

12-10-2001

Little Venice Water Quality Monitoring Quarterly Report #1 & 2

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SERC, OE-148, Florida International University, Miami, FL 33199 phone: 305-348-3095

10 December 2001

Fred McManus
US-EPA, Region IV
Wetlands Branch
61 Forsyth St.
Atlanta, GA 30303-8960

Re: Little Venice Water Quality Monitoring Quarterly Report #1&2

Dear Mr. McManus:

This letter serves to transmit the Little Venice Water Quality Monitoring Quarterly Report as per our EPA Agreement #X994621-94-0. This report consists of this letter along with corresponding table and figures.

Project Background

This report includes water quality data from 9 stations within the Little Venice subdivision collected during the period of record Jan. - Mar. 2001 and Apr. – Jun. 2001 (Fig. 1). Water was collected weekly for bacteriological analysis by SYNAGRO for enumeration of fecal coliform and enterococci (counts per 100 ml). Field parameters collected weekly at both the surface and bottom of the water column at each station include salinity (psu), temperature (°C), and dissolved oxygen (DO; mg l⁻¹). Water quality parameters monitored weekly at each station include total nitrogen (TN), total phosphorus (TP), and chlorophyll *a* (CHLA; µg l⁻¹). Monthly monitoring at each station included the dissolved nutrients nitrate+nitrite (NO_x), nitrite (NO₂), nitrate (NO₃), ammonium (NH₄), inorganic nitrogen (DIN), soluble reactive phosphate (SRP), and silicate (Si(OH)₄). Concentrations for all of these variables are reported in ppm unless

noted otherwise. In addition, monthly deployment of ISCO autosamplers at rotating sites were programmed to collect 12 samples per day over a 2 day period. These samples were analyzed for TN and TP. Hydrolab datasondes accompanied the autosamplers to measure and log temperature, salinity, DO, and pH on an hourly basis.

Results

Figures 2-10 show bacterial counts for the canal stations for the complete period of record. The EPA standard for fecal coliforms in bathing waters is 200 counts/100ml and 35 counts/100ml for enterococci. Fecal coliform counts exceeded the standard 7 times while enterococci counts exceeded standards 36 times.

Figures 11-19 show TN, TP, CHLA, salinity, and DO at all stations for the complete period of record. The heads of the canals generally have the highest TN, TP and CHLA (Fig. 20) but lowest DO (Fig. 21).

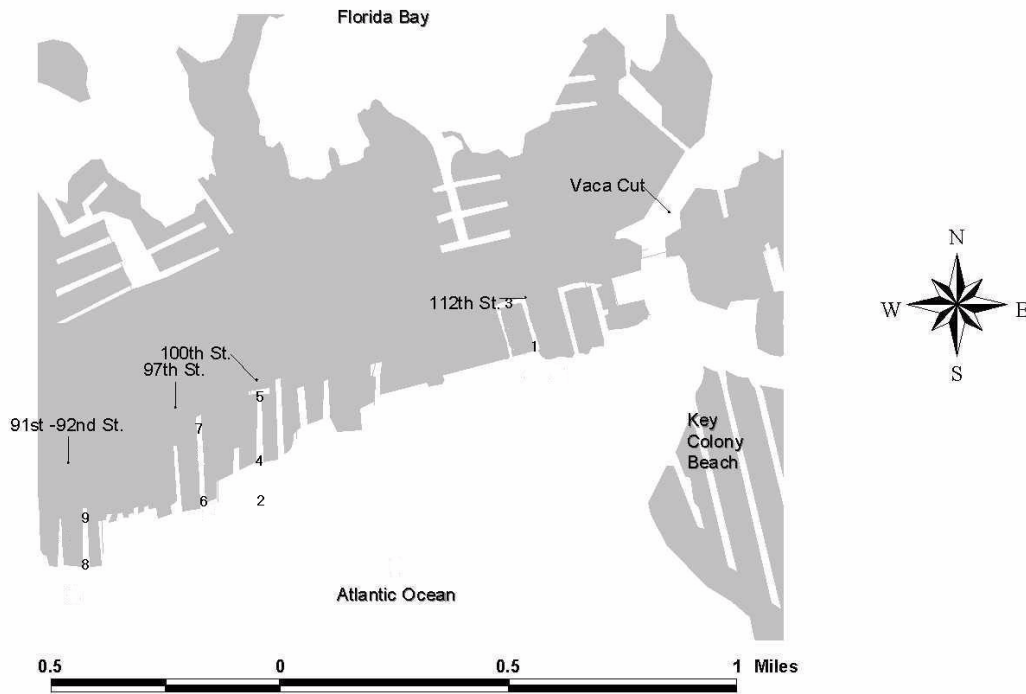
If you have any questions about the content of this report, please do not hesitate to contact me at 305-348-4076, boyerj@fiu.edu or Ron Jones at 305-348-3095.

Sincerely,

Ronald Jones, Ph.D.
Director and Professor

Joseph N. Boyer, Ph.D.
Assistant Scientist

Figure 1
Little Venice Service Area Sampling Stations



Sta 1 - Mouth of 112th Street Canal

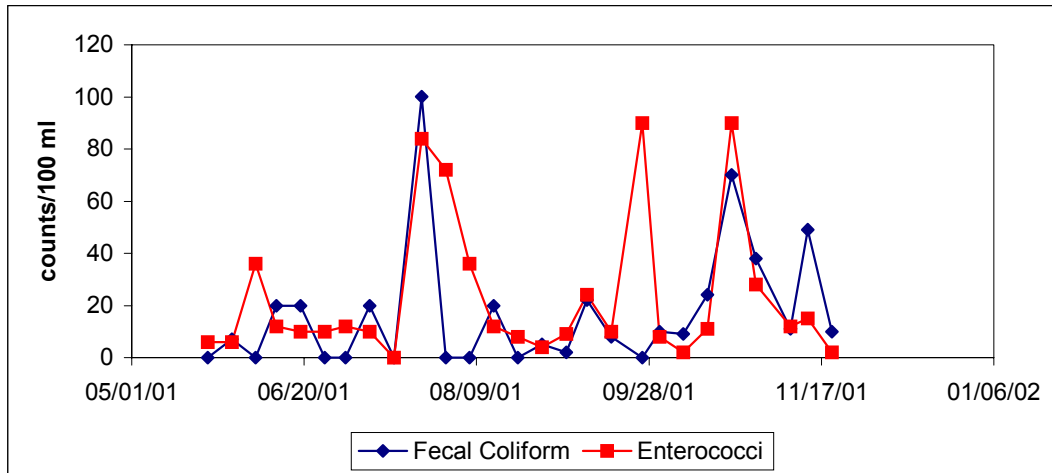


Figure 2

Sta 2 - Offshore of 100th Street Canal

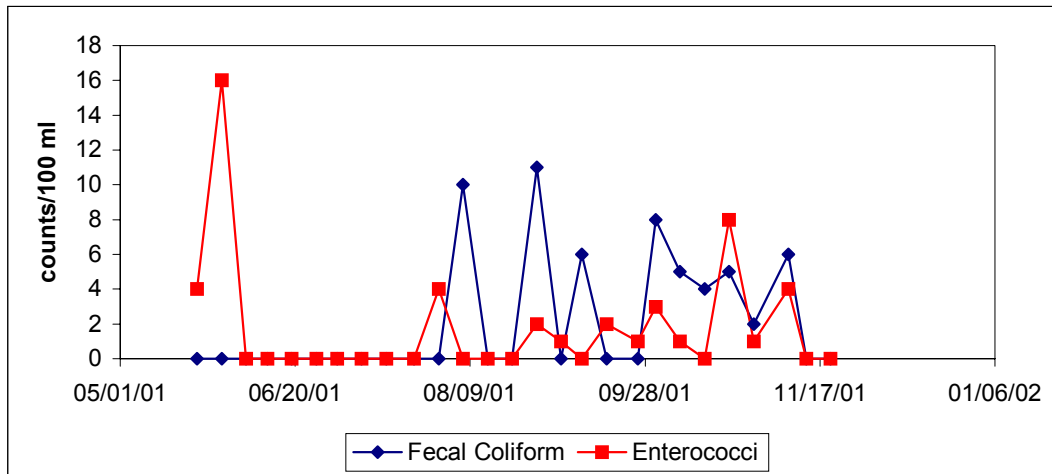


Figure 3

Sta 3 - Head of 112th Street Canal

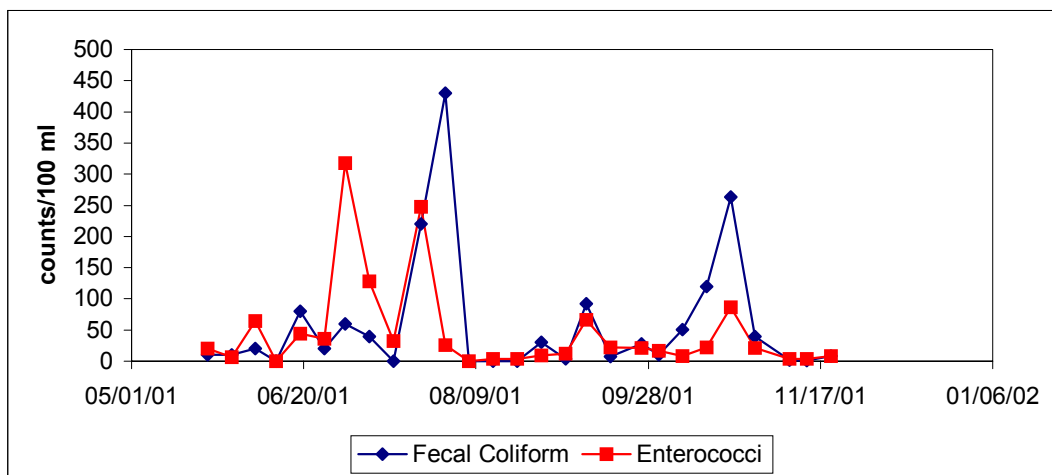


Figure 4

Sta 4 - Mouth of 100th Street Canal

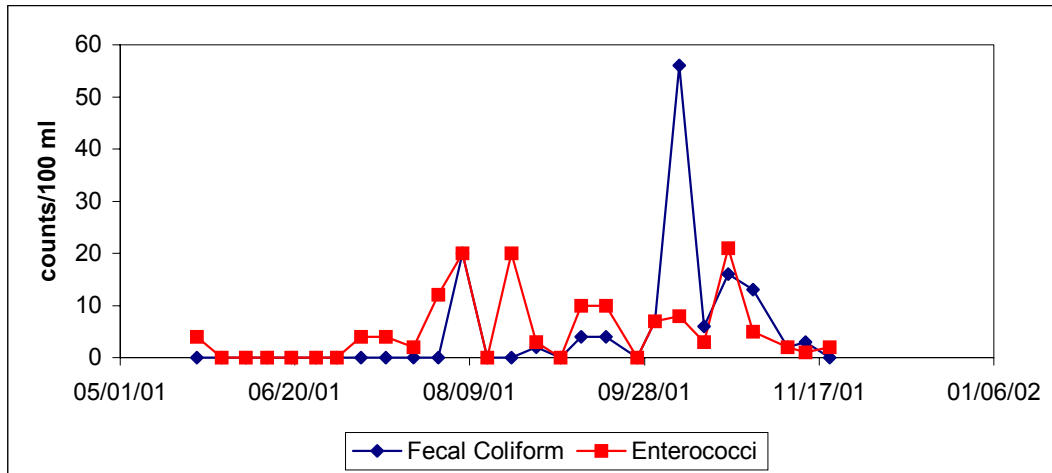


Figure 5

Sta 5 - Head of 100th Street Canal

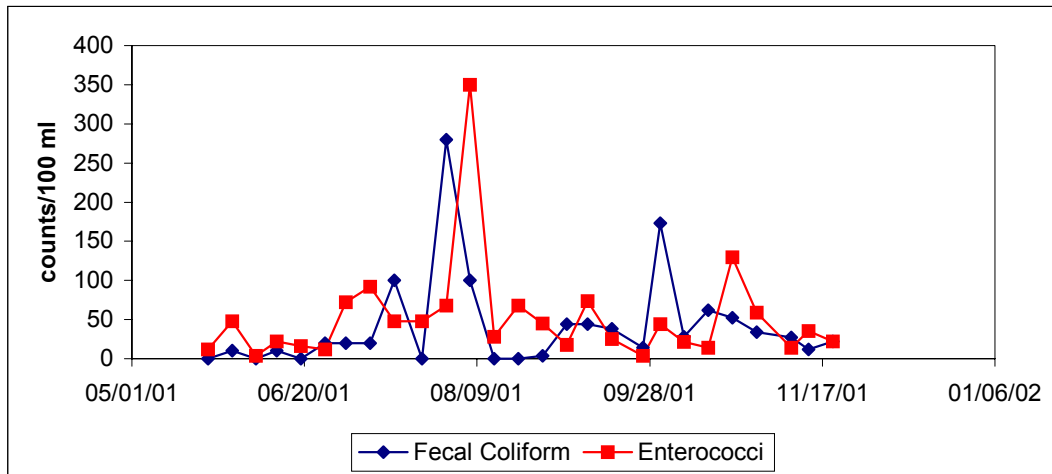


Figure 6

Sta 6 - Mouth of 97th Street Canal

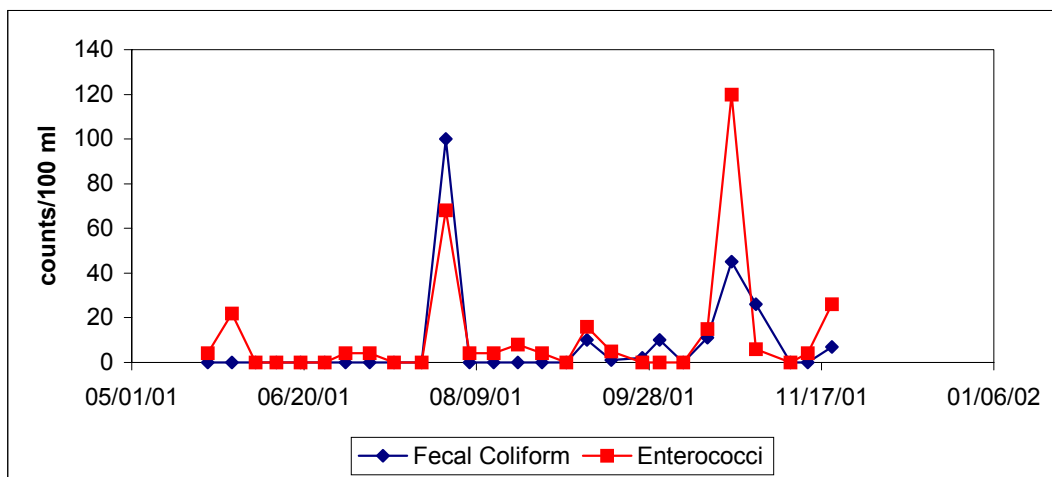


Figure 7

Sta 7 - Head of 97th Street Canal

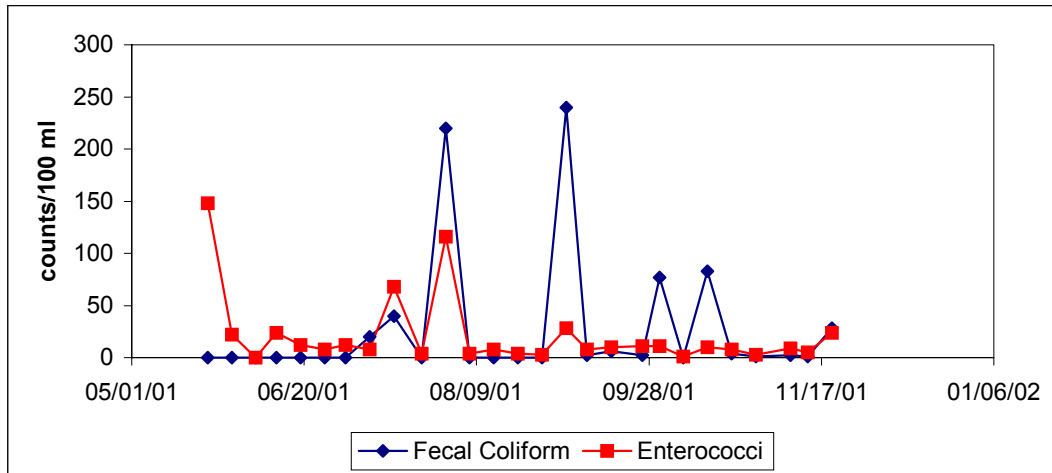


Figure 8

Sta 8 - Mouth of 91st Street Canal

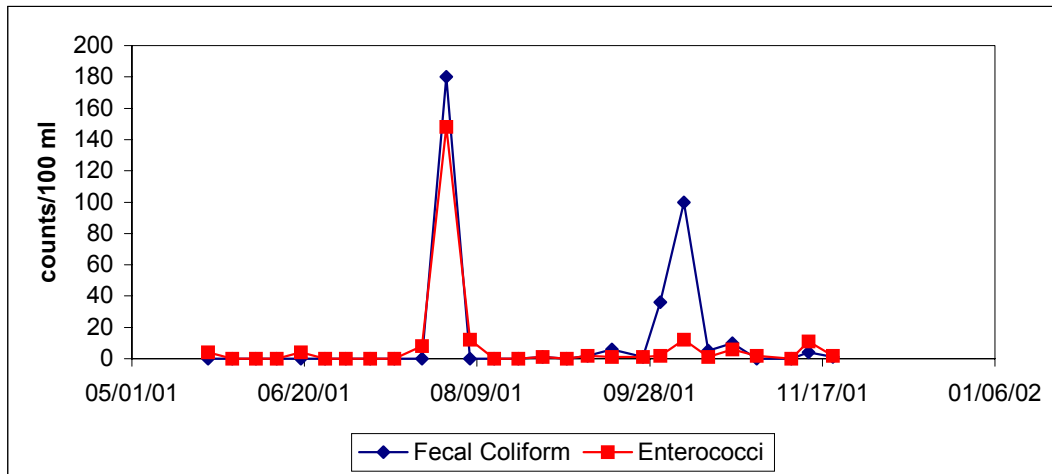


Figure 9

Sta 9 - Head of 91st Street Canal

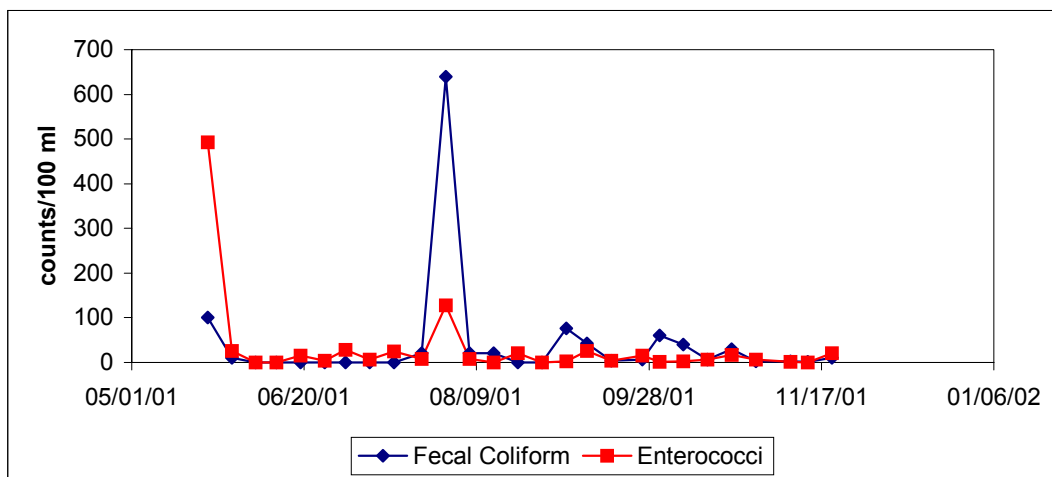


Figure 10

Station 1 - Mouth of 112th Street Canal

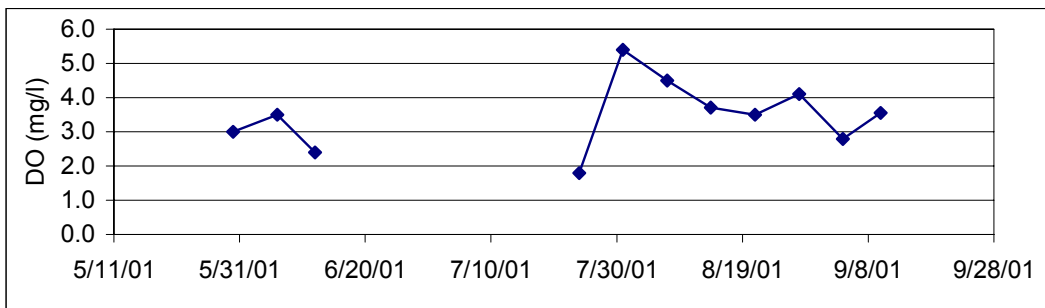
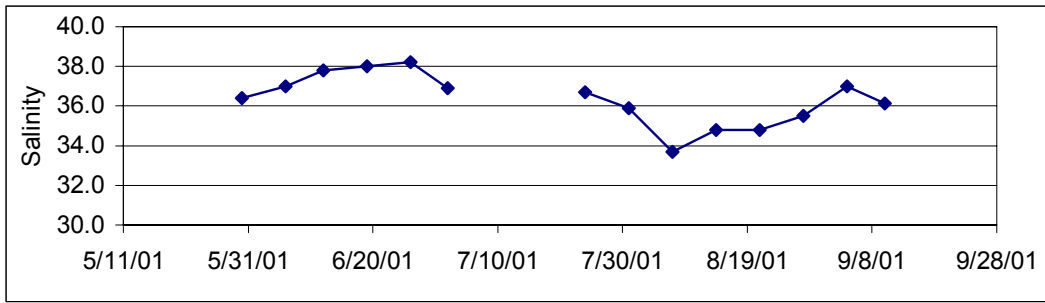
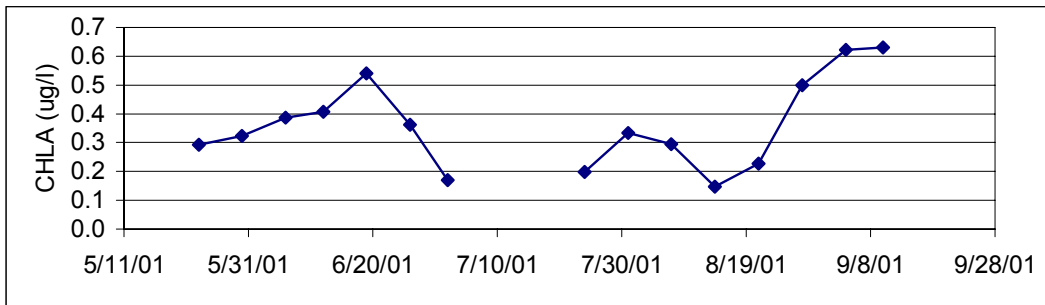
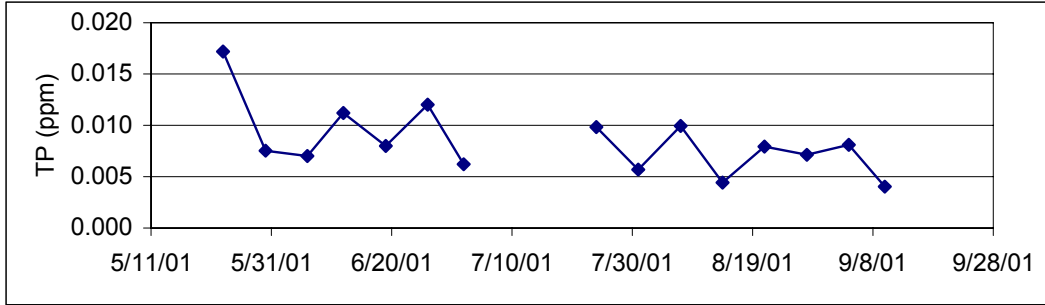
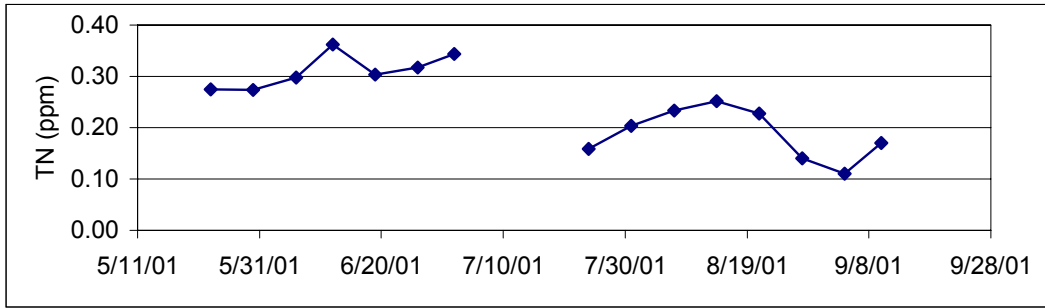


Figure 11

Station 2 - Offshore of 100th Street Canal

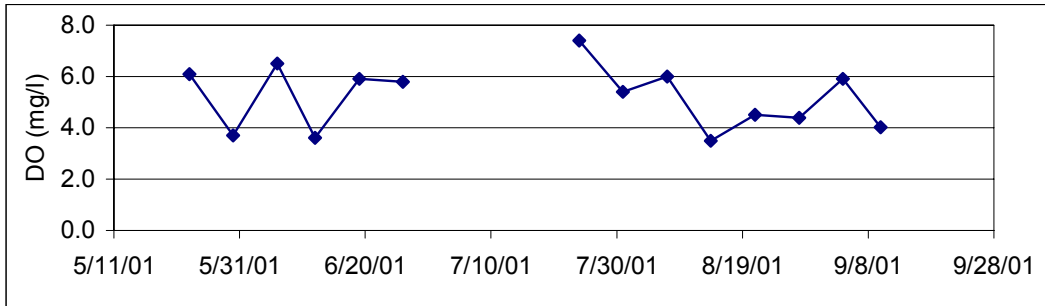
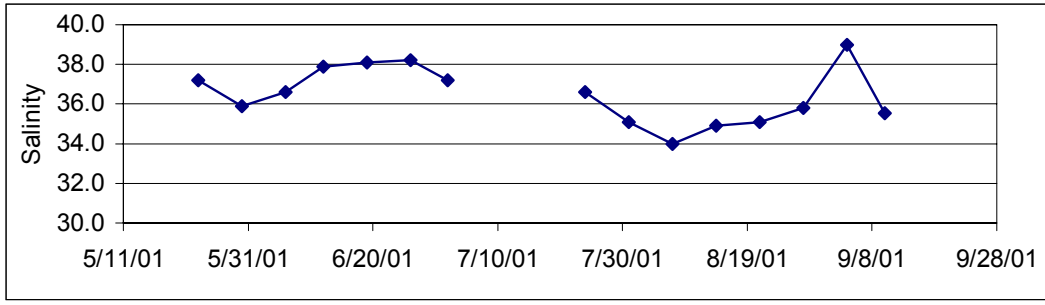
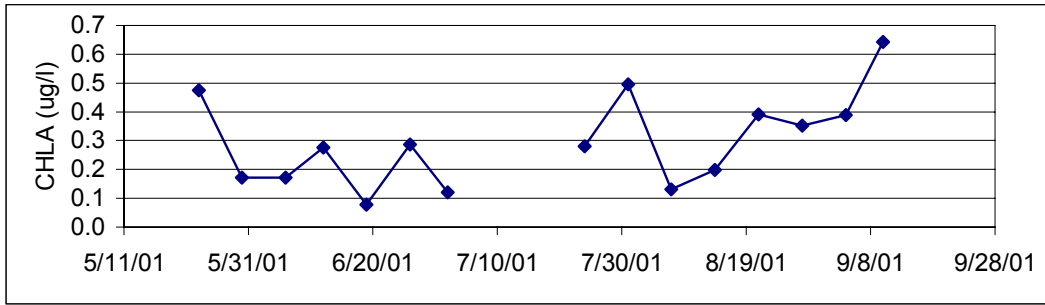
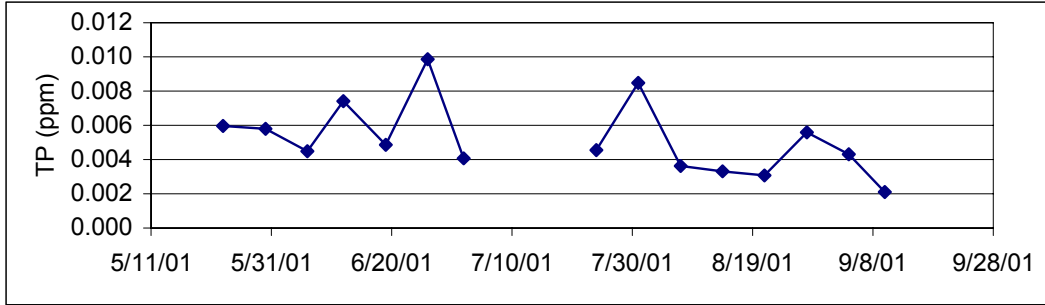
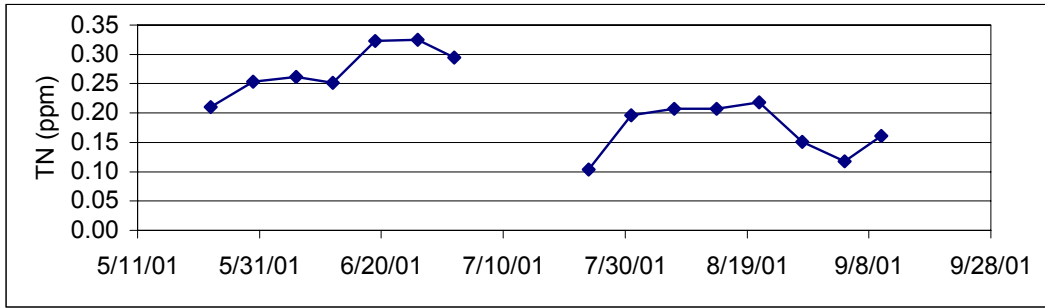


Figure 12

Station 3 - Head of 112th Street Canal

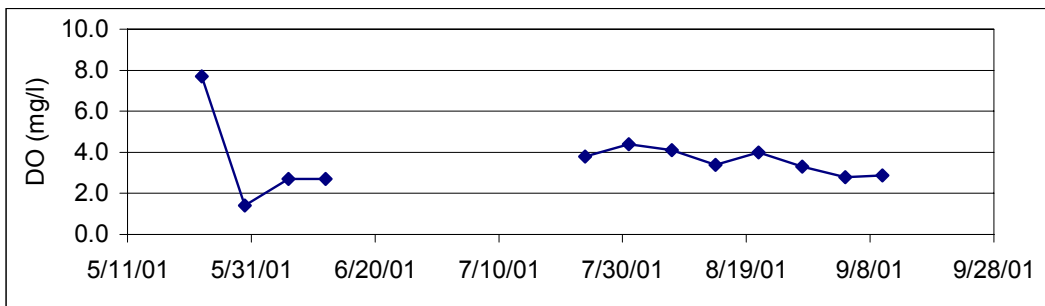
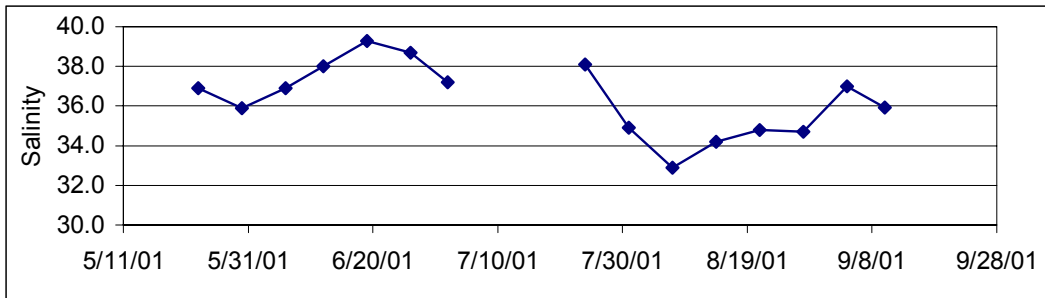
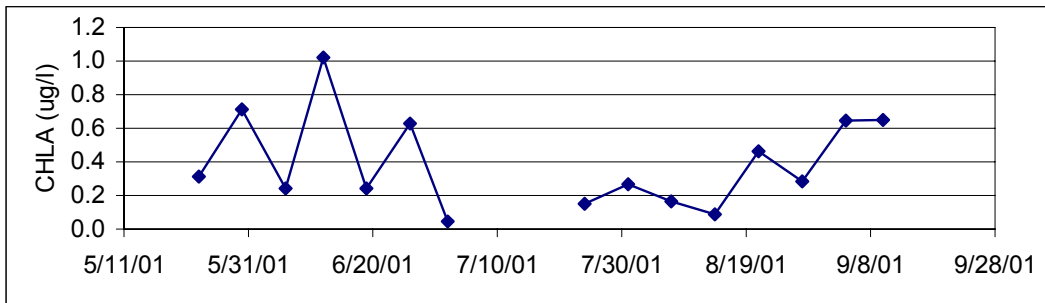
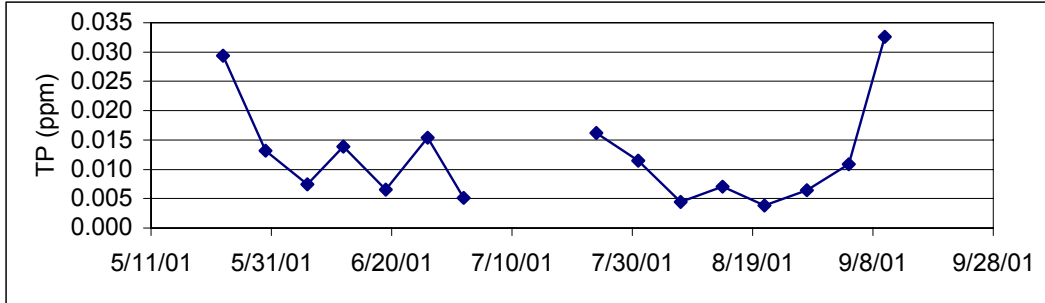
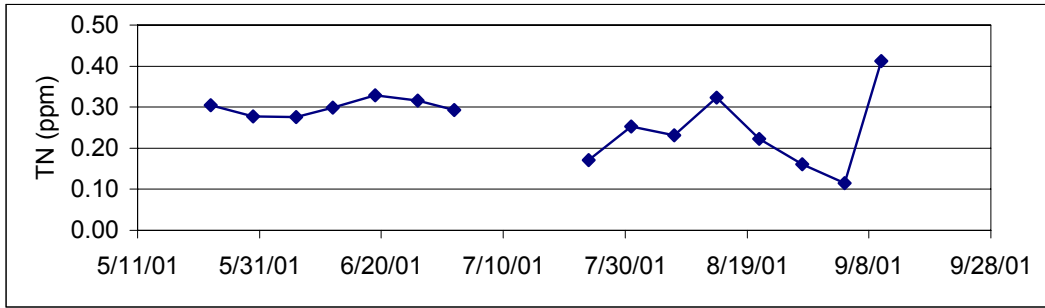


Figure 13

Station 4 - Mouth of 100th Street Canal

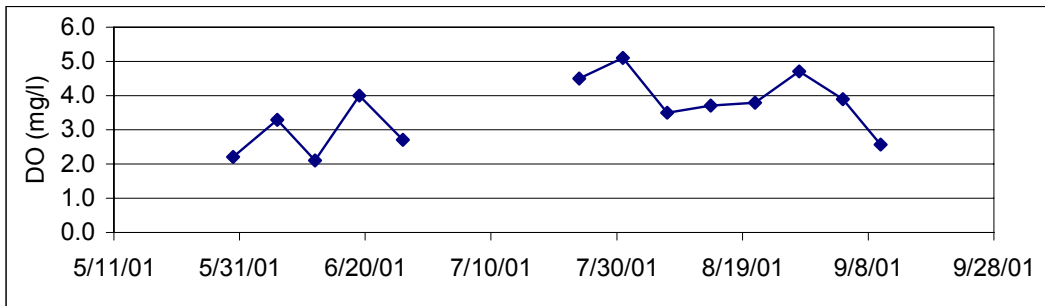
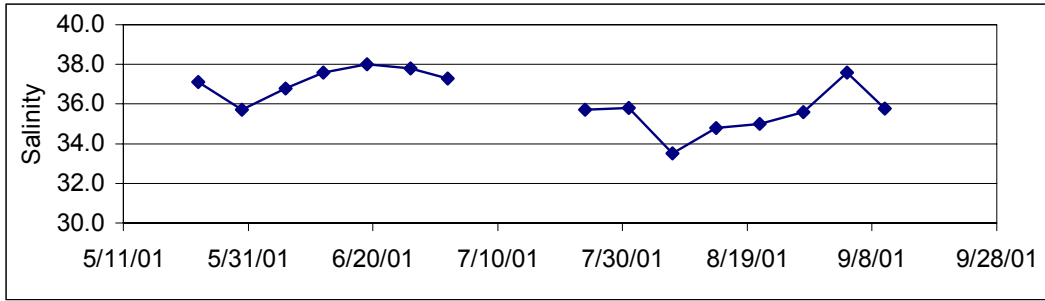
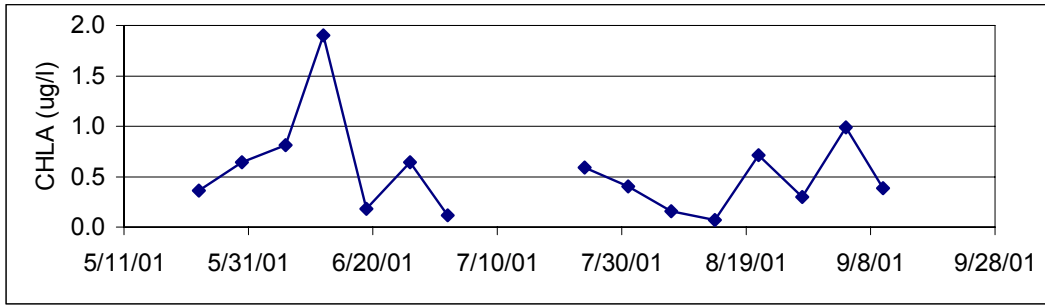
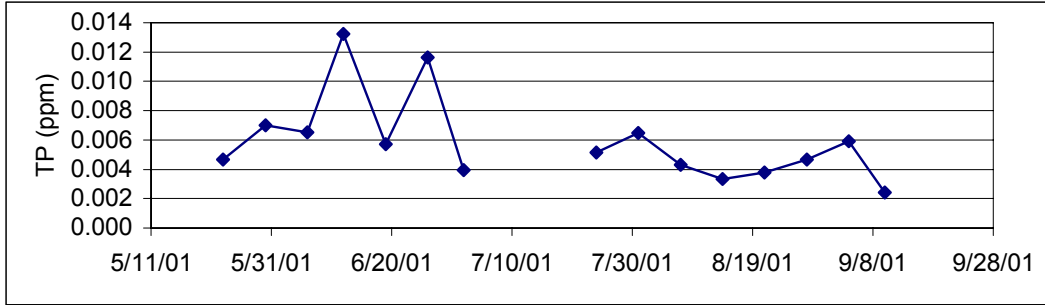
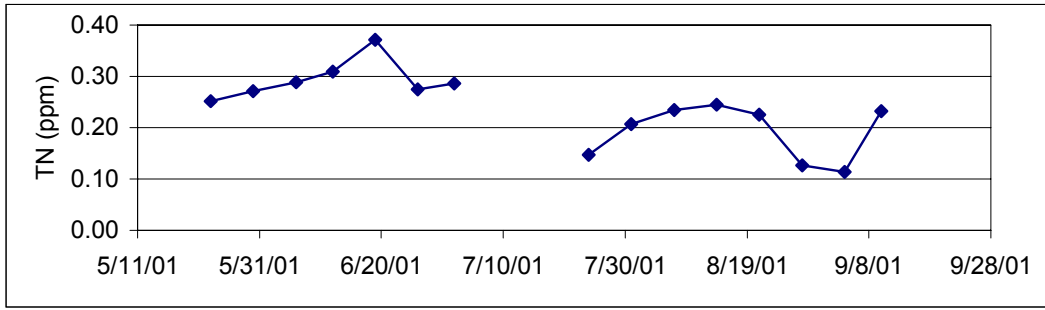


Figure 14

Station 5 - Head of 100th Street Canal

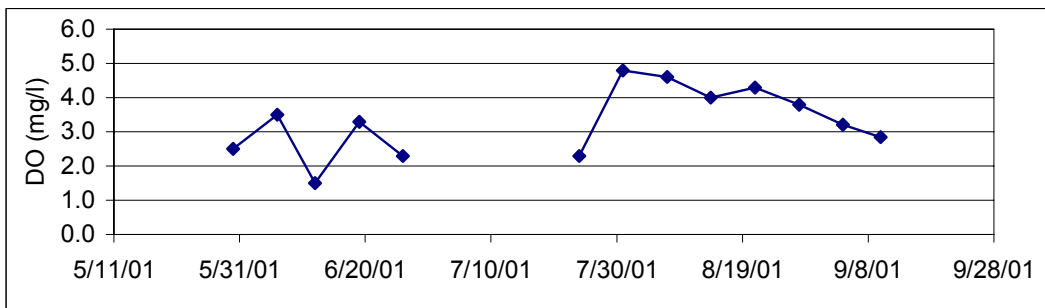
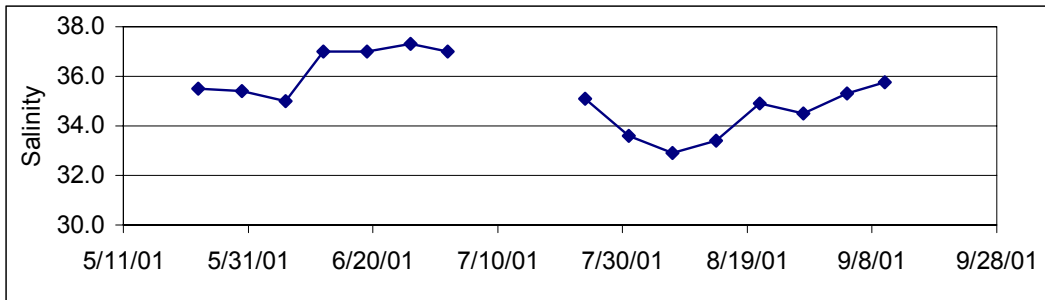
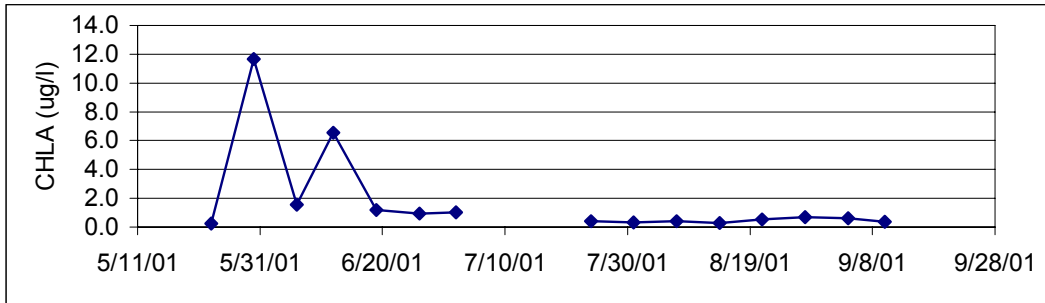
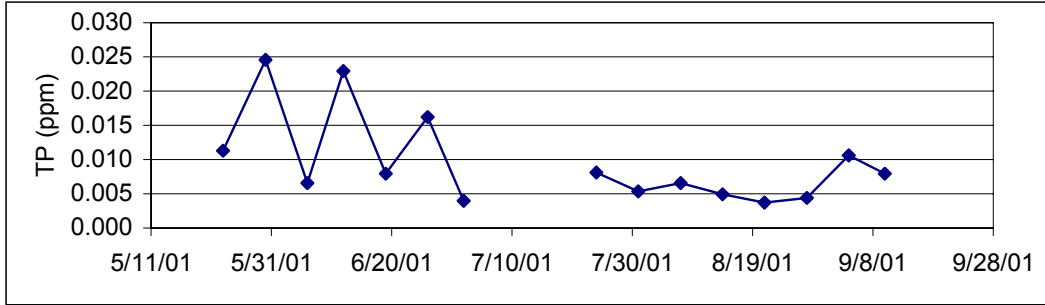
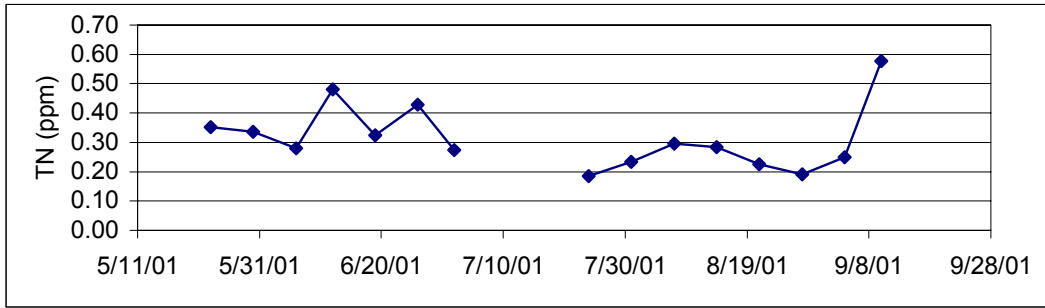


Figure 15

Station 6 - Mouth of 97th Street Canal

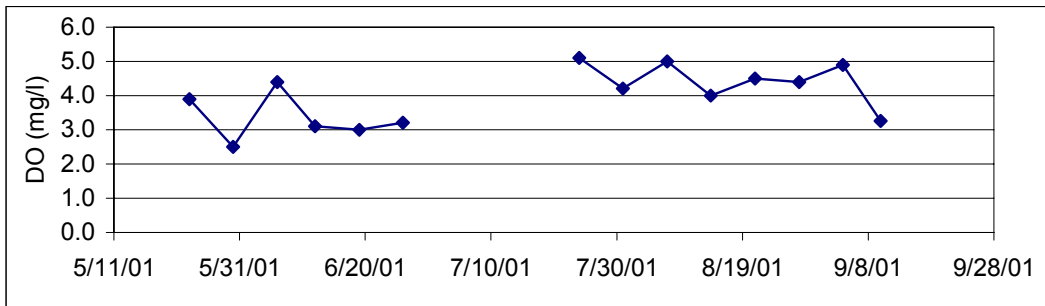
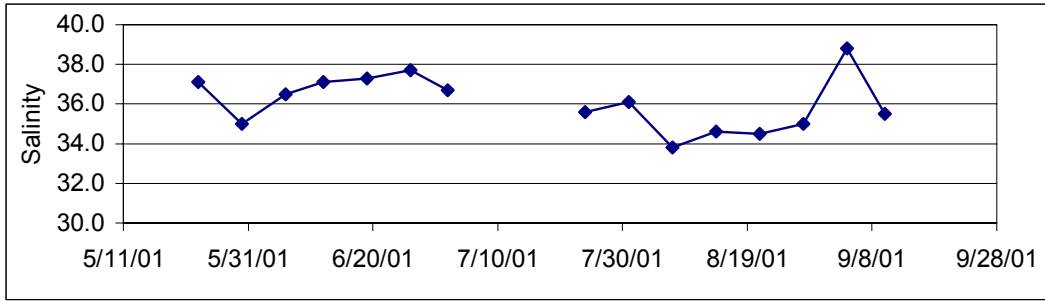
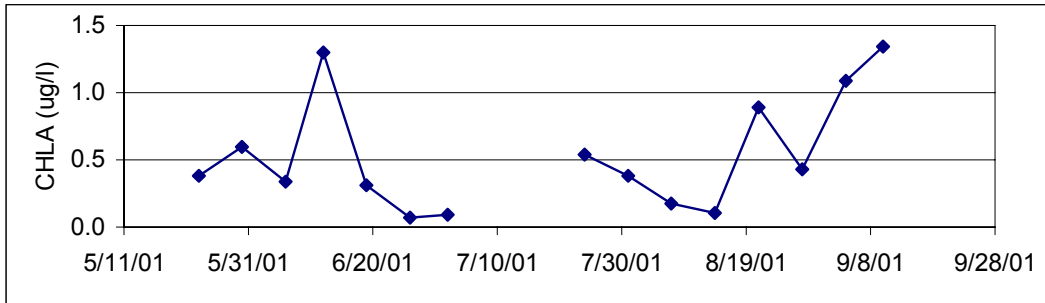
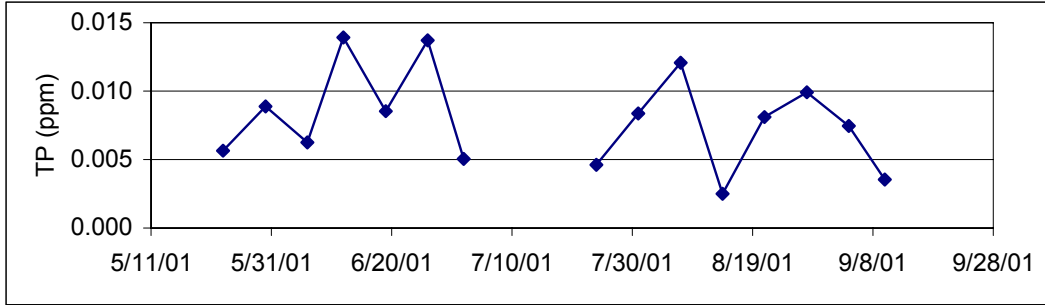
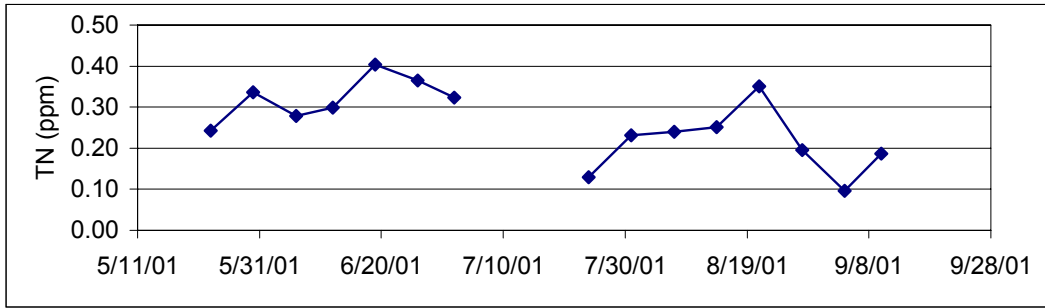


Figure 16

Station 7 - Head of 97th Street Canal

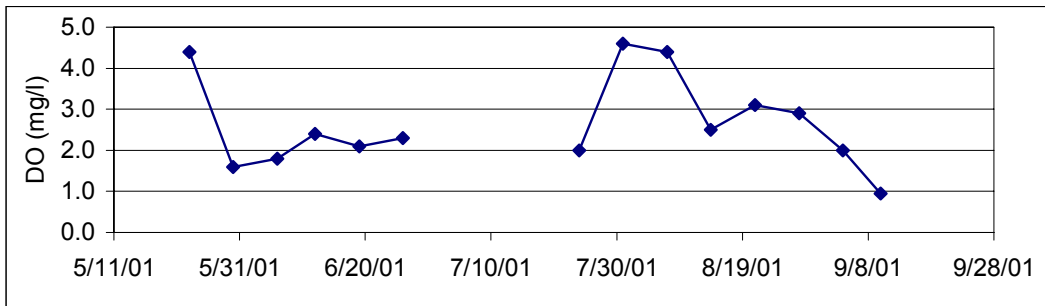
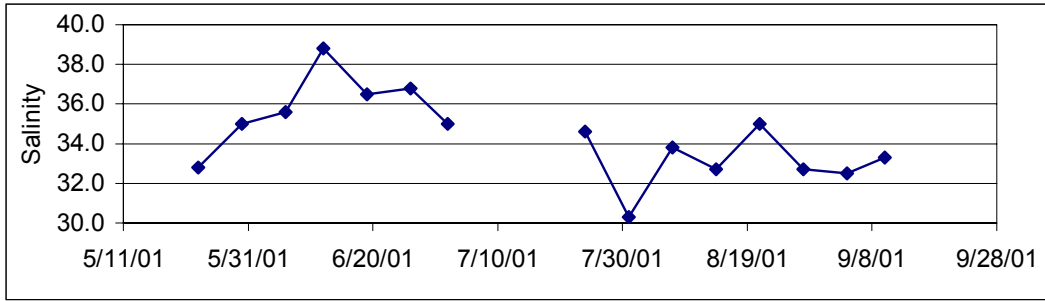
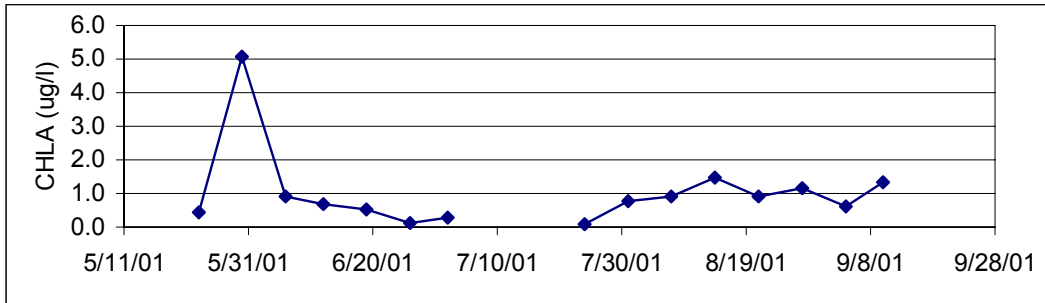
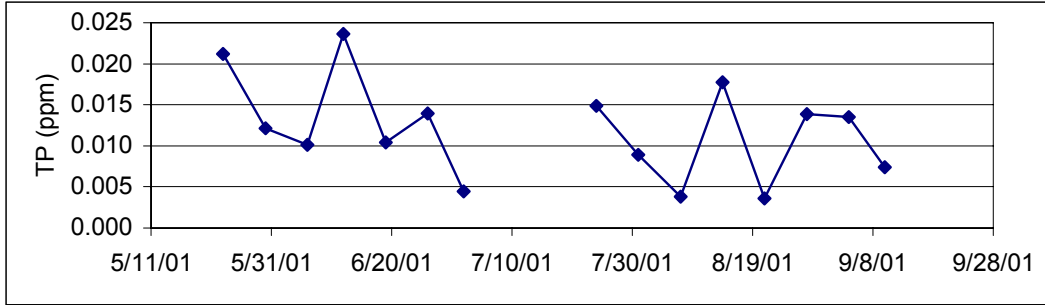
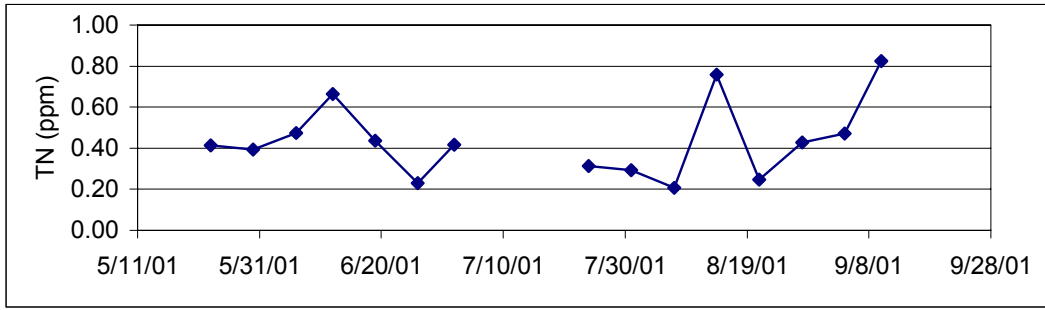


Figure 17

Station 8 - Mouth of 91st Street Canal

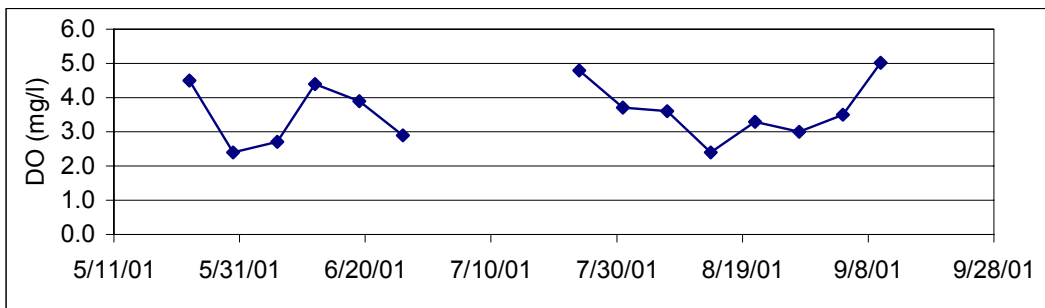
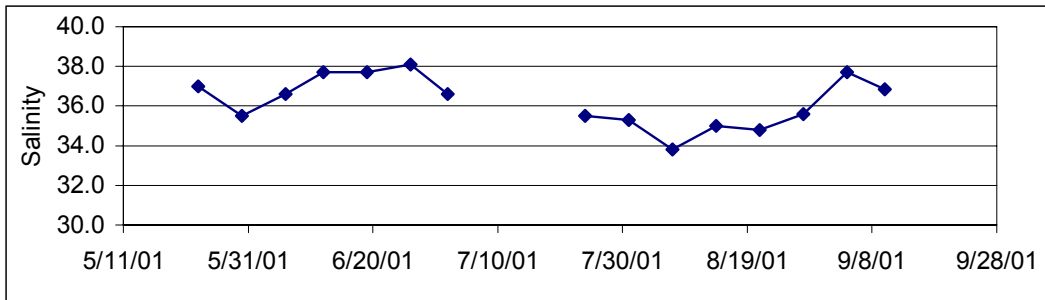
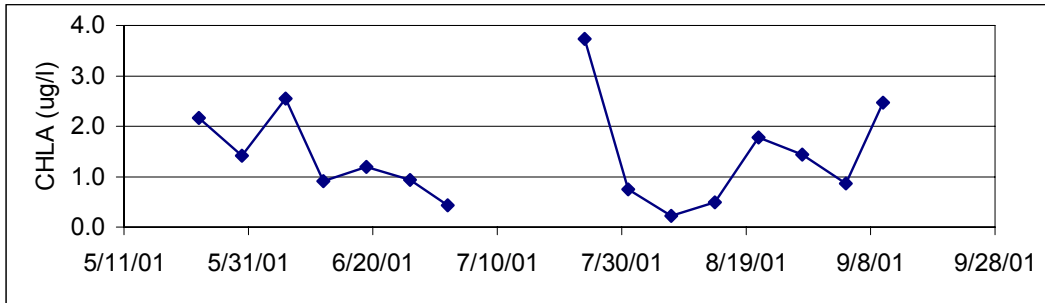
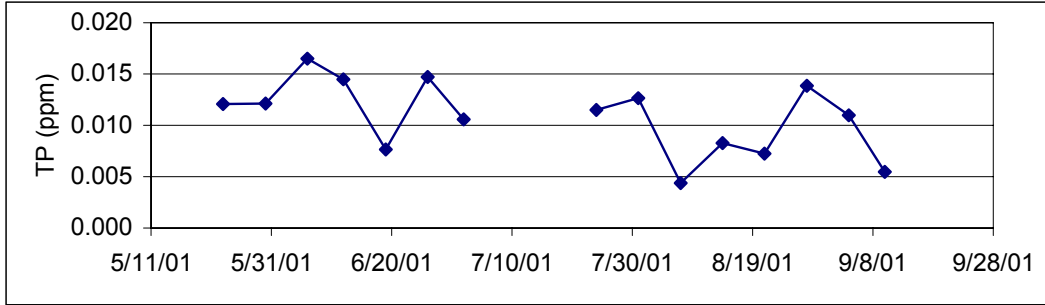
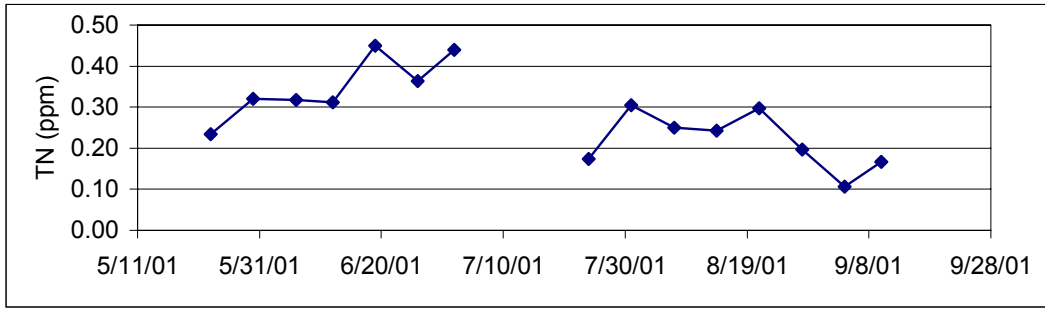


Figure 18

Station 9 - Head of 91st Street Canal

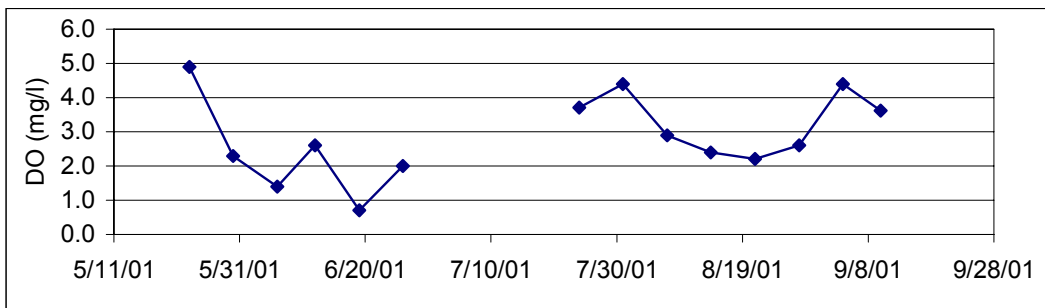
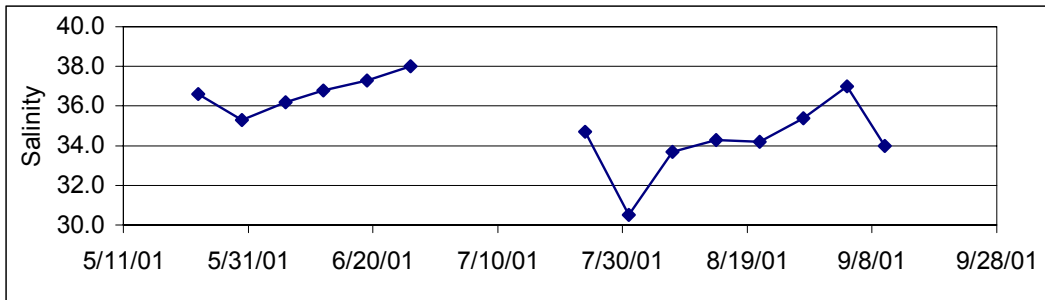
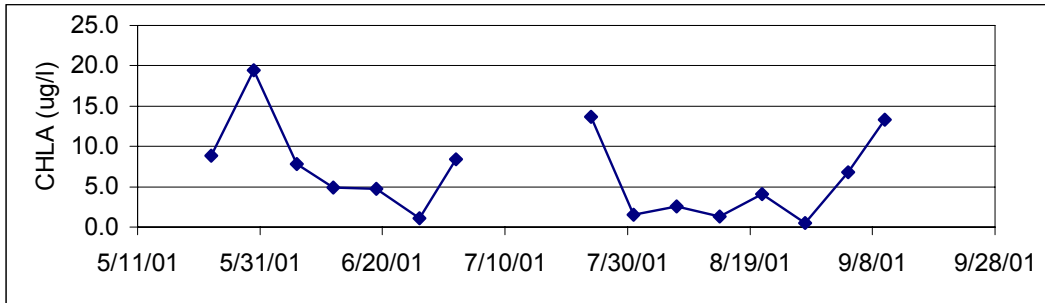
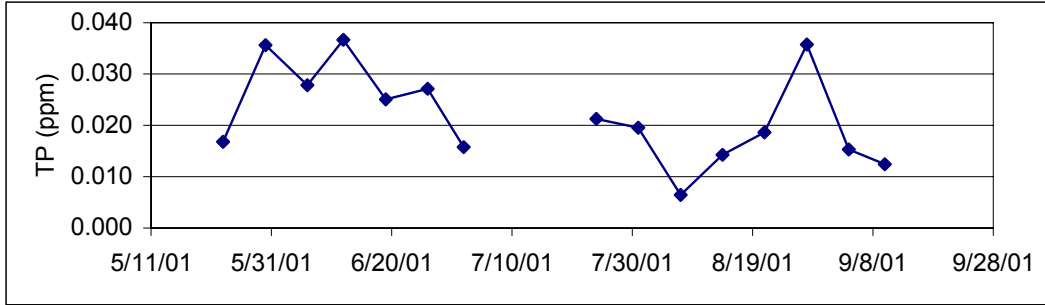
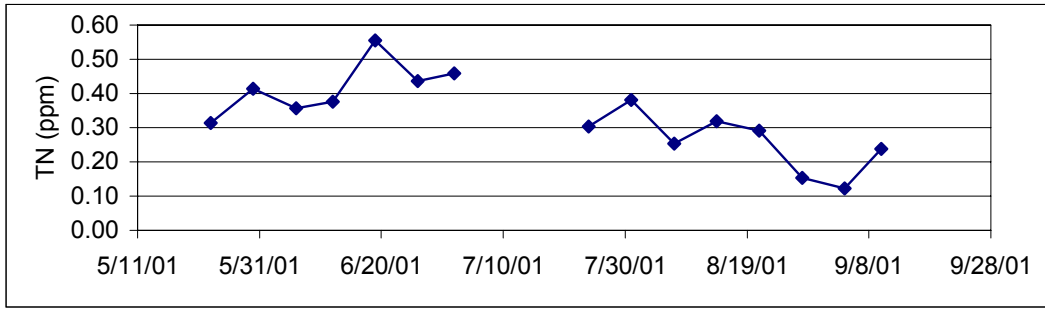


Figure 19

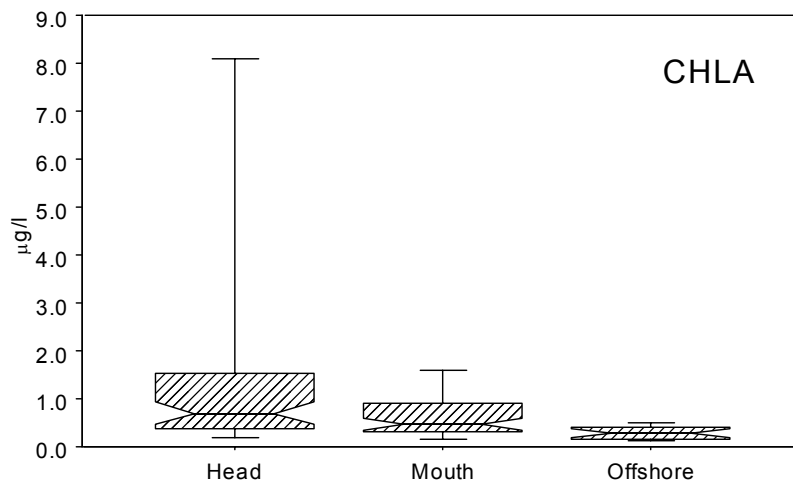
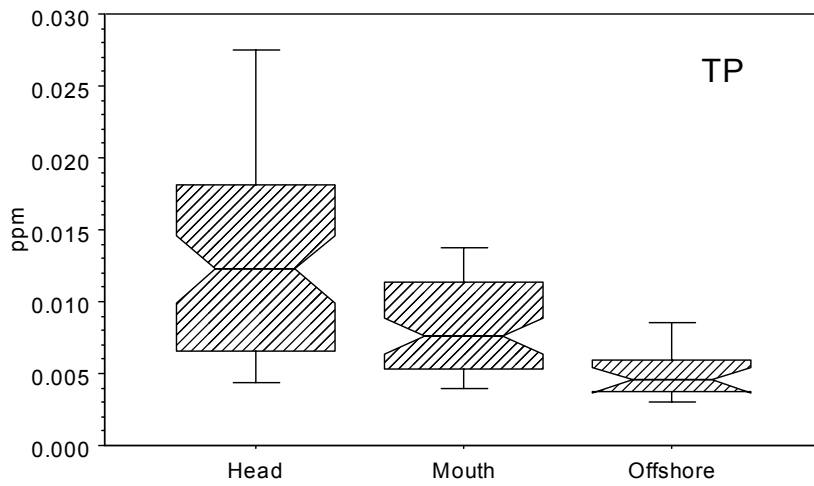
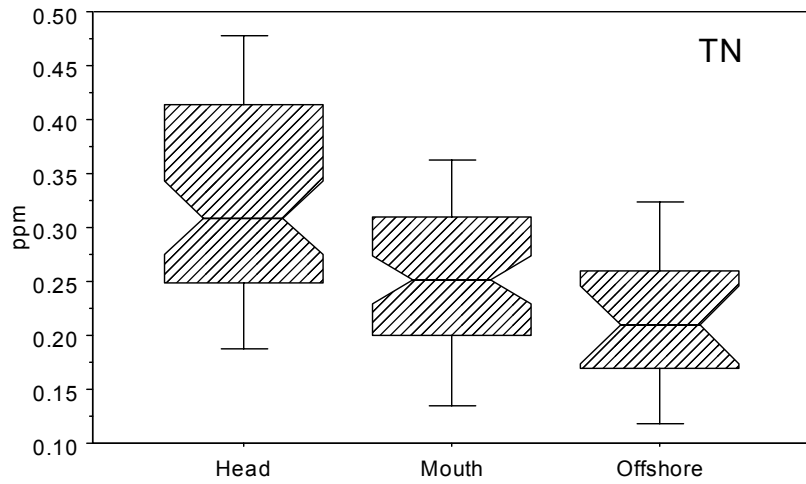


Figure 20

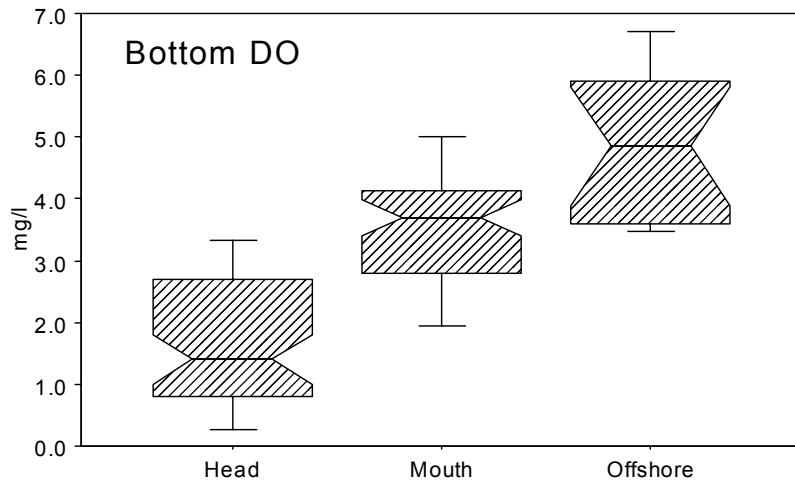
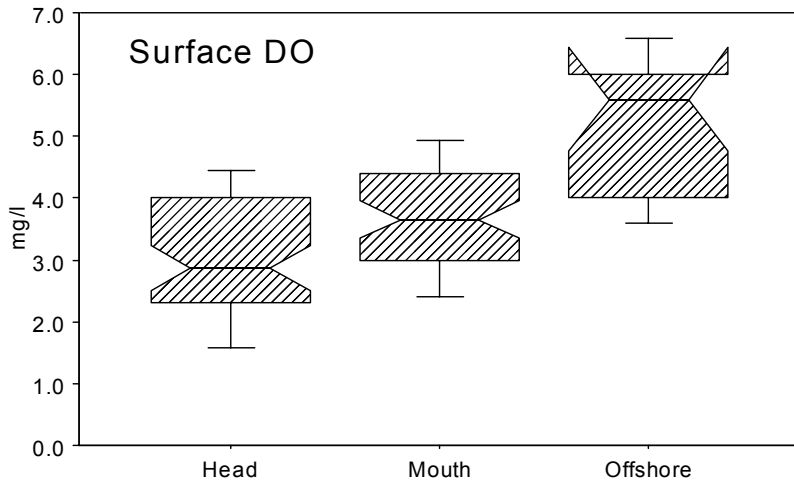


Figure 21