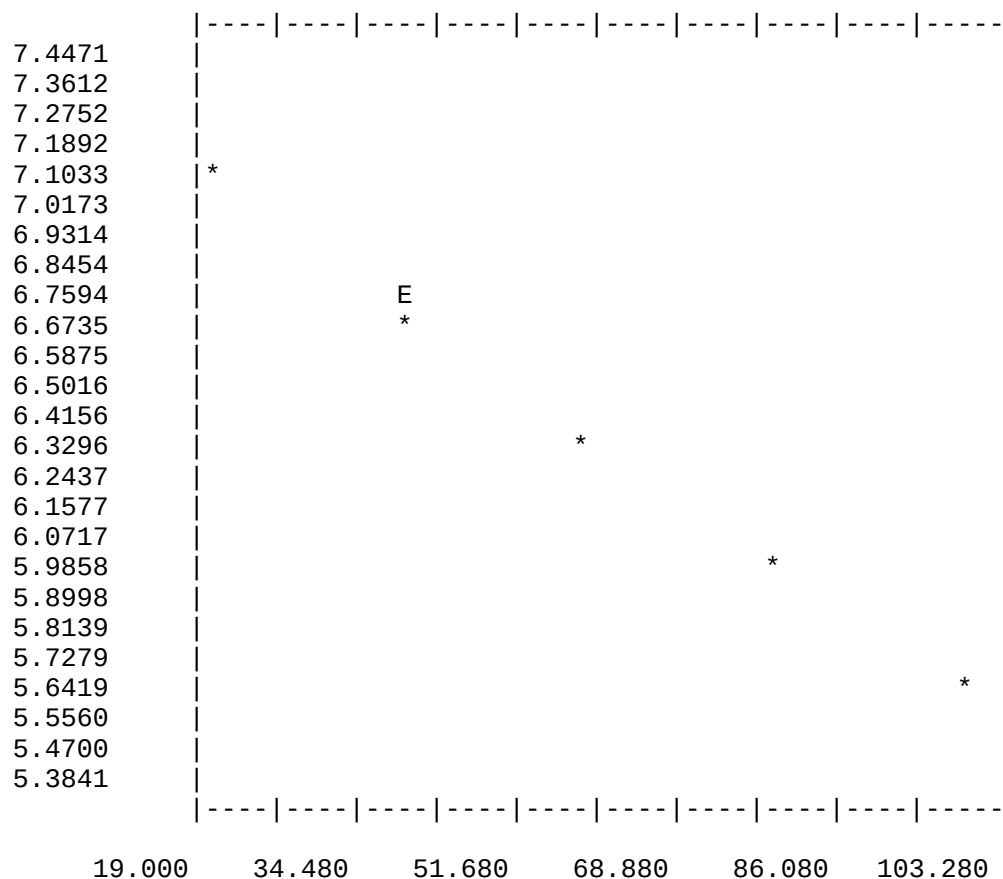
4.25

LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 92

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.41380	-0.01837	0.99798	0.99596
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1202.	7.09249	7.04643
2	40.	755.	6.62764	6.67906
3	60.	543.	6.29932	6.31169
4	80.	379.	5.93912	5.94432
5	100.	269.	5.59990	5.57695



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.38

3.34

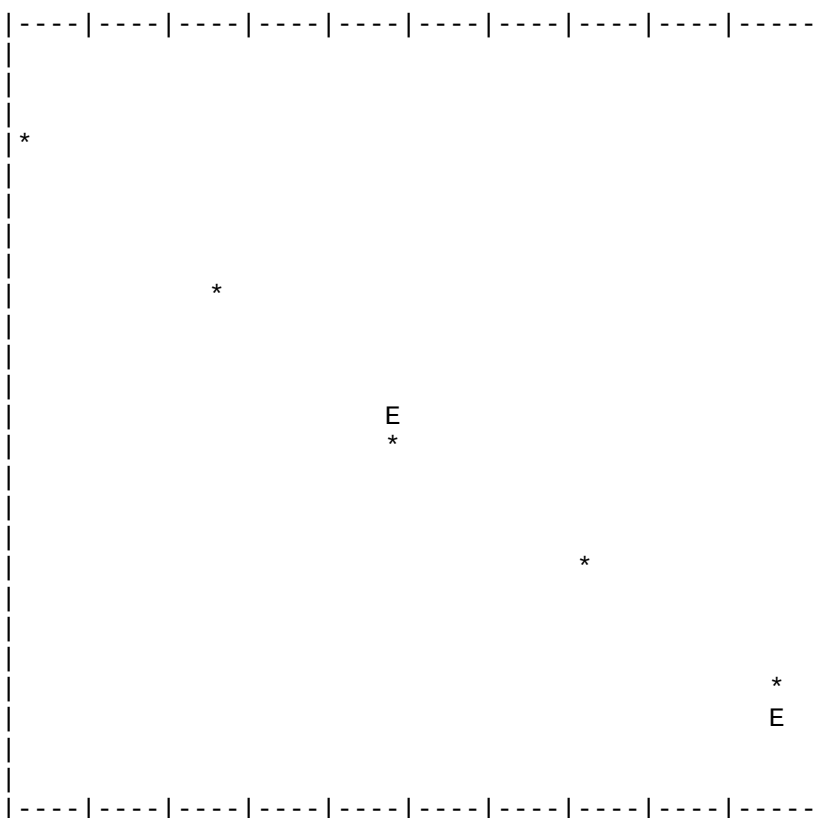
LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 22

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.52566	-0.02060	0.99946	0.99892
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1231.	7.11648	7.11372
2	40.	828.	6.72046	6.70178
3	60.	519.	6.25306	6.28984
4	80.	358.	5.88444	5.87790
5	100.	238.	5.47479	5.46596

7.4723
7.3811
7.2899
7.1987
7.1076
7.0164
6.9252
6.8340
6.7428
6.6516
6.5604
6.4693
6.3781
6.2869
6.1957
6.1045
6.0133
5.9222
5.8310
5.7398
5.6486
5.5574
5.4662
5.3750
5.2839



19.000 34.480 51.680 68.880 86.080 103.280

MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.54

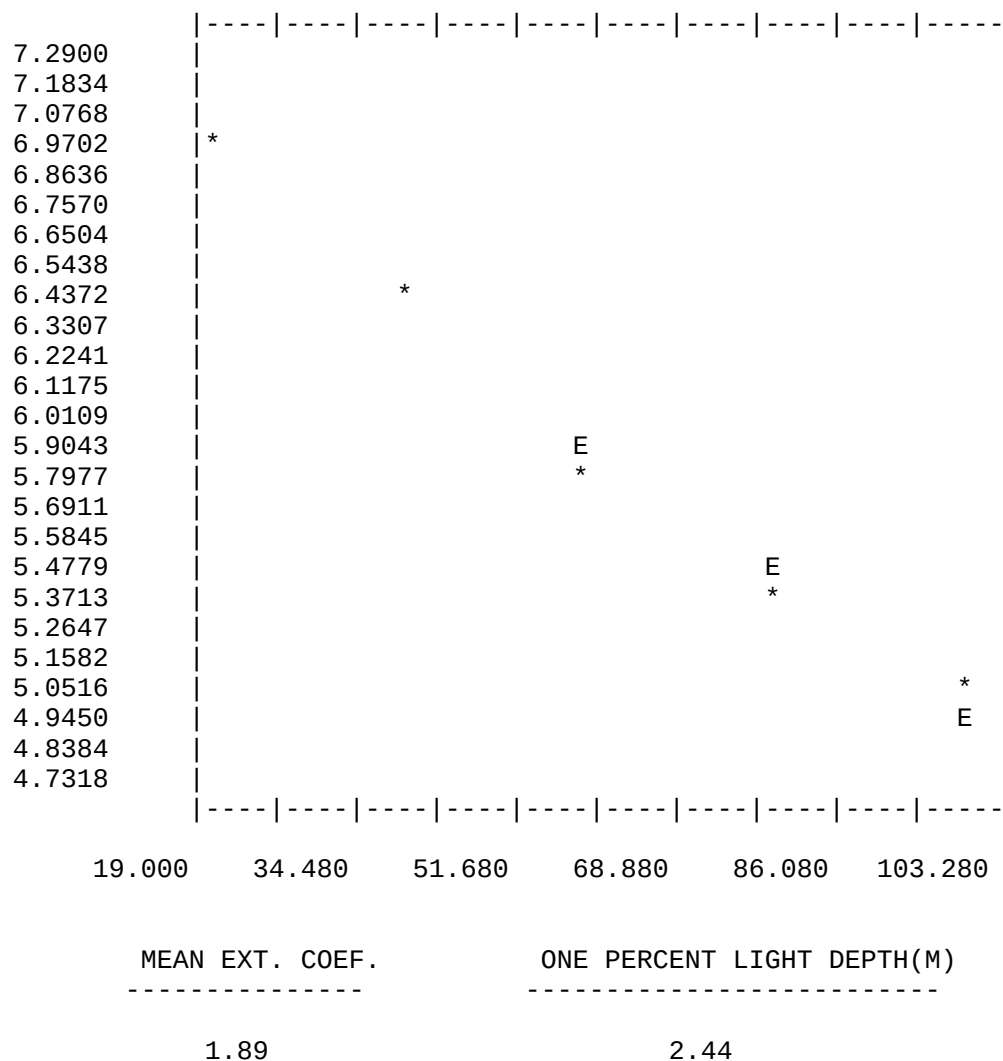
2.98

LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 12

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.38226	-0.02514	0.99135	0.98277
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1035.	6.94283	6.87953
2	40.	607.	6.40968	6.37680
3	60.	309.	5.73818	5.87408
4	80.	198.	5.29129	5.37135
5	100.	146.	4.98839	4.86862

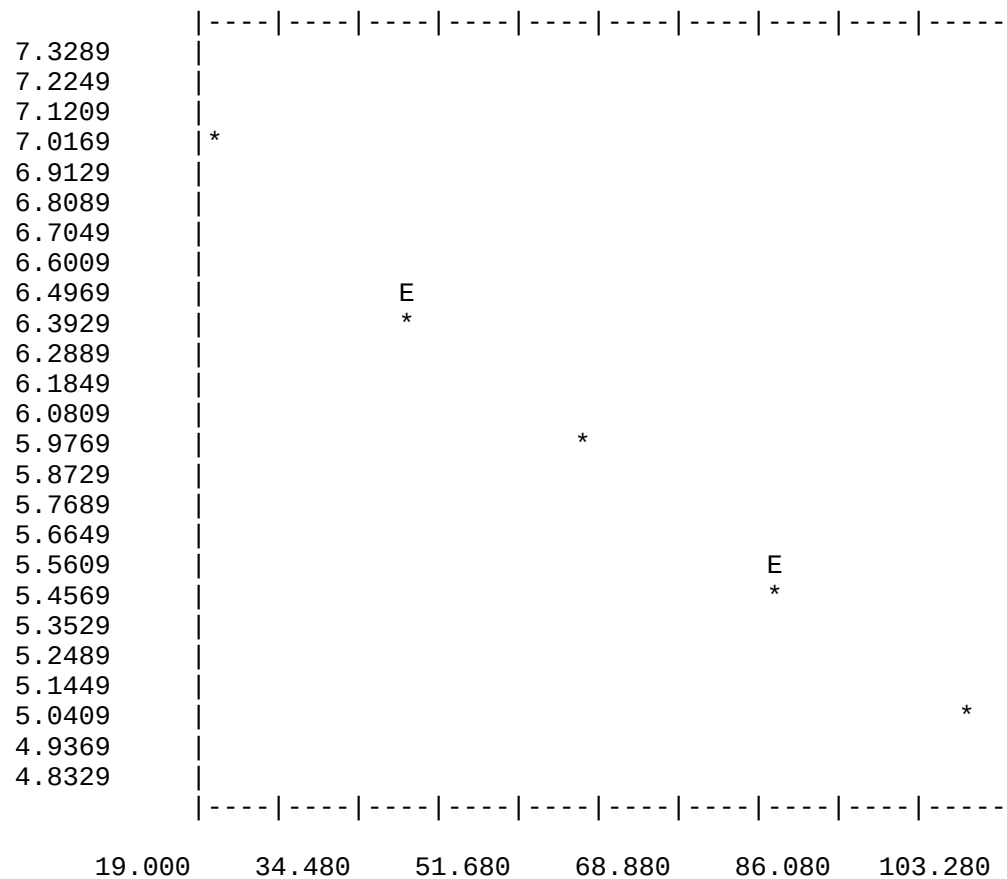


LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 23

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.40909	-0.02431	0.99817	0.99635
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1074.	6.97989	6.92284
2	40.	588.	6.37792	6.43658
3	60.	376.	5.93331	5.95032
4	80.	231.	5.44588	5.46407
5	100.	150.	5.01463	4.97781



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.82

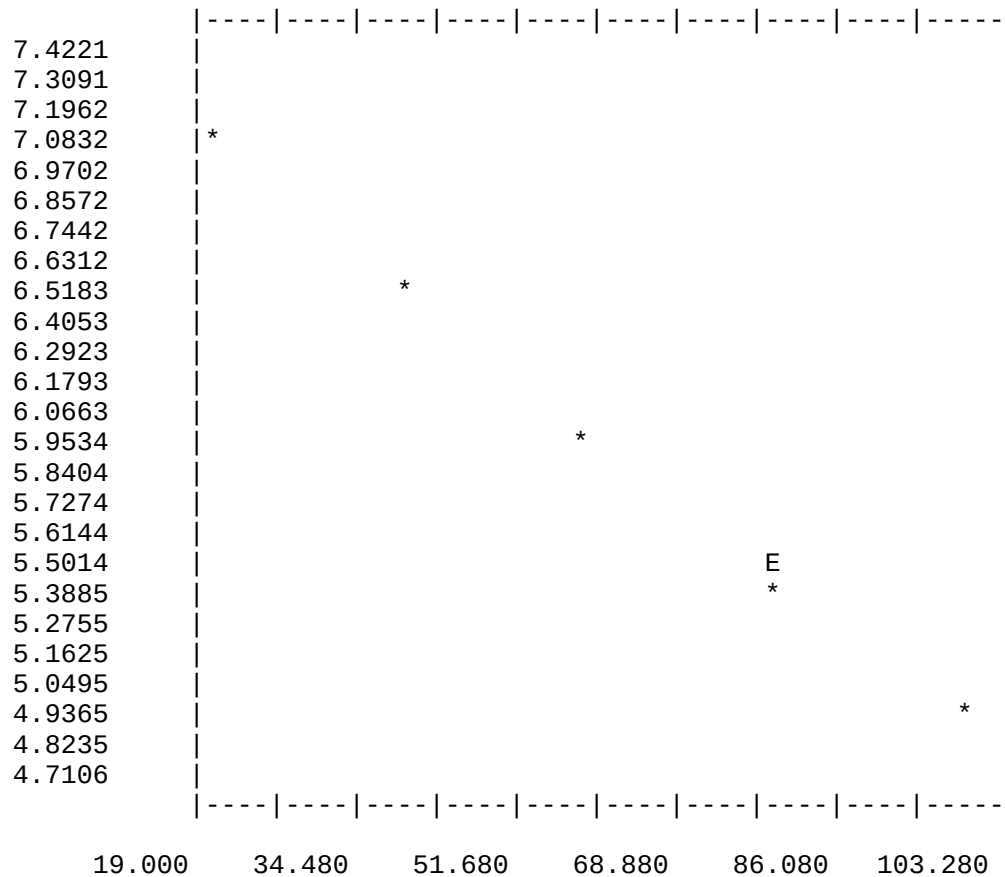
2.53

LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 13

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.60239	-0.02763	0.99964	0.99927
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1174.	7.06868	7.04982
2	40.	659.	6.49194	6.49726
3	60.	374.	5.92826	5.94469
4	80.	213.	5.36551	5.39213
5	100.	129.	4.86907	4.83956



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.07

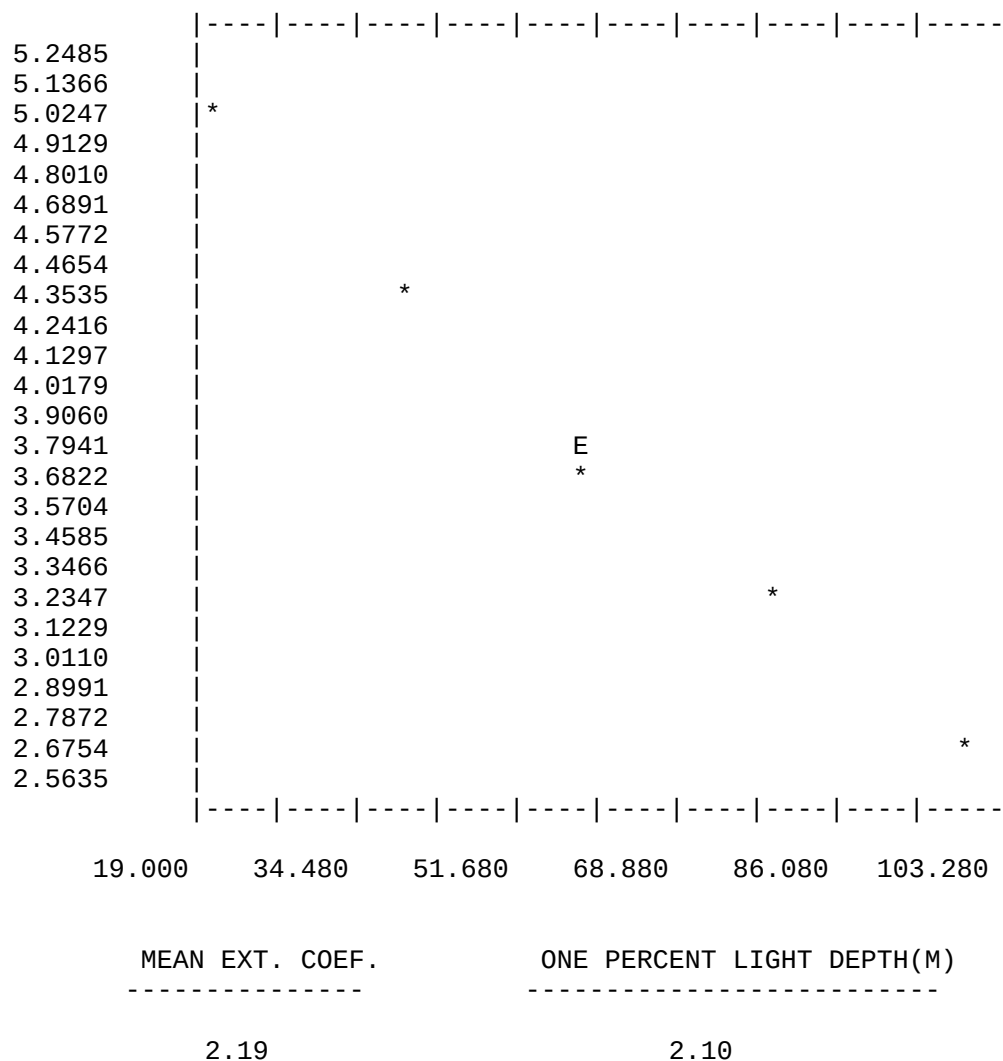
2.22

LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 24

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.50165	-0.02921	0.99630	0.99261
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	147.	4.99856	4.91745
2	40.	73.	4.30271	4.33325
3	60.	37.	3.63231	3.74905
4	80.	23.	3.16548	3.16485
5	100.	13.	2.64617	2.58064

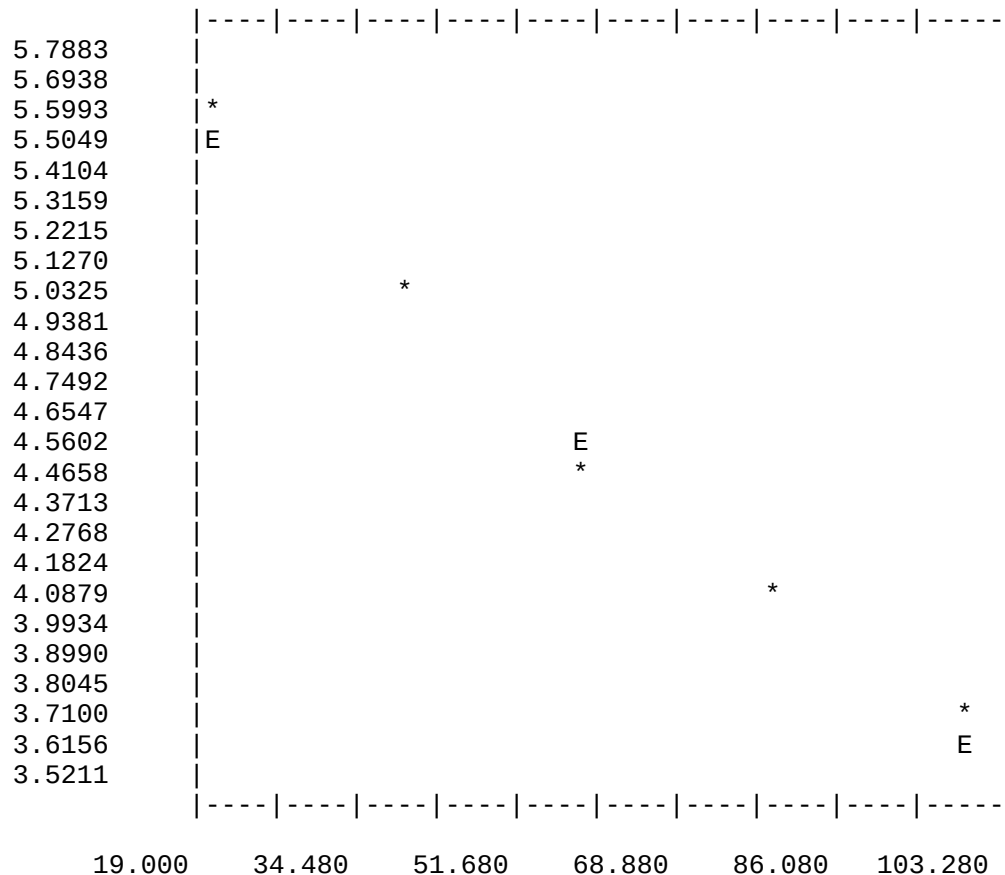


LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 14

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.92931	-0.02322	0.99761	0.99523
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	247.	5.51262	5.46485
2	40.	146.	4.98975	5.00039
3	60.	85.	4.46014	4.53593
4	80.	57.	4.06389	4.07147
5	100.	38.	3.65325	3.60701



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.74

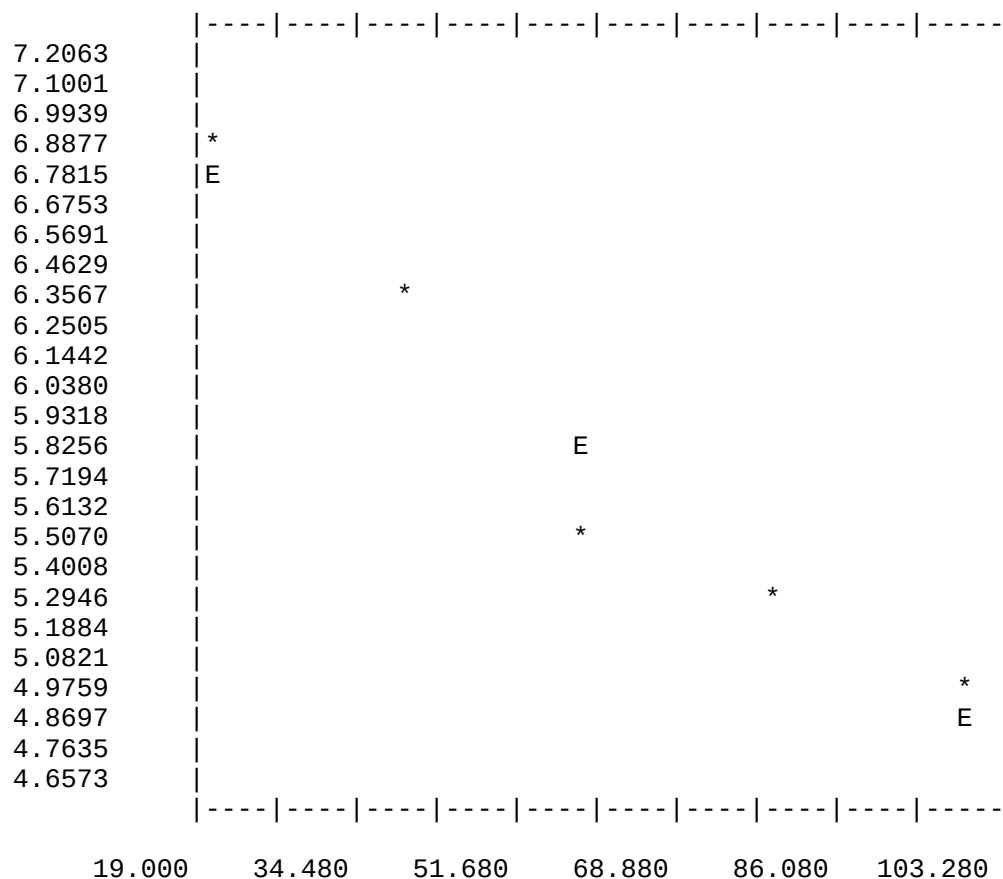
2.64

LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 25

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.23802	-0.02447	0.97440	0.94946
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	955.	6.86318	6.74855
2	40.	550.	6.31264	6.25907
3	60.	239.	5.48022	5.76959
4	80.	188.	5.23963	5.28012
5	100.	140.	4.95230	4.79064



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.84

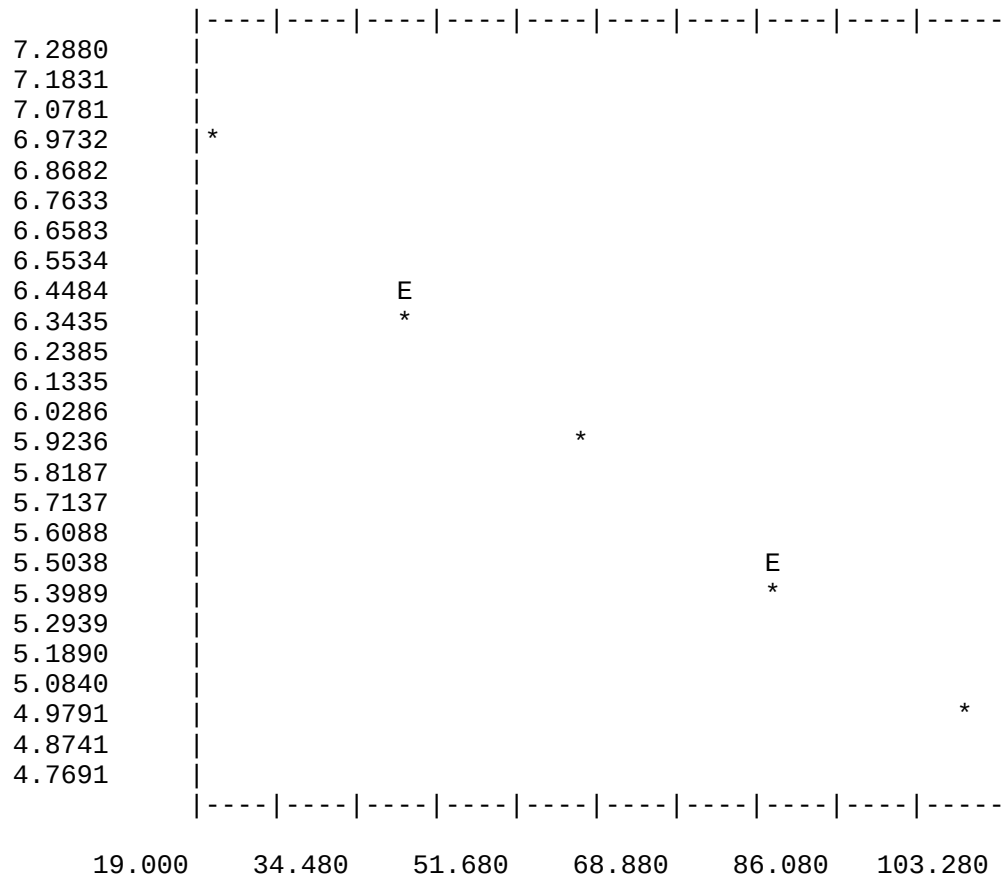
2.51

LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 15

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.38618	-0.02477	0.99809	0.99618
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1033.	6.94100	6.89088
2	40.	563.	6.33594	6.39558
3	60.	368.	5.90971	5.90028
4	80.	213.	5.36457	5.40498
5	100.	140.	4.95018	4.90968



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.86

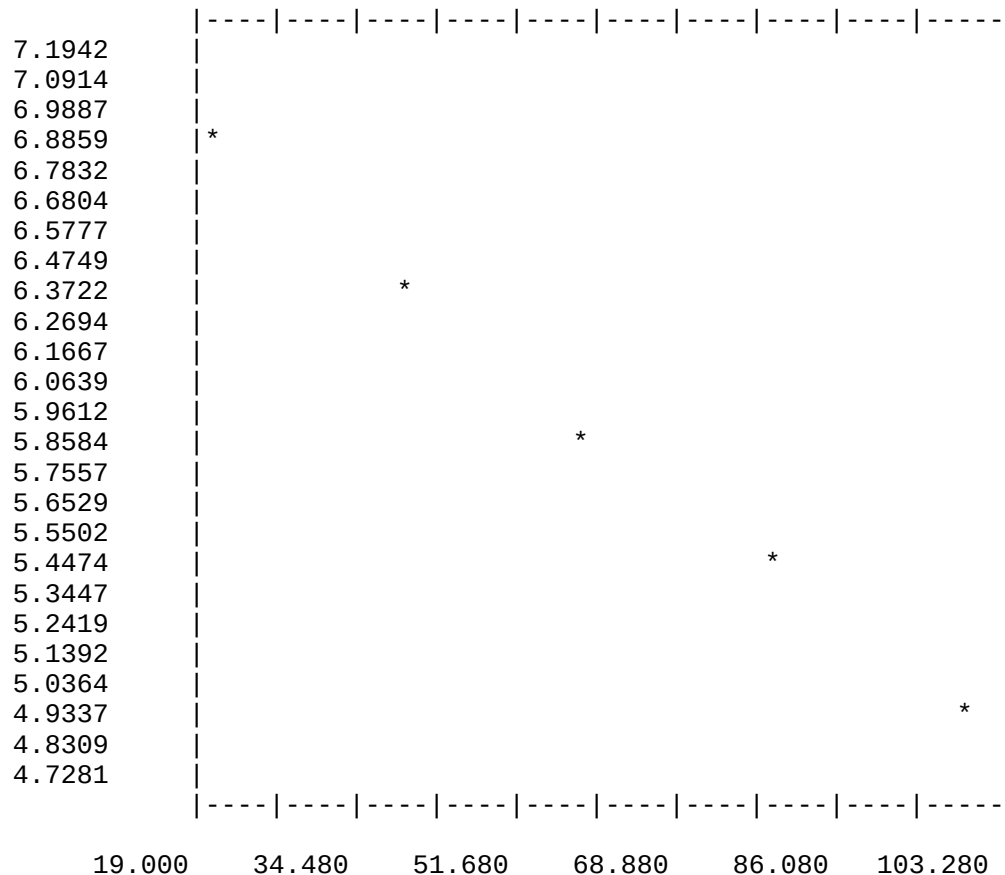
2.48

LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 17

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.31369	-0.02445	0.99950	0.99901
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	944.	6.85161	6.82472
2	40.	550.	6.31155	6.33575
3	60.	336.	5.82008	5.84678
4	80.	215.	5.37620	5.35781
5	100.	130.	4.87443	4.86884



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.83

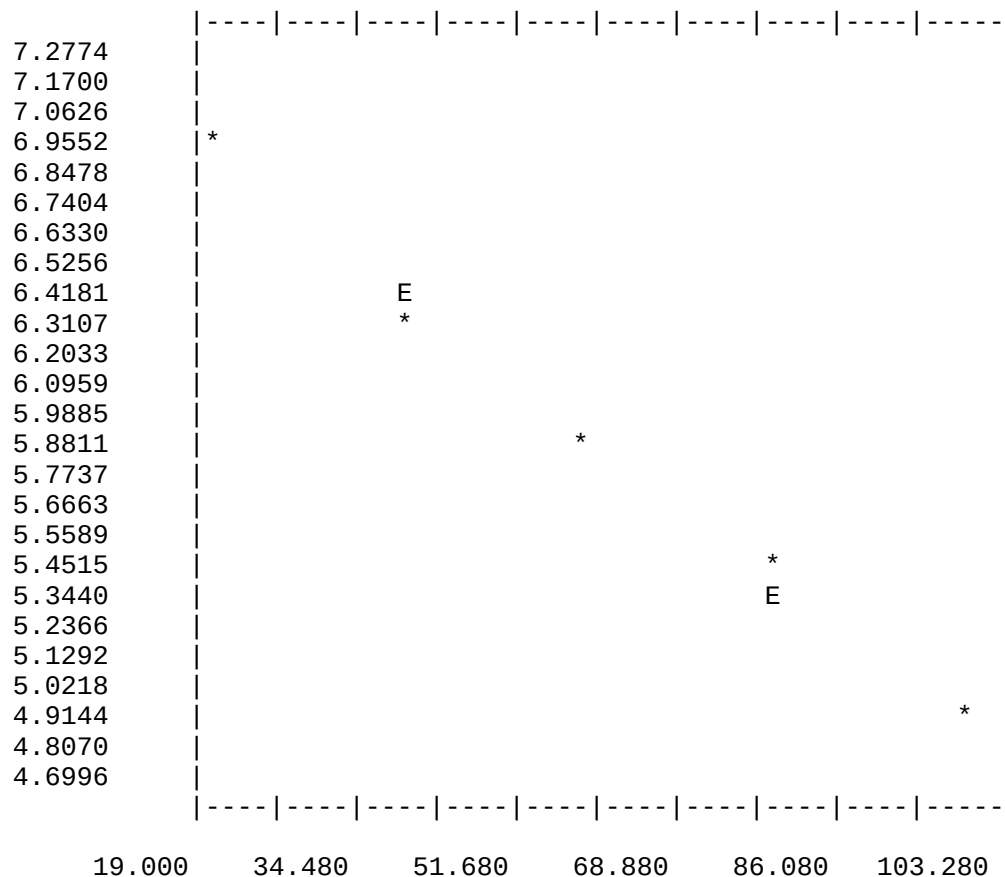
2.51

LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.37130	-0.02537	0.99778	0.99556
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	1022.	6.93089	6.86381
2	40.	538.	6.29064	6.35632
3	60.	332.	5.80724	5.84884
4	80.	210.	5.35328	5.34135
5	100.	128.	4.86214	4.83386



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.90

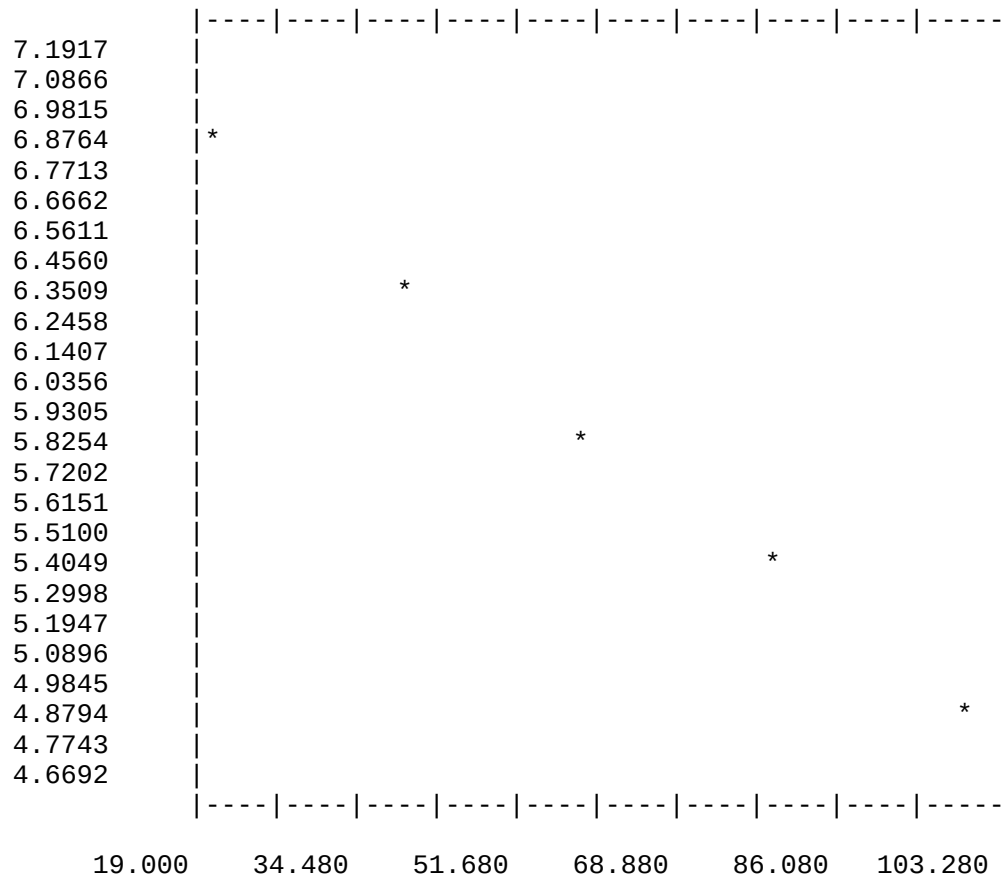
2.42

LIGHT PROFILE ANALYSES - FOR 6/21/2004

STATION LOCATION 19

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.29179	-0.02488	0.99786	0.99573
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	942.	6.84928	6.79429
2	40.	516.	6.24785	6.29679
3	60.	311.	5.74172	5.79929
4	80.	208.	5.34377	5.30178
5	100.	122.	4.81381	4.80428



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.87

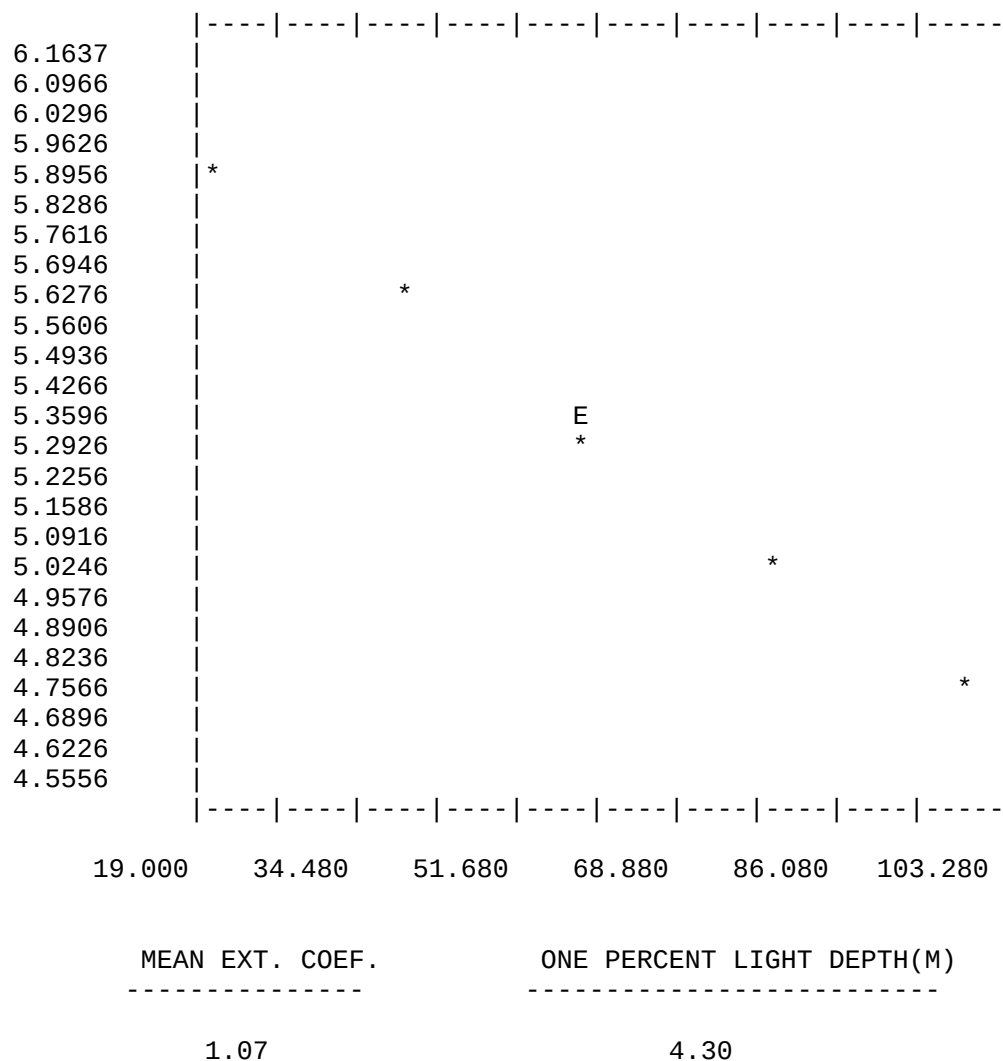
2.47

LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 9

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.15141	-0.01427	0.99985	0.99971
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	353.	5.87014	5.86609
2	40.	265.	5.58425	5.58077
3	60.	196.	5.28422	5.29545
4	80.	148.	5.00596	5.01013
5	100.	113.	4.73268	4.72481

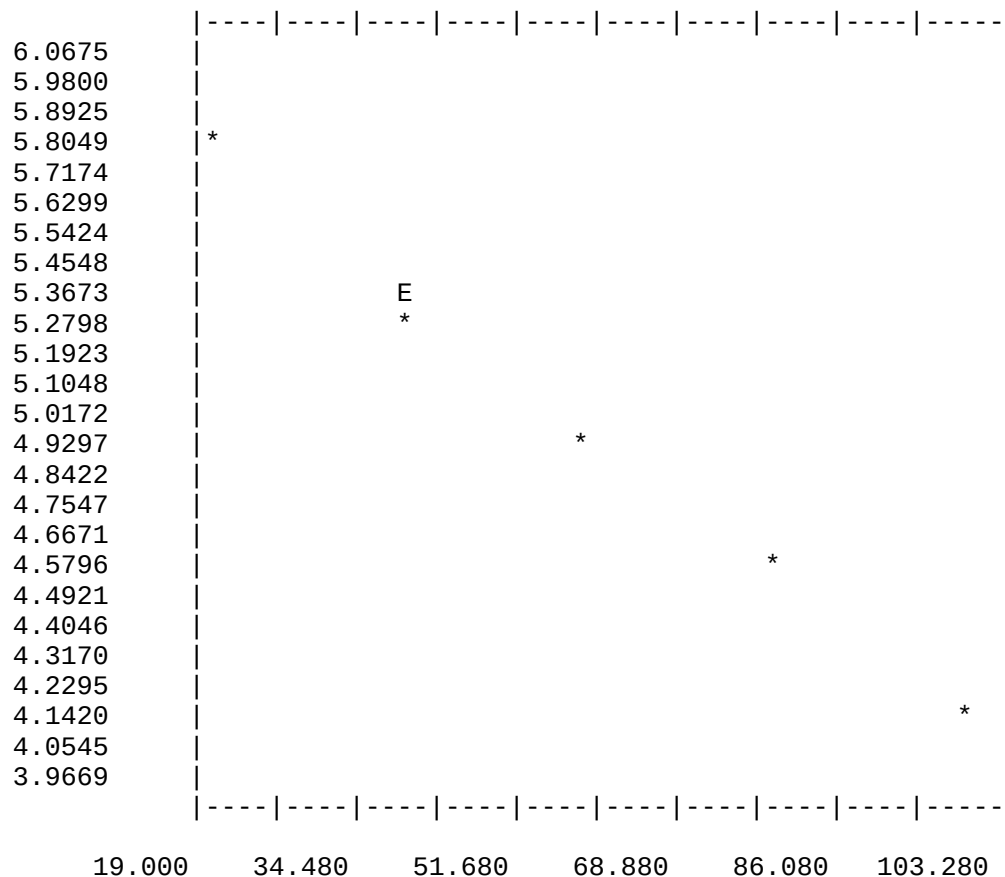


LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 10

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.13764	-0.02054	0.99779	0.99558
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	322.	5.77858	5.72684
2	40.	194.	5.27146	5.31603
3	60.	128.	4.85981	4.90522
4	80.	90.	4.51196	4.49441
5	100.	60.	4.10429	4.08361



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

1.54

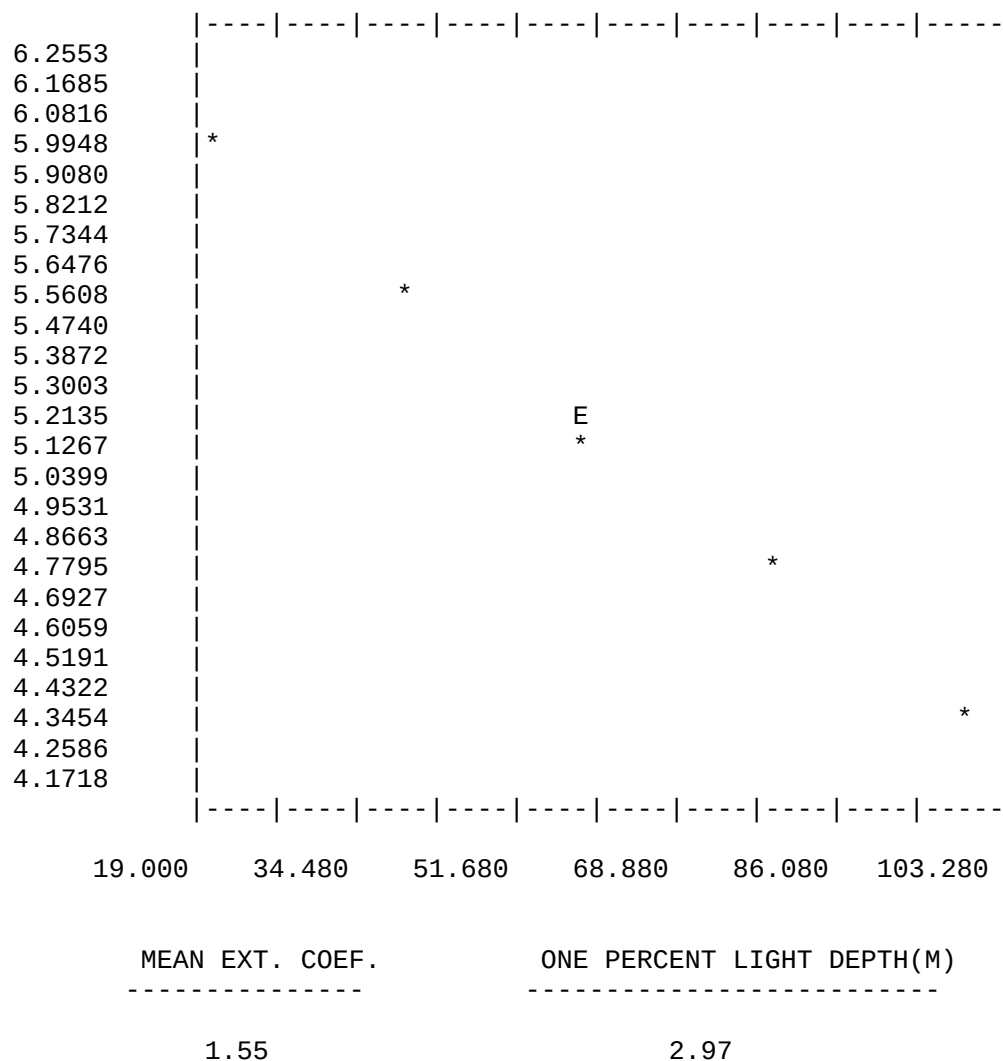
2.99

LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 21

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.36762	-0.02066	0.99989	0.99978
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	386.	5.95739	5.95452
2	40.	255.	5.54361	5.54142
3	60.	165.	5.11319	5.12832
4	80.	112.	4.72739	4.71522
5	100.	73.	4.30000	4.30212

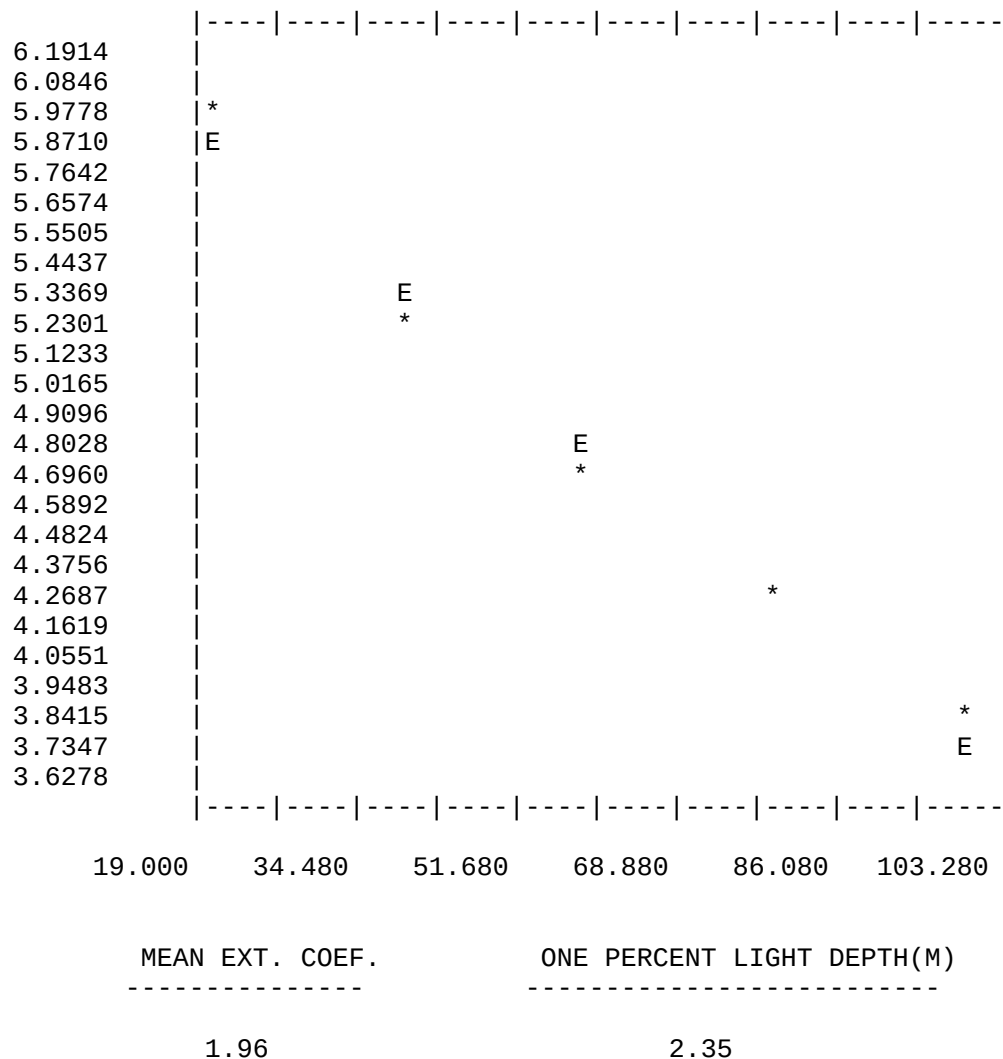


LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 11

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.32327	-0.02617	0.99474	0.98950
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	363.	5.89660	5.79989
2	40.	184.	5.21982	5.27650
3	60.	104.	4.65871	4.75311
4	80.	66.	4.20170	4.22972
5	100.	43.	3.78872	3.70634

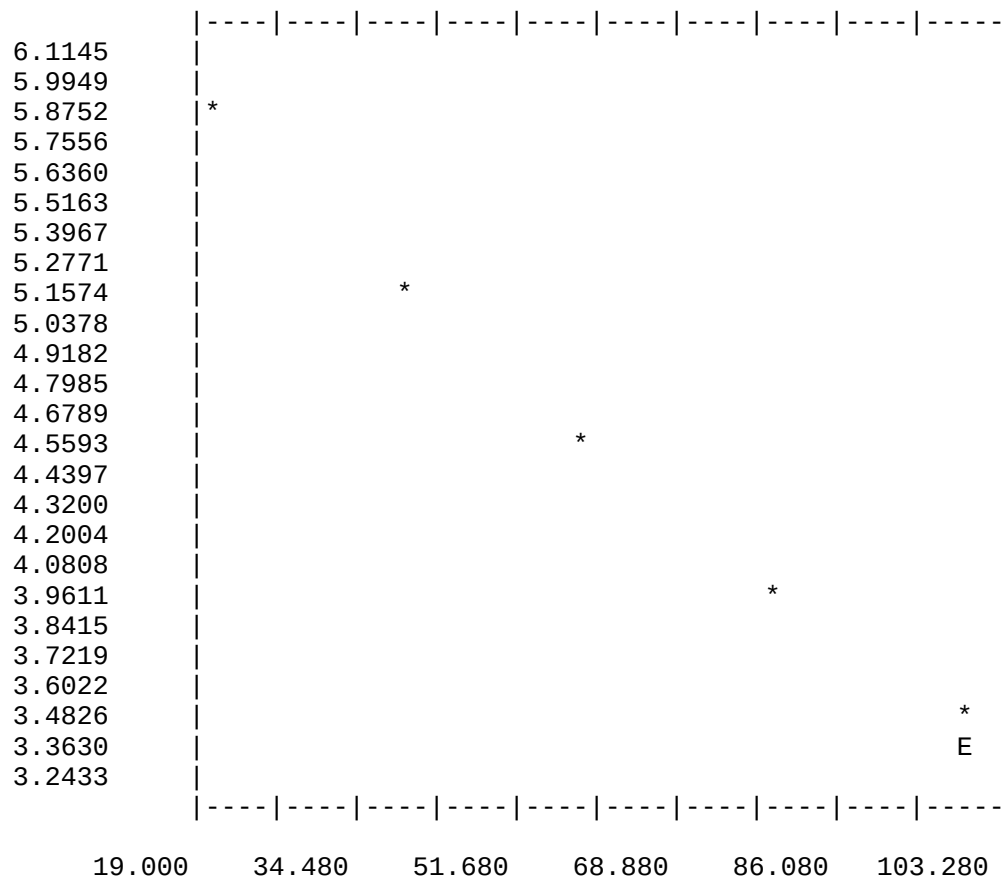


LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 92

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.38631	-0.03098	0.99778	0.99557
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	337.	5.82334	5.76667
2	40.	169.	5.13815	5.14703
3	60.	85.	4.45085	4.52738
4	80.	46.	3.86073	3.90774
5	100.	28.	3.36384	3.28810



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.32

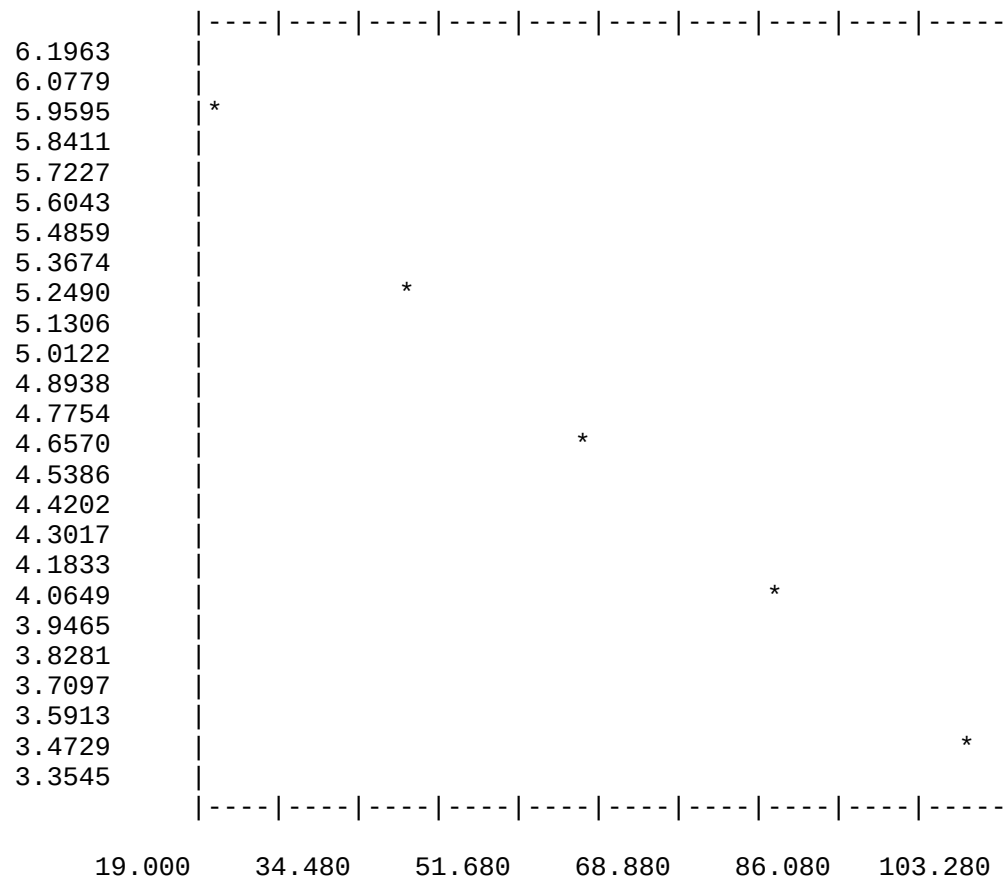
1.98

LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 22

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.45963	-0.03053	0.99893	0.99787
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	364.	5.90127	5.84897
2	40.	178.	5.18906	5.23832
3	60.	97.	4.58395	4.62766
4	80.	56.	4.04305	4.01701
5	100.	30.	3.42100	3.40636



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.29

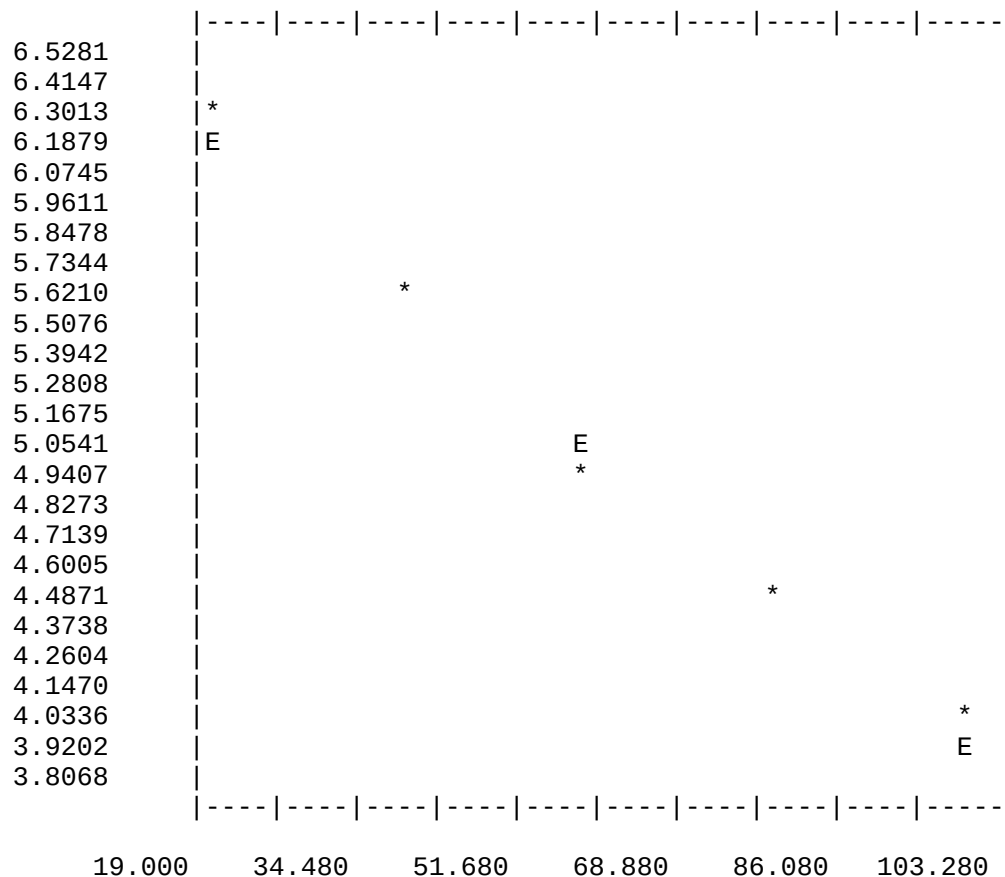
2.01

LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 12

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.70036	-0.02813	0.99621	0.99243
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	500.	6.21720	6.13786
2	40.	255.	5.54400	5.57536
3	60.	136.	4.91998	5.01286
4	80.	81.	4.41280	4.45035
5	100.	52.	3.97029	3.88785



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.11

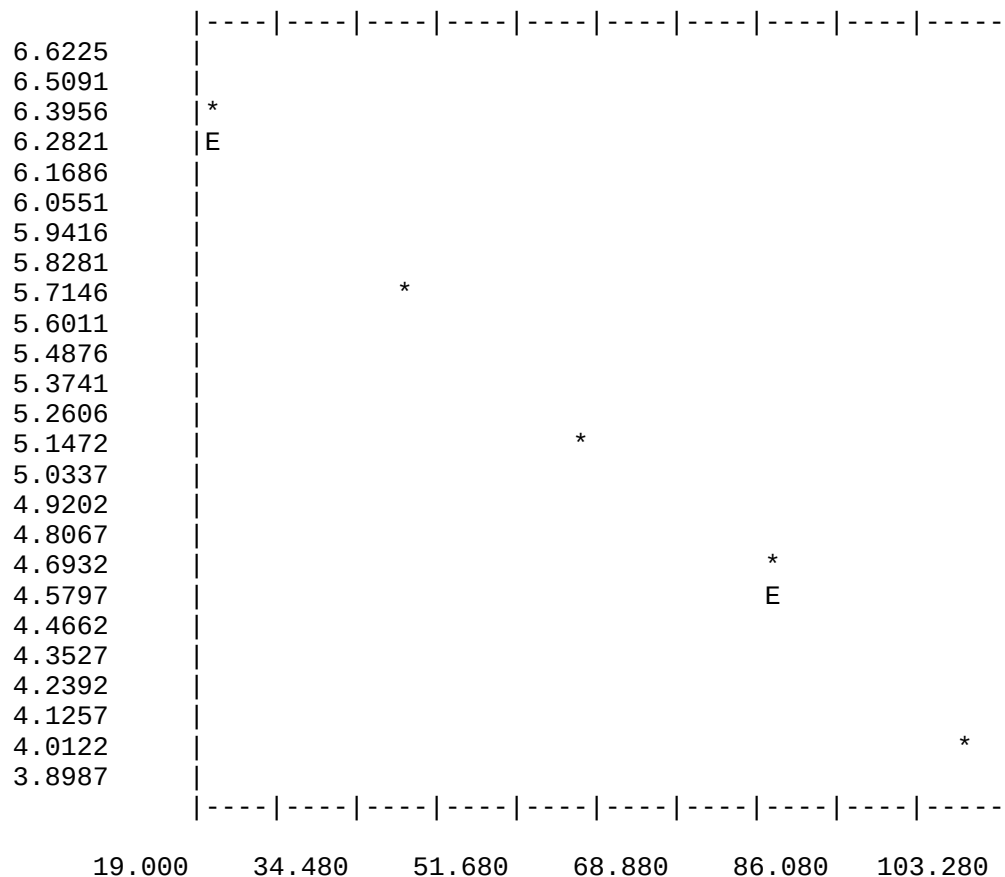
2.18

LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 23

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.81748	-0.02833	0.99794	0.99589
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	547.	6.30719	6.25088
2	40.	284.	5.65108	5.68428
3	60.	153.	5.03435	5.11768
4	80.	98.	4.59208	4.55108
5	100.	54.	4.00369	3.98448



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.12

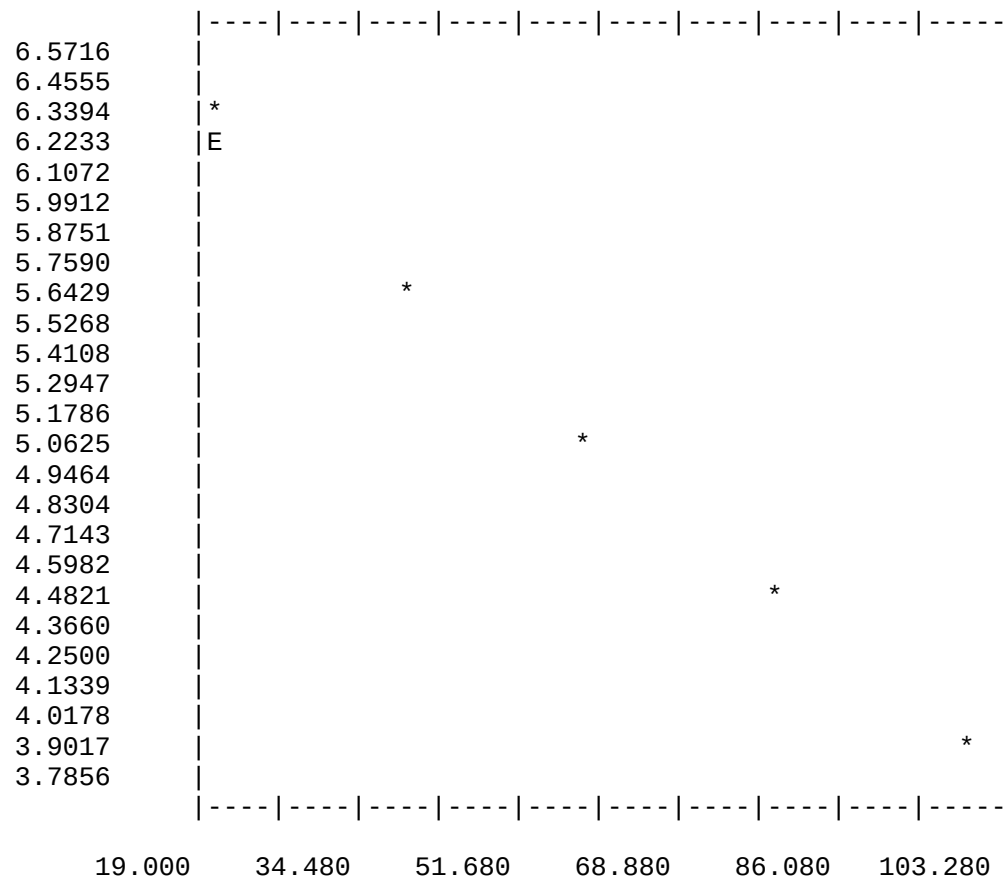
2.17

LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 13

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.79314	-0.02930	0.99889	0.99778
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	521.	6.25863	6.20705
2	40.	257.	5.55296	5.62096
3	60.	153.	5.03500	5.03486
4	80.	84.	4.44617	4.44877
5	100.	47.	3.88156	3.86268



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.20

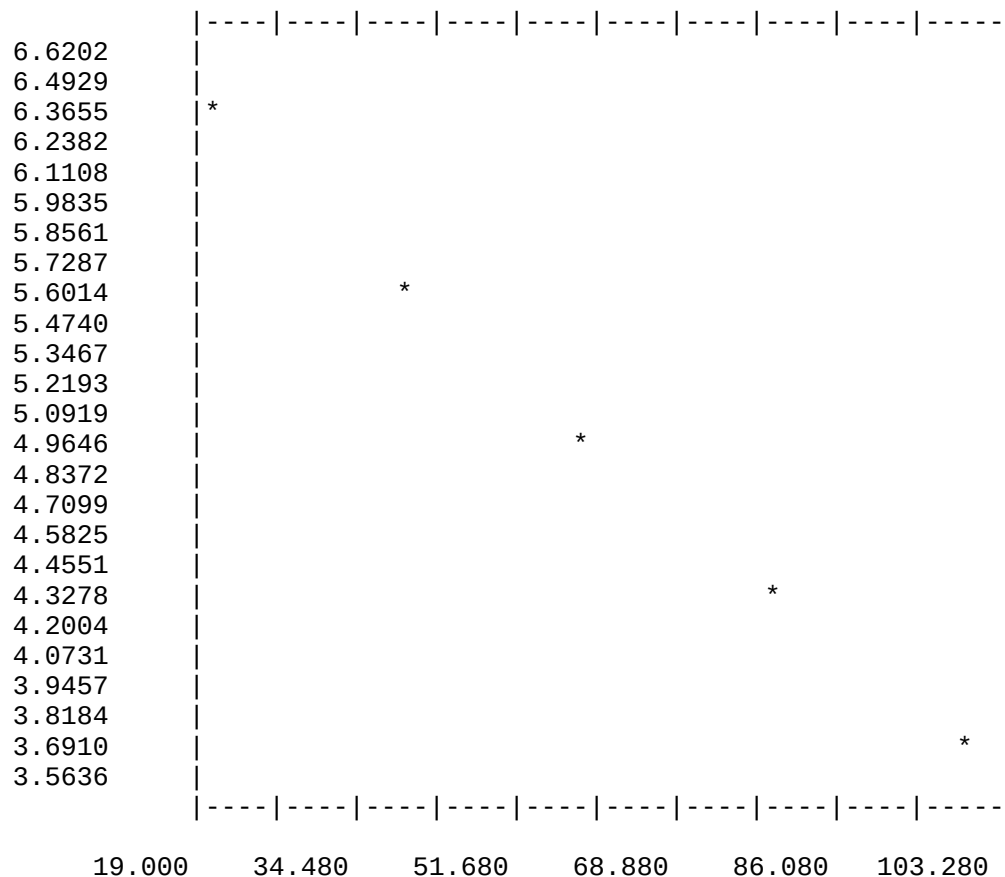
2.10

LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 24

COEFFICIENTS FOR THE LINE $Y = A + BX$

A		B	R	R SQUARED
6.90041		-0.03283	0.99885	0.99771
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	546.	6.30500	6.24376
2	40.	250.	5.52386	5.58710
3	60.	135.	4.91192	4.93045
4	80.	69.	4.25561	4.27379
5	100.	38.	3.65584	3.61713



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.46

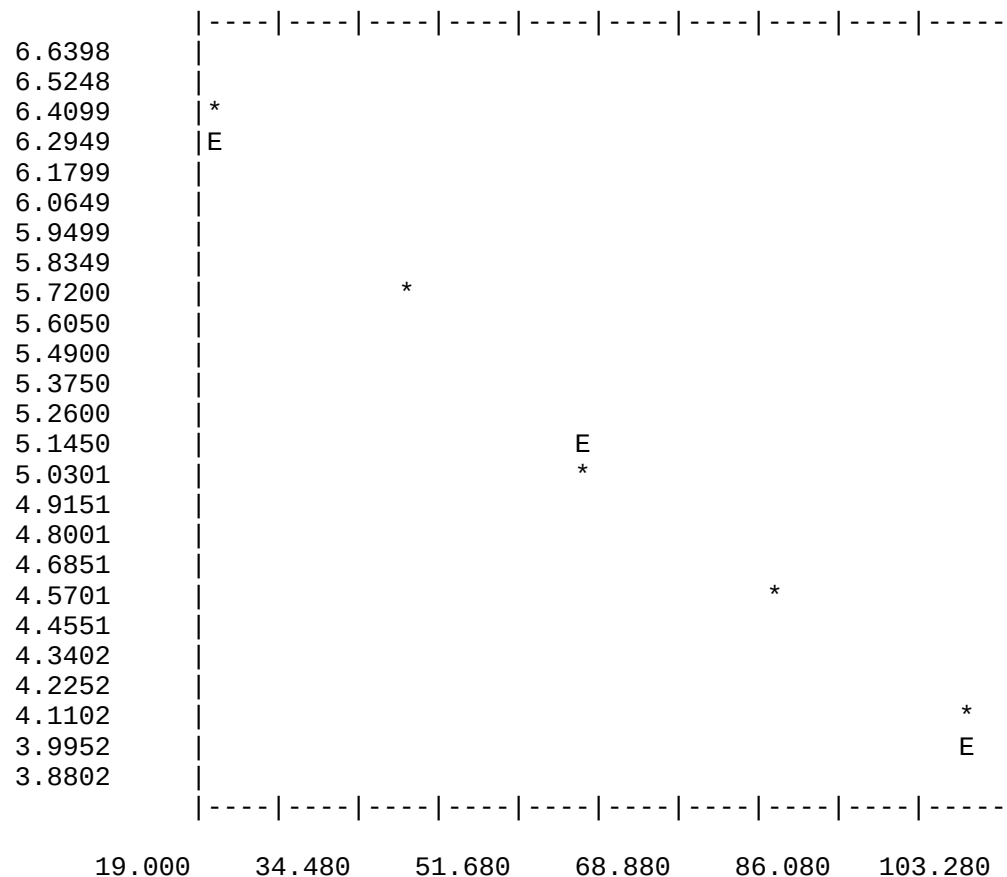
1.87

LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 14

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.84855	-0.02885	0.99740	0.99481
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	557.	6.32364	6.27152
2	40.	297.	5.69609	5.69450
3	60.	148.	5.00730	5.11747
4	80.	93.	4.54754	4.54044
5	100.	54.	4.01277	3.96341



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.16

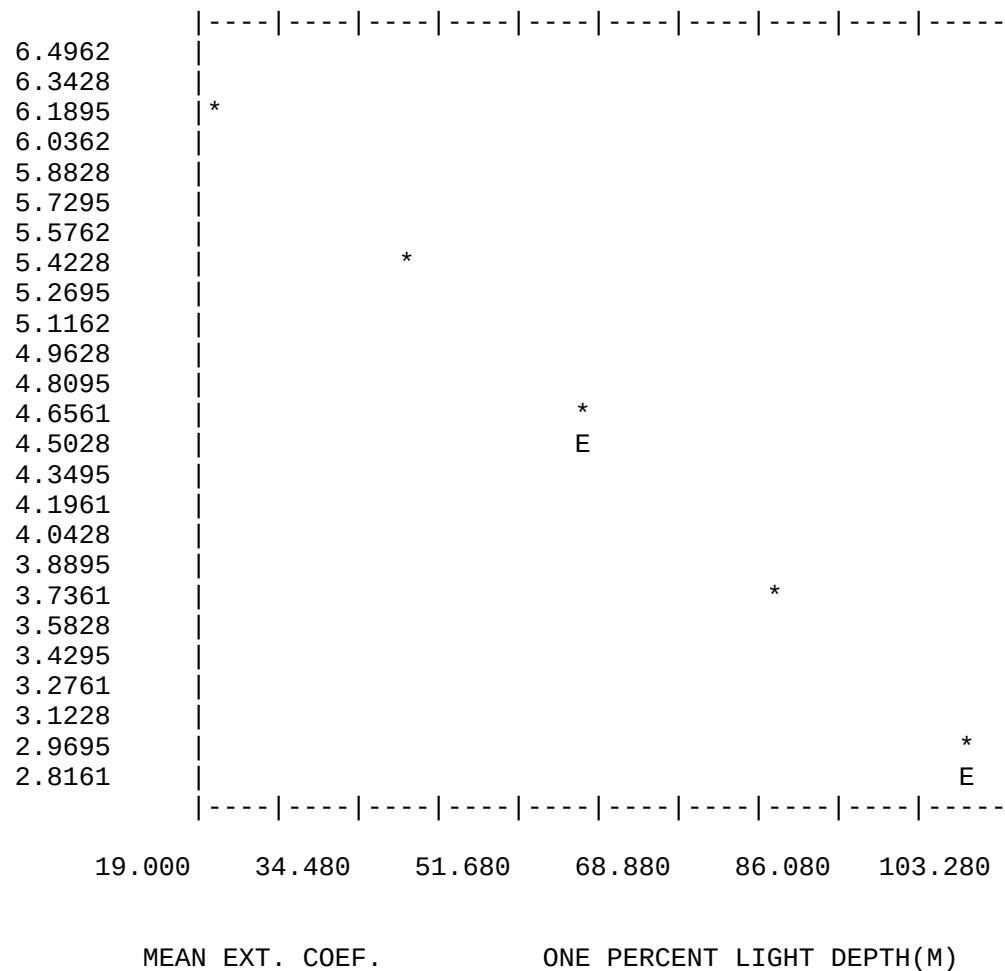
2.13

LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 25

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.01814	-0.04215	0.99982	0.99965
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	485.	6.18683	6.17510
2	40.	203.	5.31959	5.33206
3	60.	89.	4.50314	4.48902
4	80.	36.	3.60821	3.64598
5	100.	16.	2.82731	2.80293



3.16

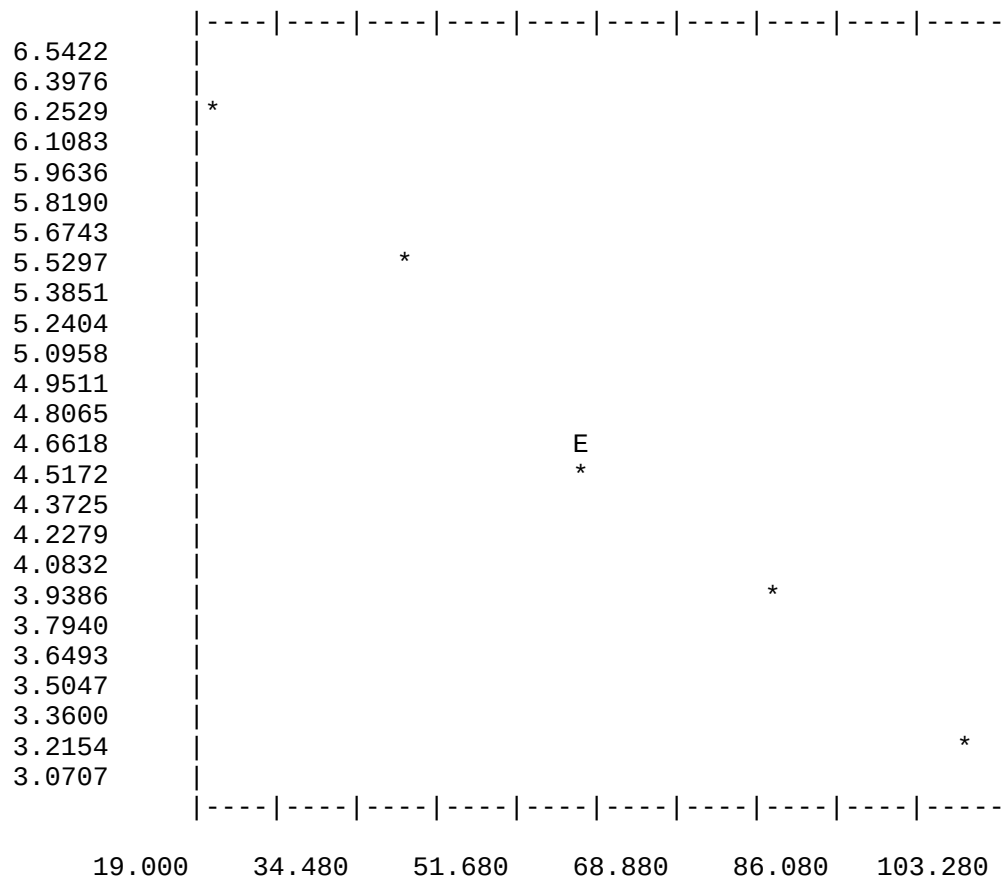
1.46

LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 15

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.96067	-0.03881	0.99628	0.99258
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	507.	6.23068	6.18455
2	40.	237.	5.47143	5.40843
3	60.	86.	4.46591	4.63232
4	80.	44.	3.81551	3.85620
5	100.	23.	3.17805	3.08008



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.91

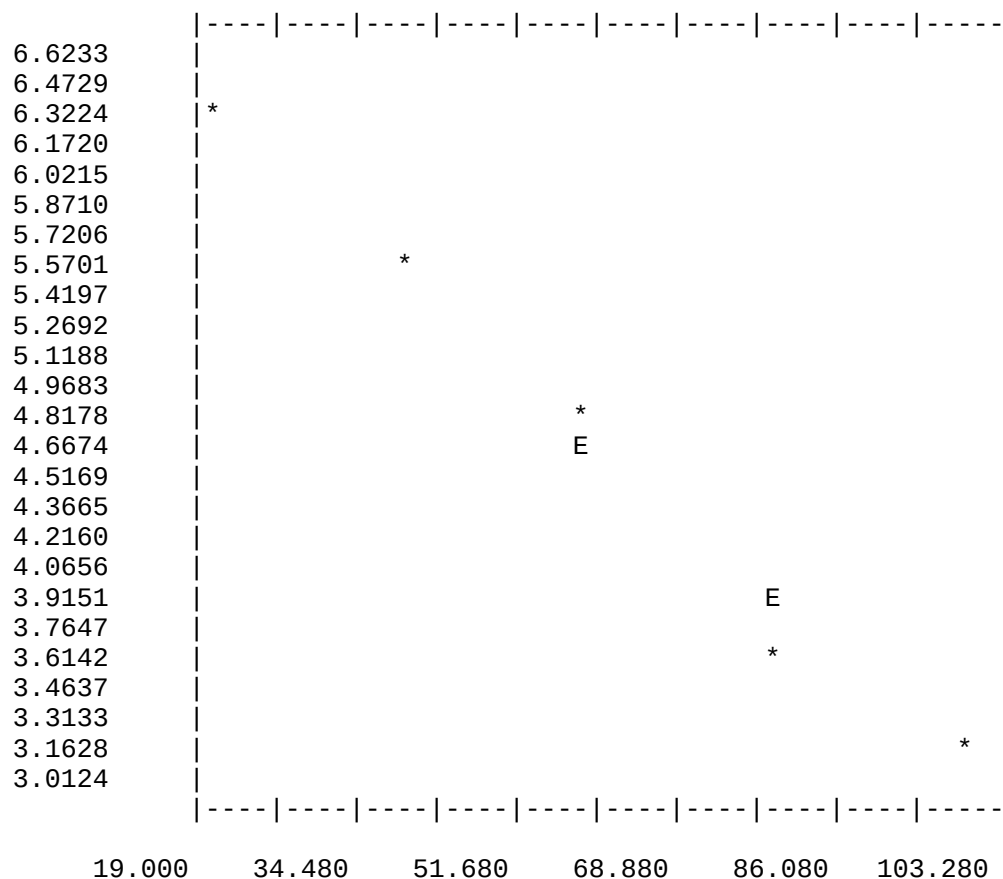
1.58

LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 17

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.13177	-0.04119	0.99319	0.98643
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	544.	6.30134	6.30792
2	40.	242.	5.49306	5.48408
3	60.	119.	4.78499	4.66023
4	80.	35.	3.58629	3.83639
5	100.	22.	3.13549	3.01254



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.09

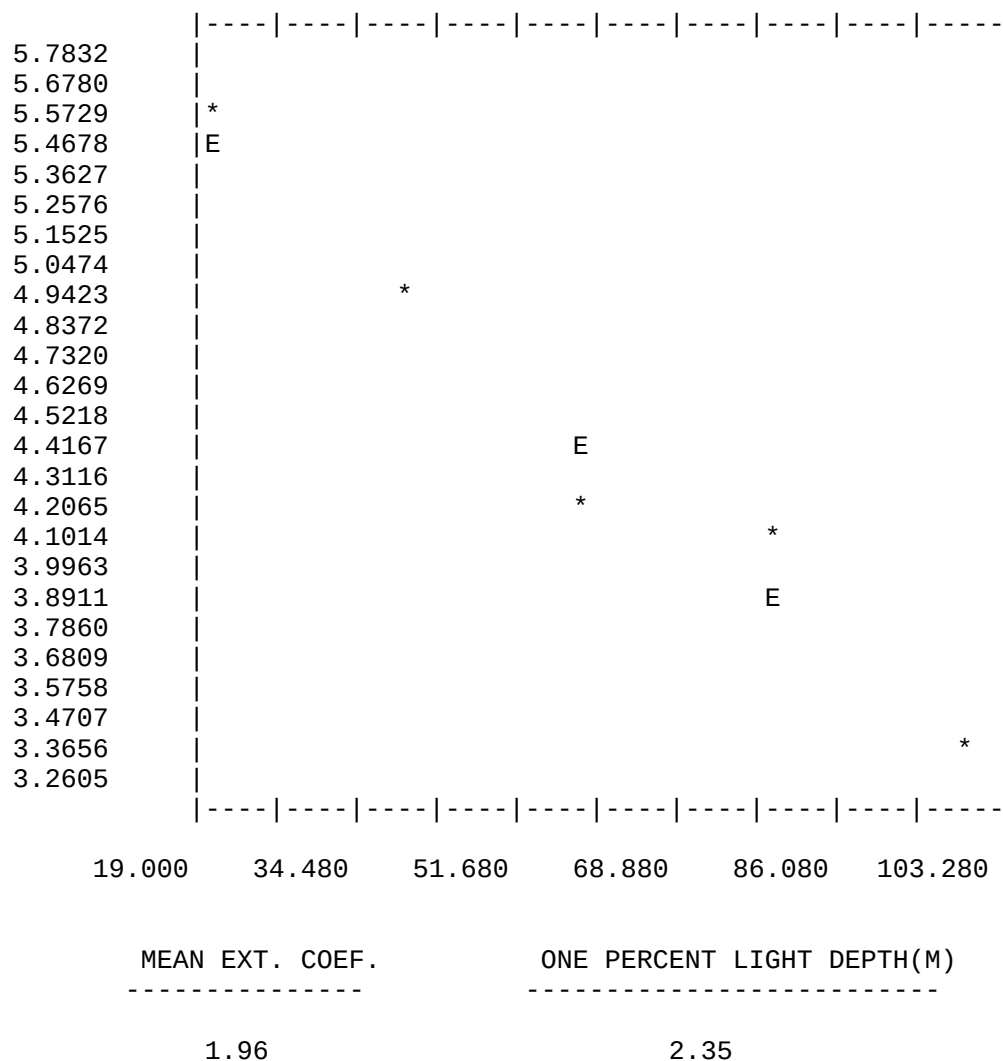
1.49

LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.94750	-0.02613	0.98432	0.96889
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	246.	5.50777	5.42495
2	40.	131.	4.88356	4.90239
3	60.	63.	4.15575	4.37984
4	80.	55.	4.03069	3.85729
5	100.	27.	3.32143	3.33473

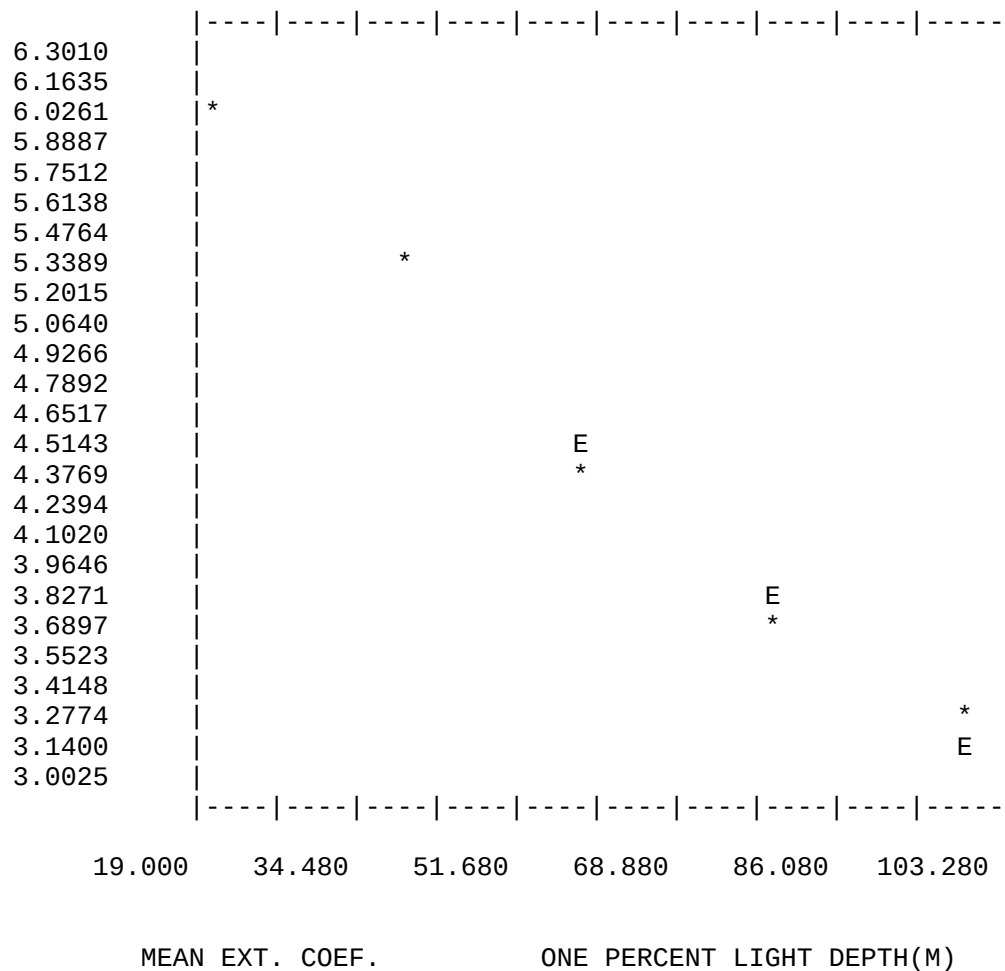


LIGHT PROFILE ANALYSES - FOR 7/22/2004

STATION LOCATION 19

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.67679	-0.03661	0.99139	0.98285
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	403.	6.00092	5.94461
2	40.	201.	5.30876	5.21243
3	60.	72.	4.28497	4.48024
4	80.	36.	3.62434	3.74806
5	100.	23.	3.18221	3.01587



2.75

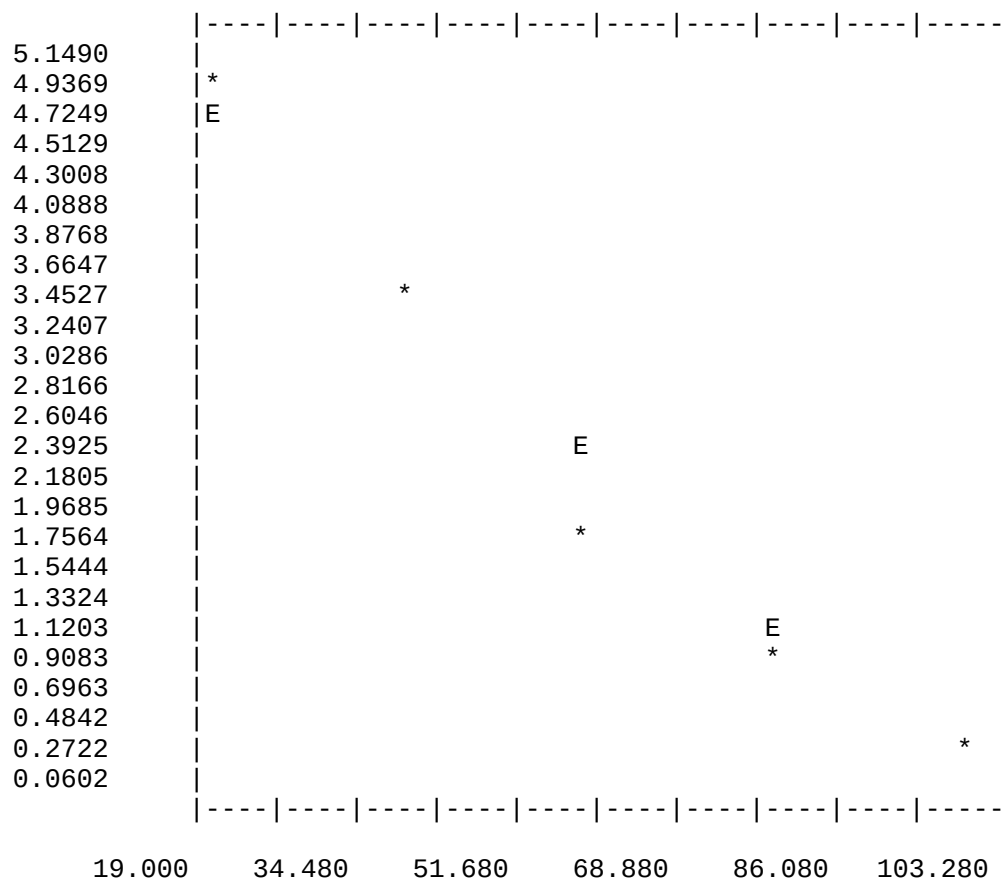
1.68

LIGHT PROFILE ANALYSES - FOR 8/25/2004

STATION LOCATION 12

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.72212	-0.05882	0.97991	0.96023
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	134.	4.90379	4.54572
2	40.	25.	3.26957	3.36933
3	60.	5.	1.74047	2.19293
4	80.	1.	0.78846	1.01653
5	100.	0.	0.26236	-0.15986



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

4.41

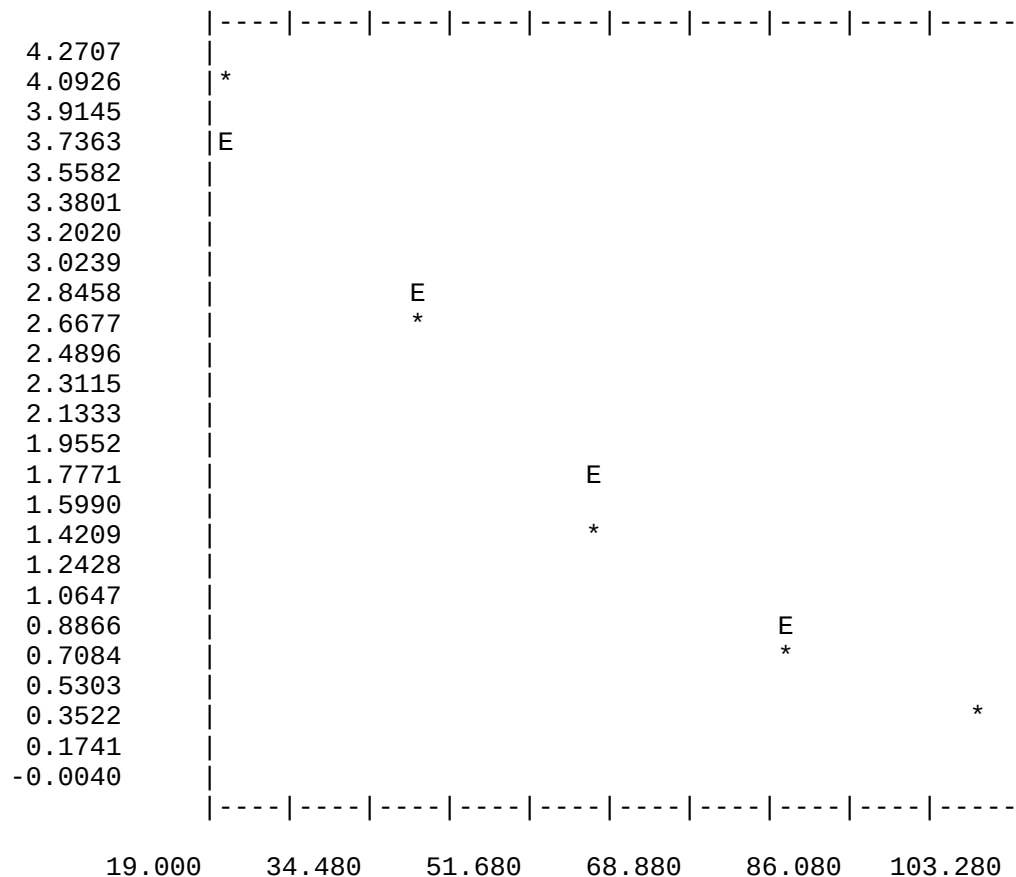
1.04

LIGHT PROFILE ANALYSES - FOR 8/25/2004

STATION LOCATION 23

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	4.65420	-0.04846	0.97468	0.95000
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	57.	4.06732	3.68502
2	40.	11.	2.50960	2.71584
3	60.	3.	1.38629	1.74666
4	80.	1.	0.58779	0.77748
5	100.	0.	0.18232	-0.19170



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.63

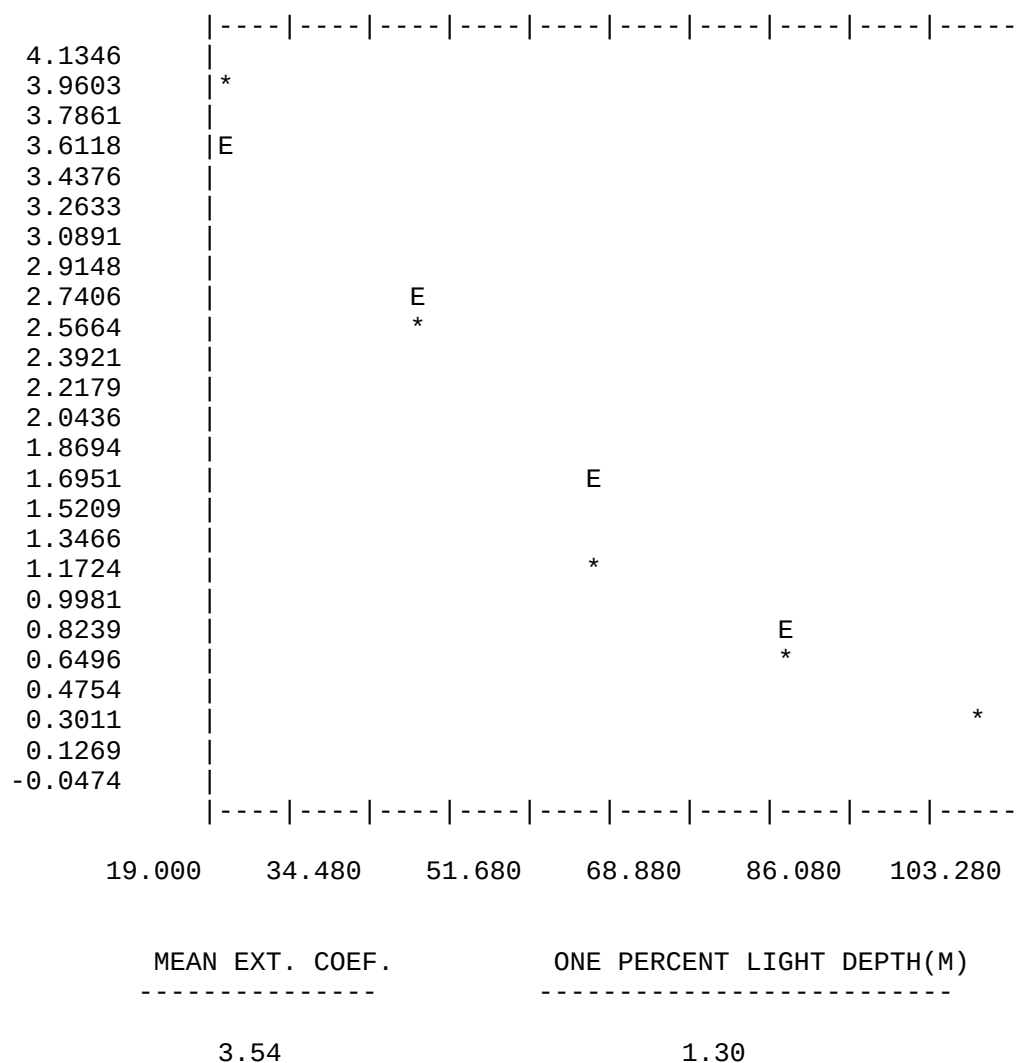
1.27

LIGHT PROFILE ANALYSES - FOR 8/25/2004

STATION LOCATION 13

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	4.49084	-0.04724	0.96699	0.93507
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	50.	3.93769	3.54602
2	40.	11.	2.46810	2.60120
3	60.	2.	1.16315	1.65638
4	80.	1.	0.53063	0.71156
5	100.	0.	0.18232	-0.23326

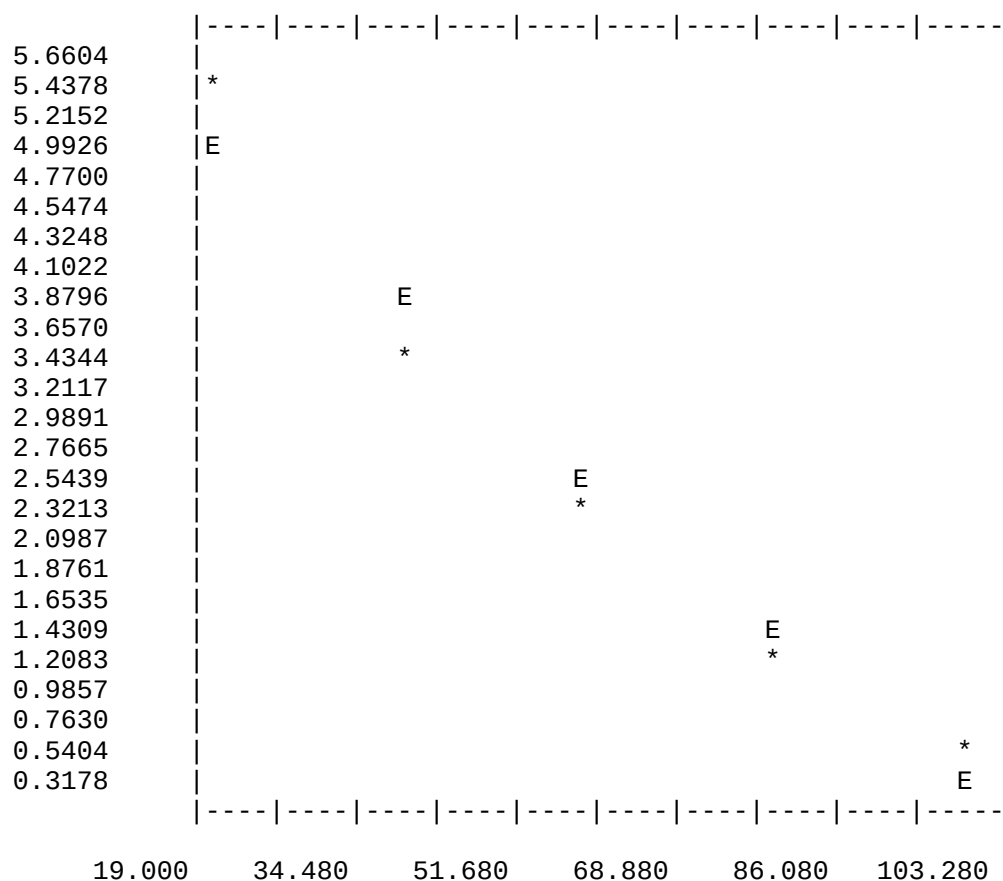


LIGHT PROFILE ANALYSES - FOR 8/25/2004

STATION LOCATION 24

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.15099	-0.06051	0.98085	0.96207
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	218.	5.39090	4.94084
2	40.	29.	3.39115	3.73068
3	60.	8.	2.21920	2.52053
4	80.	2.	1.13140	1.31038
5	100.	1.	0.47000	0.10022



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

4.54

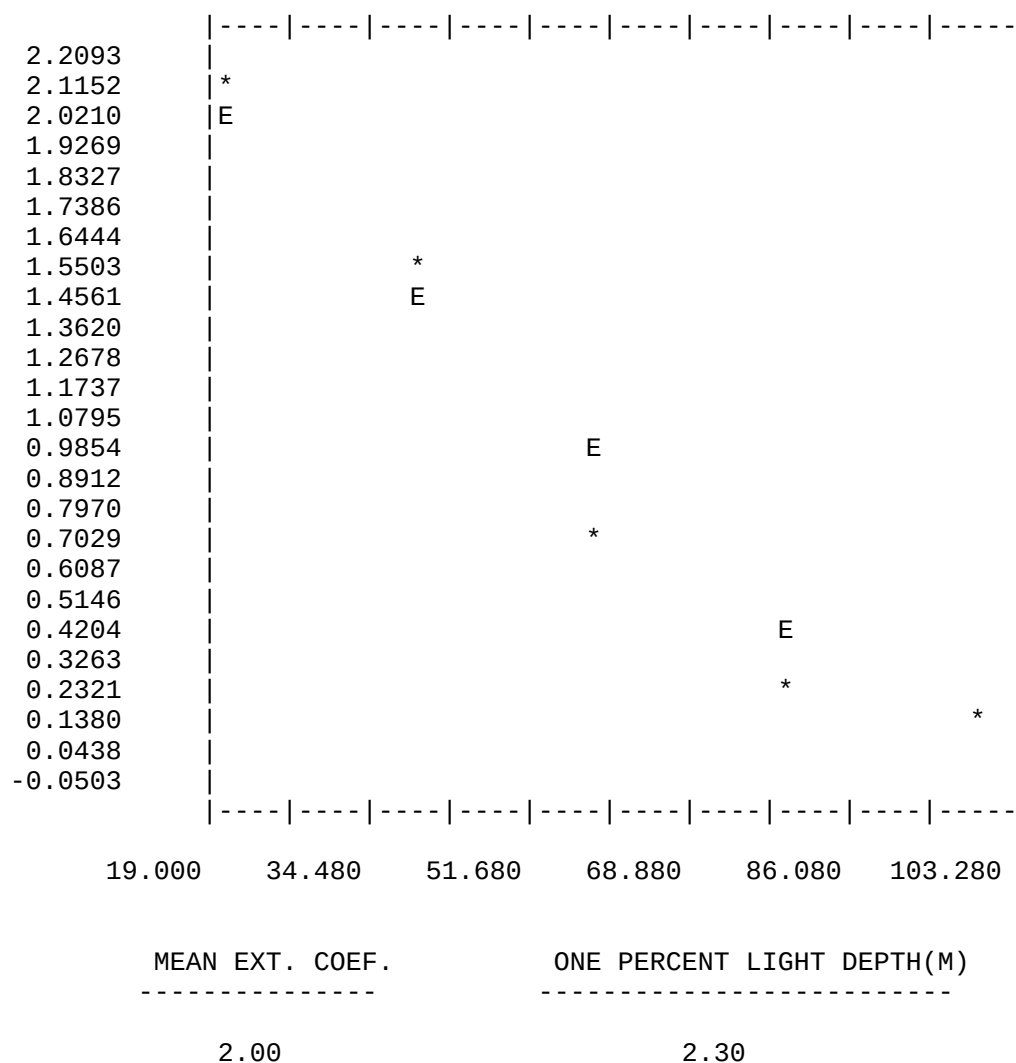
1.01

LIGHT PROFILE ANALYSES - FOR 8/25/2004

STATION LOCATION 14

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	2.51762	-0.02670	0.97177	0.94433
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	7.	2.10413	1.98368
2	40.	3.	1.50408	1.44974
3	60.	1.	0.69315	0.91580
4	80.	0.	0.18232	0.38186
5	100.	0.	0.09531	-0.15208

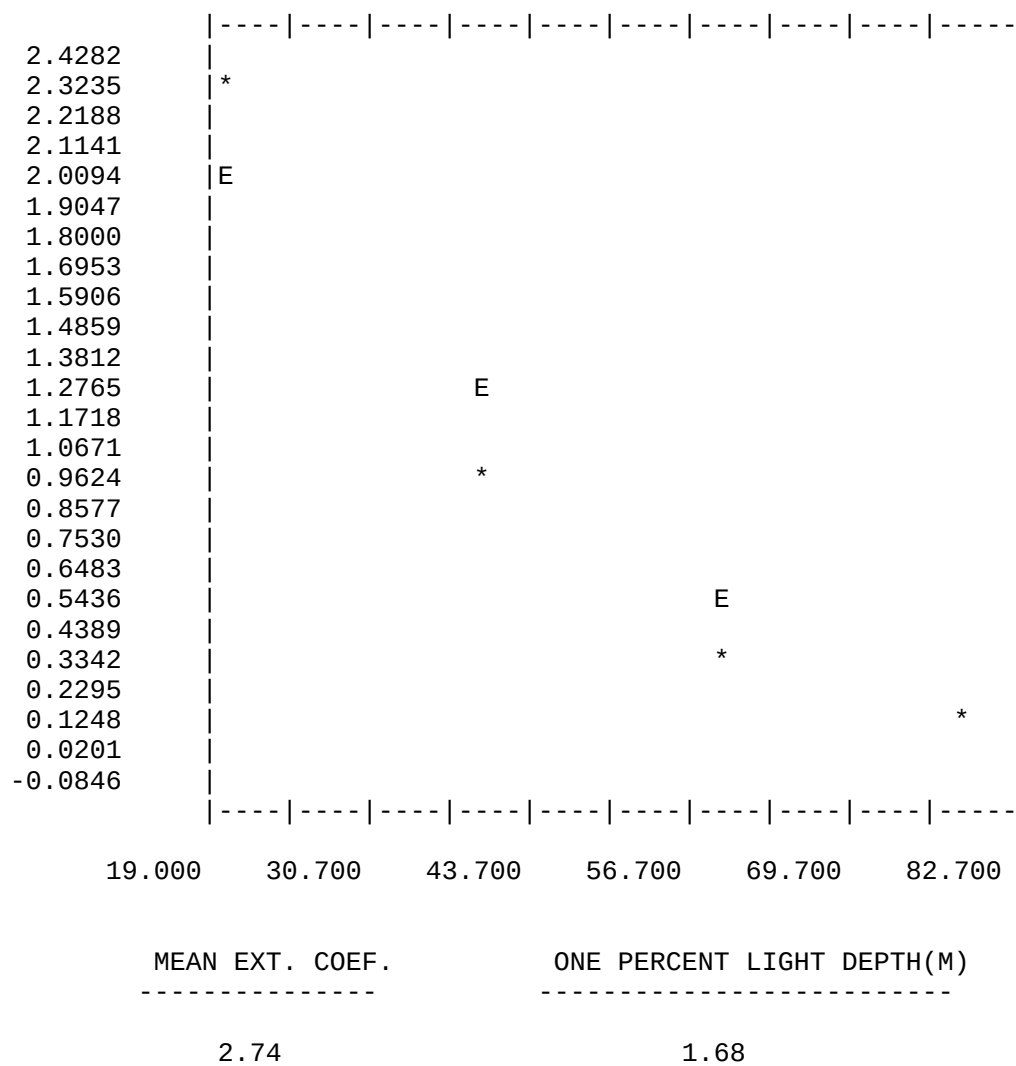


LIGHT PROFILE ANALYSES - FOR 8/25/2004

STATION LOCATION 25

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	2.72303	-0.03653	0.93545	0.87507
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	9.	2.31254	1.99247
2	40.	1.	0.91629	1.26191
3	60.	0.	0.26236	0.53135
4	80.	0.	0.09531	-0.19921

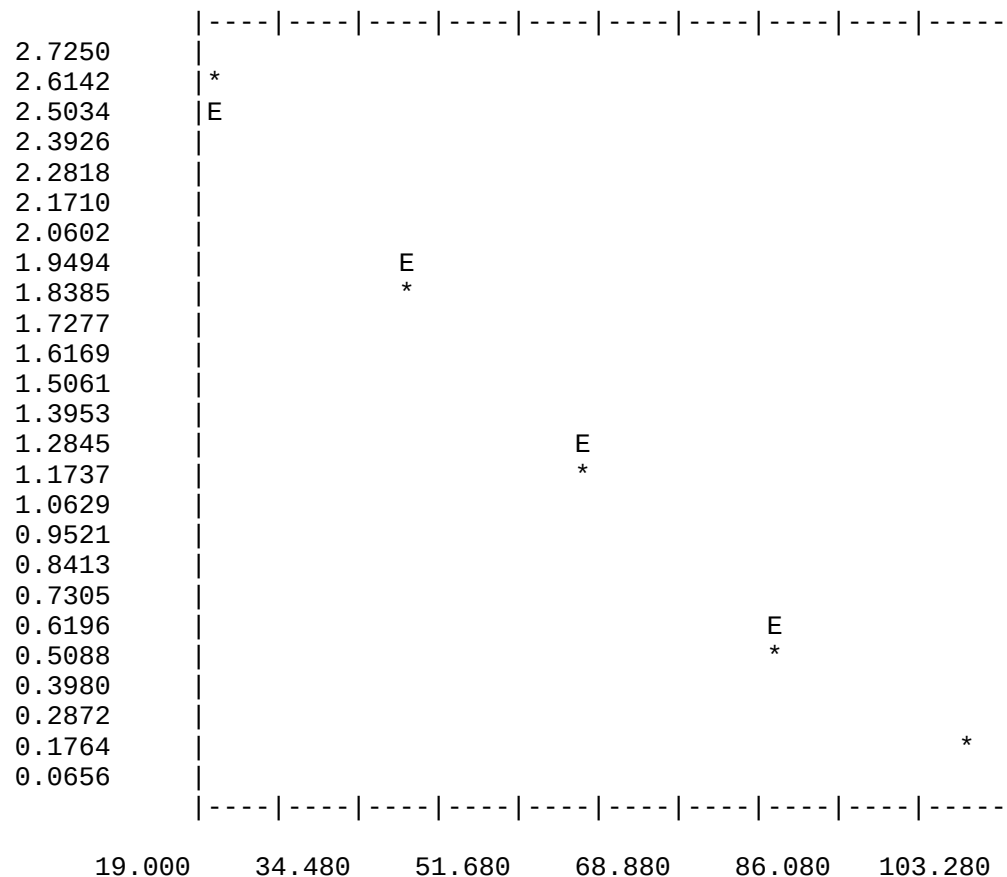


LIGHT PROFILE ANALYSES - FOR 8/25/2004

STATION LOCATION 17

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	3.12963	-0.03177	0.99336	0.98677
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	12.	2.59525	2.49419
2	40.	5.	1.82455	1.85875
3	60.	2.	1.13140	1.22330
4	80.	1.	0.47000	0.58786
5	100.	0.	0.09531	-0.04758



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.38

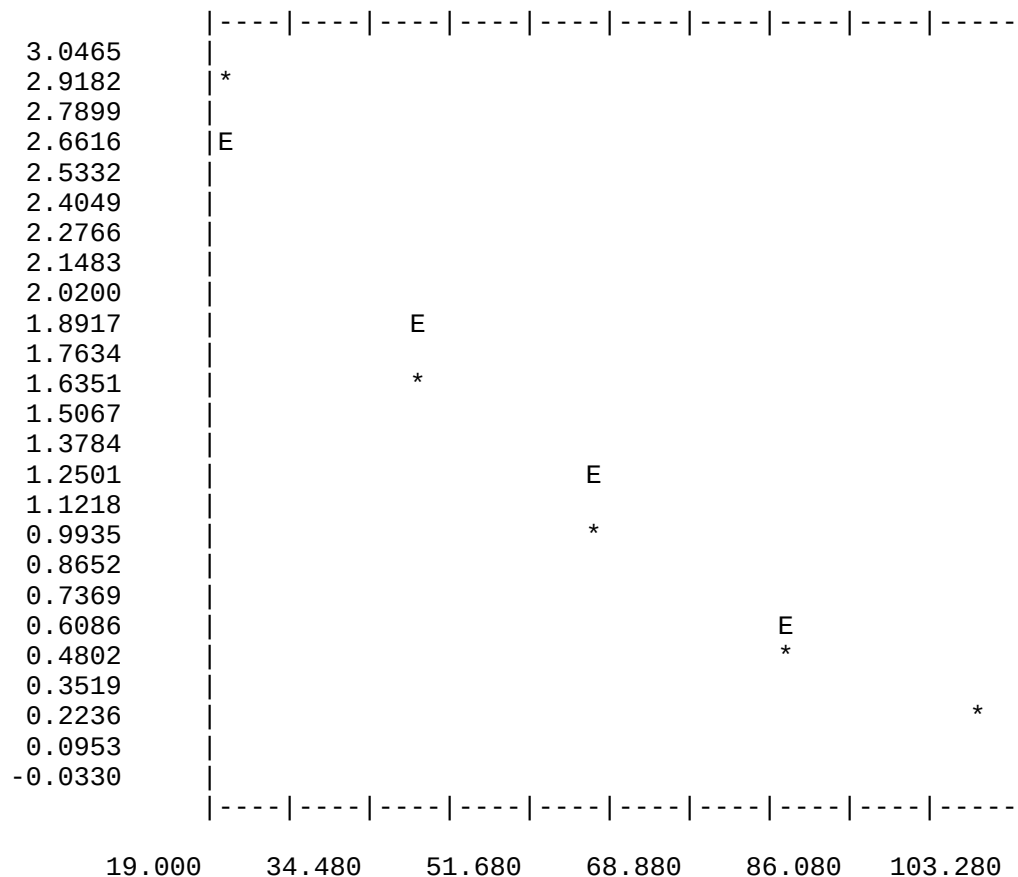
1.93

LIGHT PROFILE ANALYSES - FOR 8/25/2004

STATION LOCATION 19

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	3.24819	-0.03418	0.96768	0.93641
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	17.	2.90142	2.56459
2	40.	4.	1.62924	1.88099
3	60.	2.	0.95551	1.19739
4	80.	0.	0.40547	0.51379
5	100.	0.	0.09531	-0.16981



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.56

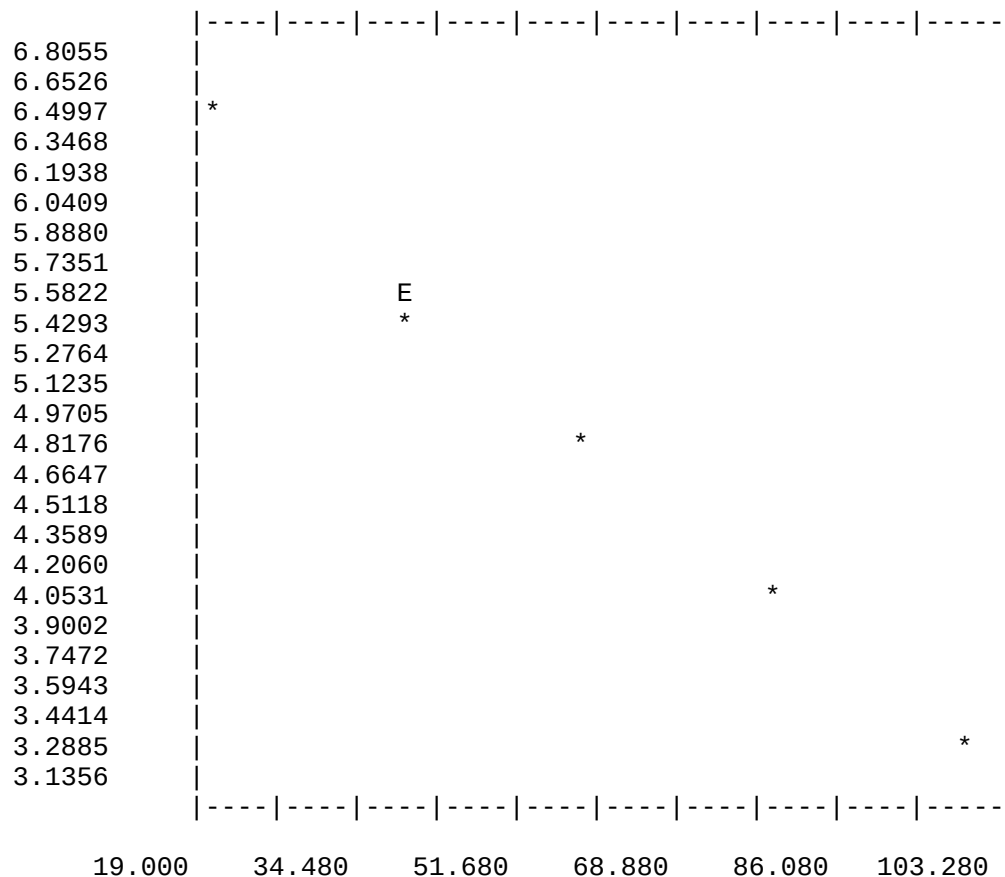
1.80

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 9

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.16500	-0.04025	0.99672	0.99345
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	652.	6.48142	6.35993
2	40.	219.	5.39181	5.55486
3	60.	114.	4.74145	4.74980
4	80.	52.	3.96462	3.94473
5	100.	23.	3.16969	3.13966



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.02

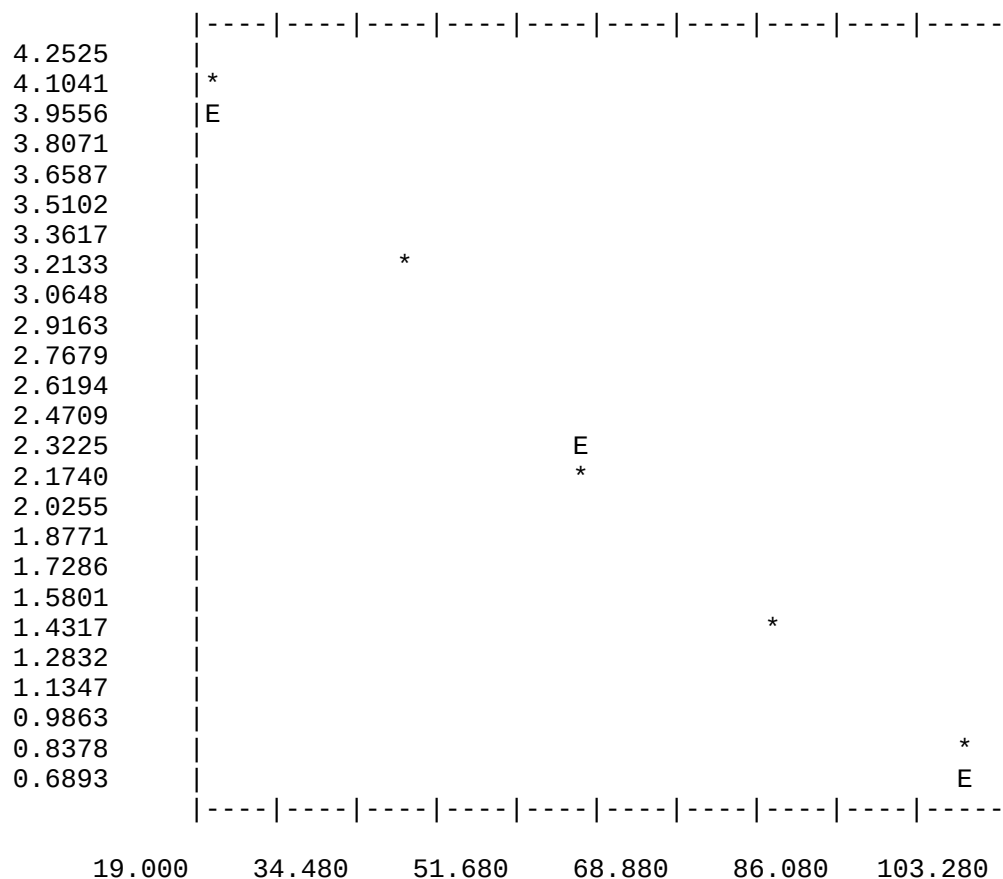
1.53

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 10

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	4.78443	-0.04215	0.99349	0.98702
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	56.	4.05004	3.94141
2	40.	22.	3.12236	3.09839
3	60.	7.	2.05412	2.25536
4	80.	3.	1.30833	1.41234
5	100.	1.	0.74194	0.56931



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.16

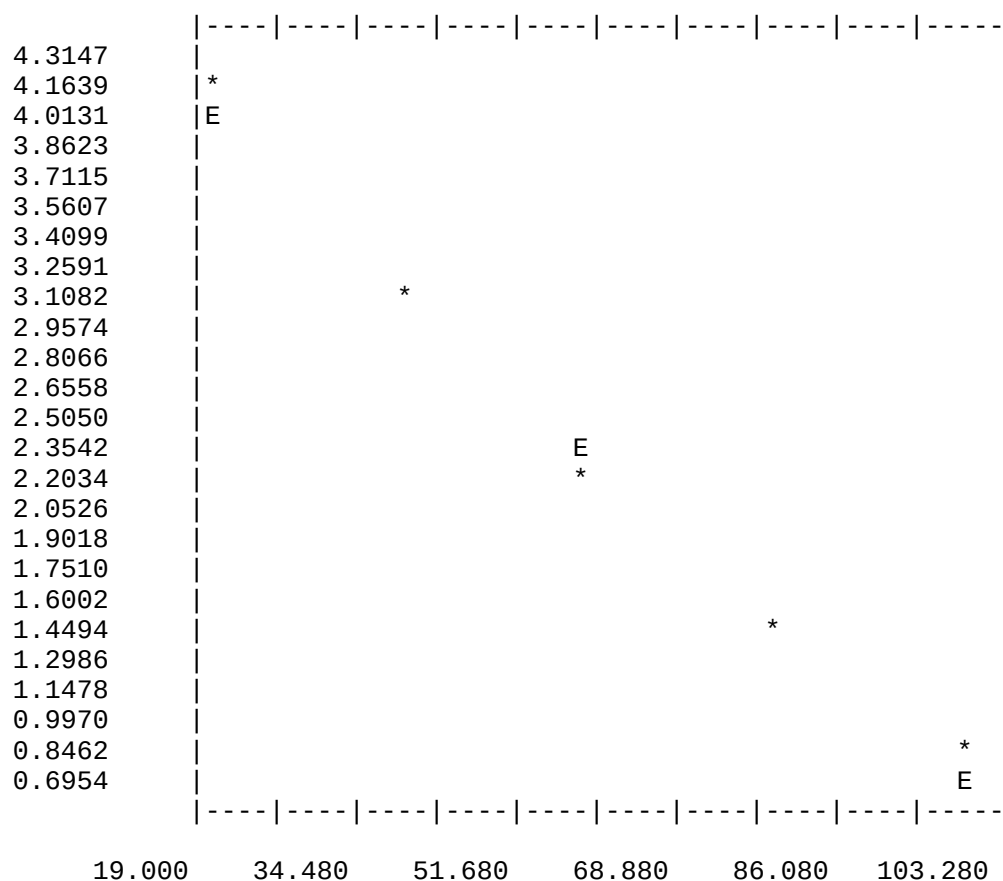
1.46

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 21

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	4.79764	-0.04224	0.99328	0.98660
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	60.	4.10923	3.95275
2	40.	20.	3.04927	3.10786
3	60.	7.	2.07944	2.26298
4	80.	3.	1.33500	1.41809
5	100.	1.	0.74194	0.57320



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.17

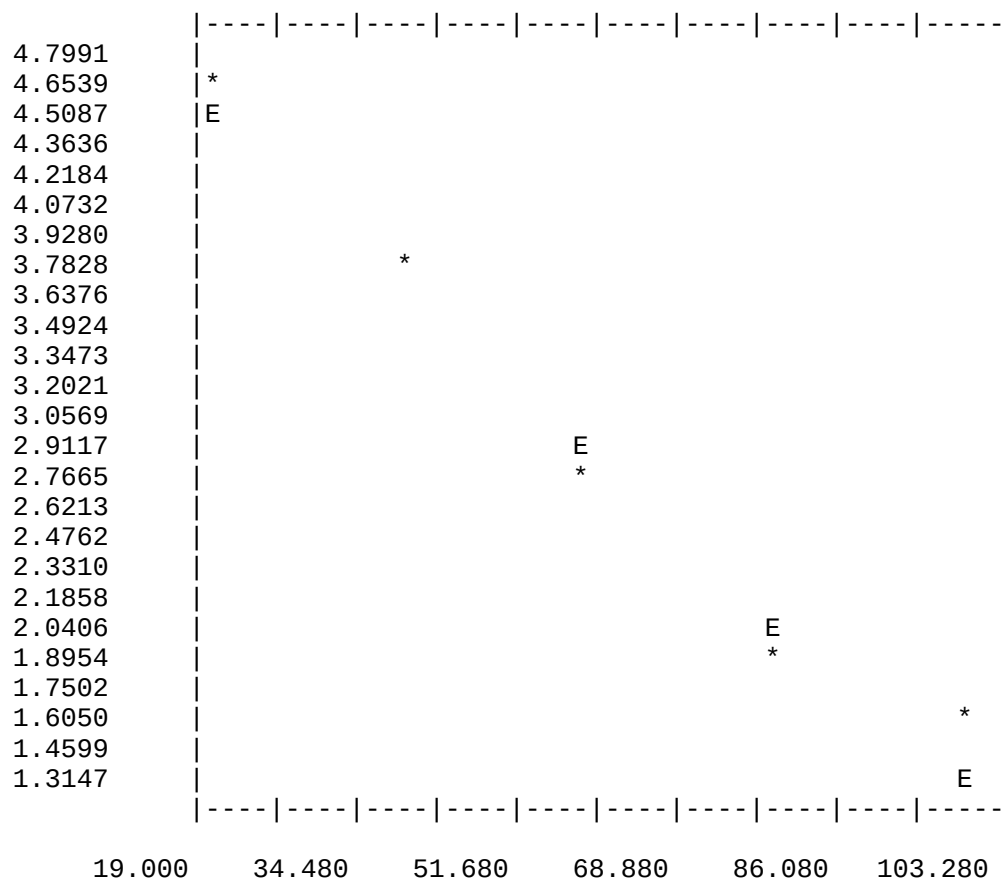
1.45

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 11

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.27419	-0.04043	0.98705	0.97427
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	96.	4.57058	4.46556
2	40.	41.	3.73290	3.65693
3	60.	13.	2.63189	2.84830
4	80.	5.	1.82455	2.03967
5	100.	3.	1.48160	1.23104



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.03

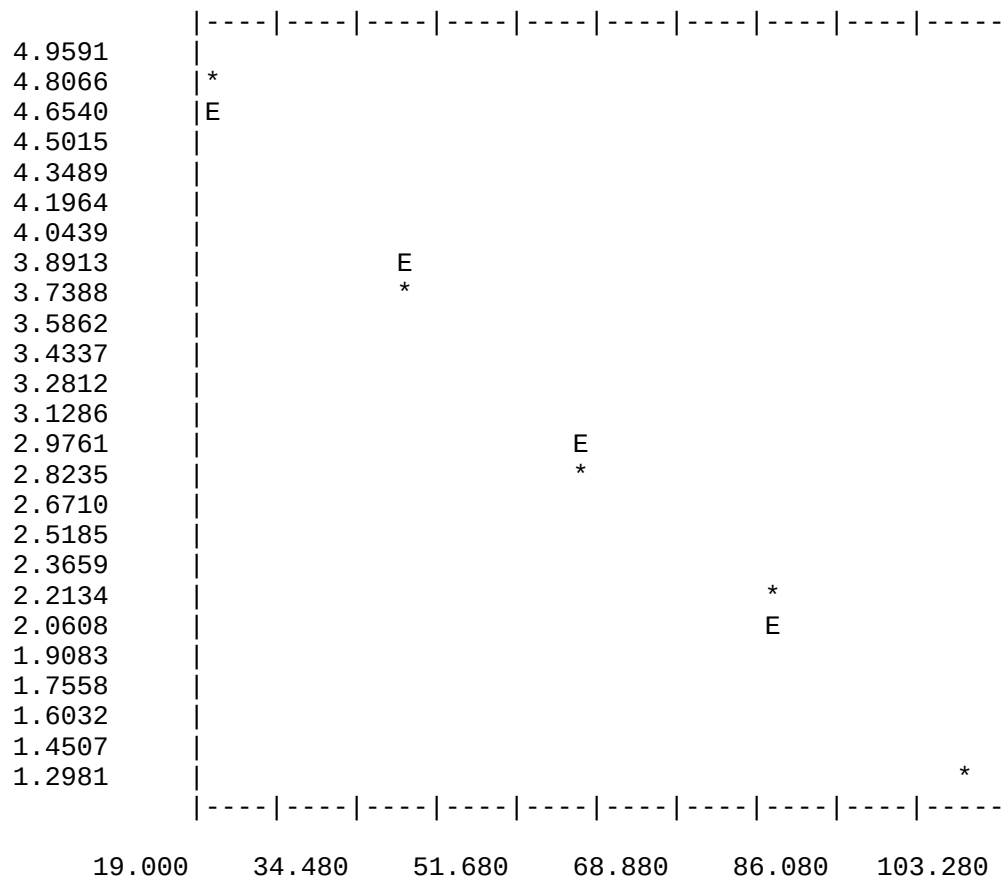
1.52

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 92

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.42891	-0.04223	0.99508	0.99019
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	111.	4.72295	4.58431
2	40.	38.	3.66612	3.73970
3	60.	14.	2.70136	2.89510
4	80.	7.	2.10413	2.05050
5	100.	3.	1.28093	1.20590



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.17

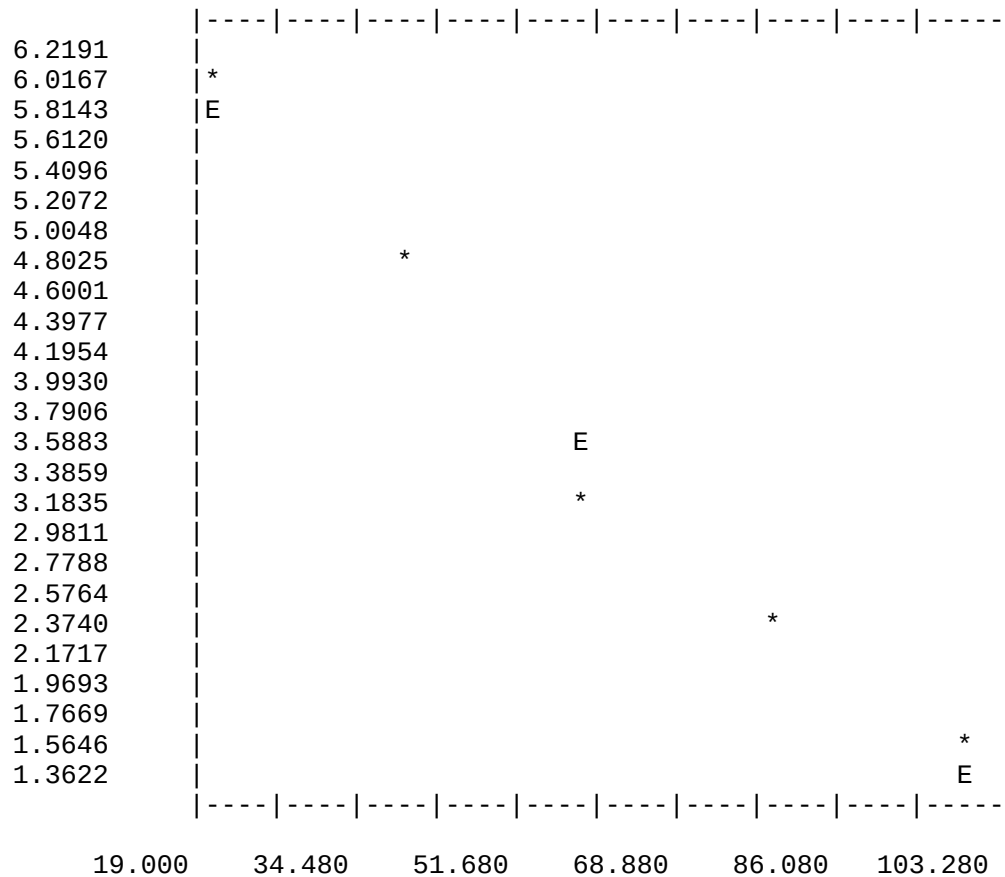
1.45

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 22

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.85790	-0.05637	0.98566	0.97153
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	372.	5.92292	5.73049
2	40.	109.	4.69957	4.60308
3	60.	19.	3.01062	3.47567
4	80.	8.	2.21920	2.34826
5	100.	4.	1.52606	1.22086



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

4.23

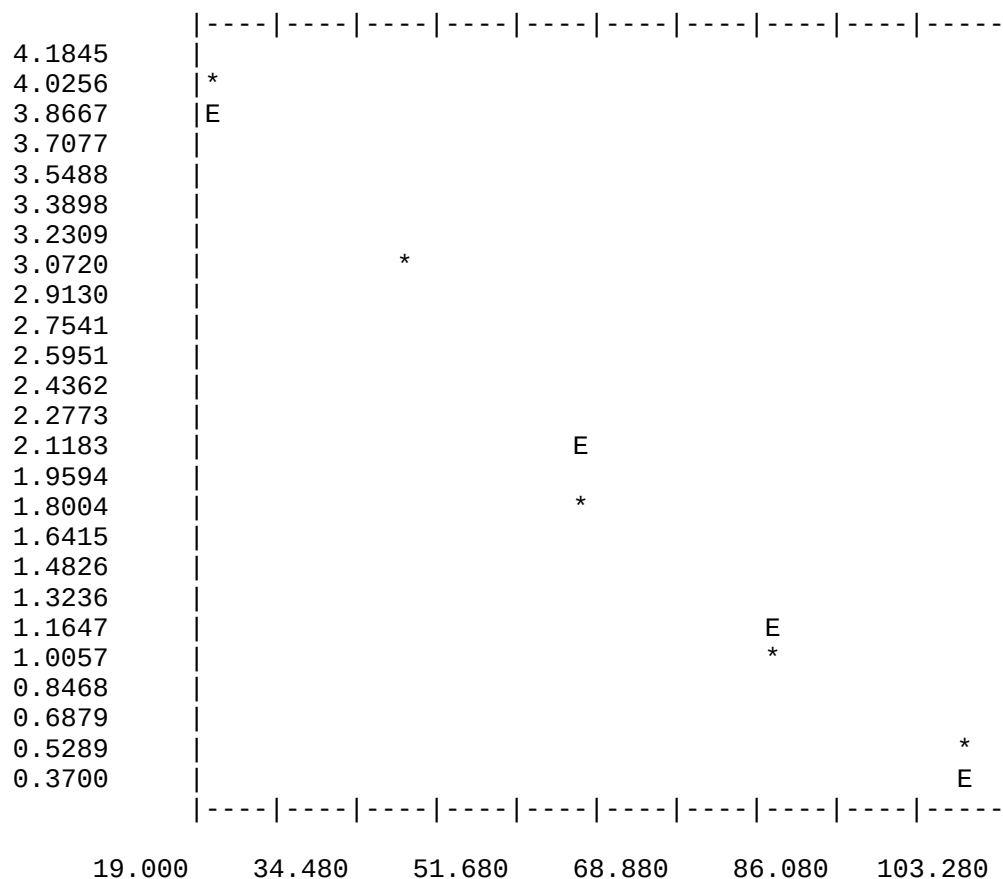
1.09

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 12

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	4.72124	-0.04499	0.98925	0.97862
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	53.	3.98527	3.82142
2	40.	18.	2.92316	2.92160
3	60.	5.	1.77495	2.02178
4	80.	2.	0.95551	1.12196
5	100.	1.	0.47000	0.22214



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.37

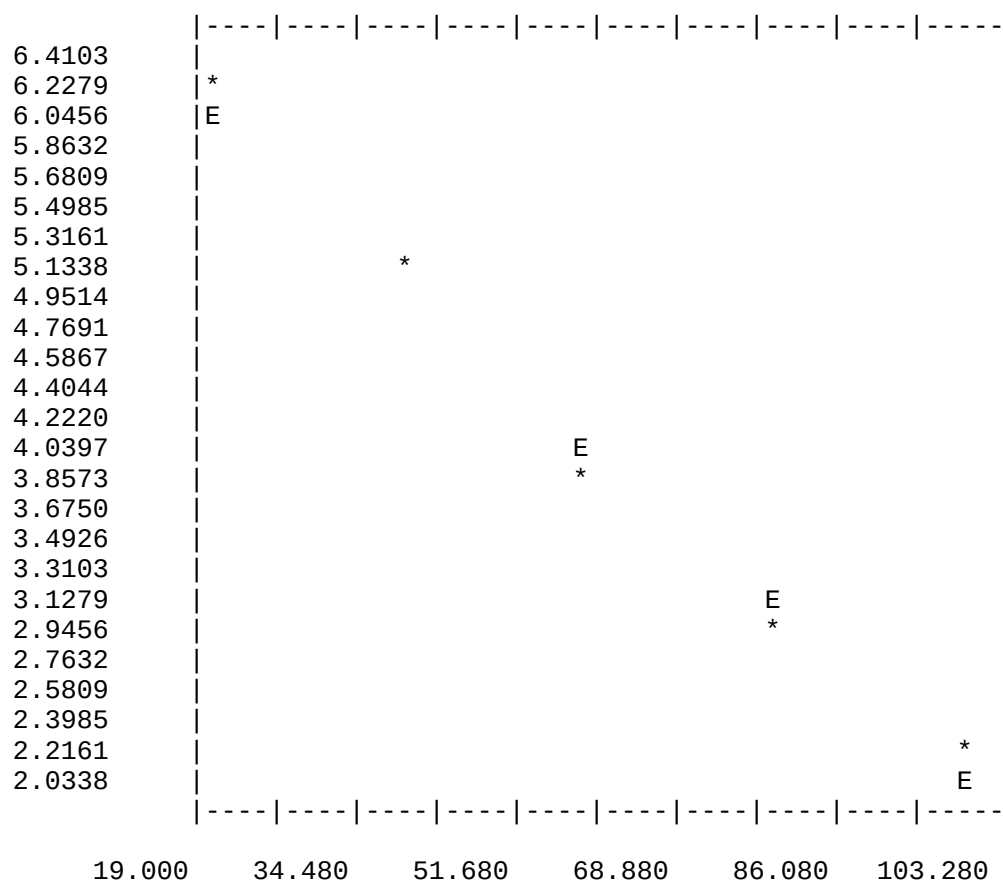
1.36

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 23

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.00813	-0.05059	0.99500	0.99003
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	447.	6.10502	5.99628
2	40.	149.	5.00997	4.98443
3	60.	43.	3.78646	3.97258
4	80.	16.	2.82138	2.96073
5	100.	7.	2.14007	1.94888



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.79

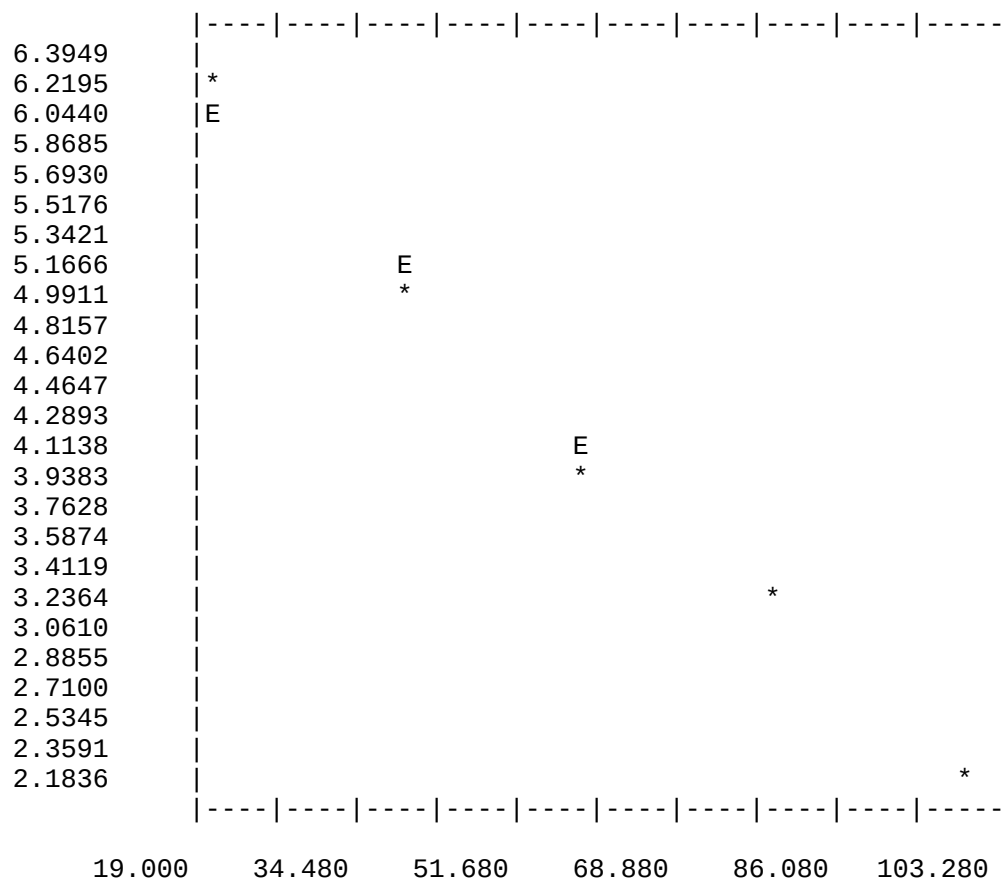
1.21

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 13

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.97025	-0.04856	0.99828	0.99656
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	441.	6.09040	5.99896
2	40.	142.	4.96494	5.02768
3	60.	50.	3.93378	4.05639
4	80.	22.	3.15274	3.08510
5	100.	7.	2.14007	2.11381



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.64

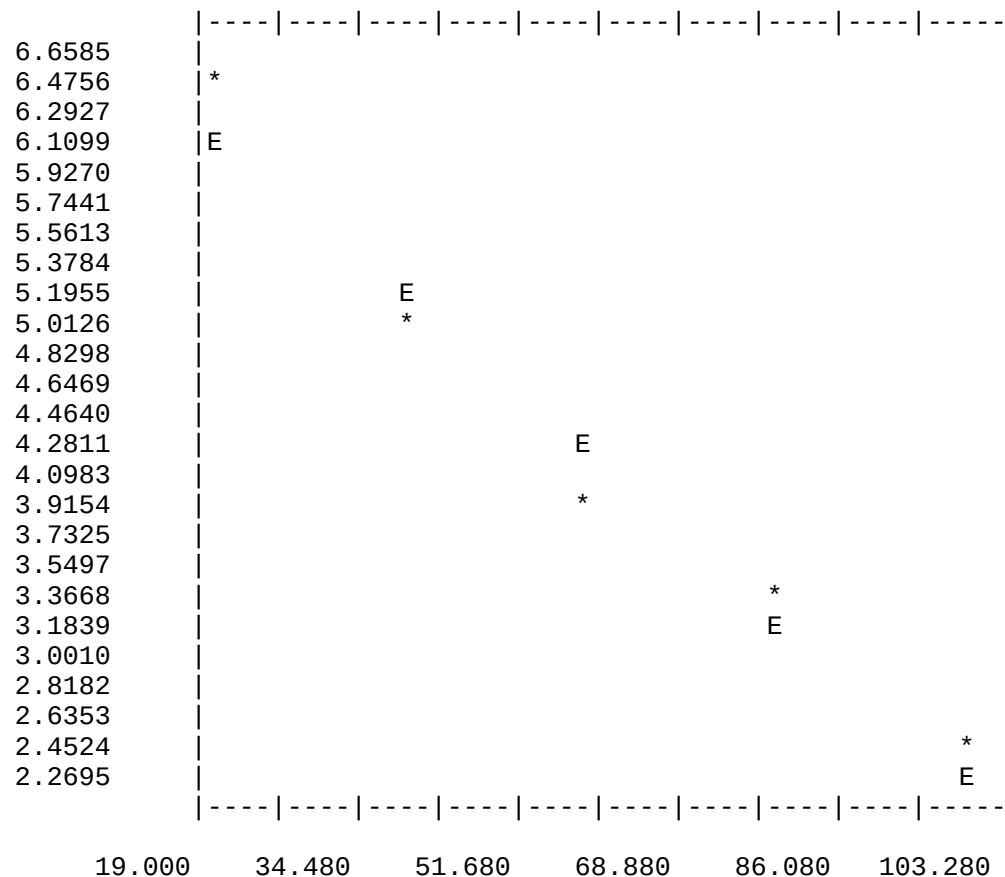
1.26

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 24

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.04957	-0.04853	0.98941	0.97893
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	567.	6.34142	6.07896
2	40.	137.	4.92580	5.10834
3	60.	46.	3.86073	4.13773
4	80.	24.	3.21888	3.16711
5	100.	9.	2.34181	2.19650



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.64

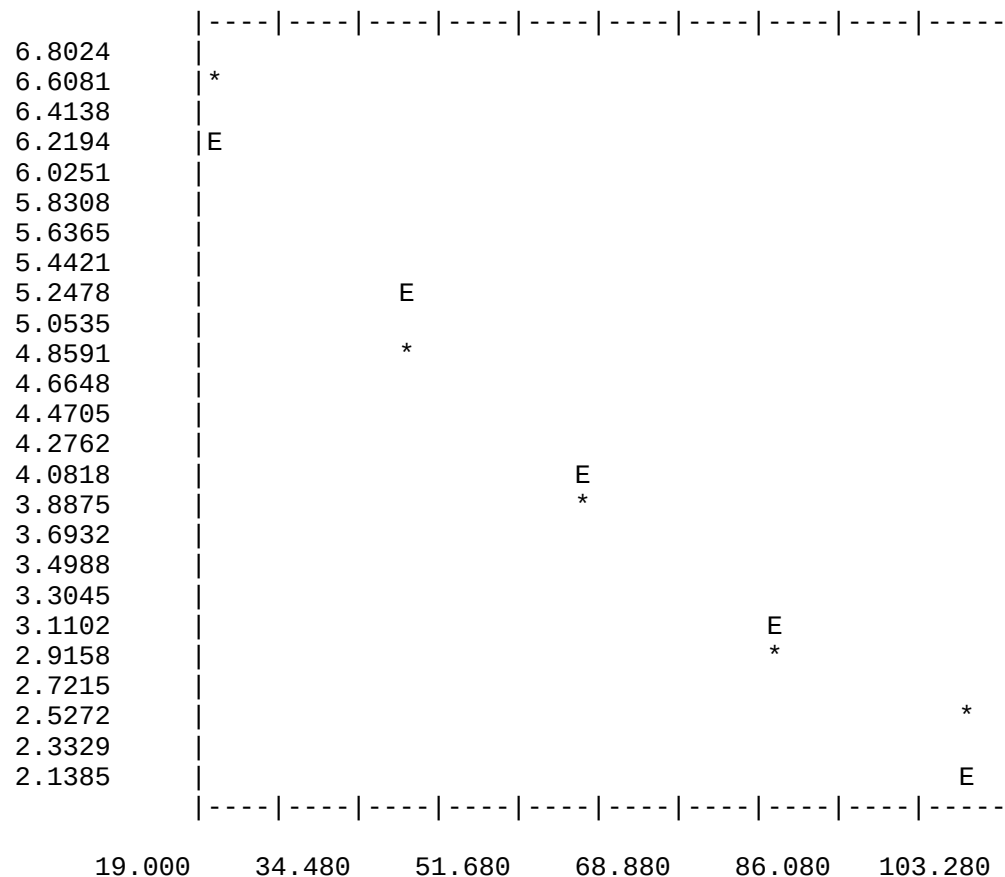
1.27

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 14

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.12282	-0.05076	0.97946	0.95935
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	650.	6.47851	6.10756
2	40.	123.	4.81867	5.09230
3	60.	47.	3.86283	4.07704
4	80.	16.	2.82731	3.06179
5	100.	10.	2.39790	2.04653



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.81

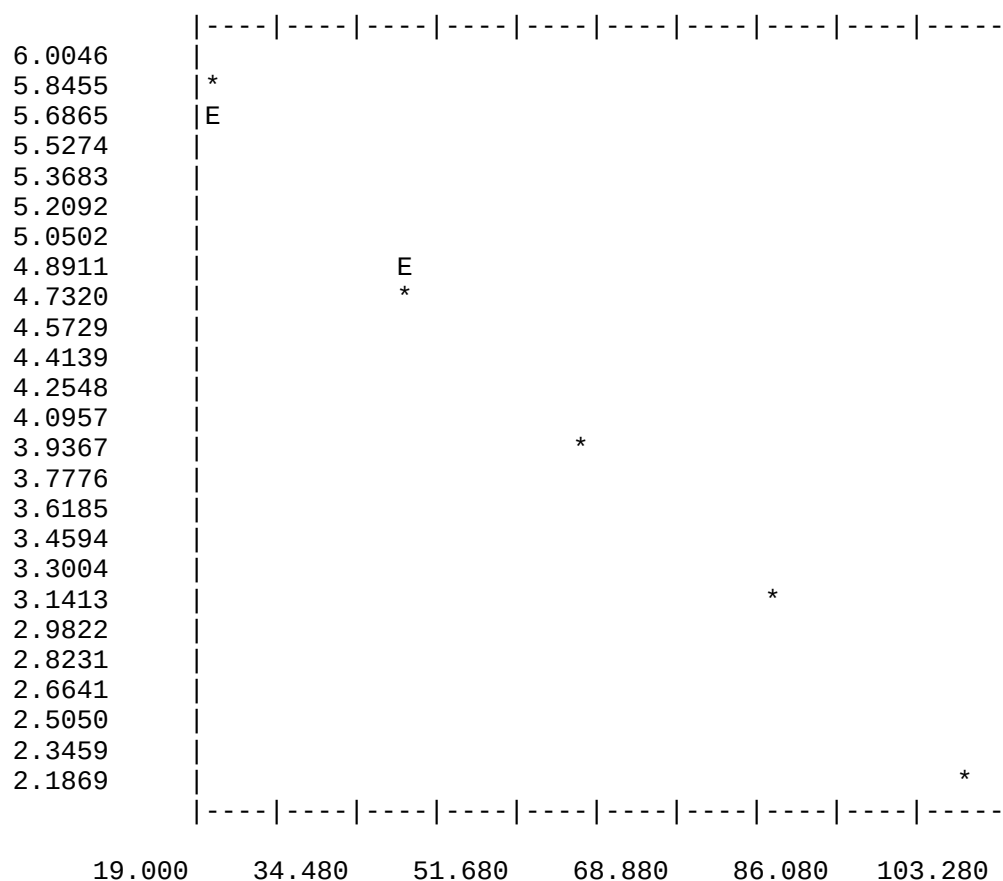
1.21

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 25

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.49552	-0.04361	0.99824	0.99648
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	303.	5.71867	5.62331
2	40.	105.	4.66532	4.75111
3	60.	43.	3.79324	3.87891
4	80.	20.	3.05400	3.00671
5	100.	8.	2.16332	2.13451



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.27

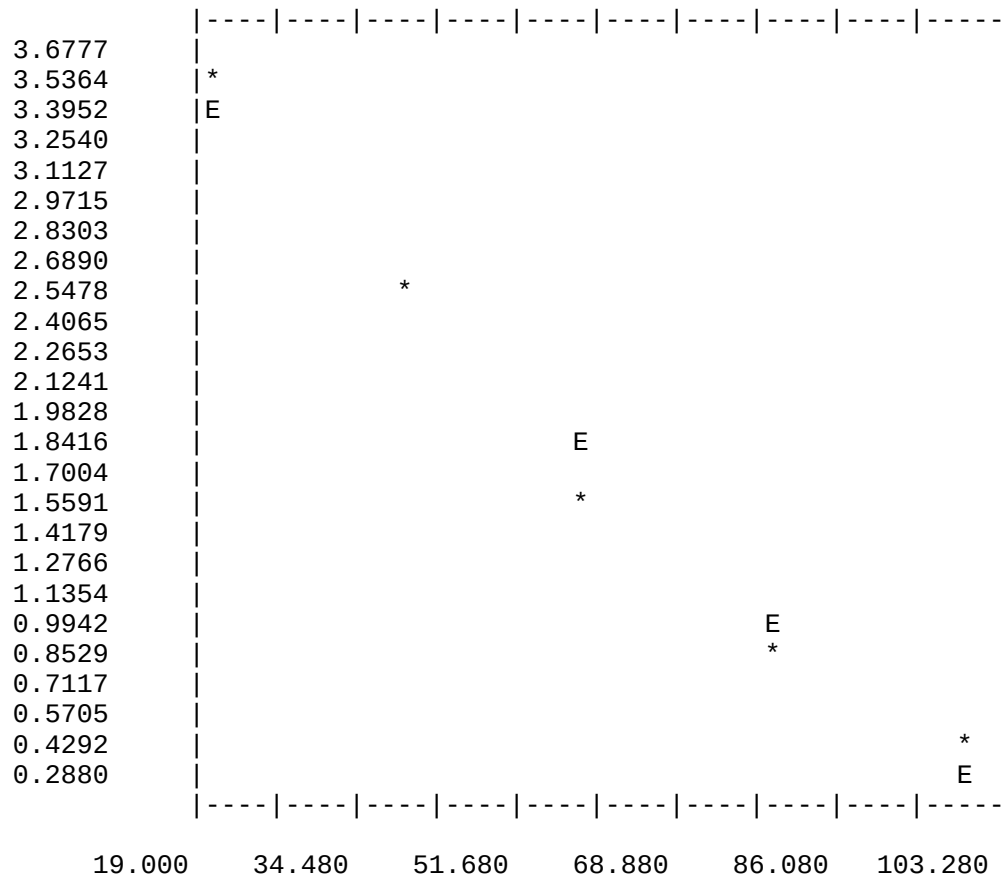
1.41

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 15

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	4.08712	-0.03933	0.98495	0.97013
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	32.	3.50255	3.30059
2	40.	11.	2.45959	2.51406
3	60.	3.	1.48160	1.72753
4	80.	1.	0.78846	0.94100
5	100.	0.	0.40547	0.15447



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.95

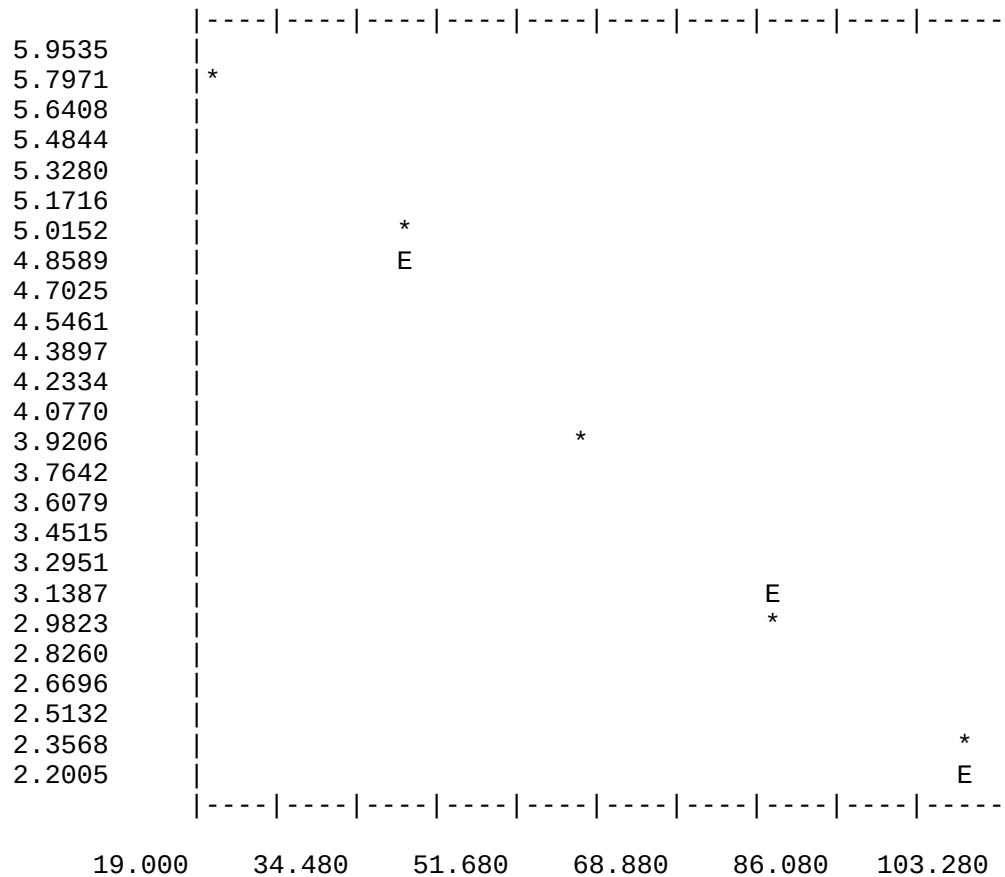
1.56

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 17

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.54959	-0.04398	0.99589	0.99180
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	289.	5.66954	5.67001
2	40.	135.	4.91192	4.79042
3	60.	44.	3.79997	3.91084
4	80.	17.	2.89037	3.03125
5	100.	9.	2.28238	2.15166



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.30

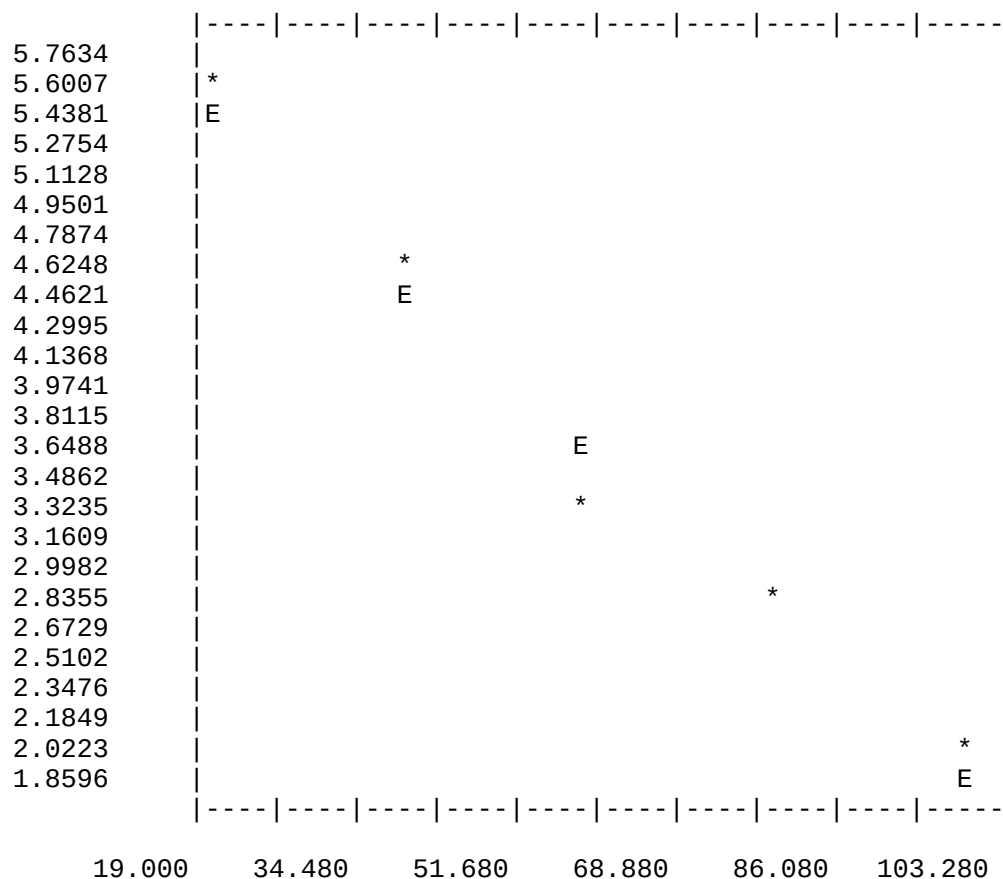
1.40

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.23401	-0.04448	0.99035	0.98080
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	241.	5.48894	5.34446
2	40.	87.	4.47278	4.45491
3	60.	24.	3.22684	3.56536
4	80.	14.	2.72130	2.67580
5	100.	6.	1.91692	1.78625



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.34

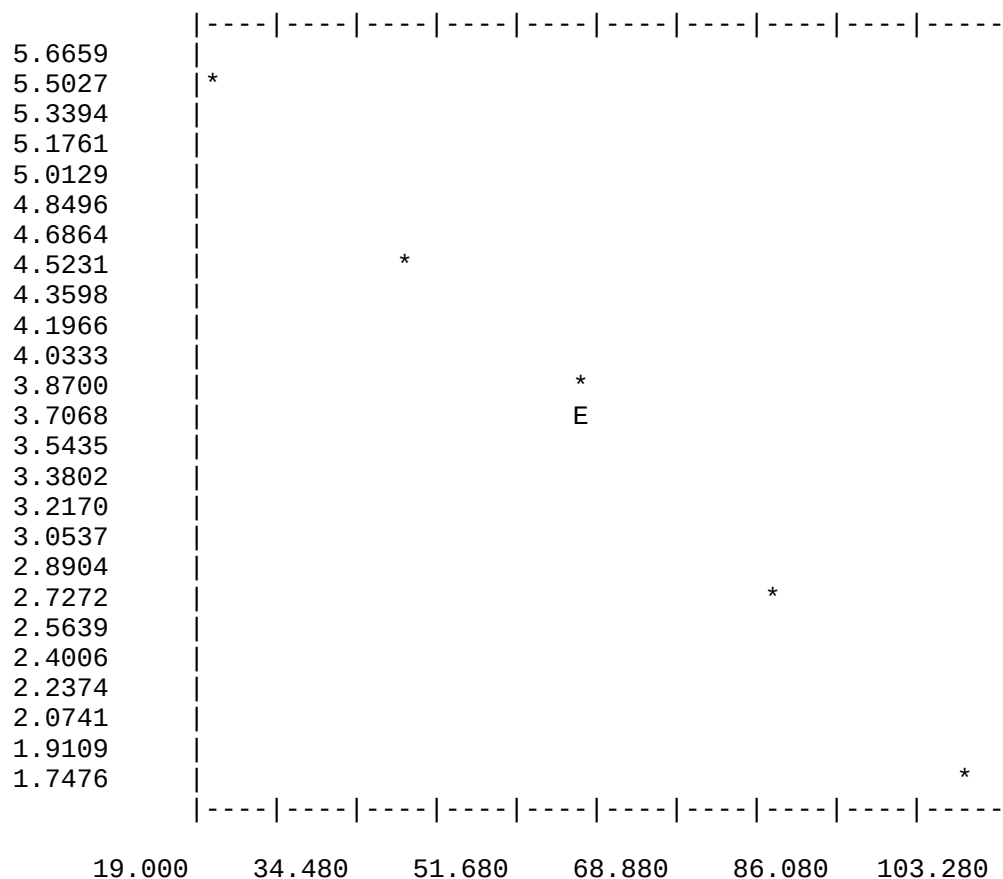
1.38

LIGHT PROFILE ANALYSES - FOR 9/23/2004

STATION LOCATION 19

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.31433	-0.04591	0.99729	0.99458
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	213.	5.36831	5.39613
2	40.	80.	4.39815	4.47794
3	60.	41.	3.74715	3.55974
4	80.	13.	2.61740	2.64155
5	100.	4.	1.66771	1.72335



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.44

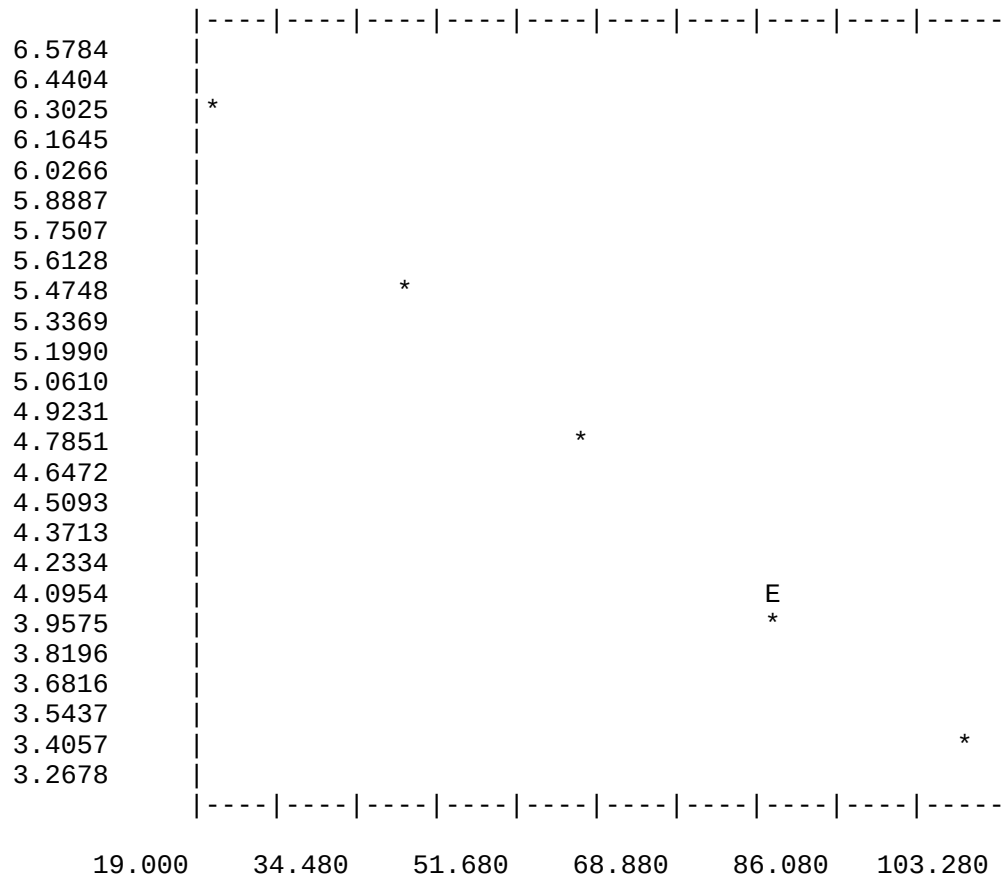
1.34

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 9

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.88216	-0.03588	0.99678	0.99358
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	525.	6.26511	6.16465
2	40.	210.	5.35138	5.44713
3	60.	110.	4.70953	4.72962
4	80.	50.	3.93769	4.01211
5	100.	28.	3.38439	3.29459



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.69

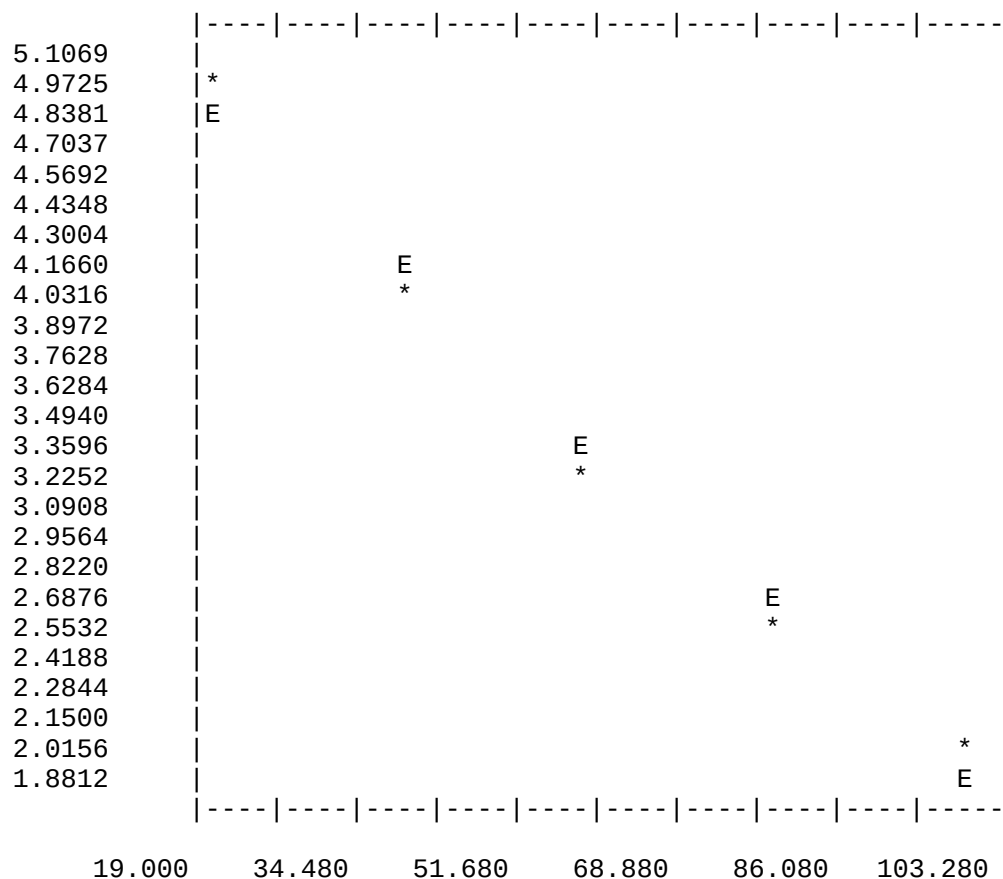
1.71

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 10

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.49570	-0.03657	0.99592	0.99185
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	128.	4.86368	4.76430
2	40.	54.	4.00003	4.03290
3	60.	23.	3.19048	3.30150
4	80.	11.	2.49321	2.57010
5	100.	6.	1.96009	1.83870



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.74

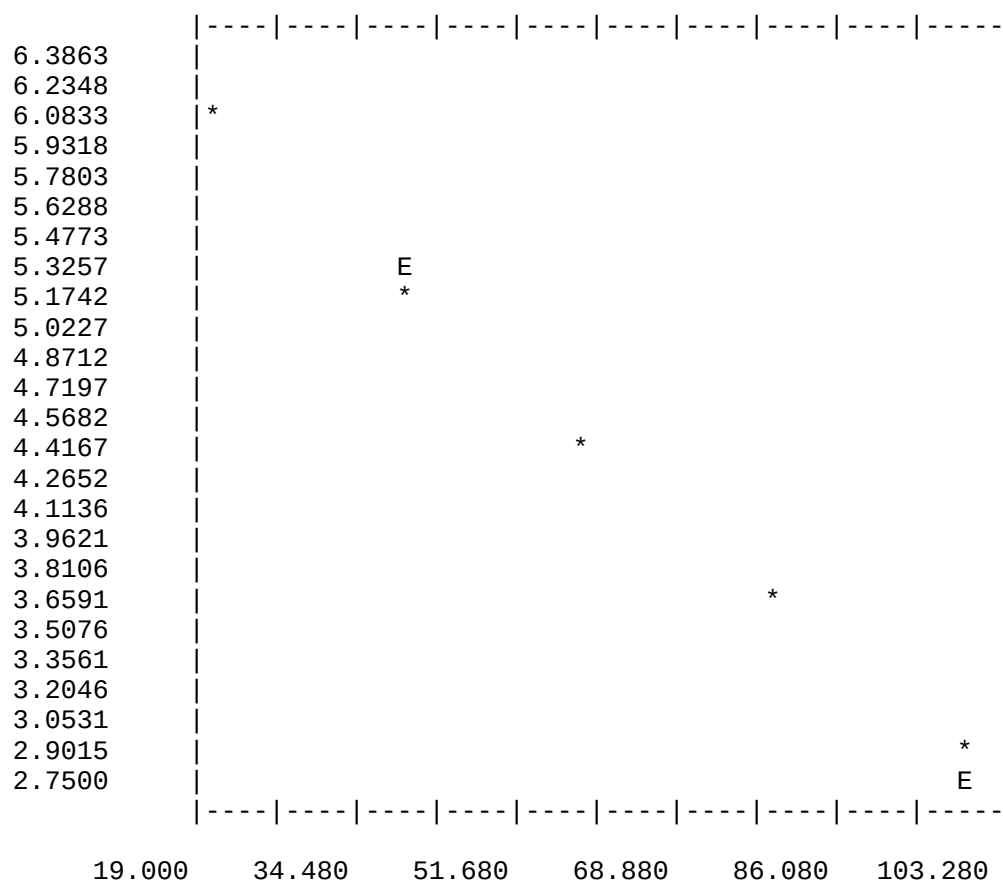
1.68

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 21

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.83893	-0.04104	0.99898	0.99797
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	437.	6.08222	6.01820
2	40.	174.	5.16536	5.19747
3	60.	73.	4.29865	4.37674
4	80.	34.	3.55249	3.55602
5	100.	15.	2.78501	2.73529



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.08

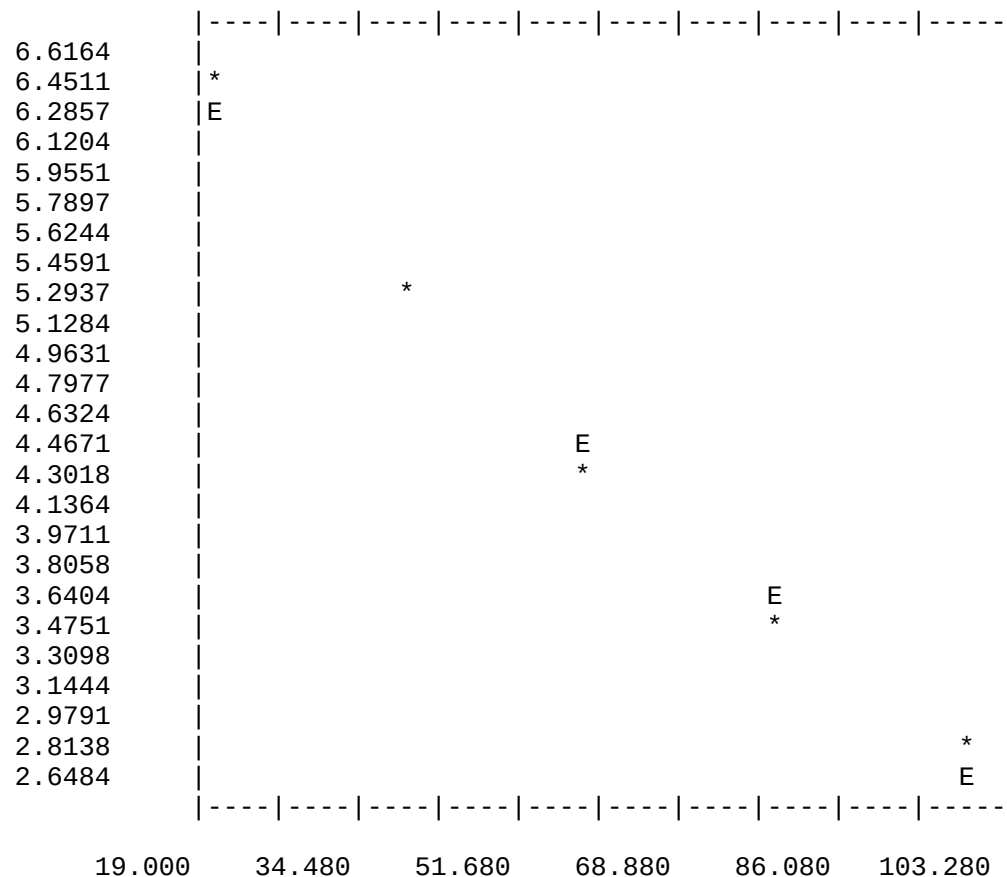
1.50

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 11

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.03052	-0.04417	0.99570	0.99143
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	544.	6.30134	6.14718
2	40.	173.	5.15848	5.26383
3	60.	69.	4.24276	4.38048
4	80.	31.	3.47197	3.49713
5	100.	14.	2.72785	2.61378



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.31

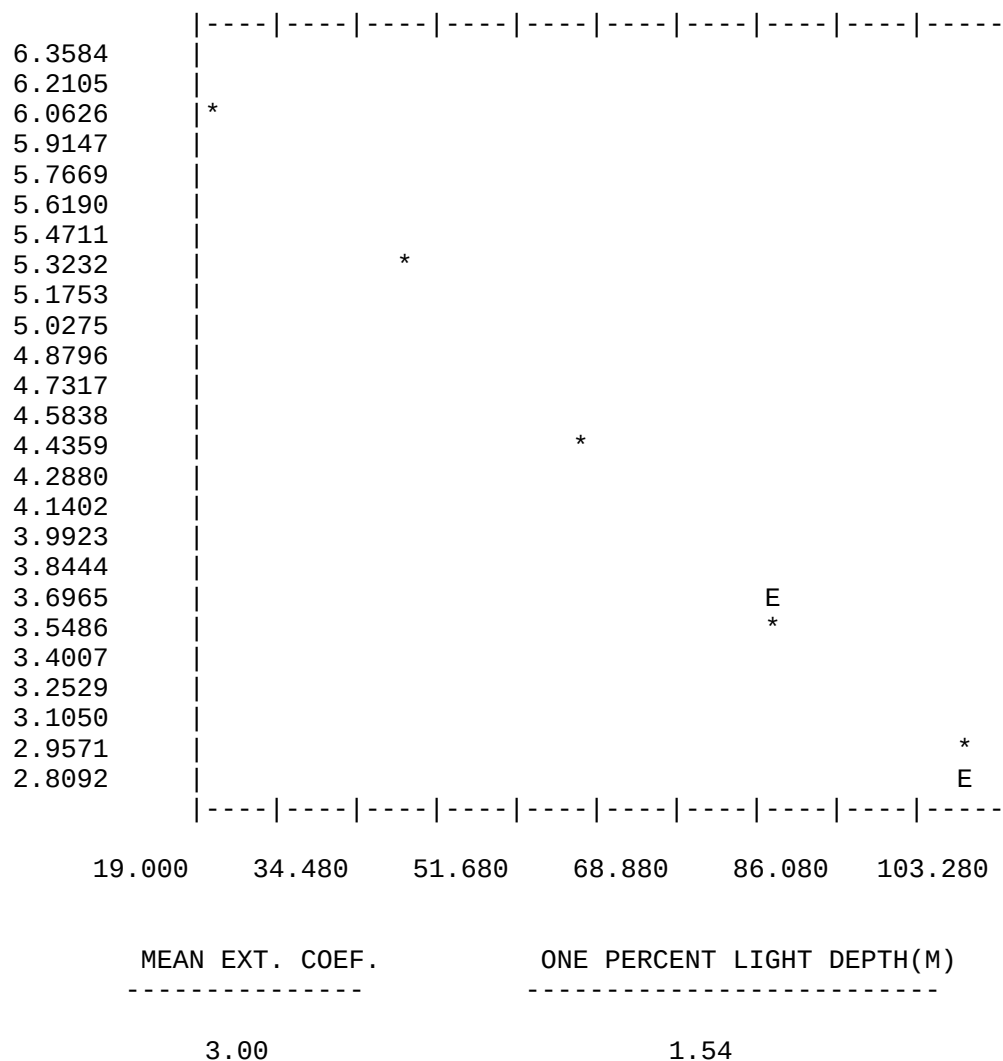
1.39

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 92

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.80069	-0.03999	0.99871	0.99742
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	425.	6.05561	6.00083
2	40.	178.	5.18962	5.20097
3	60.	75.	4.33729	4.40111
4	80.	34.	3.54385	3.60126
5	100.	17.	2.87920	2.80140

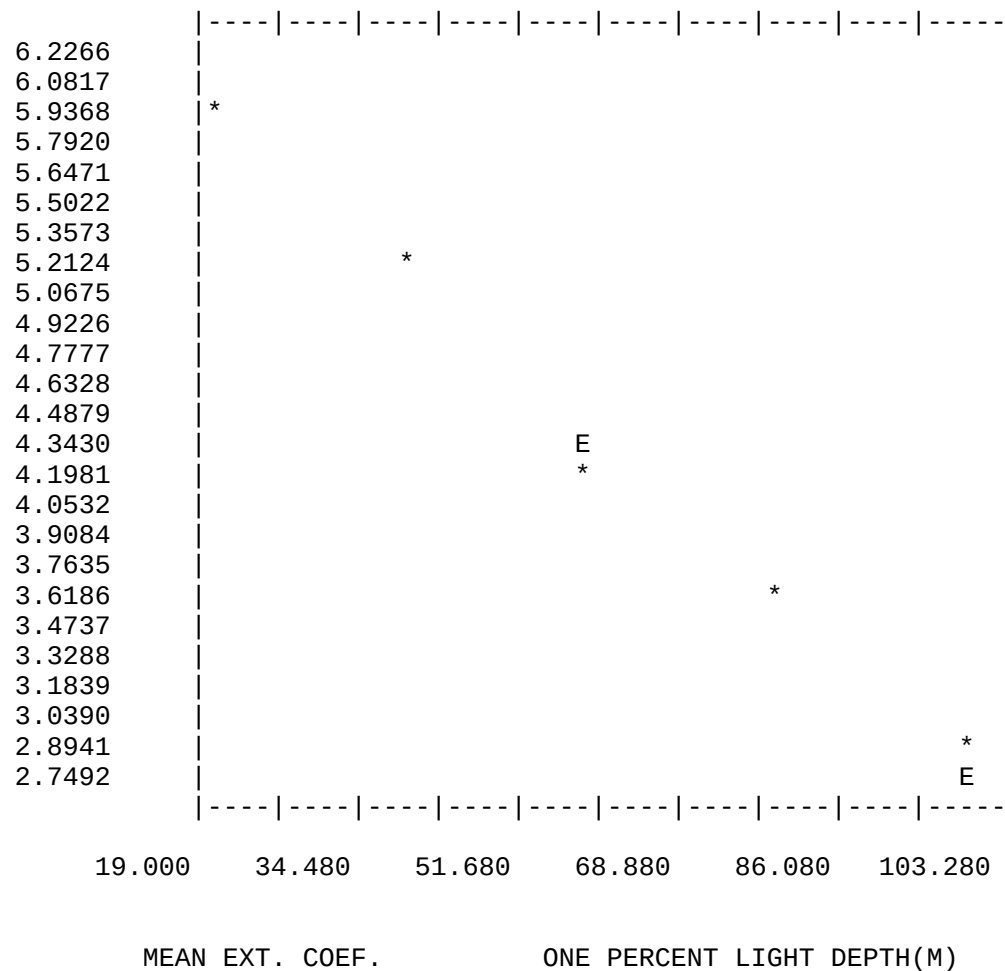


LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 22

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.64553	-0.03904	0.99791	0.99583
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	375.	5.93012	5.86470
2	40.	160.	5.08389	5.08387
3	60.	65.	4.19268	4.30305
4	80.	31.	3.48124	3.52222
5	100.	16.	2.82731	2.74140



2.93

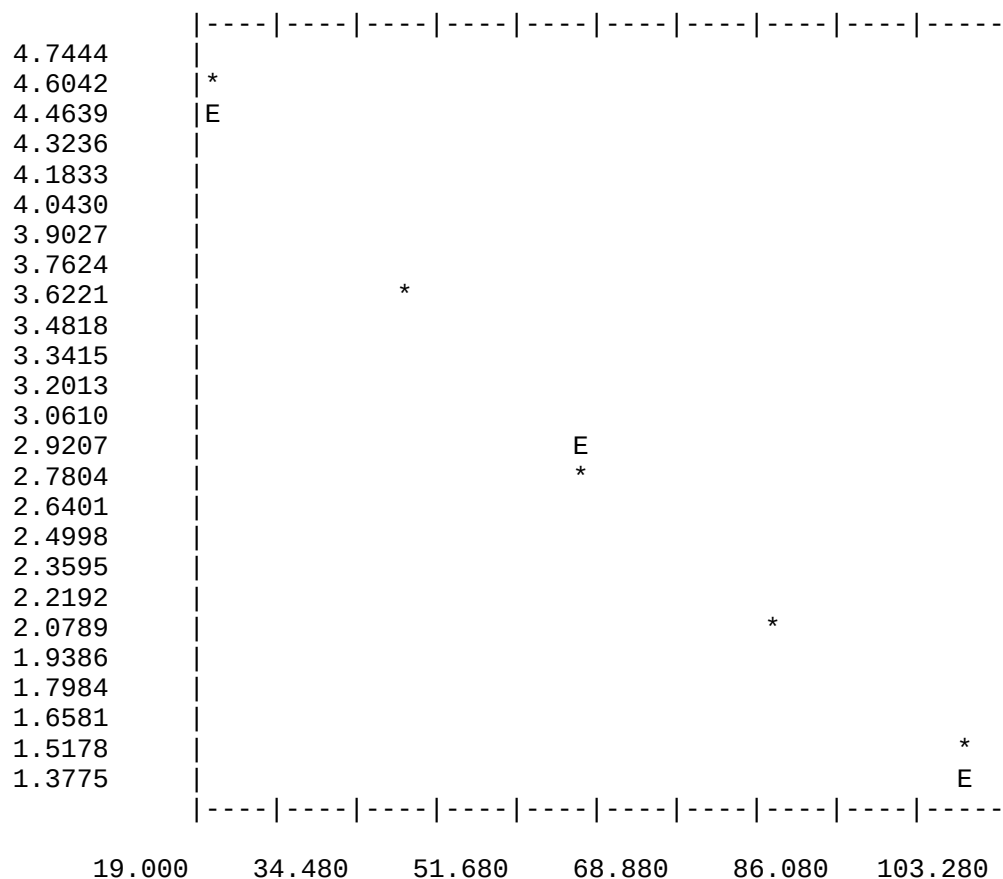
1.57

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 12

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.16834	-0.03866	0.99582	0.99167
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	91.	4.51852	4.39513
2	40.	34.	3.55820	3.62193
3	60.	14.	2.71469	2.84873
4	80.	7.	2.04122	2.07552
5	100.	3.	1.41099	1.30232



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.90

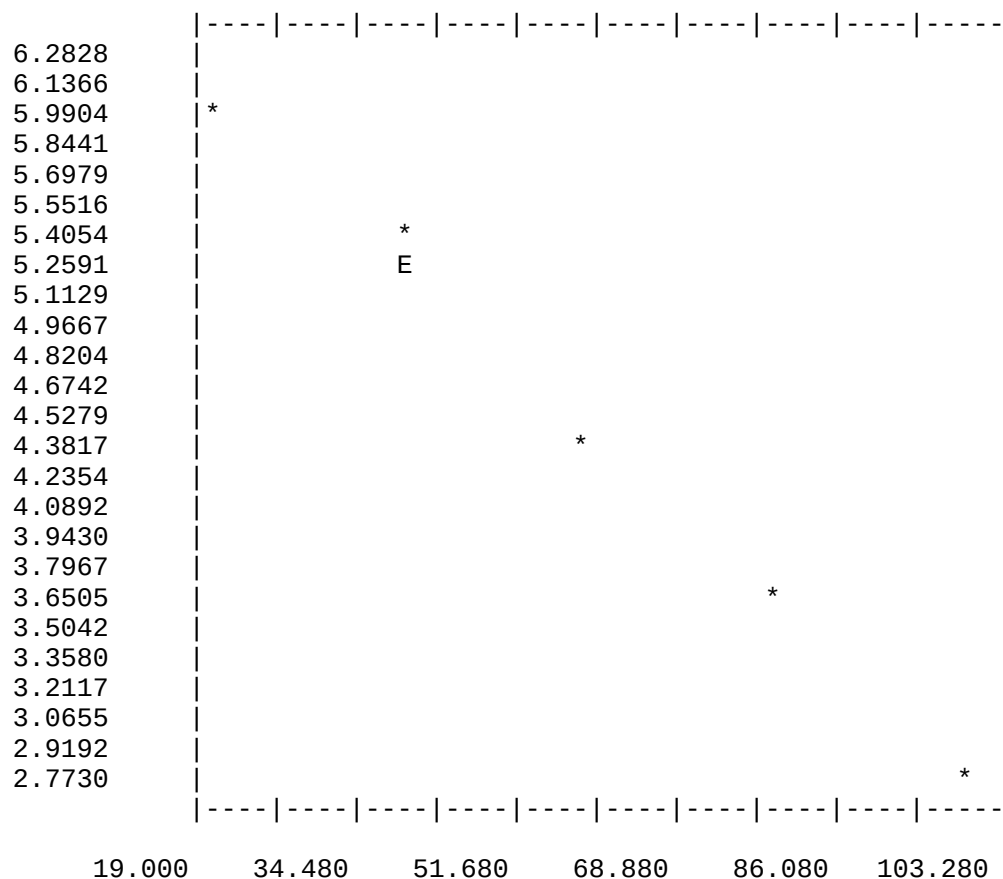
1.59

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 23

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.78832	-0.04023	0.99900	0.99800
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	378.	5.93674	5.98366
2	40.	194.	5.27249	5.17900
3	60.	75.	4.32942	4.37434
4	80.	34.	3.56671	3.56967
5	100.	15.	2.76632	2.76501



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.02

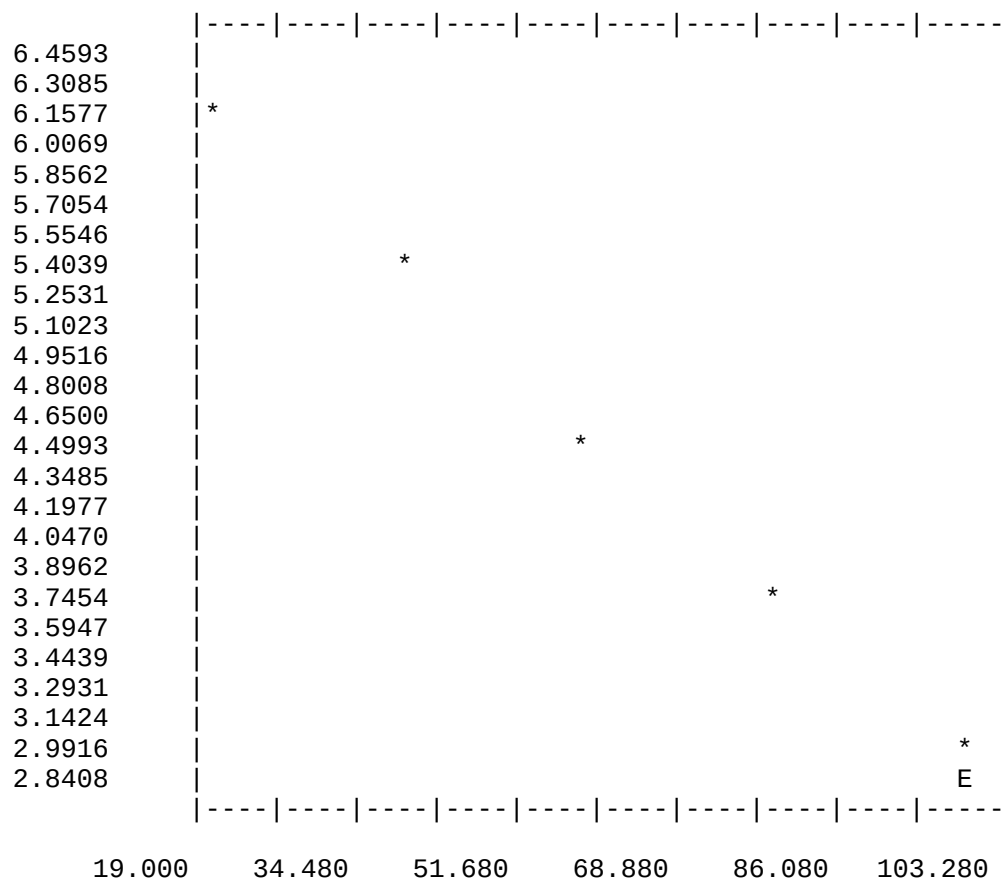
1.53

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 13

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.97266	-0.04141	0.99884	0.99767
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	468.	6.15167	6.14446
2	40.	215.	5.37435	5.31625
3	60.	79.	4.38078	4.48804
4	80.	38.	3.67122	3.65984
5	100.	16.	2.86220	2.83163



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.11

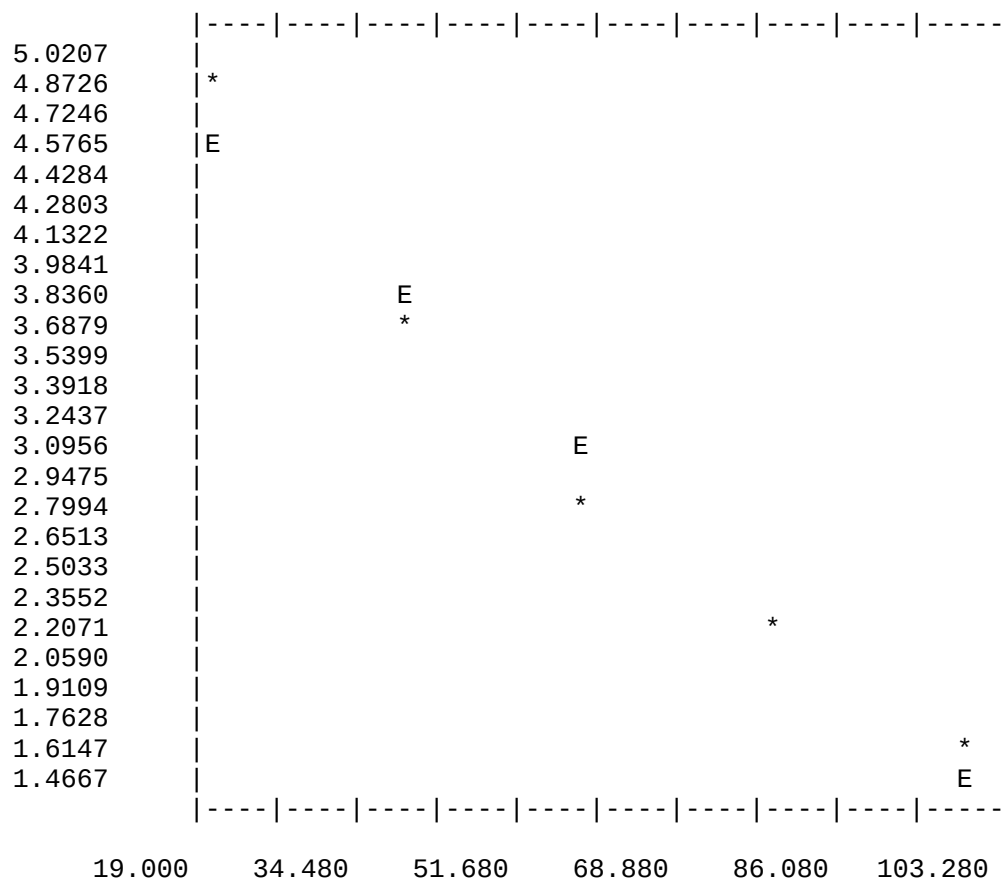
1.48

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 24

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.33576	-0.03948	0.98611	0.97240
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	118.	4.78164	4.54620
2	40.	37.	3.62700	3.75664
3	60.	14.	2.72130	2.96709
4	80.	7.	2.11626	2.17753
5	100.	4.	1.58924	1.38797



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.96

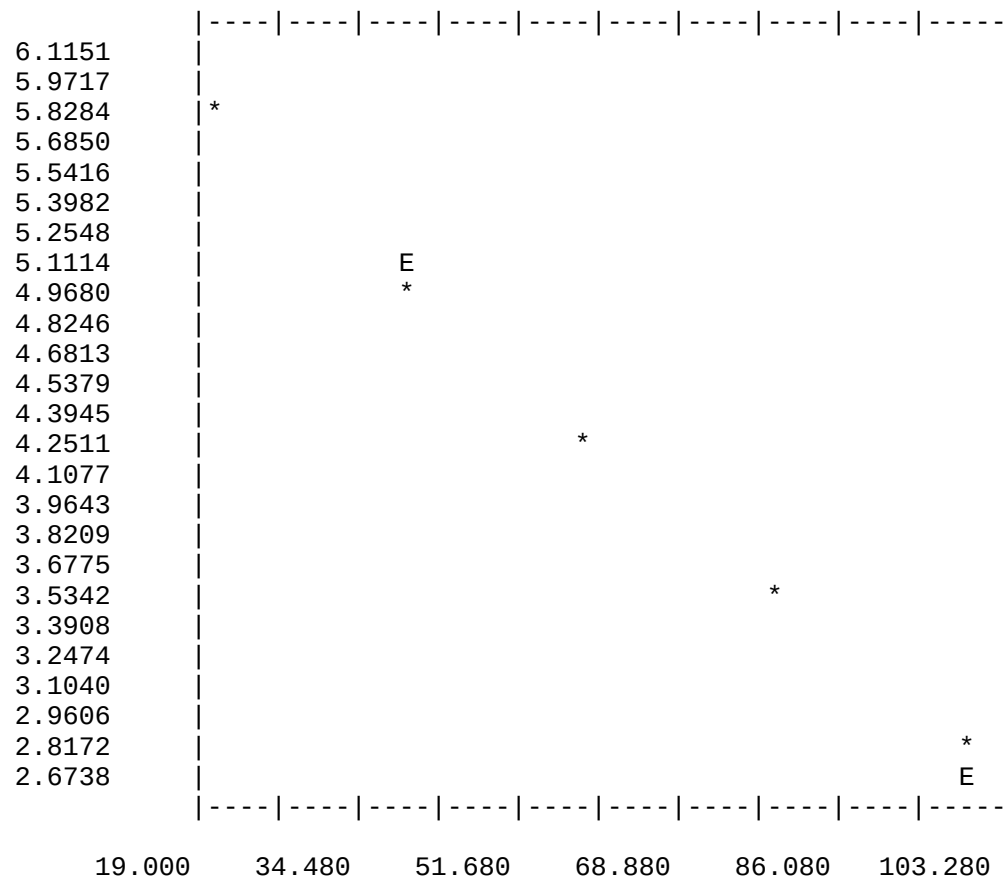
1.56

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 14

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.53877	-0.03875	0.99919	0.99839
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	337.	5.82393	5.76374
2	40.	139.	4.94236	4.98871
3	60.	63.	4.16356	4.21368
4	80.	30.	3.43721	3.43865
5	100.	14.	2.70136	2.66362



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.91

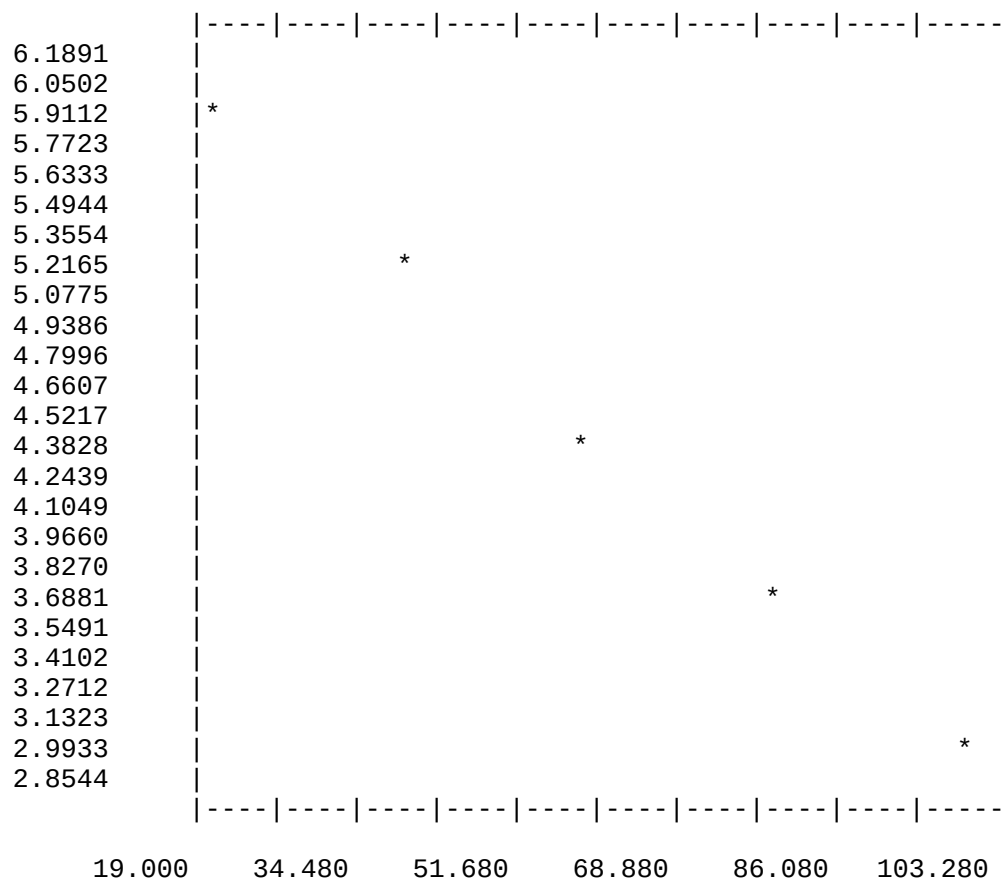
1.58

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 25

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.63459	-0.03776	0.99968	0.99935
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	362.	5.89440	5.87934
2	40.	169.	5.13344	5.12409
3	60.	76.	4.34251	4.36884
4	80.	35.	3.57795	3.61359
5	100.	17.	2.89591	2.85835



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.83

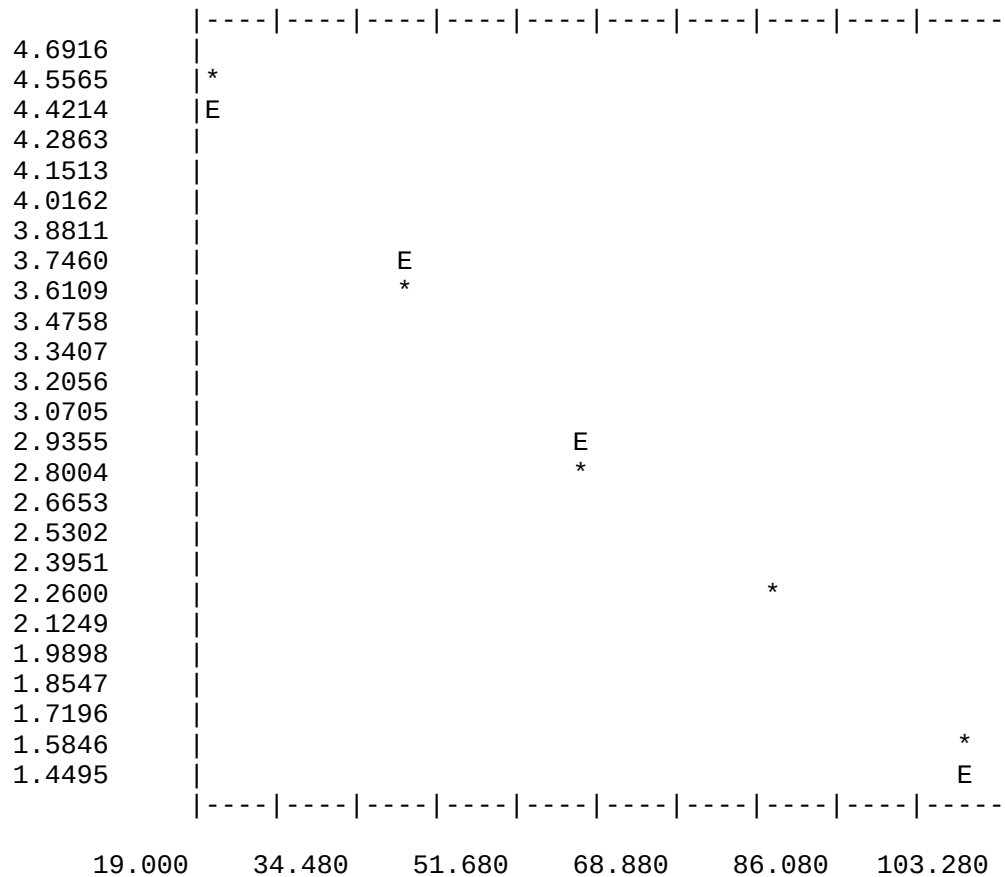
1.63

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 15

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	5.11238	-0.03729	0.99699	0.99399
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	86.	4.46820	4.36662
2	40.	34.	3.56671	3.62085
3	60.	15.	2.75366	2.87508
4	80.	7.	2.12823	2.12932
5	100.	3.	1.45862	1.38355



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.80

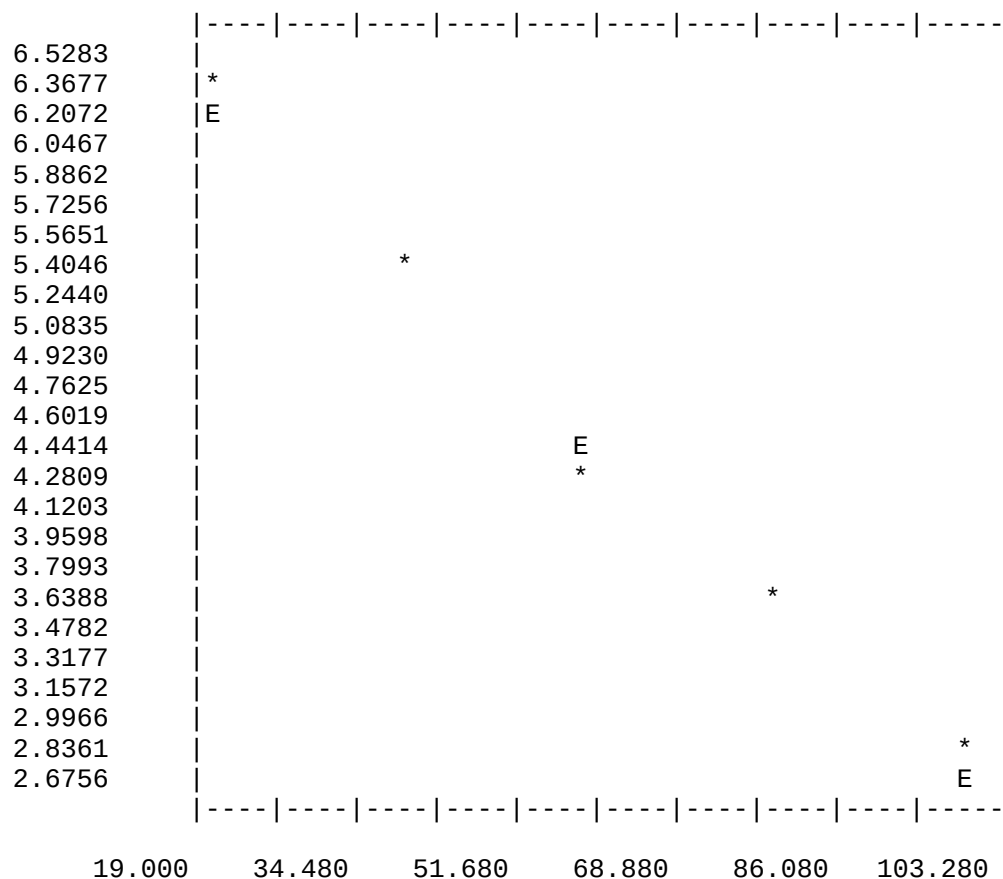
1.65

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 17

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.04064	-0.04393	0.99796	0.99592
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	500.	6.21740	6.16200
2	40.	202.	5.31173	5.28335
3	60.	69.	4.25561	4.40471
4	80.	33.	3.51750	3.52606
5	100.	14.	2.72130	2.64742



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.29

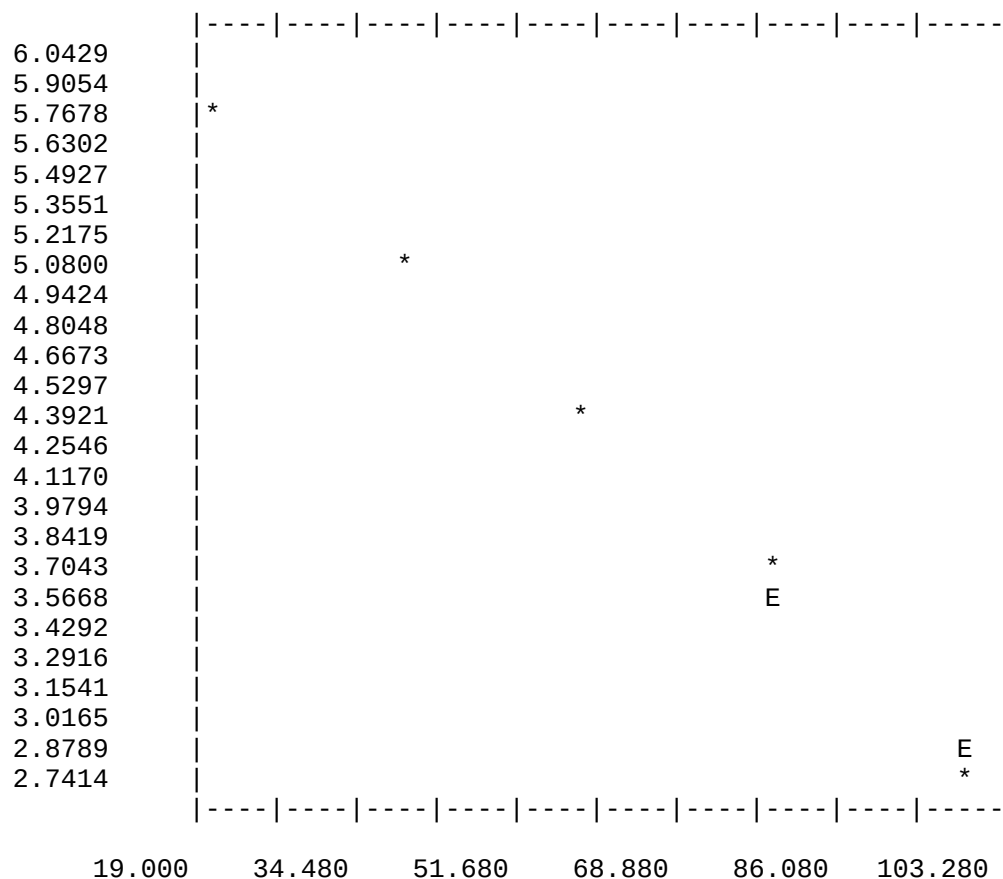
1.40

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.49863	-0.03717	0.99944	0.99888
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	304.	5.71933	5.75516
2	40.	155.	5.04729	5.01169
3	60.	70.	4.26409	4.26822
4	80.	34.	3.56953	3.52474
5	100.	14.	2.74084	2.78127



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.79

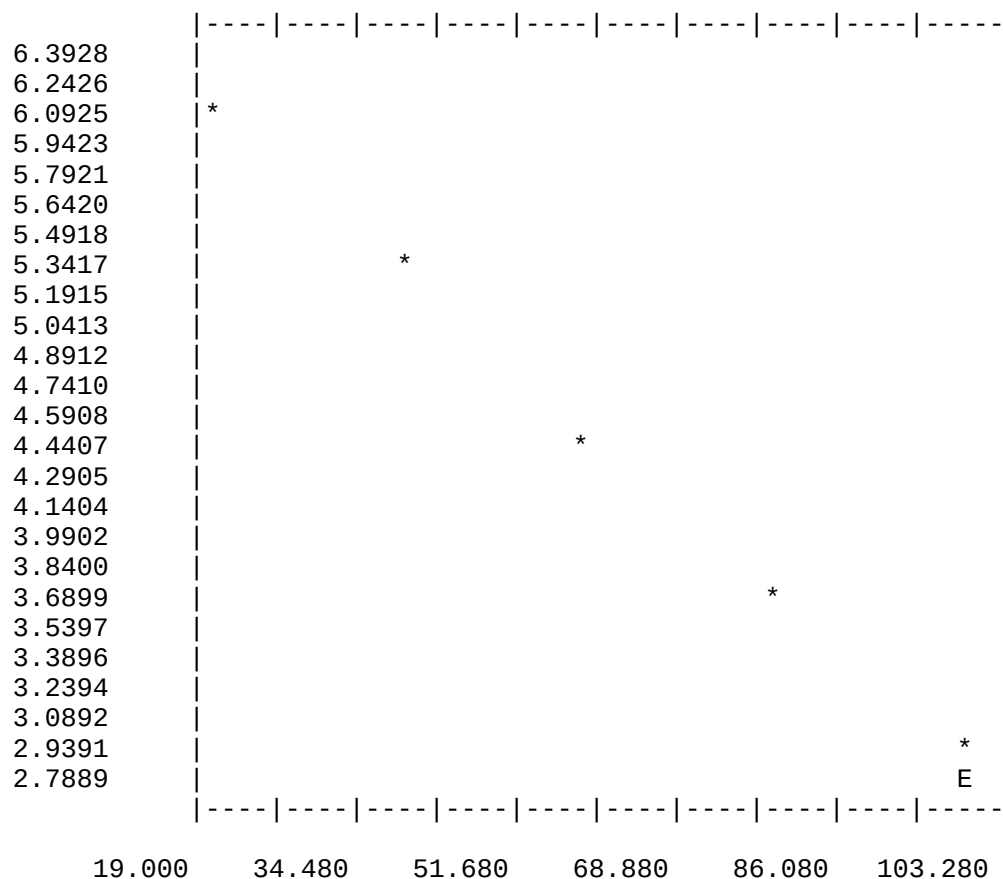
1.65

LIGHT PROFILE ANALYSES - FOR10/21/2004

STATION LOCATION 19

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.85913	-0.04082	0.99950	0.99900
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	440.	6.08836	6.04283
2	40.	180.	5.19850	5.22653
3	60.	77.	4.35543	4.41023
4	80.	36.	3.60550	3.59393
5	100.	15.	2.80336	2.77763



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.06

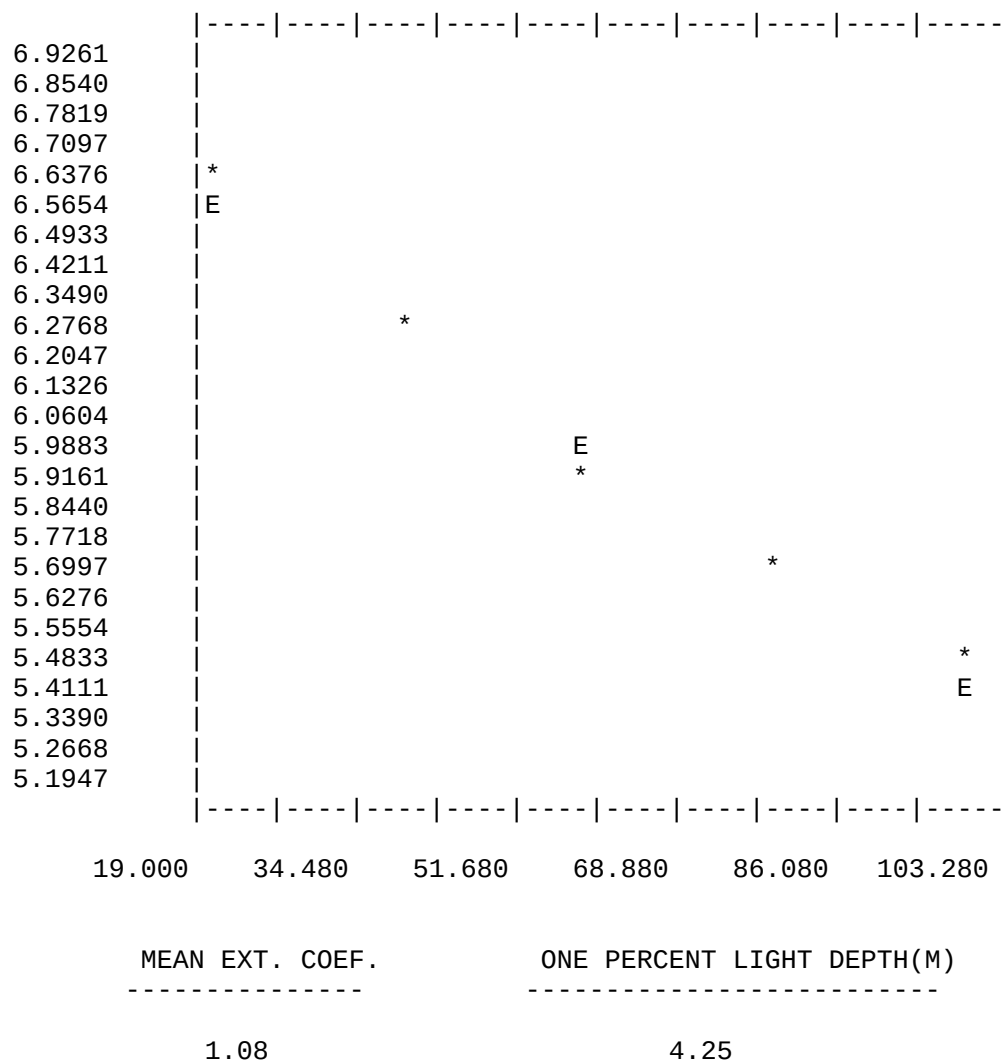
1.50

LIGHT PROFILE ANALYSES - FOR11/30/2004

STATION LOCATION 9

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.83748	-0.01445	0.99544	0.99091
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	731.	6.59633	6.54841
2	40.	509.	6.23539	6.25935
3	60.	369.	5.91296	5.97028
4	80.	291.	5.67607	5.68122
5	100.	227.	5.43066	5.39215

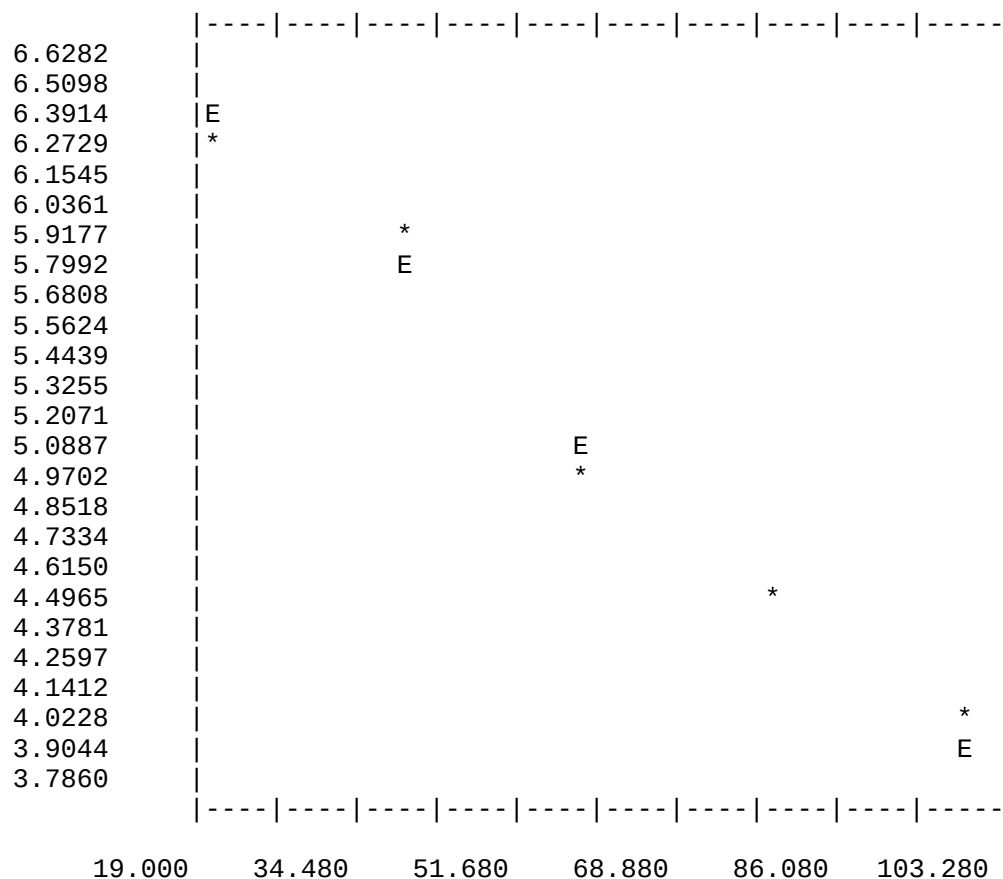


LIGHT PROFILE ANALYSES - FOR11/30/2004

STATION LOCATION 10

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.92560	-0.03065	0.99183	0.98373
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	528.	6.27023	6.31259
2	40.	354.	5.87296	5.69959
3	60.	137.	4.92435	5.08658
4	80.	84.	4.44735	4.47357
5	100.	49.	3.91800	3.86057



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.30

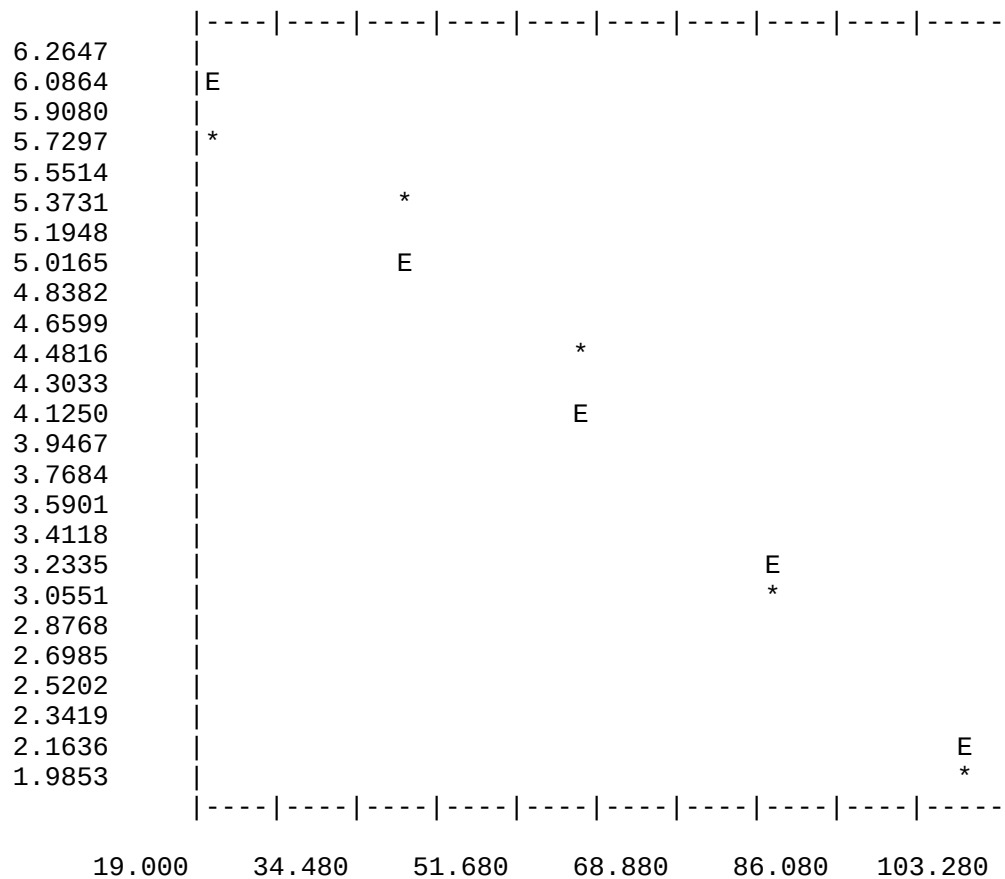
2.00

LIGHT PROFILE ANALYSES - FOR11/30/2004

STATION LOCATION 21

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.93052	-0.04821	0.97614	0.95285
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	263.	5.57633	5.96634
2	40.	193.	5.26889	5.00216
3	60.	86.	4.46706	4.03798
4	80.	19.	2.97553	3.07380
5	100.	6.	1.90211	2.10962



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.62

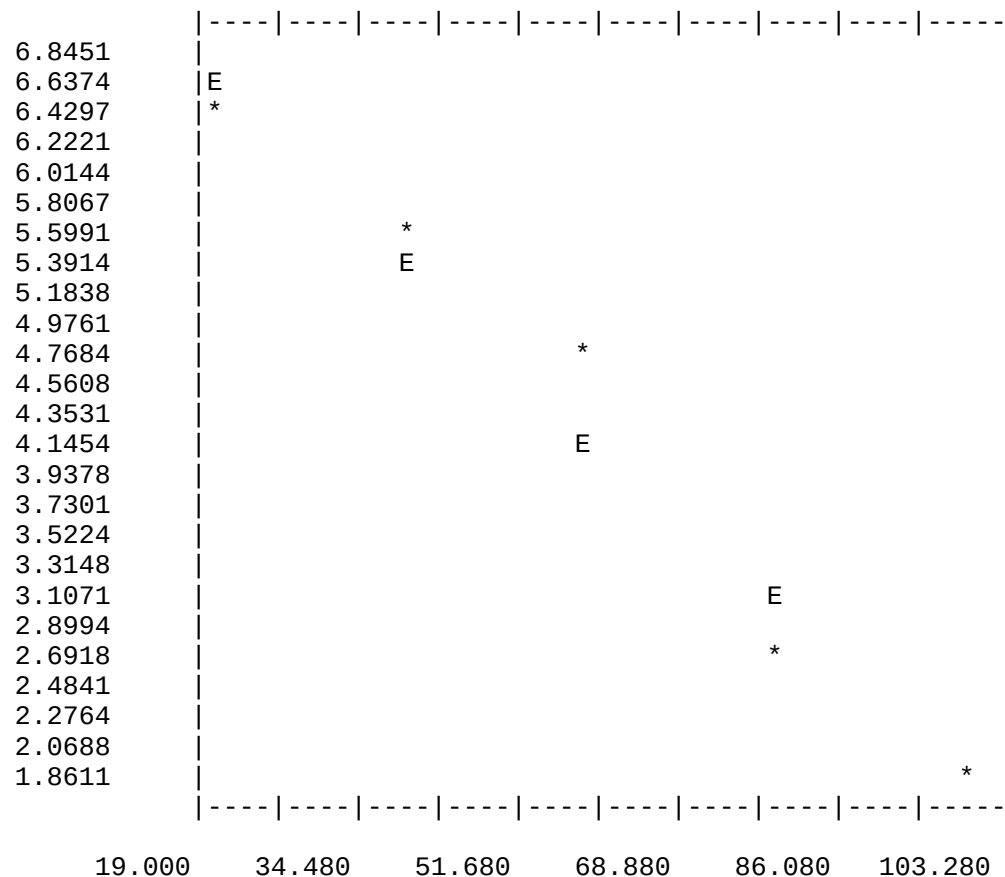
1.27

LIGHT PROFILE ANALYSES - FOR11/30/2004

STATION LOCATION 11

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.70974	-0.05953	0.98609	0.97237
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	545.	6.30299	6.51911
2	40.	220.	5.39861	5.32849
3	60.	101.	4.62986	4.13786
4	80.	13.	2.61740	2.94724
5	100.	5.	1.74047	1.75661



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

4.46

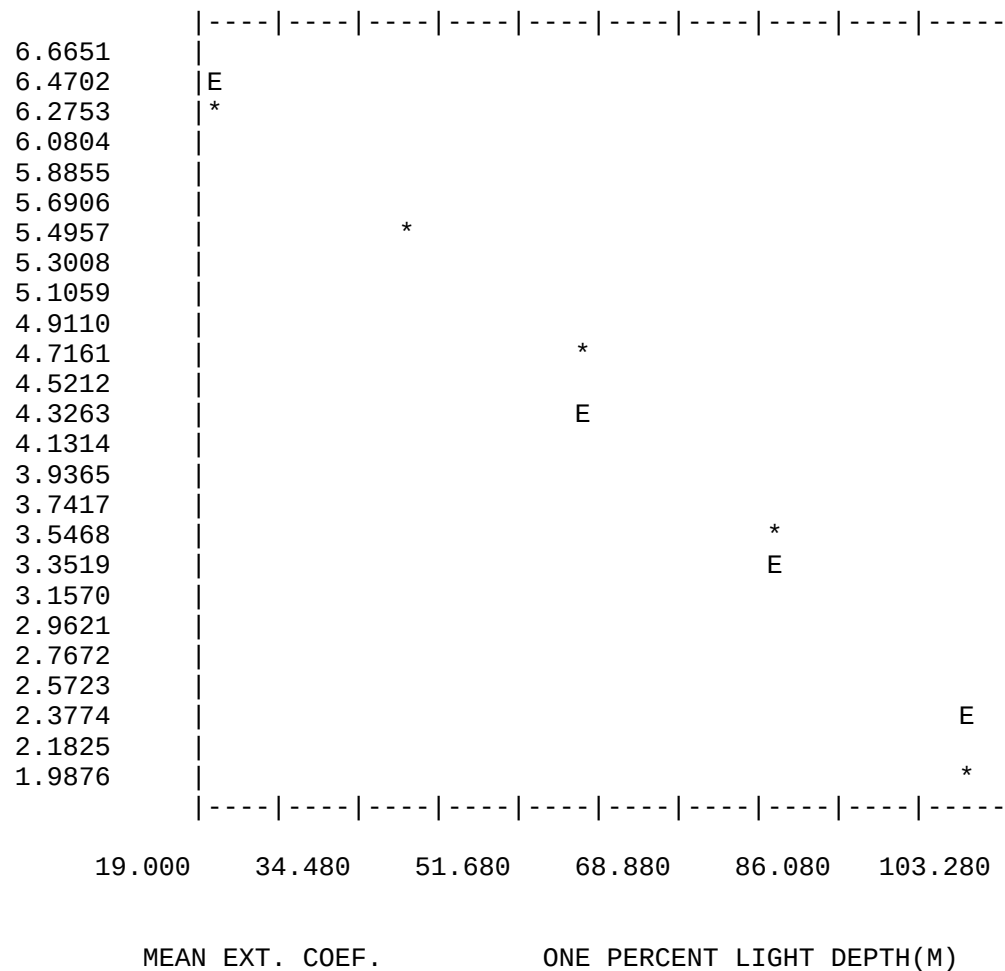
1.03

LIGHT PROFILE ANALYSES - FOR11/30/2004

STATION LOCATION 92

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.38423	-0.05183	0.98786	0.97587
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	466.	6.14719	6.34767
2	40.	204.	5.32350	5.31112
3	60.	92.	4.53689	4.27456
4	80.	31.	3.47816	3.23800
5	100.	6.	1.88707	2.20145



3.89

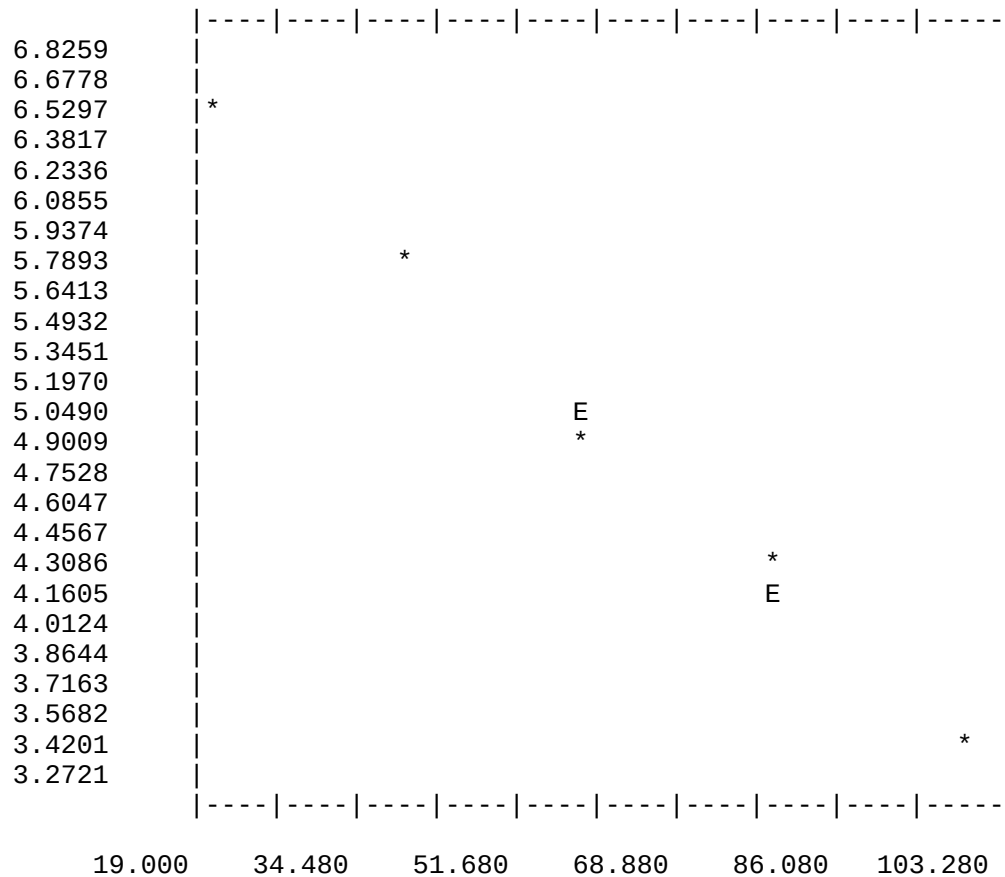
1.18

LIGHT PROFILE ANALYSES - FOR11/30/2004

STATION LOCATION 22

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.28256	-0.03955	0.99940	0.99879
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	665.	6.50084	6.49150
2	40.	291.	5.67538	5.70044
3	60.	132.	4.89260	4.90938
4	80.	65.	4.18965	4.11832
5	100.	26.	3.28840	3.32726



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.97

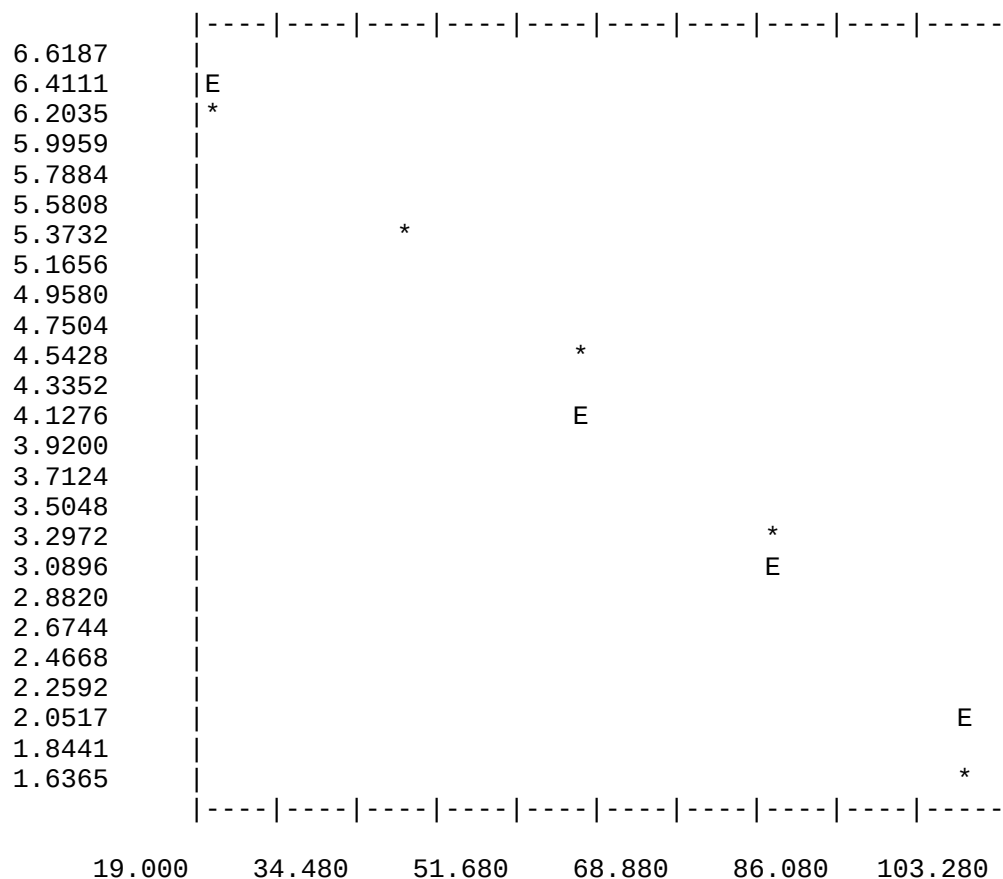
1.55

LIGHT PROFILE ANALYSES - FOR11/30/2004

STATION LOCATION 14

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	7.40586	-0.05512	0.98331	0.96690
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	429.	6.06471	6.30355
2	40.	178.	5.19018	5.20125
3	60.	84.	4.44735	4.09894
4	80.	26.	3.28840	2.99664
5	100.	3.	1.50408	1.89433



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

4.13

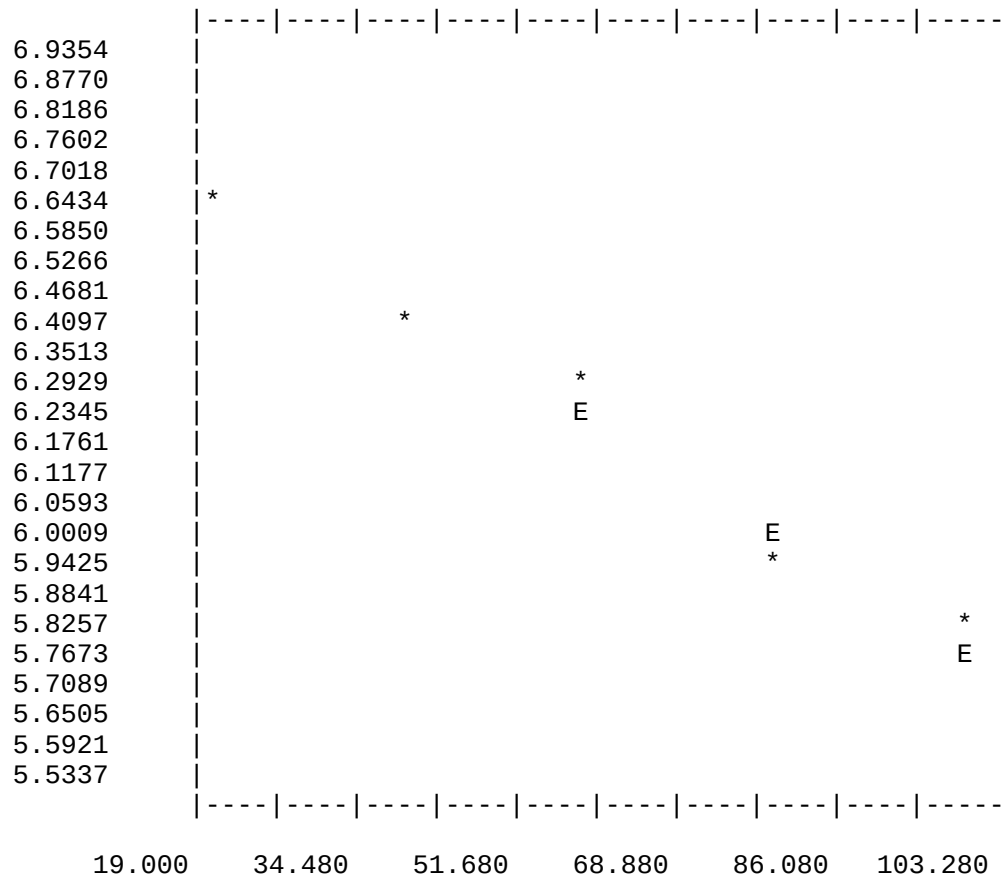
1.11

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 9

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.81551	-0.01052	0.99159	0.98324
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	729.	6.59304	6.60511
2	40.	597.	6.39376	6.39471
3	60.	512.	6.24086	6.18430
4	80.	368.	5.91188	5.97390
5	100.	323.	5.78198	5.76350



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

0.79

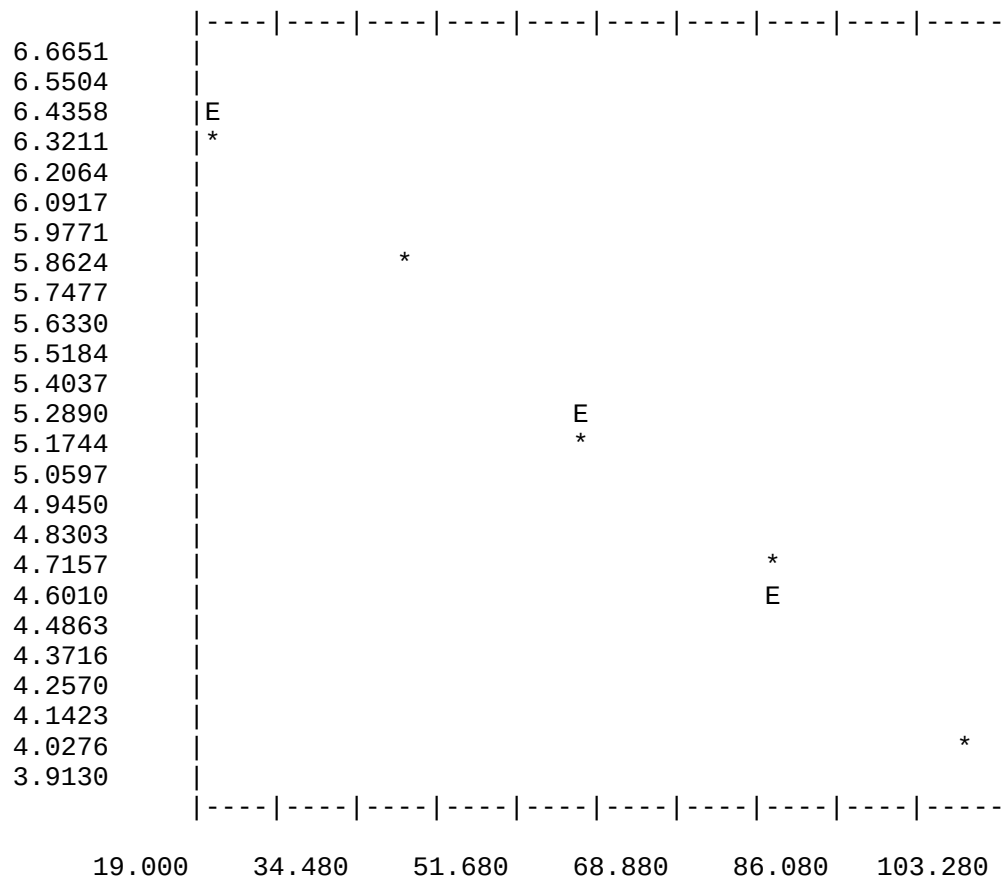
5.84

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 10

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.93189	-0.02921	0.99900	0.99801
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	548.	6.30737	6.34772
2	40.	339.	5.82953	5.76355
3	60.	172.	5.15560	5.17938
4	80.	99.	4.60617	4.59520
5	100.	53.	3.99820	4.01103



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.19

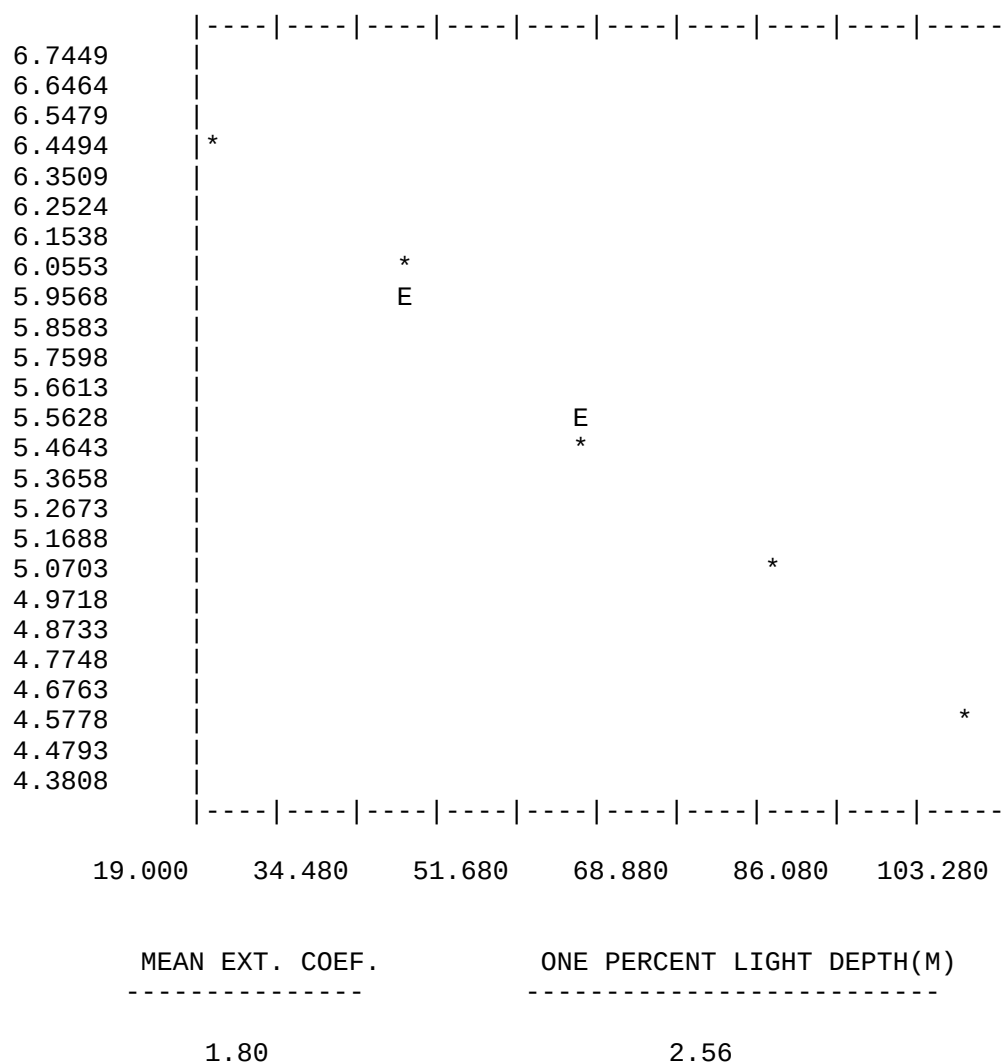
2.10

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 21

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.90270	-0.02395	0.99965	0.99930
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	608.	6.41116	6.42369
2	40.	393.	5.97584	5.94468
3	60.	230.	5.44415	5.46567
4	80.	145.	4.98634	4.98666
5	100.	90.	4.51086	4.50765

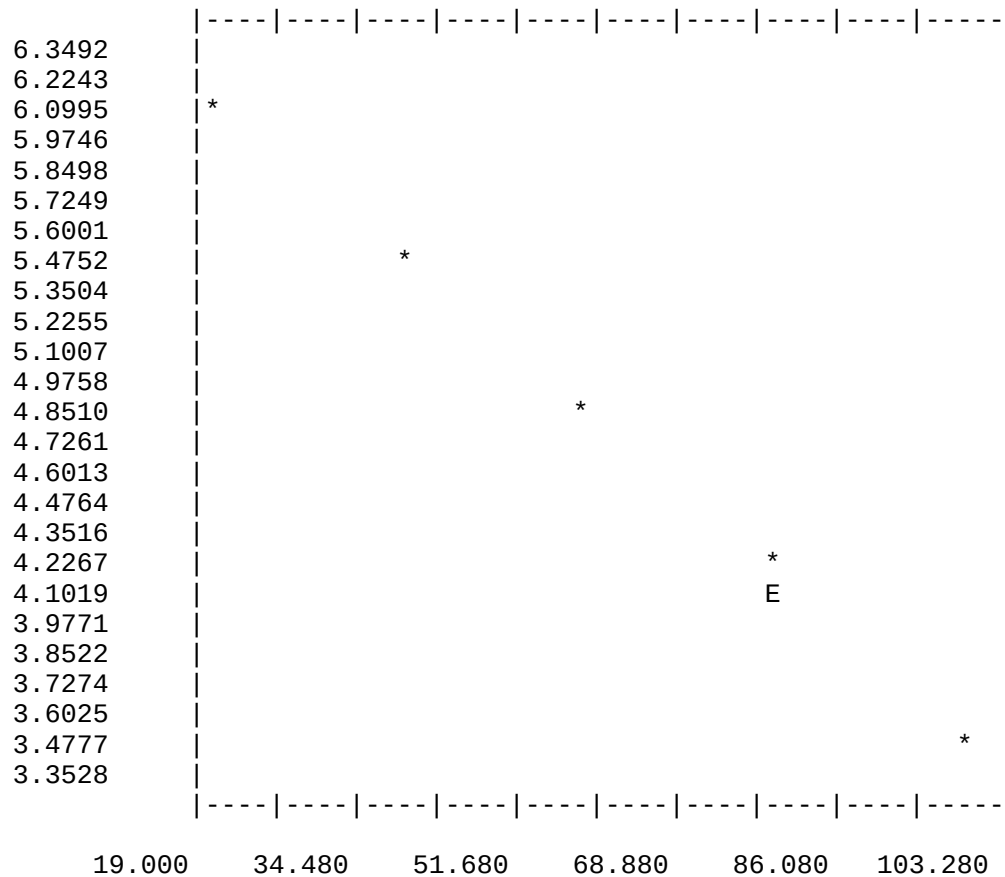


LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 11

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.69787	-0.03255	0.99912	0.99824
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	418.	6.03883	6.04683
2	40.	219.	5.39363	5.39578
3	60.	112.	4.72827	4.74474
4	80.	63.	4.16511	4.09370
5	100.	29.	3.39786	3.44265



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.44

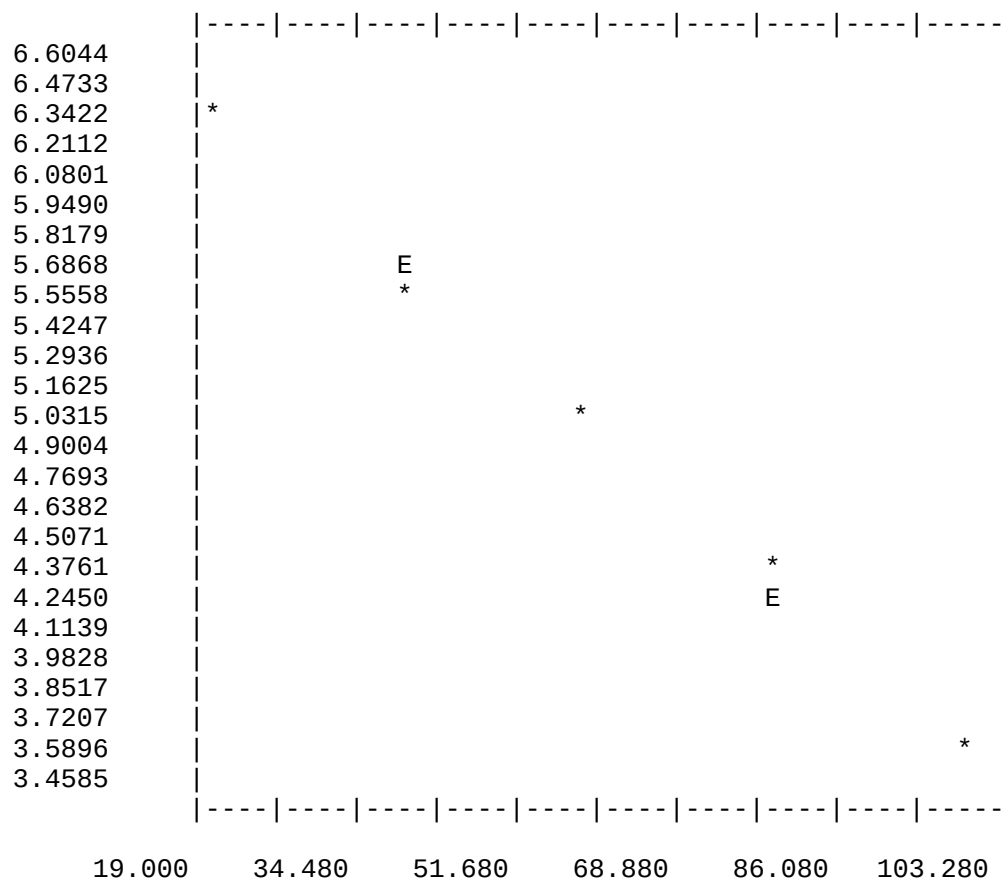
1.89

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 92

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.96350	-0.03423	0.99929	0.99859
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	538.	6.28990	6.27891
2	40.	257.	5.55335	5.59433
3	60.	136.	4.92071	4.90974
4	80.	71.	4.28221	4.22516
5	100.	32.	3.50255	3.54058



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.57

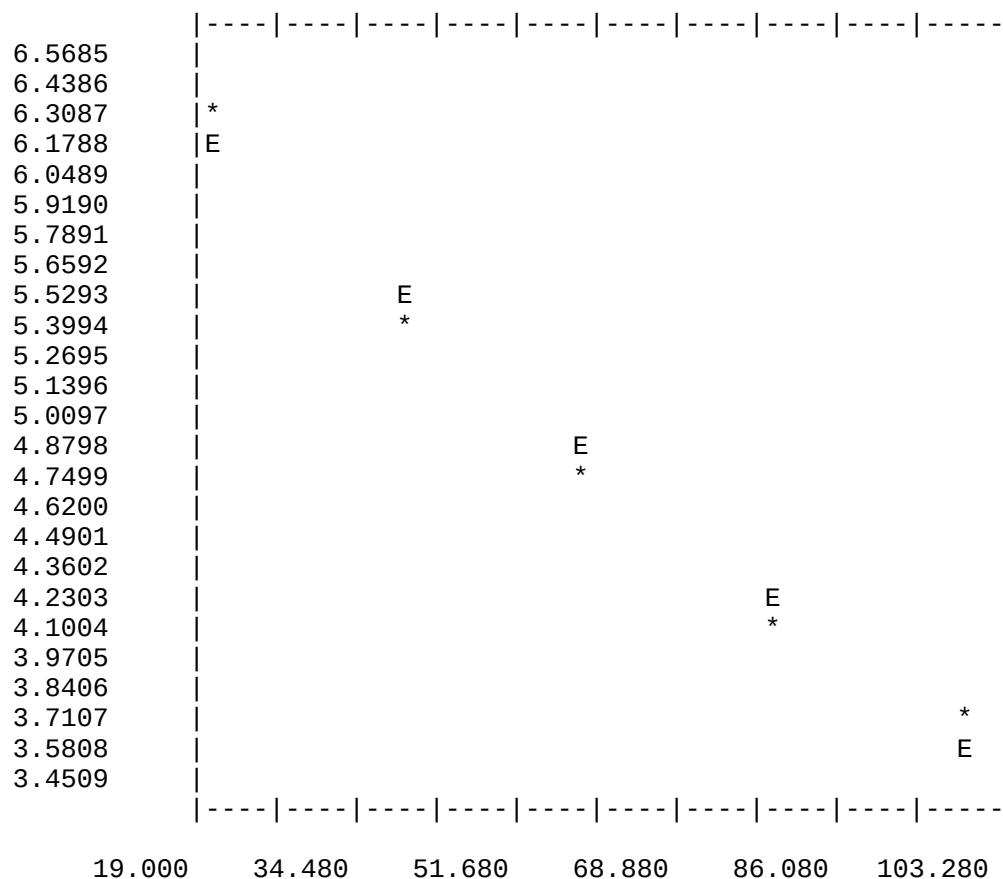
1.79

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 22

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.75225	-0.03257	0.98913	0.97838
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	520.	6.25575	6.10095
2	40.	212.	5.36364	5.44964
3	60.	107.	4.68398	4.79834
4	80.	54.	4.01458	4.14704
5	100.	38.	3.67377	3.49574



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.44

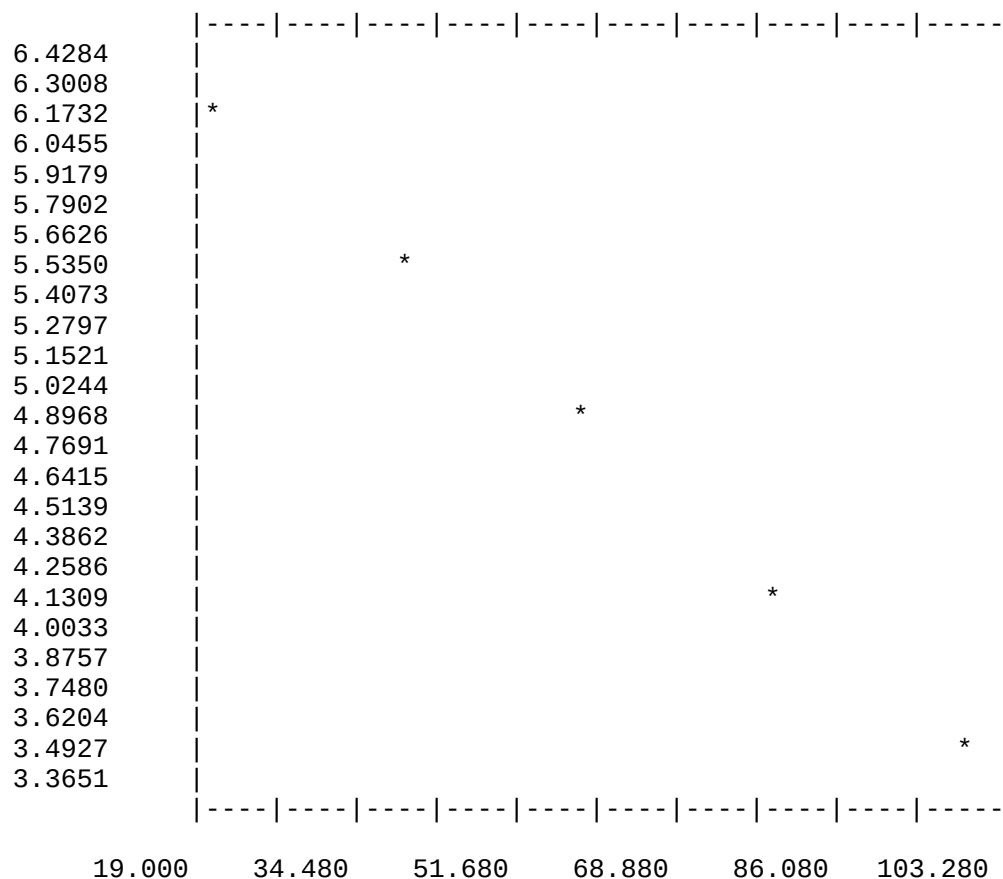
1.89

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 12

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.79740	-0.03375	0.99992	0.99984
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	454.	6.12008	6.12233
2	40.	228.	5.43547	5.44726
3	60.	119.	4.78832	4.77219
4	80.	60.	4.10923	4.09712
5	100.	29.	3.40784	3.42205



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.53

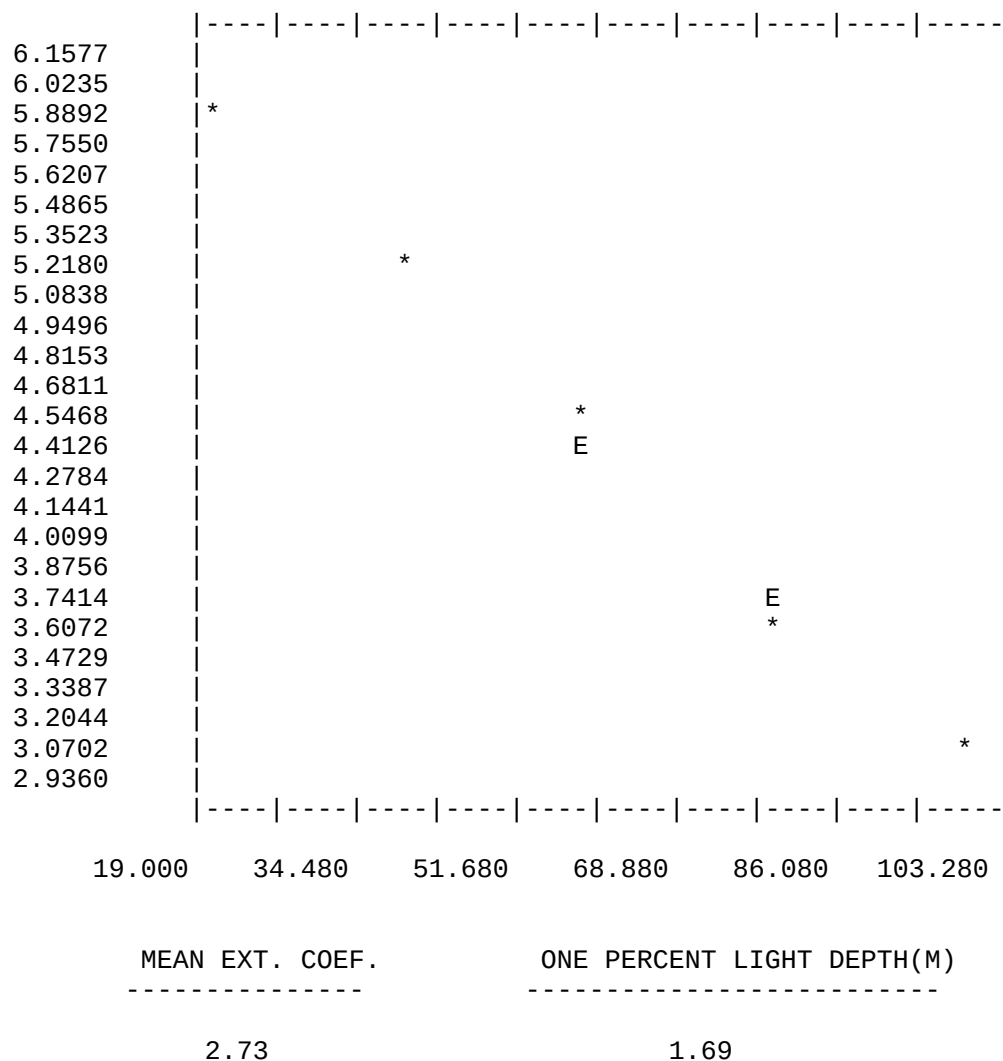
1.82

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 23

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.58969	-0.03641	0.99740	0.99480
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	351.	5.86448	5.86159
2	40.	171.	5.15040	5.13348
3	60.	84.	4.44383	4.40538
4	80.	33.	3.53806	3.67728
5	100.	20.	3.03013	2.94917

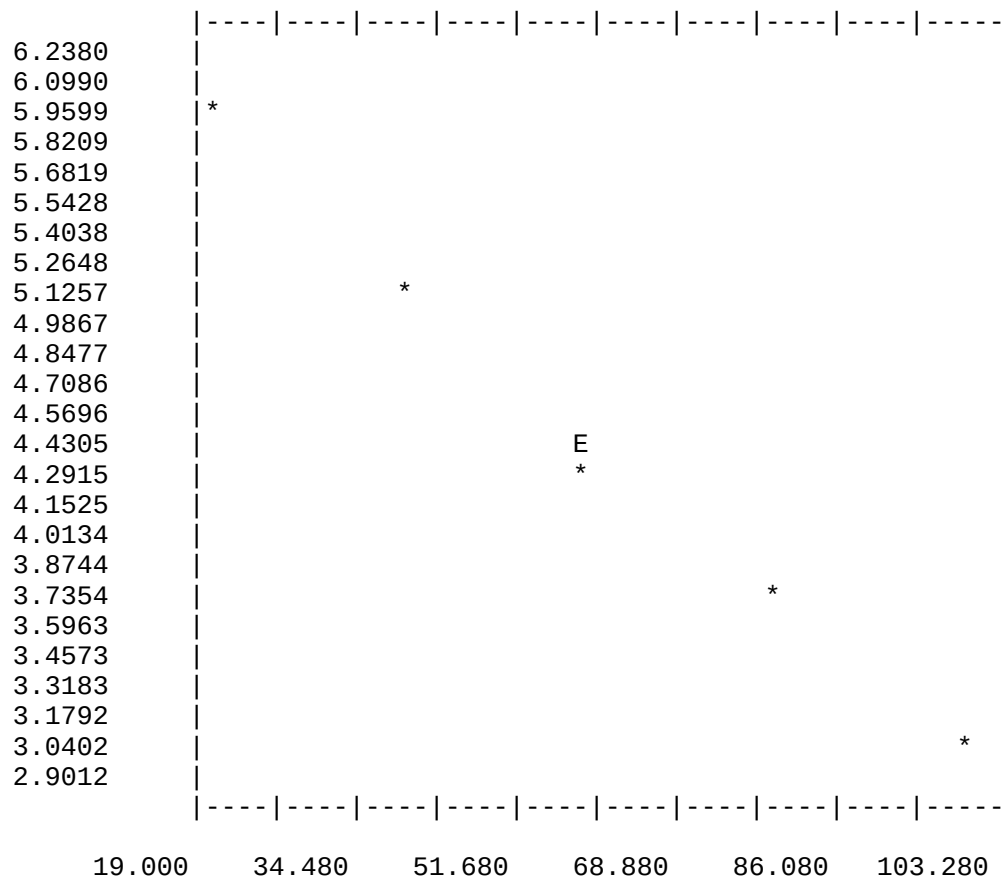


LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 13

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.60218	-0.03695	0.99773	0.99547
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	379.	5.94096	5.86324
2	40.	163.	5.10048	5.12431
3	60.	71.	4.27805	4.38537
4	80.	36.	3.62167	3.64643
5	100.	19.	2.98568	2.90750



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.77

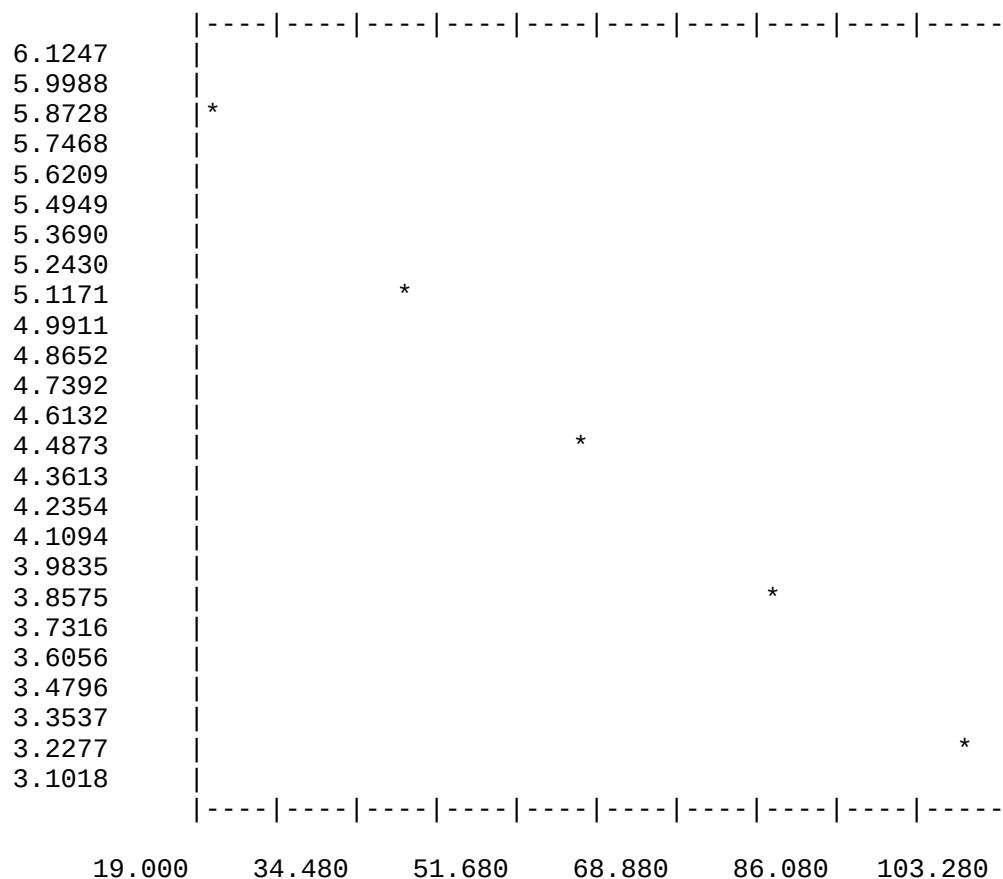
1.66

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 24

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.42647	-0.03294	0.99832	0.99664
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	340.	5.83306	5.76767
2	40.	159.	5.07580	5.10886
3	60.	78.	4.36564	4.45006
4	80.	44.	3.79773	3.79125
5	100.	23.	3.17805	3.13244



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.47

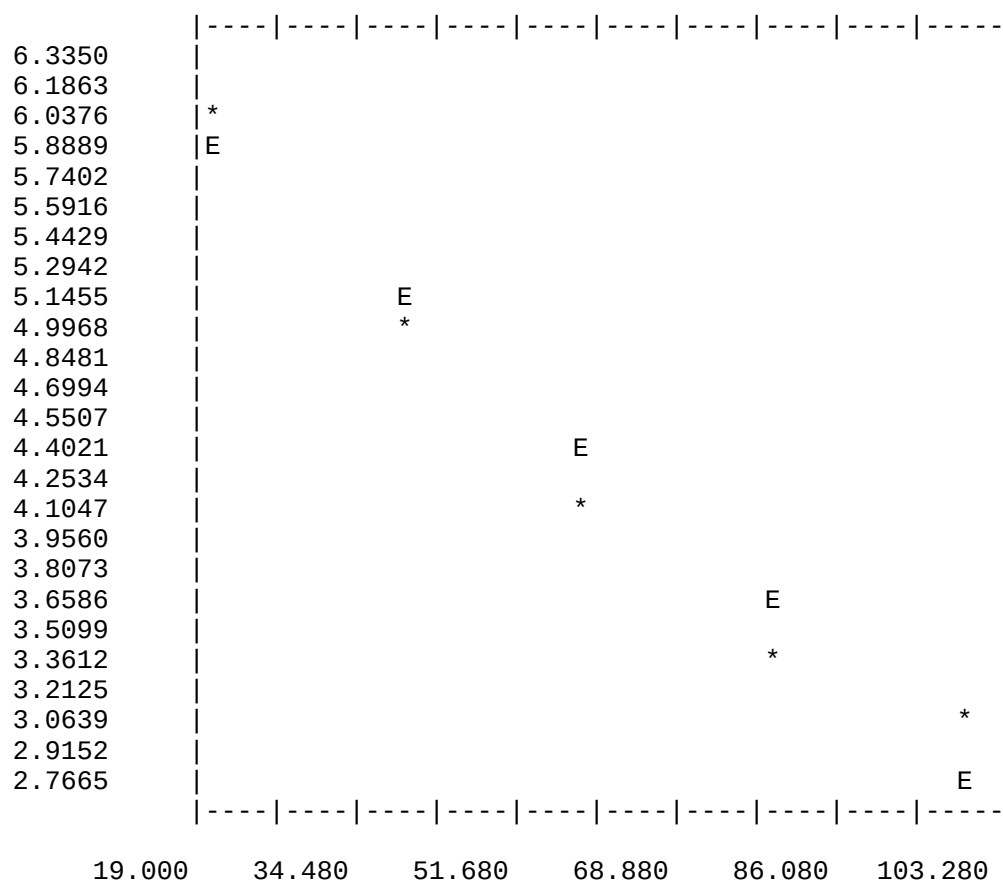
1.86

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 14

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.58583	-0.03830	0.98378	0.96782
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	416.	6.03333	5.81978
2	40.	142.	4.96424	5.05373
3	60.	58.	4.08598	4.28768
4	80.	27.	3.33932	3.52163
5	100.	19.	3.01553	2.75558



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.87

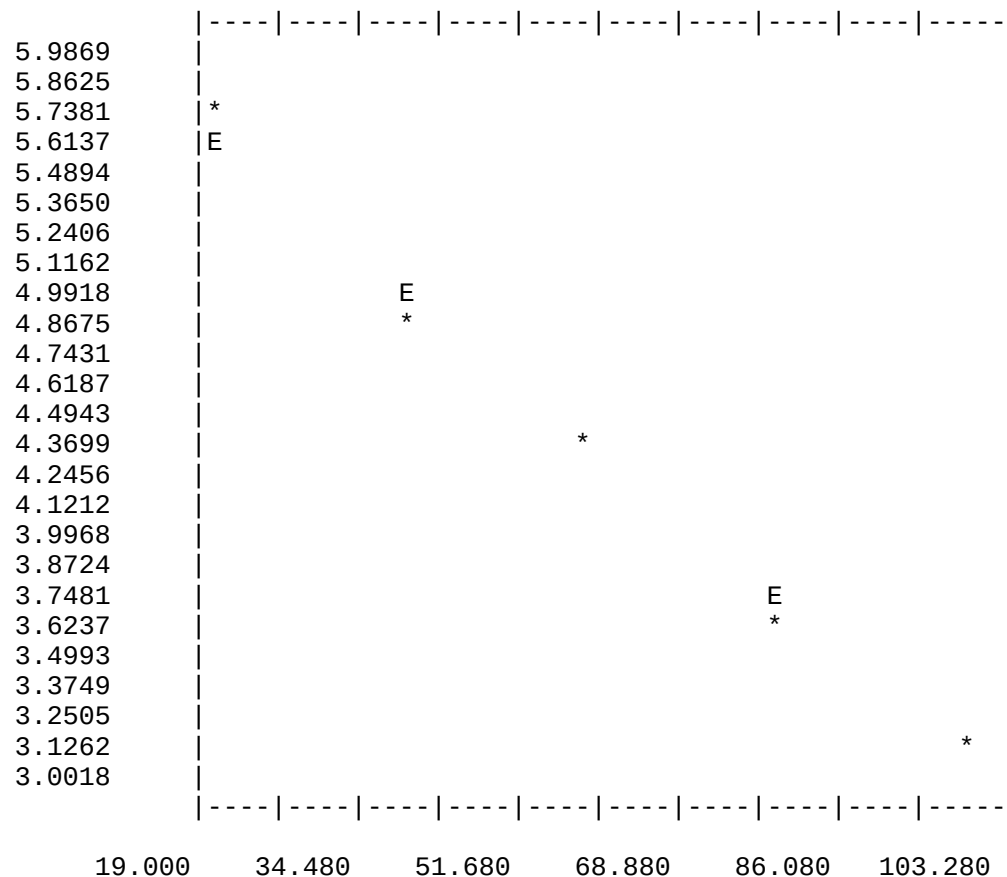
1.60

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 25

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.24391	-0.03215	0.99646	0.99293
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	298.	5.70178	5.60089
2	40.	128.	4.86368	4.95788
3	60.	71.	4.28082	4.31487
4	80.	36.	3.61899	3.67185
5	100.	21.	3.10906	3.02884



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.41

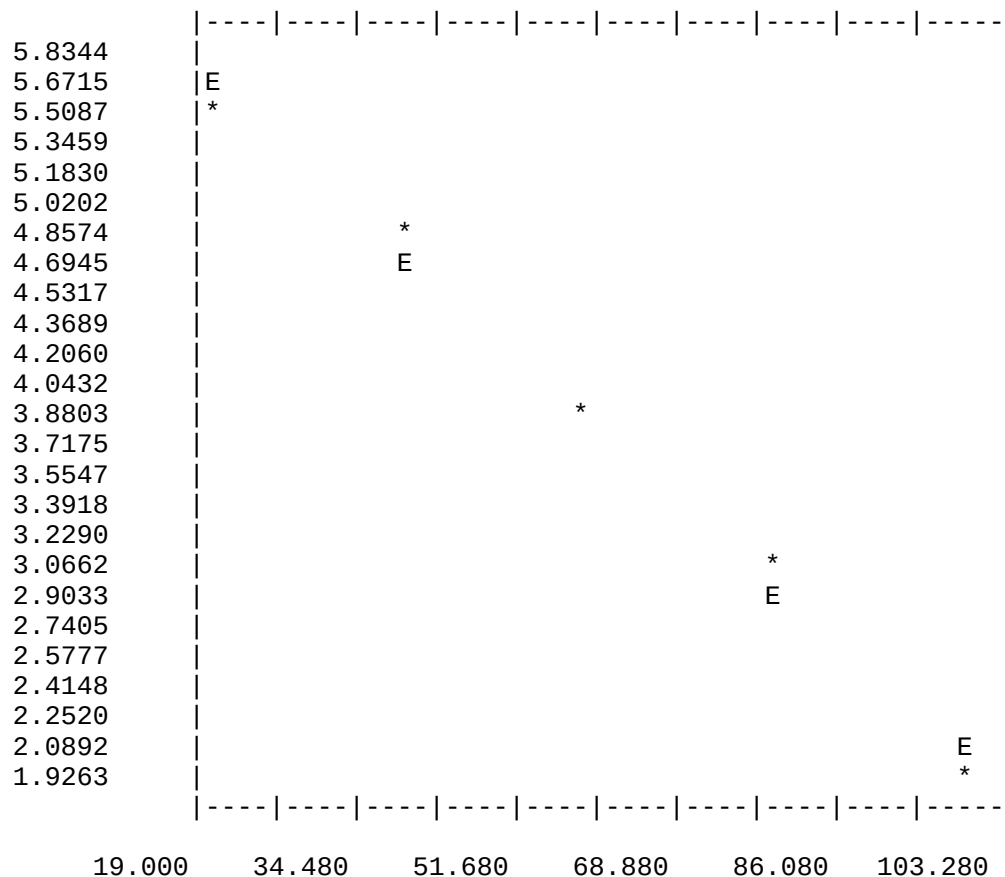
1.91

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 15

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.44860	-0.04460	0.99543	0.99089
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	222.	5.40538	5.55654
2	40.	121.	4.80811	4.66448
3	60.	44.	3.80666	3.77243
4	80.	19.	2.98568	2.88037
5	100.	5.	1.85630	1.98831



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.35

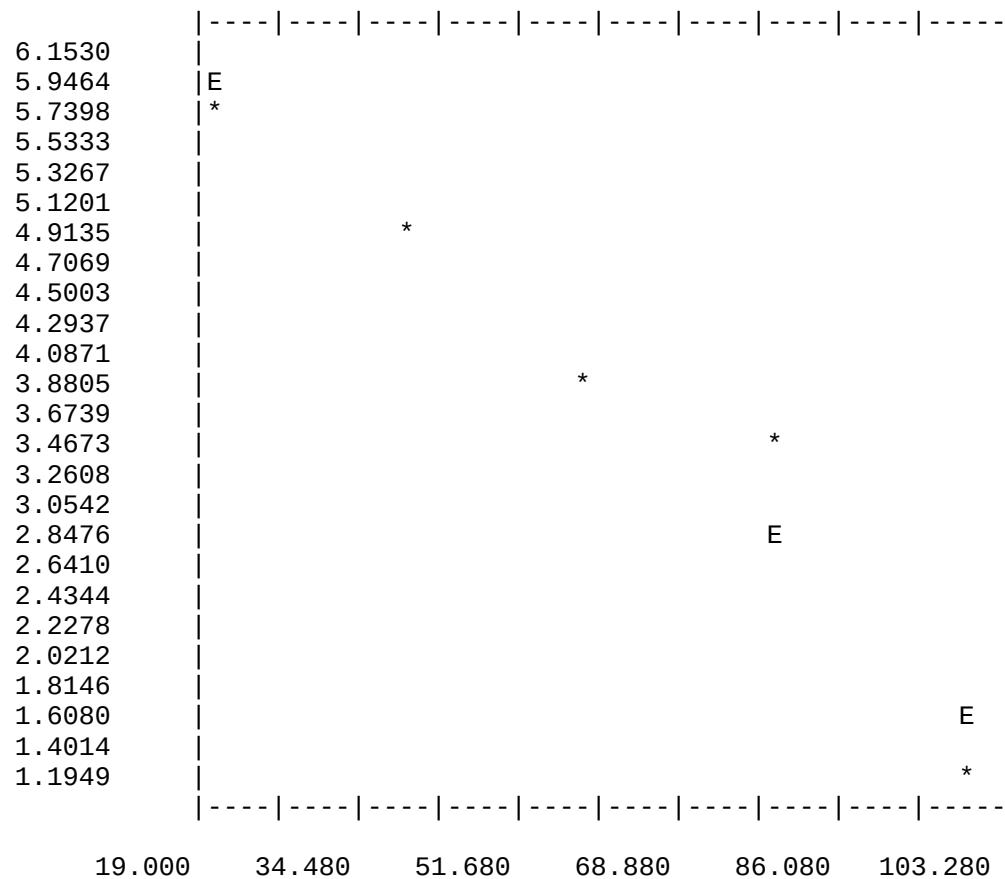
1.38

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 17

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.92406	-0.05320	0.96497	0.93117
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	273.	5.61459	5.86002
2	40.	124.	4.82751	4.79599
3	60.	46.	3.84160	3.73195
4	80.	27.	3.33577	2.66791
5	100.	2.	1.04028	1.60388



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.99

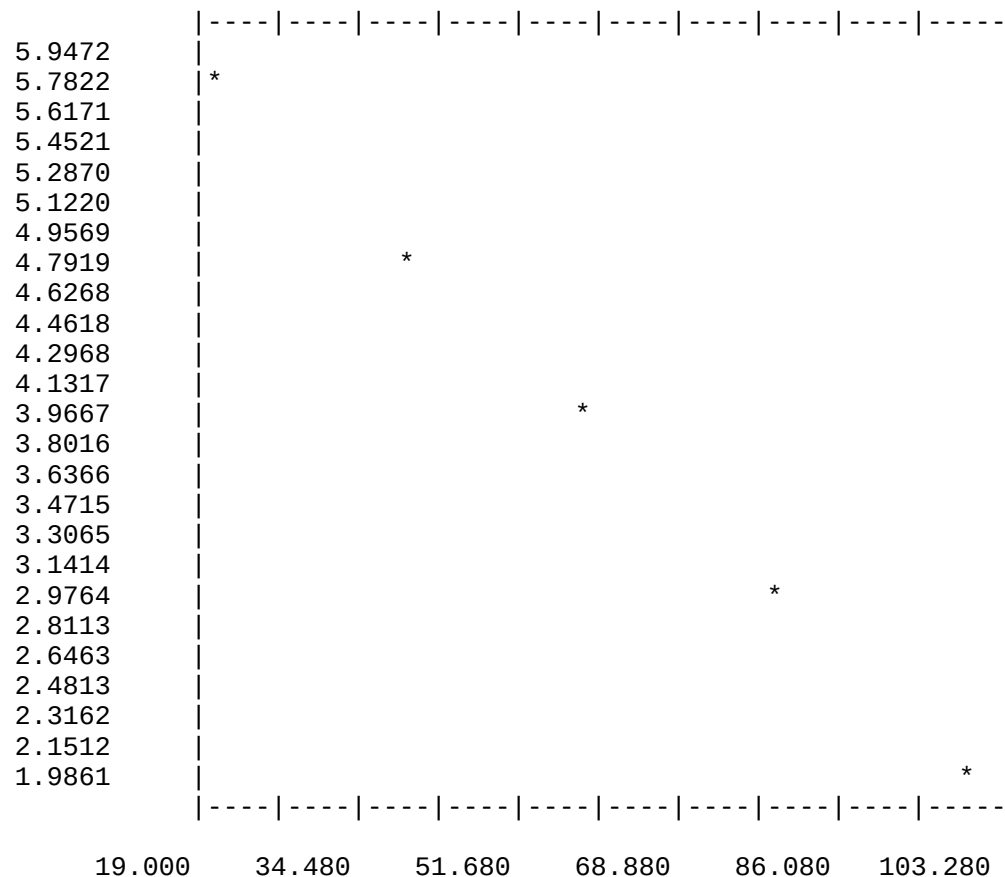
1.15

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 18

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.58231	-0.04630	0.99874	0.99749
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	287.	5.66400	5.65637
2	40.	103.	4.64439	4.73044
3	60.	49.	3.91800	3.80450
4	80.	17.	2.87920	2.87857
5	100.	6.	1.91692	1.95263



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

3.47

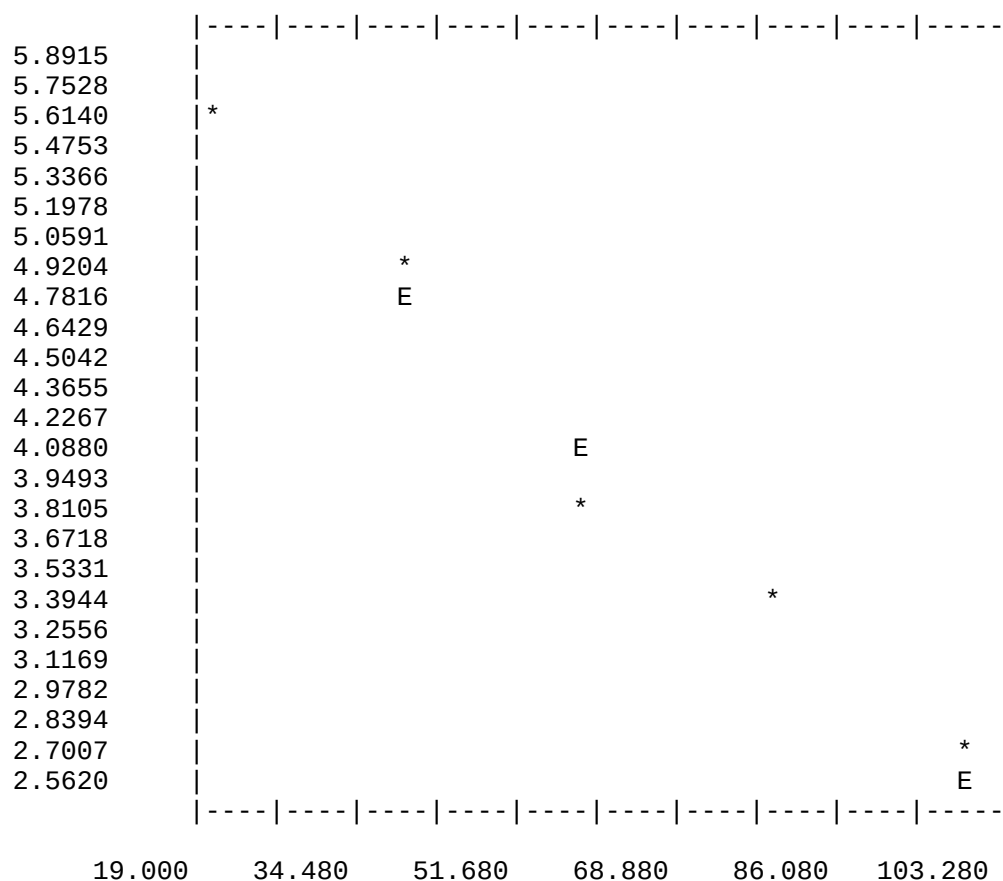
1.33

LIGHT PROFILE ANALYSES - FOR12/20/2004

STATION LOCATION 19

COEFFICIENTS FOR THE LINE $Y = A + BX$

	A	B	R	R SQUARED
	6.26364	-0.03713	0.99329	0.98662
N	X = DEPTH (cm)	Y = LIGHT (ME)	LOG VALUE Y	EXPECTED Y
1	20.	272.	5.61094	5.52106
2	40.	122.	4.81543	4.77849
3	60.	44.	3.80888	4.03592
4	80.	25.	3.27714	3.29335
5	100.	13.	2.66723	2.55078



MEAN EXT. COEF.

ONE PERCENT LIGHT DEPTH(M)

2.78

1.65

Appendix G

Summary Of Water Chemistry Data Collected In Conjunction With “Fixed” Isohaline Stations

Fixed Station Water Quality Data from Benchmark - Top & Bottom

Date	Station Number	Distance from Mouth of River	DEPTH	Color (Platinum-cobalt units)	Residue Volatile, suspended (mg/l)	Residue Total at 105 degC susp (mg/l)	Chloride Dissolved (mg/l as Cl)	Iron (mg/L)	Chlorophyll a (ug/L)
19JAN04	#9	-2.4	Surface	25	4.2	2.1	14520.0	0.201	8.1
19JAN04	#9	-2.4	Bottom	20	3.3	1.5	14945.0	0.207	7.1
19JAN04	#10	6.6	Surface	40	6.9	2.7	9797.0	0.147	3.9
19JAN04	#10	6.6	Bottom	35	7.9	2.1	10947.0	0.201	3.9
19JAN04	#12	15.5	Surface	70	19.4	7.4	4389.0	0.392	18.1
19JAN04	#12	15.5	Bottom	70	15.5	6.0	4414.0	0.354	14.4
19JAN04	#14	23.6	Surface	70	3.0	1.8	111.0	0.239	3.9
19JAN04	#14	23.6	Bottom	80	3.8	2.0	126.0	0.259	3.9
19JAN04	#18	30.4	Surface	70	3.1	0.8	45.2	0.257	3.9
19JAN04	#18	30.4	Bottom	80	2.3	0.9	44.8	0.278	3.9
26FEB04	#9	-2.4	Surface	20	2.9	1.7	13871.0	0.225	3.9
26FEB04	#9	-2.4	Bottom	20	7.3	2.7	14395.0	0.241	3.9
26FEB04	#10	6.6	Surface	50	6.9	3.9	8697.0	0.174	28.2
26FEB04	#10	6.6	Bottom	45	12.0	3.9	10622.0	0.206	22.0
26FEB04	#12	15.5	Surface	100	7.6	3.6	475.0	0.312	3.9
26FEB04	#12	15.5	Bottom	100	13.5	5.5	750.0	0.487	7.2
26FEB04	#14	23.6	Surface	120	5.3	2.7	37.5	0.503	3.9
26FEB04	#14	23.6	Bottom	120	4.7	2.3	41.5	0.440	3.9
26FEB04	#18	30.4	Surface	140	12.3	4.5	34.5	0.467	3.9
26FEB04	#18	30.4	Bottom	140	13.2	4.7	51.5	0.432	5.4
24MAR04	#9	-2.4	Surface	25	11.6	6.3	14420.0	0.158	5.4
24MAR04	#9	-2.4	Bottom	25	23.7	6.6	14021.0	0.295	4.6
24MAR04	#10	6.6	Surface	60	20.0	7.9	8472.0	0.185	25.5
24MAR04	#10	6.6	Bottom	60	40.7	14.0	9197.0	0.192	26.3
24MAR04	#12	15.5	Surface	140	20.5	8.0	615.0	0.499	21.7
24MAR04	#12	15.5	Bottom	140	26.0	9.3	340.0	0.413	14.5
24MAR04	#14	23.6	Surface	120	13.6	8.3	32.0	0.177	35.4
24MAR04	#14	23.6	Bottom	120	16.3	9.6	29.0	0.203	49.0
24MAR04	#18	30.4	Surface	140	16.6	10.6	26.0	0.190	63.8
24MAR04	#18	30.4	Bottom	140	17.2	10.6	24.0	0.224	67.2
28APR04	#9	-2.4	Surface	15	3.9	1.7	14695.0	0.172	4.5
28APR04	#9	-2.4	Bottom	15	13.9	4.4	15445.0	0.268	6.4
28APR04	#10	6.6	Surface	20	22.7	7.8	12046.0	0.269	11.8
28APR04	#10	6.6	Bottom	25	25.3	8.4	12396.0	0.407	14.5
28APR04	#12	15.5	Surface	45	17.1	7.3	5398.0	0.153	20.9
28APR04	#12	15.5	Bottom	45	15.5	7.0	5698.0	0.192	28.2
28APR04	#14	23.6	Surface	45	9.7	4.9	788.0	0.123	19.1
28APR04	#14	23.6	Bottom	50	10.2	4.2	876.0	0.158	14.7
28APR04	#18	30.4	Surface	50	6.2	3.3	45.0	0.085	26.3
28APR04	#18	30.4	Bottom	60	8.6	4.6	49.0	0.088	24.6

Fixed Station Water Quality Data from Benchmark - Top & Bottom

Date	Station Number	Distance from Mouth of River	DEPTH	Color (Platinum-cobalt units)	Residue Volatile, suspended (mg/l)	Residue Total at 105 degC susp (mg/l)	Chloride Dissolved (mg/l as Cl)	Iron (mg/L)	Chlorophyll a (ug/L)
27MAY04	#9	-2.4	Surface	20	23.0	7.0	14834.0	0.446	3.9
27MAY04	#9	-2.4	Bottom	15	14.5	4.4	15240.0	0.303	3.9
27MAY04	#10	6.6	Surface	25	12.8	4.1	15480.0	0.327	8.1
27MAY04	#10	6.6	Bottom	25	25.9	8.1	17195.0	0.380	11.0
27MAY04	#12	15.5	Surface	40	10.4	4.9	7907.0	0.319	13.6
27MAY04	#12	15.5	Bottom	40	10.9	4.8	8264.0	0.417	9.9
27MAY04	#14	23.6	Surface	50	5.2	3.2	2295.0	0.324	14.5
27MAY04	#14	23.6	Bottom	50	7.7	4.0	2621.0	0.327	7.2
27MAY04	#18	30.4	Surface	50	4.8	2.7	34.8	0.305	28.8
27MAY04	#18	30.4	Bottom	50	5.7	3.3	34.5	0.339	28.1
22JUN04	#9	-2.4	Surface	25	2.1	1.4	14195.0	2.129	3.5
21JUN04	#9	-2.4	Bottom	25	10.6	3.5	14654.0	2.465	4.6
22JUN04	#10	6.6	Surface	40	5.3	2.4	11118.0	0.398	7.5
21JUN04	#10	6.6	Bottom	40	9.2	2.9	12047.0	0.344	11.0
22JUN04	#12	15.5	Surface	70	8.8	5.0	2471.0	0.211	49.0
21JUN04	#12	15.5	Bottom	70	7.6	3.5	2575.0	0.315	30.1
22JUN04	#14	23.6	Surface	100	3.3	1.6	66.6	0.296	5.6
21JUN04	#14	23.6	Bottom	100	3.3	1.4	72.9	0.281	3.5
22JUN04	#18	30.4	Surface	120	3.3	1.7	27.3	0.367	12.6
21JUN04	#18	30.4	Bottom	120	4.0	2.6	26.8	0.349	13.6
22JUL04	#9	-2.4	Surface	50	5.0	3.2	10363.0	0.073	9.1
22JUL04	#9	-2.4	Bottom	30	20.1	7.6	13429.0	0.079	8.3
22JUL04	#10	6.6	Surface	100	4.6	2.7	3686.0	0.214	8.3
22JUL04	#10	6.6	Bottom	60	12.4	5.1	11109.0	0.259	8.0
22JUL04	#12	15.5	Surface	140	3.8	2.3	86.6	0.383	3.5
22JUL04	#12	15.5	Bottom	140	6.3	3.1	97.4	0.451	4.7
22JUL04	#14	23.6	Surface	180	0.8	1.4	32.3	0.364	3.5
22JUL04	#14	23.6	Bottom	200	4.2	2.3	30.9	0.462	3.5
22JUL04	#18	30.4	Surface	200	7.9	3.2	29.0	0.527	3.5
22JUL04	#18	30.4	Bottom	200	8.0	3.8	27.7	0.689	3.5
25AUG04	#9	-2.4	Surface	350	5.1	3.8	2238.0	0.775	27.7
25AUG04	#9	-2.4	Bottom	200	5.9	2.9	5541.0	0.754	18.9
25AUG04	#10	6.6	Surface	450	11.0	7.0	158.0	1.356	124.0
25AUG04	#10	6.6	Bottom	300	9.5	5.0	3877.0	1.196	81.4
25AUG04	#12	15.5	Surface	450	8.4	3.6	12.8	0.945	131.0
25AUG04	#12	15.5	Bottom	450	10.2	8.0	16.9	1.534	123.0
25AUG04	#14	23.6	Surface	400	7.8	5.2	13.9	1.437	104.0
25AUG04	#14	23.6	Bottom	400	10.0	7.6	14.0	1.256	104.0
25AUG04	#18	30.4	Surface	400	5.4	4.2	14.4	1.183	90.9
25AUG04	#18	30.4	Bottom	450	8.4	5.8	14.4	1.206	89.9

Fixed Station Water Quality Data from Benchmark - Top & Bottom

Date	Station Number	Distance from Mouth of River	DEPTH	Color (Platinum-cobalt units)	Residue Volatile, suspended (mg/l)	Residue Total at 105 degC susp (mg/l)	Chloride Dissolved (mg/l as Cl)	Iron (mg/L)	Chlorophyll a (ug/L)
23SEP04	#9	-2.4	Surface	150	4.7	2.4	6629.0	0.211	3.5
23SEP04	#9	-2.4	Bottom	150	7.7	2.7	7746.0	0.241	3.5
23SEP04	#10	6.6	Surface	225	3.9	2.3	2597.0	0.480	5.2
23SEP04	#10	6.6	Bottom	225	4.1	1.6	2499.0	0.505	7.2
23SEP04	#12	15.5	Surface	300	1.1	1.4	13.1	0.531	4.4
23SEP04	#12	15.5	Bottom	300	2.0	1.4	13.1	0.510	6.0
23SEP04	#14	23.6	Surface	250	0.6	1.4	12.7	0.538	11.6
23SEP04	#14	23.6	Bottom	250	1.0	1.4	12.9	0.553	9.9
23SEP04	#18	30.4	Surface	250	0.6	1.4	12.8	0.524	13.5
23SEP04	#18	30.4	Bottom	300	0.6	1.4	12.9	0.549	8.8
21OCT04	#9	-2.4	Surface	200	12.1	5.6	6059.0	0.209	33.8
21OCT04	#9	-2.4	Bottom	150	16.3	6.4	8804.0	0.161	21.5
21OCT04	#10	6.6	Surface	250	14.7	7.8	1319.0	0.553	19.7
21OCT04	#10	6.6	Bottom	250	12.4	5.1	4725.0	0.694	41.9
21OCT04	#12	15.5	Surface	350	2.3	2.3	28.9	0.516	12.3
21OCT04	#14	23.6	Surface	250	4.9	4.0	14.7	0.561	15.0
21OCT04	#14	23.6	Bottom	250	5.4	3.4	15.0	0.589	14.8
21OCT04	#18	30.4	Surface	250	4.3	3.2	14.7	0.619	18.5
21OCT04	#18	30.4	Bottom	250	5.1	3.5	14.7	0.634	15.9
30NOV04	#9	-2.4	Surface	100	15.0	4.5	12604.0	0.087	8.1
30NOV04	#9	-2.4	Bottom	50	22.6	6.8	12395.0	0.073	9.2
30NOV04	#10	6.6	Surface	150	25.5	9.1	7167.0	0.380	49.1
30NOV04	#10	6.6	Bottom	150	37.8	12.3	9651.0	0.522	52.0
30NOV04	#12	15.5	Surface	200	11.6	5.9	226.0	0.456	47.2
30NOV04	#12	15.5	Bottom	200	16.3	7.0	379.0	0.486	57.1
30NOV04	#14	23.6	Surface	200	5.8	3.5	27.7	0.183	35.3
30NOV04	#14	23.6	Bottom	200	7.5	4.5	28.1	0.323	33.4
30NOV04	#18	30.4	Surface	150	7.6	4.5	25.6	0.420	30.0
30NOV04	#18	30.4	Bottom	150	8.3	4.4	25.4	0.429	25.3
20DEC04	#9	-2.4	Surface	35	17.0	9.0	15539.0	0.029	8.5
20DEC04	#9	-2.4	Bottom	40	13.1	6.9	15949.0	0.029	20.1
20DEC04	#10	6.6	Surface	70	37.4	17.4	11868.0	0.172	31.8
20DEC04	#10	6.6	Bottom	90	39.4	16.2	12824.0	0.178	32.2
20DEC04	#12	15.5	Surface	120	15.2	9.1	2974.0	0.310	20.4
20DEC04	#12	15.5	Bottom	120	15.4	10.1	3455.0	0.286	14.9
21DEC04	#12	15.5	Bottom	250	3.1	2.0	30.7	0.555	14.0
20DEC04	#14	23.6	Surface	140	4.9	4.6	31.5	0.426	8.7
20DEC04	#14	23.6	Bottom	180	4.9	4.9	34.4	0.429	24.1
20DEC04	#18	30.4	Surface	160	3.8	3.8	33.7	0.425	13.3
20DEC04	#18	30.4	Bottom	200	4.2	4.2	33.1	0.430	13.1

Fixed Station Water Quality Data from Benchmark - Top & Bottom

Date	Station Number	Distance from Mouth of River	DEPTH	Ammonia/Ammonium (mg/l)	Nitrogen, NO2+NO3 Total (mg/l as N)	Nitrogen, Total Kjeldahl (mg/l as N)	Phosphorus Ortho Total (mg/l as P)	Atomic Ration of Available Nitrogen to Phosphorus	Silica, Dissolved (mg/l as SI02)
19JAN04	#9	-2.4	Surface	0.010	0.010	0.20	0.090	0.5	0.19
19JAN04	#9	-2.4	Bottom	0.010	0.010	0.17	0.060	0.8	0.16
19JAN04	#10	6.6	Surface	0.010	0.010	0.41	0.210	0.2	1.68
19JAN04	#10	6.6	Bottom	0.010	0.014	0.32	0.170	0.3	1.30
19JAN04	#12	15.5	Surface	0.010	0.124	1.33	0.420	0.7	3.55
19JAN04	#12	15.5	Bottom	0.010	0.143	1.40	0.420	0.8	3.61
19JAN04	#14	23.6	Surface	0.020	0.604	0.64	0.750	1.9	4.90
19JAN04	#14	23.6	Bottom	0.020	0.603	0.63	0.730	2.0	4.84
19JAN04	#18	30.4	Surface	0.020	0.676	0.61	0.710	2.2	4.62
19JAN04	#18	30.4	Bottom	0.010	0.686	0.63	0.650	2.4	4.62
26FEB04	#9	-2.4	Surface	0.010	0.010	0.34	0.080	0.6	0.58
26FEB04	#9	-2.4	Bottom	0.010	0.413	0.29	0.070	13.8	0.66
26FEB04	#10	6.6	Surface	0.010	0.010	1.13	0.230	0.2	0.24
26FEB04	#10	6.6	Bottom	0.010	0.010	0.82	0.170	0.3	0.17
26FEB04	#12	15.5	Surface	0.010	0.446	1.06	0.630	1.7	4.79
26FEB04	#12	15.5	Bottom	0.010	0.396	0.91	0.640	1.5	4.51
26FEB04	#14	23.6	Surface	0.010	0.378	0.68	0.600	1.5	4.58
26FEB04	#14	23.6	Bottom	0.010	0.366	0.88	0.500	1.7	4.56
26FEB04	#18	30.4	Surface	0.010	0.576	0.95	0.530	2.5	4.46
26FEB04	#18	30.4	Bottom	0.010	0.558	1.05	0.520	2.5	4.41
24MAR04	#9	-2.4	Surface	0.010	0.010	0.28	0.090	0.5	0.50
24MAR04	#9	-2.4	Bottom	0.010	0.012	0.32	0.110	0.5	0.51
24MAR04	#10	6.6	Surface	0.010	0.029	0.56	0.270	0.3	1.04
24MAR04	#10	6.6	Bottom	0.010	0.021	0.54	0.580	0.1	1.01
24MAR04	#12	15.5	Surface	0.010	0.512	0.76	0.860	1.4	5.62
24MAR04	#12	15.5	Bottom	0.010	0.525	0.80	1.010	1.2	5.69
24MAR04	#14	23.6	Surface	0.010	0.273	0.79	0.760	0.9	4.22
24MAR04	#14	23.6	Bottom	0.010	0.397	1.14	0.730	1.3	4.20
24MAR04	#18	30.4	Surface	0.010	0.214	0.95	0.710	0.7	3.98
24MAR04	#18	30.4	Bottom	0.010	0.205	1.38	1.140	0.4	4.13
28APR04	#9	-2.4	Surface	0.040	0.038	0.56	0.100	1.8	0.60
28APR04	#9	-2.4	Bottom	0.040	0.029	0.40	0.090	1.8	0.72
28APR04	#10	6.6	Surface	0.030	0.029	0.53	0.250	0.5	1.08
28APR04	#10	6.6	Bottom	0.030	0.031	0.38	0.190	0.7	1.00
28APR04	#12	15.5	Surface	0.020	0.027	0.73	0.660	0.2	2.84
28APR04	#12	15.5	Bottom	0.040	0.021	0.39	0.580	0.2	2.88
28APR04	#14	23.6	Surface	0.040	0.029	0.79	0.780	0.2	1.63
28APR04	#14	23.6	Bottom	0.040	0.035	0.75	0.950	0.2	1.68
28APR04	#18	30.4	Surface	0.020	0.067	0.52	1.120	0.2	1.51
28APR04	#18	30.4	Bottom	0.010	0.076	0.73	1.040	0.2	1.45

Fixed Station Water Quality Data from Benchmark - Top & Bottom

Date	Station Number	Distance from Mouth of River	DEPTH	Ammonia/Ammonium (mg/l)	Nitrogen, NO2+NO3 Total (mg/l as N)	Nitrogen, Total Kjeldahl (mg/l as N)	Phosphorus Ortho Total (mg/l as P)	Atomic Ration of Availiable Nitrogen to Phosphorus	Silica, Dissolved (mg/l as SI02)
27MAY04	#9	-2.4	Surface	0.010	0.010	0.08	0.110	0.4	0.60
27MAY04	#9	-2.4	Bottom	0.010	0.010	0.20	0.140	0.3	1.25
27MAY04	#10	6.6	Surface	0.010	0.013	0.54	0.210	0.3	0.99
27MAY04	#10	6.6	Bottom	0.030	0.010	0.46	0.230	0.4	1.08
27MAY04	#12	15.5	Surface	0.010	0.010	0.86	0.540	0.1	3.12
27MAY04	#12	15.5	Bottom	0.010	0.010	0.59	0.500	0.1	3.04
27MAY04	#14	23.6	Surface	0.010	0.010	0.77	0.820	0.1	4.27
27MAY04	#14	23.6	Bottom	0.010	0.022	0.65	0.800	0.1	4.28
27MAY04	#18	30.4	Surface	0.030	0.010	0.86	1.050	0.1	2.30
27MAY04	#18	30.4	Bottom	0.010	0.031	0.85	1.050	0.1	2.30
22JUN04	#9	-2.4	Surface	0.010	0.014	0.21	0.120	0.5	0.26
21JUN04	#9	-2.4	Bottom	0.010	0.014	0.66	0.100	0.5	1.10
22JUN04	#10	6.6	Surface	0.010	0.017	0.52	0.280	0.2	0.79
21JUN04	#10	6.6	Bottom	0.010	0.015	0.93	0.260	0.2	0.65
22JUN04	#12	15.5	Surface	0.020	0.060	1.43	0.540	0.3	5.18
21JUN04	#12	15.5	Bottom	0.010	0.074	1.60	0.510	0.4	4.71
22JUN04	#14	23.6	Surface	0.020	0.421	1.07	0.720	1.4	6.23
21JUN04	#14	23.6	Bottom	0.030	0.416	1.06	0.660	1.5	6.28
22JUN04	#18	30.4	Surface	0.020	0.411	1.13	0.610	1.6	5.47
21JUN04	#18	30.4	Bottom	0.010	0.417	0.87	0.660	1.5	5.10
22JUL04	#9	-2.4	Surface	0.050	0.007	0.51	0.270	0.5	4.52
22JUL04	#9	-2.4	Bottom	0.060	0.007	0.23	0.130	1.2	3.71
22JUL04	#10	6.6	Surface	0.100	0.124	0.77	0.510	1.0	5.98
22JUL04	#10	6.6	Bottom	0.080	0.021	0.57	0.320	0.7	6.20
22JUL04	#12	15.5	Surface	0.080	0.341	0.79	0.660	1.5	6.92
22JUL04	#12	15.5	Bottom	0.060	0.341	0.84	0.660	1.4	6.94
22JUL04	#14	23.6	Surface	0.010	0.492	1.01	0.570	2.0	7.09
22JUL04	#14	23.6	Bottom	0.020	0.508	0.91	0.570	2.1	7.08
22JUL04	#18	30.4	Surface	0.030	0.570	1.05	0.510	2.7	7.21
22JUL04	#18	30.4	Bottom	0.050	0.580	1.23	0.520	2.8	7.25
25AUG04	#9	-2.4	Surface	0.040	0.011	1.48	0.752	0.2	6.82
25AUG04	#9	-2.4	Bottom	0.100	0.005	1.06	0.628	0.4	7.59
25AUG04	#10	6.6	Surface	0.070	0.014	2.34	1.250	0.2	7.83
25AUG04	#10	6.6	Bottom	0.060	0.012	1.49	0.957	0.2	7.68
25AUG04	#12	15.5	Surface	0.100	0.012	2.59	1.100	0.2	7.90
25AUG04	#12	15.5	Bottom	0.130	0.006	2.29	1.280	0.2	7.94
25AUG04	#14	23.6	Surface	0.130	0.026	2.05	1.300	0.3	8.04
25AUG04	#14	23.6	Bottom	0.150	0.012	2.22	1.250	0.3	8.04
25AUG04	#18	30.4	Surface	0.130	0.004	2.29	1.160	0.3	8.09
25AUG04	#18	30.4	Bottom	0.150	0.009	2.20	1.340	0.3	8.34

Fixed Station Water Quality Data from Benchmark - Top & Bottom

Date	Station Number	Distance from Mouth of River	DEPTH	Ammonia/Ammonium (mg/l)	Nitrogen, NO2+NO3 Total (mg/l as N)	Nitrogen, Total Kjeldahl (mg/l as N)	Phosphorus Ortho Total (mg/l as P)	Atomic Ration of Availiabile Nitrogen to Phosphorus	Silica, Dissolved (mg/l as SI02)
23SEP04	#9	-2.4	Surface	0.006	0.185	1.43	0.664	0.7	5.99
23SEP04	#9	-2.4	Bottom	0.006	0.176	1.31	0.631	0.7	6.19
23SEP04	#10	6.6	Surface	0.006	0.108	1.69	0.960	0.3	7.58
23SEP04	#10	6.6	Bottom	0.006	0.104	1.57	0.840	0.3	7.43
23SEP04	#12	15.5	Surface	0.008	0.056	1.67	1.120	0.1	7.41
23SEP04	#12	15.5	Bottom	0.011	0.059	1.60	0.908	0.2	7.36
23SEP04	#14	23.6	Surface	0.007	0.048	1.60	1.050	0.1	7.44
23SEP04	#14	23.6	Bottom	0.006	0.004	1.65	1.470	0.0	7.57
23SEP04	#18	30.4	Surface	0.007	0.064	1.81	0.999	0.2	7.40
23SEP04	#18	30.4	Bottom	0.006	0.062	1.86	0.999	0.2	7.34
21OCT04	#9	-2.4	Surface	0.007	0.017	1.04	0.700	0.1	3.78
21OCT04	#9	-2.4	Bottom	0.006	0.469	0.98	0.487	2.2	3.68
21OCT04	#10	6.6	Surface	0.010	0.175	1.19	1.300	0.3	6.13
21OCT04	#10	6.6	Bottom	0.006	0.187	0.91	1.110	0.4	5.92
21OCT04	#12	15.5	Surface	0.009	0.235	1.09	1.540	0.4	6.41
21OCT04	#14	23.6	Surface	0.006	0.244	1.17	1.470	0.4	6.36
21OCT04	#14	23.6	Bottom	0.006	0.242	1.42	1.470	0.4	5.98
21OCT04	#18	30.4	Surface	0.007	0.250	1.47	1.560	0.4	6.18
21OCT04	#18	30.4	Bottom	0.008	0.355	1.46	1.590	0.5	6.49
30NOV04	#9	-2.4	Surface	0.006	0.004	0.22	0.316	0.1	1.03
30NOV04	#9	-2.4	Bottom	0.006	0.004	0.23	0.284	0.1	1.01
30NOV04	#10	6.6	Surface	0.006	0.017	0.56	0.767	0.1	1.06
30NOV04	#10	6.6	Bottom	0.006	0.004	0.51	0.621	0.0	1.03
30NOV04	#12	15.5	Surface	0.006	0.561	0.46	1.870	0.7	7.78
30NOV04	#12	15.5	Bottom	0.006	0.467	0.87	1.830	0.6	7.37
30NOV04	#14	23.6	Surface	0.006	0.698	0.87	2.060	0.8	8.80
30NOV04	#14	23.6	Bottom	0.006	0.690	1.35	2.100	0.8	8.88
30NOV04	#18	30.4	Surface	0.006	0.763	0.84	1.960	0.9	8.84
30NOV04	#18	30.4	Bottom	0.006	0.775	0.78	2.010	0.9	9.31
20DEC04	#9	-2.4	Surface	0.006	0.013	0.15	0.235	0.2	0.65
20DEC04	#9	-2.4	Bottom	0.012	0.012	0.08	0.250	0.2	0.63
20DEC04	#10	6.6	Surface	0.006	0.007	0.31	0.531	0.1	0.20
20DEC04	#10	6.6	Bottom	0.006	0.009	0.17	0.498	0.1	0.19
20DEC04	#12	15.5	Surface	0.006	0.529	0.47	1.280	1.0	4.54
20DEC04	#12	15.5	Bottom	0.006	0.531	0.84	1.280	1.0	4.45
21DEC04	#12	15.5	Bottom	0.009	0.229	1.06	1.510	0.4	6.46
20DEC04	#14	23.6	Surface	0.006	1.170	0.49	1.450	1.9	8.43
20DEC04	#14	23.6	Bottom	0.006	1.180	0.86	1.440	1.9	8.41
20DEC04	#18	30.4	Surface	0.006	1.190	0.66	1.340	2.0	8.65
20DEC04	#18	30.4	Bottom	0.006	1.200	0.66	1.250	2.2	8.78

Appendix H

2003 Flows And Withdrawals

Appendix H

DATE	Peace River at Arcadia (cfs) - Gage 02296750	Horse Creek at Aracadia (cfs) - Gage 02297310	Joshua Creek at Nocatee (cfs) - Gage 02297100	Shell Creek at Punta Gorda (cfs) - Gage 02298202	Myakka River near Sarasota- Gage 02298830	Facility Withdrawals (cfs)
01/01/04	401.0	62.0	40.0	144.0	291.0	29.0
01/02/04	387.0	57.0	39.0	131.0	273.0	27.3
01/03/04	375.0	52.0	39.0	120.0	257.0	25.4
01/04/04	368.0	49.0	37.0	116.0	242.0	25.0
01/05/04	354.0	46.0	36.0	110.0	226.0	24.1
01/06/04	341.0	43.0	34.0	105.0	212.0	23.1
01/07/04	331.0	39.0	33.0	100.0	199.0	22.1
01/08/04	326.0	37.0	33.0	93.0	180.0	21.4
01/09/04	315.0	35.0	33.0	89.0	164.0	20.8
01/10/04	306.0	34.0	32.0	87.0	153.0	20.0
01/11/04	299.0	32.0	31.0	81.0	140.0	19.3
01/12/04	297.0	31.0	30.0	82.0	126.0	18.7
01/13/04	289.0	29.0	29.0	79.0	125.0	18.6
01/14/04	283.0	29.0	29.0	78.0	123.0	18.0
01/15/04	279.0	29.0	28.0	79.0	121.0	17.5
01/16/04	274.0	28.0	30.0	79.0	120.0	17.2
01/17/04	270.0	27.0	32.0	77.0	120.0	20.3
01/18/04	309.0	50.0	59.0	101.0	119.0	19.9
01/19/04	382.0	84.0	109.0	166.0	118.0	23.0
01/20/04	443.0	68.0	86.0	191.0	117.0	29.4
01/21/04	434.0	57.0	69.0	188.0	116.0	35.1
01/22/04	406.0	54.0	63.0	176.0	115.0	34.4
01/23/04	384.0	51.0	57.0	164.0	115.0	31.7
01/24/04	367.0	48.0	52.0	148.0	112.0	30.0
01/25/04	353.0	46.0	50.0	135.0	110.0	28.4
01/26/04	348.0	44.0	46.0	127.0	110.0	27.0
01/27/04	347.0	43.0	44.0	117.0	107.0	26.7
01/28/04	347.0	40.0	42.0	108.0	106.0	26.5
01/29/04	367.0	38.0	41.0	103.0	104.0	26.6
01/30/04	413.0	37.0	41.0	103.0	104.0	28.3
01/31/04	477.0	40.0	44.0	113.0	101.0	32.2
02/01/04	570.0	70.0	51.0	122.0	132.0	38.3
02/02/04	714.0	78.0	52.0	131.0	125.0	46.9
02/03/04	789.0	76.0	49.0	140.0	120.0	11.2
02/04/04	795.0	73.0	46.0	137.0	115.0	0.0
02/05/04	777.0	71.0	44.0	132.0	110.0	0.0
02/06/04	753.0	69.0	42.0	131.0	97.0	0.0
02/07/04	701.0	67.0	40.0	128.0	101.0	0.0
02/08/04	589.0	63.0	38.0	100.0	104.0	23.7
02/09/04	511.0	59.0	35.0	95.0	104.0	49.5
02/10/04	468.0	54.0	34.0	92.0	103.0	42.0
02/11/04	446.0	50.0	33.0	88.0	101.0	37.8
02/12/04	422.0	46.0	33.0	80.0	99.0	30.3
02/13/04	399.0	43.0	33.0	75.0	96.0	33.4
02/14/04	389.0	42.0	32.0	70.0	92.0	31.2
02/15/04	458.0	111.0	46.0	100.0	107.0	30.2
02/16/04	589.0	119.0	47.0	99.0	119.0	36.3
02/17/04	583.0	103.0	43.0	94.0	139.0	48.7
02/18/04	530.0	90.0	41.0	88.0	156.0	48.8
02/19/04	491.0	82.0	40.0	85.0	165.0	43.9
02/20/04	463.0	78.0	38.0	84.0	171.0	39.9
02/21/04	439.0	75.0	36.0	73.0	176.0	37.2
02/22/04	423.0	70.0	33.0	63.0	179.0	34.9
02/23/04	405.0	65.0	33.0	64.0	178.0	33.2
02/24/04	382.0	59.0	32.0	59.0	174.0	31.6
02/25/04	620.0	237.0	154.0	200.0	197.0	29.7
02/26/04	1380.0	486.0	332.0	565.0	251.0	49.6
02/27/04	1720.0	461.0	308.0	725.0	340.0	34.0
02/28/04	1630.0	396.0	254.0	720.0	425.0	24.5
02/29/04	1450.0	364.0	210.0	623.0	479.0	34.2
03/01/04	1340.0	394.0	170.0	520.0	507.0	25.5
03/02/04	1270.0	413.0	136.0	431.0	517.0	19.7
03/03/04	1190.0	382.0	112.0	373.0	508.0	14.6
03/04/04	1100.0	322.0	99.0	315.0	485.0	45.8
03/05/04	977.0	263.0	85.0	248.0	459.0	48.5

Appendix H

DATE	Peace River at Arcadia (cfs) - Gage 02296750	Horse Creek at Aracadia (cfs) - Gage 02297310	Joshua Creek at Nocatee (cfs) - Gage 02297100	Shell Creek at Punta Gorda (cfs) - Gage 02298202	Myakka River near Sarastota- Gage 02298830	Facility Withdrawals (cfs)
03/06/04	820.0	213.0	71.0	212.0	430.0	9.4
03/07/04	693.0	175.0	62.0	185.0	401.0	42.8
03/08/04	607.0	144.0	57.0	172.0	375.0	27.9
03/09/04	541.0	119.0	51.0	156.0	348.0	47.4
03/10/04	495.0	101.0	46.0	138.0	322.0	34.9
03/11/04	462.0	86.0	43.0	125.0	297.0	27.4
03/12/04	437.0	75.0	41.0	115.0	275.0	32.3
03/13/04	404.0	66.0	39.0	112.0	255.0	29.3
03/14/04	371.0	59.0	37.0	96.0	236.0	40.1
03/15/04	362.0	53.0	34.0	90.0	219.0	33.0
03/16/04	376.0	51.0	37.0	104.0	207.0	35.7
03/17/04	516.0	55.0	42.0	98.0	199.0	35.9
03/18/04	911.0	50.0	39.0	92.0	186.0	28.5
03/19/04	810.0	53.0	37.0	86.0	176.0	36.6
03/20/04	639.0	65.0	35.0	73.0	169.0	36.8
03/21/04	608.0	76.0	32.0	62.0	161.0	30.7
03/22/04	609.0	80.0	31.0	63.0	154.0	37.0
03/23/04	600.0	77.0	29.0	56.0	148.0	36.7
03/24/04	583.0	69.0	29.0	56.0	138.0	23.6
03/25/04	551.0	60.0	27.0	54.0	129.0	0.0
03/26/04	467.0	52.0	26.0	54.0	120.0	0.0
03/27/04	385.0	45.0	26.0	47.0	110.0	0.0
03/28/04	343.0	39.0	24.0	47.0	99.0	0.0
03/29/04	316.0	35.0	23.0	52.0	91.0	33.9
03/30/04	297.0	31.0	23.0	49.0	82.0	31.3
03/31/04	284.0	28.0	23.0	51.0	73.0	29.3
04/01/04	267.0	25.0	21.0	47.0	64.0	28.0
04/02/04	249.0	24.0	21.0	54.0	56.0	26.3
04/03/04	231.0	22.0	22.0	50.0	49.0	24.6
04/04/04	214.0	21.0	20.0	47.0	42.0	22.9
04/05/04	196.0	19.0	19.0	51.0	36.0	21.1
04/06/04	181.0	18.0	19.0	49.0	31.0	19.3
04/07/04	169.0	17.0	18.0	46.0	27.0	17.8
04/08/04	164.0	17.0	18.0	49.0	24.0	16.6
04/09/04	160.0	17.0	17.0	56.0	20.0	16.1
04/10/04	157.0	16.0	18.0	55.0	18.0	15.7
04/11/04	154.0	15.0	17.0	48.0	15.0	15.4
04/12/04	165.0	18.0	22.0	86.0	16.0	15.0
04/13/04	189.0	21.0	27.0	90.0	19.0	16.1
04/14/04	265.0	21.0	26.0	84.0	18.0	18.3
04/15/04	265.0	19.0	25.0	83.0	18.0	25.9
04/16/04	232.0	17.0	23.0	83.0	18.0	26.2
04/17/04	209.0	16.0	22.0	69.0	17.0	22.8
04/18/04	190.0	15.0	21.0	60.0	17.0	20.5
04/19/04	177.0	14.0	20.0	56.0	15.0	18.6
04/20/04	166.0	13.0	20.0	58.0	14.0	17.3
04/21/04	156.0	13.0	20.0	51.0	12.0	16.3
04/22/04	147.0	12.0	19.0	52.0	11.0	15.3
04/23/04	138.0	12.0	19.0	53.0	9.4	14.4
04/24/04	134.0	12.0	17.0	48.0	8.2	6.0
04/25/04	130.0	11.0	16.0	45.0	6.9	1.0
04/26/04	123.0	11.0	16.0	45.0	5.7	0.0
04/27/04	120.0	11.0	18.0	54.0	4.7	0.0
04/28/04	114.0	11.0	20.0	53.0	4.4	0.0
04/29/04	109.0	10.0	20.0	39.0	3.8	0.0
04/30/04	111.0	11.0	24.0	44.0	3.4	0.0
05/01/04	314.0	34.0	30.0	191.0	2.8	0.0
05/02/04	1060.0	52.0	40.0	188.0	2.4	28.2
05/03/04	1040.0	73.0	45.0	215.0	2.8	26.5
05/04/04	1110.0	95.0	50.0	234.0	5.8	21.3
05/05/04	1470.0	90.0	60.0	257.0	9.2	0.5
05/06/04	1330.0	77.0	73.0	241.0	13.0	0.0
05/07/04	880.0	70.0	64.0	218.0	17.0	0.0
05/08/04	615.0	66.0	58.0	179.0	21.0	0.0
05/09/04	491.0	61.0	52.0	141.0	24.0	0.0

Appendix H

DATE	Peace River at Arcadia (cfs) - Gage 02296750	Horse Creek at Aracadia (cfs) - Gage 02297310	Joshua Creek at Nocatee (cfs) - Gage 02297100	Shell Creek at Punta Gorda (cfs) - Gage 02298202	Myakka River near Sarasota- Gage 02298830	Facility Withdrawals (cfs)
05/10/04	416.0	56.0	48.0	120.0	27.0	0.0
05/11/04	360.0	50.0	45.0	104.0	30.0	0.0
05/12/04	319.0	44.0	44.0	82.0	30.0	9.4
05/13/04	286.0	40.0	42.0	68.0	29.0	11.9
05/14/04	258.0	39.0	37.0	56.0	27.0	11.2
05/15/04	237.0	35.0	36.0	50.0	24.0	11.3
05/16/04	217.0	33.0	33.0	50.0	22.0	11.2
05/17/04	208.0	25.0	32.0	45.0	20.0	1.9
05/18/04	202.0	20.0	31.0	38.0	18.0	0.0
05/19/04	191.0	16.0	29.0	31.0	16.0	0.0
05/20/04	179.0	14.0	29.0	31.0	14.0	0.0
05/21/04	174.0	13.0	27.0	29.0	13.0	0.0
05/22/04	160.0	12.0	28.0	23.0	12.0	0.0
05/23/04	147.0	11.0	26.0	21.0	10.0	0.0
05/24/04	140.0	10.0	24.0	21.0	9.3	0.0
05/25/04	135.0	9.3	25.0	14.0	8.3	16.6
05/26/04	130.0	8.7	24.0	12.0	7.4	16.2
05/27/04	127.0	8.4	25.0	12.0	6.6	15.8
05/28/04	126.0	7.9	24.0	11.0	5.8	15.7
05/29/04	117.0	7.8	24.0	7.9	5.2	15.7
05/30/04	108.0	7.5	22.0	5.6	4.6	14.9
05/31/04	102.0	7.7	21.0	5.2	4.1	4.1
06/01/04	97.0	7.2	22.0	4.4	3.6	0.0
06/02/04	93.0	7.1	21.0	2.8	3.1	0.0
06/03/04	93.0	6.7	21.0	10.0	2.5	0.0
06/04/04	111.0	7.0	21.0	22.0	2.1	0.0
06/05/04	111.0	7.2	22.0	26.0	2.4	0.0
06/06/04	108.0	9.8	30.0	18.0	2.9	1.8
06/07/04	115.0	11.0	31.0	18.0	2.7	0.0
06/08/04	116.0	12.0	36.0	23.0	2.6	4.7
06/09/04	112.0	10.0	42.0	45.0	2.8	0.0
06/10/04	126.0	9.8	45.0	71.0	6.1	0.0
06/11/04	194.0	9.5	58.0	85.0	6.3	0.0
06/12/04	293.0	8.8	70.0	90.0	6.3	0.0
06/13/04	357.0	8.4	78.0	102.0	9.0	0.0
06/14/04	510.0	13.0	152.0	131.0	15.0	0.0
06/15/04	454.0	25.0	280.0	187.0	30.0	0.0
06/16/04	483.0	33.0	298.0	261.0	44.0	0.0
06/17/04	556.0	67.0	259.0	271.0	63.0	0.0
06/18/04	514.0	66.0	219.0	234.0	74.0	0.0
06/19/04	434.0	43.0	173.0	197.0	81.0	0.0
06/20/04	371.0	29.0	136.0	164.0	82.0	0.0
06/21/04	322.0	22.0	108.0	134.0	76.0	0.0
06/22/04	311.0	18.0	87.0	108.0	67.0	0.0
06/23/04	297.0	15.0	73.0	87.0	58.0	0.0
06/24/04	262.0	14.0	67.0	104.0	50.0	0.0
06/25/04	243.0	21.0	110.0	127.0	48.0	26.0
06/26/04	227.0	25.0	121.0	113.0	44.0	29.7
06/27/04	256.0	38.0	152.0	141.0	40.0	27.9
06/28/04	296.0	40.0	170.0	141.0	36.0	31.0
06/29/04	367.0	40.0	142.0	161.0	34.0	35.0
06/30/04	375.0	51.0	150.0	199.0	37.0	43.2
07/01/04	589.0	60.0	178.0	185.0	36.0	43.0
07/02/04	441.0	45.0	142.0	164.0	41.0	66.7
07/03/04	313.0	36.0	110.0	144.0	45.0	51.6
07/04/04	454.0	39.0	92.0	131.0	58.0	37.6
07/05/04	595.0	43.0	85.0	152.0	69.0	51.2
07/06/04	534.0	46.0	75.0	165.0	81.0	59.3
07/07/04	455.0	38.0	85.0	178.0	93.0	41.3
07/08/04	429.0	41.0	91.0	168.0	113.0	45.6
07/09/04	438.0	37.0	78.0	166.0	130.0	42.7
07/10/04	401.0	35.0	65.0	151.0	145.0	37.3
07/11/04	353.0	42.0	58.0	134.0	158.0	26.9
07/12/04	451.0	65.0	113.0	141.0	180.0	35.1
07/13/04	498.0	113.0	183.0	136.0	197.0	44.6

Appendix H

DATE	Peace River at Arcadia (cfs) - Gage 02296750	Horse Creek at Aracadia (cfs) - Gage 02297310	Joshua Creek at Nocatee (cfs) - Gage 02297100	Shell Creek at Punta Gorda (cfs) - Gage 02298202	Myakka River near Sarastota- Gage 02298830	Facility Withdrawals (cfs)
07/14/04	516.0	157.0	169.0	143.0	214.0	30.8
07/15/04	398.0	149.0	113.0	135.0	231.0	33.2
07/16/04	324.0	135.0	84.0	147.0	241.0	18.6
07/17/04	284.0	198.0	80.0	155.0	242.0	32.4
07/18/04	259.0	165.0	71.0	142.0	242.0	28.3
07/19/04	271.0	165.0	76.0	145.0	248.0	25.8
07/20/04	584.0	342.0	144.0	184.0	276.0	26.6
07/21/04	1130.0	519.0	252.0	244.0	356.0	53.2
07/22/04	1240.0	486.0	307.0	281.0	457.0	40.5
07/23/04	1040.0	426.0	260.0	270.0	532.0	37.2
07/24/04	758.0	380.0	193.0	236.0	586.0	35.1
07/25/04	580.0	346.0	146.0	205.0	620.0	29.8
07/26/04	482.0	413.0	130.0	203.0	629.0	37.0
07/27/04	445.0	449.0	110.0	218.0	637.0	36.6
07/28/04	499.0	395.0	103.0	219.0	643.0	25.2
07/29/04	635.0	426.0	109.0	263.0	647.0	36.0
07/30/04	765.0	436.0	120.0	310.0	663.0	27.6
07/31/04	860.0	404.0	110.0	298.0	666.0	34.6
08/01/04	847.0	352.0	109.0	335.0	652.0	35.7
08/02/04	770.0	328.0	137.0	639.0	653.0	35.6
08/03/04	973.0	320.0	167.0	870.0	786.0	23.6
08/04/04	1050.0	514.0	368.0	996.0	999.0	20.3
08/05/04	1250.0	686.0	625.0	1170.0	1220.0	32.8
08/06/04	1610.0	1110.0	914.0	1360.0	1380.0	25.8
08/07/04	1580.0	1320.0	1010.0	1690.0	1430.0	35.7
08/08/04	1790.0	1410.0	999.0	1920.0	1440.0	35.8
08/09/04	1860.0	1030.0	1040.0	1950.0	1410.0	37.6
08/10/04	1930.0	779.0	861.0	1710.0	1320.0	20.5
08/11/04	2040.0	641.0	677.0	1470.0	1220.0	11.1
08/12/04	2100.0	629.0	547.0	1630.0	1110.0	0.0
08/13/04	2030.0	753.0	515.0	1700.0	1030.0	0.0
08/14/04	2220.0	2000.0	1010.0	1600.0	1240.0	7.3
08/15/04	2790.0	3410.0	1720.0	1580.0	1540.0	18.6
08/16/04	3920.0	3200.0	2060.0	1550.0	2060.0	16.2
08/17/04	4560.0	2930.0	2140.0	1500.0	2610.0	7.2
08/18/04	4950.0	3590.0	1940.0	1450.0	2870.0	2.1
08/19/04	5090.0	4050.0	1600.0	1400.0	2860.0	0.0
08/20/04	5270.0	4140.0	1340.0	1340.0	2730.0	0.0
08/21/04	5570.0	4020.0	1190.0	1250.0	2420.0	0.0
08/22/04	5990.0	3930.0	1050.0	1190.0	2090.0	0.0
08/23/04	6140.0	3390.0	979.0	1250.0	1820.0	0.0
08/24/04	6240.0	2850.0	1030.0	1320.0	1540.0	0.0
08/25/04	6260.0	2450.0	1430.0	1440.0	1320.0	0.0
08/26/04	6090.0	2160.0	1450.0	1670.0	1130.0	0.0
08/27/04	5820.0	1840.0	1110.0	1640.0	993.0	0.0
08/28/04	5590.0	1540.0	908.0	1590.0	926.0	0.0
08/29/04	5330.0	1240.0	769.0	1590.0	858.0	0.0
08/30/04	5080.0	1000.0	663.0	1530.0	791.0	0.0
08/31/04	4890.0	885.0	611.0	1350.0	721.0	0.0
09/01/04	4920.0	1010.0	884.0	1310.0	680.0	0.0
09/02/04	4690.0	982.0	917.0	1160.0	644.0	0.0
09/03/04	4710.0	829.0	725.0	992.0	621.0	0.0
09/04/04	4850.0	739.0	617.0	828.0	609.0	0.0
09/05/04	5030.0	749.0	613.0	845.0	608.0	2.2
09/06/04	5730.0	1760.0	939.0	1760.0	648.0	8.1
09/07/04	6450.0	3230.0	2240.0	2380.0	841.0	17.7
09/08/04	7390.0	3690.0	2220.0	2350.0	1380.0	37.7
09/09/04	9690.0	4660.0	1970.0	2280.0	2530.0	37.7
09/10/04	13500.0	4740.0	2630.0	2310.0	3420.0	38.3
09/11/04	14400.0	4230.0	2550.0	2110.0	3560.0	37.7
09/12/04	13300.0	3630.0	2140.0	2000.0	3160.0	24.1
09/13/04	11600.0	3020.0	1800.0	1850.0	2620.0	19.5
09/14/04	10400.0	2470.0	1510.0	1660.0	2120.0	28.0
09/15/04	9520.0	1980.0	1270.0	1450.0	1720.0	25.0
09/16/04	8870.0	1510.0	1070.0	1250.0	1420.0	37.7

Appendix H

DATE	Peace River at Arcadia (cfs) - Gage 02296750	Horse Creek at Aracadia (cfs) - Gage 02297310	Joshua Creek at Nocatee (cfs) - Gage 02297100	Shell Creek at Punta Gorda (cfs) - Gage 02298202	Myakka River near Sarasota- Gage 02298830	Facility Withdrawals (cfs)
09/17/04	8310.0	1160.0	918.0	1030.0	1210.0	36.4
09/18/04	7890.0	964.0	823.0	841.0	1030.0	21.7
09/19/04	7490.0	826.0	820.0	713.0	868.0	37.6
09/20/04	7110.0	716.0	810.0	639.0	734.0	37.3
09/21/04	6770.0	635.0	800.0	633.0	648.0	37.3
09/22/04	6460.0	598.0	735.0	668.0	607.0	25.5
09/23/04	6070.0	524.0	695.0	722.0	569.0	37.1
09/24/04	5720.0	439.0	632.0	721.0	537.0	37.0
09/25/04	5380.0	366.0	574.0	664.0	507.0	34.5
09/26/04	5560.0	546.0	829.0	823.0	497.0	0.0
09/27/04	6440.0	1710.0	850.0	1250.0	594.0	0.0
09/28/04	7220.0	2080.0	1000.0	1420.0	861.0	0.0
09/29/04	8630.0	1800.0	1200.0	1580.0	1230.0	22.6
09/30/04	10200.0	2150.0	1680.0	1650.0	1500.0	37.1
10/01/04	10900.0	2210.0	1560.0	1680.0	1590.0	32.1
10/02/04	10600.0	1810.0	1430.0	1660.0	1530.0	46.5
10/03/04	9810.0	1360.0	1240.0	1560.0	1390.0	46.0
10/04/04	9080.0	1020.0	1060.0	1450.0	1230.0	46.4
10/05/04	8390.0	847.0	897.0	1380.0	1120.0	45.6
10/06/04	7850.0	723.0	777.0	1200.0	995.0	43.0
10/07/04	7320.0	928.0	683.0	1060.0	851.0	33.3
10/08/04	6810.0	789.0	605.0	899.0	731.0	52.6
10/09/04	6310.0	682.0	540.0	744.0	646.0	66.8
10/10/04	5850.0	602.0	485.0	603.0	602.0	62.6
10/11/04	5470.0	544.0	441.0	517.0	567.0	45.8
10/12/04	5200.0	574.0	420.0	481.0	558.0	45.4
10/13/04	4840.0	593.0	409.0	452.0	542.0	45.3
10/14/04	4520.0	542.0	370.0	433.0	526.0	15.2
10/15/04	4240.0	470.0	336.0	397.0	506.0	0.0
10/16/04	4010.0	412.0	309.0	368.0	483.0	8.2
10/17/04	3810.0	372.0	281.0	336.0	460.0	0.0
10/18/04	3620.0	344.0	258.0	311.0	439.0	0.0
10/19/04	3420.0	320.0	239.0	289.0	418.0	0.0
10/20/04	3230.0	302.0	221.0	264.0	402.0	23.6
10/21/04	3050.0	286.0	205.0	253.0	383.0	66.2
10/22/04	2870.0	268.0	189.0	242.0	365.0	52.3
10/23/04	2710.0	249.0	175.0	222.0	347.0	26.2
10/24/04	2580.0	229.0	164.0	209.0	328.0	26.3
10/25/04	2440.0	212.0	153.0	199.0	310.0	41.8
10/26/04	2260.0	194.0	144.0	190.0	292.0	39.0
10/27/04	2060.0	177.0	138.0	174.0	274.0	40.1
10/28/04	1880.0	162.0	128.0	167.0	258.0	34.9
10/29/04	1750.0	148.0	121.0	158.0	242.0	27.0
10/30/04	1650.0	136.0	115.0	151.0	226.0	35.6
10/31/04	1570.0	124.0	109.0	146.0	211.0	36.9
11/01/04	1500.0	112.0	103.0	131.0	196.0	35.5
11/02/04	1430.0	101.0	102.0	117.0	181.0	35.1
11/03/04	1360.0	92.0	96.0	112.0	167.0	34.4
11/04/04	1280.0	85.0	93.0	116.0	153.0	25.9
11/05/04	1210.0	79.0	89.0	116.0	142.0	29.8
11/06/04	1160.0	72.0	87.0	110.0	130.0	39.4
11/07/04	1130.0	65.0	82.0	108.0	118.0	42.6
11/08/04	1090.0	60.0	79.0	104.0	107.0	56.9
11/09/04	1060.0	55.0	76.0	98.0	98.0	65.7
11/10/04	1030.0	52.0	76.0	79.0	91.0	63.9
11/11/04	1010.0	50.0	75.0	64.0	82.0	65.9
11/12/04	988.0	47.0	72.0	64.0	73.0	66.8
11/13/04	930.0	45.0	72.0	62.0	67.0	33.7
11/14/04	859.0	44.0	70.0	60.0	61.0	37.6
11/15/04	802.0	42.0	70.0	50.0	57.0	35.8
11/16/04	768.0	40.0	69.0	47.0	52.0	34.7
11/17/04	748.0	39.0	67.0	46.0	47.0	36.1
11/18/04	729.0	0.7	68.0	49.0	43.0	48.2
11/19/04	715.0	0.6	65.0	51.0	39.0	29.6
11/20/04	697.0	0.5	66.0	52.0	35.0	27.9

Appendix H

DATE	Peace River at Arcadia (cfs) - Gage 02296750	Horse Creek at Aracadia (cfs) - Gage 02297310	Joshua Creek at Nocatee (cfs) - Gage 02297100	Shell Creek at Punta Gorda (cfs) - Gage 02298202	Myakka River near Sarasota- Gage 02298830	Facility Withdrawals (cfs)
11/21/04	683.0	0.3	64.0	51.0	32.0	30.1
11/22/04	668.0	0.2	62.0	54.0	29.0	46.7
11/23/04	656.0	0.0	62.0	56.0	26.0	38.1
11/24/04	646.0	0.0	61.0	52.0	24.0	39.3
11/25/04	643.0	0.0	65.0	54.0	27.0	22.7
11/26/04	638.0	0.1	68.0	55.0	29.0	26.1
11/27/04	649.0	0.0	65.0	59.0	28.0	36.6
11/28/04	670.0	0.6	79.0	82.0	30.0	30.0
11/29/04	663.0	0.6	79.0	76.0	30.0	35.2
11/30/04	651.0	0.8	73.0	73.0	29.0	36.5
12/01/04	634.0	0.9	69.0	61.0	29.0	36.5
12/02/04	606.0	1.0	67.0	63.0	29.0	29.1
12/03/04	588.0	1.2	66.0	66.0	29.0	34.5
12/04/04	572.0	1.0	64.0	58.0	28.0	33.1
12/05/04	556.0	0.7	62.0	57.0	27.0	31.8
12/06/04	547.0	0.5	61.0	60.0	27.0	30.2
12/07/04	539.0	0.4	61.0	56.0	26.0	29.5
12/08/04	531.0	0.2	60.0	74.0	26.0	28.8
12/09/04	526.0	0.0	59.0	77.0	26.0	28.1
12/10/04	523.0	0.0	61.0	63.0	24.0	27.4
12/11/04	517.0	0.0	62.0	57.0	21.0	27.3
12/12/04	513.0	0.0	60.0	57.0	20.0	26.7
12/13/04	503.0	0.0	58.0	52.0	19.0	26.4
12/14/04	491.0	0.0	60.0	40.0	18.0	25.6
12/15/04	474.0	0.0	58.0	33.0	17.0	24.4
12/16/04	466.0	0.0	57.0	32.0	16.0	23.2
12/17/04	460.0	0.0	56.0	33.0	15.0	22.4
12/18/04	461.0	0.0	63.0	37.0	15.0	21.9
12/19/04	456.0	0.0	66.0	36.0	15.0	22.0
12/20/04	445.0	0.0	64.0	39.0	15.0	21.6
12/21/04	424.0	0.0	67.0	37.0	15.0	20.7
12/22/04	402.0	0.0	70.0	34.0	14.0	19.1
12/23/04	384.0	0.0	65.0	37.0	14.0	17.4
12/24/04	376.0	0.0	70.0	45.0	15.0	16.2
12/25/04	443.0	8.0	108.0	88.0	20.0	15.5
12/26/04	943.0	112.0	266.0	114.0	49.0	19.1
12/27/04	1530.0	100.0	238.0	132.0	84.0	57.3
12/28/04	1660.0	92.0	209.0	146.0	126.0	64.7
12/29/04	1510.0	77.0	187.0	140.0	163.0	65.5
12/30/04	1320.0	69.0	167.0	130.0	200.0	65.5
12/31/04	1170.0	65.0	150.0	116.0	240.0	42.8

Appendix I

Summary USGS Daily Gage Data

- Water Level
- Temperature
- Conductivity

Mean Daily Gage Heights at the Three USGS Monitoring Sites

DATE	Boca Grande	Harbour Heights	Peace River Heights
01JAN04	0.48	0.41	0.43
02JAN04	0.59	0.53	0.55
03JAN04	0.68	0.61	0.64
04JAN04	0.82	0.81	0.85
05JAN04	0.79	0.87	0.93
06JAN04	0.66	0.72	0.80
07JAN04	-0.06	-0.41	-0.37
08JAN04	0.46	0.21	0.20
09JAN04	1.12	1.15	1.22
10JAN04	0.49	0.59	0.69
11JAN04	0.00	-0.23	-0.23
12JAN04	0.35	0.21	0.22
13JAN04	0.53	0.49	0.50
14JAN04	0.62	0.59	0.59
15JAN04	0.69	0.72	0.73
16JAN04	0.79	0.76	0.75
17JAN04	0.86	0.81	0.82
18JAN04	1.22	1.28	1.34
19JAN04	0.84	1.05	2.38
20JAN04	0.30	0.44	.
21JAN04	0.38	0.49	.
22JAN04	0.27	0.42	.
23JAN04	0.21	0.30	.
24JAN04	0.34	1.01	.
25JAN04	0.66	.	.
26JAN04	0.83	.	.
27JAN04	0.72	.	.
28JAN04	-0.01	.	.
29JAN04	0.10	.	.
30JAN04	0.42	.	.
31JAN04	0.29	.	.
01FEB04	0.58	.	.
02FEB04	0.40	.	.
03FEB04	0.33	.	.
04FEB04	0.38	.	.
05FEB04	0.52	.	.
06FEB04	0.65	.	.
07FEB04	0.31	.	.
08FEB04	-0.33	.	.
09FEB04	0.27	.	.
10FEB04	0.48	.	.
11FEB04	0.50	.	.
12FEB04	0.57	.	.
13FEB04	0.47	.	.
14FEB04	0.86	.	.
15FEB04	0.67	.	.
16FEB04	0.12	.	.
17FEB04	0.10	.	.
18FEB04	-0.44	.	.
19FEB04	0.19	.	.
20FEB04	0.68	.	.

DATE	Boca Grande	Harbour Heights	Peace River Heights
21FEB04	0.67	.	.
22FEB04	0.62	.	.
23FEB04	0.62	0.71	.
24FEB04	1.06	1.30	.
25FEB04	0.96	0.83	.
26FEB04	0.94	1.17	1.65
27FEB04	0.14	0.18	0.26
28FEB04	-0.10	-0.32	-0.15
29FEB04	0.24	0.04	0.15
01MAR04	0.76	0.69	0.71
02MAR04	0.58	0.56	0.61
03MAR04	0.44	0.41	0.46
04MAR04	0.69	0.70	0.73
05MAR04	0.77	0.89	0.92
06MAR04	0.63	0.88	0.95
07MAR04	0.31	0.58	0.60
08MAR04	0.09	0.31	0.31
09MAR04	0.29	0.37	0.31
10MAR04	0.25	0.44	0.38
11MAR04	0.11	-0.00	-0.06
12MAR04	0.59	0.64	0.58
13MAR04	0.54	0.48	0.42
14MAR04	0.59	0.42	0.33
15MAR04	0.74	0.70	0.60
16MAR04	0.89	1.01	0.94
17MAR04	0.58	0.74	0.71
18MAR04	0.46	0.51	0.49
19MAR04	0.49	0.53	0.55
20MAR04	0.51	0.40	0.40
21MAR04	0.56	0.66	0.63
22MAR04	0.38	0.55	0.53
23MAR04	-0.05	-0.46	-0.53
24MAR04	0.09	-0.32	-0.40
25MAR04	0.49	0.31	0.22
26MAR04	0.38	0.14	0.04
27MAR04	0.50	0.38	0.29
28MAR04	0.66	0.66	0.58
29MAR04	0.58	0.57	0.47
30MAR04	0.58	0.60	0.48
31MAR04	0.75	0.90	0.76
01APR04	0.56	0.84	0.75
02APR04	0.39	0.54	0.40
03APR04	0.42	0.65	0.55
04APR04	0.53	0.76	0.65
05APR04	0.55	0.76	0.67
06APR04	0.51	0.68	0.61
07APR04	0.69	0.97	0.89
08APR04	0.90	1.27	1.20
09APR04	0.89	1.16	1.10
10APR04	0.69	0.66	0.87
11APR04	0.77	1.03	0.92
12APR04	0.68	0.88	0.83
13APR04	0.96	1.41	1.27

DATE	Boca Grande	Harbour Heights	Peace River Heights
14APR04	-0.06	0.21	0.08
15APR04	0.02	-0.17	-0.30
16APR04	0.33	-0.00	-0.12
17APR04	0.35	-0.04	-0.14
18APR04	0.35	-0.02	-0.12
19APR04	0.53	0.24	0.15
20APR04	0.52	0.34	0.23
21APR04	0.95	0.80	0.71
22APR04	0.86	0.80	0.72
23APR04	0.68	0.46	0.36
24APR04	0.74	0.54	0.43
25APR04	0.83	0.63	0.54
26APR04	0.92	0.80	0.69
27APR04	0.87	0.65	0.52
28APR04	0.65	0.09	-0.04
29APR04	0.87	0.36	0.20
30APR04	0.99	0.64	0.49
01MAY04	1.06	0.80	0.72
02MAY04	1.15	1.07	1.08
03MAY04	1.02	1.02	1.10
04MAY04	0.54	0.31	0.35
05MAY04	0.52	0.26	0.30
06MAY04	0.78	0.56	0.62
07MAY04	0.83	0.68	0.70
08MAY04	0.92	0.77	0.75
09MAY04	1.12	0.85	0.82
10MAY04	1.12	0.75	0.69
11MAY04	1.10	0.73	0.64
12MAY04	1.19	0.74	0.65
13MAY04	1.08	0.64	0.55
14MAY04	0.89	0.42	0.33
15MAY04	0.82	0.50	0.42
16MAY04	0.67	0.34	0.29
17MAY04	0.95	0.37	0.29
18MAY04	.	0.47	0.40
19MAY04	.	0.64	0.56
20MAY04	.	0.71	0.64
21MAY04	.	0.58	0.49
22MAY04	.	0.84	0.76
23MAY04	.	0.90	0.83
24MAY04	.	0.77	0.68
25MAY04	.	0.74	0.63
26MAY04	.	0.80	0.69
27MAY04	.	0.71	0.59
28MAY04	0.80	0.81	0.68
29MAY04	0.59	0.71	0.61
30MAY04	0.80	0.93	0.84
31MAY04	0.81	1.08	1.03
01JUN04	0.85	1.16	1.13
02JUN04	0.78	1.13	1.11
03JUN04	0.75	1.08	1.04
04JUN04	0.76	1.08	1.05
05JUN04	0.95	1.22	1.19

DATE	Boca Grande	Harbour Heights	Peace River Heights
06JUN04	0.92	1.11	1.07
07JUN04	0.88	0.98	0.90
08JUN04	0.83	0.79	0.69
09JUN04	0.82	0.72	0.61
10JUN04	0.92	0.90	0.79
11JUN04	0.93	0.93	0.85
12JUN04	0.87	0.90	0.82
13JUN04	0.85	0.87	0.81
14JUN04	0.92	0.98	1.02
15JUN04	0.94	1.02	1.04
16JUN04	0.78	0.86	0.88
17JUN04	0.70	0.65	0.65
18JUN04	0.76	0.84	0.83
19JUN04	0.81	1.05	1.06
20JUN04	0.82	1.08	1.08
21JUN04	0.86	1.07	1.05
22JUN04	0.89	1.11	1.08
23JUN04	0.89	0.92	0.87
24JUN04	0.82	0.77	0.67
25JUN04	0.84	0.78	0.68
26JUN04	0.78	0.68	0.58
27JUN04	0.80	0.66	0.60
28JUN04	0.73	0.60	0.53
29JUN04	0.80	0.79	0.80
30JUN04	0.82	0.82	0.80
01JUL04	0.88	0.99	1.03
02JUL04	0.88	1.04	1.09
03JUL04	0.94	1.02	1.10
04JUL04	0.97	1.01	1.06
05JUL04	0.94	0.88	0.92
06JUL04	0.85	0.81	0.83
07JUL04	0.91	0.75	0.72
08JUL04	0.92	0.78	0.73
09JUL04	0.93	0.77	0.71
10JUL04	0.79	0.62	0.57
11JUL04	0.84	0.72	0.75
12JUL04	0.73	0.64	0.60
13JUL04	0.90	0.92	0.95
14JUL04	0.82	0.93	0.99
15JUL04	0.91	0.82	1.03
16JUL04	1.17	0.94	0.99
17JUL04	1.42	1.13	1.18
18JUL04	1.27	1.09	1.38
19JUL04	1.87	1.39	1.45
20JUL04	1.90	0.96	1.03
21JUL04	1.32	0.81	0.91
22JUL04	0.77	0.59	0.70
23JUL04	0.74	0.69	0.78
24JUL04	0.82	0.75	0.82
25JUL04	0.77	0.68	0.71
26JUL04	0.97	0.65	.
27JUL04	1.49	0.75	.
28JUL04	2.20	0.76	.

DATE	Boca Grande	Harbour Heights	Peace River Heights
29JUL04	1.60	0.92	.
30JUL04	1.55	0.95	.
31JUL04	1.48	1.18	.
01AUG04	1.16	1.34	.
02AUG04	0.87	1.05	.
03AUG04	0.90	1.18	.
04AUG04	0.76	1.10	1.46
05AUG04	0.76	1.15	1.27
06AUG04	0.85	1.24	1.39
07AUG04	0.87	1.17	1.40
08AUG04	0.81	1.17	1.53
09AUG04	0.53	0.79	1.18
10AUG04	0.56	0.75	1.07
11AUG04	0.67	1.02	1.30
12AUG04	0.83	1.34	1.62
13AUG04	1.17	1.55	1.87
14AUG04	0.82	1.27	1.78
15AUG04	0.68	1.05	1.54
16AUG04	0.61	0.98	1.64
17AUG04	0.76	1.01	1.86
18AUG04	0.94	1.13	2.14
19AUG04	1.06	1.19	2.30
20AUG04	1.02	1.19	2.35
21AUG04	0.86	1.08	2.35
22AUG04	0.89	1.12	2.37
23AUG04	0.83	1.20	2.48
24AUG04	0.58	1.13	2.51
25AUG04	0.65	1.15	2.52
26AUG04	0.45	1.27	2.55
27AUG04	0.32	1.23	2.49
28AUG04	0.29	1.27	2.37
29AUG04	0.34	1.35	2.33
30AUG04	0.41	1.35	2.23
31AUG04	0.34	1.27	2.06
01SEP04	0.24	1.04	1.84
02SEP04	0.28	0.90	1.73
03SEP04	0.52	0.84	1.60
04SEP04	0.35	0.52	1.36
05SEP04	1.05	2.61	2.64
06SEP04	1.61	3.45	4.20
07SEP04	0.90	1.96	2.85
08SEP04	0.72	1.31	2.87
09SEP04	0.81	1.31	3.11
10SEP04	0.51	1.20	3.76
11SEP04	0.55	1.19	4.65
12SEP04	.	1.38	4.81
13SEP04	.	1.37	4.56
14SEP04	.	1.50	4.19
15SEP04	.	2.44	4.12
16SEP04	.	2.01	3.71
17SEP04	1.16	1.61	3.23
18SEP04	0.99	1.45	2.96
19SEP04	0.80	1.04	2.64

DATE	Boca Grande	Harbour Heights	Peace River Heights
20SEP04	0.68	0.76	2.35
21SEP04	0.52	0.38	2.10
22SEP04	1.00	1.05	2.26
23SEP04	0.95	1.05	2.17
24SEP04	1.00	1.13	2.13
25SEP04	1.00	1.15	2.02
26SEP04	1.73	3.39	3.77
27SEP04	1.59	2.31	3.26
28SEP04	1.07	1.64	2.95
29SEP04	0.91	1.41	2.99
30SEP04	1.00	1.44	3.22
01OCT04	1.02	1.47	3.63
02OCT04	0.85	1.23	3.77
03OCT04	0.85	1.18	3.64
04OCT04	1.02	1.38	3.45
05OCT04	0.96	1.17	3.13
06OCT04	0.89	0.94	2.80
07OCT04	0.63	0.47	2.40
08OCT04	0.92	0.93	2.28
09OCT04	1.28	1.37	2.38
10OCT04	1.39	1.58	2.44
11OCT04	1.50	1.70	2.49
12OCT04	1.23	1.57	2.31
13OCT04	1.17	1.57	2.25
14OCT04	1.08	1.32	2.09
15OCT04	1.27	1.54	2.25
16OCT04	0.76	0.91	1.72
17OCT04	0.80	0.94	1.65
18OCT04	0.95	1.07	1.70
19OCT04	1.03	1.22	1.77
20OCT04	0.94	1.14	1.64
21OCT04	0.77	0.80	1.30
22OCT04	0.79	0.57	1.02
23OCT04	0.91	0.68	1.10
24OCT04	1.06	0.95	1.31
25OCT04	1.07	1.07	1.43
26OCT04	1.02	0.92	1.29
27OCT04	1.00	0.88	1.21
28OCT04	1.01	0.91	1.22
29OCT04	1.05	1.06	1.35
30OCT04	1.14	1.18	1.44
31OCT04	1.20	1.19	1.44
01NOV04	1.27	1.27	1.48
02NOV04	1.25	1.25	1.42
03NOV04	1.07	1.08	1.22
04NOV04	1.10	1.18	1.26
05NOV04	0.92	0.95	1.09
06NOV04	0.51	0.27	0.33
07NOV04	0.72	0.59	0.66
08NOV04	0.73	0.63	0.75
09NOV04	0.71	0.47	0.58
10NOV04	0.77	0.40	0.50
11NOV04	1.12	0.96	1.05

DATE	Boca Grande	Harbour Heights	Peace River Heights
12NOV04	1.38	1.44	1.59
13NOV04	1.17	1.36	1.58
14NOV04	0.54	0.44	0.68
15NOV04	0.35	-0.05	0.07
16NOV04	0.70	0.55	0.68
17NOV04	0.78	0.71	0.82
18NOV04	0.90	0.81	0.91
19NOV04	1.01	1.00	1.10
20NOV04	1.14	1.12	1.25
21NOV04	1.02	1.00	1.13
22NOV04	1.09	1.06	1.18
23NOV04	1.25	1.33	1.49
24NOV04	1.56	1.71	1.86
25NOV04	1.12	1.47	1.74
26NOV04	0.56	0.52	0.68
27NOV04	0.94	1.00	1.12
28NOV04	0.78	0.97	1.29
29NOV04	0.43	0.40	0.58
30NOV04	0.57	0.56	0.75
01DEC04	0.54	0.64	0.85
02DEC04	0.56	0.61	0.78
03DEC04	0.38	0.30	0.45
04DEC04	0.46	0.35	0.51
05DEC04	0.35	0.18	0.32
06DEC04	0.60	0.55	0.71
07DEC04	0.71	0.67	0.84
08DEC04	0.56	0.58	0.79
09DEC04	0.64	0.71	0.91
10DEC04	0.79	1.10	1.34
11DEC04	0.52	0.92	1.17
12DEC04	0.07	0.09	0.28
13DEC04	0.20	0.36	0.58
14DEC04	0.02	0.23	0.49
15DEC04	-0.65	-1.26	-1.06
16DEC04	-0.15	-0.44	-0.37
17DEC04	0.30	0.15	0.24
18DEC04	0.45	0.33	0.40
19DEC04	0.36	0.27	0.31
20DEC04	-0.02	-0.21	-0.15
21DEC04	0.29	0.14	0.17
22DEC04	0.63	0.52	0.57
23DEC04	0.85	0.91	0.99
24DEC04	0.47	0.46	0.54
25DEC04	0.44	0.05	0.06
26DEC04	0.63	1.27	1.58
27DEC04	-0.47	-0.67	-0.39
28DEC04	-0.32	-0.47	-0.20
29DEC04	0.16	0.10	0.32
30DEC04	0.27	0.24	-0.00
31DEC04	0.45	0.42	0.22

Mean Daily Water Temperatures at the Two Peace River Continuous Recorders

DATE	Harbor Heights		Peace River Heights	
	Surface	Bottom	Surface	Bottom
01JAN04	19.91	19.81	18.97	19.07
02JAN04	20.04	19.93	19.49	19.60
03JAN04	20.42	20.31	19.98	20.09
04JAN04	21.18	21.07	20.57	20.69
05JAN04	21.80	21.69	21.00	21.12
06JAN04	22.33	22.22	21.36	21.49
07JAN04	19.88	19.77	20.37	20.50
08JAN04	18.17	18.08	18.82	18.95
09JAN04	19.21	19.10	18.80	18.94
10JAN04	18.44	18.34	18.17	18.31
11JAN04	15.75	15.65	16.04	16.18
12JAN04	16.20	16.09	15.95	16.09
13JAN04	16.82	16.69	16.19	16.33
14JAN04	17.14	17.06	16.18	16.33
15JAN04	17.39	17.29	16.27	16.39
16JAN04	17.74	17.59	16.54	16.65
17JAN04	17.57	17.47	16.53	16.67
18JAN04	18.01	17.89	16.86	16.99
19JAN04	18.68	18.57	17.53	17.65
20JAN04	18.57	18.48	17.84	17.97
21JAN04	18.18	18.07	17.47	17.61
22JAN04	18.15	18.05	16.99	17.12
23JAN04	17.57	17.47	16.37	16.51
24JAN04	17.75	17.67	16.01	16.16
25JAN04	.	.	16.16	16.30
26JAN04	.	.	16.99	17.11
27JAN04	.	.	18.11	18.24
28JAN04	.	.	18.11	18.25
29JAN04	.	.	17.28	17.39
30JAN04	.	.	16.72	16.83
31JAN04	.	.	16.11	16.24
01FEB04	.	.	16.66	16.67
02FEB04	.	.	17.49	17.55
03FEB04	.	.	17.91	17.94
04FEB04	.	.	18.75	18.72
05FEB04	.	.	19.45	19.58
06FEB04	.	.	20.64	20.77
07FEB04	.	.	20.77	20.92
08FEB04	.	.	18.76	18.90
09FEB04	.	.	18.24	18.38
10FEB04	.	.	19.22	19.36
11FEB04	.	.	20.27	20.40
12FEB04	.	.	21.16	21.29
13FEB04	.	.	21.74	21.85
14FEB04	.	.	21.83	21.97
15FEB04	.	.	21.75	21.84
16FEB04	.	.	20.57	20.71
17FEB04	.	.	19.17	19.31

Harbor Heights		Peace River Heights		
DATE	Surface	Bottom	Surface	Bottom
18FEB04	.	.	17.58	17.73
19FEB04	.	.	17.29	17.43
20FEB04	.	.	17.39	17.52
21FEB04	.	.	17.88	18.03
22FEB04	.	.	18.40	18.54
23FEB04	22.45	22.31	.	.
24FEB04	22.81	22.71	.	.
25FEB04	21.62	21.52	.	.
26FEB04	21.16	21.07	20.07	20.21
27FEB04	19.68	19.60	19.26	19.41
28FEB04	17.48	17.36	17.89	18.04
29FEB04	18.18	18.08	17.65	17.80
01MAR04	19.16	18.97	18.33	18.46
02MAR04	20.02	19.88	18.91	19.04
03MAR04	20.72	20.61	19.66	19.80
04MAR04	21.34	21.24	20.64	20.75
05MAR04	21.81	21.70	21.46	21.50
06MAR04	22.97	22.86	22.22	22.31
07MAR04	24.21	24.11	23.28	23.38
08MAR04	23.81	23.69	23.56	23.70
09MAR04	22.55	22.43	22.25	22.40
10MAR04	21.57	21.45	20.97	21.11
11MAR04	20.55	20.42	20.35	20.49
12MAR04	21.02	20.65	20.70	20.60
13MAR04	21.23	21.05	20.97	20.98
14MAR04	20.92	20.74	20.84	20.96
15MAR04	21.54	21.43	21.34	21.46
16MAR04	22.16	22.05	21.71	21.84
17MAR04	22.76	22.65	22.46	22.60
18MAR04	23.18	23.08	23.01	23.12
19MAR04	24.12	24.03	22.95	23.04
20MAR04	23.96	23.85	22.89	23.04
21MAR04	24.21	24.10	23.24	23.37
22MAR04	24.16	24.06	23.36	23.51
23MAR04	21.67	21.54	22.08	22.22
24MAR04	20.82	20.72	21.27	21.41
25MAR04	20.77	20.66	21.03	21.16
26MAR04	21.24	21.11	21.43	21.57
27MAR04	21.74	21.61	22.45	22.44
28MAR04	22.21	22.02	22.65	22.70
29MAR04	22.50	22.30	23.27	23.18
30MAR04	22.58	22.46	23.42	23.53
31MAR04	23.44	23.31	23.63	23.73
01APR04	23.35	23.26	23.58	23.71
02APR04	22.83	22.67	22.91	23.05
03APR04	22.83	22.69	22.72	22.86
04APR04	22.72	22.57	22.59	22.73
05APR04	22.71	22.57	22.58	22.72
06APR04	22.73	22.61	22.63	22.77
07APR04	23.26	23.13	23.07	23.22
08APR04	23.85	23.70	23.58	23.71
09APR04	24.73	24.56	23.97	24.09

Harbor Heights			Peace River Heights	
DATE	Surface	Bottom	Surface	Bottom
10APR04	25.69	25.34	24.71	24.75
11APR04	26.10	25.97	25.09	25.21
12APR04	24.47	24.39	24.28	24.42
13APR04	23.23	23.11	23.31	23.41
14APR04	21.61	21.53	22.51	22.66
15APR04	21.14	21.00	22.14	22.28
16APR04	21.85	21.72	22.45	22.58
17APR04	22.40	22.25	22.95	23.09
18APR04	22.69	22.54	23.28	23.41
19APR04	22.92	22.77	23.55	23.69
20APR04	23.51	23.30	24.05	24.19
21APR04	23.84	23.63	24.39	24.54
22APR04	24.51	24.32	24.87	24.97
23APR04	25.95	25.52	25.73	25.79
24APR04	26.05	25.55	26.38	26.33
25APR04	26.18	25.88	26.70	26.82
26APR04	26.16	26.02	27.14	27.22
27APR04	26.41	26.29	26.82	26.95
28APR04	25.54	25.44	26.48	26.60
29APR04	25.81	25.62	26.38	26.54
30APR04	26.27	26.12	26.62	26.75
01MAY04	26.84	26.68	27.20	27.33
02MAY04	27.64	27.52	27.96	28.08
03MAY04	27.39	27.27	26.77	26.92
04MAY04	26.89	26.73	25.57	25.68
05MAY04	26.07	25.92	25.46	25.46
06MAY04	26.02	25.67	24.99	24.96
07MAY04	26.19	25.82	25.35	25.28
08MAY04	26.14	25.53	25.75	25.76
09MAY04	25.85	25.37	26.05	26.09
10MAY04	25.32	25.07	25.64	25.79
11MAY04	25.16	24.87	25.56	25.69
12MAY04	25.64	25.44	25.80	25.95
13MAY04	26.25	26.09	26.25	26.40
14MAY04	26.56	26.40	26.75	26.91
15MAY04	26.80	26.64	27.08	27.23
16MAY04	26.92	26.78	27.16	27.31
17MAY04	27.13	26.90	27.40	27.54
18MAY04	27.28	27.08	27.66	27.81
19MAY04	27.09	26.88	27.76	27.91
20MAY04	27.44	27.10	28.06	28.16
21MAY04	27.89	27.30	28.21	28.33
22MAY04	27.81	27.09	28.32	28.38
23MAY04	27.89	27.16	28.32	28.39
24MAY04	28.16	27.70	28.67	28.45
25MAY04	27.86	27.65	28.79	28.63
26MAY04	28.40	28.21	29.03	28.86
27MAY04	29.36	29.14	29.29	29.37
28MAY04	29.71	29.52	29.65	29.76
29MAY04	30.11	29.94	29.92	30.06
30MAY04	30.35	30.20	30.14	30.29
31MAY04	30.58	30.43	30.37	30.53

Harbor Heights			Peace River Heights	
DATE	Surface	Bottom	Surface	Bottom
01JUN04	30.48	30.35	30.44	30.59
02JUN04	30.39	30.29	30.49	30.65
03JUN04	30.24	30.05	30.33	30.46
04JUN04	29.50	29.37	29.67	29.81
05JUN04	28.80	28.63	28.78	29.10
06JUN04	29.12	28.85	27.26	29.04
07JUN04	29.30	28.86	27.30	29.09
08JUN04	29.25	29.04	26.74	28.96
09JUN04	28.87	28.70	26.48	28.78
10JUN04	28.83	28.65	26.65	28.71
11JUN04	29.16	29.03	27.00	28.75
12JUN04	29.73	29.54	27.28	29.08
13JUN04	30.02	29.82	27.66	29.93
14JUN04	29.71	29.63	28.28	29.81
15JUN04	29.96	29.70	28.19	29.25
16JUN04	30.23	29.93	28.22	29.28
17JUN04	30.16	29.82	27.57	29.72
18JUN04	30.23	29.82	28.38	29.84
19JUN04	30.29	30.14	29.16	30.46
20JUN04	30.86	30.71	29.35	30.79
21JUN04	31.02	30.88	29.24	30.82
22JUN04	31.11	30.93	29.27	30.77
23JUN04	31.57	31.29	29.09	31.07
24JUN04	31.37	31.24	28.37	31.08
25JUN04	31.02	30.87	28.75	30.83
26JUN04	31.17	31.06	27.98	31.04
27JUN04	30.86	30.77	27.06	30.55
28JUN04	30.51	30.37	26.66	29.86
29JUN04	29.55	29.38	27.04	29.36
30JUN04	29.23	29.11	26.79	28.97
01JUL04	29.65	29.55	28.19	29.35
02JUL04	30.06	29.92	28.47	29.81
03JUL04	30.11	30.01	27.87	29.54
04JUL04	30.44	30.24	28.33	29.80
05JUL04	30.99	30.80	28.92	30.82
06JUL04	31.01	30.80	29.48	31.12
07JUL04	30.67	30.45	30.20	30.34
08JUL04	30.75	30.55	29.56	29.68
09JUL04	31.50	31.25	30.30	30.42
10JUL04	31.59	31.47	30.88	31.01
11JUL04	31.03	31.01	30.71	30.80
12JUL04	30.78	30.64	29.81	29.88
13JUL04	31.12	31.08	30.31	30.32
14JUL04	31.30	31.20	30.33	30.25
15JUL04	31.33	31.23	30.45	30.42
16JUL04	30.78	30.73	29.83	29.97
17JUL04	30.01	29.92	29.00	29.15
18JUL04	29.76	29.67	28.86	29.17
19JUL04	29.18	29.08	28.00	28.81
20JUL04	27.67	28.02	26.70	27.71
21JUL04	27.58	27.74	26.07	26.86
22JUL04	28.98	28.86	26.59	27.25

Harbor Heights			Peace River Heights	
DATE	Surface	Bottom	Surface	Bottom
23JUL04	29.52	29.39	27.34	28.29
24JUL04	30.14	29.98	28.12	29.17
25JUL04	30.52	30.41	27.93	29.78
26JUL04	30.52	30.44	.	.
27JUL04	30.41	30.31	.	.
28JUL04	30.04	29.94	.	.
29JUL04	29.80	29.68	.	.
30JUL04	29.61	29.50	.	.
31JUL04	29.65	29.55	.	.
01AUG04	29.18	29.08	.	.
02AUG04	28.43	28.33	.	.
03AUG04	28.40	28.30	.	.
04AUG04	28.18	28.05	27.39	27.55
05AUG04	28.33	28.17	27.41	27.57
06AUG04	28.67	28.53	27.70	27.88
07AUG04	28.87	28.73	28.03	28.20
08AUG04	28.47	28.35	27.56	27.73
09AUG04	27.89	28.44	27.56	27.73
10AUG04	28.81	28.55	27.97	28.14
11AUG04	28.79	29.06	28.37	28.54
12AUG04	29.17	29.58	28.39	28.63
13AUG04	27.43	27.95	27.60	27.85
14AUG04	27.08	27.19	26.93	27.18
15AUG04	28.39	28.33	27.45	27.80
16AUG04	28.99	28.91	28.10	28.43
17AUG04	29.14	29.03	28.49	28.66
18AUG04	29.22	29.16	28.88	29.05
19AUG04	29.48	29.41	29.32	29.49
20AUG04	30.17	30.09	29.91	30.04
21AUG04	30.54	30.49	30.21	30.34
22AUG04	30.26	30.20	29.99	30.14
23AUG04	30.01	29.96	29.70	29.86
24AUG04	29.62	29.58	29.51	29.63
25AUG04	29.26	29.24	29.03	29.16
26AUG04	29.46	29.40	29.13	29.29
27AUG04	29.72	29.64	29.39	29.53
28AUG04	29.37	29.28	29.51	29.66
29AUG04	30.16	30.08	29.97	30.13
30AUG04	30.53	30.42	30.21	30.36
31AUG04	30.59	30.52	30.40	30.55
01SEP04	30.13	30.09	29.73	29.91
02SEP04	29.66	29.64	29.34	29.50
03SEP04	29.66	29.64	29.45	29.60
04SEP04	28.24	28.23	28.70	28.93
05SEP04	26.29	26.27	27.08	27.26
06SEP04	26.24	26.21	26.70	26.87
07SEP04	27.08	27.05	26.92	27.09
08SEP04	27.53	27.49	27.36	27.52
09SEP04	28.33	28.30	28.06	28.24
10SEP04	28.83	28.78	28.56	28.72
11SEP04	28.92	28.88	29.00	29.16
12SEP04	29.06	29.03	29.27	29.44

Harbor Heights			Peace River Heights	
DATE	Surface	Bottom	Surface	Bottom
13SEP04	29.04	29.01	29.20	29.37
14SEP04	28.51	28.49	28.80	28.96
15SEP04	28.20	28.18	28.42	28.58
16SEP04	28.73	28.68	28.71	28.88
17SEP04	29.54	29.49	29.40	29.56
18SEP04	30.01	29.96	29.73	29.90
19SEP04	29.62	29.60	29.55	29.72
20SEP04	28.17	28.15	28.55	28.70
21SEP04	26.83	26.82	27.49	27.67
22SEP04	26.86	26.84	27.09	27.27
23SEP04	27.08	27.06	27.10	27.27
24SEP04	27.29	27.27	27.24	27.41
25SEP04	26.80	26.77	27.00	27.18
26SEP04	25.68	25.66	26.16	26.32
27SEP04	26.35	26.29	26.36	26.52
28SEP04	27.33	27.27	26.89	27.06
29SEP04	27.82	27.77	27.56	27.73
30SEP04	28.46	28.41	28.27	28.44
01OCT04	28.76	28.73	28.68	28.84
02OCT04	28.88	28.86	28.90	29.07
03OCT04	28.71	28.68	28.80	28.97
04OCT04	28.90	28.88	28.80	28.96
05OCT04	28.97	28.94	28.91	29.08
06OCT04	28.77	28.76	28.80	28.97
07OCT04	27.71	27.71	28.20	28.39
08OCT04	27.29	27.27	27.35	27.54
09OCT04	27.17	27.16	27.07	27.25
10OCT04	26.87	26.85	26.91	27.10
11OCT04	26.32	26.30	26.52	26.72
12OCT04	26.43	26.29	26.42	26.58
13OCT04	26.68	26.65	26.73	26.91
14OCT04	26.76	26.70	26.59	26.79
15OCT04	26.28	26.25	26.08	26.27
16OCT04	24.86	24.82	24.79	24.98
17OCT04	24.93	24.90	24.44	24.63
18OCT04	25.32	25.26	24.65	24.84
19OCT04	25.76	25.69	25.23	25.42
20OCT04	26.09	26.01	25.58	25.76
21OCT04	26.70	26.67	26.02	26.21
22OCT04	26.66	26.63	26.20	26.38
23OCT04	26.06	26.02	25.91	26.09
24OCT04	25.68	25.62	25.71	25.89
25OCT04	25.97	25.93	25.73	25.91
26OCT04	25.74	25.70	25.58	25.77
27OCT04	25.34	25.31	25.26	25.44
28OCT04	25.08	25.06	24.95	25.14
29OCT04	25.43	25.41	24.94	25.13
30OCT04	25.84	25.83	25.07	25.24
31OCT04	25.99	25.97	25.21	25.40
01NOV04	25.99	26.02	25.42	25.61
02NOV04	26.18	26.19	25.58	25.76
03NOV04	26.70	26.58	25.87	26.06

DATE	Harbor Heights		Peace River Heights	
	Surface	Bottom	Surface	Bottom
04NOV04	27.17	27.20	26.07	26.25
05NOV04	26.41	26.47	25.61	25.78
06NOV04	24.06	24.06	24.31	24.50
07NOV04	23.77	23.77	23.87	24.05
08NOV04	23.24	23.23	23.20	23.39
09NOV04	22.78	22.75	22.61	22.83
10NOV04	22.54	22.54	22.51	22.73
11NOV04	22.75	22.75	22.46	22.67
12NOV04	23.29	23.30	22.66	22.85
13NOV04	23.72	23.71	22.87	23.06
14NOV04	23.47	23.49	22.95	23.14
15NOV04	22.18	22.31	22.43	22.62
16NOV04	21.88	21.90	22.05	22.24
17NOV04	21.90	21.89	21.85	22.04
18NOV04	22.78	22.76	21.90	22.09
19NOV04	22.85	22.83	21.94	22.13
20NOV04	22.99	22.95	22.09	22.28
21NOV04	23.12	23.10	22.21	22.41
22NOV04	23.29	23.26	22.48	22.68
23NOV04	23.48	23.47	22.69	22.88
24NOV04	23.77	23.76	22.99	23.18
25NOV04	23.77	23.74	23.22	23.42
26NOV04	22.14	22.12	22.42	22.61
27NOV04	22.28	22.28	21.90	22.10
28NOV04	22.75	22.72	22.09	22.29
29NOV04	22.35	22.34	21.94	22.13
30NOV04	22.94	22.93	21.76	21.94
01DEC04	23.99	23.98	21.92	22.11
02DEC04	23.96	23.94	21.83	22.01
03DEC04	22.98	22.96	21.40	21.59
04DEC04	21.91	21.89	20.46	20.64
05DEC04	21.22	21.20	19.91	20.10
06DEC04	22.04	22.03	20.36	20.55
07DEC04	22.35	22.32	20.75	20.95
08DEC04	22.75	22.73	21.17	21.36
09DEC04	23.11	23.09	21.88	22.07
10DEC04	23.47	23.46	22.31	22.49
11DEC04	22.58	22.55	21.91	22.09
12DEC04	20.14	20.14	20.32	20.51
13DEC04	19.90	19.89	19.47	19.67
14DEC04	19.52	19.50	19.05	19.24
15DEC04	15.10	15.09	16.54	16.72
16DEC04	14.91	14.91	15.50	15.71
17DEC04	15.62	15.62	15.91	16.11
18DEC04	16.64	16.62	16.42	16.63
19DEC04	16.98	16.97	16.77	16.99
20DEC04	16.26	16.26	16.25	16.45
21DEC04	15.11	15.10	15.52	15.74
22DEC04	16.13	16.12	15.92	16.14
23DEC04	17.31	17.30	16.63	16.83
24DEC04	17.73	17.73	17.21	17.41
25DEC04	16.74	16.73	16.89	17.09

Harbor Heights			Peace River Heights	
DATE	Surface	Bottom	Surface	Bottom
26DEC04	16.32	16.31	16.48	16.68
27DEC04	14.41	14.41	15.05	15.17
28DEC04	14.63	14.62	14.59	14.78
29DEC04	15.85	15.83	14.97	15.03
30DEC04	16.66	16.65	15.65	15.58
31DEC04	17.80	17.79	16.49	16.41

Mean Daily Conductivities at the Two Peace River Continuous Recorders

DATE	Harbor Heights		Peace River Heights	
	Surface	Bottom	Surface	Bottom
01JAN04	11288	10971	399	399
02JAN04	14923	14404	415	414
03JAN04	17244	16721	419	419
04JAN04	19365	18824	428	425
05JAN04	19778	19221	444	438
06JAN04	17972	17471	449	439
07JAN04	11371	11275	435	427
08JAN04	14173	13635	446	439
09JAN04	22304	21568	597	607
10JAN04	19151	18502	829	857
11JAN04	13045	12470	463	458
12JAN04	14134	13577	473	468
13JAN04	16030	15758	496	484
14JAN04	16683	16629	481	506
15JAN04	17011	16978	487	510
16JAN04	16734	16857	503	523
17JAN04	17864	17696	565	591
18JAN04	18863	18727	657	683
19JAN04	15941	15897	577	598
20JAN04	10685	10996	490	498
21JAN04	9462	9908	495	501
22JAN04	9105	9485	496	503
23JAN04	7854	8334	496	500
24JAN04	7659	9615	495	497
25JAN04	.	.	494	493
26JAN04	.	.	490	486
27JAN04	.	.	489	481
28JAN04	.	.	487	476
29JAN04	.	.	488	478
30JAN04	.	.	489	475
31JAN04	.	.	506	492
01FEB04	.	.	504	486
02FEB04	.	.	497	478
03FEB04	.	.	463	443
04FEB04	.	.	439	417
05FEB04	.	.	427	405
06FEB04	.	.	423	400
07FEB04	.	.	422	399
08FEB04	.	.	426	400
09FEB04	.	.	438	409
10FEB04	.	.	449	415
11FEB04	.	.	470	430
12FEB04	.	.	483	441
13FEB04	.	.	493	447
14FEB04	.	.	542	504
15FEB04	.	.	509	466
16FEB04	.	.	505	454

DATE	Harbor Heights		Peace River Heights	
	Surface	Bottom	Surface	Bottom
17FEB04	.	.	515	461
18FEB04	.	.	525	470
19FEB04	.	.	524	467
20FEB04	.	.	525	466
21FEB04	.	.	532	471
22FEB04	.	.	537	473
23FEB04	5360	3798	.	.
24FEB04	.	3589	.	.
25FEB04	.	6204	.	.
26FEB04	.	4223	417	364
27FEB04	.	1288	413	361
28FEB04	.	1297	396	350
29FEB04	.	969	403	356
01MAR04	416	3229	394	352
02MAR04	669	3475	388	350
03MAR04	609	3210	377	343
04MAR04	523	4474	376	343
05MAR04	545	5261	383	350
06MAR04	468	3855	392	357
07MAR04	331	1326	406	369
08MAR04	294	835	424	384
09MAR04	258	1179	442	399
10MAR04	294	1006	447	405
11MAR04	292	2259	463	419
12MAR04	432	5571	471	429
13MAR04	638	4167	475	435
14MAR04	1205	9228	482	446
15MAR04	7335	13456	494	457
16MAR04	14487	15002	502	469
17MAR04	12162	12131	496	462
18MAR04	8883	8824	499	463
19MAR04	7167	7038	432	409
20MAR04	5082	5053	394	375
21MAR04	7903	7733	407	388
22MAR04	6927	6930	416	397
23MAR04	2380	2531	404	390
24MAR04	2666	2845	383	373
25MAR04	4921	5141	374	366
26MAR04	4524	4688	368	363
27MAR04	6970	6963	369	364
28MAR04	10461	10798	371	368
29MAR04	12194	12794	384	382
30MAR04	16214	16449	409	407
31MAR04	17369	18188	532	543
01APR04	17742	18226	633	642
02APR04	15984	16342	459	453
03APR04	16730	16980	503	496
04APR04	16819	17186	505	498
05APR04	16565	16619	520	531
06APR04	15621	15752	546	546
07APR04	16727	17486	733	732

DATE	Harbor Heights		Peace River Heights	
	Surface	Bottom	Surface	Bottom
08APR04	18121	18922	1419	1436
09APR04	17338	18366	1451	1534
10APR04	15679	17685	1091	1128
11APR04	16621	19098	1691	1746
12APR04	16542	16732	991	1051
13APR04	17813	17768	969	1043
14APR04	12612	13108	567	587
15APR04	10493	11062	540	556
16APR04	10208	10992	549	566
17APR04	10838	11825	544	561
18APR04	11790	12885	539	555
19APR04	13787	15366	545	563
20APR04	14884	16544	563	584
21APR04	17804	19953	785	830
22APR04	18379	20497	819	885
23APR04	15224	17252	696	725
24APR04	15867	18027	861	890
25APR04	17654	19399	903	955
26APR04	19464	20884	1151	1213
27APR04	17975	18889	952	1002
28APR04	15320	16249	924	969
29APR04	17744	18791	1115	1169
30APR04	19939	21082	1492	1568
01MAY04	20201	21138	1742	1798
02MAY04	20199	21083	1144	1193
03MAY04	16649	17662	413	431
04MAY04	8058	9156	358	379
05MAY04	5462	6156	386	403
06MAY04	4123	5578	330	343
07MAY04	3453	4989	347	363
08MAY04	4724	6955	374	394
09MAY04	6677	8529	390	410
10MAY04	5724	7522	407	426
11MAY04	7150	9195	418	430
12MAY04	9701	10851	429	448
13MAY04	9693	10448	439	459
14MAY04	9608	10339	449	474
15MAY04	11374	12066	457	470
16MAY04	10614	11472	465	482
17MAY04	10665	11596	474	498
18MAY04	11977	12844	483	505
19MAY04	13339	14484	498	501
20MAY04	14424	15426	519	534
21MAY04	13166	14370	536	542
22MAY04	15885	17747	617	631
23MAY04	17967	18899	730	741
24MAY04	16454	16823	659	671
25MAY04	18368	18899	670	697
26MAY04	21197	20357	783	809
27MAY04	20127	19217	930	961
28MAY04	20642	19772	1048	1088

DATE	Harbor Heights		Peace River Heights	
	Surface	Bottom	Surface	Bottom
29MAY04	20942	19686	927	933
30MAY04	22243	20994	1327	1346
31MAY04	23731	22359	1805	1802
01JUN04	24593	23285	2533	2442
02JUN04	24363	23480	2922	2894
03JUN04	23568	23491	3289	3162
04JUN04	23656	23056	3790	3738
05JUN04	23720	23088	4539	4404
06JUN04	23000	22355	4475	3617
07JUN04	22059	21291	3421	2578
08JUN04	20528	19638	2482	1681
09JUN04	20079	19092	1887	1318
10JUN04	20655	19852	1518	1127
11JUN04	20049	19623	984	859
12JUN04	17302	17120	607	596
13JUN04	15858	15601	553	565
14JUN04	12663	13894	480	494
15JUN04	8596	10702	415	433
16JUN04	6621	7502	401	418
17JUN04	5568	6989	438	467
18JUN04	6607	8926	466	484
19JUN04	9680	9629	487	508
20JUN04	8144	8204	459	491
21JUN04	7398	6792	468	493
22JUN04	7375	6839	472	495
23JUN04	6120	5815	482	506
24JUN04	5092	4946	486	515
25JUN04	5405	5692	484	510
26JUN04	6025	6457	486	465
27JUN04	6856	7173	465	482
28JUN04	7178	7232	474	488
29JUN04	8412	8898	478	487
30JUN04	7998	7844	471	479
01JUL04	9480	9144	461	471
02JUL04	9267	9677	449	454
03JUL04	9964	9856	404	410
04JUL04	8720	8729	395	417
05JUL04	7495	7511	435	447
06JUL04	5980	6423	434	444
07JUL04	4400	4779	388	398
08JUL04	5013	5428	402	407
09JUL04	4284	4698	460	472
10JUL04	4541	5080	487	502
11JUL04	5743	6525	469	483
12JUL04	3710	4185	419	431
13JUL04	5907	6305	435	447
14JUL04	5829	5797	435	445
15JUL04	5096	5139	425	436
16JUL04	4271	4310	396	406
17JUL04	5261	5140	404	413
18JUL04	6508	6288	423	437

DATE	Harbor Heights		Peace River Heights	
	Surface	Bottom	Surface	Bottom
19JUL04	5269	5447	430	445
20JUL04	2627	1965	433	448
21JUL04	1546	1008	428	443
22JUL04	739	710	366	373
23JUL04	873	855	355	367
24JUL04	1851	1979	353	364
25JUL04	2506	2816	356	367
26JUL04	3491	4133	.	.
27JUL04	4883	5004	.	.
28JUL04	3608	3793	.	.
29JUL04	3563	3889	.	.
30JUL04	4287	4391	.	.
31JUL04	5981	6165	.	.
01AUG04	3688	4095	.	.
02AUG04	1352	1390	.	.
03AUG04	768	810	.	.
04AUG04	586	565	327	307
05AUG04	476	477	325	303
06AUG04	446	460	300	286
07AUG04	430	451	283	275
08AUG04	384	419	270	255
09AUG04	357	402	274	273
10AUG04	.	422	284	289
11AUG04	.	463	288	293
12AUG04	.	477	284	289
13AUG04	.	478	278	284
14AUG04	422	581	252	256
15AUG04	323	338	234	237
16AUG04	295	317	222	225
17AUG04	271	303	212	216
18AUG04	254	290	200	204
19AUG04	236	269	196	201
20AUG04	237	270	193	198
21AUG04	233	269	191	195
22AUG04	220	272	191	195
23AUG04	225	283	189	193
24AUG04	237	287	191	196
25AUG04	236	286	195	199
26AUG04	237	296	201	206
27AUG04	245	293	207	212
28AUG04	243	293	213	218
29AUG04	252	292	217	222
30AUG04	260	300	221	226
31AUG04	256	299	220	226
01SEP04	258	300	211	217
02SEP04	250	290	210	216
03SEP04	254	278	210	216
04SEP04	256	266	200	208
05SEP04	571	364	199	201
06SEP04	636	578	199	201
07SEP04	260	274	197	202

DATE	Harbor Heights		Peace River Heights	
	Surface	Bottom	Surface	Bottom
08SEP04	237	256	181	185
09SEP04	209	225	167	165
10SEP04	200	216	151	155
11SEP04	174	186	136	139
12SEP04	166	176	132	137
13SEP04	162	170	134	139
14SEP04	166	179	140	145
15SEP04	173	185	147	153
16SEP04	183	197	154	159
17SEP04	188	202	161	168
18SEP04	198	209	168	174
19SEP04	204	212	175	182
20SEP04	209	210	180	187
21SEP04	226	228	182	189
22SEP04	214	217	187	194
23SEP04	226	229	193	201
24SEP04	229	232	197	207
25SEP04	235	237	200	209
26SEP04	4747	4771	199	209
27SEP04	767	733	191	201
28SEP04	405	345	172	181
29SEP04	248	221	153	160
30SEP04	212	199	146	154
01OCT04	181	180	138	146
02OCT04	170	168	131	138
03OCT04	159	158	130	136
04OCT04	163	164	134	142
05OCT04	173	170	143	151
06OCT04	188	181	152	160
07OCT04	205	204	160	169
08OCT04	185	192	167	176
09OCT04	194	195	172	182
10OCT04	202	203	178	187
11OCT04	215	208	182	192
12OCT04	224	223	186	196
13OCT04	218	216	192	204
14OCT04	231	232	197	204
15OCT04	225	229	202	207
16OCT04	240	244	208	213
17OCT04	245	248	213	219
18OCT04	252	255	216	221
19OCT04	255	256	219	226
20OCT04	251	253	221	228
21OCT04	260	263	224	229
22OCT04	265	268	227	224
23OCT04	524	575	230	235
24OCT04	1027	1099	233	240
25OCT04	577	601	236	244
26OCT04	354	361	241	249
27OCT04	448	464	247	256
28OCT04	724	804	251	260

DATE	Harbor Heights		Peace River Heights	
	Surface	Bottom	Surface	Bottom
29OCT04	1861	2145	253	255
30OCT04	2201	2439	254	245
31OCT04	2452	2701	256	262
01NOV04	2270	2921	257	256
02NOV04	2022	2405	259	262
03NOV04	3113	3717	264	248
04NOV04	5067	5898	272	276
05NOV04	4691	5148	277	286
06NOV04	1896	2019	279	276
07NOV04	2832	3360	281	283
08NOV04	4235	4759	285	296
09NOV04	3610	3826	287	299
10NOV04	2767	3091	288	300
11NOV04	5593	6045	288	300
12NOV04	10314	10882	290	302
13NOV04	8867	9119	297	309
14NOV04	4386	4566	306	318
15NOV04	1902	2156	317	330
16NOV04	3682	3923	324	335
17NOV04	5205	5343	329	341
18NOV04	9087	9372	335	346
19NOV04	11948	12288	340	352
20NOV04	12697	13065	343	356
21NOV04	10846	11275	345	357
22NOV04	10321	10812	348	356
23NOV04	12339	12817	350	360
24NOV04	14818	15253	352	363
25NOV04	11303	11809	358	370
26NOV04	4988	5558	360	372
27NOV04	9624	10232	365	377
28NOV04	11007	11628	361	374
29NOV04	5466	6167	368	381
30NOV04	8385	9110	372	385
01DEC04	11088	11896	364	376
02DEC04	11183	11710	360	368
03DEC04	8983	9623	360	368
04DEC04	9477	10168	361	371
05DEC04	10918	11551	359	363
06DEC04	15055	15429	358	360
07DEC04	15788	16087	359	361
08DEC04	14382	14613	356	356
09DEC04	14348	14554	358	362
10DEC04	16376	16287	360	373
11DEC04	13793	13665	361	374
12DEC04	9074	9317	363	374
13DEC04	10298	10308	364	376
14DEC04	9855	10162	363	376
15DEC04	4242	4951	369	380
16DEC04	5760	6449	375	387
17DEC04	9901	9793	370	381
18DEC04	12474	12019	368	376

DATE	Harbor Heights		Peace River Heights	
	Surface	Bottom	Surface	Bottom
19DEC04	13360	12740	370	379
20DEC04	11086	10813	383	392
21DEC04	14098	13174	394	403
22DEC04	18201	16655	397	407
23DEC04	20460	18434	410	419
24DEC04	16809	13863	421	429
25DEC04	12906	8594	409	414
26DEC04	20330	7855	2932	2916
27DEC04	7068	5384	396	411
28DEC04	3881	4540	352	366
29DEC04	3931	4176	355	367
30DEC04	5055	5076	355	369
31DEC04	6602	6675	357	372