Tuesday, May 1, 2007

Ms. Diana Silsby
Division of Environmental Protection
Department of Conservation and Natural Resources
901 South Stewart St. Ste 4001
Carson City, Nevada 89701-5249

RE: **NPDES Permit Attachment A**
Lake Mead and Las Vegas Wash Annual Report

Dear Ms. Silsby:

Attached please find the Lake Mead and Las Vegas Wash 2006 Annual Report CD. We are submitting this report to comply with the requirements in Section I.B.1.a.i and 2001 Attachment A of the City of Las Vegas NPDES Permit No. NV0020133, Clark County Water Reclamation District NPDES Permit No. NV0021261, and City of Henderson NPDES Permit No. NV0022098. The report includes the required graphs and a narrative explaining any exceedance of Lake Mead or Las Vegas Wash Water Quality Standards.

Sincerely,

David Mendenhall,
Environmental Manager

DLM/shs

cc: Dan Fischer, Laboratory Superintendent
Devon Morgan , CCWRD
Keni Whalen, City of Henderson
Larry Bazel, Briscoe Ivester & Bazel LLP

attached: Lake Mead and Las Vegas Wash Annual Report CD

Lake Mead and Las Vegas Wash
2006 Annual Report

City of Las Vegas
Clark County Water Reclamation District
City of Henderson

Introduction

These graphs of water quality in Lake Mead and Las Vegas Wash are being submitted in accordance with Attachment A of the NPDES permits issued to the City of Henderson, City of Las Vegas, and Clark County Water Reclamation District. The purpose of these graphs is to compare data collected by the entities to water quality standards established for Lake Mead and Las Vegas Wash. In some cases, however, the data and standards are not directly comparable.

The protocol for producing the graphs asks for 5 years of trended data. In January of 2005 water quality standards defined in the Nevada Administrative Code (NAC 445A.194 – 197) describe a new method for the location of stations LWLVB1.2 (LM2), LWLVB1.85 (LM3), LWLVB2.7 (LM4) and LWLVB3.5 (LM5). The new locations are sampled at a distance from the confluence of Las Vegas Wash with Lake Mead. Station LWLVB1.2 is sampled at 1.2 miles from the confluence, LWLVB1.85 is sampled at 1.85 miles from the confluence, LWLVB2.7 is sampled at 2.7 miles from the confluence, and LWLVB3.5 is sampled at 3.5 miles from the confluence. The new station locations make trending with the old data impossible, so the majority of the graphs for these stations begin in 2005.

Interpreting the graphs

The permit specifies the format of the graphs. The concentration of the constituent is to be shown on the y-axis, and time on the x-axis.

Most of the graphs include a line that is identified as either a beneficial use criterion (BUS) or one of the "Requirements to Maintain Higher Quality" (RMHQ), along with an identification of the numerical limit. Some of the graphs do not include lines, because the numerical value of the criterion is not readily expressible. These lines should be taken as a general indication of the criterion, which is likely to contain additional requirements related to number of exceedances allowed, the acceptable interval between exceedances, sampling requirements, and statistical treatment of the data. A parameter that appears to exceed the criterion identified on the graph should not be assumed to be an exceedance of the water quality standards. Gaps in the graphs are the result of samples that either were not collected or were not analyzed.

In some cases, where the criteria are complicated, the graphs apply simplified distinctions in an attempt to conform the data more closely to the criteria. For example, different dissolved oxygen criteria apply when the lake is stratified, and when it is not. Because attempting to determine whether the lake was stratified on each day would be inappropriate for an overview analysis of this sort, the months of January through March were chosen as those in which the lake is generally not stratified. For the remainder, it was assumed that the lake was stratified.

Explanation of data calculations and exceedance criteria

In all calculations any value that is reported at our below the detection limit one half of the detection limit value is used in the calculation.

Total Inorganic Nitrogen-
$TIN = NO_2\text{-}N + NO_3\text{-}N + NH_4\text{-}N$

Chronic and acute ammonia criteria-
See NAC 445A.118 for explanation.

Lake Mead Heterotrophic Plate Count, E. coli, and Fecal Coliforms graphs-
These graphs show the geometric mean for all of the data at all sites analyzed within each month.

Dissolved oxygen and un-ionized ammonia vertical average-
The vertical average of the epilimnion, metalimnion and hypolimnion values is calculated for each date at each station.

TIN RMHQ criterion-
In order to evaluate attainment of the criterion, the number of data points for the year (n) are counted. Then five percent of this n value is calculated. The number of values that are higher than the standard are then counted and if that number is higher than five percent of n the standard is considered exceeded.

Fecal coliforms criterion-
In order to evaluate attainment of the criterion, the number of data points for all depths at all stations sampled (n) for the month are counted. Then ten percent of n is calculated. The number of values that are higher than the standard are then counted and if that number is higher than ten percent of n the standard is considered exceeded.

TSS wash criteria-
The wash standard is not exceeded if the flow on the sampling date is less than one hundred ten percent of the average flow. The average flow was calculated using a rolling annual average of flow data for the year at LW0.55 (LVW5), including wet weather flows.

General Explanation for Apparent Exceedances

The majority of the apparent exceedances are attributable to the differences between water from Las Vegas Wash and Lake Mead. Las Vegas Wash water is higher in conductivity, TDS, TSS, TIN, nitrate, coliforms, and sulfate than water from Lake Mead.

The problem of applying lake criteria to wash water was identified when the standards were initially established for the lake, and a special lake segment was established west of the western end of the campgrounds near the Las Vegas Bay Marina. At the time, this western segment seems to have allowed the first 1-2 miles of lake for mixing in of Las Vegas Wash. Over time, however, much of this area has been filled in, and in the past few years the lake level has dropped substantially. As a result, Las Vegas Wash now flows directly into the main body of the lake. Although this situation may change in the future, the 1-2 mile length of the western segment is unlikely ever to be restored.

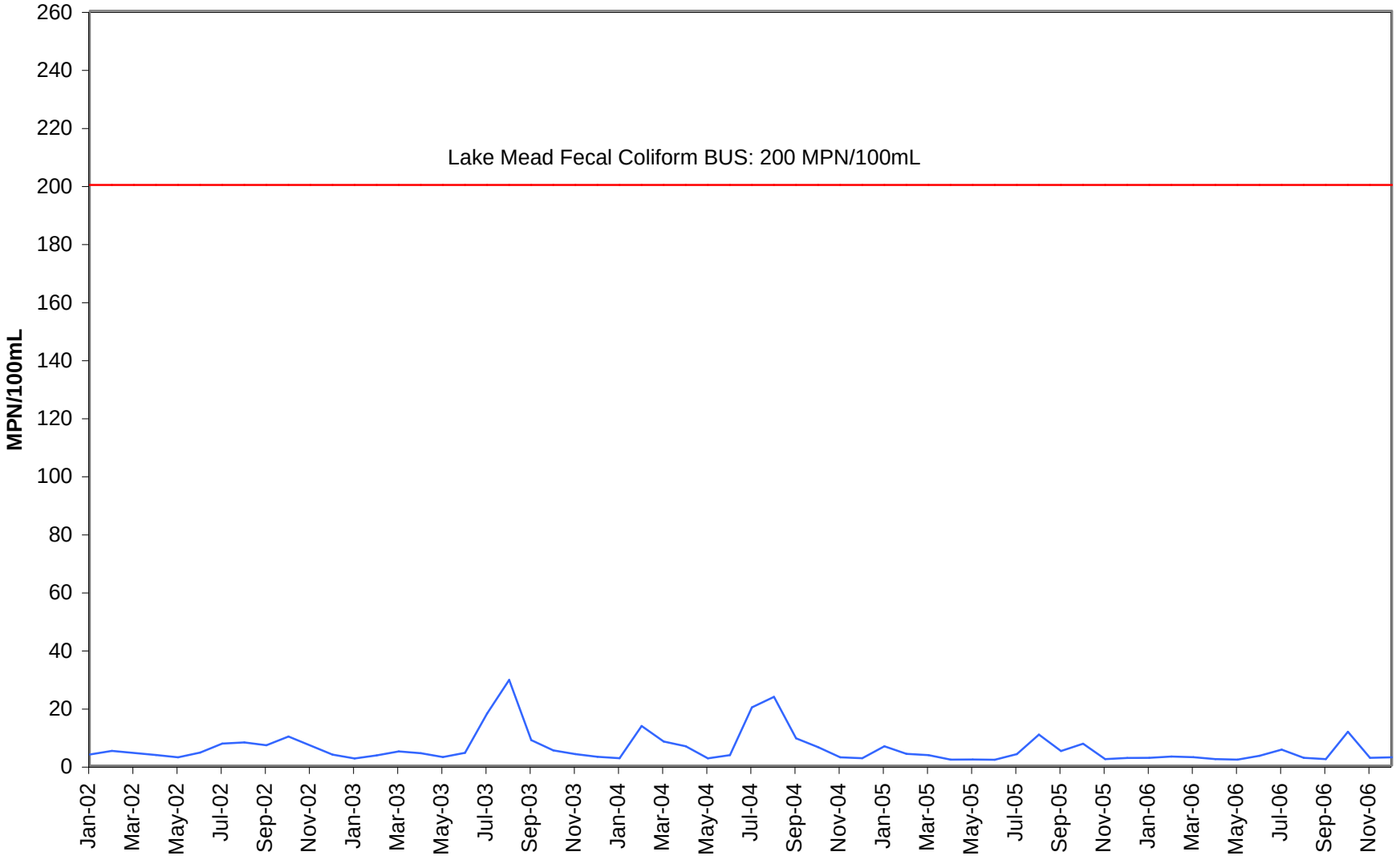
Unexplainable exceedances:

<u>LWLVB1.85 Hypolimnion:</u>

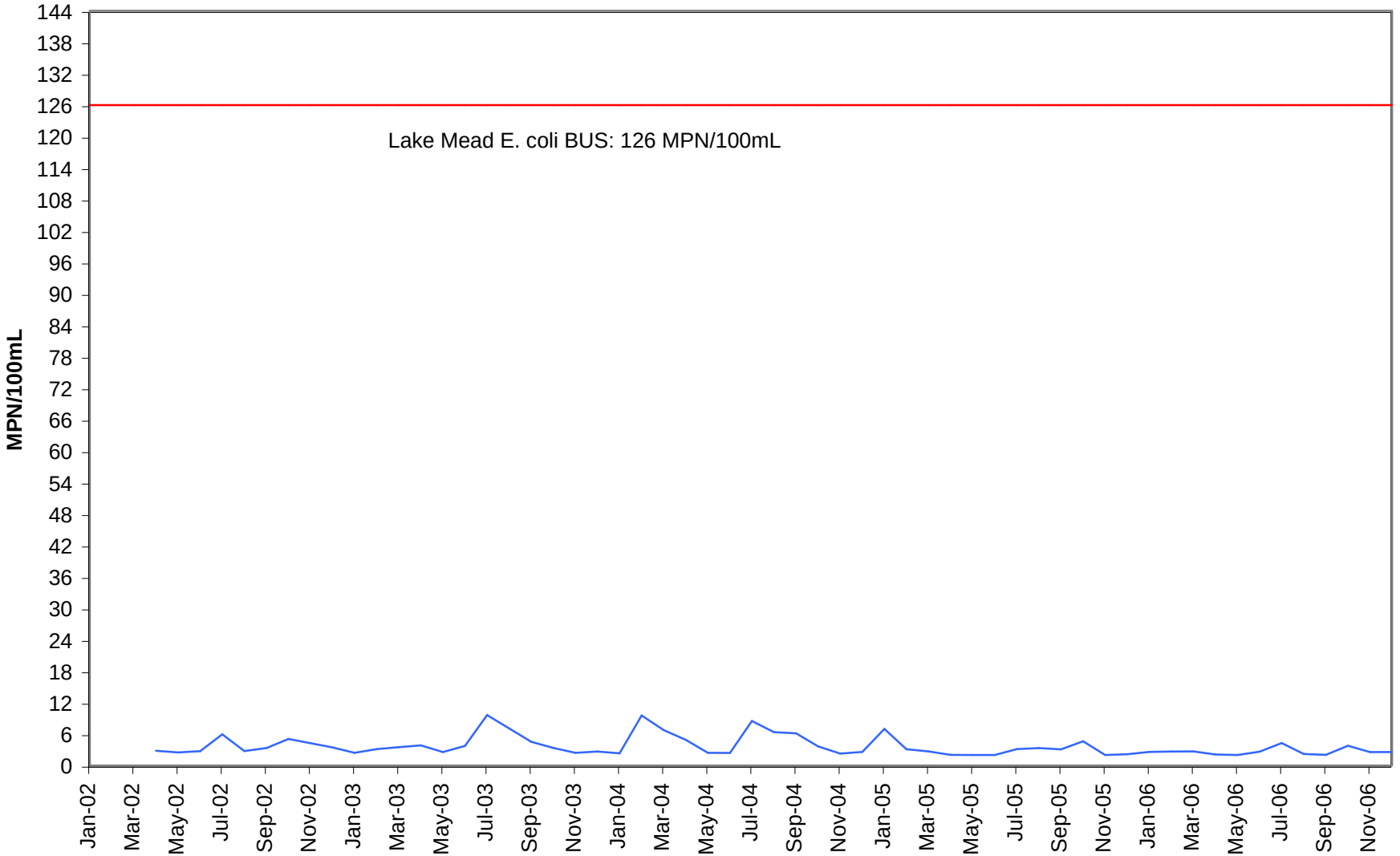
Date	FC MPN/100 ml	E Coli MPN/100 ml	TDS mg/L
5/16/2006			1050
7/11/2006		1300	

Lake Mead

Lake Mead Fecal Coliform Monthly Geometric Mean

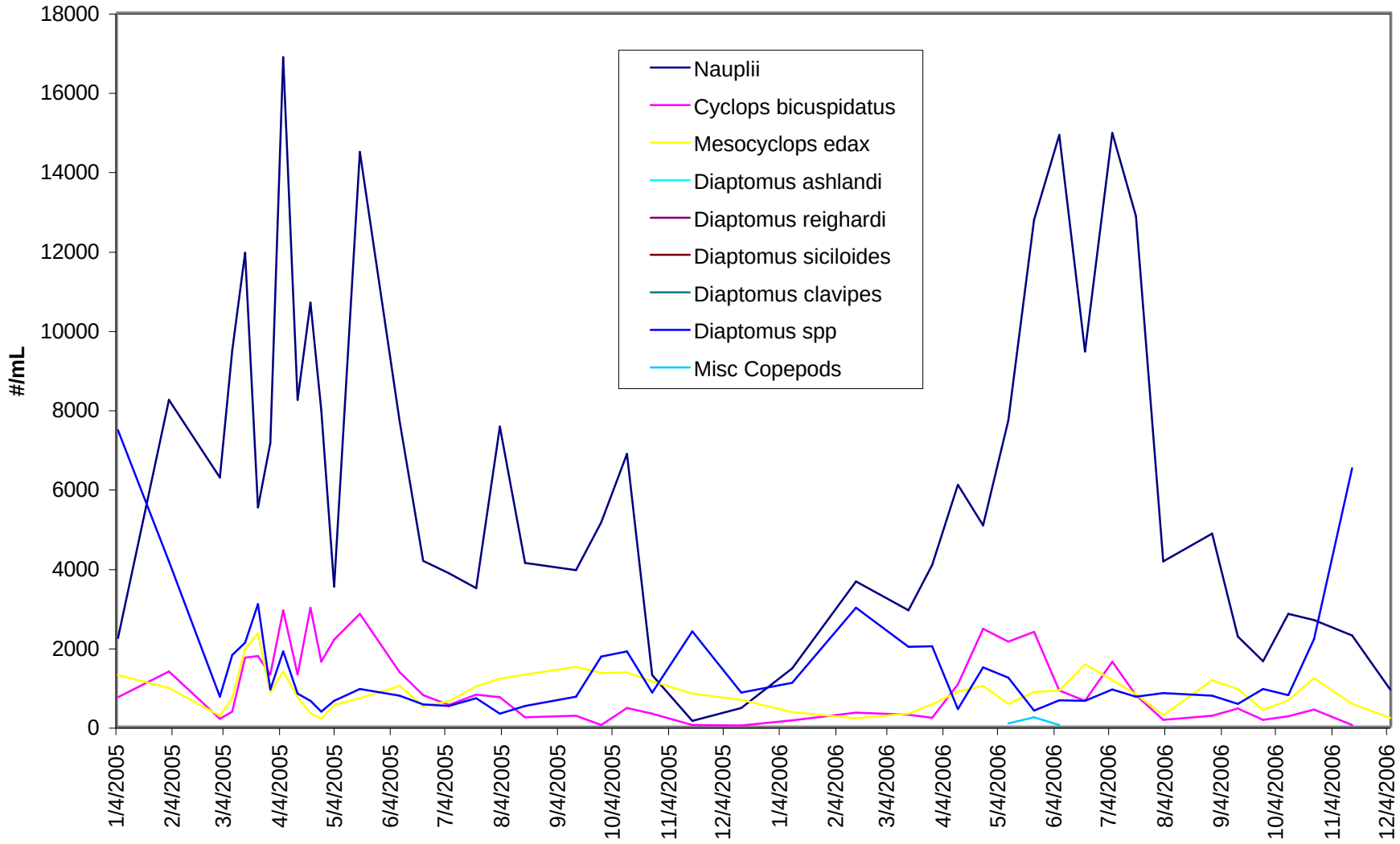


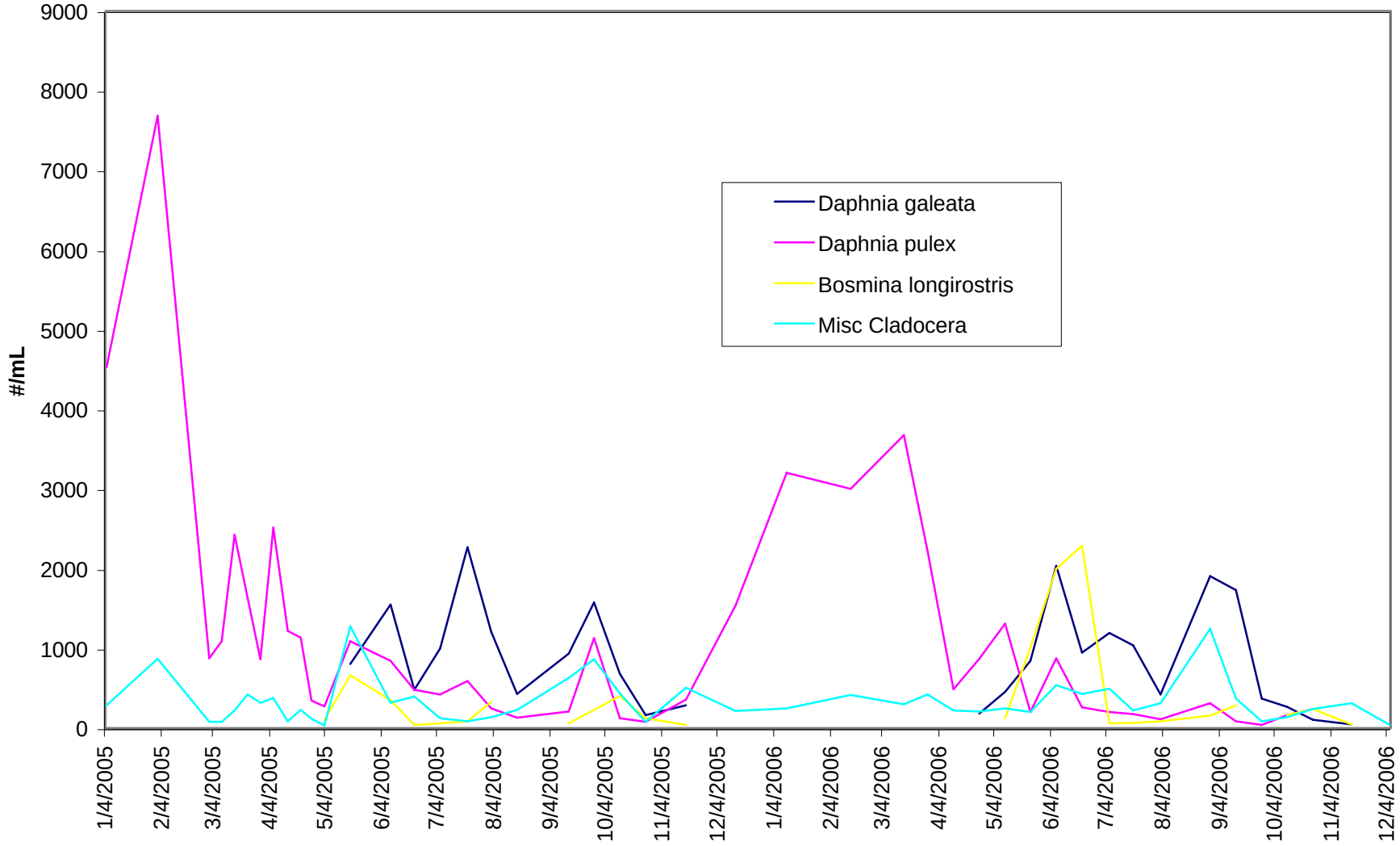
Lake Mead E. coli Monthly Geometric Mean

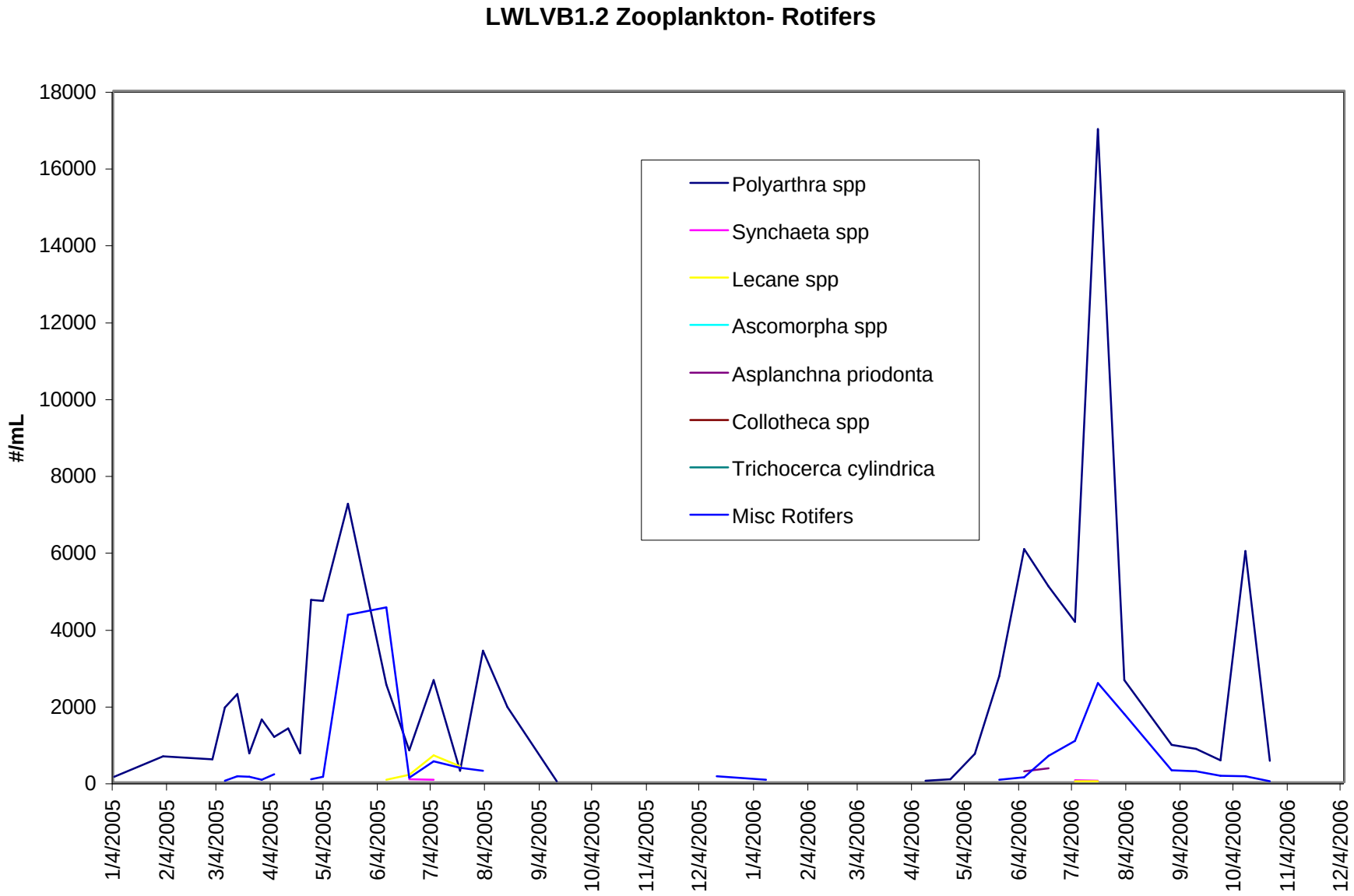


LWLVB1.2

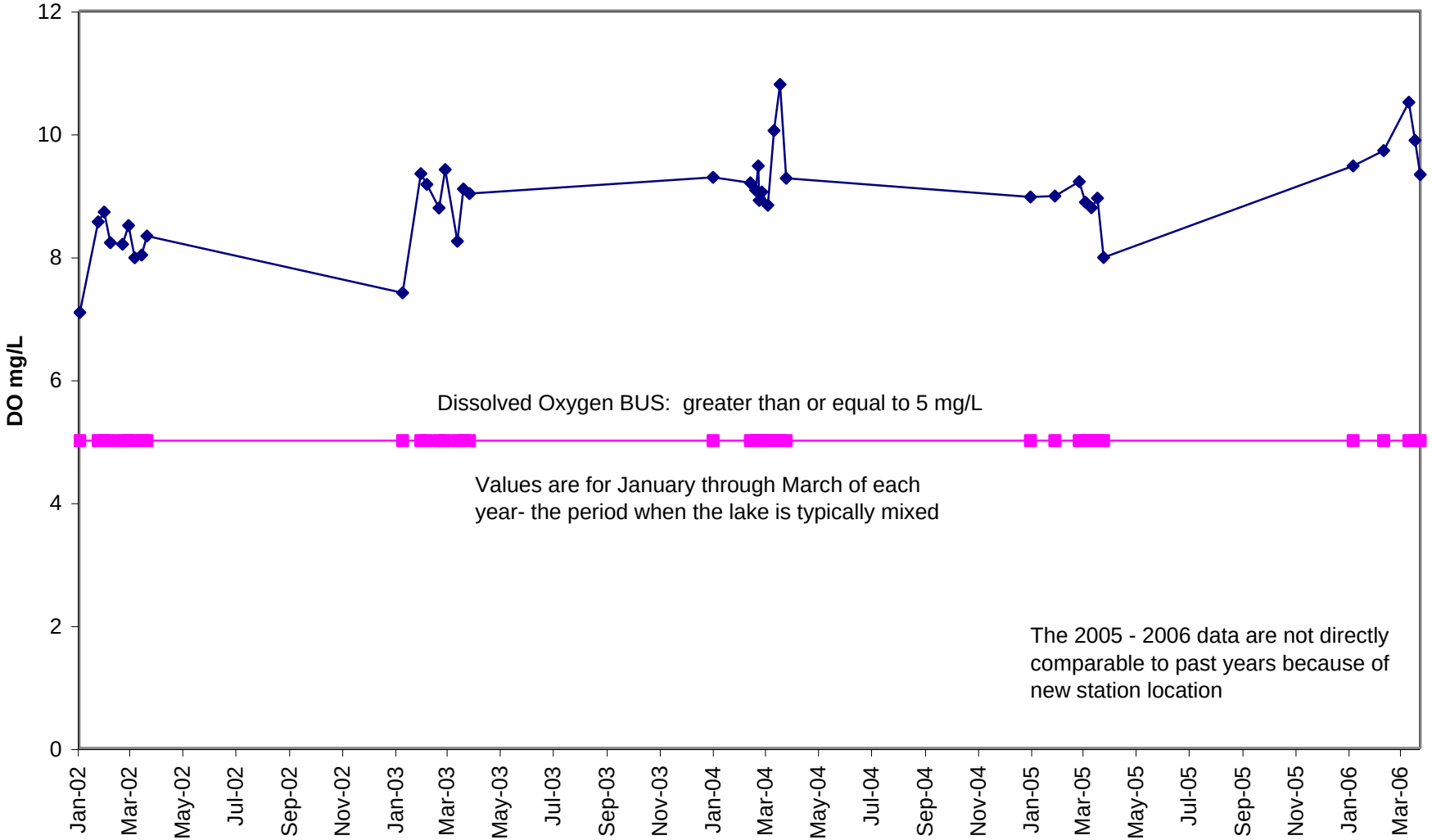
LWLVB1.2 Zooplankton- Copepods

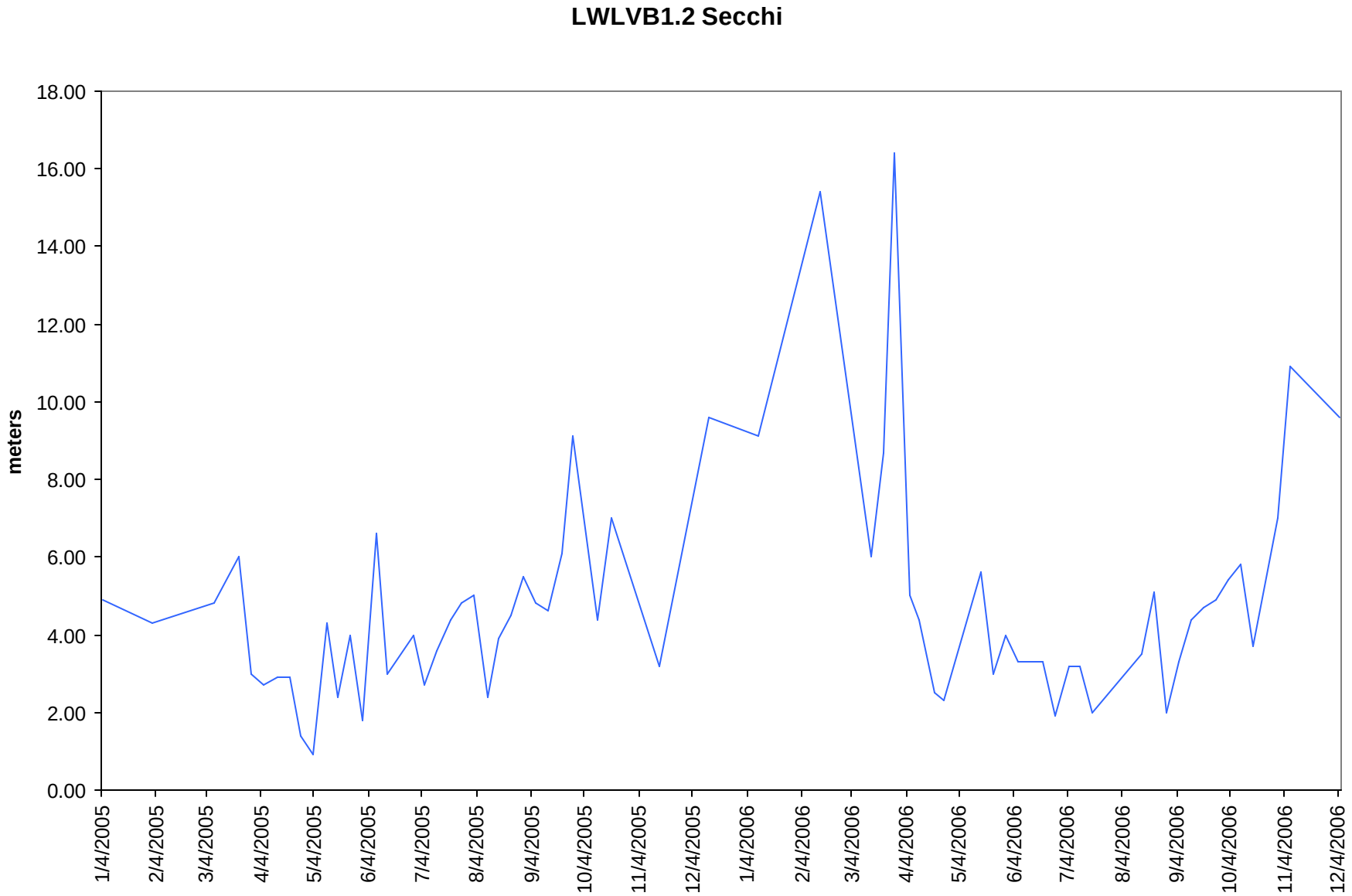



LWLVB1.2 Zooplankton- Cladocerans
#/mL
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Daphnia galeata
Daphnia pulex
Bosmina longirostris
Misc Cladocera
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006


LWLVB1.2 Zooplankton- Rotifers
#/mL
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
Polyarthra spp
Synchaeta spp
Lecane spp
Ascomorpha spp
Asplanchna priodonta
Collotheca spp
Trichocerca cylindrica
Misc Rotifers
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB1.2 Dissolved Oxygen
Vertical Average




LWLVB1.2 Secchi
meters
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

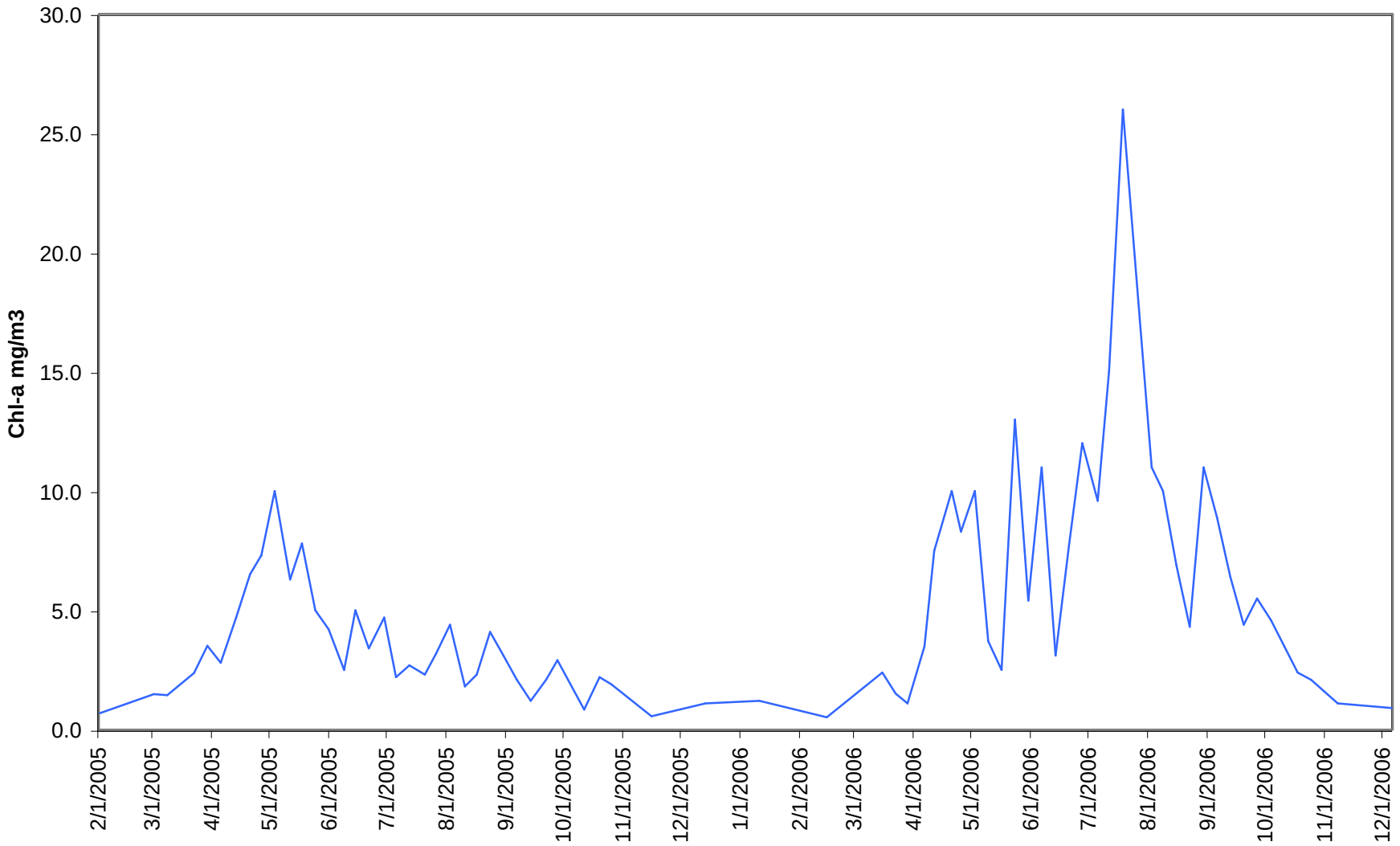
Climate Tables

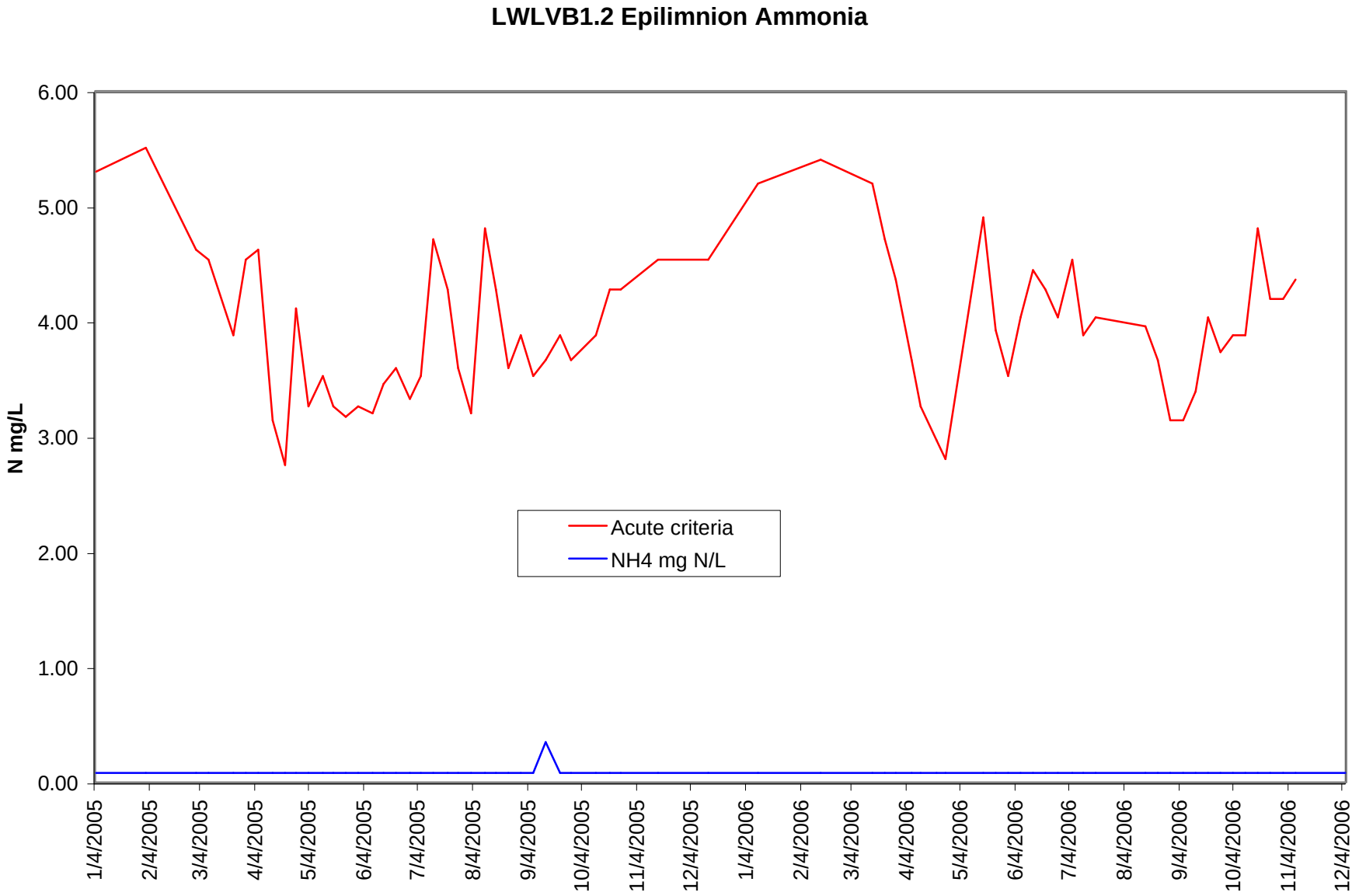
Station	Date	Air Temperature (°C)	Wind	Wind Direction	Climate
LWLVB1.2	1/4/05	10.3	7.7	SE	Overcast
LWLVB1.2	2/1/05	14.6	2.9	NW	Partly Cloudy
LWLVB1.2	3/1/05	16.4	3.5	NE	Partly Cloudy
LWLVB1.2	3/8/05	15.6	6.3	NE	Partly Cloudy
LWLVB1.2	3/15/05	14.1	3.6	E	Clear
LWLVB1.2	3/22/05	17.8	7.4	NE	Overcast
LWLVB1.2	3/29/05	15.7	7.6	NE	Clear
LWLVB1.2	4/5/05	17.2	11.2	NW	Clear
LWLVB1.2	4/13/05	21.8	3.6	NE	Cloudy
LWLVB1.2	4/20/05	19	4.1	SE	Partly Cloudy
LWLVB1.2	4/26/05	20.2	4.1	E	Clear
LWLVB1.2	5/3/05	21.9	6.7	NE	Clear
LWLVB1.2	5/11/05	18.1	6.0	NE	Clear
LWLVB1.2	5/17/05	23.1	5.2	W	Cloudy
LWLVB1.2	5/24/05	28.4	7.7	SE	Clear
LWLVB1.2	5/31/05		4.9	E	Clear
LWLVB1.2	6/8/05	25.9	1.5	E	Clear
LWLVB1.2	6/14/05	30.4	3.7	SE	Partly Cloudy
LWLVB1.2	6/21/05	30.1	3.9	E	Partly Cloudy
LWLVB1.2	6/29/05	31.5	0		Clear
LWLVB1.2	7/5/05	32.9	3.1	E	Clear
LWLVB1.2	7/12/05	30.7	4.1	E	Clear
LWLVB1.2	7/20/05	33.8	13.4	E	Cloudy
LWLVB1.2	7/26/05	33.8	5.6	NE	Clear
LWLVB1.2	8/2/05	31.2	8.7	E	Partly Cloudy
LWLVB1.2	8/10/05	28.3	7.8	E	Overcast
LWLVB1.2	8/16/05	28.6	6.1	SW	Partly Cloudy
LWLVB1.2	8/23/05	32.9	12.5	SE	Partly Cloudy
LWLVB1.2	8/30/05	34.5	1.6	SE	Clear
LWLVB1.2	9/6/05	30.5	3.1	SE	Clear
LWLVB1.2	9/13/05	21.6	4.7	W	Clear
LWLVB1.2	9/21/05	25.9	3.2	NE	Partly Cloudy
LWLVB1.2	9/27/05	31.2	0		Cloudy
LWLVB1.2	10/11/05	20.5	2.2	W	Clear
LWLVB1.2	10/19/05	18.2	1.2	E	Overcast

LWLVB1.2	10/25/05	22.9	15.2	SW	Cloudy
LWLVB1.2	11/16/05	12.9	6.4	W	Clear
LWLVB1.2	12/13/05	5.8	6.5	SW	Clear
LWLVB1.2	1/10/06	7.9	5.6	NW	Clear
LWLVB1.2	2/14/06	10.4	0		Overcast
LWLVB1.2	3/15/06	14.3	11.2	W	Clear
LWLVB1.2	3/22/06	11.6	7.2	NE	Partly Cloudy
LWLVB1.2	3/28/06	17.4	9.5	SE	Overcast
LWLVB1.2	4/6/06	12.9	11.0	E	Clear
LWLVB1.2	4/11/06	19.8	8.6	NE	Partly Cloudy
LWLVB1.2	4/20/06	20.3	2.8	SW	Clear
LWLVB1.2	4/25/06	18.8	6.2	W	Partly Cloudy
LWLVB1.2	5/9/06	27.8	6.9	NW	Clear
LWLVB1.2	5/16/06	28.3	2.3	E	Overcast
LWLVB1.2	5/23/06	23.7	5.3	NE	Clear
LWLVB1.2	5/30/06	26.8	1.3	SE	Clear
LWLVB1.2	6/6/06	32.9	10.1	E	Partly Cloudy
LWLVB1.2	6/15/06	28.6	6.7	SE	Partly Cloudy
LWLVB1.2	6/20/06	33.9	2.6	NE	Clear
LWLVB1.2	6/28/06	32.6	5.9	NE	Cloudy
LWLVB1.2	7/5/06	29.9	8.9	E	Cloudy
LWLVB1.2	7/11/06	32.4	5.6	NE	Partly Cloudy
LWLVB1.2	7/18/06	32.4	5.5	NE	Cloudy
LWLVB1.2	8/2/06	32.3	10.7	E	Clear
LWLVB1.2	8/8/06	32.5	8	E	Partly Cloudy
LWLVB1.2	8/15/06	32.6	7.8	SE	Partly Cloudy
LWLVB1.2	8/22/06	33.9	3.7	NE	Partly Cloudy
LWLVB1.2	8/29/06	28.6	5.7	E	Partly Cloudy
LWLVB1.2	9/5/06	30.8	6.2	SE	Partly Cloudy
LWLVB1.2	9/12/06	28.7	5.5	E	Partly Cloudy
LWLVB1.2	9/19/06	24.1	2.4	E	Clear
LWLVB1.2	9/26/06	23.7	5.8	NE	Clear
LWLVB1.2	10/3/06	26.9	0		Partly Cloudy
LWLVB1.2	10/10/06	25.5	0		Overcast
LWLVB1.2	10/17/06	19.1	2.9	W	Partly Cloudy
LWLVB1.2	10/24/06	16.9	5.1	NW	Overcast
LWLVB1.2	10/31/06	20.4	1	NW	Partly Cloudy

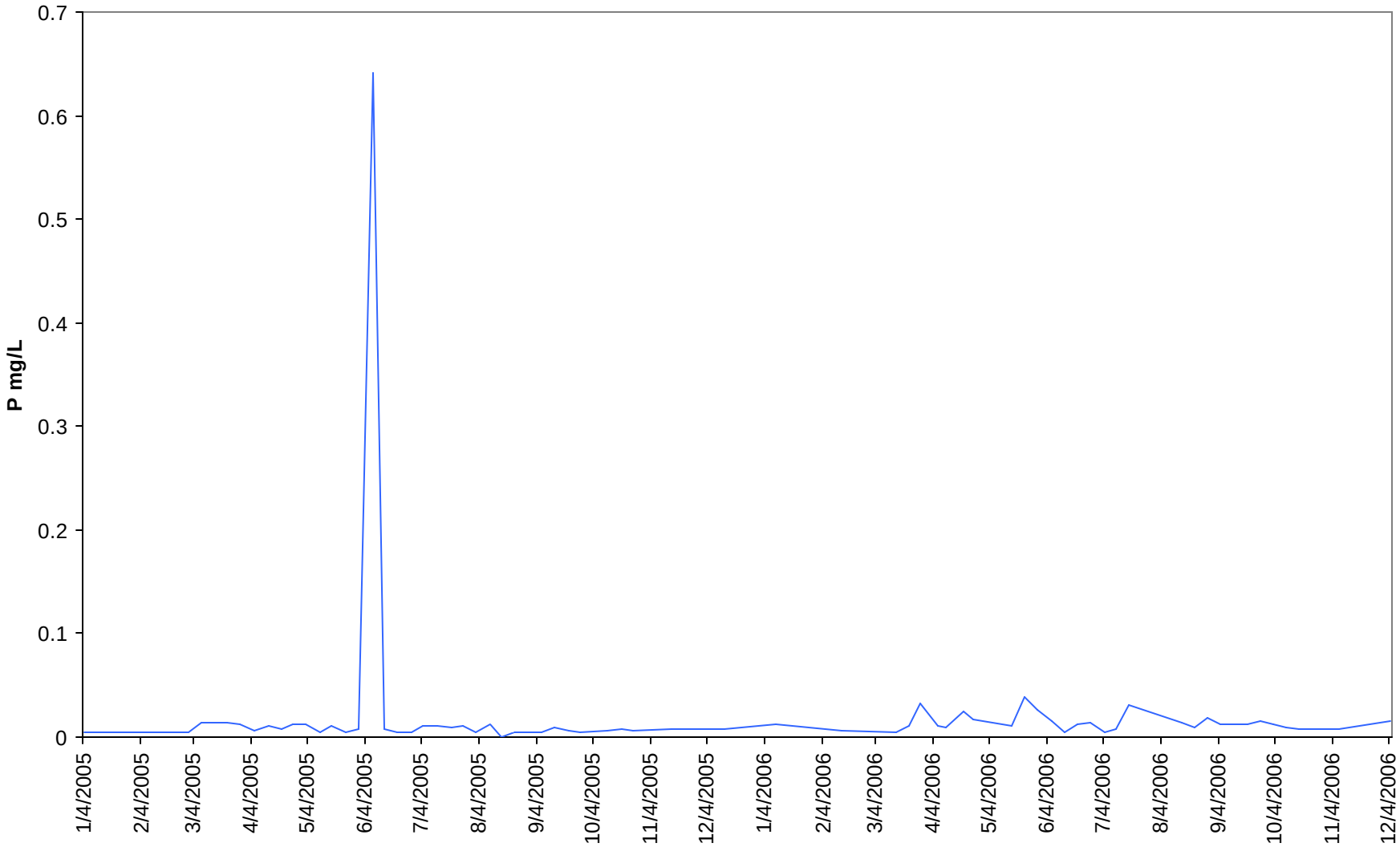
LWLVB1.2	11/7/06	20.9	1.8	NW	Cloudy
LWLVB1.2	12/5/06	10.8	2.2	NE	Clear

LWLVB1.2
Epilimnion

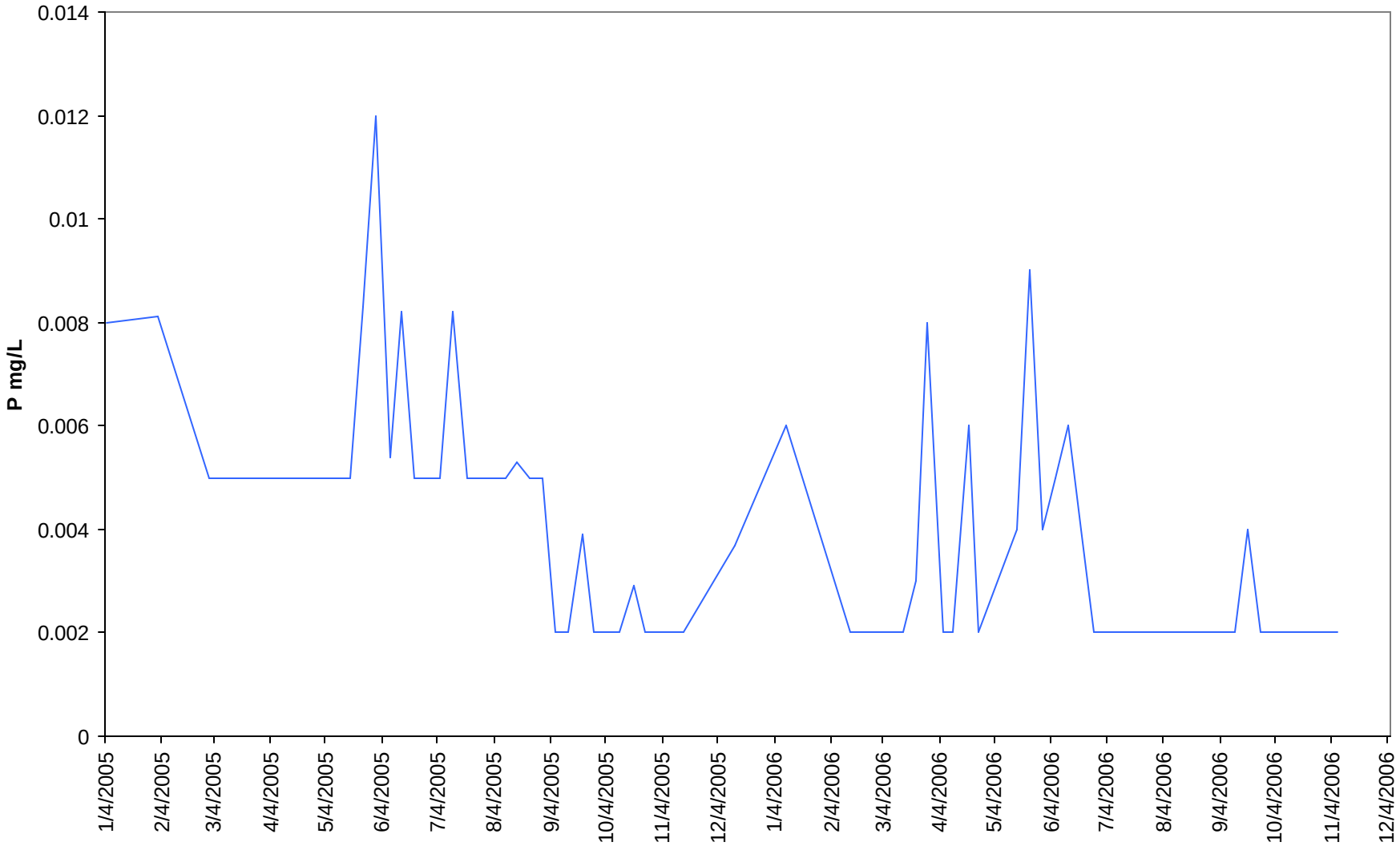

LWLVB1.2 Chlorophyll-a Single Value
Chl-a mg/m3
30.0
25.0
20.0
15.0
10.0
5.0
0.0
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006


LWLVB1.2 Epilimnion Ammonia
N mg/L
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Acute criteria
NH4 mg N/L
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

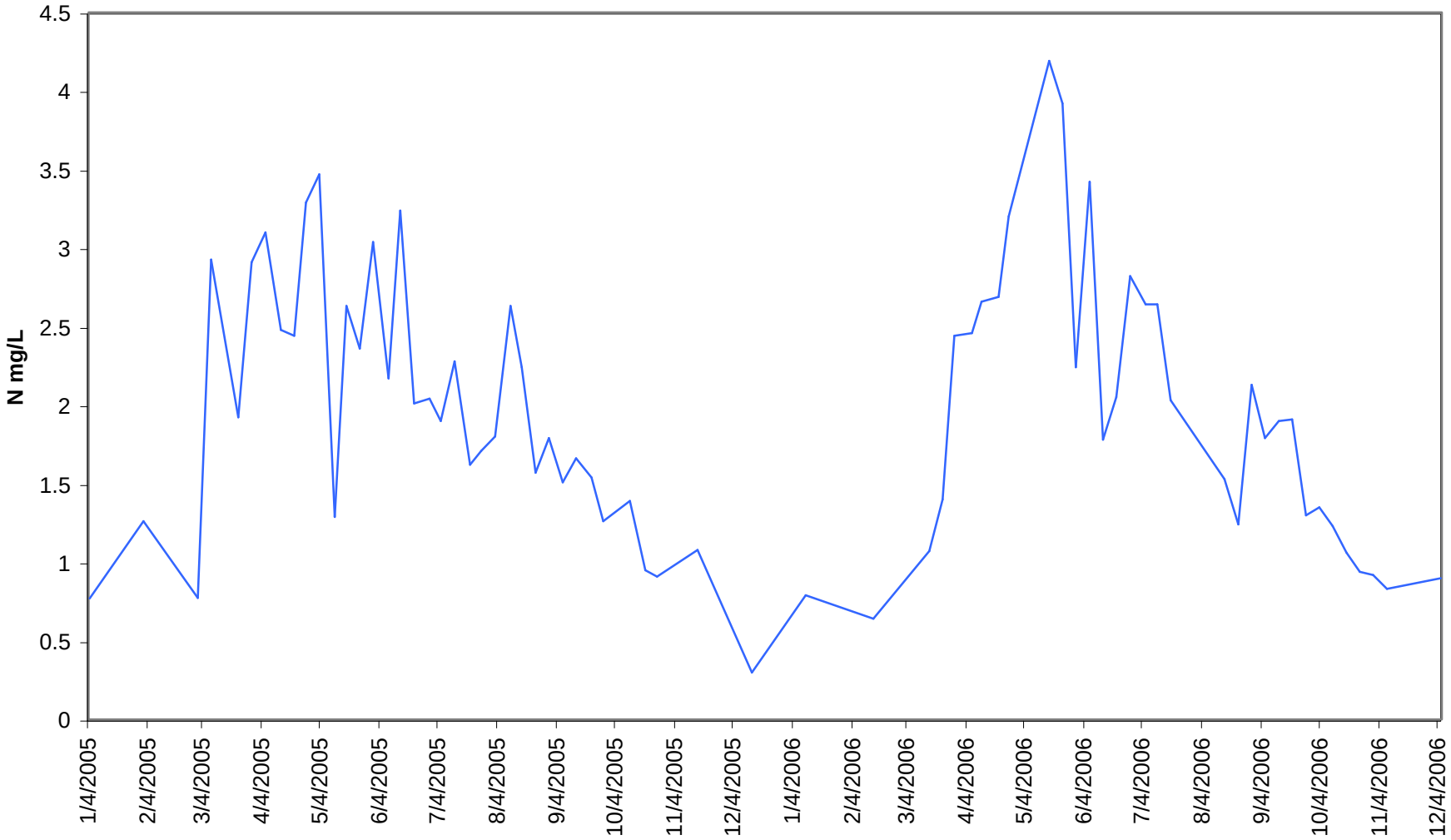
LWLVB1.2 Epilimnion Total Phosphorus

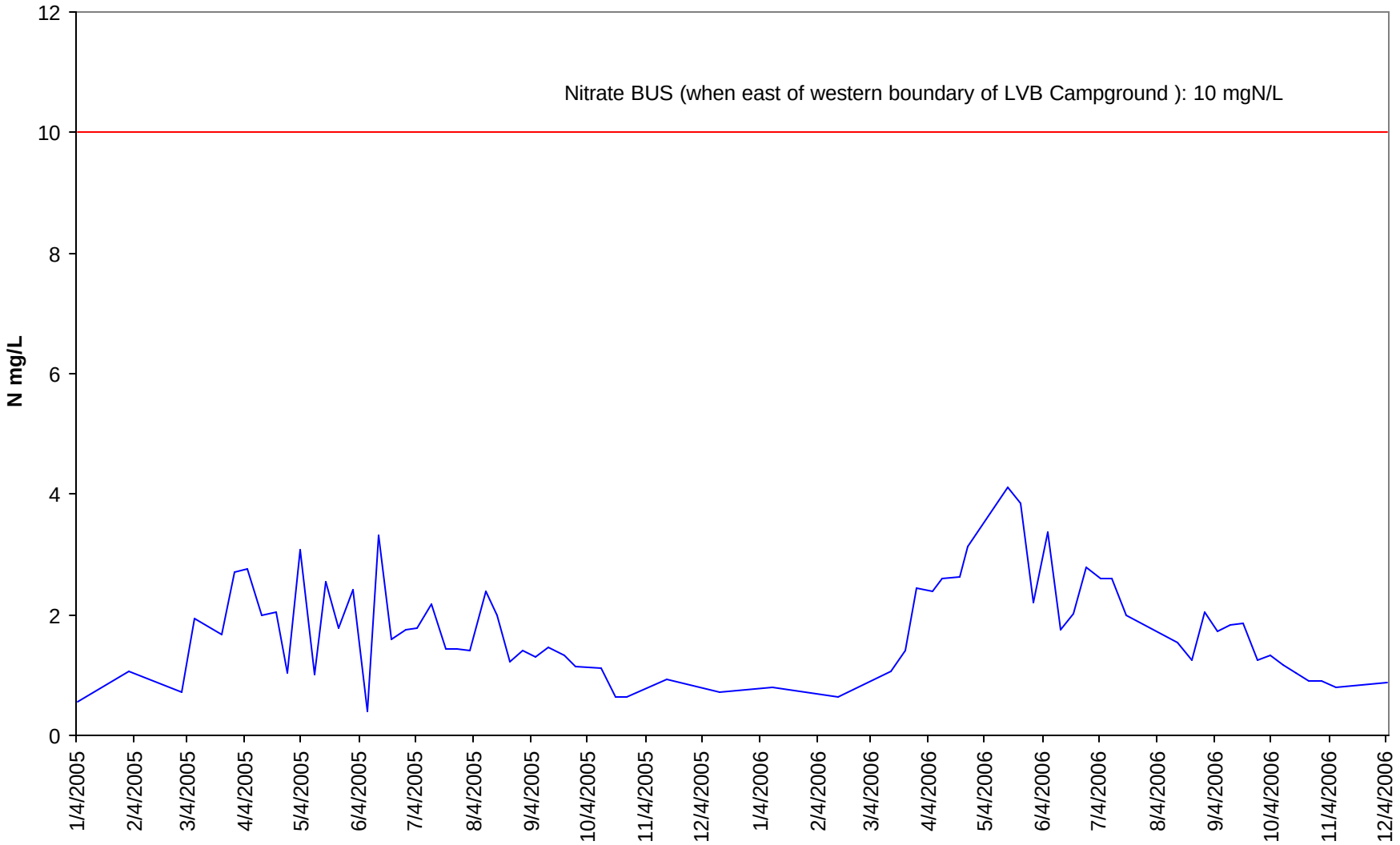


LWLVB1.2 Epilimnion Dissolved ortho-Phosphorus

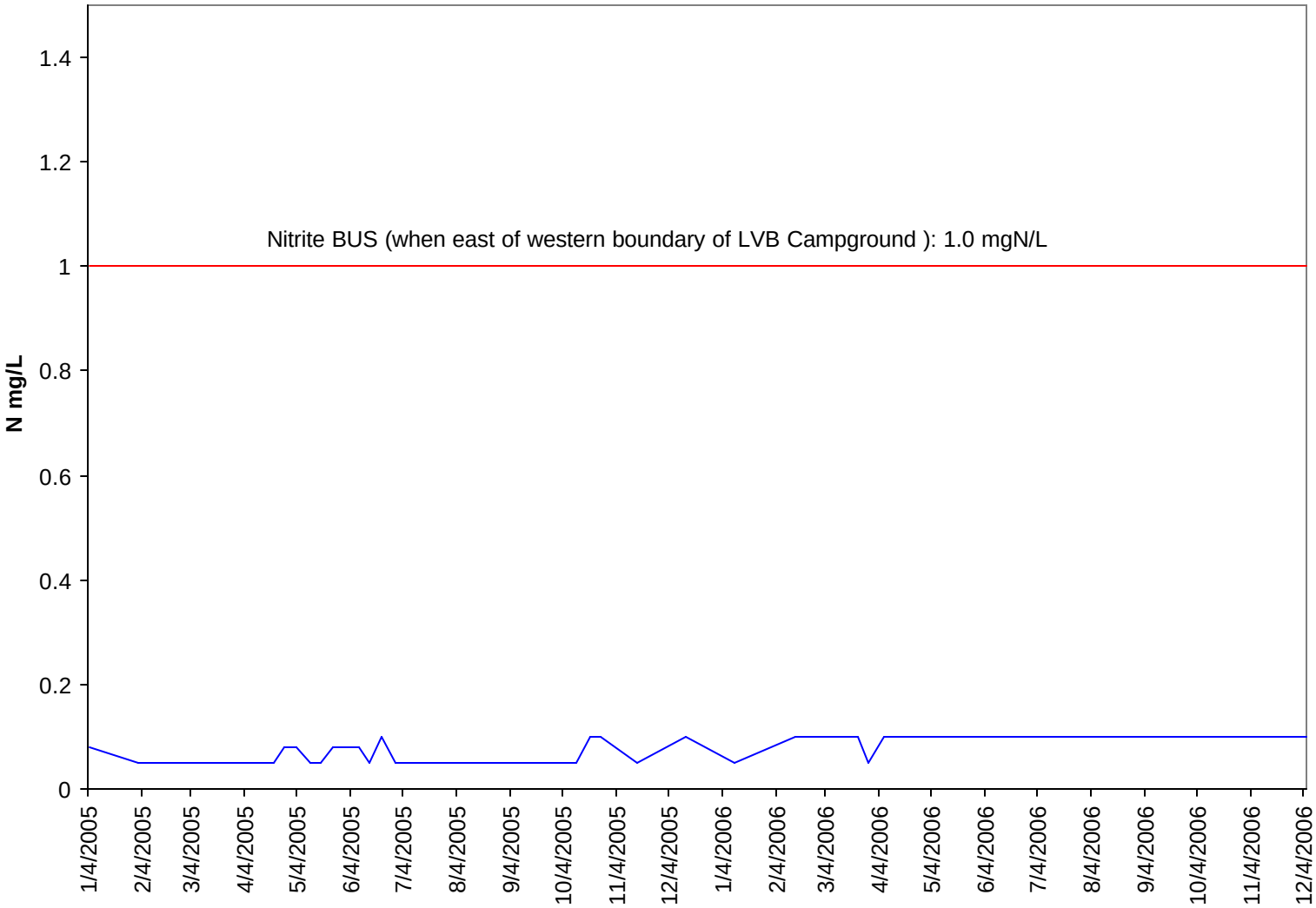


LWLVB1.2 Epilimnion
Total Nitrogen

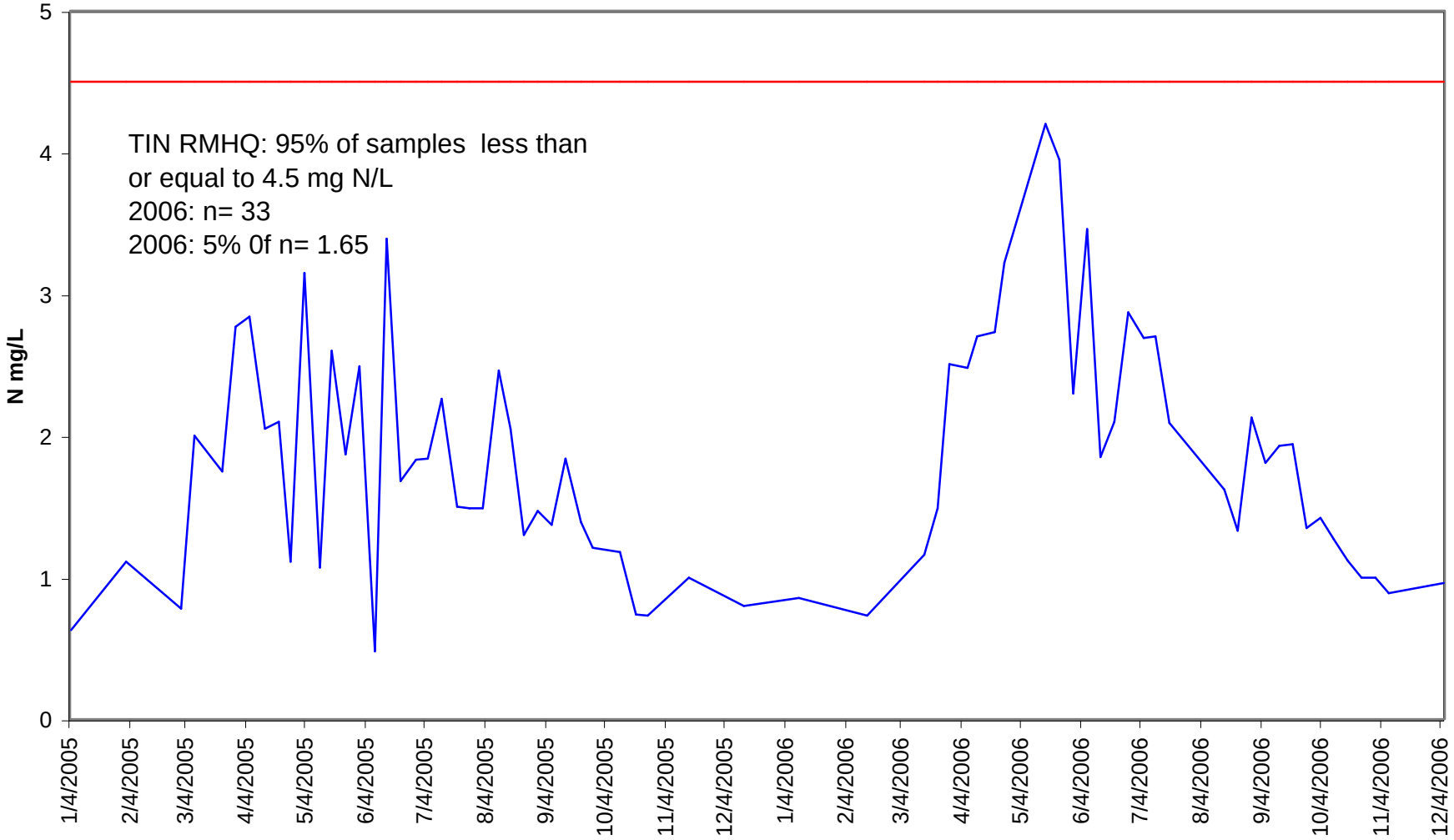


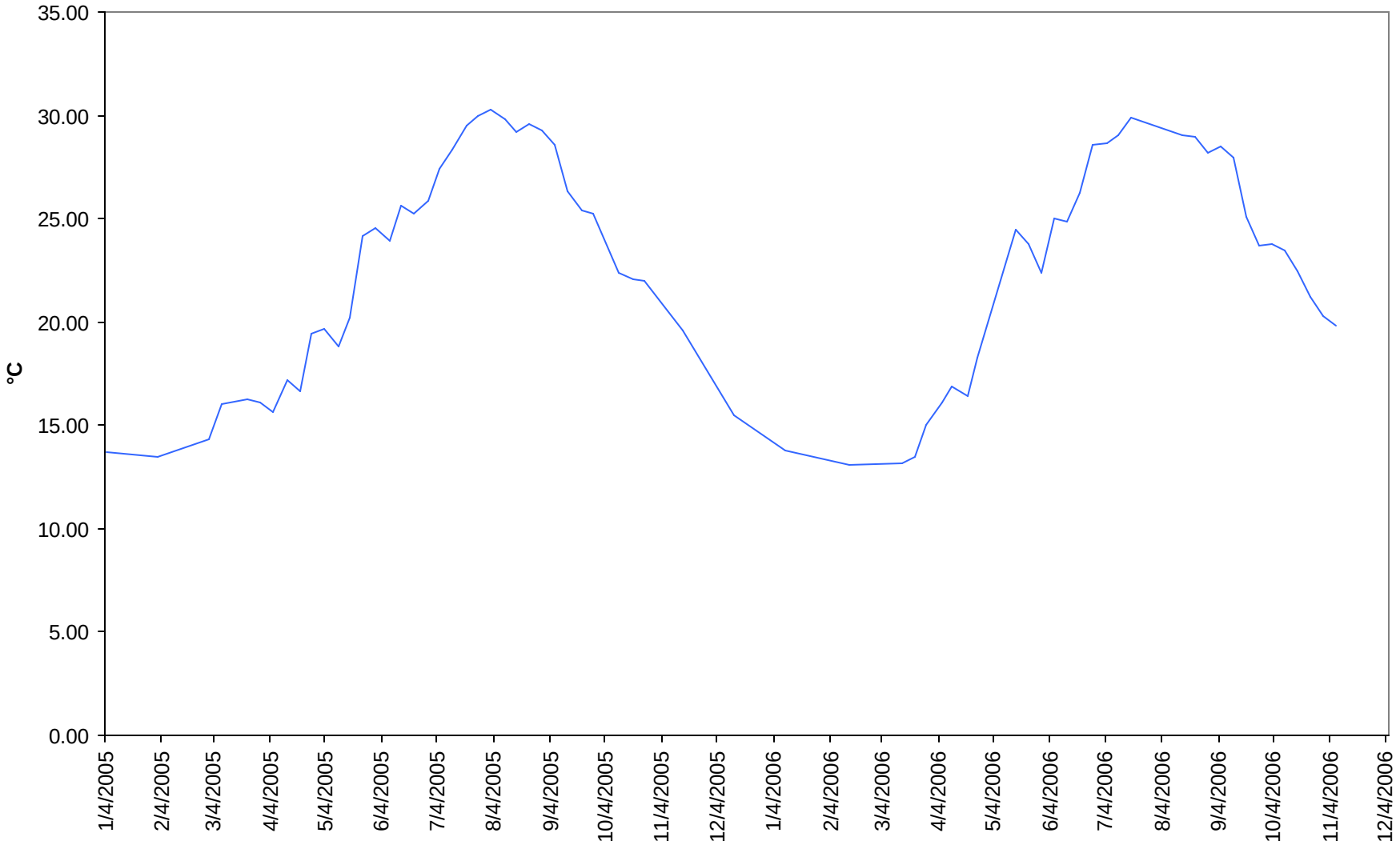

LWLVB1.2 Epilimnion Nitrate
Nitrate BUS (when east of western boundary of LVB Campground): 10 mgN/L
N mg/L
12
10
8
6
4
2
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

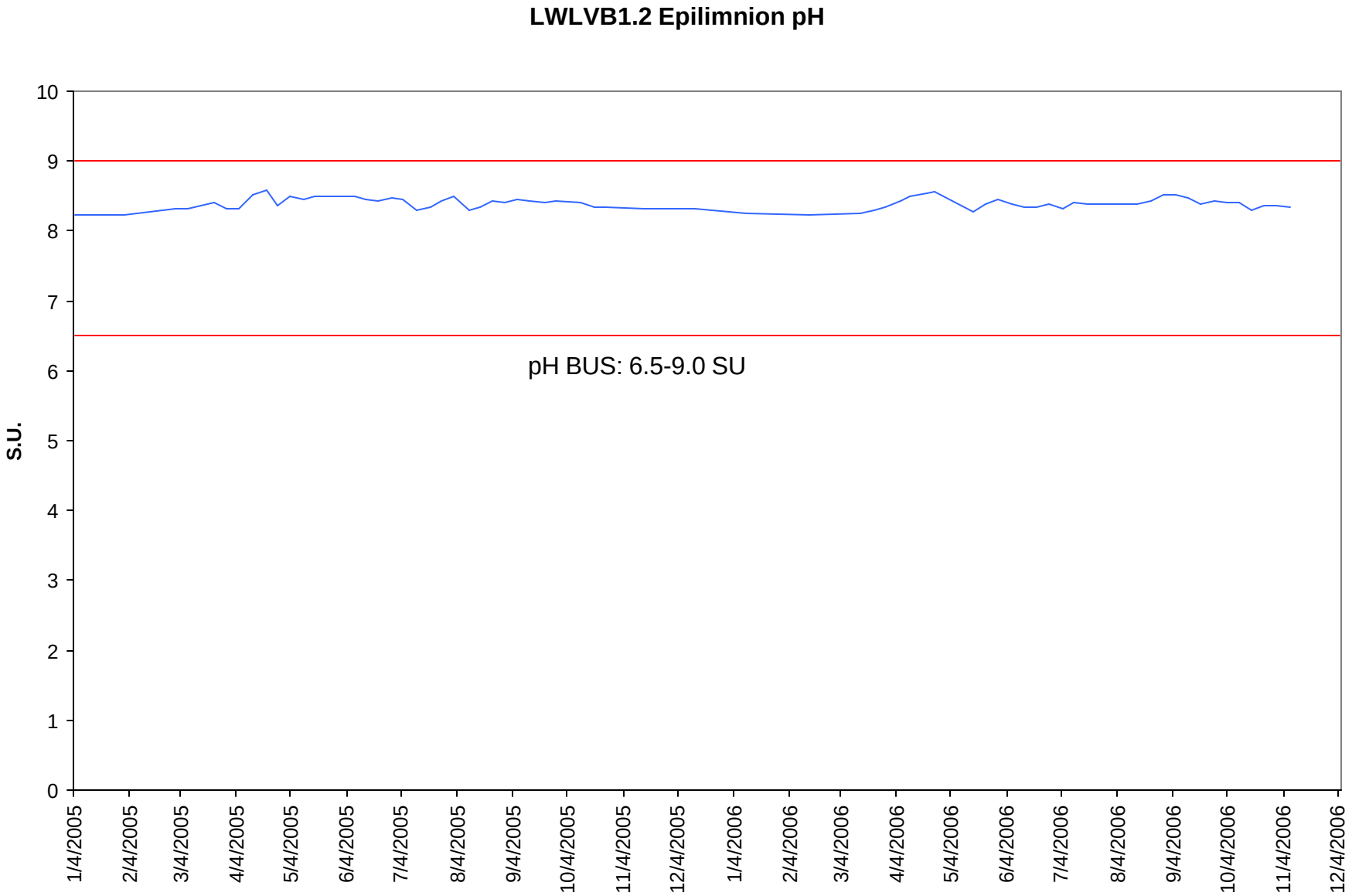
LWLVB1.2 Epilimnion Nitrite



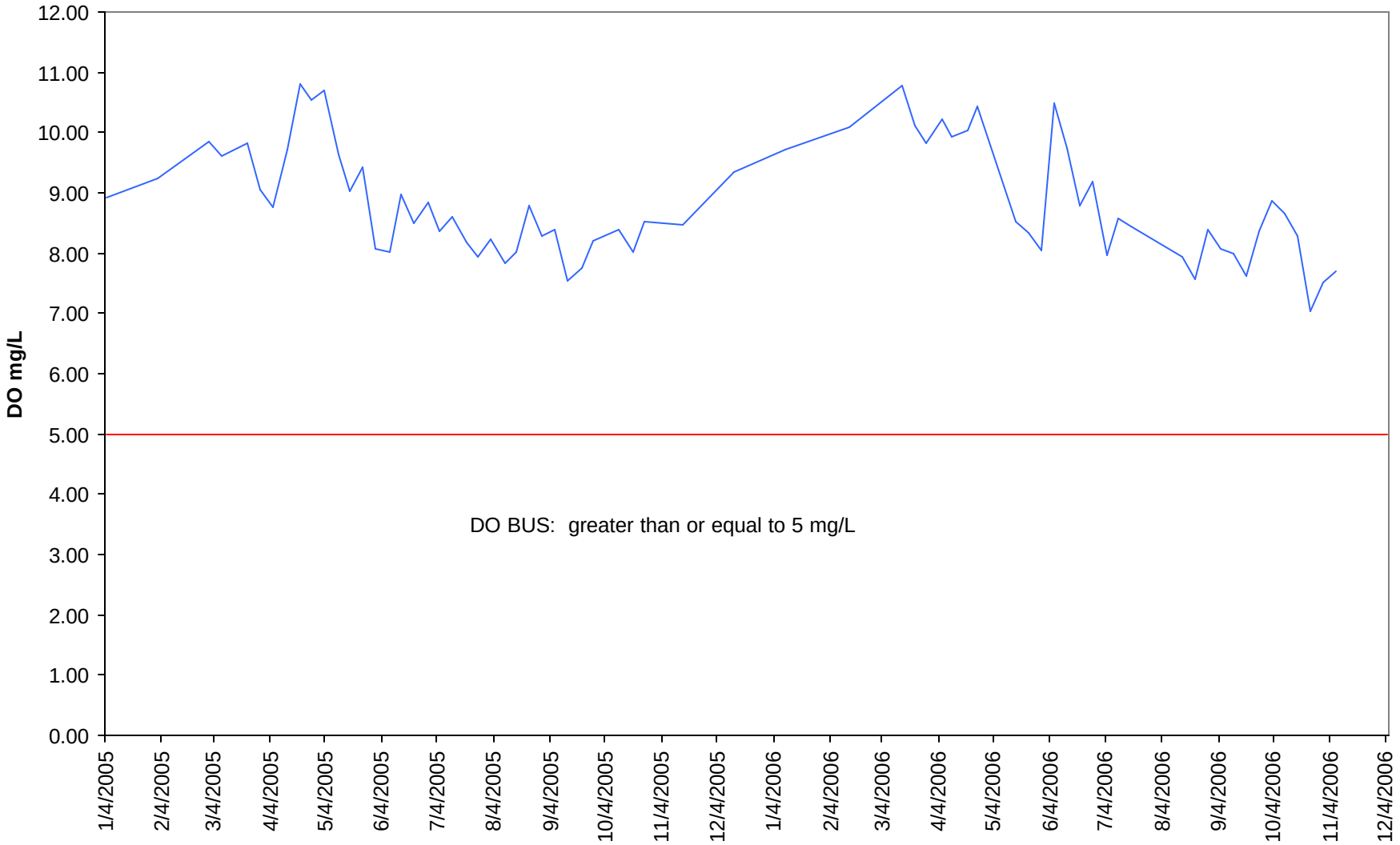
LWLVB1.2 Epilimnion
Total Inorganic Nitrogen

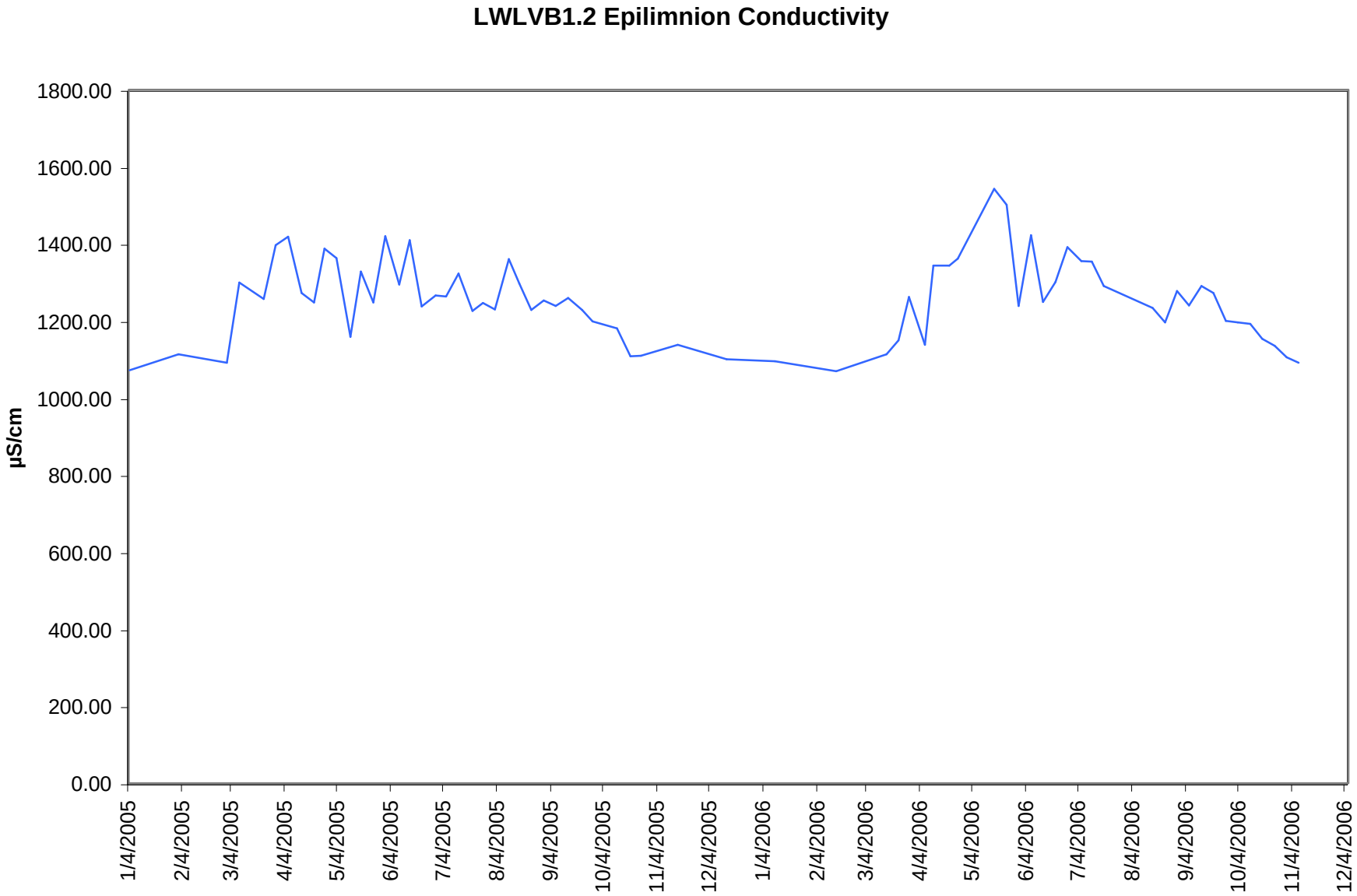



LWLVB1.2 Epilimnion Temperature
°C
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

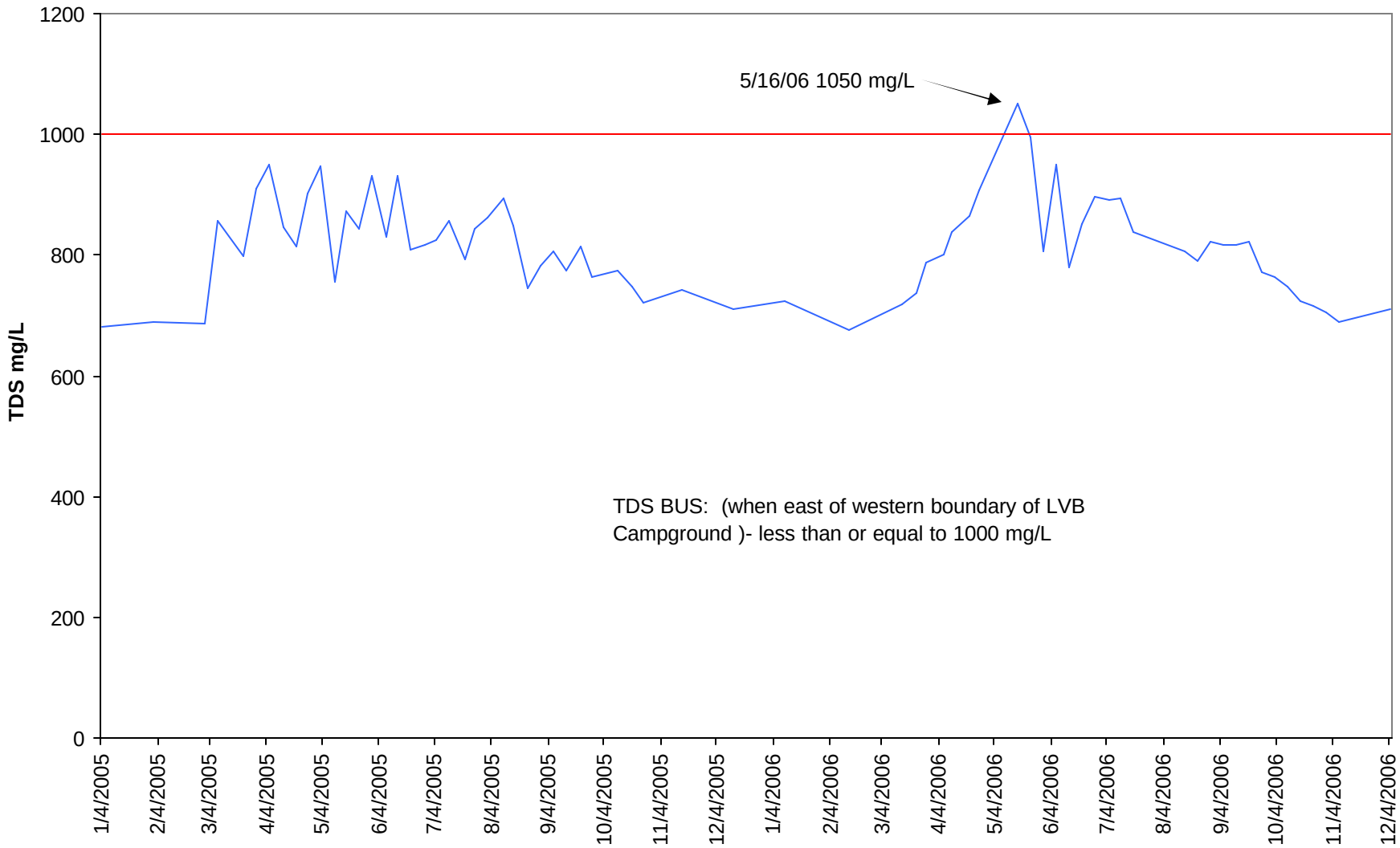

LWLVB1.2 Epilimnion pH
S.U.
10
9
8
7
6
5
4
3
2
1
0
pH BUS: 6.5-9.0 SU
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB1.2 Epilimnion Dissolved Oxygen

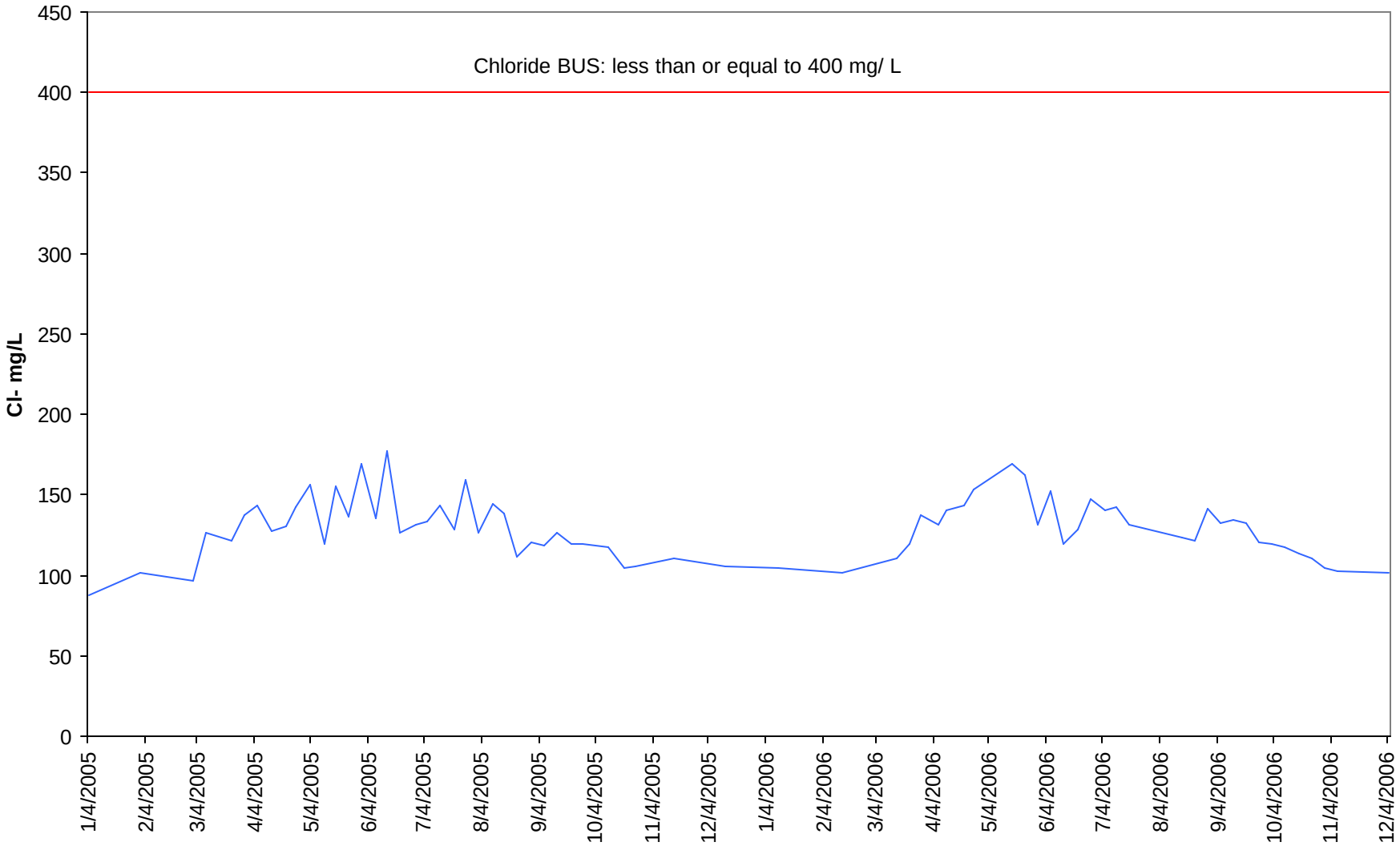


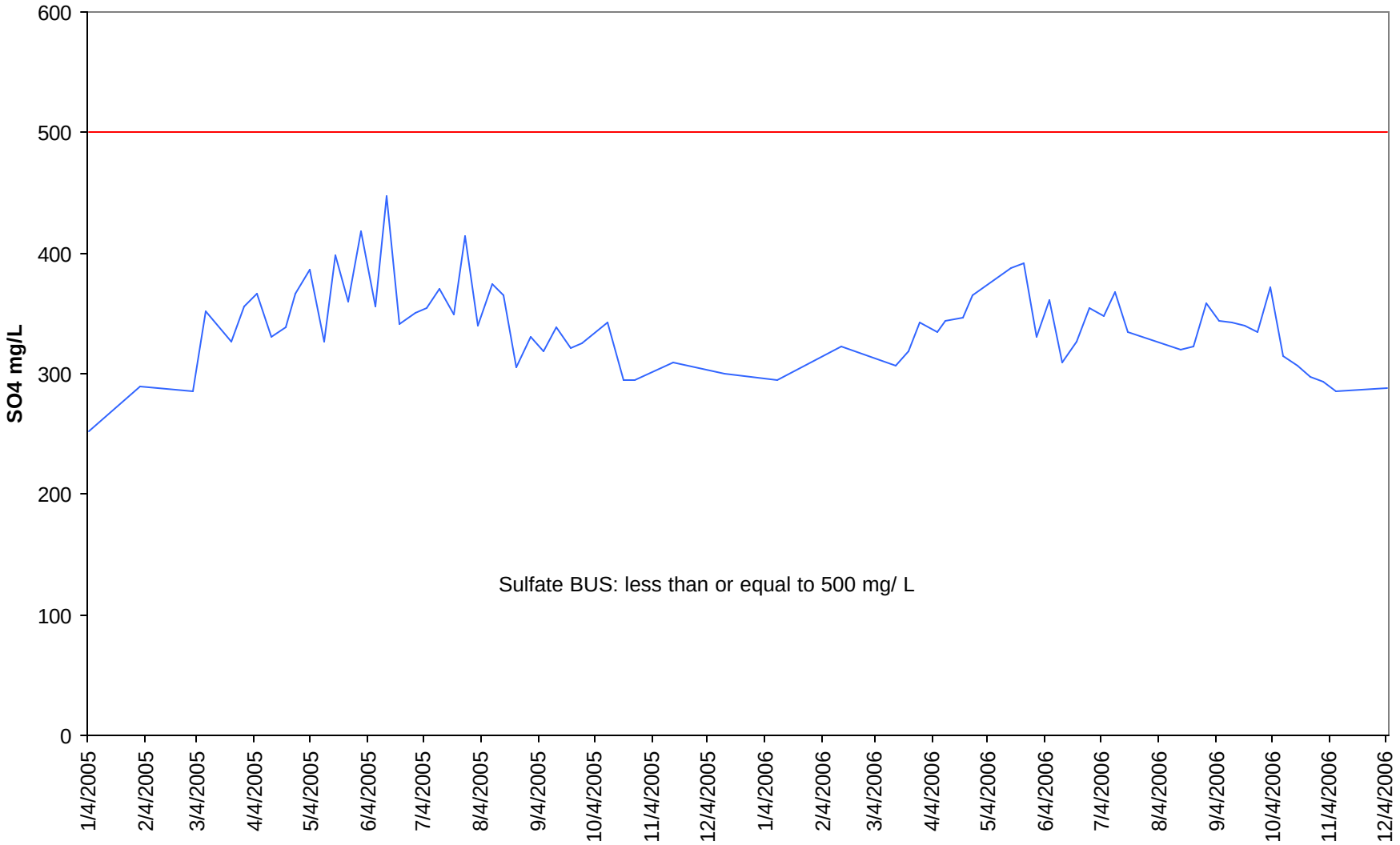

LWLVB1.2 Epilimnion Conductivity
µS/cm
1800.00
1600.00
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

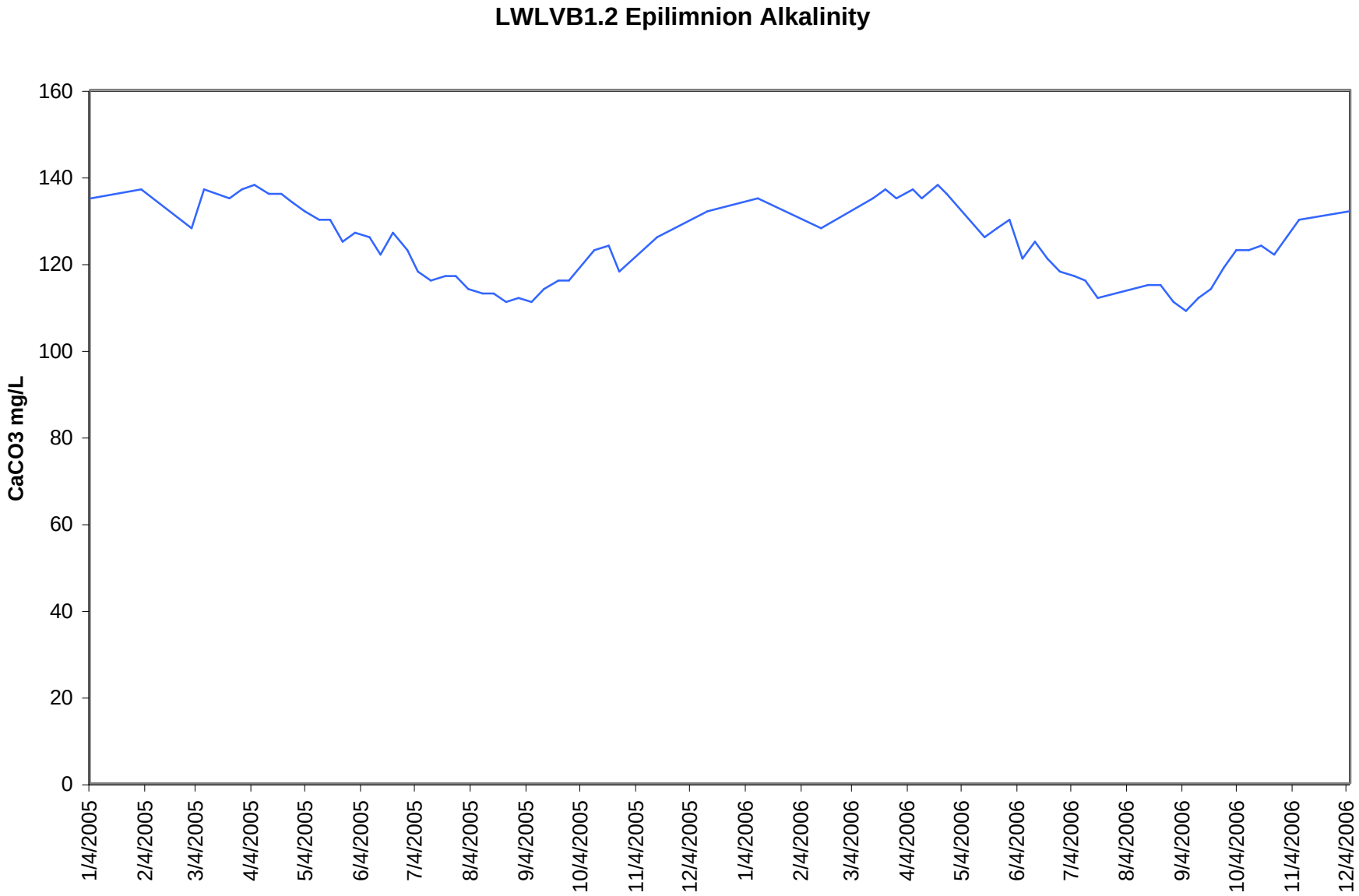
LWLVB1.2 Epilimnion Total Dissolved Solids



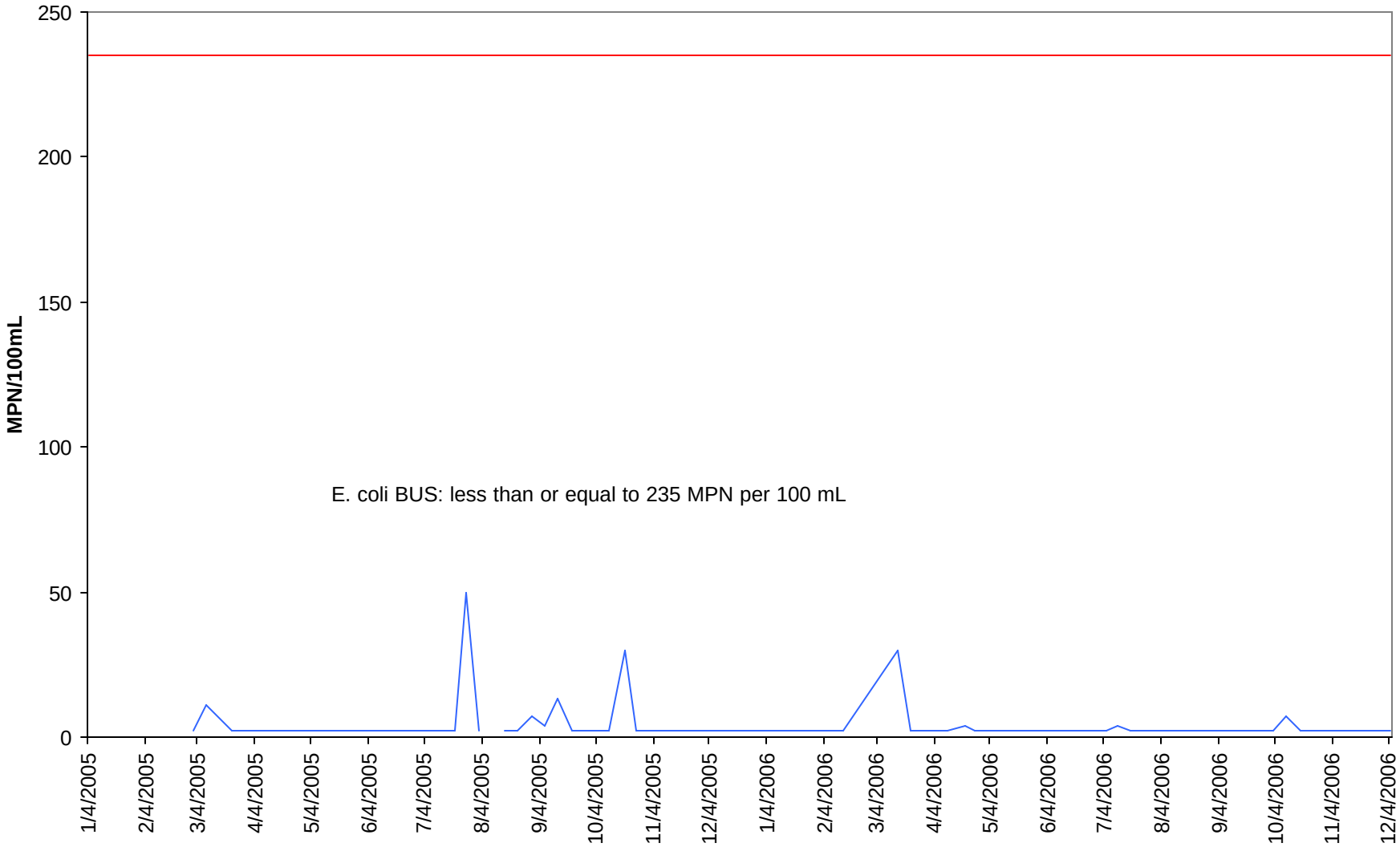
LWLVB1.2 Epilimnion Chloride



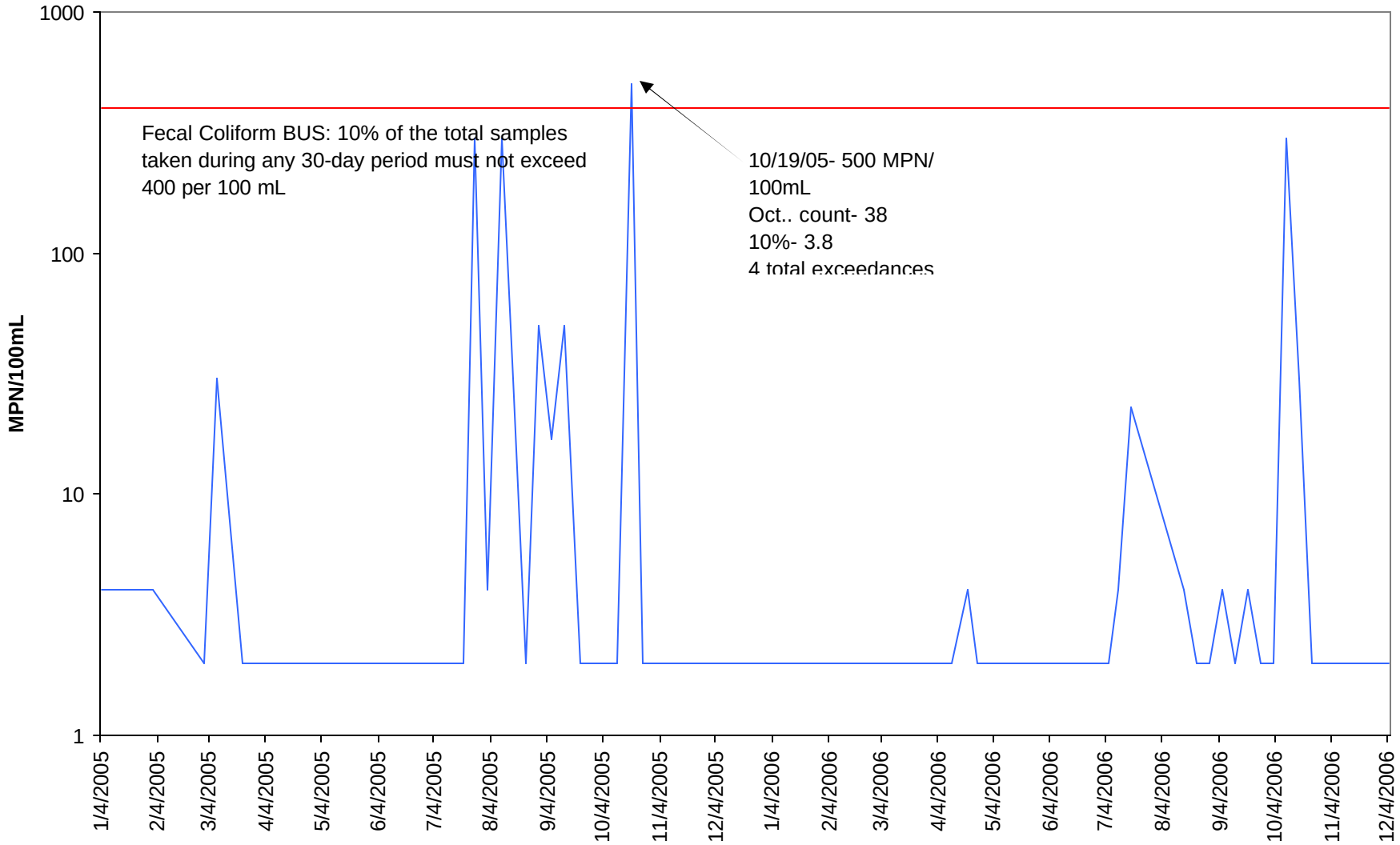

LWLVB1.2 Epilimnion Sulfate
SO4 mg/L
600
500
400
300
200
100
0
Sulfate BUS: less than or equal to 500 mg/ L
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

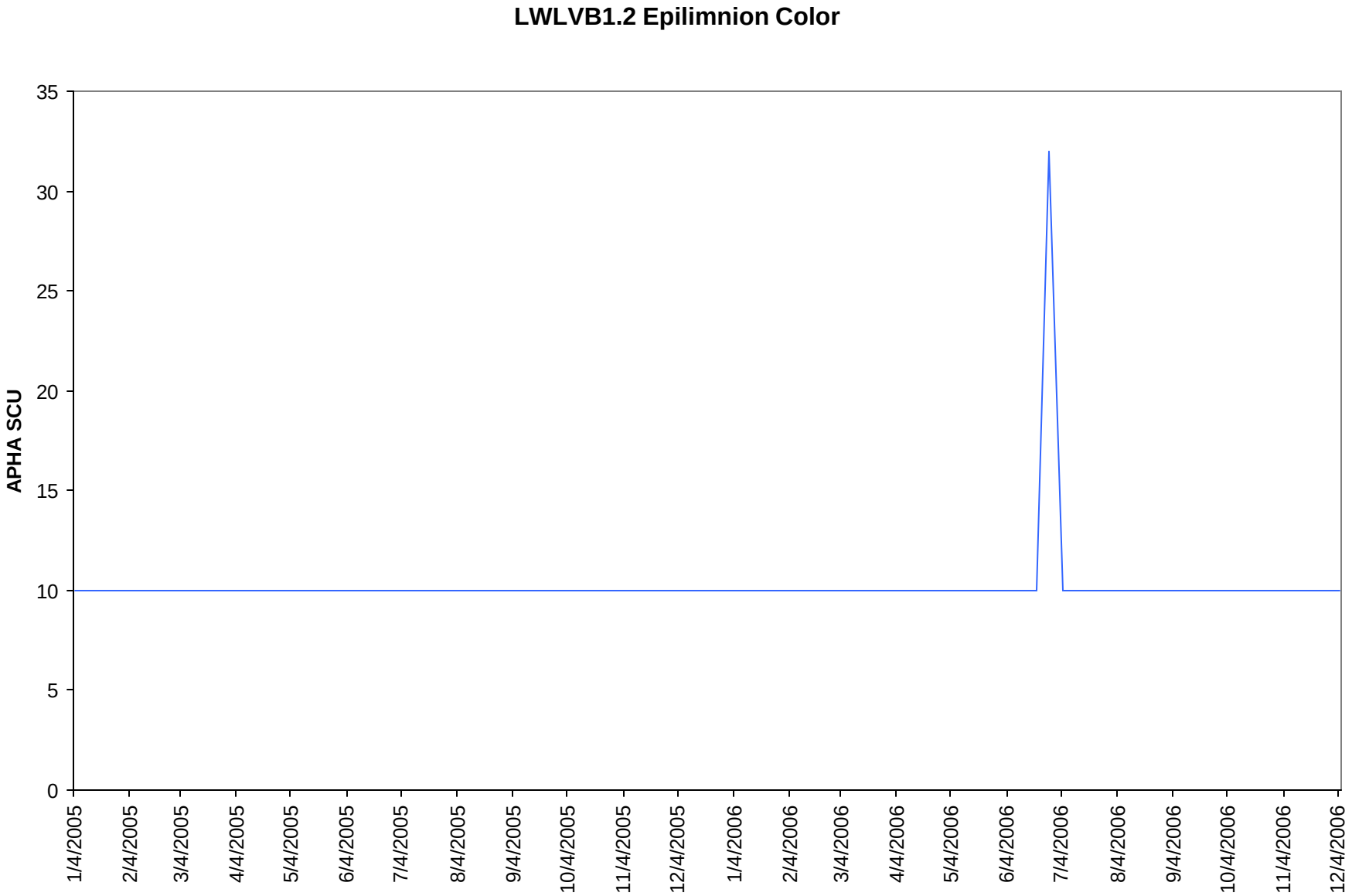

LWLVB1.2 Epilimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB1.2 Epilimnion E. coli

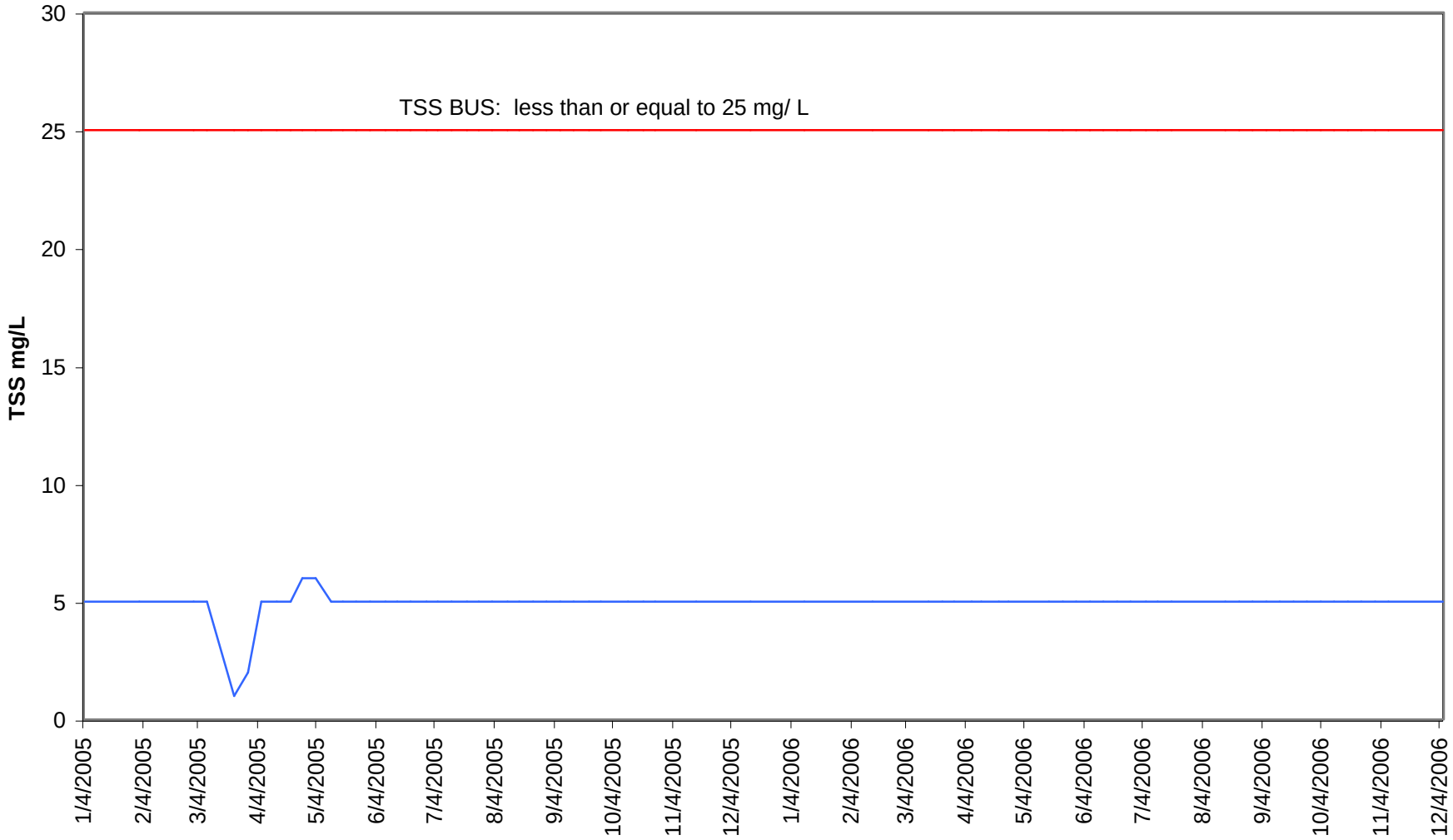


LWLVB1.2 Epilimnion Fecal Coliforms

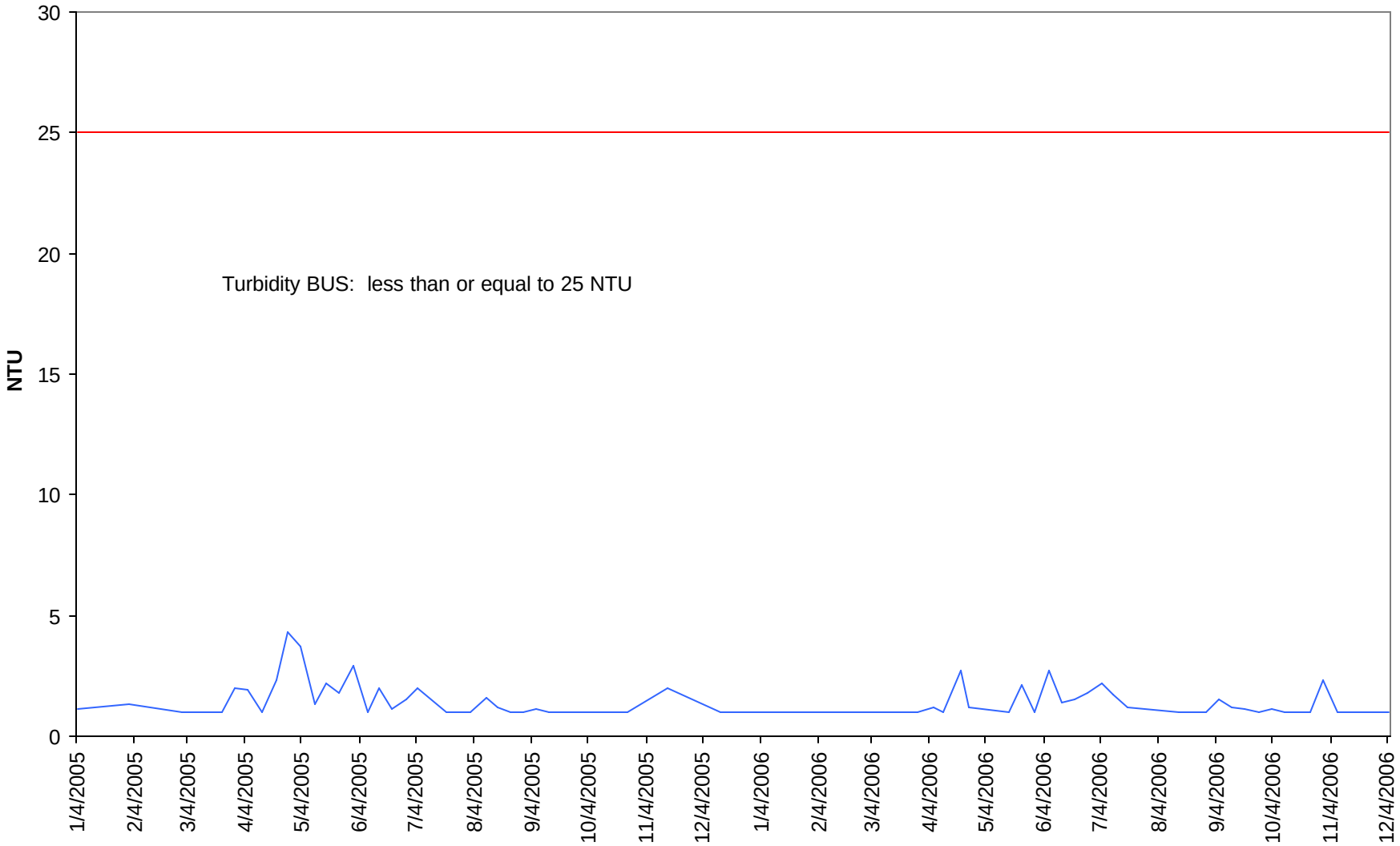



LWLVB1.2 Epilimnion Color
APHA SCU
35
30
25
20
15
10
5
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

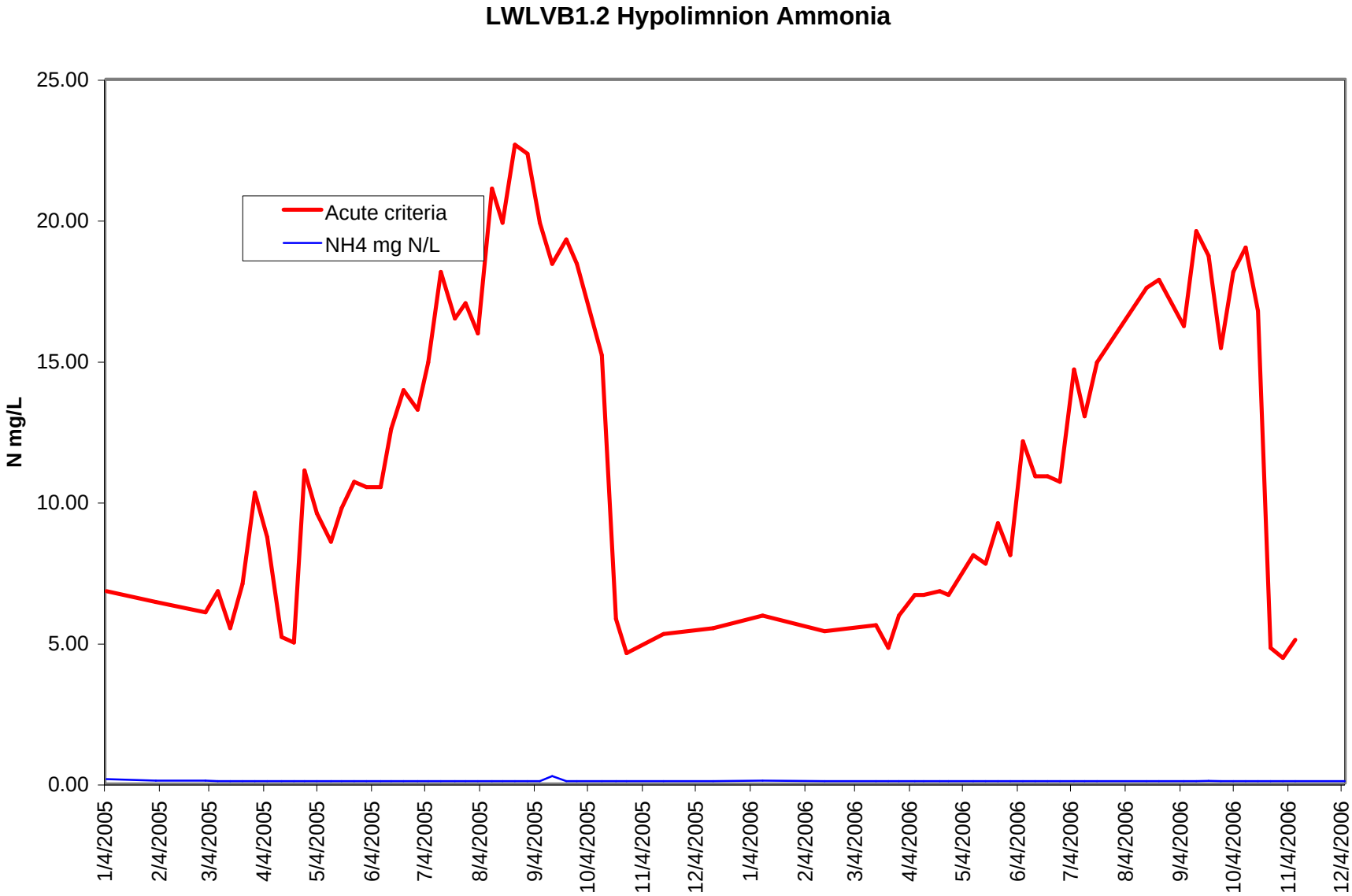
LWLVB1.2 Epilimnion
Total Suspended Solids



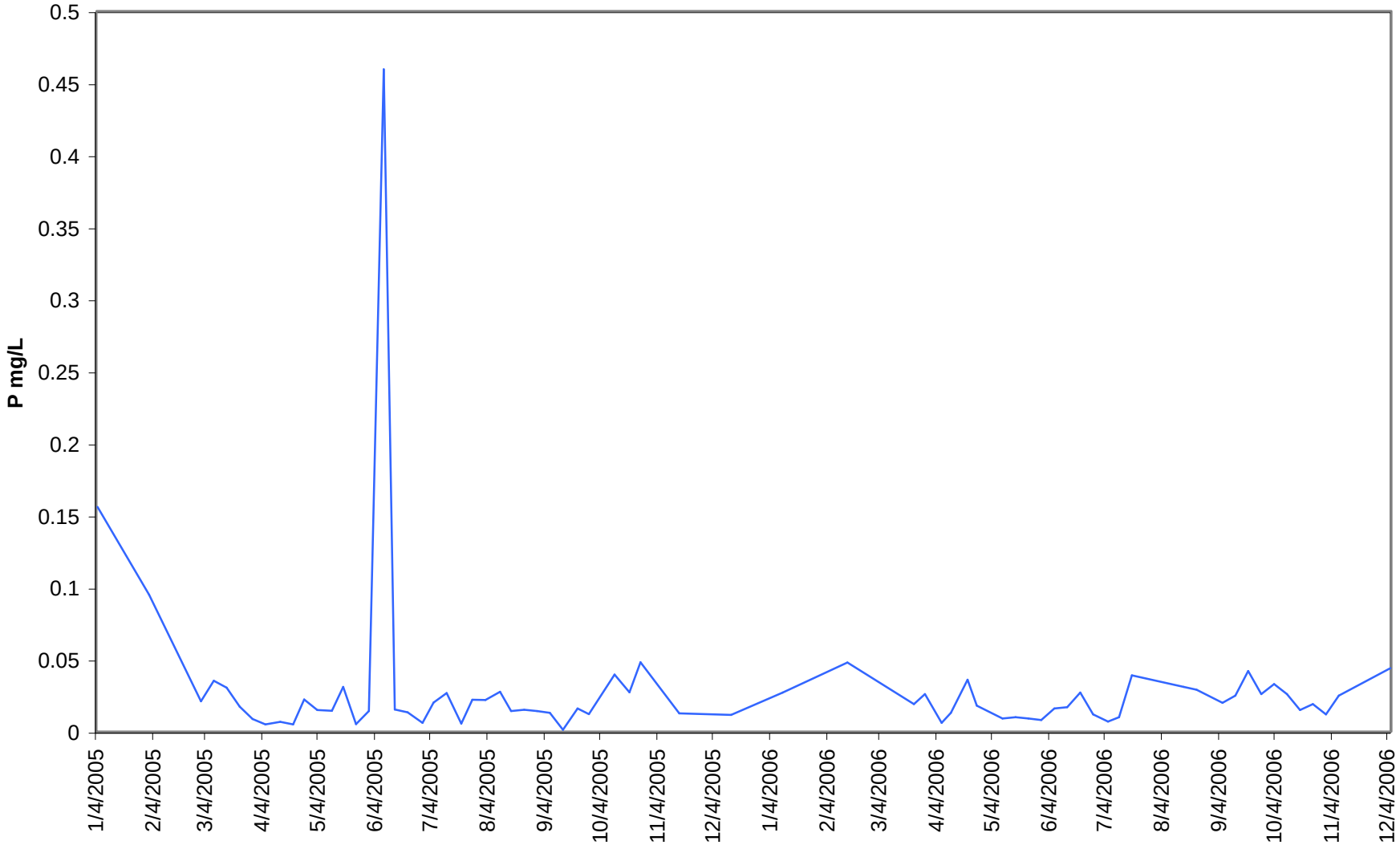
LWLVB1.2 Epilimnion Turbidity

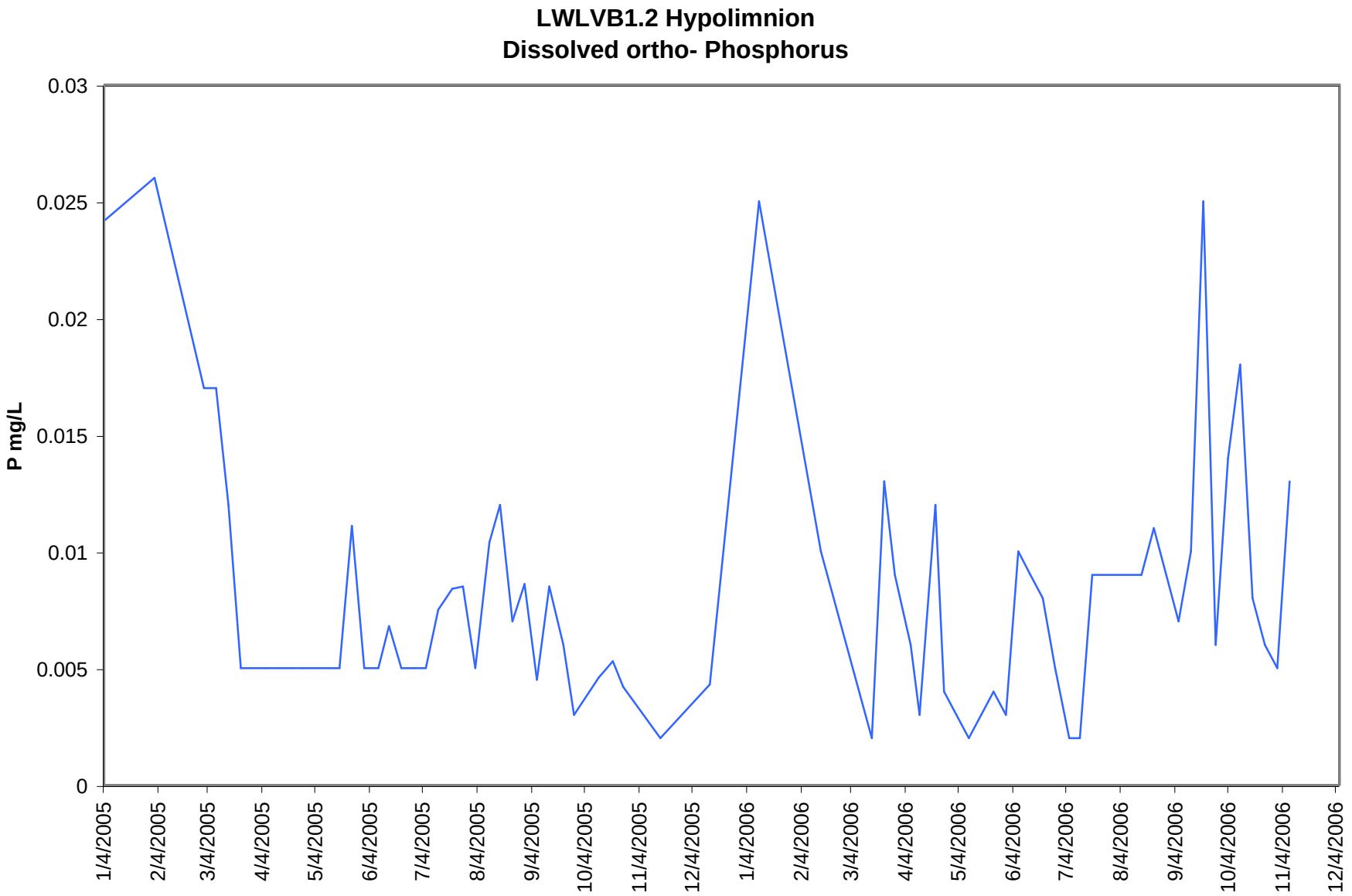


LWLVB1.2
Hypolimnion

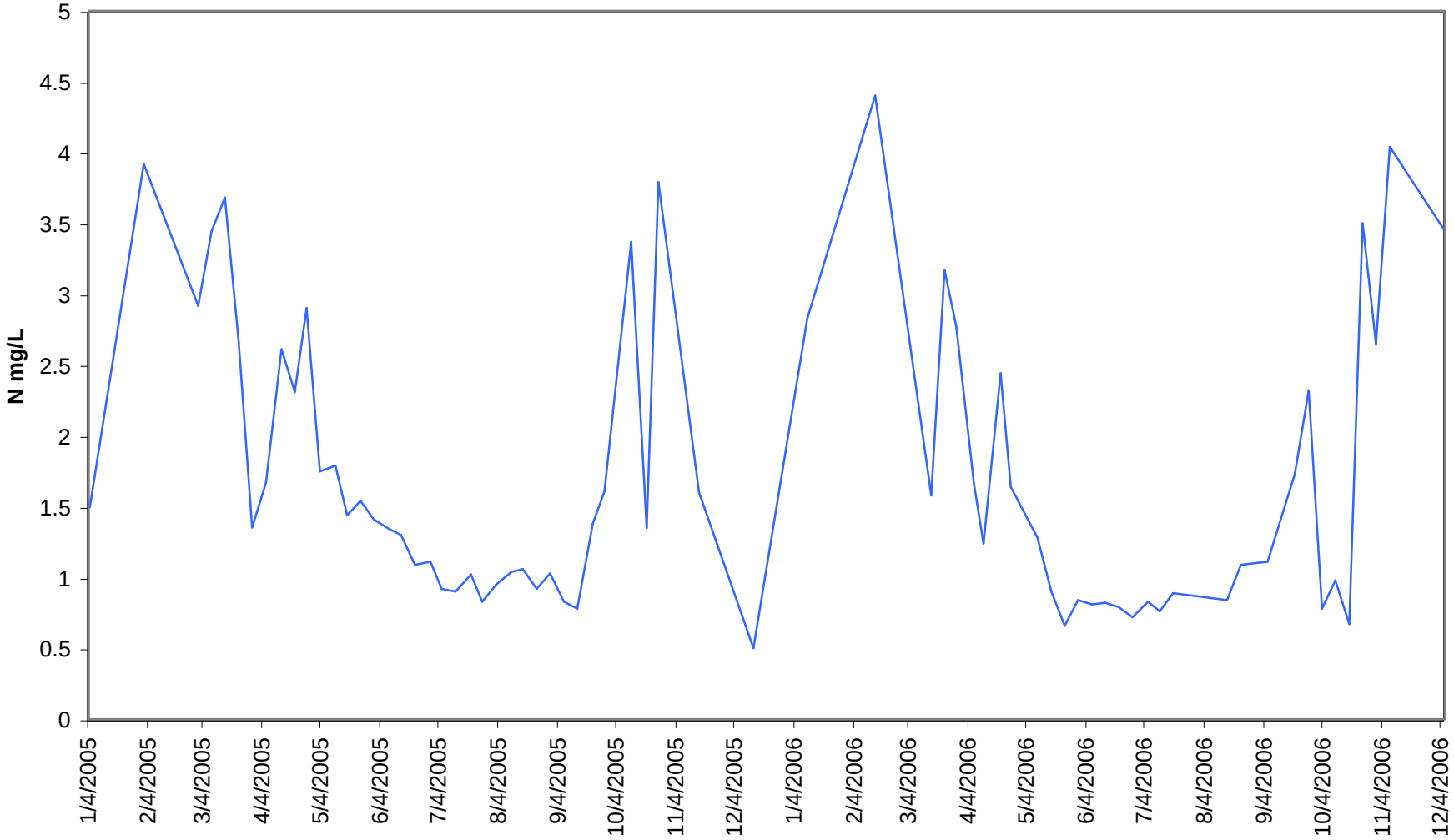

LWLVB1.2 Hypolimnion Ammonia
N mg/L
25.00
20.00
15.00
10.00
5.00
0.00
Acute criteria
NH4 mg N/L
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB1.2 Hypolimnion Total Phosphorus

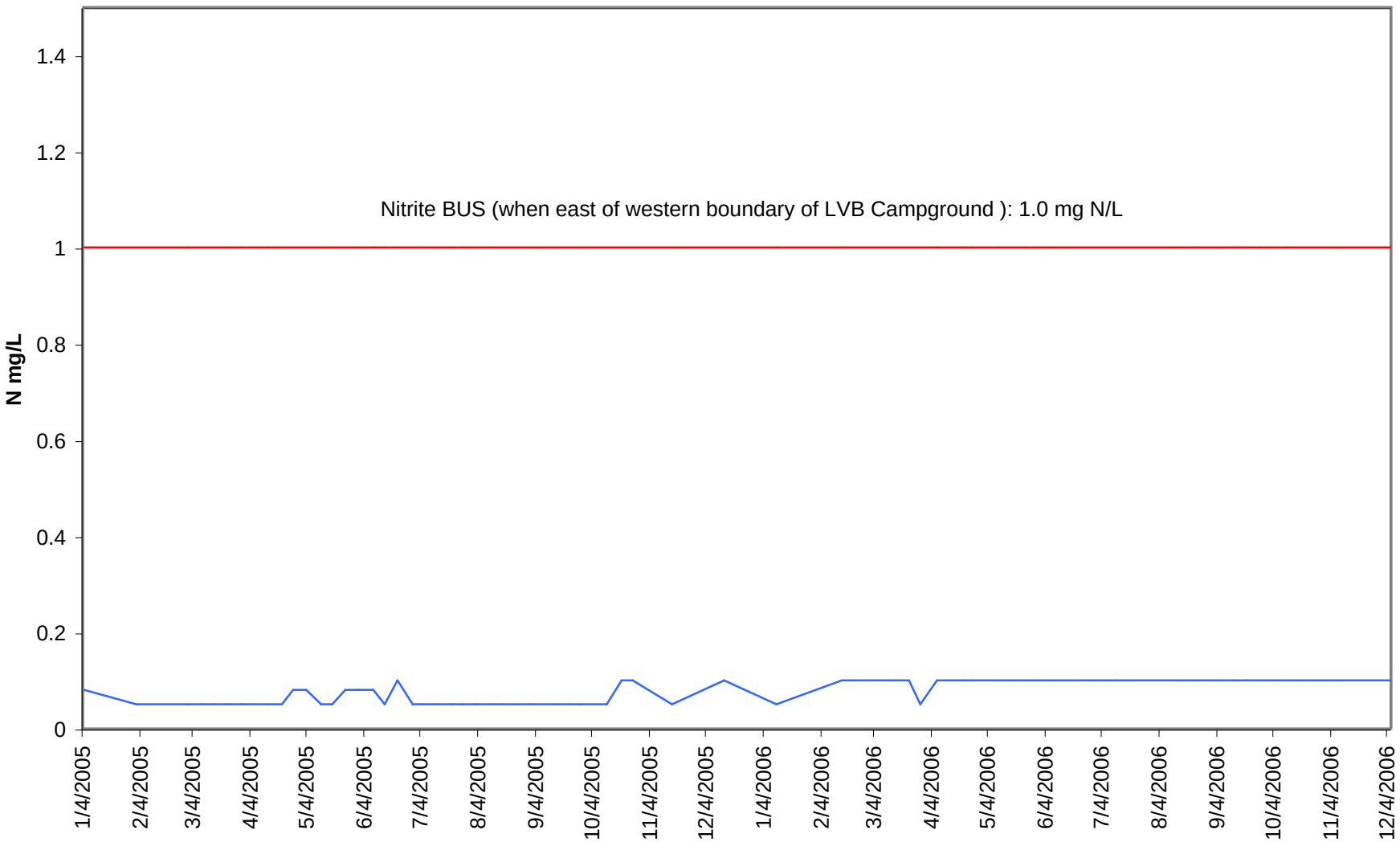



LWLVB1.2 Hypolimnion
Dissolved ortho- Phosphorus
P mg/L
0.03
0.025
0.02
0.015
0.01
0.005
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

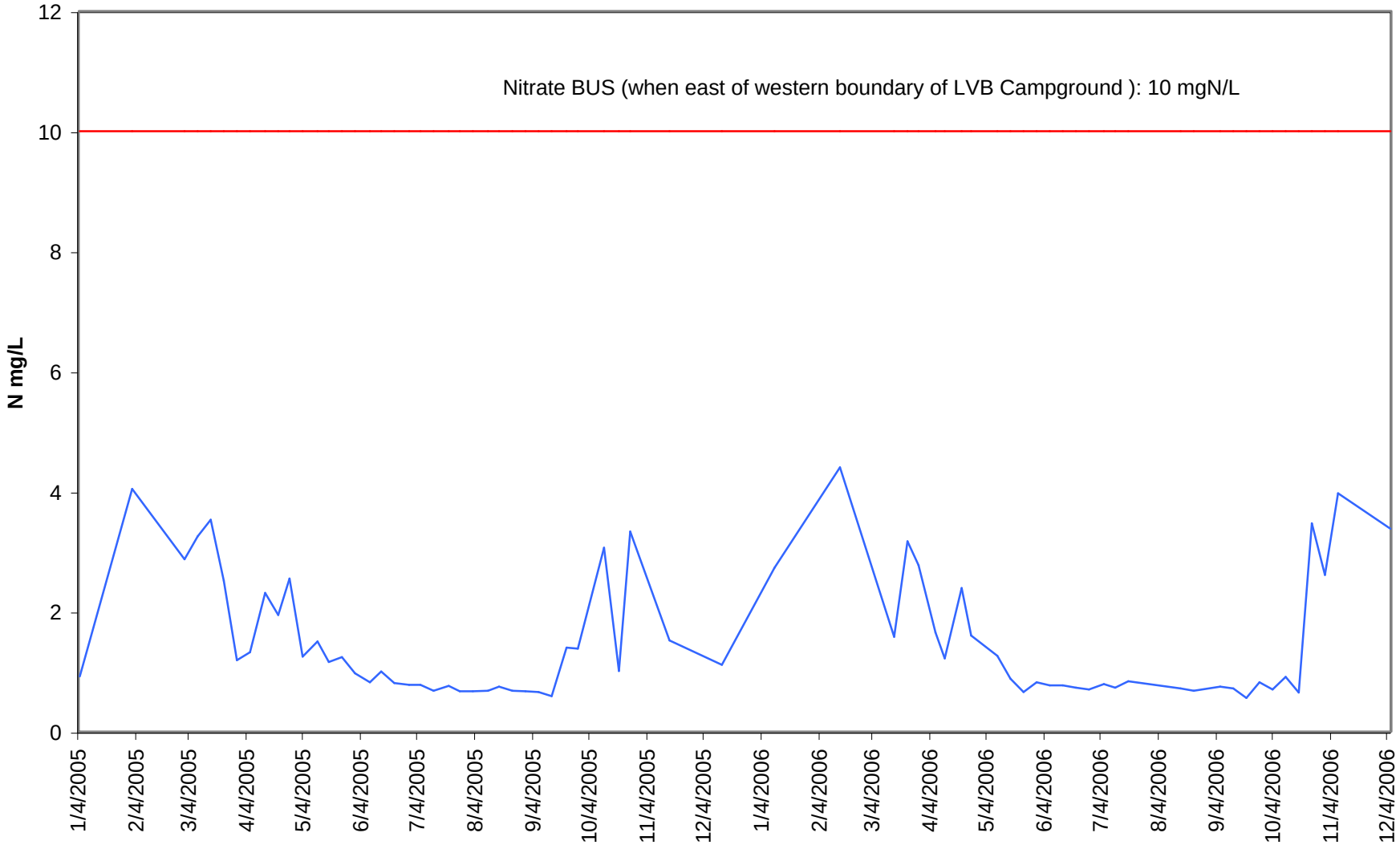
LWLVB1.2 Hypolimnion
Total Nitrogen



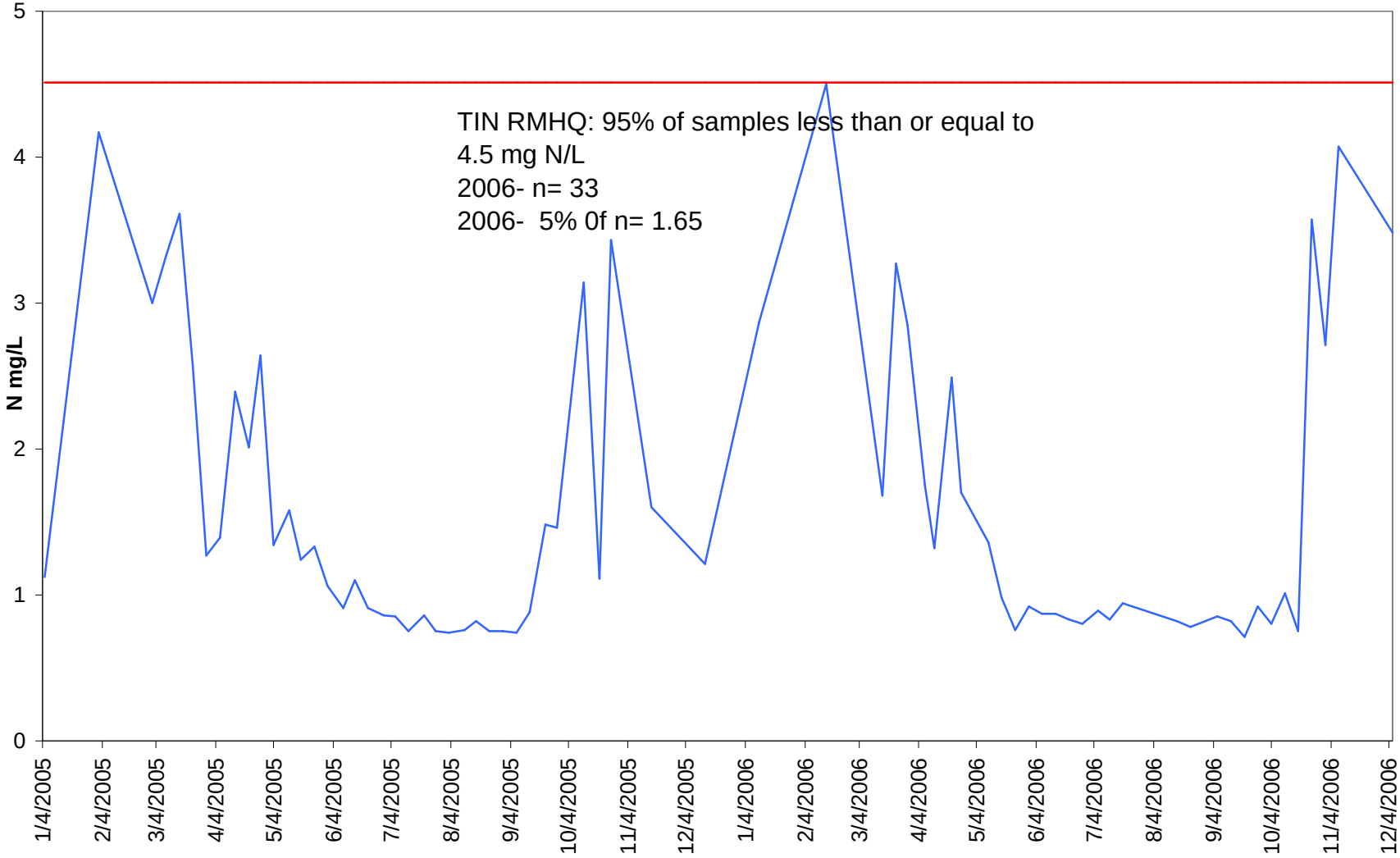
LWLVB1.2 Hypolimnion Nitrite



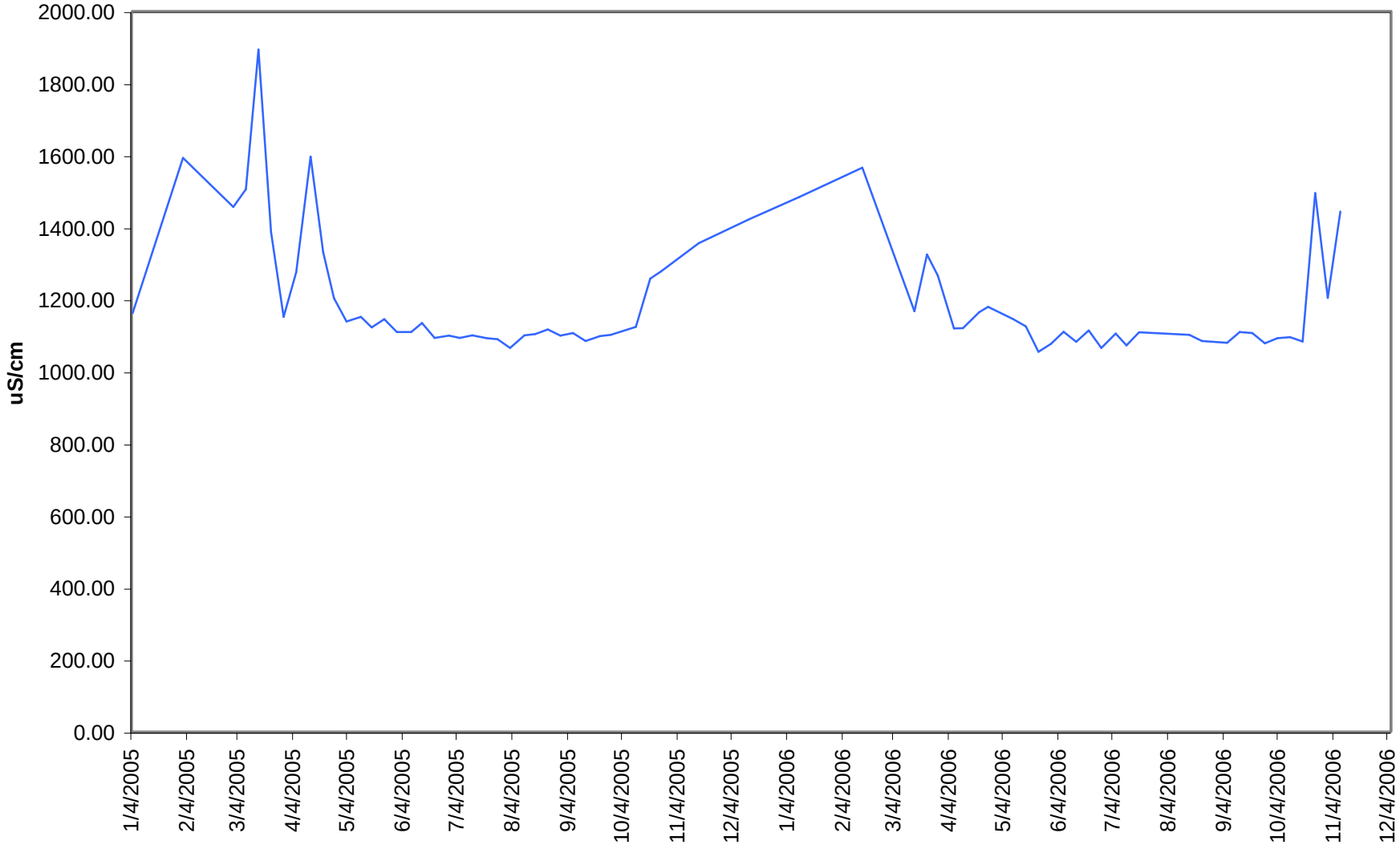
LWLVB1.2 Hypolimnion Nitrate



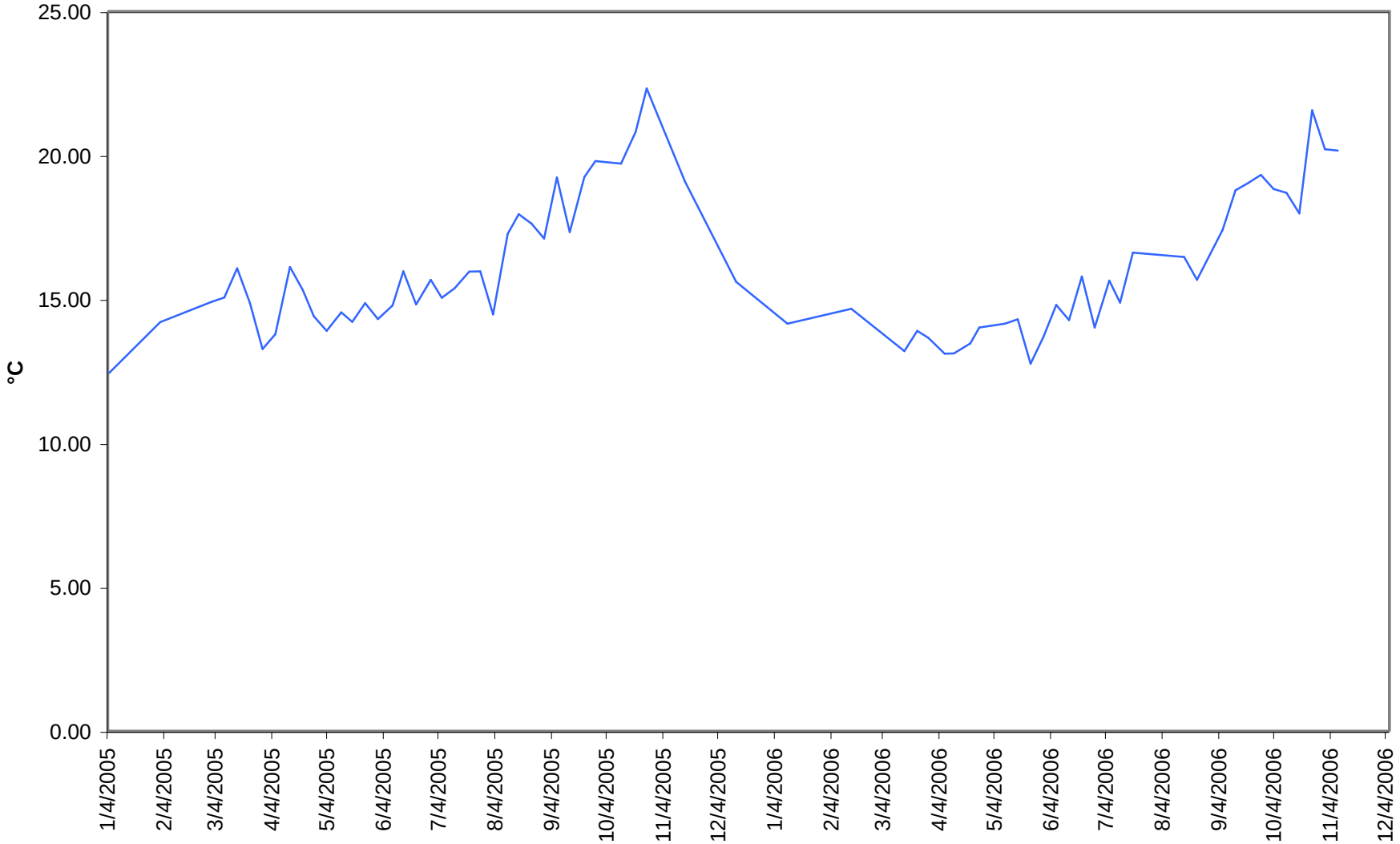
LWLVB1.2 Hypolimnion
Total Inorganic Nitrogen

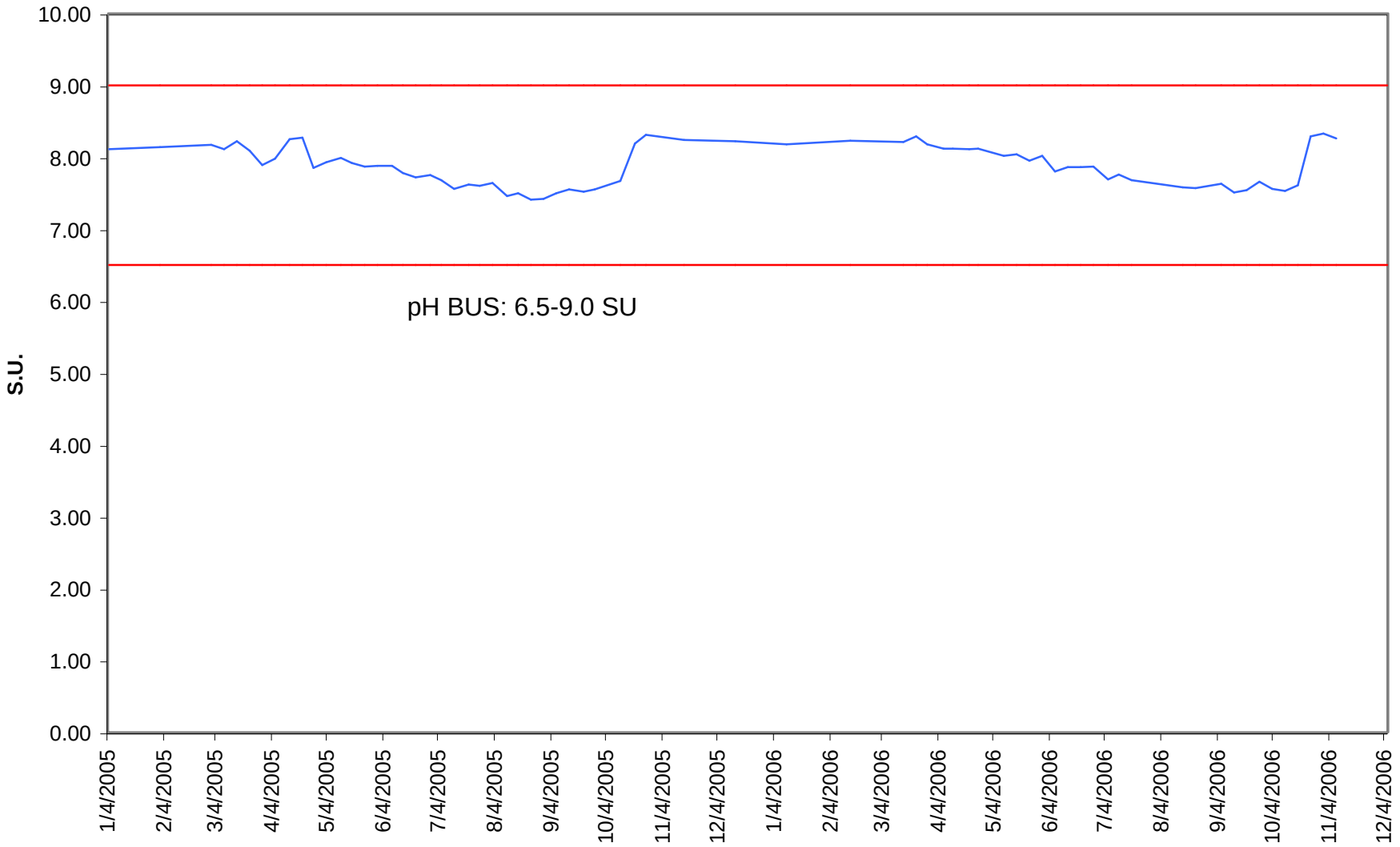


LWLVB1.2 Hypolimnion Conductivity

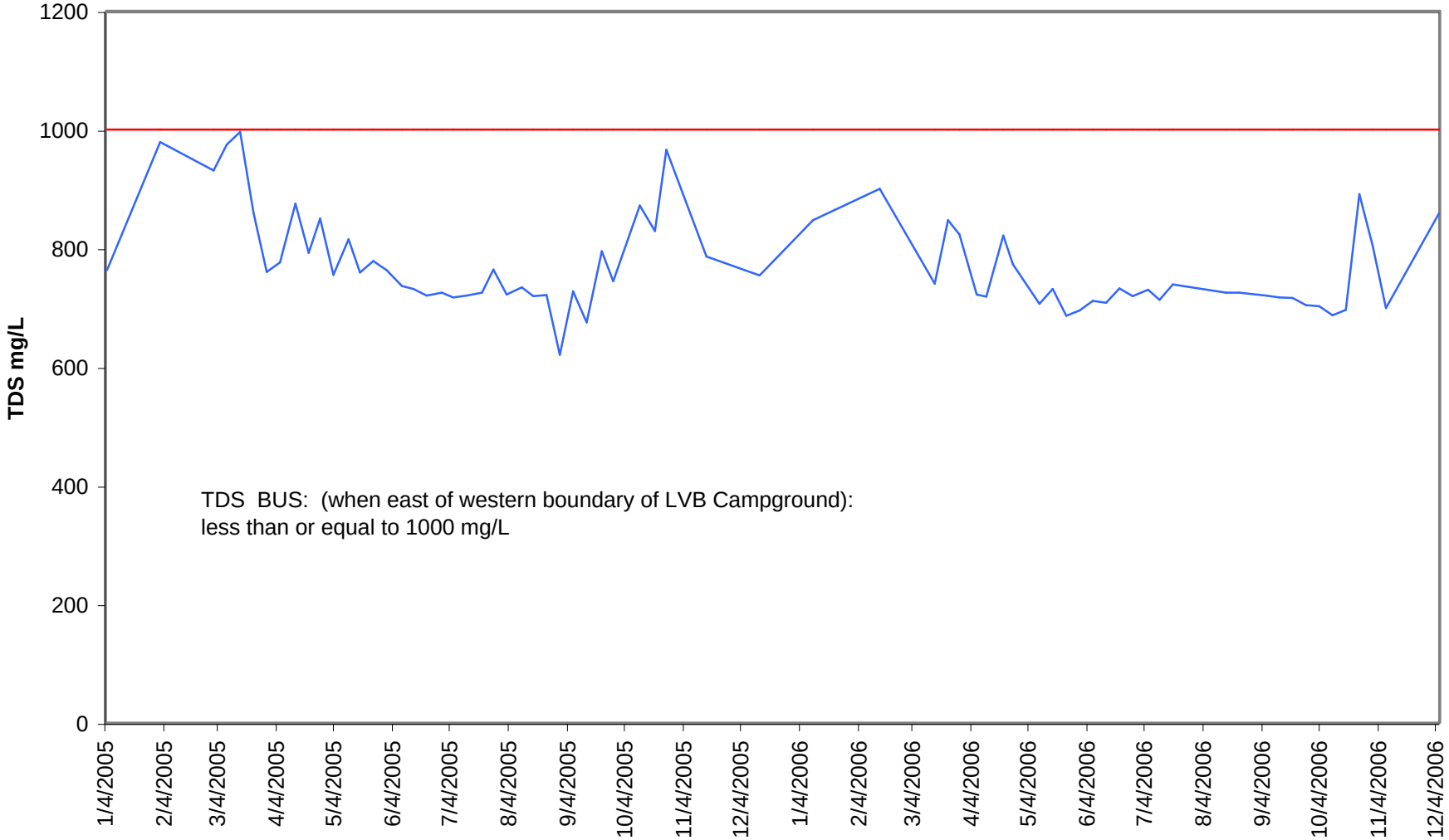


LWLVB1.2 Hypolimnion Temperature

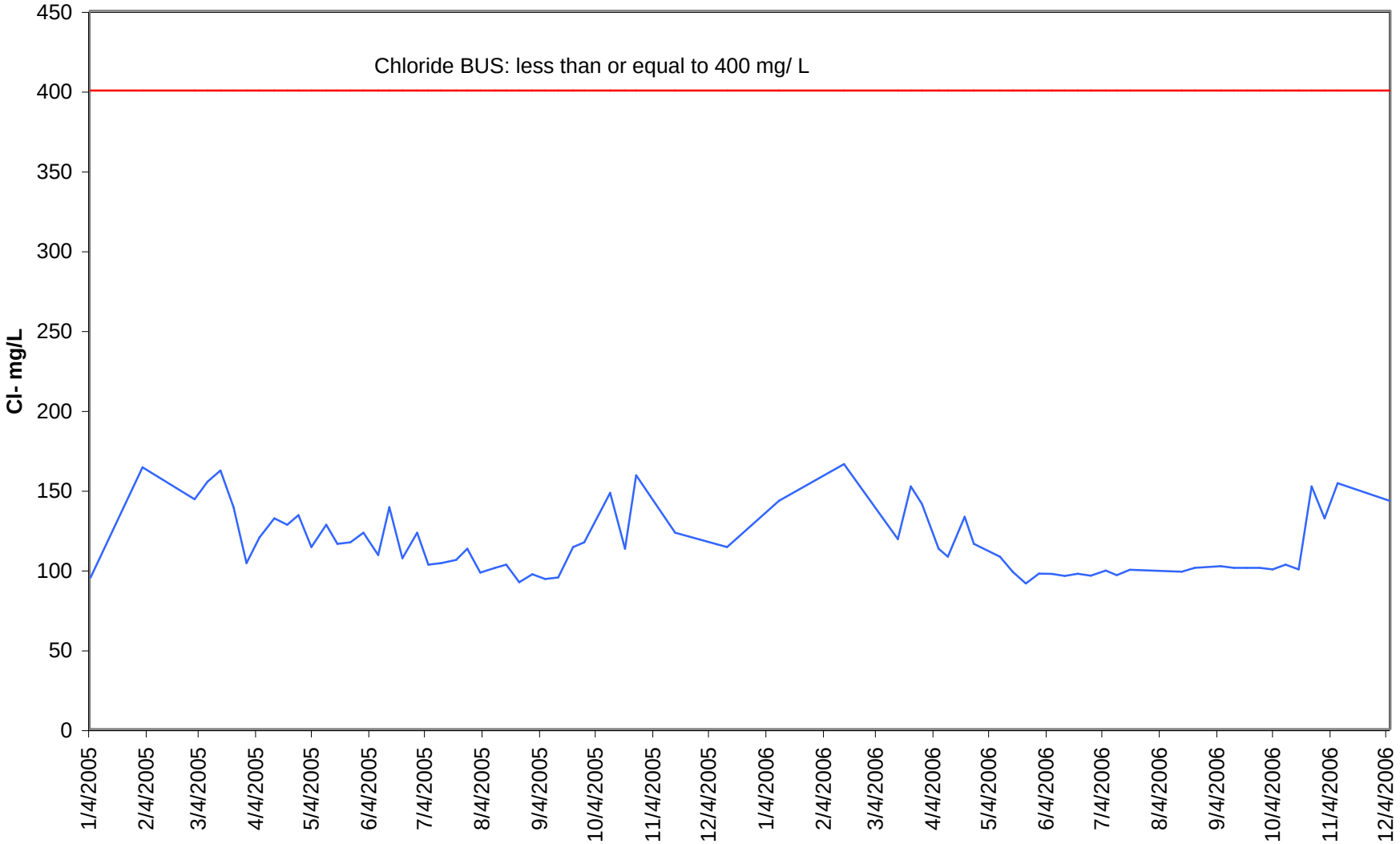



LWLVB1.2 Hypolimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

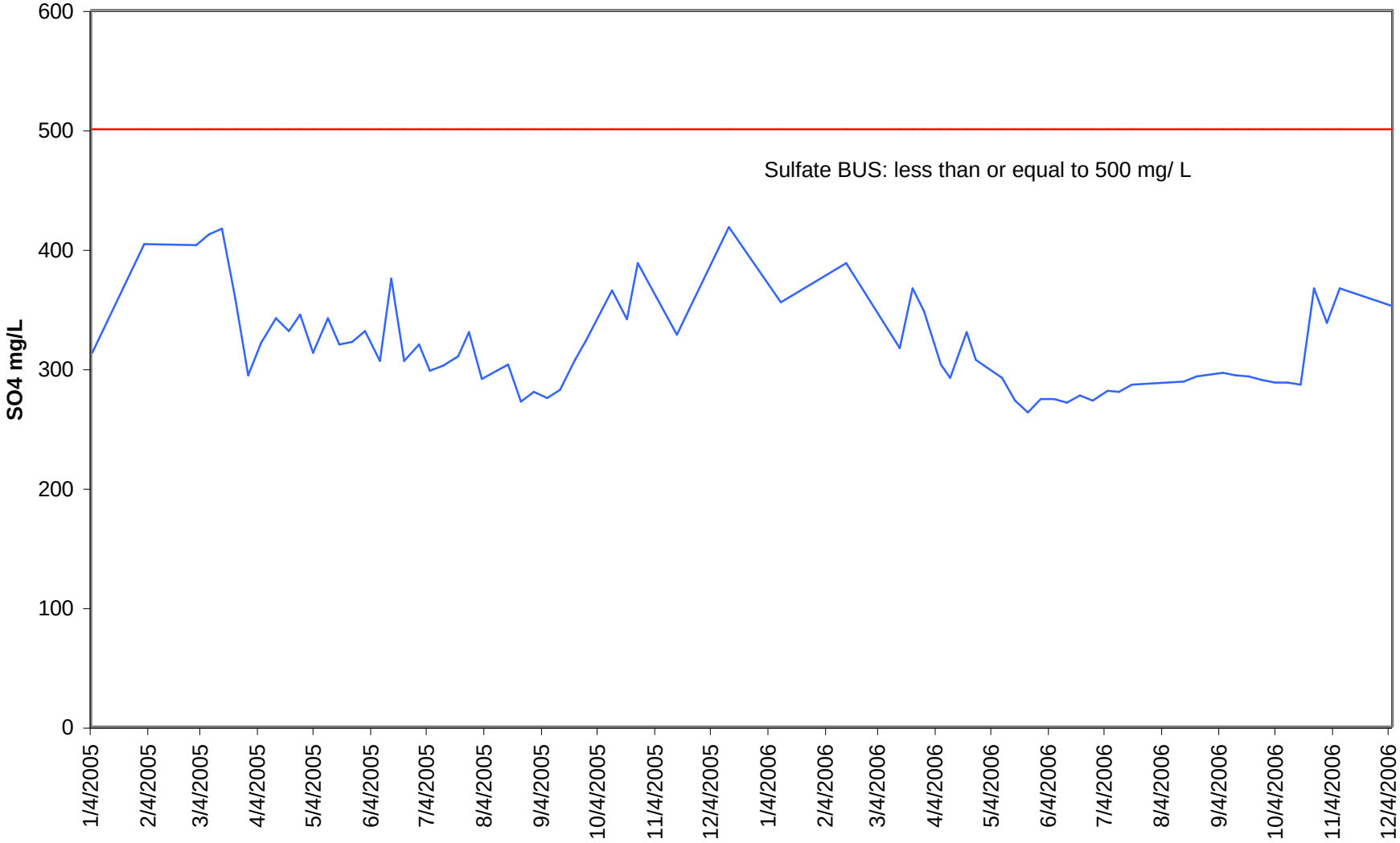
LWLVB1.2 Hypolimnion
Total Dissolved Solids



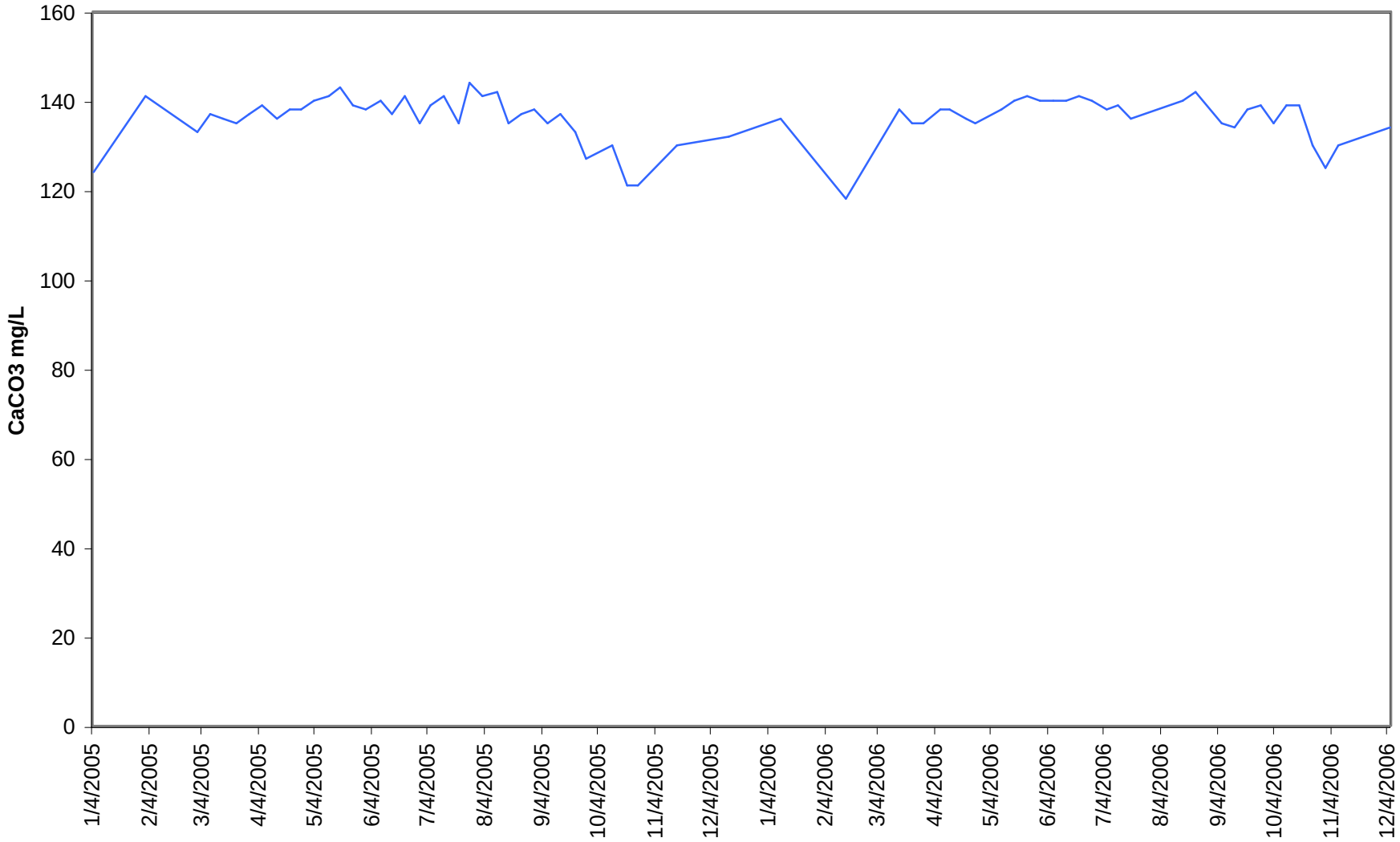
LWLVB1.2 Hypolimnion Chloride



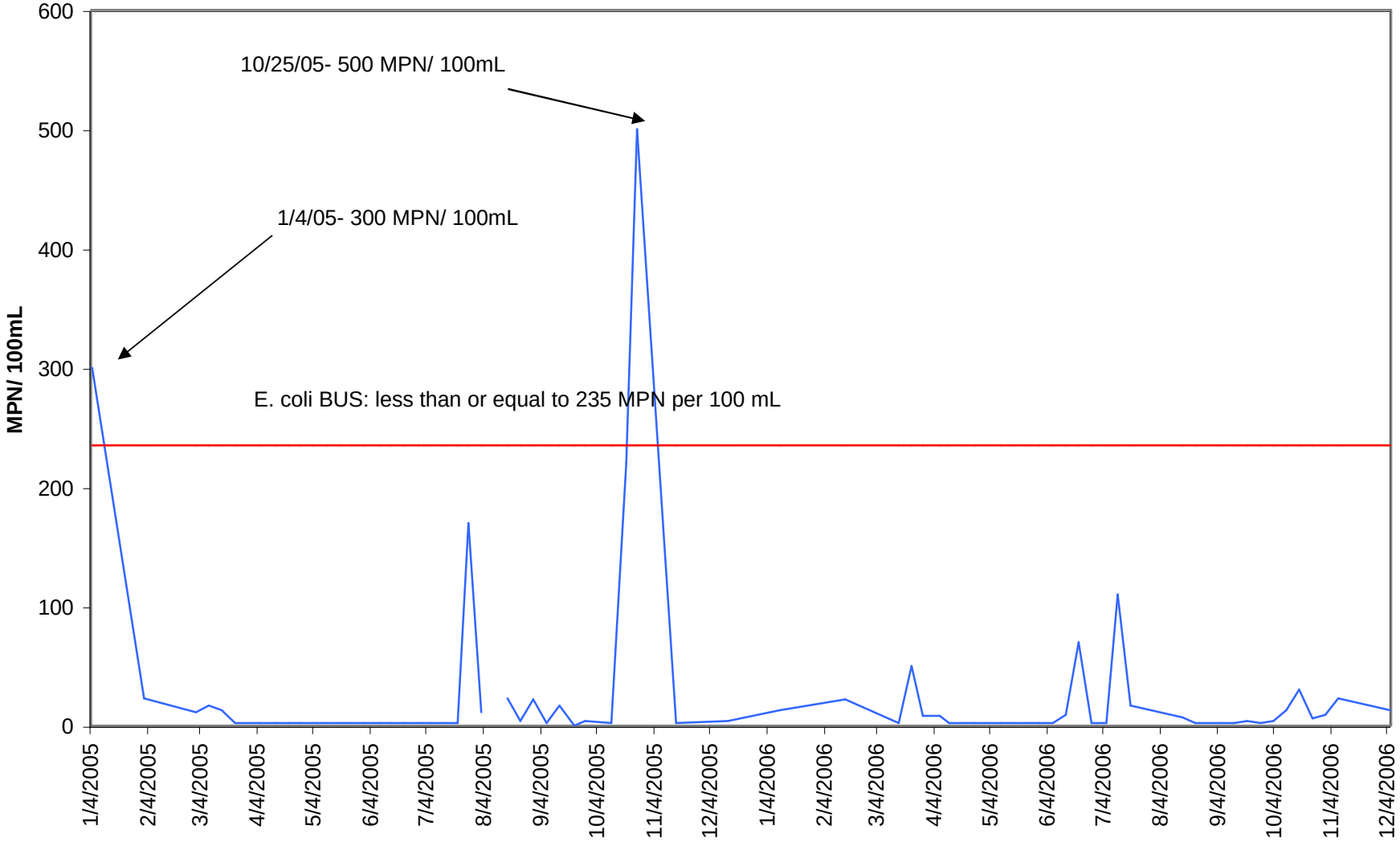
LWLVB1.2 Hypolimnion Sulfate

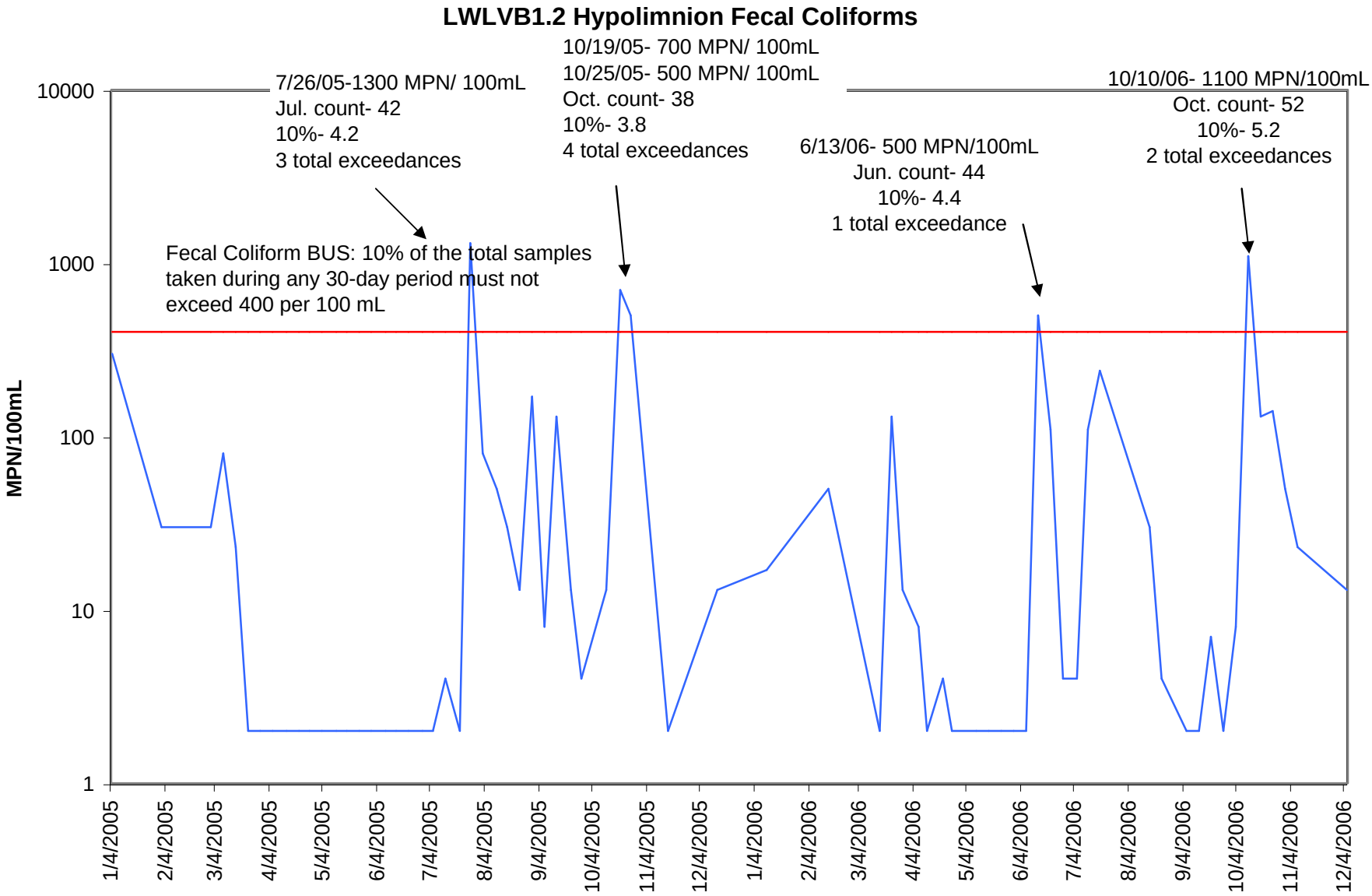


LWLVB1.2 Hypolimnion Alkalinity

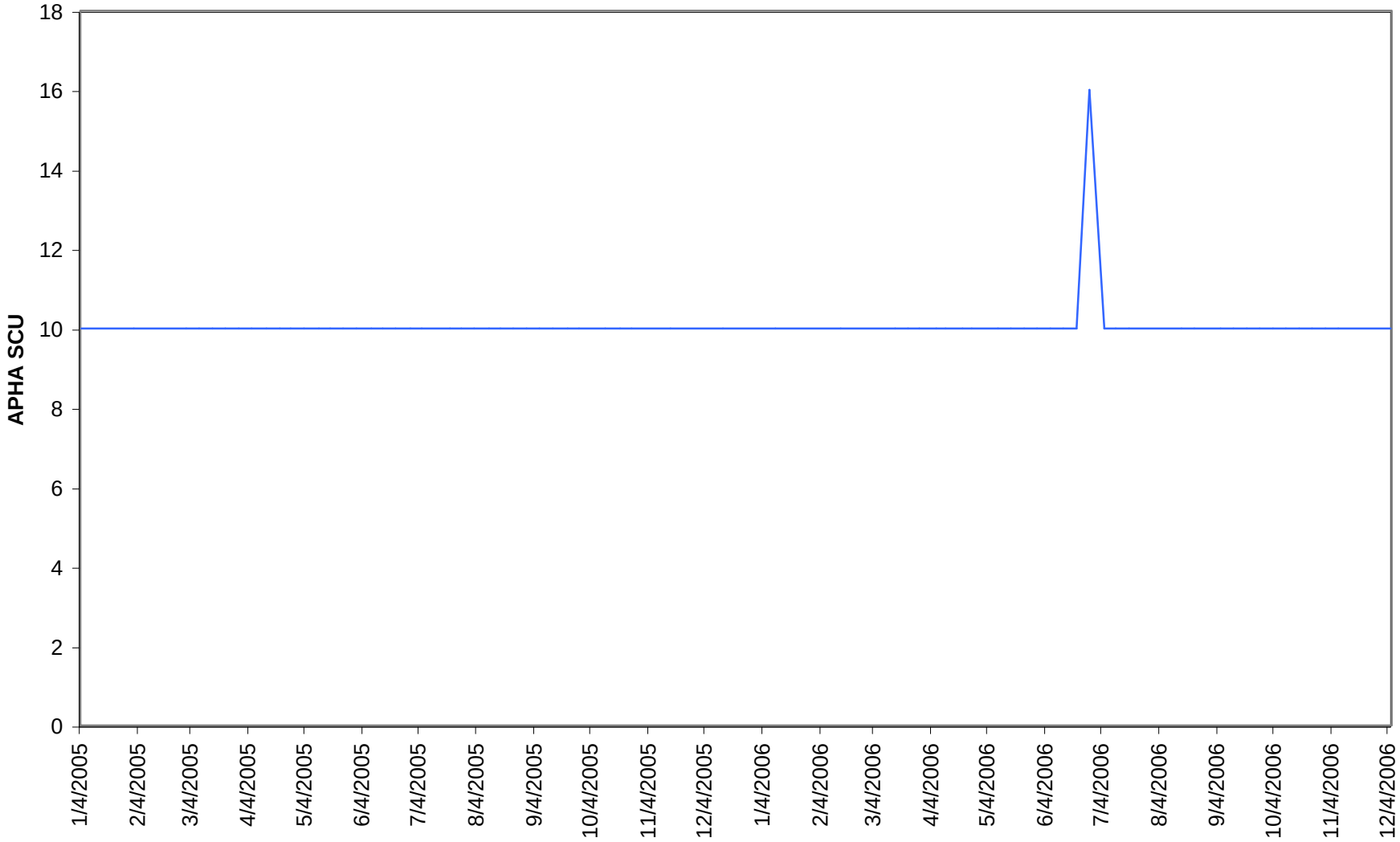


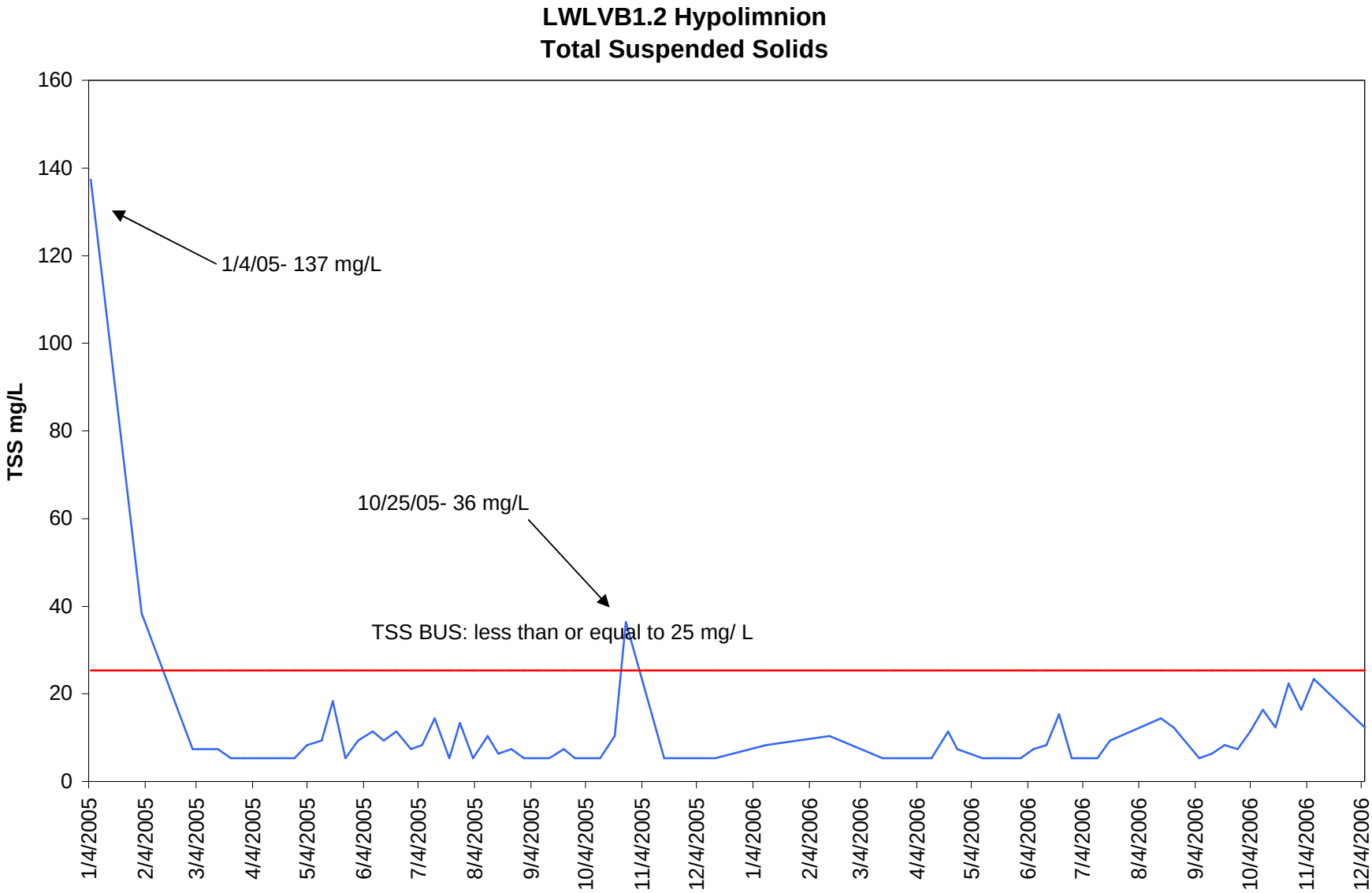
LWLVB1.2 Hypolimnion E. coli



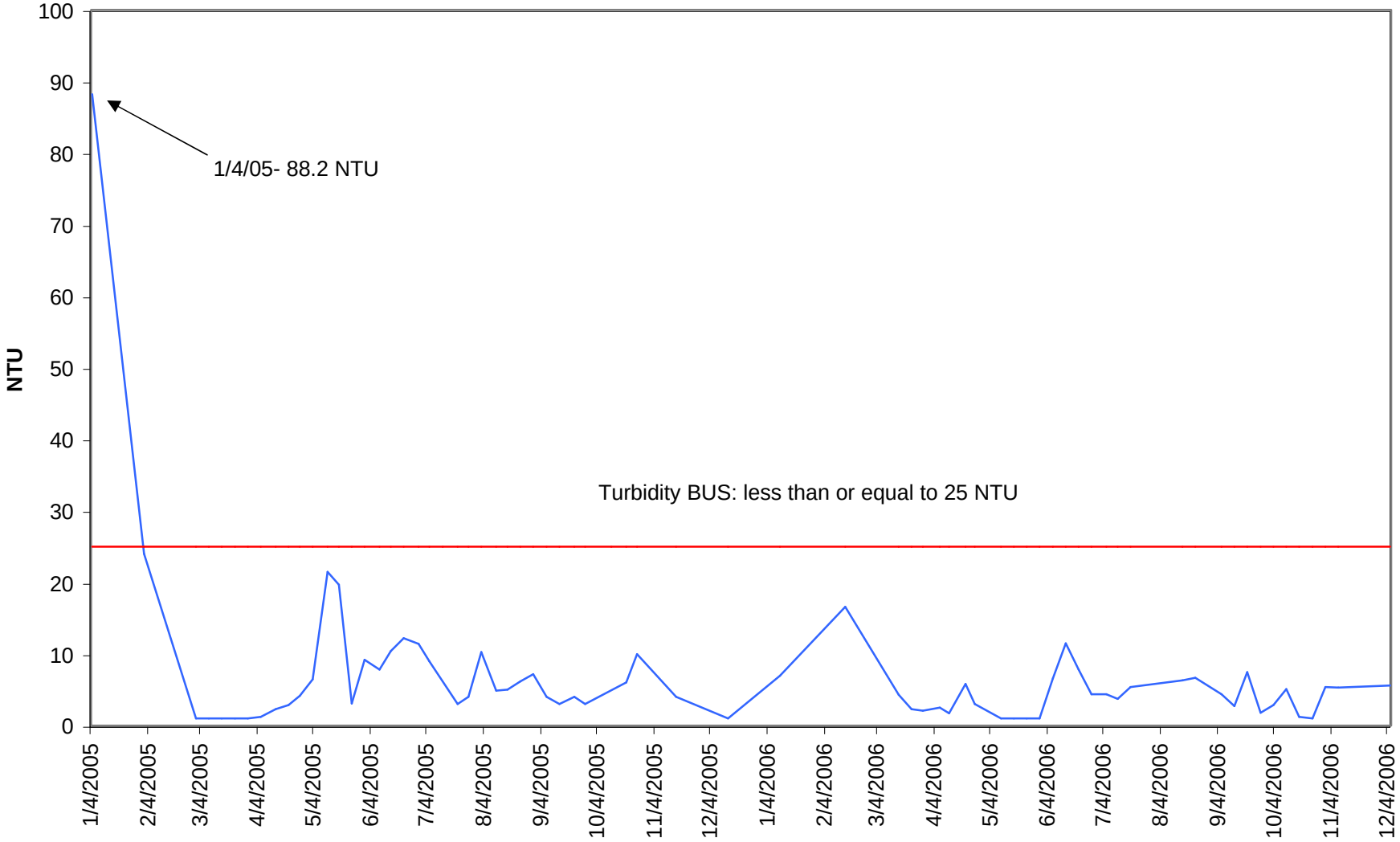

LWLVB1.2 Hypolimnion Fecal Coliforms
7/26/05-1300 MPN/ 100mL
Jul. count- 42
10%- 4.2
3 total exceedances
10/19/05- 700 MPN/ 100mL
10/25/05- 500 MPN/ 100mL
Oct. count- 38
10%- 3.8
4 total exceedances
6/13/06- 500 MPN/100mL
Jun. count- 44
10%- 4.4
1 total exceedance
10/10/06- 1100 MPN/100mL
Oct. count- 52
10%- 5.2
2 total exceedances
Fecal Coliform BUS: 10% of the total samples taken during any 30-day period must not exceed 400 per 100 mL
MPN/100mL
10000
1000
100
10
1
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB1.2 Hypolimnion Color



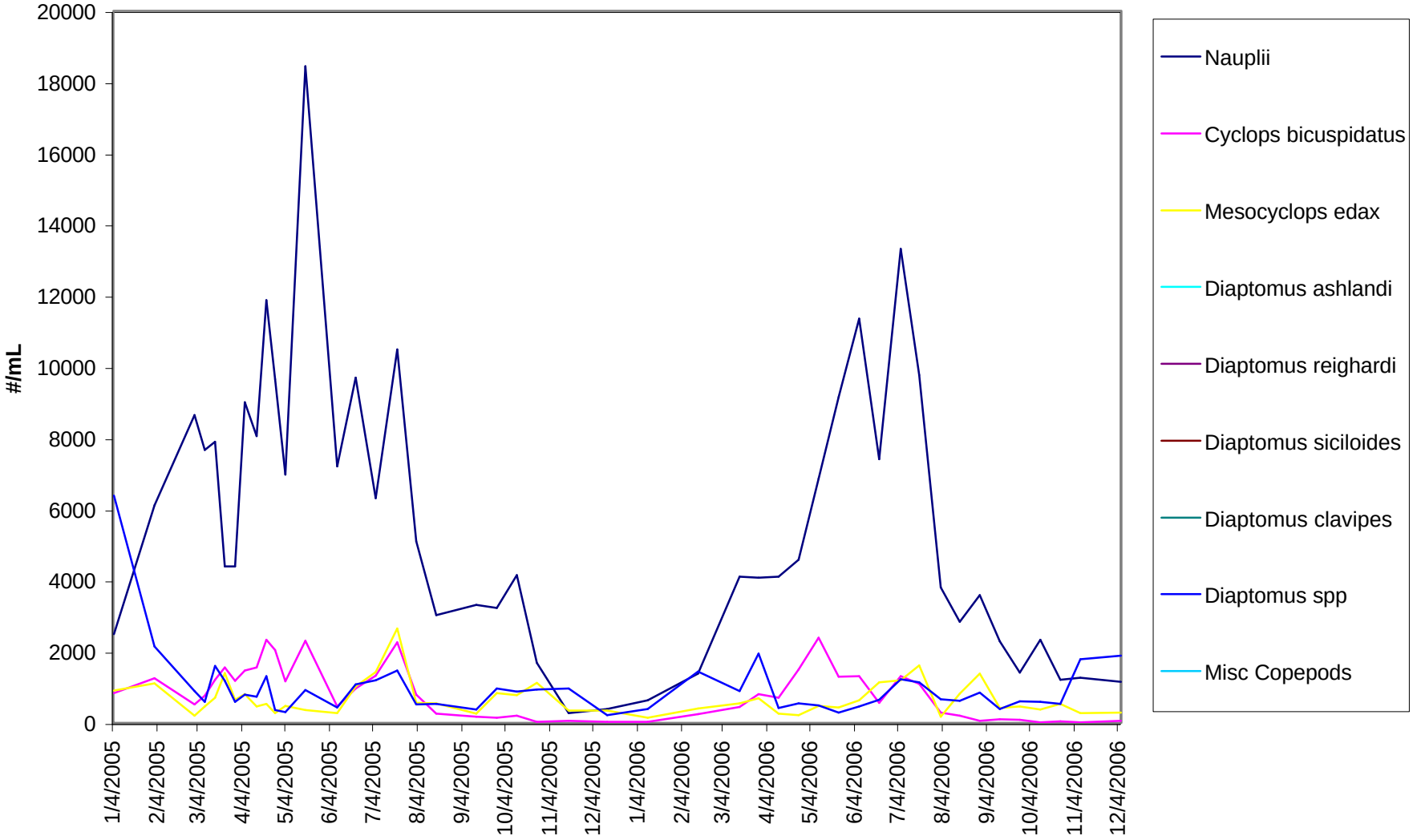

LWLVB1.2 Hypolimnion
Total Suspended Solids
TSS mg/L
160
140
120
100
80
60
40
20
0
1/4/05- 137 mg/L
10/25/05- 36 mg/L
TSS BUS: less than or equal to 25 mg/ L
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

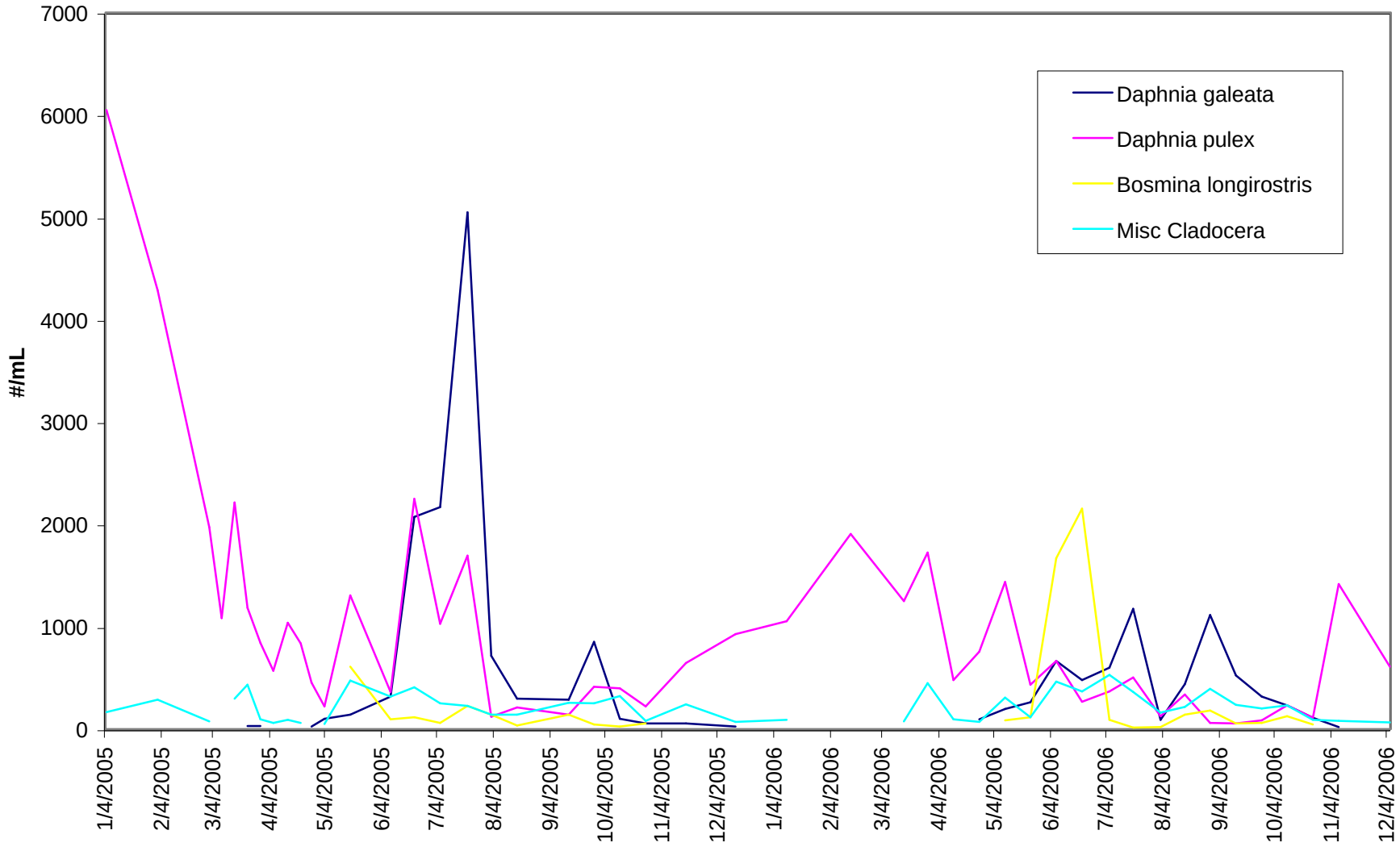
LWLVB1.2 Hypolimnion Turbidity



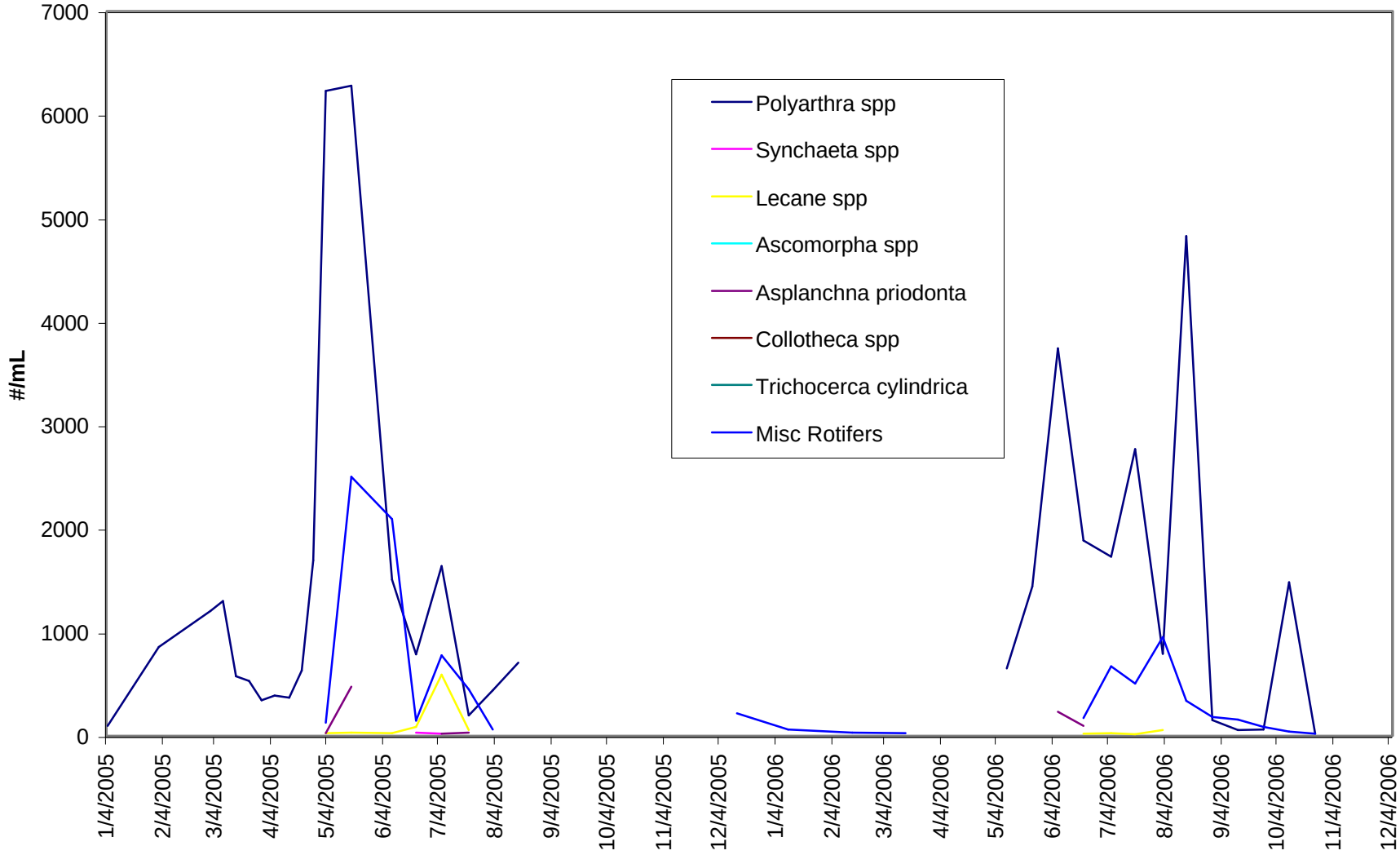
LWLVB1.85

LWLVB1.85 Zooplankton- Copepods

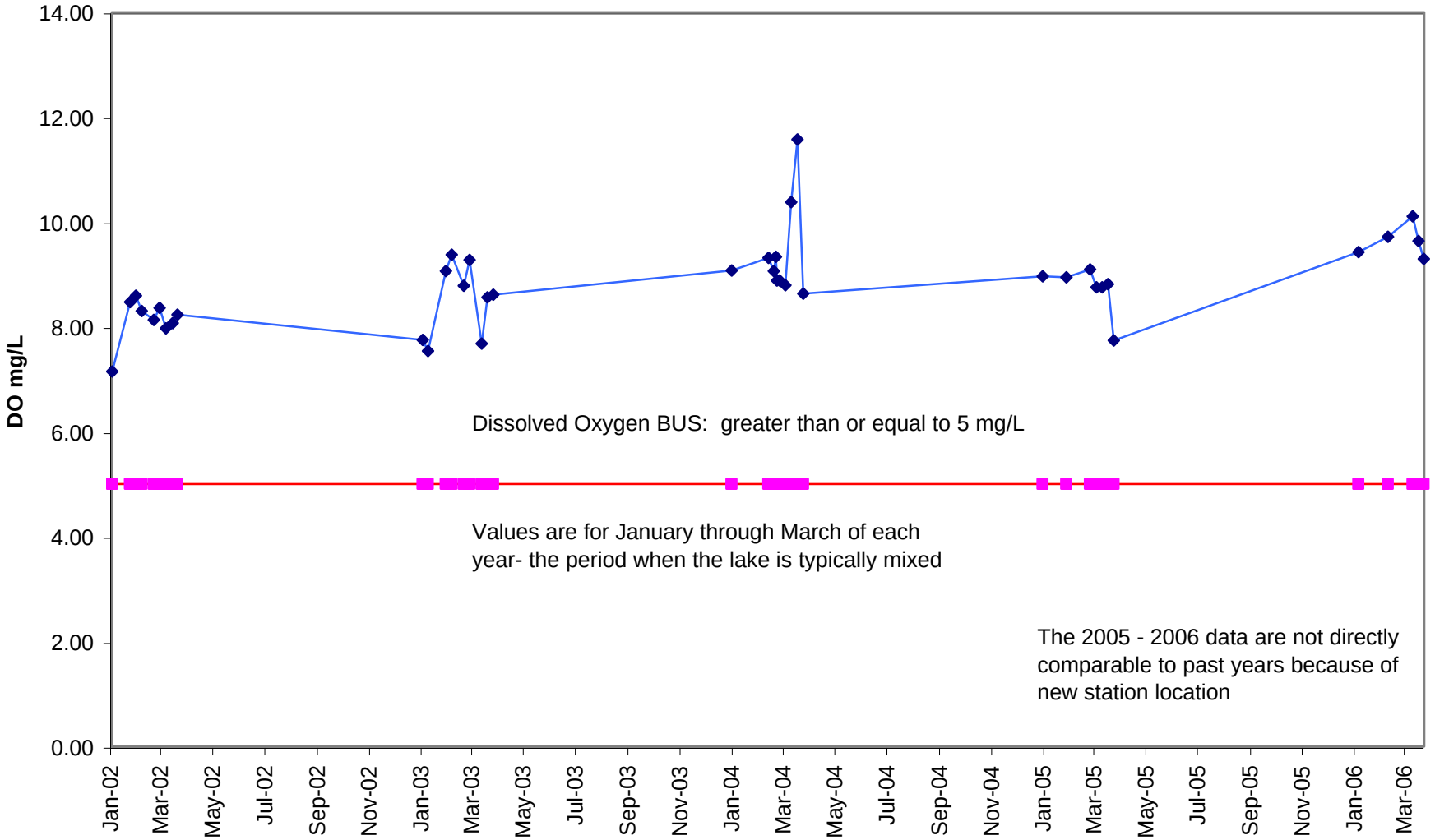


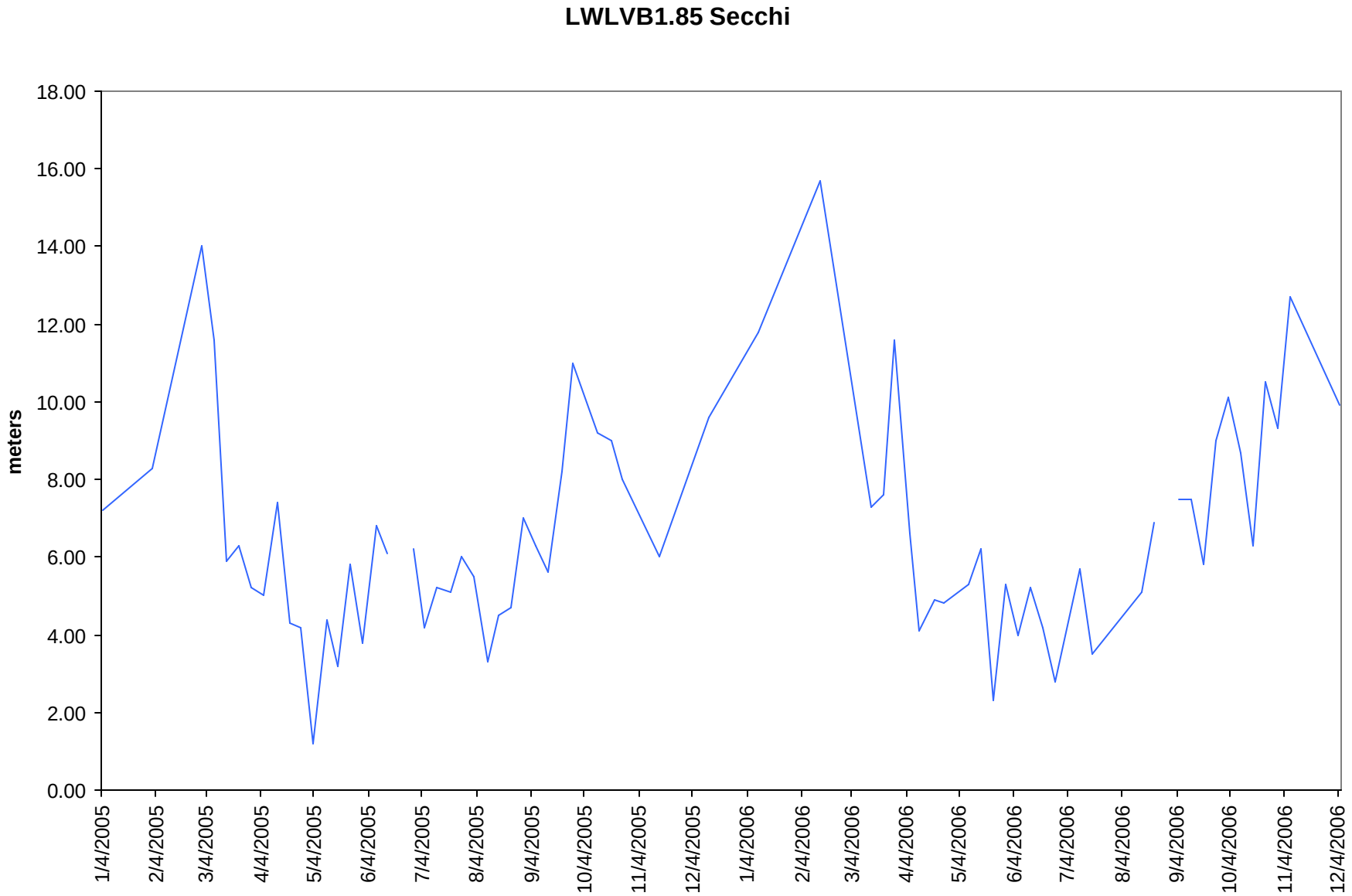

LWLVB1.85 Zooplankton- Cladocerans
#/mL
7000
6000
5000
4000
3000
2000
1000
0
Daphnia galeata
Daphnia pulex
Bosmina longirostris
Misc Cladocera
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB1.85 Zooplankton- Rotifers



LWLVB1.85 Dissolved Oxygen
Vertical Average




LWLVB1.85 Secchi
meters
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

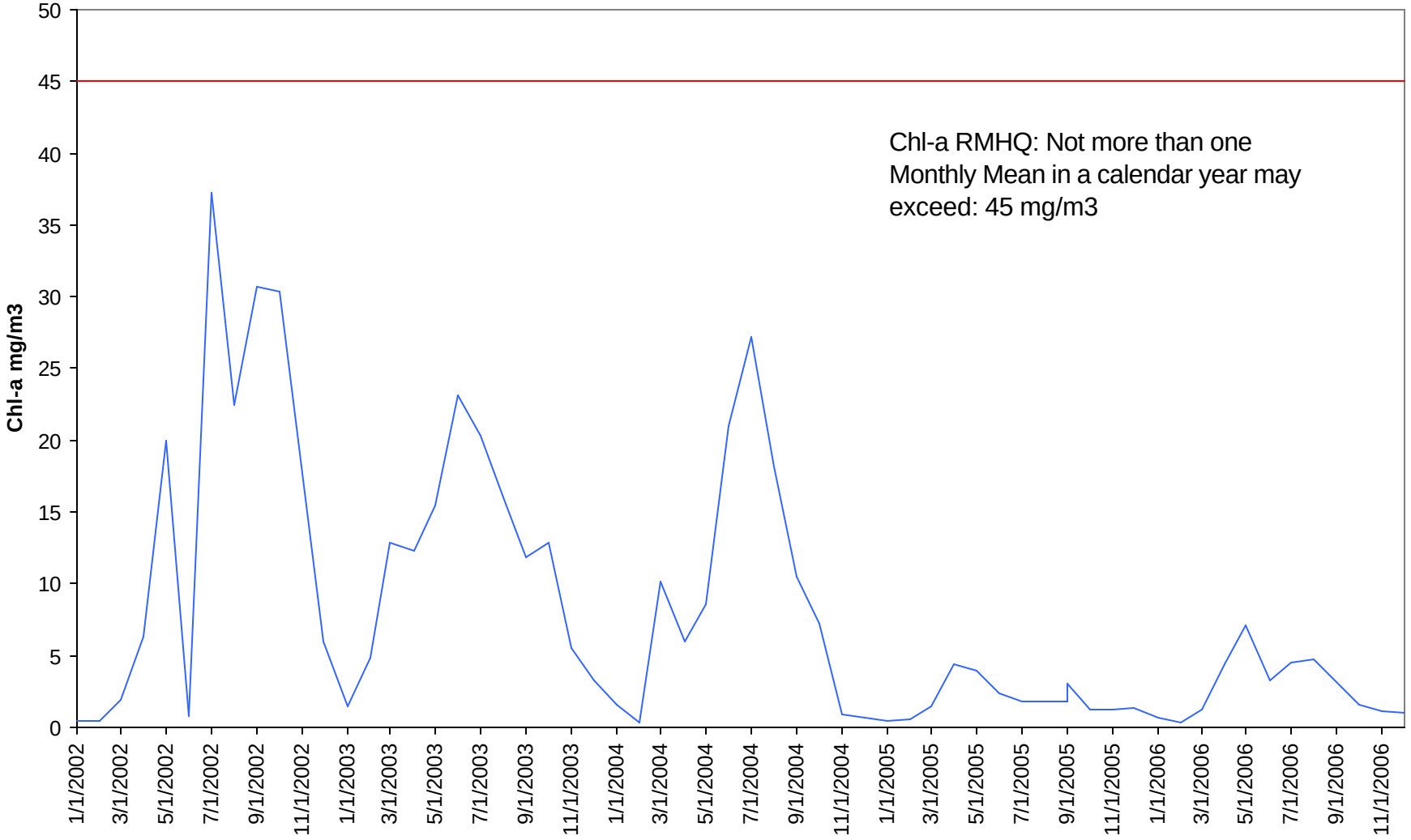
Climate Tables

Station	Date	Air Temperature (°C)	Wind	Wind Direction	Climate
LWLVB1.85	1/4/05	10.2	10.8	SE	Overcast
LWLVB1.85	2/1/05	14.6	0		Partly Cloudy
LWLVB1.85	3/1/05	14.7	2.8	NE	Partly Cloudy
LWLVB1.85	3/8/05	15.8	5.5	E	Partly Cloudy
LWLVB1.85	3/15/05	15.1	5.4	NE	Clear
LWLVB1.85	3/22/05	17.4	12.3	E	Overcast
LWLVB1.85	3/29/05	15.1	6.4	E	Clear
LWLVB1.85	4/5/05	16.7	7.4	NW	Clear
LWLVB1.85	4/13/05	20.3	3.5	NE	Cloudy
LWLVB1.85	4/20/05	17.1	5.1	NE	Clear
LWLVB1.85	4/26/05	19.9	4.7	E	Clear
LWLVB1.85	5/3/05	22.8	2.7	SW	Clear
LWLVB1.85	5/11/05	18.5	3.7	NE	Clear
LWLVB1.85	5/17/05	22.4	6.1	W	Cloudy
LWLVB1.85	5/24/05	28.8	9.8	SE	Clear
LWLVB1.85	5/31/05	27	4.7	E	Clear
LWLVB1.85	6/6/05	30.7	11.5	E	Partly Cloudy
LWLVB1.85	6/8/05	25	2.5	E	Clear
LWLVB1.85	6/14/05	28.1	3.3	SE	Partly Cloudy
LWLVB1.85	6/21/05	28.7	3.9	SE	Partly Cloudy
LWLVB1.85	6/29/05	28.7	0		Clear
LWLVB1.85	7/5/05	30.5	3.3	E	Clear
LWLVB1.85	7/12/05	26.9	3.5	SE	Clear
LWLVB1.85	7/20/05	31	14.1	E	Cloudy
LWLVB1.85	7/26/05	32.4	3.4	SE	Clear
LWLVB1.85	8/2/05	31.2	10.3	E	Partly Cloudy
LWLVB1.85	8/10/05	27.8	6.5	NE	Overcast
LWLVB1.85	8/16/05	29.8	1.6	NW	Partly Cloudy
LWLVB1.85	8/23/05	32.1	11.8	E	Partly Cloudy
LWLVB1.85	8/30/05	34.3	0		Clear
LWLVB1.85	9/6/05	31.5	0		Clear
LWLVB1.85	9/13/05	22.8	2.4	W	Clear
LWLVB1.85	9/21/05	25.9	5.2	NE	Partly Cloudy
LWLVB1.85	9/27/05	35.2	0		Cloudy

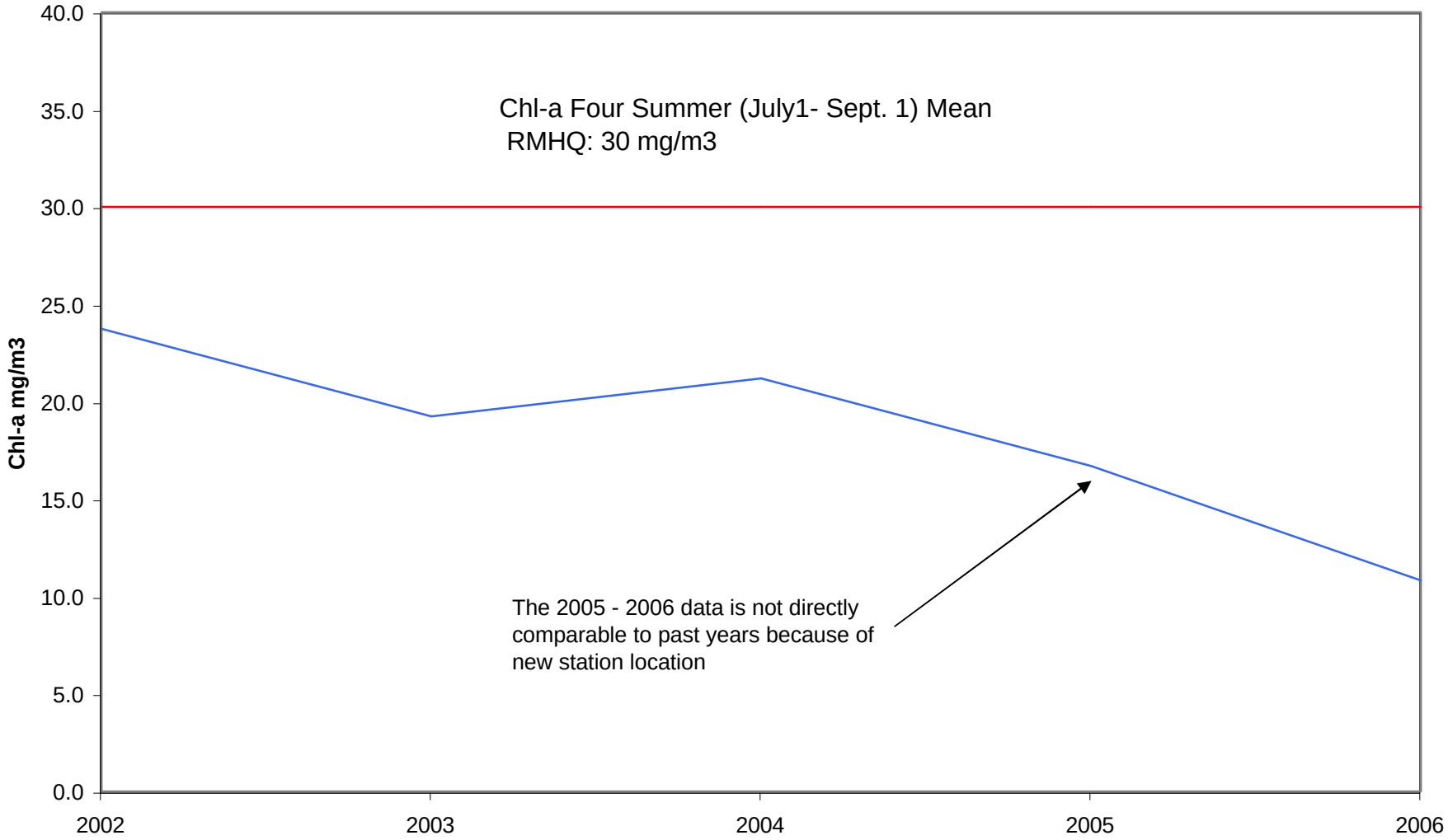
LWLVB1.85	10/11/05	23.2	0		Clear
LWLVB1.85	10/19/05	17.8	0		Overcast
LWLVB1.85	10/25/05	22.3	7.4	SW	Cloudy
LWLVB1.85	11/16/05	15.1	5.4	W	Clear
LWLVB1.85	12/13/05	7.3	2.6	W	Clear
LWLVB1.85	1/10/06	10.1	6.9	W	Clear
LWLVB1.85	2/14/06	10.8	0		Overcast
LWLVB1.85	3/15/06	13.7	4.9	NW	Clear
LWLVB1.85	3/22/06	11.1	5.0	E	Partly Cloudy
LWLVB1.85	3/28/06	15.9	9.4	SE	Overcast
LWLVB1.85	4/6/06	13.6	14.8	E	Clear
LWLVB1.85	4/11/06	17.8	7.0	E	Partly Cloudy
LWLVB1.85	4/20/06	18.2	3.6	SE	Clear
LWLVB1.85	4/25/06	22.3	4.1	W	Partly Cloudy
LWLVB1.85	5/9/06	27.3	11.0	NW	Clear
LWLVB1.85	5/16/06	28.9	1.6	SW	Overcast
LWLVB1.85	5/23/06	24.2	2	S	Clear
LWLVB1.85	5/30/06	24.9	2.8	SE	Clear
LWLVB1.85	6/15/06	25.6	7.3	E	Partly Cloudy
LWLVB1.85	6/20/06	32.2	1.0	E	Clear
LWLVB1.85	6/28/06	30.9	4.2	NE	Cloudy
LWLVB1.85	7/5/06	29.6	7.2	SE	Cloudy
LWLVB1.85	7/11/06	35.6	4.3	E	Partly Cloudy
LWLVB1.85	7/18/06	30.9	6.1	SE	Overcast
LWLVB1.85	8/2/06	31.2	10.6	SE	Clear
LWLVB1.85	9/5/06	30	8.2	E	Partly Cloudy
LWLVB1.85	10/3/06	27.7	0		Partly Cloudy
LWLVB1.85	10/10/06	23.1	2.9	W	Overcast
LWLVB1.85	10/17/06	19.2	5.7	W	Cloudy
LWLVB1.85	10/24/06	16.5	4.1	NW	Overcast
LWLVB1.85	10/31/06	20	4.8	NW	Partly Cloudy
LWLVB1.85	11/7/06	20.5	1.3	NW	Cloudy
LWLVB1.85	12/5/06	10.1	1.5	NW	Clear

LWLVB1.85
Epilimnion

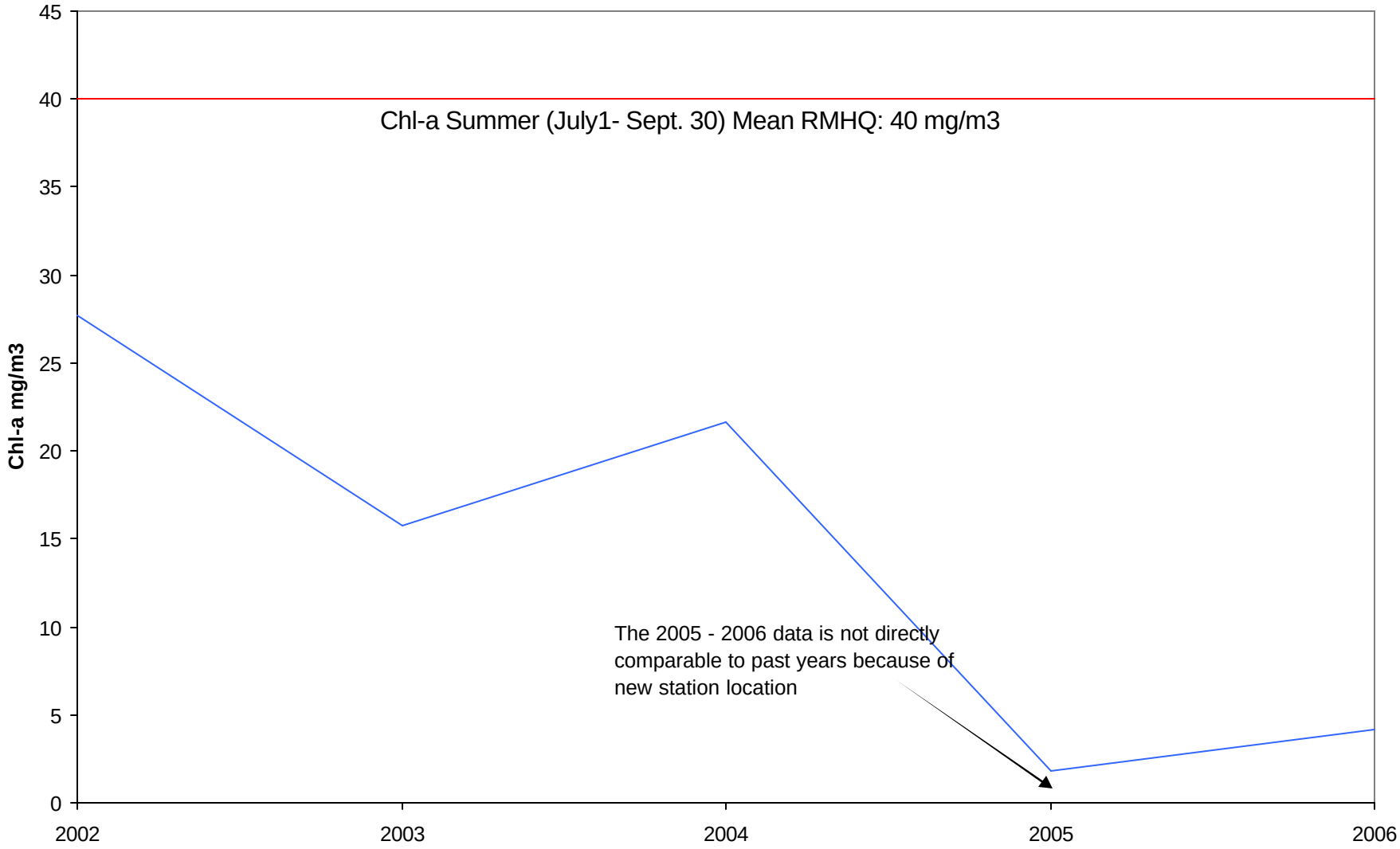
LWLVB1.85 Chlorophyll-a Monthly Mean

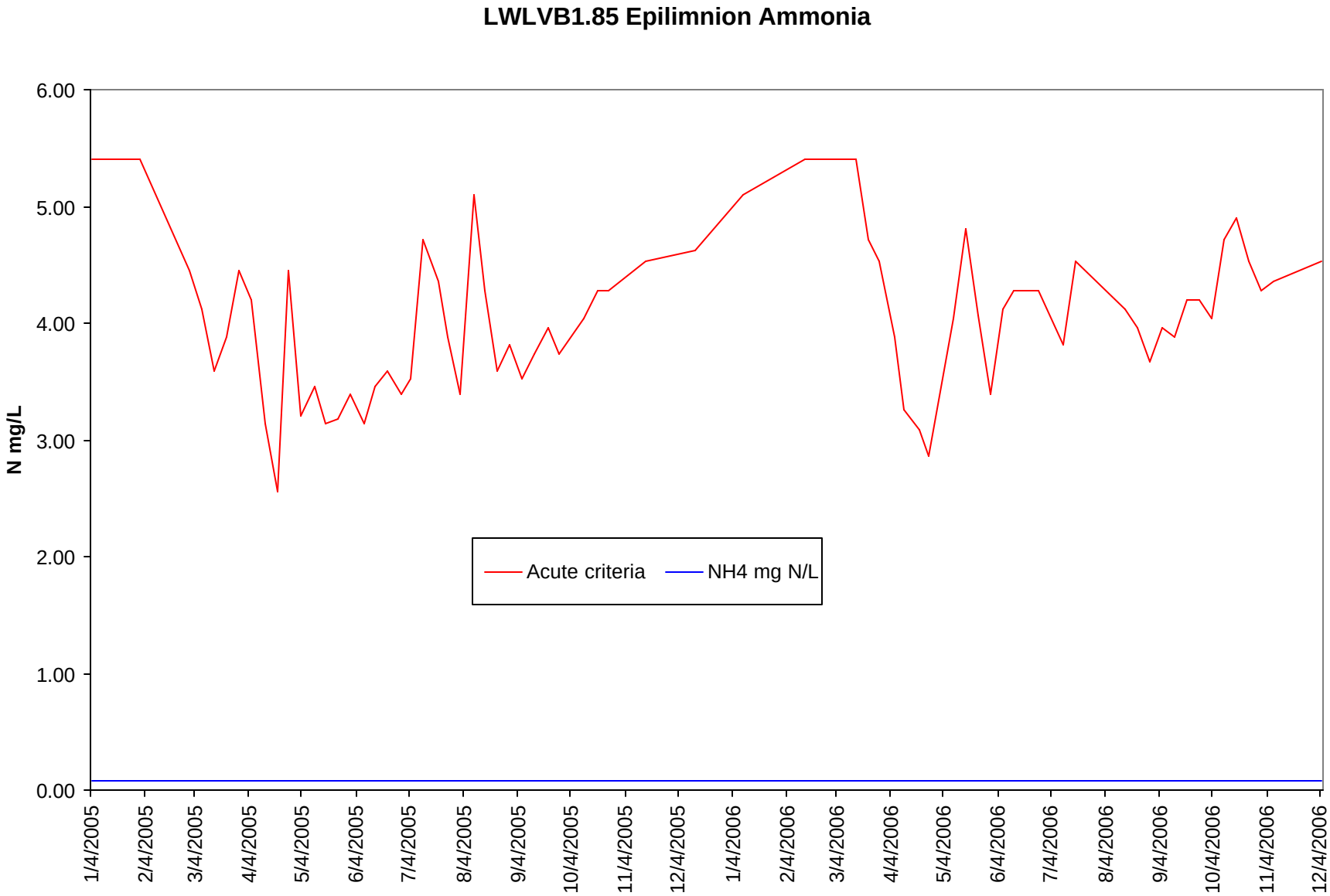


LWLVB1.85 Chlorophyll-a
Four Summer Mean

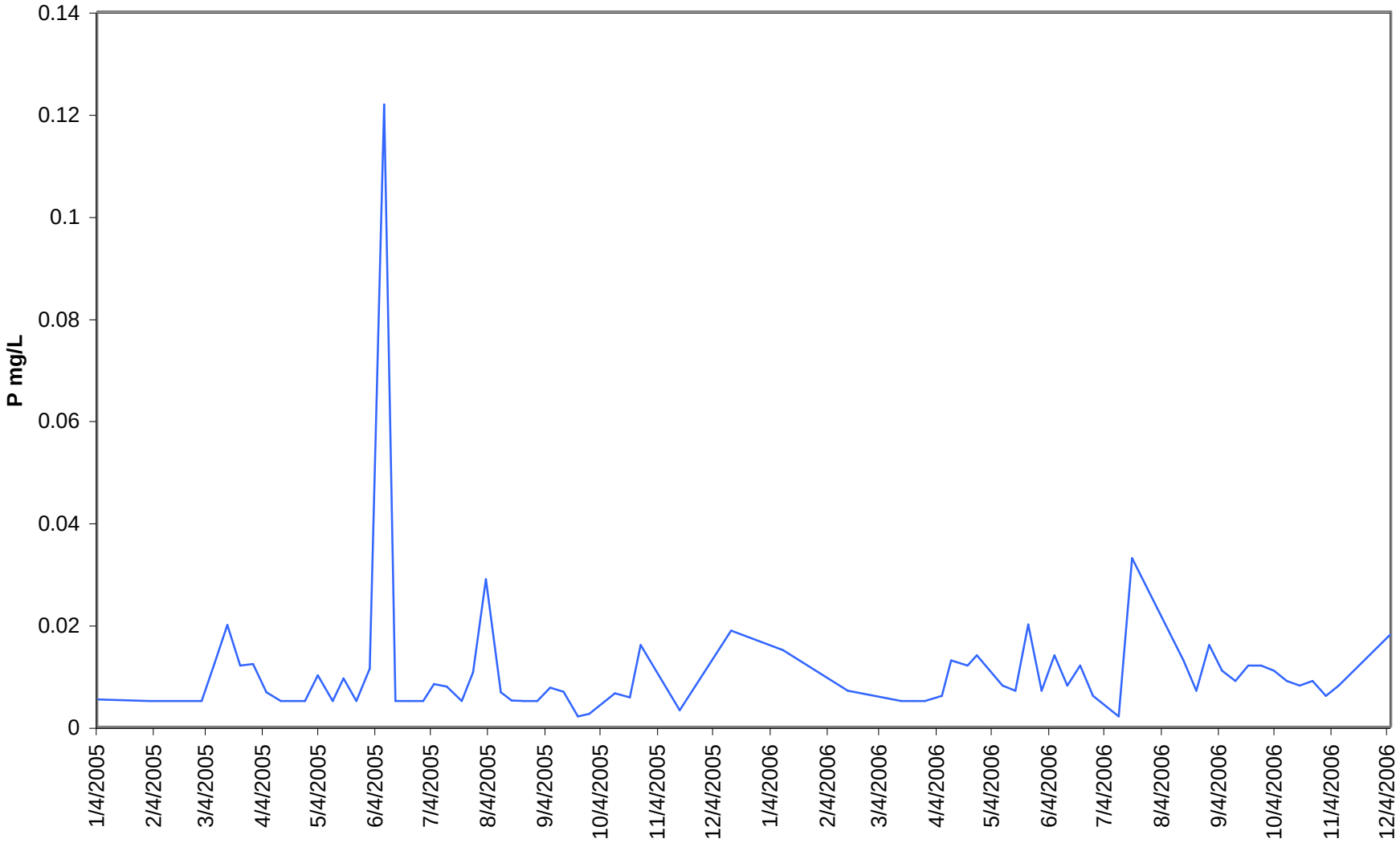


LWLVB1.85 Chlorophyll-a Summer Mean

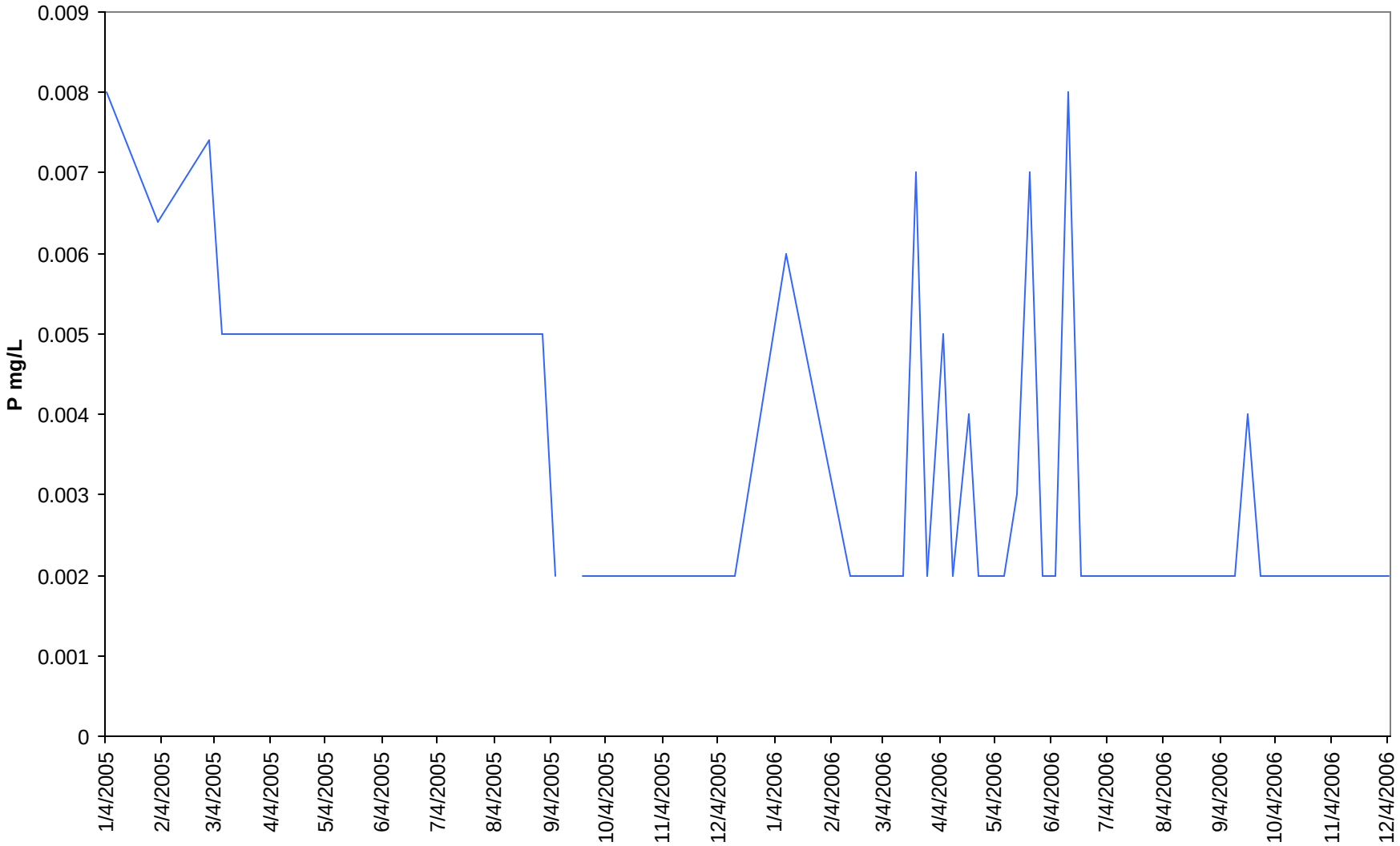



LWLVB1.85 Epilimnion Ammonia
N mg/L
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Acute criteria
NH4 mg N/L
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

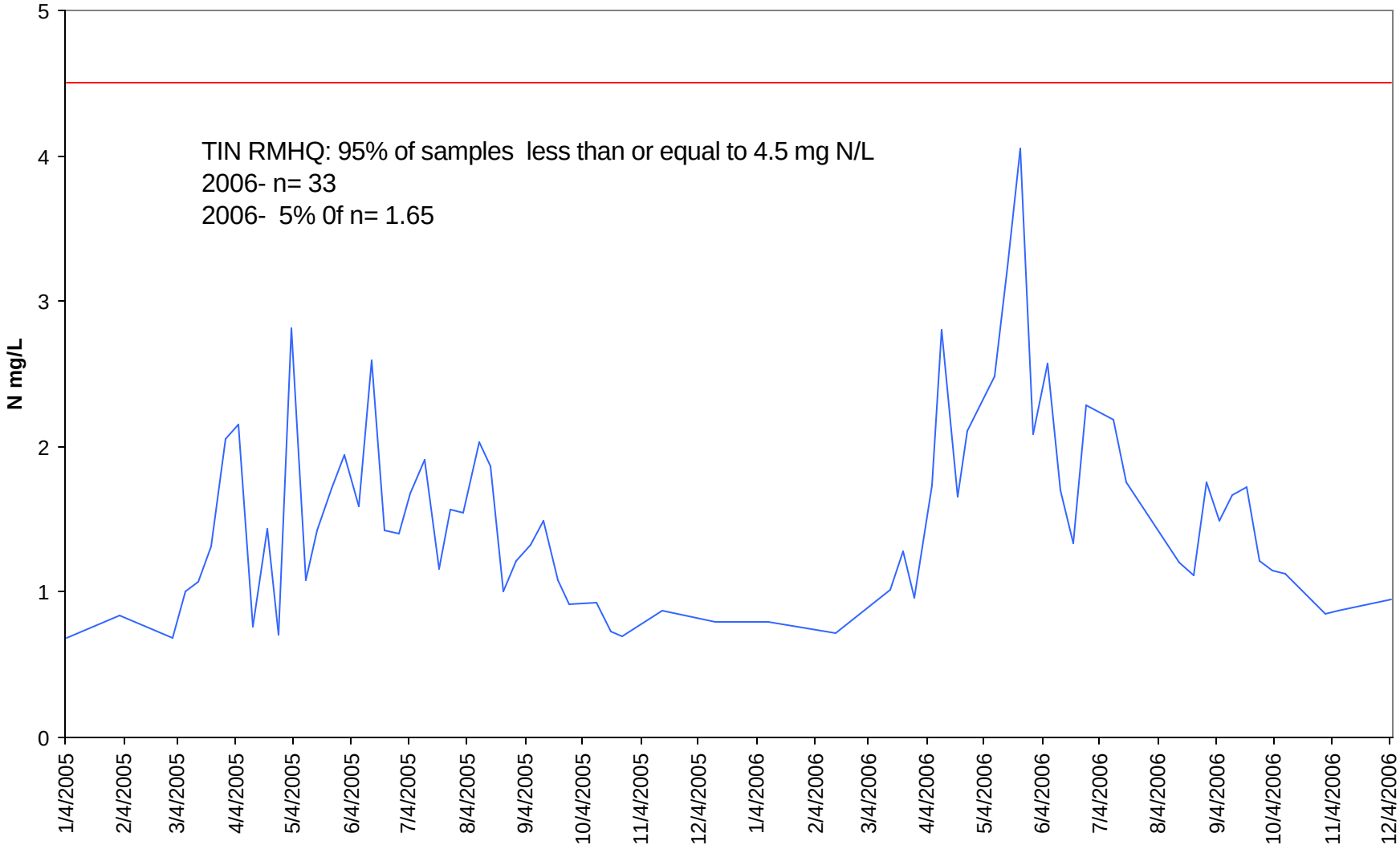
LWLVB1.85 Epilimnion Total Phosphorus

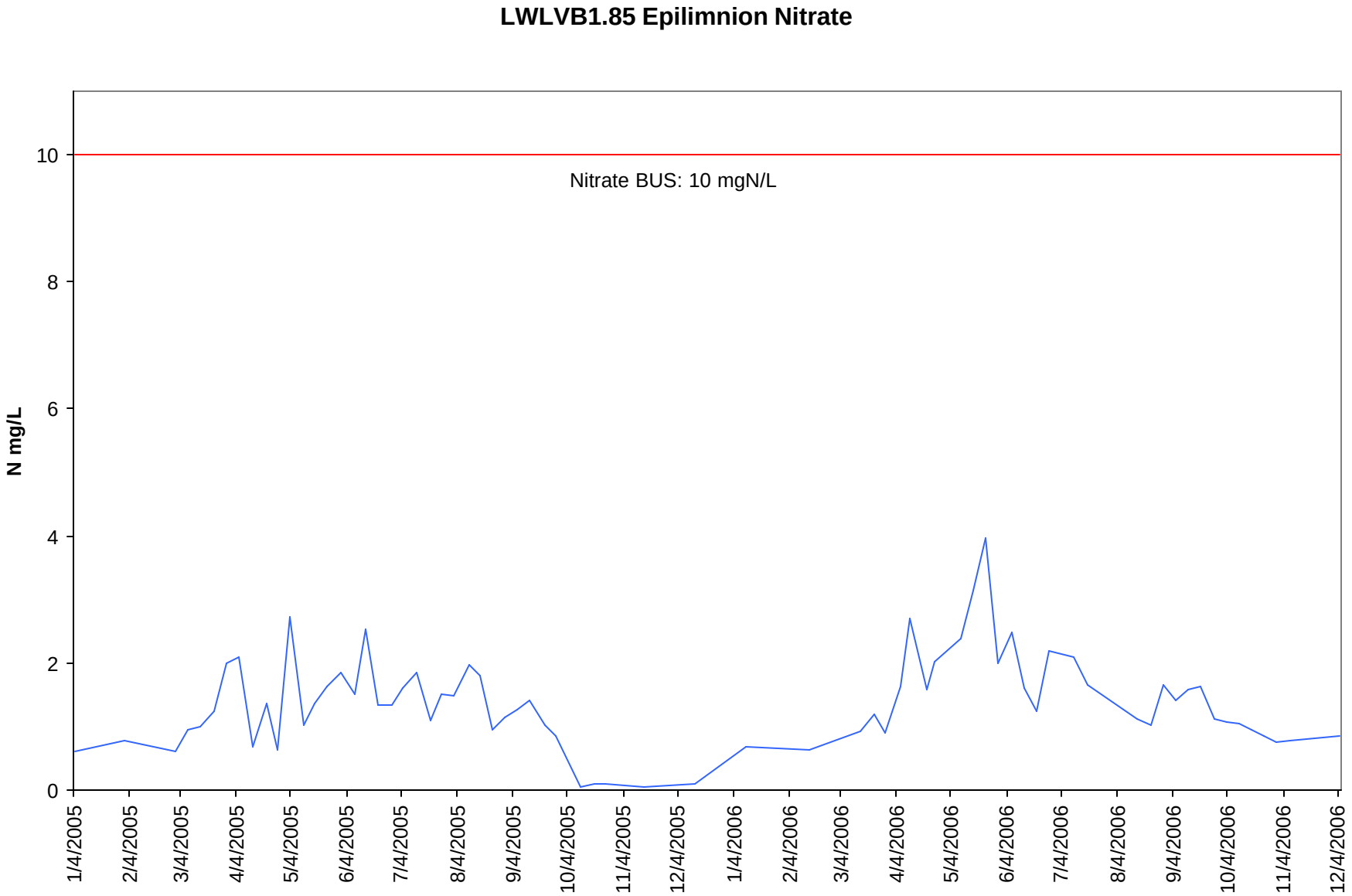


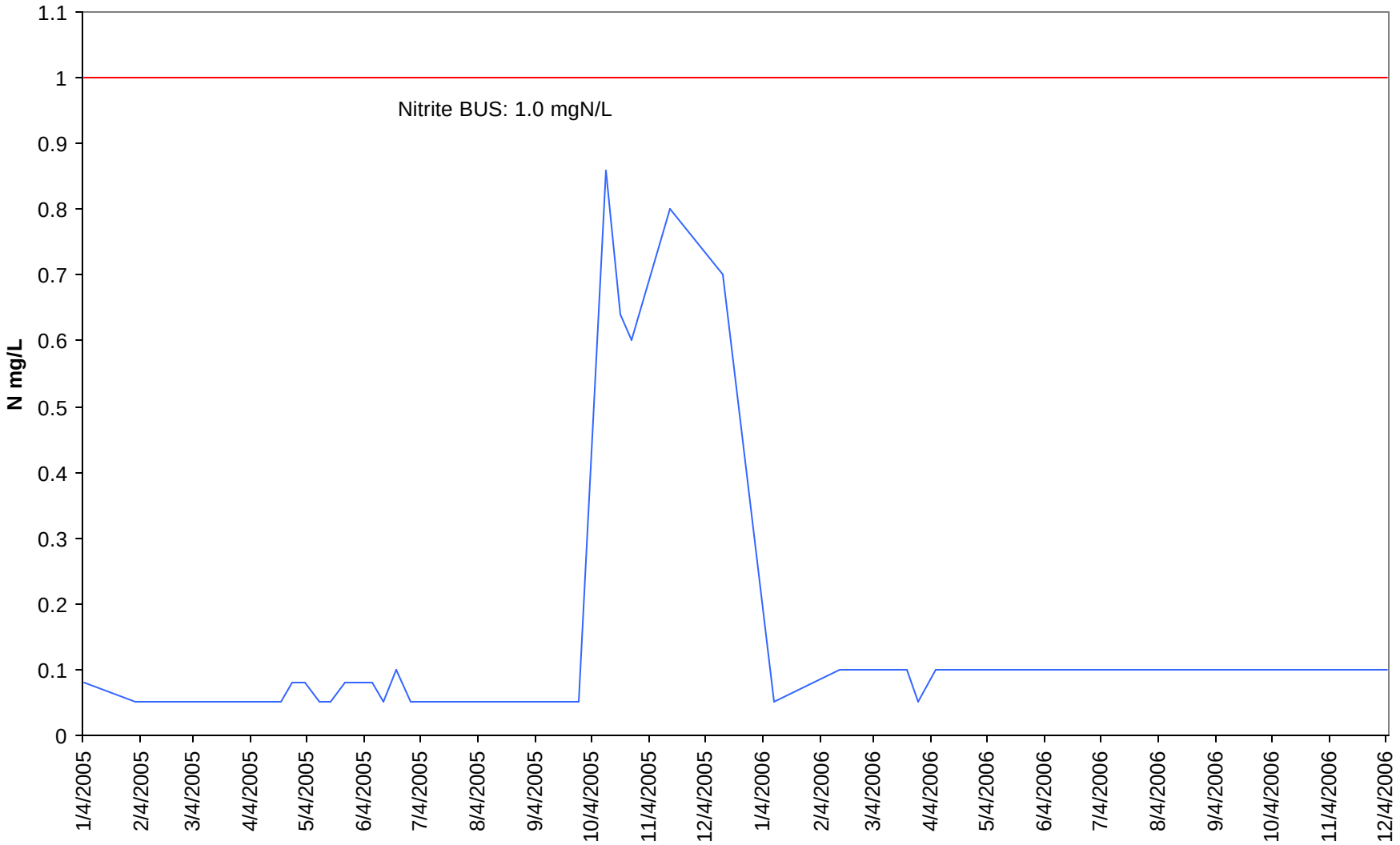
LWLVB1.85 Epilimnion Dissolved ortho-Phosphorus



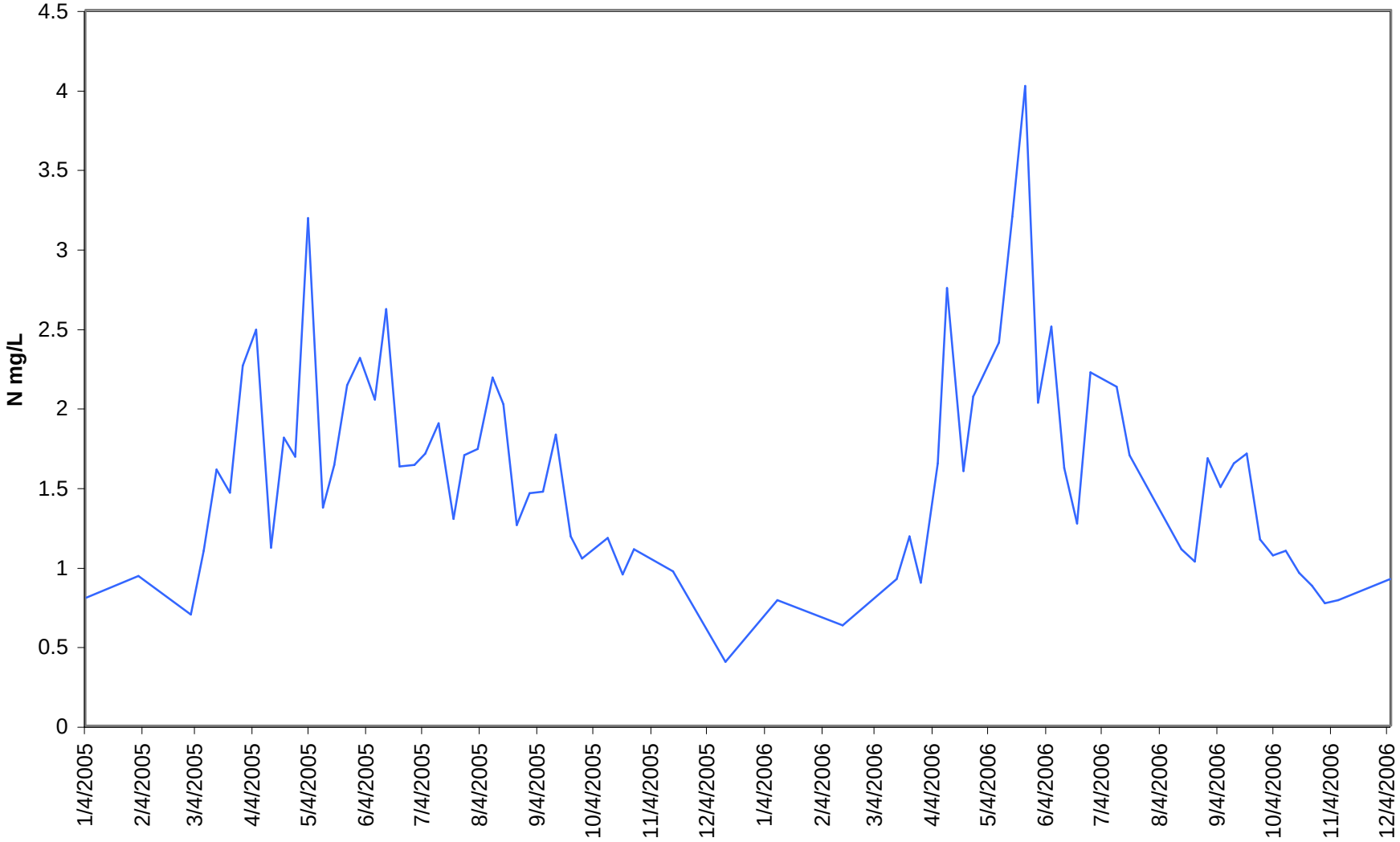
LWLVB1.85 Epilimnion Total Inorganic Nitrogen

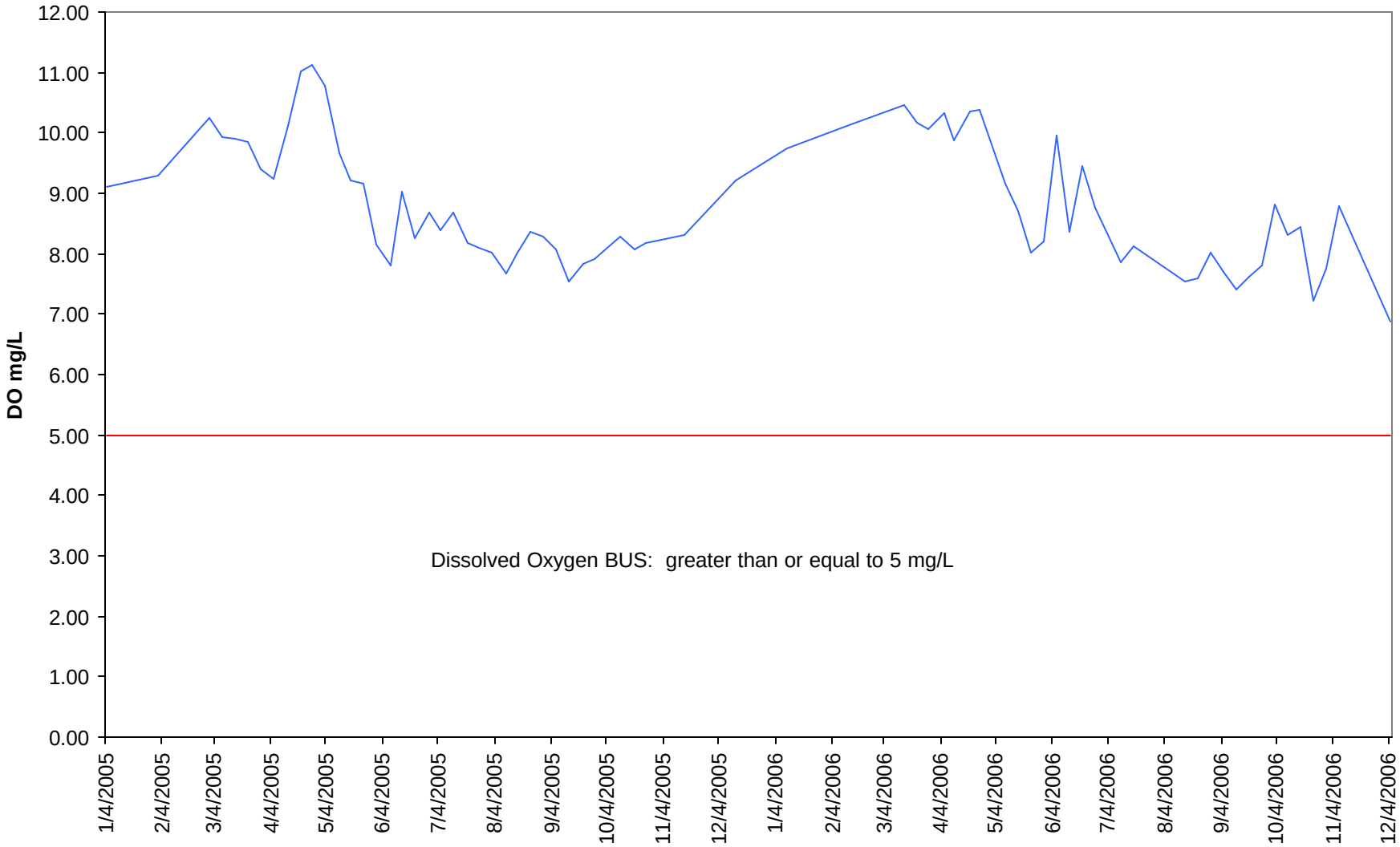


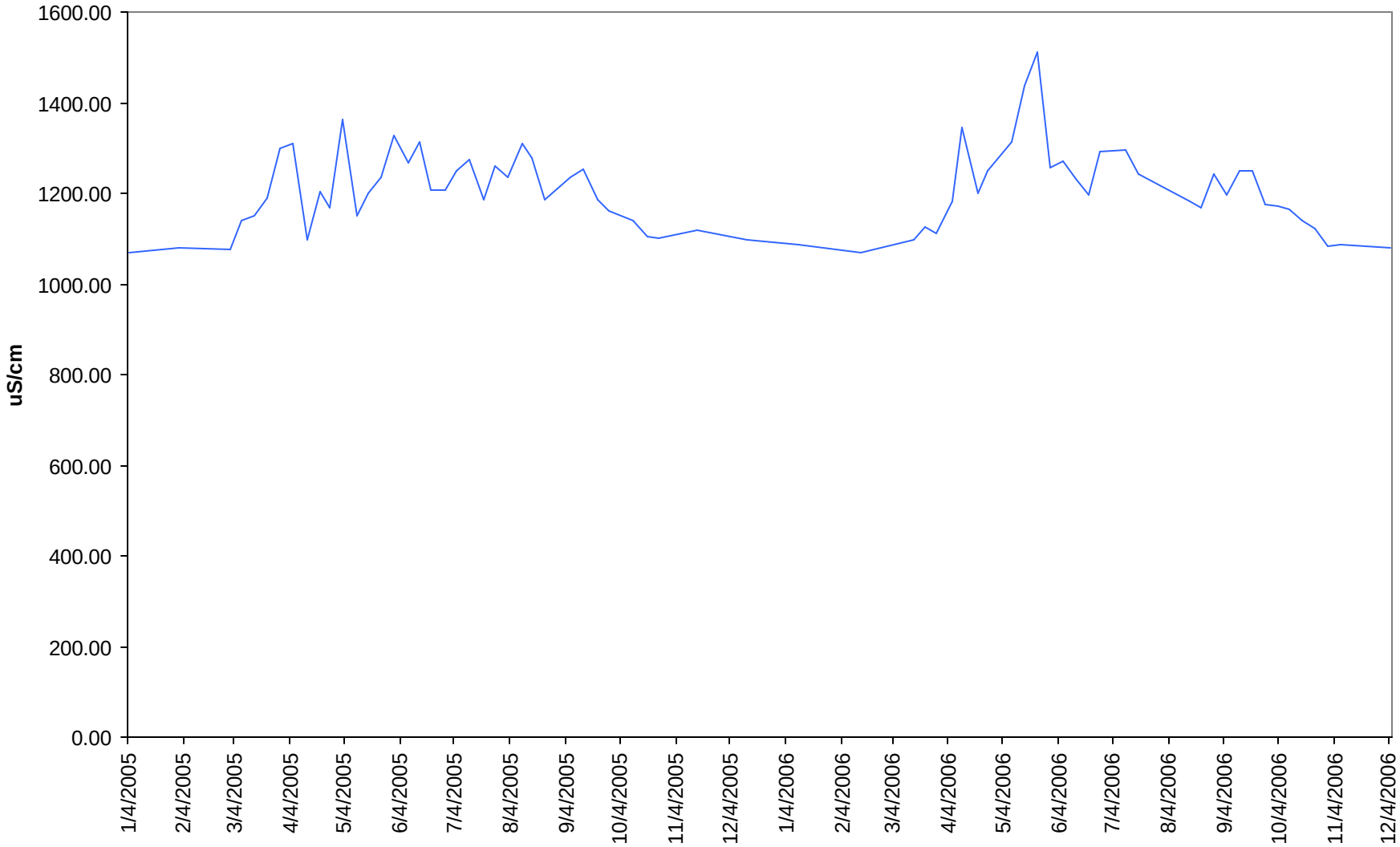

LWLVB1.85 Epilimnion Nitrate
Nitrate BUS: 10 mgN/L
N mg/L
0
2
4
6
8
10
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

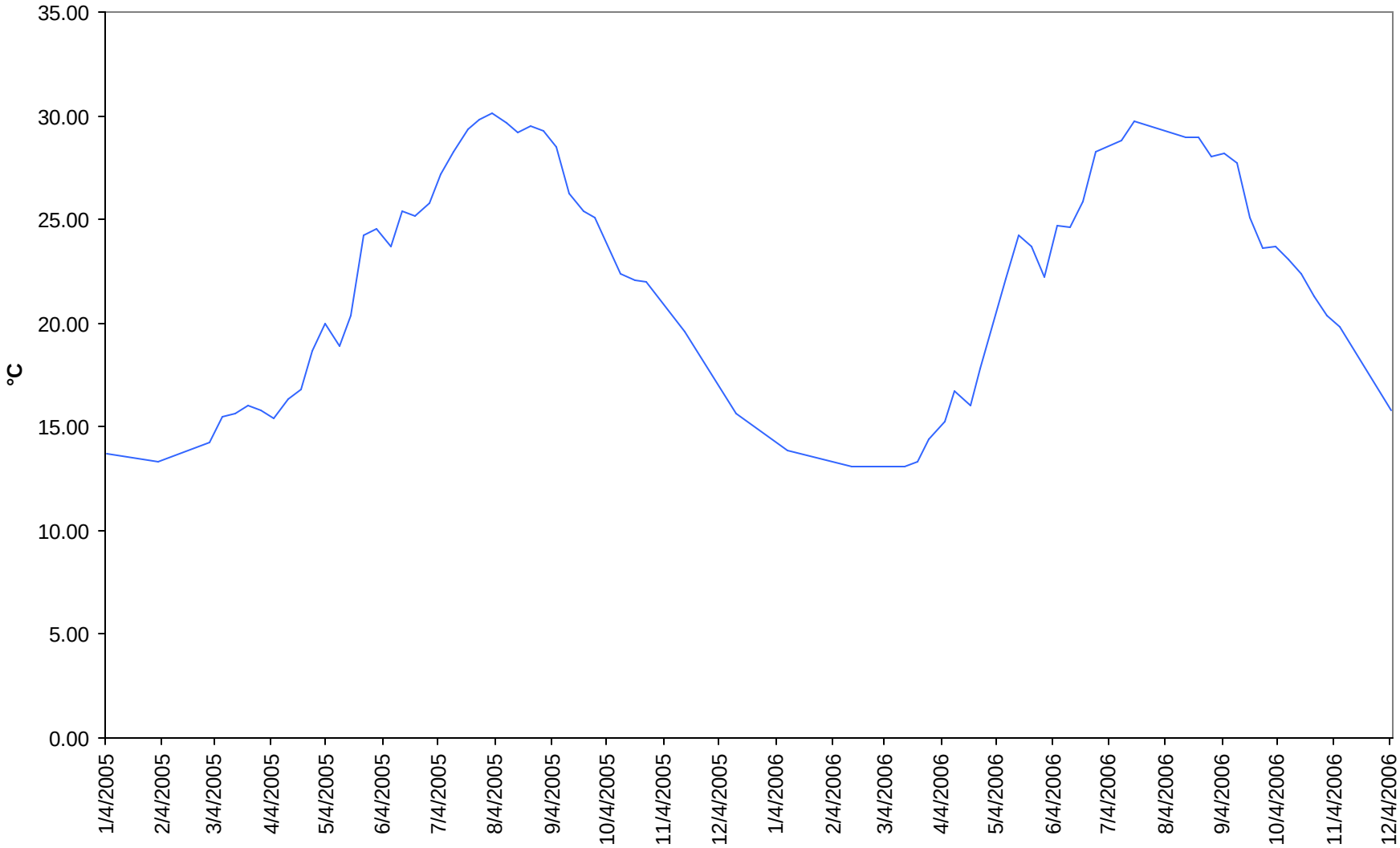

LWLVB1.85 Epilimnion Nitrite
Nitrite BUS: 1.0 mgN/L
N mg/L
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

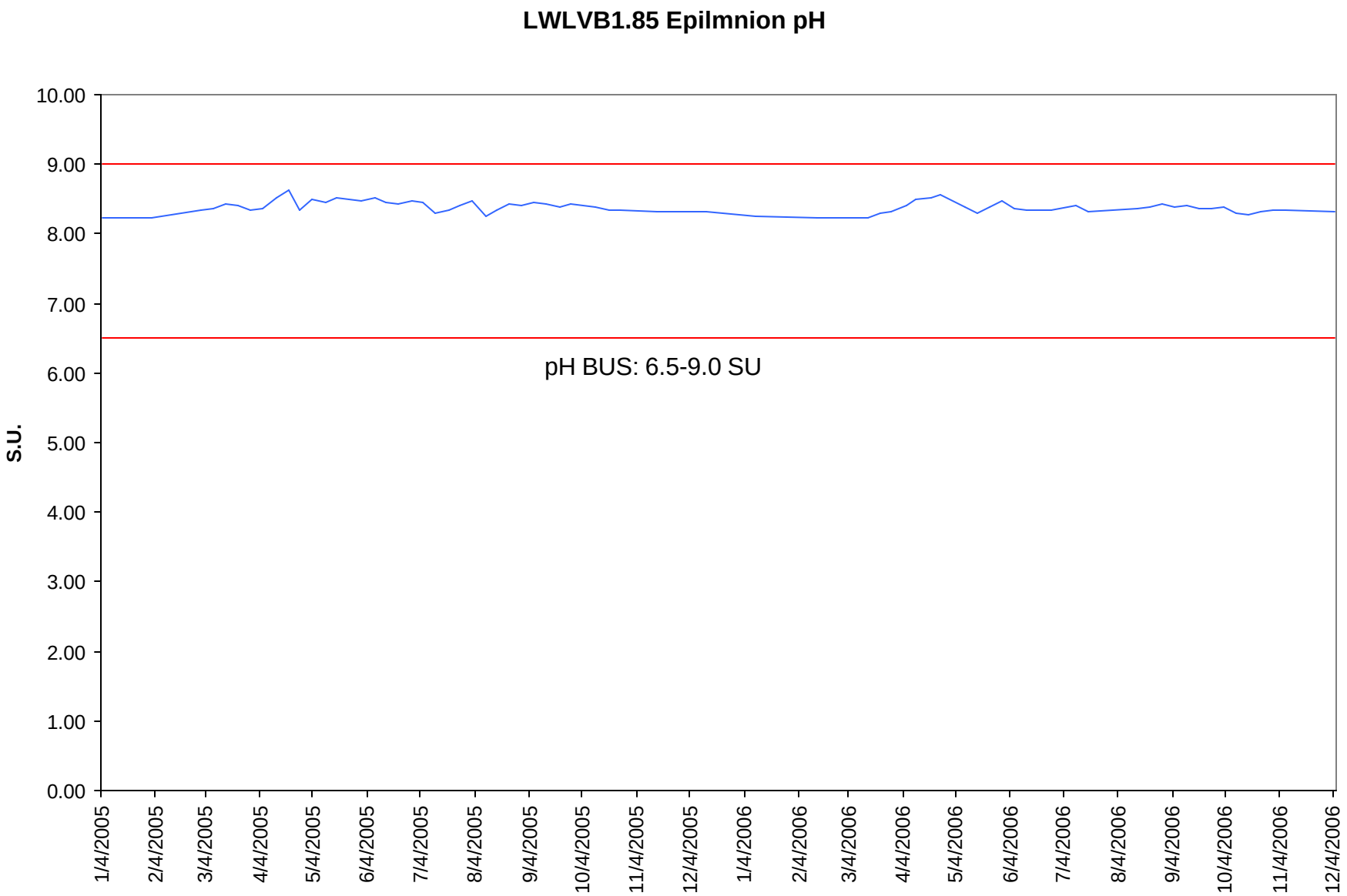
LWLVB1.85 Epilimnion Total Nitrogen



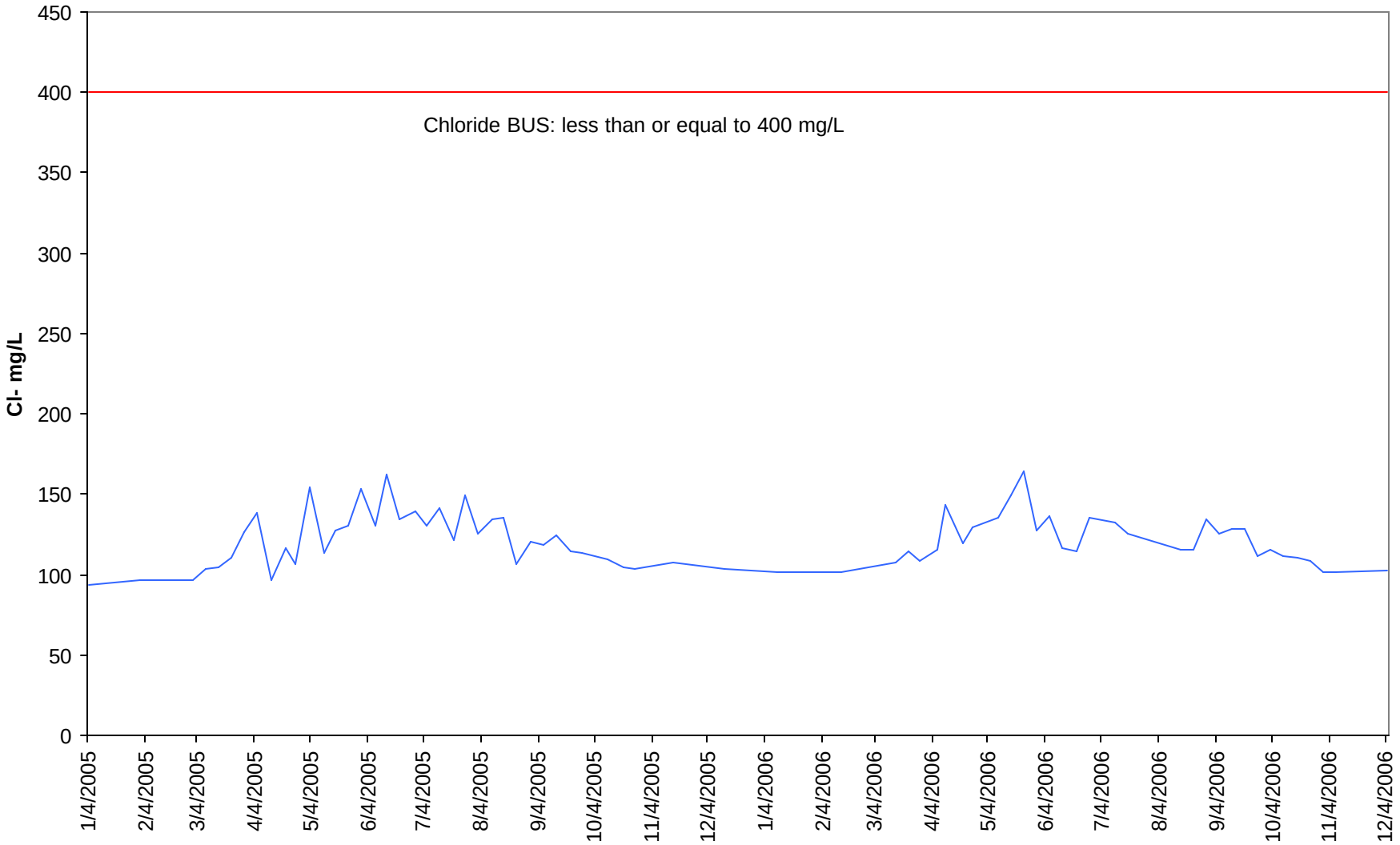

LWLVB1.85 Epilmnion Dissolved Oxygen
DO mg/L
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Dissolved Oxygen BUS: greater than or equal to 5 mg/L
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006


LWLVB1.85 Epilimnion Conductivity
uS/cm
1600.00
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

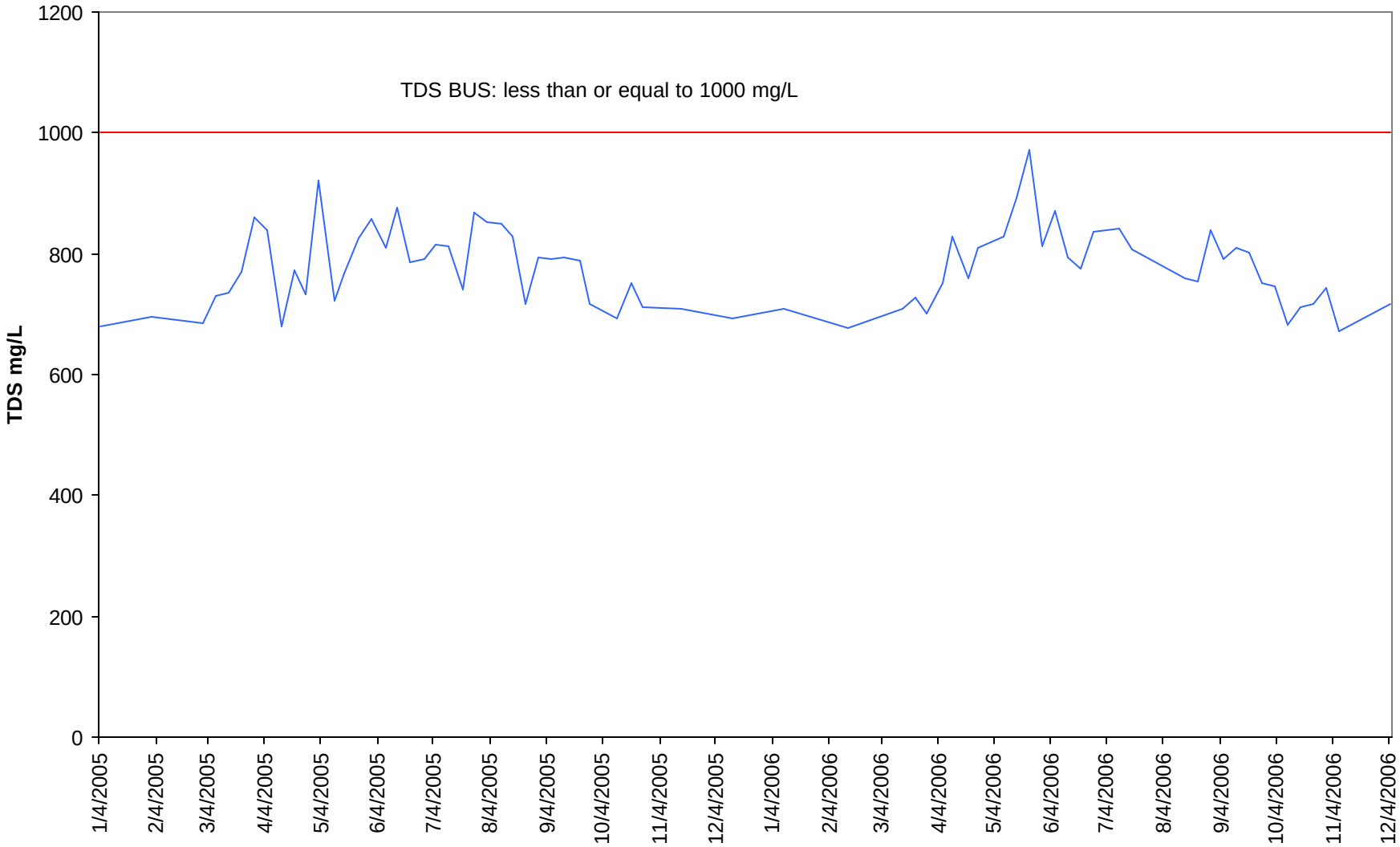

LWLVB1.85 Epilimnion Temperature
°C
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

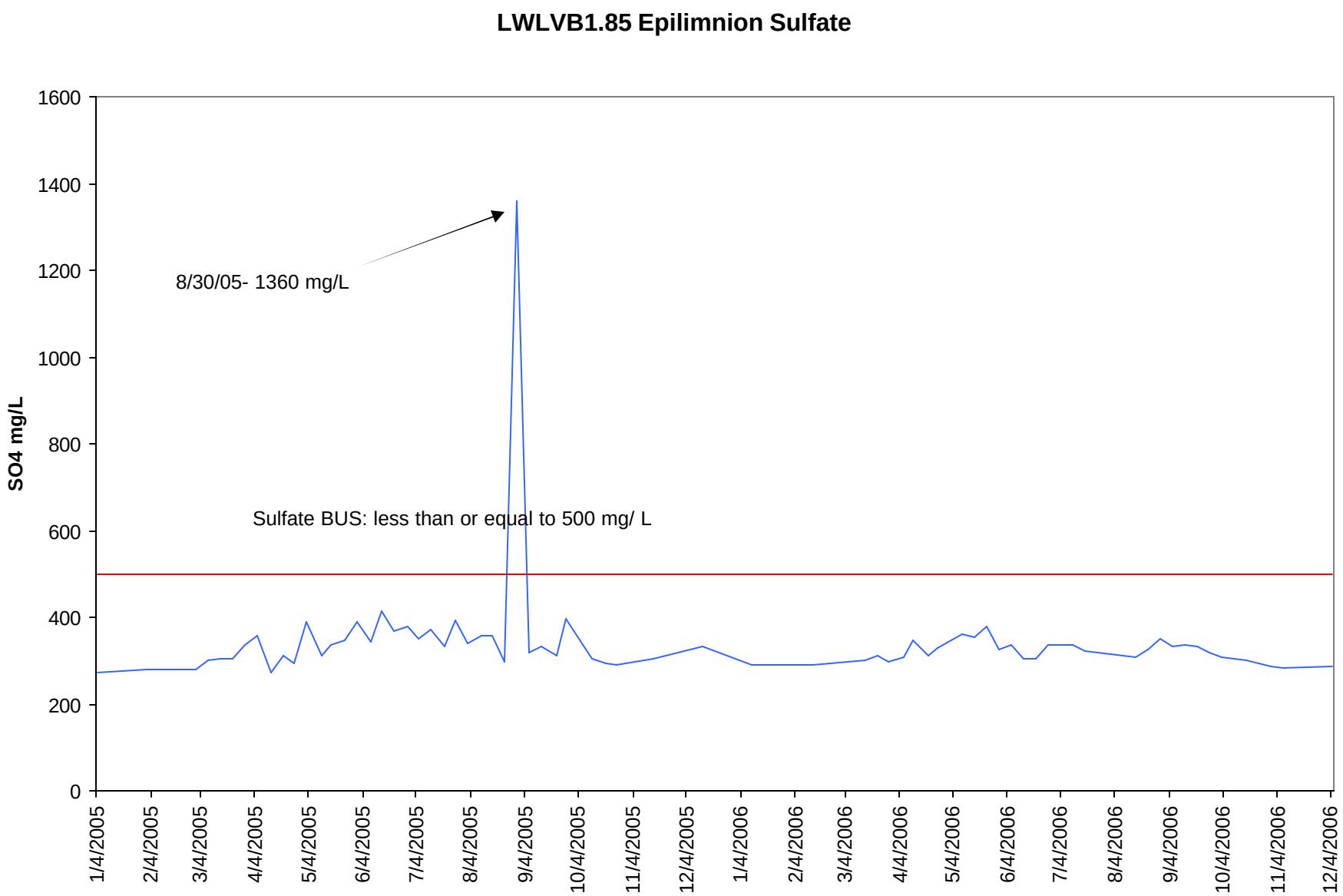

LWLVB1.85 Epilmnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB1.85 Epilimnion Chloride

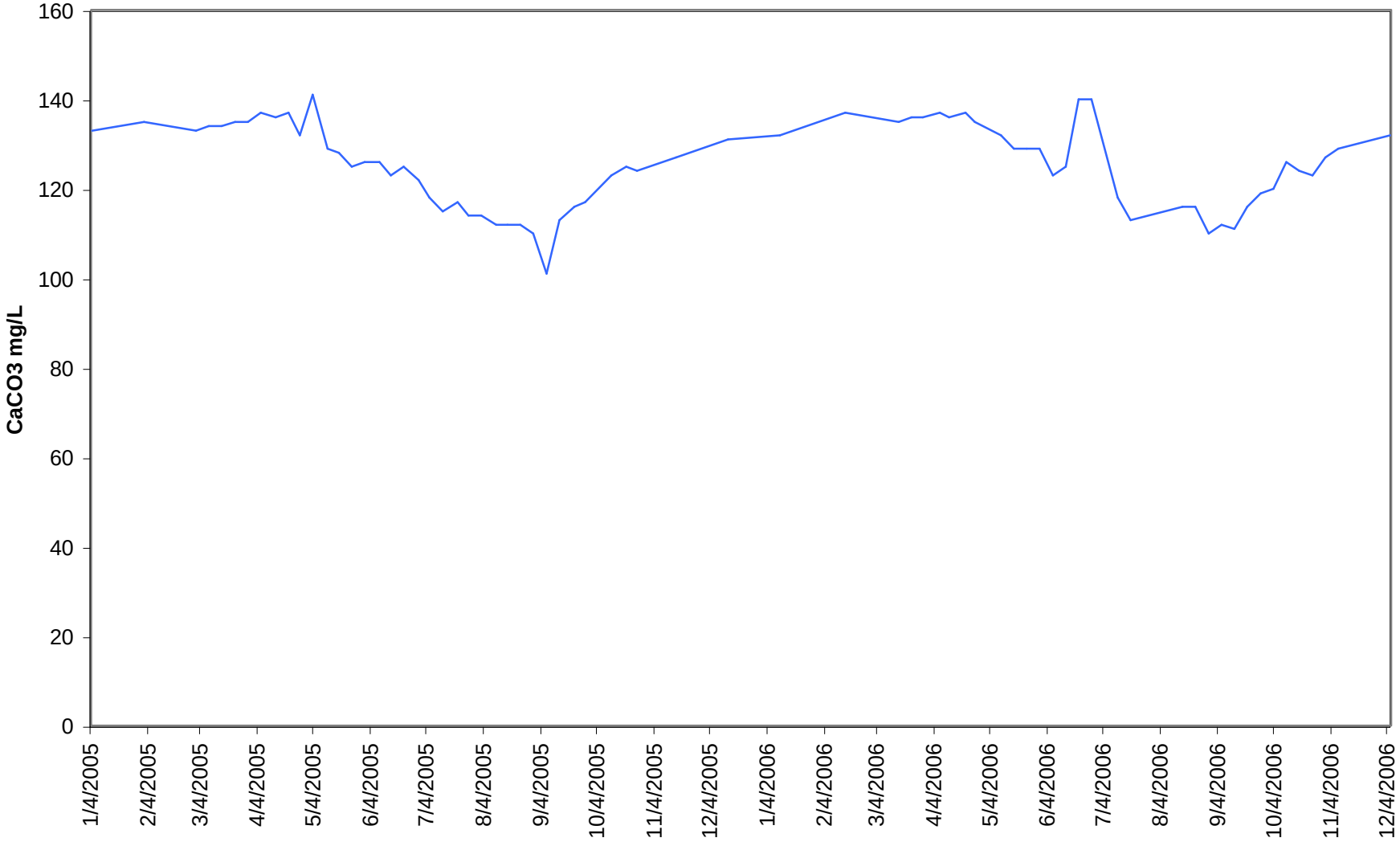


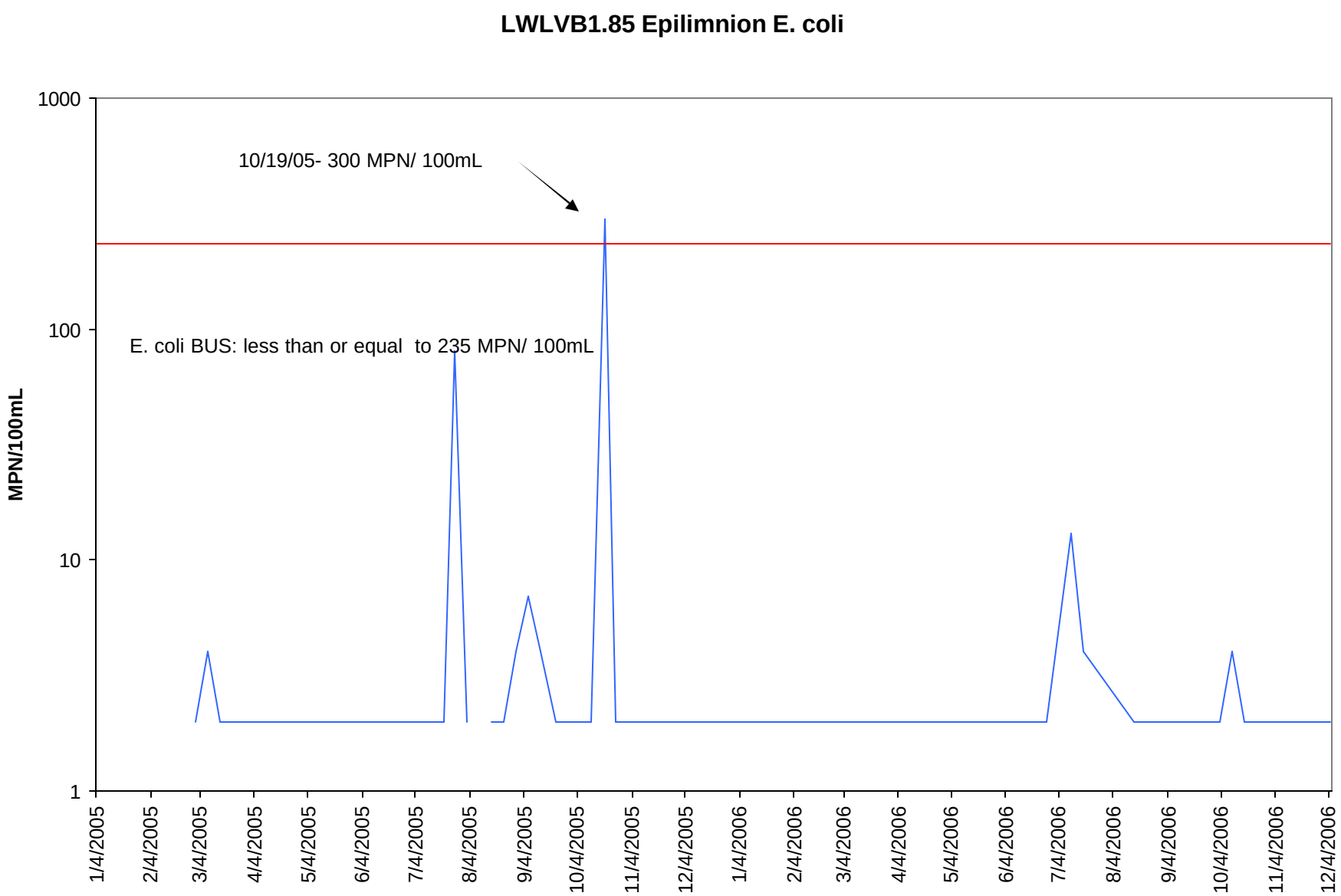
LWLVB1.85 Epilimnion Total Dissolved Solids



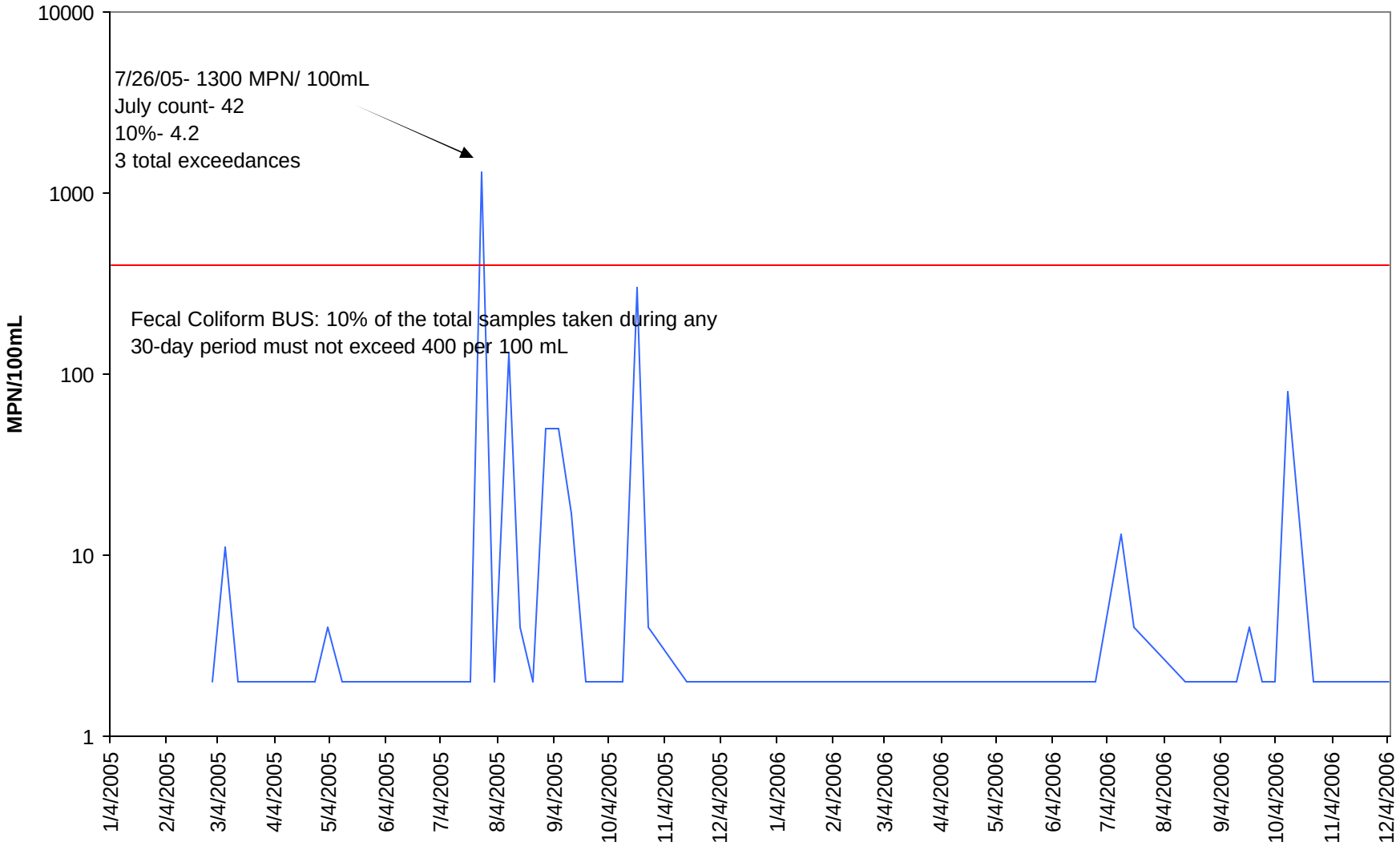

LWLVB1.85 Epilimnion Sulfate
SO4 mg/L
1600
1400
1200
1000
800
600
400
200
0
8/30/05- 1360 mg/L
Sulfate BUS: less than or equal to 500 mg/ L
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

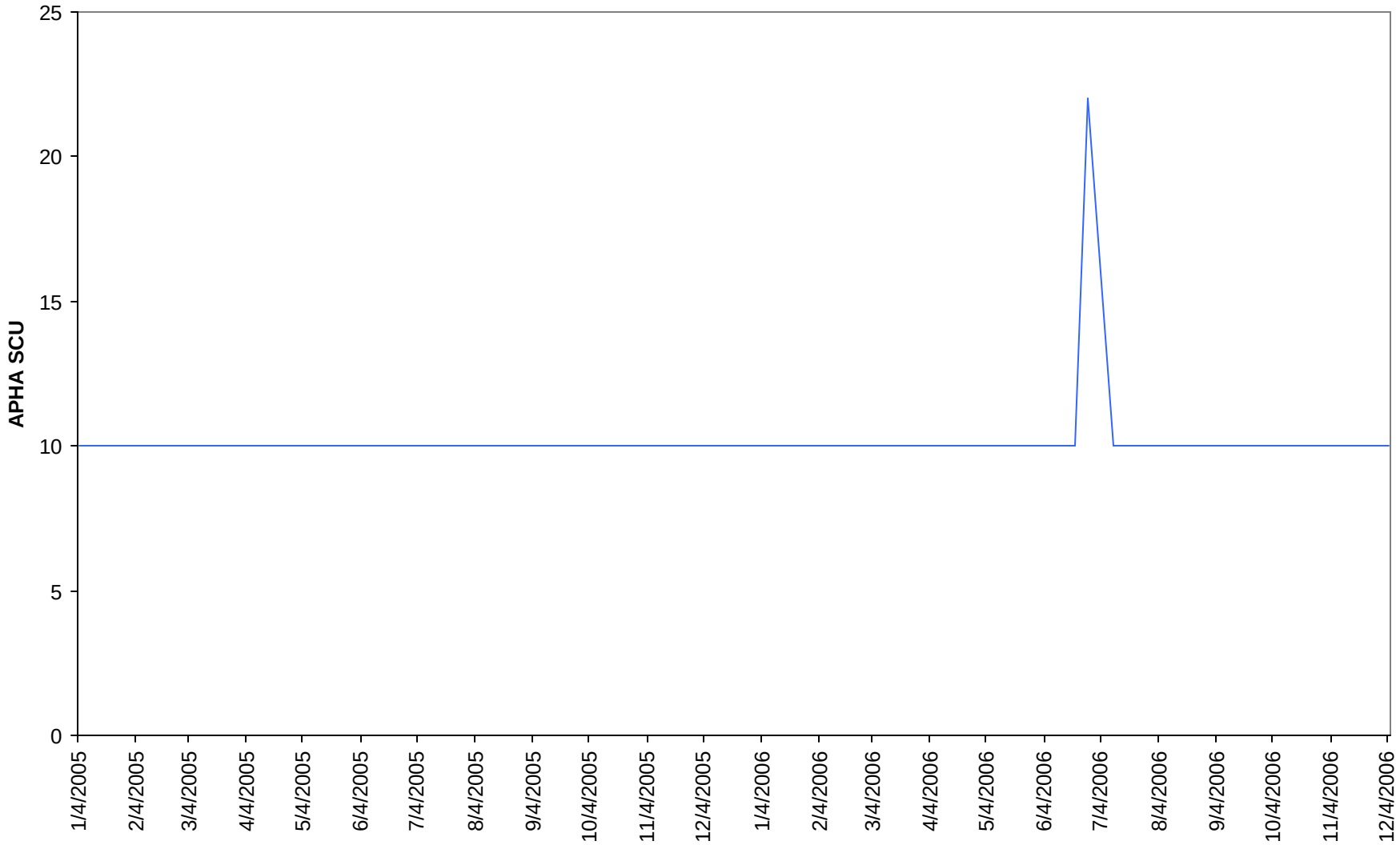
LWLVB1.85 Epilimnion Alkalinity



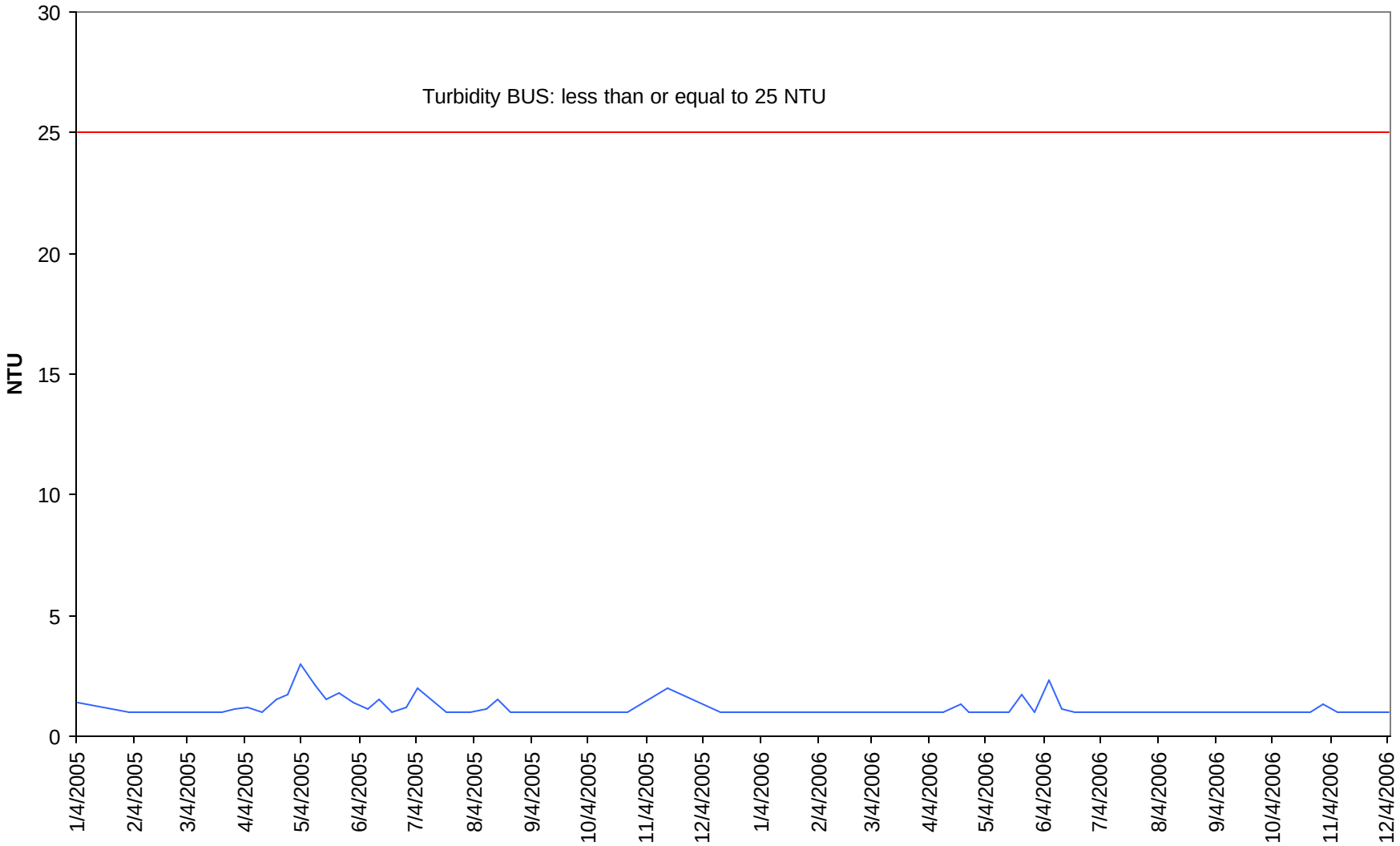

LWLVB1.85 Epilimnion E. coli
1000
100
10
1
MPN/100mL
10/19/05- 300 MPN/ 100mL
E. coli BUS: less than or equal to 235 MPN/ 100mL
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB1.85 Epilimnion Fecal Coliform

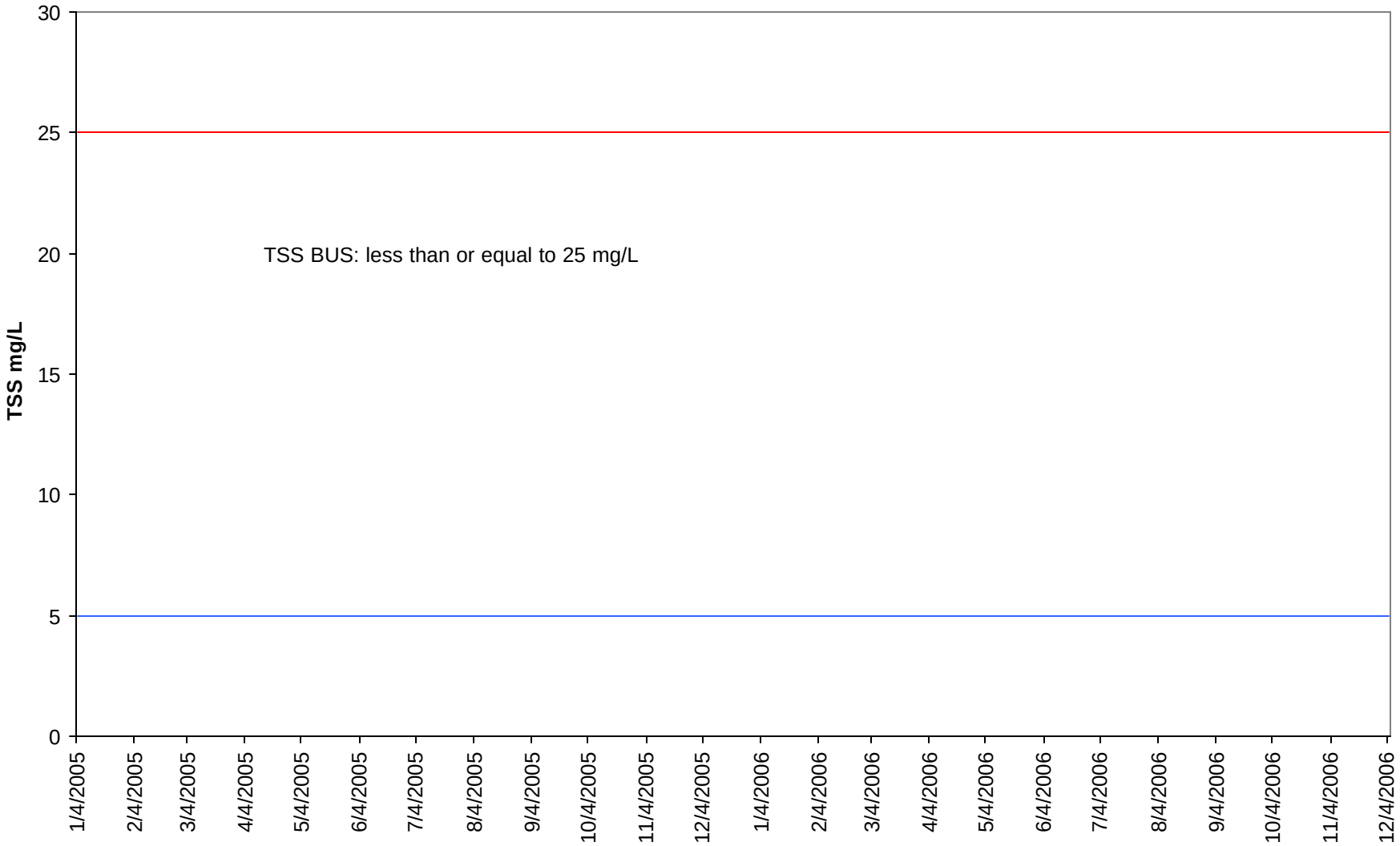



LWLVB1.85 Epilimnion Color
APHA SCU
25
20
15
10
5
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB1.85 Epilmnion Turbidity

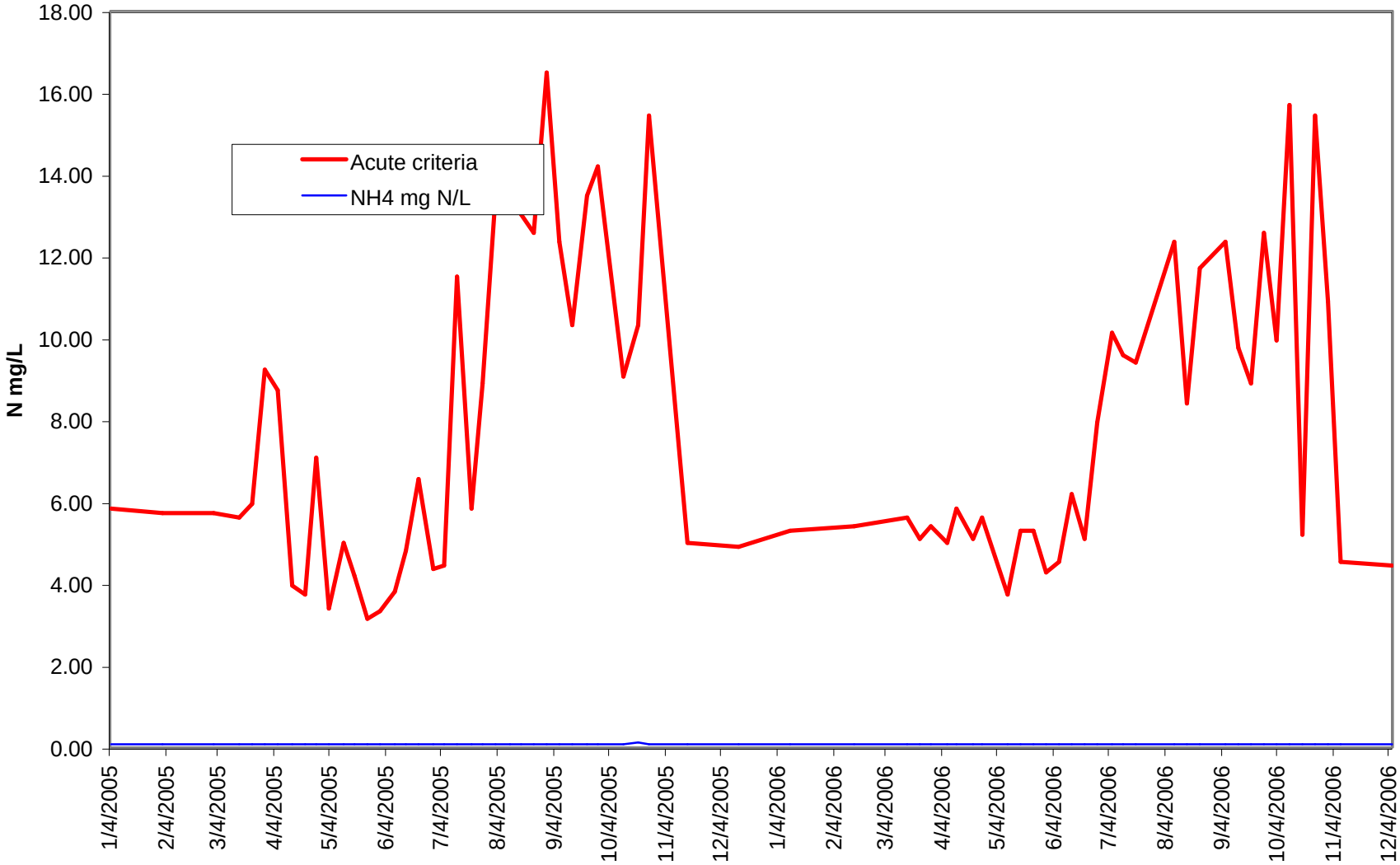


LWLVB1.85 Epilimnion Total Suspended Solids

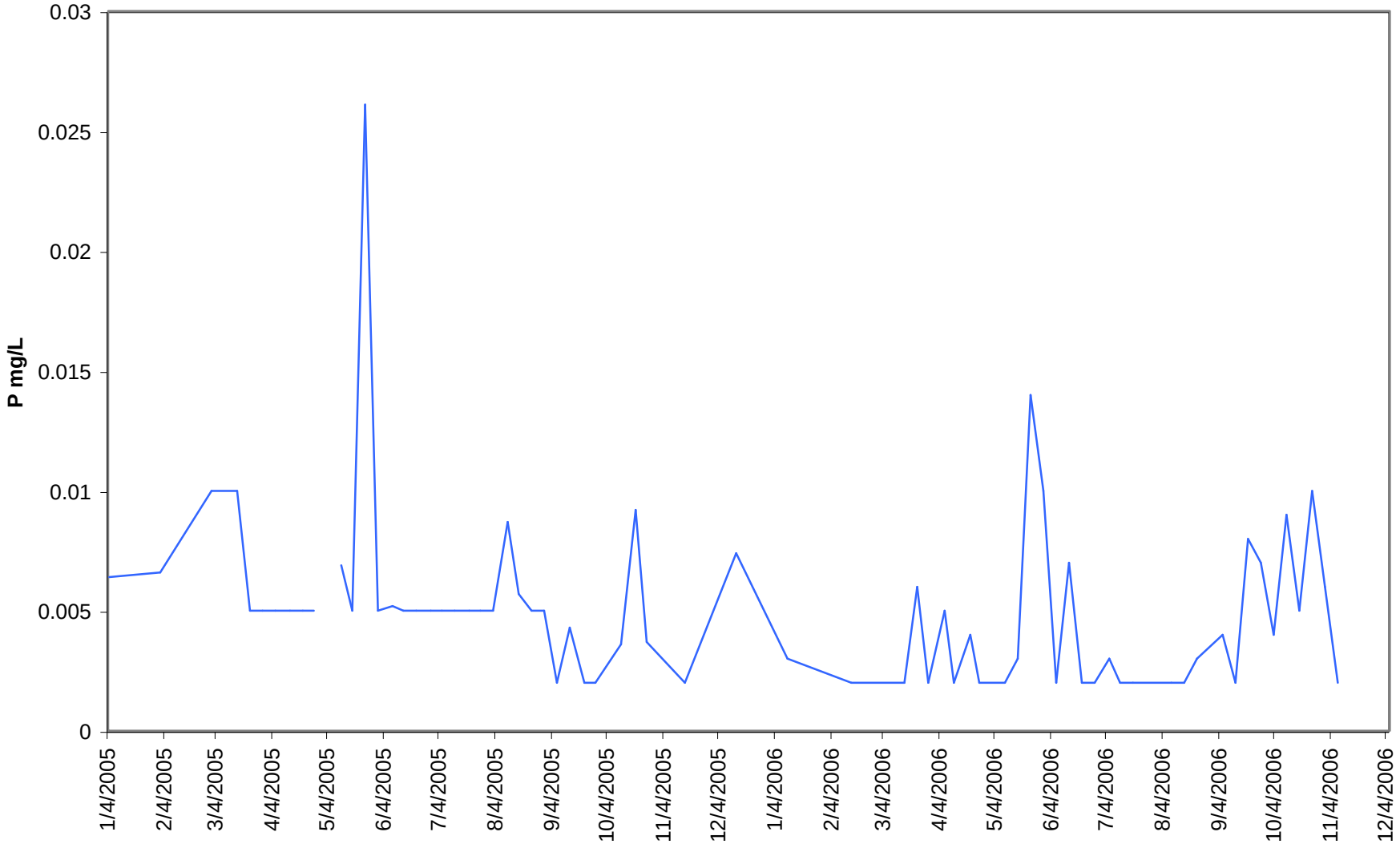


LWLVB1.85
Metalimnion

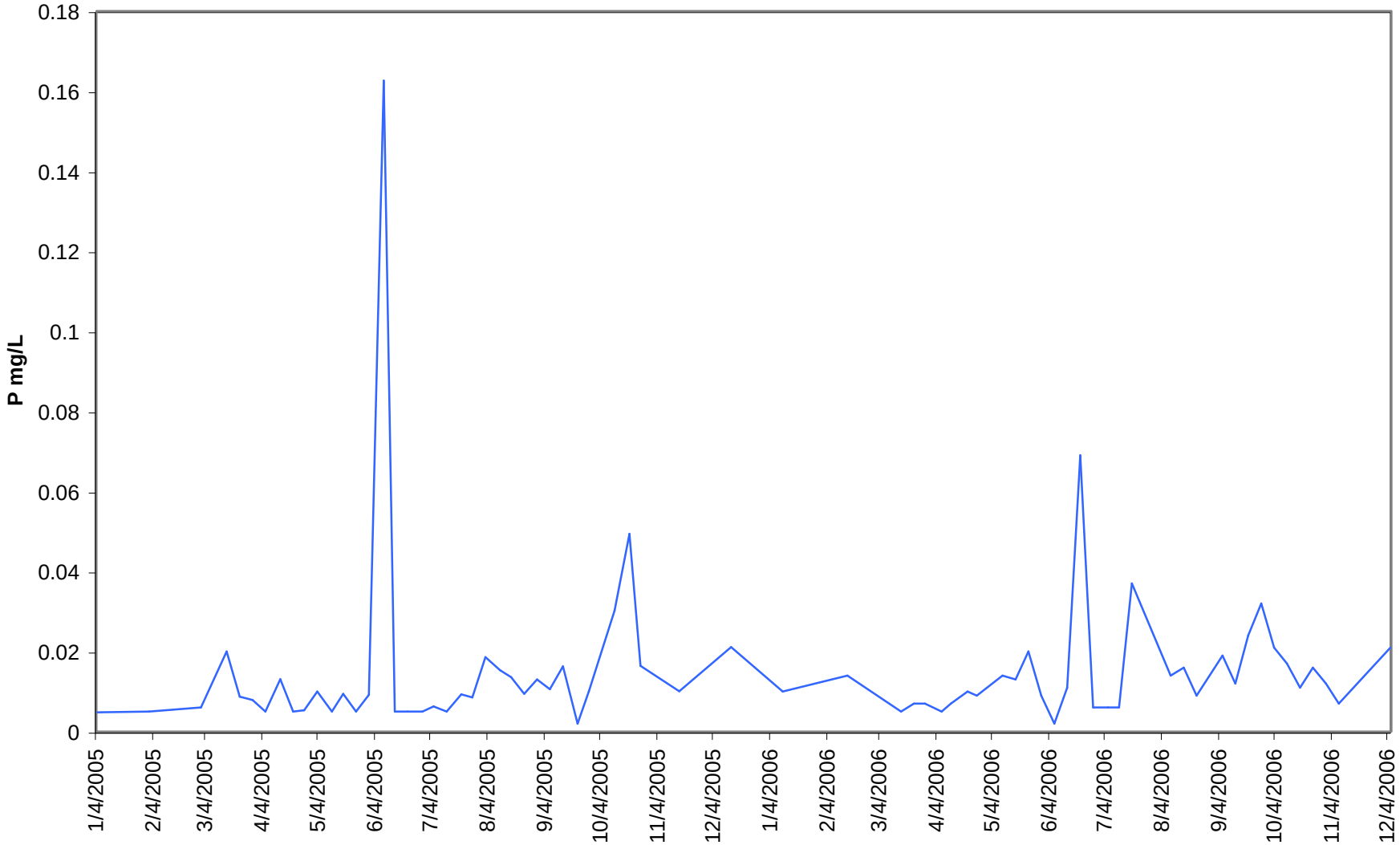
LWLVB1.85 Metalimnion Ammonia



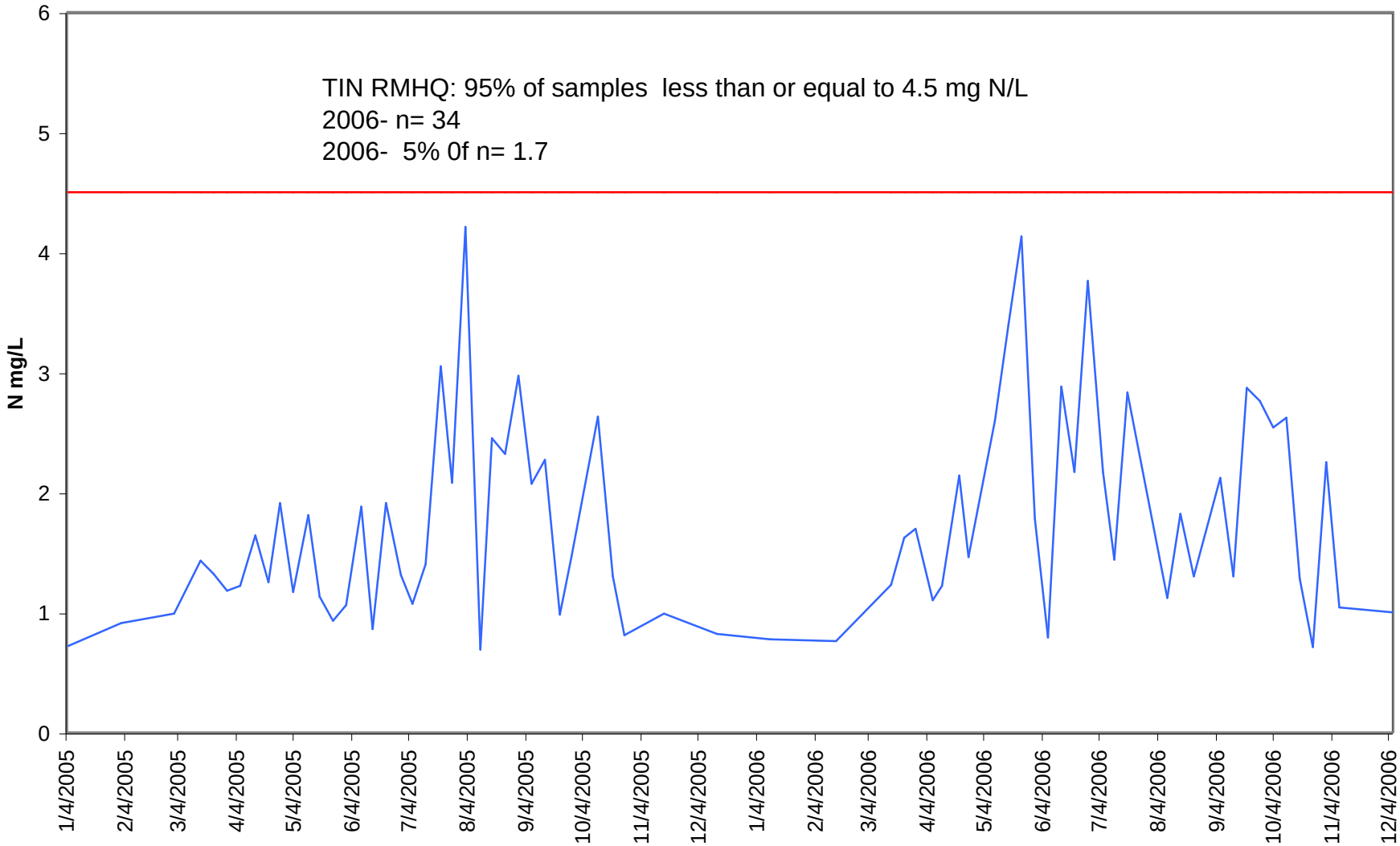
LWLVB1.85 Metalimnion Dissolved ortho Phosphorus



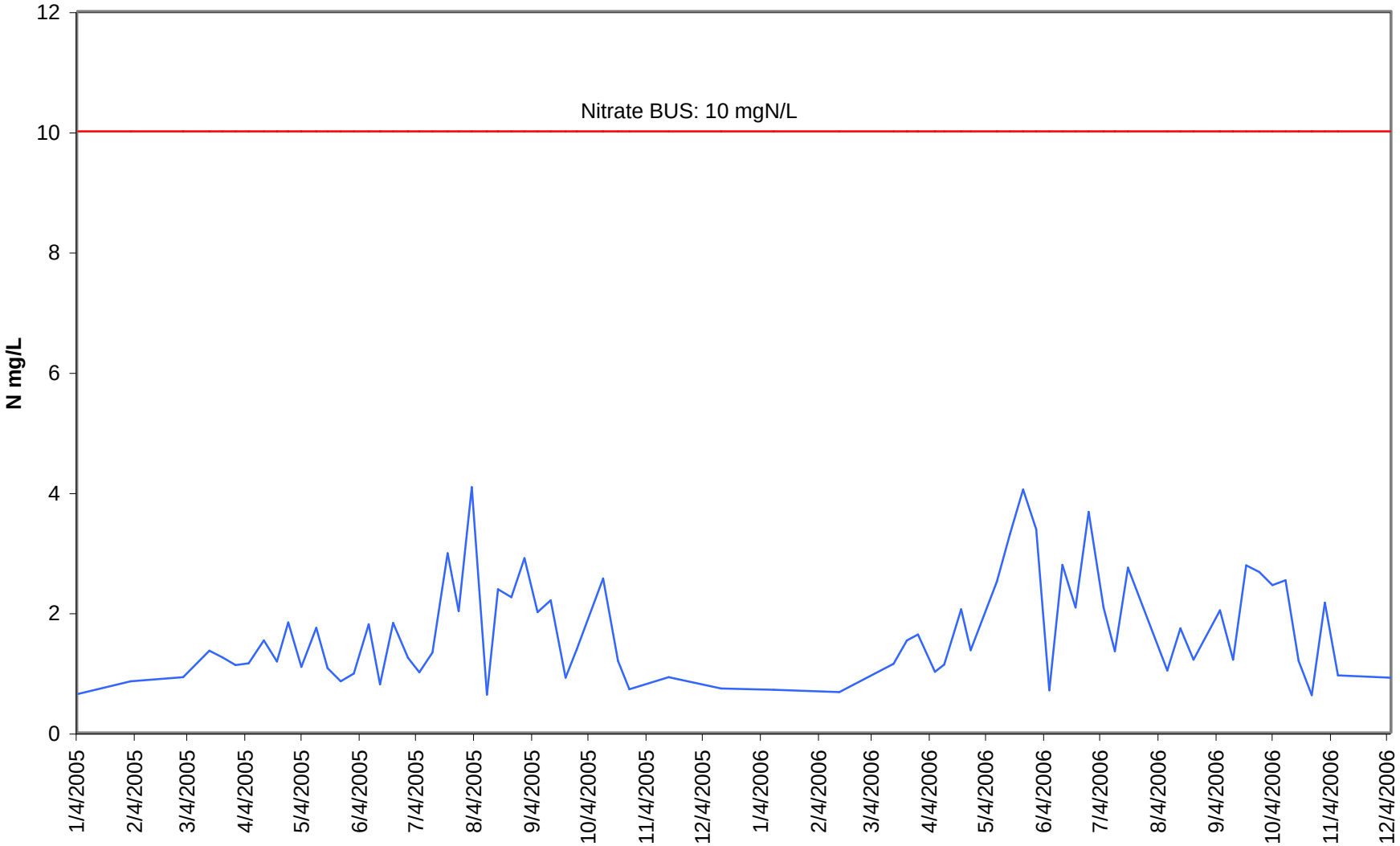
LWLVB1.85 Metalimnion Total Phosphorus



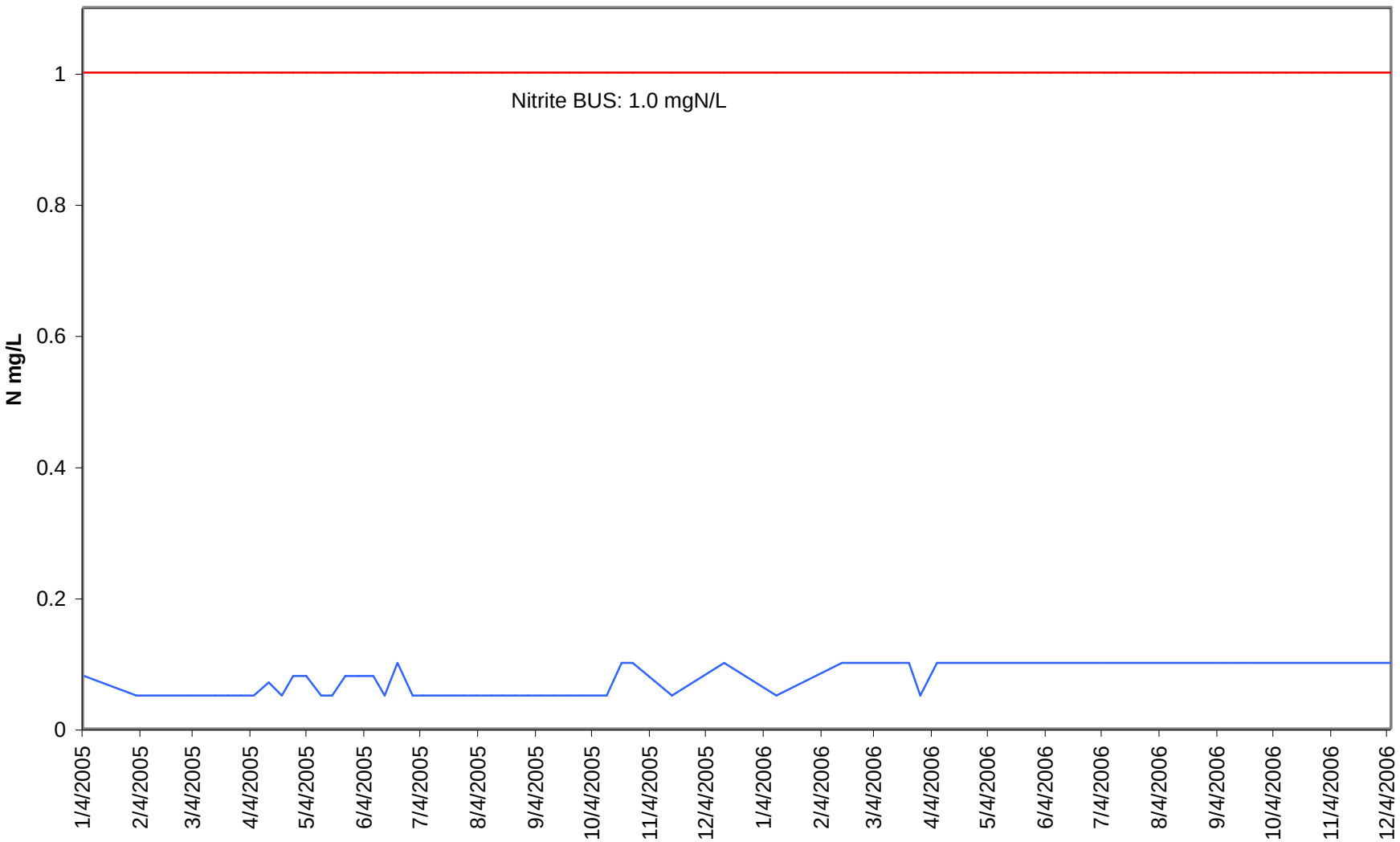
LWLVB1.85 Metalimnion Total Inorganic Nitrogen



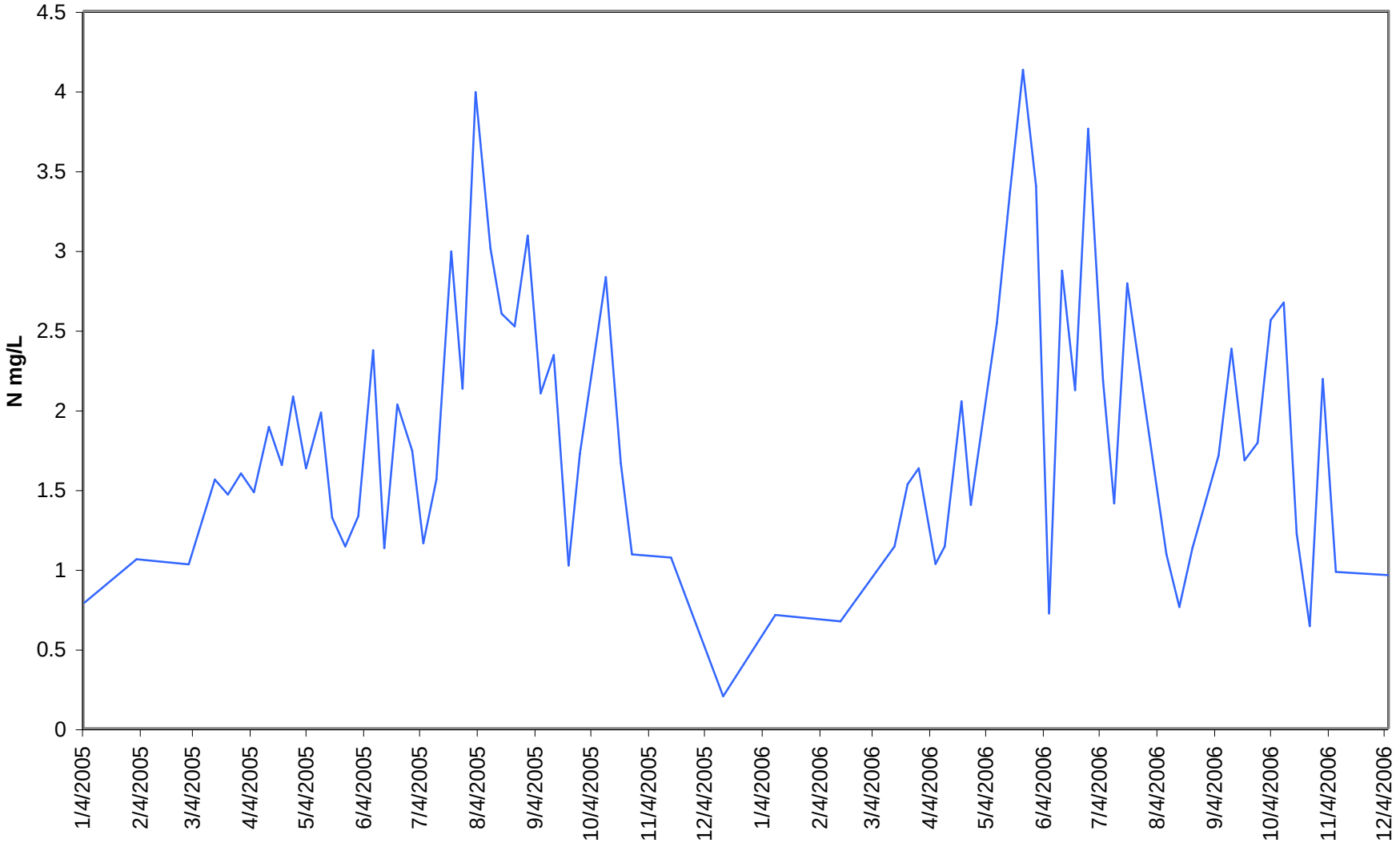
LWLVB1.85 Metalimnion Nitrate

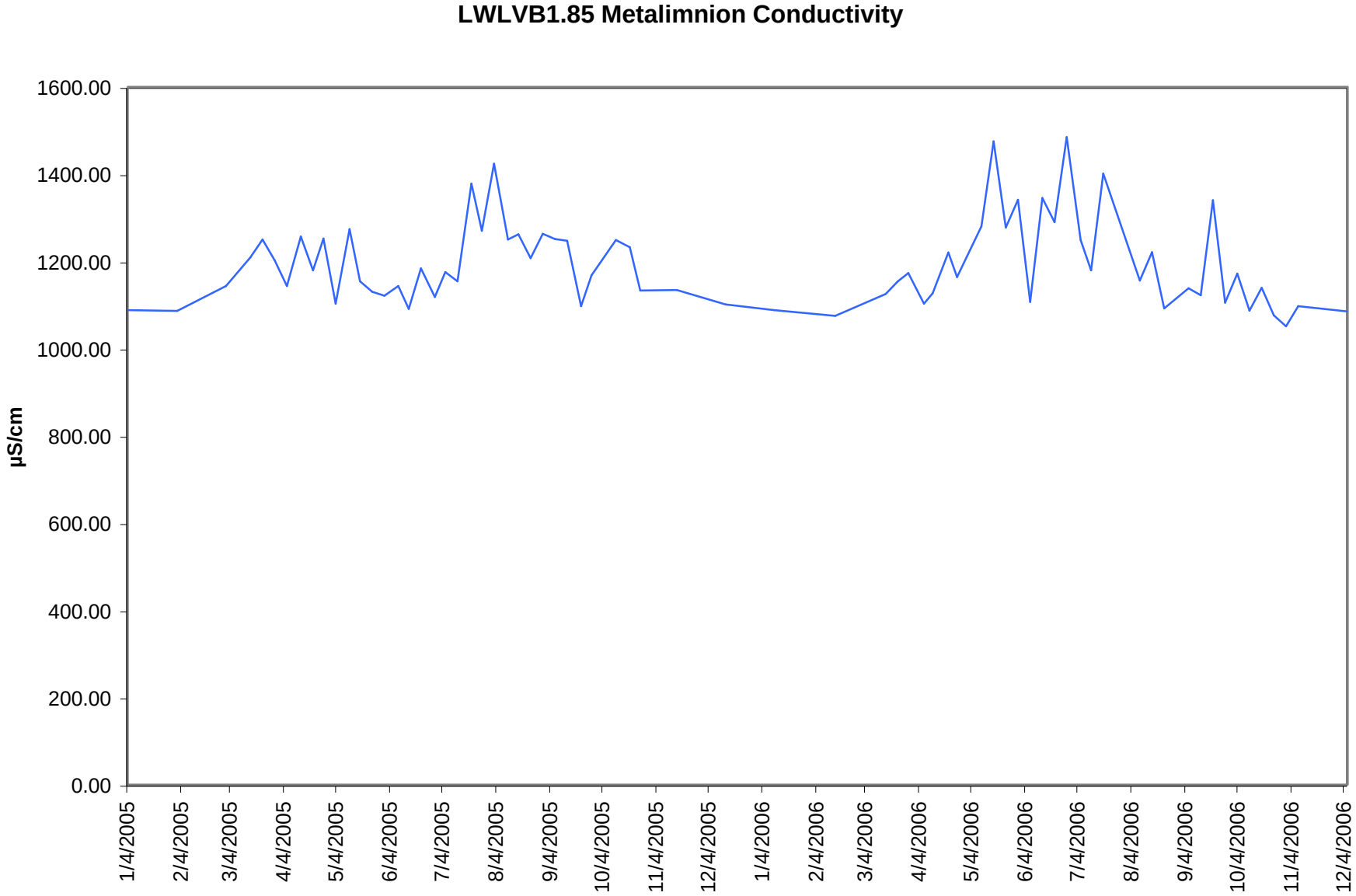


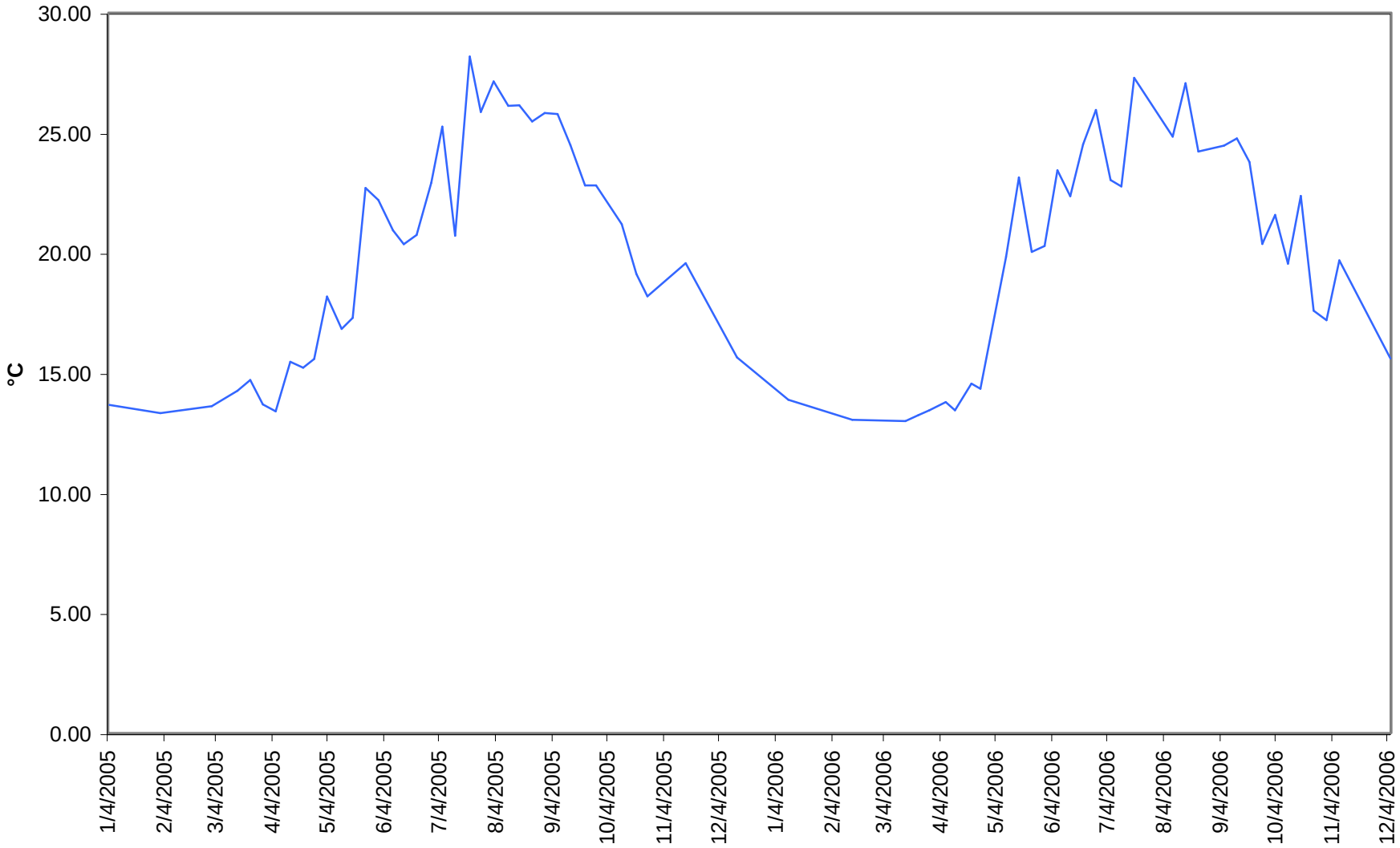
LWLVB1.85 Metalimnion Nitrite

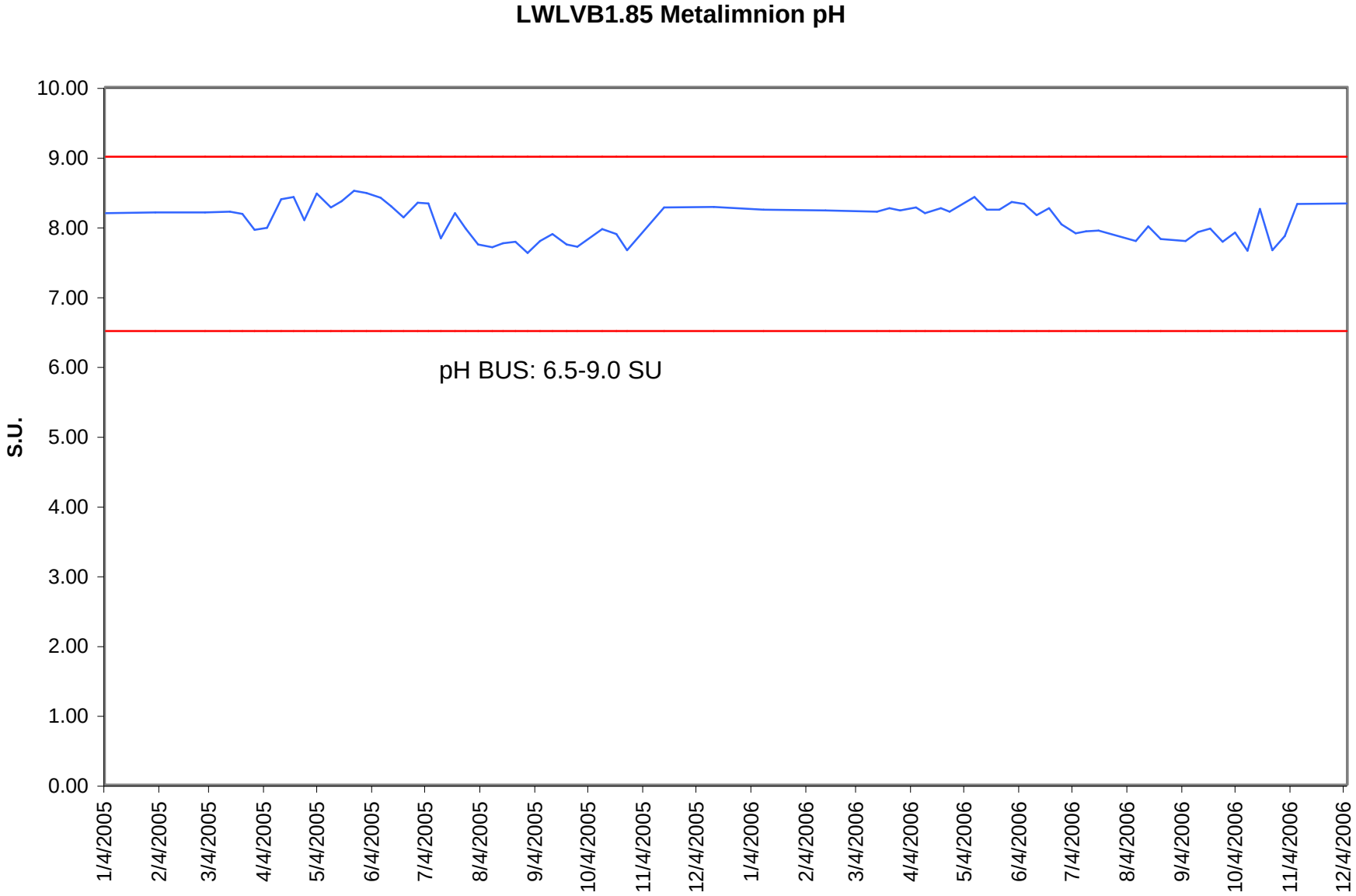


LWLVB1.85 Metalimnion Total Nitrogen

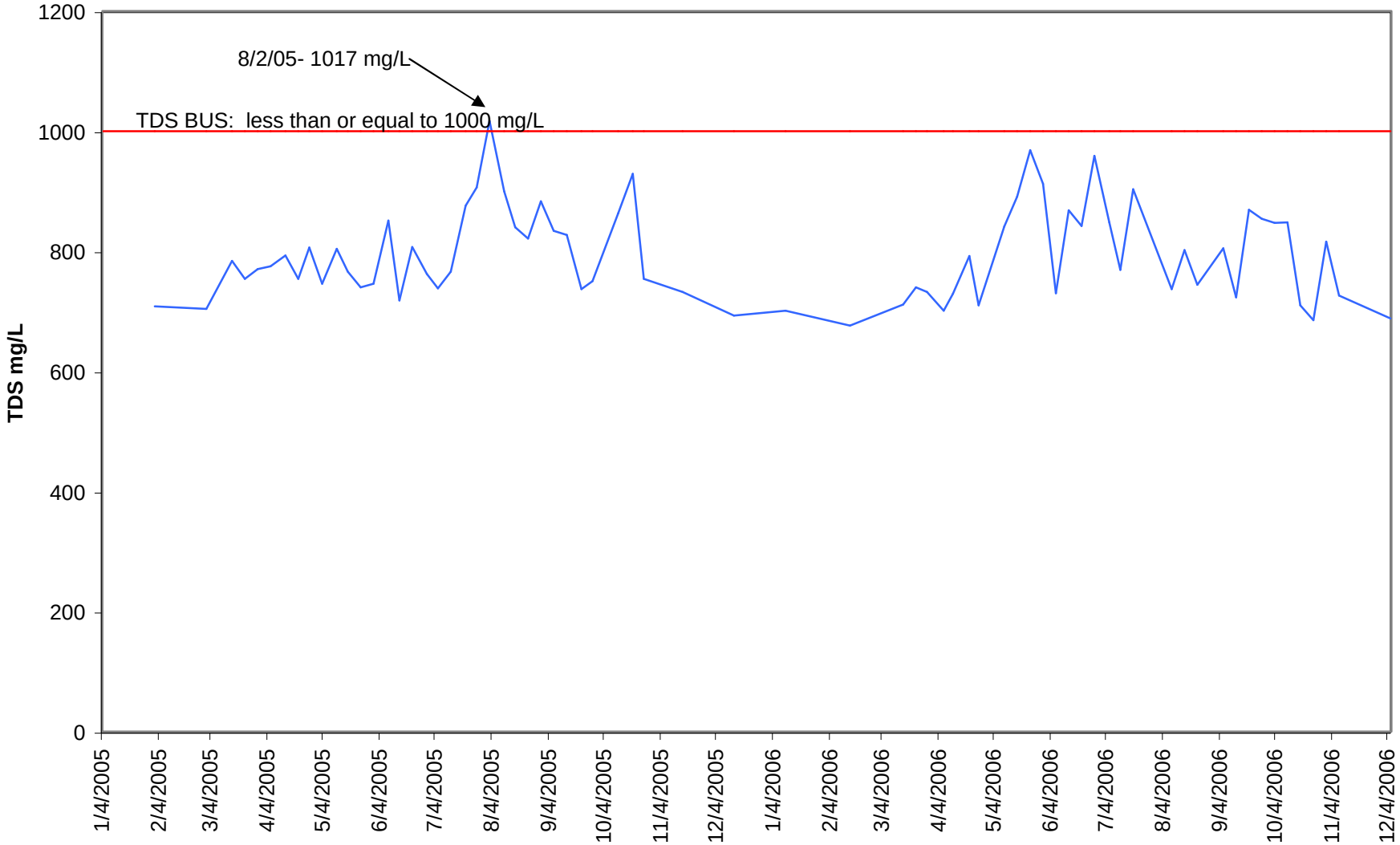



LWLVB1.85 Metalimnion Conductivity
µS/cm
1600.00
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

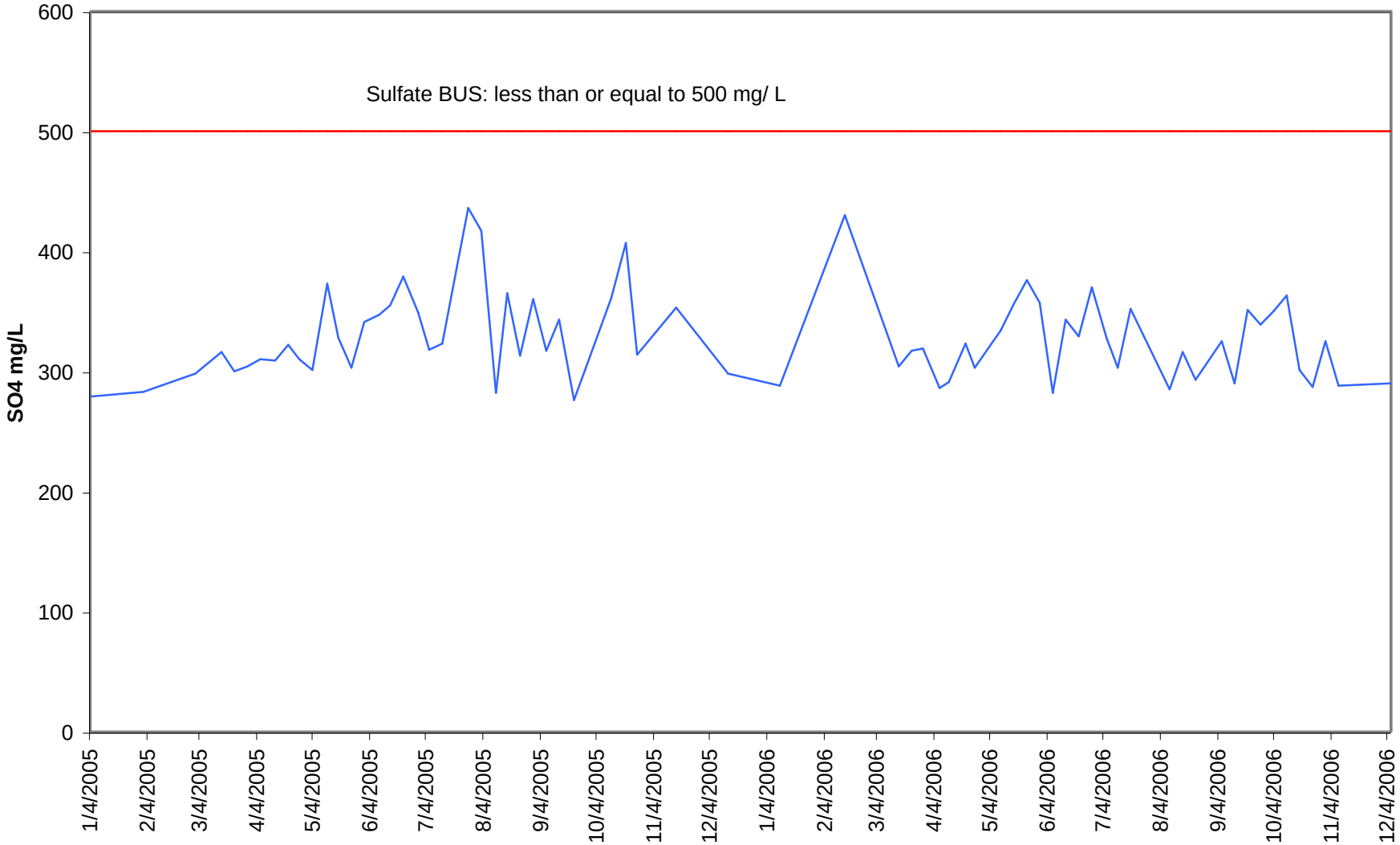

LWLVB1.85 Metalimnion Temperature
°C
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006


LWLVB1.85 Metalimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

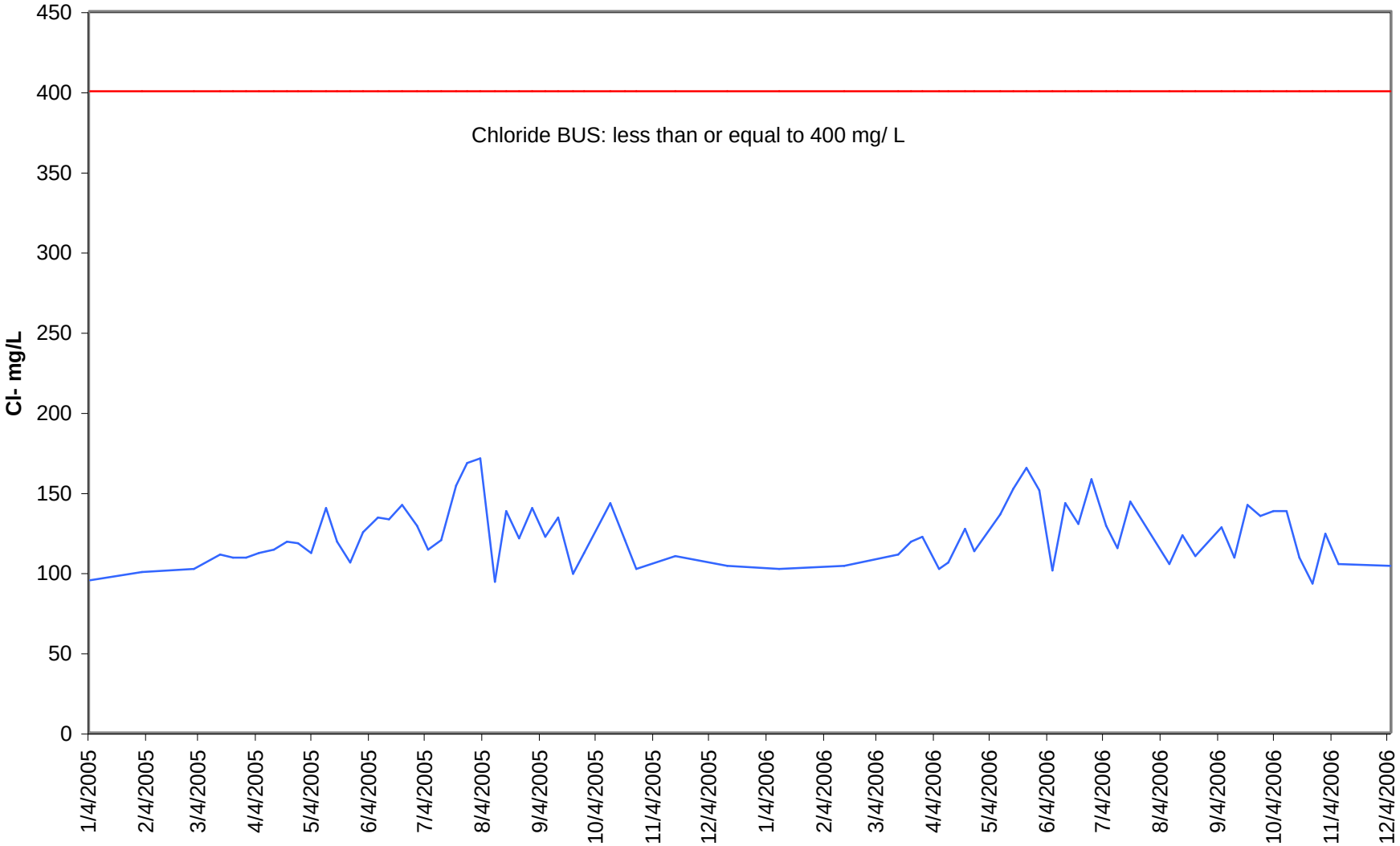
LWLVB1.85 Metalimnion Total Dissolved Solids



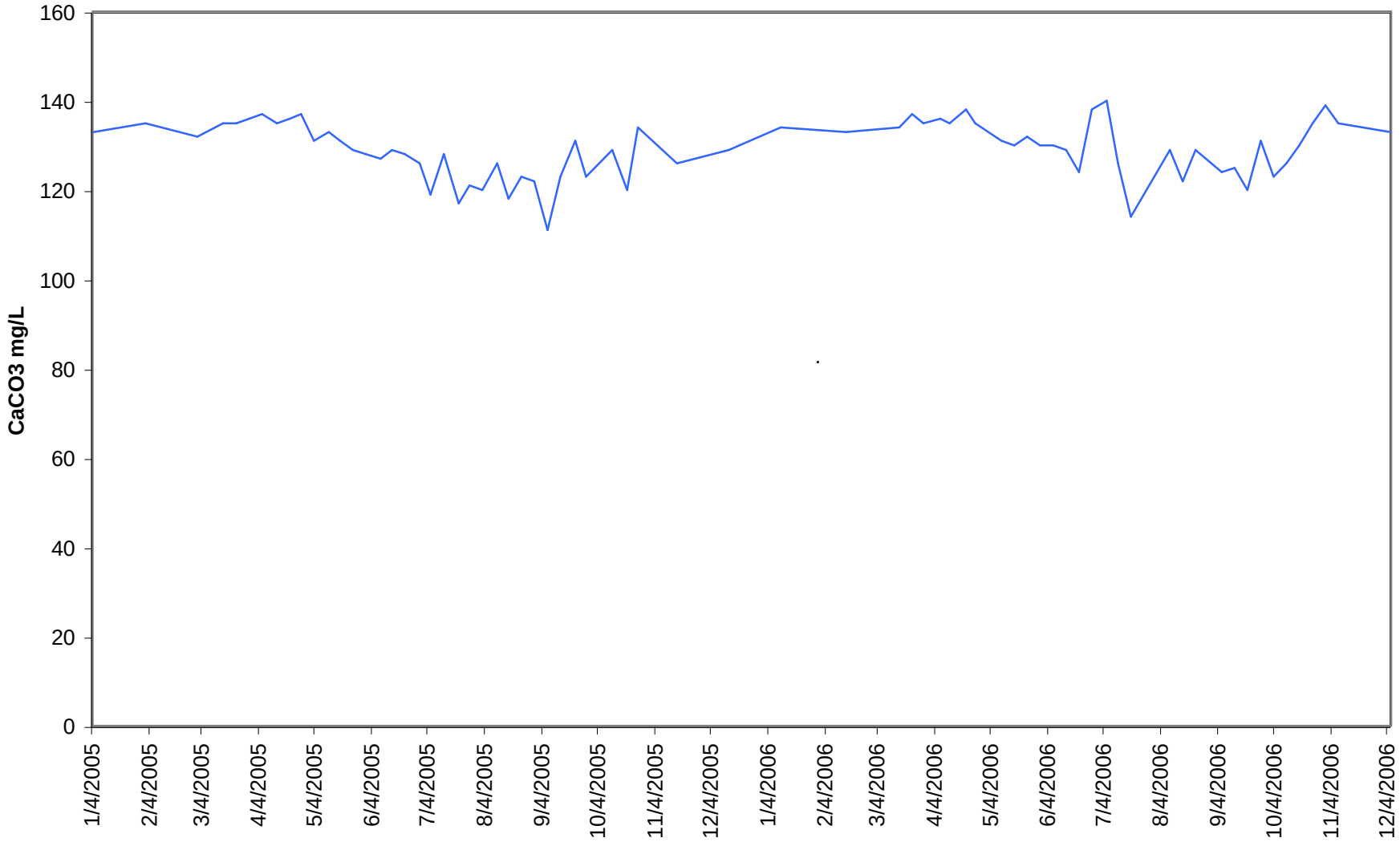
LWLVB1.85 Metalimnion Sulfate



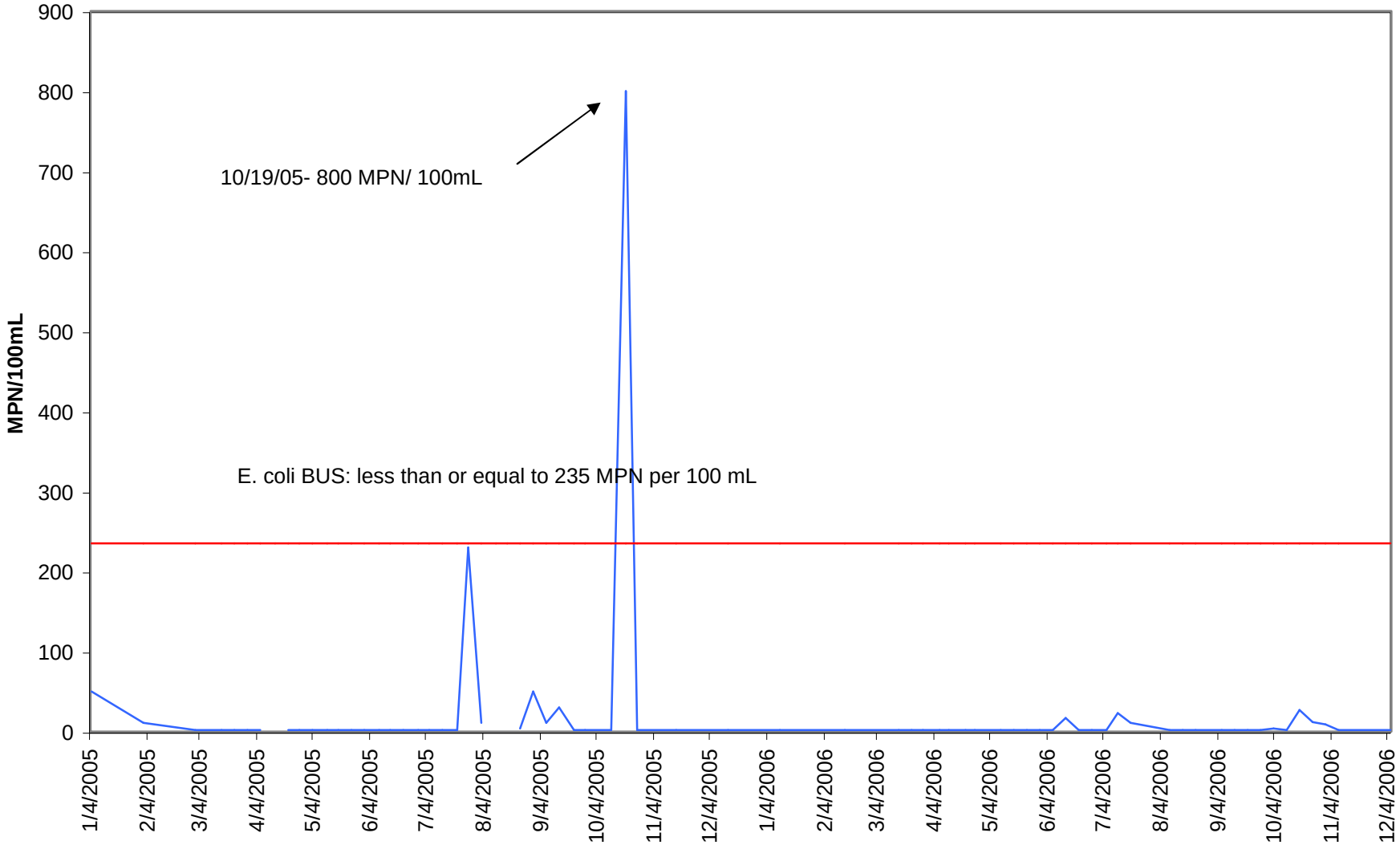
LWLVB1.85 Metalimnion Chloride



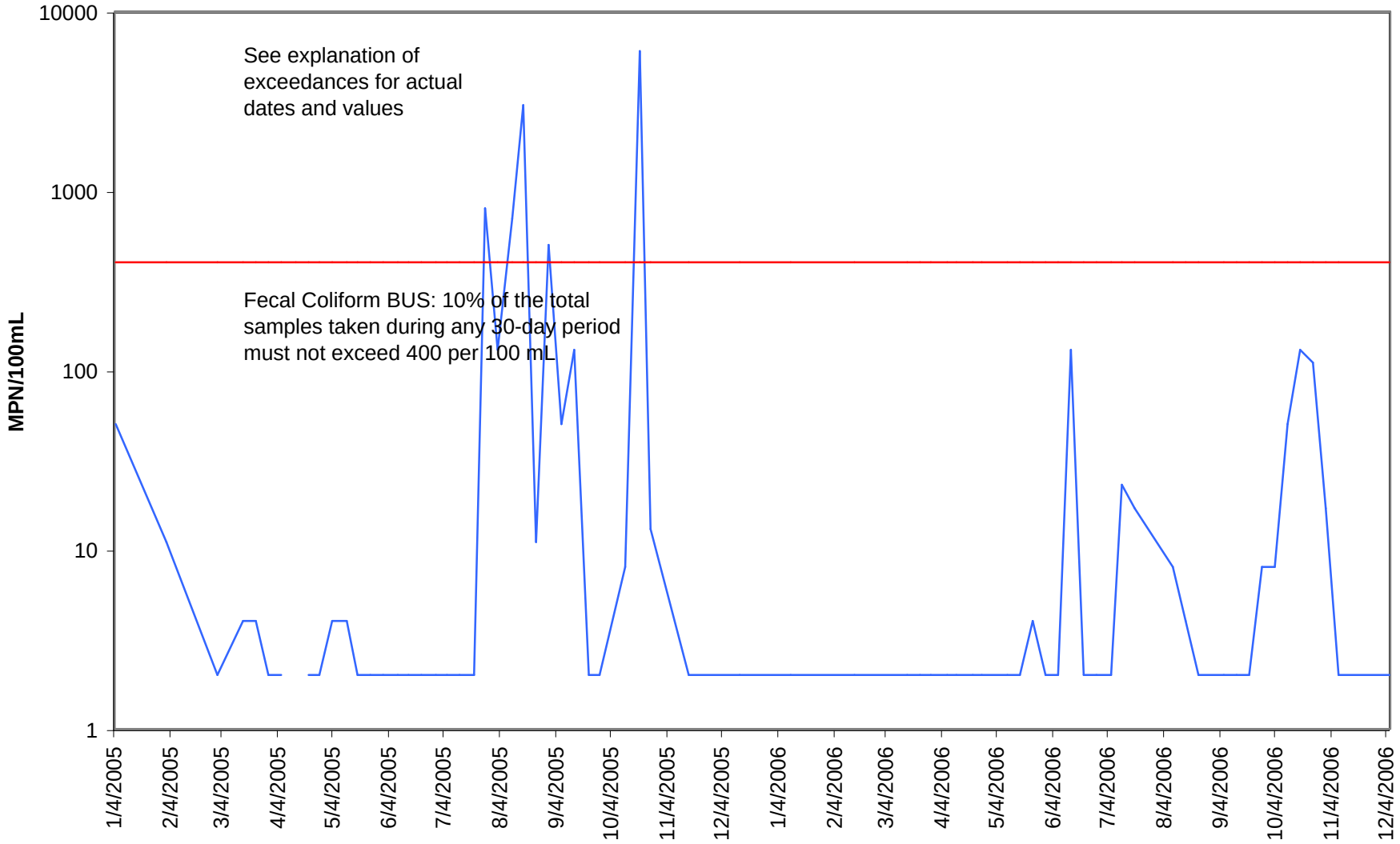
LWLVB1.85 Metalimnion Alkalinity



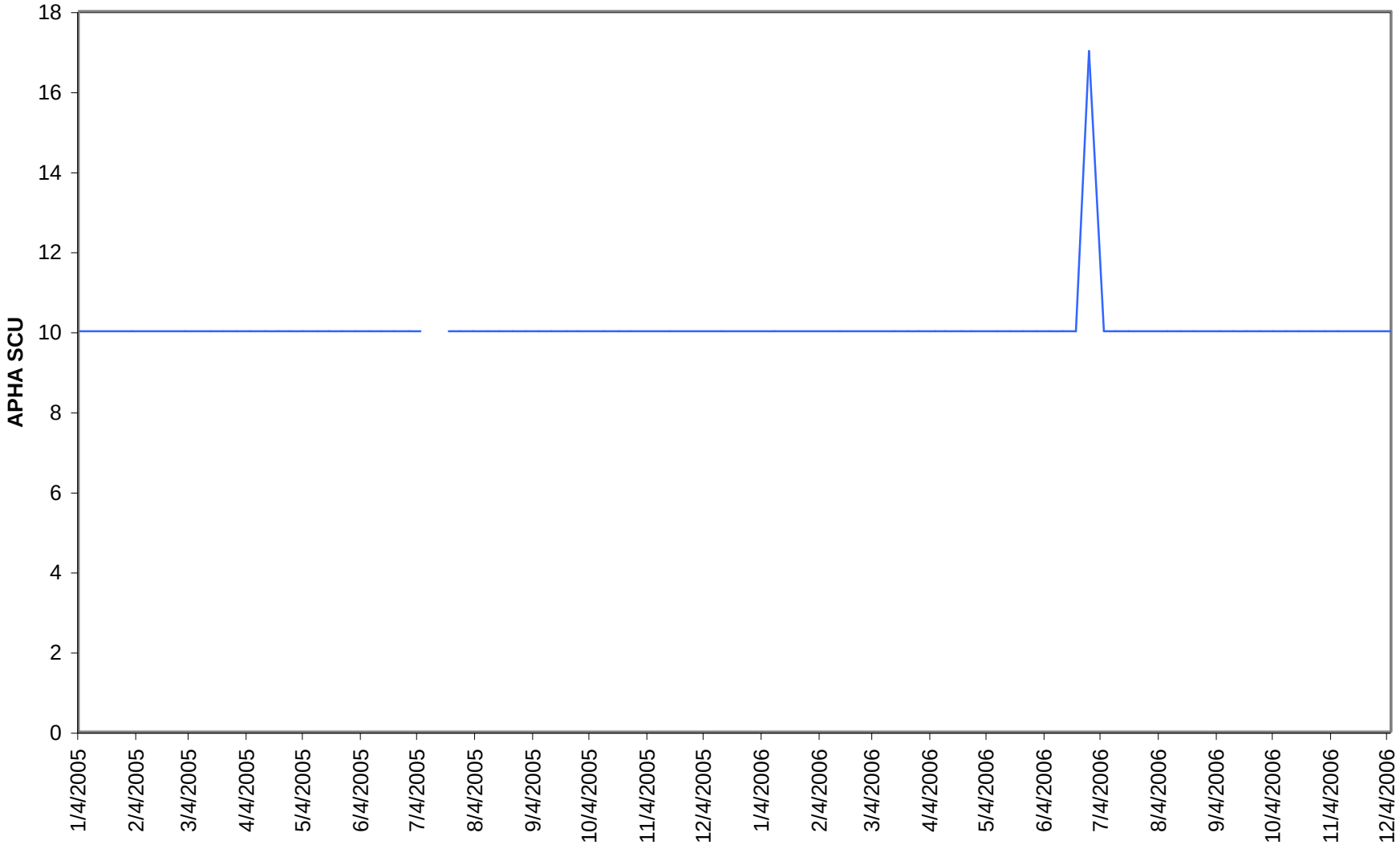
LWLVB1.85 Metalimnion E. coli.



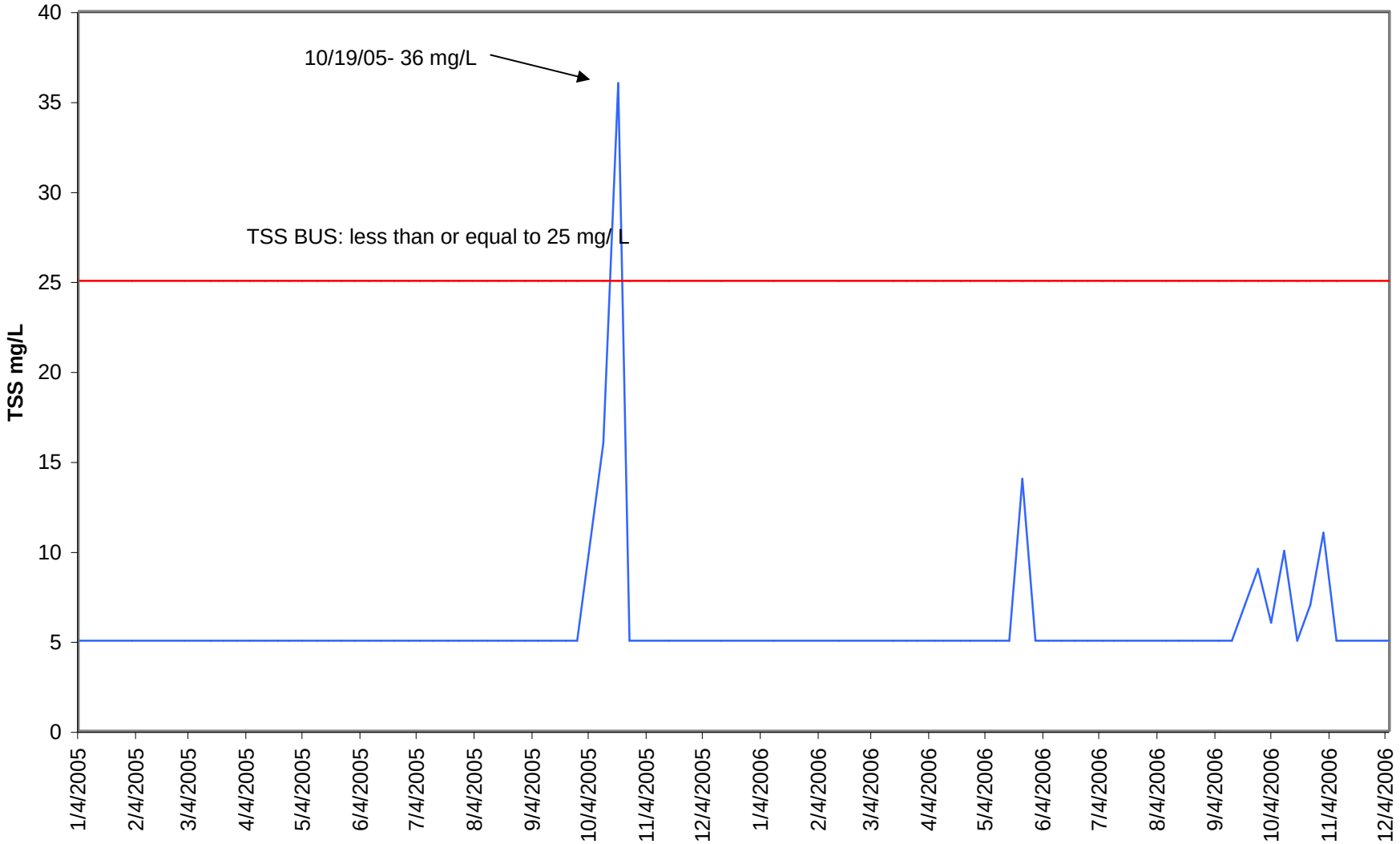
LWLVB1.85 Metalimnion Fecal Coliform



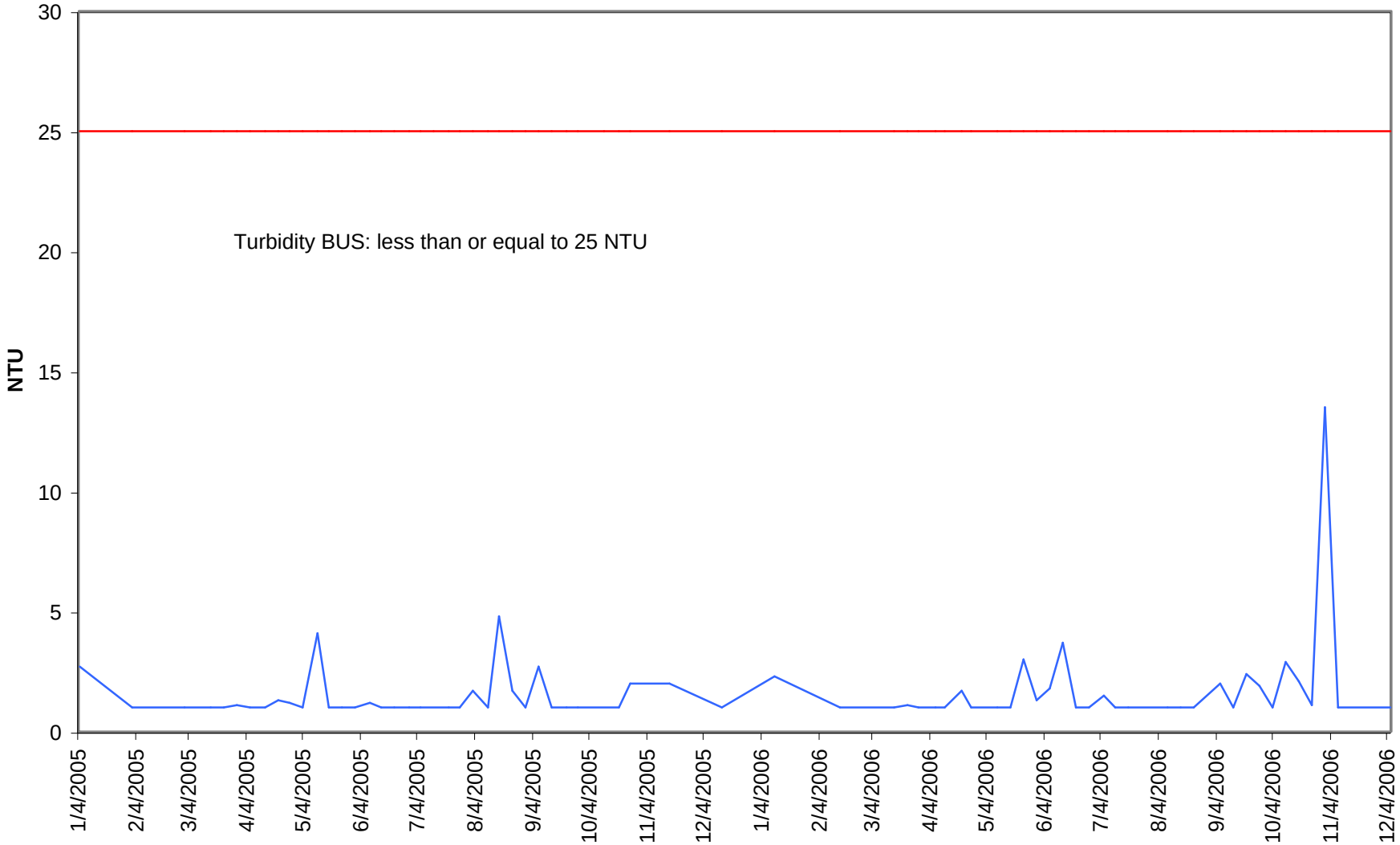
LWLVB1.85 Metalimnion Color



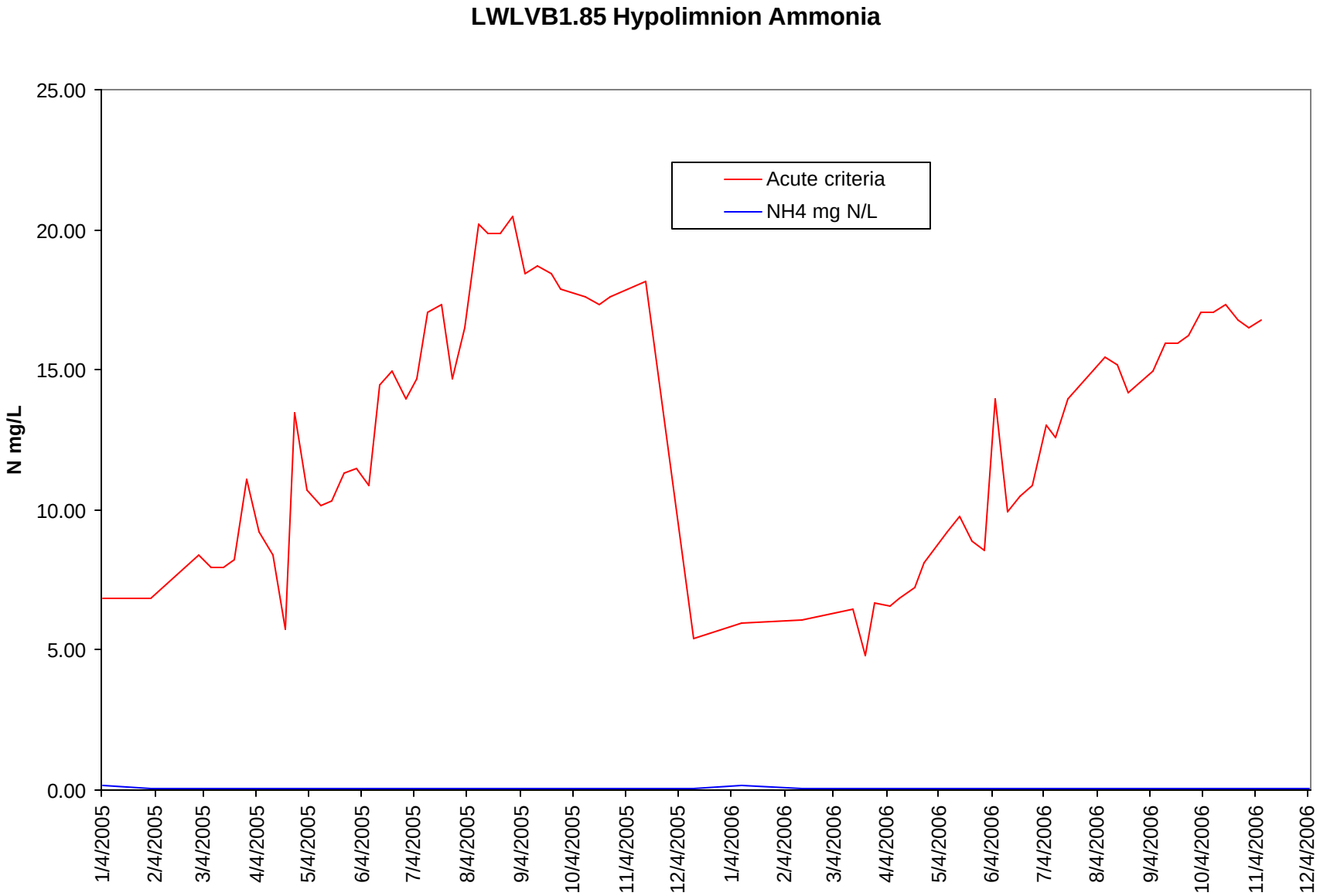
LWLVB1.85 Metalimnion Total Suspended Solids

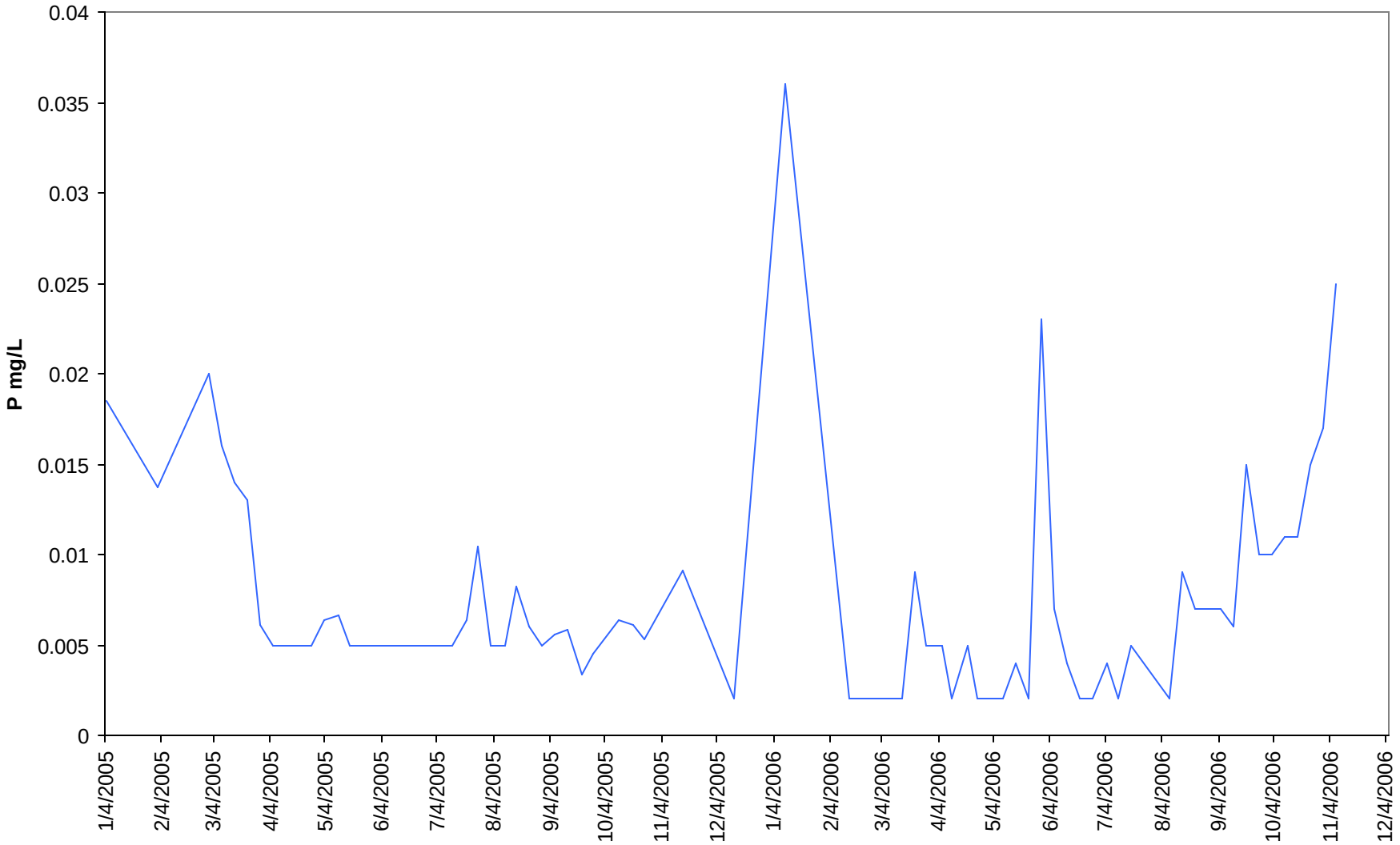


LWLVB1.85 Metalimnion Turbidity

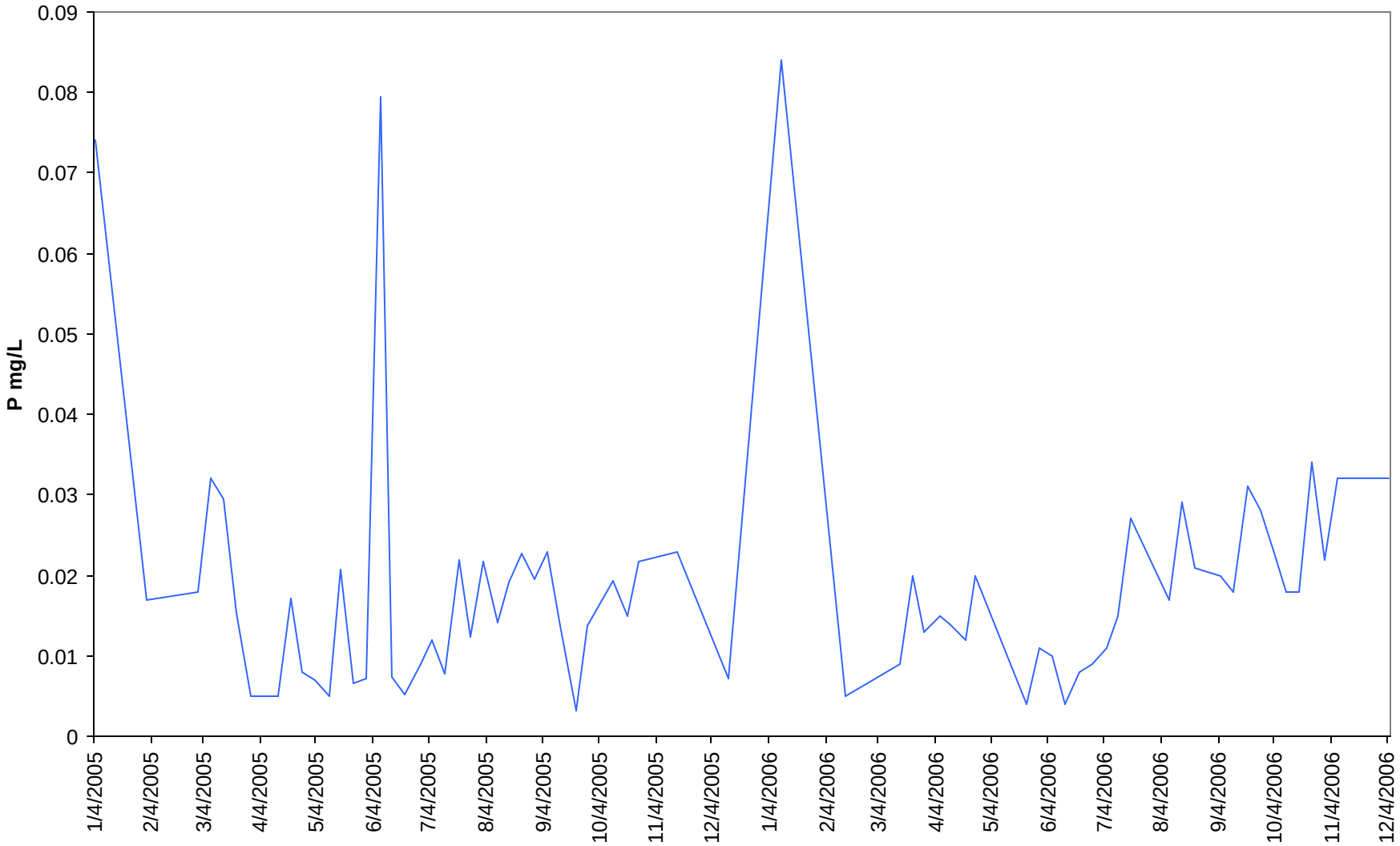


LWLVB1.85
Hypolimnion

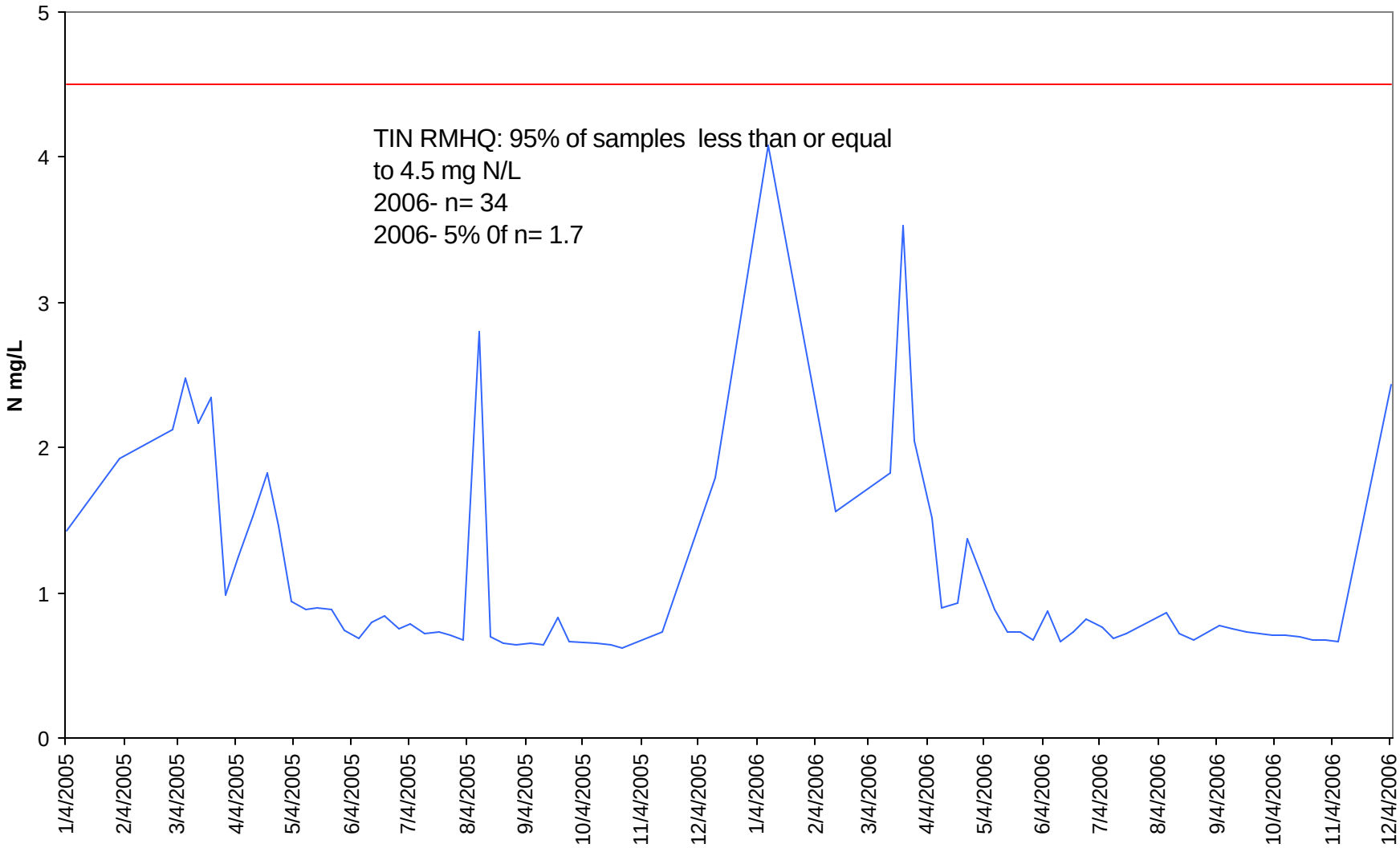

LWLVB1.85 Hypolimnion Ammonia
N mg/L
25.00
20.00
15.00
10.00
5.00
0.00
Acute criteria
NH4 mg N/L
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

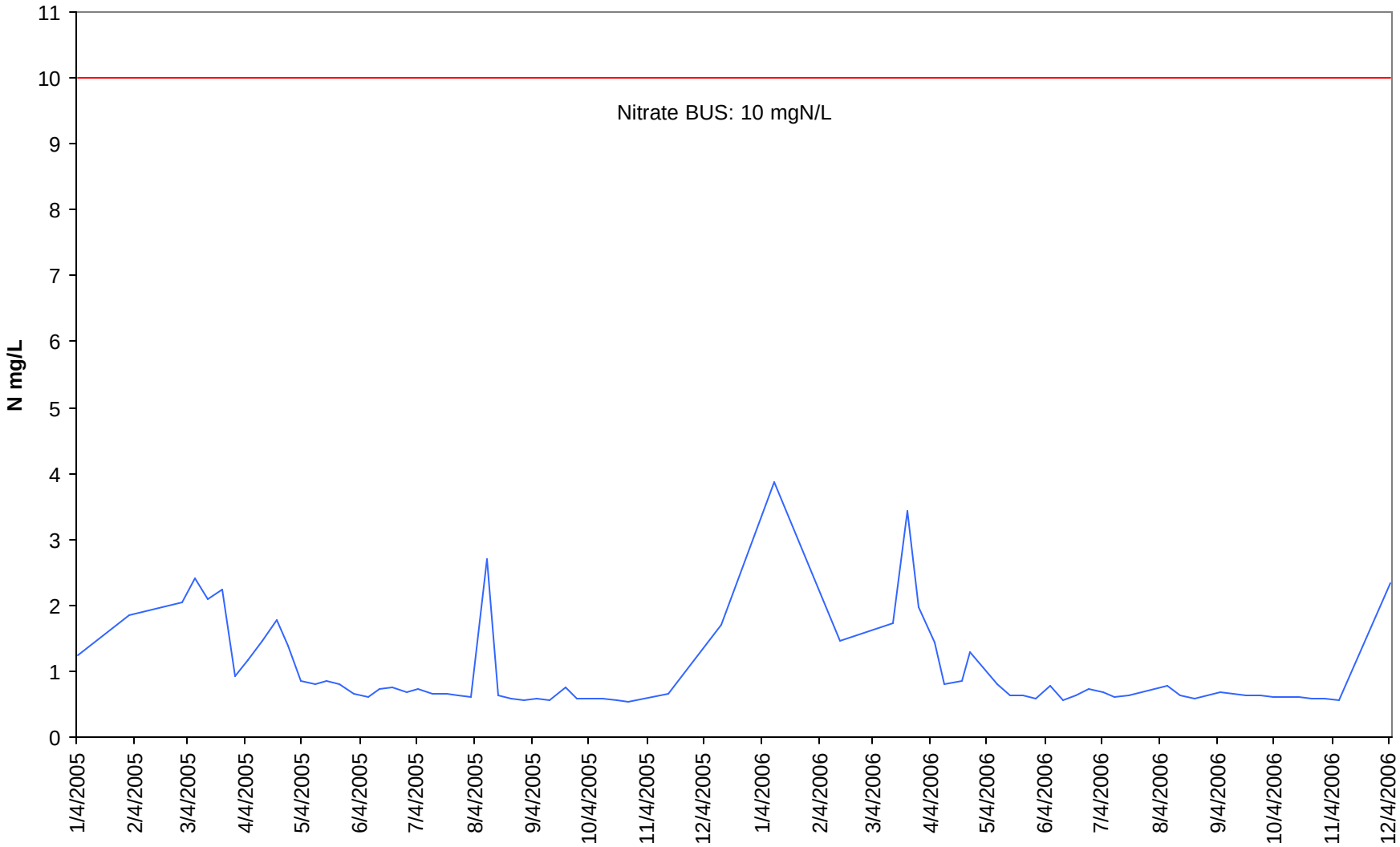

LWLVB1.85 Hypolimnion Dissolved ortho Phosphorus
P mg/L
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB1.85 Hypolimnion Total Phosphorus

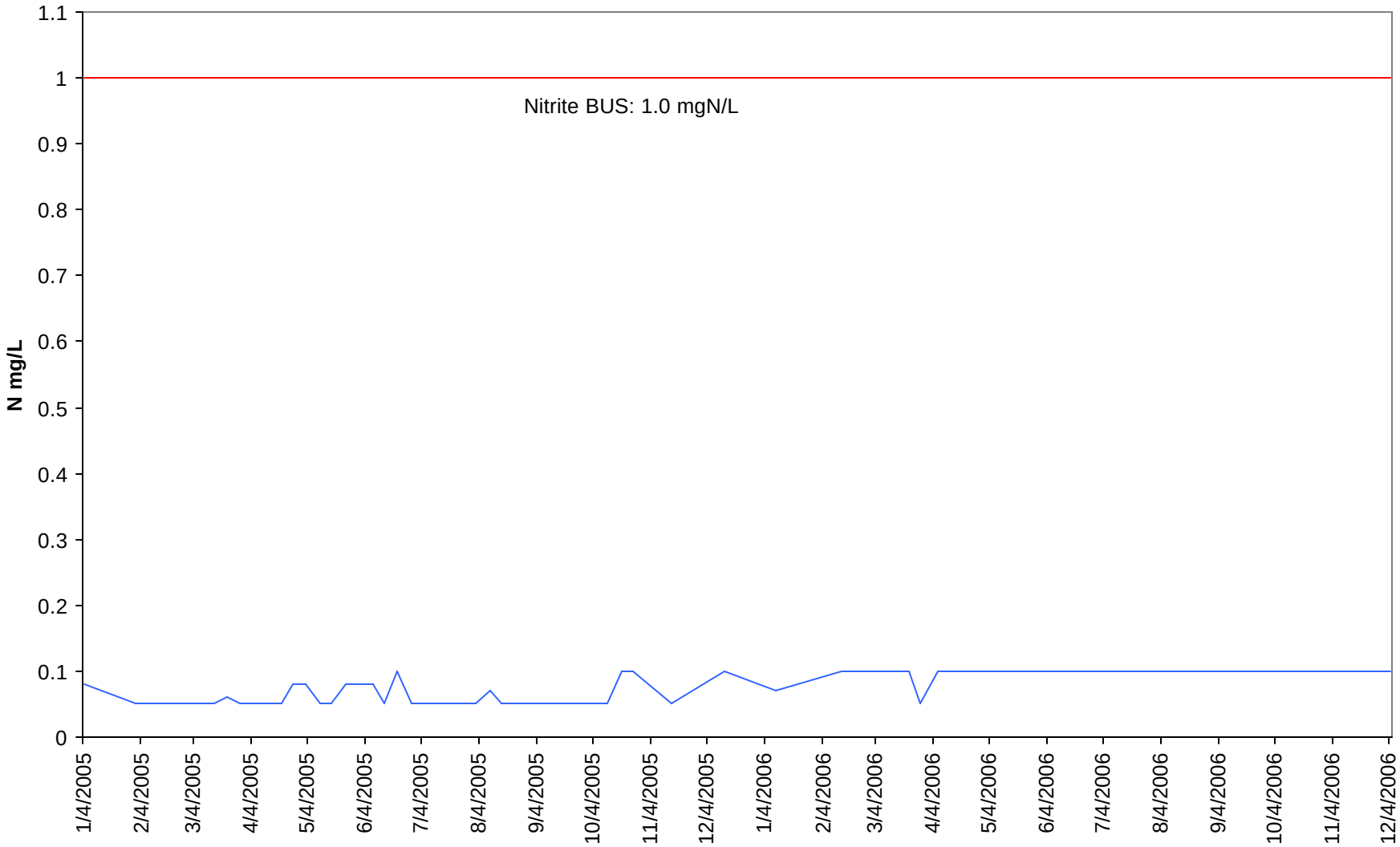


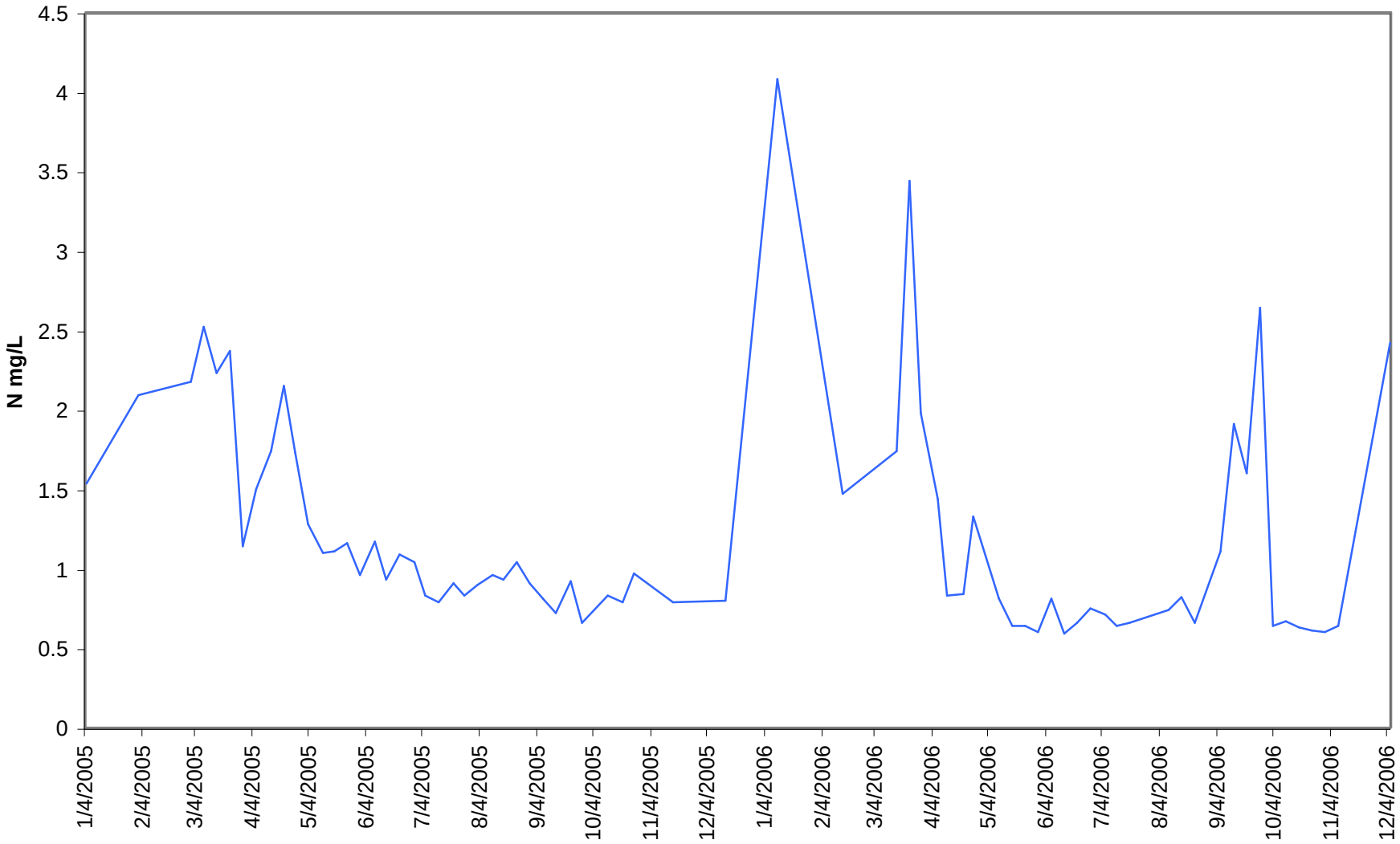
LWLVB1.85 Hypolimnion Total Inorganic Nitrogen

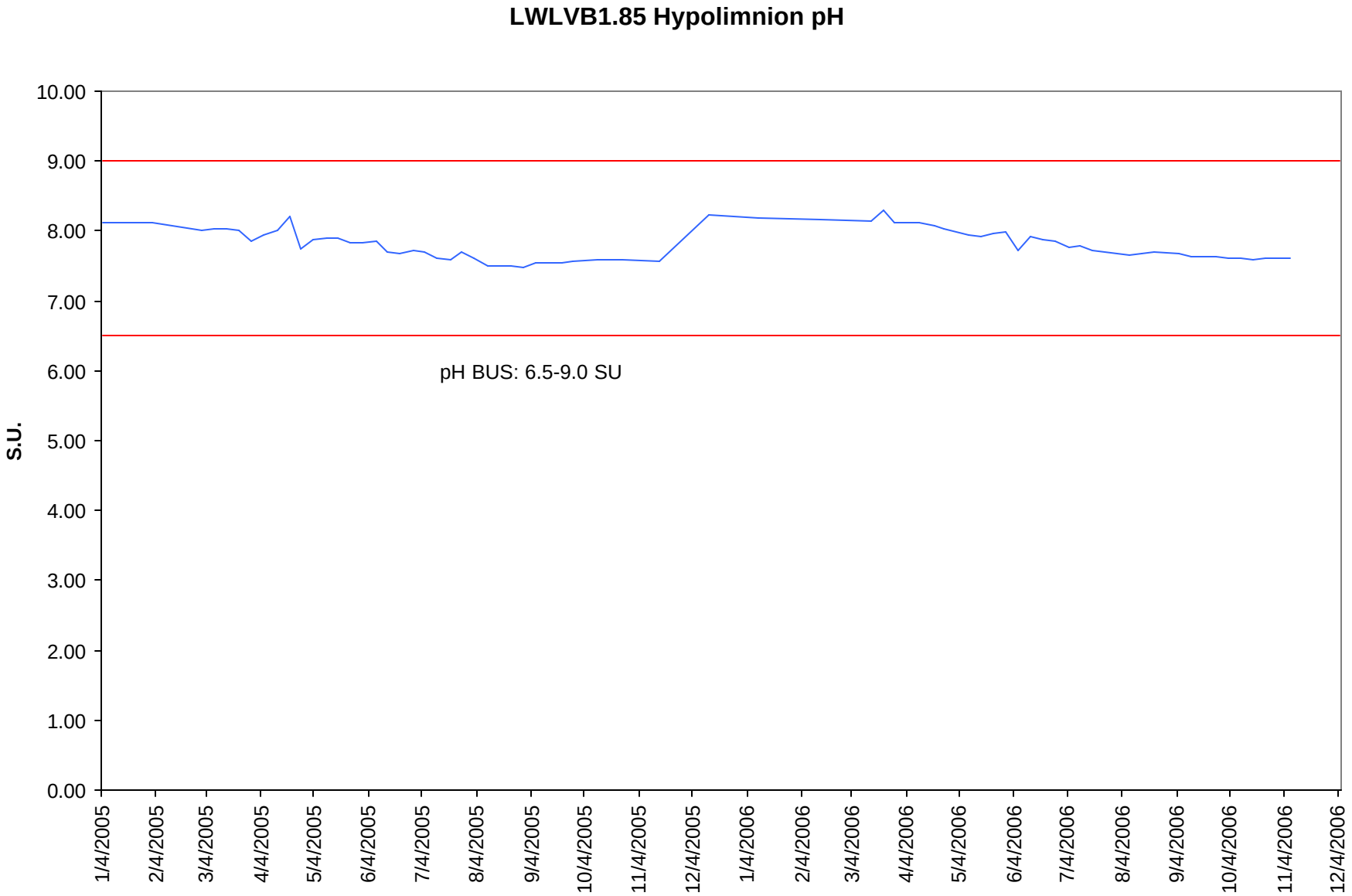


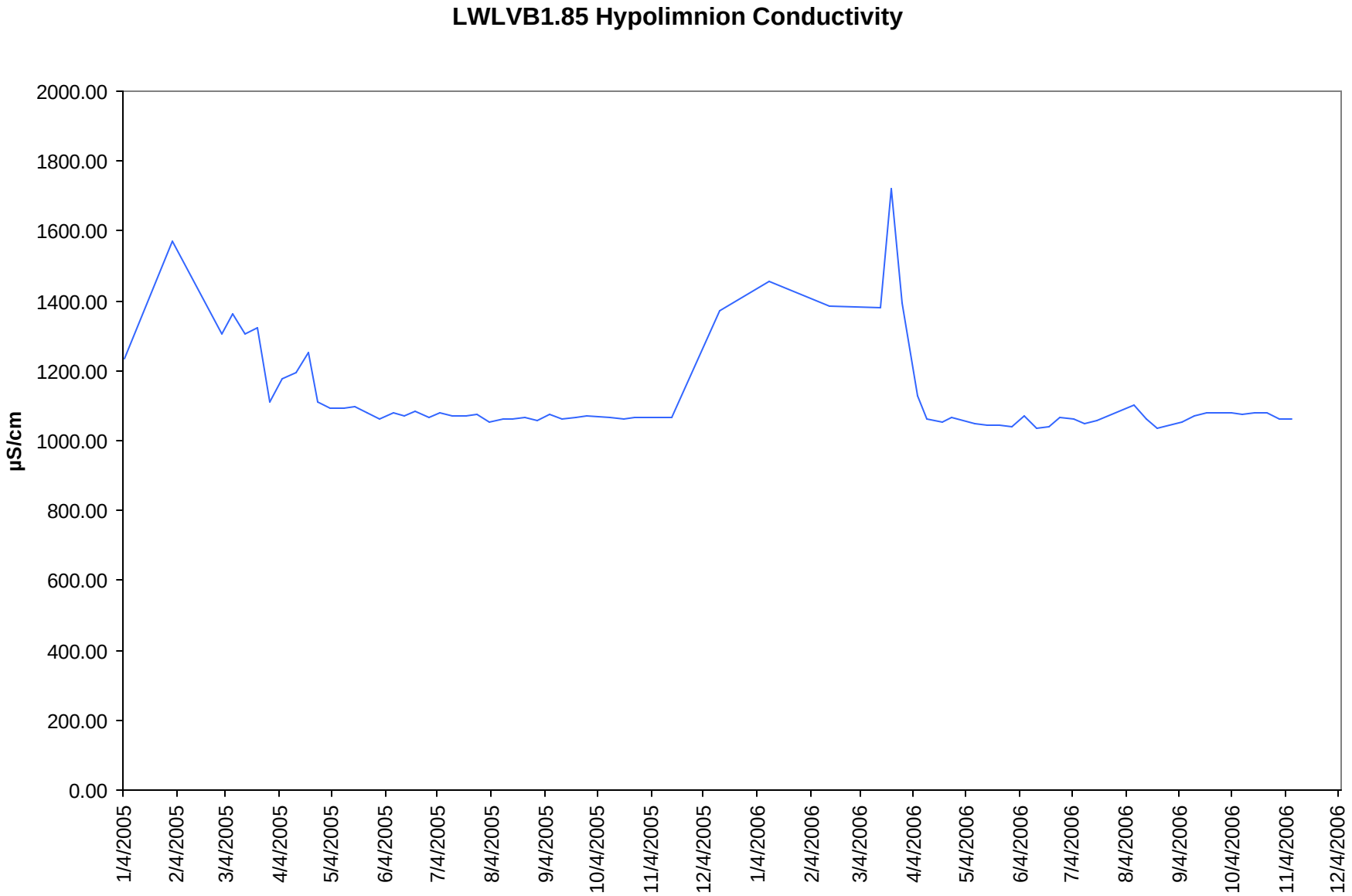

LWLVB1.85 Hypolimnion Nitrate
Nitrate BUS: 10 mgN/L
N mg/L
11
10
9
8
7
6
5
4
3
2
1
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

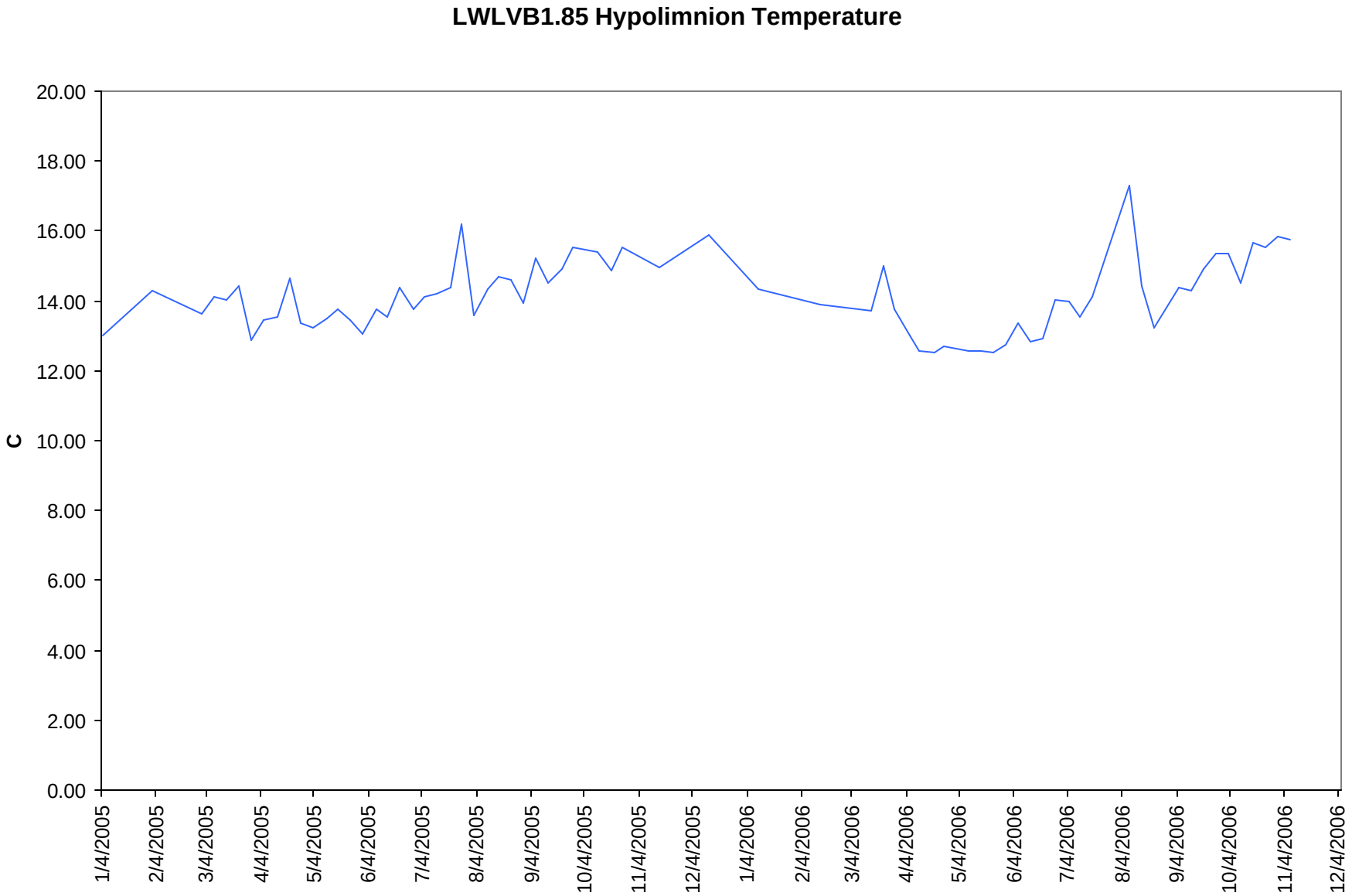
LWLVB1.85 Hypolimnion Nitrite



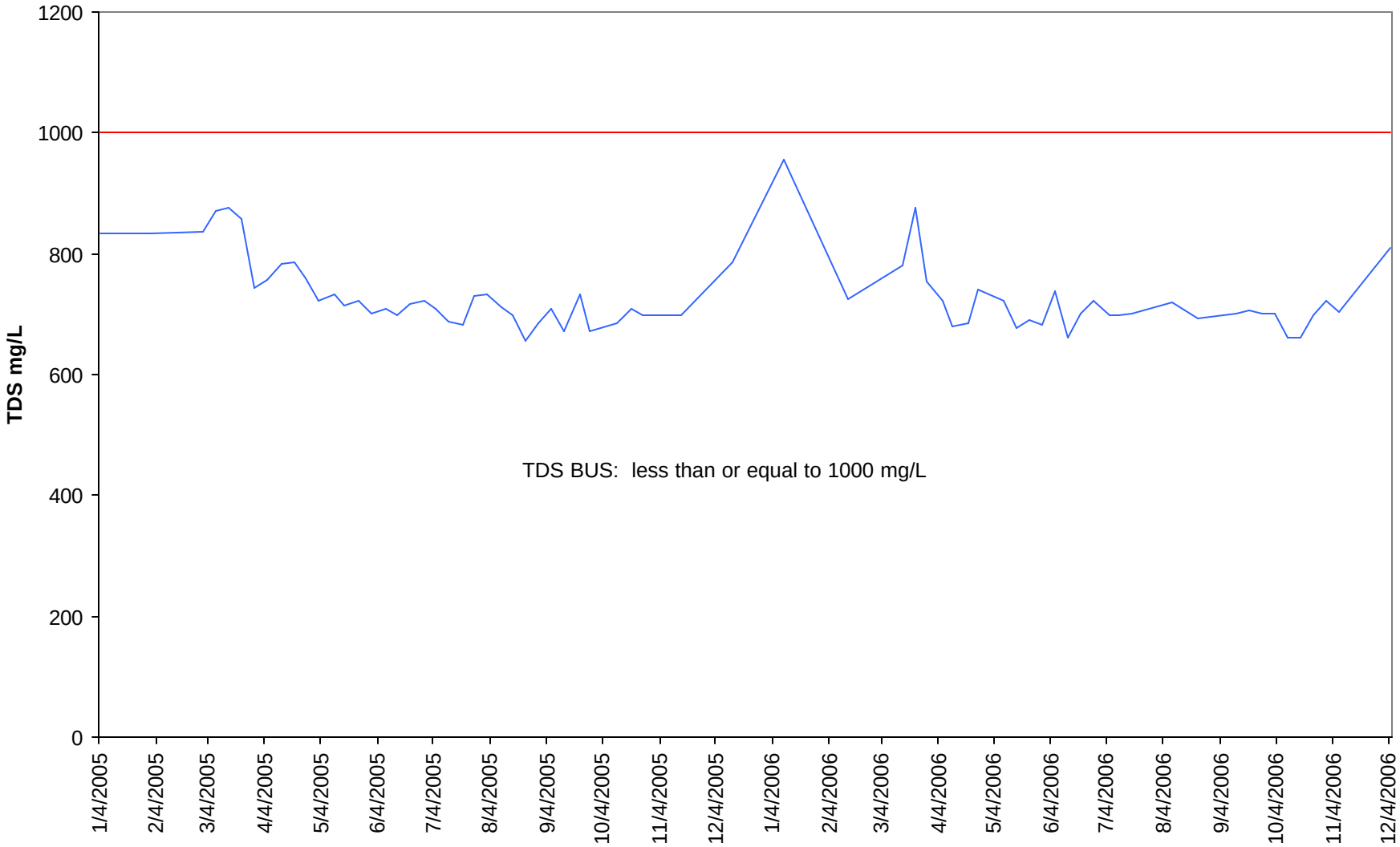

LWLVB1.85 Hypolimnion Total Nitrogen
N mg/L
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006


LWLVB1.85 Hypolimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

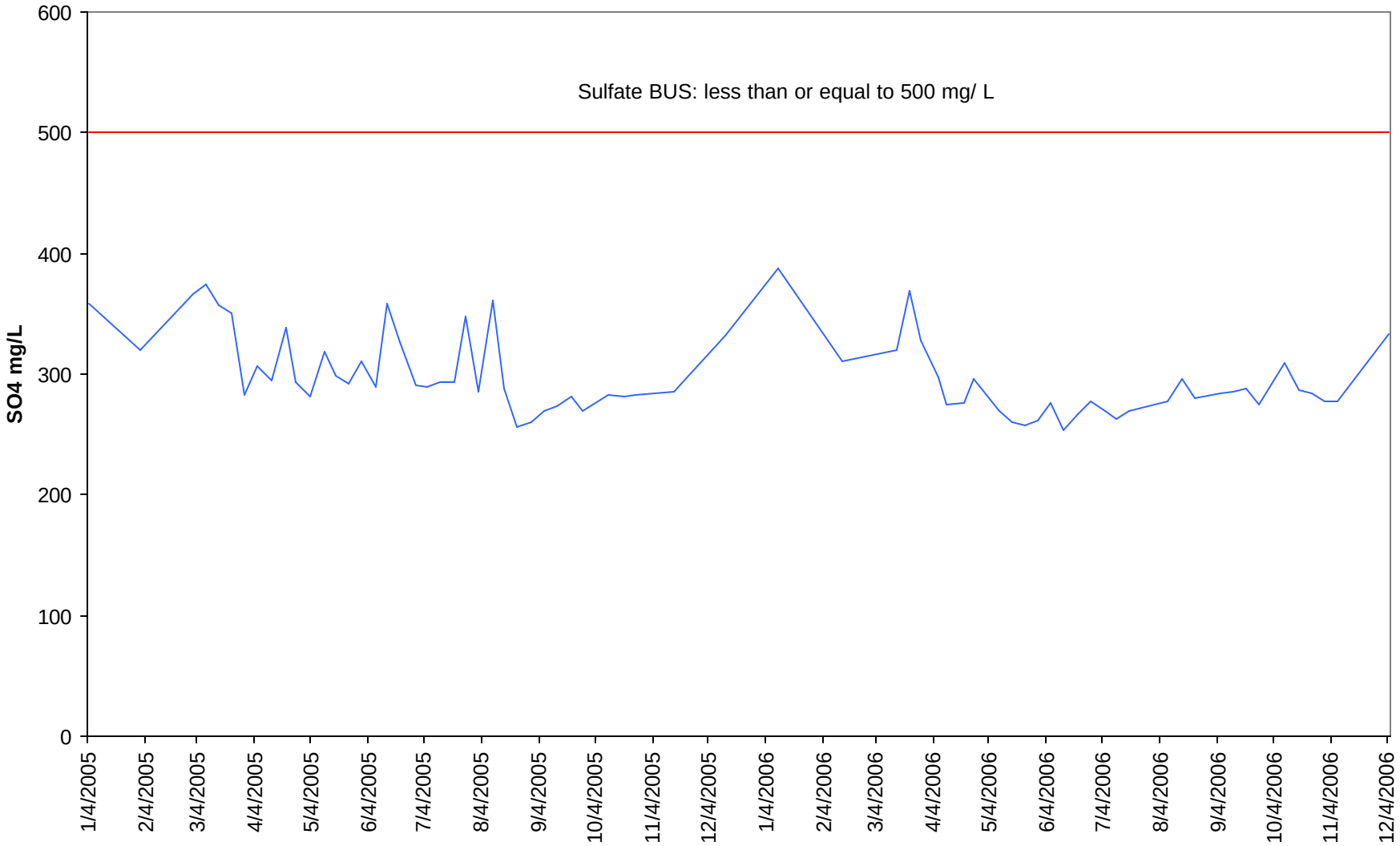

LWLVB1.85 Hypolimnion Conductivity
µS/cm
2000.00
1800.00
1600.00
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006


LWLVB1.85 Hypolimnion Temperature
C
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

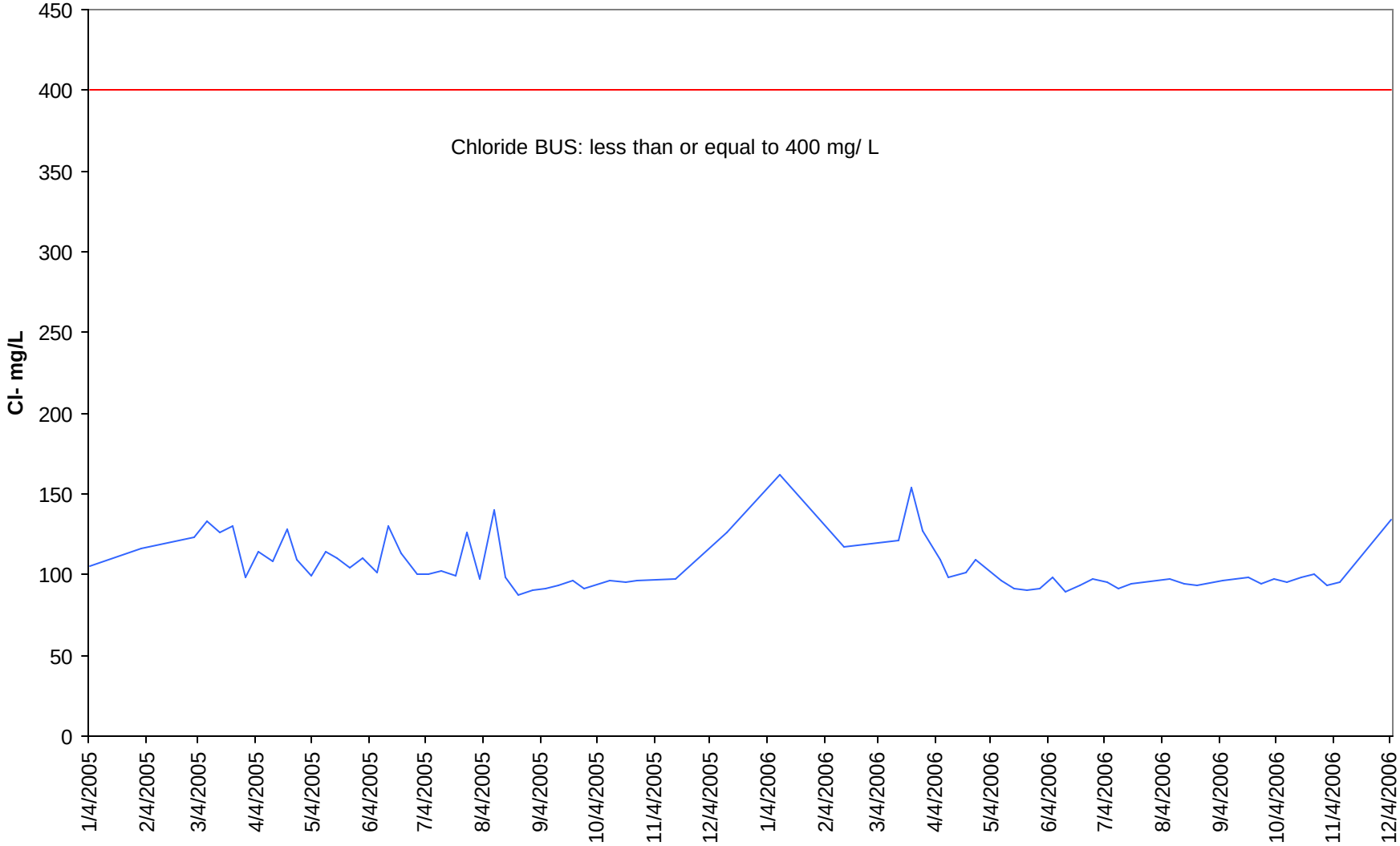
LWLVB1.85 Hypolimnion Total Dissolved Solids

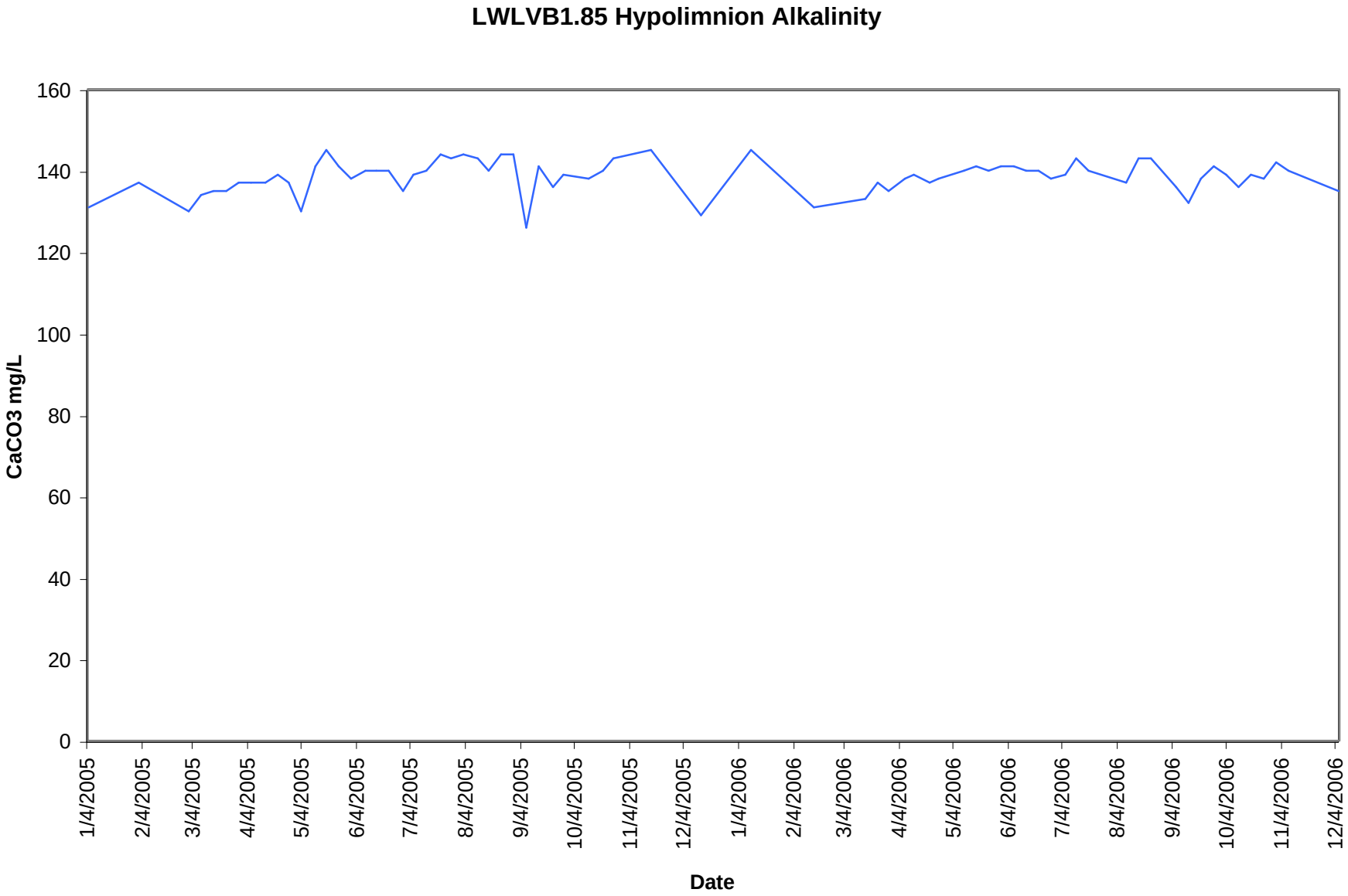


LWLVB1.85 Hypolimnion Sulfate

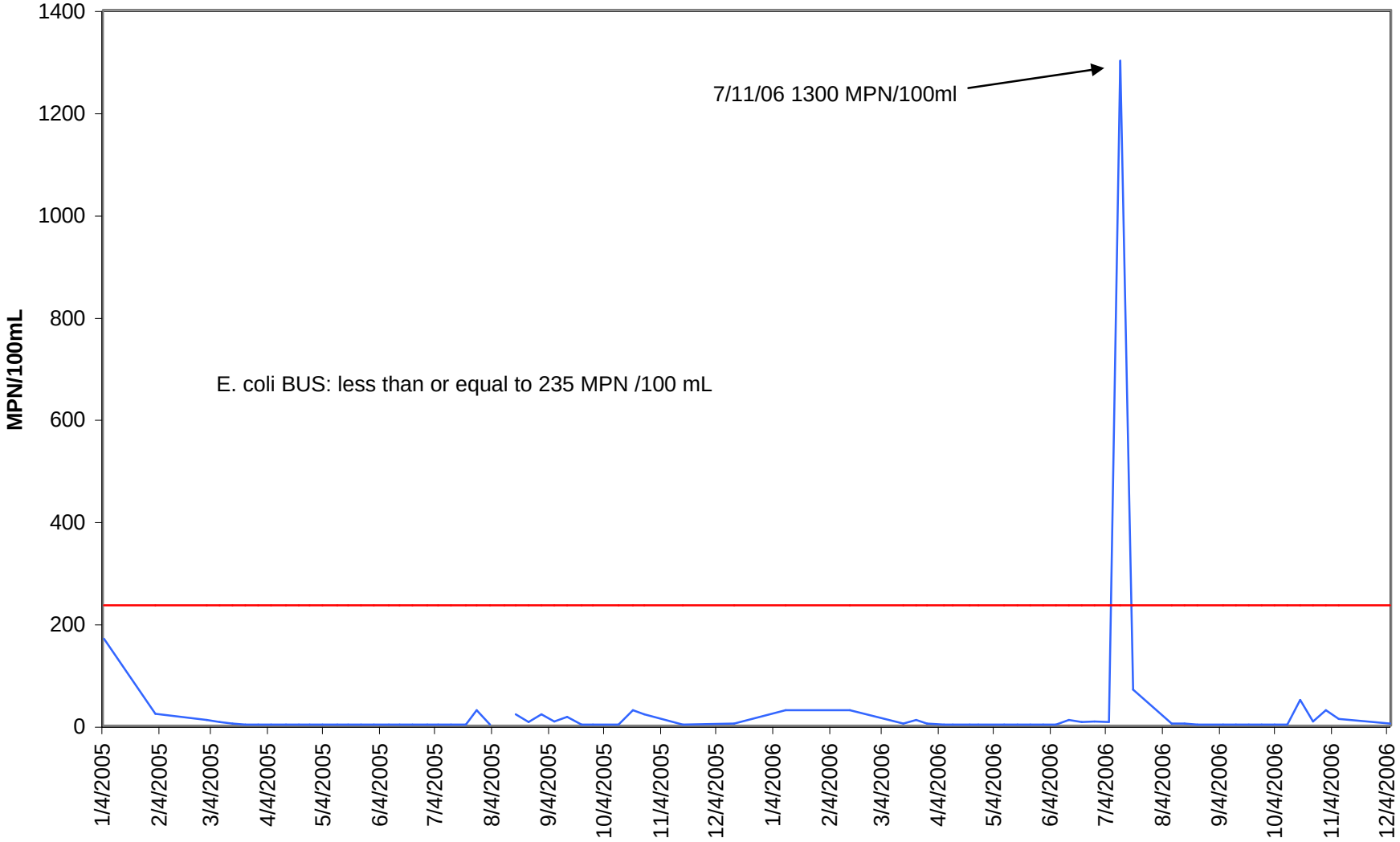


LWLVB1.85 Hypolimnion Chloride

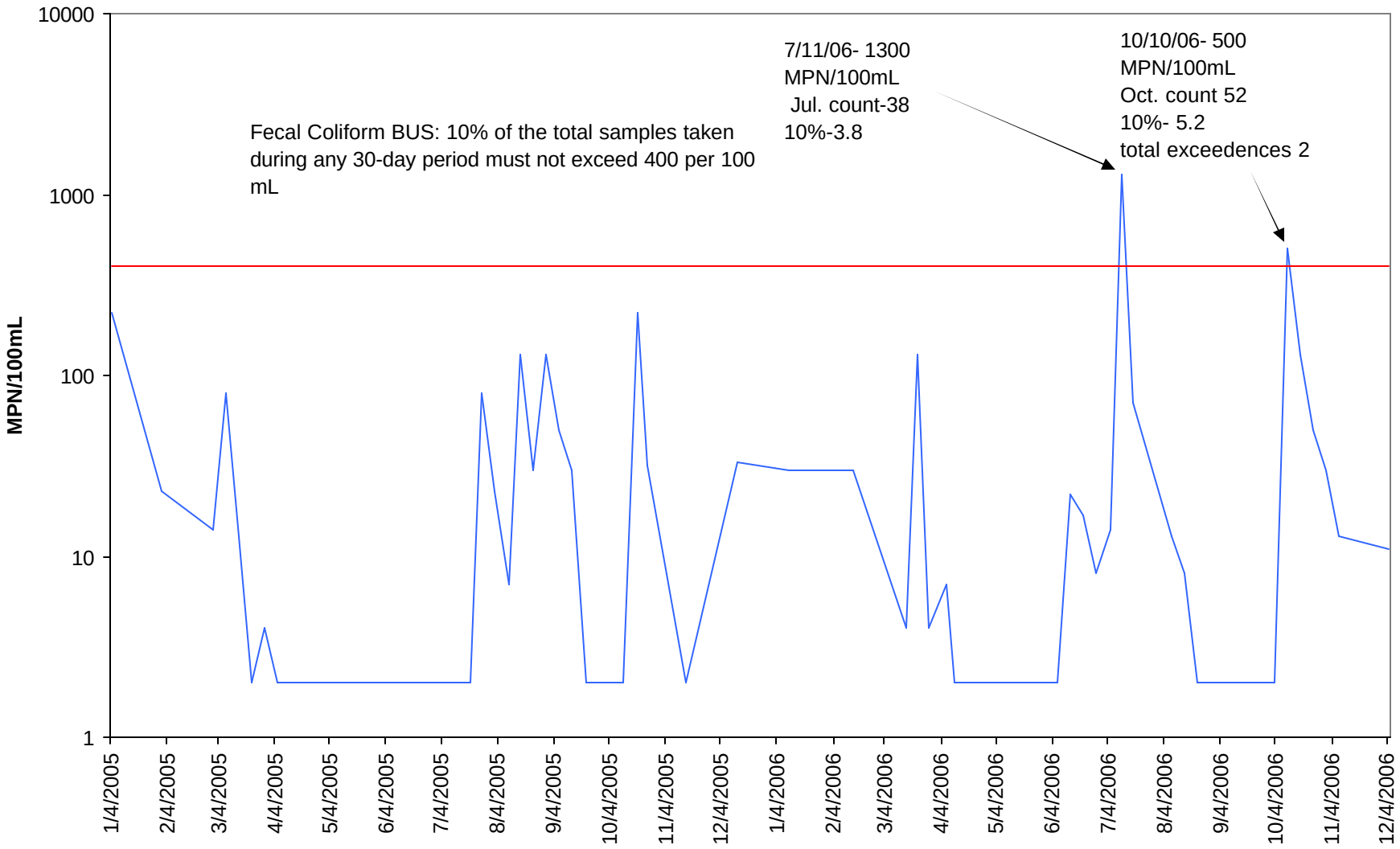


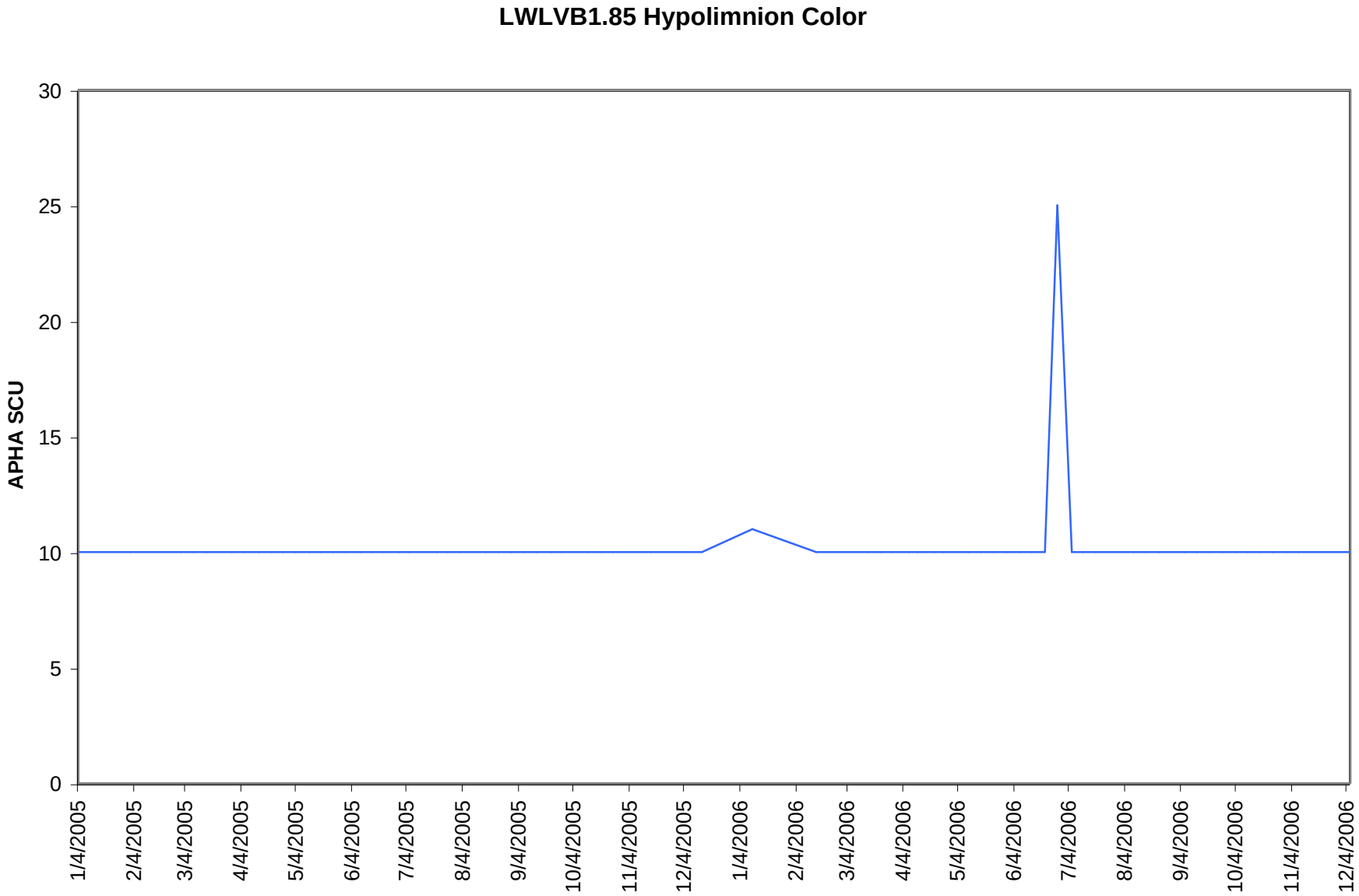

LWLVB1.85 Hypolimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006
Date

LWLVB1.85 Hypolimnion E. coli.

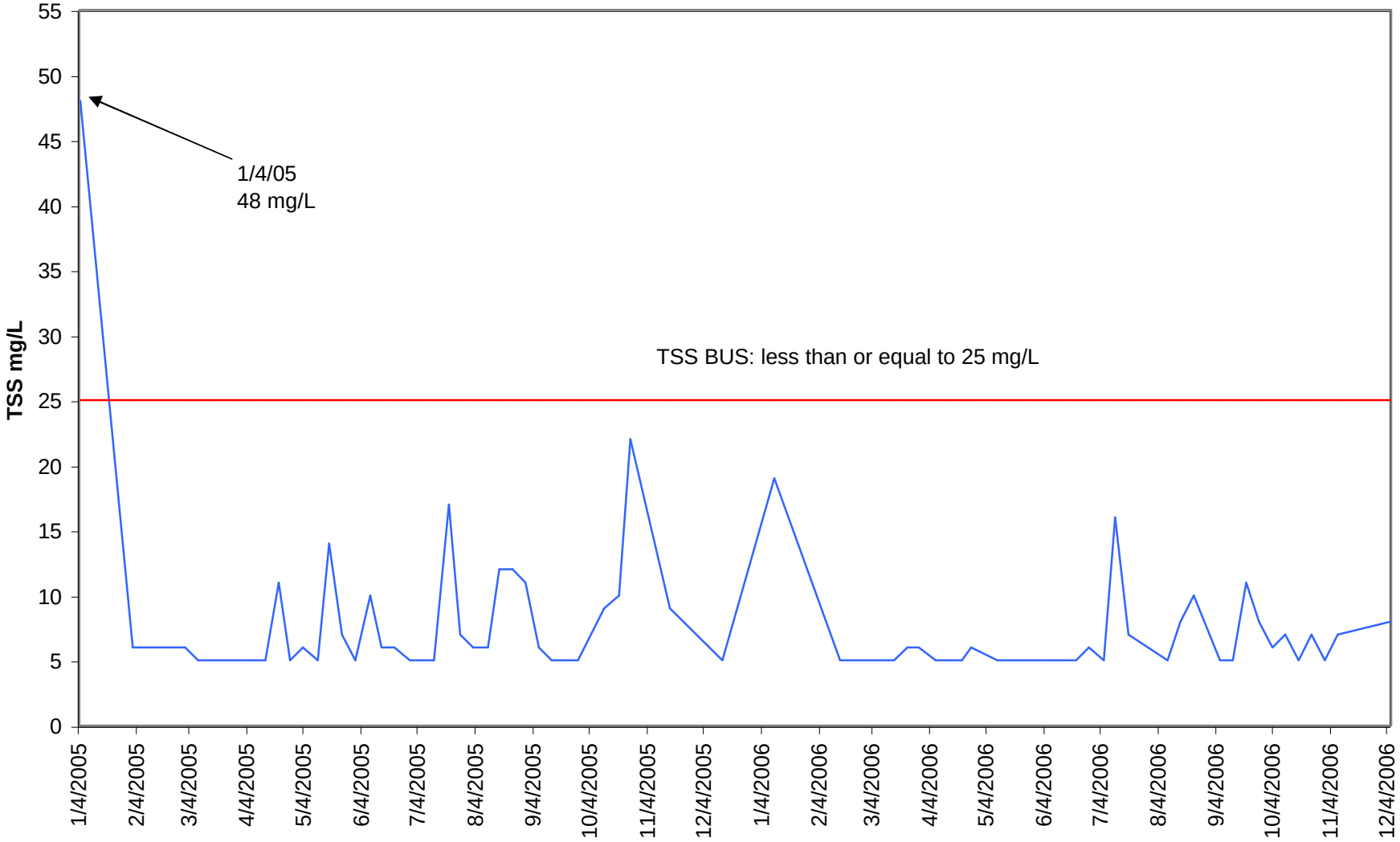


LWLVB1.85 Hypolimnion Fecal Coliform

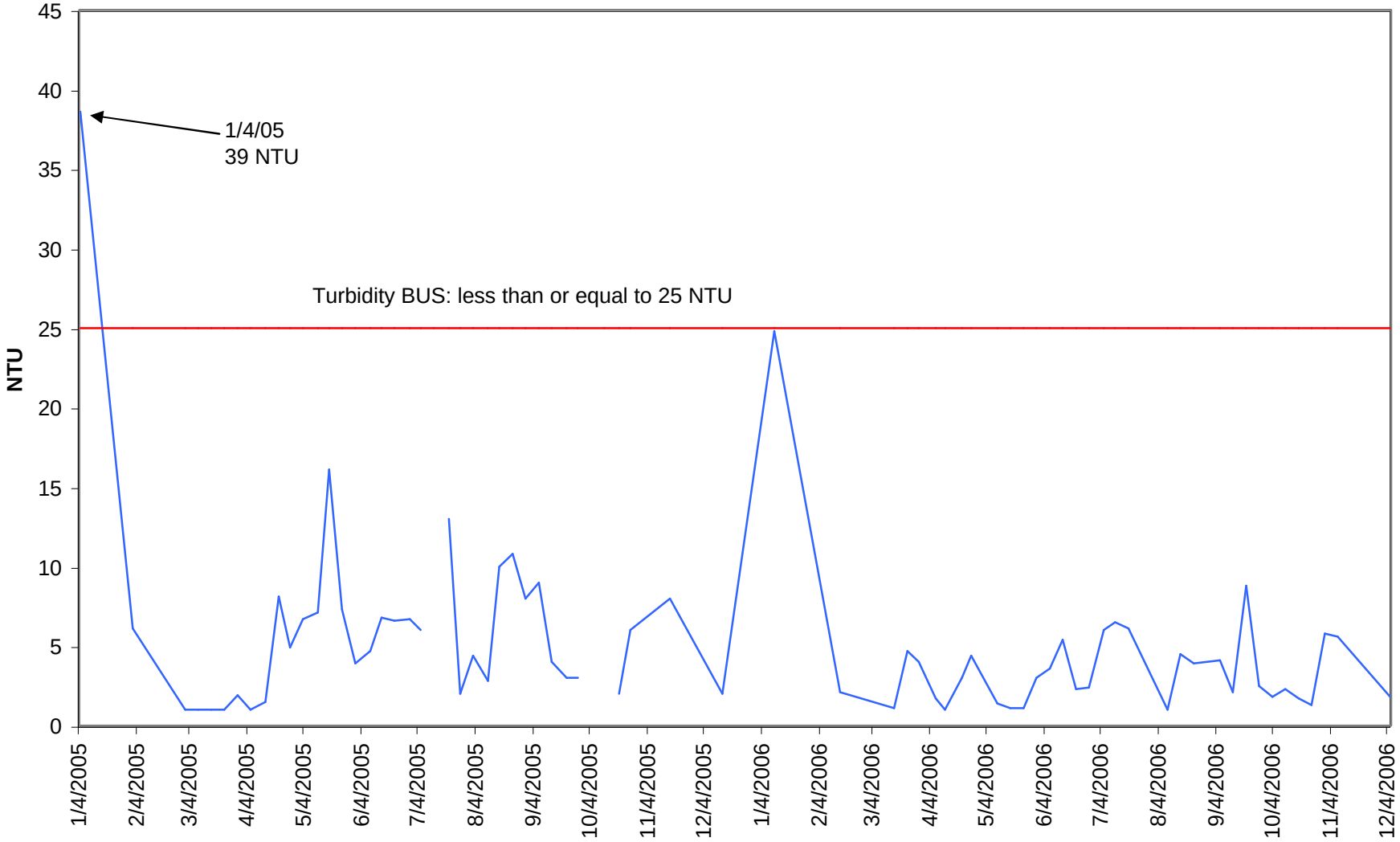



LWLVB1.85 Hypolimnion Color
APHA SCU
30
25
20
15
10
5
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

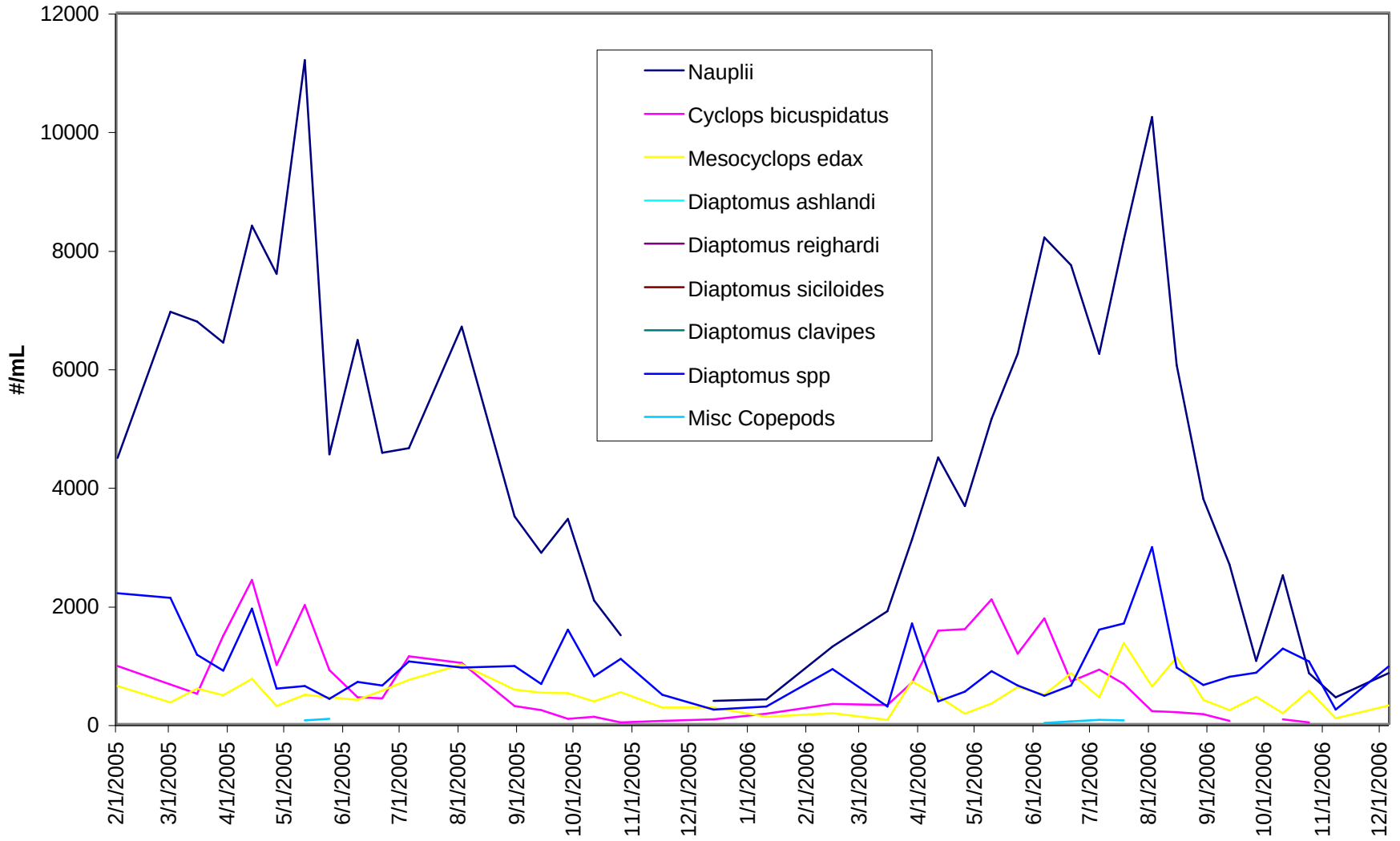
LWLVB1.85 Hypolimnion Total Suspended Solids

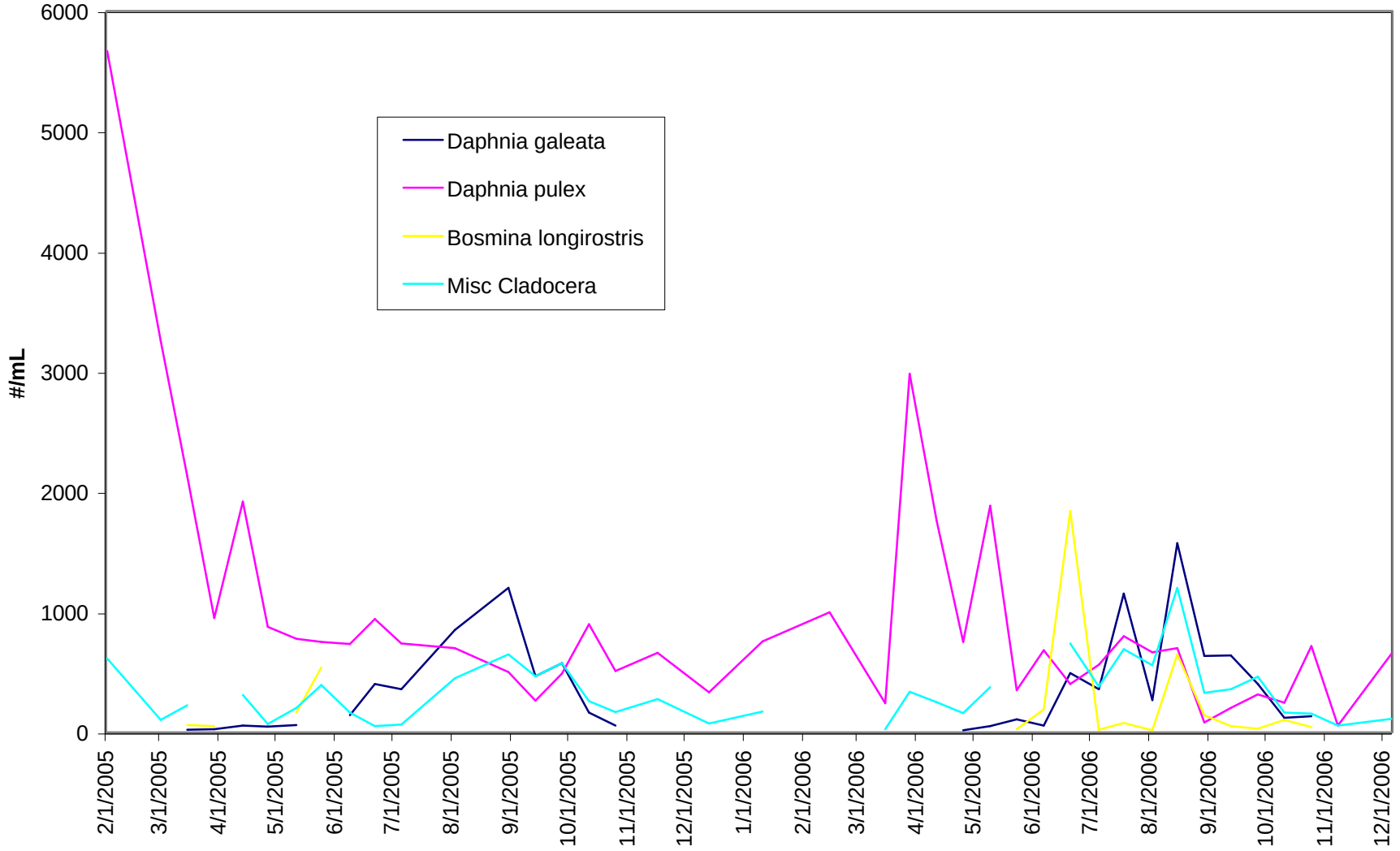


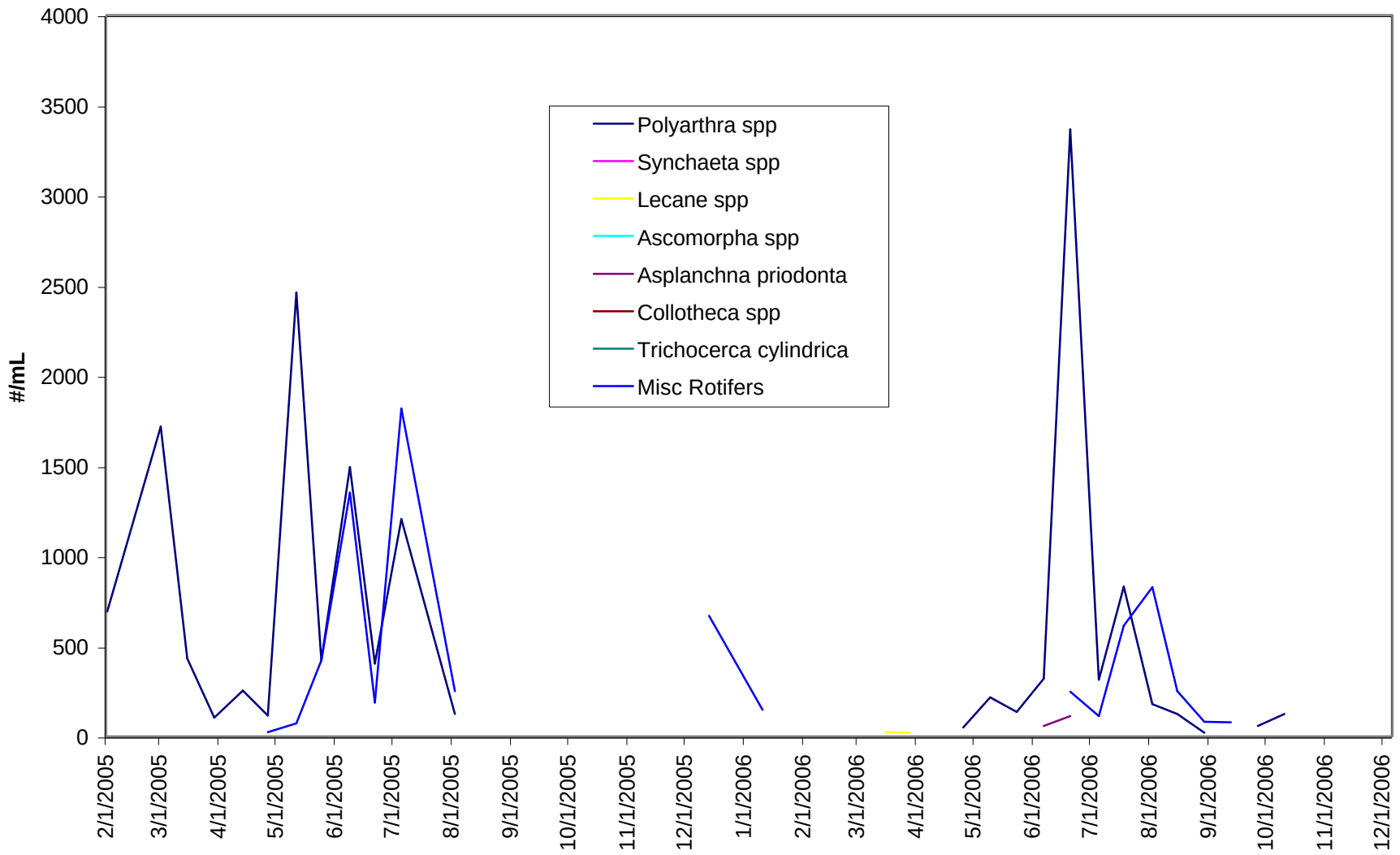
LWLVB1.85 Hypolimnion Turbidity



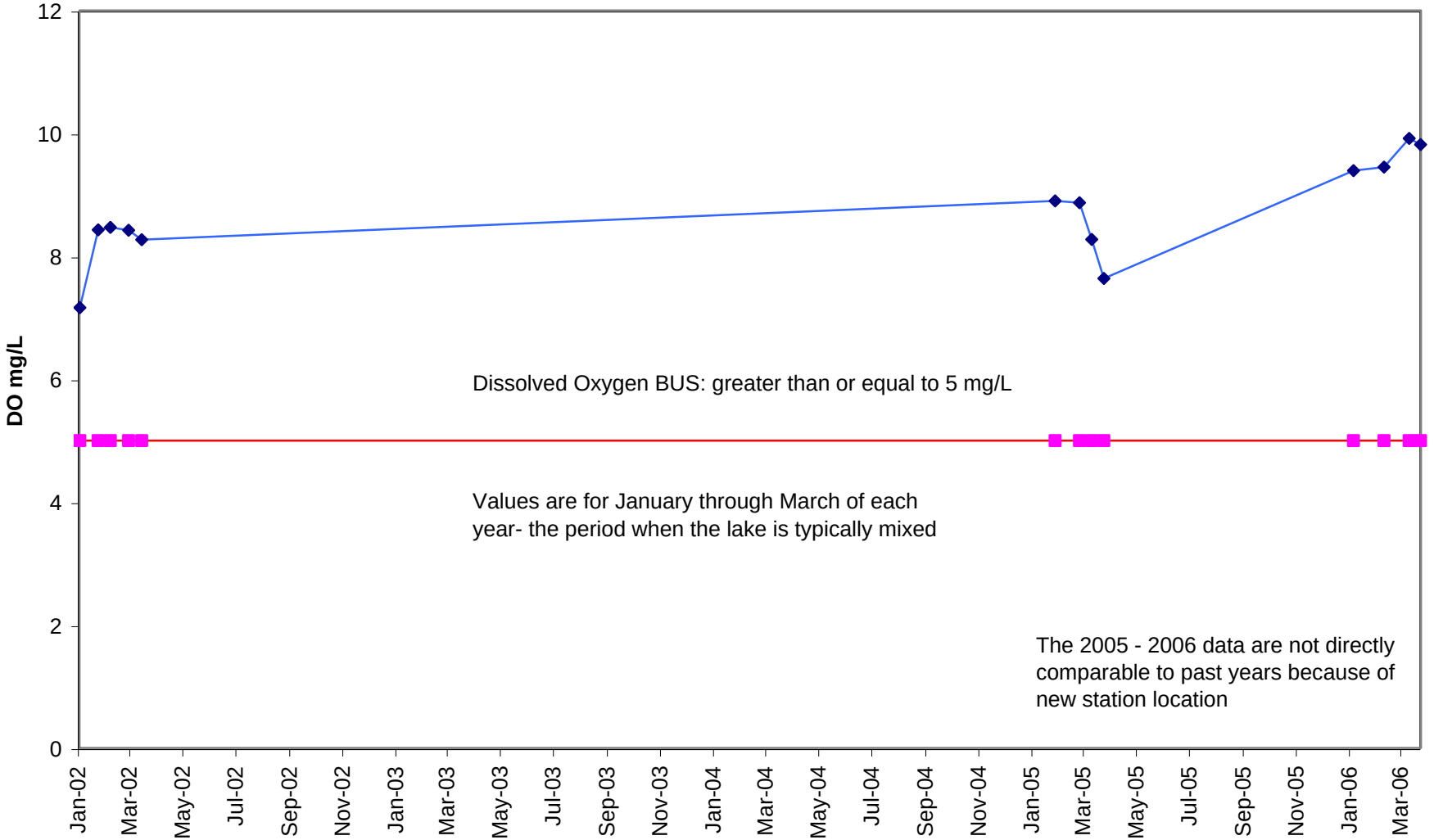
LWLVB2.7

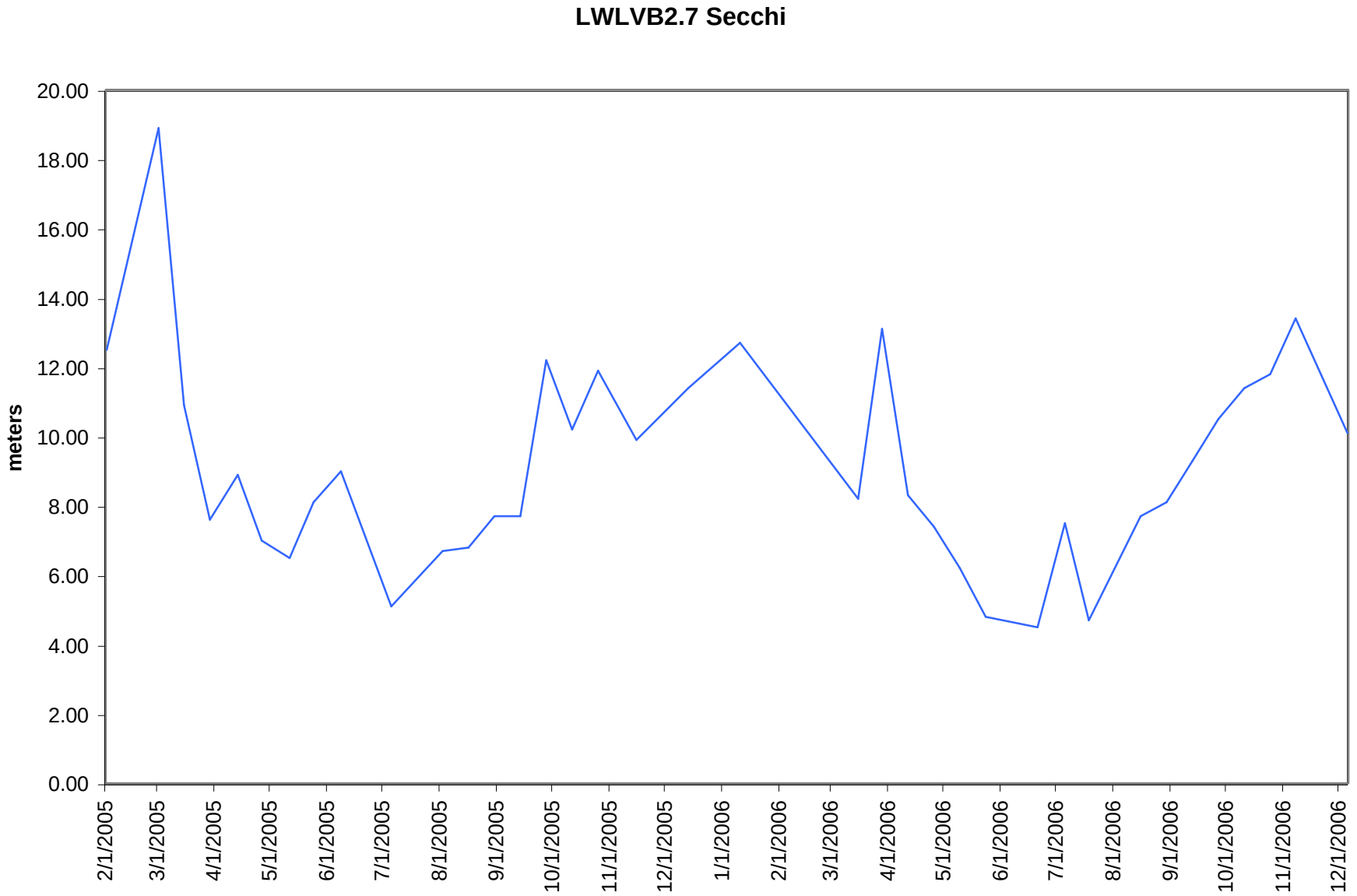

LWLVB2.7 Zooplankton- Copepods
#/mL
12000
10000
8000
6000
4000
2000
0
Nauplii
Cyclops bicuspidatus
Mesocyclops edax
Diaptomus ashlandi
Diaptomus reighardi
Diaptomus siciloides
Diaptomus clavipes
Diaptomus spp
Misc Copepods
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006


LWLVB2.7 Zooplankton- Cladocerans
#/mL
6000
5000
4000
3000
2000
1000
0
Daphnia galeata
Daphnia pulex
Bosmina longirostris
Misc Cladocera
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006


LWLVB2.7 Zooplankton- Rotifers
#/mL
4000
3500
3000
2500
2000
1500
1000
500
0
Polyarthra spp
Synchaeta spp
Lecane spp
Ascomorpha spp
Asplanchna priodonta
Collotheca spp
Trichocerca cylindrica
Misc Rotifers
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

LWLVB2.7 Dissolved Oxygen
Vertical Average




LWLVB2.7 Secchi
meters
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

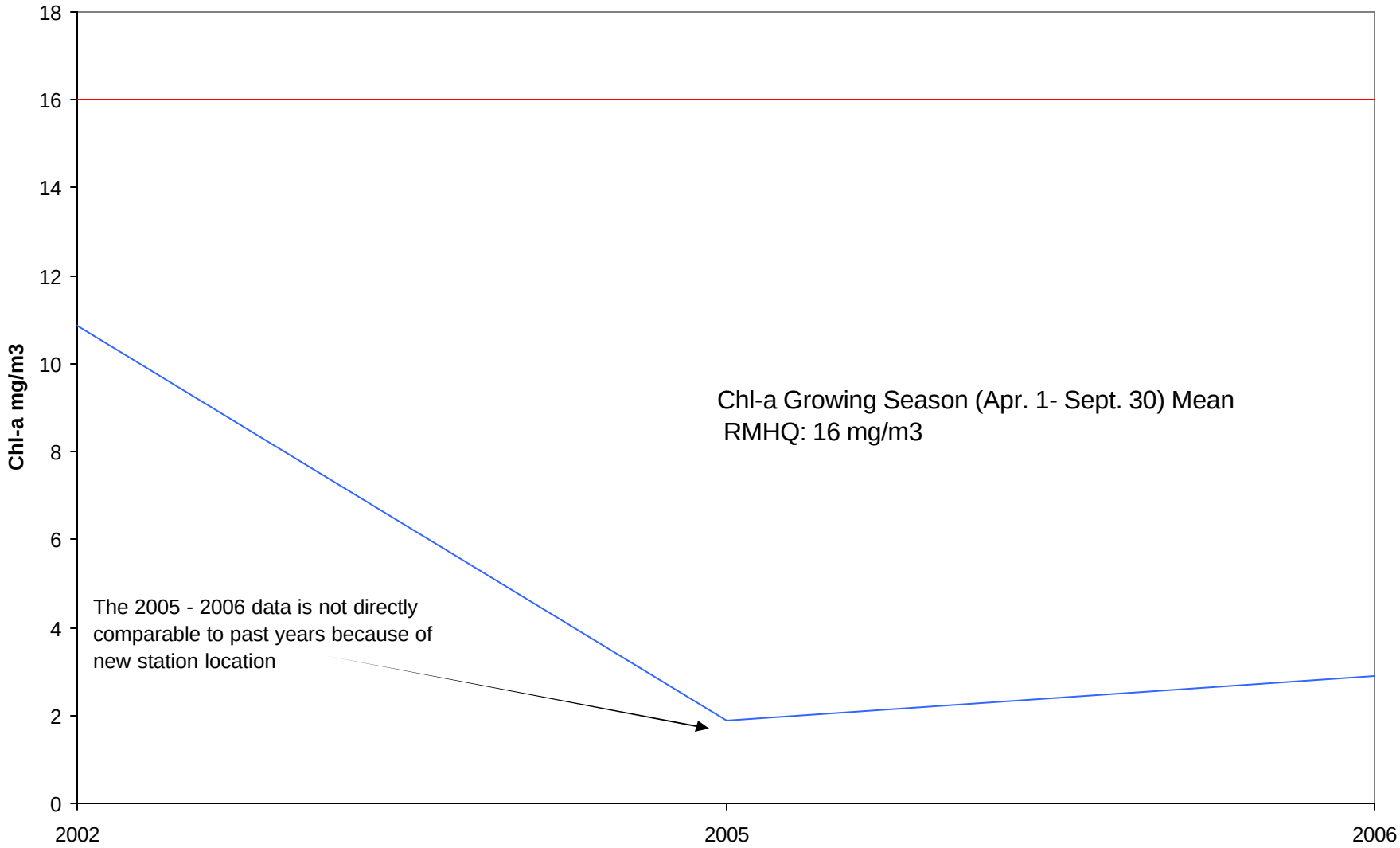
Climate Tables

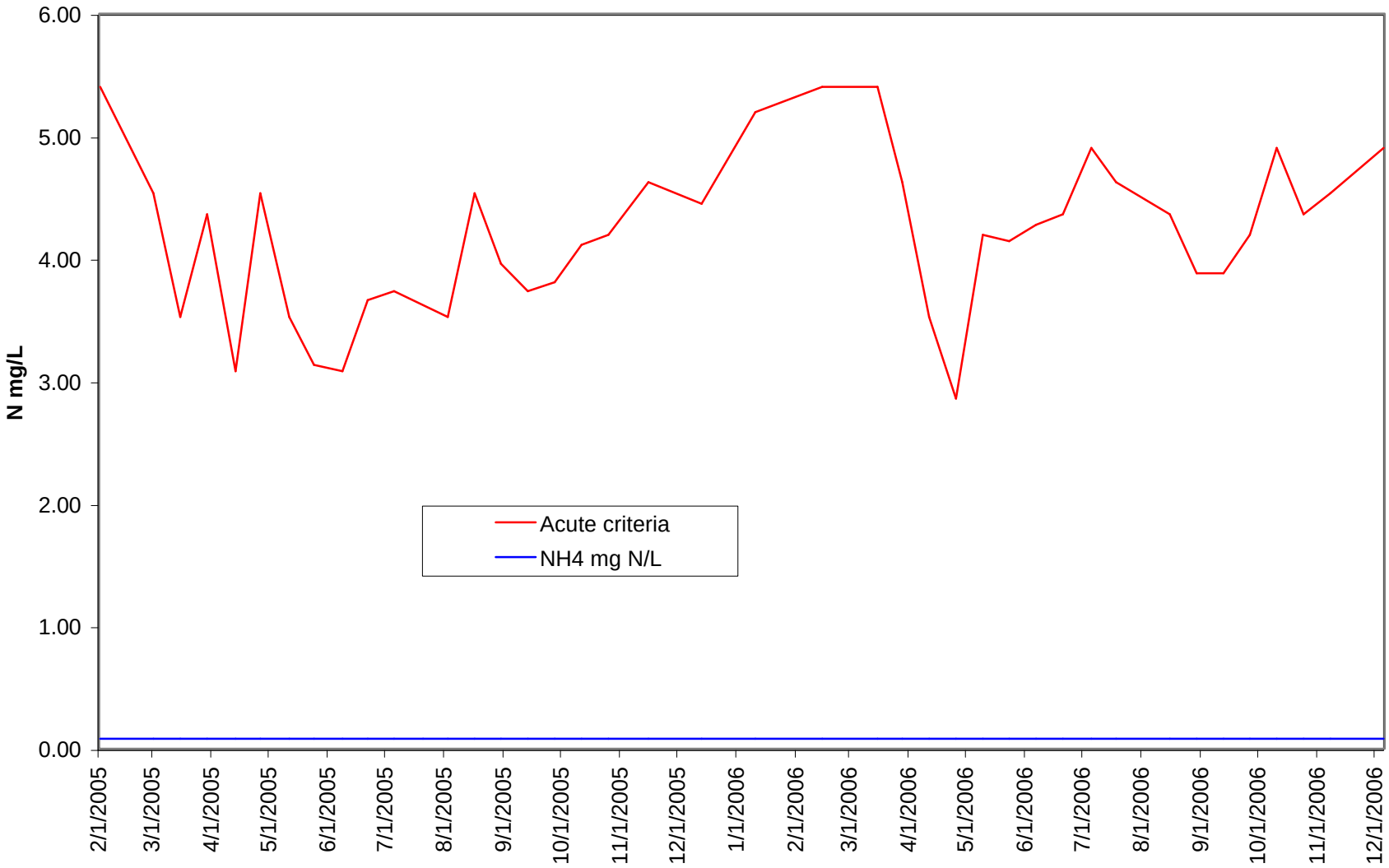
Station	Date	Air Temperature (°C)	Wind	Wind Direction	Climate
LWLVB2.7	2/1/05	14.1	0		Partly Cloudy
LWLVB2.7	3/1/05	13.7	1.6	NW	Partly Cloudy
LWLVB2.7	3/15/05	12.6	3.4	SW	Clear
LWLVB2.7	3/29/05	14.3	6.4	E	Clear
LWLVB2.7	4/13/05	20.9	0.7	NW	Cloudy
LWLVB2.7	4/26/05	19.3	2.2	NE	Clear
LWLVB2.7	5/11/05	19.2	1.8	N	Clear
LWLVB2.7	5/24/05	28.2	11.1	SE	Clear
LWLVB2.7	6/8/05	24.6	0		Clear
LWLVB2.7	6/21/05	27.4	0		Partly Cloudy
LWLVB2.7	7/5/05	28.9	1.5	S	Clear
LWLVB2.7	7/20/05				Cloudy
LWLVB2.7	8/2/05	30.7	9.6	E	Partly Cloudy
LWLVB2.7	8/16/05	29.8	2.4	NW	Partly Cloudy
LWLVB2.7	8/30/05	31	4.1	W	Clear
LWLVB2.7	9/13/05	27.2	0		Clear
LWLVB2.7	9/27/05	26.3	2.6	W	Cloudy
LWLVB2.7	10/11/05	21.8	2.1	E	Clear
LWLVB2.7	10/25/05	21.7	0		Cloudy
LWLVB2.7	11/16/05	17.5	0		Clear
LWLVB2.7	12/13/05	9.2	1.8	W	Clear
LWLVB2.7	1/10/06	11.6	5.2	SW	Clear
LWLVB2.7	2/14/06	13.2	0		Overcast
LWLVB2.7	3/15/06	16	6.0	NW	Clear
LWLVB2.7	3/28/06	15.6	4.4	SE	Overcast
LWLVB2.7	4/11/06	22.2	5.1	SE	Partly Cloudy
LWLVB2.7	4/25/06	18	5.7	SE	Partly Cloudy
LWLVB2.7	5/9/06	26.9	11.4	NE	Clear
LWLVB2.7	5/23/06	24.4	0		Clear
LWLVB2.7	6/6/06	30.9	13.2	SE	Partly Cloudy
LWLVB2.7	6/20/06	30.7	1.7	E	Clear
LWLVB2.7	7/5/06	29.1	7.3	E	Cloudy
LWLVB2.7	7/18/06	31.3	1.3	E	Overcast
LWLVB2.7	8/2/06	32.3	10.7	E	Clear
LWLVB2.7	9/26/06	21.8	3.1	NW	Clear

LWLVB2.7	10/10/06	23.1	6.9	NW	Overcast
LWLVB2.7	10/24/06	18.1	2.4	W	Overcast
LWLVB2.7	11/7/06	23.1	0		Cloudy
LWLVB2.7	12/5/06	8.6	4.2	NW	Clear

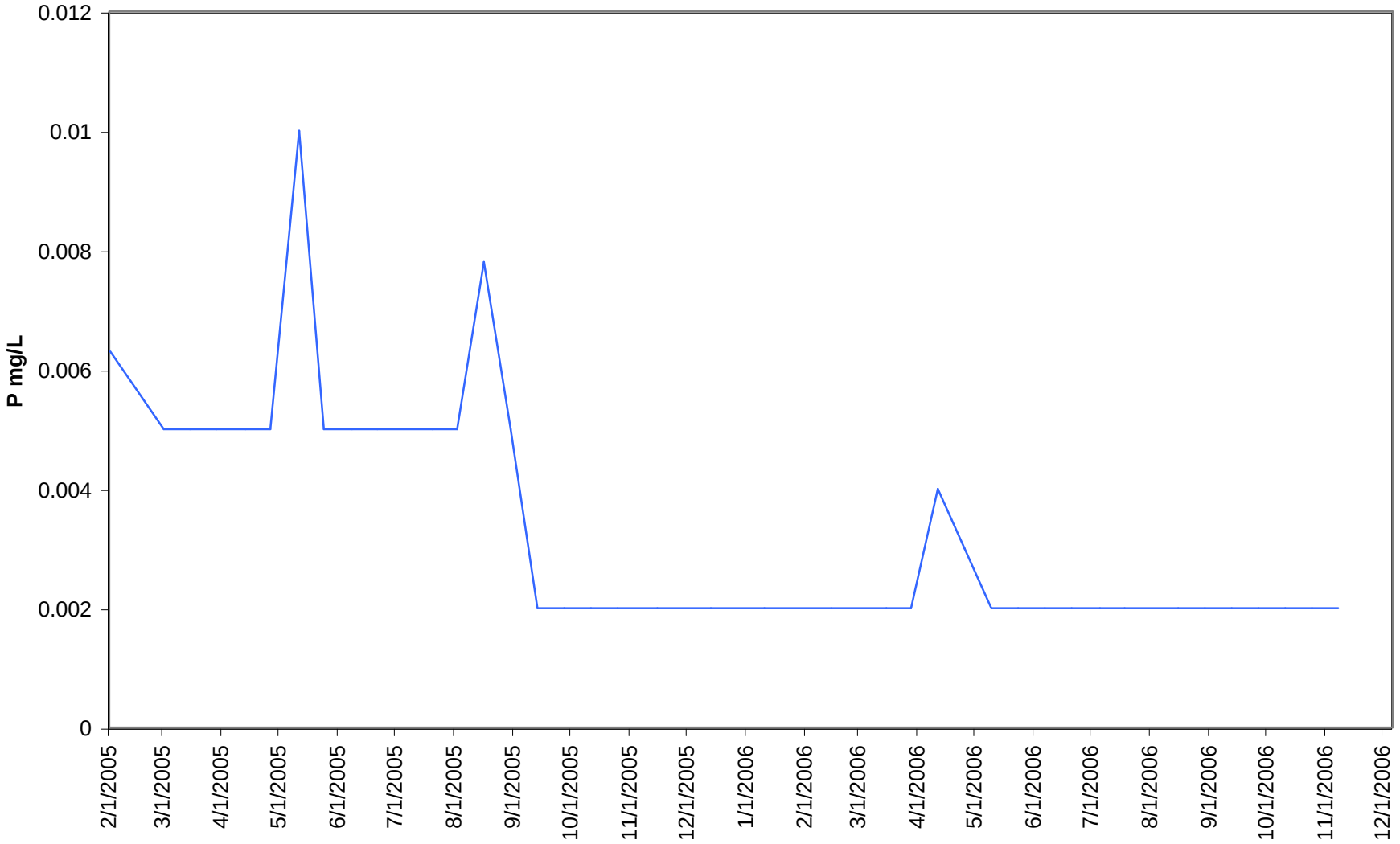
LWLVB2.7
Epilimnion

LWLVB2.7 Chlorophyll-a Growing Season Mean

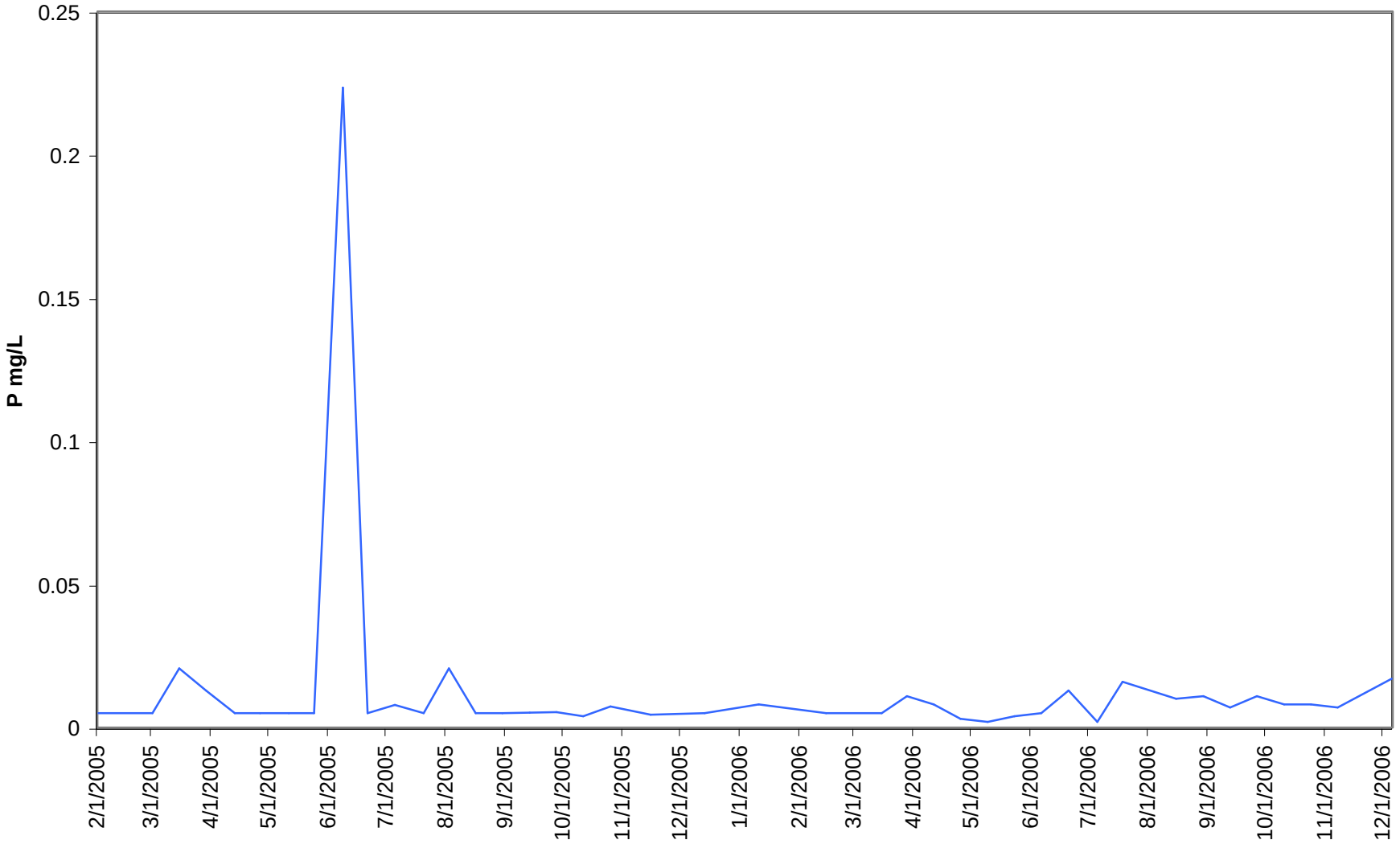



LWLVB2.7 Epilimnion Ammonia
N mg/L
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Acute criteria
NH4 mg N/L
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

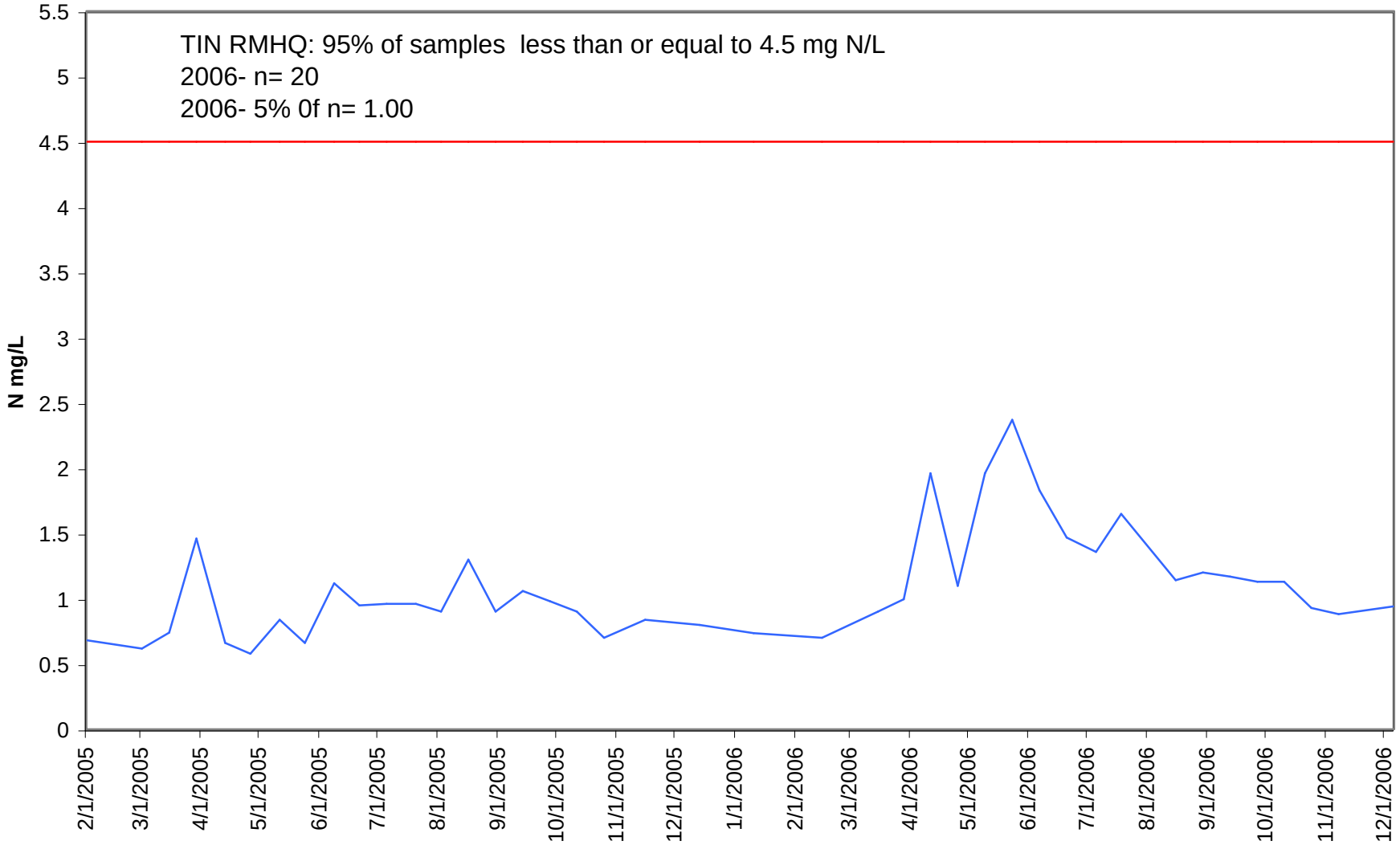
LWLVB2.7 Epilimnion Dissolved ortho-Phosphorus



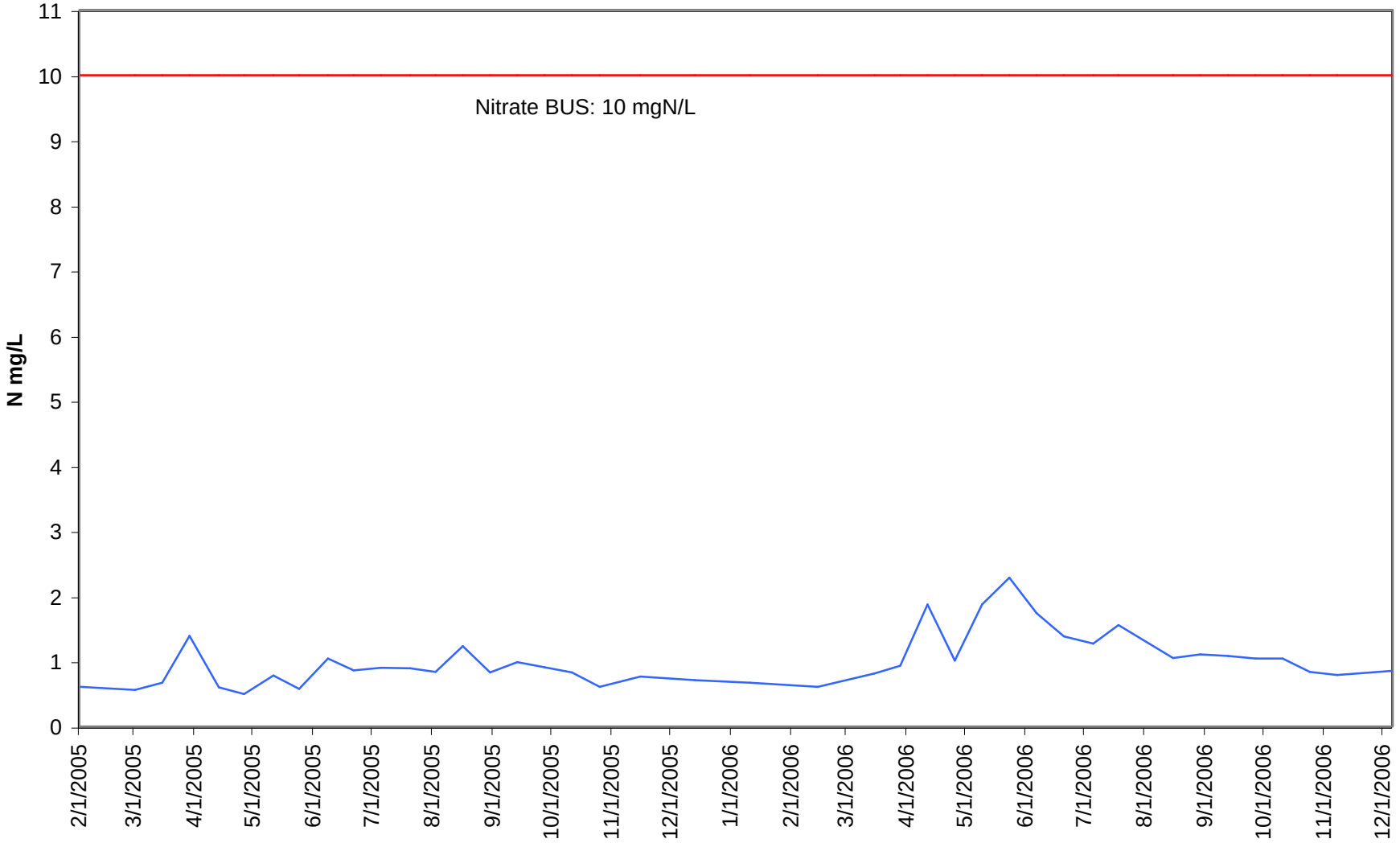
LWLVB2.7 Epilimnion Total Phosphorus



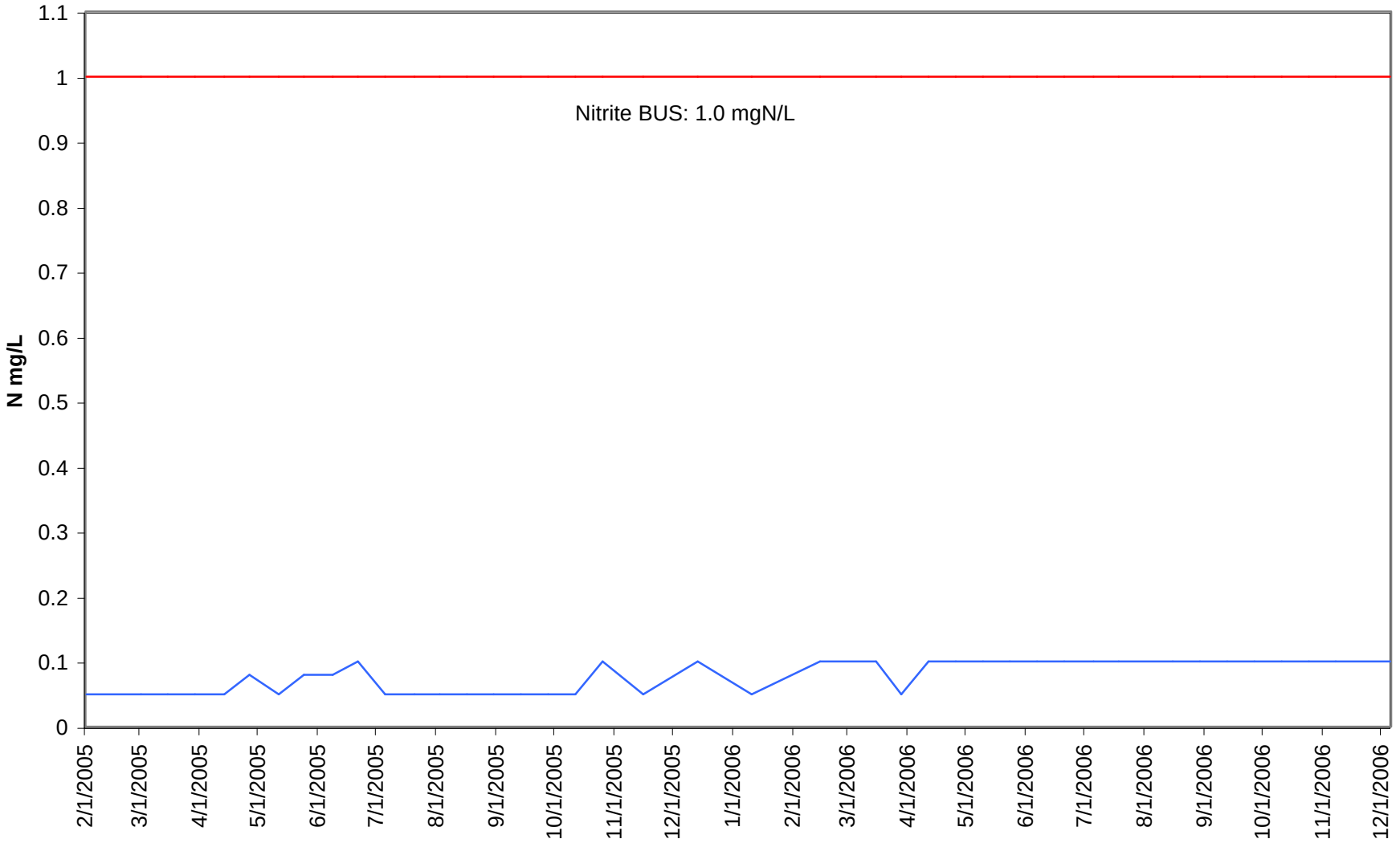
LWLVB2.7 Epilimnion Total Inorganic Nitrogen



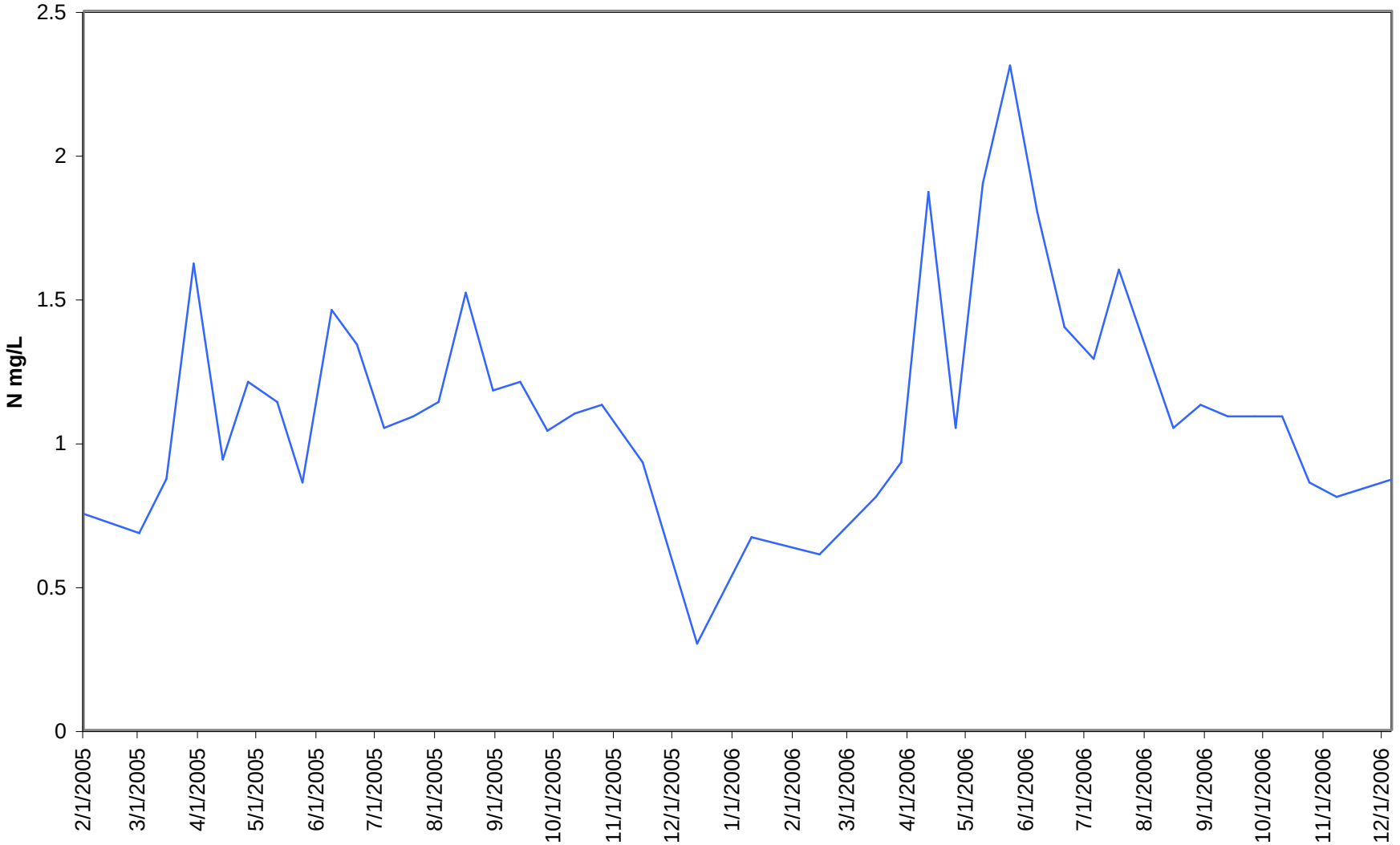
LWLVB2.7 Epilimnion Nitrate



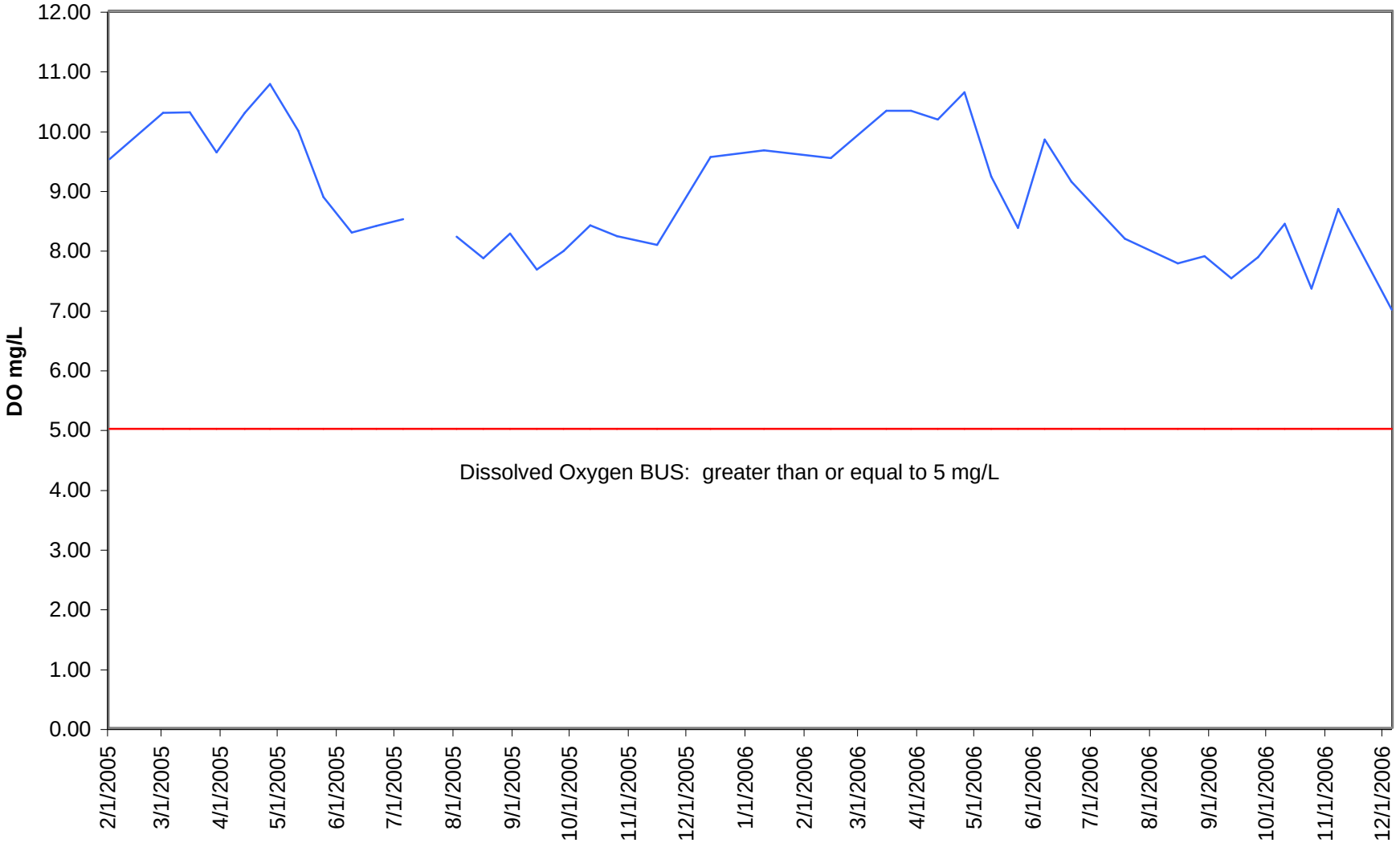
LWLVB2.7 Epilmnion Nitrite

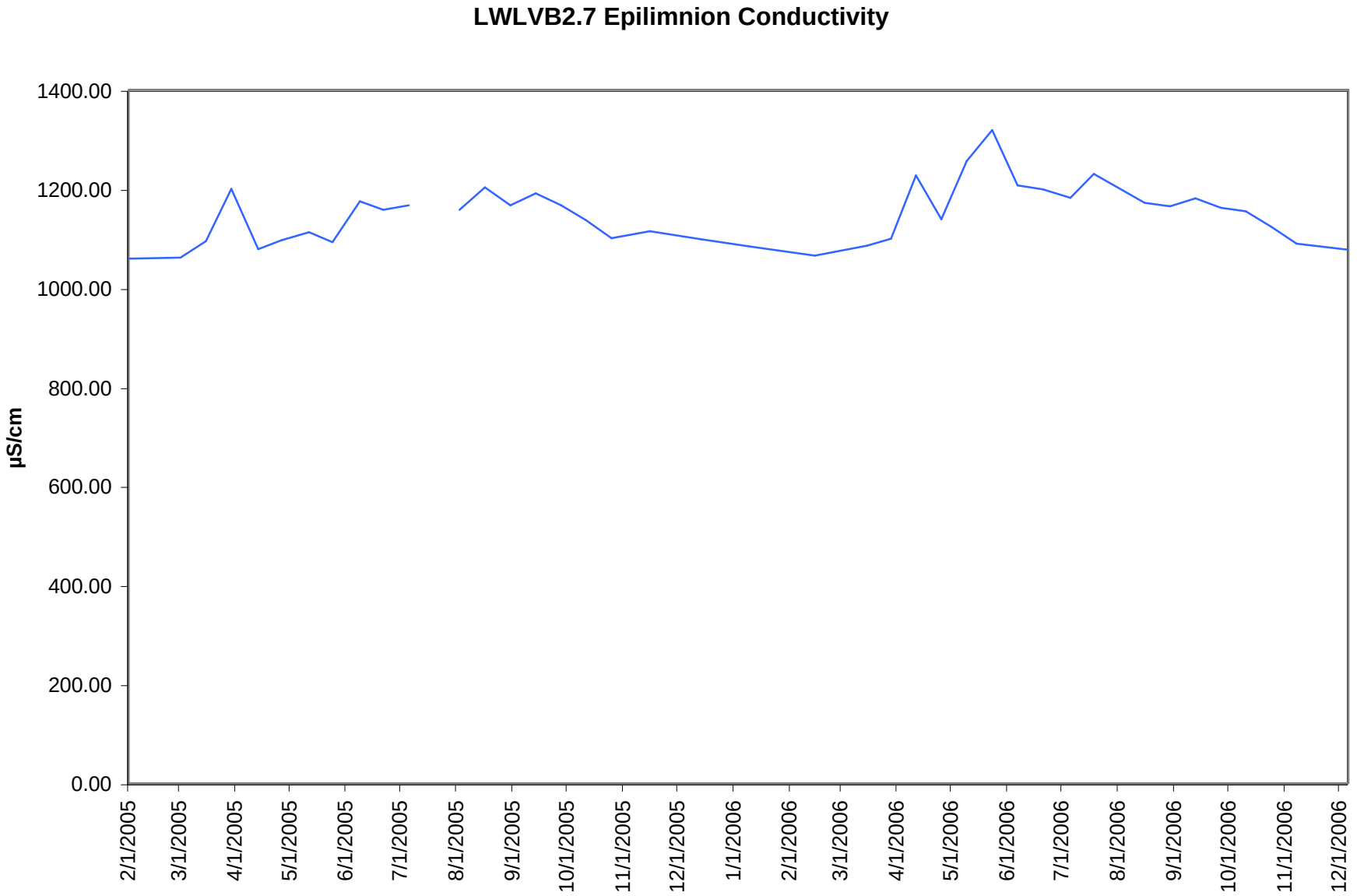


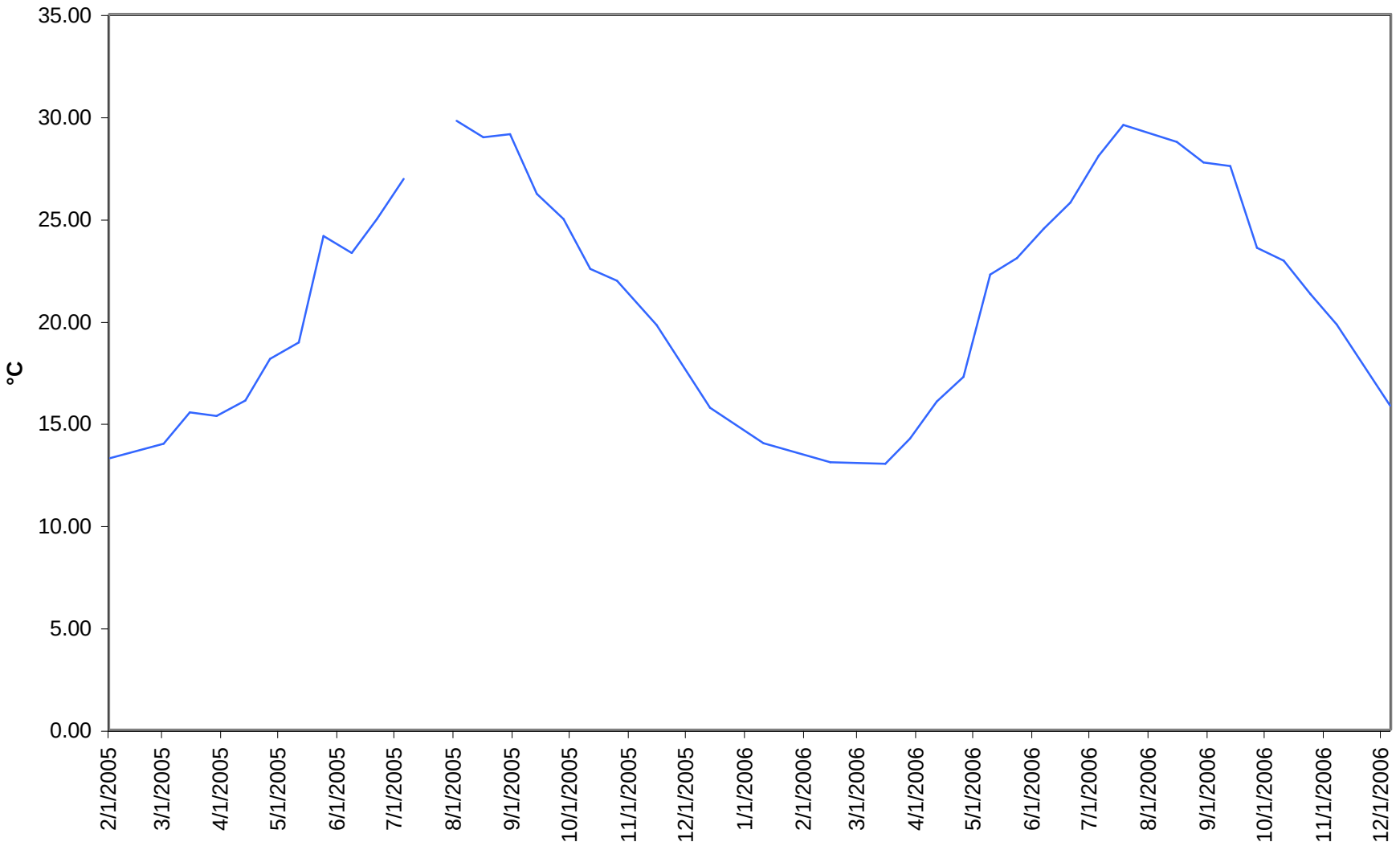
LWLVB2.7 Epilimnion Total Nitrogen

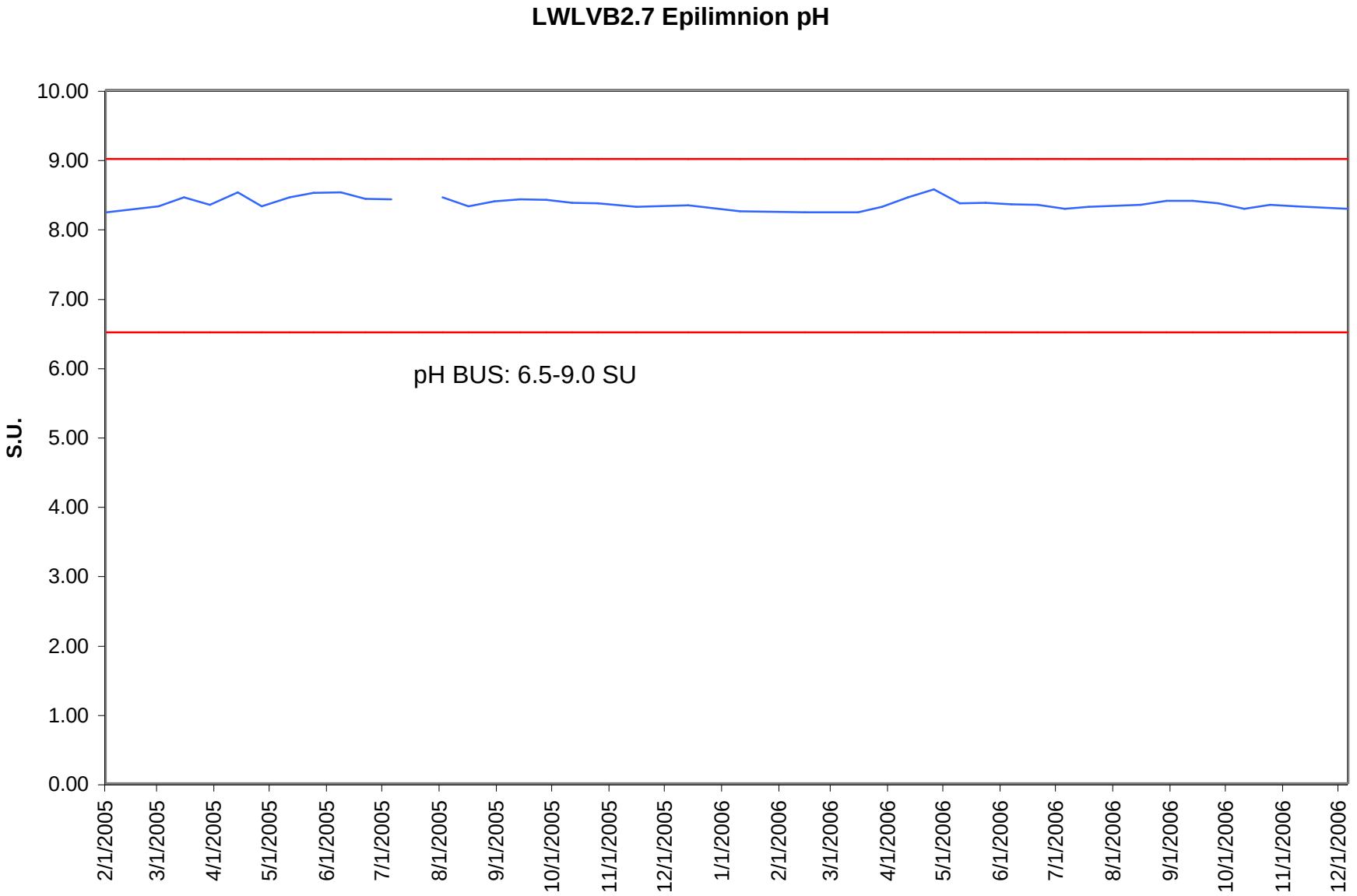


LWLVB2.7 Epilimnion Dissolved Oxygen

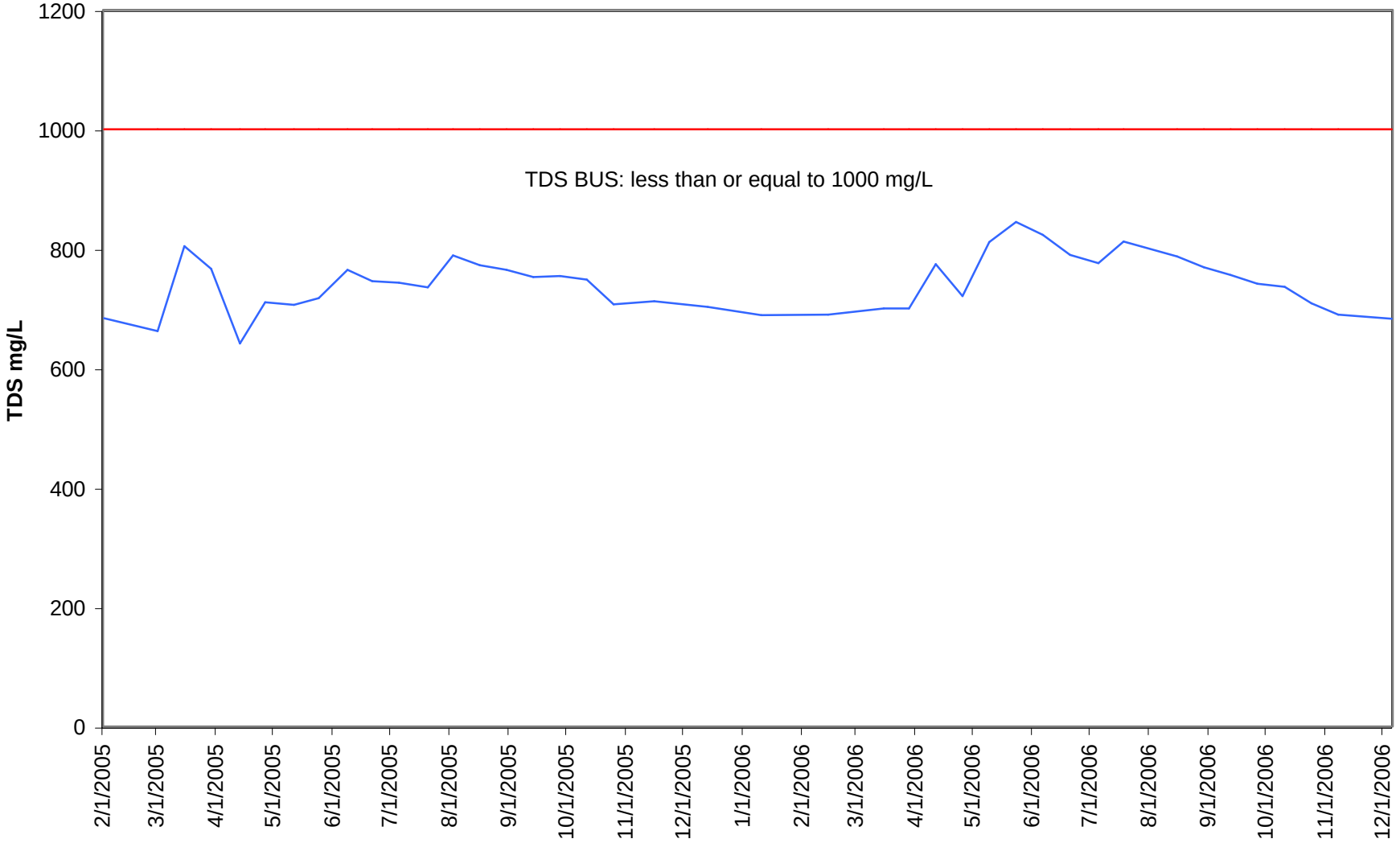


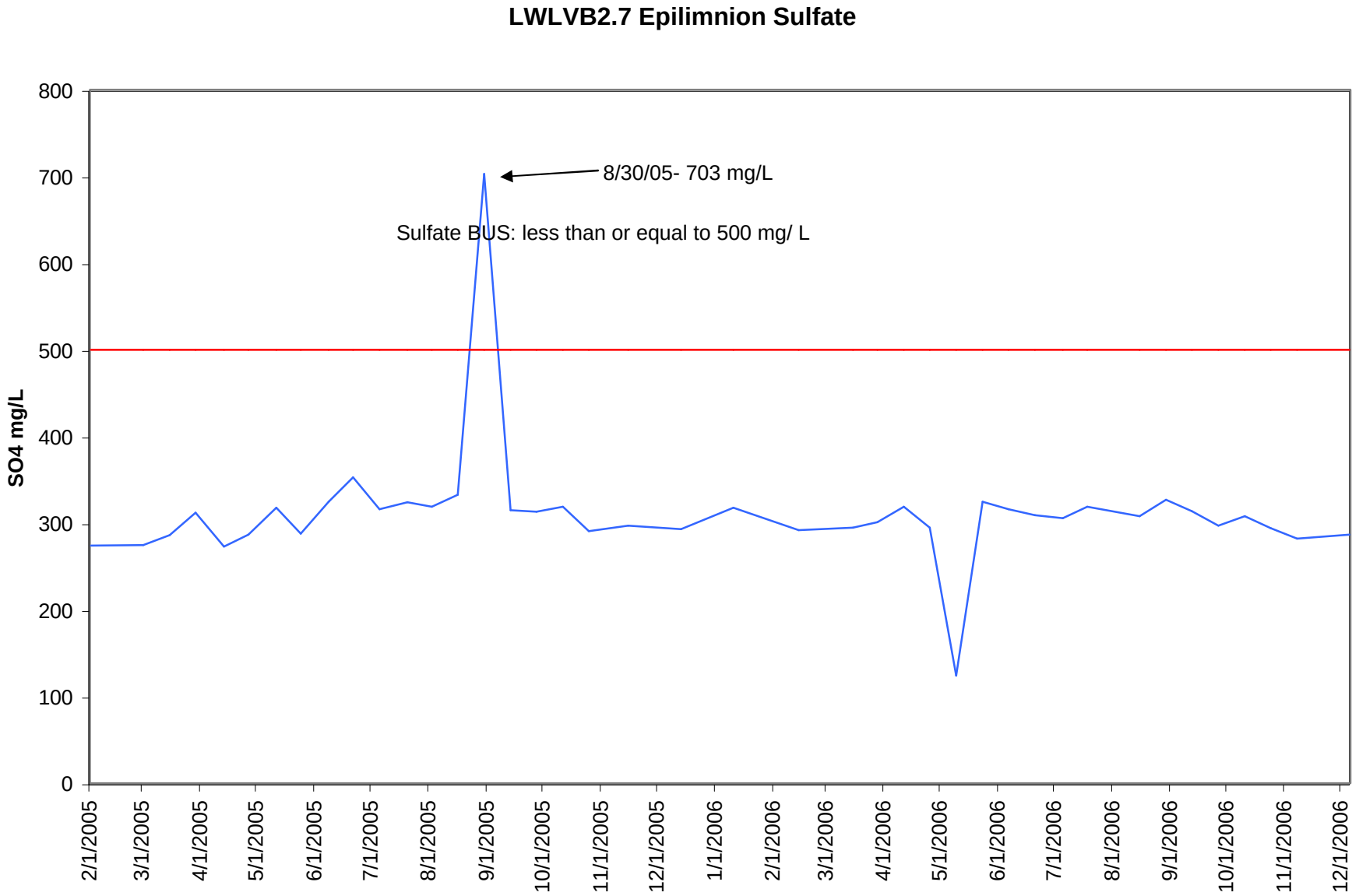

LWLVB2.7 Epilimnion Conductivity
µS/cm
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006


LWLVB2.7 Epilimnion Temperature
°C
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

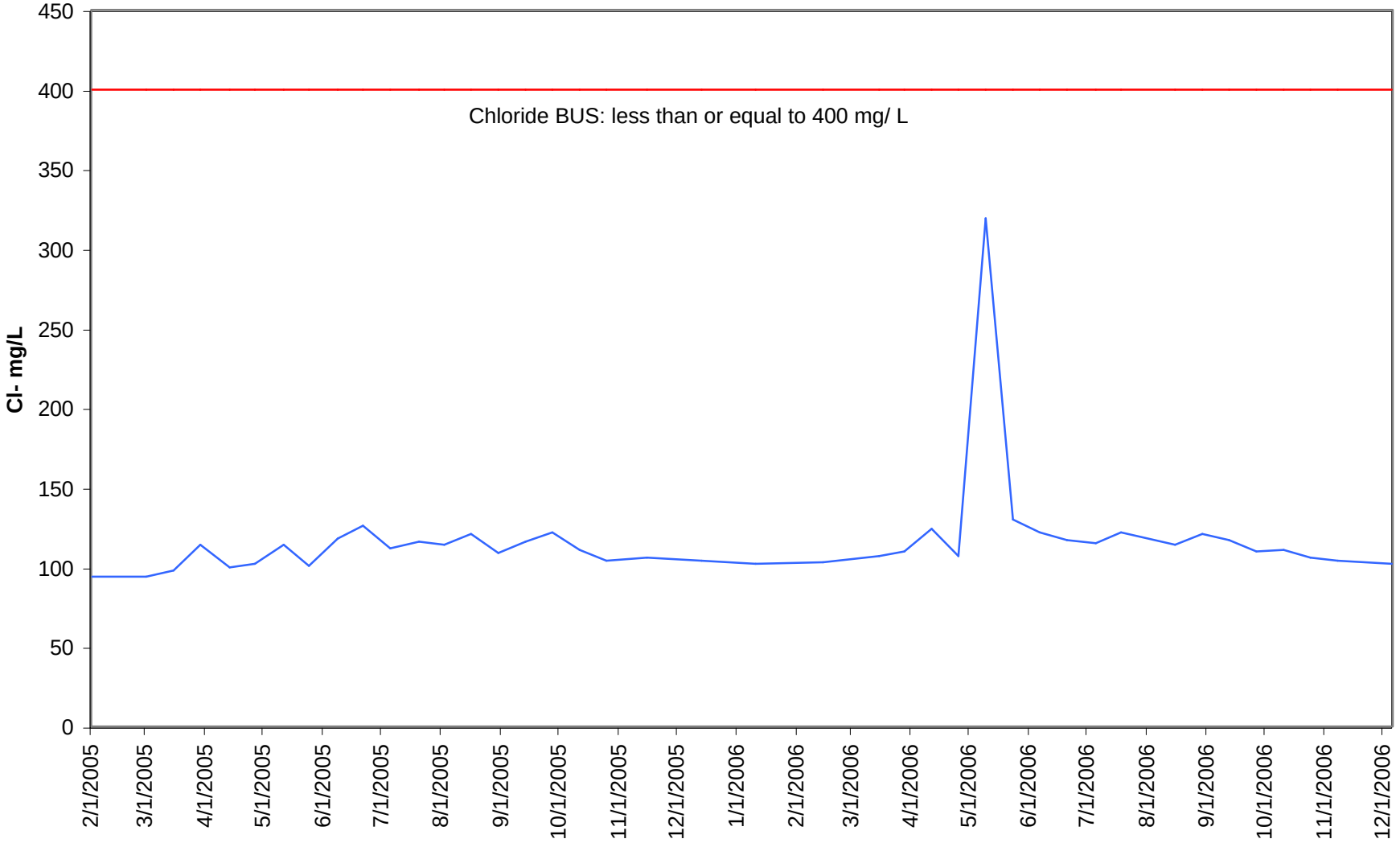

LWLVB2.7 Epilimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

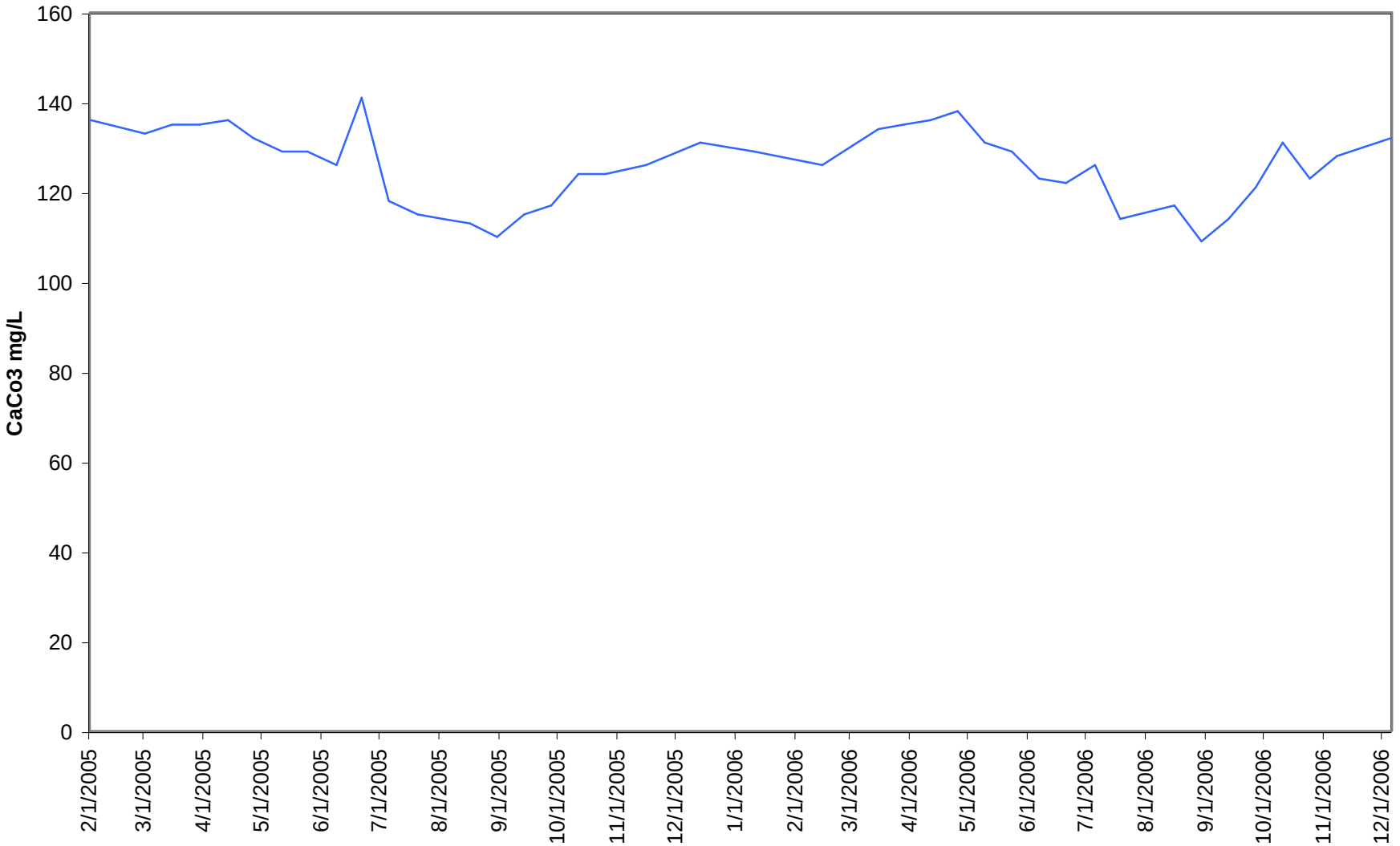
LWLVB2.7 Epilimnion Total Dissolved Solids



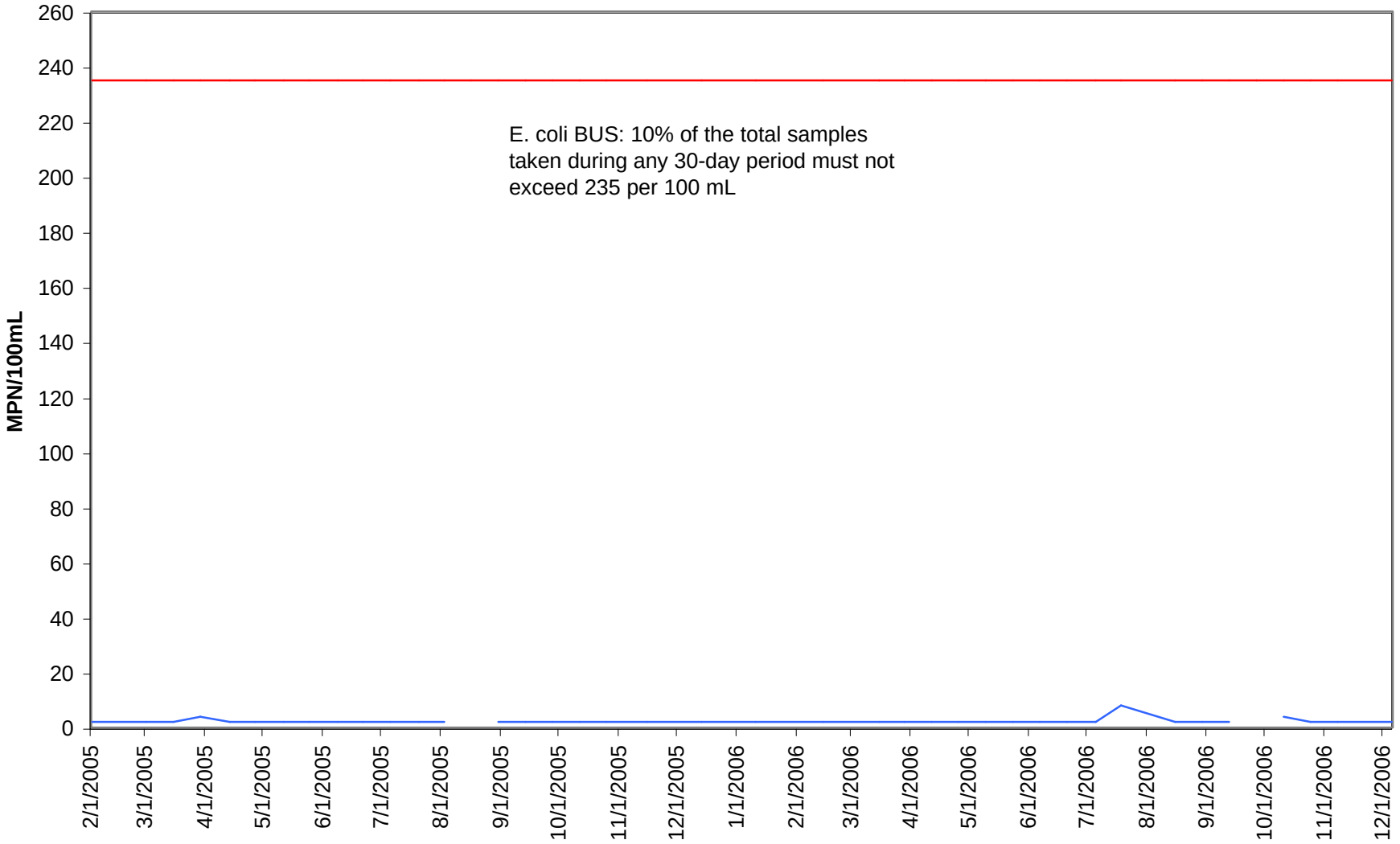

LWLVB2.7 Epilimnion Sulfate
SO4 mg/L
800
700
600
500
400
300
200
100
0
8/30/05- 703 mg/L
Sulfate BUS: less than or equal to 500 mg/ L
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

LWLVB2.7 Epilimnion Chloride

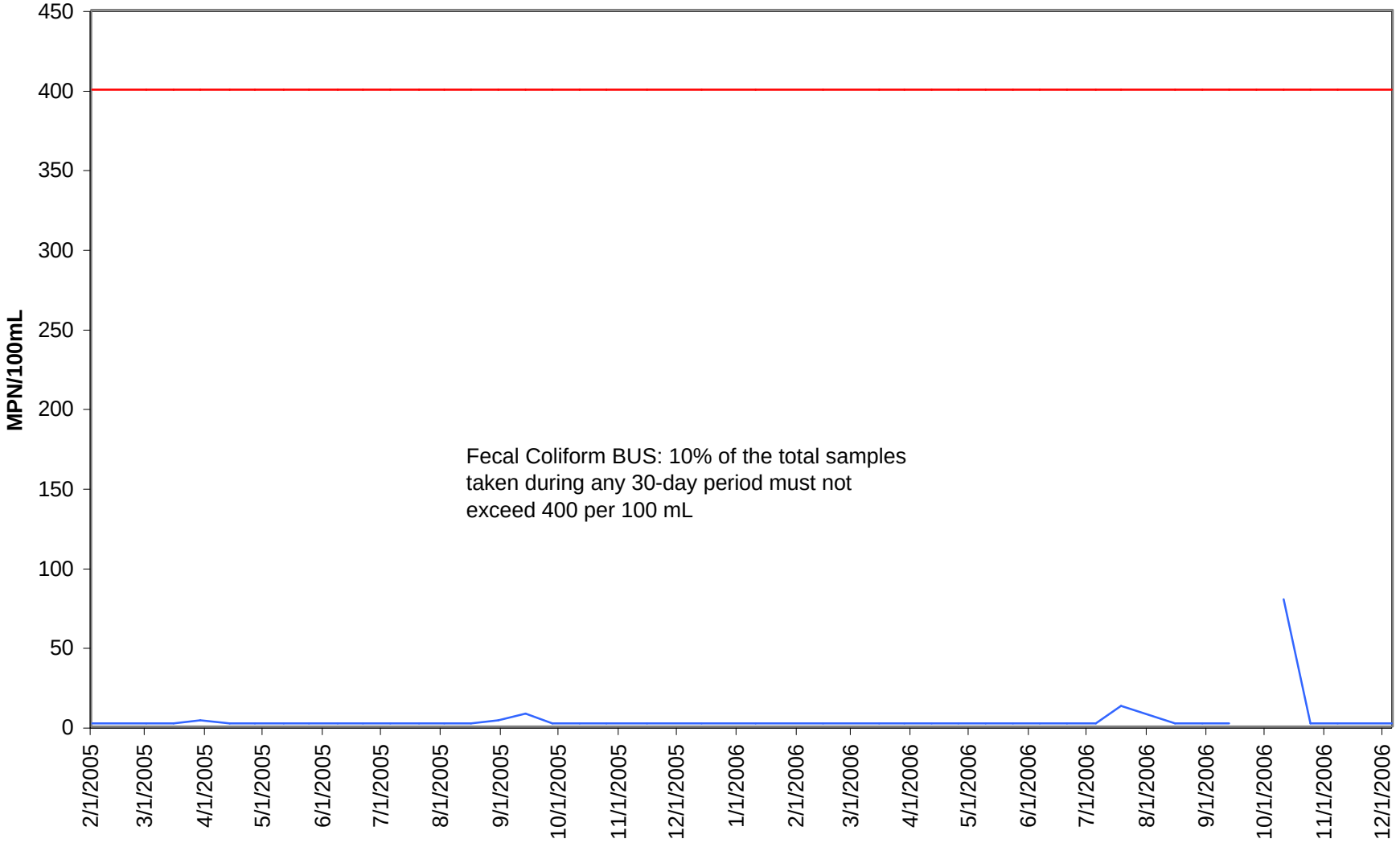



LWLVB2.7 Epilimnion Alkalinity
CaCo3 mg/L
160
140
120
100
80
60
40
20
0
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

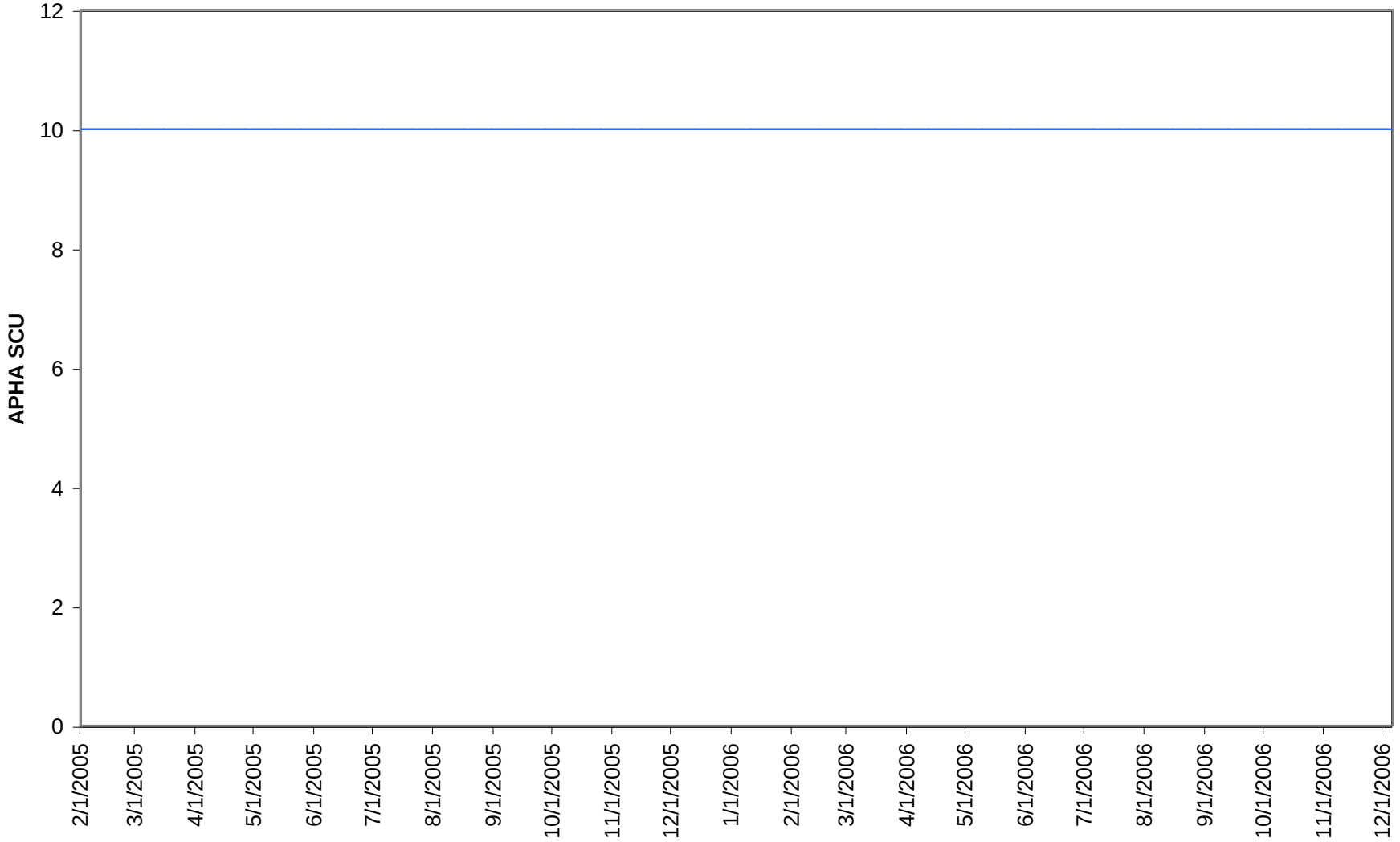
LWWLB2.7 Epilimnion E. coli.



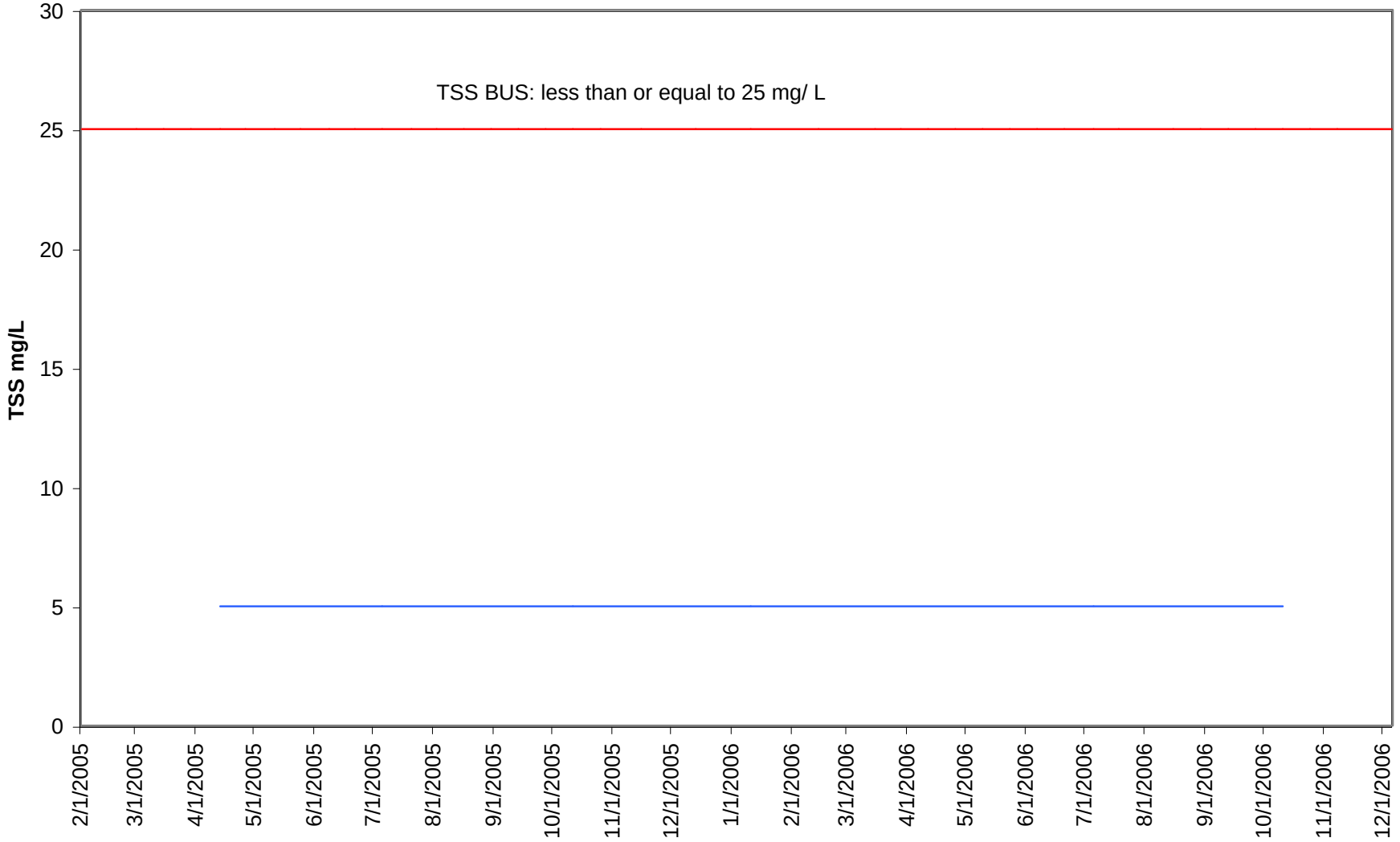
LWLVB2.7 Epilimnion Fecal Coliform



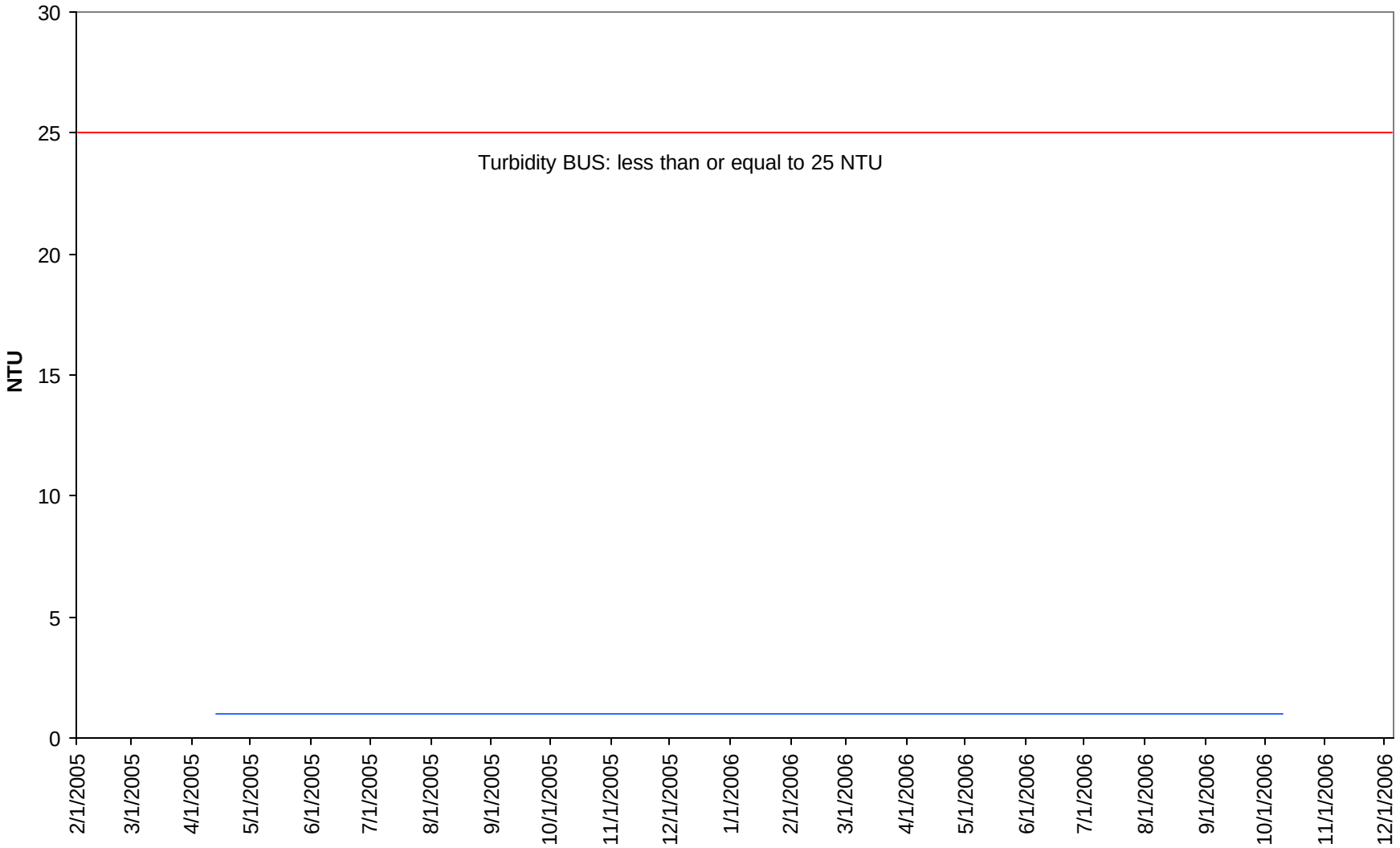
LWLVB2.7 Epilimnion Color



LWLVB2.7 Epilimnion Total Suspended Solids

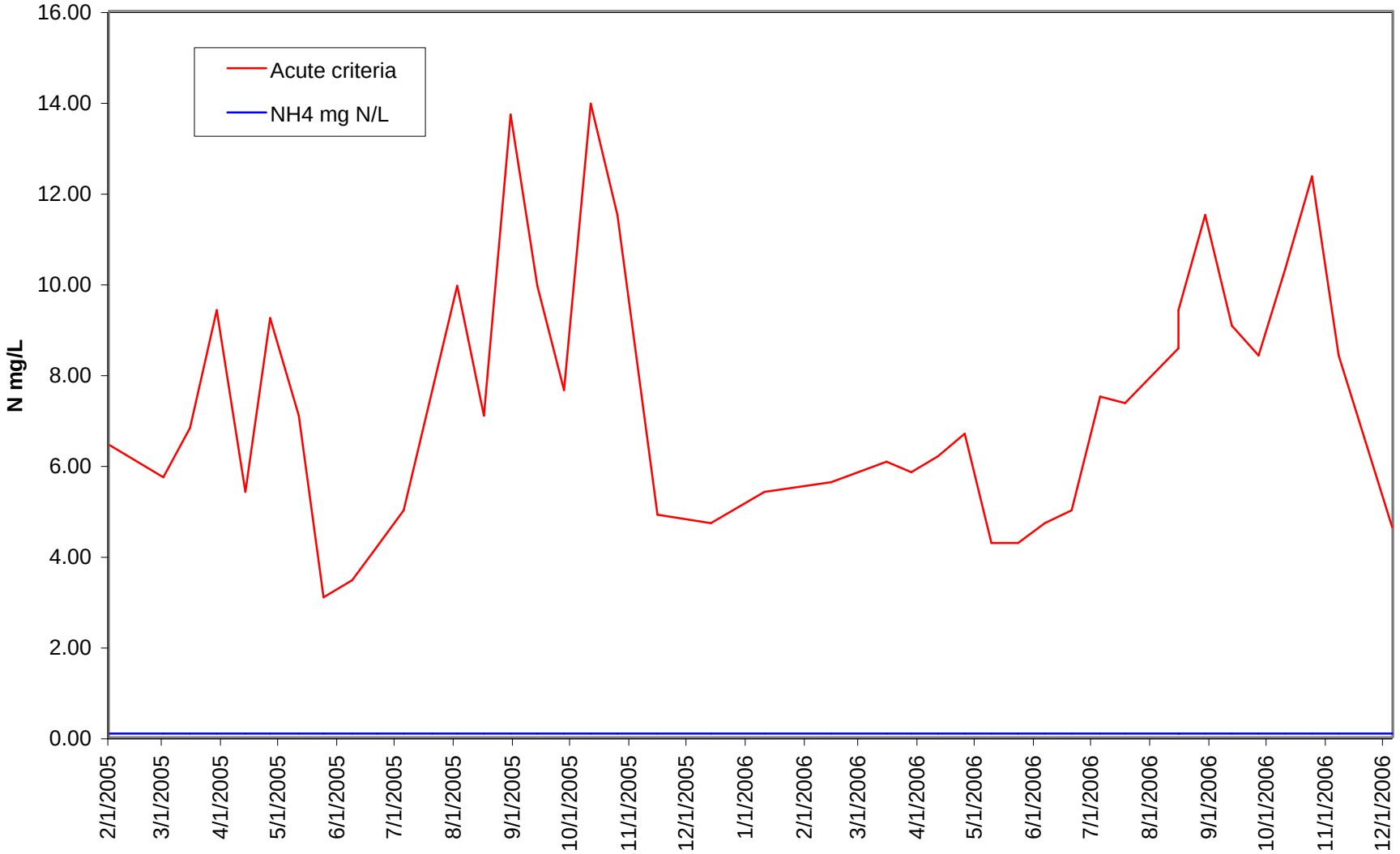


LWLVB2.7 Epilimnion Turbidity

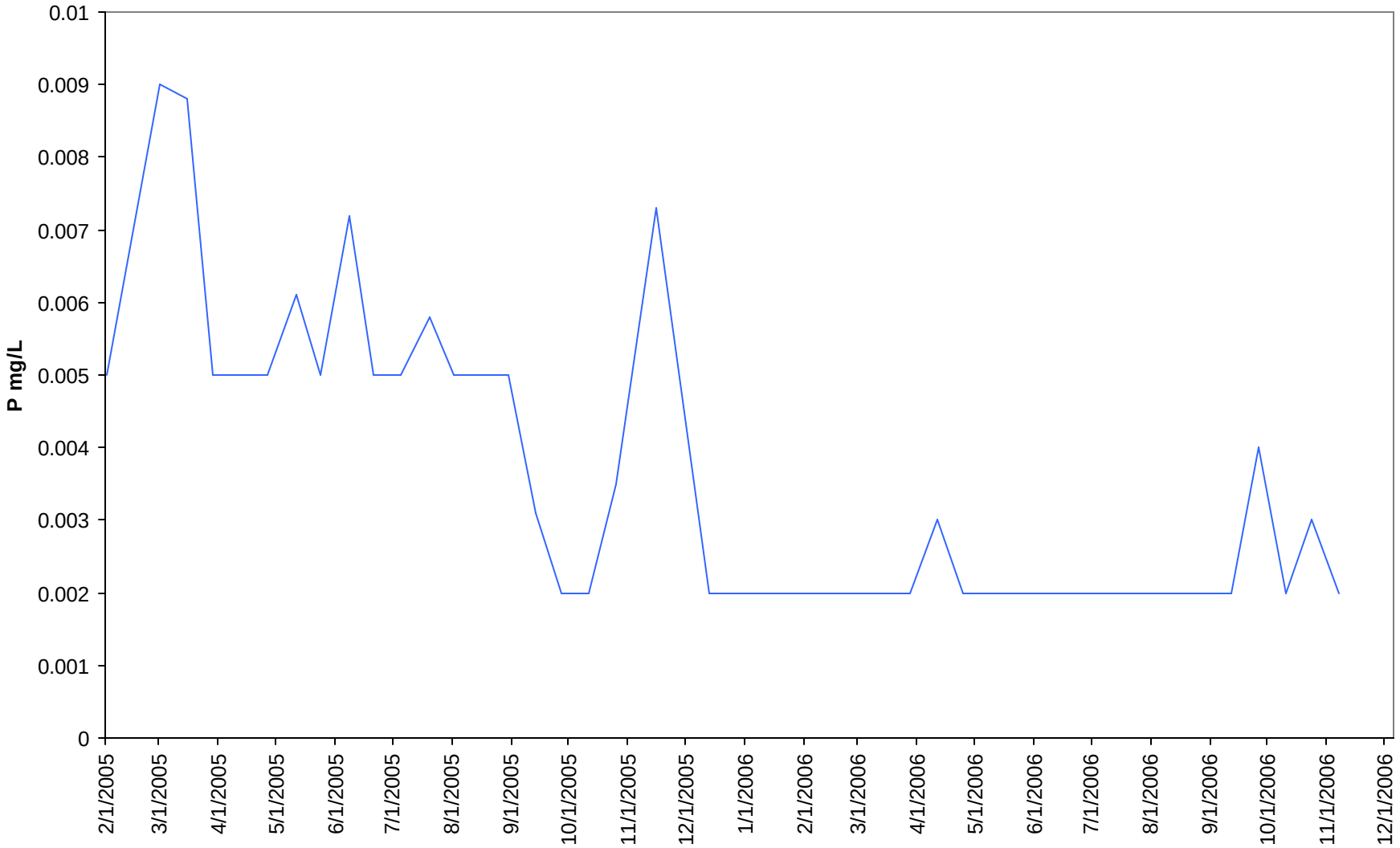


LWLVB2.7
Metalimnion

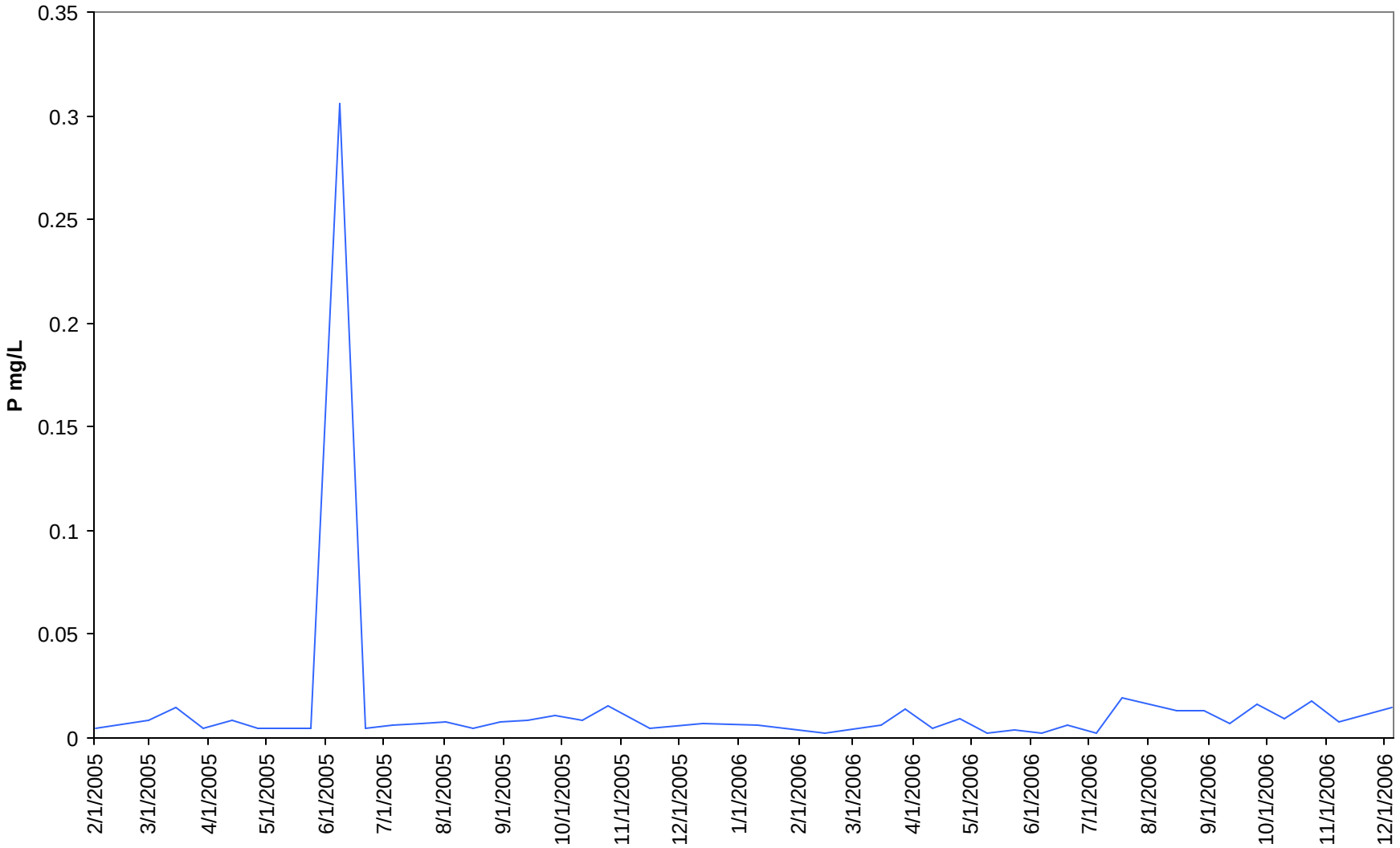
LWLVB2.7 Metalimnion Ammonia



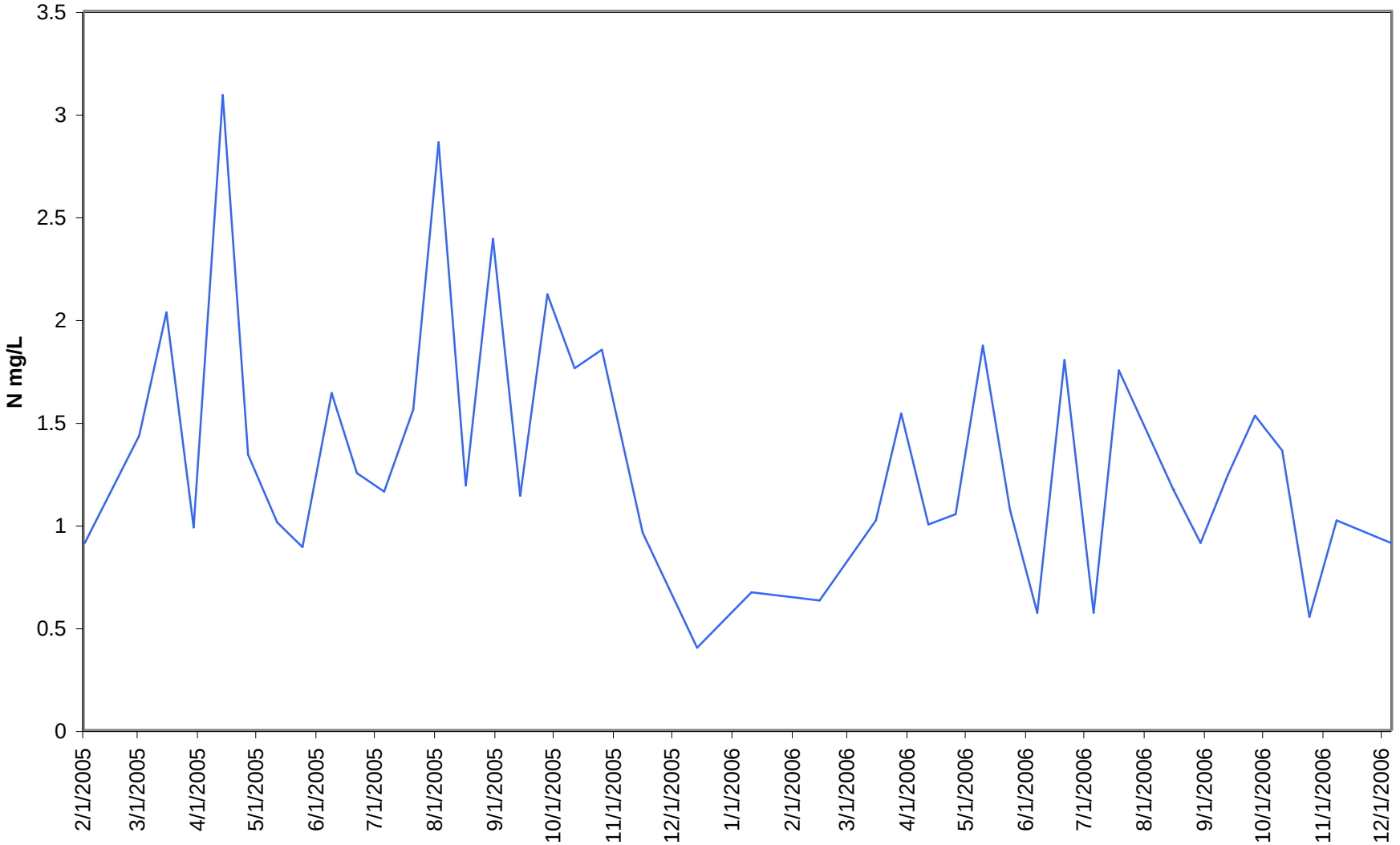
LWLVB2.7 Metalimnion Dissolved ortho-Phosphorus



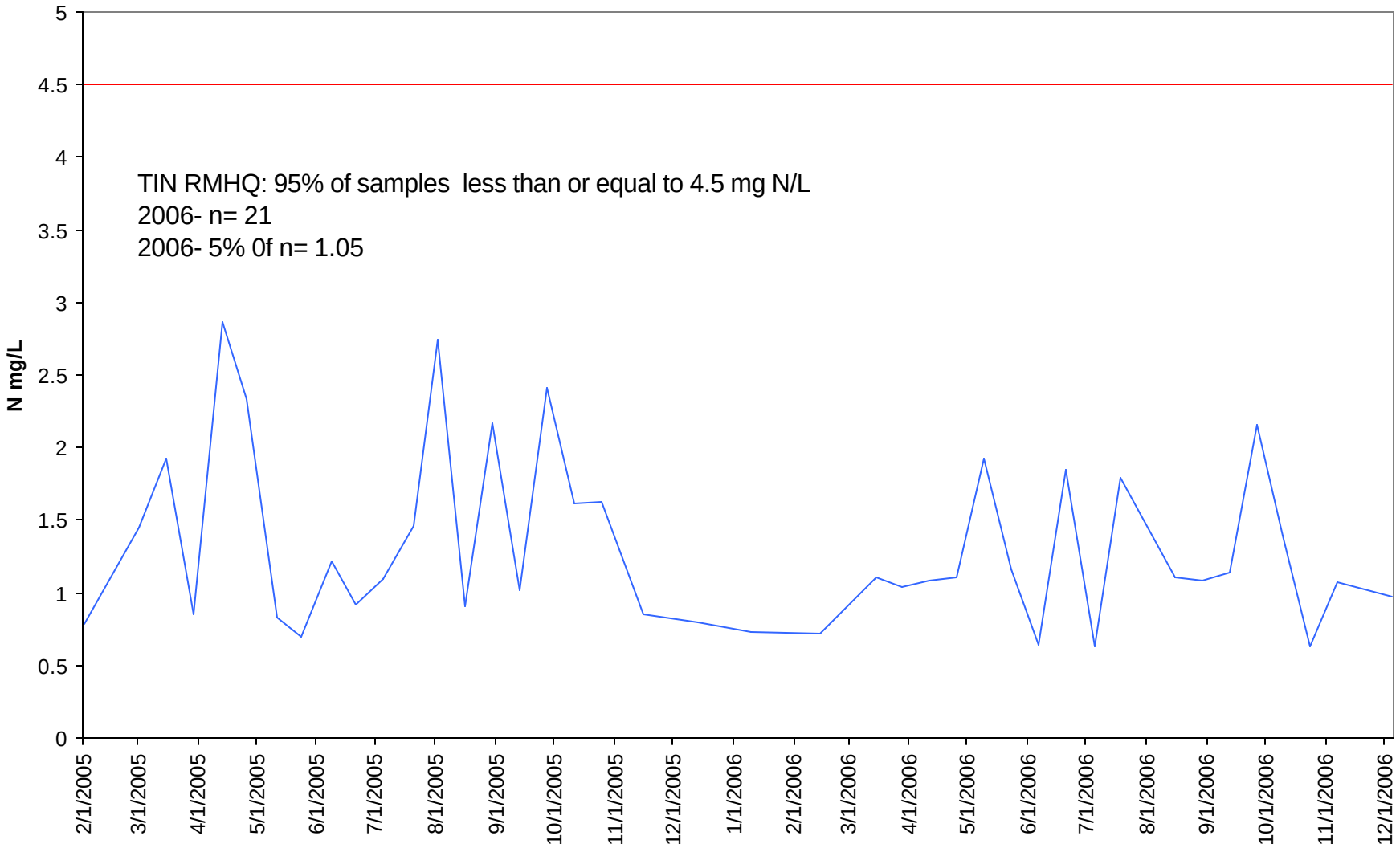
LWLVB2.7 Metalimnion Total Phosphorus



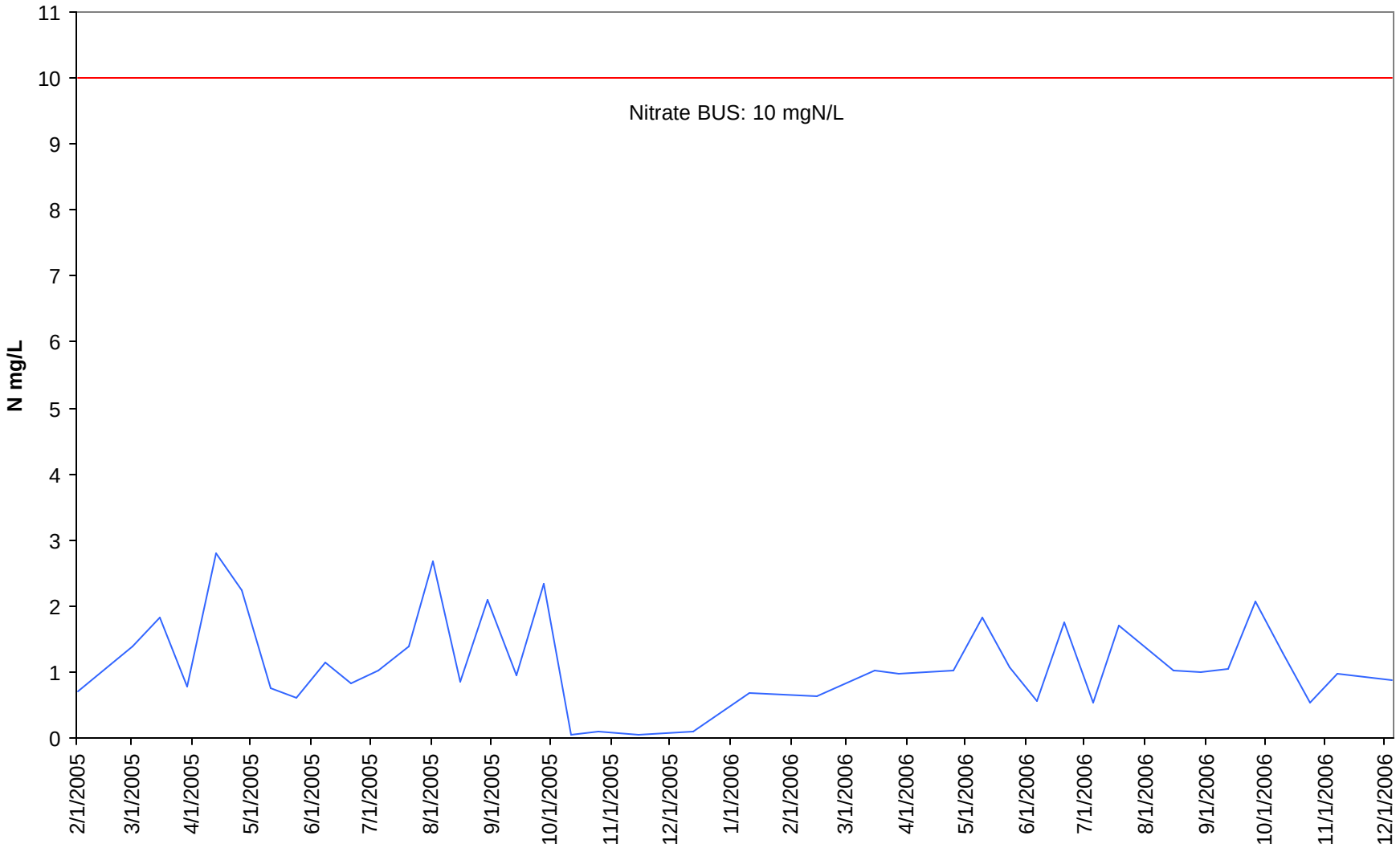
LWLVB2.7 Metalimnion Total Nitrogen



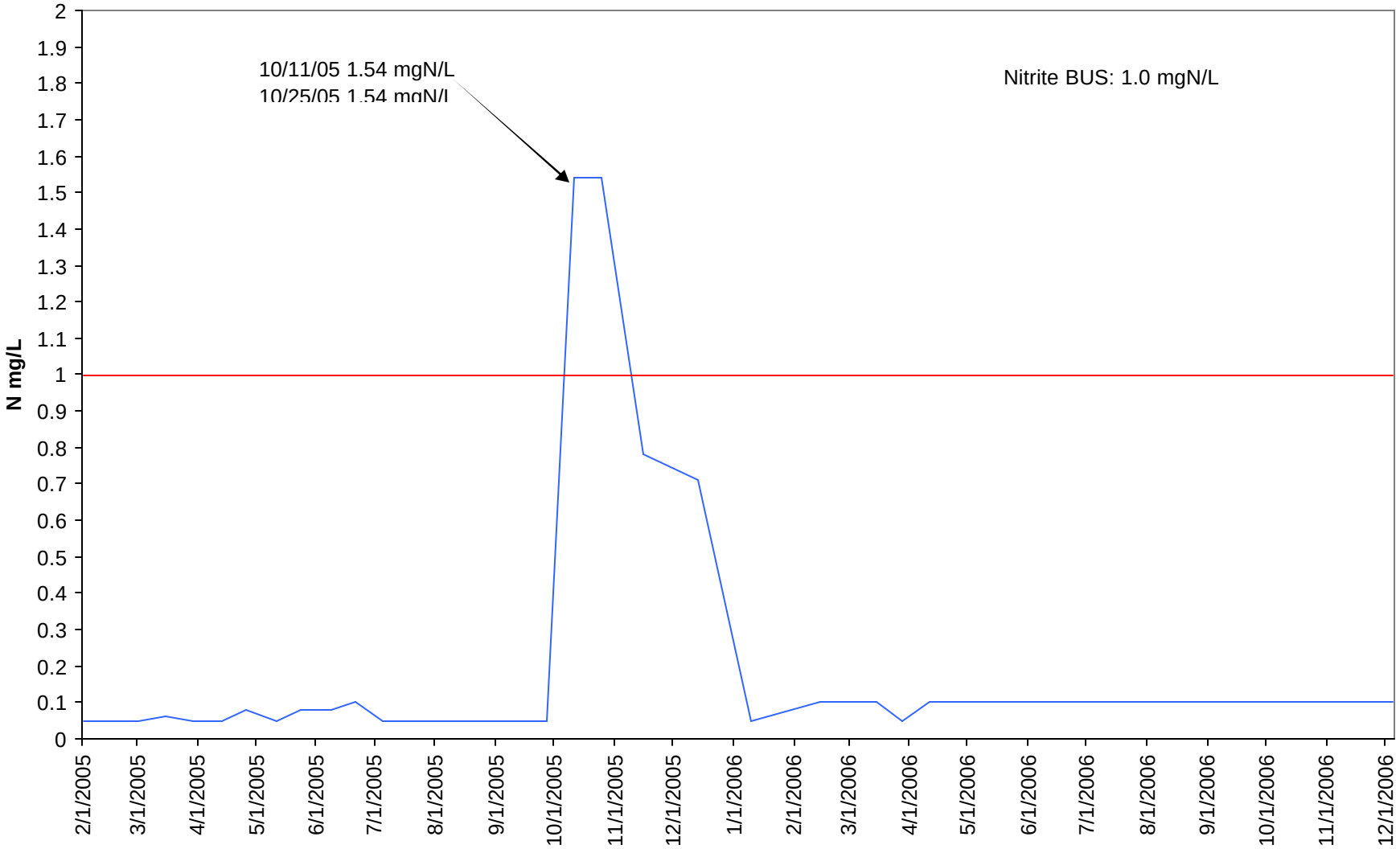
LWLVB2.7 Metalimnion Total Inorganic Nitrogen

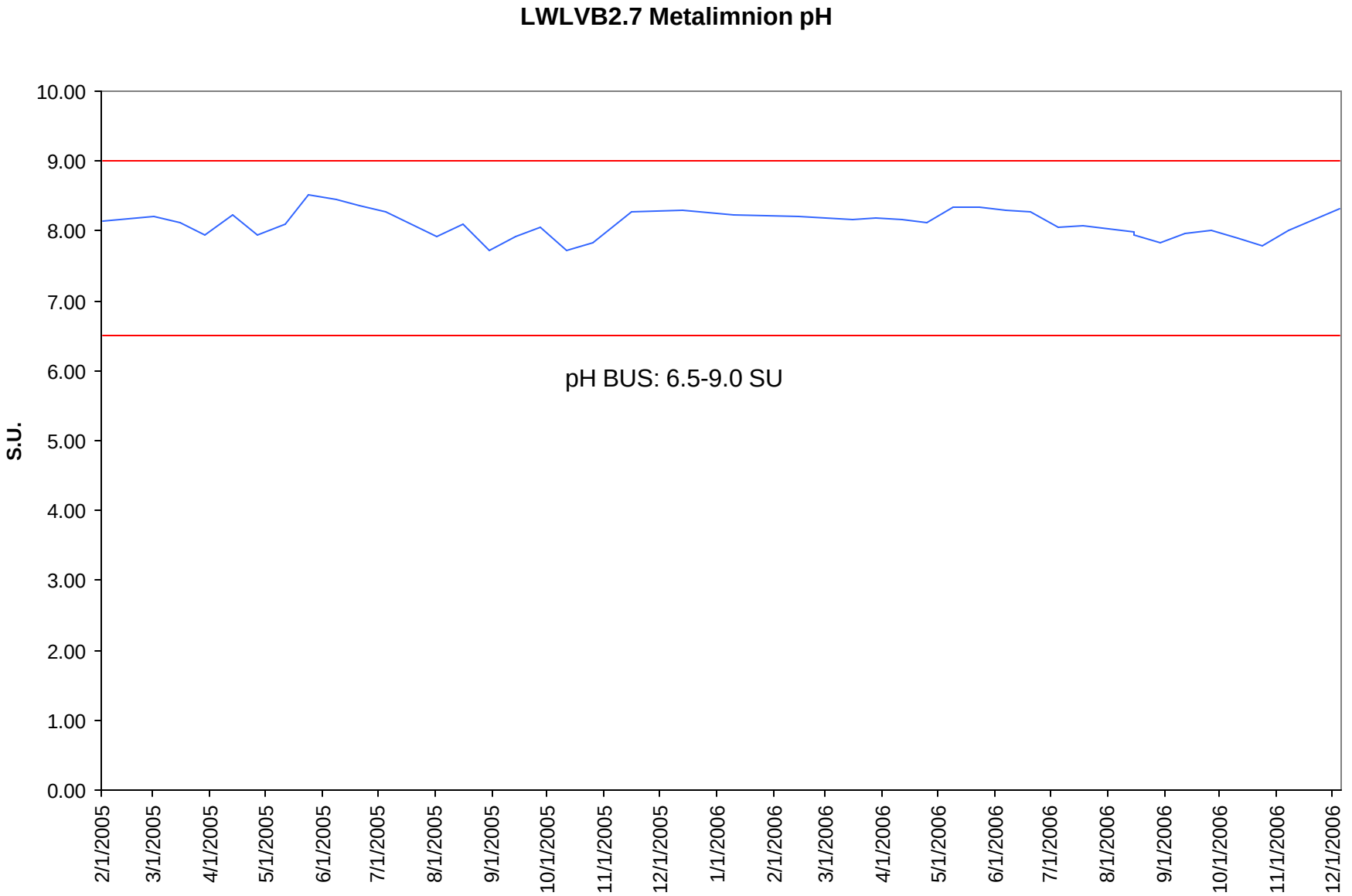


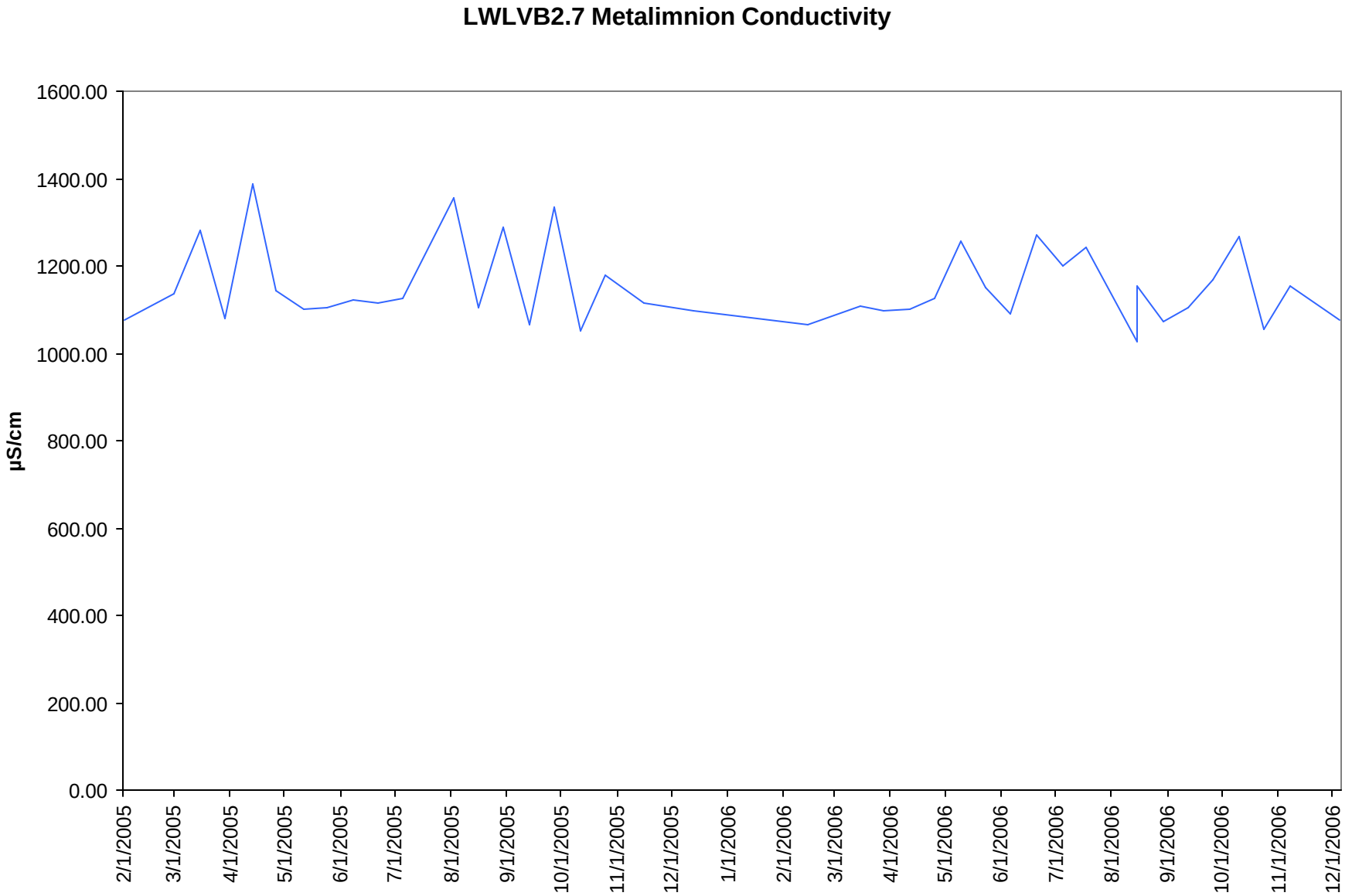
LWLVB2.7 Metalimnion Nitrate

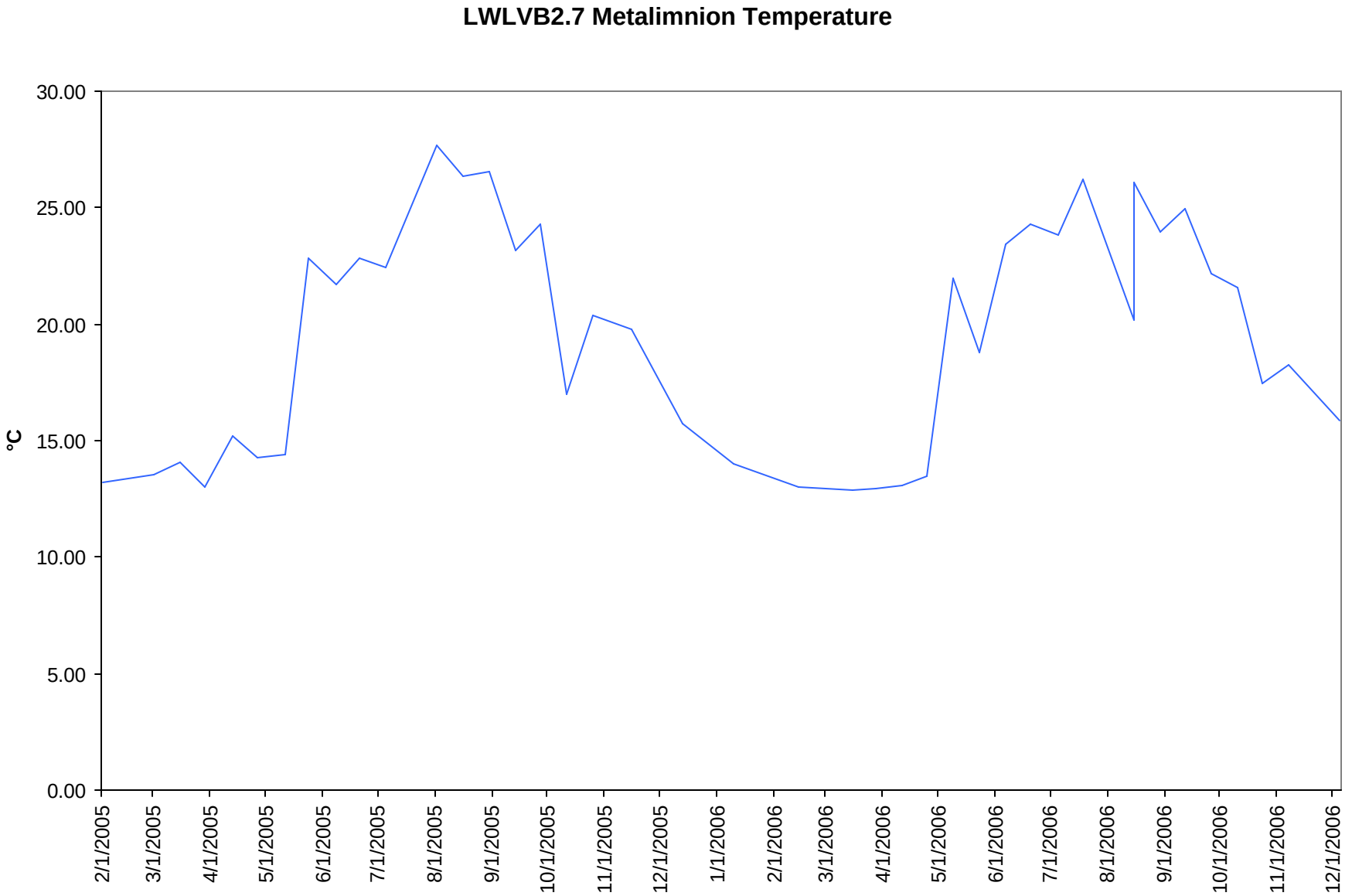


LWLVB2.7 Metalimnion Nitrite

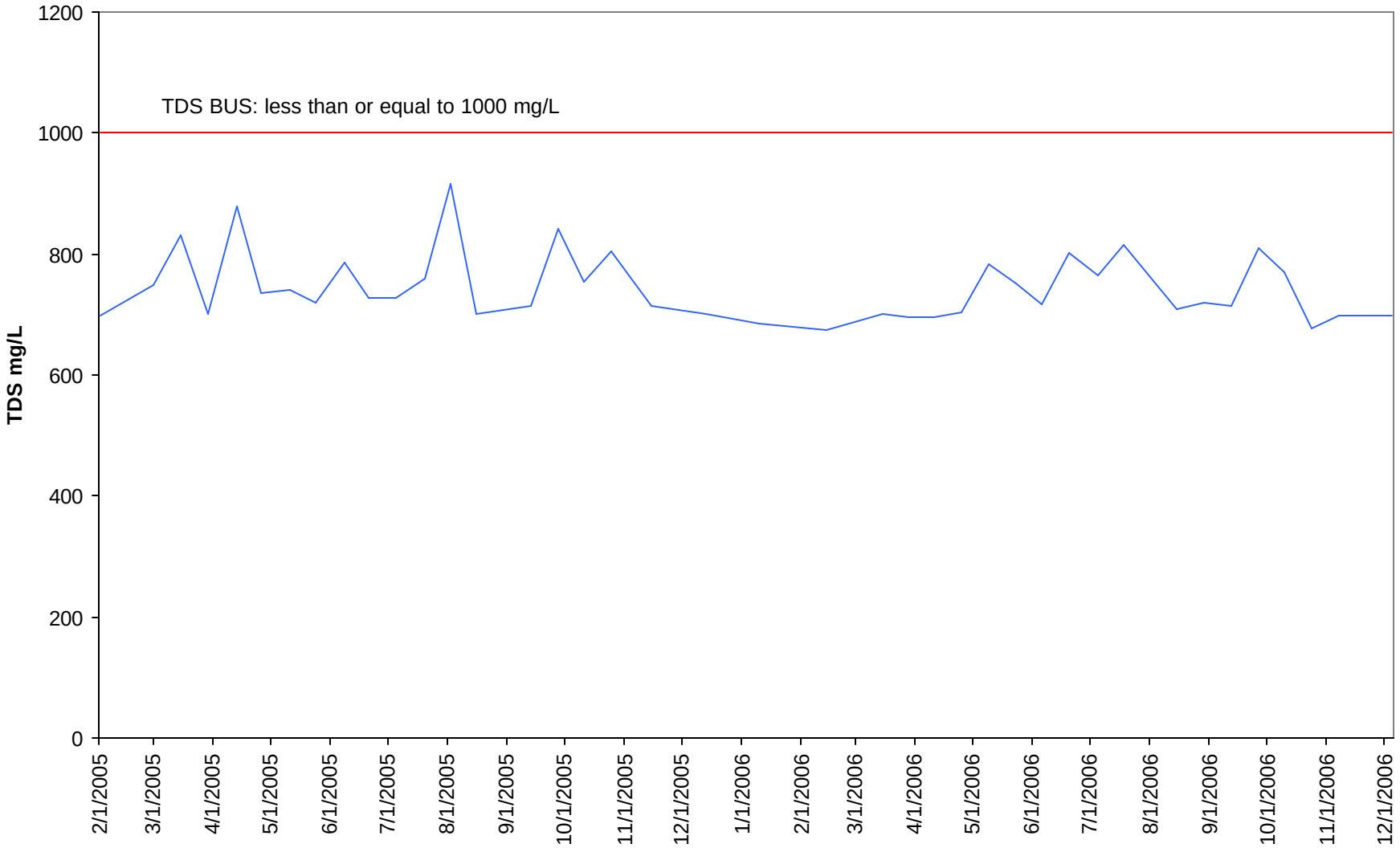



LWLVB2.7 Metalimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

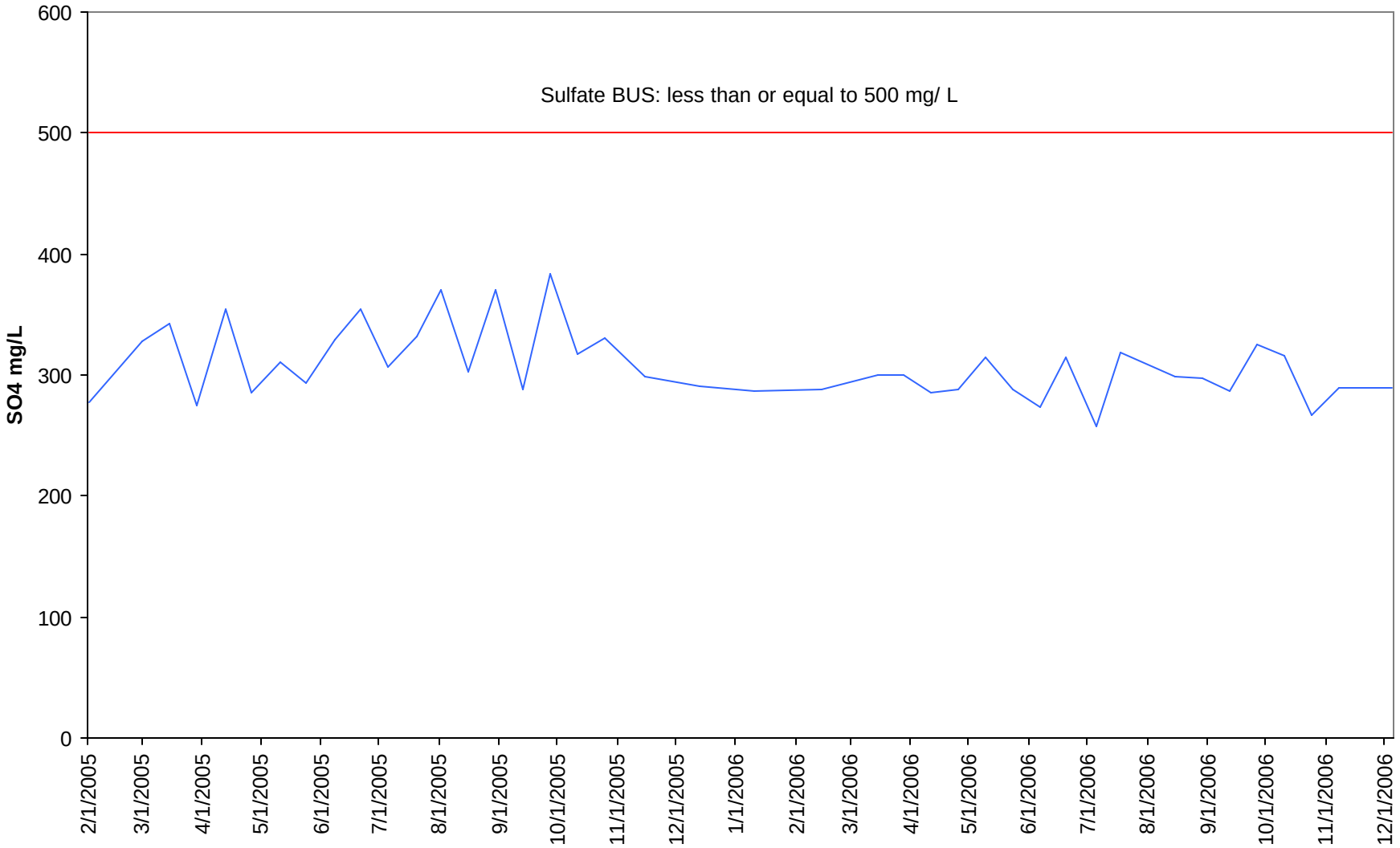

LWLVB2.7 Metalimnion Conductivity
µS/cm
1600.00
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006


LWLVB2.7 Metalimnion Temperature
°C
30.00
25.00
20.00
15.00
10.00
5.00
0.00
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

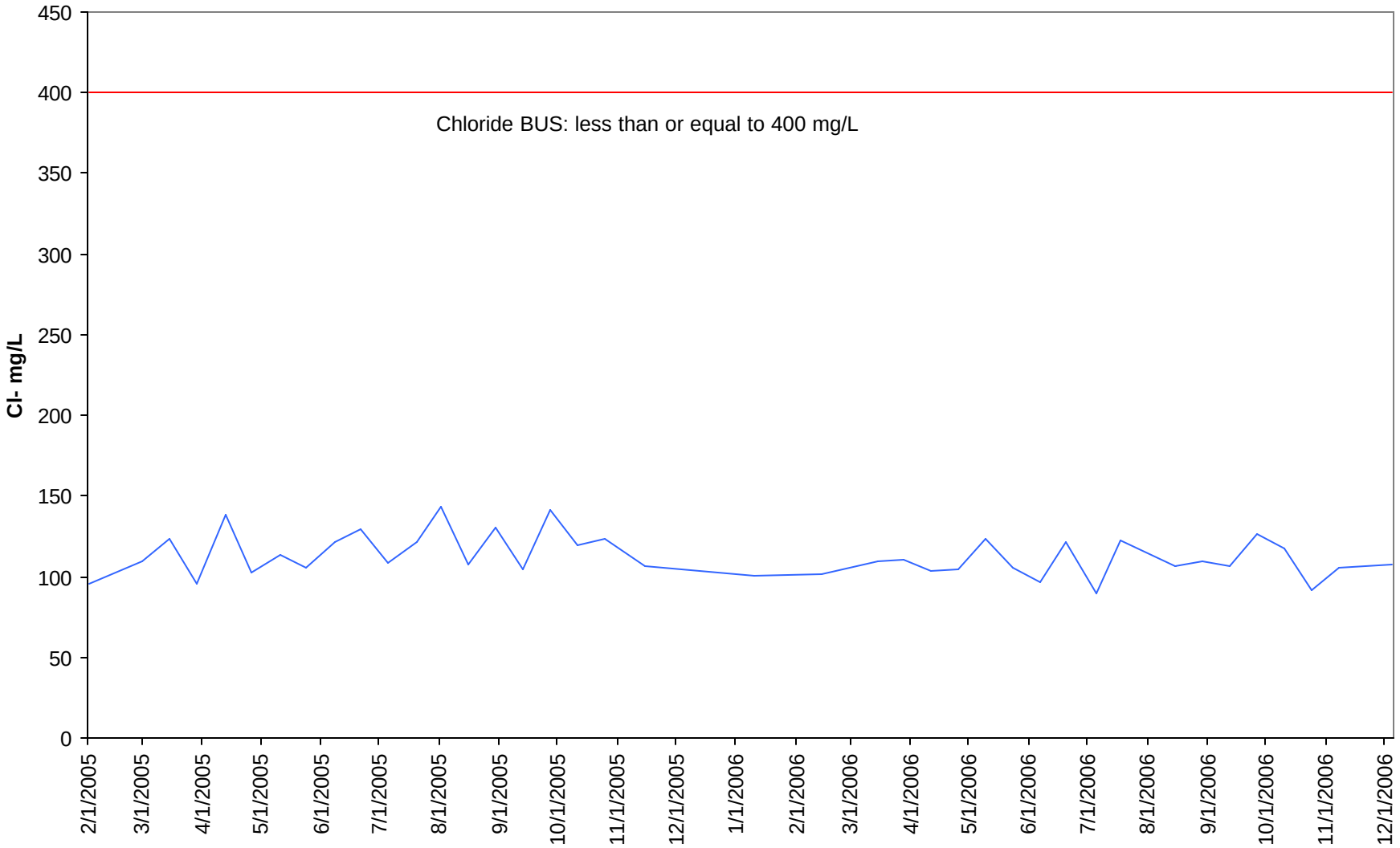
LWLVB2.7 Metalimnion Total Dissolved Solids

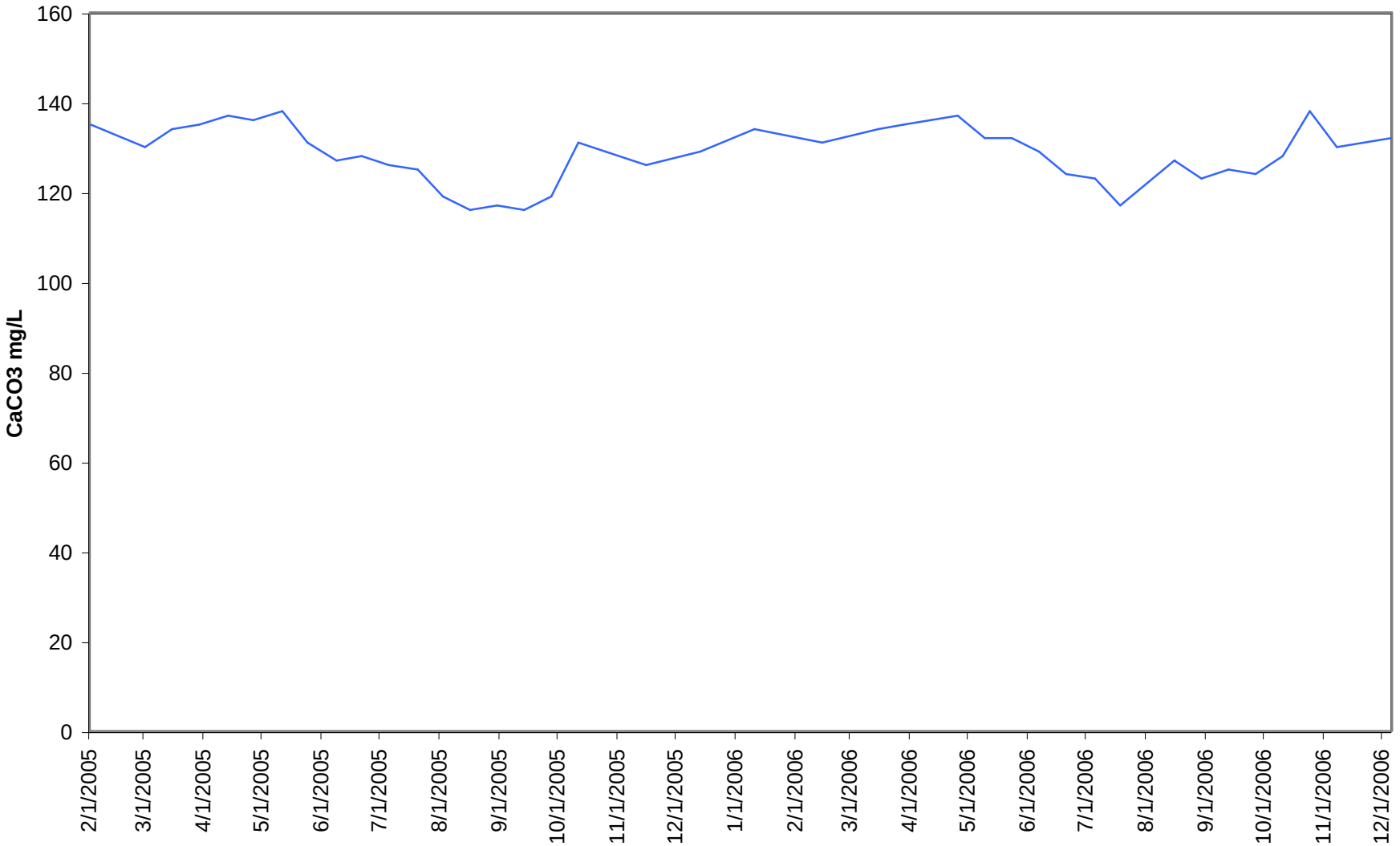


LWLVB2.7 Metalimnion Sulfate

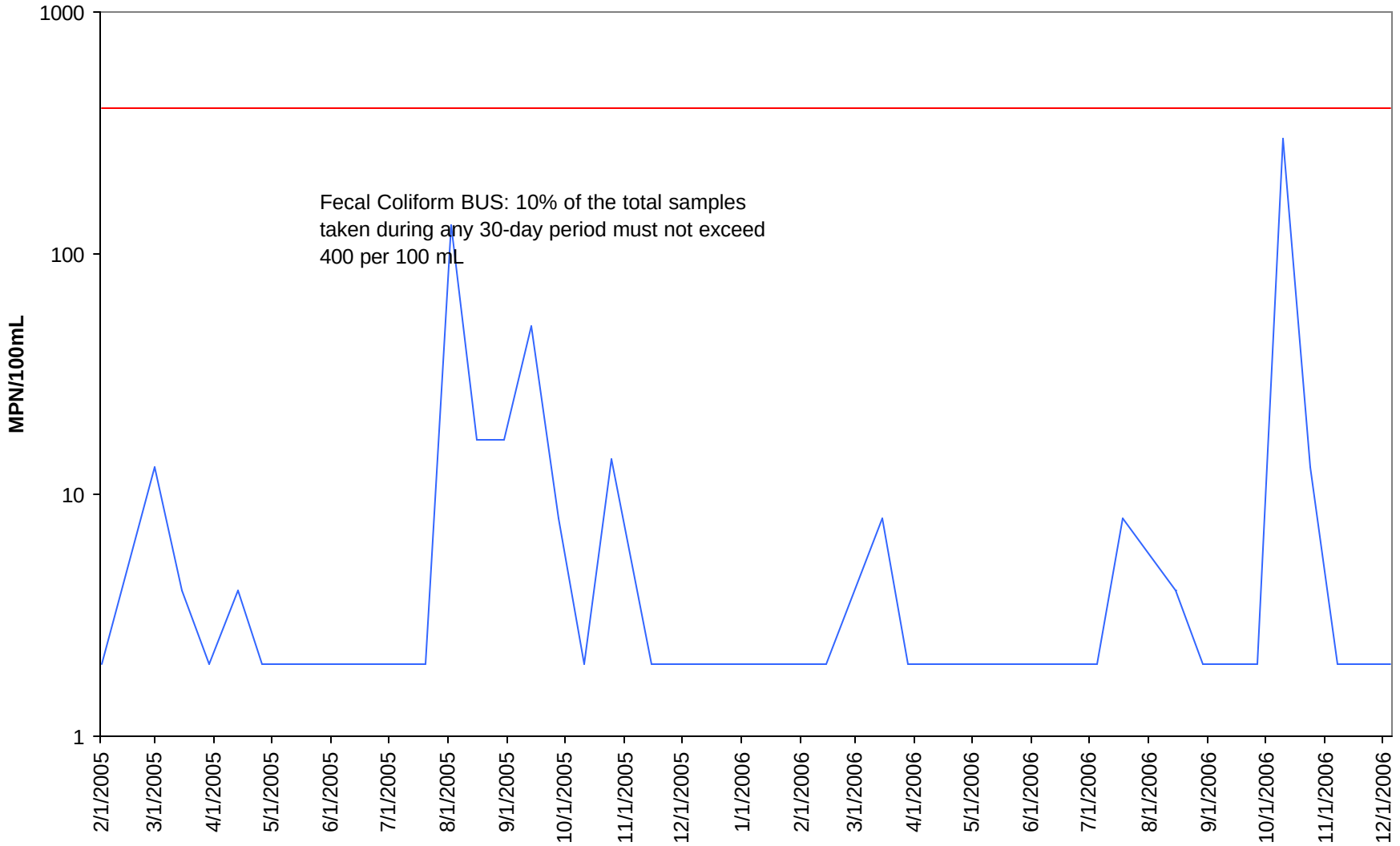


LWLVB2.7 Metalimnion Chloride

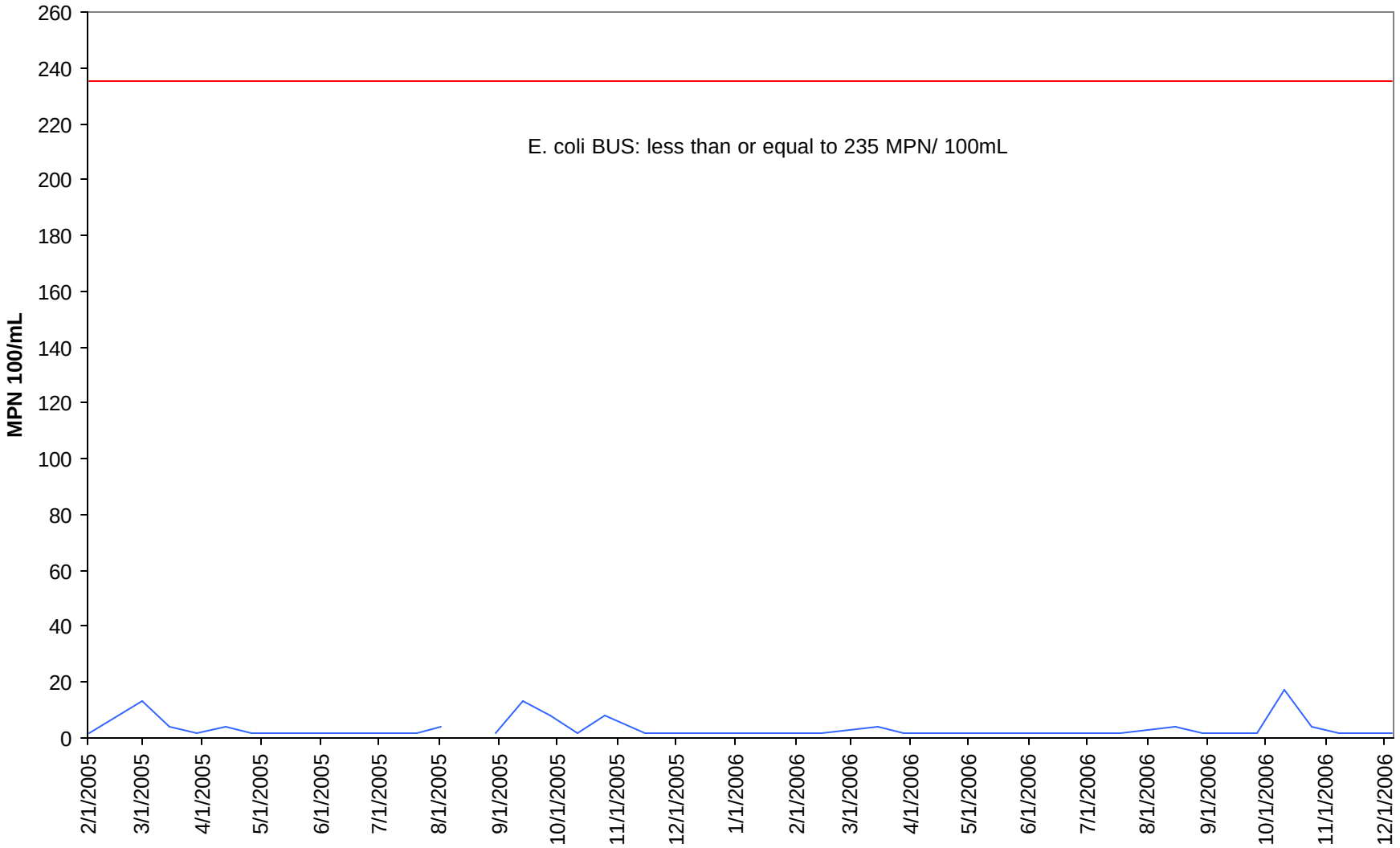



LWLVB2.7 Metalimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

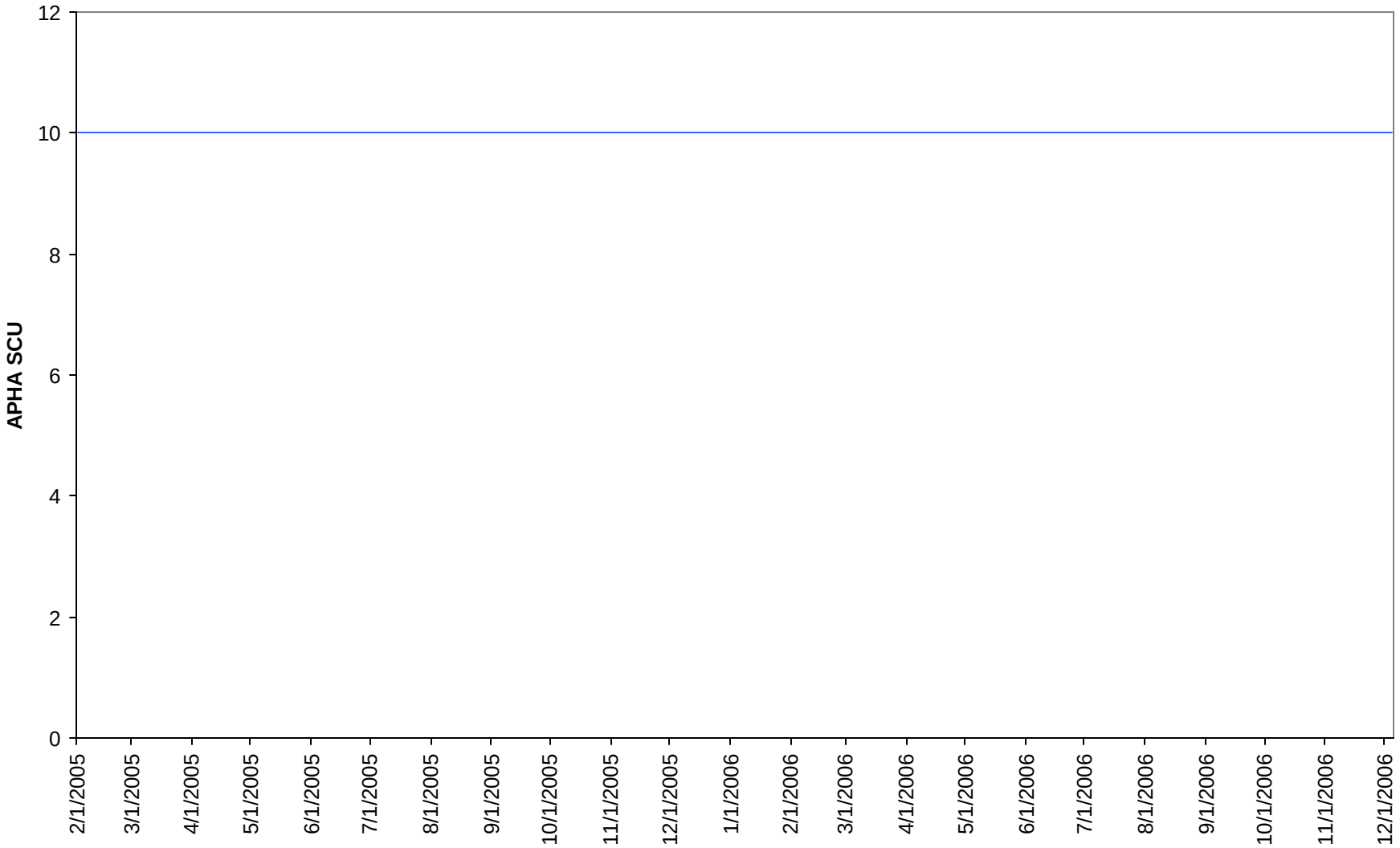
LWLVB2.7 Metalimnion Fecal Coliform



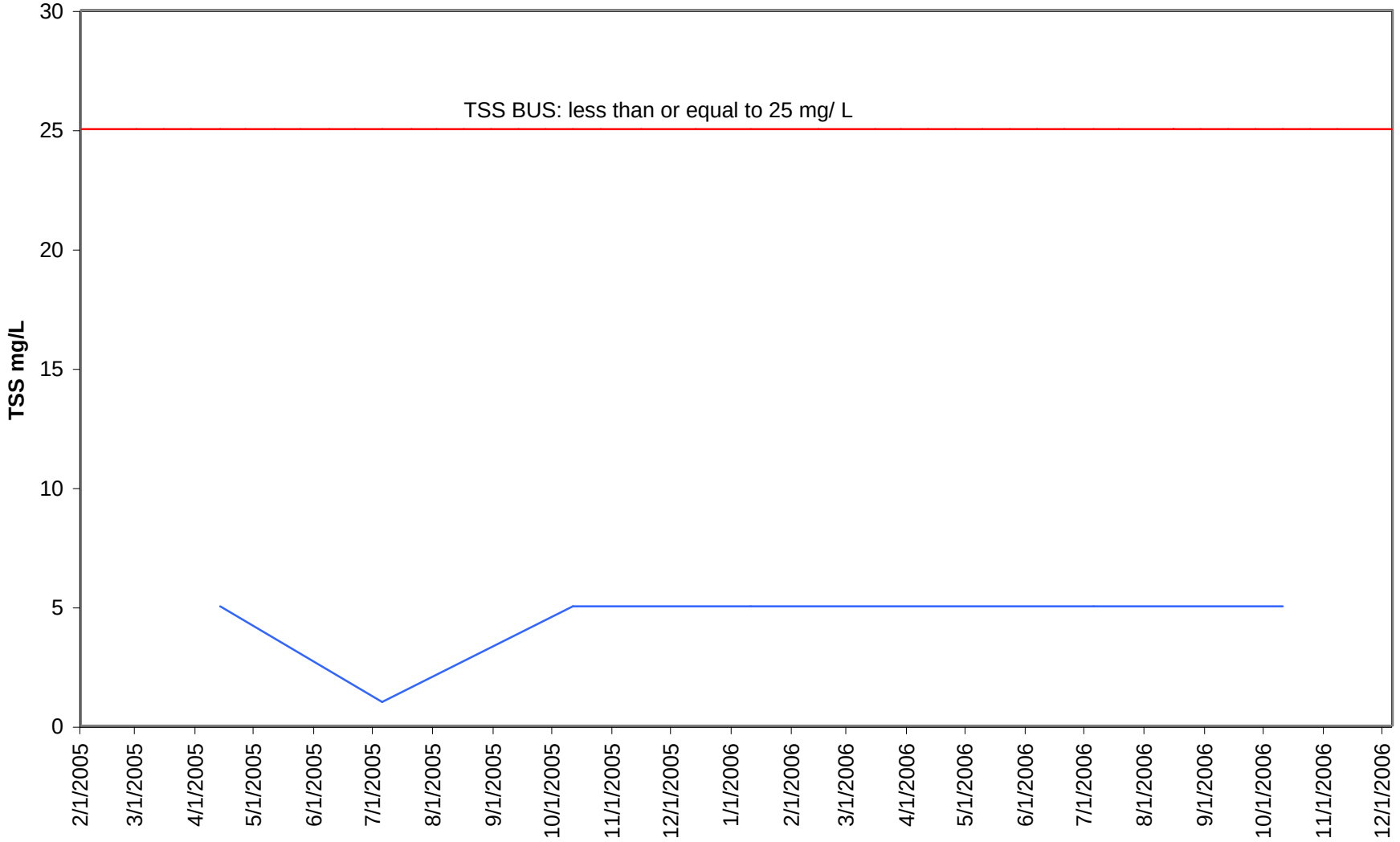
LWLVB2.7 Metalimnion E. coli.



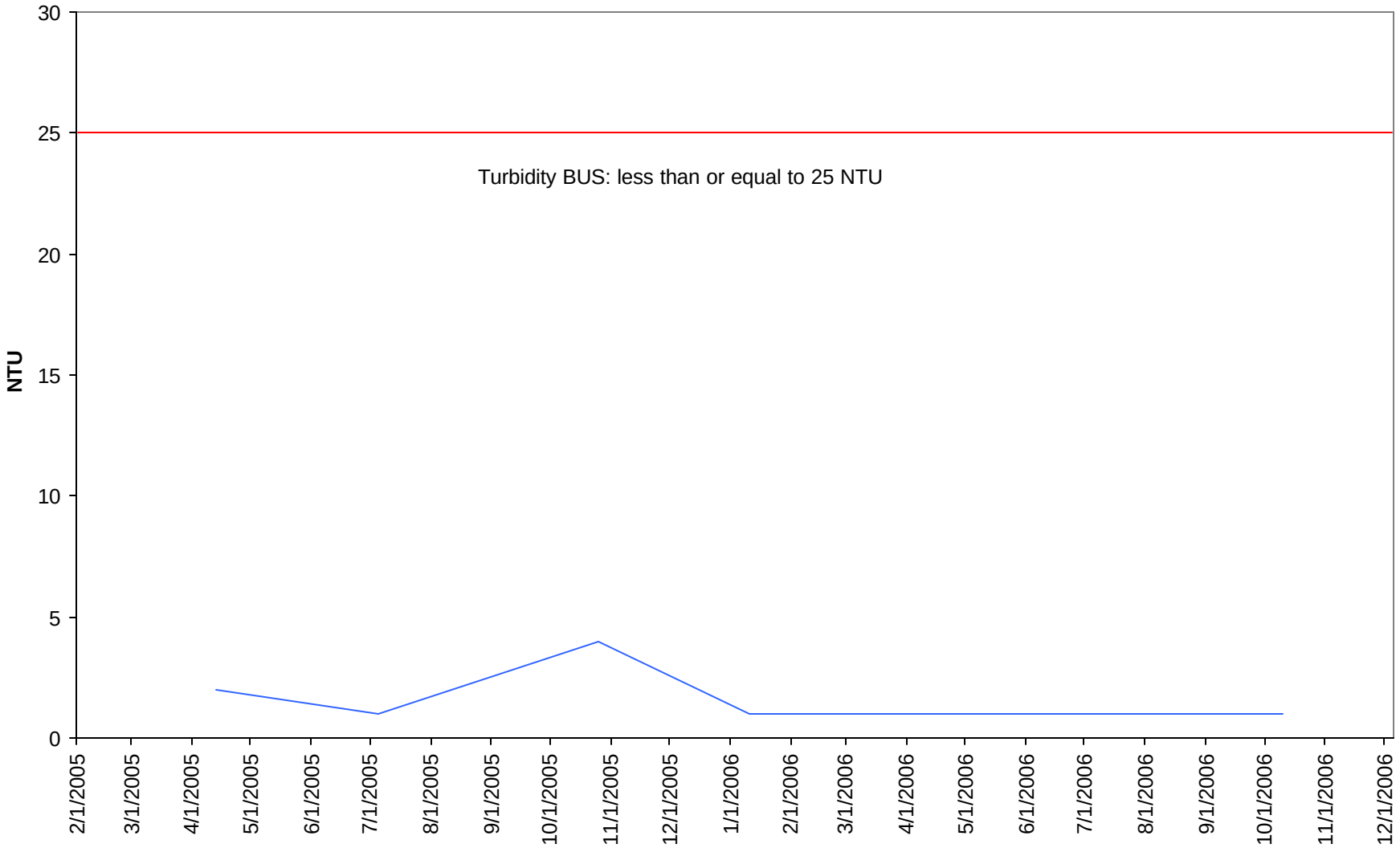
LWLVB2.7 Metalimnion Color



LWLVB2.7 Metalimnion Total Suspended Solids



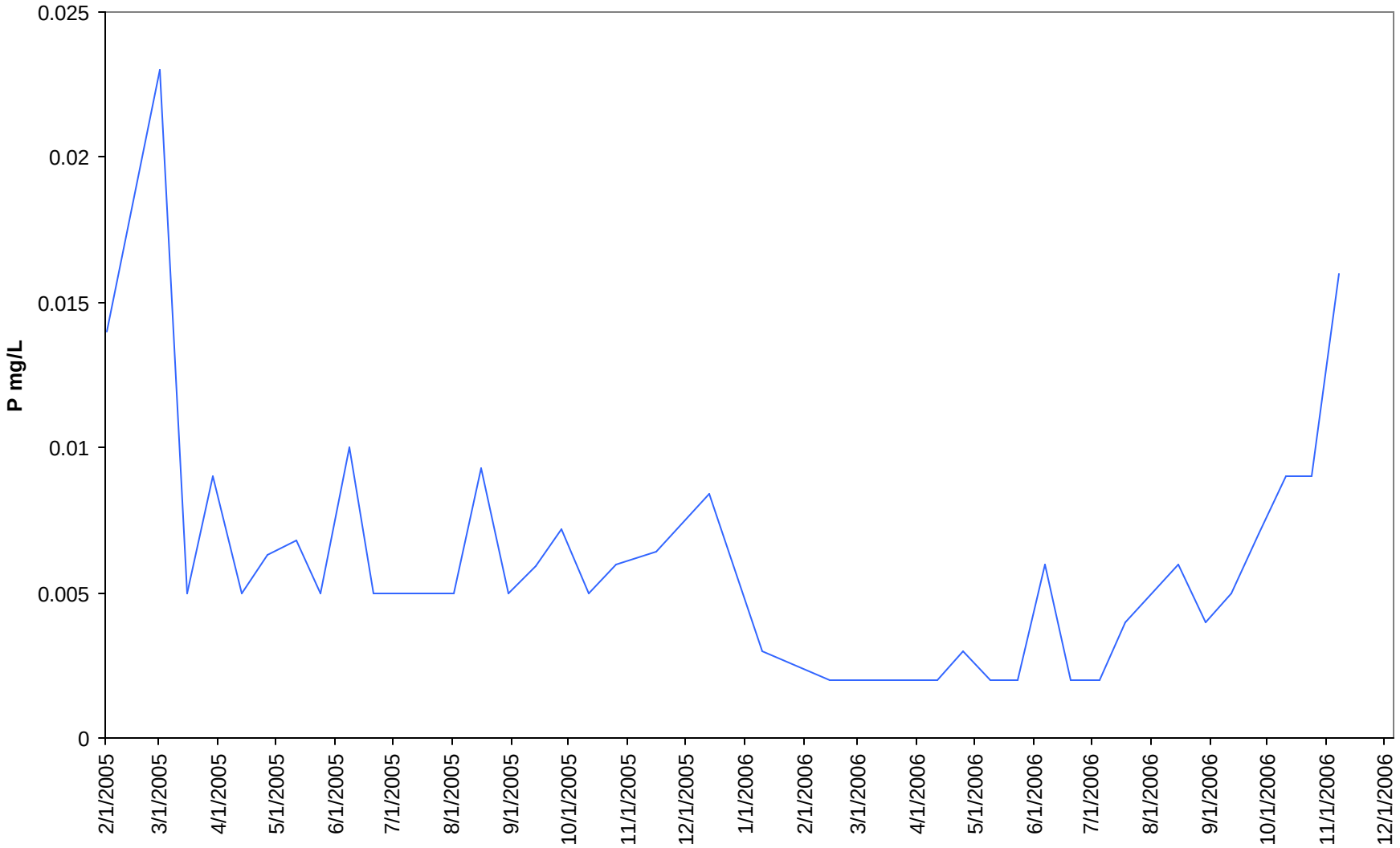
LWLVB2.7 Metalimnion Turbidity



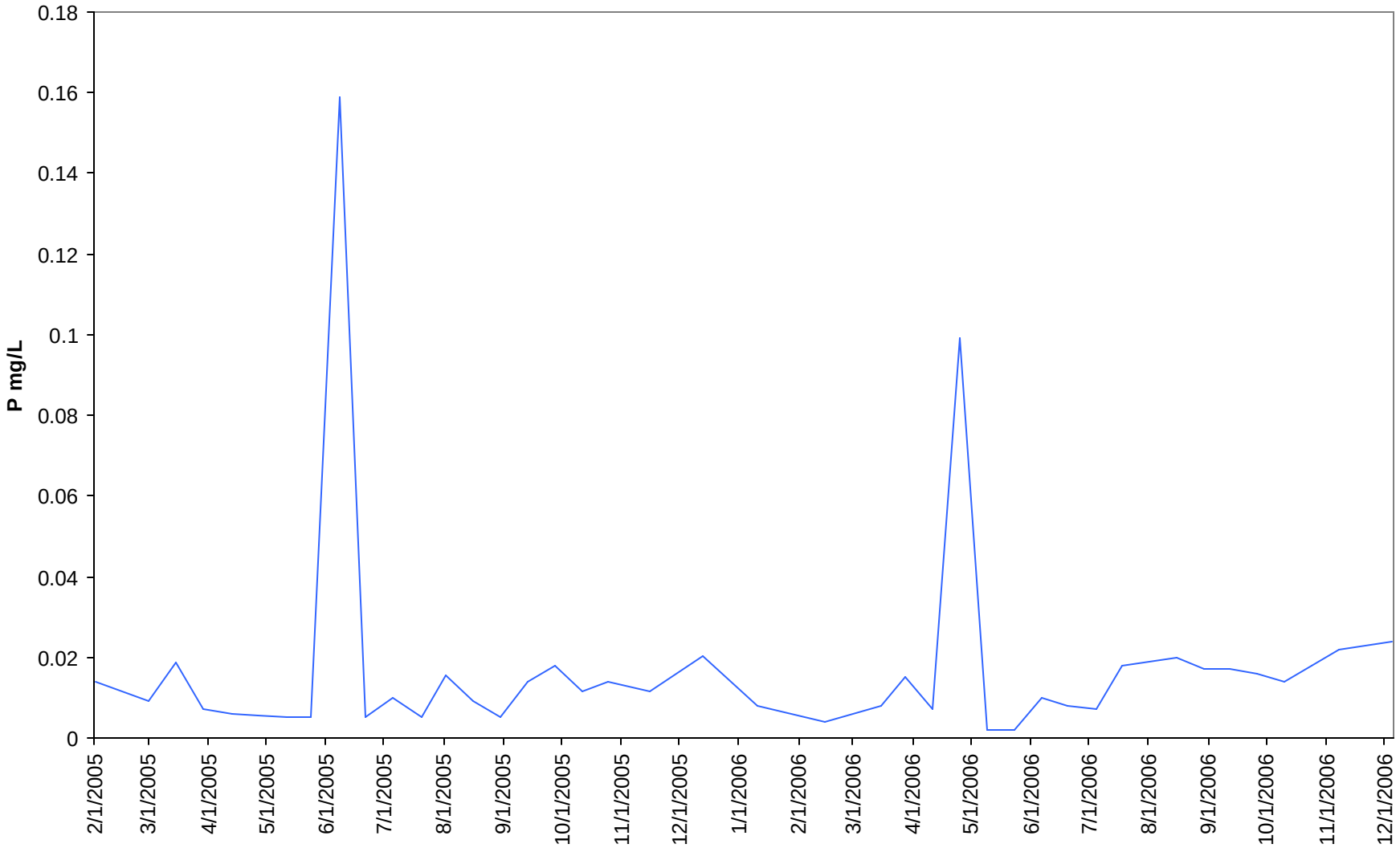
LWLVB2.7
Hypolimnion

LWLVB2.7 Hypolimnion Ammonia

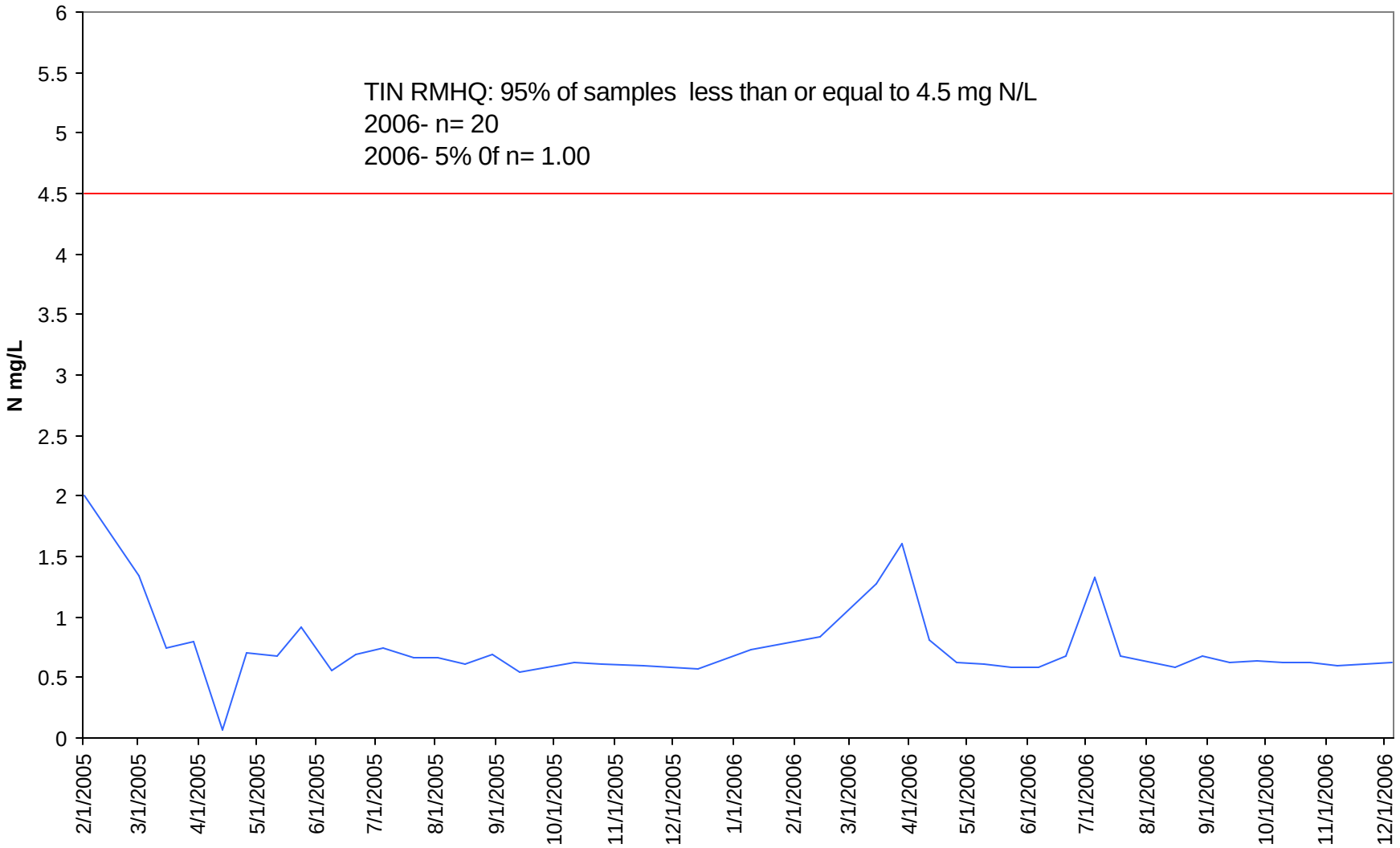



LWLVB2.7 Hypolimnion Dissolved ortho-Phosphorus
P mg/L
0.025
0.02
0.015
0.01
0.005
0
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

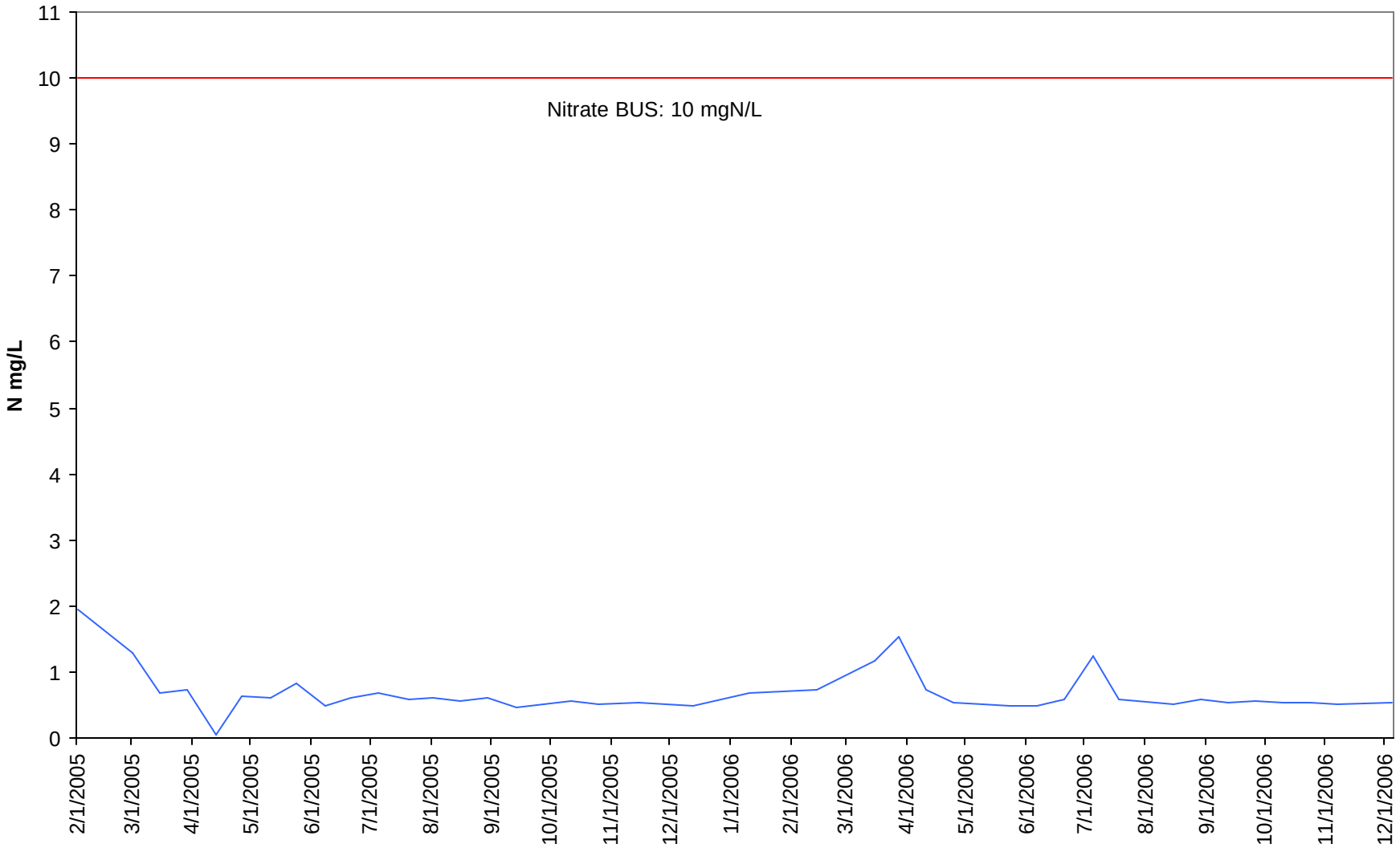
LWLVB2.7 Hypolimnion Total Phosphorus



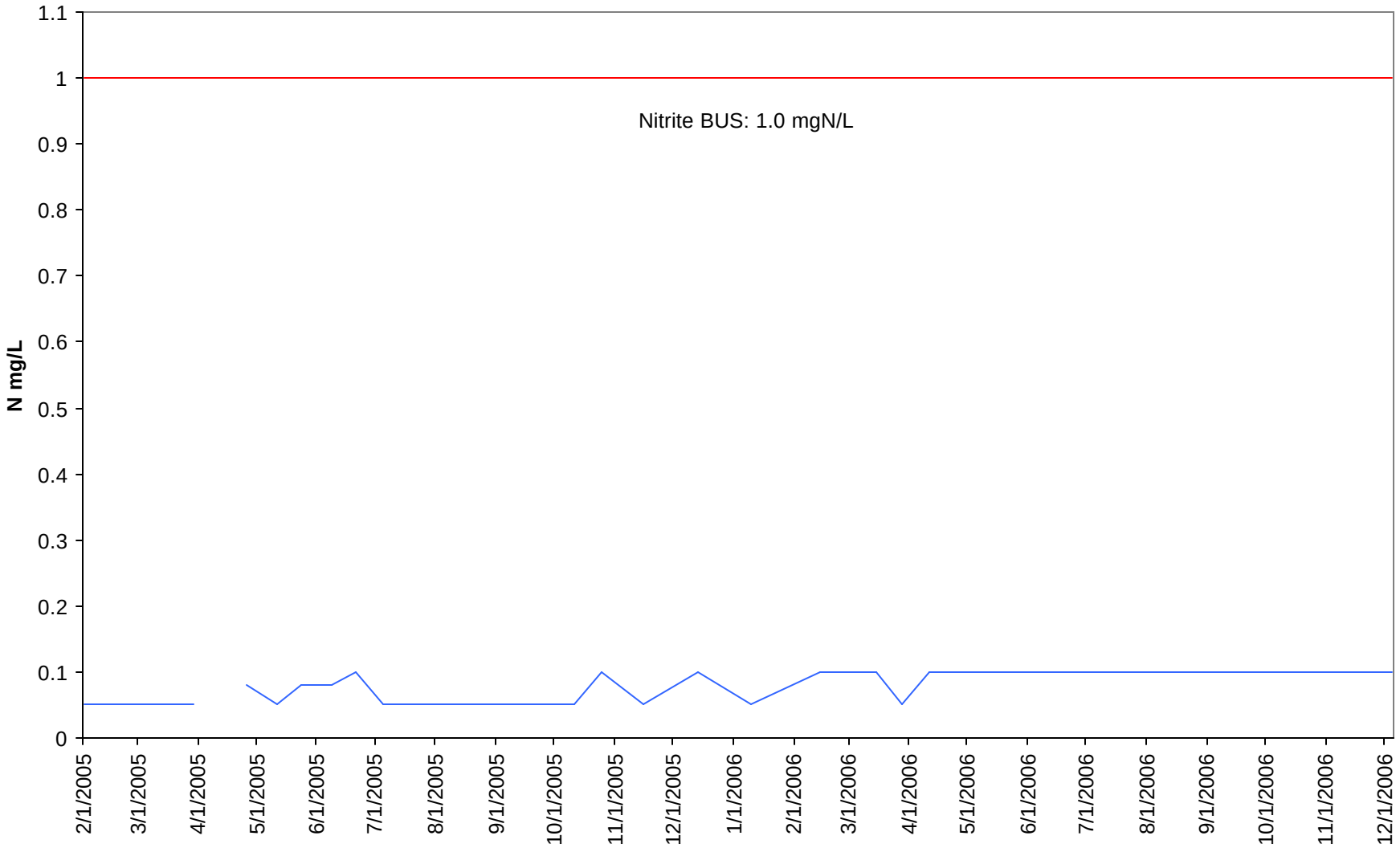
LWLVB2.7 Hypolimnion Total Inorganic Nitrogen



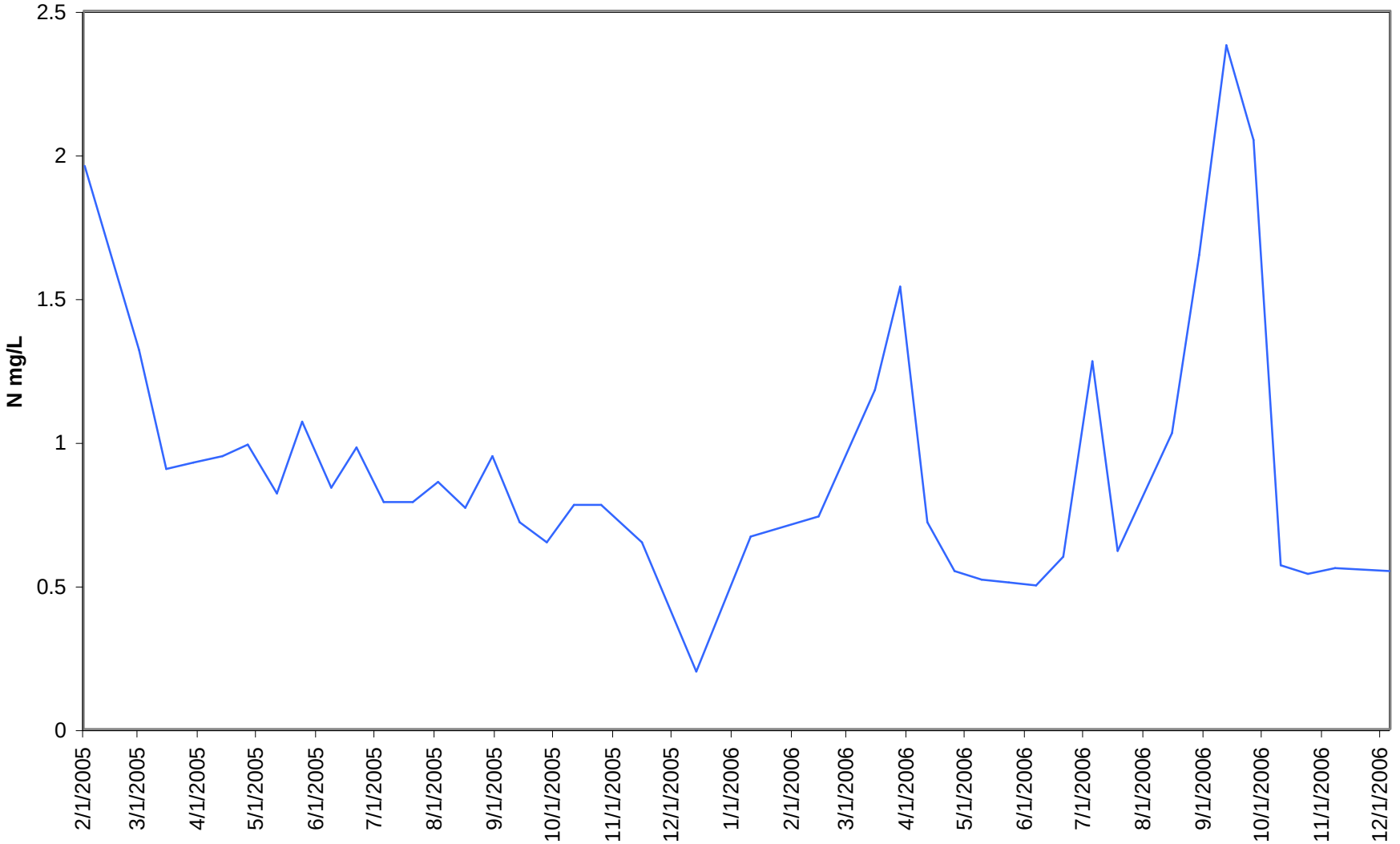
LWLVB2.7 Hypolimnion Nitrate

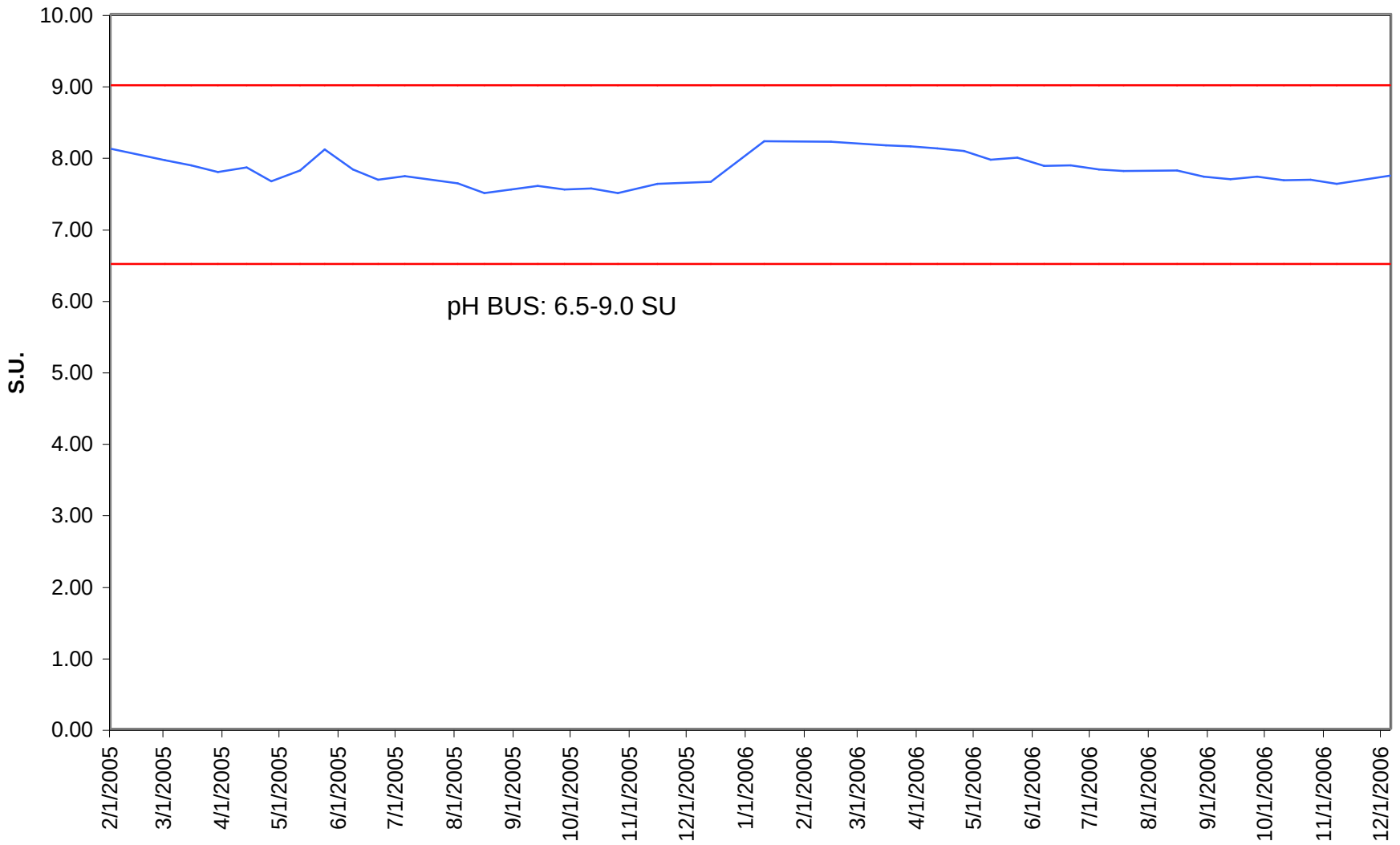


LWLVB2.7 Hypolimnion Nitrite

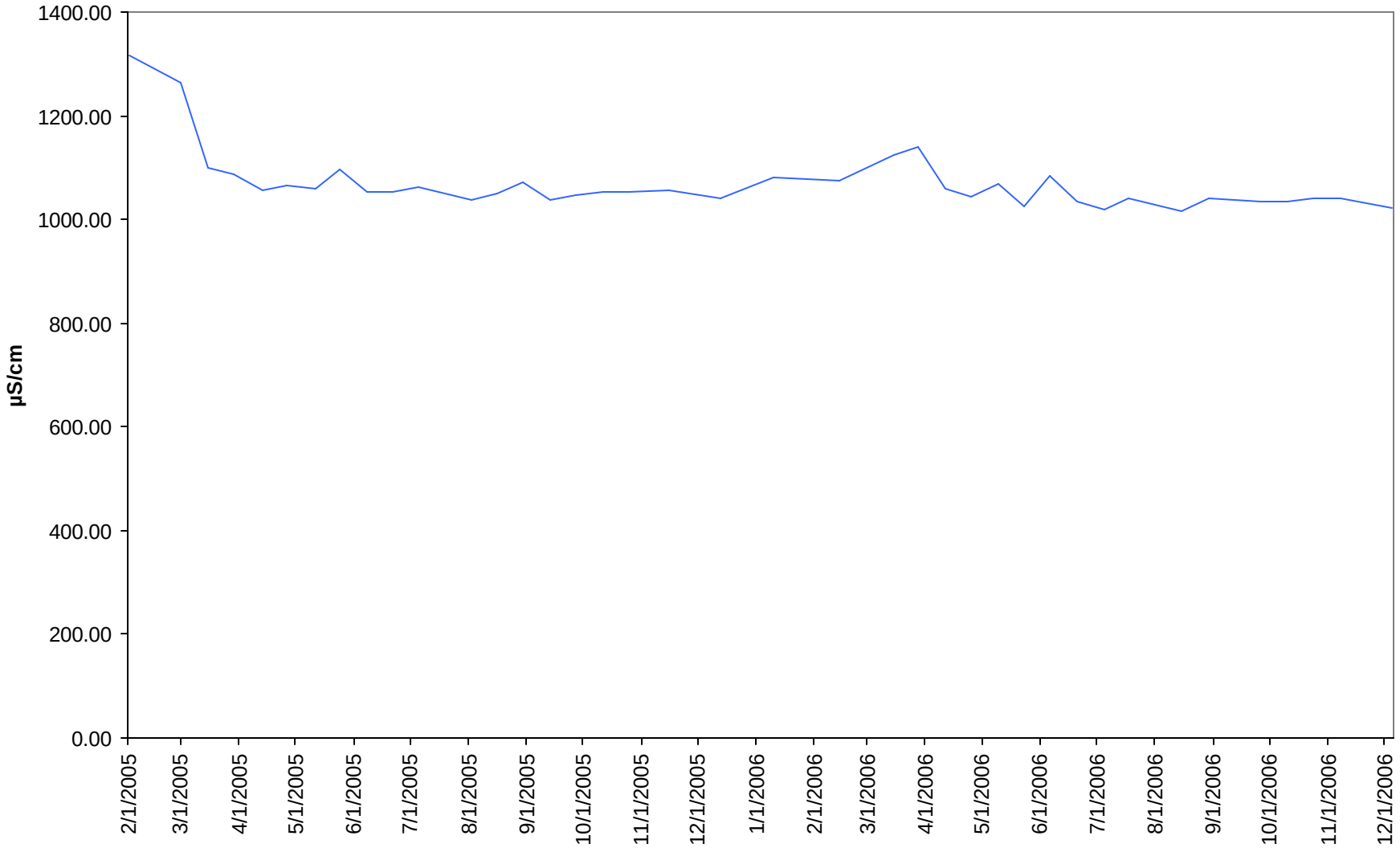


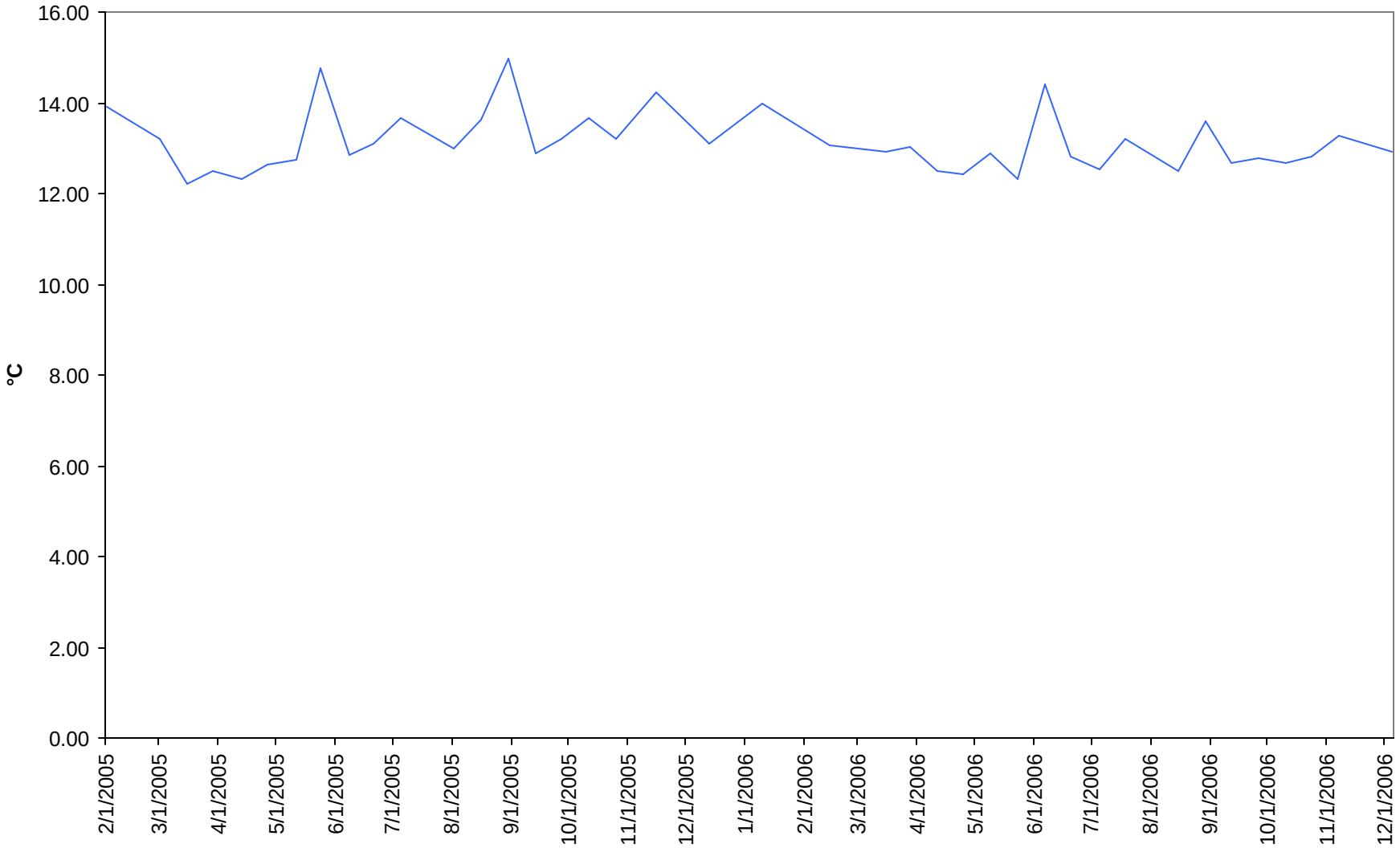
LWLVB2.7 Hypolimnion Total Nitrogen



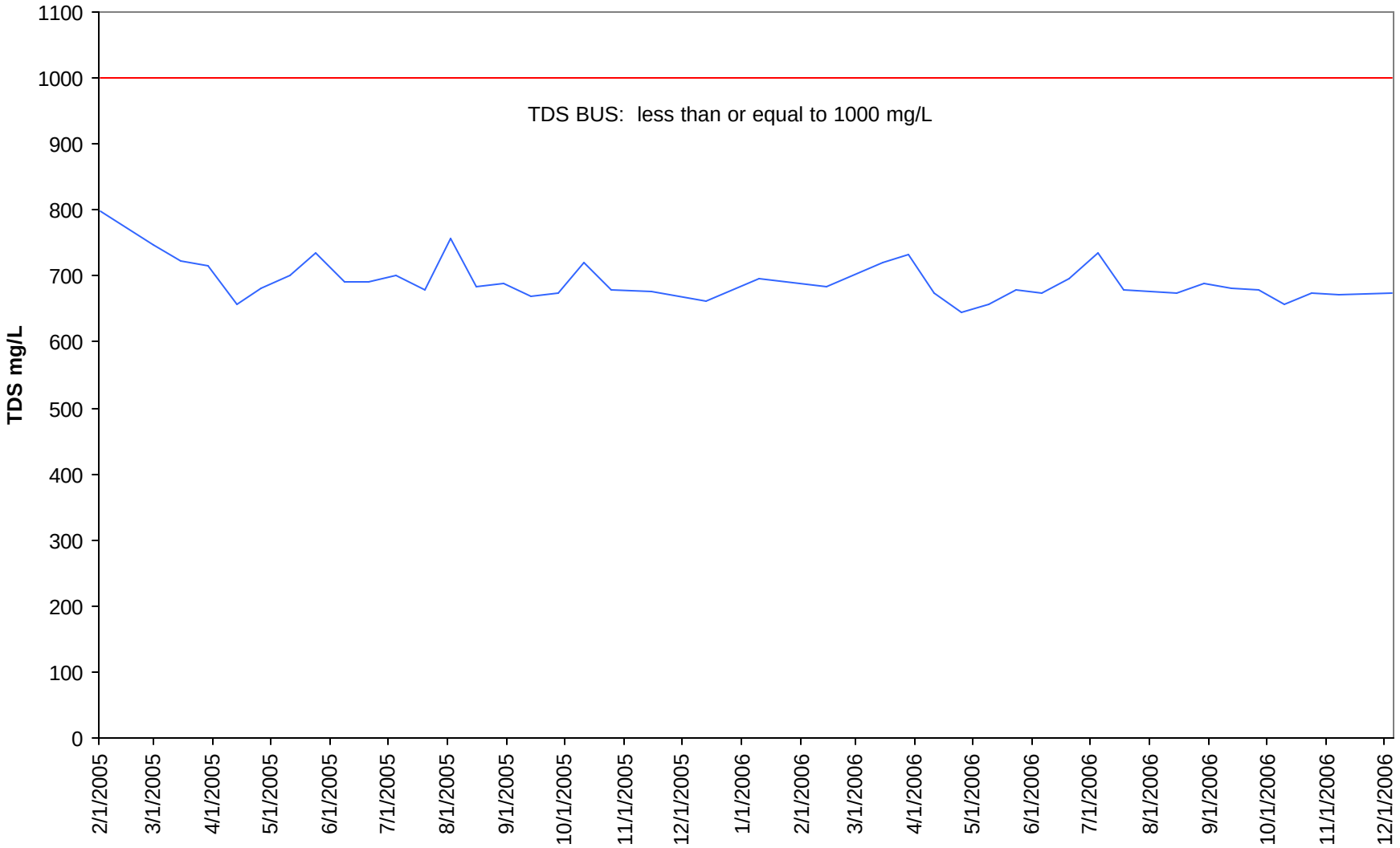

LWLVB2.7 Hypolimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

LWLVB2.7 Hypolimnion Conductivity

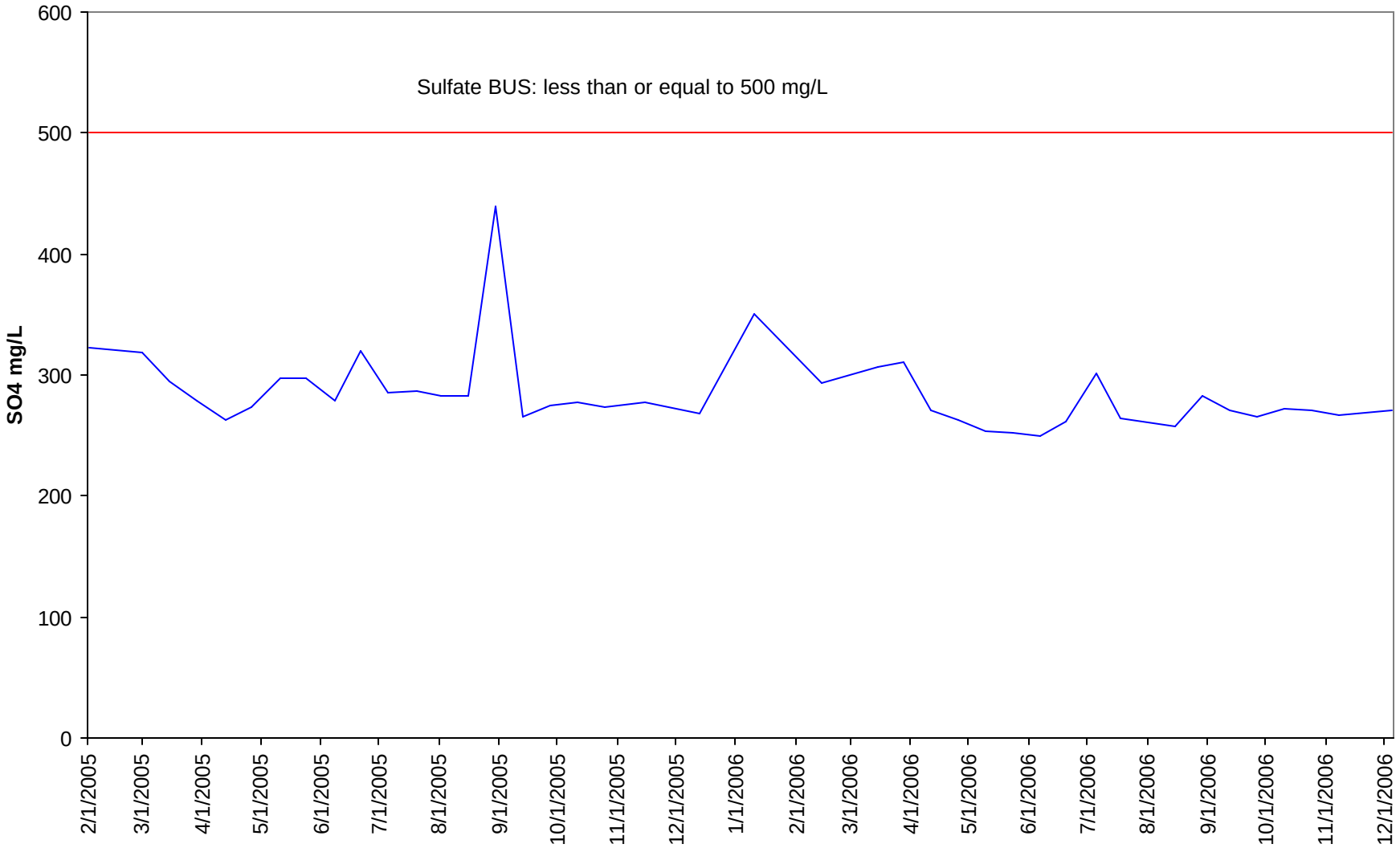


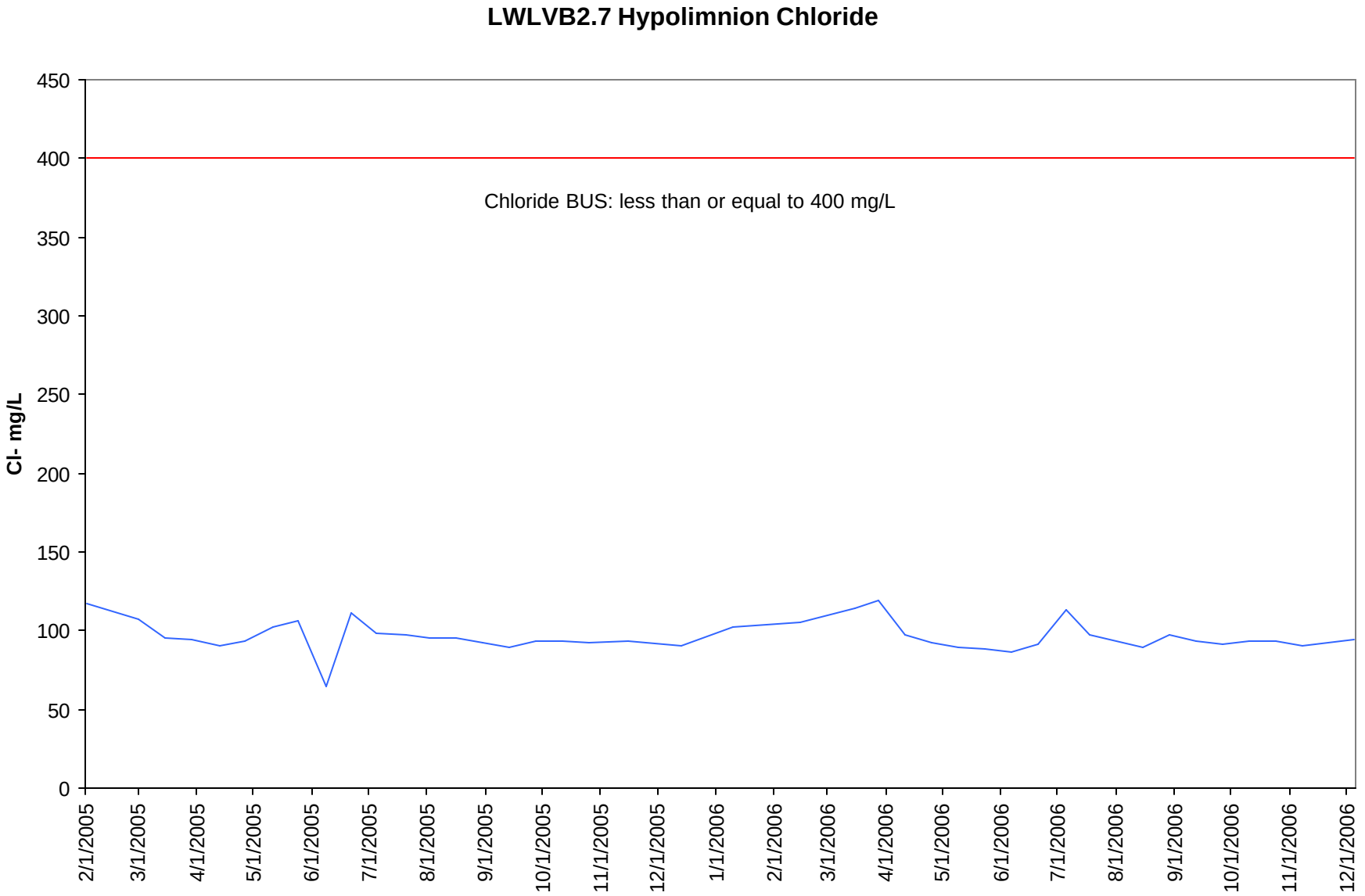

LWLVB2.7 Hypolimnion Temperature
°C
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

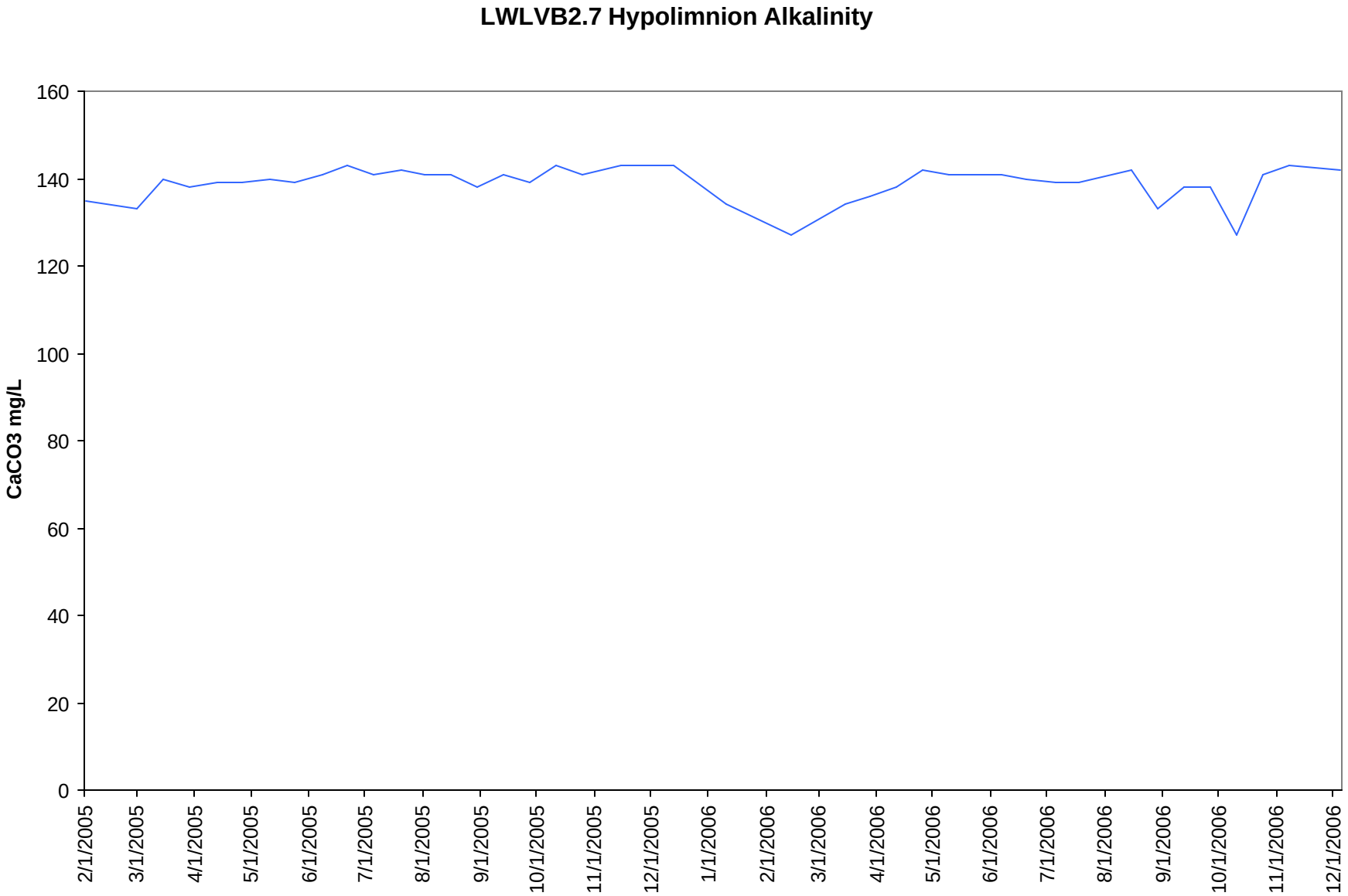
LWLVB2.7 Hypolimnion Total Dissolved Solids



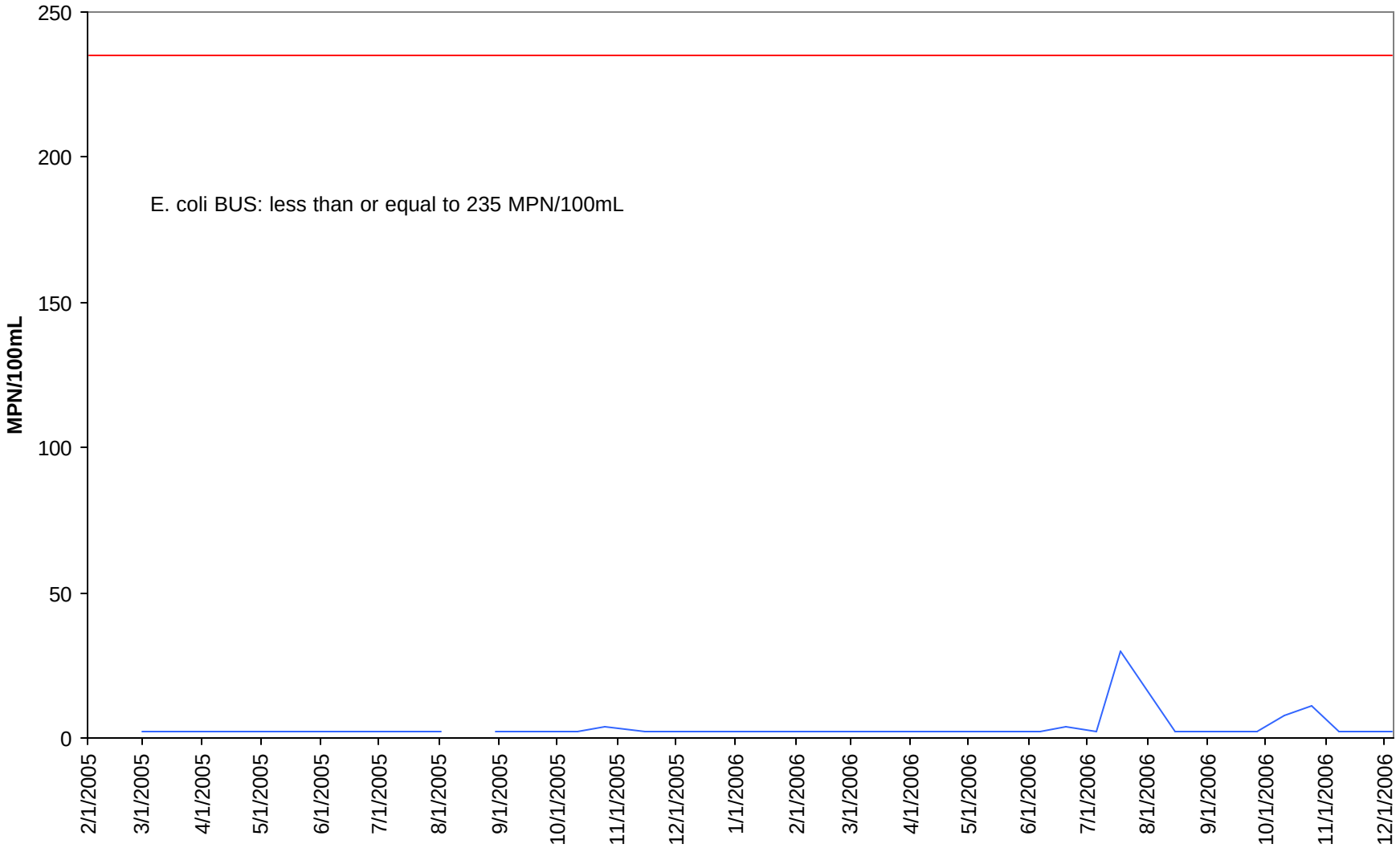
LWLVB2.7 Hypolimnion Sulfate



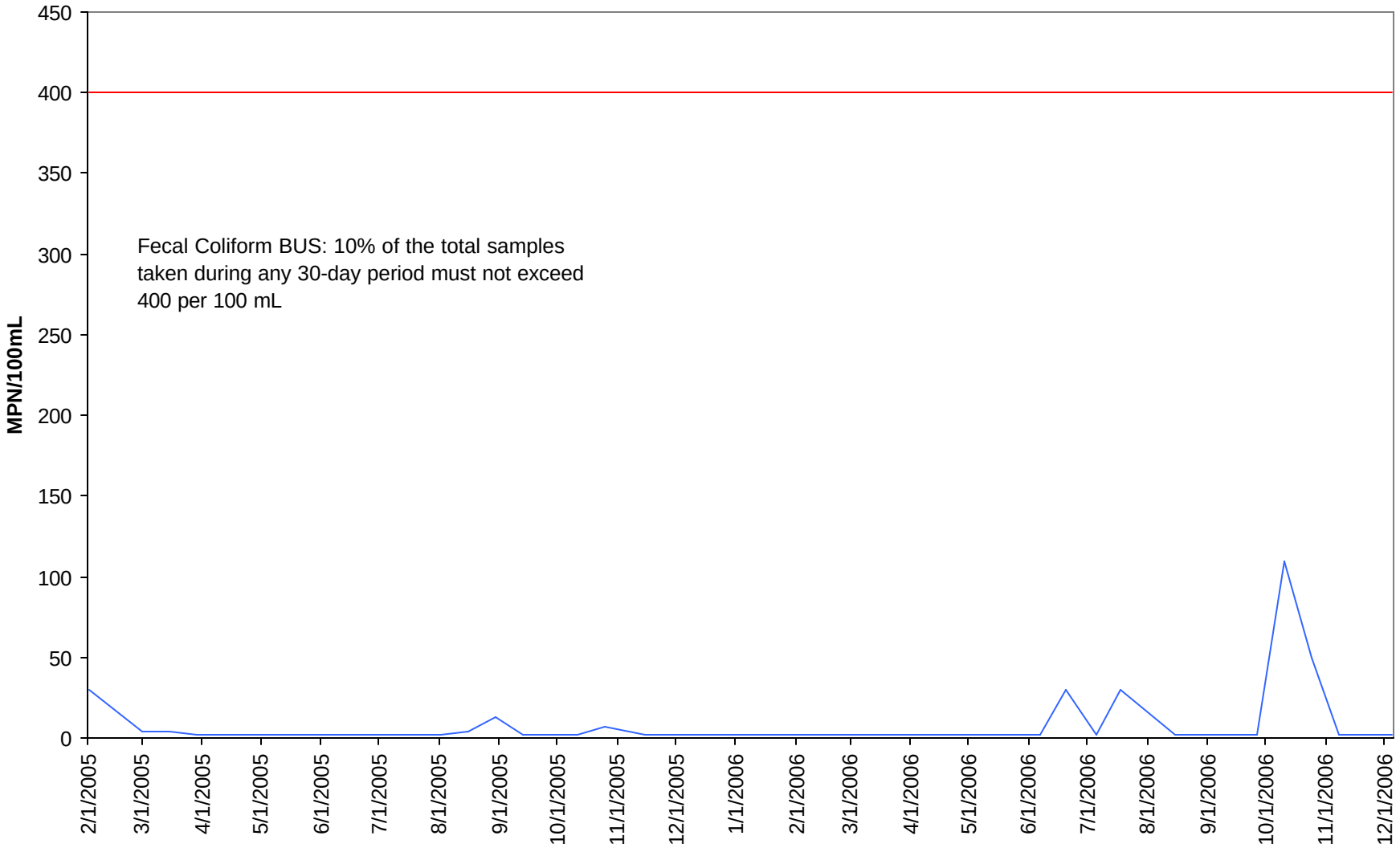

LWLVB2.7 Hypolimnion Chloride
Chloride BUS: less than or equal to 400 mg/L
Cl- mg/L
450
400
350
300
250
200
150
100
50
0
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006


LWLVB2.7 Hypolimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

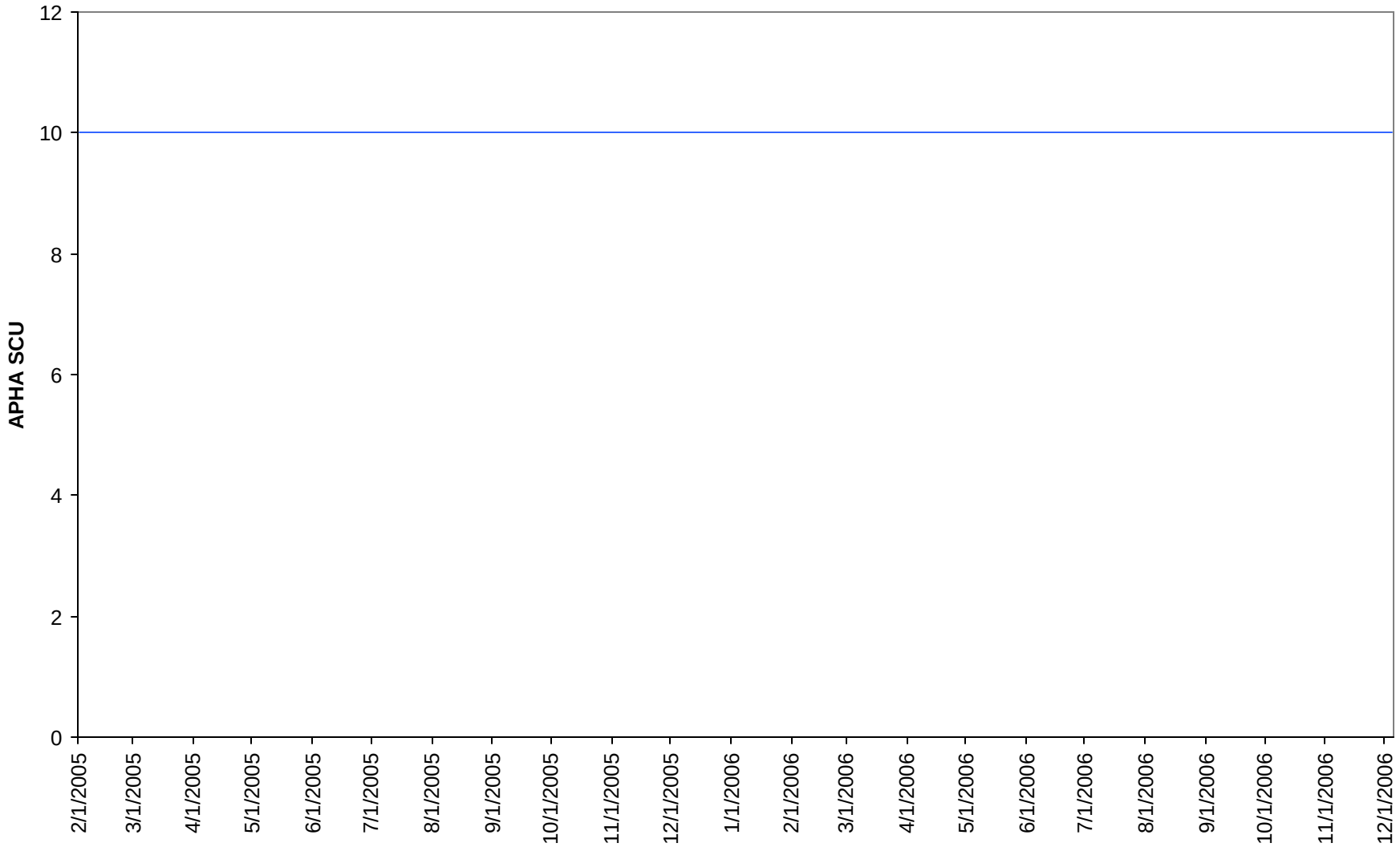
LWLVB2.7 Hypolimnion E. coli.

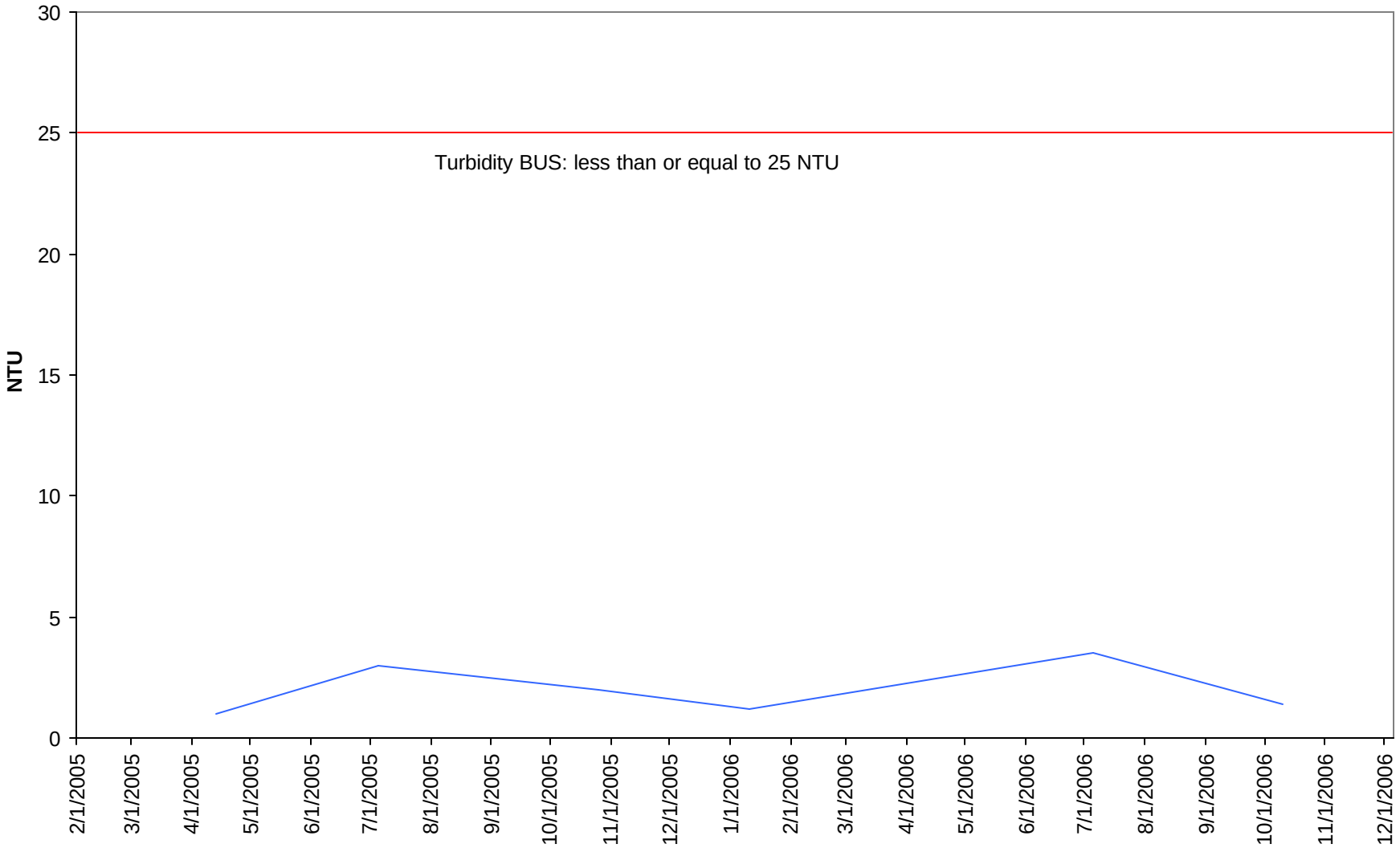


LWLVB2.7 Hypolimnion Fecal Coliform

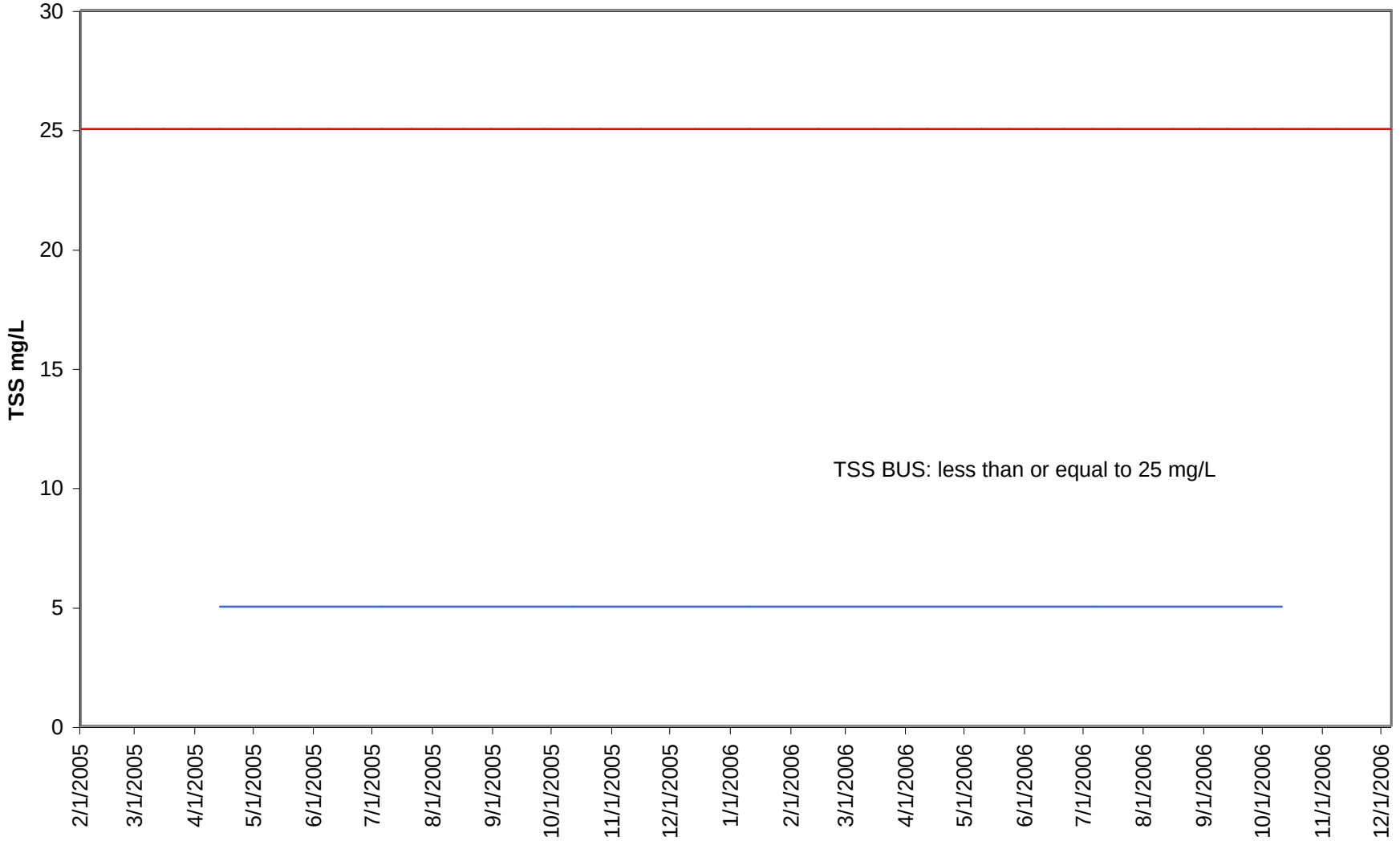


LWLVB2.7 Hypolimnion Color



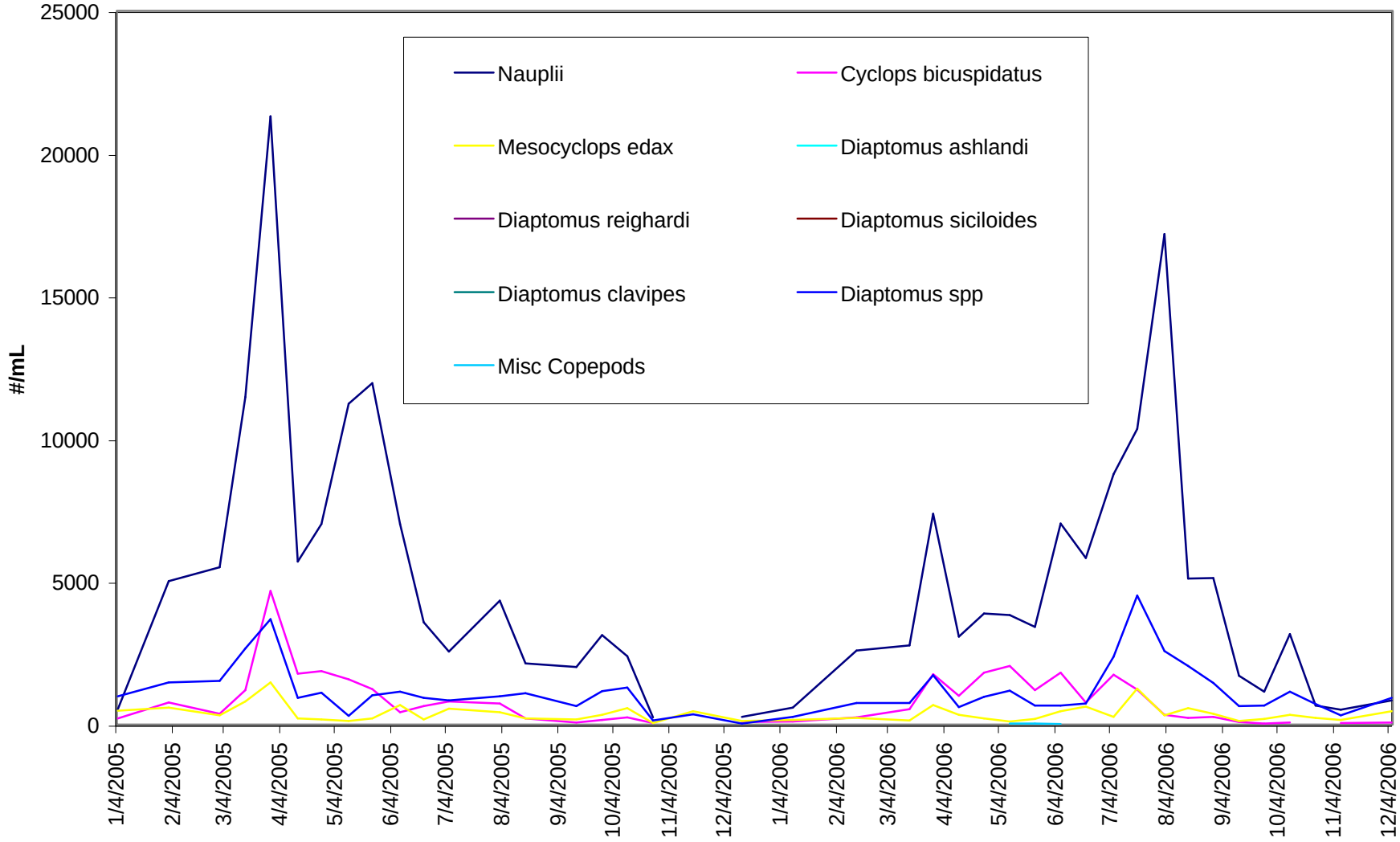

LWLVB2.7 Hypolimnion Turbidity
NTU
30
25
20
15
10
5
0
Turbidity BUS: less than or equal to 25 NTU
2/1/2005
3/1/2005
4/1/2005
5/1/2005
6/1/2005
7/1/2005
8/1/2005
9/1/2005
10/1/2005
11/1/2005
12/1/2005
1/1/2006
2/1/2006
3/1/2006
4/1/2006
5/1/2006
6/1/2006
7/1/2006
8/1/2006
9/1/2006
10/1/2006
11/1/2006
12/1/2006

LWLVB2.7 Hypolimnion Total Suspended Solids

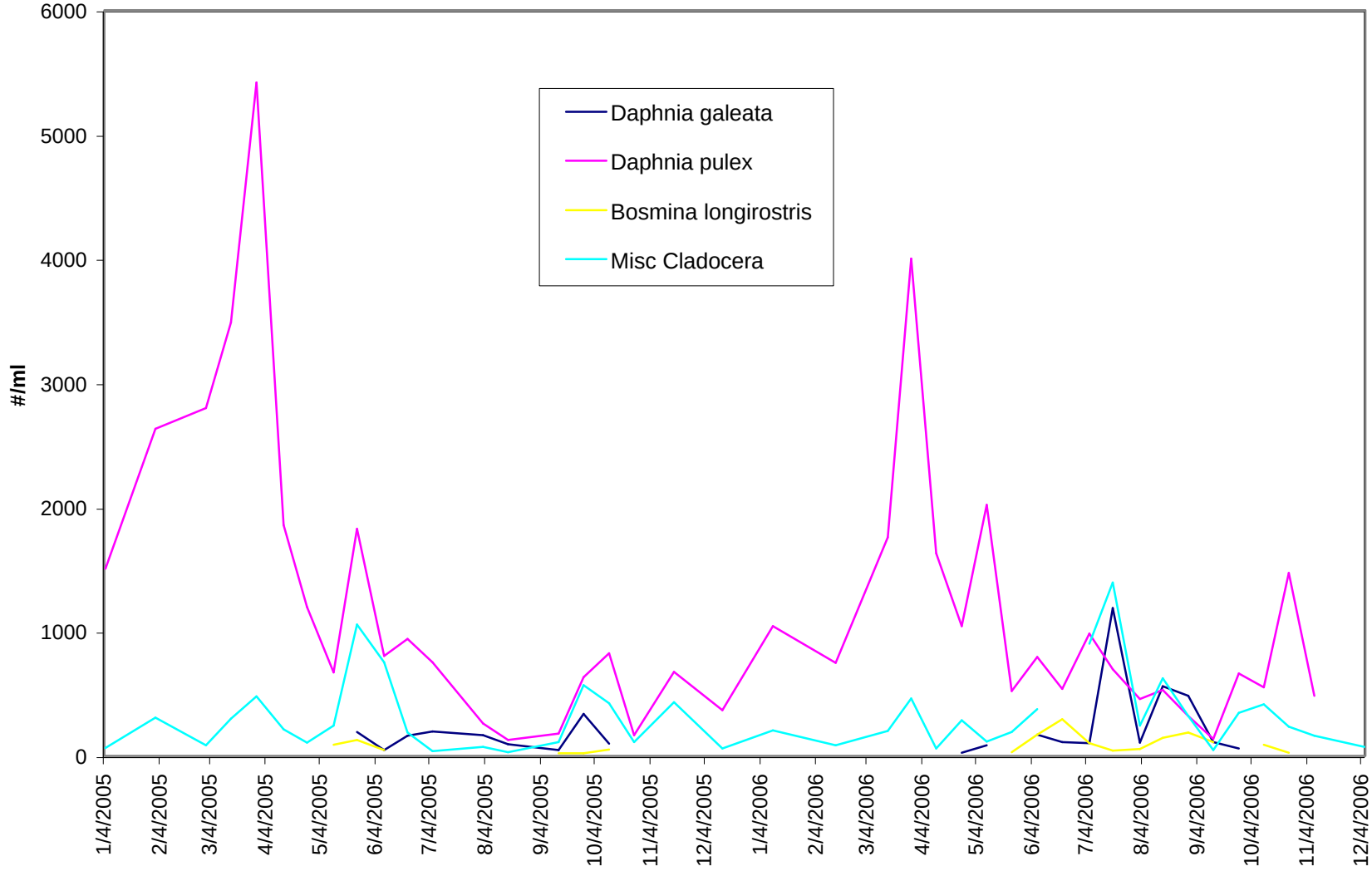


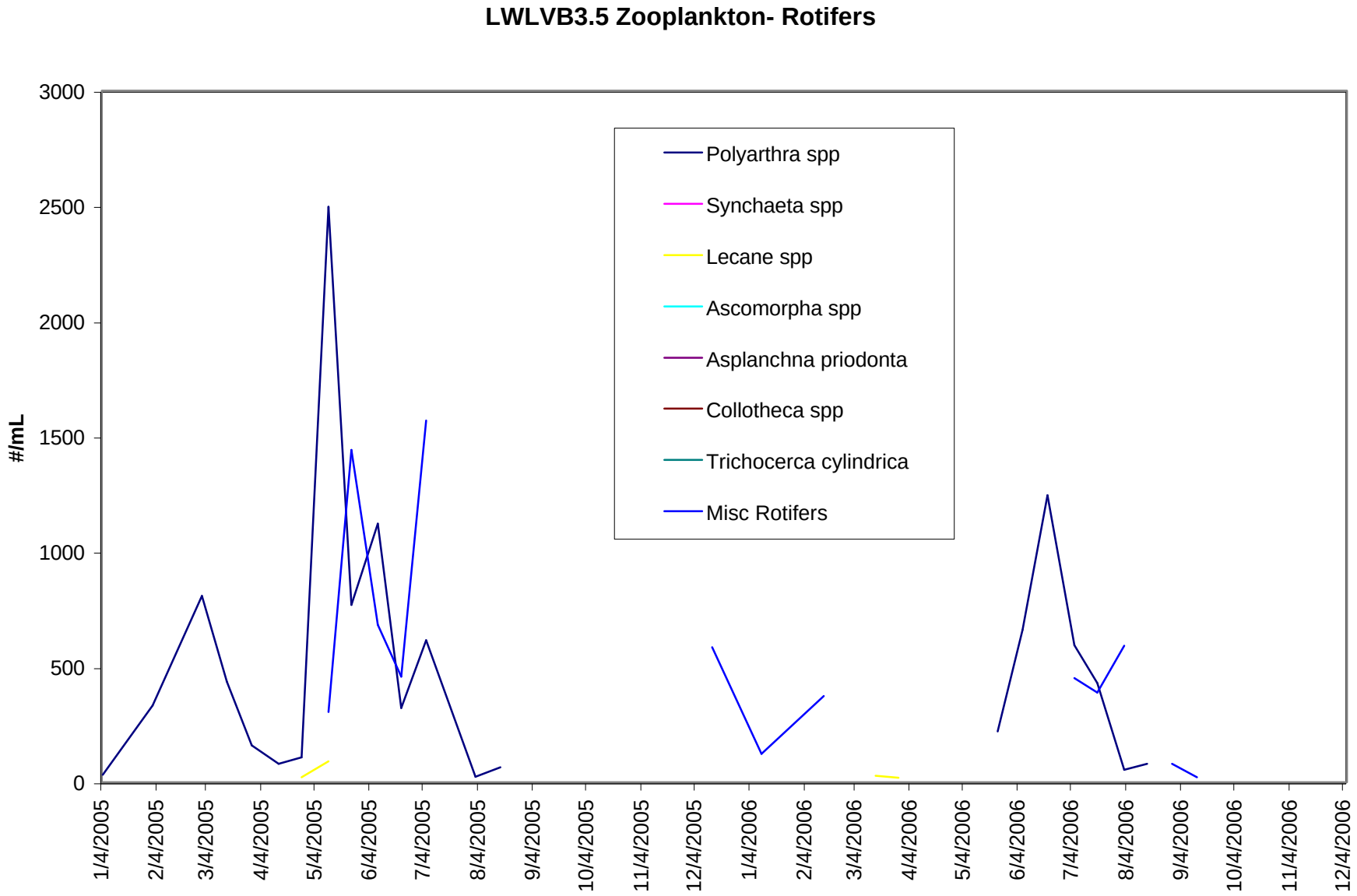
LWLVB3.5

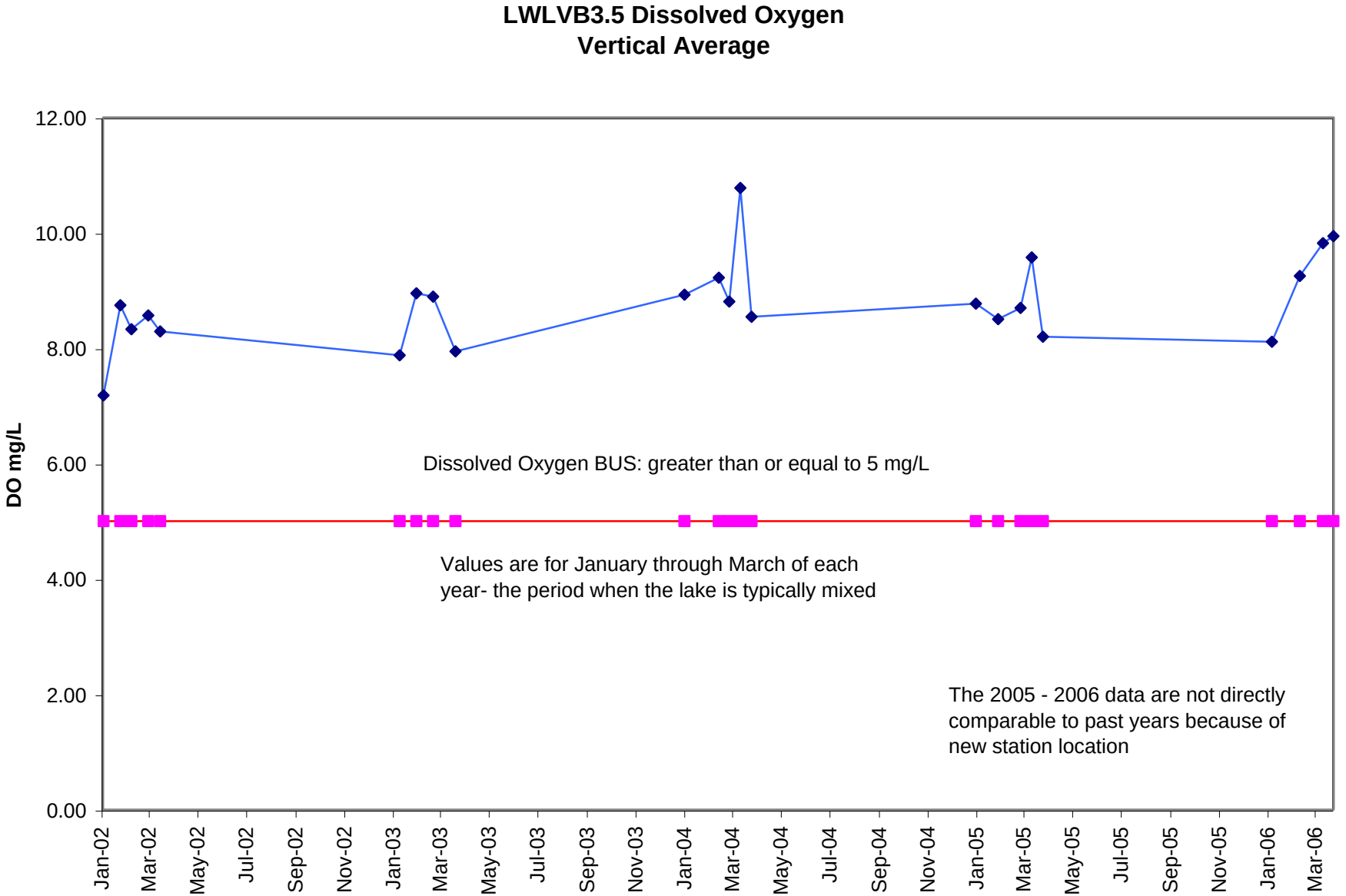
LWLVB3.5 Zooplankton- Copepods

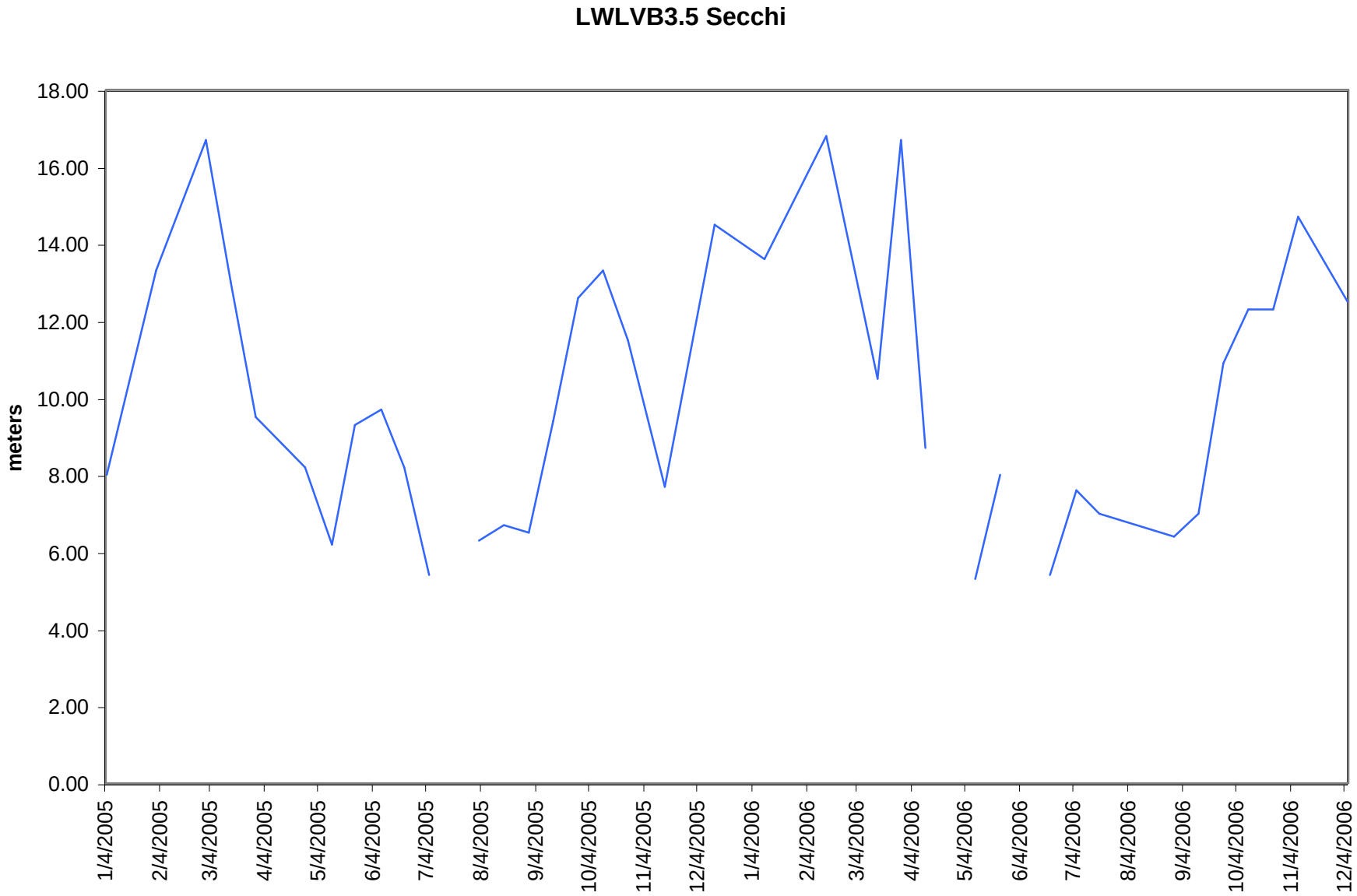


LWLVB3.5 Zooplankton- Cladocerans




LWLVB3.5 Zooplankton- Rotifers
#/mL
3000
2500
2000
1500
1000
500
0
Polyarthra spp
Synchaeta spp
Lecane spp
Ascomorpha spp
Asplanchna priodonta
Collotheca spp
Trichocerca cylindrica
Misc Rotifers
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006


LWLVB3.5 Dissolved Oxygen
Vertical Average
DO mg/L
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Dissolved Oxygen BUS: greater than or equal to 5 mg/L
Values are for January through March of each year- the period when the lake is typically mixed
The 2005 - 2006 data are not directly comparable to past years because of new station location
Jan-02
Mar-02
May-02
Jul-02
Sep-02
Nov-02
Jan-03
Mar-03
May-03
Jul-03
Sep-03
Nov-03
Jan-04
Mar-04
May-04
Jul-04
Sep-04
Nov-04
Jan-05
Mar-05
May-05
Jul-05
Sep-05
Nov-05
Jan-06
Mar-06

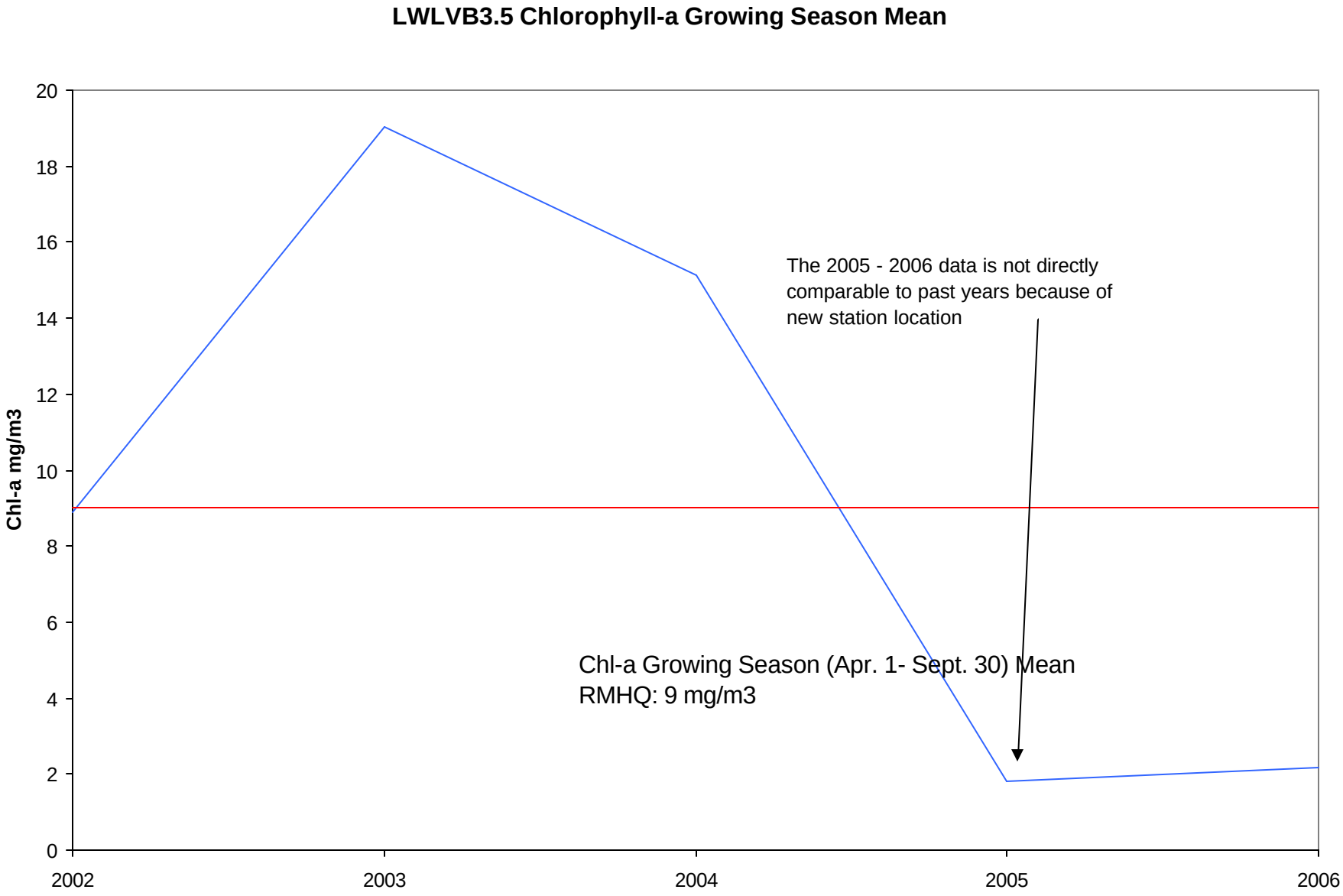

LWLVB3.5 Secchi
meters
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

Climate Tables

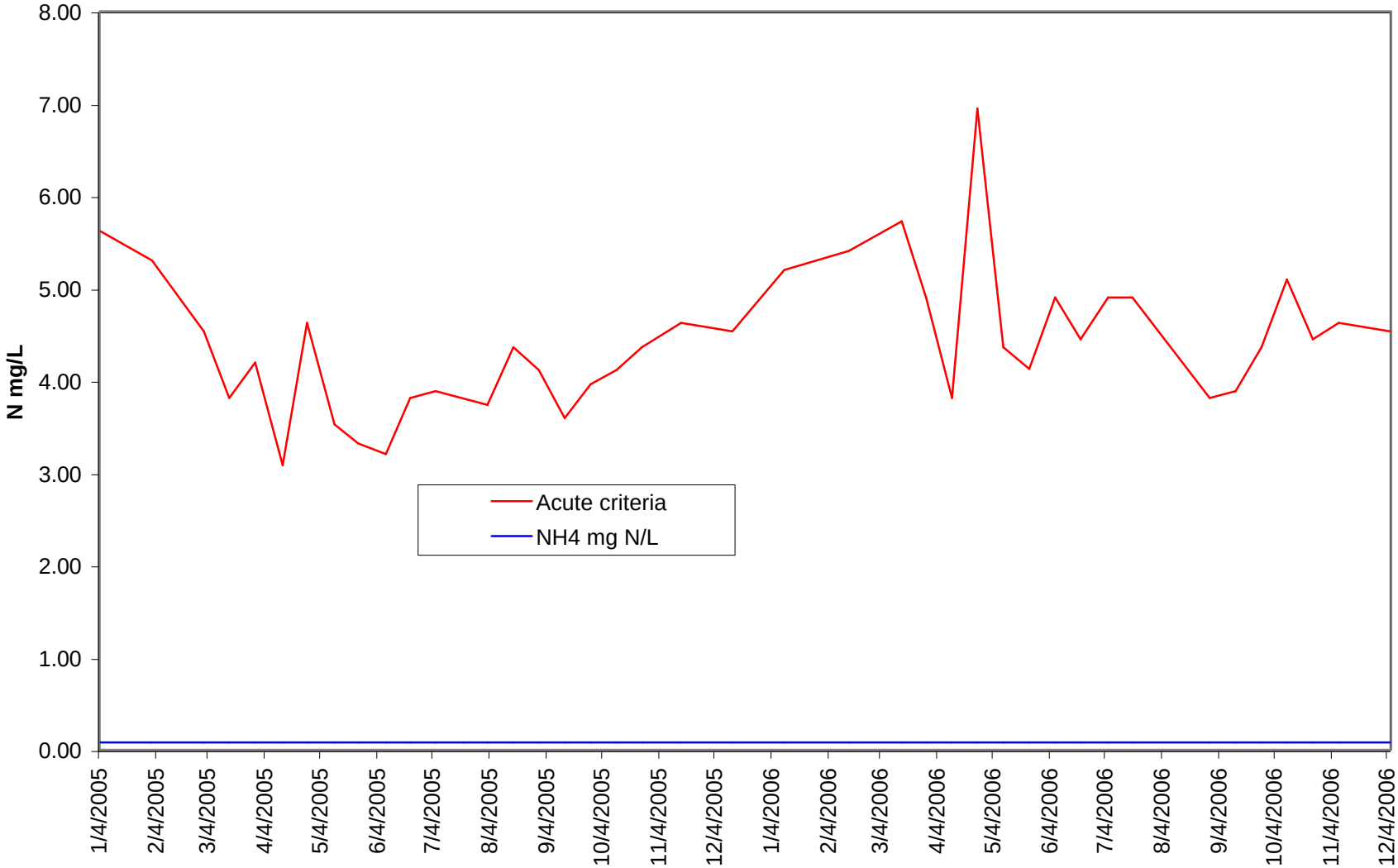
Station	Date	Air Temperature (°C)	Wind	Wind Direction	Climate
LWLVB3.5	1/4/05	9.9	11.1	SE	Overcast
LWLVB3.5	2/1/05	11.2	8.0	W	Partly Cloudy
LWLVB3.5	3/1/05	13.8	0.7	NW	Partly Cloudy
LWLVB3.5	3/15/05	12	8.1	SW	Clear
LWLVB3.5	3/29/05	13.6	6.4	SE	Clear
LWLVB3.5	4/13/05	17.6	2.2	NW	Cloudy
LWLVB3.5	4/26/05	18.9	3.5	W	Clear
LWLVB3.5	5/11/05	20.3	0		Clear
LWLVB3.5	5/24/05	27.7	11.7	SE	Clear
LWLVB3.5	6/8/05	23.7	2.4	NW	Clear
LWLVB3.5	6/21/05	26.3	3.9	SE	Partly Cloudy
LWLVB3.5	7/5/05	28.6	4.2	S	Clear
LWLVB3.5	7/20/05				Cloudy
LWLVB3.5	8/2/05	30	11.2	E	Partly Cloudy
LWLVB3.5	8/16/05	30.4	1.6	SE	Partly Cloudy
LWLVB3.5	8/30/05	29.7	3.0	W	Clear
LWLVB3.5	9/13/05	25.1	0		Clear
LWLVB3.5	9/27/05	25.8	1.2	W	Cloudy
LWLVB3.5	10/11/05	21.5	0		Clear
LWLVB3.5	10/25/05	18.9	3.0	NW	Cloudy
LWLVB3.5	11/16/05	17.5	0		Clear
LWLVB3.5	12/13/05	11.8			Clear
LWLVB3.5	1/10/06	13.6	2.7	W	Clear
LWLVB3.5	2/14/06	13.7	0		Overcast
LWLVB3.5	2/14/06	13.2	0		Overcast
LWLVB3.5	3/15/06	14.5	5.8	NE	Clear
LWLVB3.5	3/28/06	15.4	3.4	SW	Overcast
LWLVB3.5	4/11/06	16.7	6.8	SE	Partly Cloudy
LWLVB3.5	4/25/06	17.9	4.3	SE	Partly Cloudy
LWLVB3.5	5/9/06	28.3	11.2	NW	Clear
LWLVB3.5	5/23/06		0		Clear
LWLVB3.5	6/6/06	30.1	4.5	SE	Partly Cloudy
LWLVB3.5	6/20/06	29.8	1.5	E	Clear
LWLVB3.5	7/5/06	29	3.4	SE	Cloudy
LWLVB3.5	7/18/06	30.5	6.6	SW	Overcast
LWLVB3.5	8/2/06	30.4	10.6	SE	Clear

LWLVB3.5	9/26/06	21.8	3.1	NW	Clear
LWLVB3.5	10/10/06	22.3	5.6	SW	Overcast
LWLVB3.5	10/24/06	17.8	2.9	NW	Overcast
LWLVB3.5	11/7/06	16.9	3.3	NW	Cloudy
LWLVB3.5	12/5/06	6.3	5.9	NW	Clear

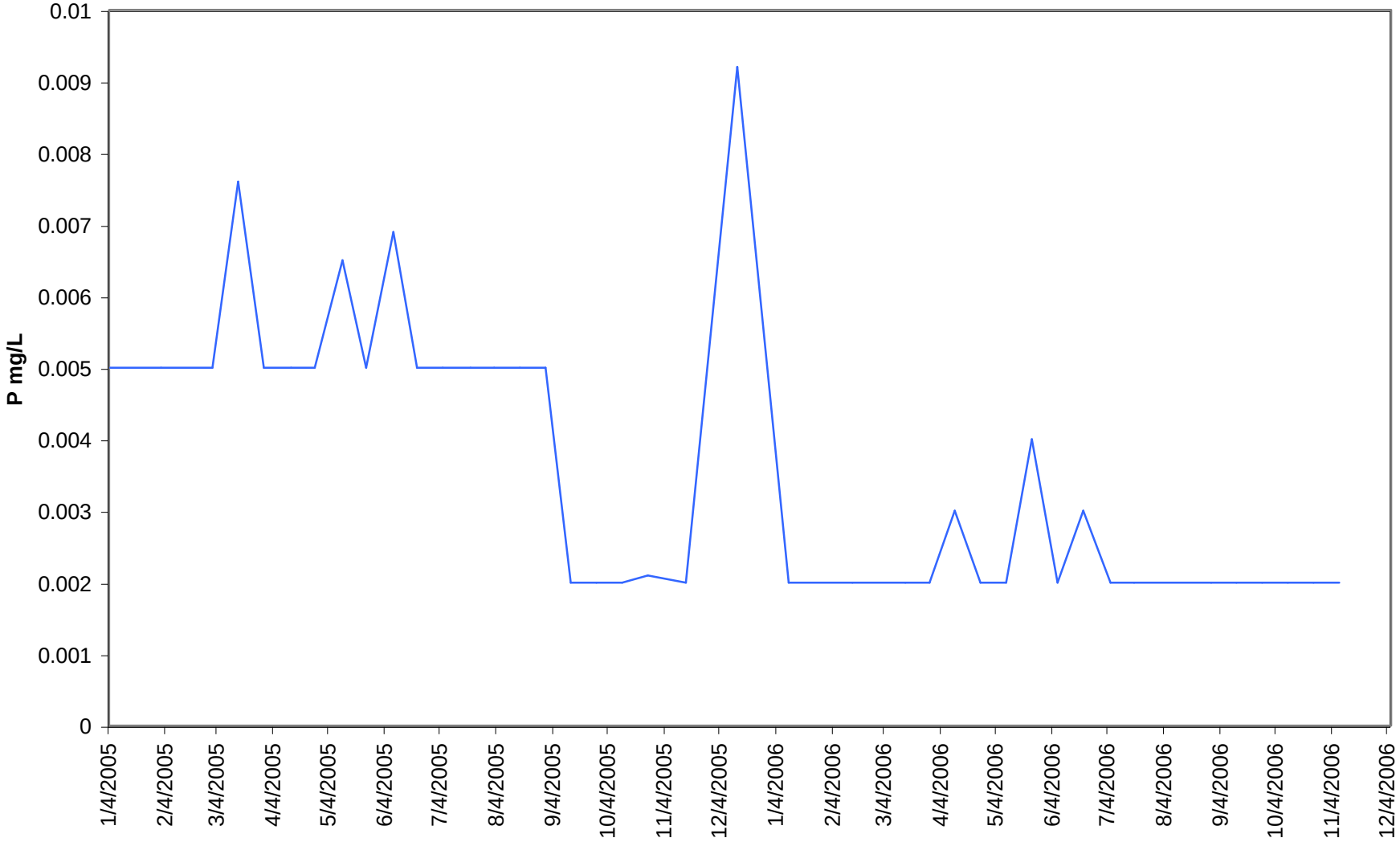
LWLVB3.5
Epilimnion

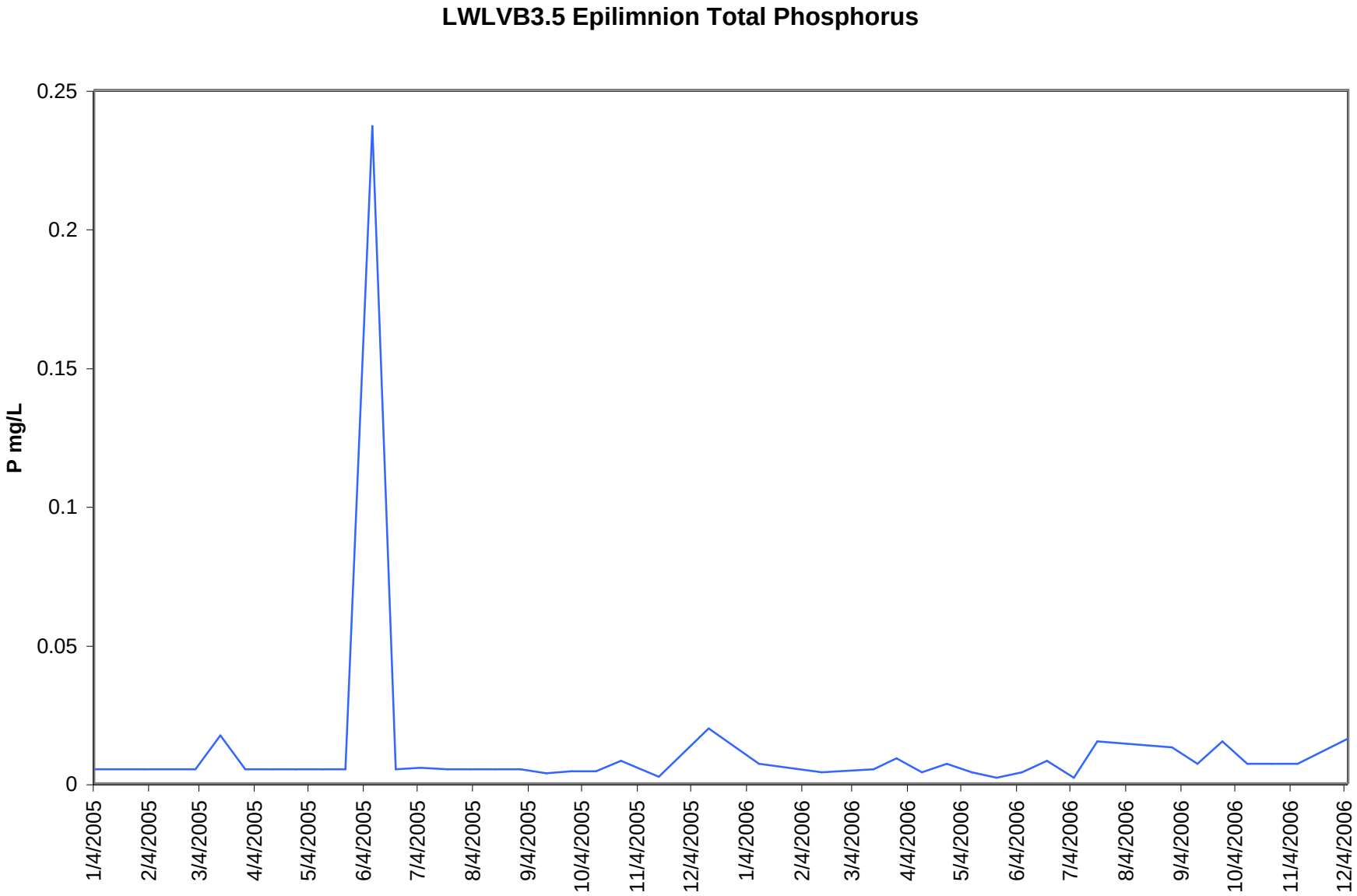

LWLVB3.5 Chlorophyll-a Growing Season Mean
Chl-a mg/m3
20
18
16
14
12
10
8
6
4
2
0
2002
2003
2004
2005
2006
The 2005 - 2006 data is not directly comparable to past years because of new station location
Chl-a Growing Season (Apr. 1- Sept. 30) Mean
RMHQ: 9 mg/m3

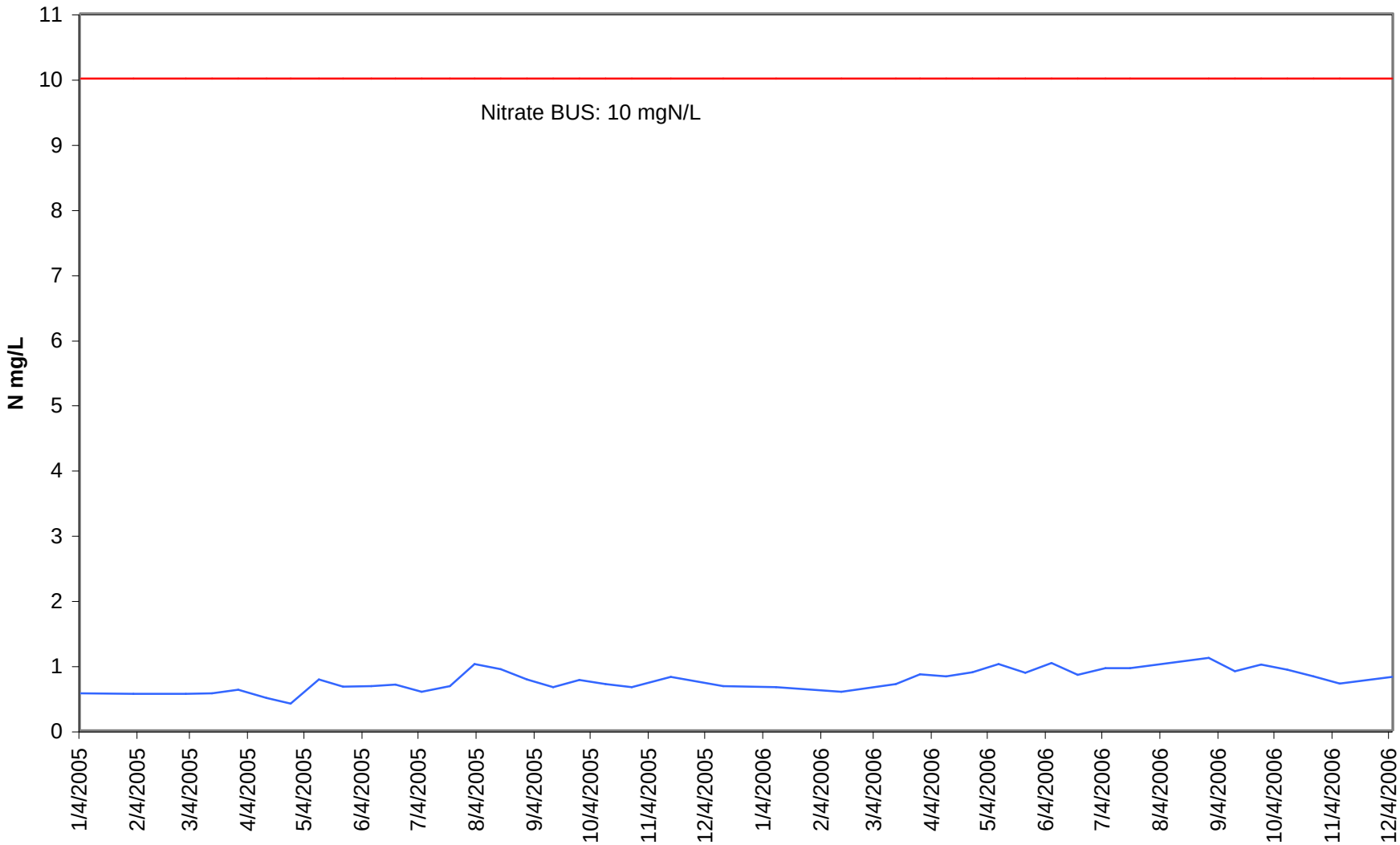
LWLVB3.5 Epilimnion Ammonia



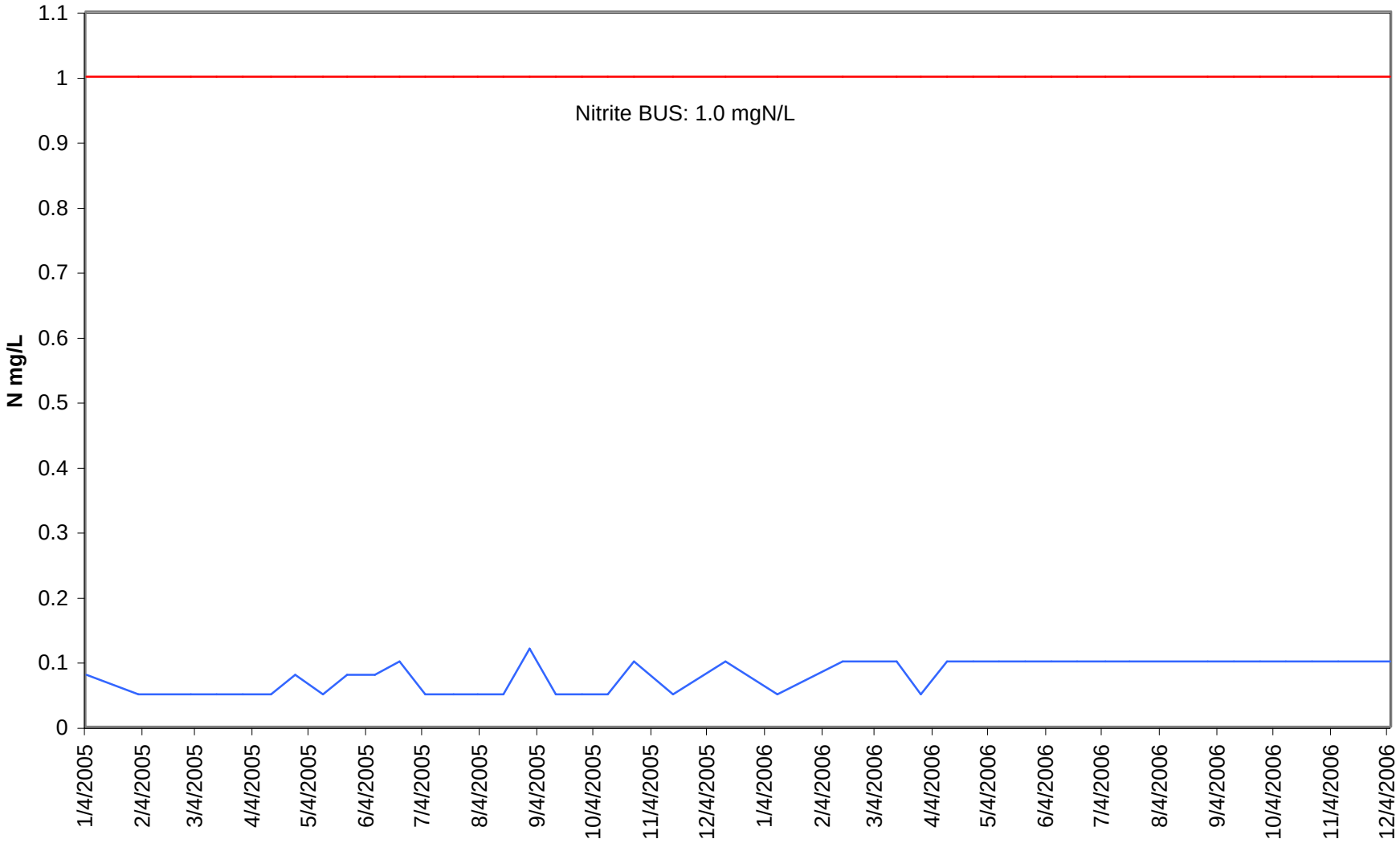
LWLVB3.5 Epilimnion Dissolved ortho-Phosphorus



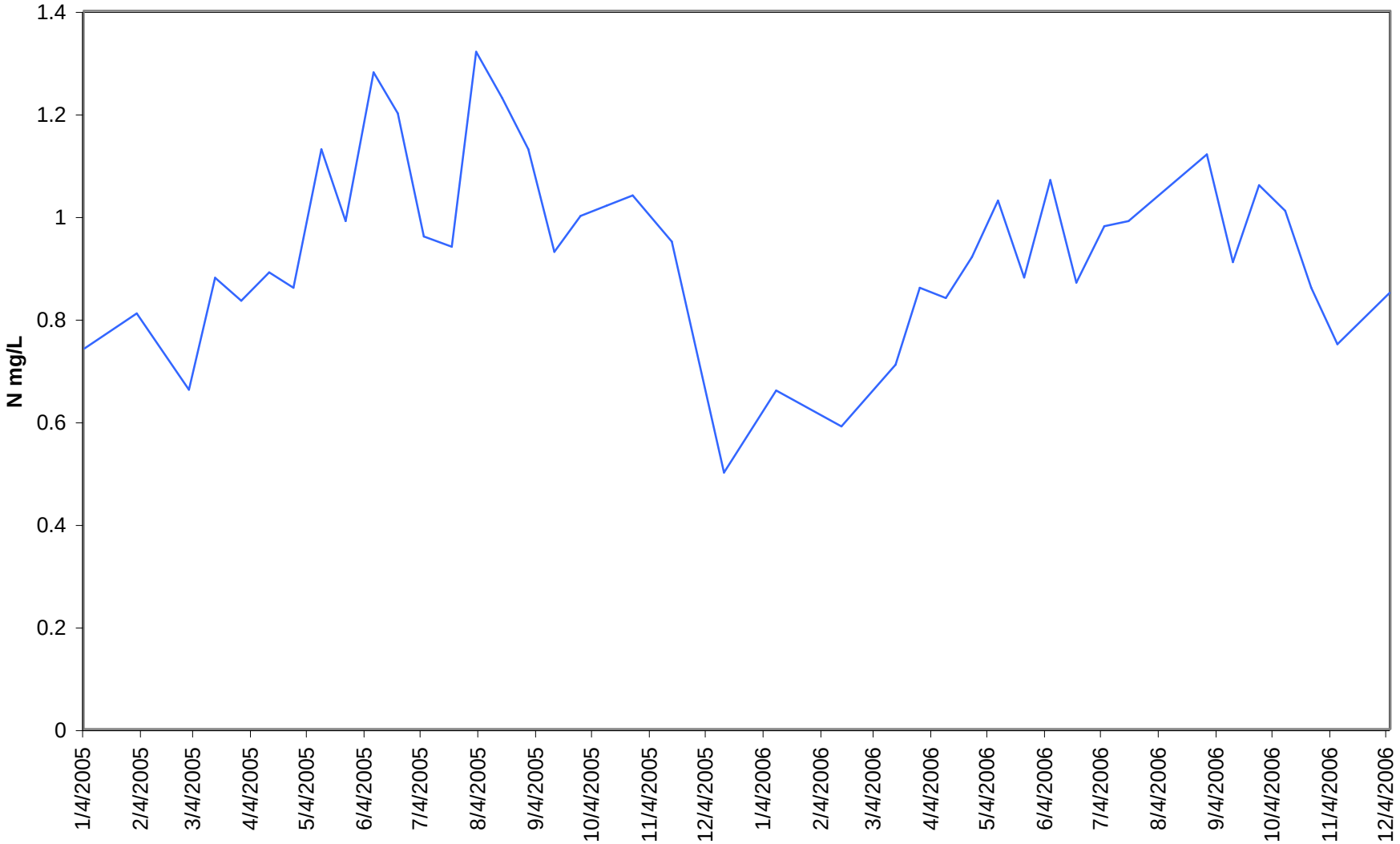

LWLVB3.5 Epilimnion Total Phosphorus
P mg/L
0.25
0.2
0.15
0.1
0.05
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006


LWLVB3.5 Epilimnion Nitrate
Nitrate BUS: 10 mgN/L
N mg/L
11
10
9
8
7
6
5
4
3
2
1
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

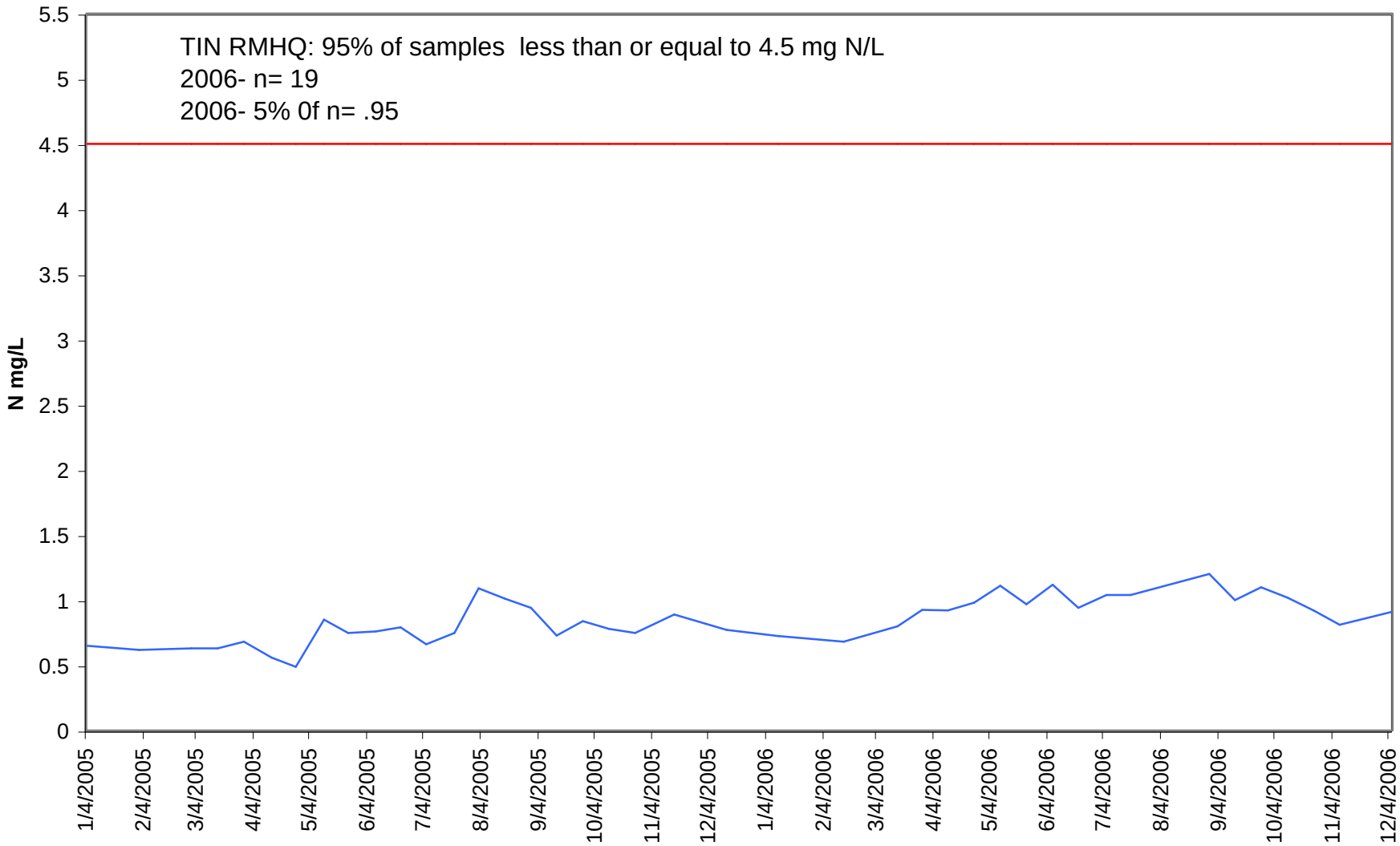
LWLVB3.5 Epilmnion Nitrite

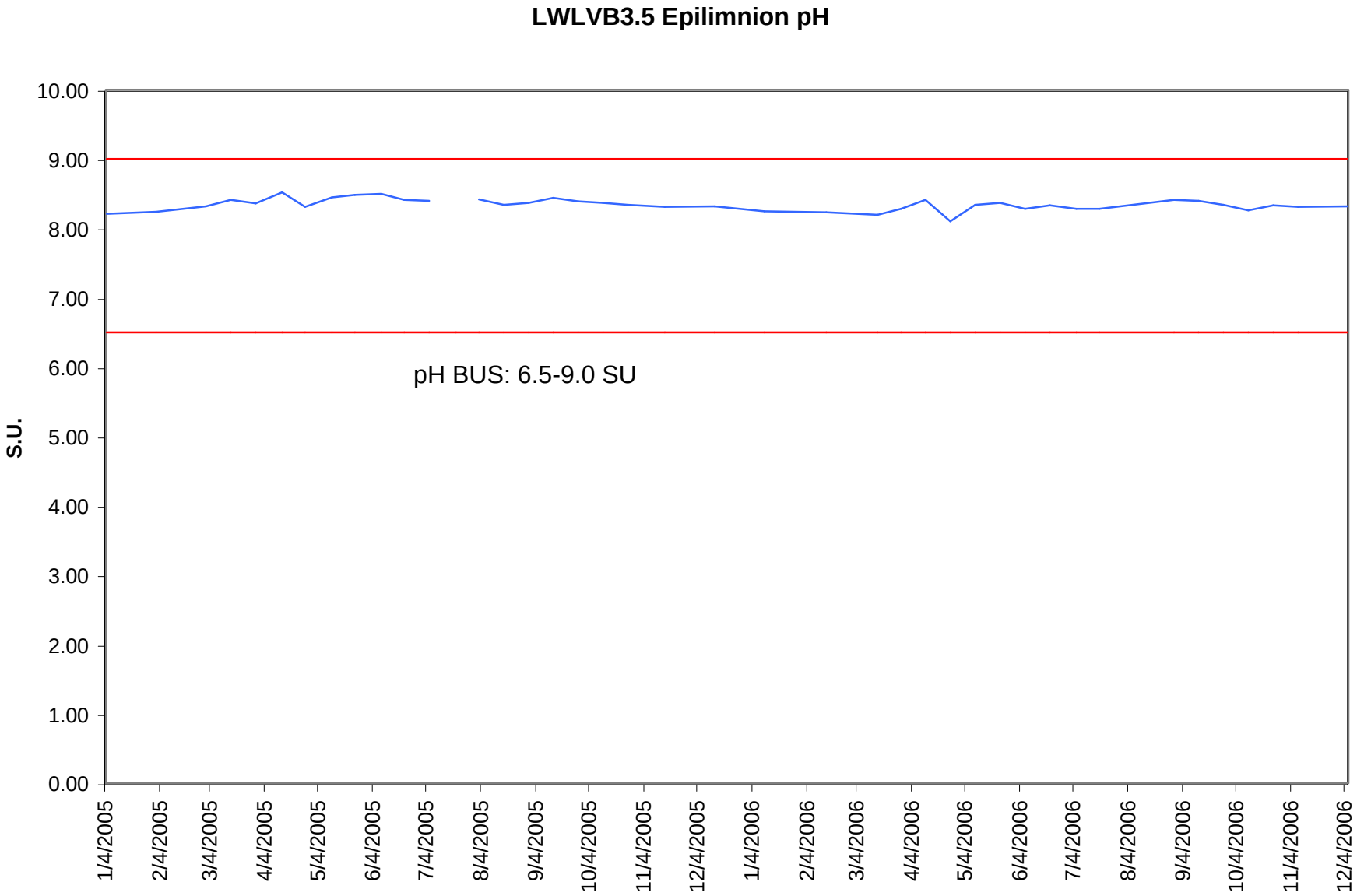


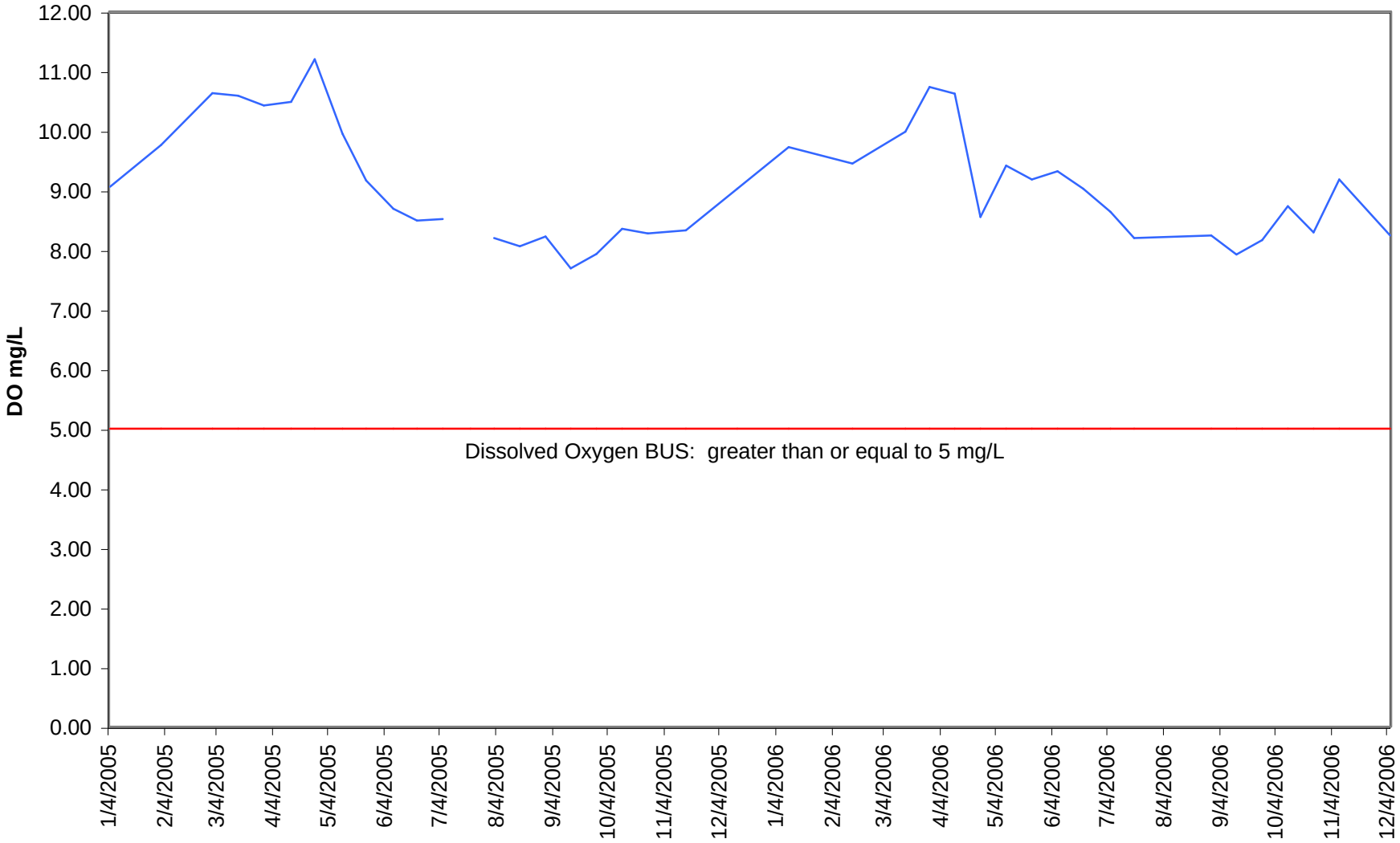
LWLVB3.5 Epilimnion Total Nitrogen

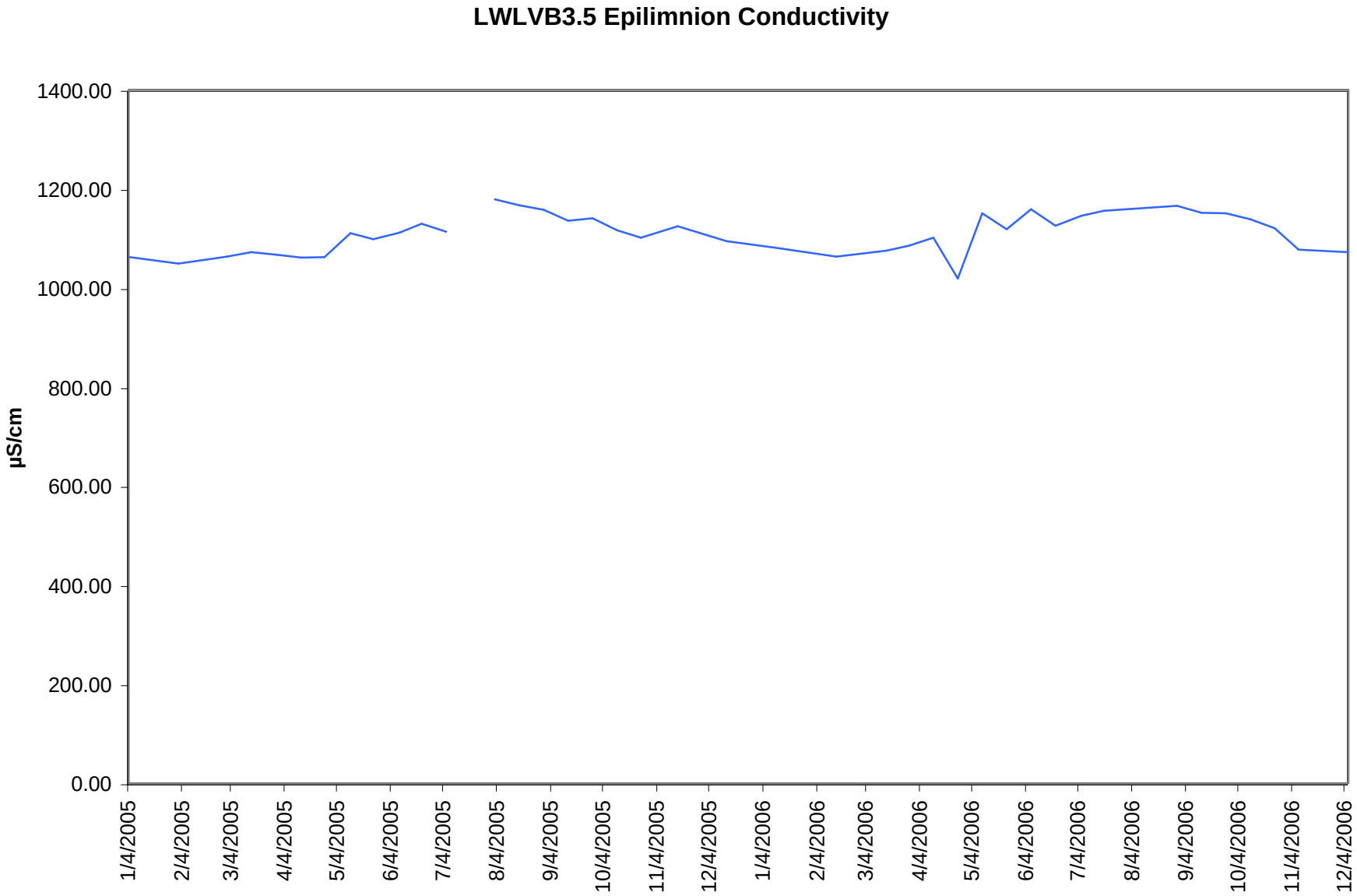


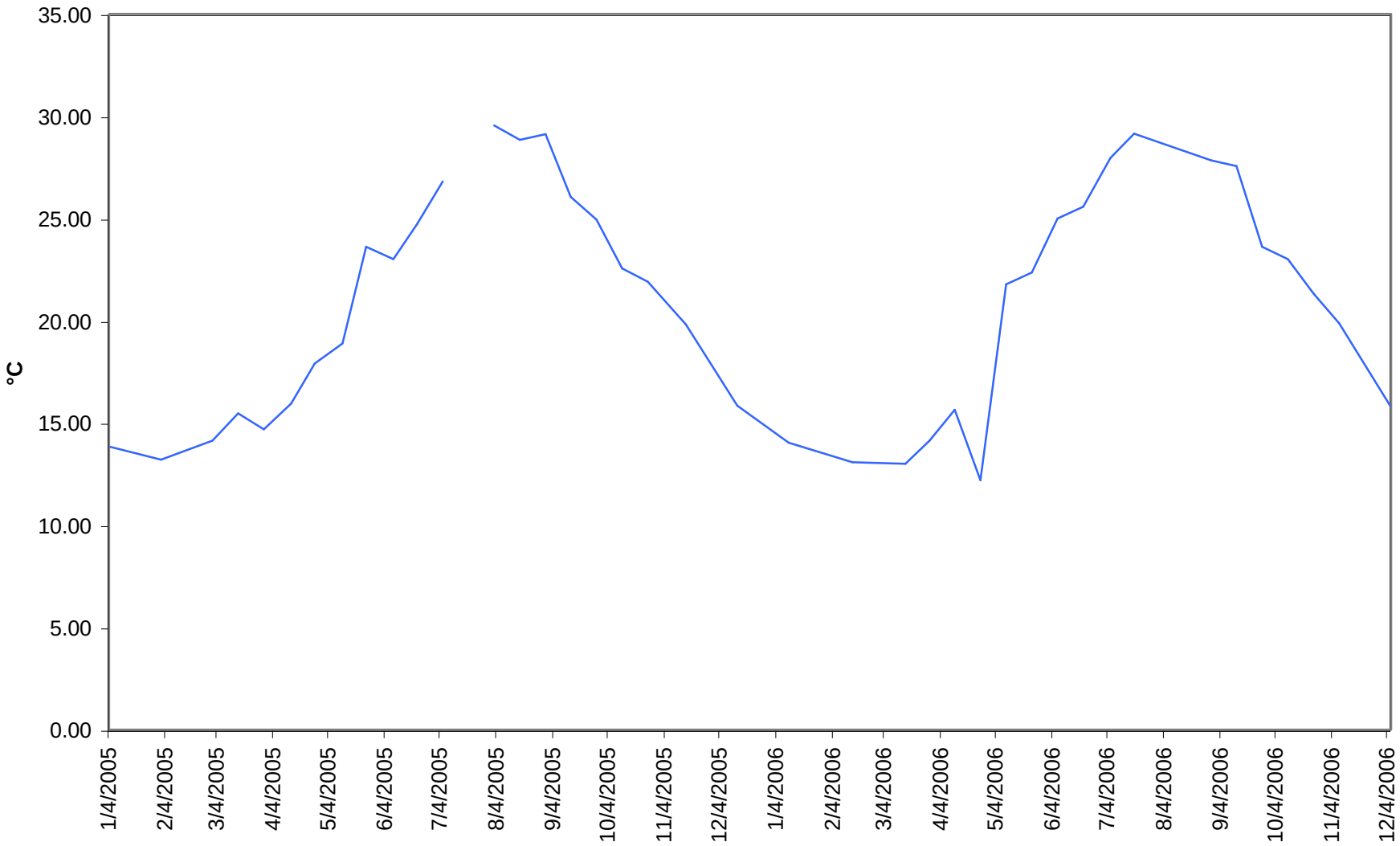
LWLVB3.5 Epilimnion Total Inorganic Nitrogen



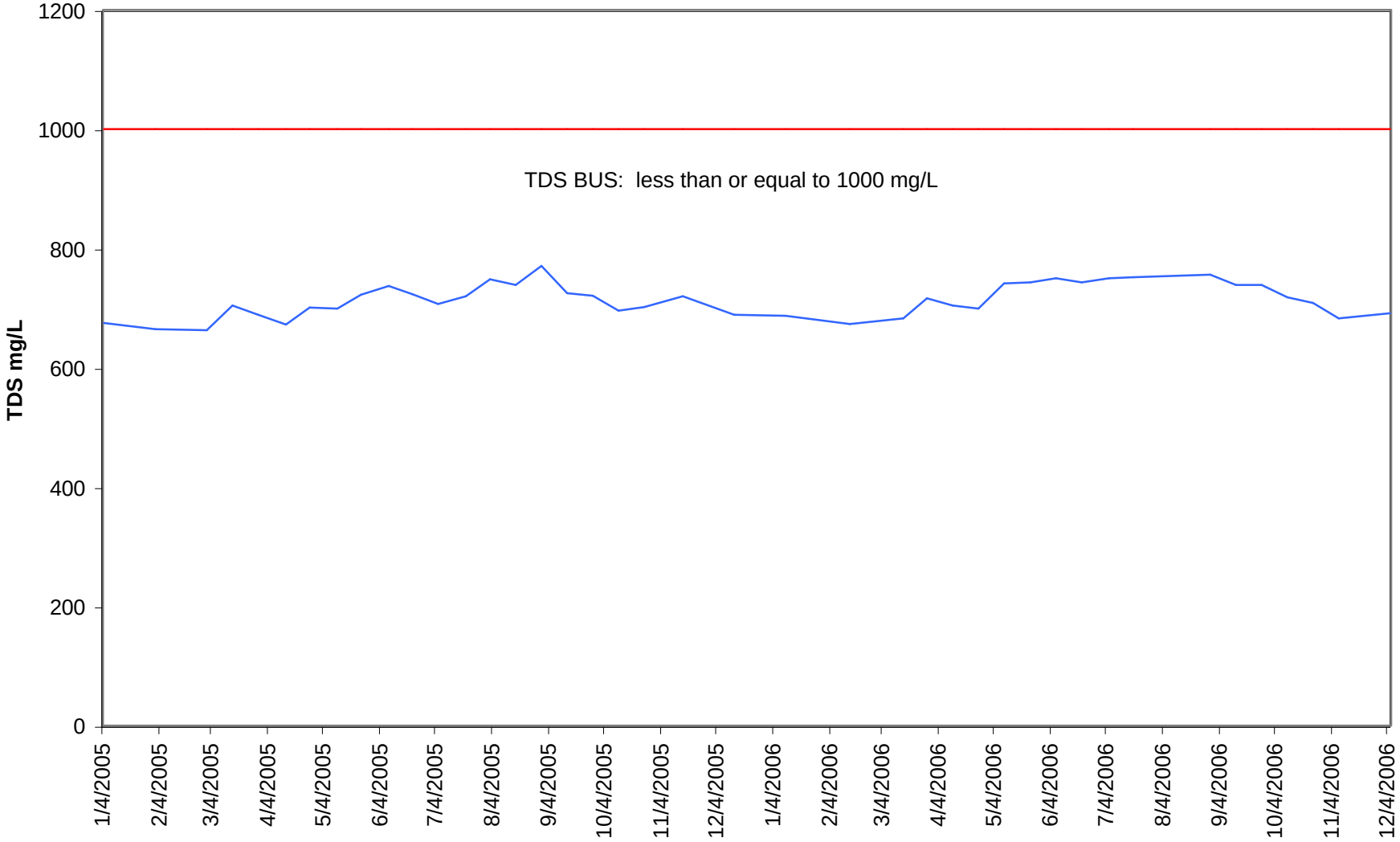

LWLVB3.5 Epilimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006


LWLVB3.5 Epilimnion Dissolved Oxygen
DO mg/L
12.00
11.00
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Dissolved Oxygen BUS: greater than or equal to 5 mg/L
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

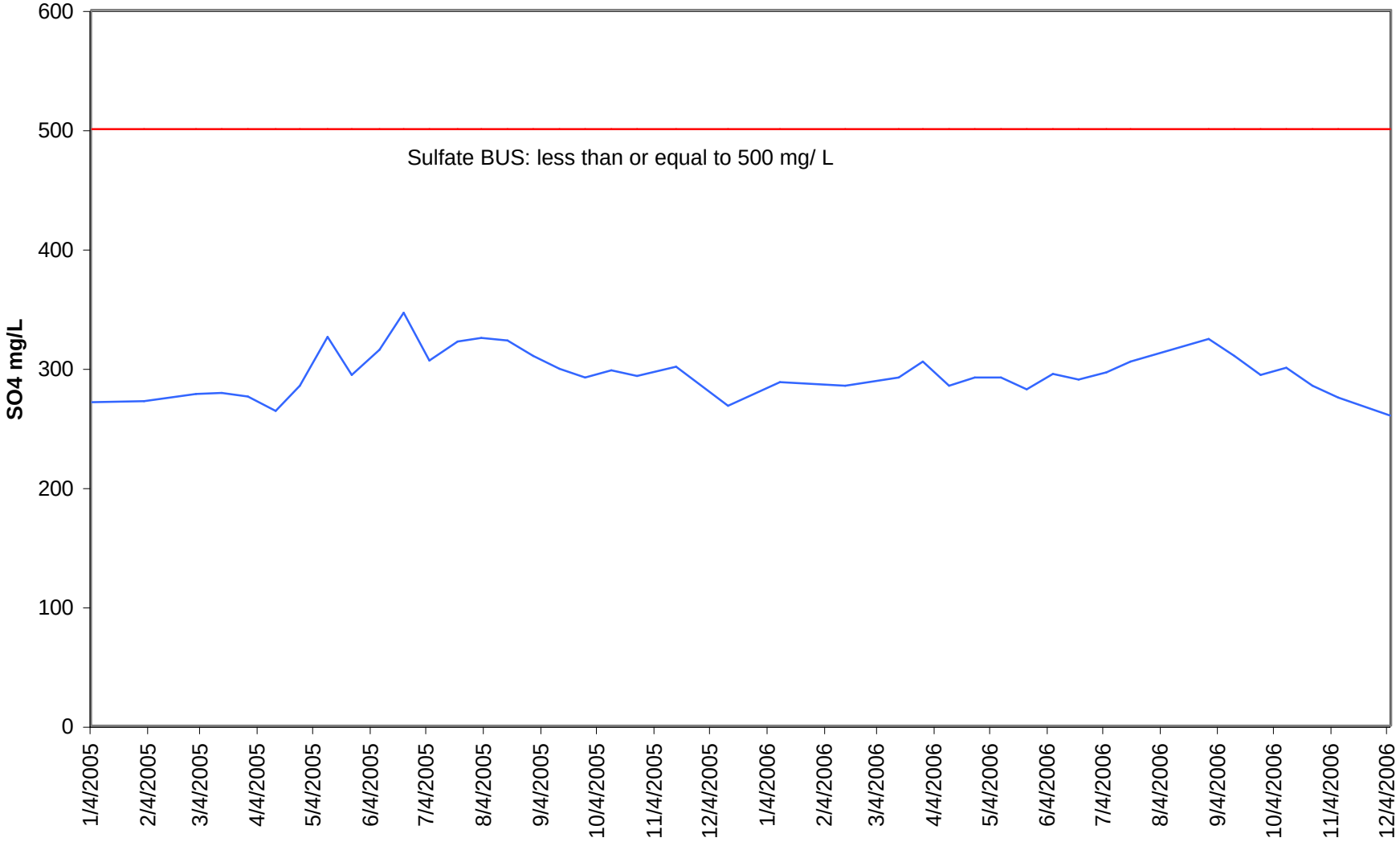

LWLVB3.5 Epilimnion Conductivity
µS/cm
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006


LWLVB3.5 Epilimnion Temperature
°C
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

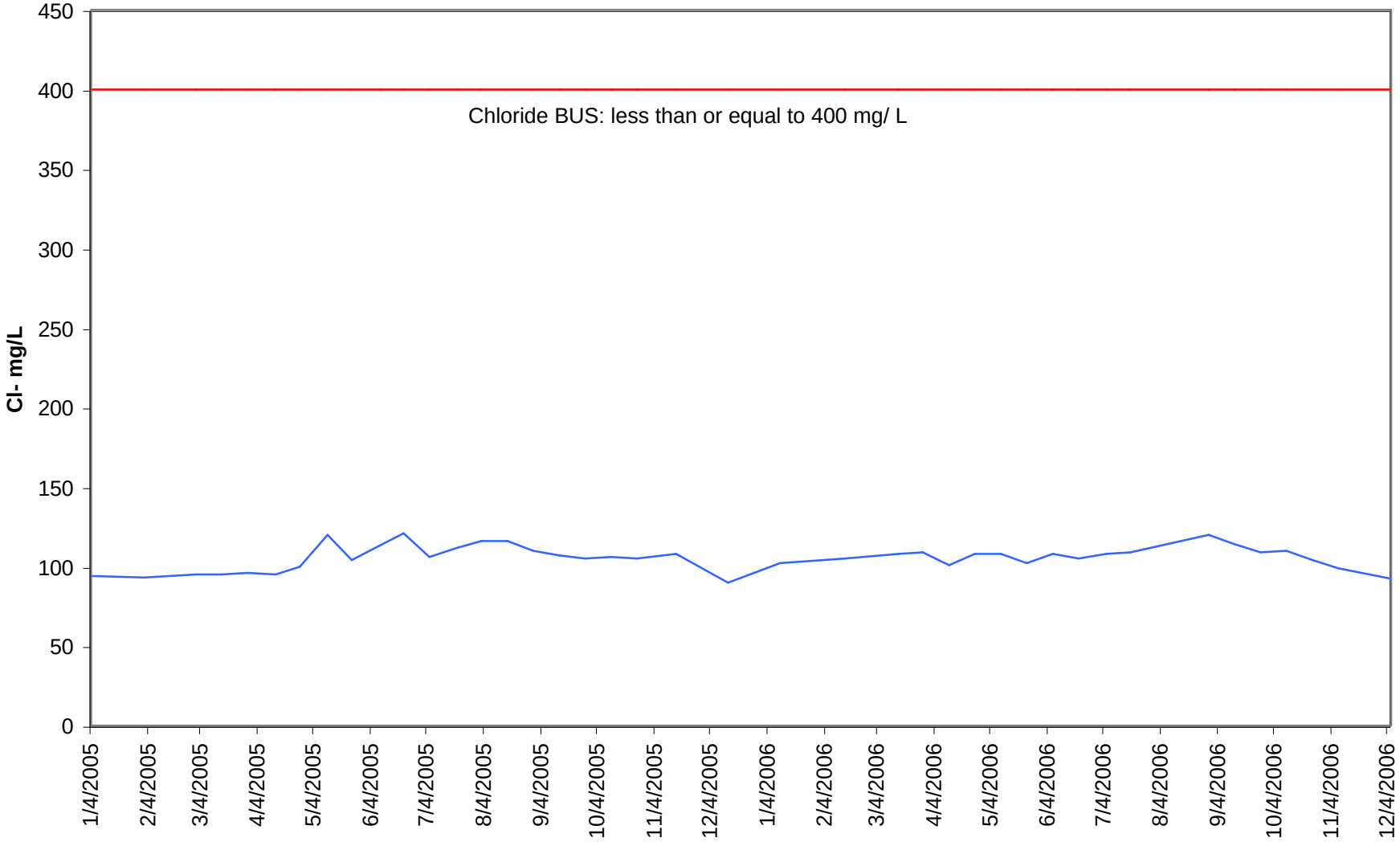
LWLVB3.5 Epilimnion Total Dissolved Solids

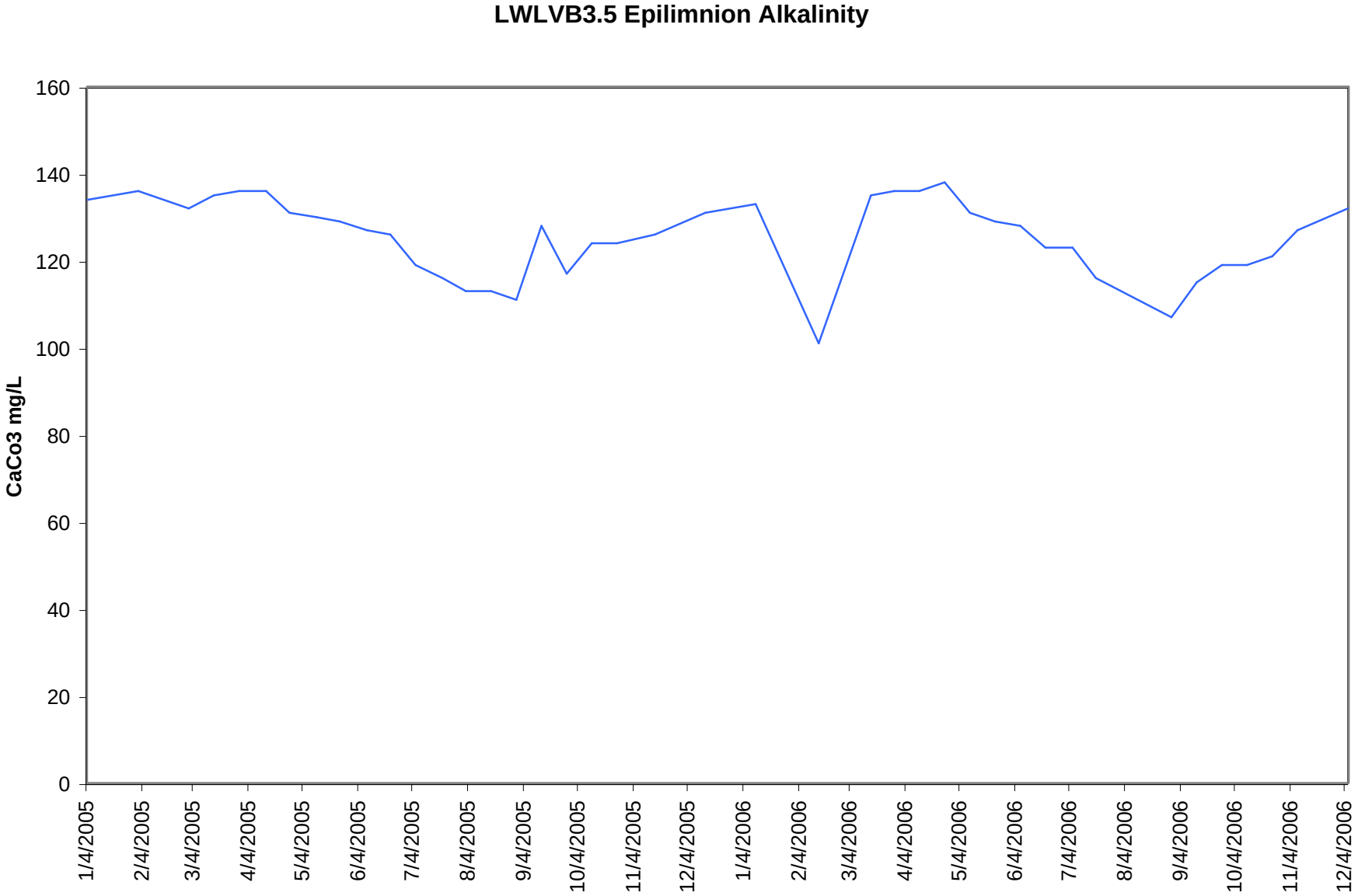


LWLVB3.5 Epilimnion Sulfate

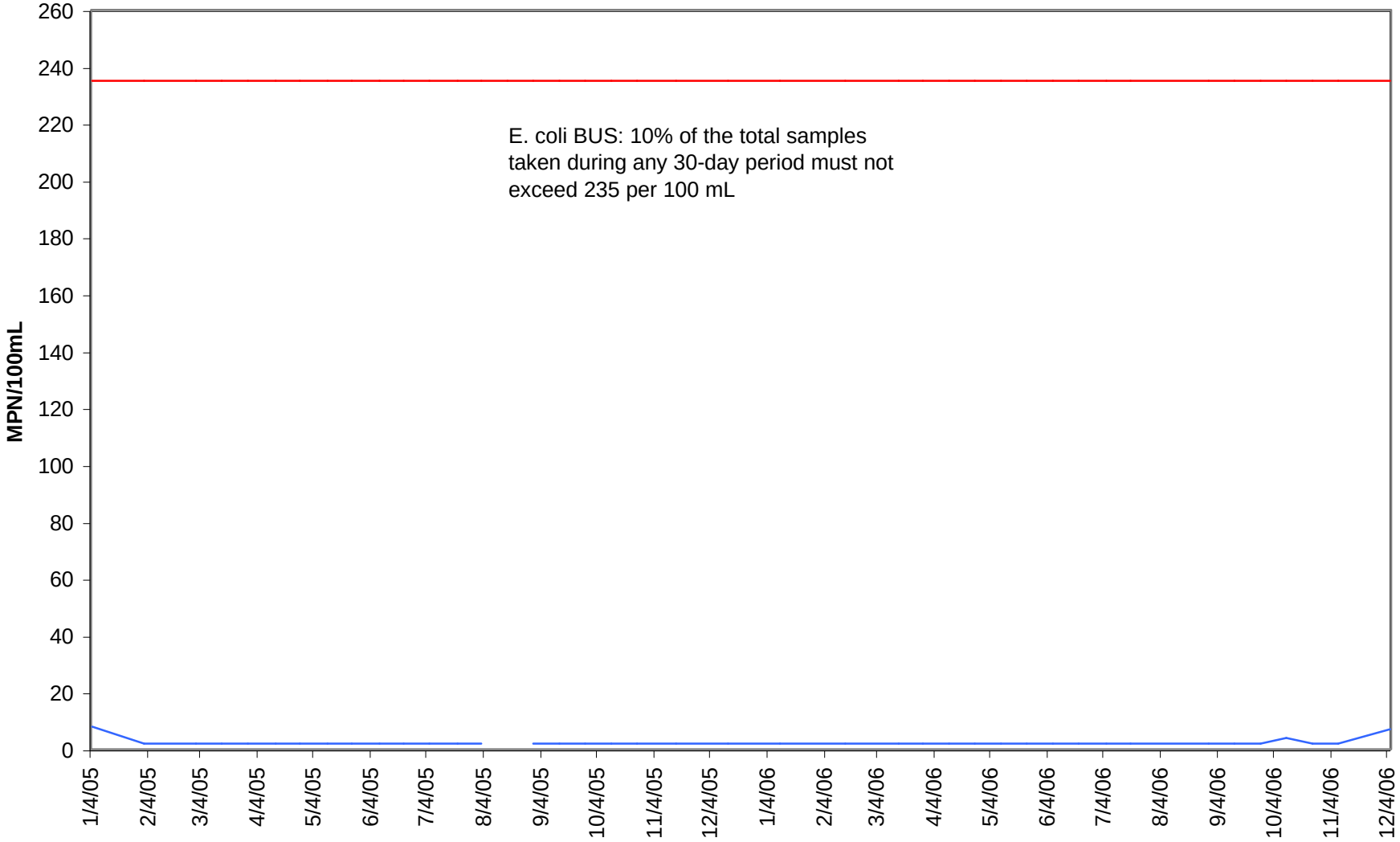


LWLVB3.5 Epilimnion Chloride

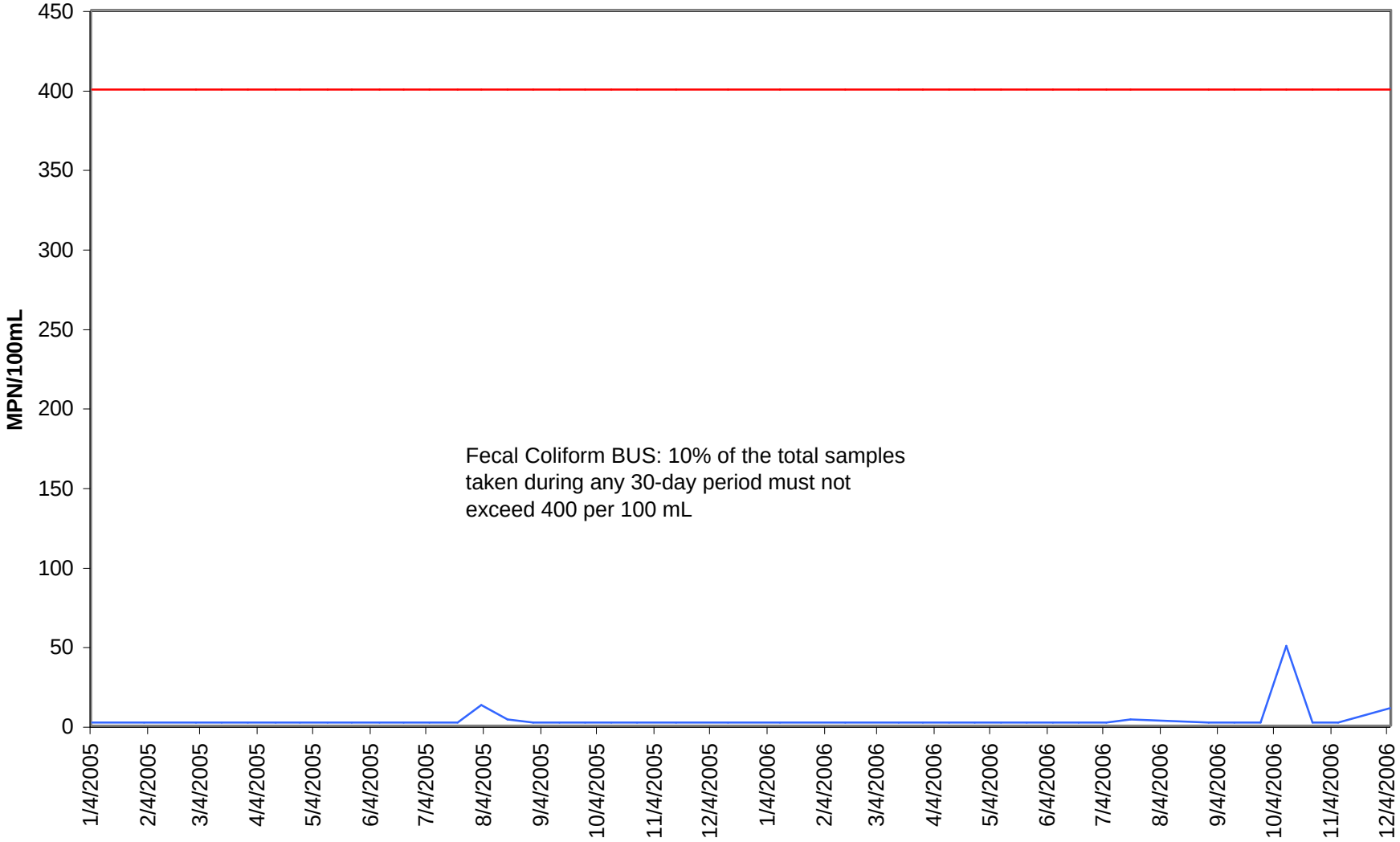



LWLVB3.5 Epilimnion Alkalinity
CaCo3 mg/L
160
140
120
100
80
60
40
20
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

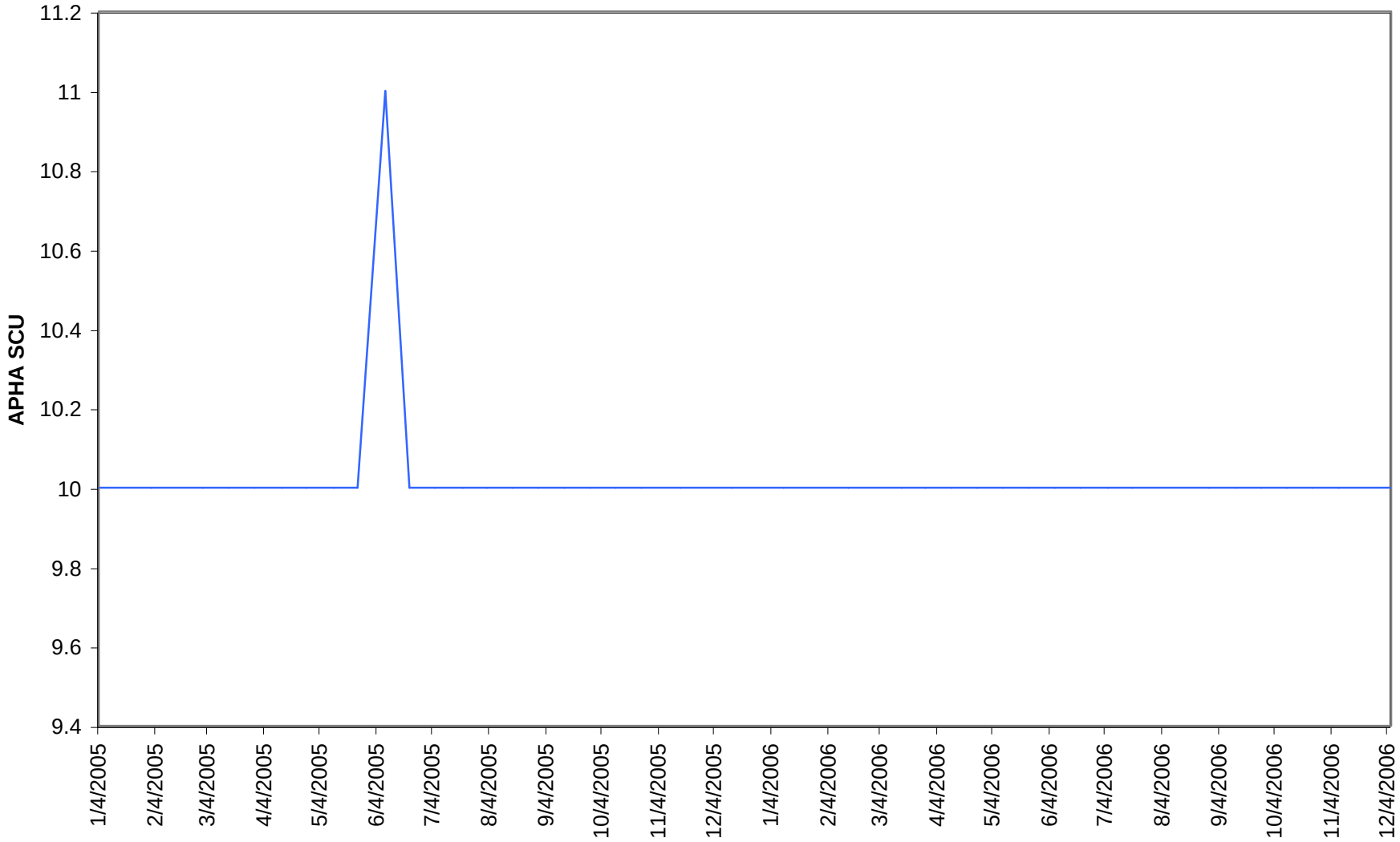
LWLVB3.5 Epilimnion E. coli.



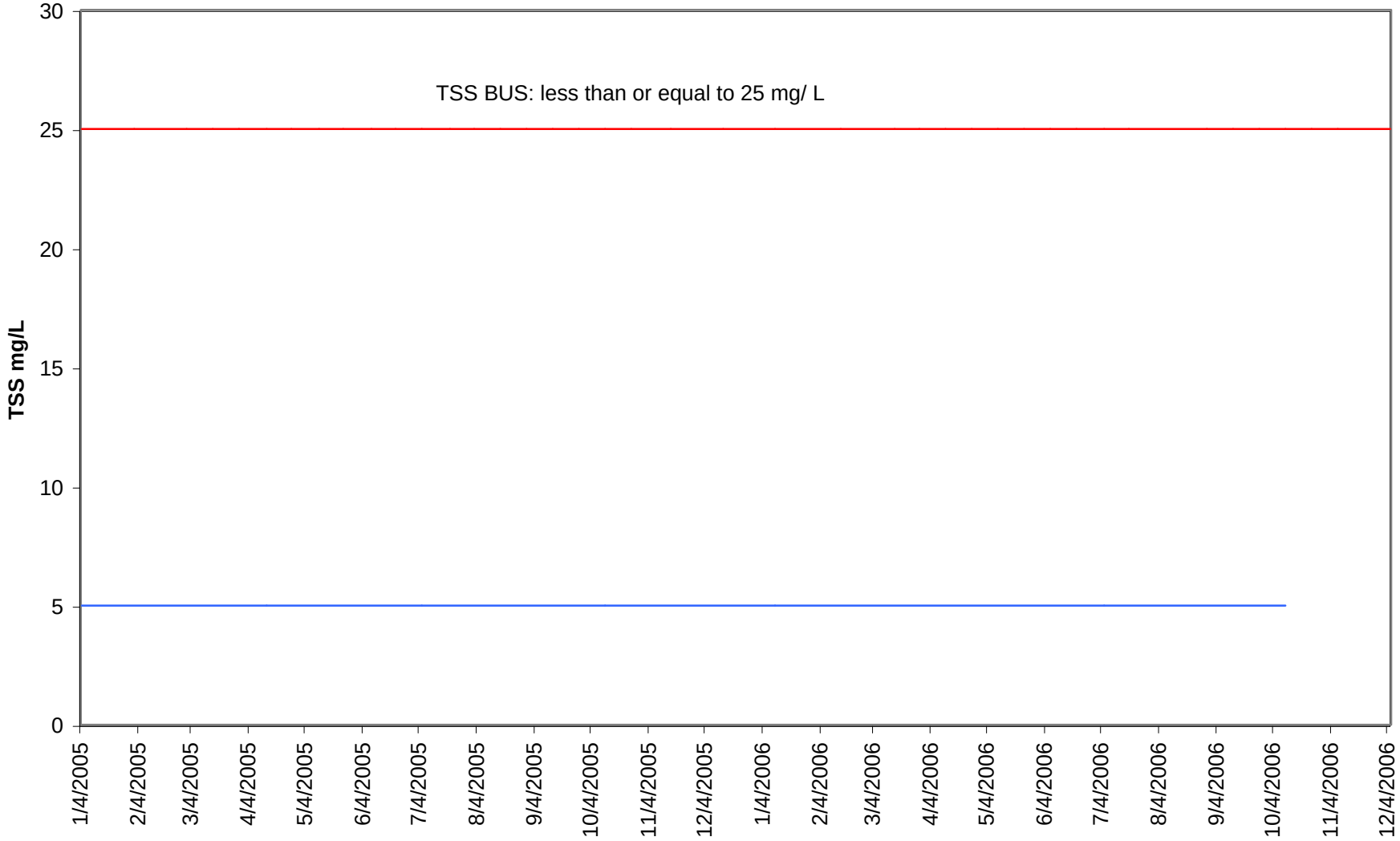
LWLVB3.5 Epilimnion Fecal Coliform

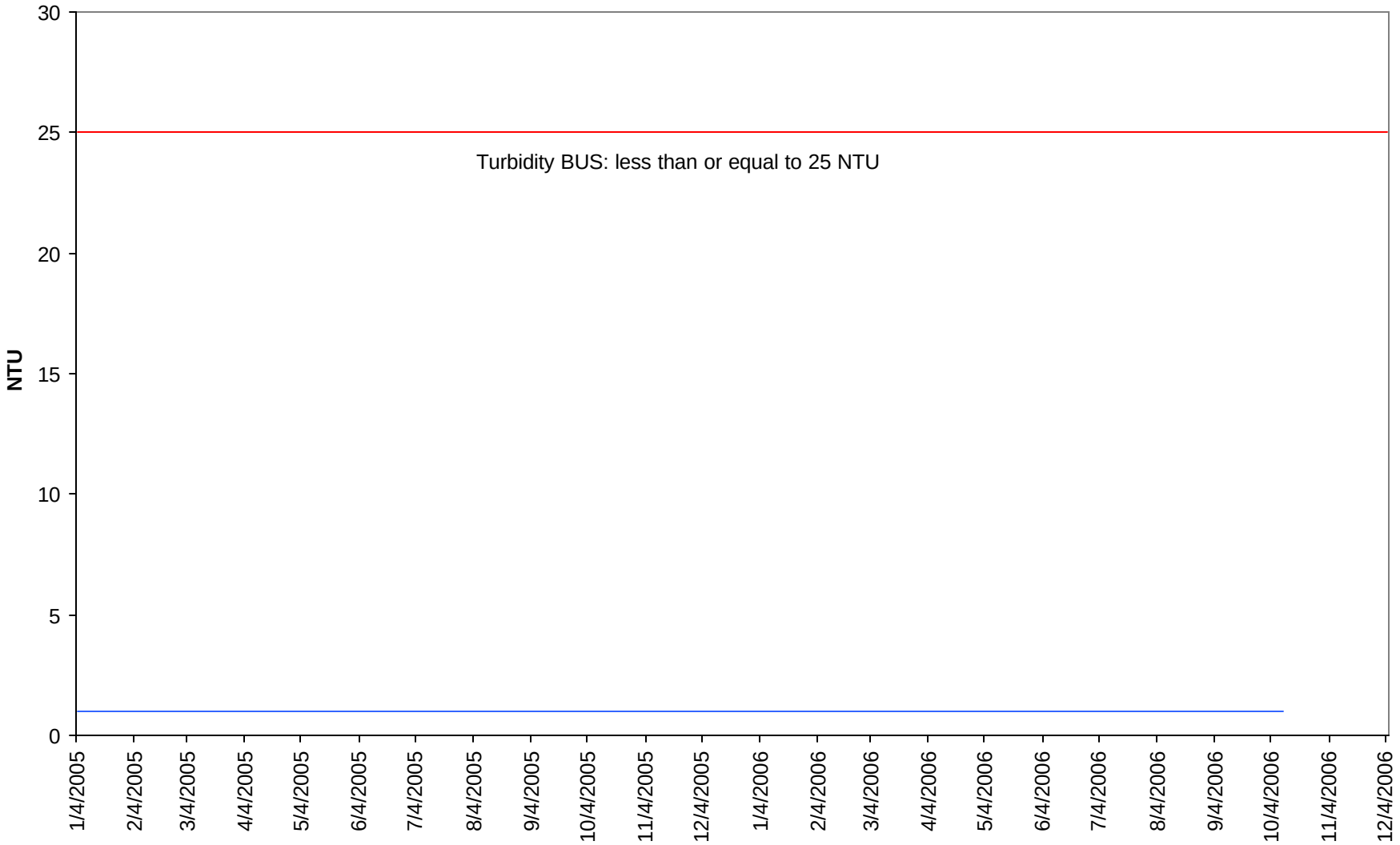


LWLVB3.5 Epilimnion Color



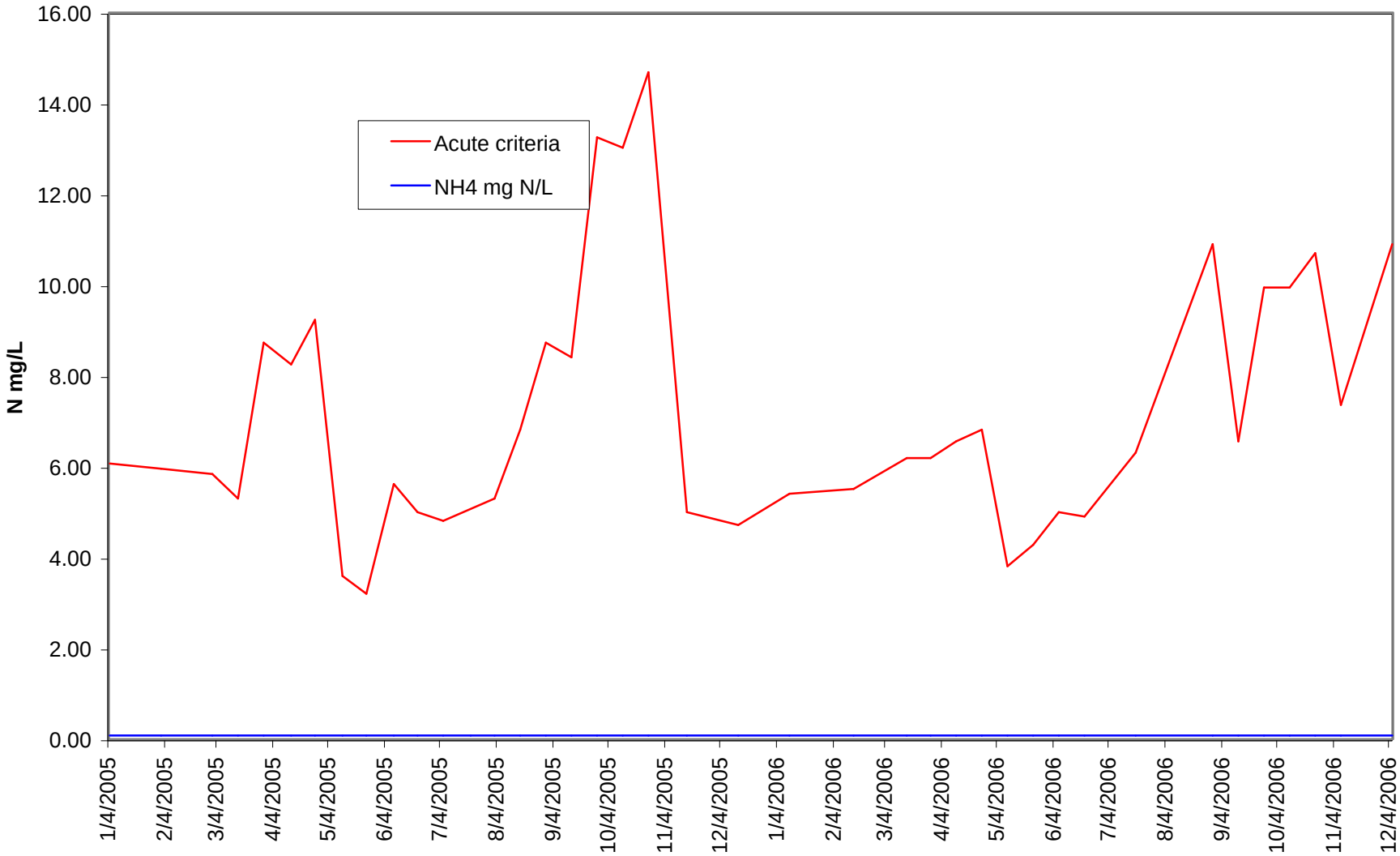
LWLVB3.5 Epilimnion Total Suspended Solids



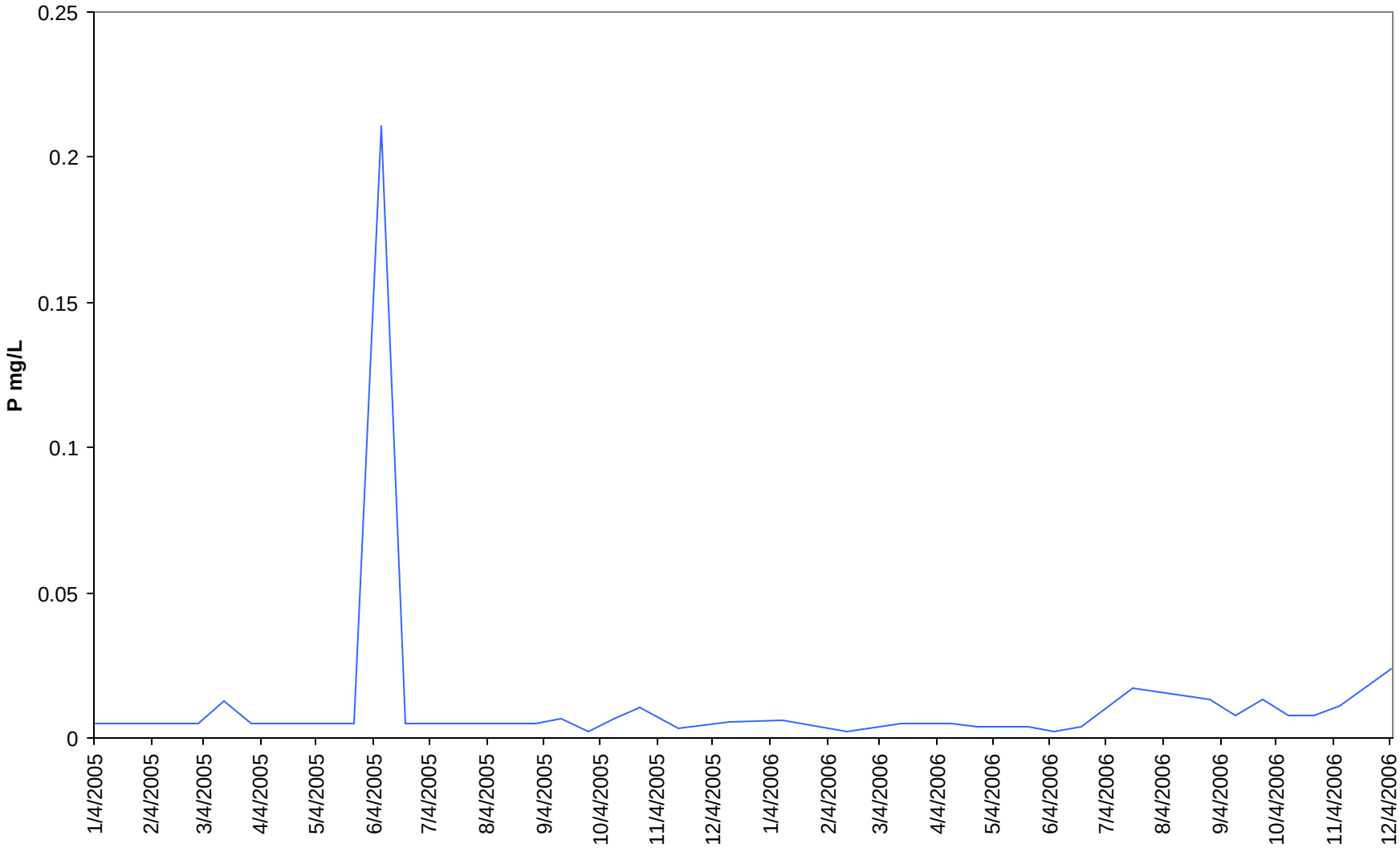

LWLVB3.5 Epilimnion Turbidity
NTU
30
25
20
15
10
5
0
Turbidity BUS: less than or equal to 25 NTU
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB3.5
Metalimnion

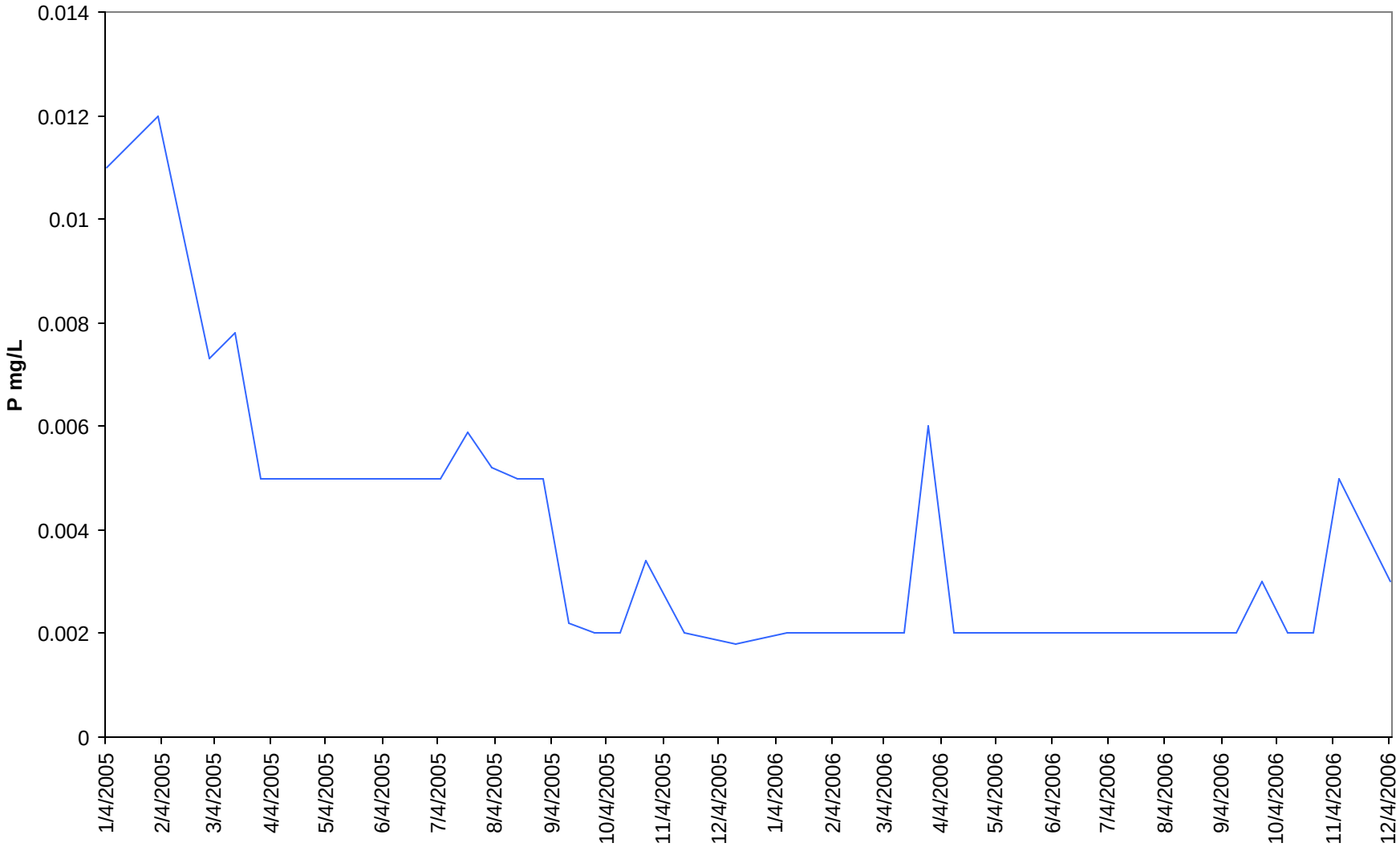
LWLVB3.5 Metalimnion Ammonia

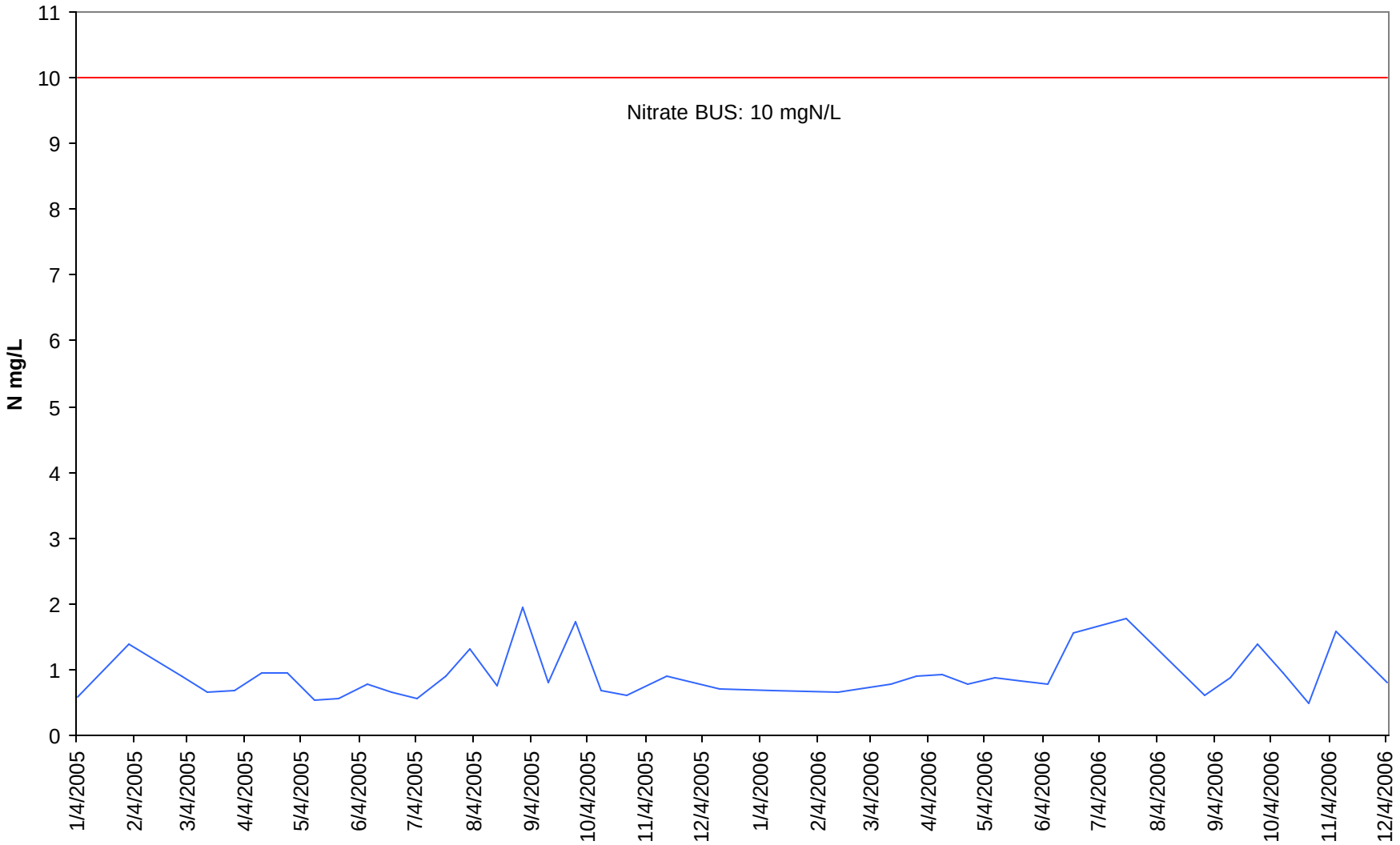


LWLVB3.5 Metalimnion Total Phosphorus

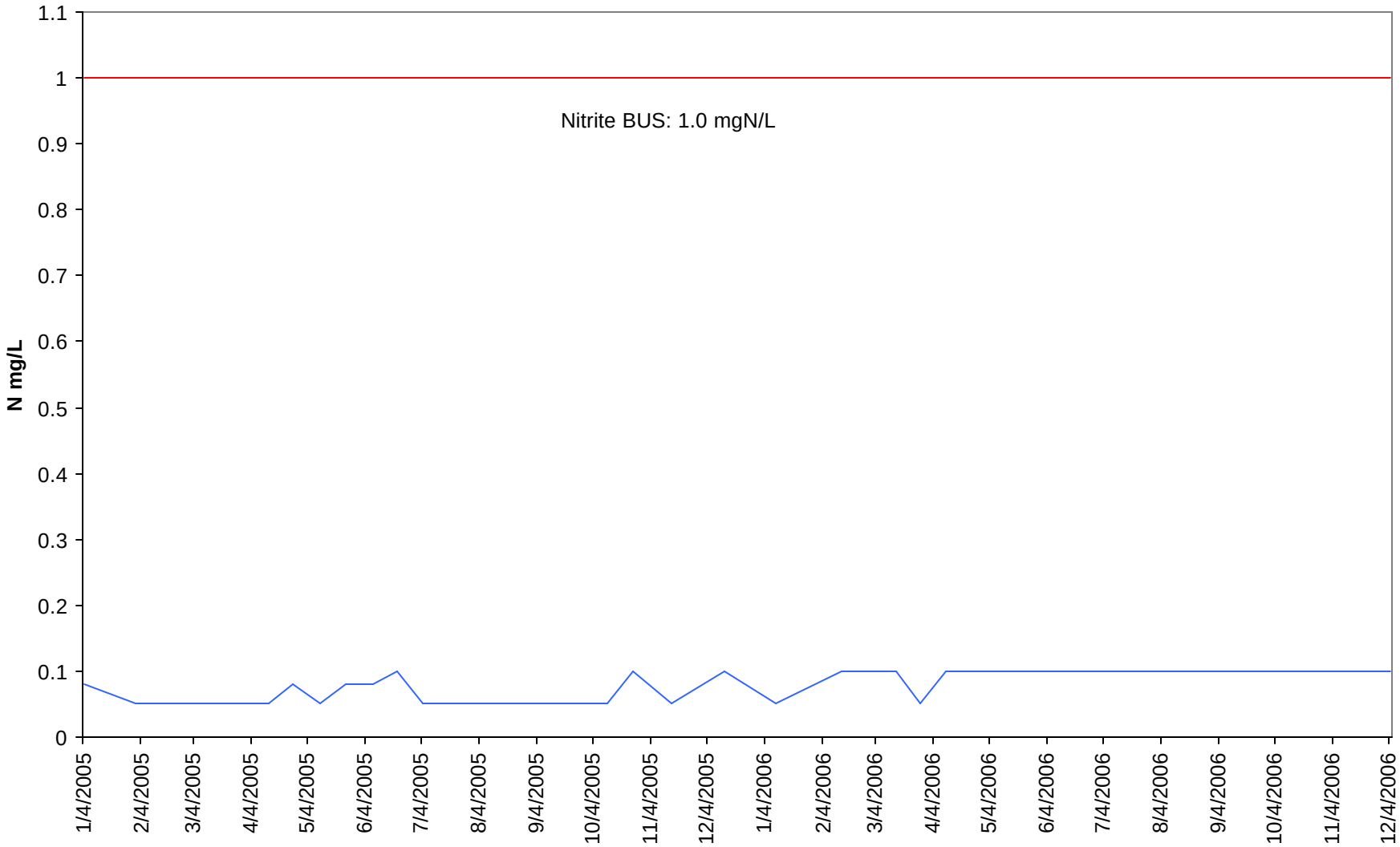


LWLVB3.5 Metalimnion Dissolved ortho-Phosphorus

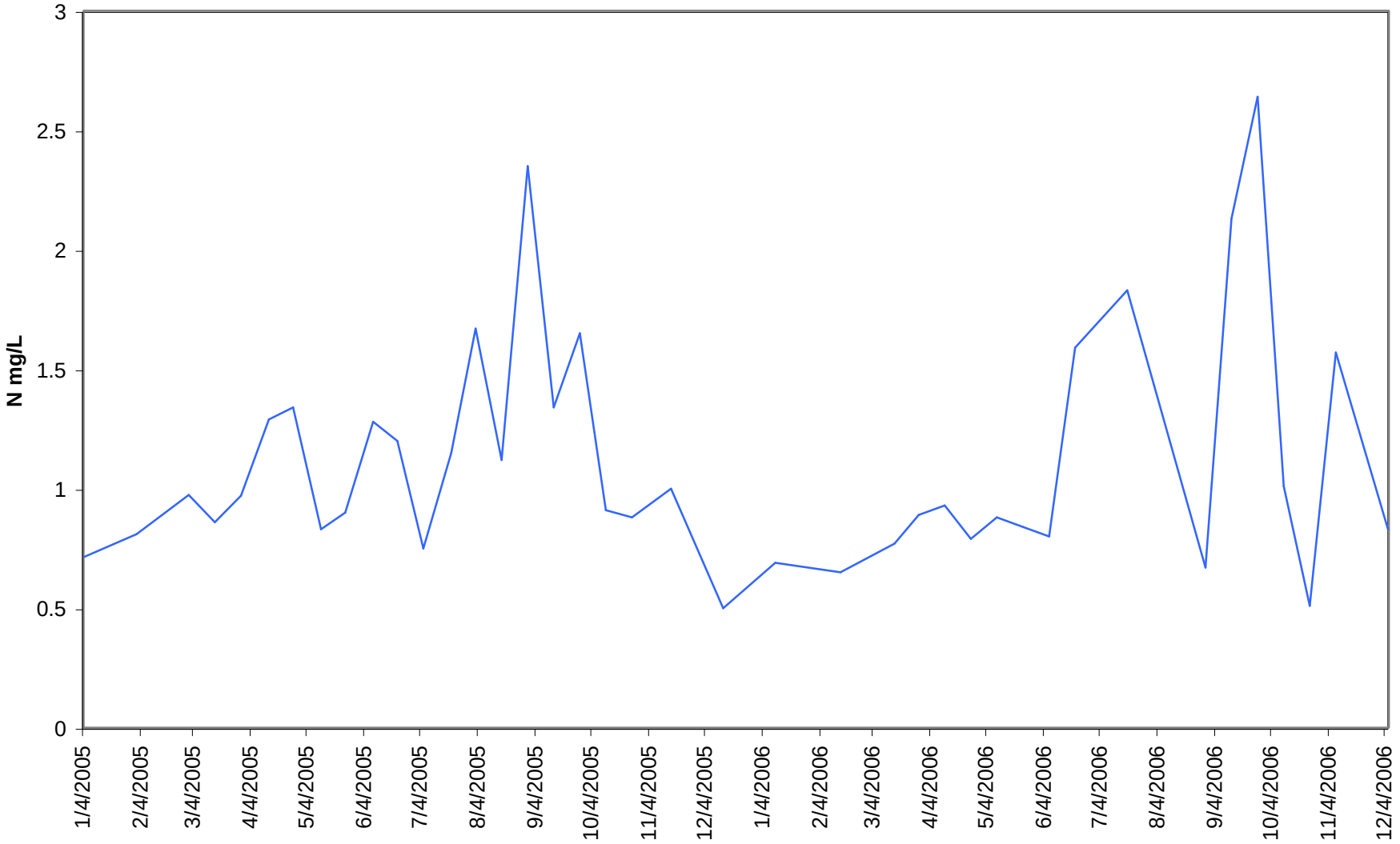



LWLVB3.5 Metalimnion Nitrate
Nitrate BUS: 10 mgN/L
N mg/L
11
10
9
8
7
6
5
4
3
2
1
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

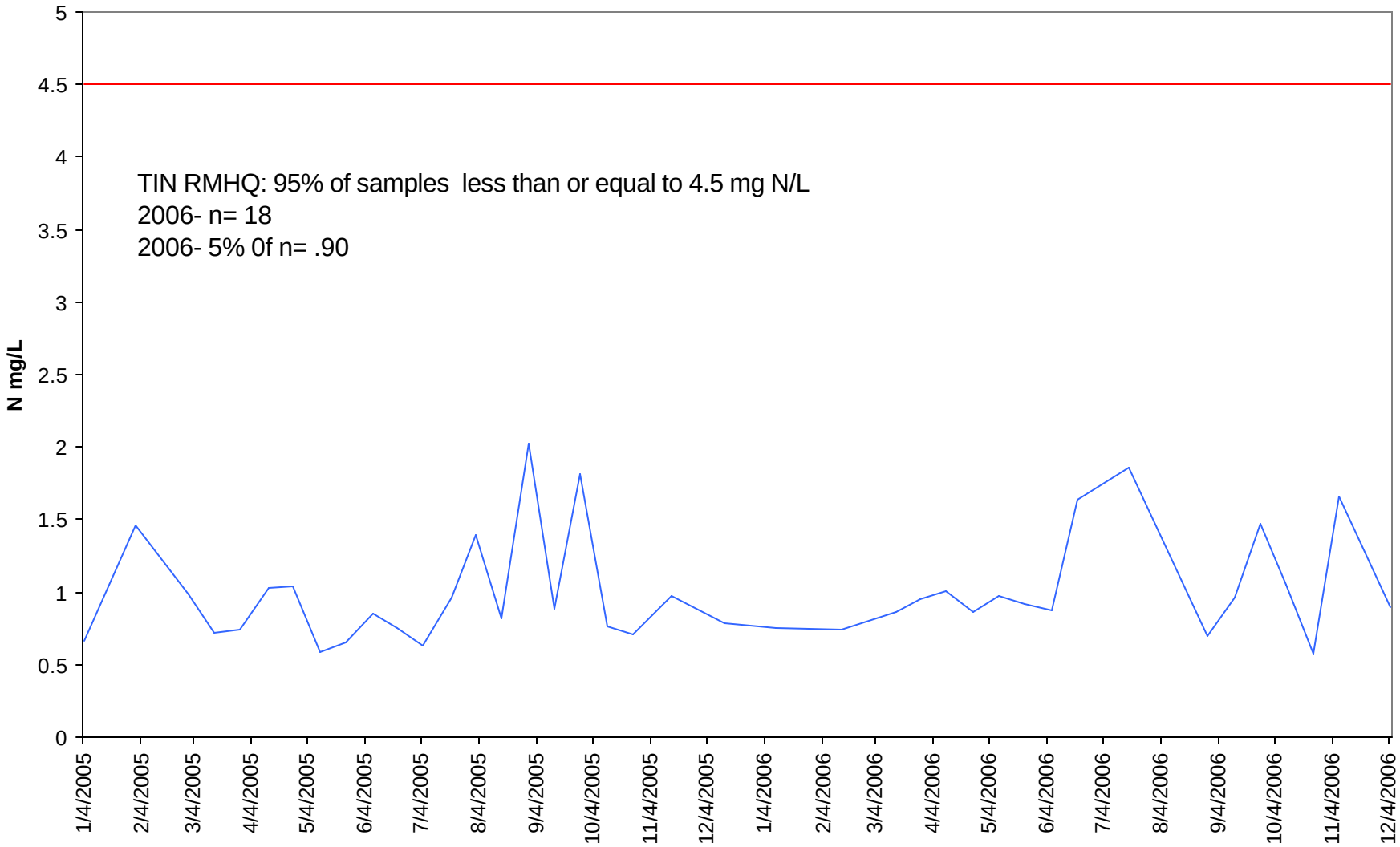
LWLVB3.5 Metalimnion Nitrite

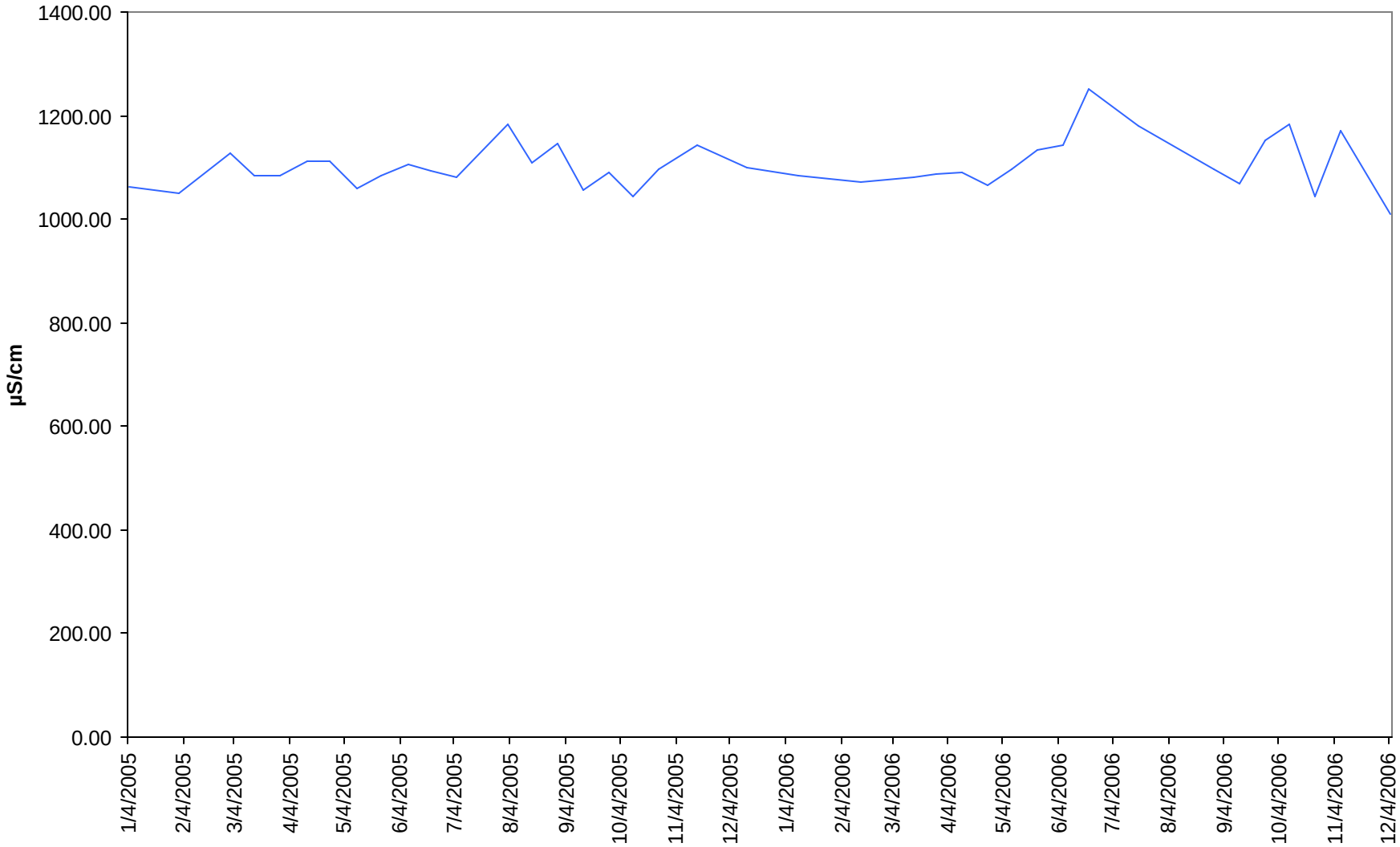


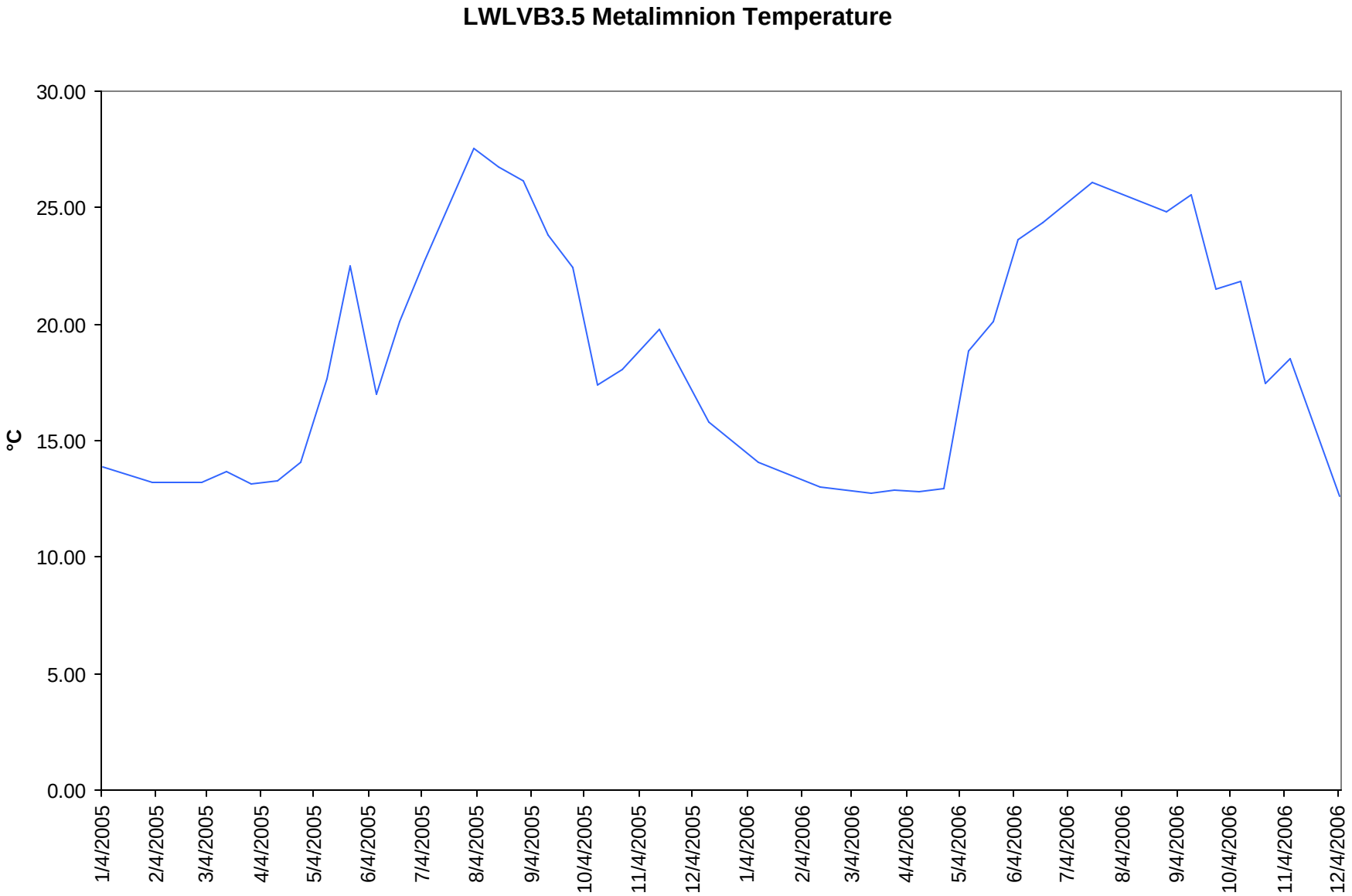
LWLVB3.5 Metalimnion Total Nitrogen

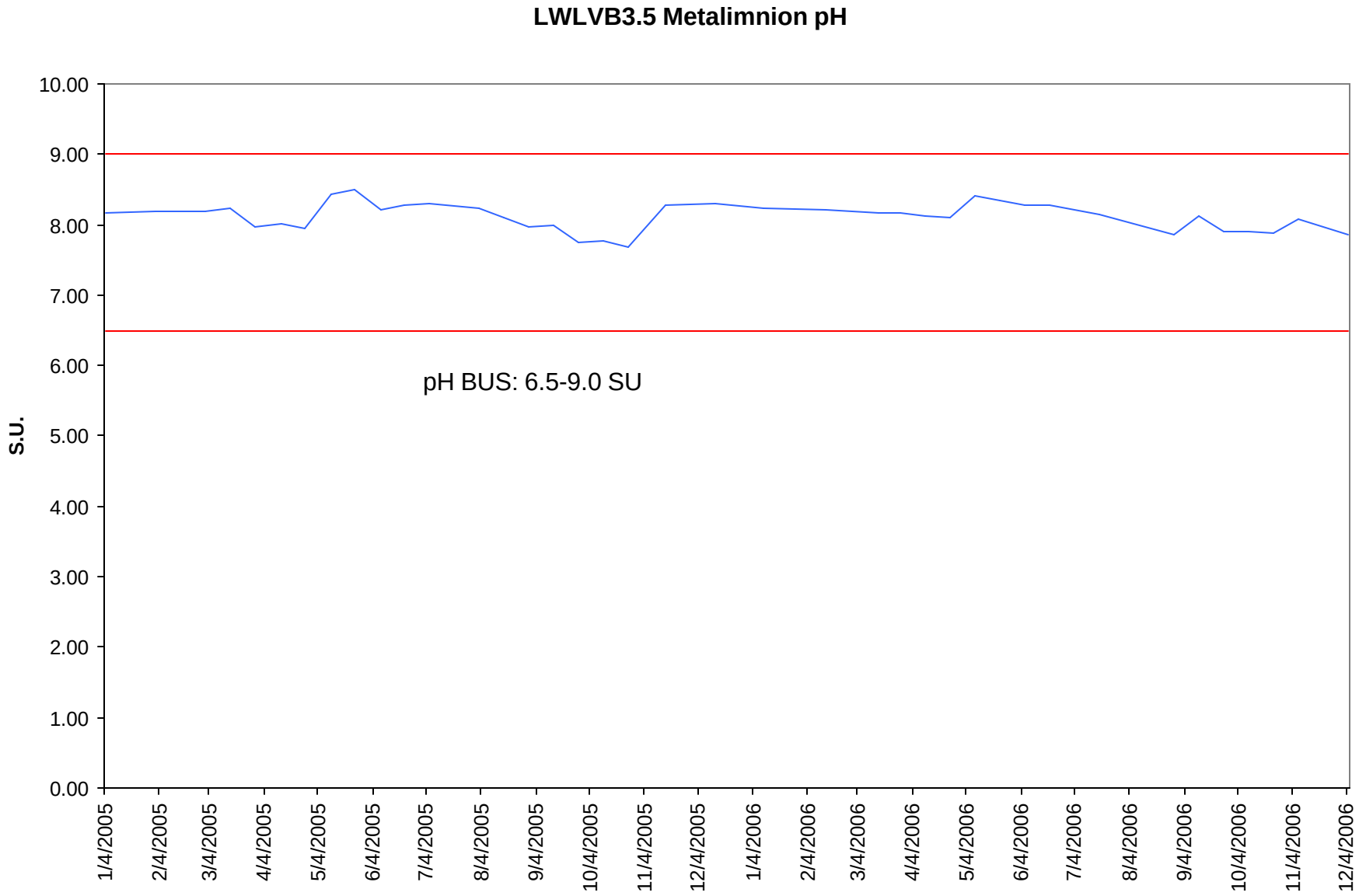


LWLVB3.5 Metalimnion Total Inorganic Nitrogen

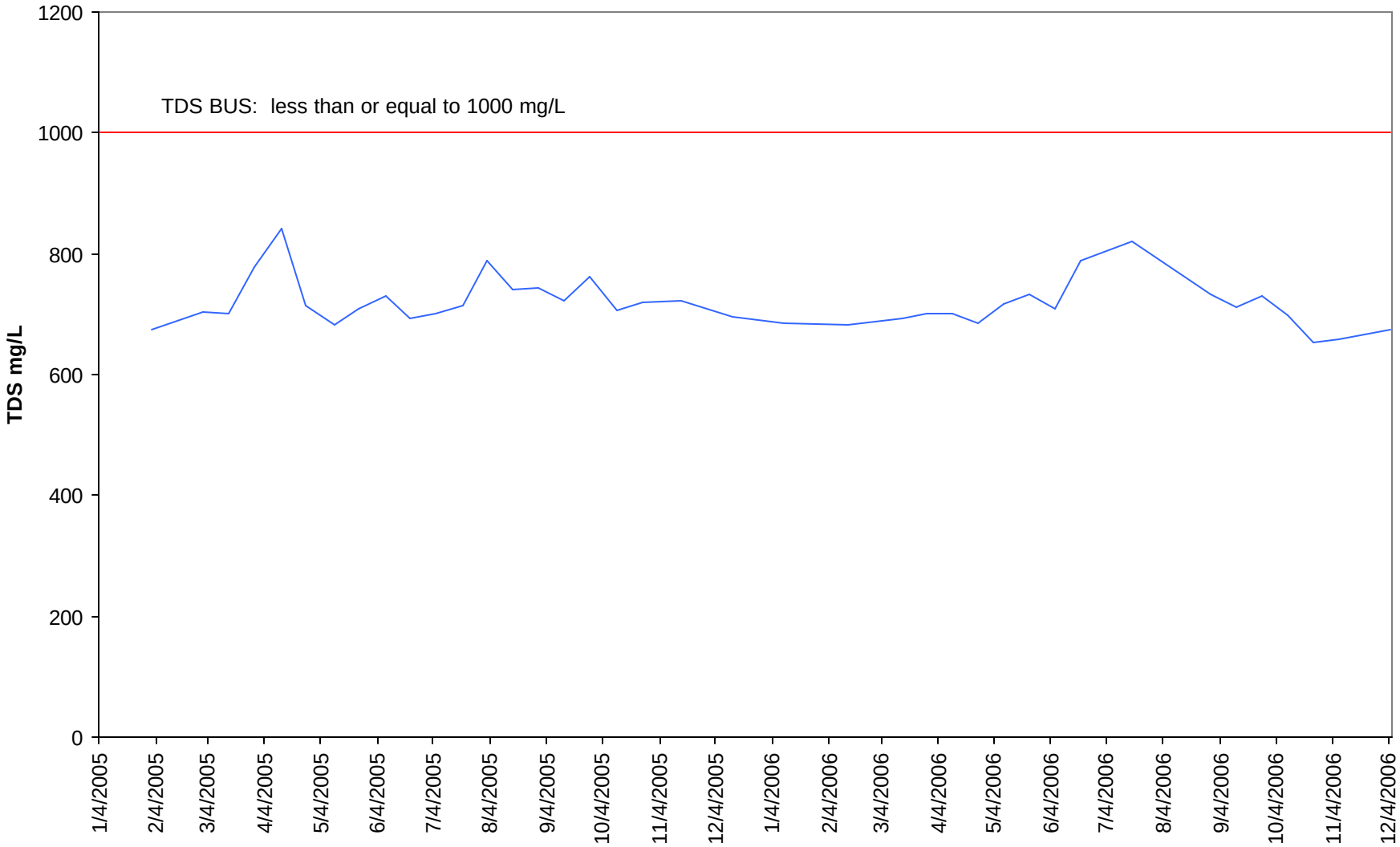



LWLVB3.5 Metalimnion Conductivity
µS/cm
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

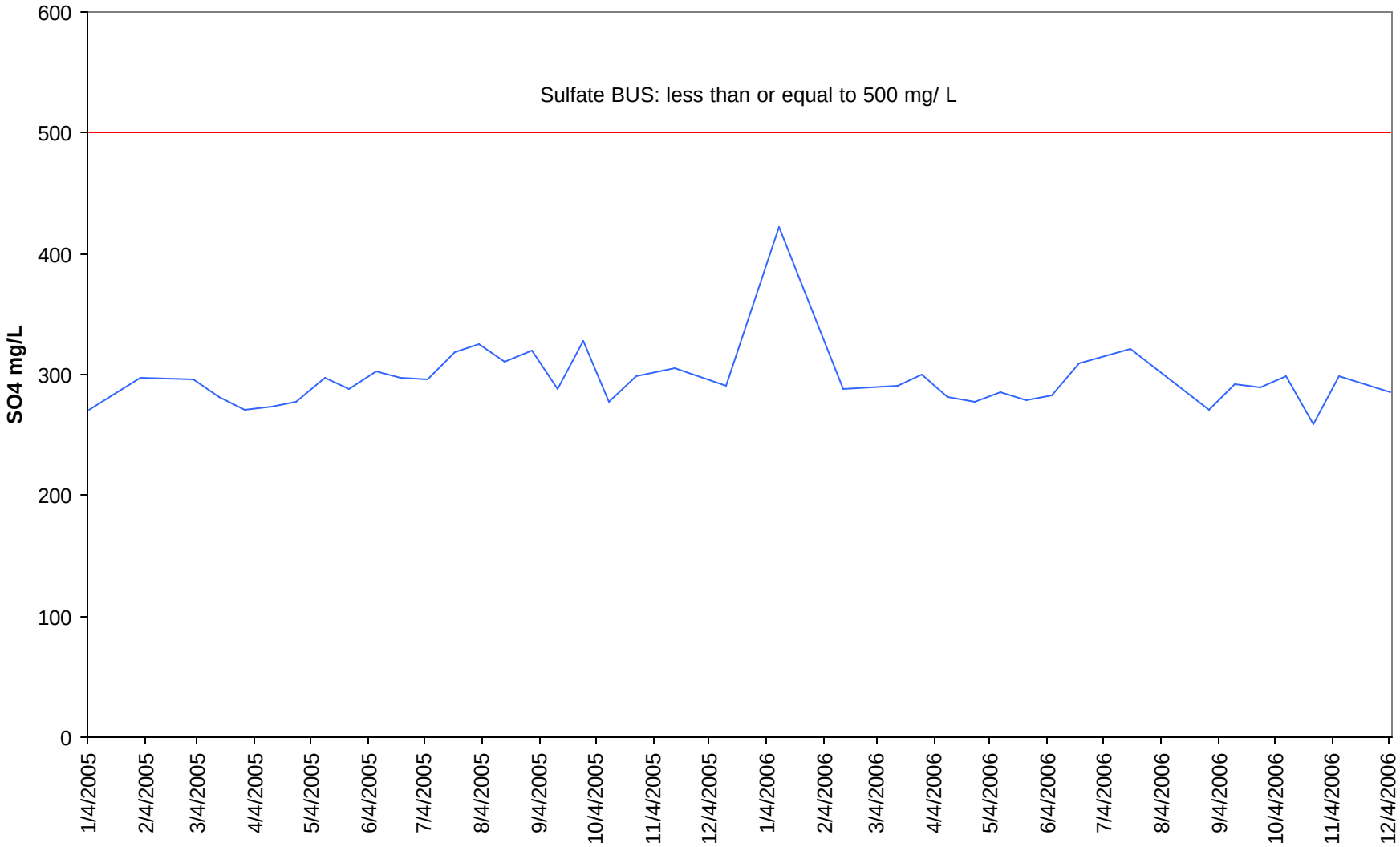

LWLVB3.5 Metalimnion Temperature
°C
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006


LWLVB3.5 Metalimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

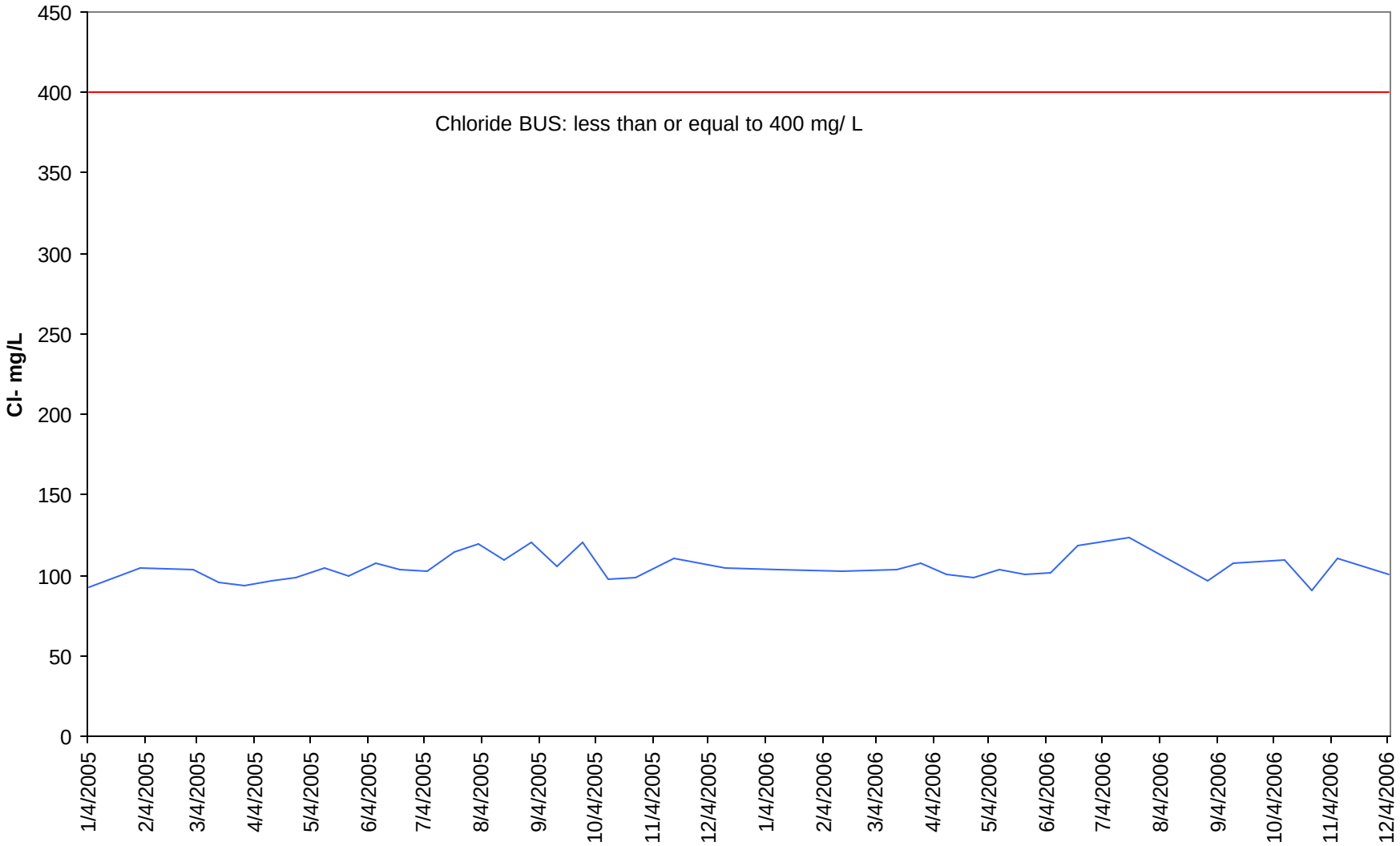
LWLVB3.5 Metalimnion Total Dissolved Solids



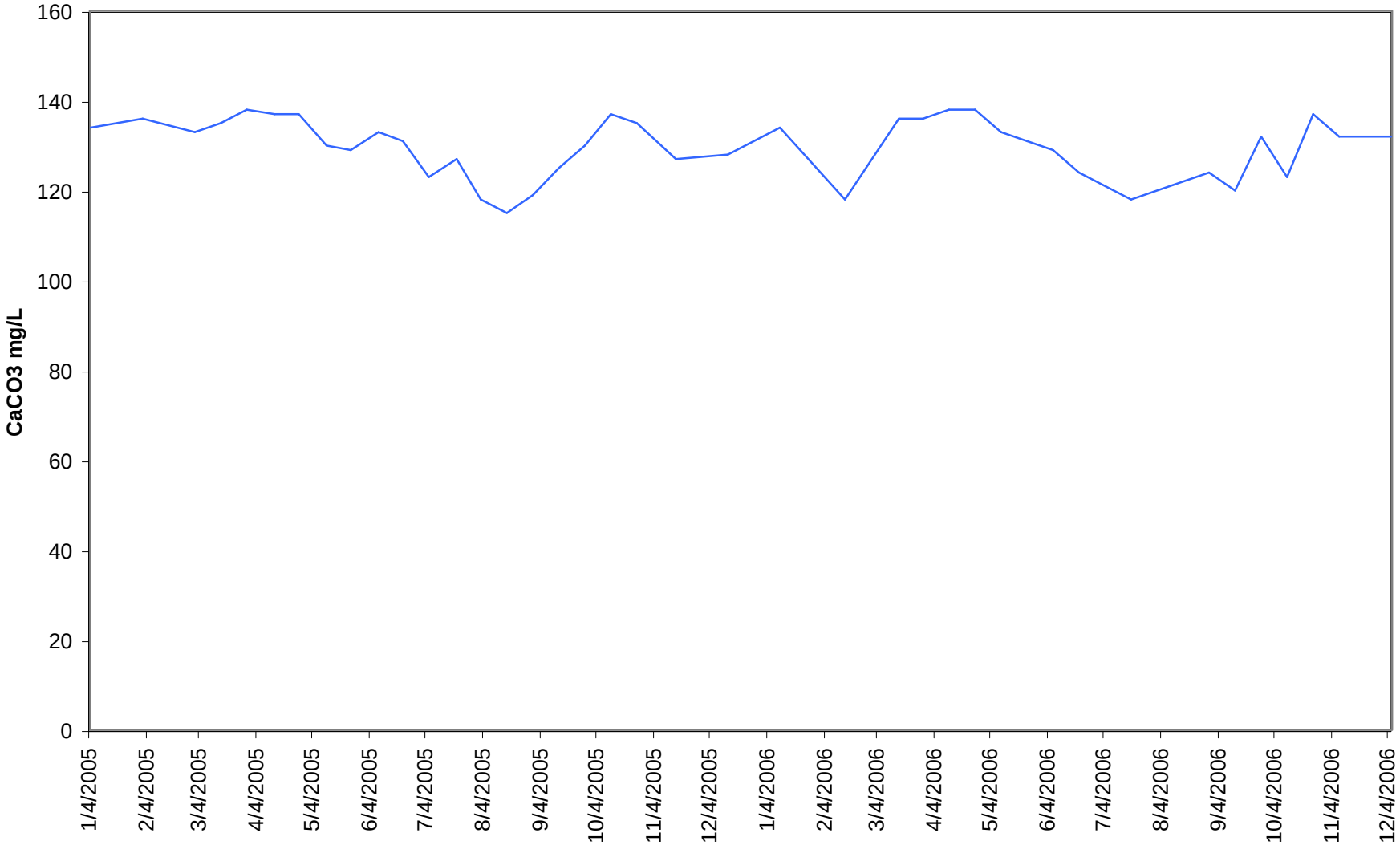
LWLVB3.5 Metalimnion Sulfate



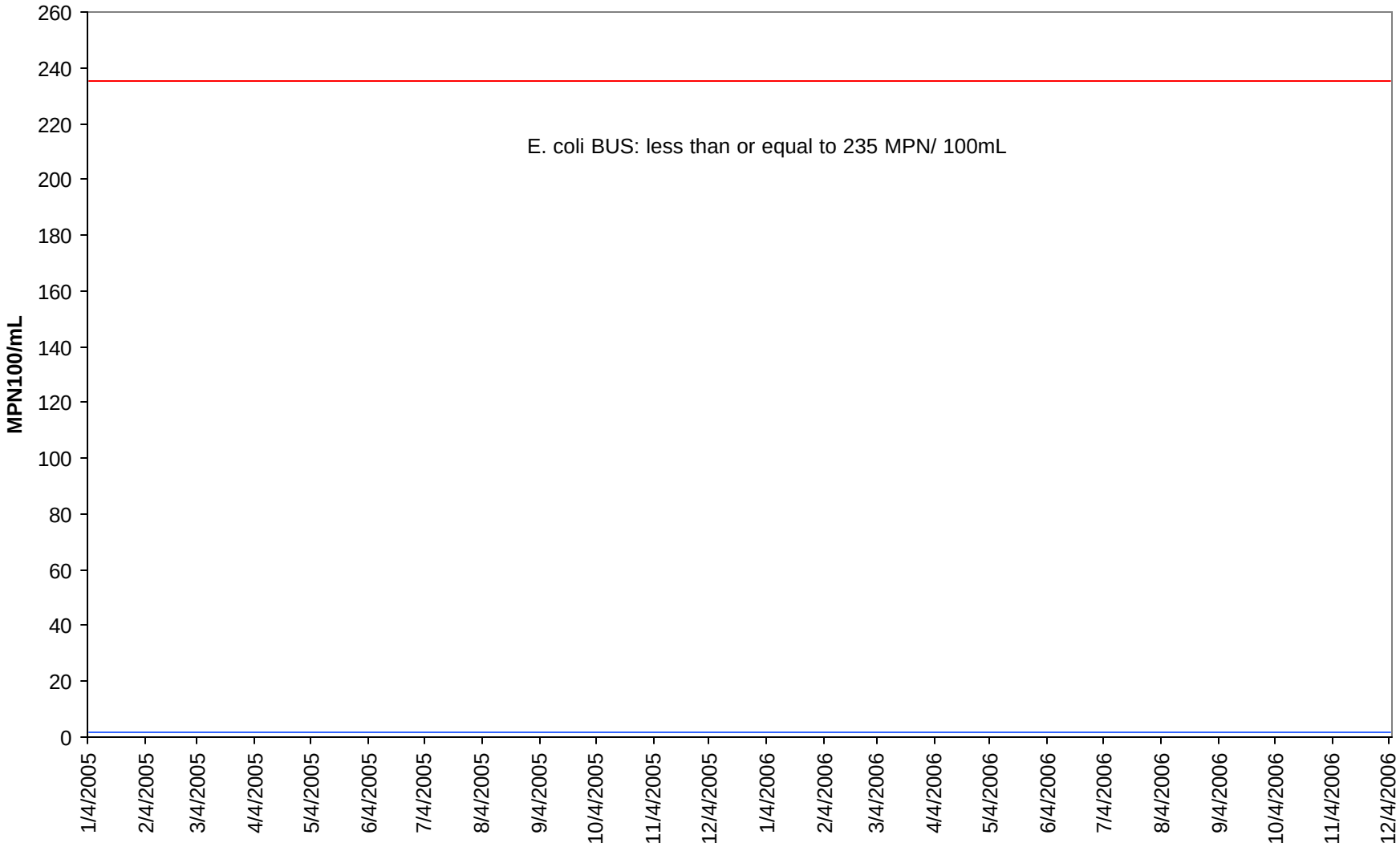
LWLVB3.5 Metalimnion Chloride



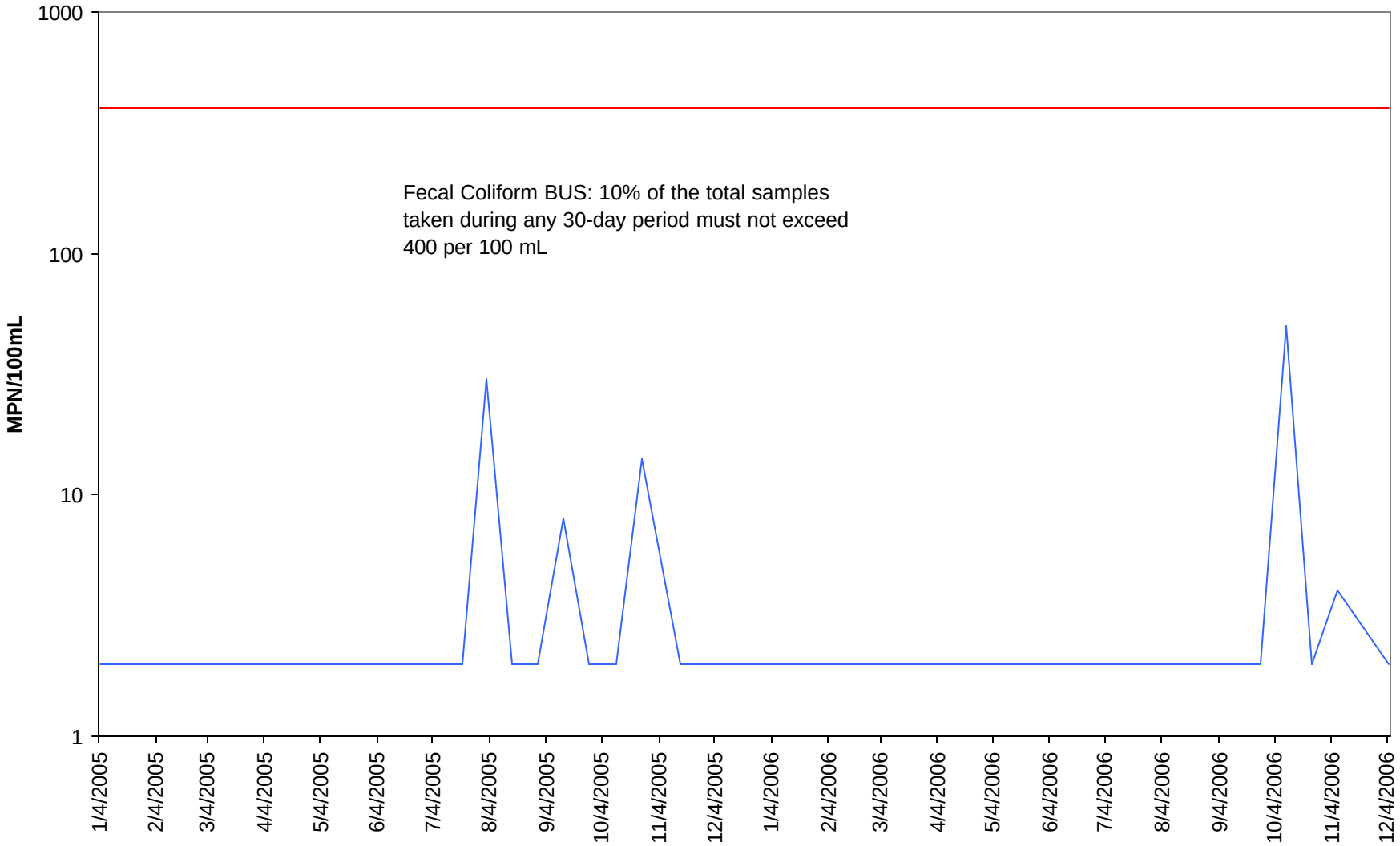
LWLVB3.5 Metalimnion Alkalinity



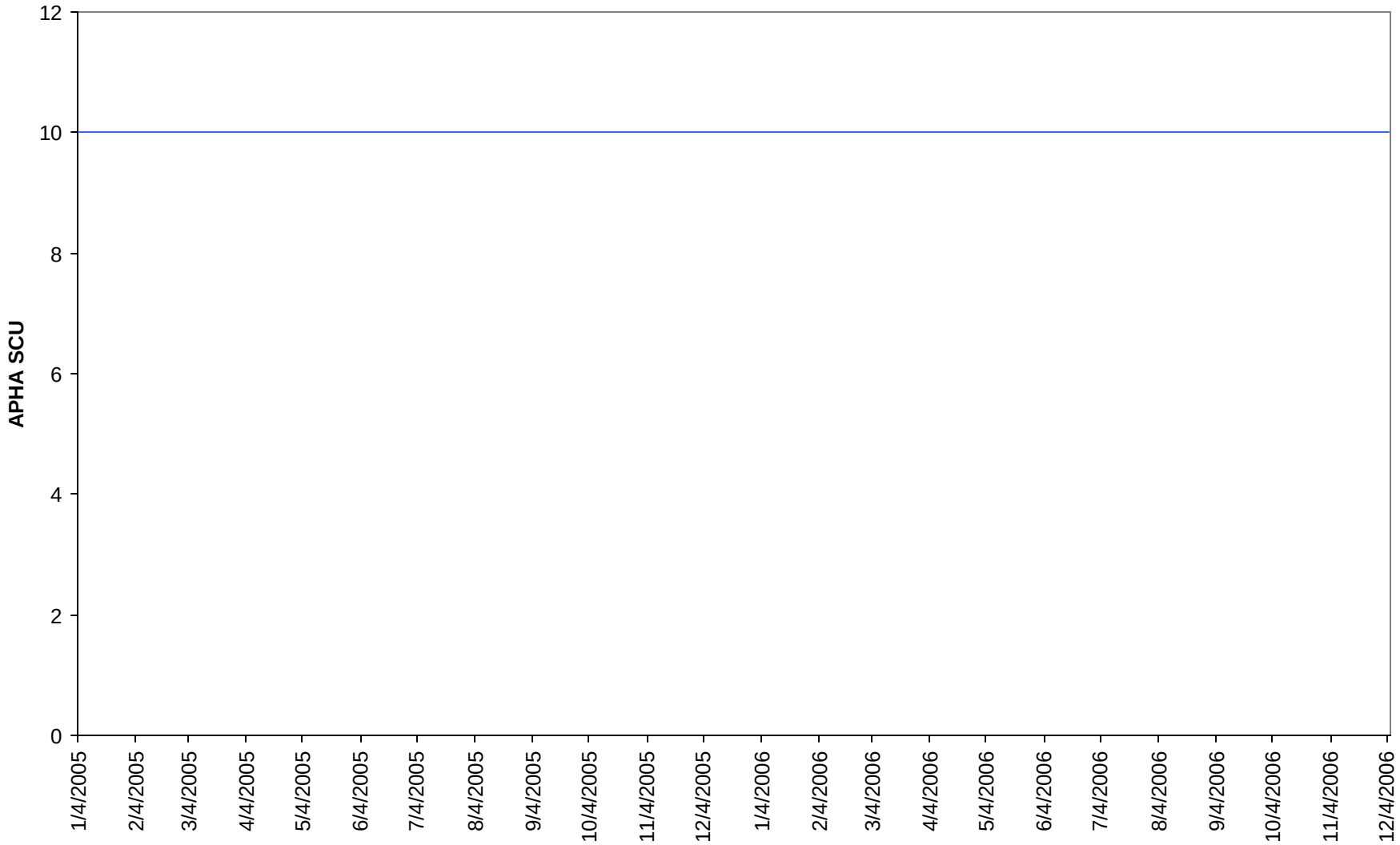
LWLVB3.5 Metalimnion E. coli.

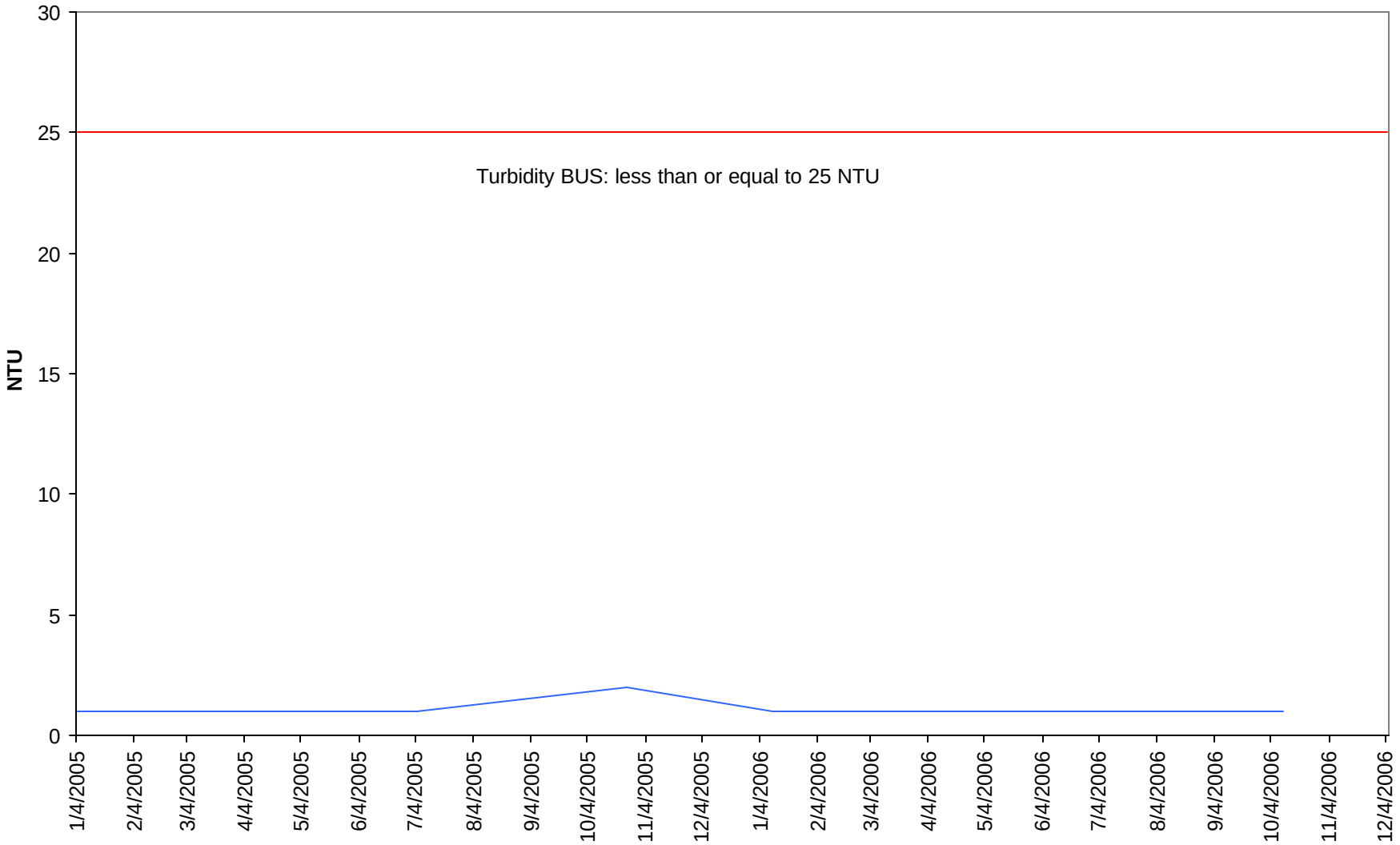


LWLVB3.5 Metalimnion Fecal Coliform

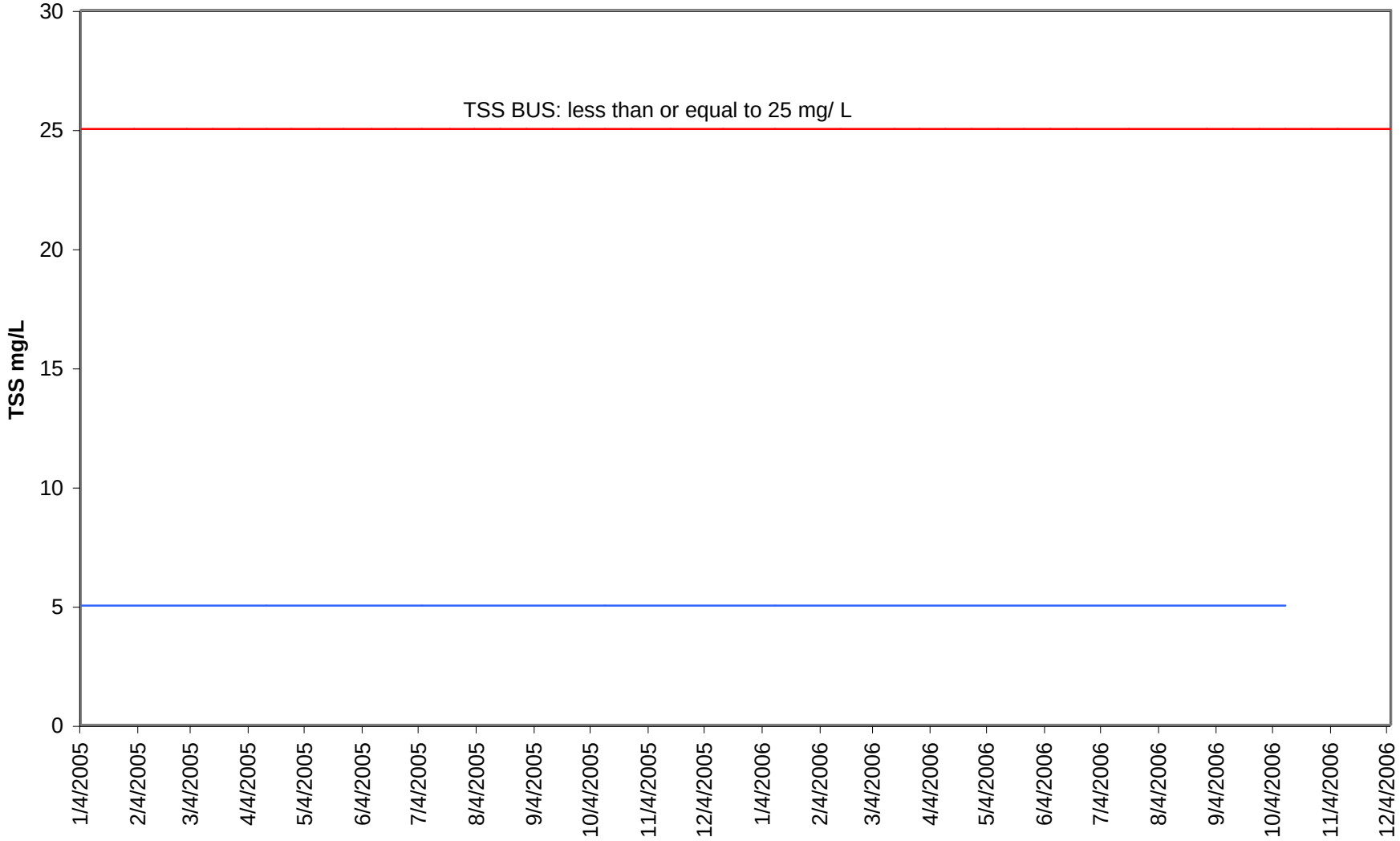


LWLVB3.5 Metalimnion Color

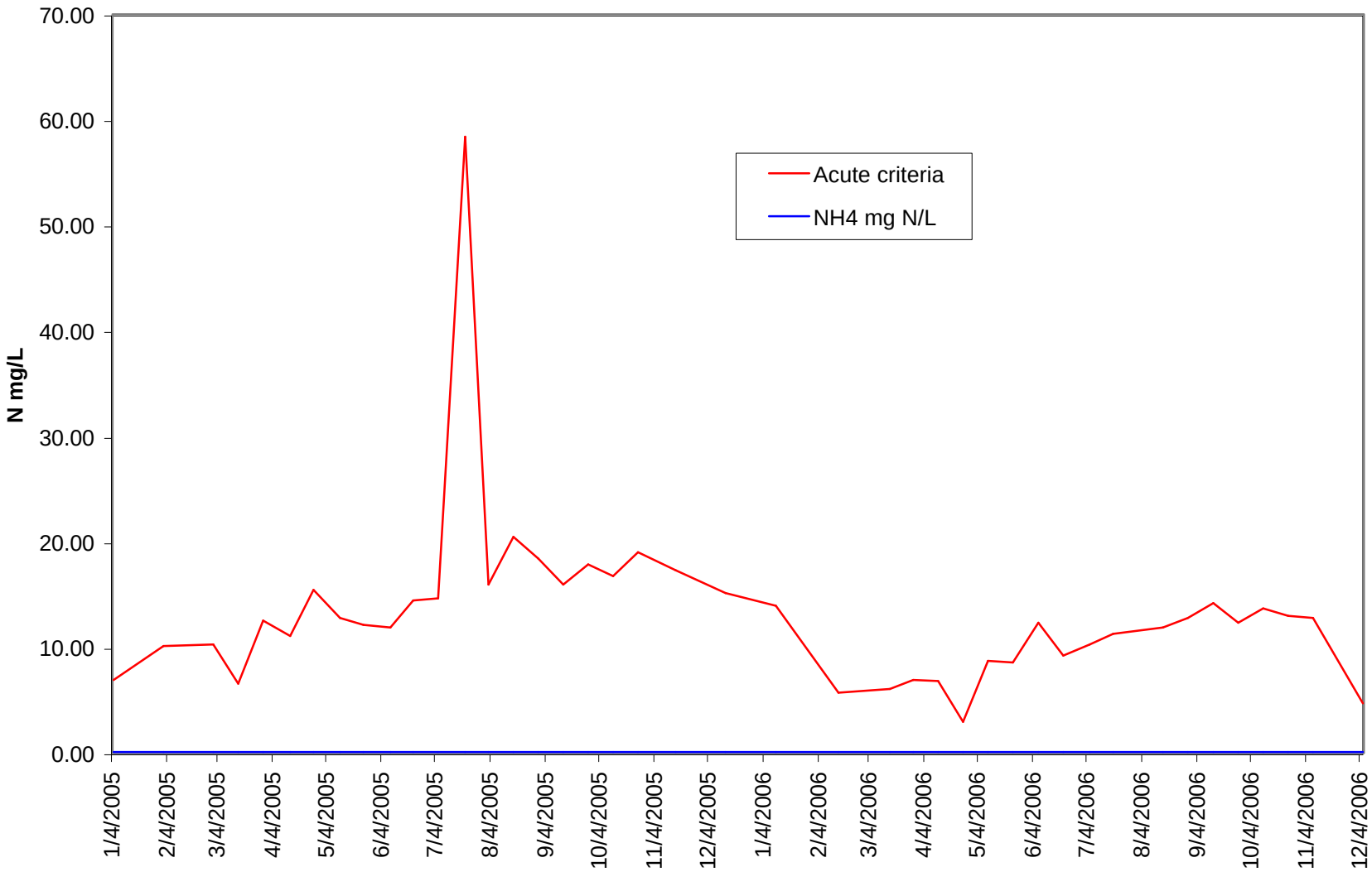



LWLVB3.5 Metalimnion Turbidity
NTU
30
25
20
15
10
5
0
Turbidity BUS: less than or equal to 25 NTU
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

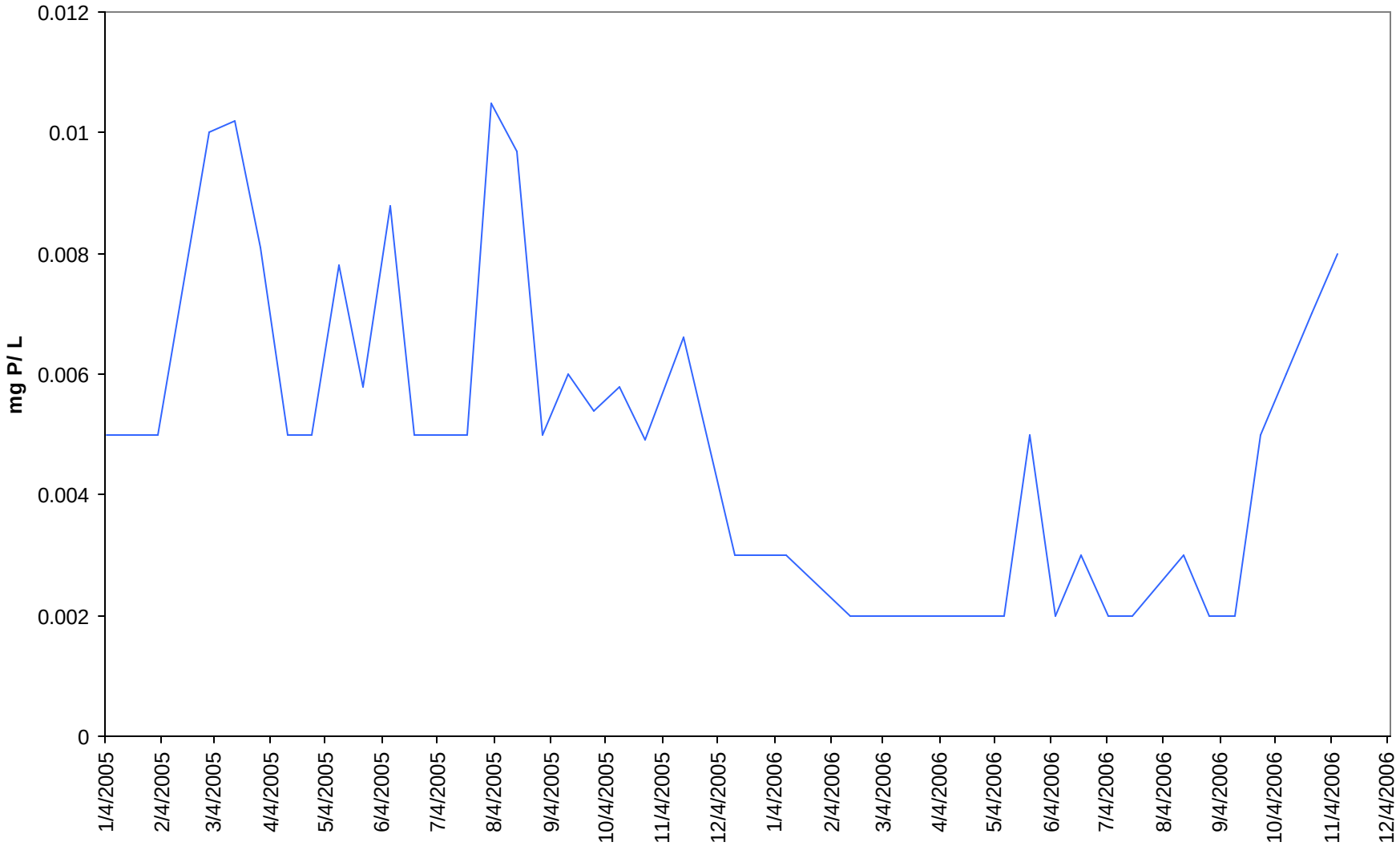
LWLVB3.5 Metalimnion Total Suspended Solids



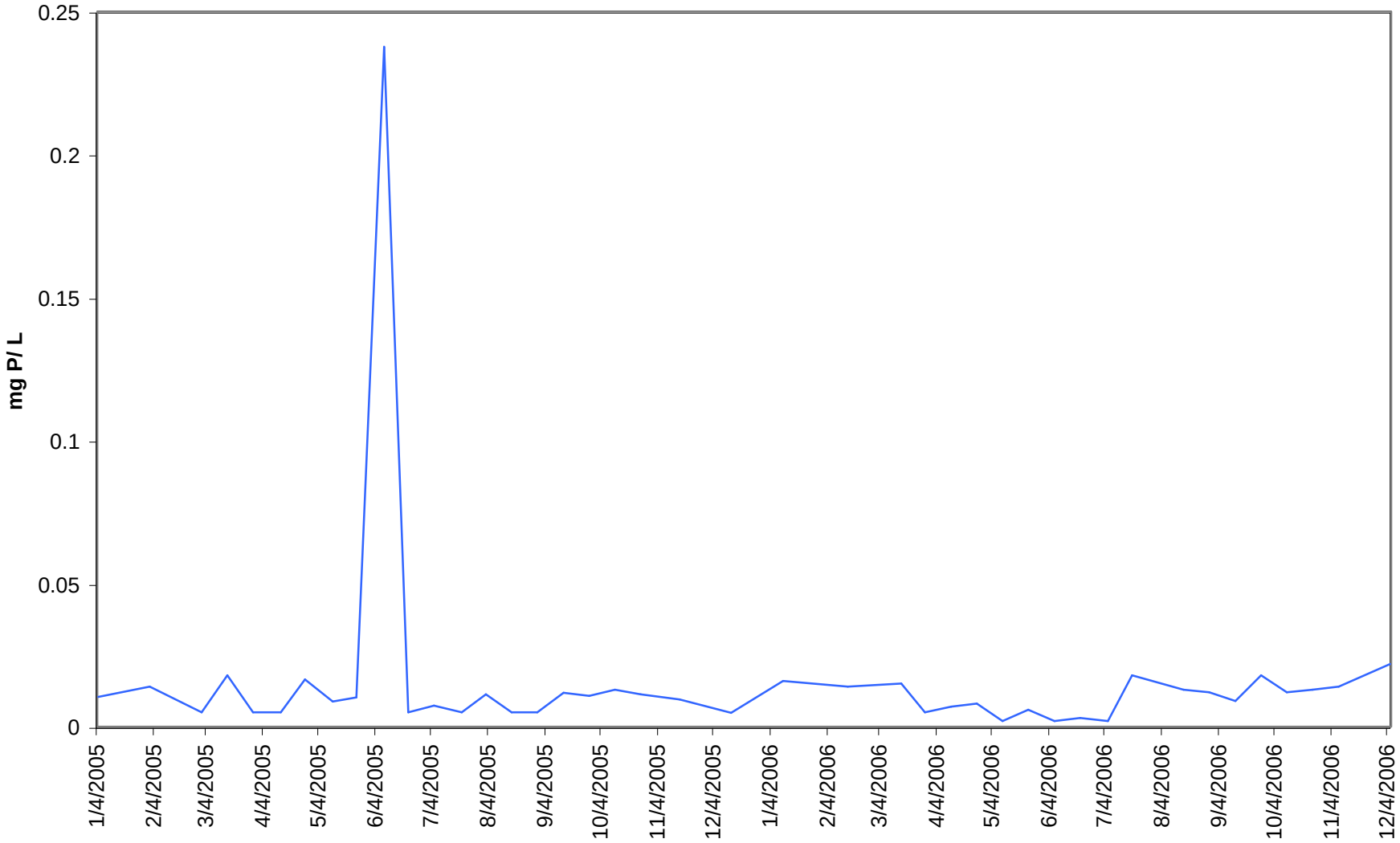
LWLVB3.5
Hypolimnion


LWLVB3.5 Hypolimnion Ammonia
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
N mg/L
Acute criteria
NH4 mg N/L
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

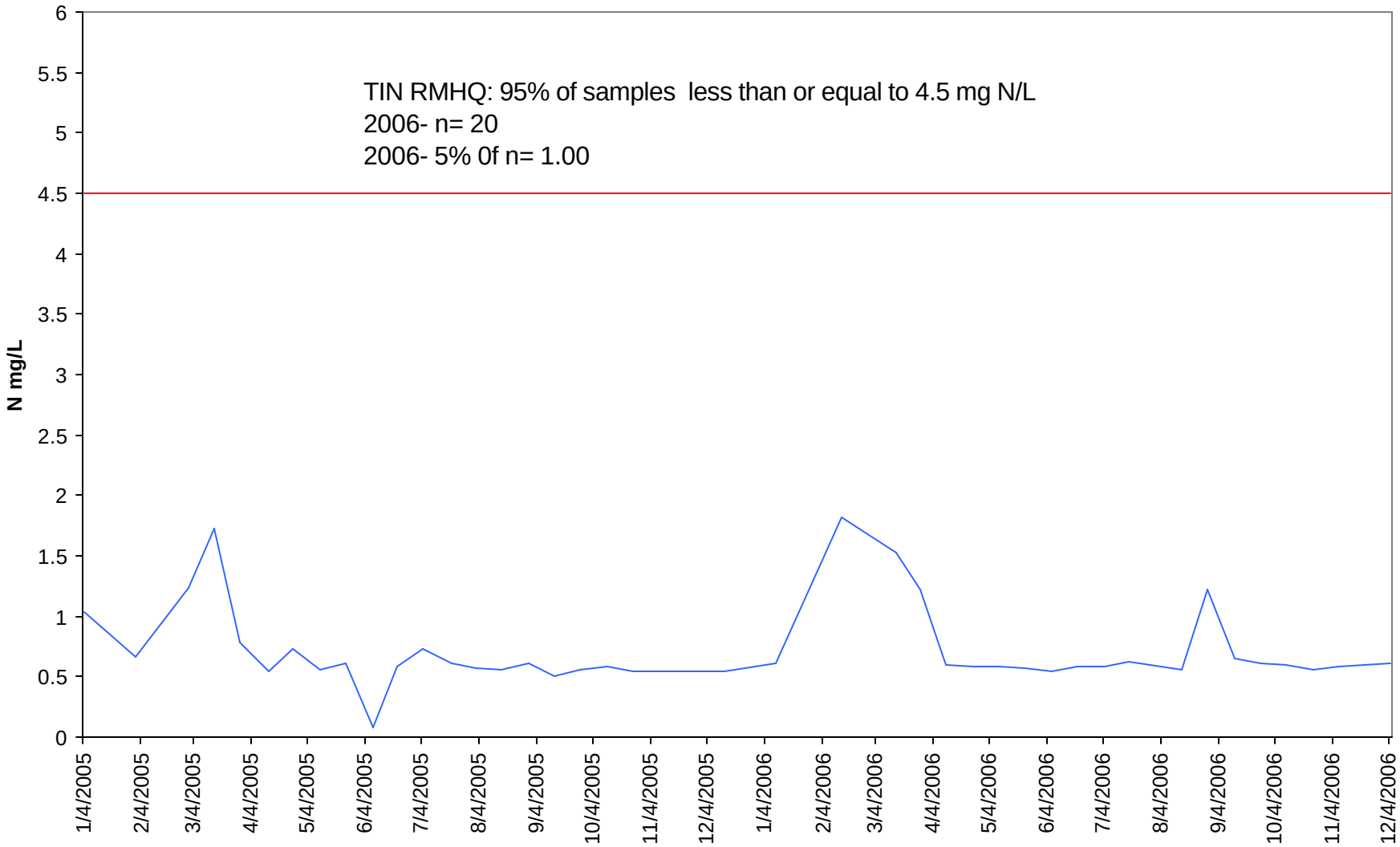
LWLVB3.5 Hypolimnion Dissolved ortho-Phosphorus

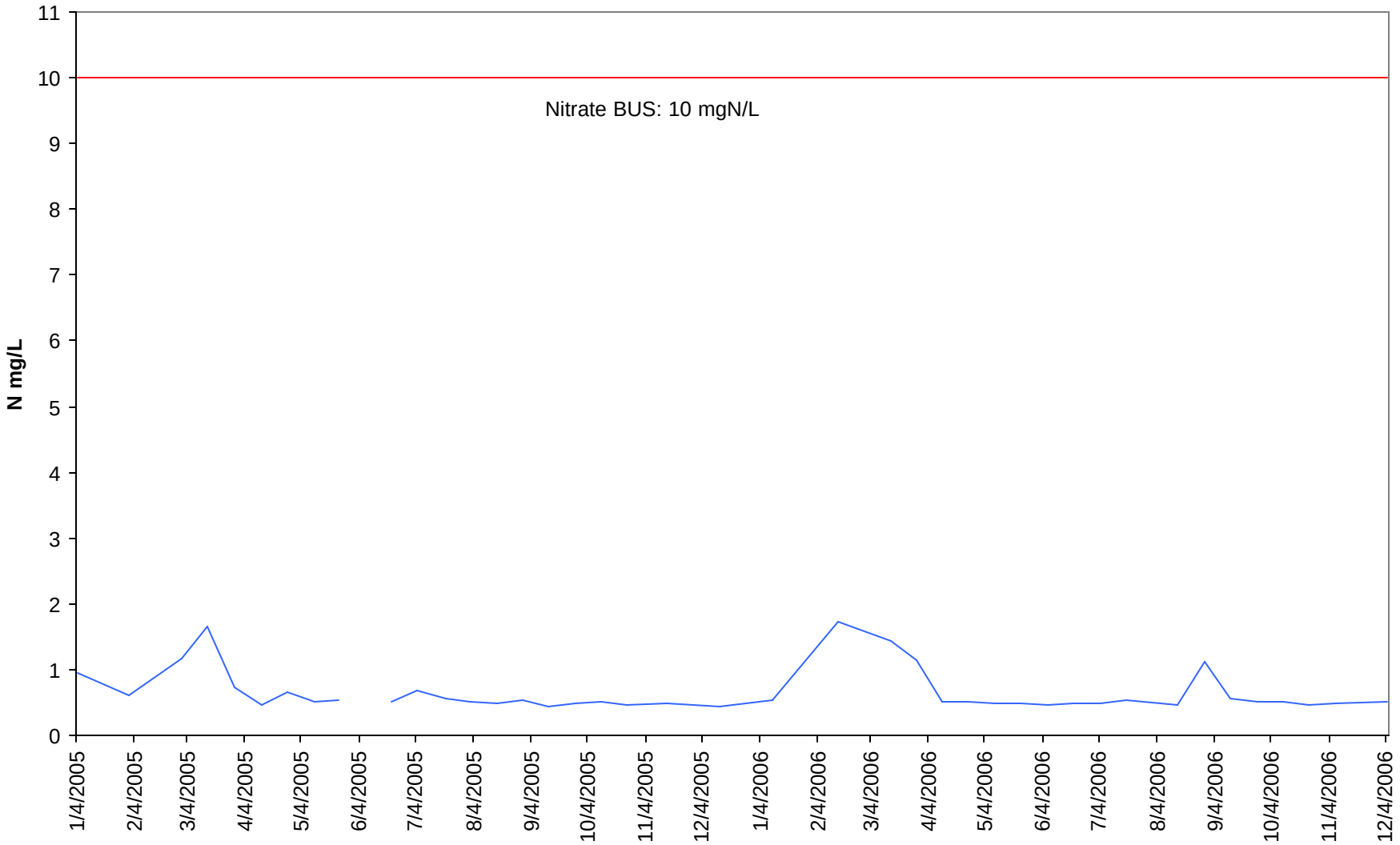


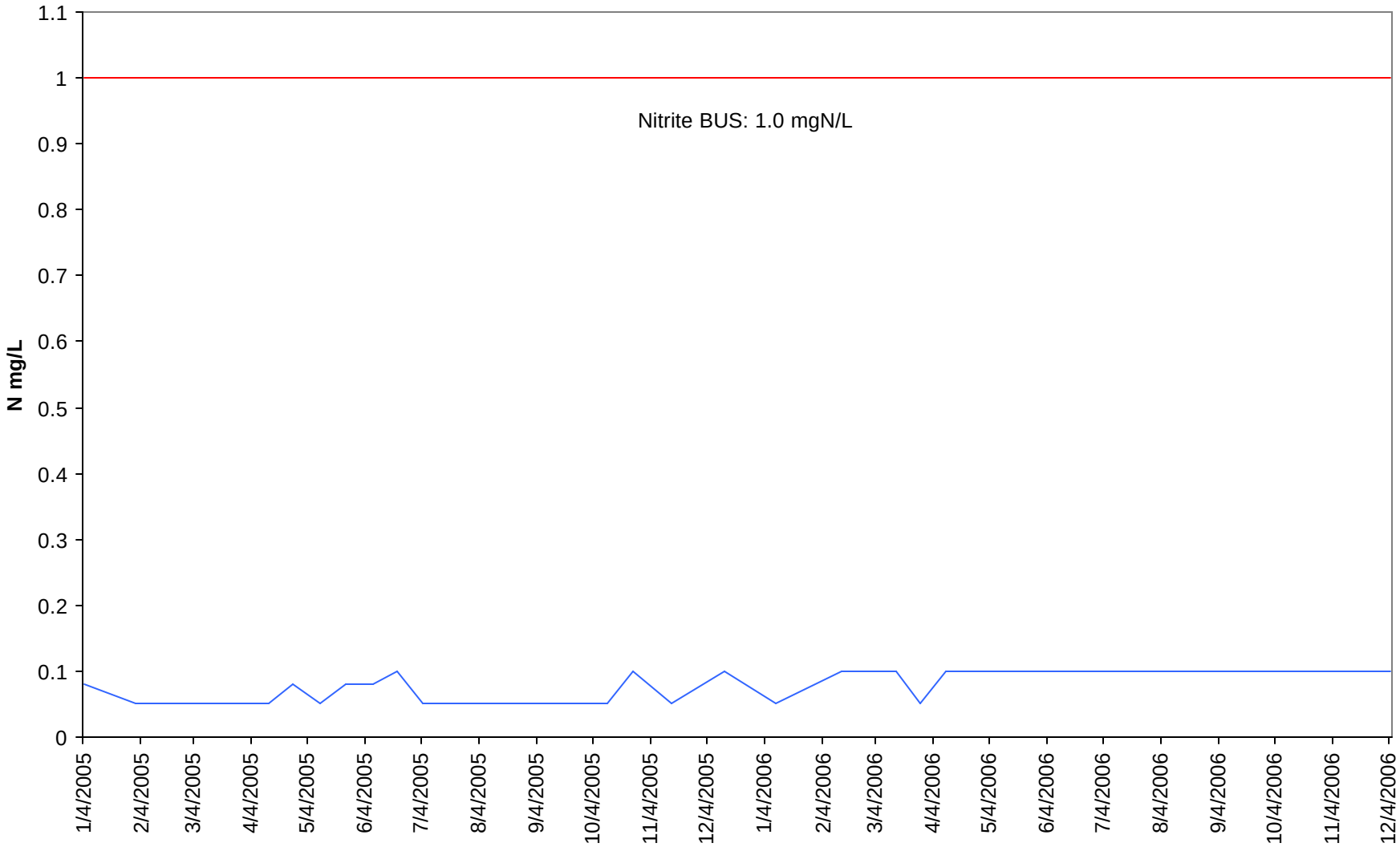
LWLVB3.5 Hypolimnion Total Phosphorus



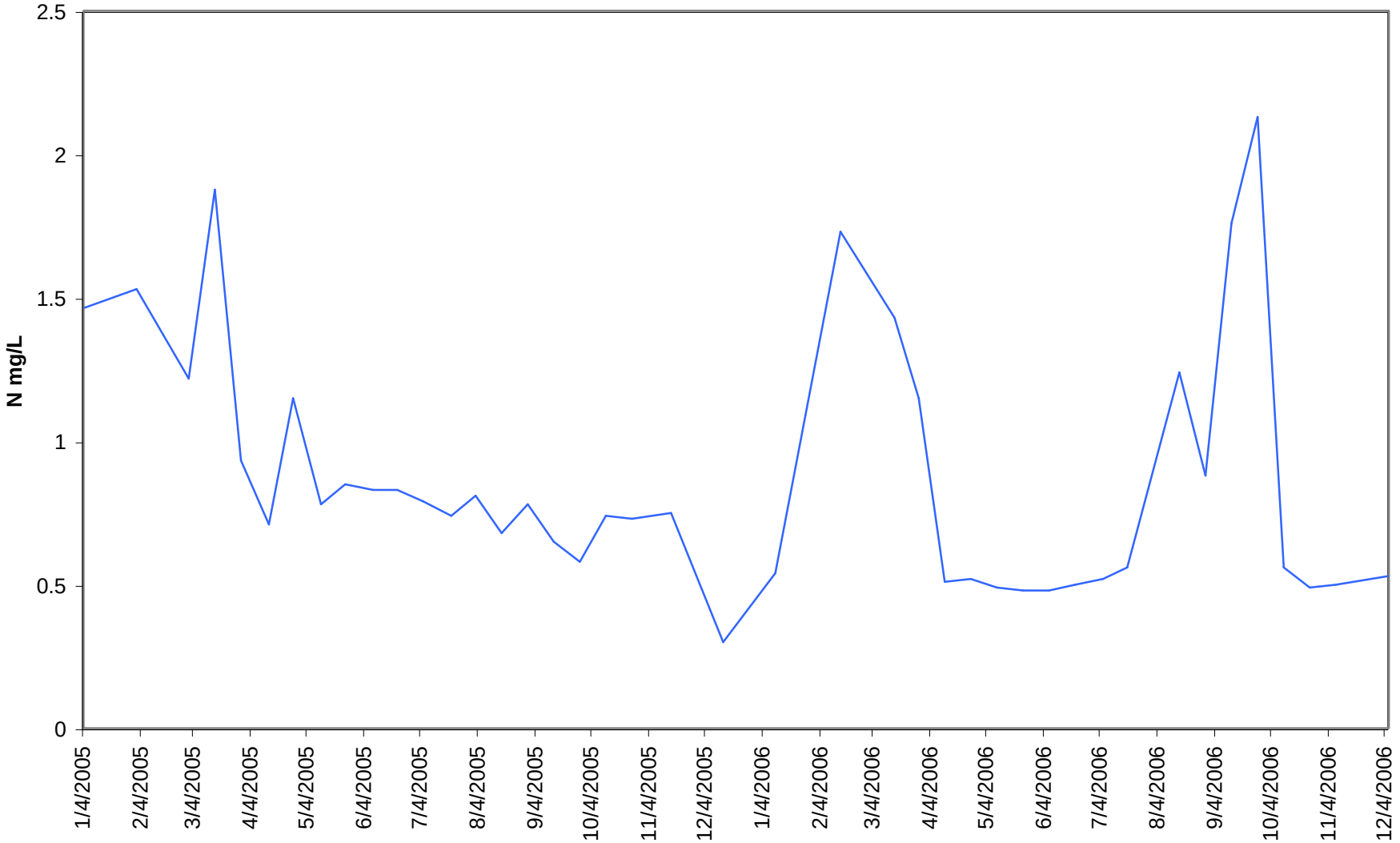
LWLVB3.5 Hypolimnion Total Inorganic Nitrogen

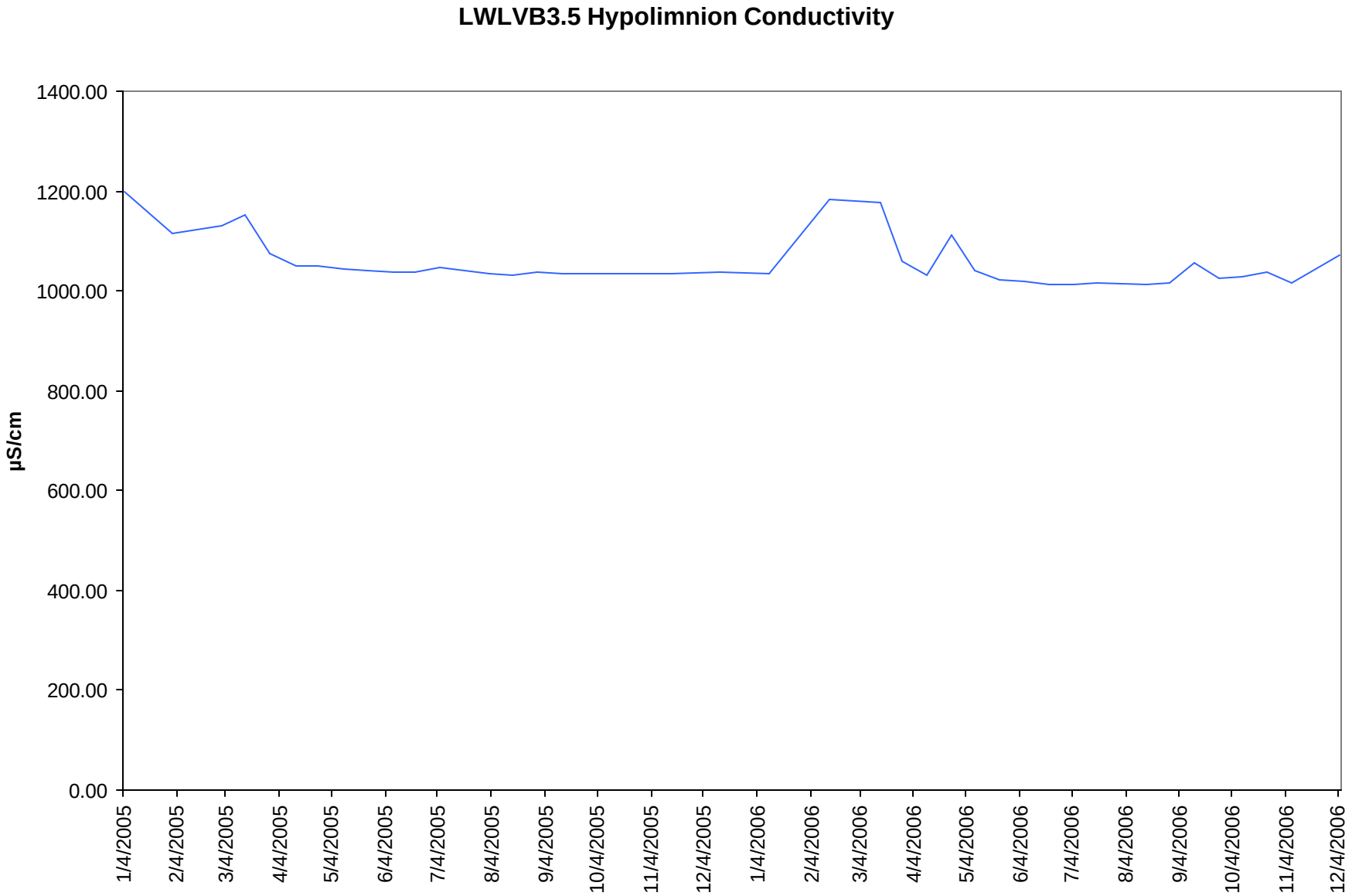


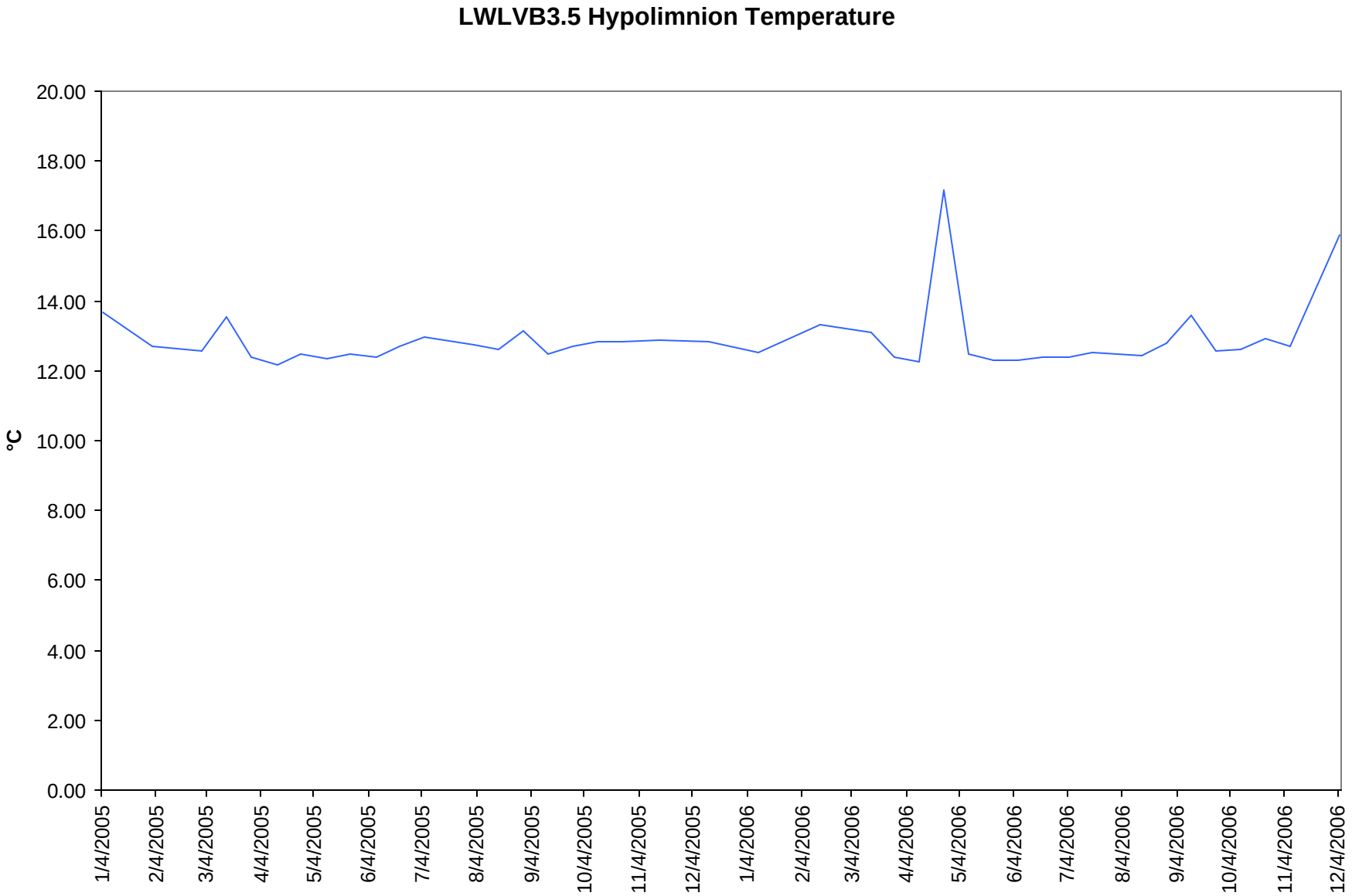

LWLVB3.5 Hypolimnion Nitrate
Nitrate BUS: 10 mgN/L
N mg/L
11
10
9
8
7
6
5
4
3
2
1
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

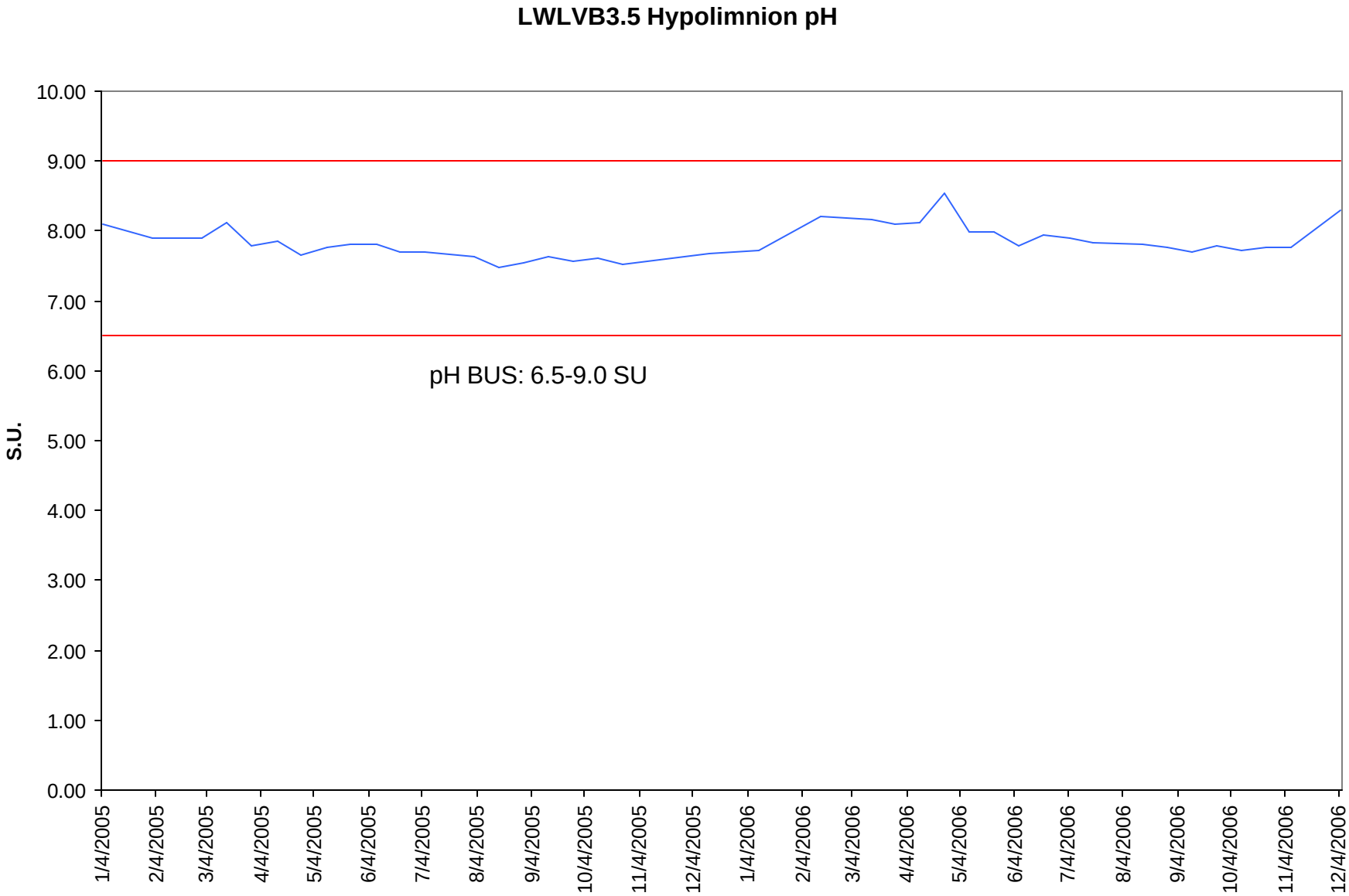

LWLVB3.5 Hypolimnion Nitrite
Nitrite BUS: 1.0 mgN/L
N mg/L
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB3.5 Hypolimnion Total Nitrogen

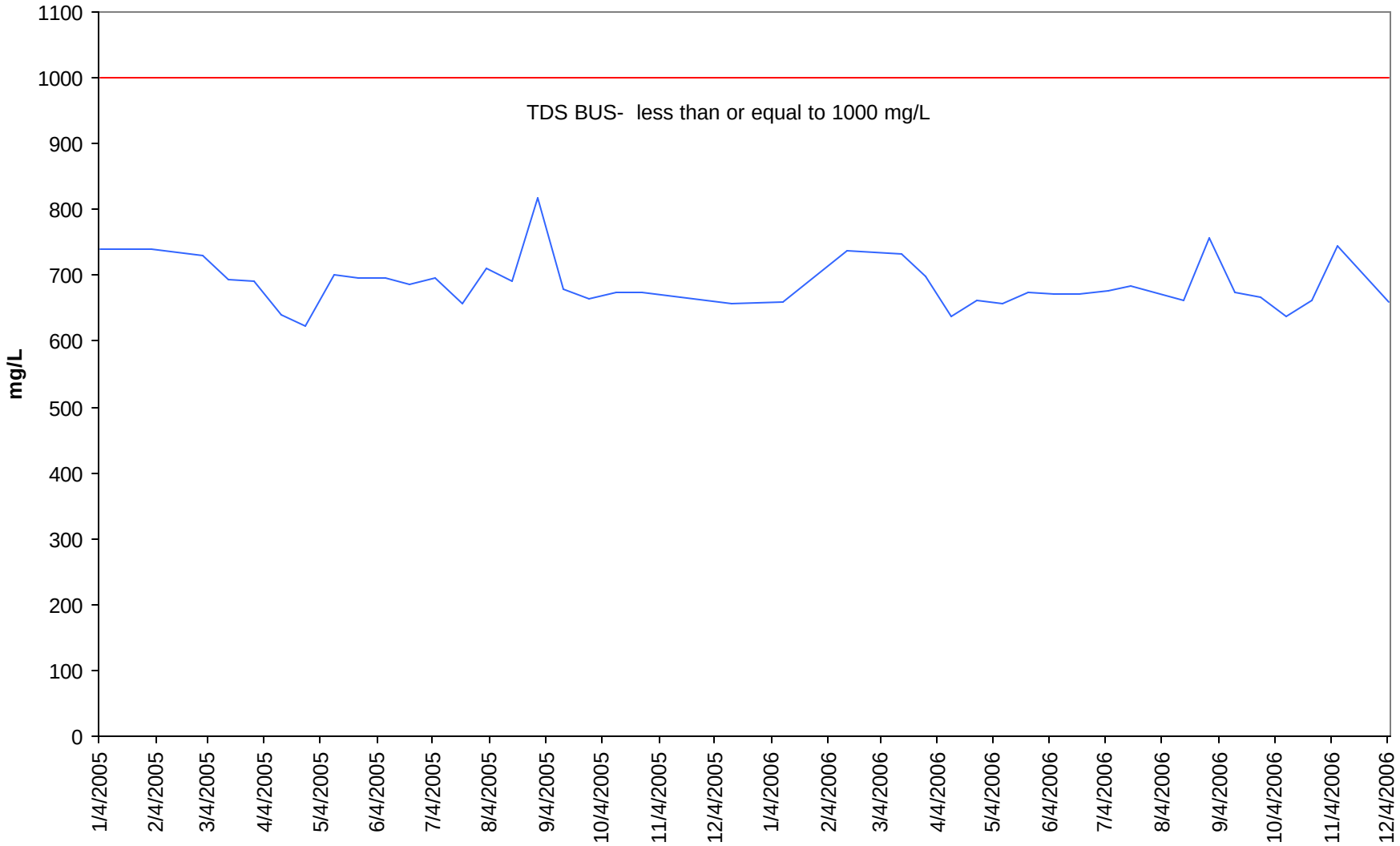



LWLVB3.5 Hypolimnion Conductivity
µS/cm
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

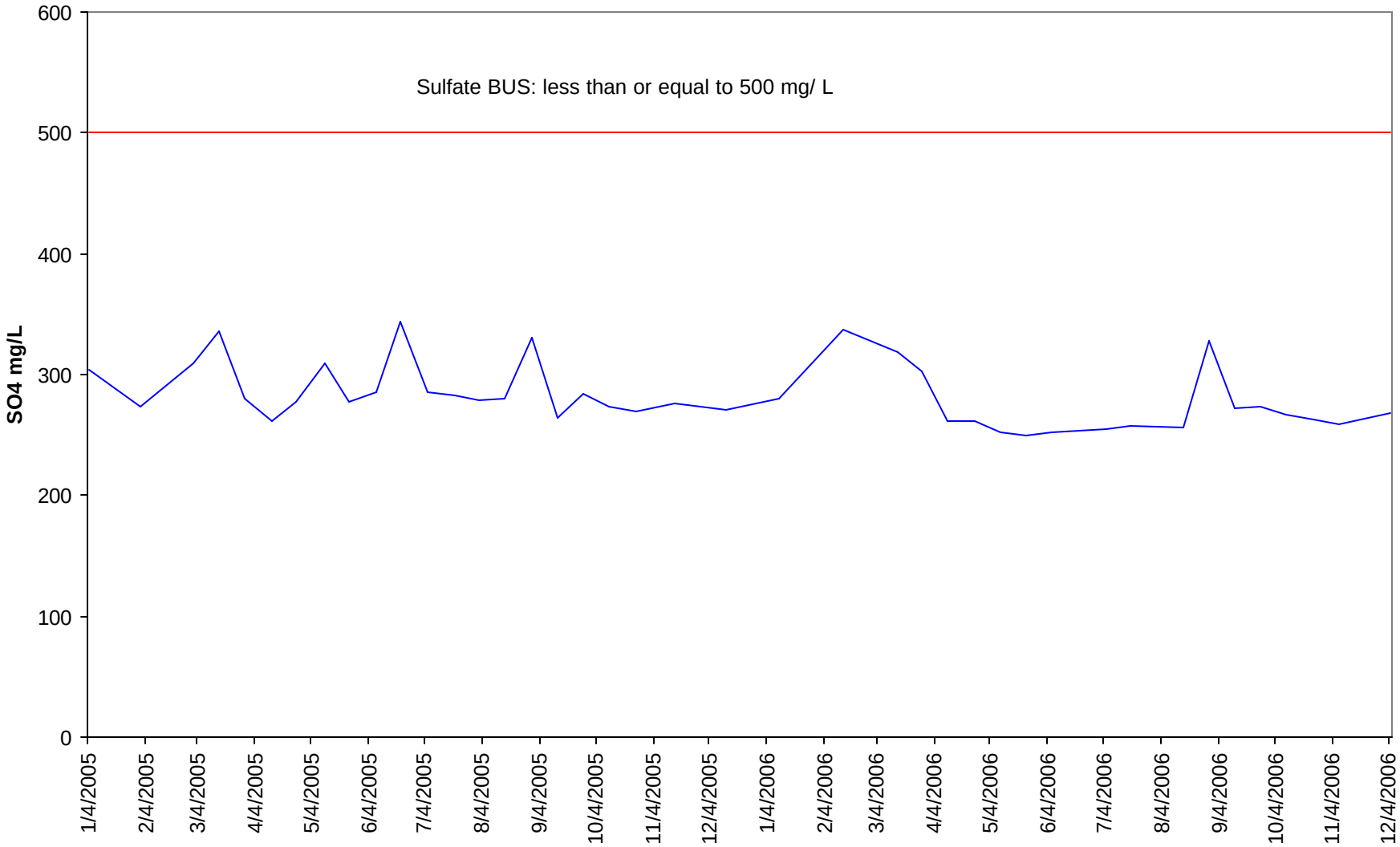

LWLVB3.5 Hypolimnion Temperature
°C
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006


LWLVB3.5 Hypolimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

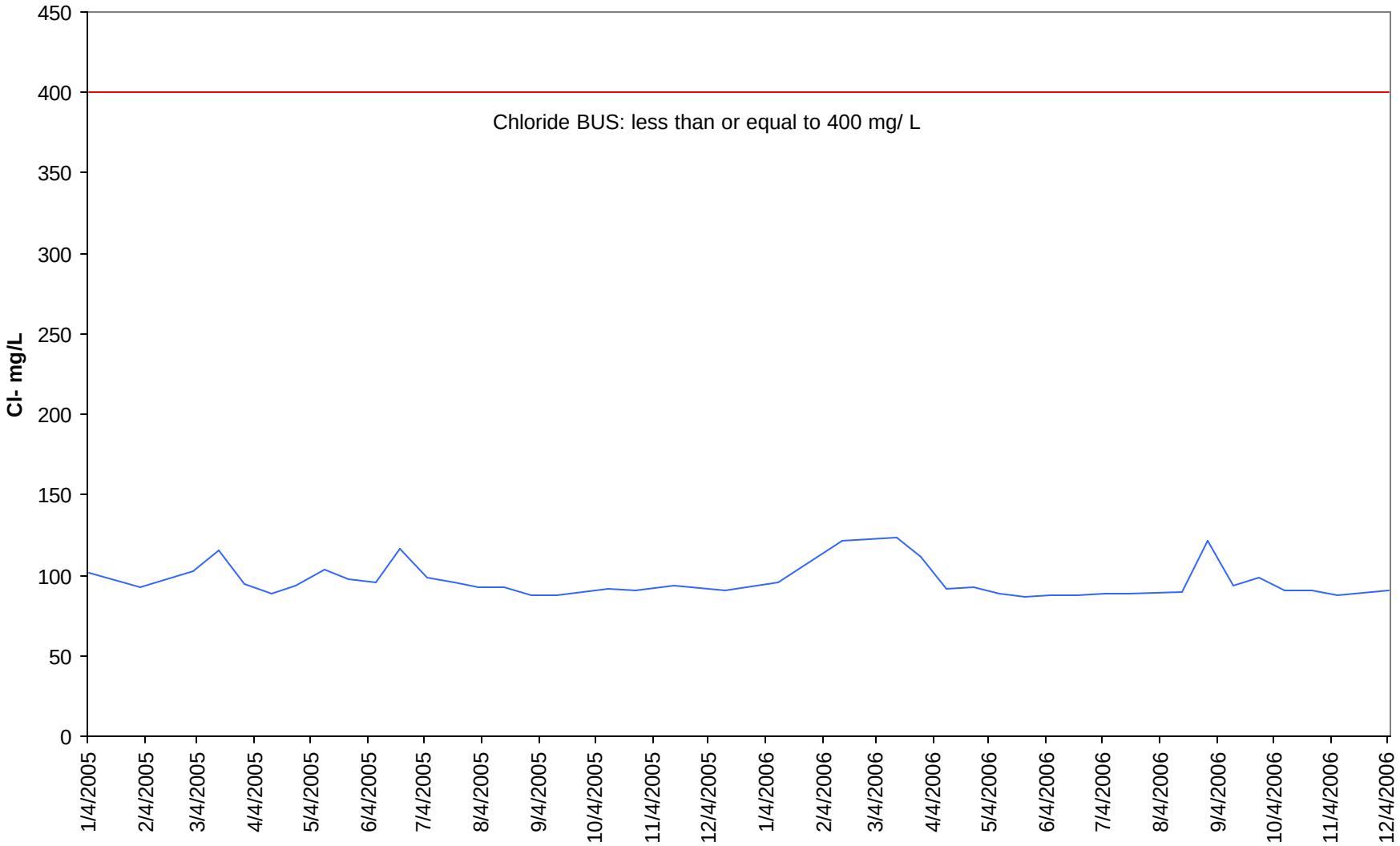
LWLVB3.5 Hypolimnion Total Dissolved Solids

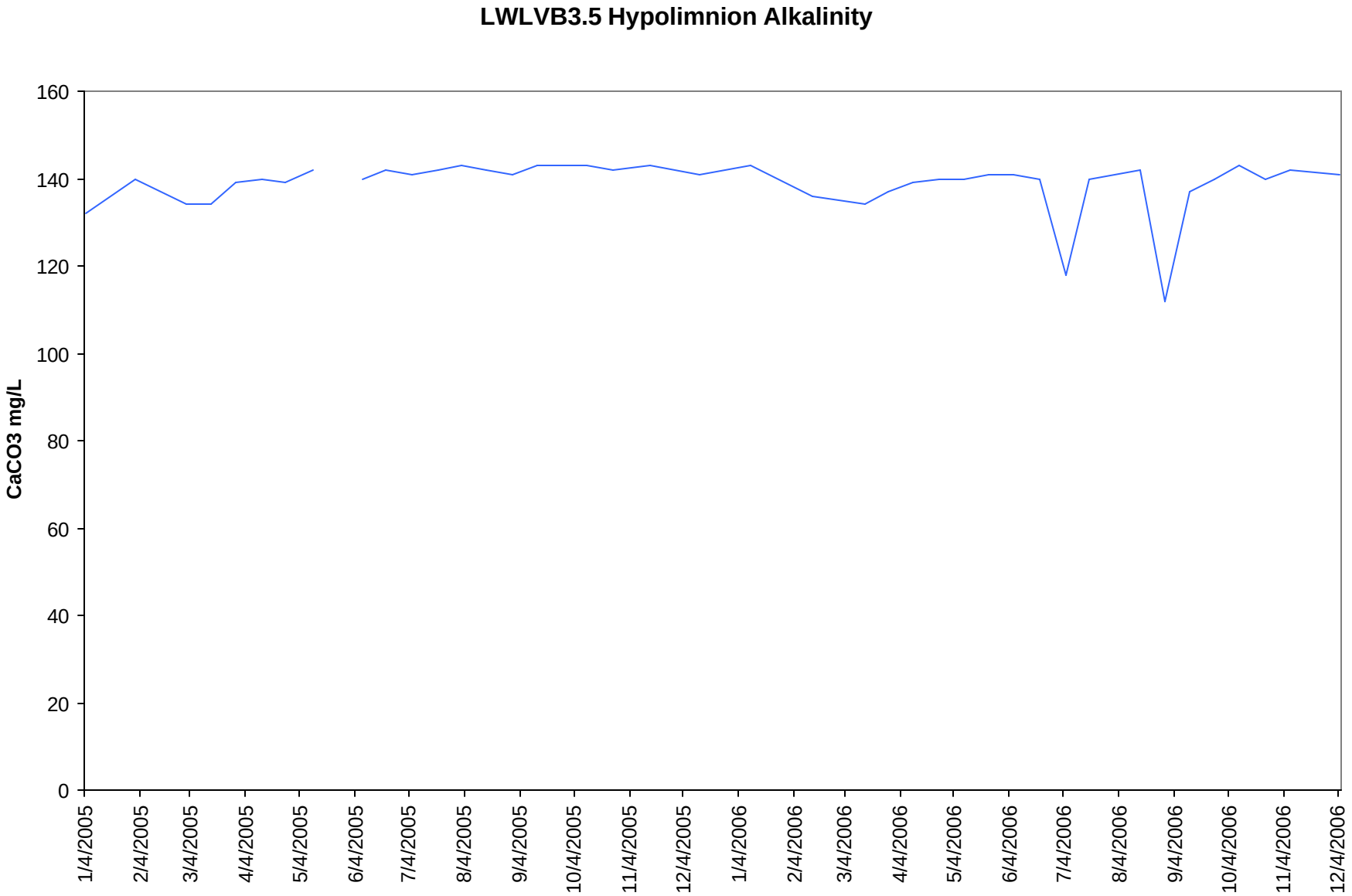


LWLVB3.5 Hypolimnion Sulfate

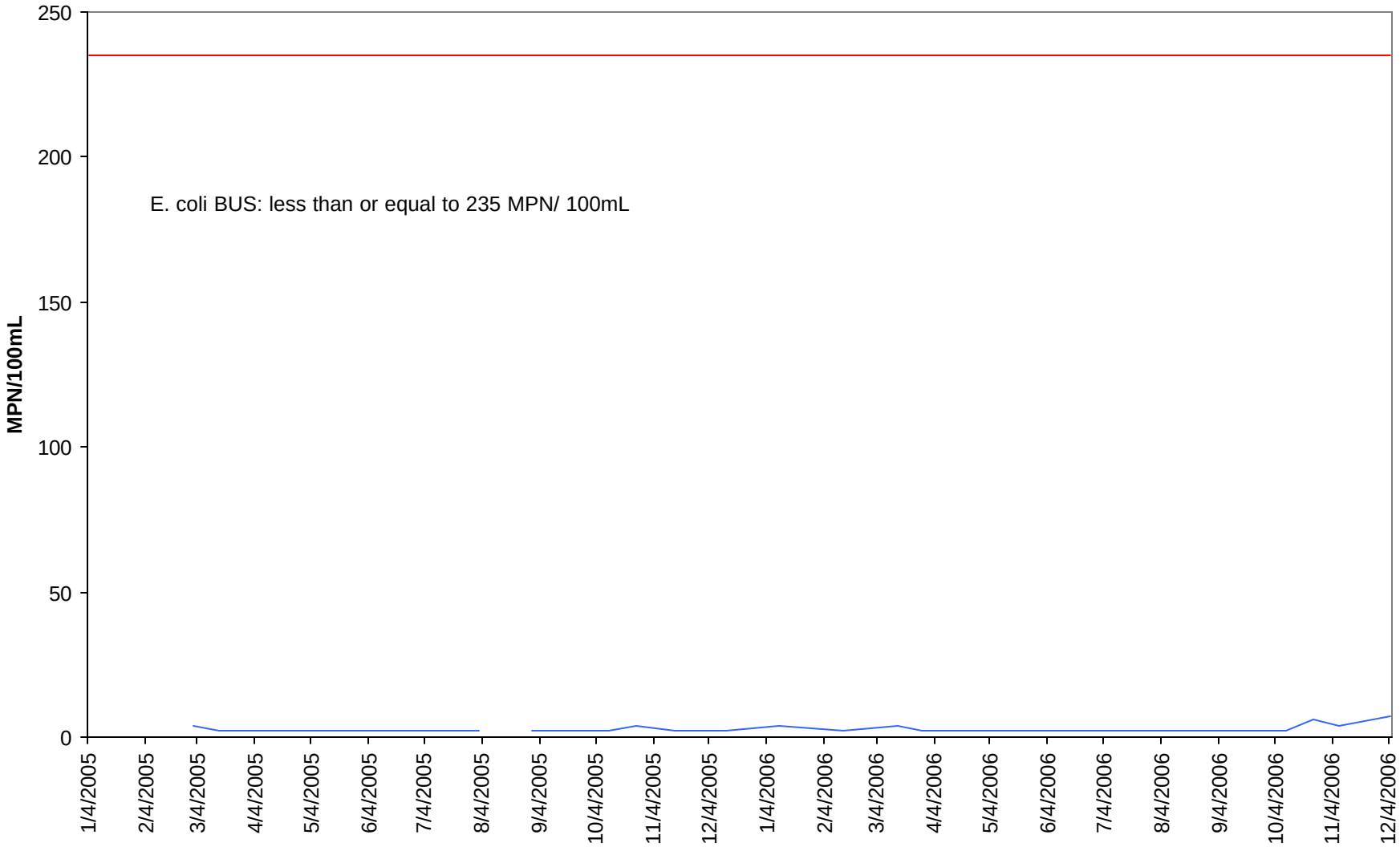


LWLVB3.5 Hypolimnion Chloride

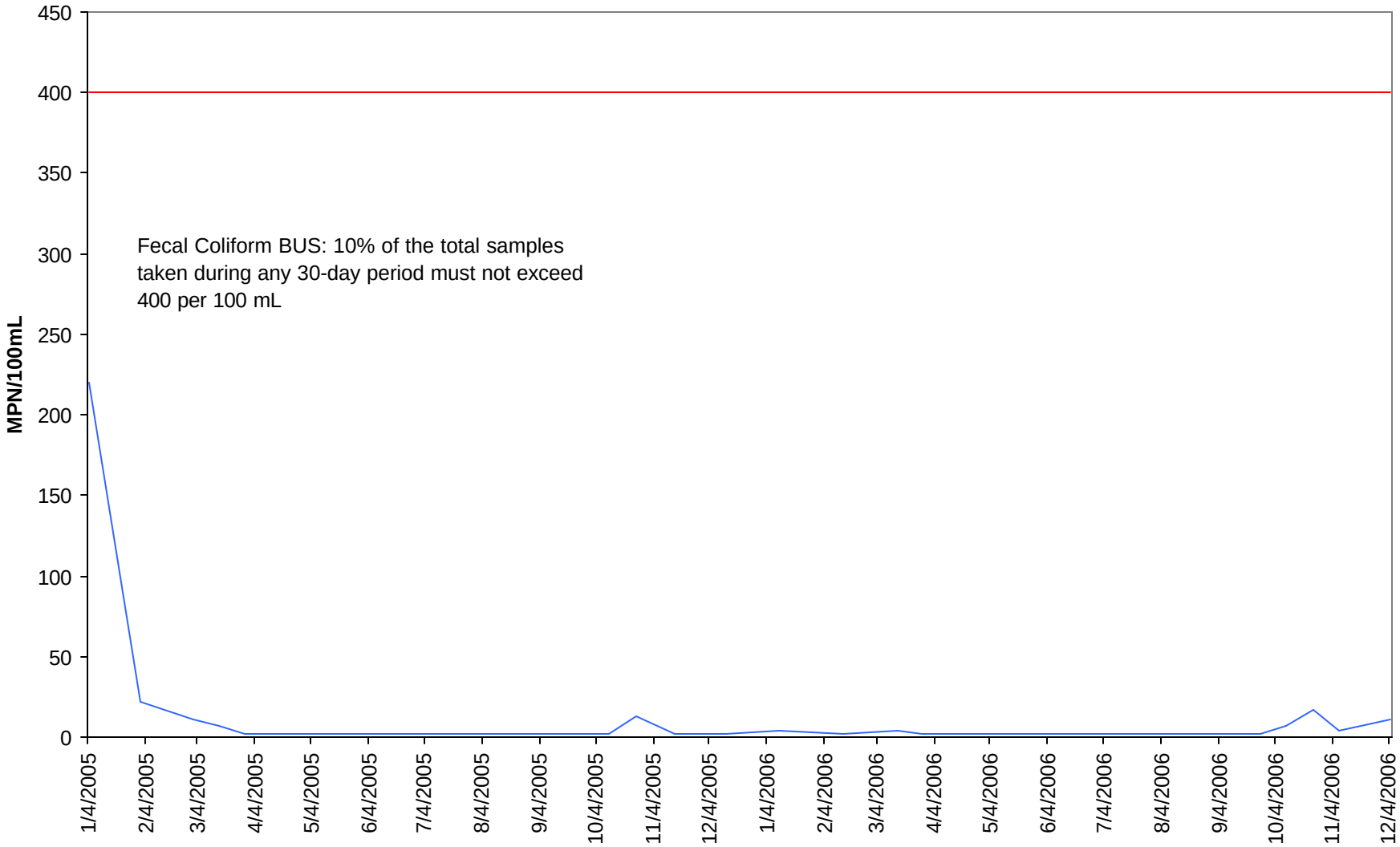


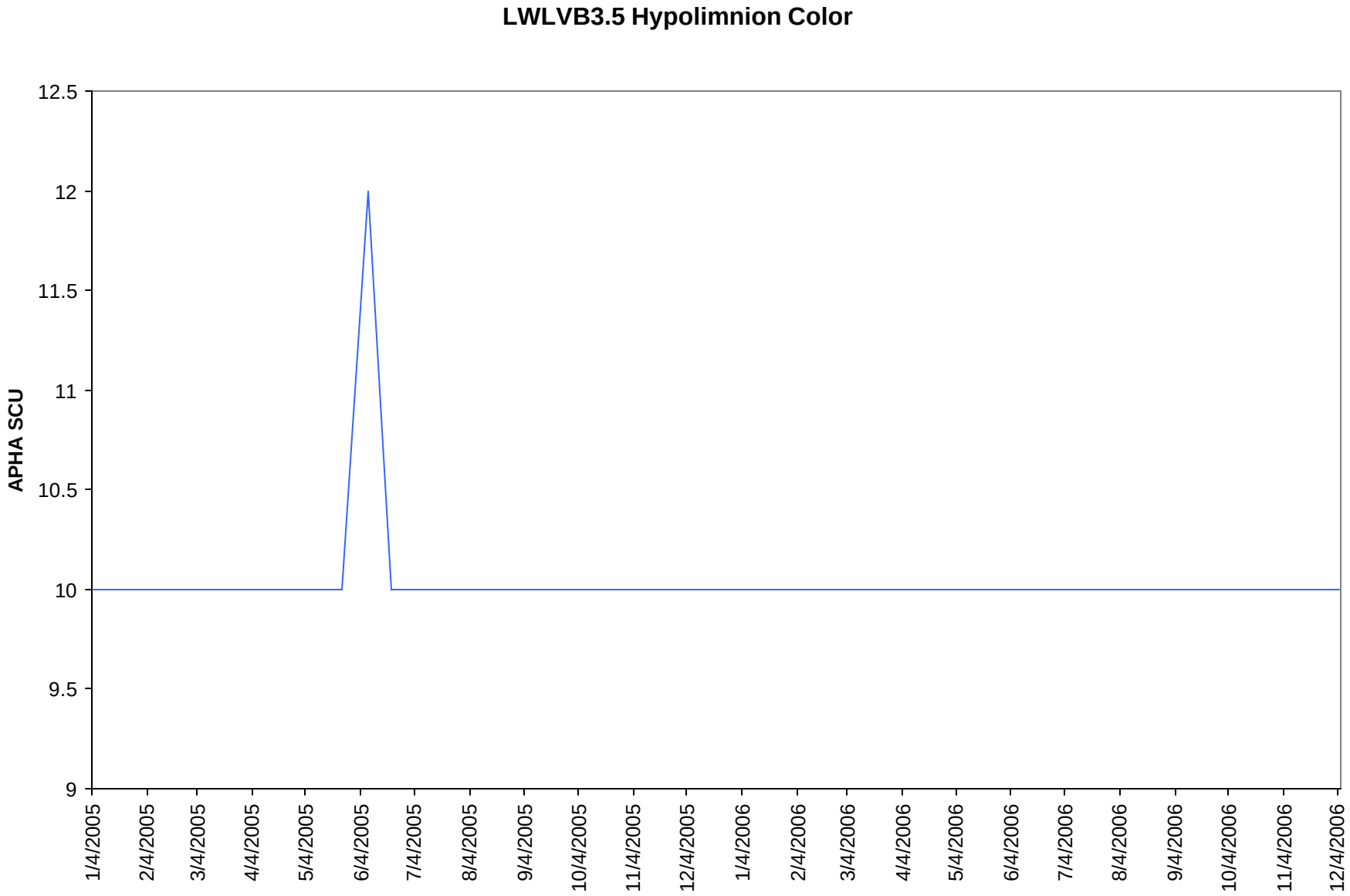

LWLVB3.5 Hypolimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB3.5 Hypolimnion E. coli.

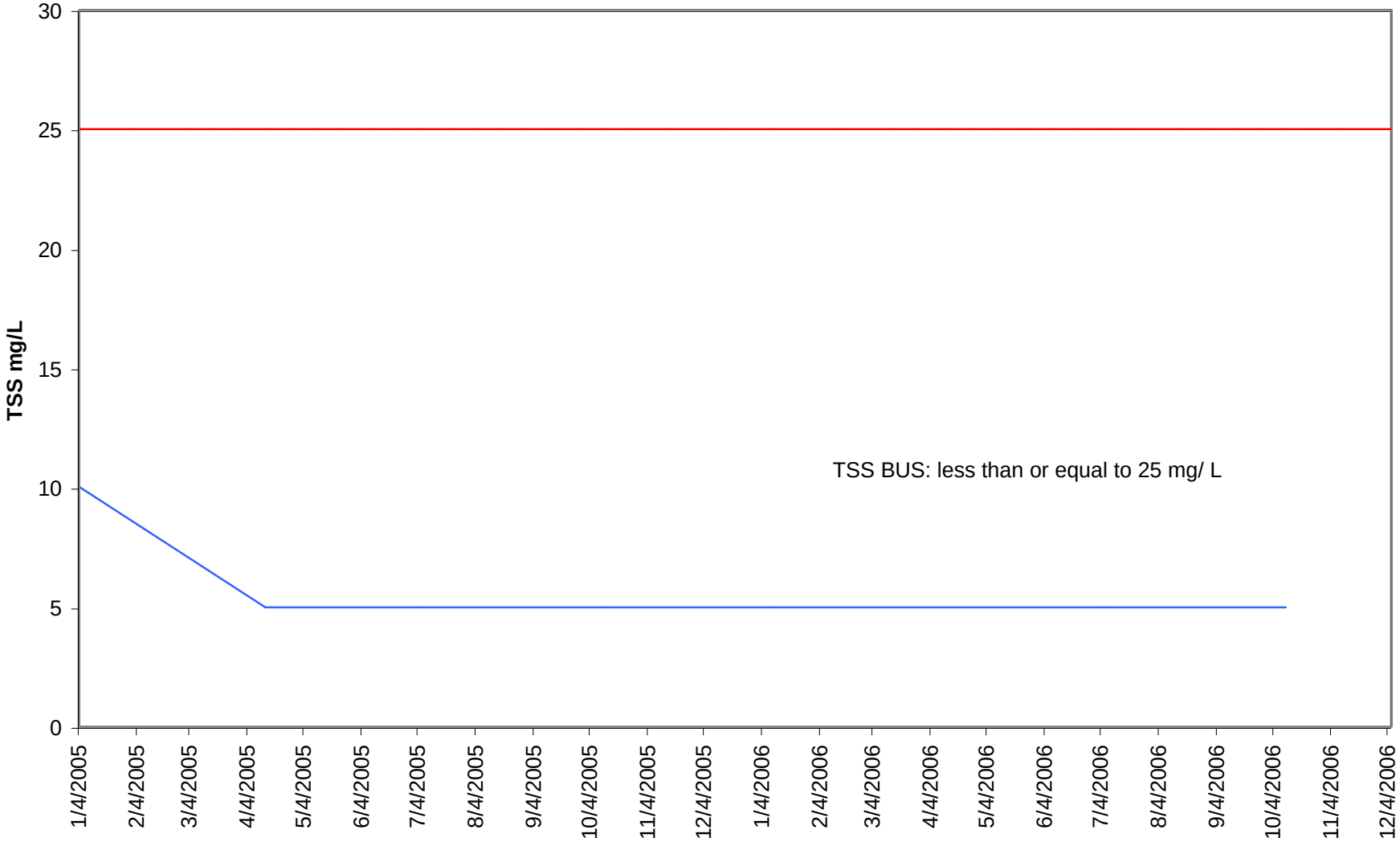


LWLVB3.5 Hypolimnion Fecal Coliform

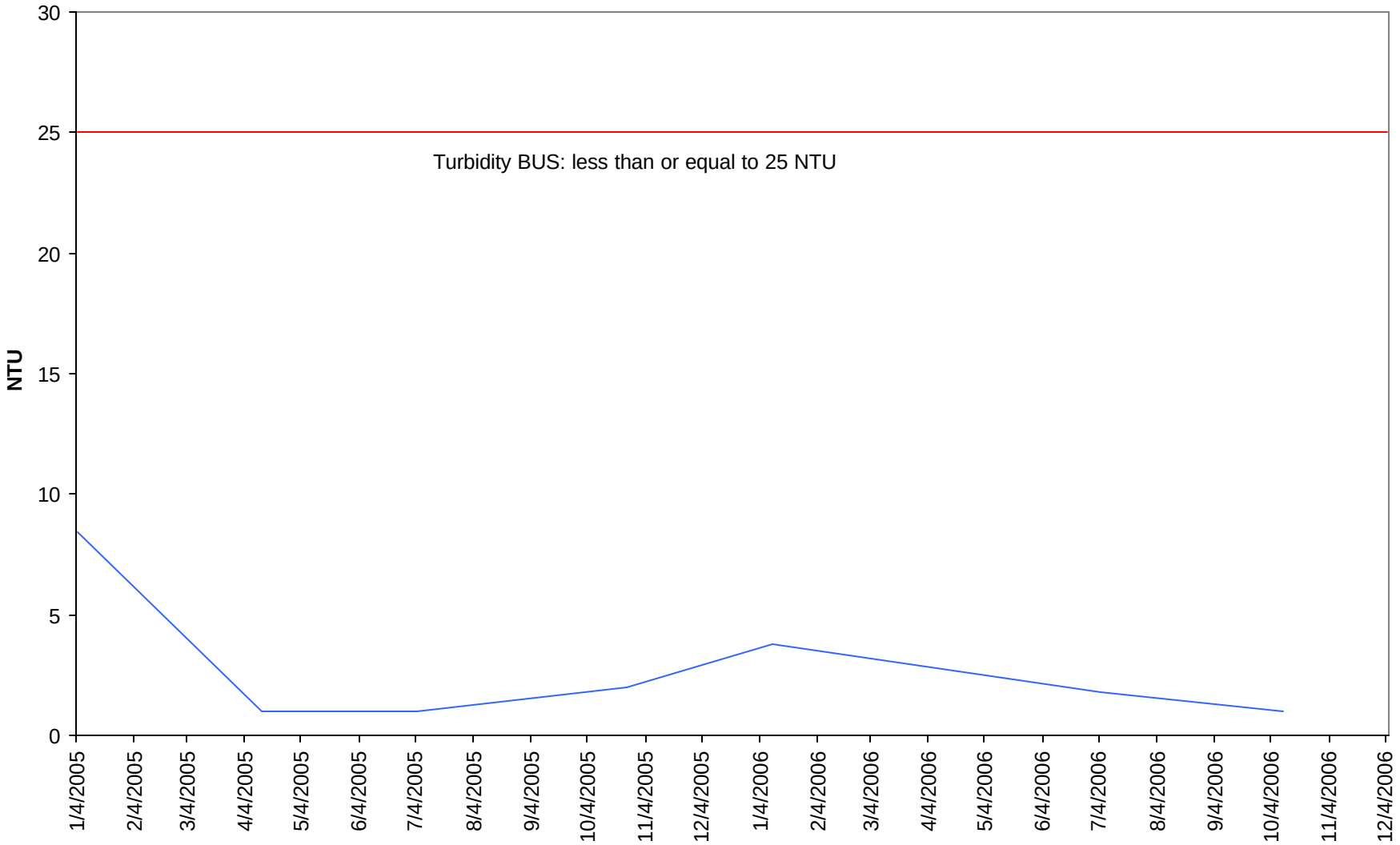



LWLVB3.5 Hypolimnion Color
APHA SCU
12.5
12
11.5
11
10.5
10
9.5
9
1/4/2005
2/4/2005
3/4/2005
4/4/2005
5/4/2005
6/4/2005
7/4/2005
8/4/2005
9/4/2005
10/4/2005
11/4/2005
12/4/2005
1/4/2006
2/4/2006
3/4/2006
4/4/2006
5/4/2006
6/4/2006
7/4/2006
8/4/2006
9/4/2006
10/4/2006
11/4/2006
12/4/2006

LWLVB3.5 Hypolimnion Total Suspended Solids

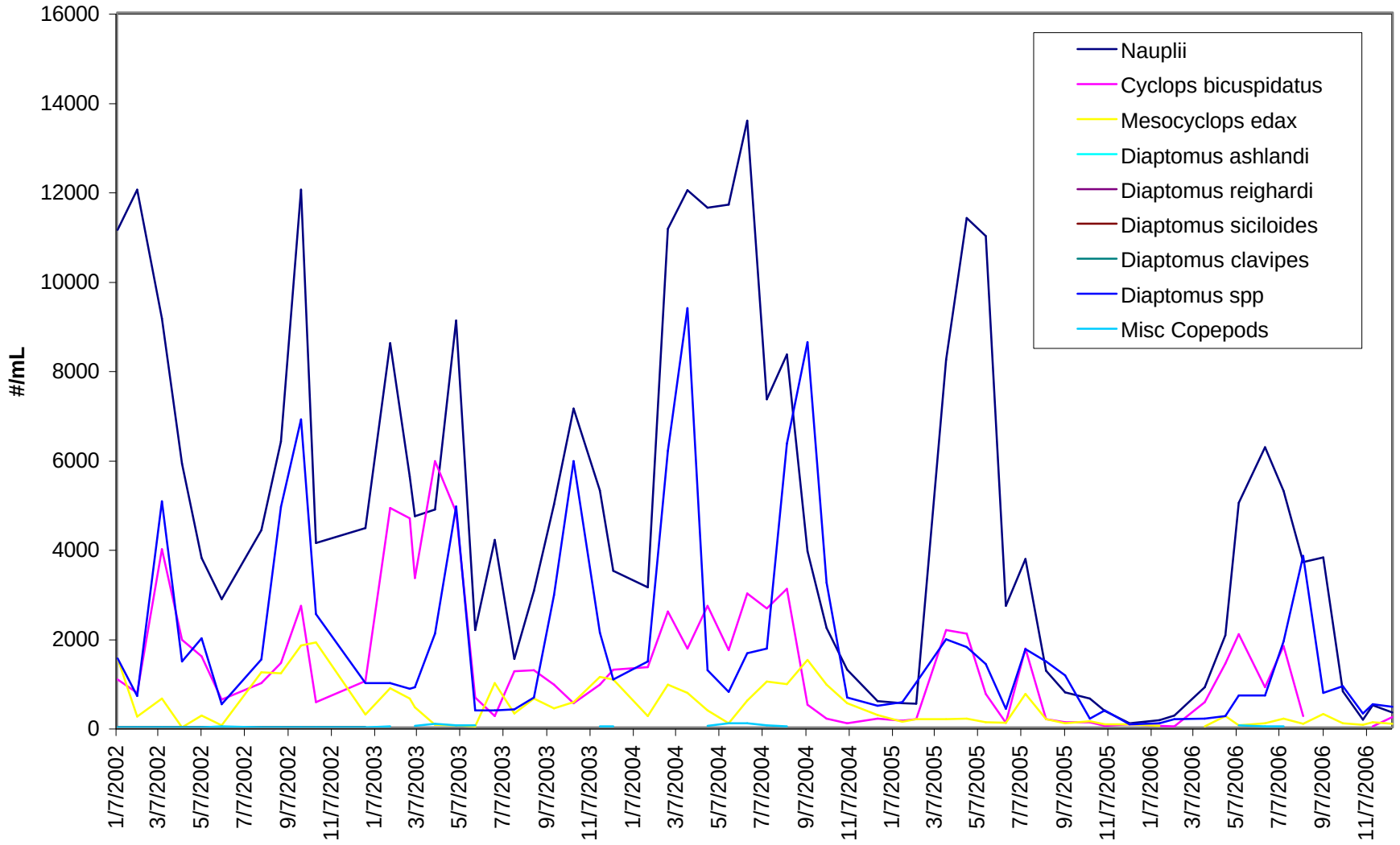


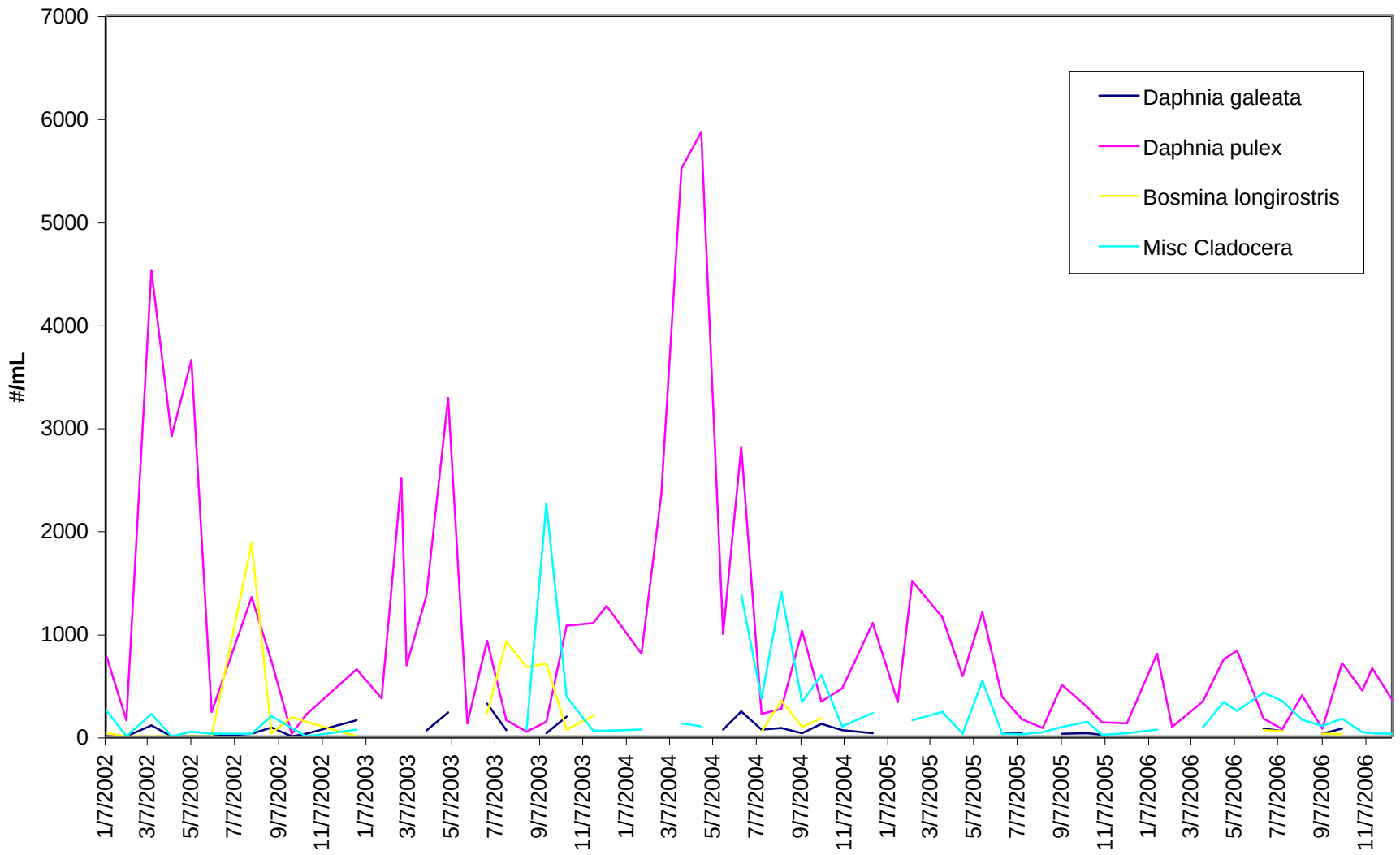
LWLVB3.5 Hypolimnion Turbidity



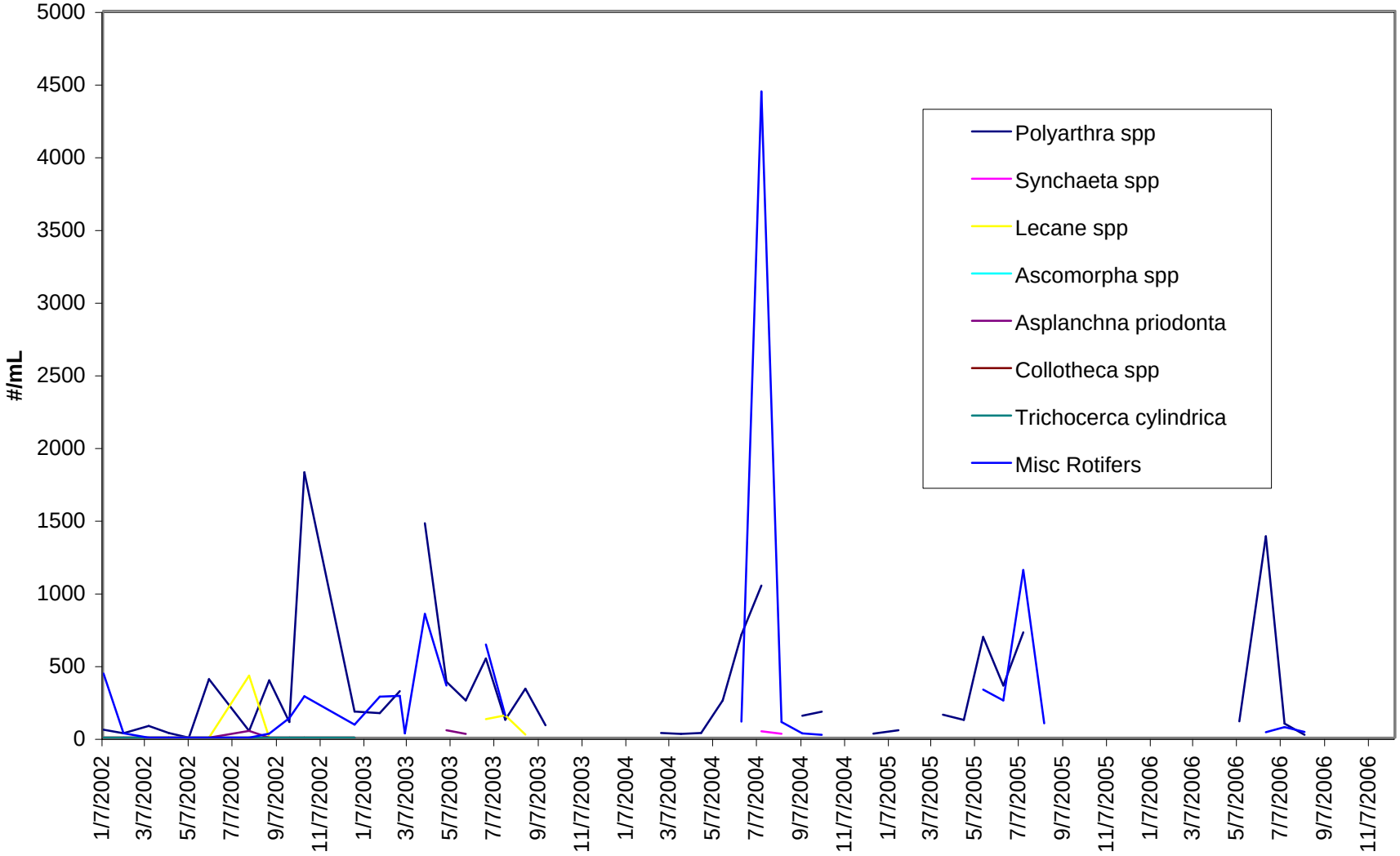
CR346.4

CR346.4 Zooplankton- Copepods

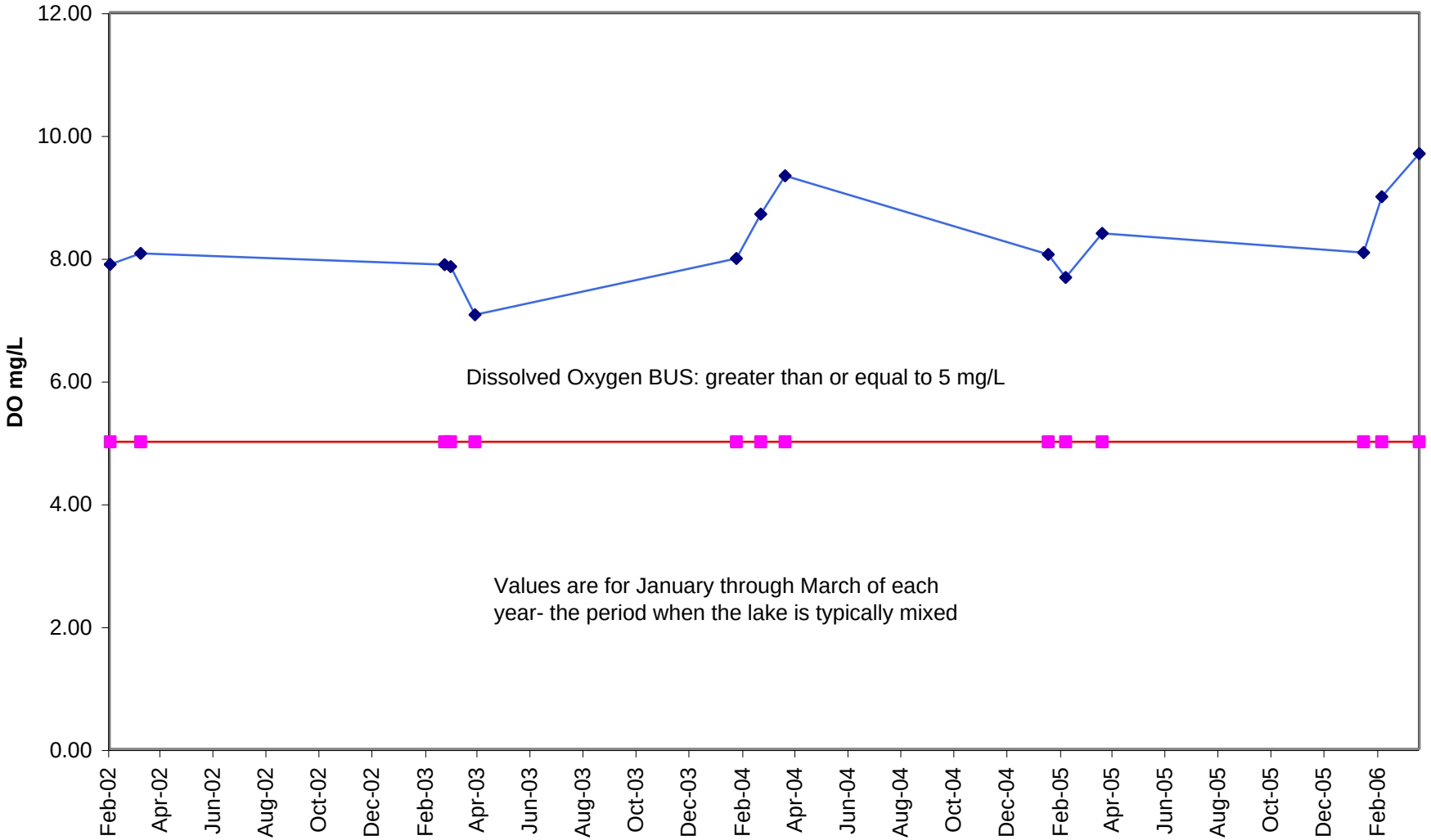


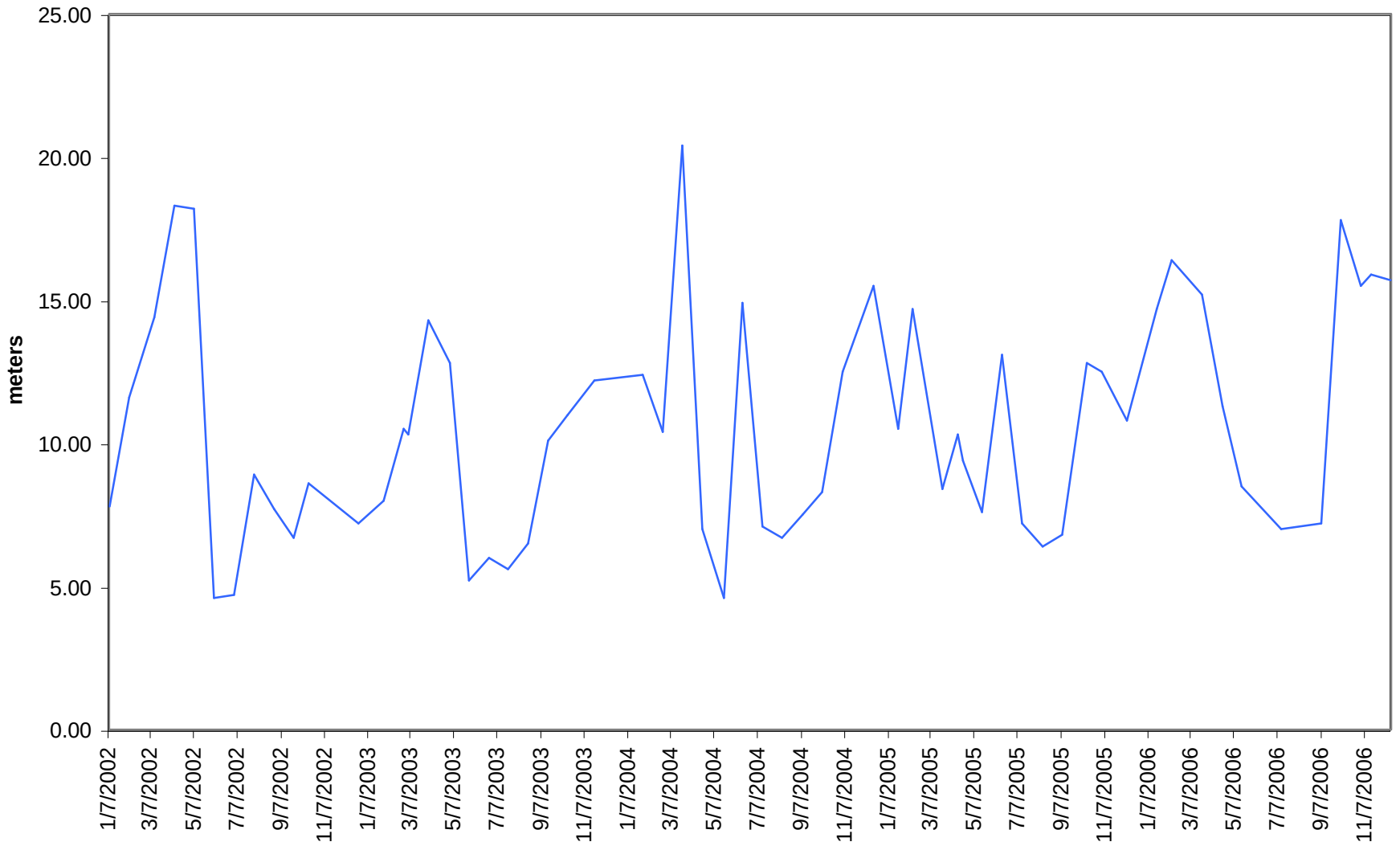

CR346.4 Zooplankton- Cladocerans
#/mL
7000
6000
5000
4000
3000
2000
1000
0
Daphnia galeata
Daphnia pulex
Bosmina longirostris
Misc Cladocera
1/7/2002
3/7/2002
5/7/2002
7/7/2002
9/7/2002
11/7/2002
1/7/2003
3/7/2003
5/7/2003
7/7/2003
9/7/2003
11/7/2003
1/7/2004
3/7/2004
5/7/2004
7/7/2004
9/7/2004
11/7/2004
1/7/2005
3/7/2005
5/7/2005
7/7/2005
9/7/2005
11/7/2005
1/7/2006
3/7/2006
5/7/2006
7/7/2006
9/7/2006
11/7/2006

CR346.4 Zooplankton- Rotifers



CR346.4 Dissolved Oxygen
Vertical Average



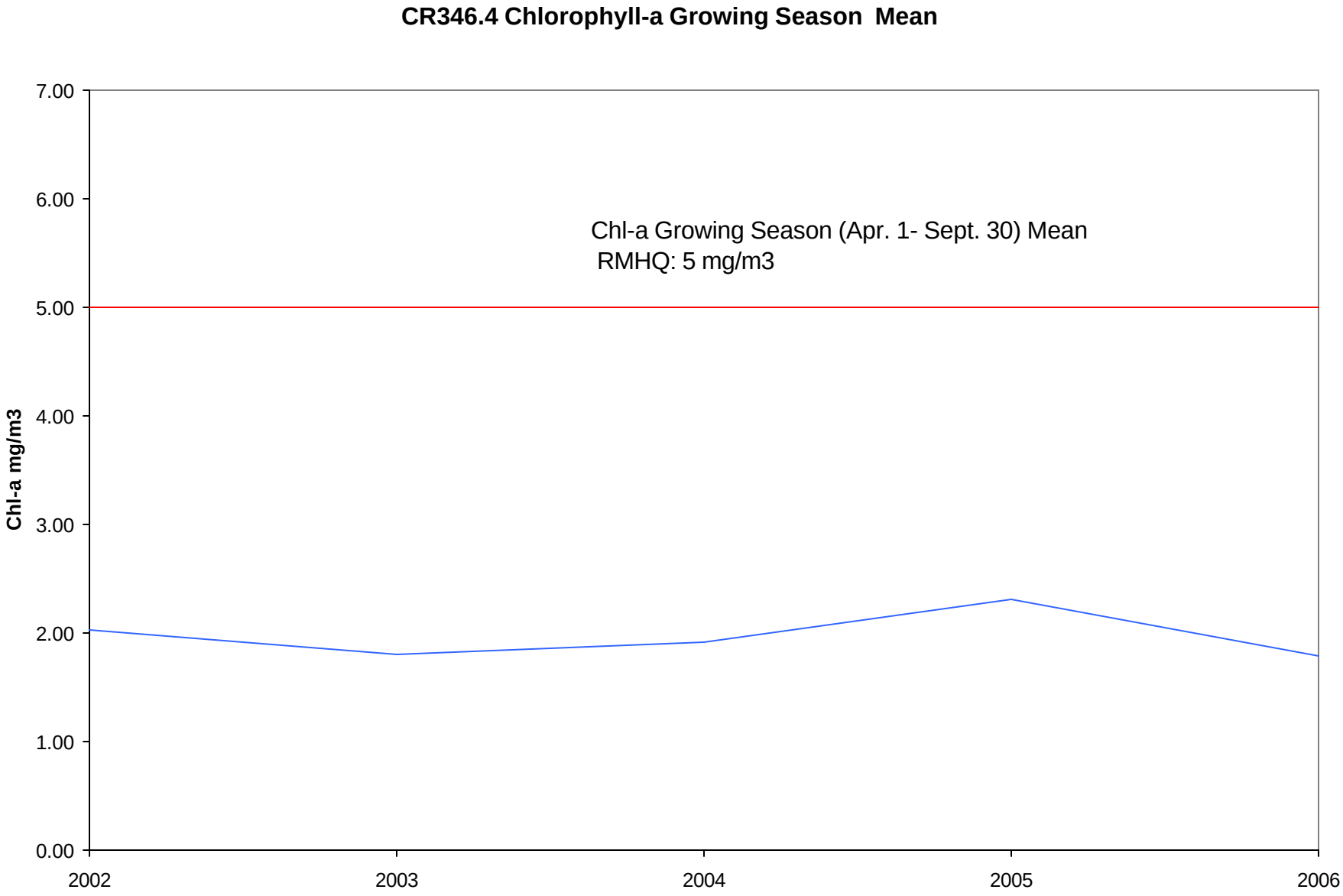

CR346.4 Secchi
meters
25.00
20.00
15.00
10.00
5.00
0.00
1/7/2002
3/7/2002
5/7/2002
7/7/2002
9/7/2002
11/7/2002
1/7/2003
3/7/2003
5/7/2003
7/7/2003
9/7/2003
11/7/2003
1/7/2004
3/7/2004
5/7/2004
7/7/2004
9/7/2004
11/7/2004
1/7/2005
3/7/2005
5/7/2005
7/7/2005
9/7/2005
11/7/2005
1/7/2006
3/7/2006
5/7/2006
7/7/2006
9/7/2006
11/7/2006

Climate Tables

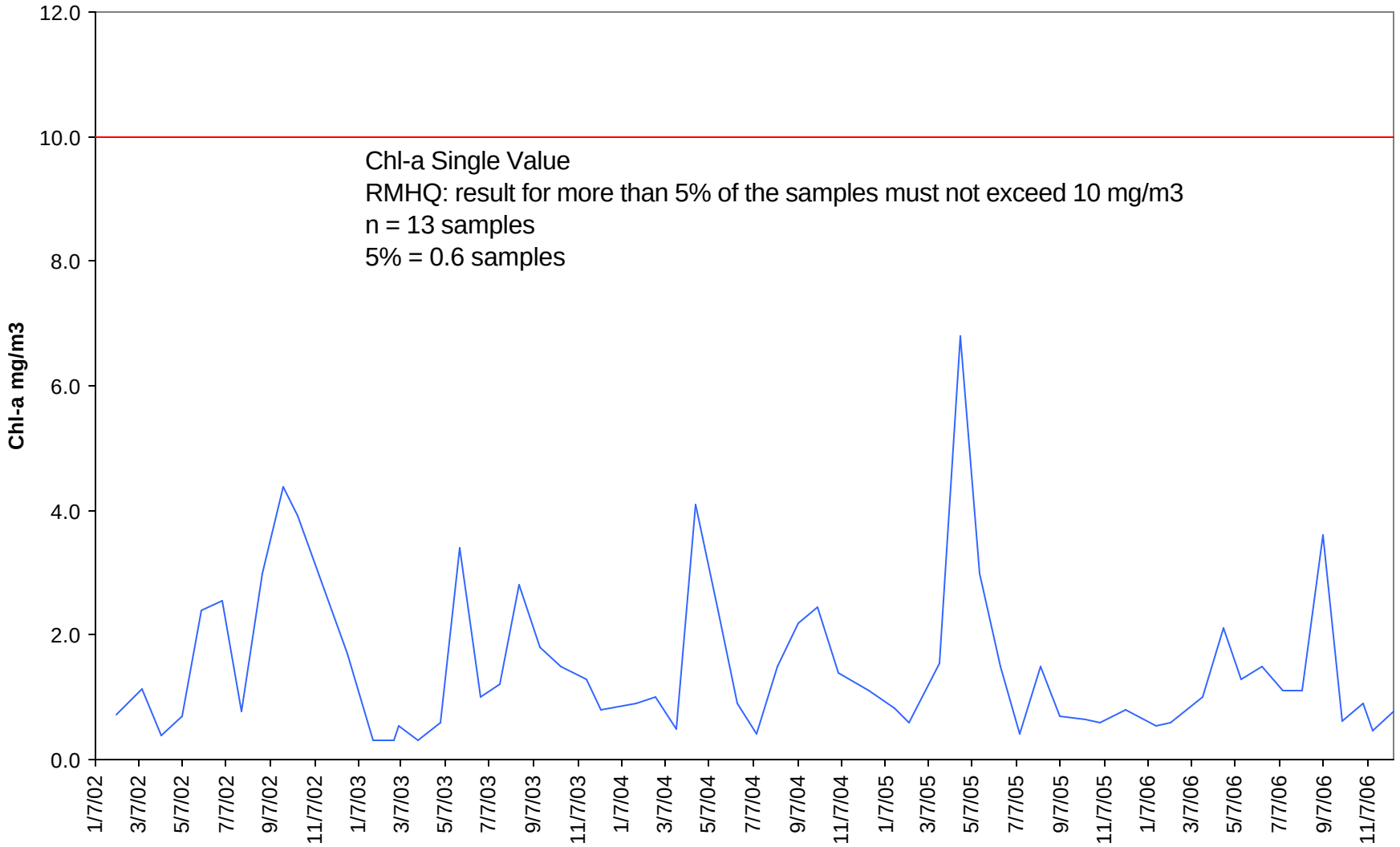
Station	Date	Air Temperature (°C)	Wind	Wind Direction	Climate
CR346.4	1/7/02	10	5.3	NW	Cloudy
CR346.4	2/4/02	9.5	6.6	NW	Clear
CR346.4	3/11/02	14.2	6.1	NW	Clear
CR346.4	4/8/02	18.5	13.0	SE	Partly Cloudy
CR346.4	5/6/02	20.9	4.4	NW	Clear
CR346.4	6/3/02		0		Cloudy
CR346.4	7/1/02	31.2	10.2	S	Clear
CR346.4	7/29/02	29.1	1.6	NW	Clear
CR346.4	8/26/02	29.6	1.0	NW	Clear
CR346.4	9/23/02	25.7	4.8	N	Clear
CR346.4	10/14/02	19.8	4.6	W	Partly Cloudy
CR346.4	12/12/02	12.4	1.2	NW	Partly Cloudy
CR346.4	12/23/02	9.6	12.4	NW	Partly Cloudy
CR346.4	1/27/03	11.6	3.9	NW	Clear
CR346.4	1/29/03	16	0		Partly Cloudy
CR346.4	2/24/03	15	0		Cloudy
CR346.4	3/3/03	9.2	1.7	NW	Cloudy
CR346.4	3/31/03	15.6	0		Clear
CR346.4	4/7/03	14.8	6.1	NW	Partly Cloudy
CR346.4	4/30/03	15.4	2.3	NW	Cloudy
CR346.4	5/27/03	24.3	1.5	NW	Clear
CR346.4	6/24/03	25	1.4	SE	Partly Cloudy
CR346.4	7/14/03	32.2	1.6	NE	Partly Cloudy
CR346.4	7/21/03	33.7	11.7	SE	Partly Cloudy
CR346.4	8/18/03	29.7	2.1	W	Clear
CR346.4	9/15/03	24.7	2.8	NW	Clear
CR346.4	10/13/03	26.6	8.8	NW	Clear
CR346.4	11/19/03	15.5	0		Partly Cloudy
CR346.4	12/8/03	14.9	9.2	NW	Clear
CR346.4	1/26/04	8	3.8	W	Clear
CR346.4	2/23/04	9.8	3.4	N	Overcast
CR346.4	3/22/04	22.4	0		Clear
CR346.4	4/12/04	15.8	3.0	NW	Clear

CR346.4	4/19/04	18.6	9.2	SE	Partly Cloudy
CR346.4	5/19/04	24.4	5.6	S	Partly Cloudy
CR346.4	6/14/04	27.6	2.1	N	Clear
CR346.4	7/12/04	30.3	1.4	W	Clear
CR346.4	8/9/04	29.3	2.0	S	Partly Cloudy
CR346.4	9/7/04	26.1	3.3	NW	Clear
CR346.4	10/4/04	22.8	2.6	NW	Clear
CR346.4	11/2/04	14.2	4.1	W	Clear
CR346.4	12/15/04	11.7	2.5	NW	Clear
CR346.4	1/19/05	11.9	4.5	NW	Clear
CR346.4	2/8/05	15.2	2.9	W	Clear
CR346.4	3/22/05	15.3	8.2	SE	Overcast
CR346.4	4/13/05	16.2	1.4	W	Cloudy
CR346.4	4/20/05	17	1.1	NW	Clear
CR346.4	5/17/05	21.4	3.2	W	Cloudy
CR346.4	6/14/05	29.6	0		Partly Cloudy
CR346.4	7/12/05	27.2	1.9	S	Clear
CR346.4	8/10/05	26.7	5.1	SE	Overcast
CR346.4	9/6/05	29.1	0		Clear
CR346.4	10/11/05	18.3	1.9	W	Clear
CR346.4	11/1/05	19.3	2.2	NW	Partly Cloudy
CR346.4	12/6/05	7.3	6.4	W	Clear
CR346.4	1/17/06	7.7	1.2	W	Clear
CR346.4	2/7/06	10	0	N	Partly Cloudy
CR346.4	3/22/06	9.1	2.2		Partly Cloudy
CR346.4	4/11/06	15	7.4	SE	Partly Cloudy
CR346.4	4/20/06	18.5	5.4	NW	Clear
CR346.4	5/16/06	24.6	1.8	W	Overcast
CR346.4	6/15/06	25.3	1.3	N	Partly Cloudy
CR346.4	7/11/06	30.5	1.7	NE	Partly Cloudy
CR346.4	8/8/06	29.3	3.3	NW	Clear
CR346.4	9/5/06	30.3	7.5	S	Cloudy
CR346.4	10/3/06	23.8	1.2	NW	Partly Cloudy
CR346.4	10/31/06	17.4	2.5	NW	Partly Cloudy
CR346.4	11/14/06	17.3	2.3	NW	Partly Cloudy
CR346.4	12/12/06	10.2	7.2	NW	Partly Cloudy

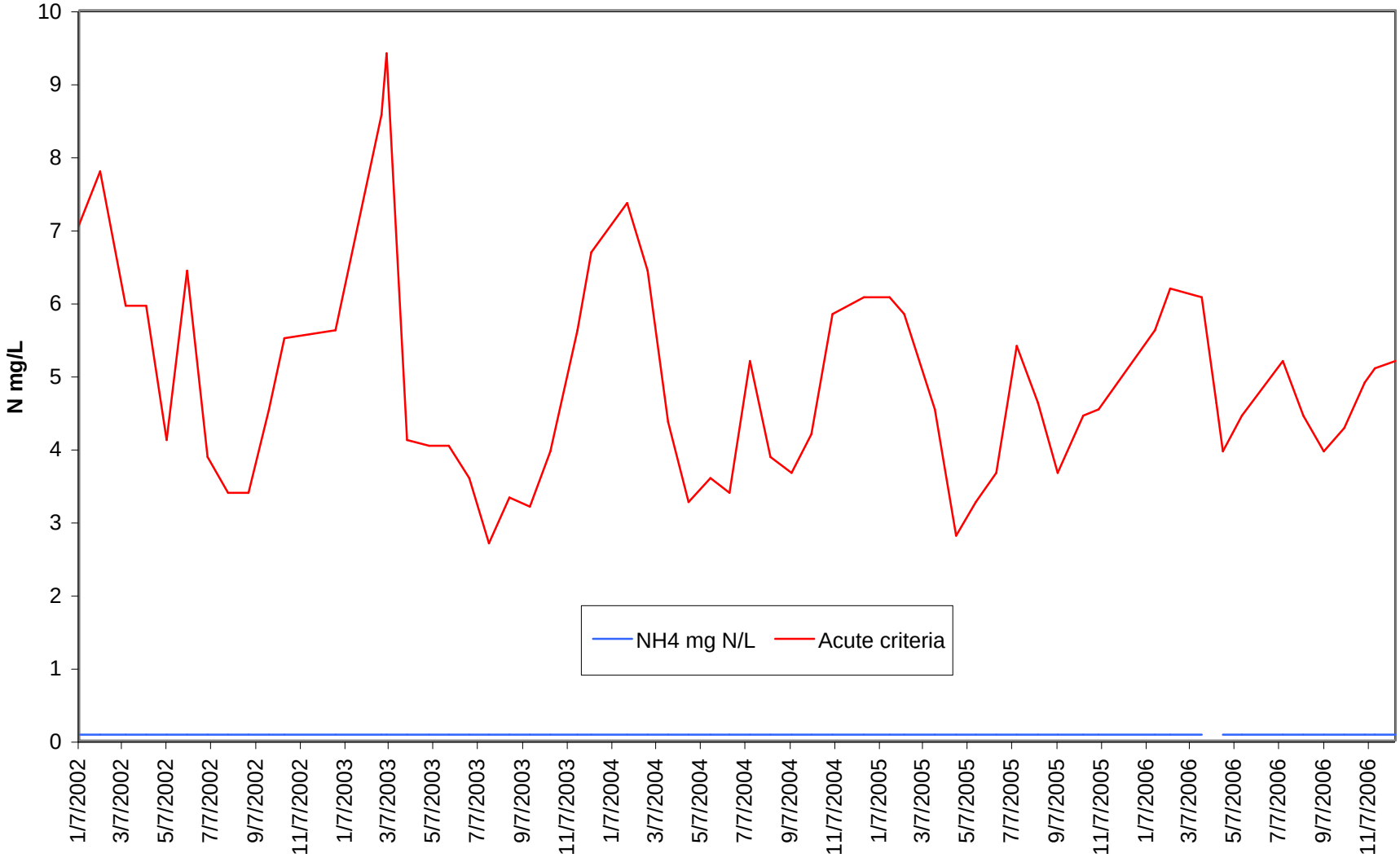
CR346.4
Epilimnion


CR346.4 Chlorophyll-a Growing Season Mean
Chl-a Growing Season (Apr. 1- Sept. 30) Mean
RMHQ: 5 mg/m3
Chl-a mg/m3
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
2002
2003
2004
2005
2006

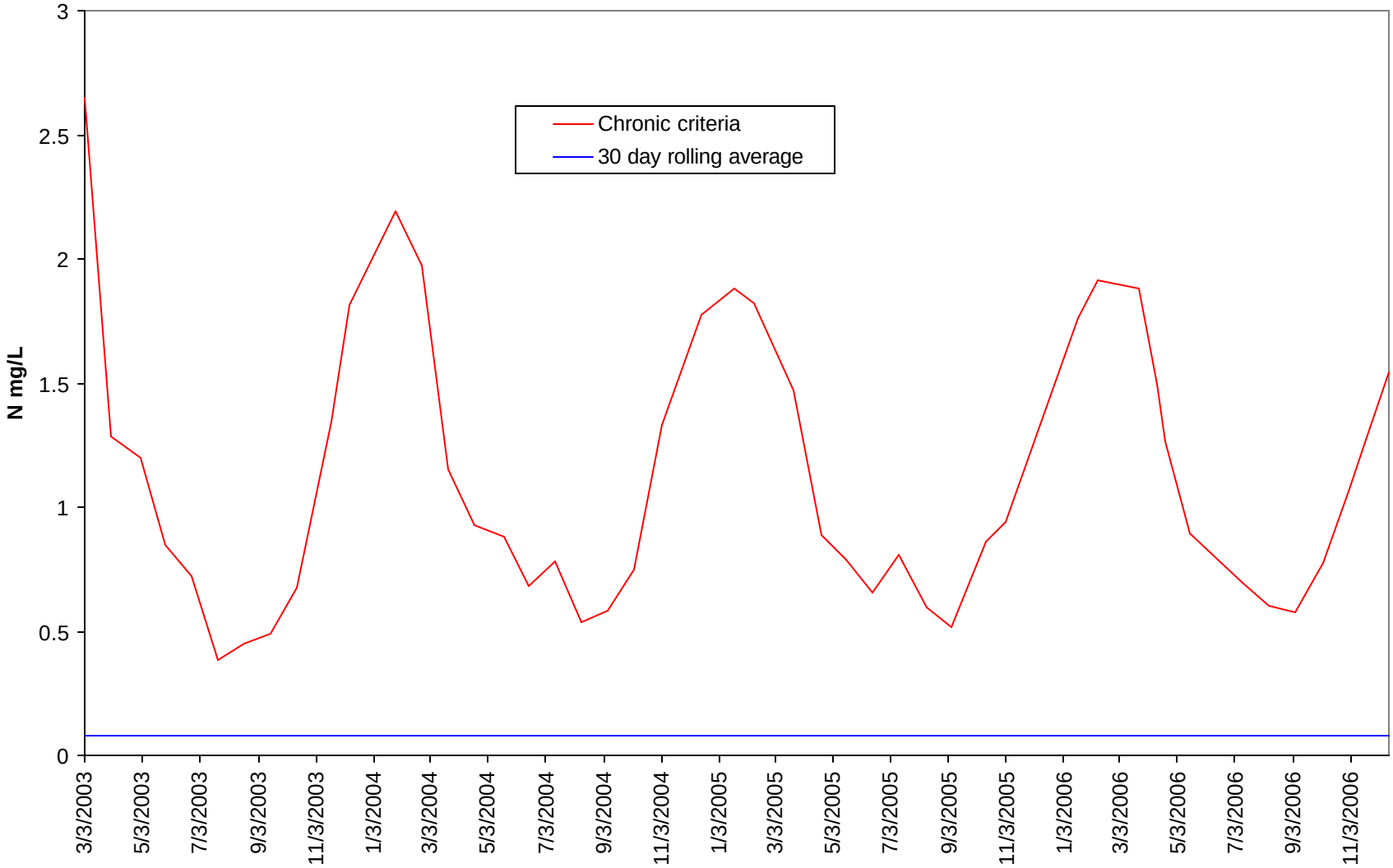
CR346.4 Chlorophyll-a Single Value



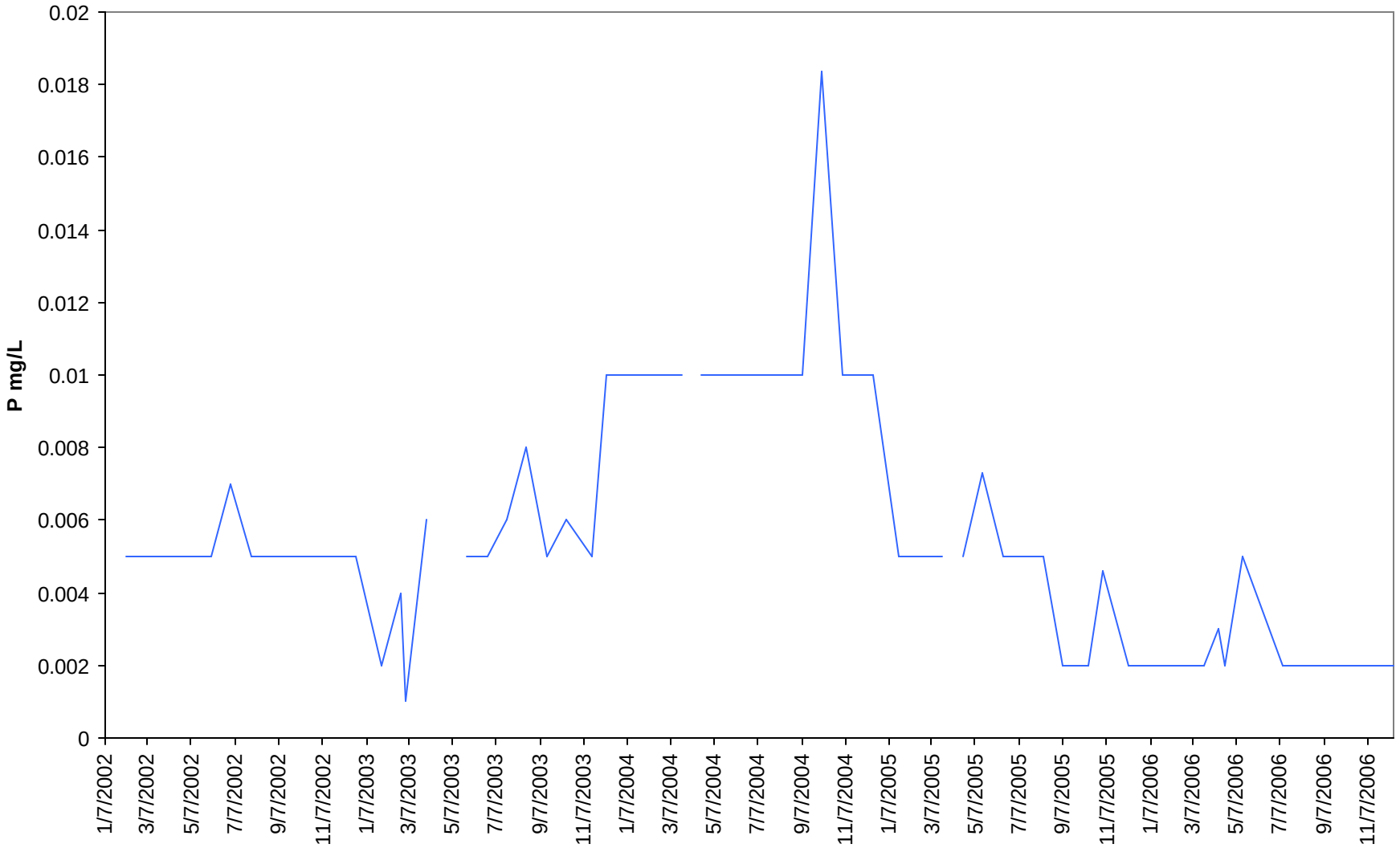
CR346.4 Epilimnion Ammonia



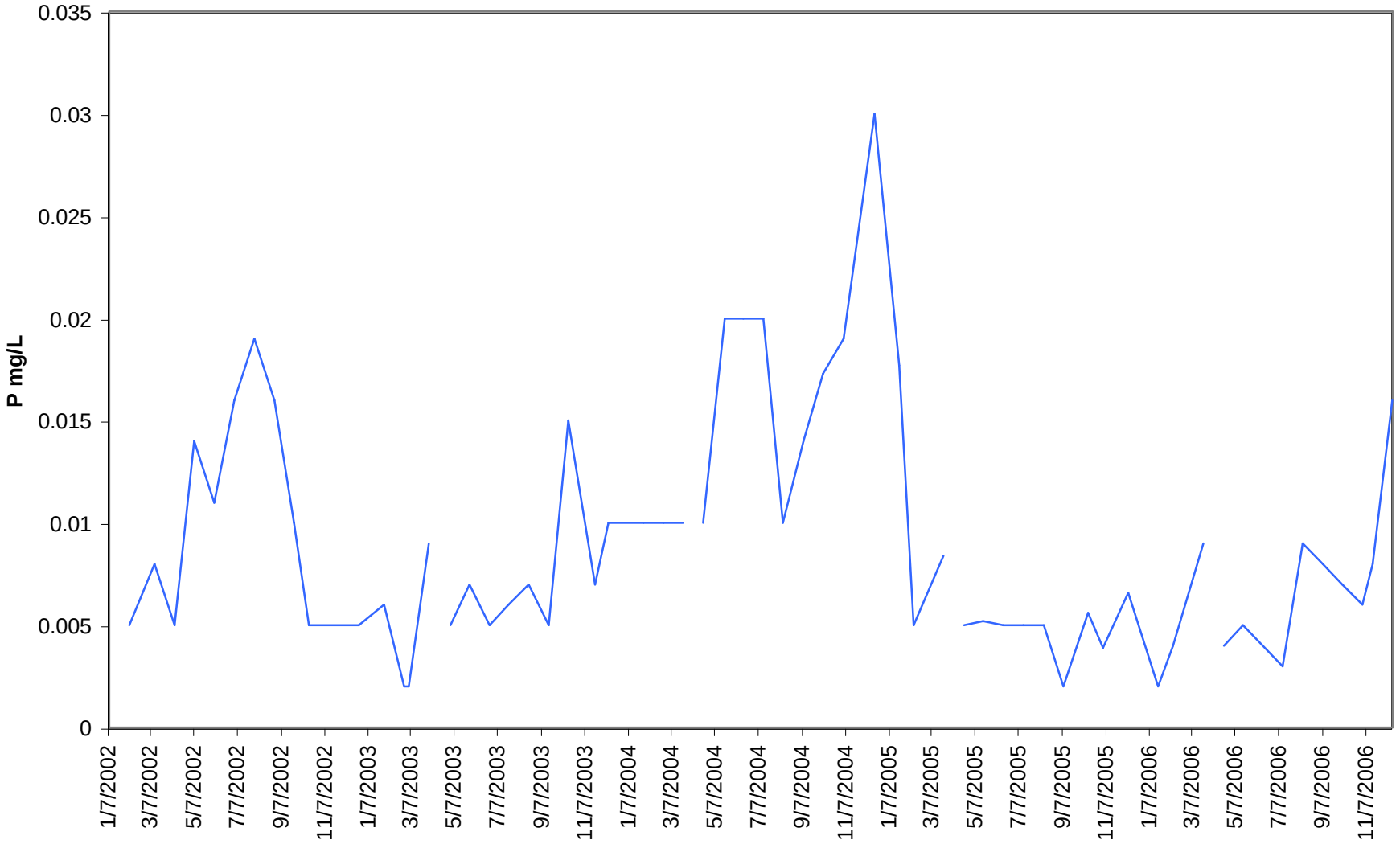
CR346.4 Epilimnion Chronic Ammonia



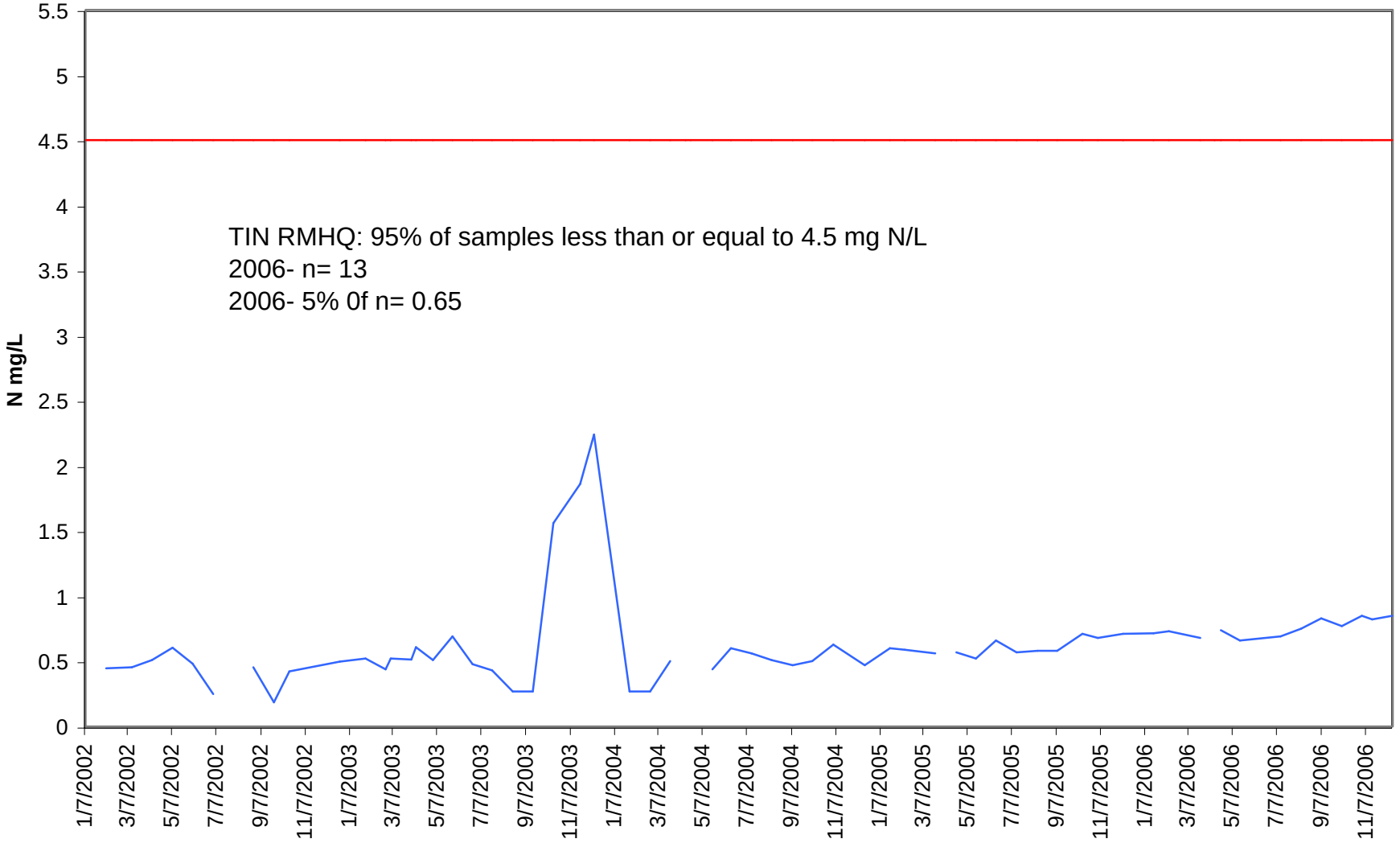
CR346.4 Epilimnion Dissolved ortho-Phosphorus



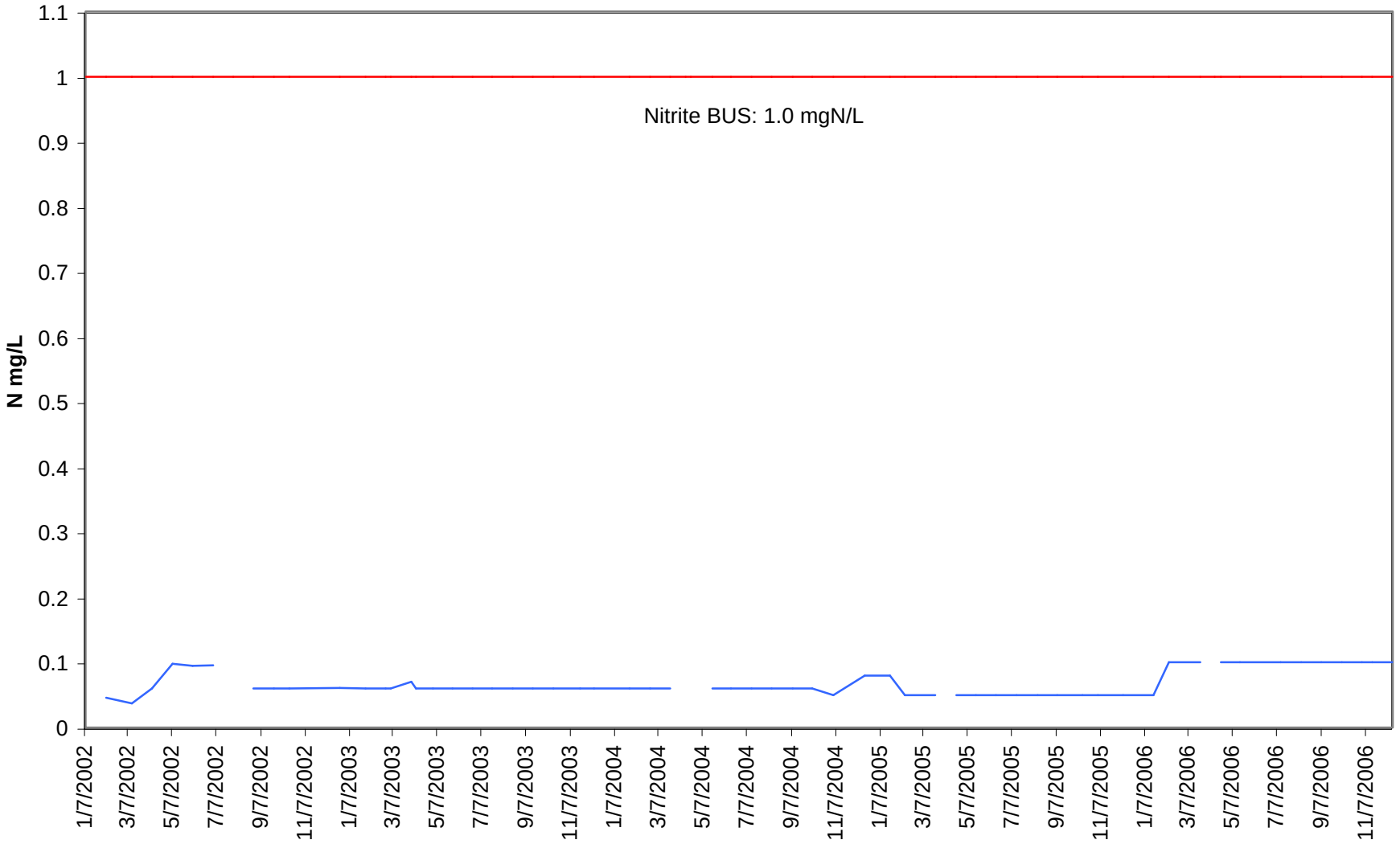
CR346.4 Epilimnion Total Phosphorus



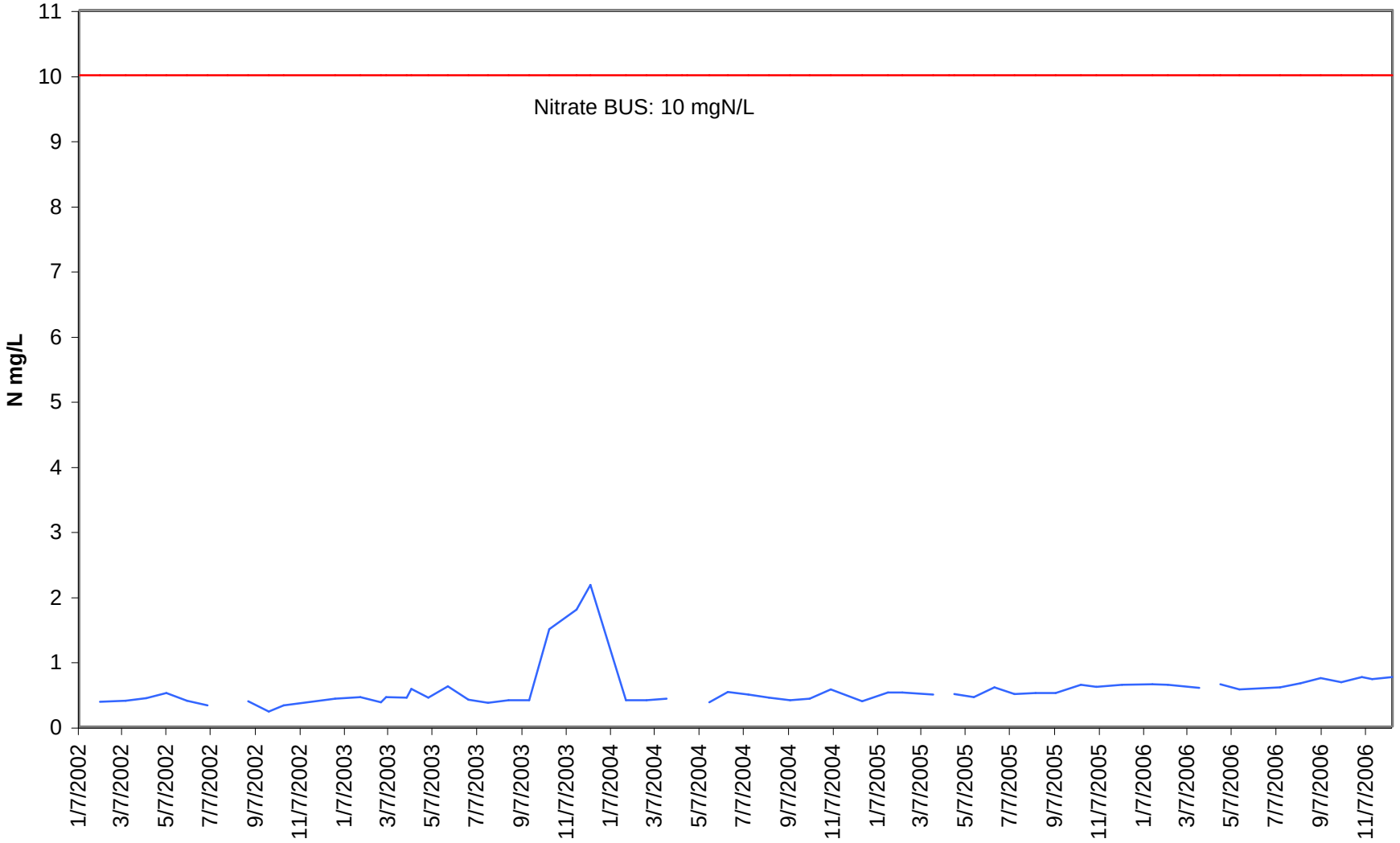
CR346.4 Epilimnion Total Inorganic Nitrogen



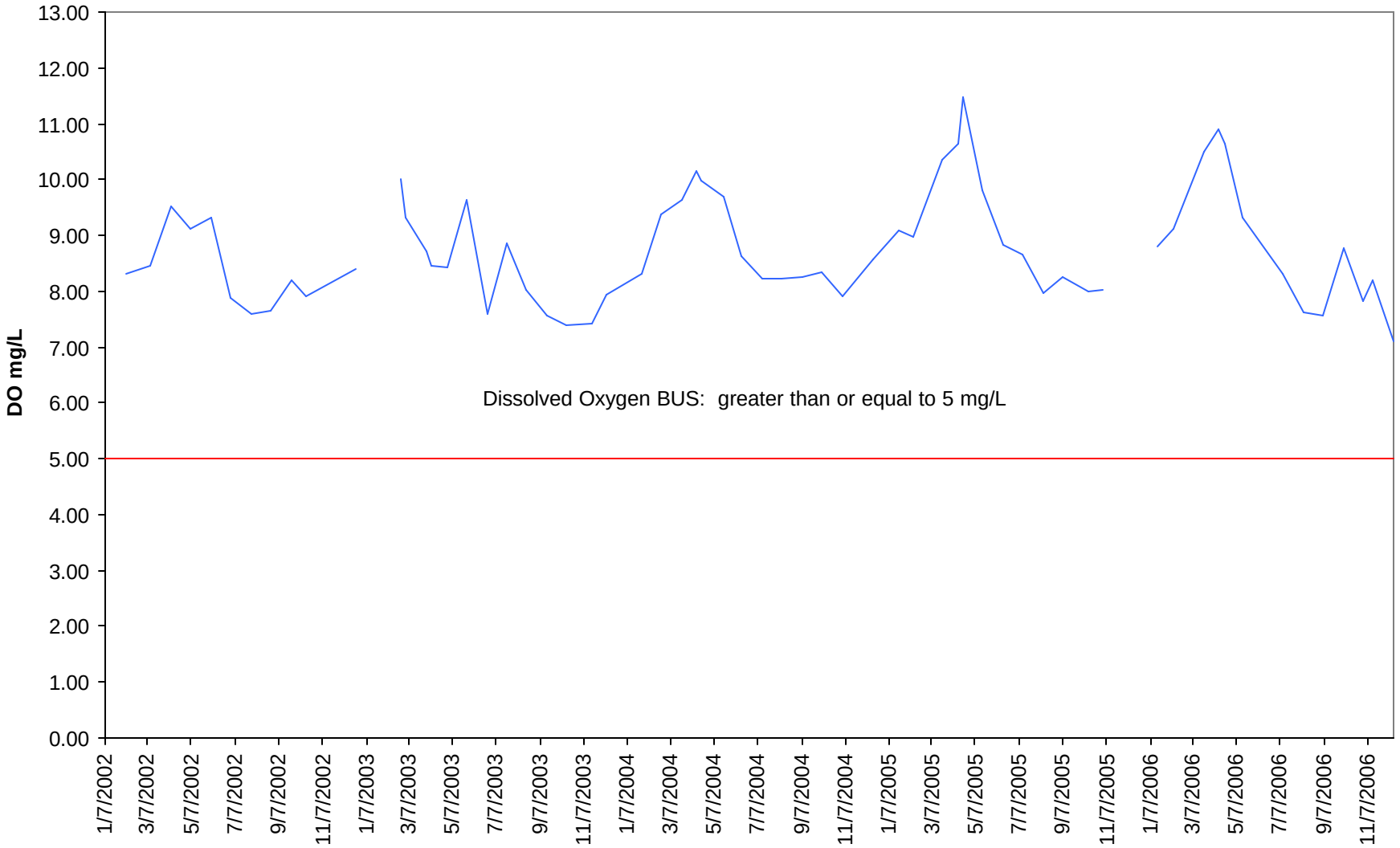
CR346.4 Epilimnion Nitrite

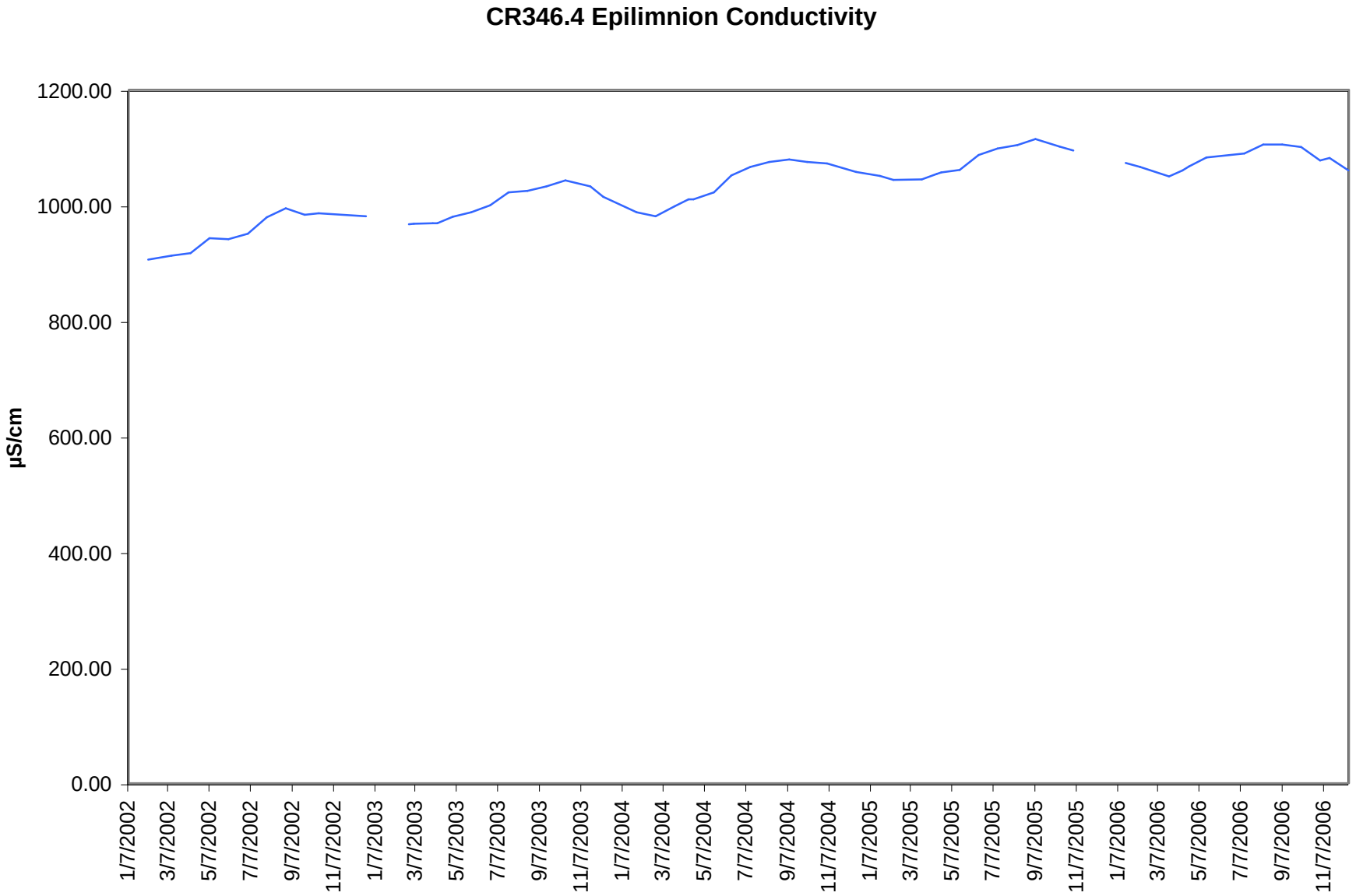


CR346.4 Epilimnion Nitrate

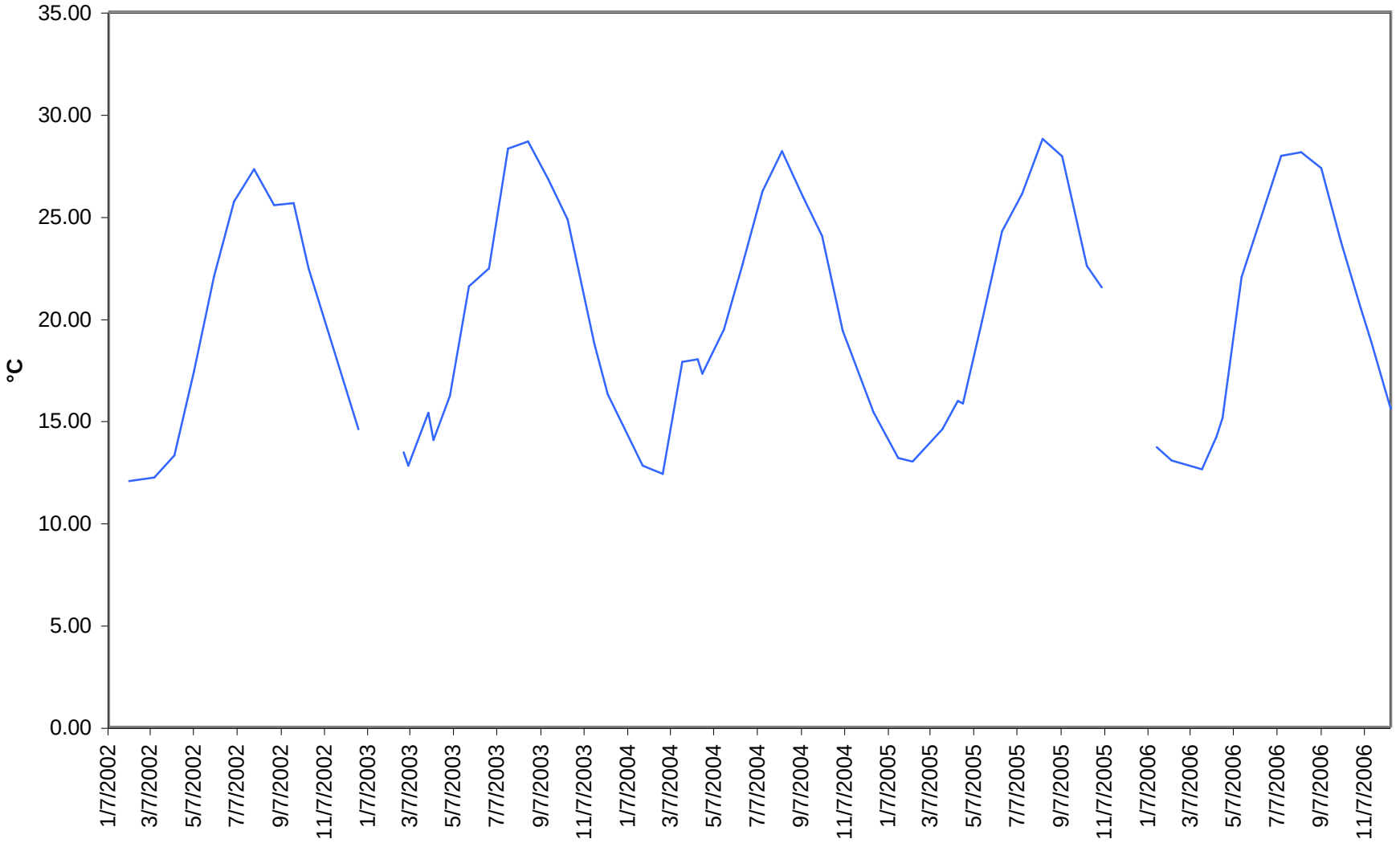


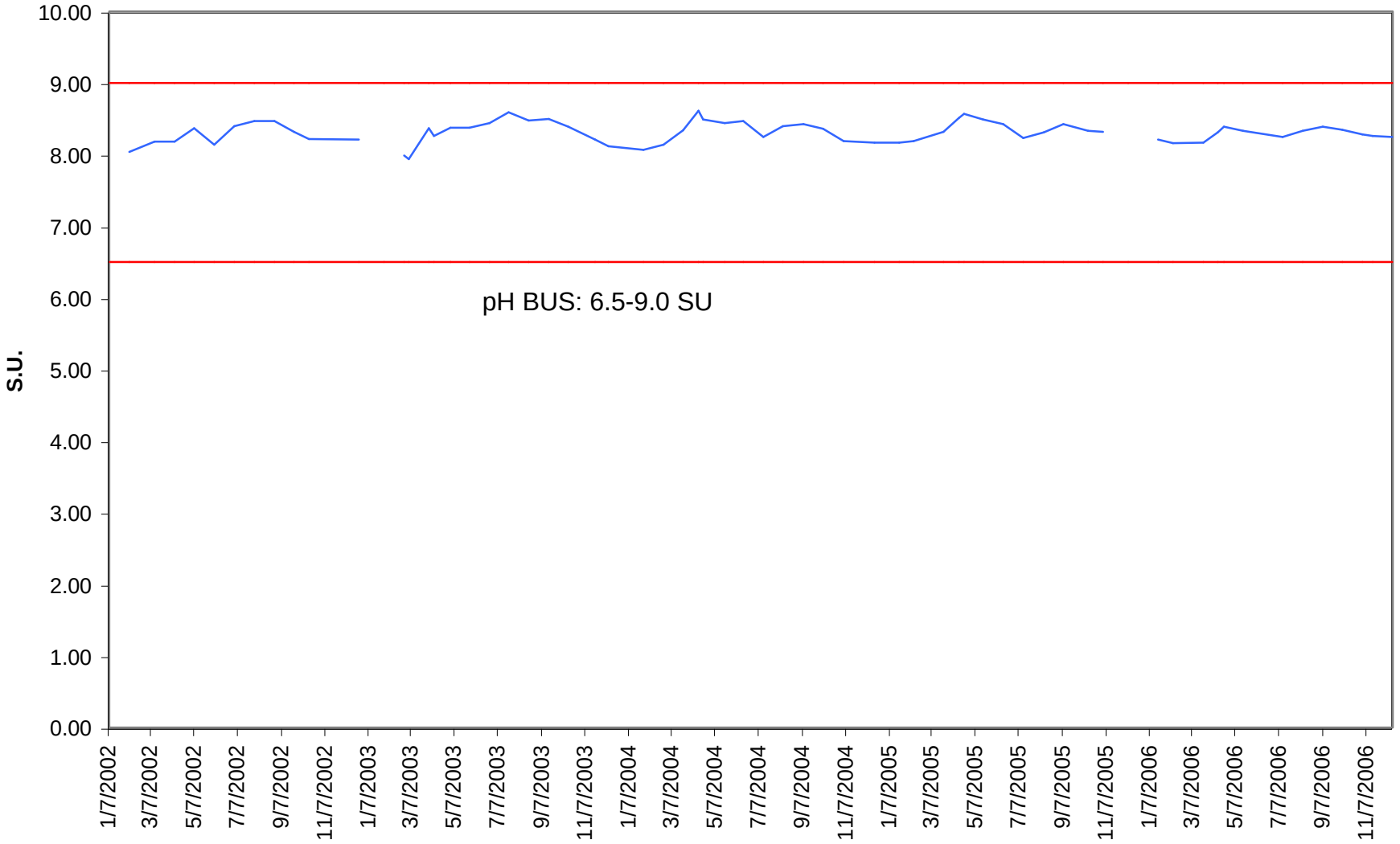
CR346.4 Epilimnion Dissolved Oxygen



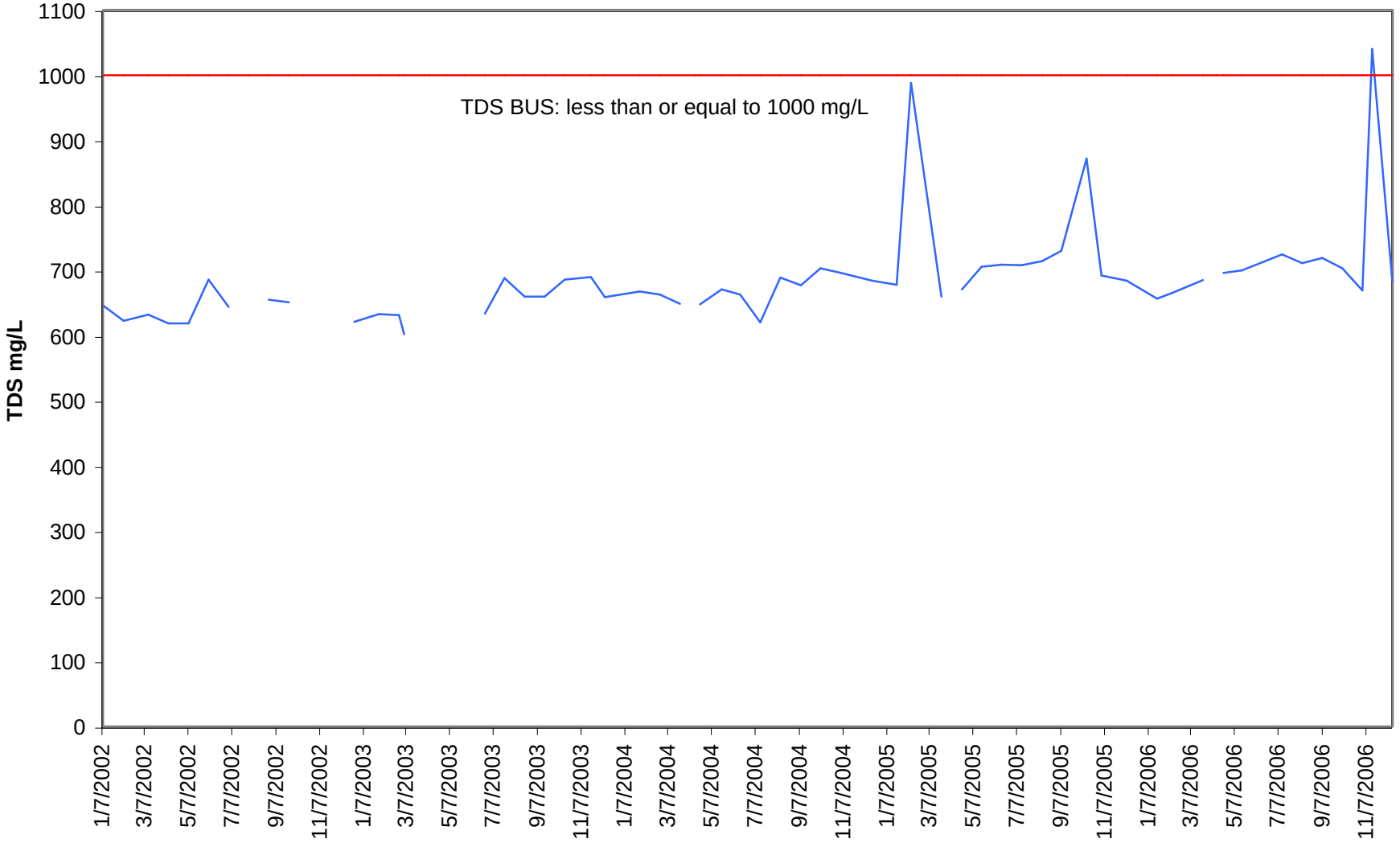

CR346.4 Epilimnion Conductivity
µS/cm
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/7/2002
3/7/2002
5/7/2002
7/7/2002
9/7/2002
11/7/2002
1/7/2003
3/7/2003
5/7/2003
7/7/2003
9/7/2003
11/7/2003
1/7/2004
3/7/2004
5/7/2004
7/7/2004
9/7/2004
11/7/2004
1/7/2005
3/7/2005
5/7/2005
7/7/2005
9/7/2005
11/7/2005
1/7/2006
3/7/2006
5/7/2006
7/7/2006
9/7/2006
11/7/2006

CR346.4 Epilimnion Temperature

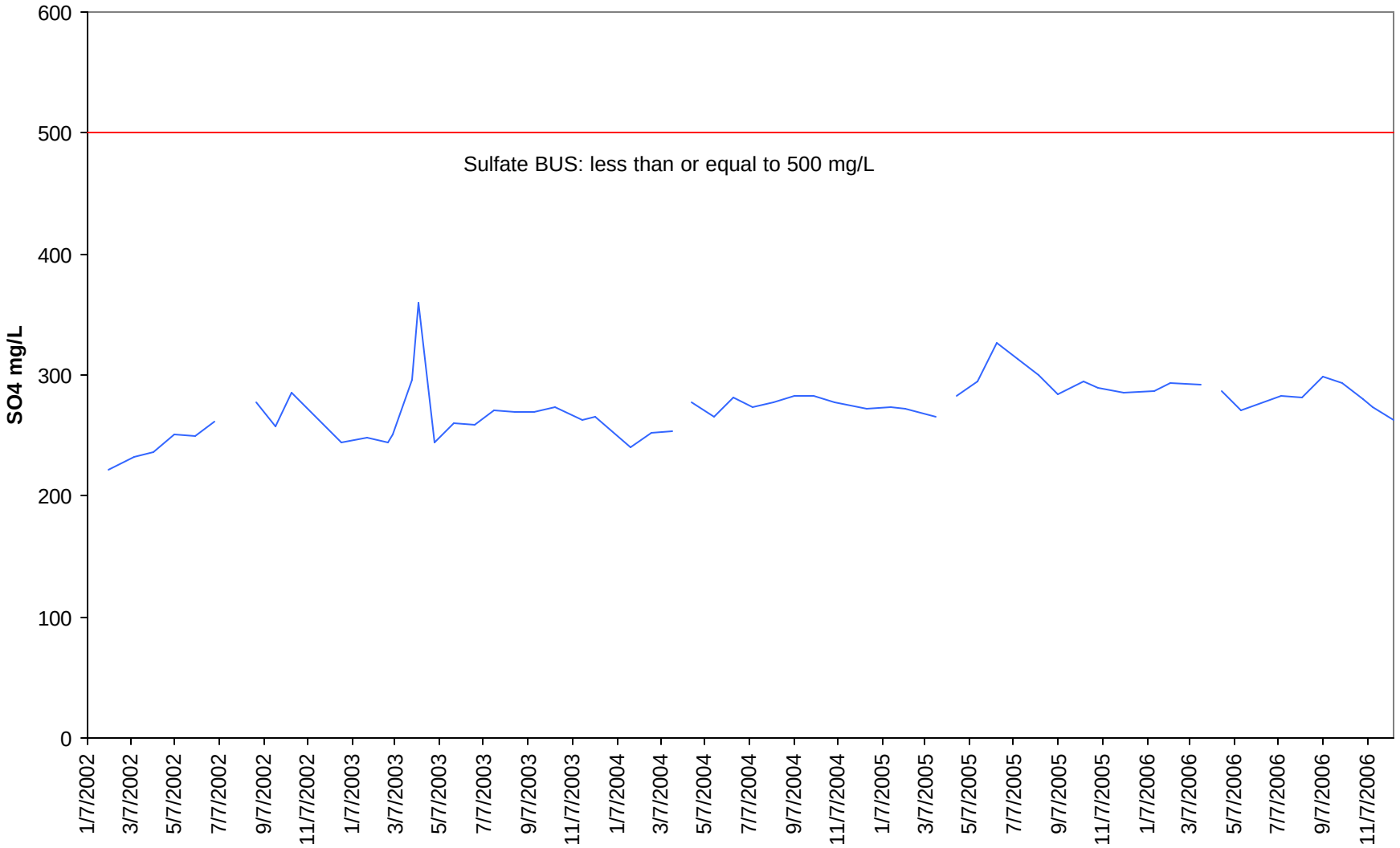



CR346.4 Epilimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
1/7/2002
3/7/2002
5/7/2002
7/7/2002
9/7/2002
11/7/2002
1/7/2003
3/7/2003
5/7/2003
7/7/2003
9/7/2003
11/7/2003
1/7/2004
3/7/2004
5/7/2004
7/7/2004
9/7/2004
11/7/2004
1/7/2005
3/7/2005
5/7/2005
7/7/2005
9/7/2005
11/7/2005
1/7/2006
3/7/2006
5/7/2006
7/7/2006
9/7/2006
11/7/2006

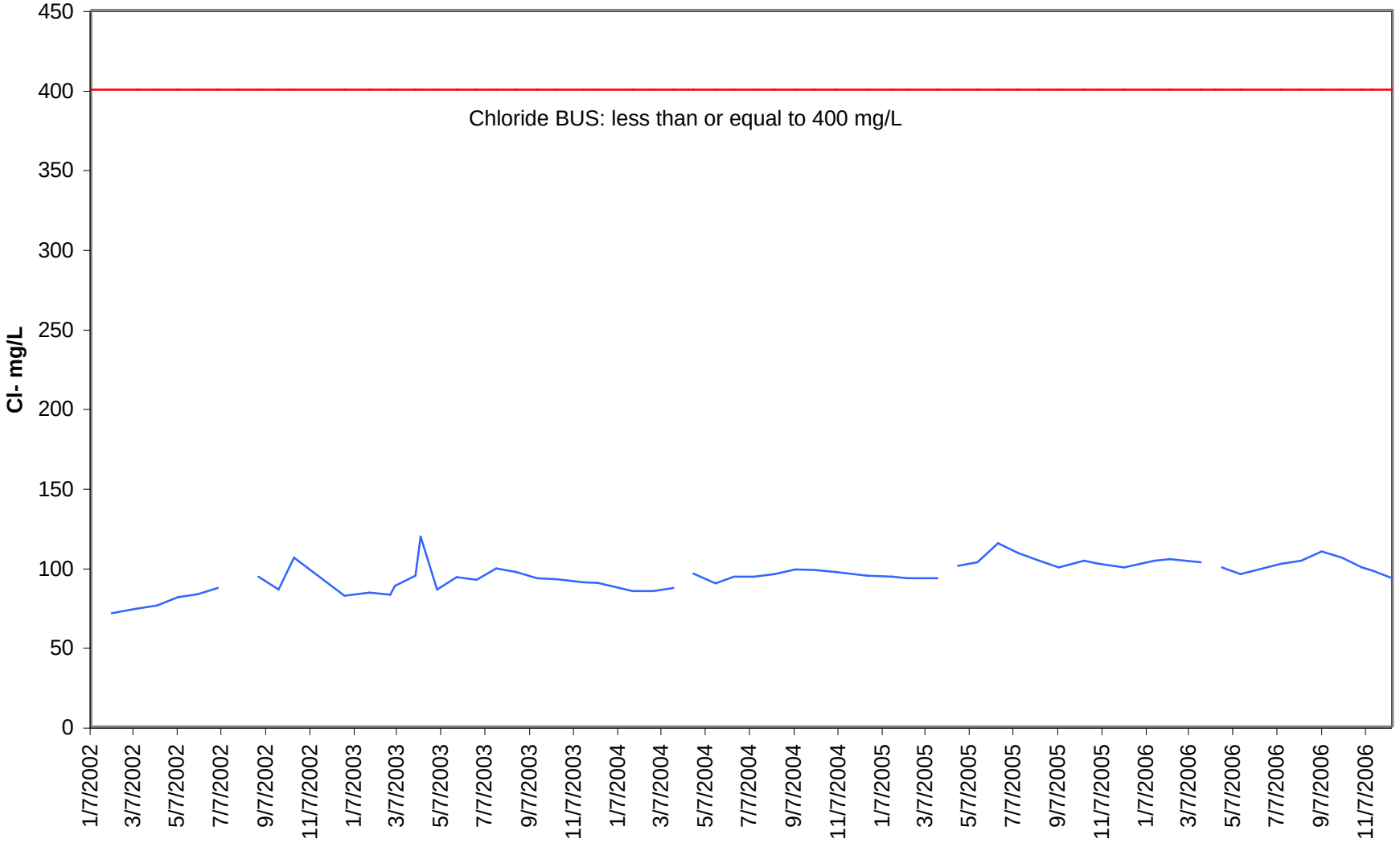
CR346.4 Epilimnion Total Dissolved Solids

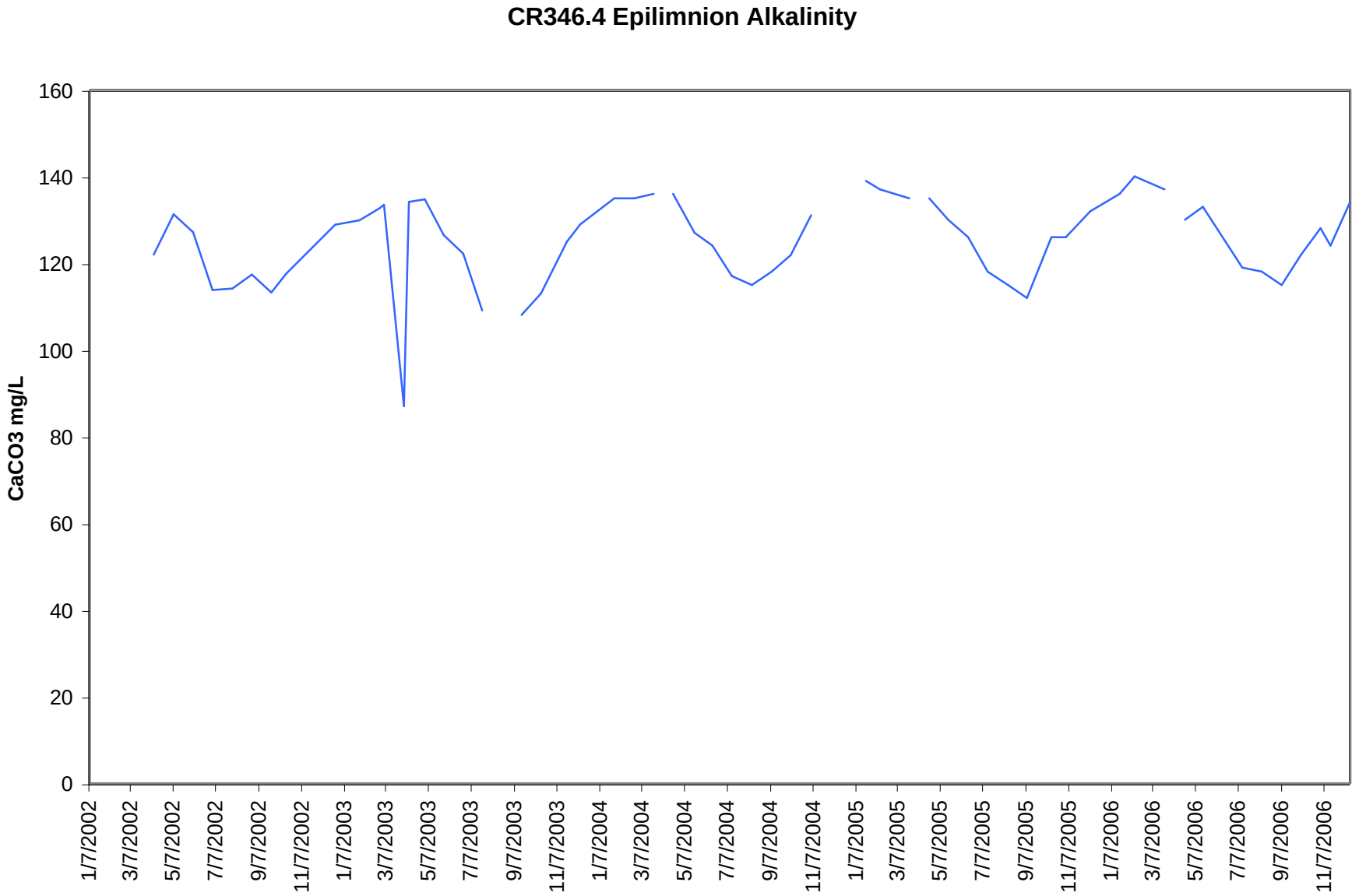


CR346.4 Epilimnion Sulfate

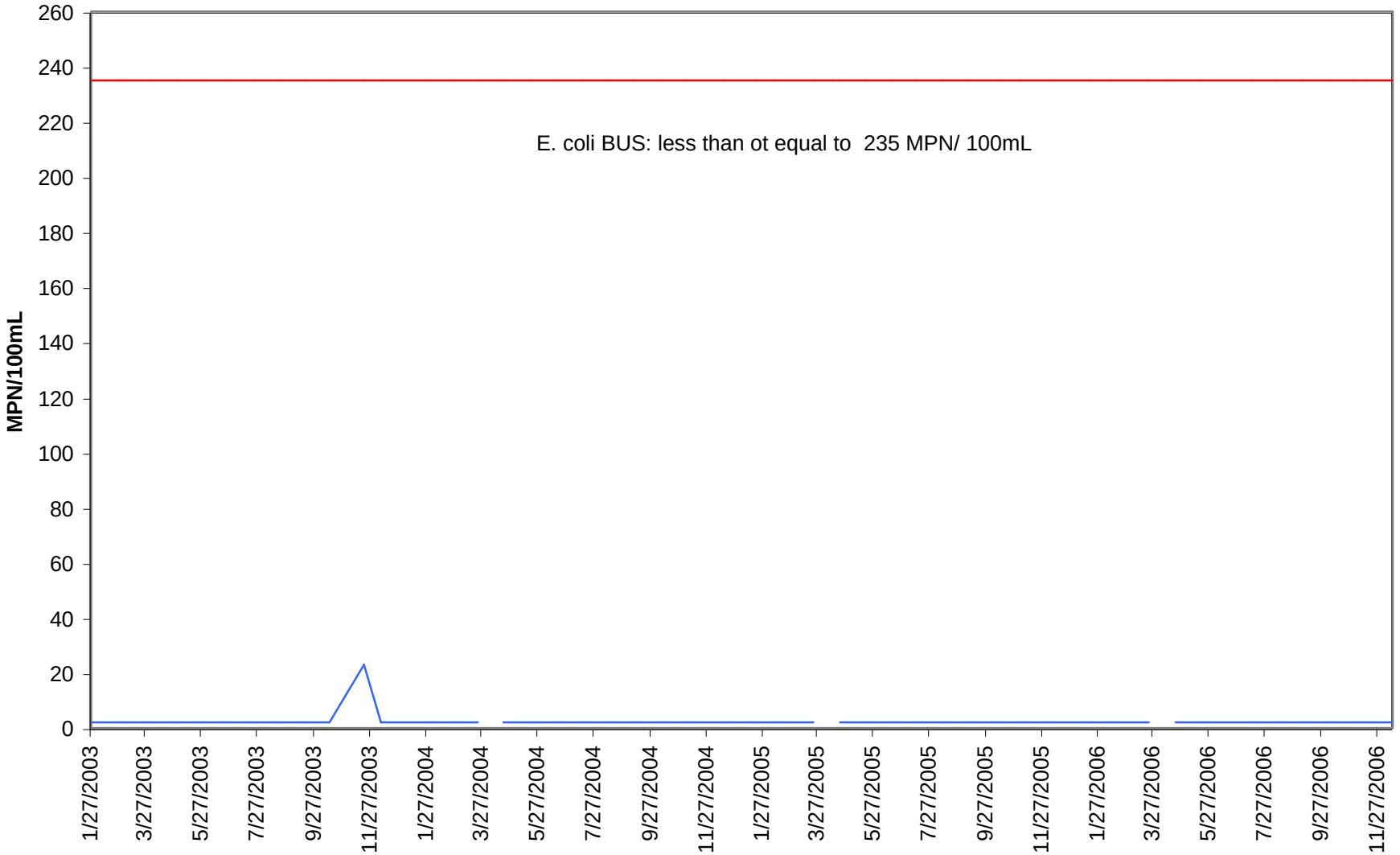


CR346.4 Epilimnion Chloride

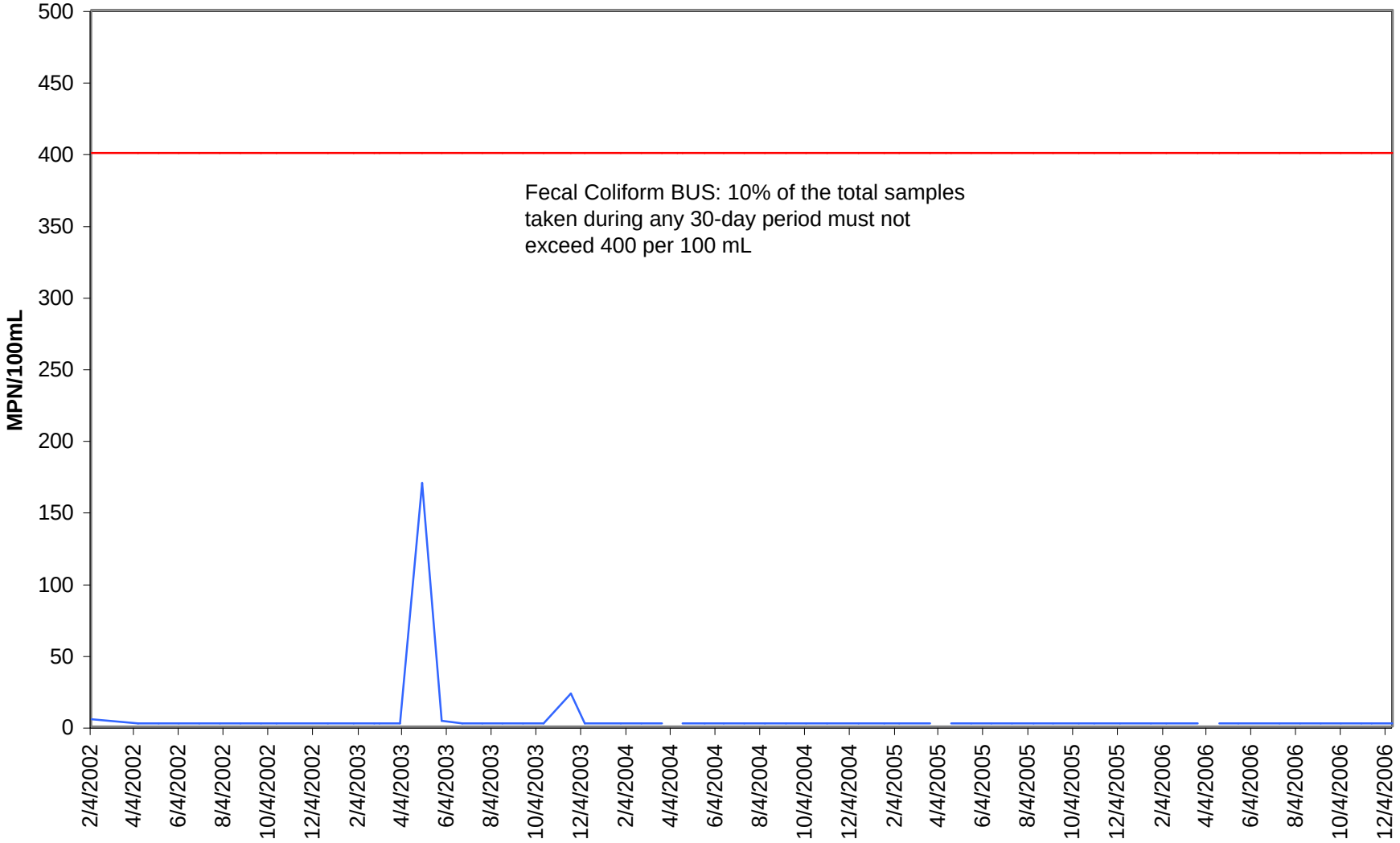



CR346.4 Epilimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
1/7/2002
3/7/2002
5/7/2002
7/7/2002
9/7/2002
11/7/2002
1/7/2003
3/7/2003
5/7/2003
7/7/2003
9/7/2003
11/7/2003
1/7/2004
3/7/2004
5/7/2004
7/7/2004
9/7/2004
11/7/2004
1/7/2005
3/7/2005
5/7/2005
7/7/2005
9/7/2005
11/7/2005
1/7/2006
3/7/2006
5/7/2006
7/7/2006
9/7/2006
11/7/2006

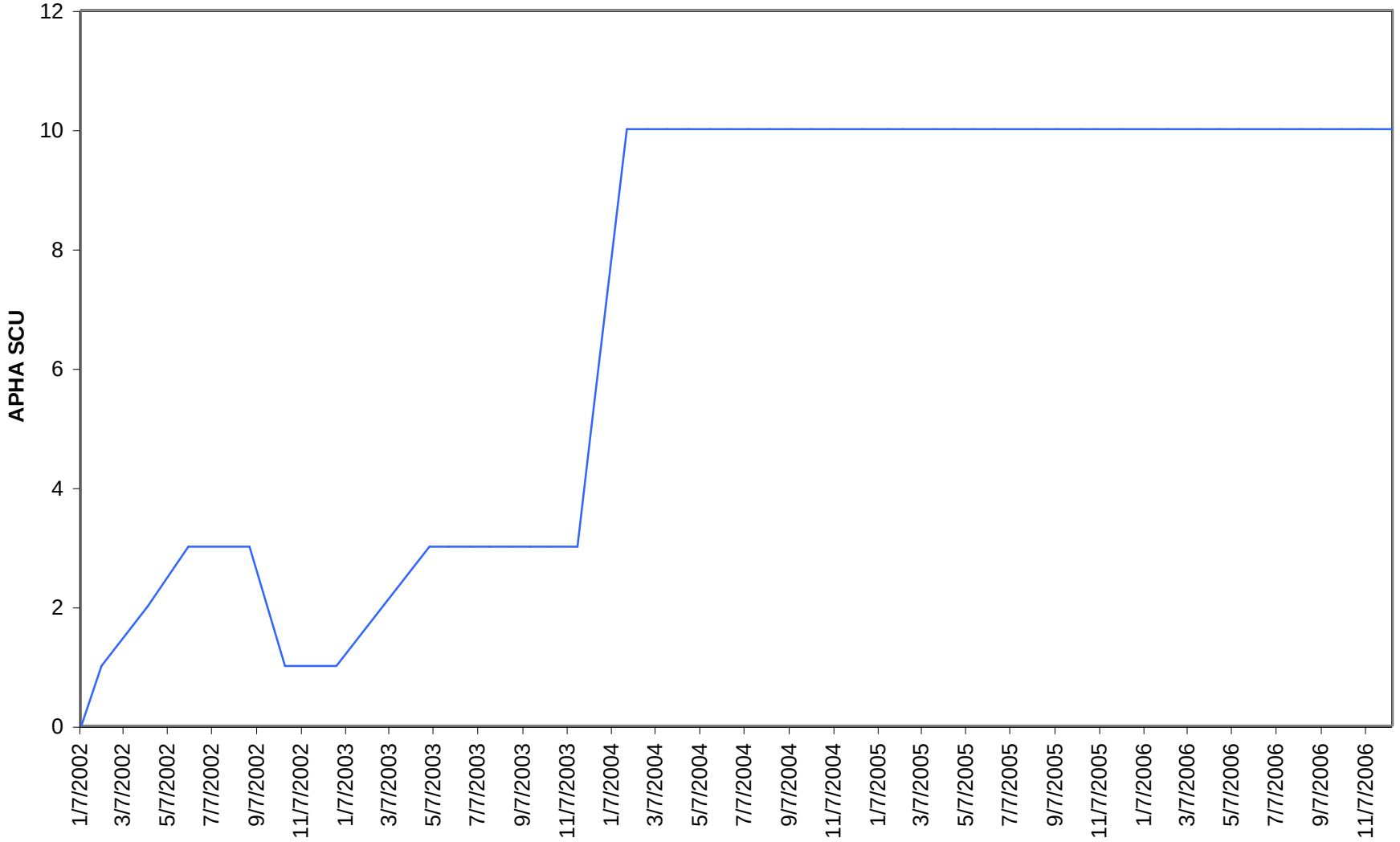
CR346.4 Epilimnion E. coli.



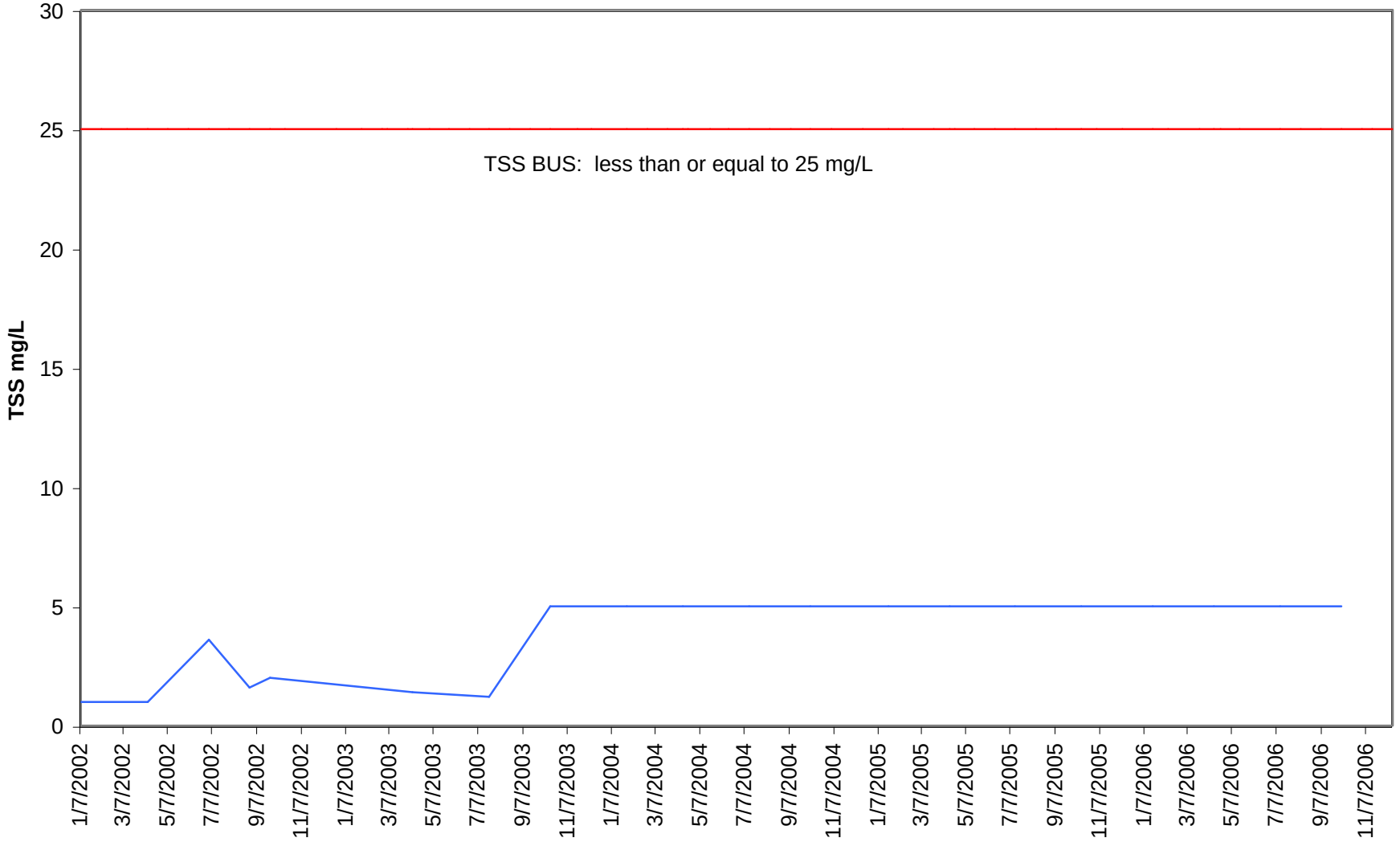
CR346.4 Epilimnion Fecal Coliform



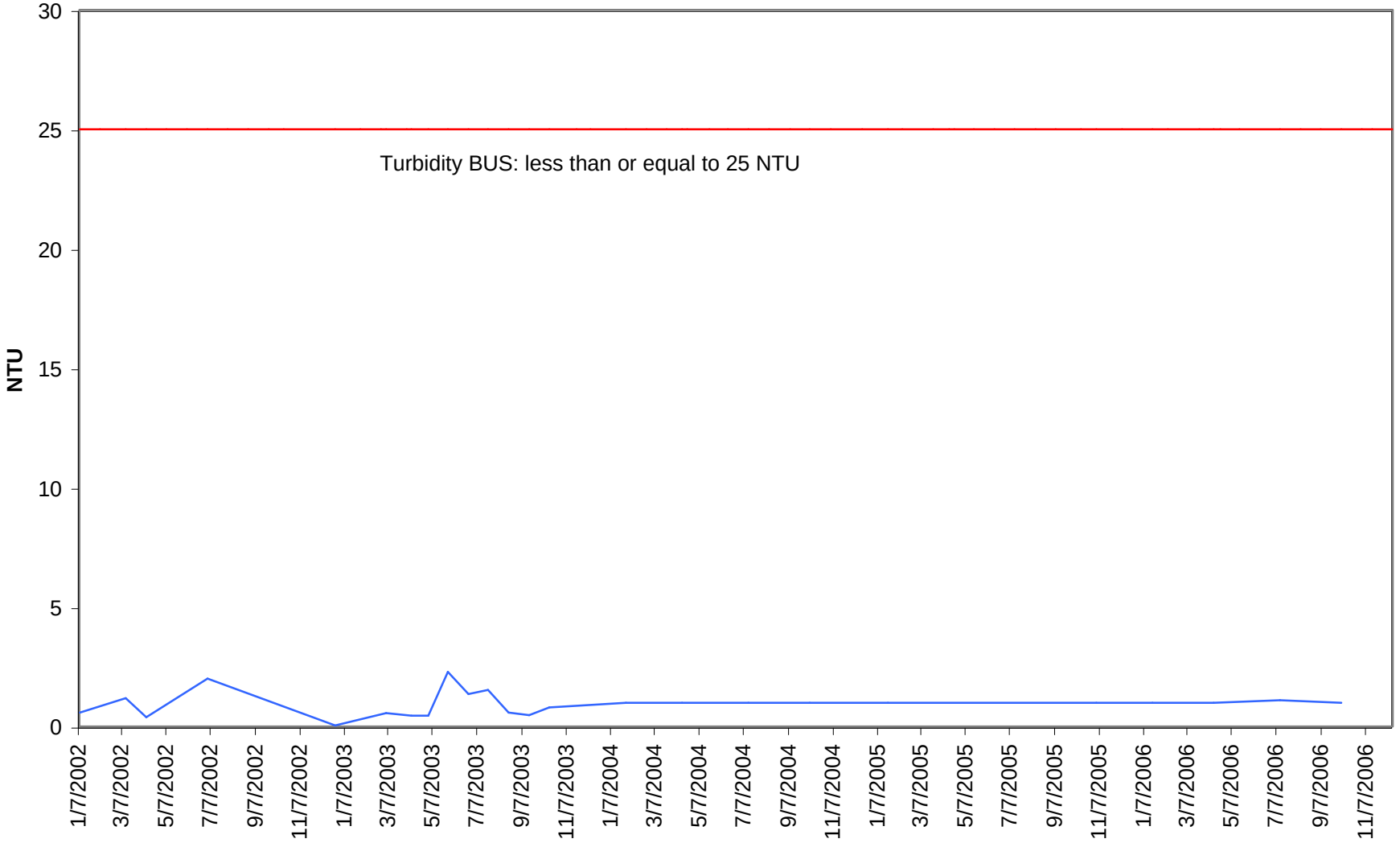
CR346.4 Epilimnion Color



CR346.4 Epilimnion Total Suspended Solids

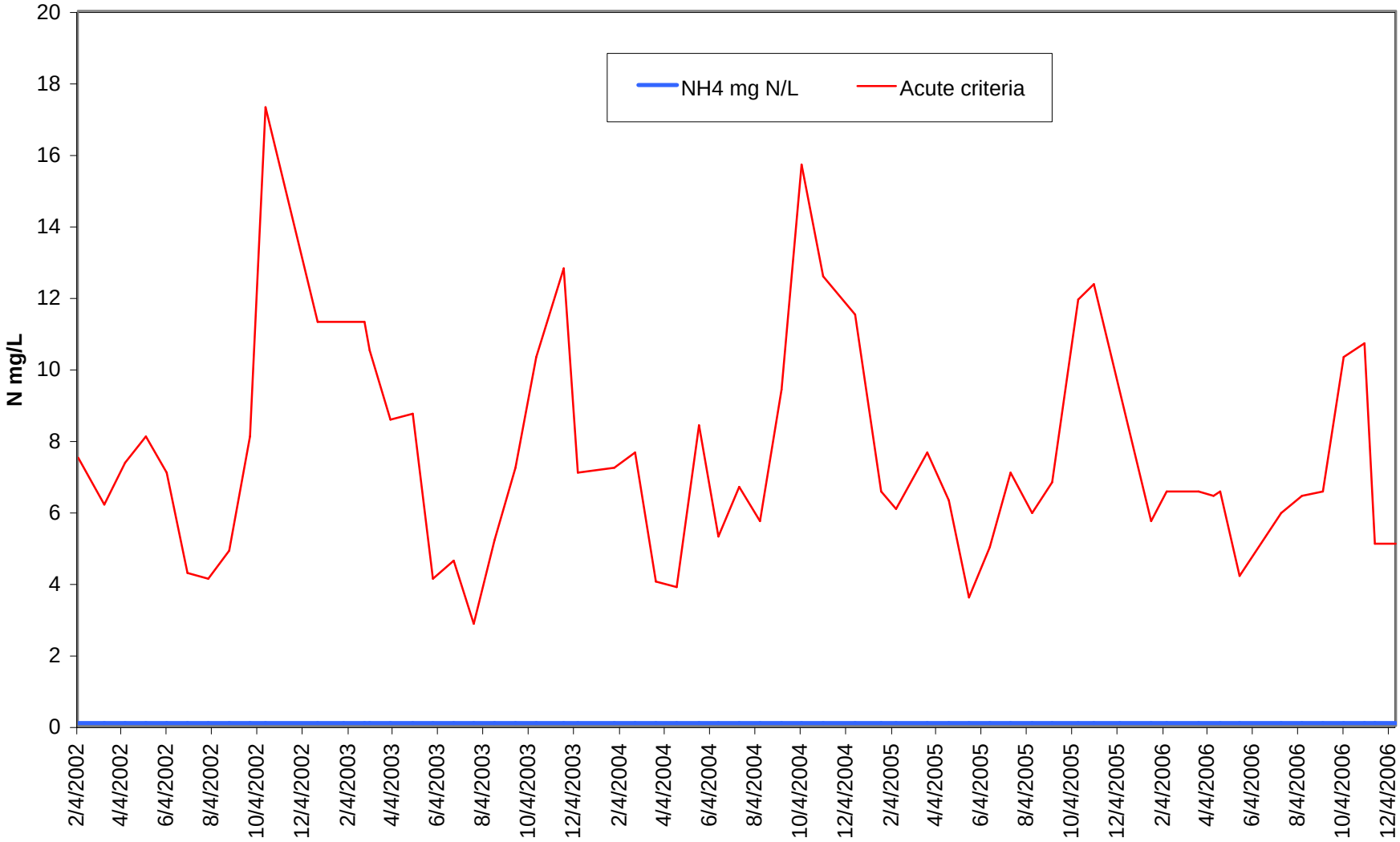


CR346.4 Epilimnion Turbidity

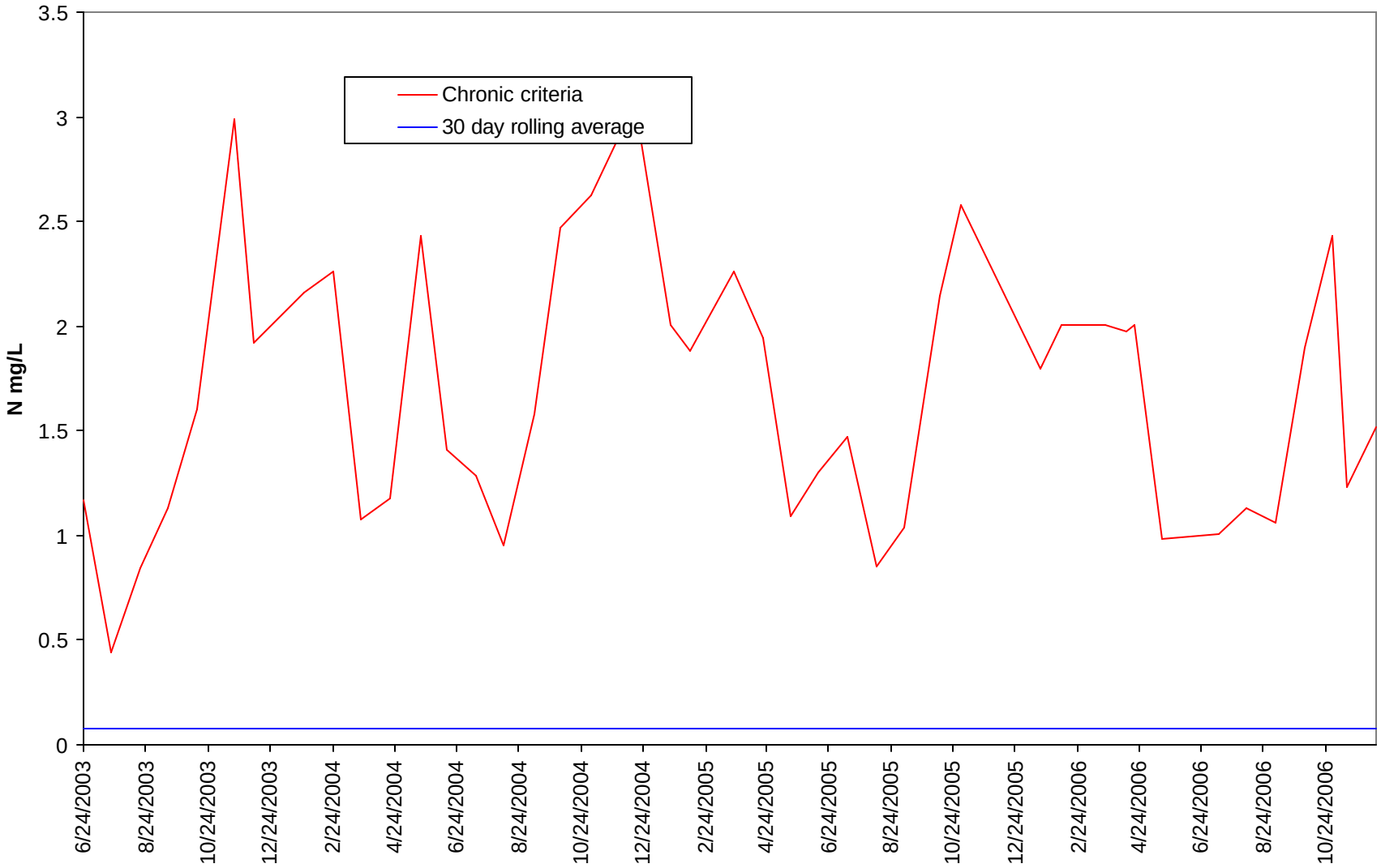


CR346.4
Metalimnion

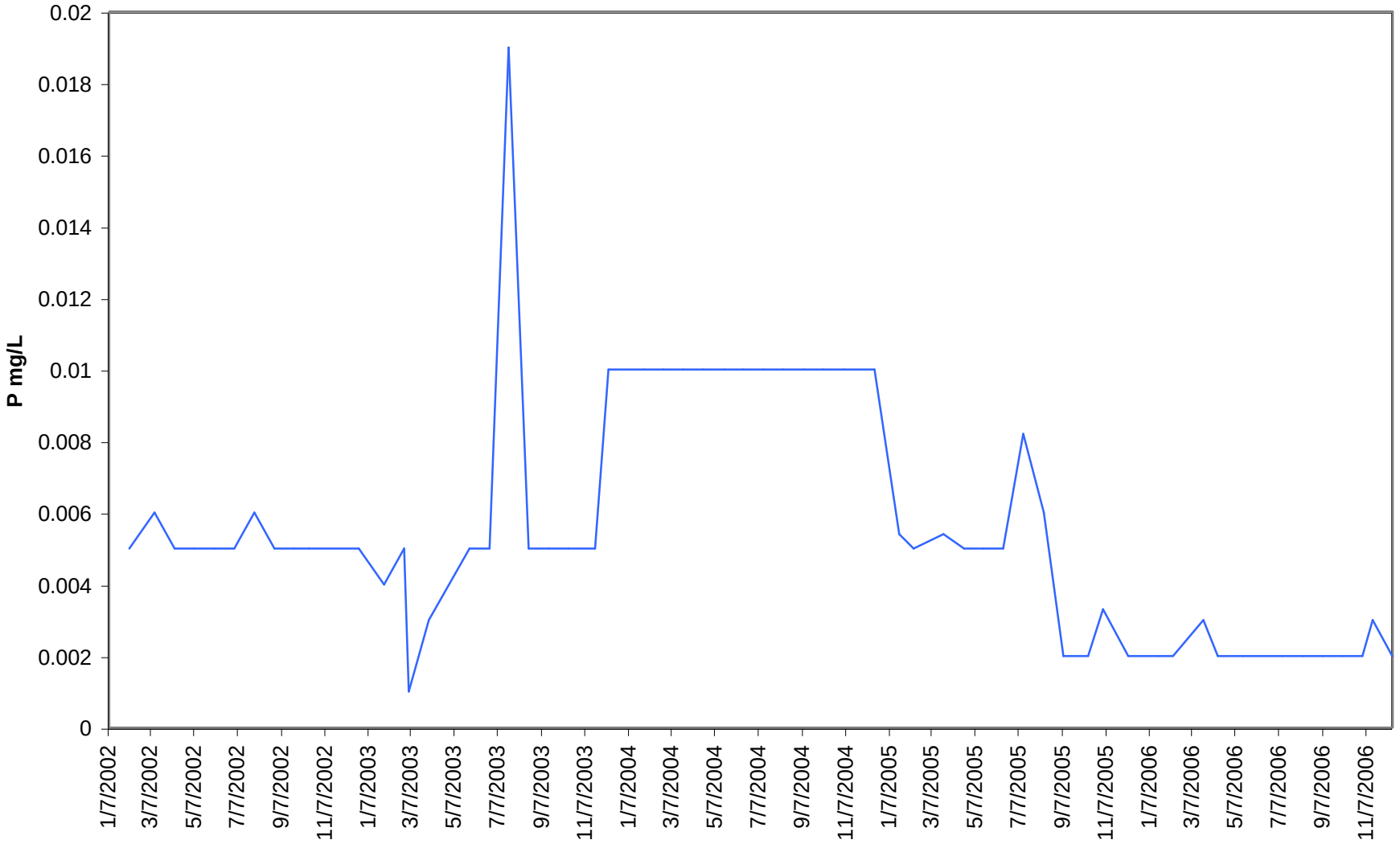
CR346.4 Metalimnion Total Ammonia



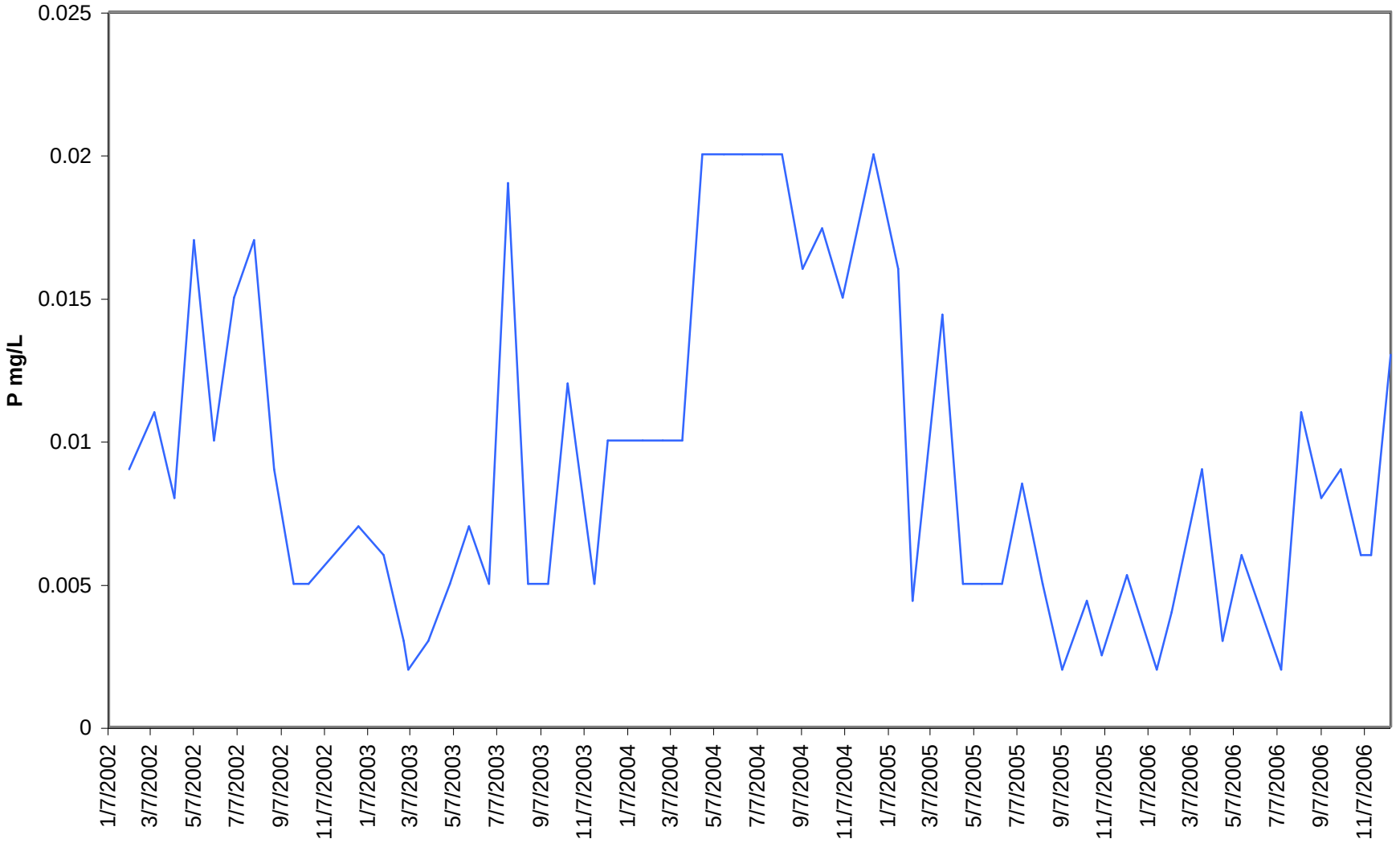
CR346.4 Metalimnion Chronic Ammonia

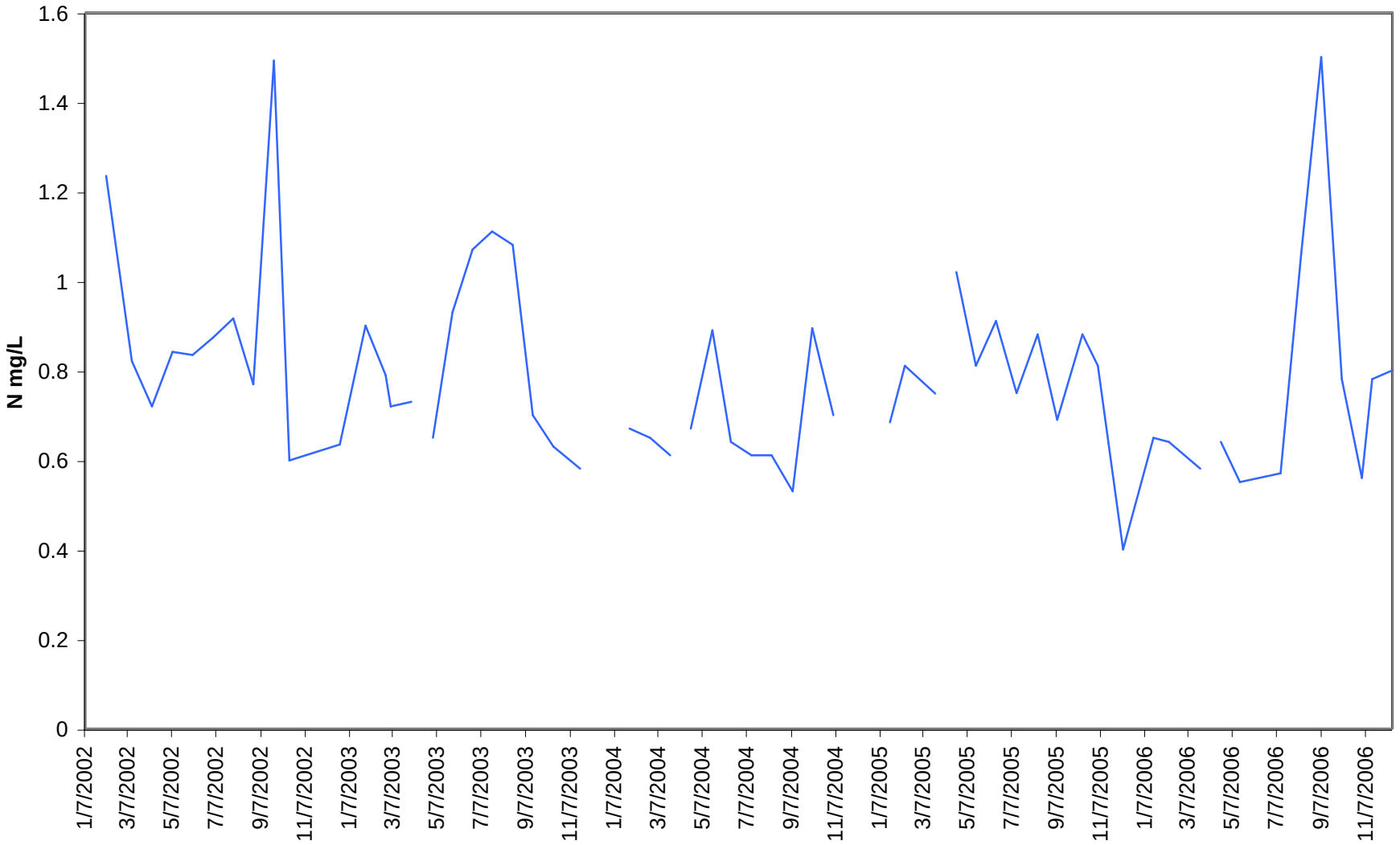


CR346.4 Metalimnion Dissolved ortho-Phosphorus

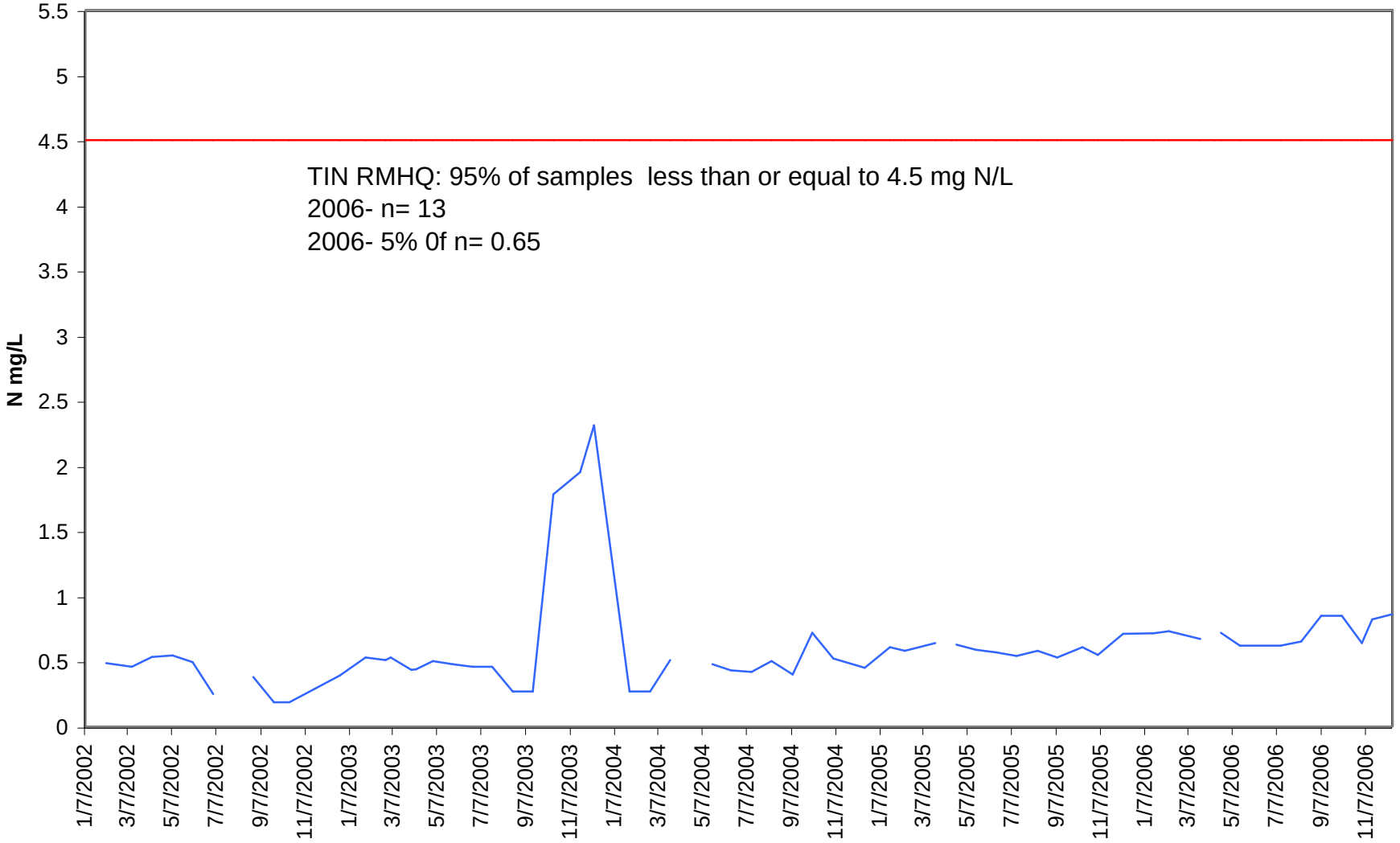


CR346.4 Metalimnion Total Phosphorus

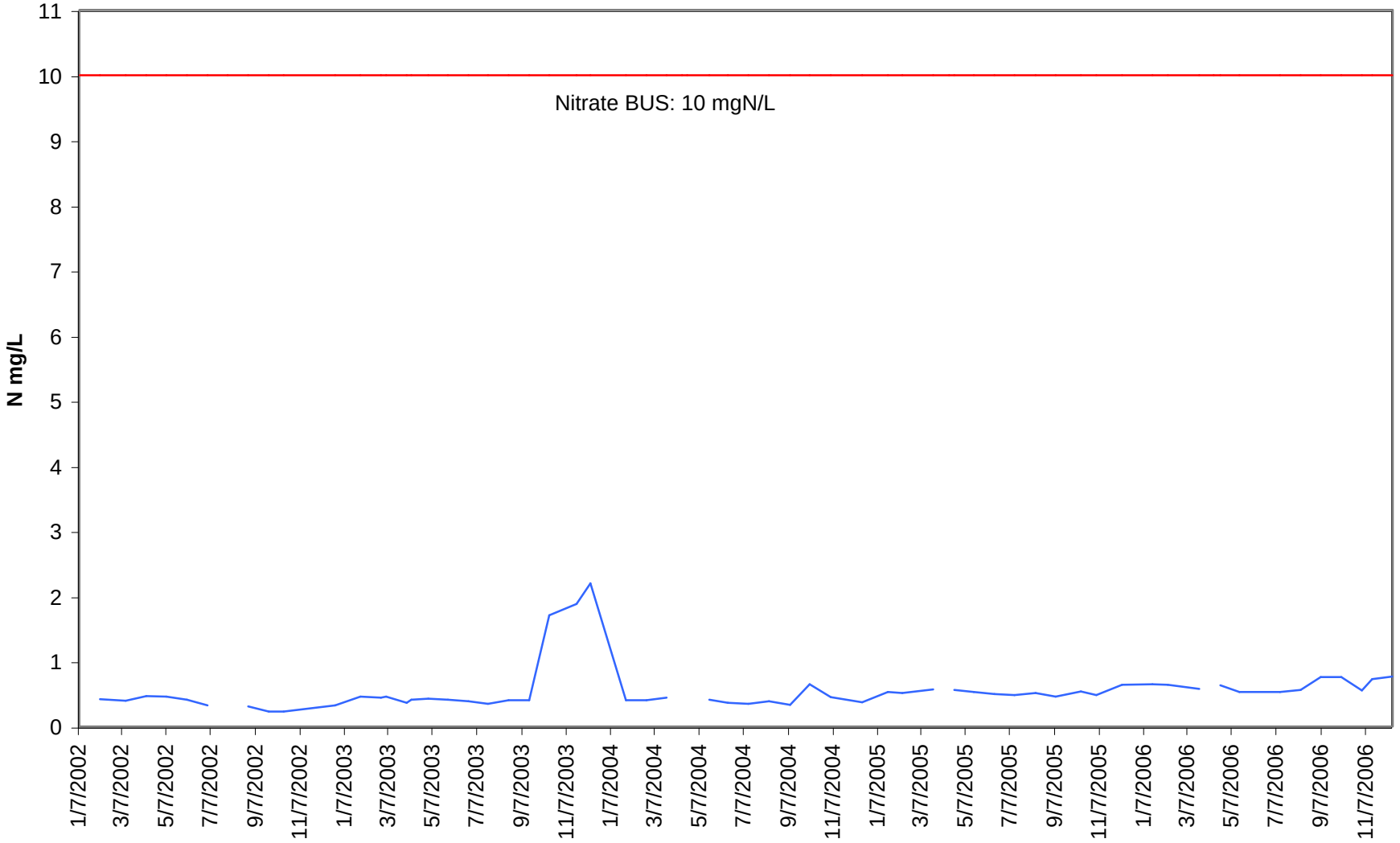



CR346.4 Metalimnion Total Nitrogen
N mg/L
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1/7/2002
3/7/2002
5/7/2002
7/7/2002
9/7/2002
11/7/2002
1/7/2003
3/7/2003
5/7/2003
7/7/2003
9/7/2003
11/7/2003
1/7/2004
3/7/2004
5/7/2004
7/7/2004
9/7/2004
11/7/2004
1/7/2005
3/7/2005
5/7/2005
7/7/2005
9/7/2005
11/7/2005
1/7/2006
3/7/2006
5/7/2006
7/7/2006
9/7/2006
11/7/2006

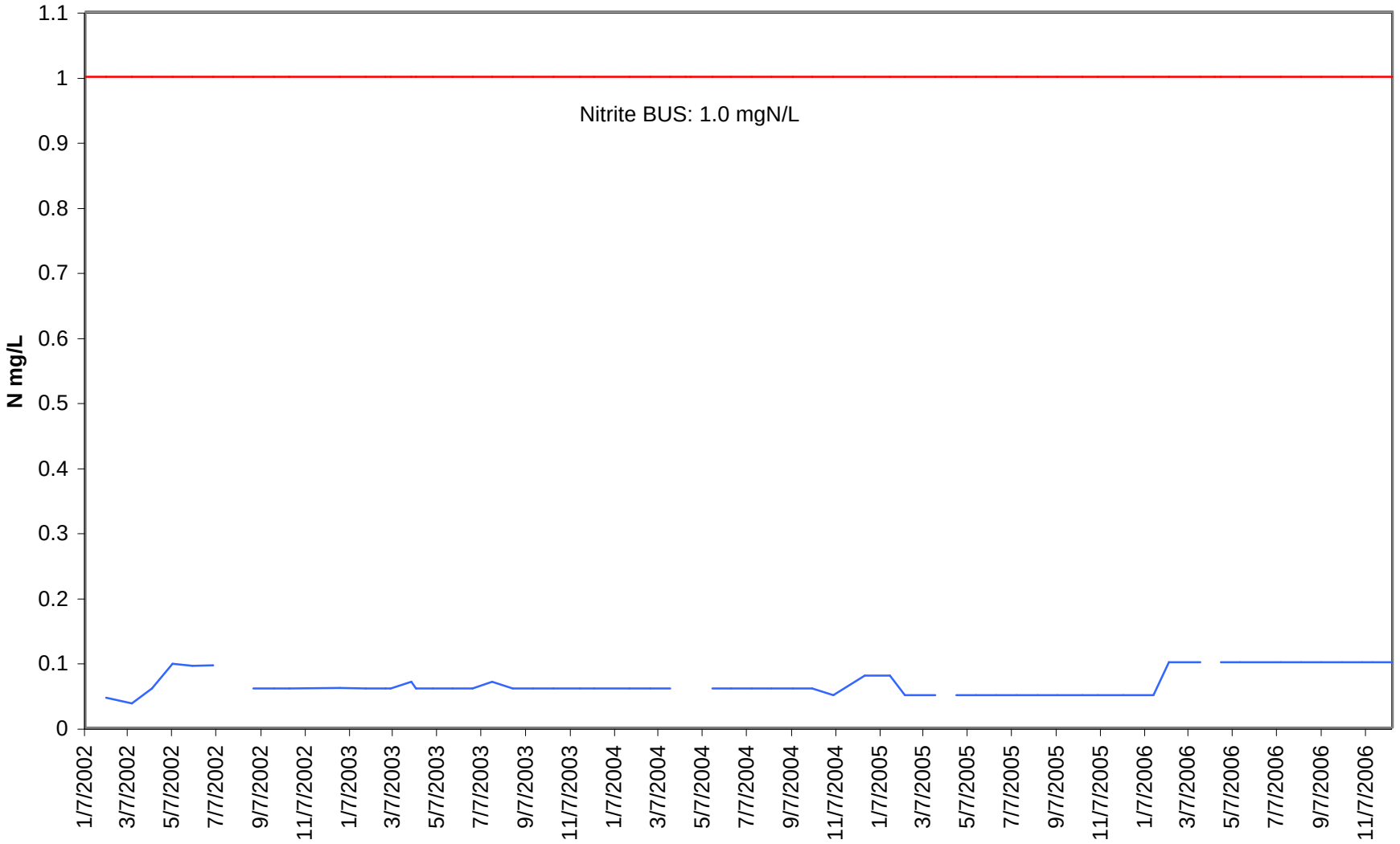
CR346.4 Metalimnion Total Inorganic Nitrogen

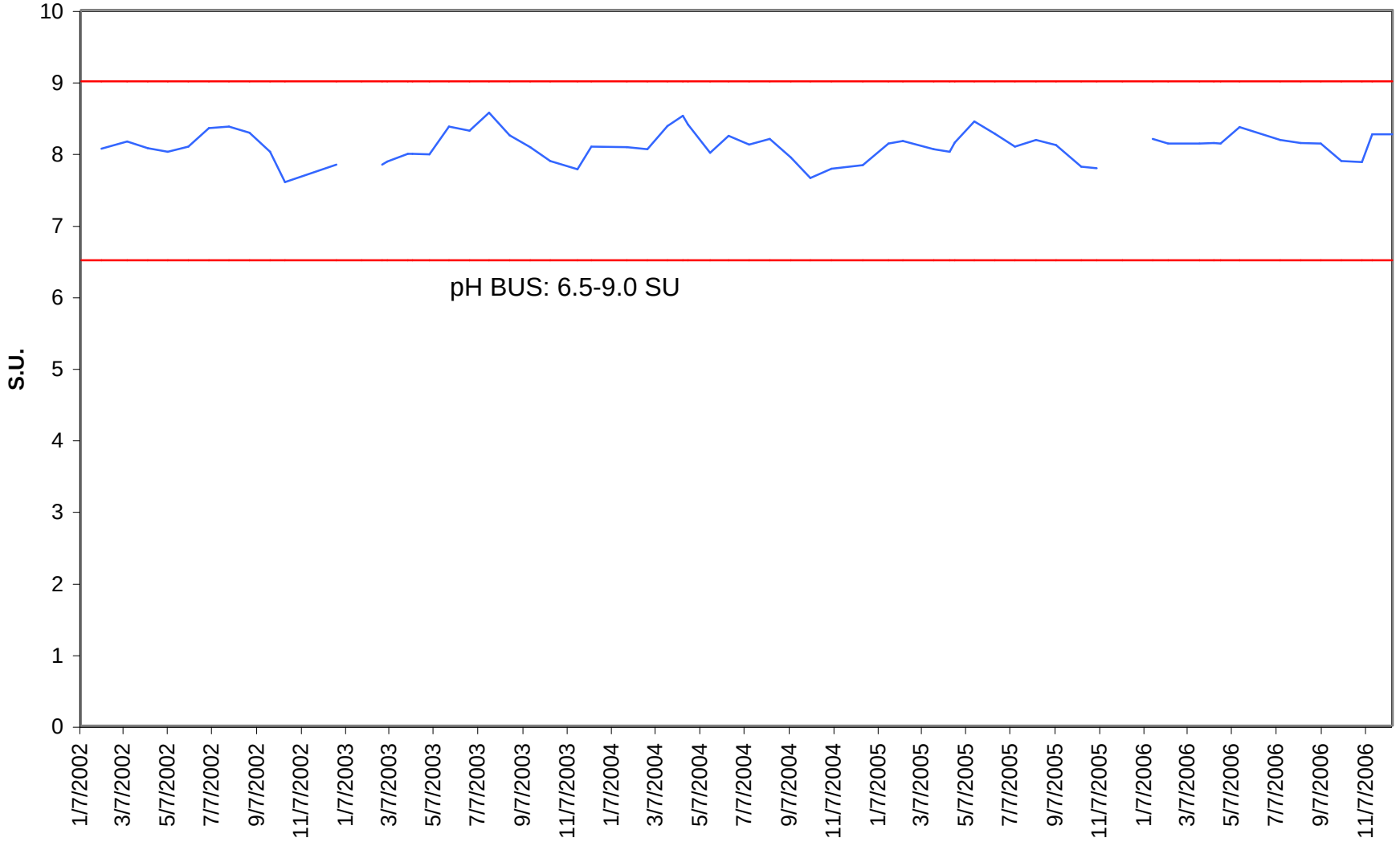


CR346.4 Metalimnion Nitrate

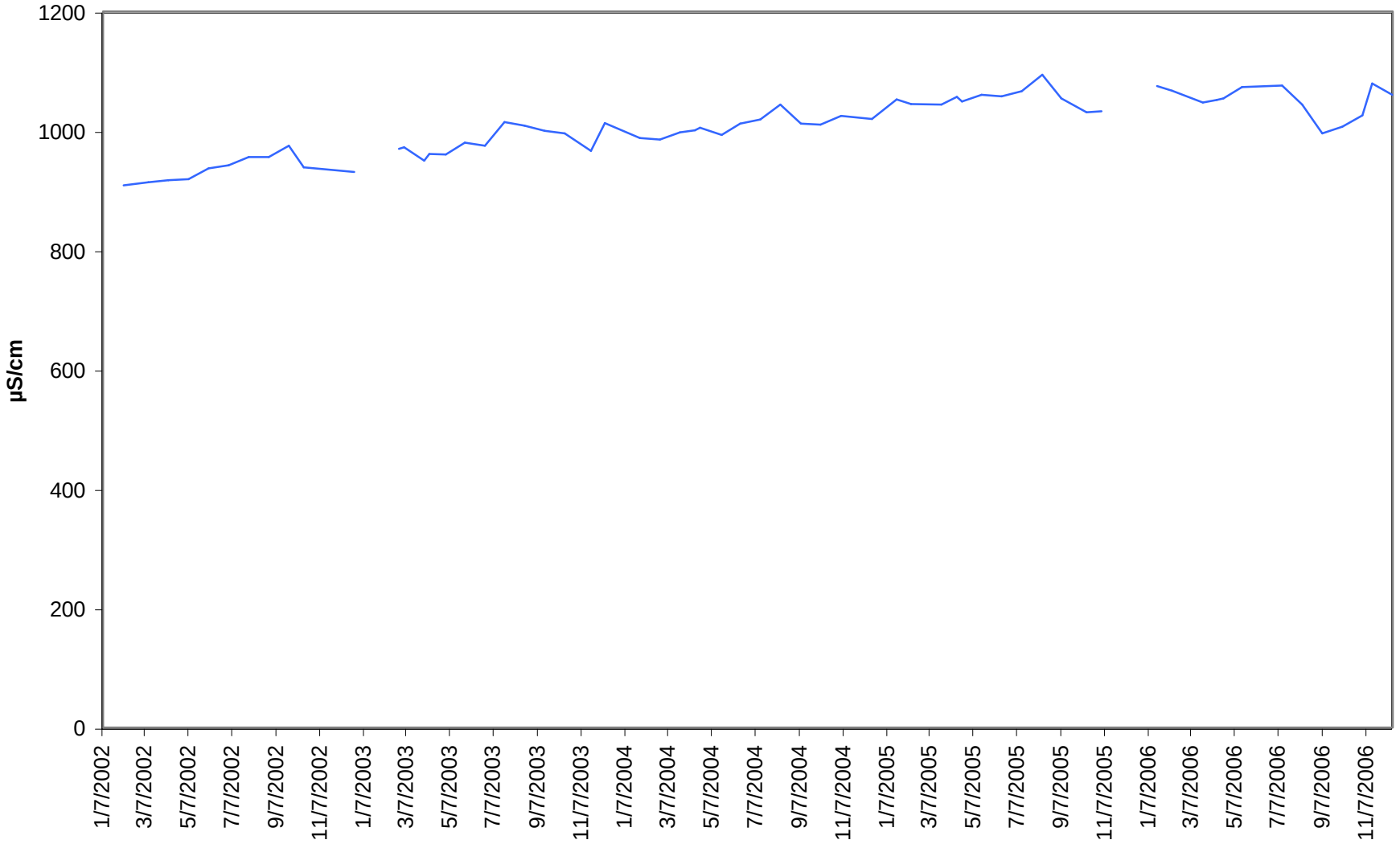


CR346.4 Metalimnion Nitrite

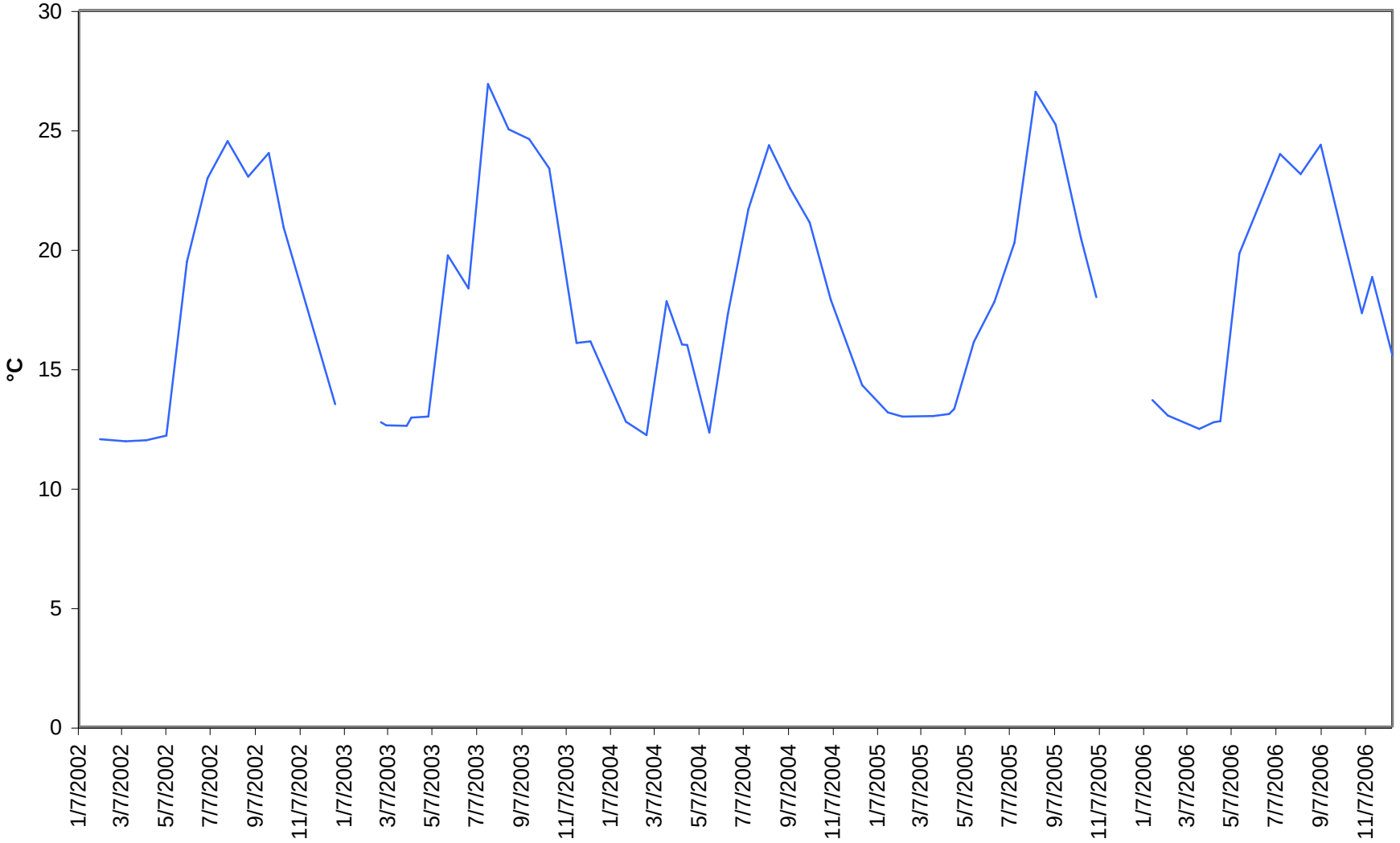



CR346.4 Metalimnion pH
S.U.
10
9
8
7
6
5
4
3
2
1
0
pH BUS: 6.5-9.0 SU
1/7/2002
3/7/2002
5/7/2002
7/7/2002
9/7/2002
11/7/2002
1/7/2003
3/7/2003
5/7/2003
7/7/2003
9/7/2003
11/7/2003
1/7/2004
3/7/2004
5/7/2004
7/7/2004
9/7/2004
11/7/2004
1/7/2005
3/7/2005
5/7/2005
7/7/2005
9/7/2005
11/7/2005
1/7/2006
3/7/2006
5/7/2006
7/7/2006
9/7/2006
11/7/2006

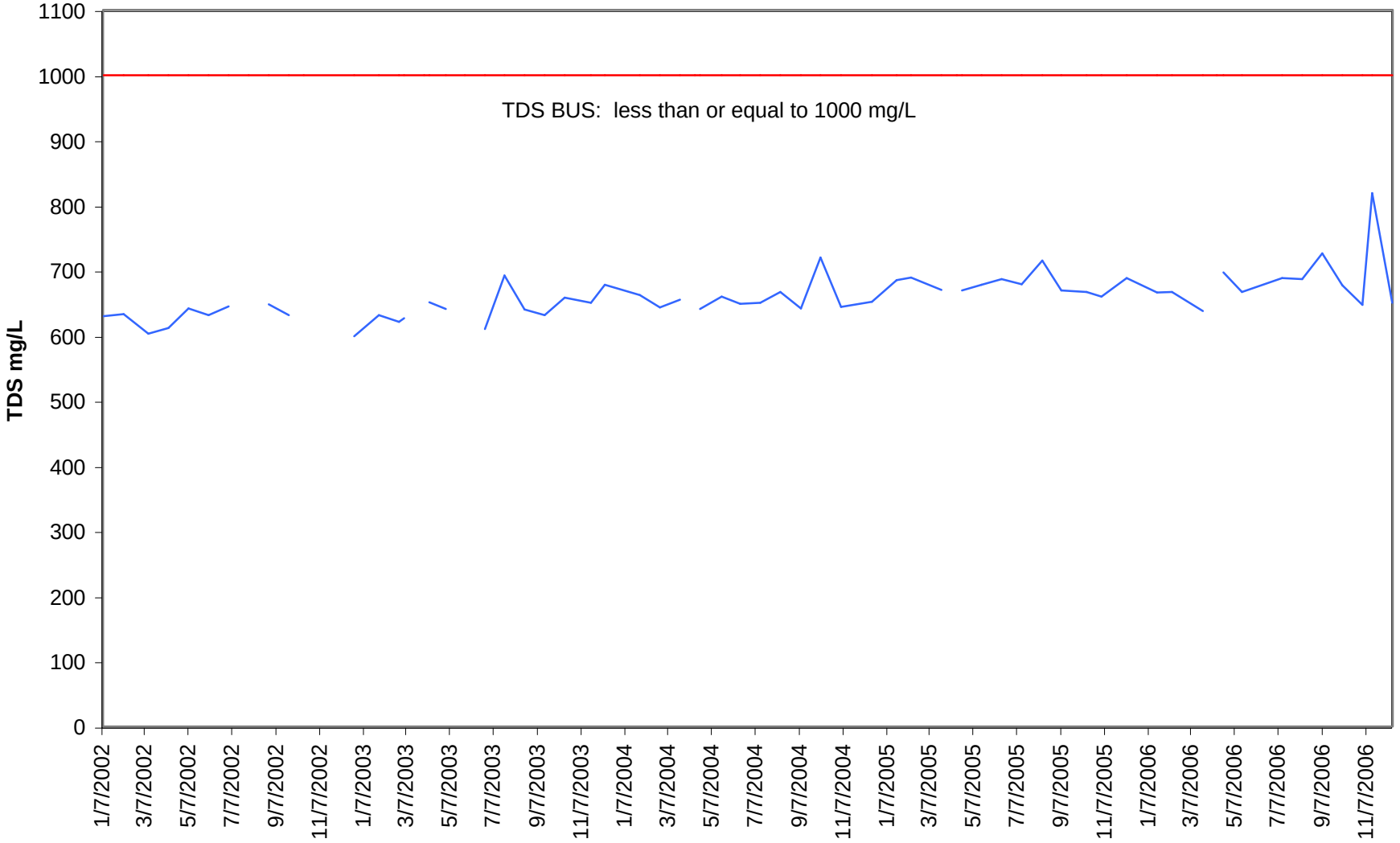
CR346.4 Metalimnion Conductivity



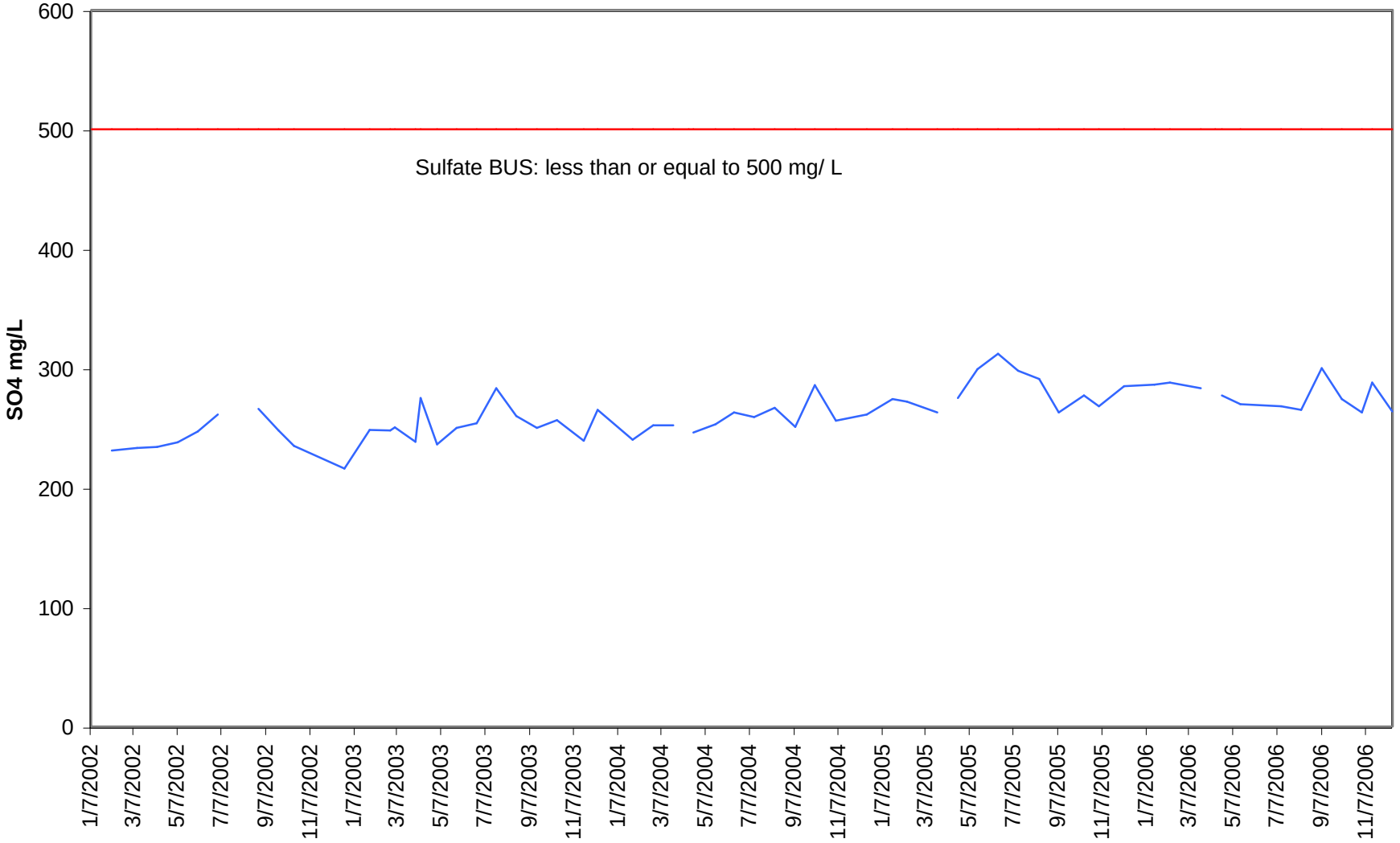
CR346.4 Metalimnion Temperature



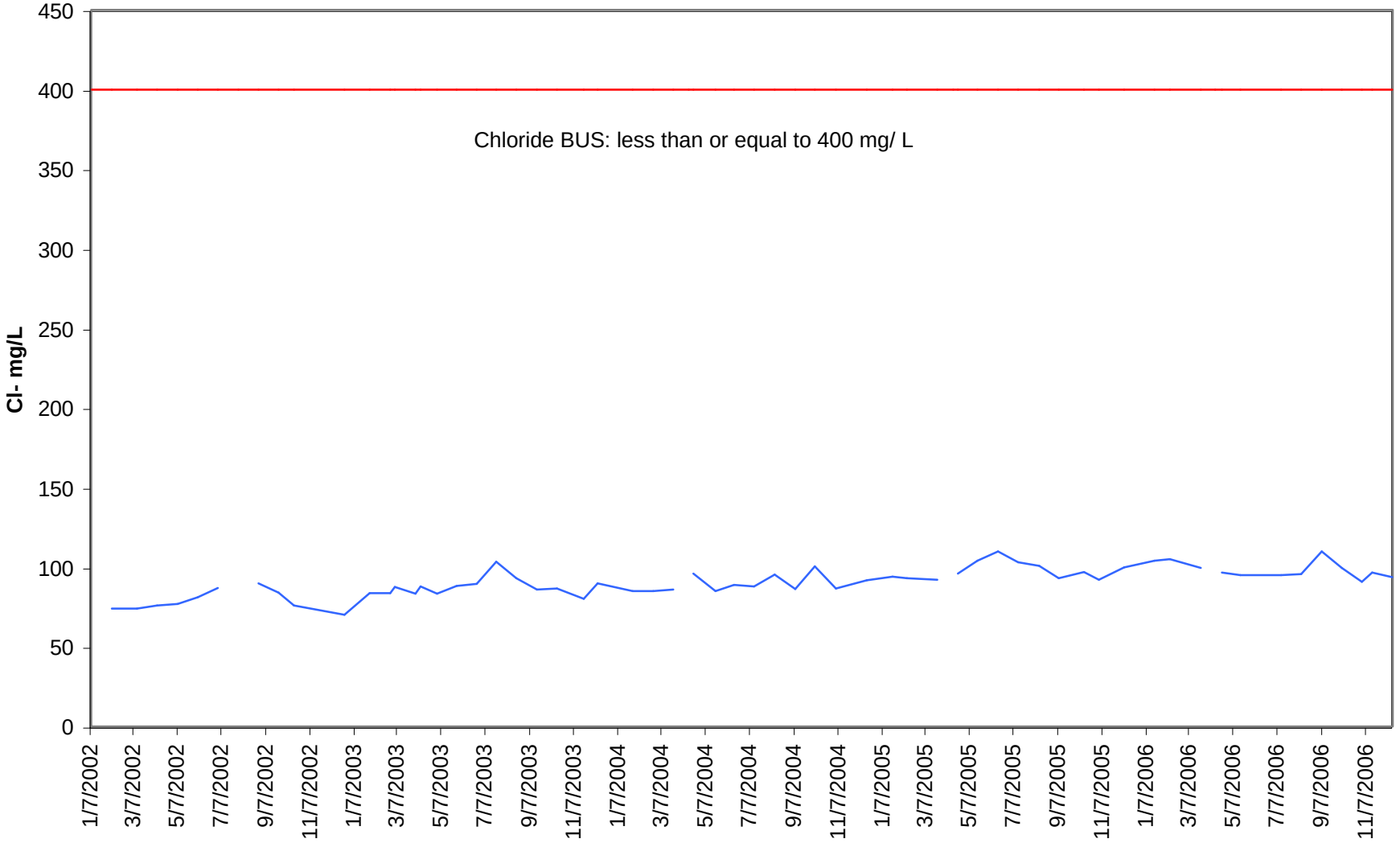
CR346.4 Metalimnion Total Dissolved Solids

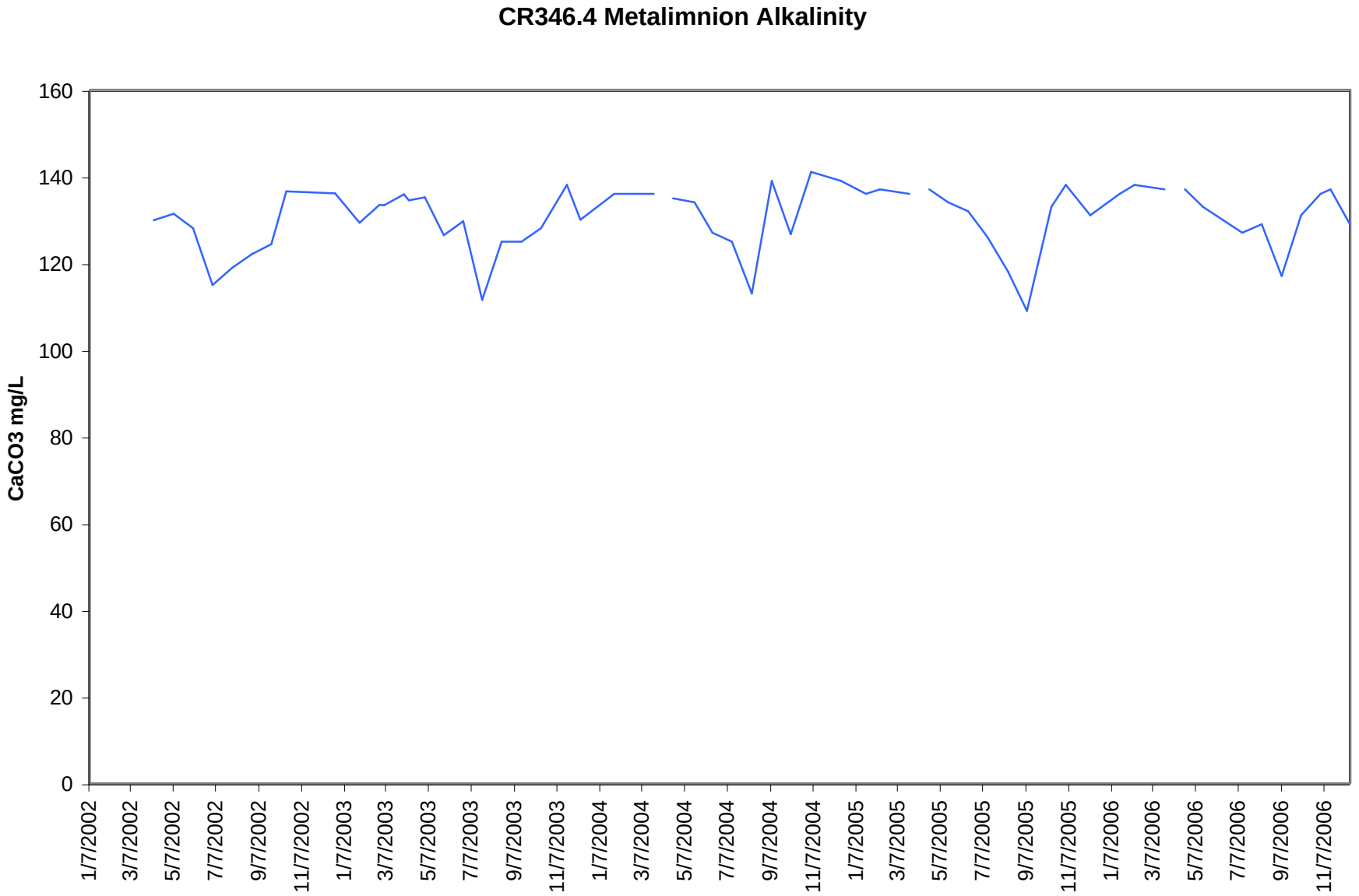


CR346.4 Metalimnion Sulfate

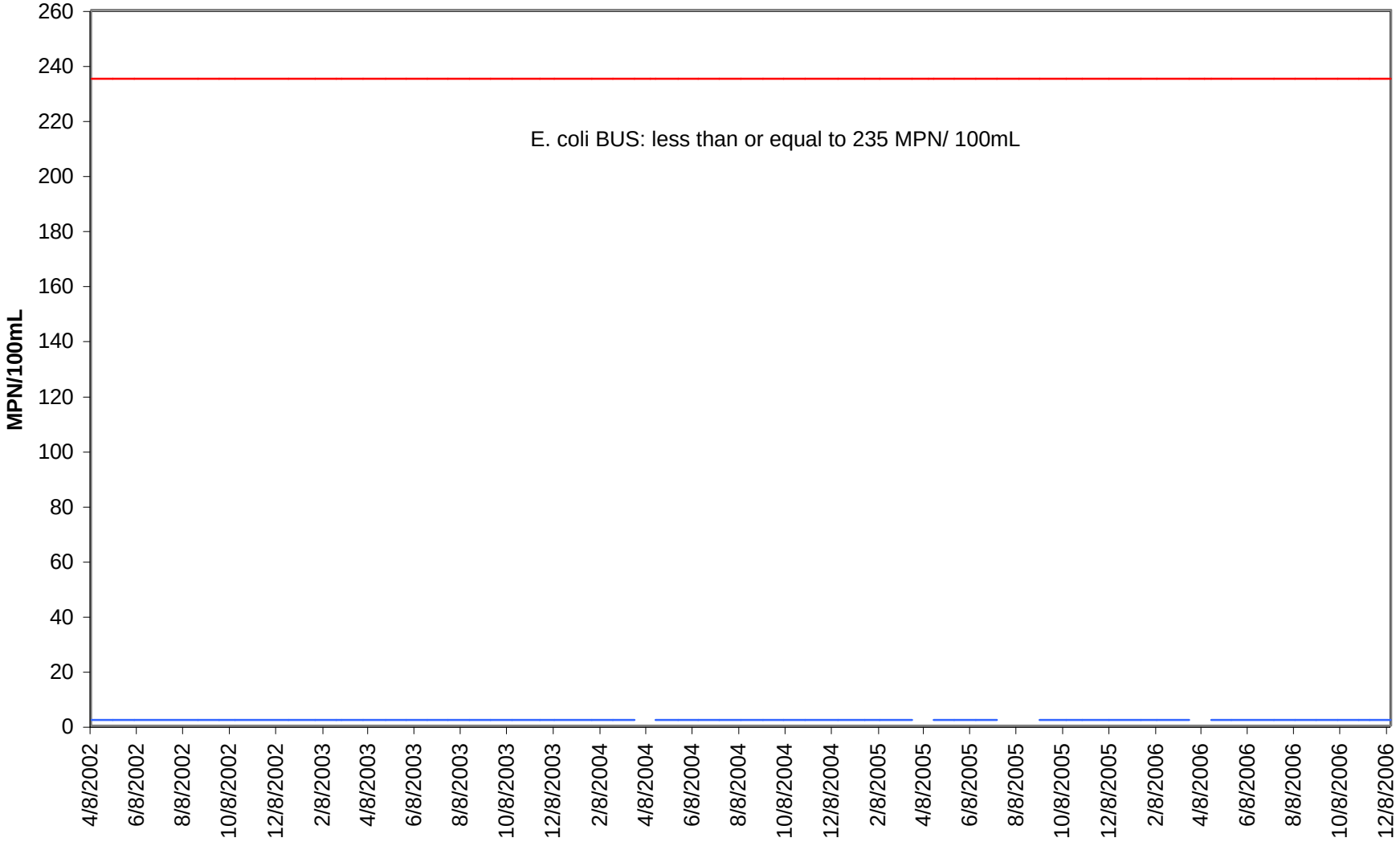


CR346.4 Metalimnion Chloride

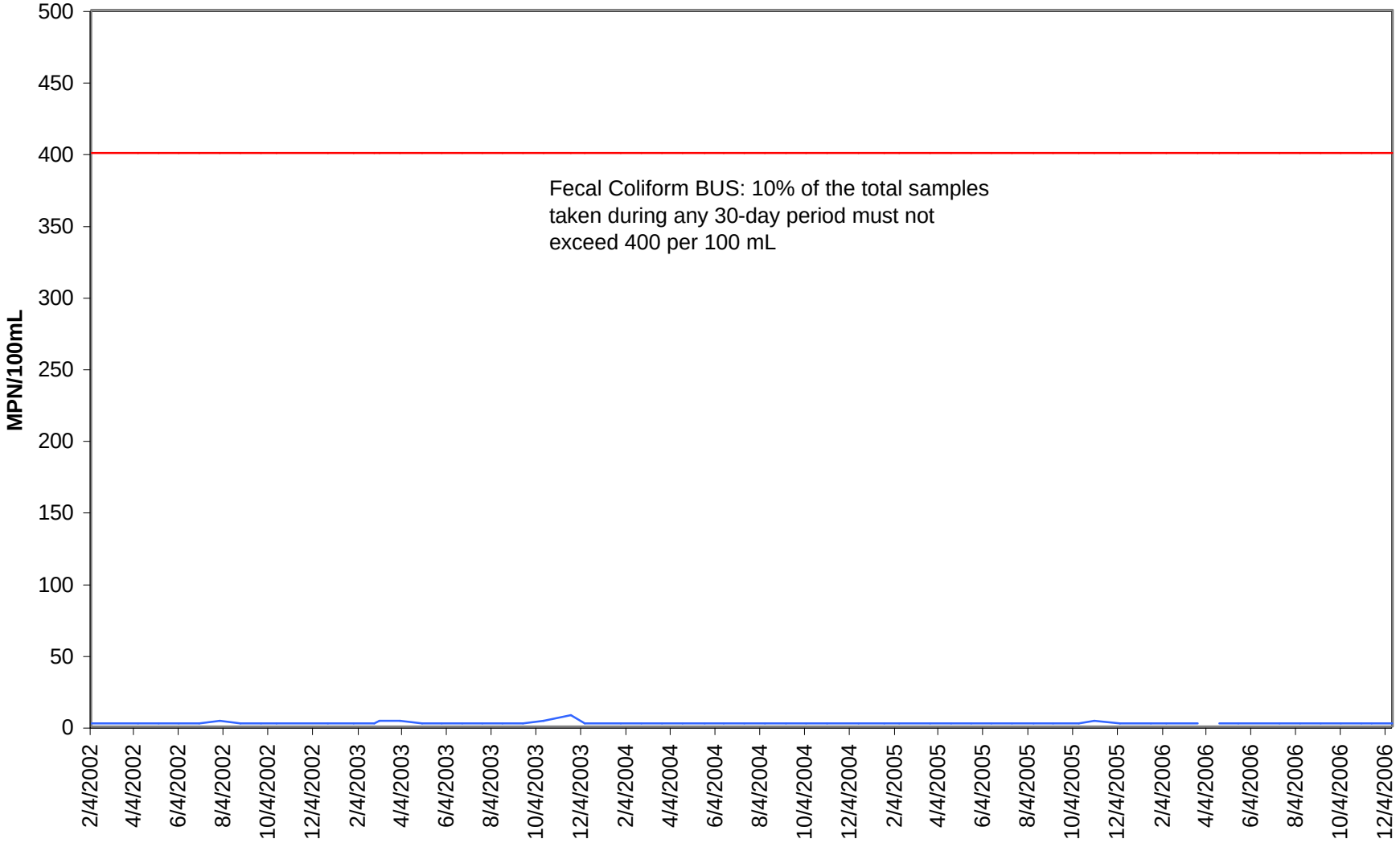



CR346.4 Metalimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
1/7/2002
3/7/2002
5/7/2002
7/7/2002
9/7/2002
11/7/2002
1/7/2003
3/7/2003
5/7/2003
7/7/2003
9/7/2003
11/7/2003
1/7/2004
3/7/2004
5/7/2004
7/7/2004
9/7/2004
11/7/2004
1/7/2005
3/7/2005
5/7/2005
7/7/2005
9/7/2005
11/7/2005
1/7/2006
3/7/2006
5/7/2006
7/7/2006
9/7/2006
11/7/2006

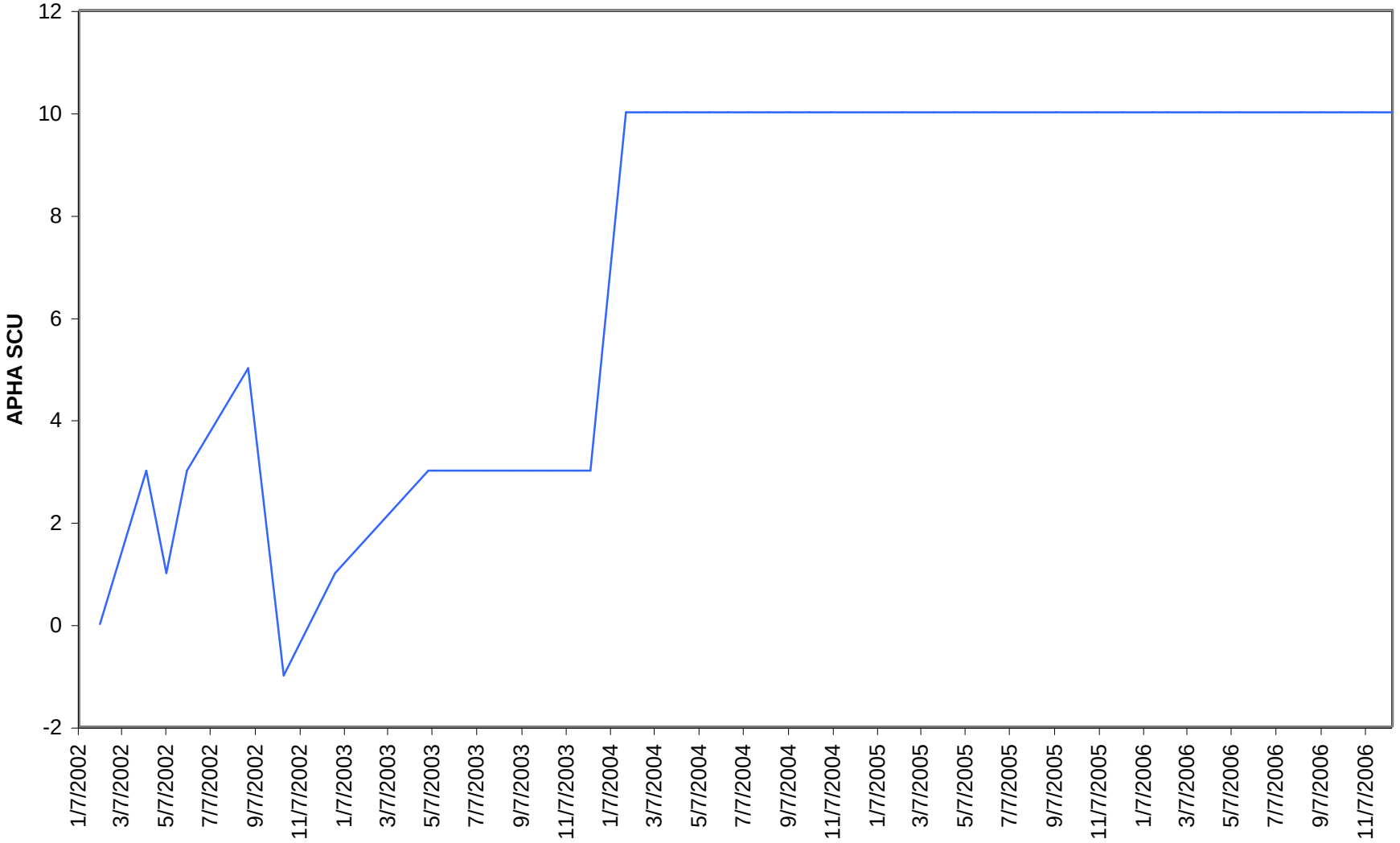
CR346.4 Metalimnion E. coli.



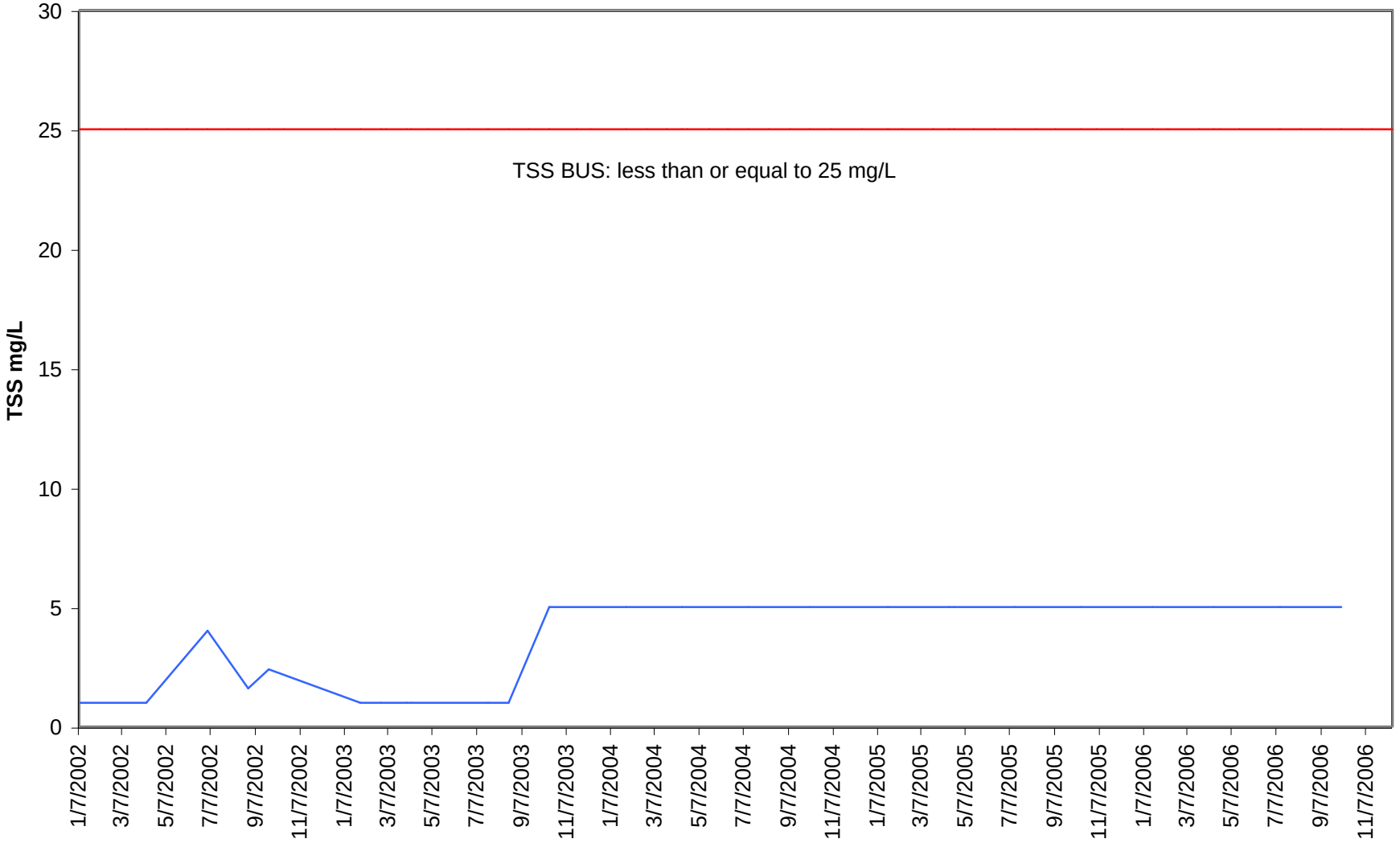
CR346.4 Metalimnion Fecal Coliform



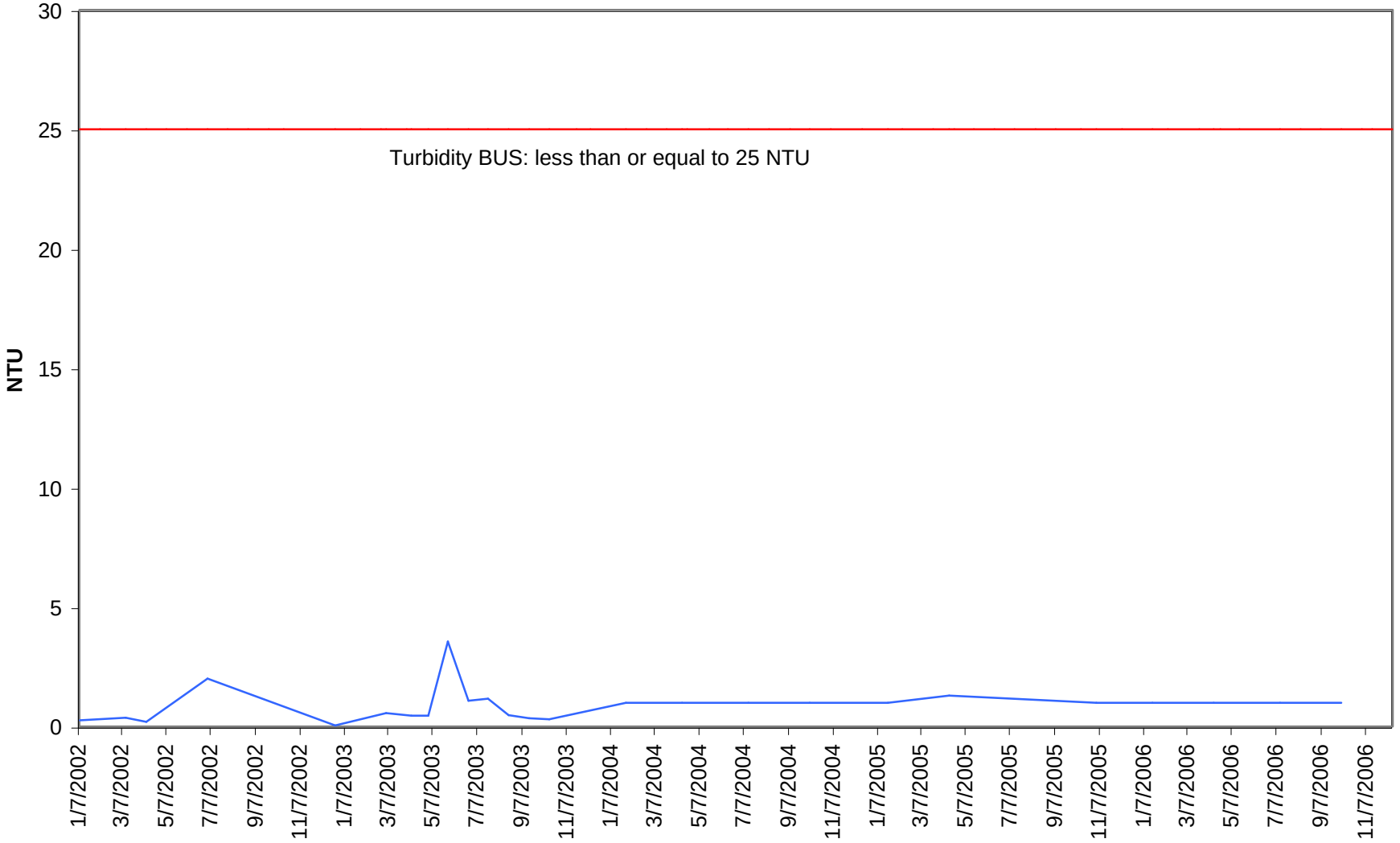
CR346.4 Metalimnion Color



CR346.4 Metalimnion Total Suspended Solids

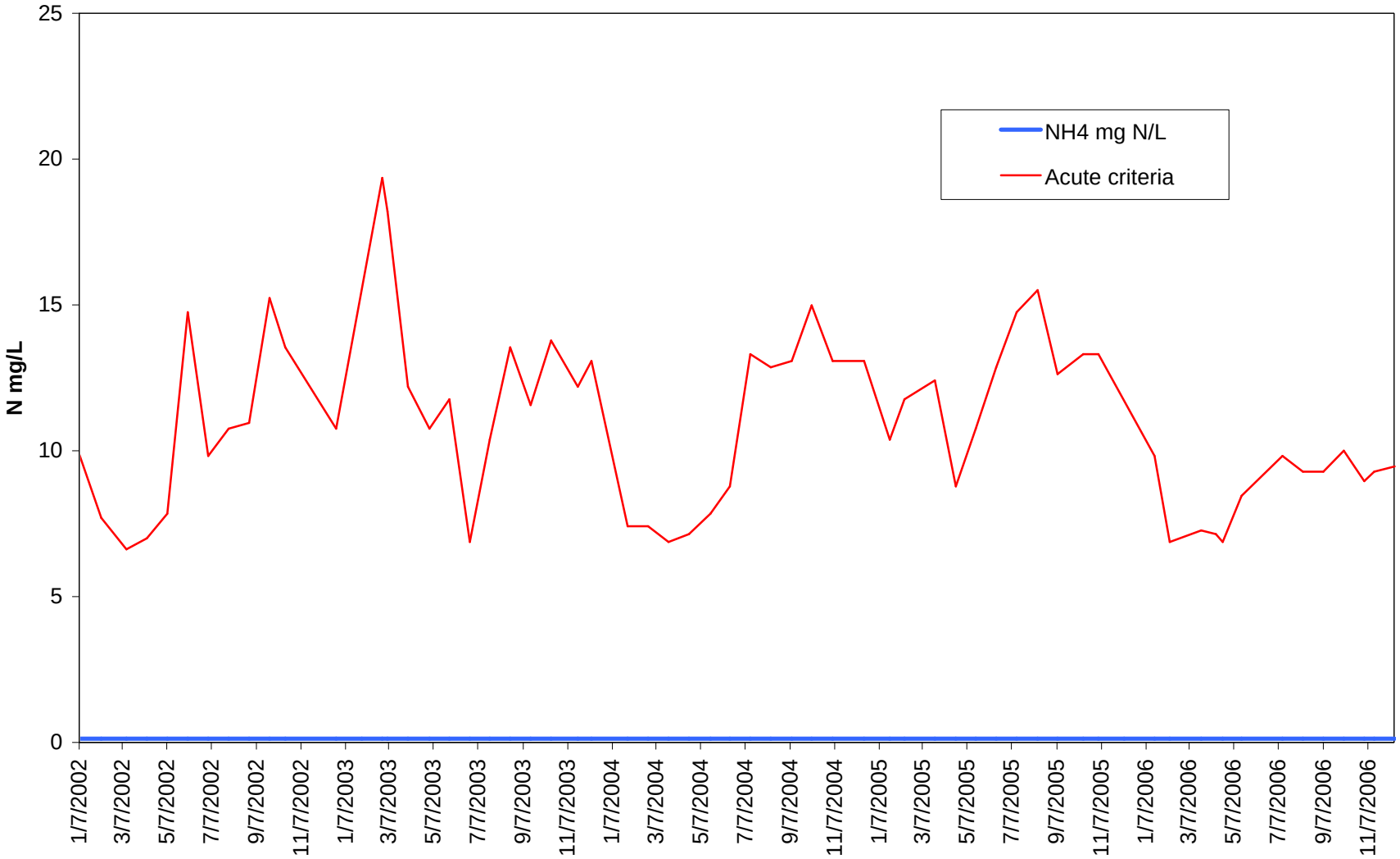


CR346.4 Metalimnion Turbidity

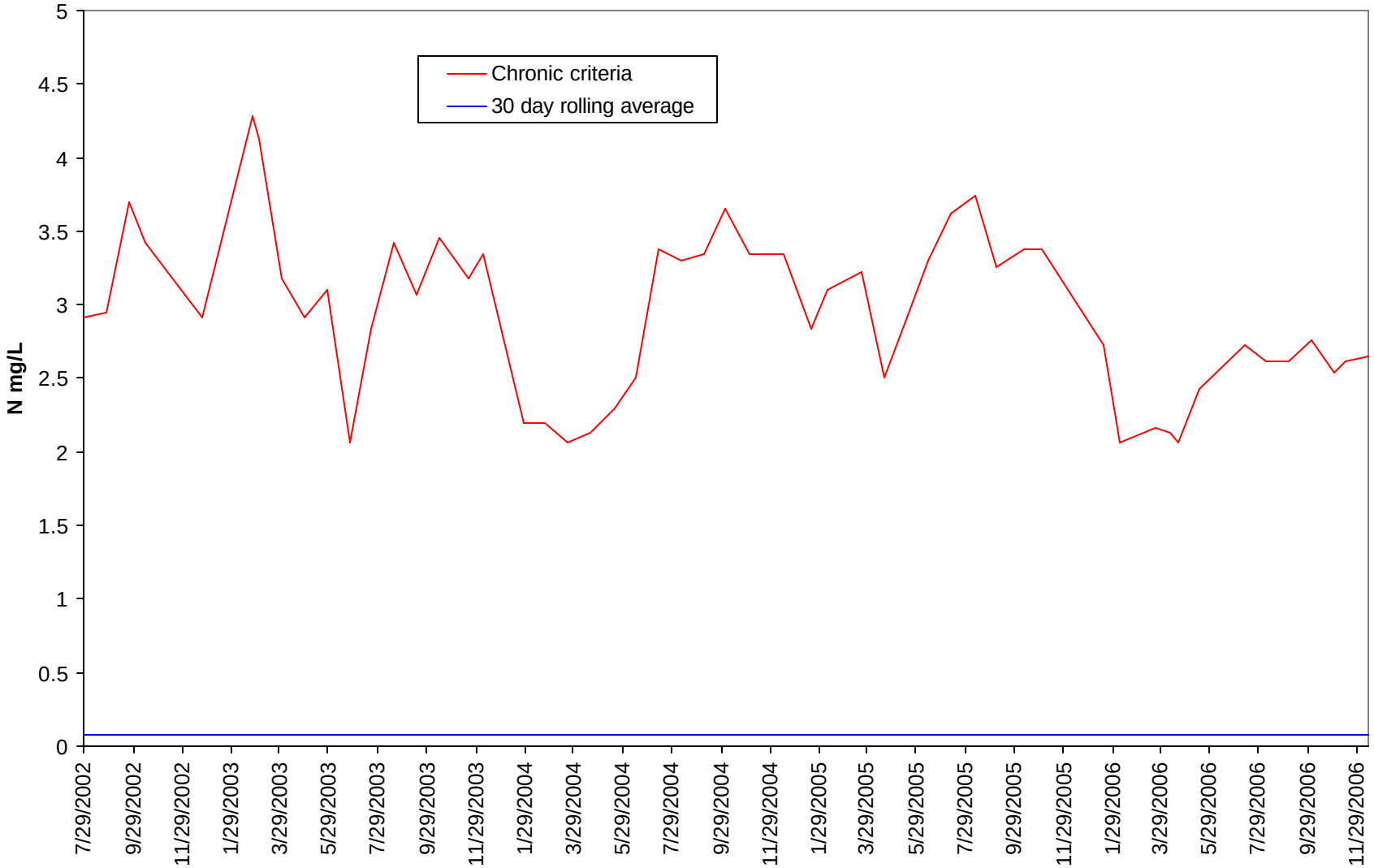


CR346.4
Hypolimnion

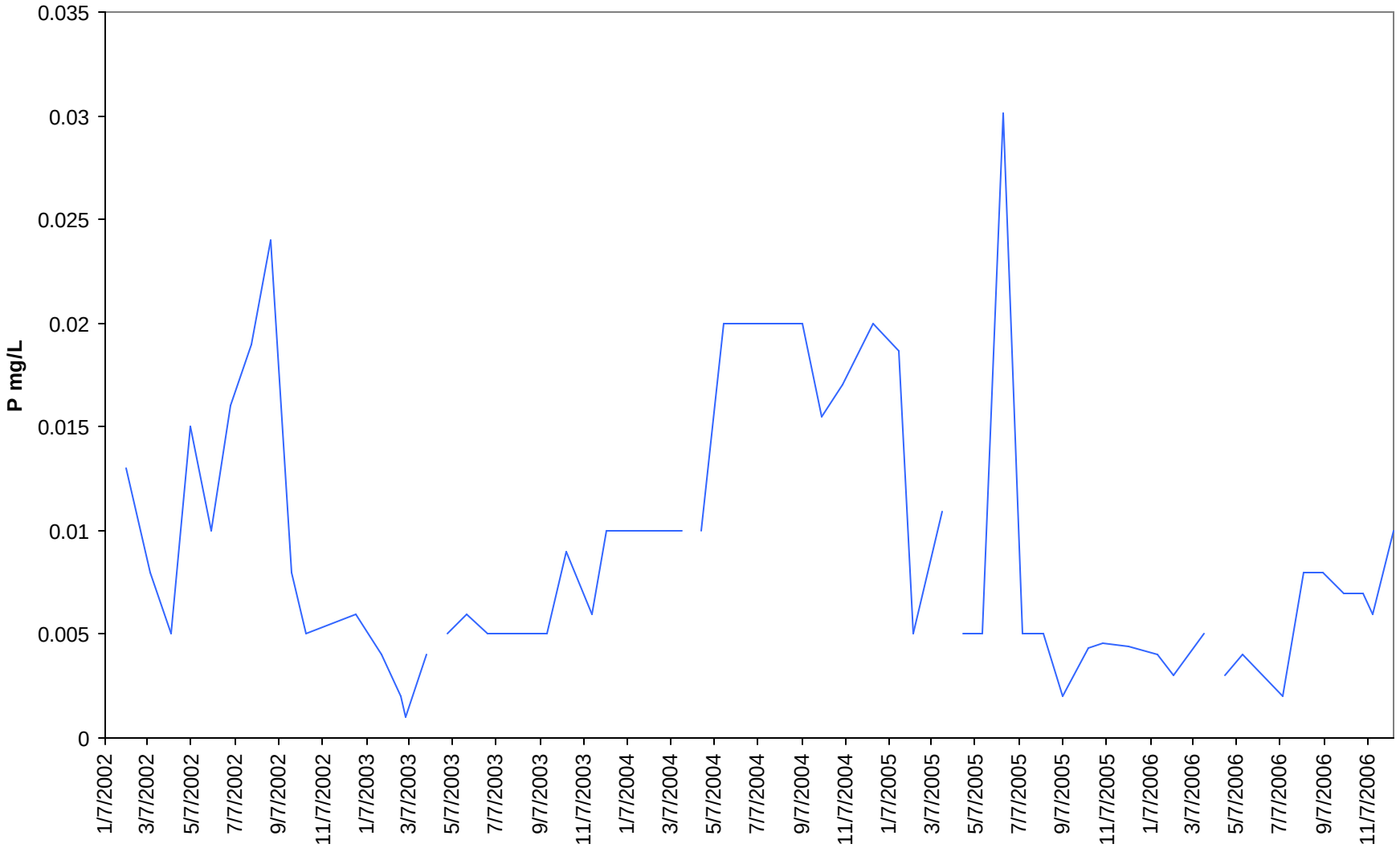
CR346.4 Hypolimnion Total Ammonia



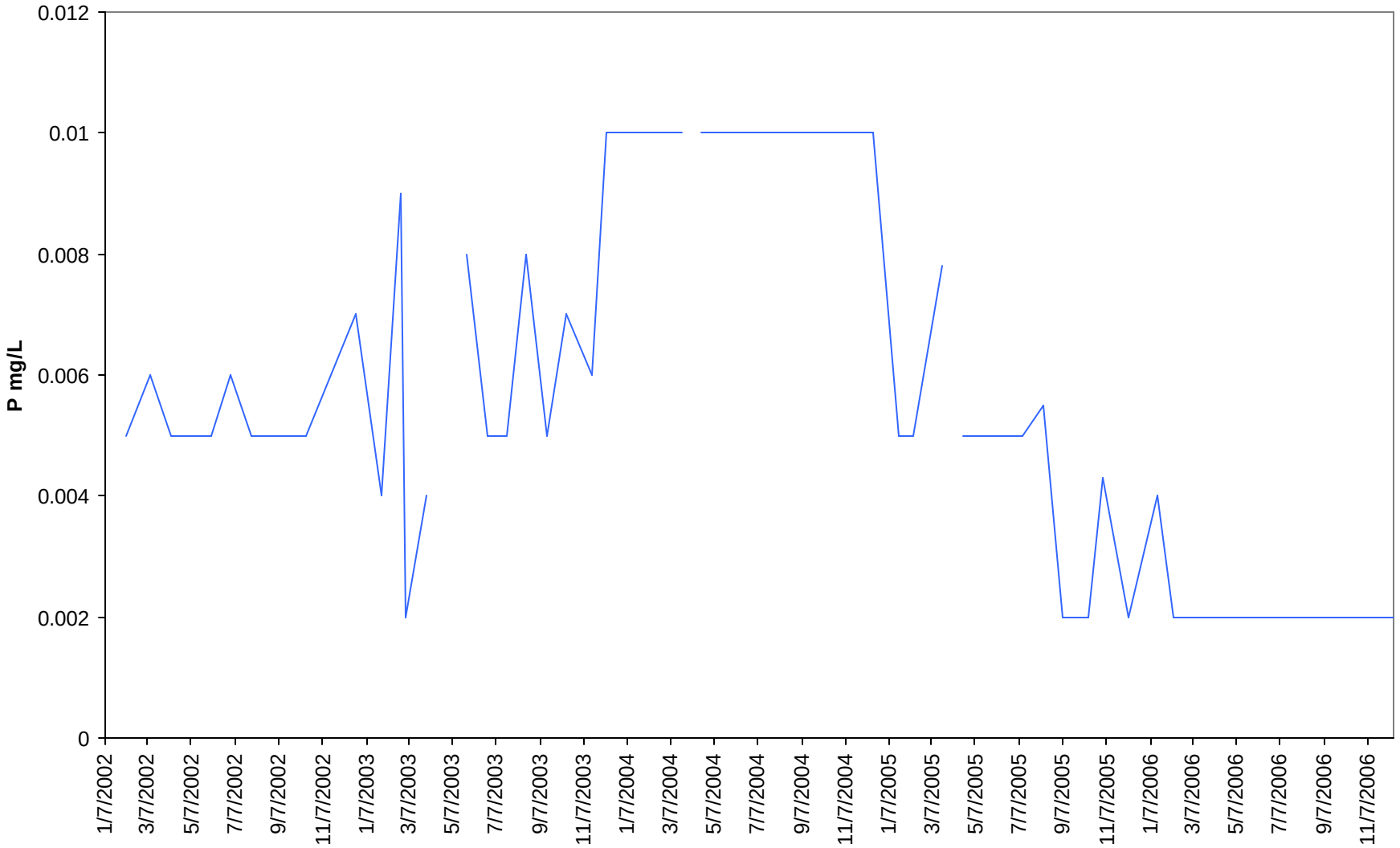
CR346.4 Hypolimnion Chronic Ammonia



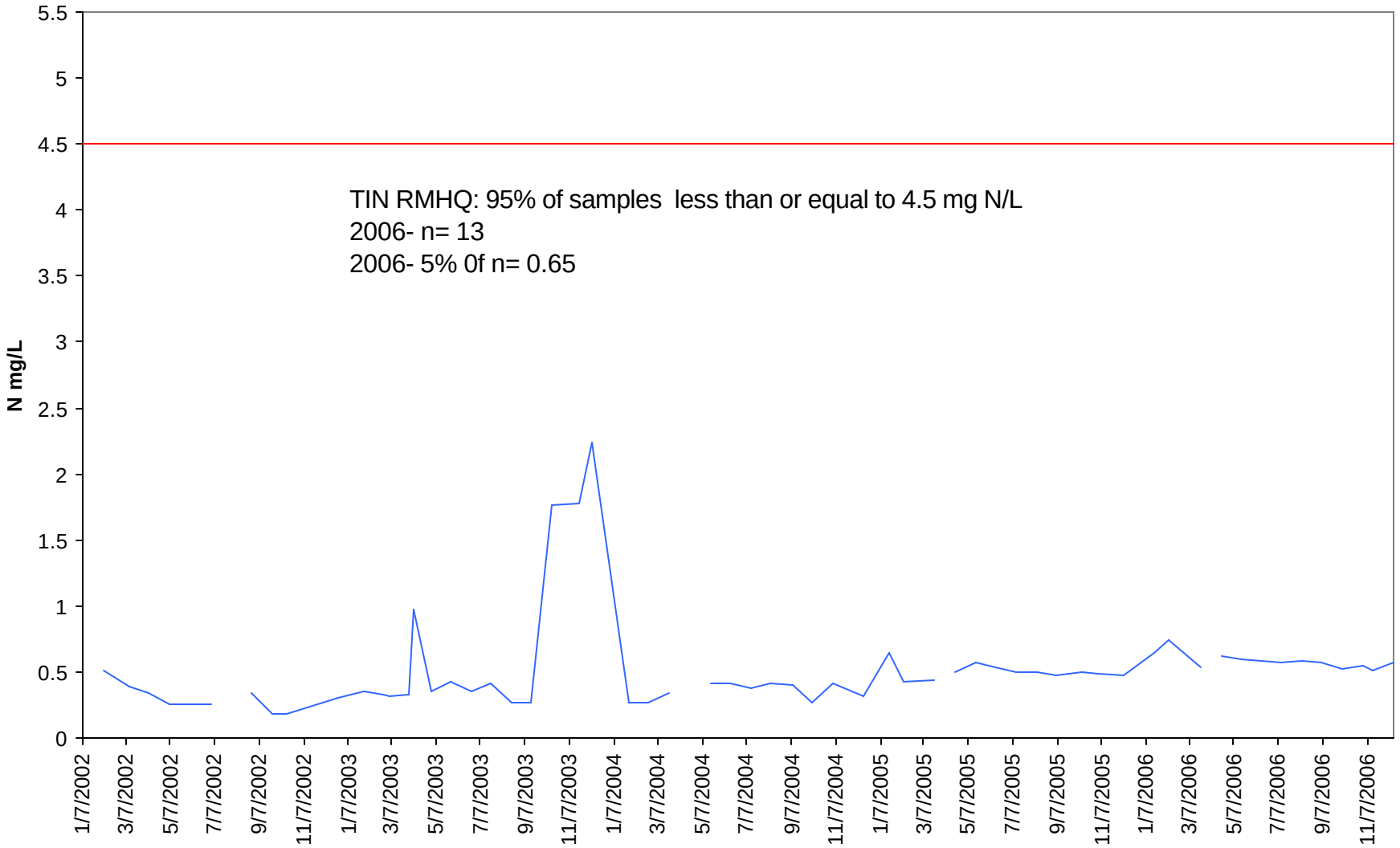
CR346.4 Hypolimnion Total Phosphorus



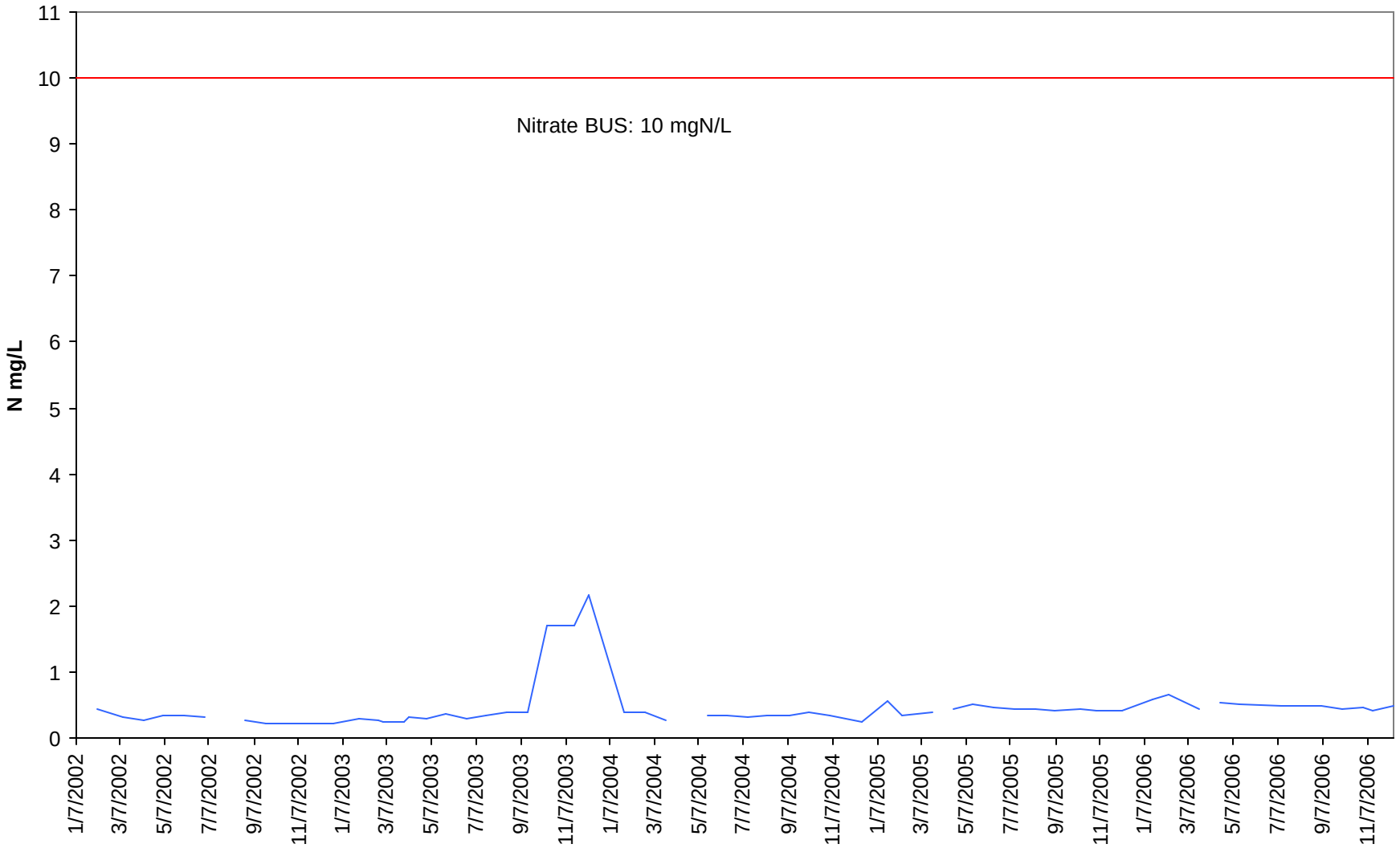
CR346.4 Hypolimnion Dissolved ortho-Phosphorus

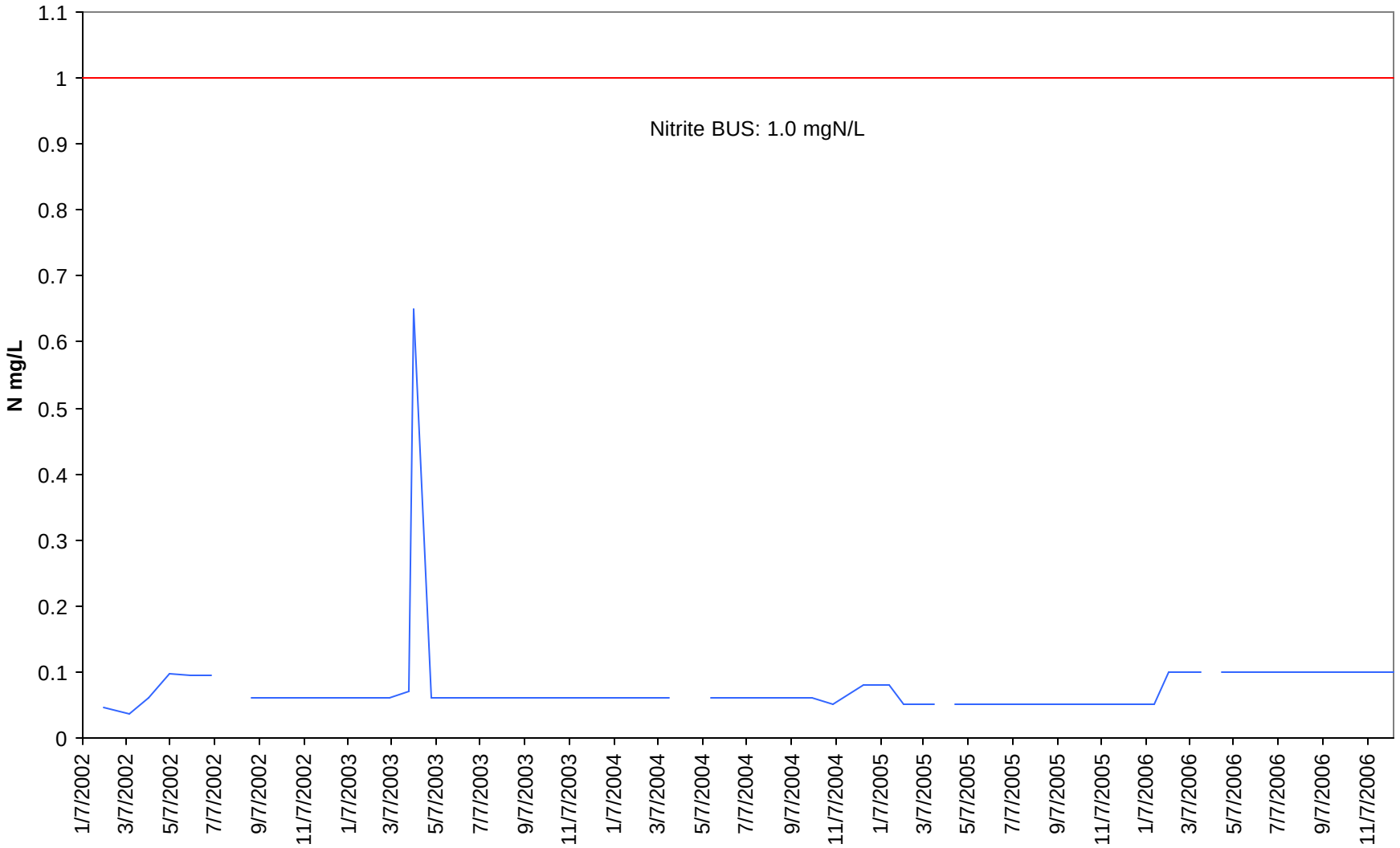


CR346.4 Hypolimnion Total Inorganic Nitrogen

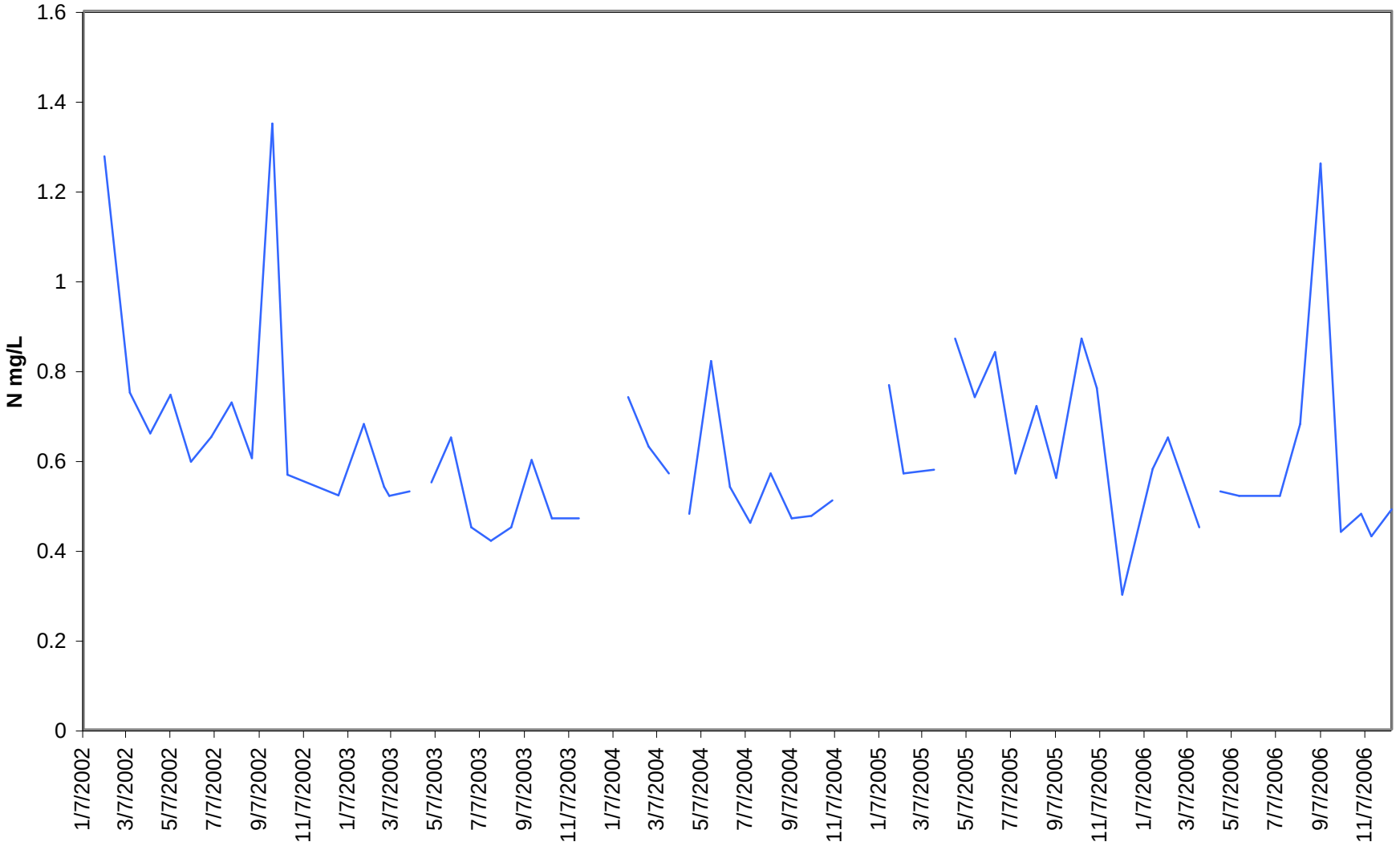


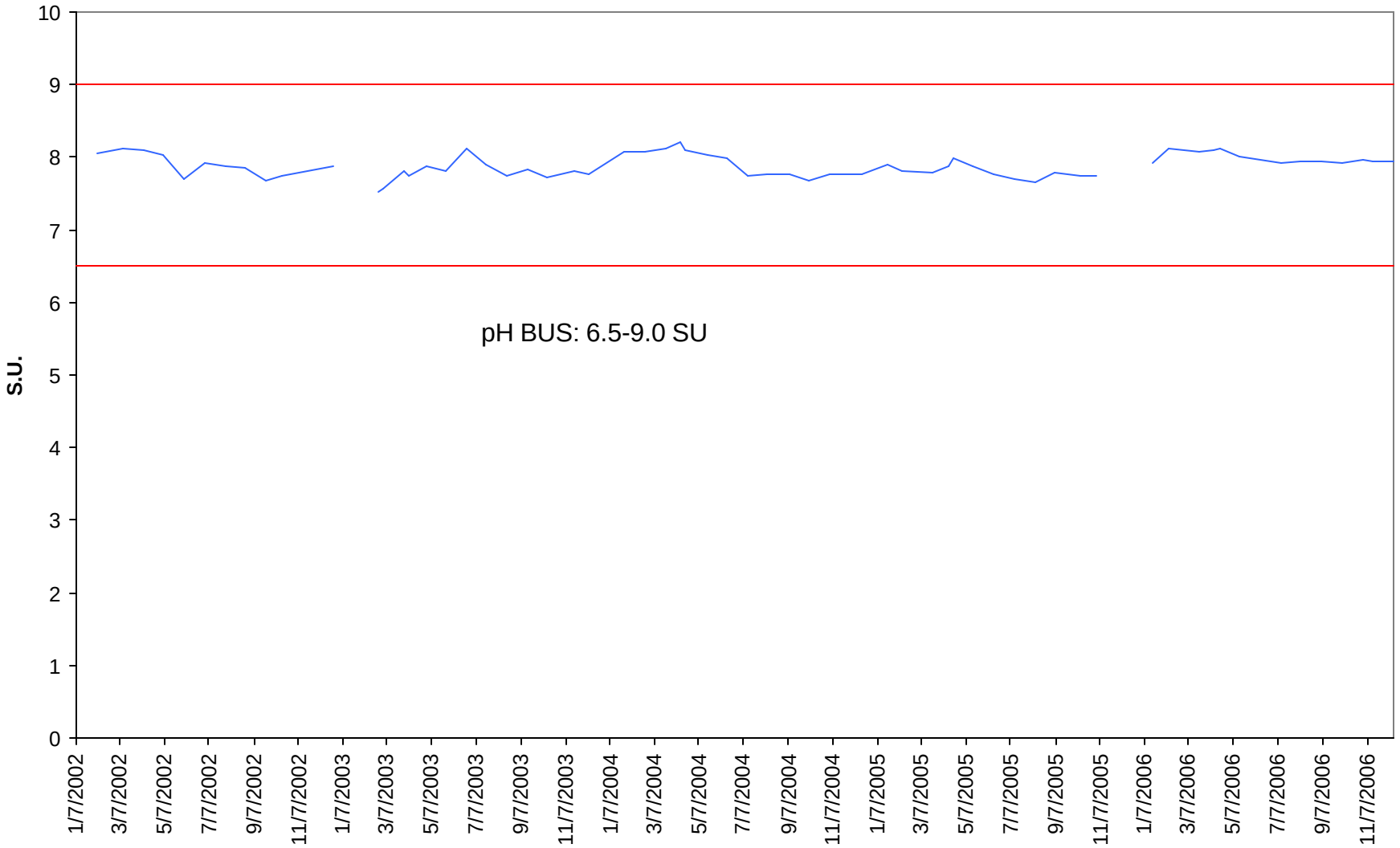
CR346.4 Hypolimnion Nitrate

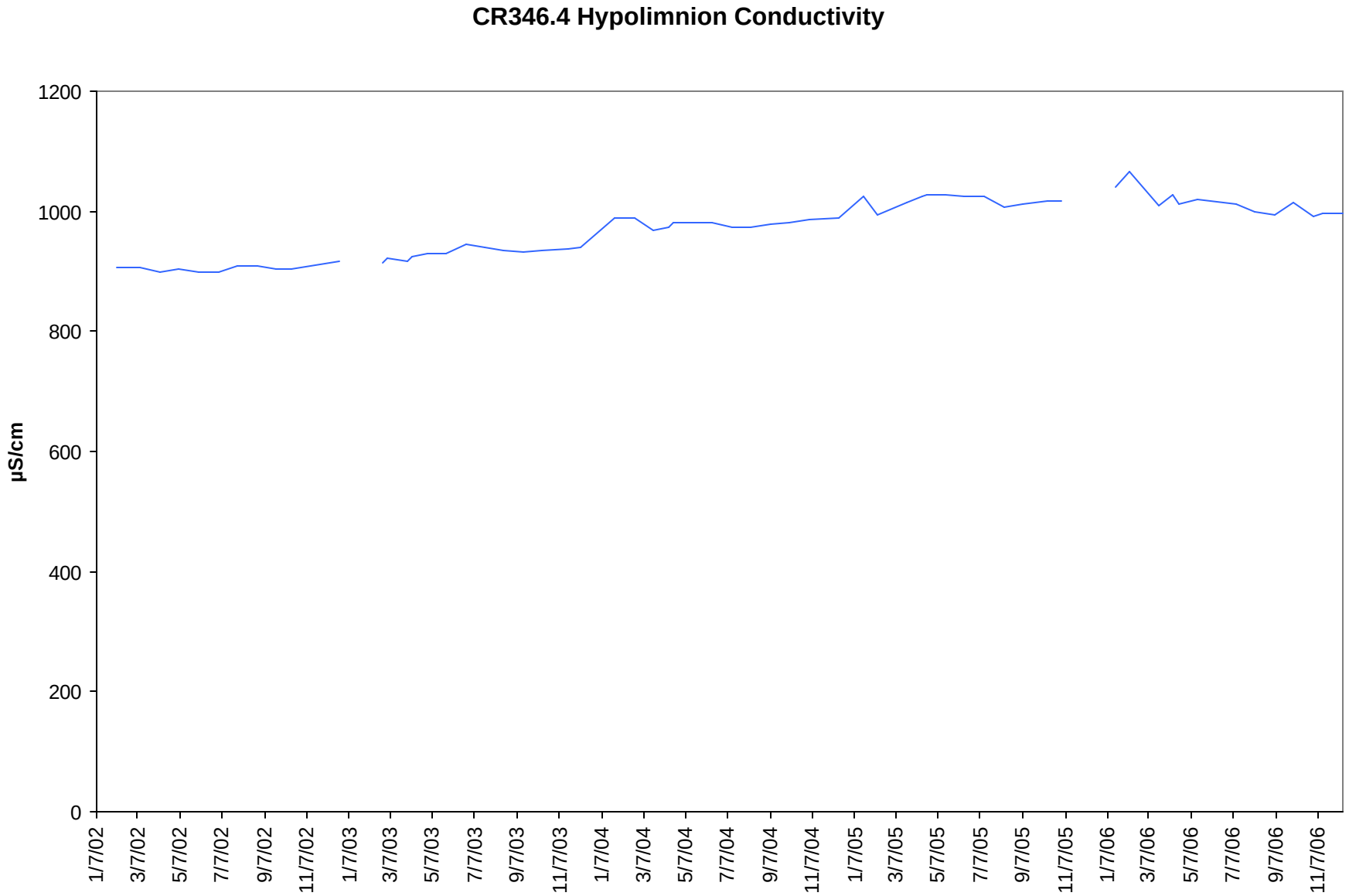



CR346.4 Hypolimnion Nitrite
Nitrite BUS: 1.0 mgN/L
N mg/L
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/7/2002
3/7/2002
5/7/2002
7/7/2002
9/7/2002
11/7/2002
1/7/2003
3/7/2003
5/7/2003
7/7/2003
9/7/2003
11/7/2003
1/7/2004
3/7/2004
5/7/2004
7/7/2004
9/7/2004
11/7/2004
1/7/2005
3/7/2005
5/7/2005
7/7/2005
9/7/2005
11/7/2005
1/7/2006
3/7/2006
5/7/2006
7/7/2006
9/7/2006
11/7/2006

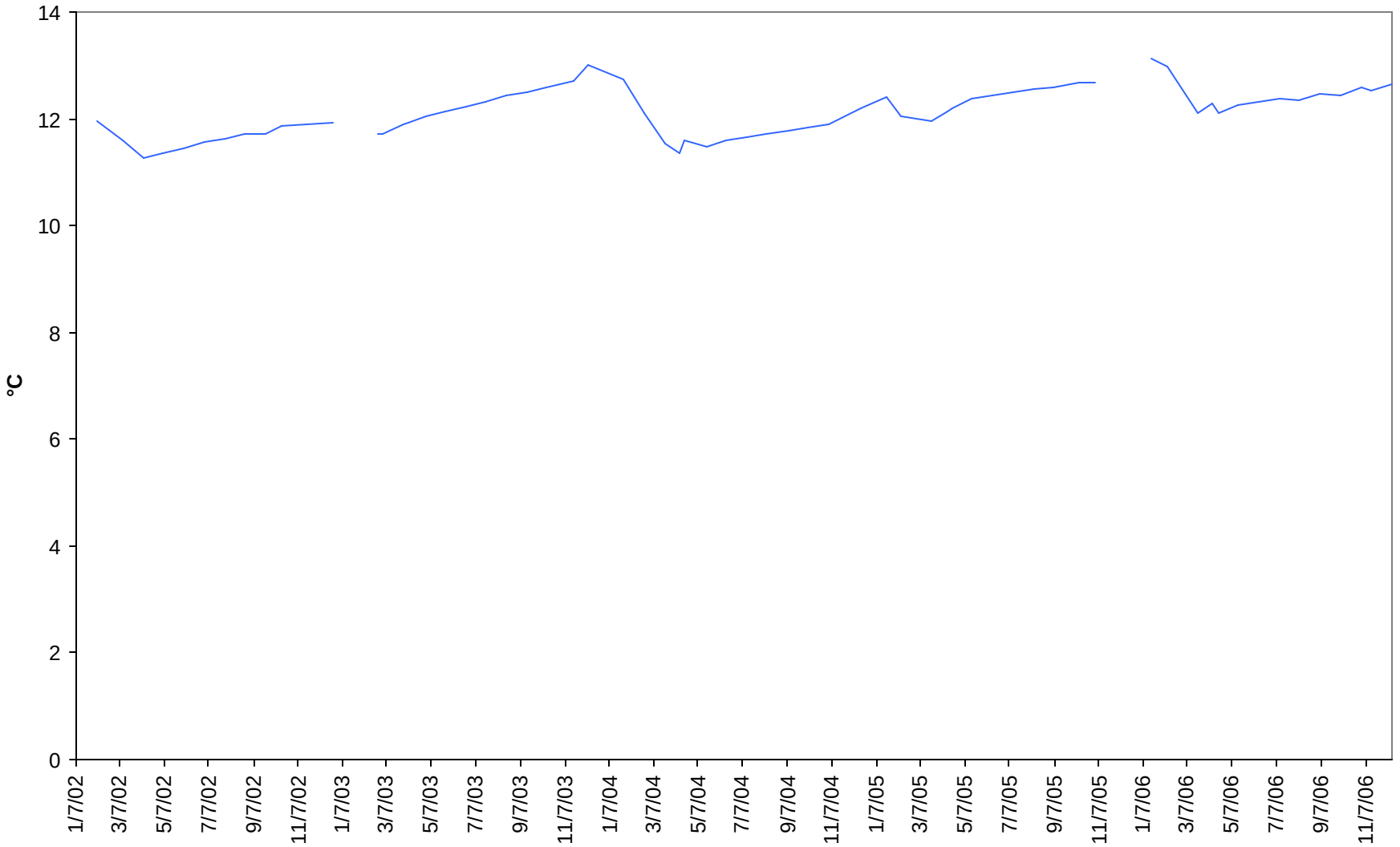
CR346.4 Hypolimnion Total Nitrogen



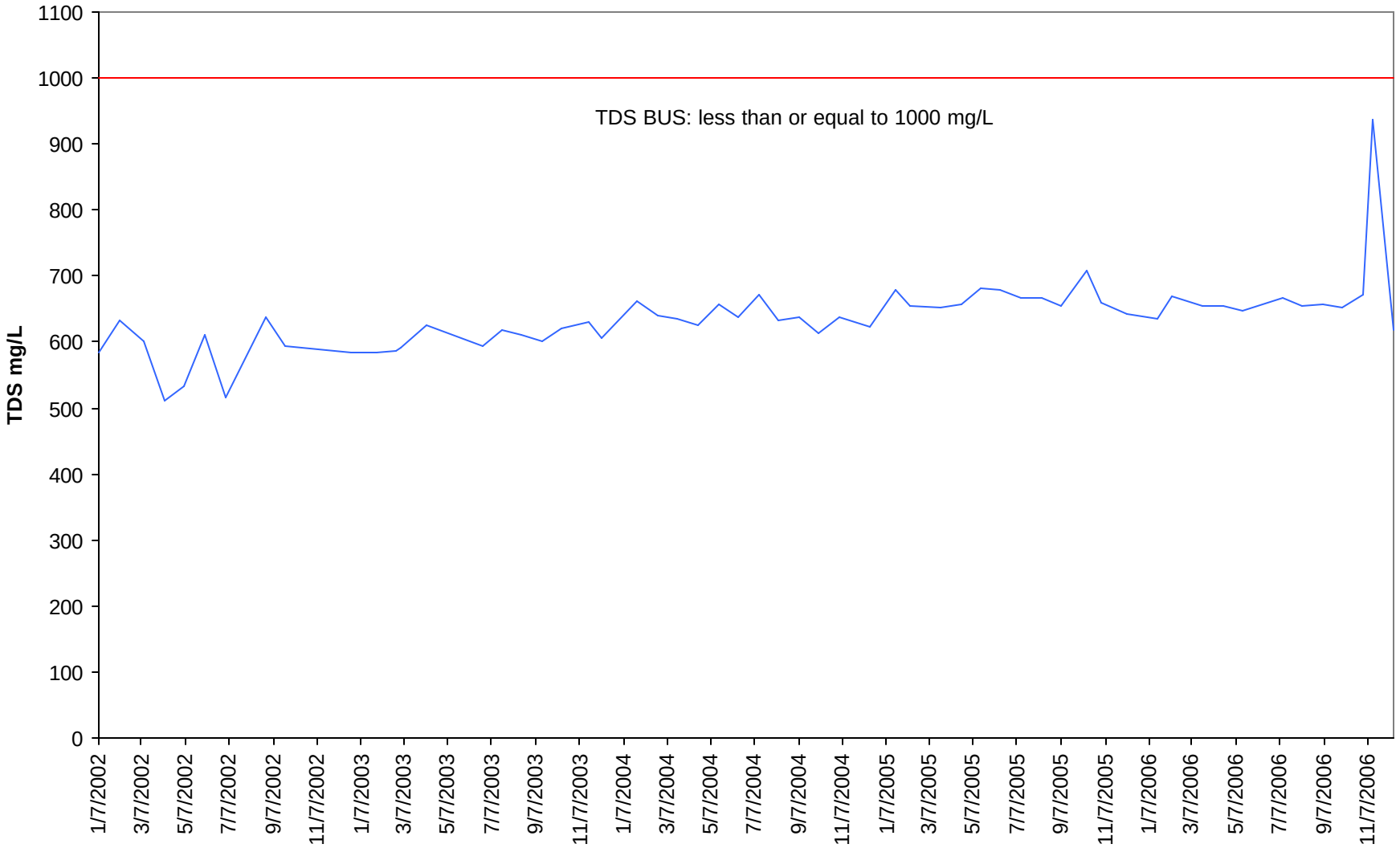

CR346.4 Hypolimnion pH
S.U.
10
9
8
7
6
5
4
3
2
1
0
pH BUS: 6.5-9.0 SU
1/7/2002
3/7/2002
5/7/2002
7/7/2002
9/7/2002
11/7/2002
1/7/2003
3/7/2003
5/7/2003
7/7/2003
9/7/2003
11/7/2003
1/7/2004
3/7/2004
5/7/2004
7/7/2004
9/7/2004
11/7/2004
1/7/2005
3/7/2005
5/7/2005
7/7/2005
9/7/2005
11/7/2005
1/7/2006
3/7/2006
5/7/2006
7/7/2006
9/7/2006
11/7/2006

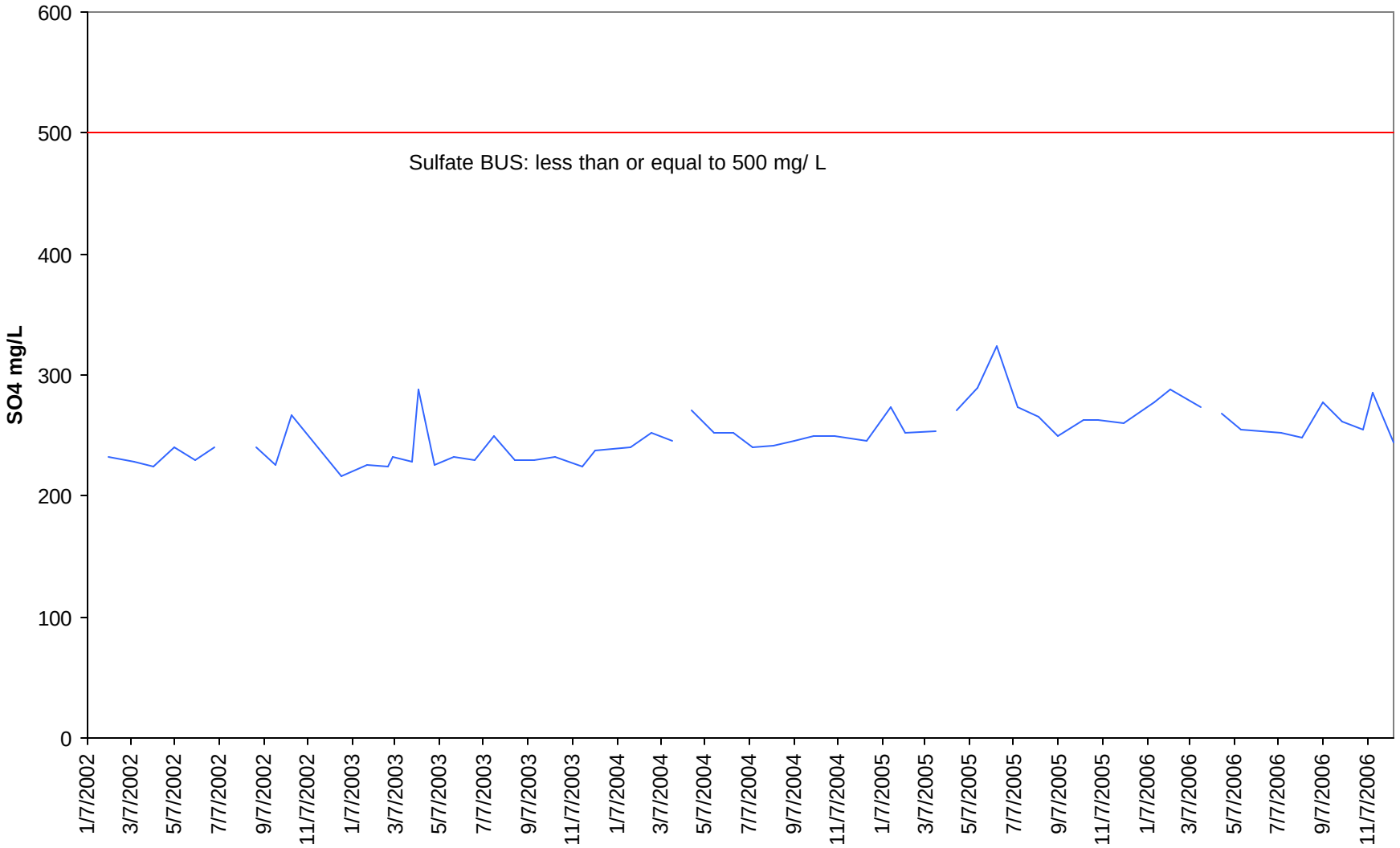

CR346.4 Hypolimnion Conductivity
µS/cm
1200
1000
800
600
400
200
0
1/7/02
3/7/02
5/7/02
7/7/02
9/7/02
11/7/02
1/7/03
3/7/03
5/7/03
7/7/03
9/7/03
11/7/03
1/7/04
3/7/04
5/7/04
7/7/04
9/7/04
11/7/04
1/7/05
3/7/05
5/7/05
7/7/05
9/7/05
11/7/05
1/7/06
3/7/06
5/7/06
7/7/06
9/7/06
11/7/06

CR346.4 Hypolimnion Temperature

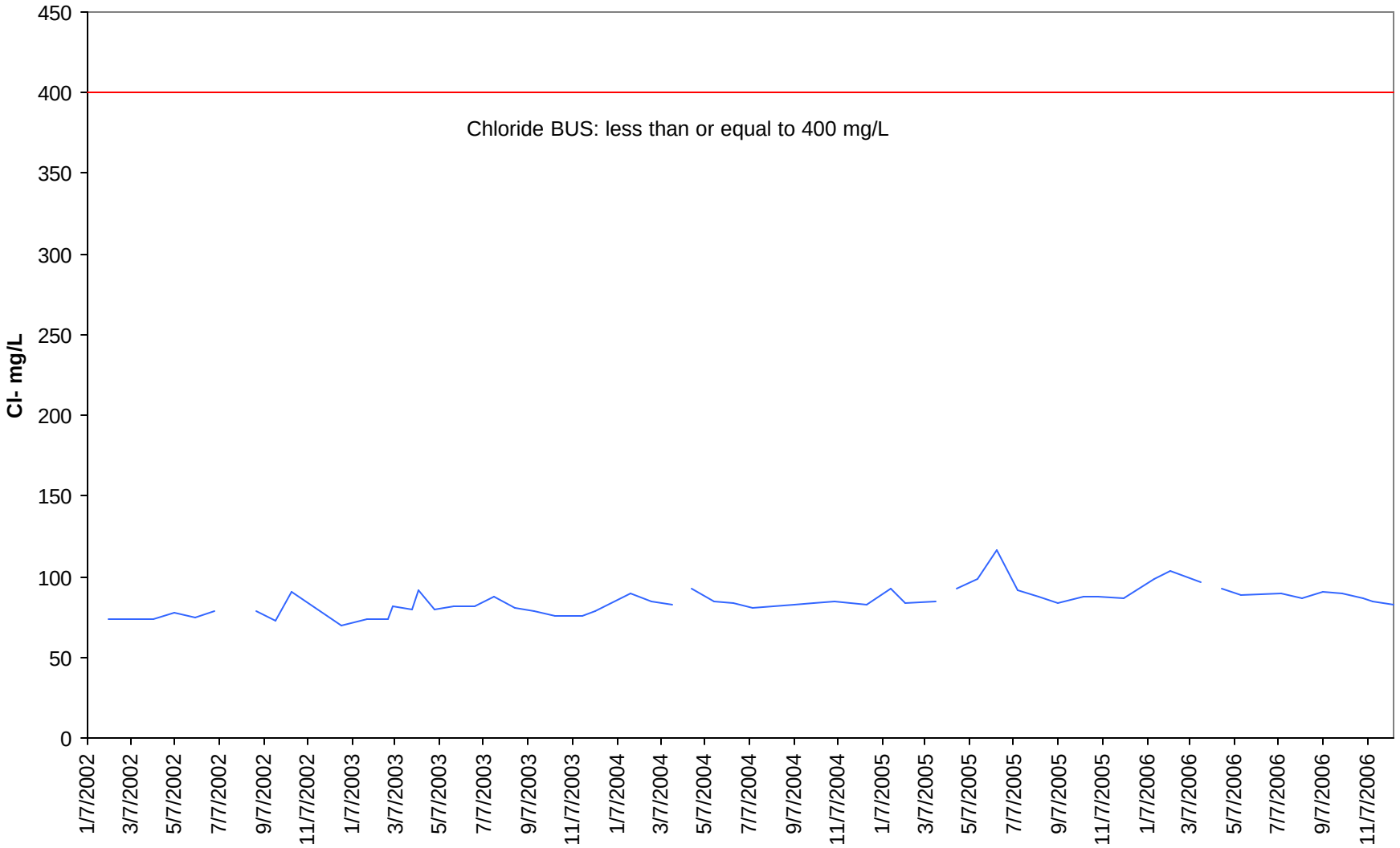


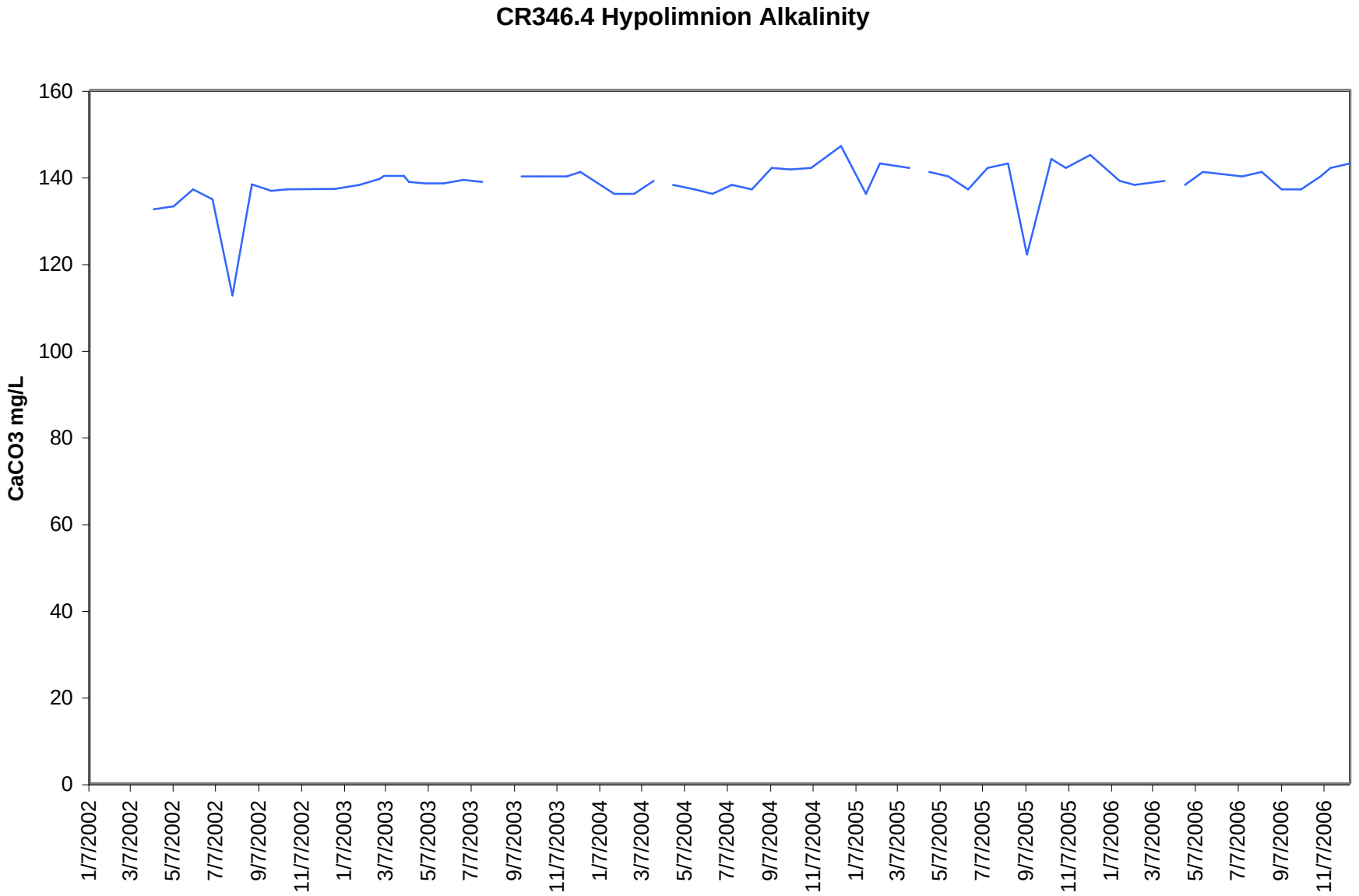
CR346.4 Hypolimnion Total Dissolved Solids



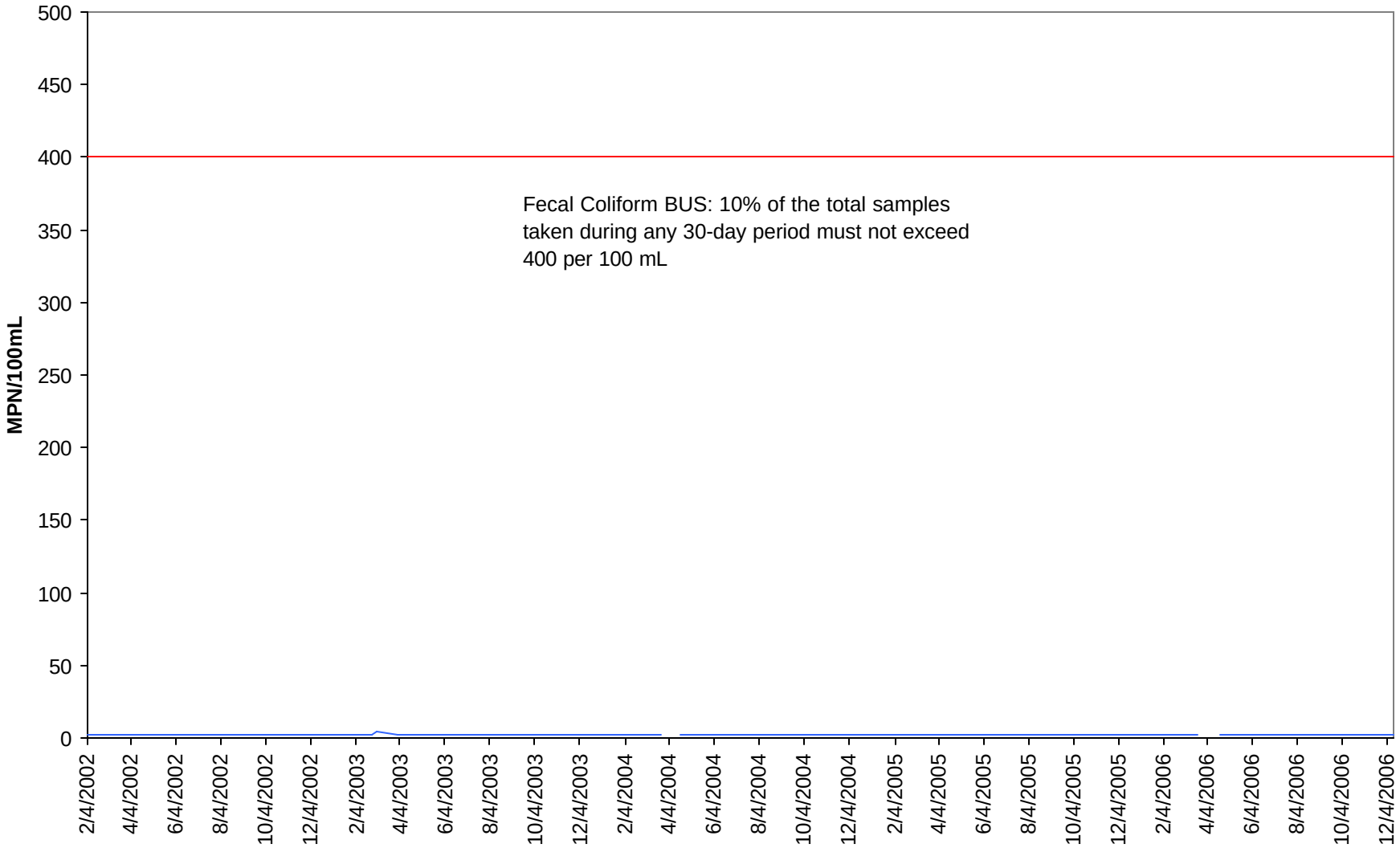

CR346.4 Hypolimnion Sulfate
SO4 mg/L
600
500
400
300
200
100
0
Sulfate BUS: less than or equal to 500 mg/ L
1/7/2002
3/7/2002
5/7/2002
7/7/2002
9/7/2002
11/7/2002
1/7/2003
3/7/2003
5/7/2003
7/7/2003
9/7/2003
11/7/2003
1/7/2004
3/7/2004
5/7/2004
7/7/2004
9/7/2004
11/7/2004
1/7/2005
3/7/2005
5/7/2005
7/7/2005
9/7/2005
11/7/2005
1/7/2006
3/7/2006
5/7/2006
7/7/2006
9/7/2006
11/7/2006

CR346.4 Hypolimnion Chloride

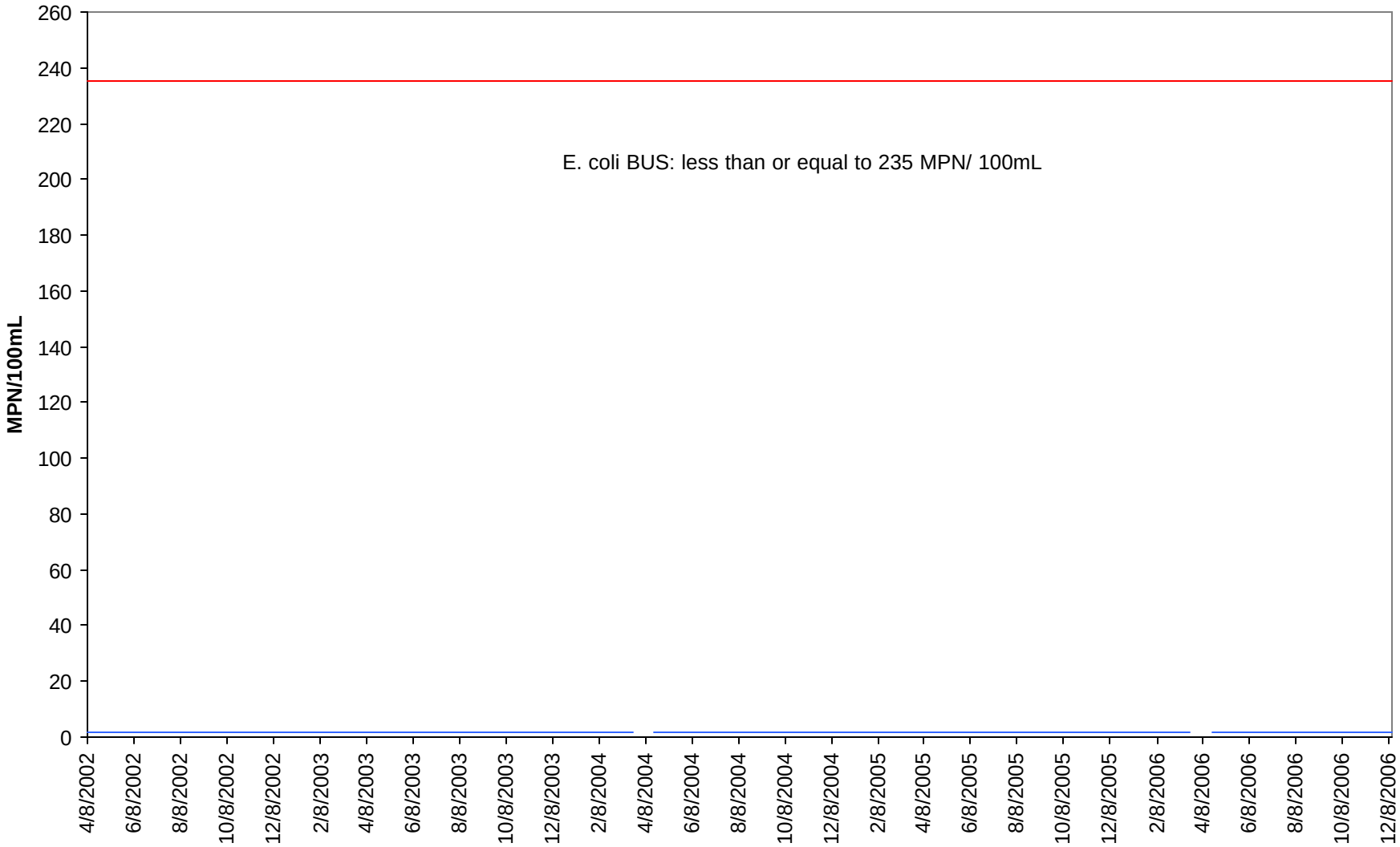



CR346.4 Hypolimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
1/7/2002
3/7/2002
5/7/2002
7/7/2002
9/7/2002
11/7/2002
1/7/2003
3/7/2003
5/7/2003
7/7/2003
9/7/2003
11/7/2003
1/7/2004
3/7/2004
5/7/2004
7/7/2004
9/7/2004
11/7/2004
1/7/2005
3/7/2005
5/7/2005
7/7/2005
9/7/2005
11/7/2005
1/7/2006
3/7/2006
5/7/2006
7/7/2006
9/7/2006
11/7/2006

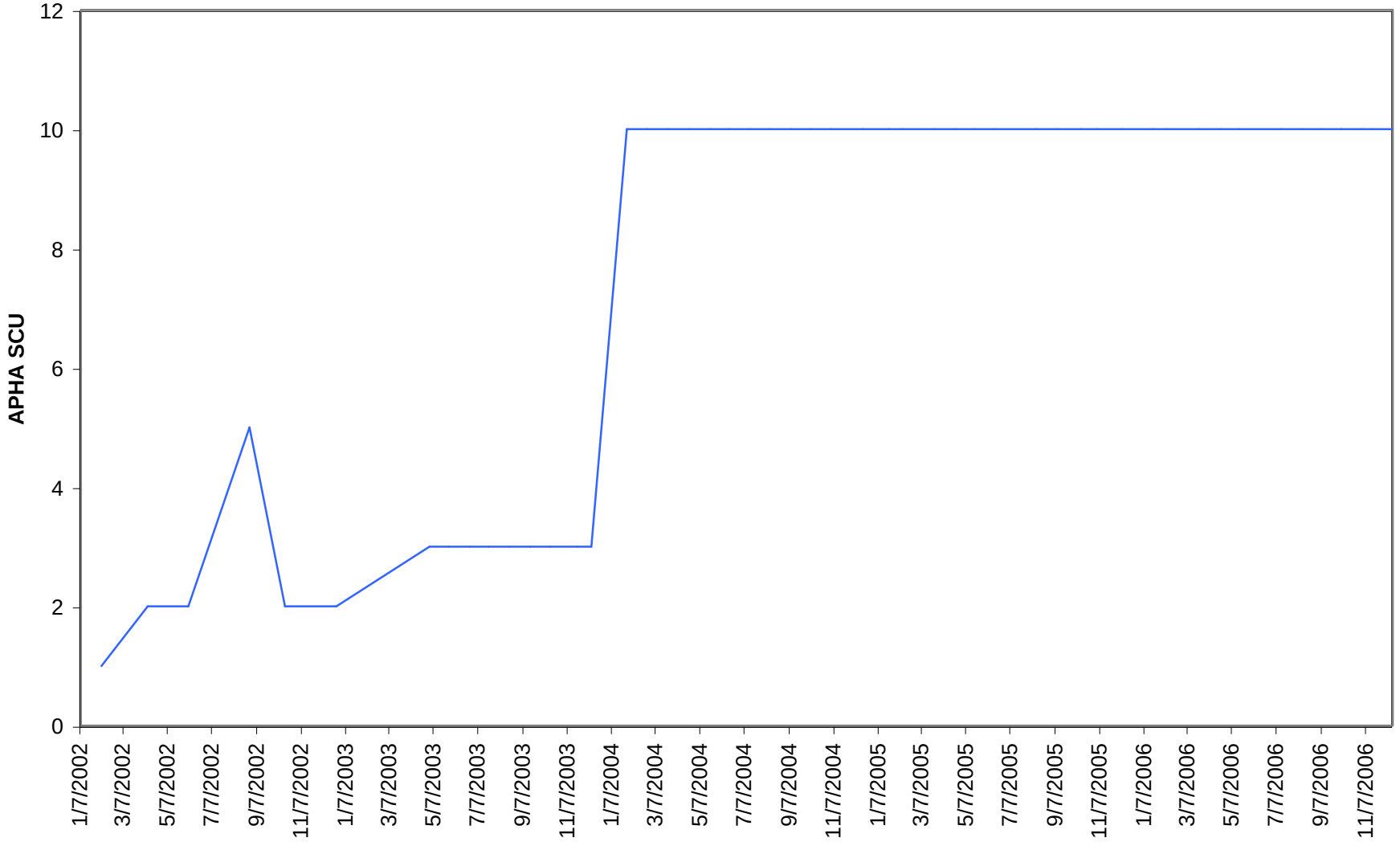
CR346.4 Hypolimnion Fecal Coliform



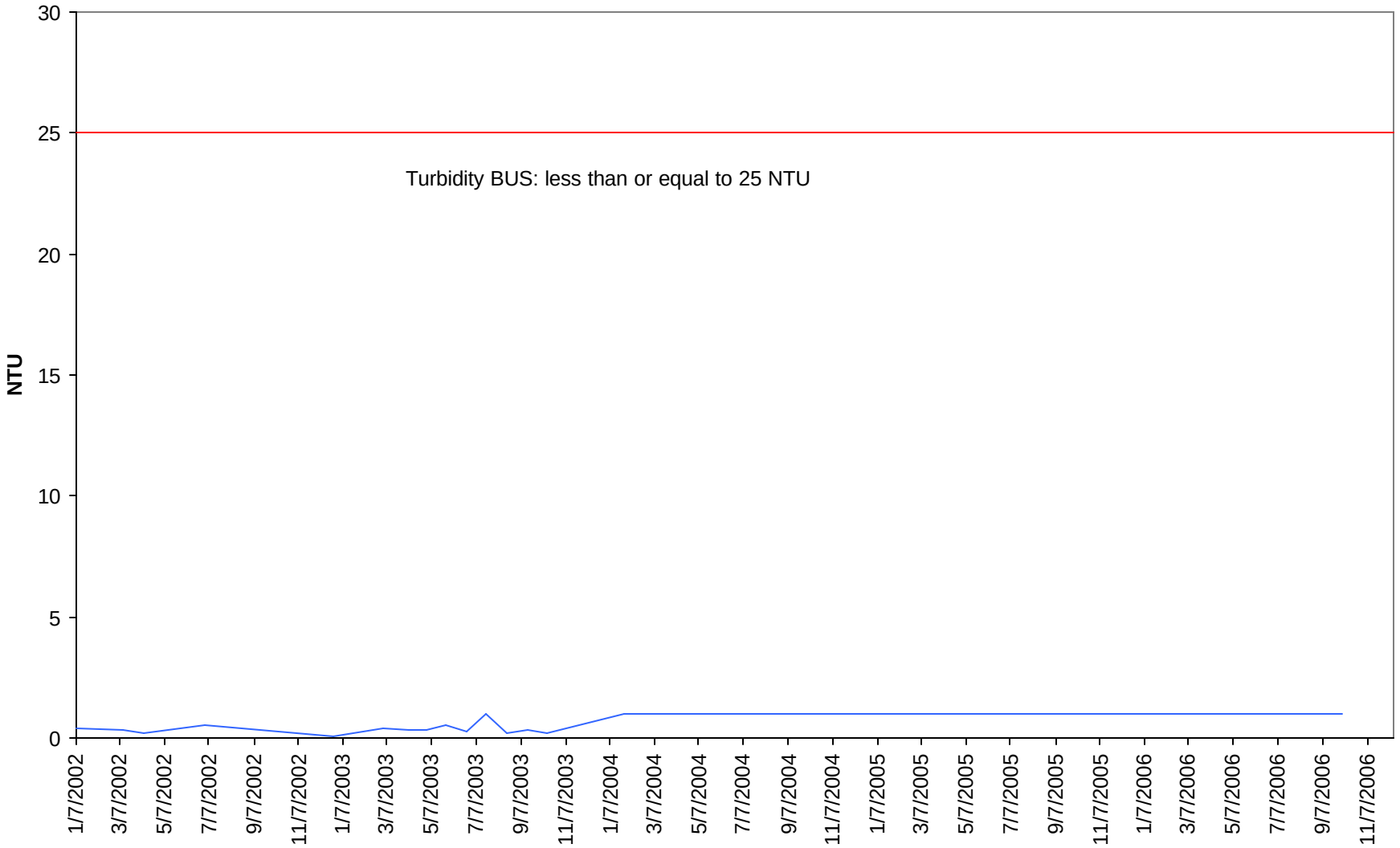
CR346.4 Hypolimnion E. coli.



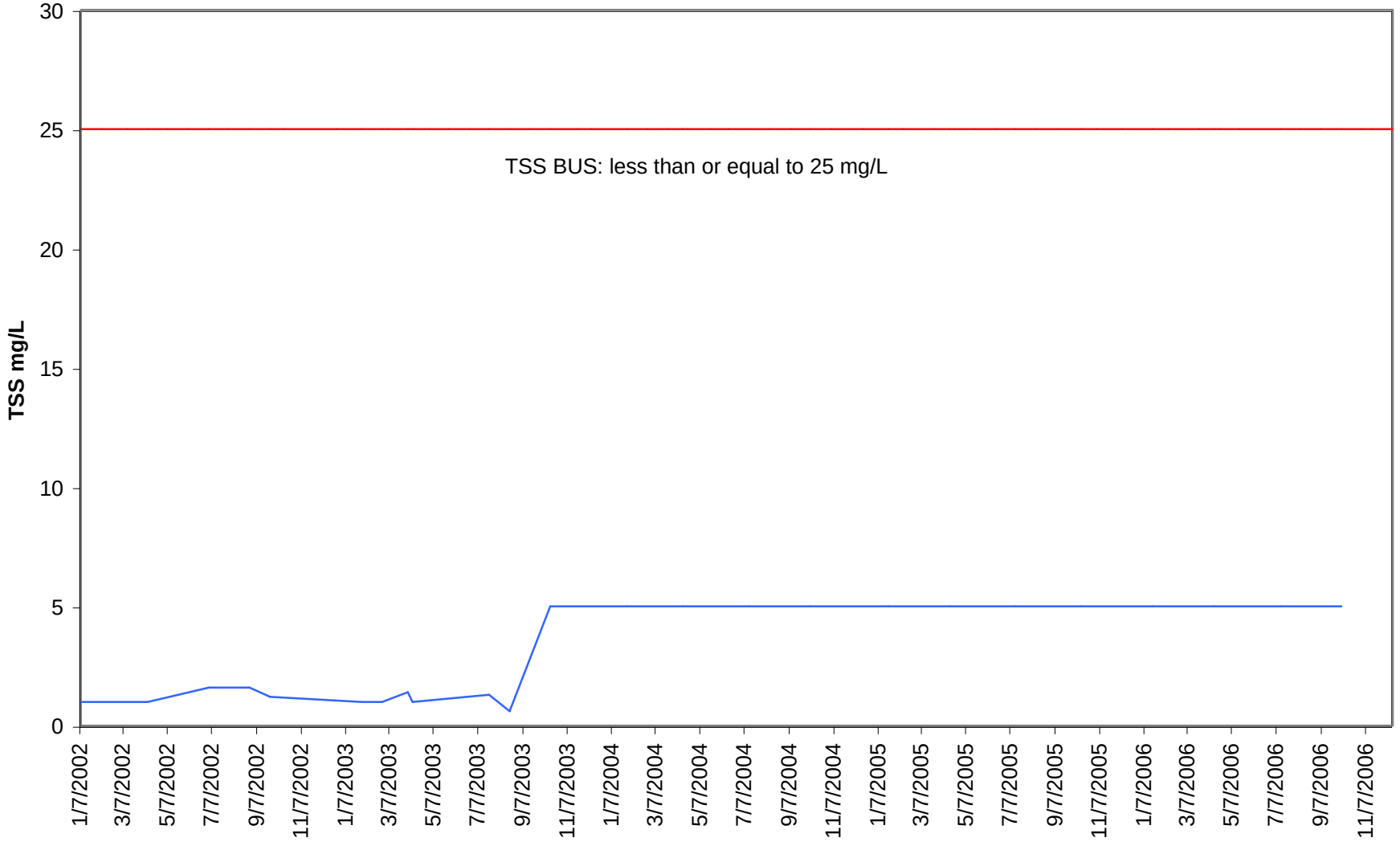
CR346.4 Hypolimnion Color



CR346.4 Hypolimnion Turbidity

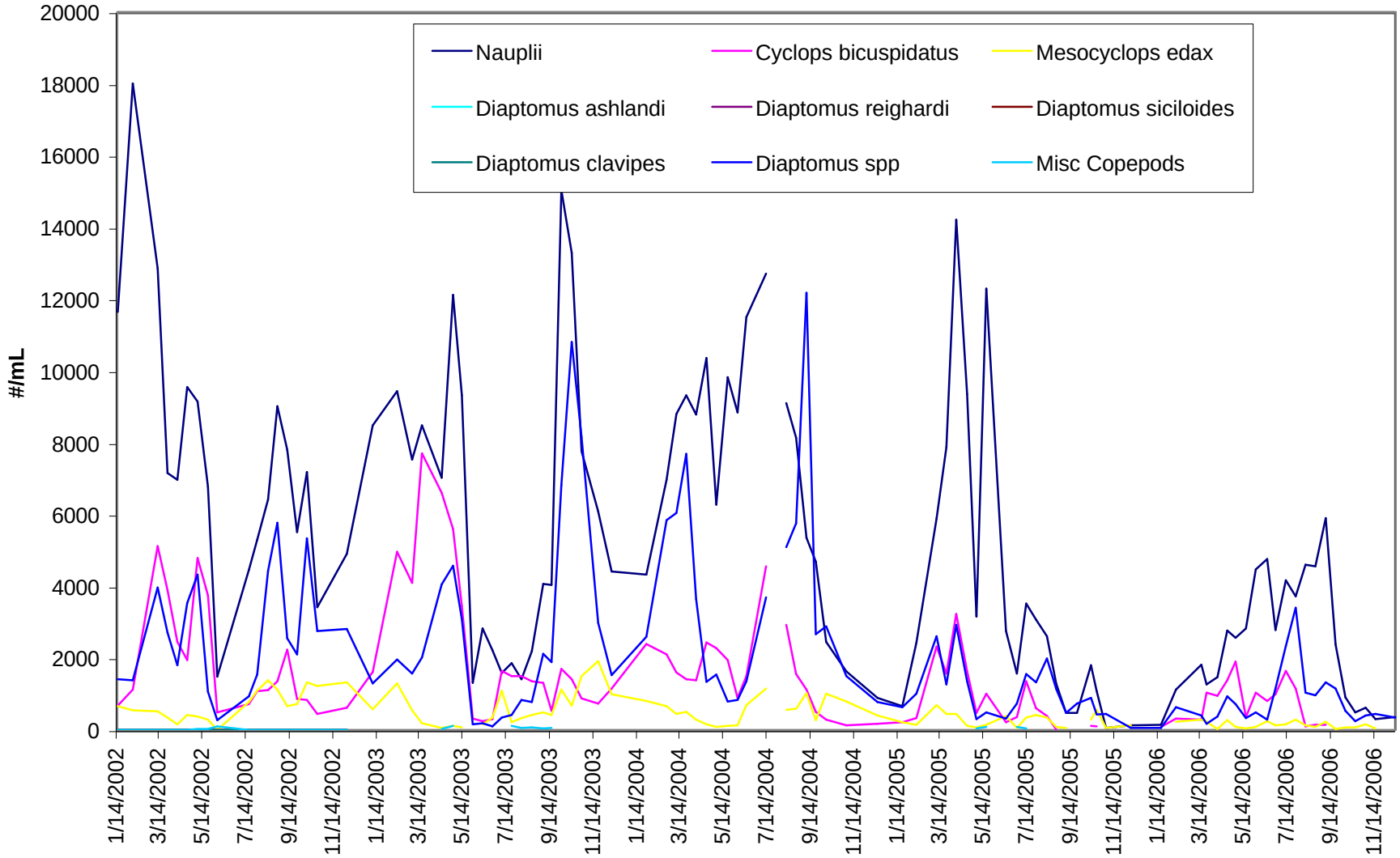


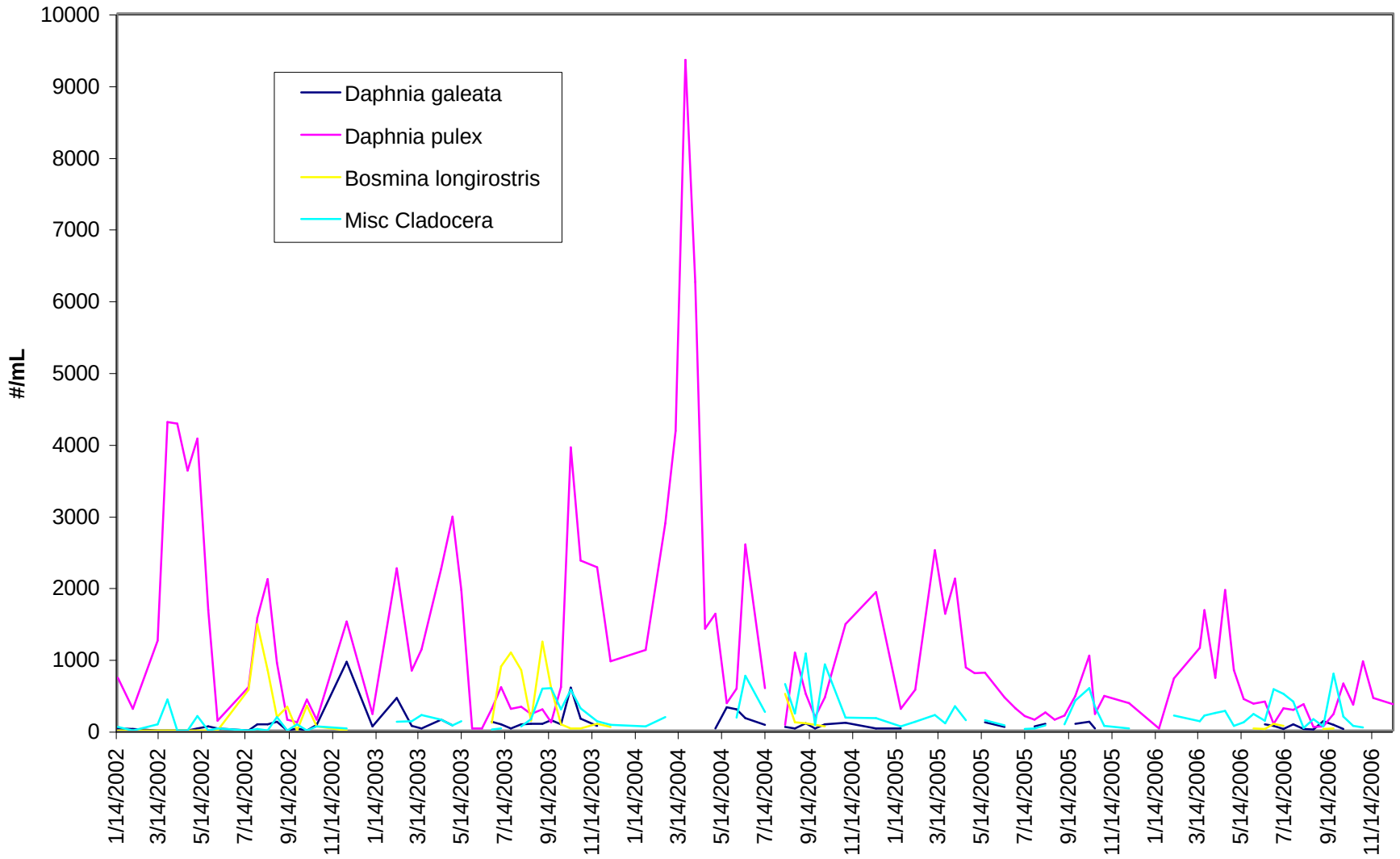
CR346.4 Hypolimnion Total Suspended Solids

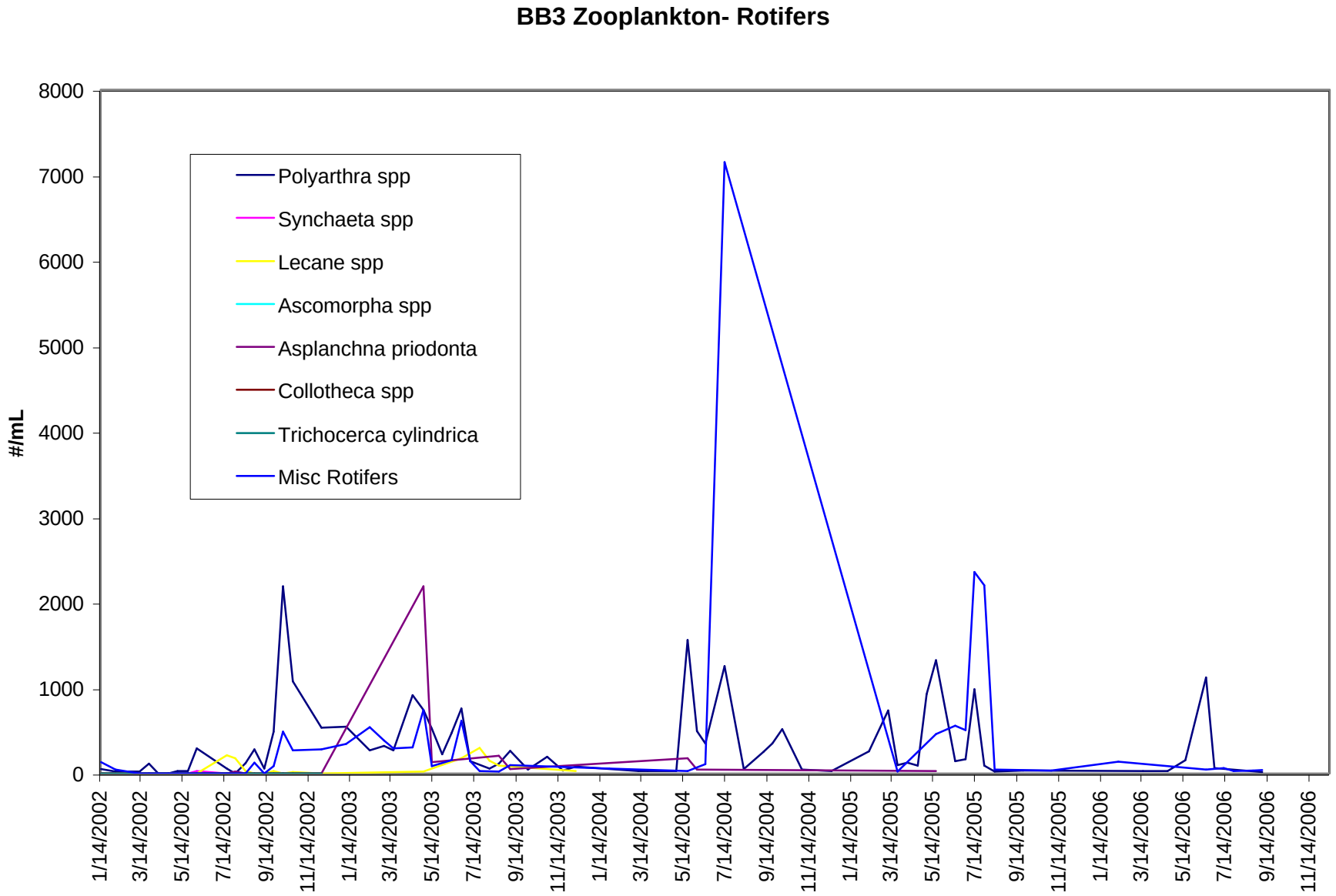


BB3

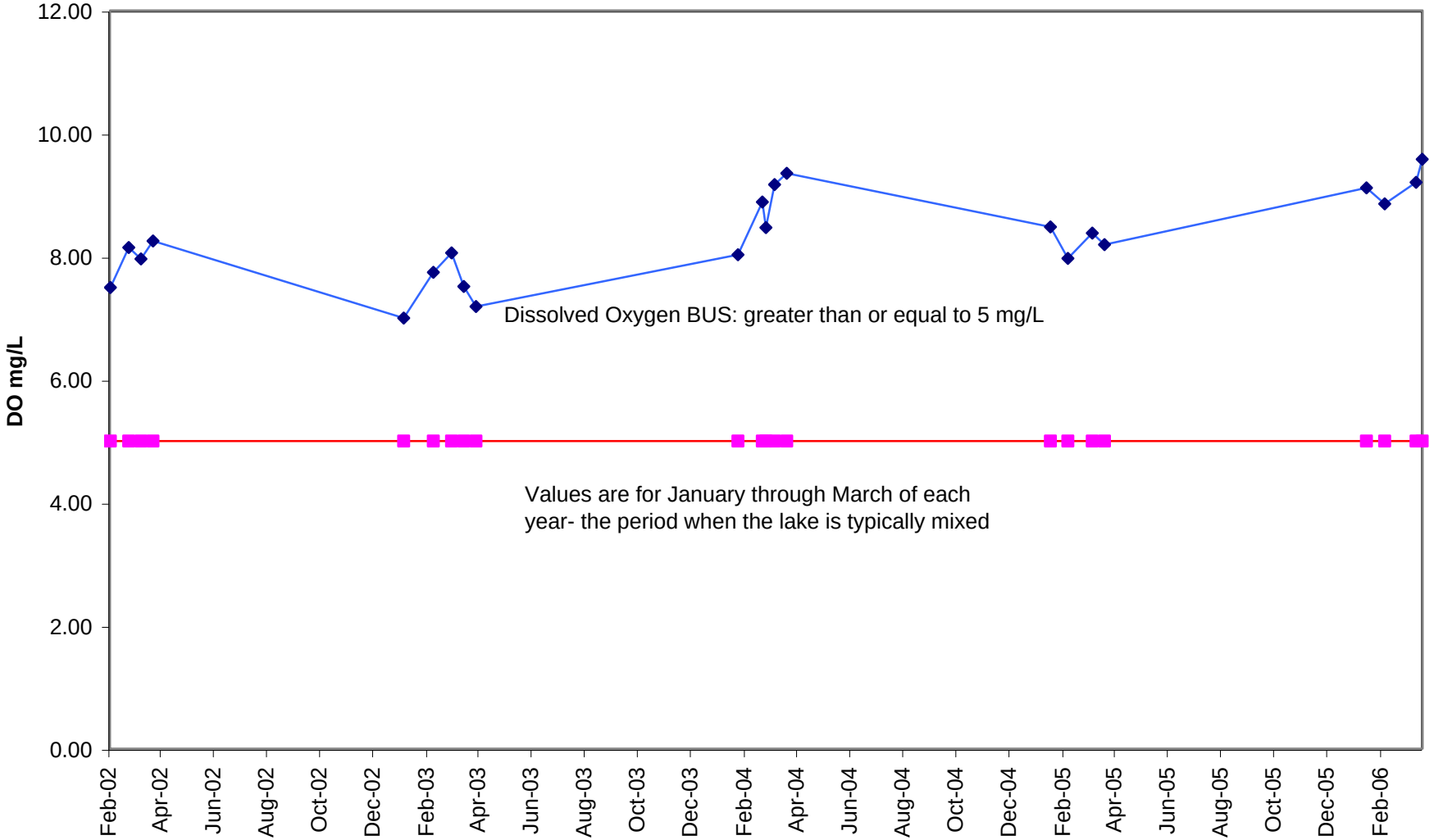
BB3 Zooplankton- Copepods

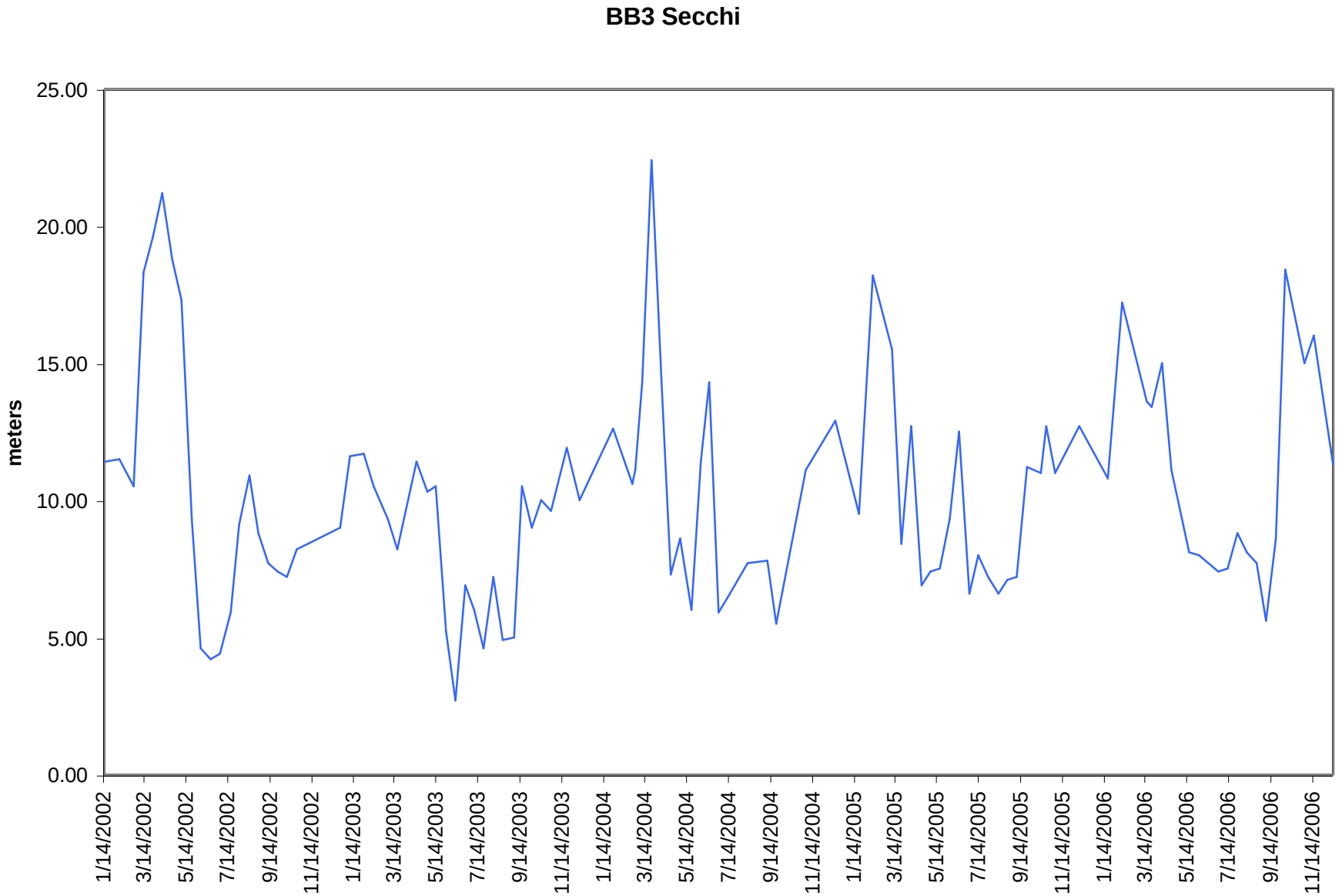



BB3 Zooplankton- Cladocerans
#/mL
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Daphnia galeata
Daphnia pulex
Bosmina longirostris
Misc Cladocera
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006


BB3 Zooplankton- Rotifers
#/mL
8000
7000
6000
5000
4000
3000
2000
1000
0
Polyarthra spp
Synchaeta spp
Lecane spp
Ascomorpha spp
Asplanchna priodonta
Collotheca spp
Trichocerca cylindrica
Misc Rotifers
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

BB3 Dissolved Oxygen
Vertical Average




BB3 Secchi
meters
25.00
20.00
15.00
10.00
5.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

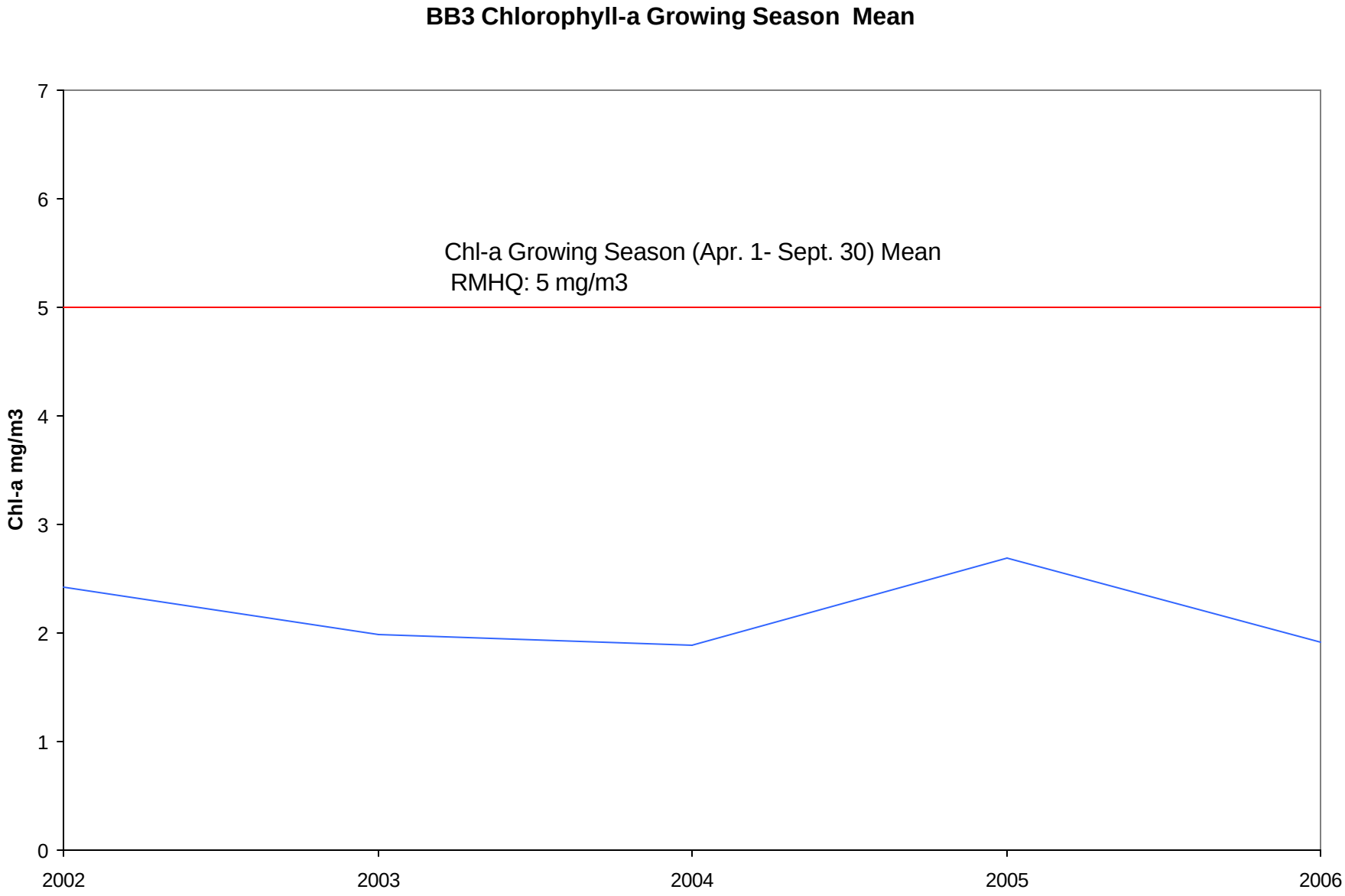
Climate Tables

Station	Date	Air Temperature (°C)	Wind	Wind Direction	Climate
BB3	1/14/02	9.6	1.4	NW	Cloudy
BB3	2/4/02	11.8	6.4	NW	Clear
BB3	2/25/02	15.2	3.4	NE	Clear
BB3	3/11/02	18.4	0.7	NW	Clear
BB3	3/25/02	12.6	0.5	NW	Clear
BB3	4/8/02	19.4	10.3	SE	Partly Cloudy
BB3	4/22/02	16.5	1.5	NW	Clear
BB3	5/6/02	22.6	3.7	NW	Clear
BB3	5/21/02		10.0	SW	Partly Cloudy
BB3	6/3/02		0.0		Cloudy
BB3	6/17/02		0.0	NW	Clear
BB3	7/1/02	32.5	5.8	SE	Clear
BB3	7/17/02	31.1	7.9	SE	Overcast
BB3	7/29/02	31.8	0.0		Clear
BB3	8/13/02	33.1	8.4	SE	Clear
BB3	8/26/02	30.7	0.0		Clear
BB3	9/9/02	25.1	3.7	NW	Clear
BB3	9/23/02	26.4	0.0		Clear
BB3	10/7/02	23.8	11.5	NW	Clear
BB3	10/21/02	17.9	4.3	NW	Clear
BB3	12/2/02	14	4.1	NW	Partly Cloudy
BB3	12/23/02	10.9	17.8	NW	Partly Cloudy
BB3	1/7/03	17.1	1.1	NW	Clear
BB3	1/27/03	13.8	0.6	NW	Partly Cloudy
BB3	2/10/03	9.1	3.3	E	Overcast
BB3	3/3/03	10.1	4.6	NE	Cloudy
BB3	3/17/03	12.8	7.5	SE	Overcast
BB3	3/31/03	16.8	2.3	E	Clear
BB3	4/14/03	16.6	9.5	SE	Clear
BB3	4/30/03	16.5	1.9	E	Cloudy
BB3	5/12/03	21.7	2.0	SW	Partly Cloudy
BB3	5/27/03	24.7	2.3	SE	Clear
BB3	6/10/03	26.1	11.6	SE	Clear
BB3	6/24/03	23.9	3.8	SE	Partly Cloudy
BB3	7/7/03	30.5	7.4	SE	Clear

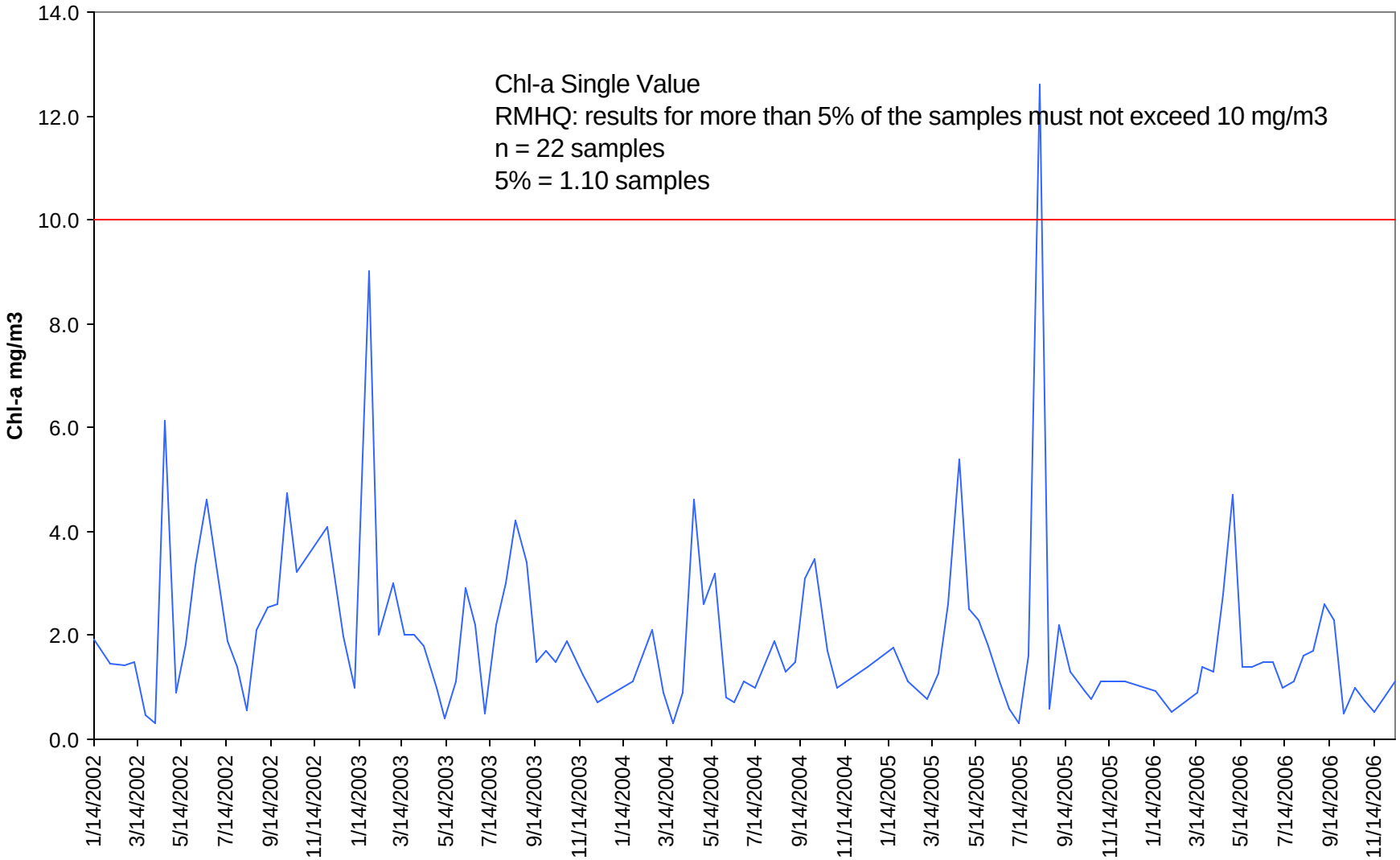
BB3	7/21/03	34.3	10.6	SE	Partly Cloudy
BB3	8/4/03	29.7	2.0	W	Clear
BB3	8/18/03	30.8	0.8	W	Clear
BB3	9/3/03	31.4	1.0	NW	Partly Cloudy
BB3	9/15/03	27.1	0.0		Clear
BB3	9/29/03	27.2	1.1	NW	Clear
BB3	10/13/03	26.9	1.6	N	Clear
BB3	10/27/03	24.3	0.0		Partly Cloudy
BB3	11/19/03	14.8	2.3	NW	Partly Cloudy
BB3	12/8/03	14.5	11.4	N	Clear
BB3	1/26/04	9.5	3.1	E	Clear
BB3	2/23/04	10.1	3.8	N	Overcast
BB3	2/27/04	13.4	11.2	SE	Partly Cloudy
BB3	3/8/04	17.4	9.9	NW	Clear
BB3	3/22/04	21.8	1.9	S	Clear
BB3	4/5/04	17.6	10.1	SE	Clear
BB3	4/19/04	18.9	15.3	SW	Partly Cloudy
BB3	5/3/04	22.9	1.6	SE	Clear
BB3	5/19/04	25	2.2	S	Partly Cloudy
BB3	6/2/04	24.3	2.4	SE	Clear
BB3	6/14/04	27.4	2.2	N	Clear
BB3	6/28/04	30.4	7.5	NW	Partly Cloudy
BB3	7/12/04	29.7	2.3	E	Clear
BB3	8/9/04	30.4	1.5	SE	Partly Cloudy
BB3	8/23/04	28.8	10.2	SE	Overcast
BB3	9/7/04	25.5	2.9	NW	Clear
BB3	9/20/04	20.1	9.2	W	Clear
BB3	10/4/04	25.4	2.1	NW	Clear
BB3	10/21/04	16.1	1.1	NE	Overcast
BB3	11/2/04	14.9	0.8	W	Clear
BB3	12/15/04	14.2	4.2	N	Clear
BB3	1/19/05	12.3	1.2	NW	Clear
BB3	2/8/05	13.4	2.8	NE	Clear
BB3	3/8/05	13.4	2.7	NW	Partly Cloudy
BB3	3/22/05	15.7	13.2	SE	Overcast
BB3	4/5/05	15.4	3.3	W	Clear
BB3	4/20/05	16.4			Clear

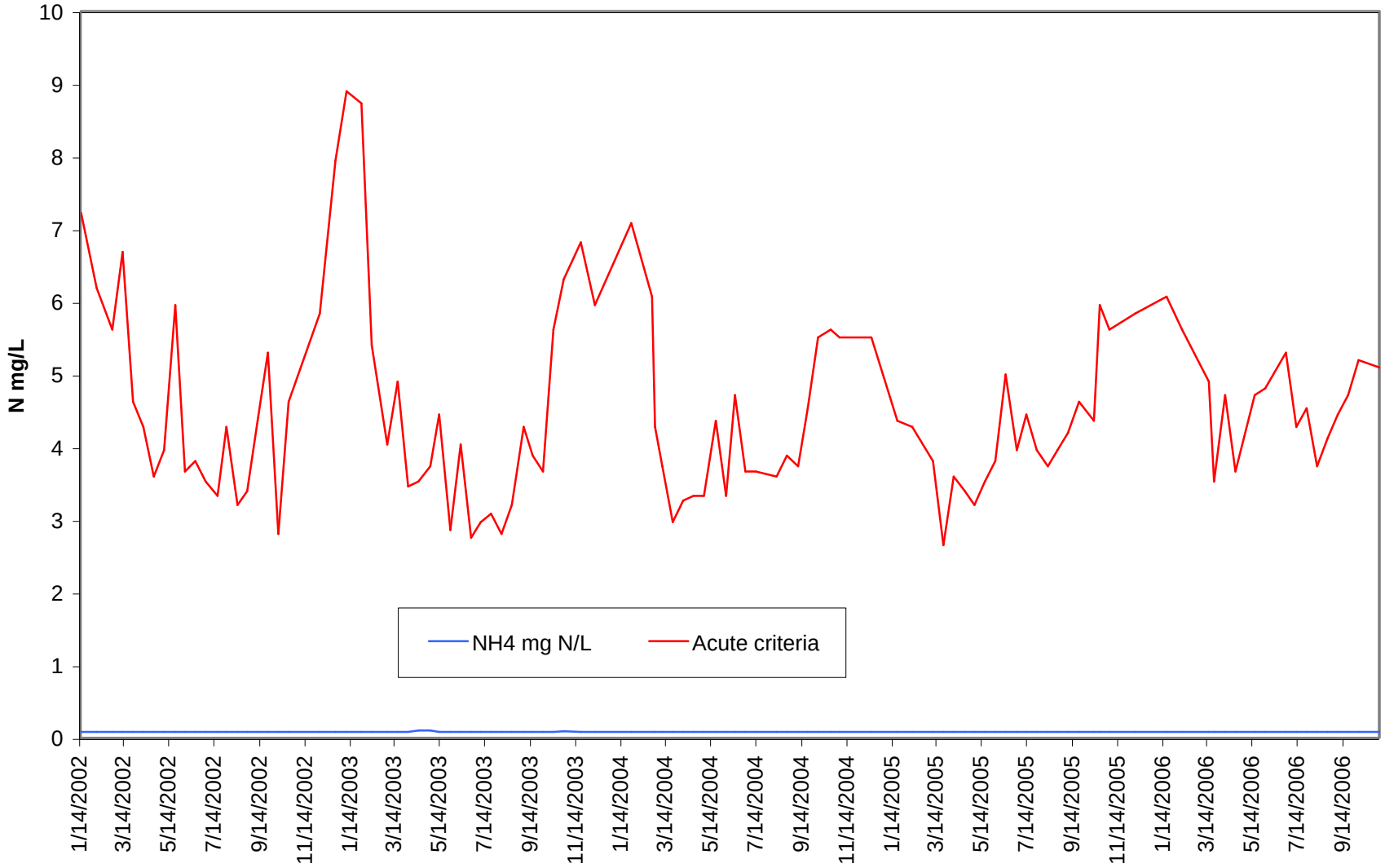
BB3	5/3/05	20.5	1.6	NW	Clear
BB3	5/17/05	20.3	9.1	W	Cloudy
BB3	5/31/05	27.3	3.3	W	Clear
BB3	6/14/05	26.3	1.8	SE	Partly Cloudy
BB3	6/29/05	28	0.0		Clear
BB3	7/12/05	28.7	1.5	SE	Clear
BB3	7/26/05	31.8	0.0		Clear
BB3	8/10/05	28	4.7	SE	Overcast
BB3	8/23/05	31.6	2.2	SE	Partly Cloudy
BB3	9/6/05	27.6	0.0		Clear
BB3	9/21/05	24.9	6.7	W	Partly Cloudy
BB3	10/11/05	18.3	6.1	NW	Clear
BB3	10/19/05	17.1	4.2	S	Overcast
BB3	11/1/05	17.9	5.5	NW	Partly Cloudy
BB3	12/6/05	10.8	2.4	NW	Clear
BB3	1/17/06	6.4	6.2	NW	Clear
BB3	2/7/06	12	3.6	N	Partly Cloudy
BB3	3/15/06	14.6	2.0	SW	Clear
BB3	3/22/06	11.2	5.2	N	Partly Cloudy
BB3	4/6/06	14.7	15.0	E	Clear
BB3	4/20/06	18.6	1.4	NE	Clear
BB3	5/16/06	25.5	1.2	NW	Overcast
BB3	5/30/06	24.4	0.0		Clear
BB3	6/15/06	25.7	0.9	NE	Partly Cloudy
BB3	6/28/06	29.7	2.3	N	Cloudy
BB3	7/11/06	31.1	1.2	N	Partly Cloudy
BB3	7/25/06	33.4	4.4	NW	Partly Cloudy
BB3	8/8/06	28.9	1	NW	Clear
BB3	8/22/06	32.2	11.7	SE	Partly Cloudy
BB3	9/5/06	29.1	4.7	E	Clear
BB3	9/19/06	20.8	5.1	NW	Clear
BB3	10/3/06	23.2	4.1	NE	Partly Cloudy
BB3	10/17/06	17.9	3.8	W	Cloudy
BB3	10/31/06	16.4	3.3	NW	Partly Cloudy
BB3	11/14/06	18	3.3	WNW	Partly Cloudy
BB3	12/12/06	8.3	4.7	NW	Partly Cloudy

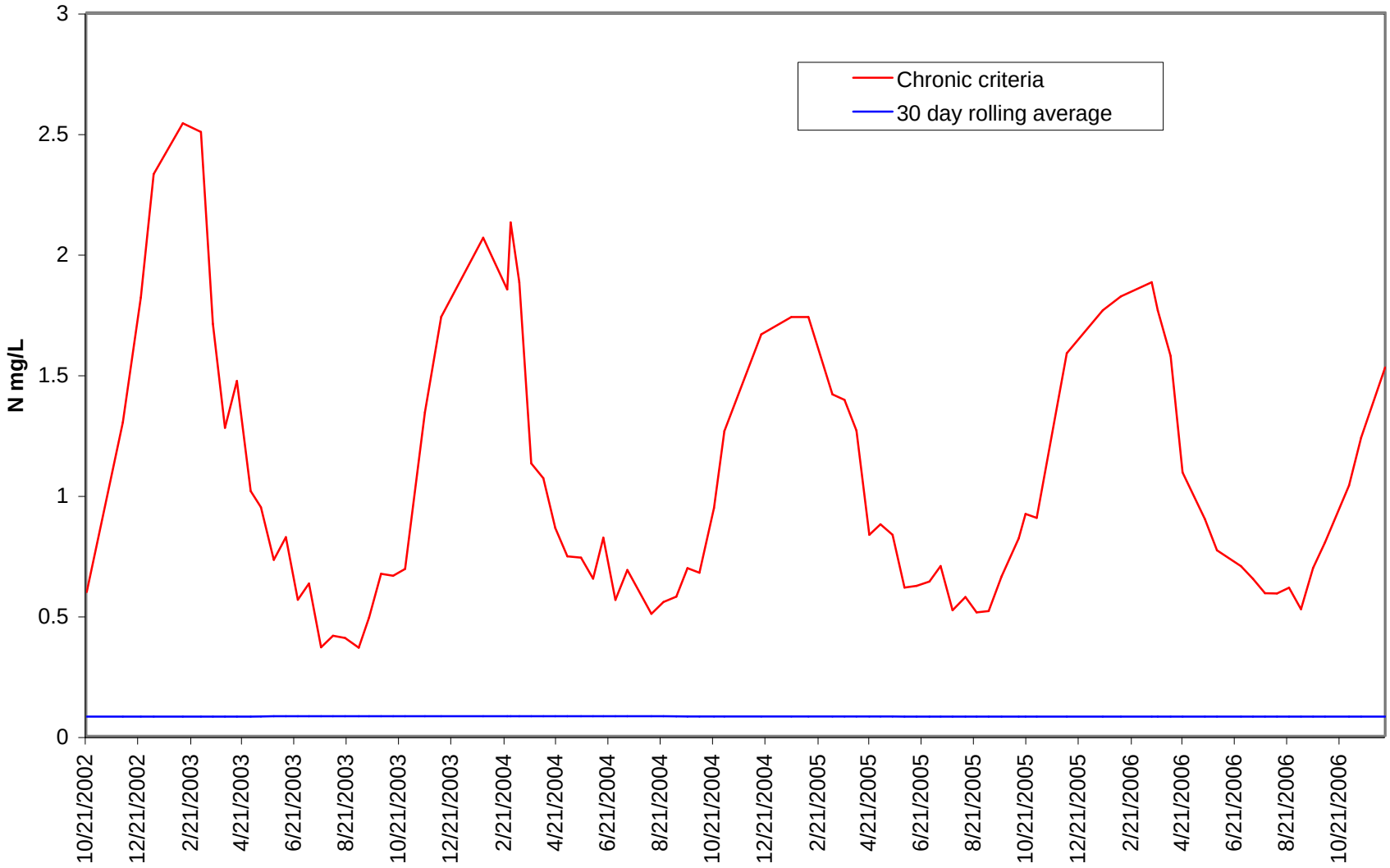
BB3
Epilimnion


BB3 Chlorophyll-a Growing Season Mean
Chl-a Growing Season (Apr. 1- Sept. 30) Mean
RMHQ: 5 mg/m3
Chl-a mg/m3
0
1
2
3
4
5
6
7
2002
2003
2004
2005
2006

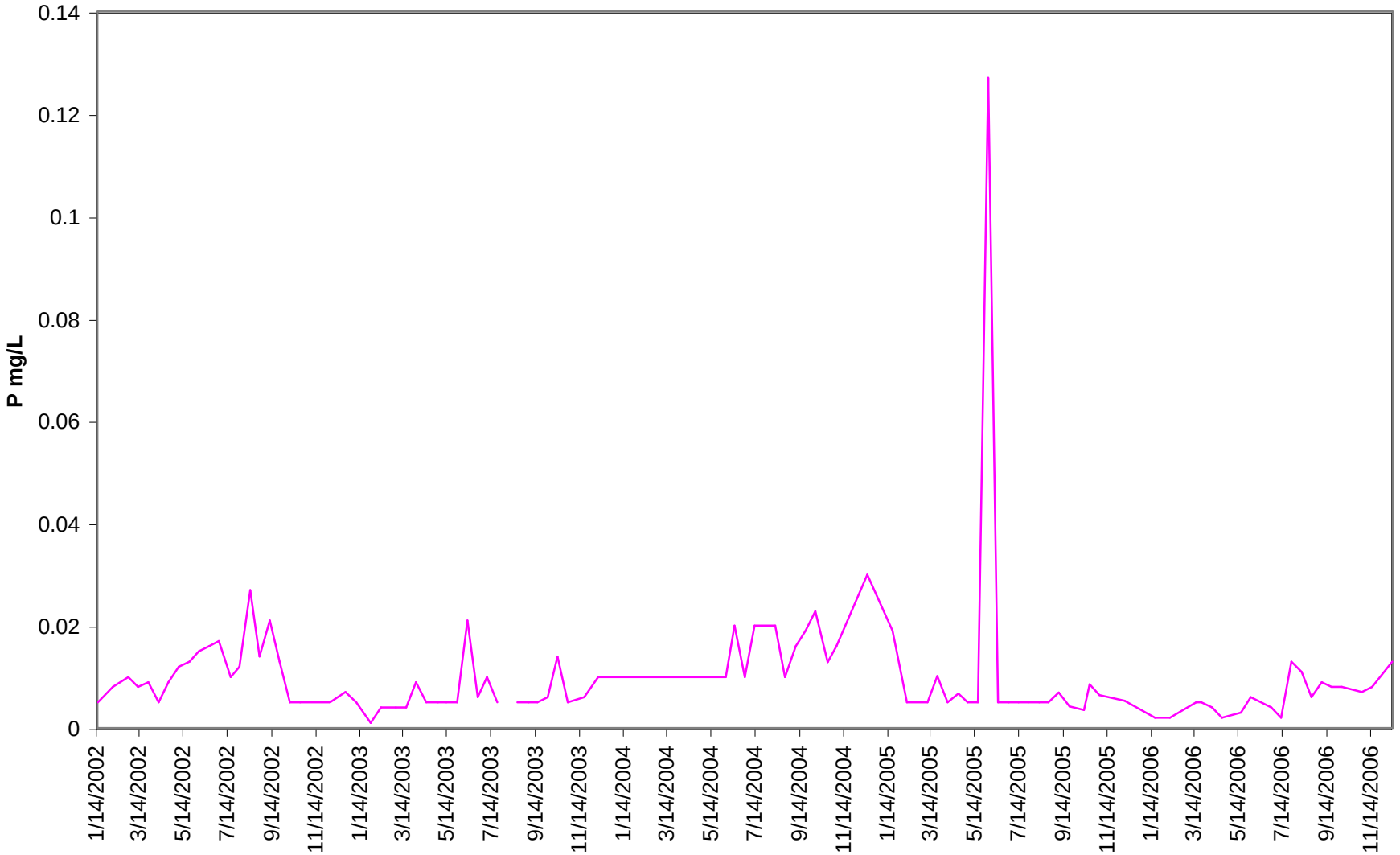
BB3 Chlorophyll-a Single Value



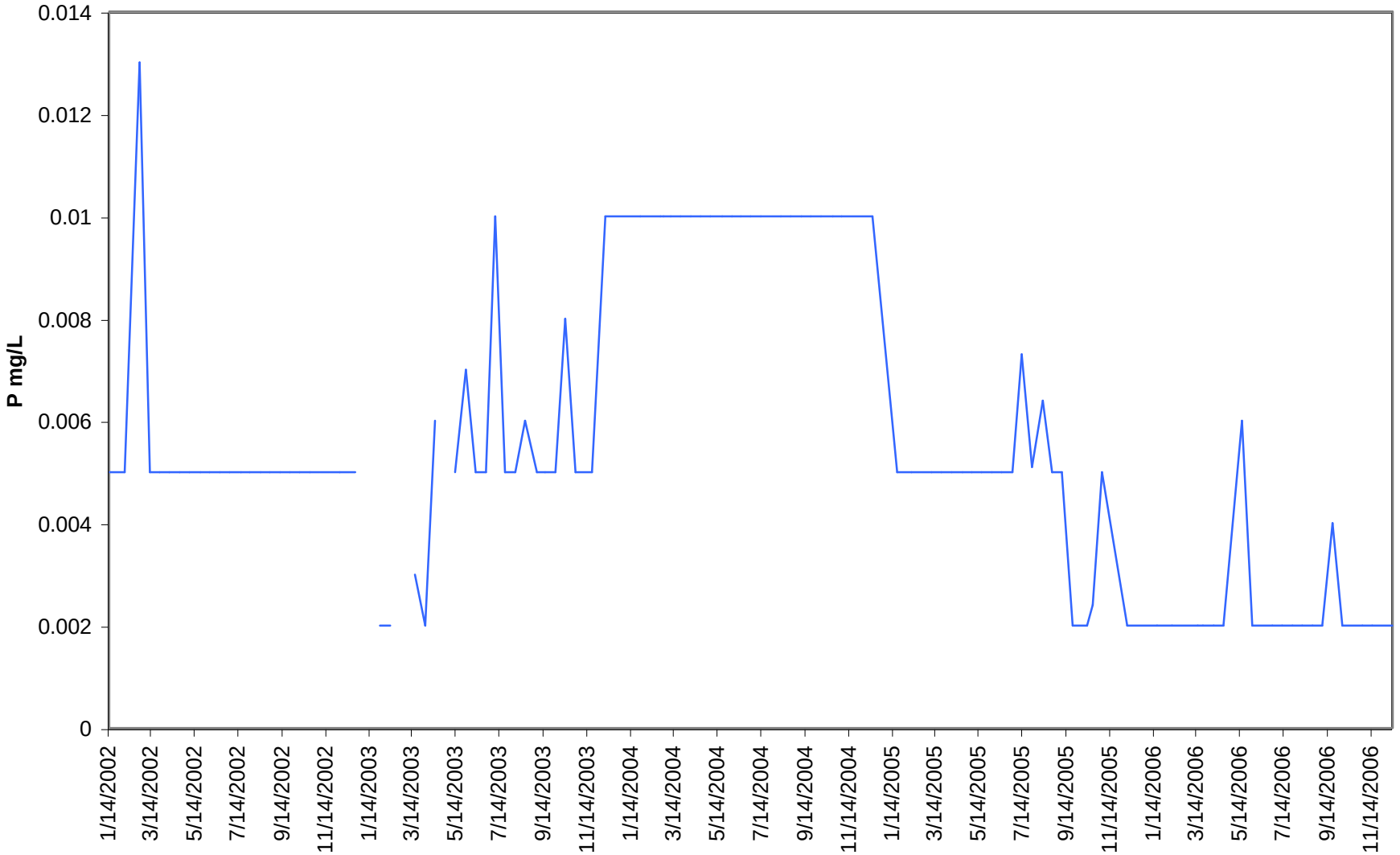

BB3 Epilimnion Total Ammonia
N mg/L
10
9
8
7
6
5
4
3
2
1
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
NH4 mg N/L
Acute criteria


BB3 Epilimnion Chronic Ammonia
N mg/L
3
2.5
2
1.5
1
0.5
0
Chronic criteria
30 day rolling average
10/21/2002
12/21/2002
2/21/2003
4/21/2003
6/21/2003
8/21/2003
10/21/2003
12/21/2003
2/21/2004
4/21/2004
6/21/2004
8/21/2004
10/21/2004
12/21/2004
2/21/2005
4/21/2005
6/21/2005
8/21/2005
10/21/2005
12/21/2005
2/21/2006
4/21/2006
6/21/2006
8/21/2006
10/21/2006

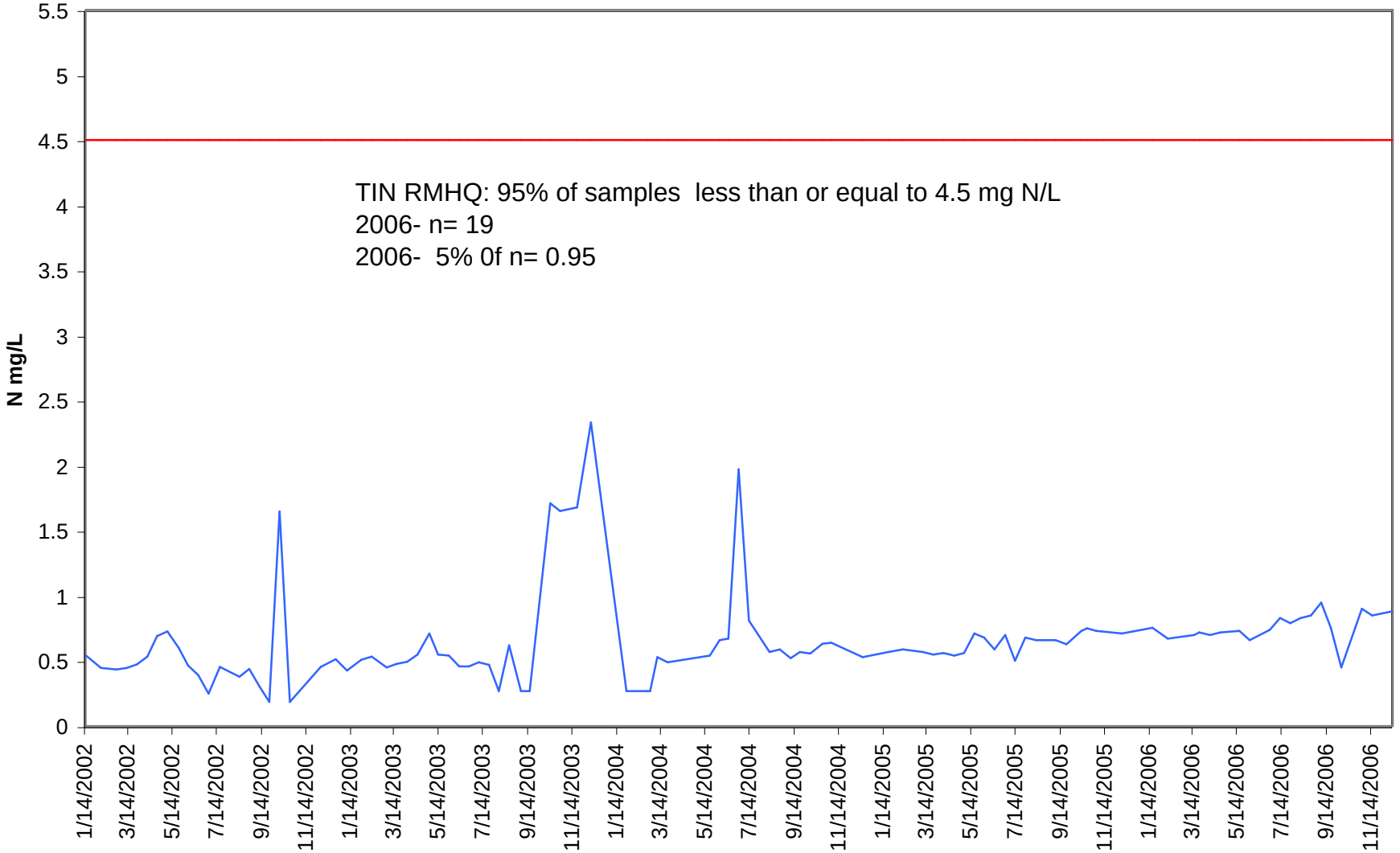
BB3 Epilimnion Total Phosphorus



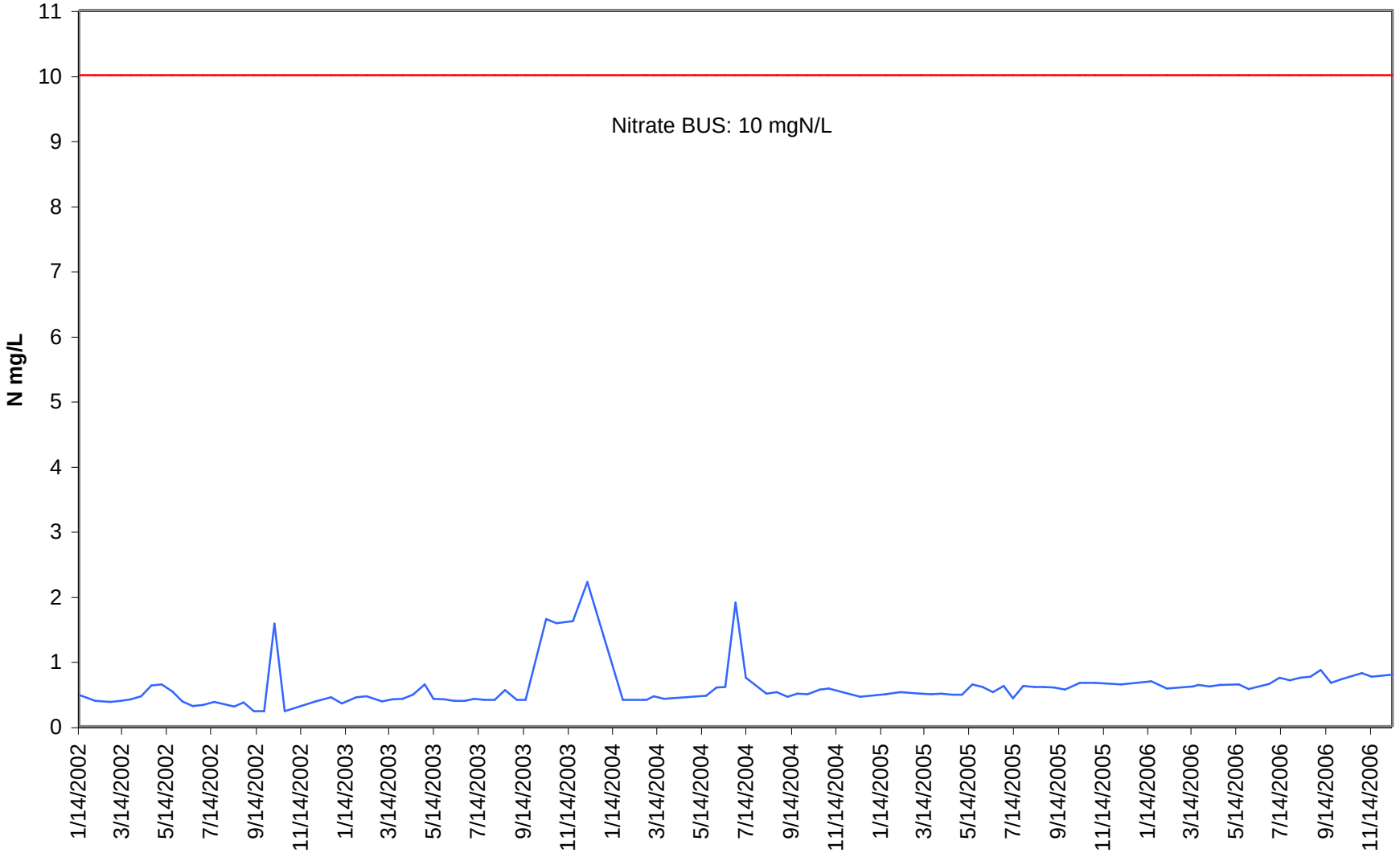
BB3 Epilimnion Dissolved ortho-Phosphorus



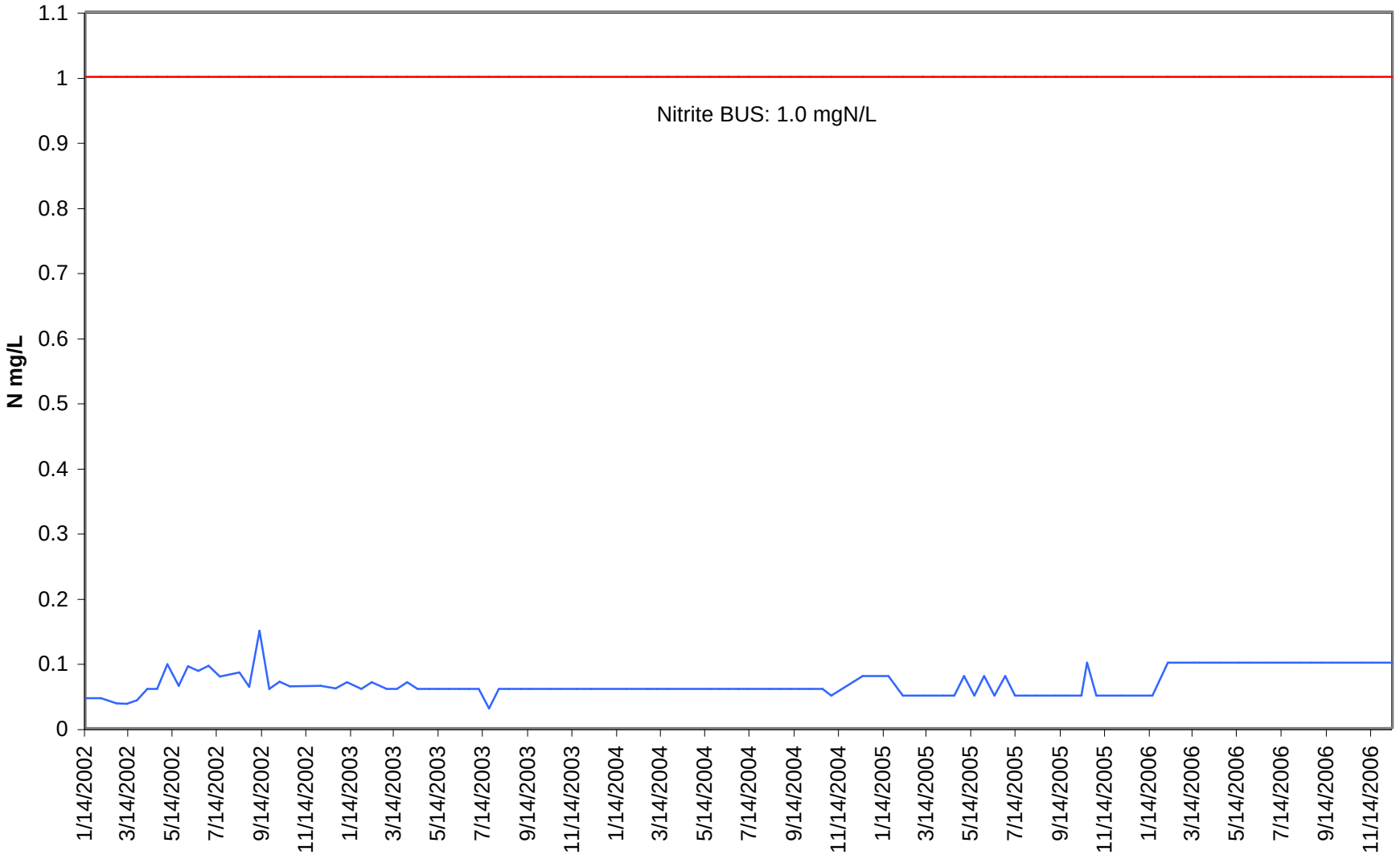
BB3 Epilimnion Total Inorganic Nitrogen

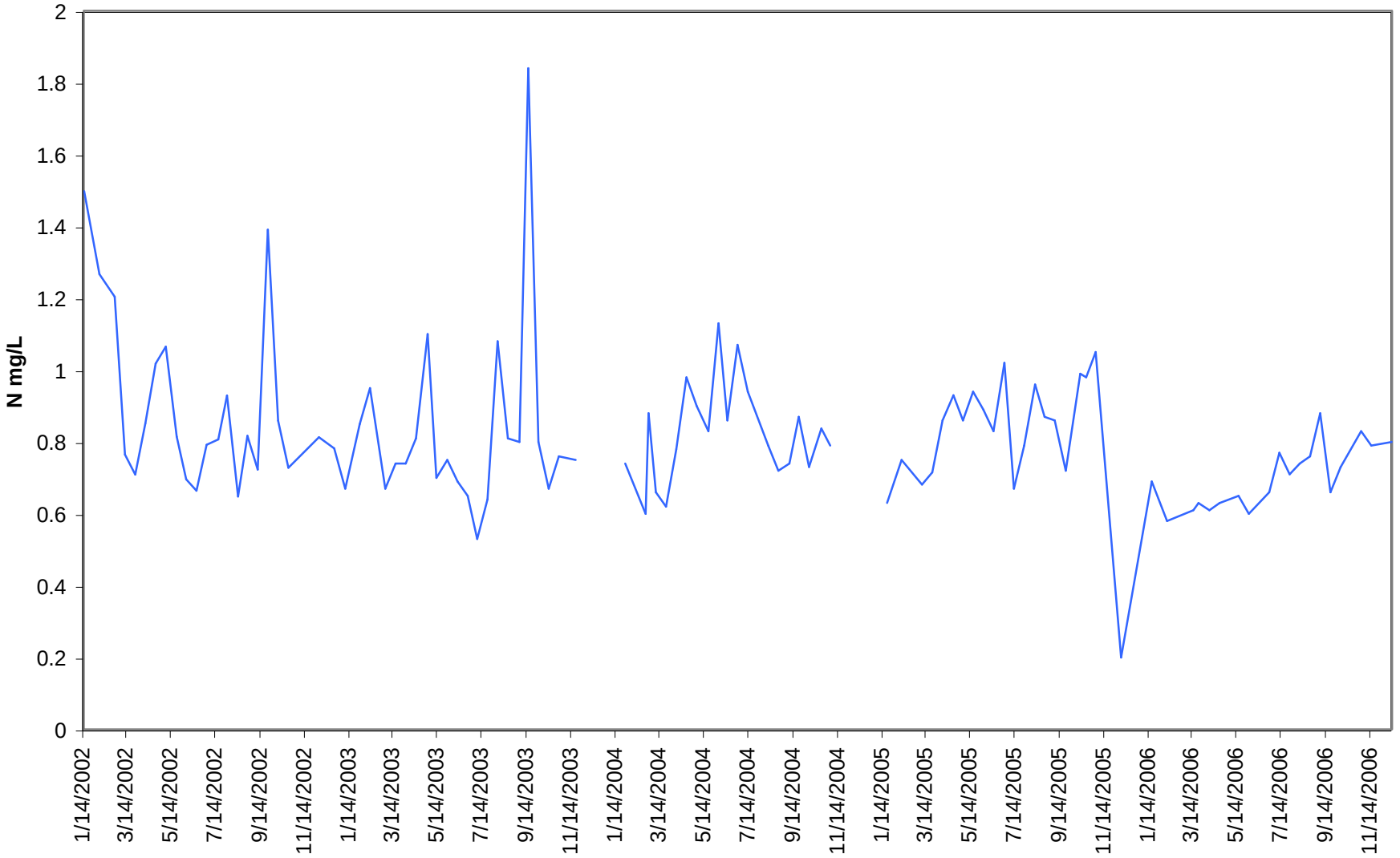


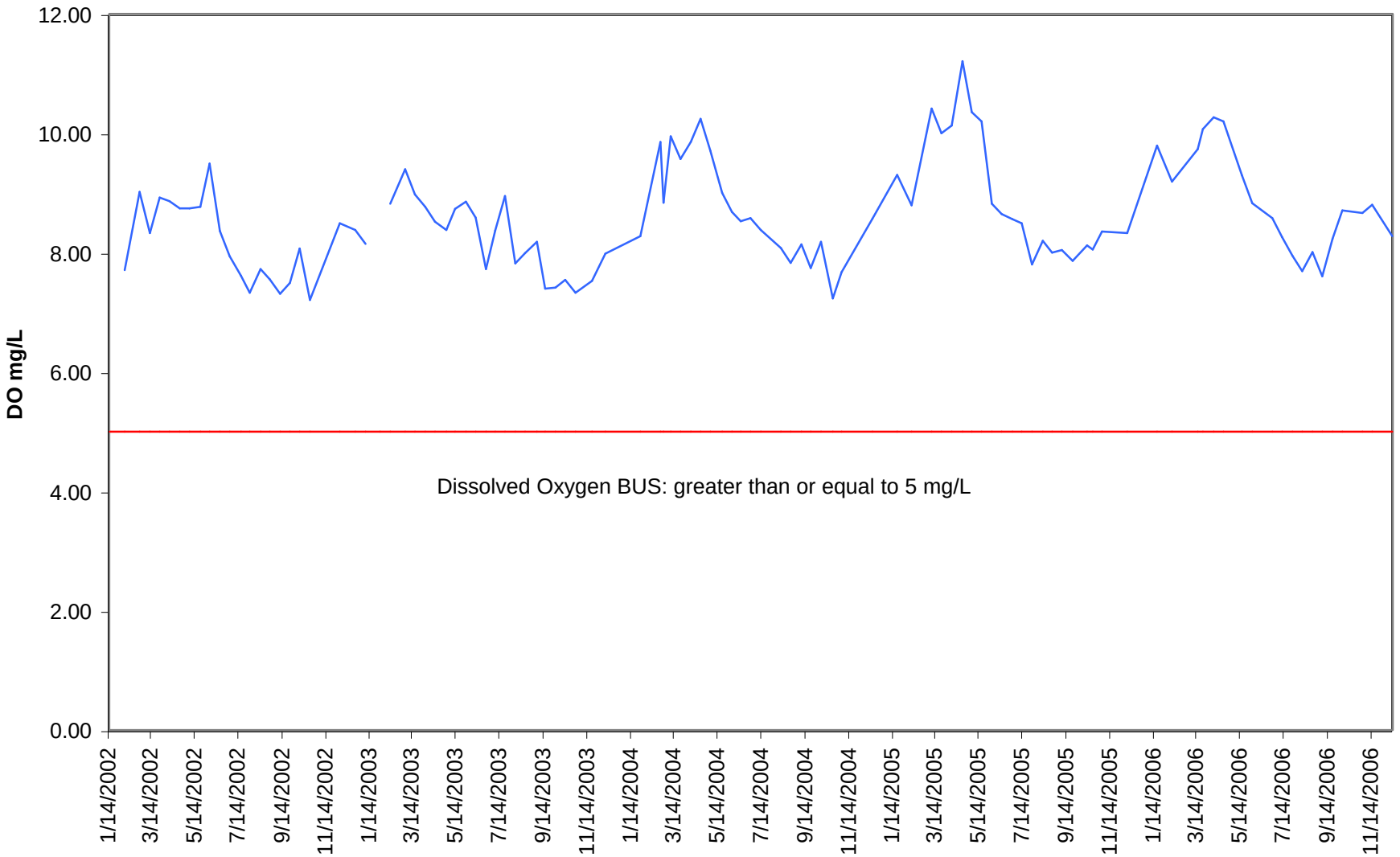
BB3 Epilimnion Nitrate

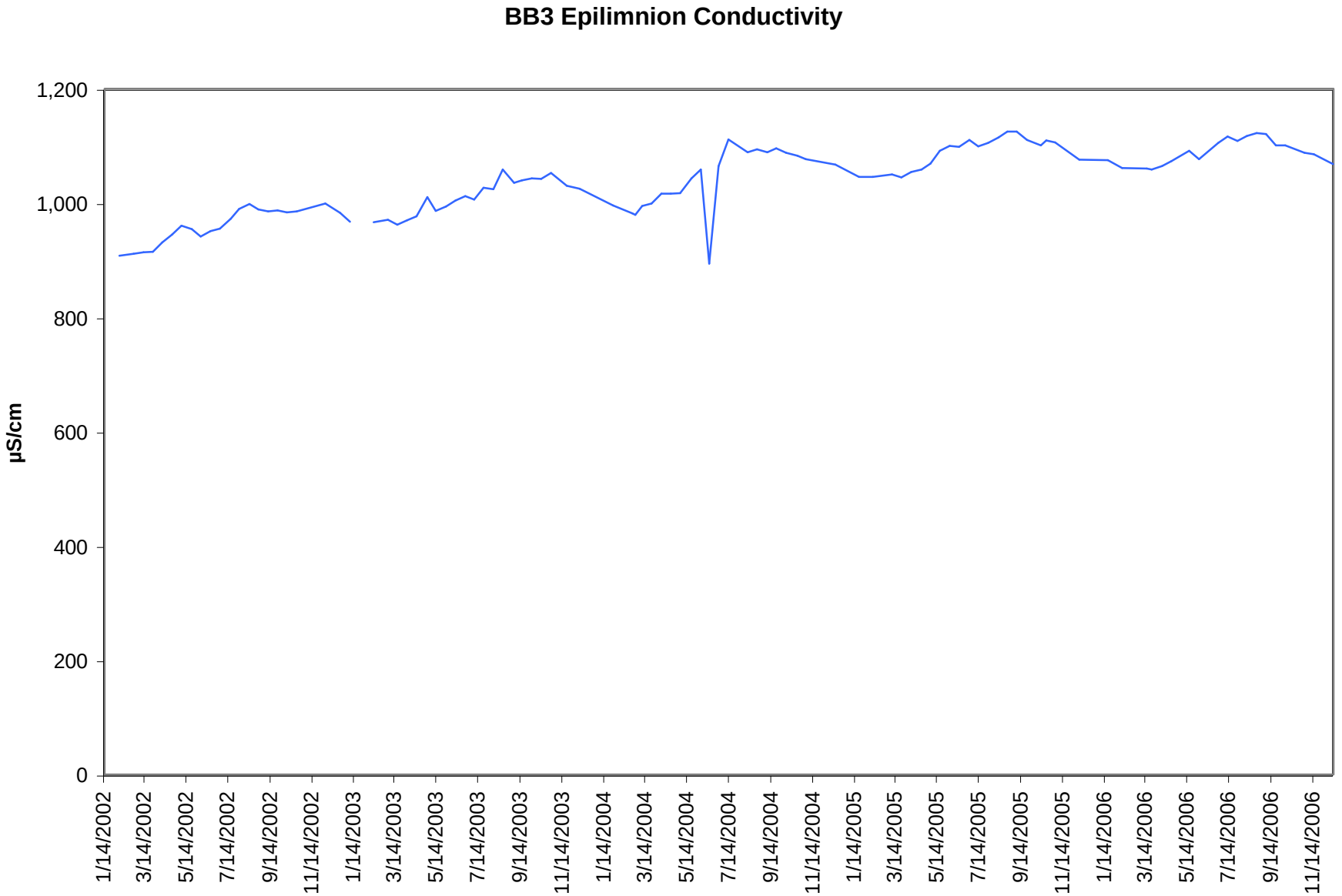


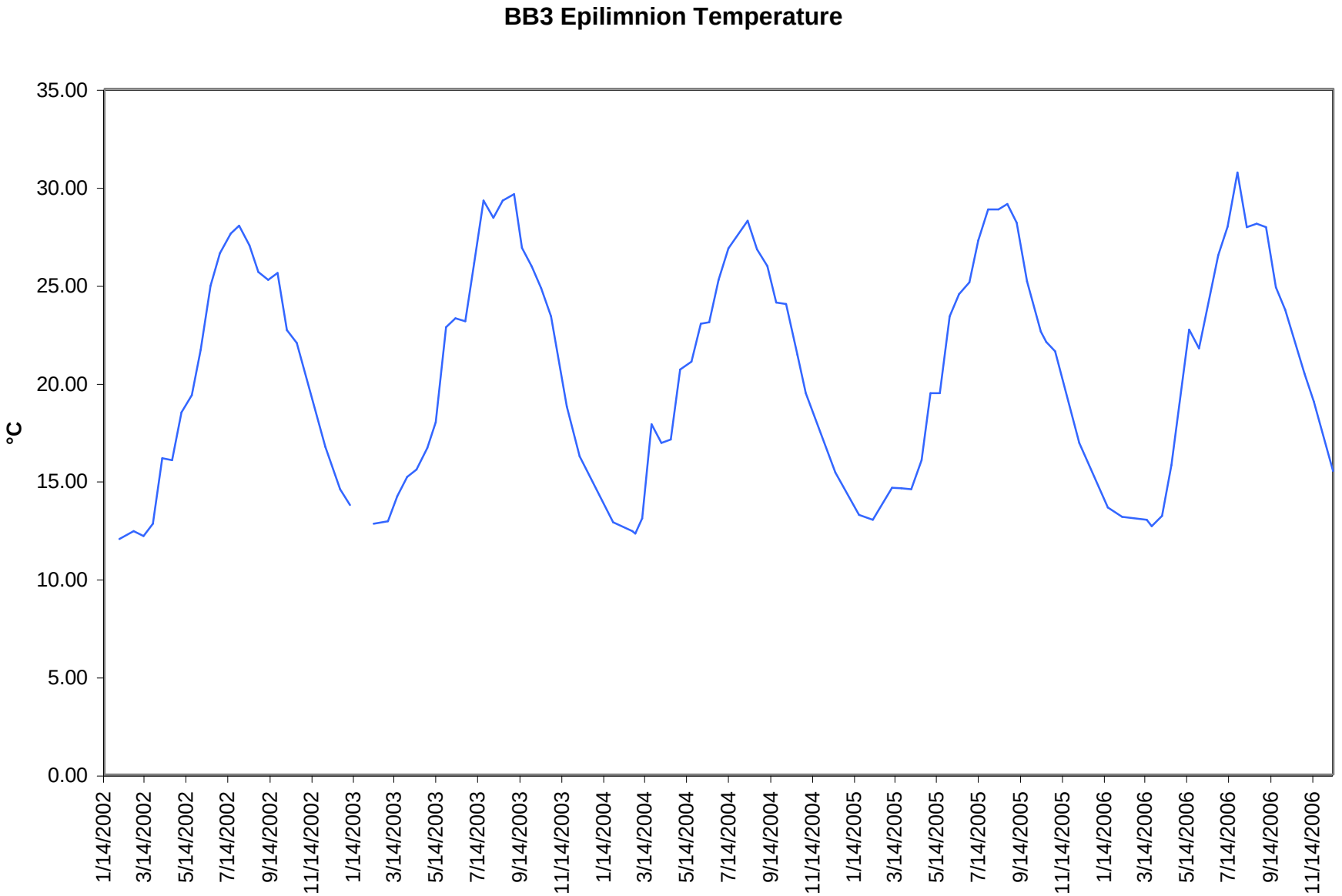
BB3 Epilimnion Nitrite

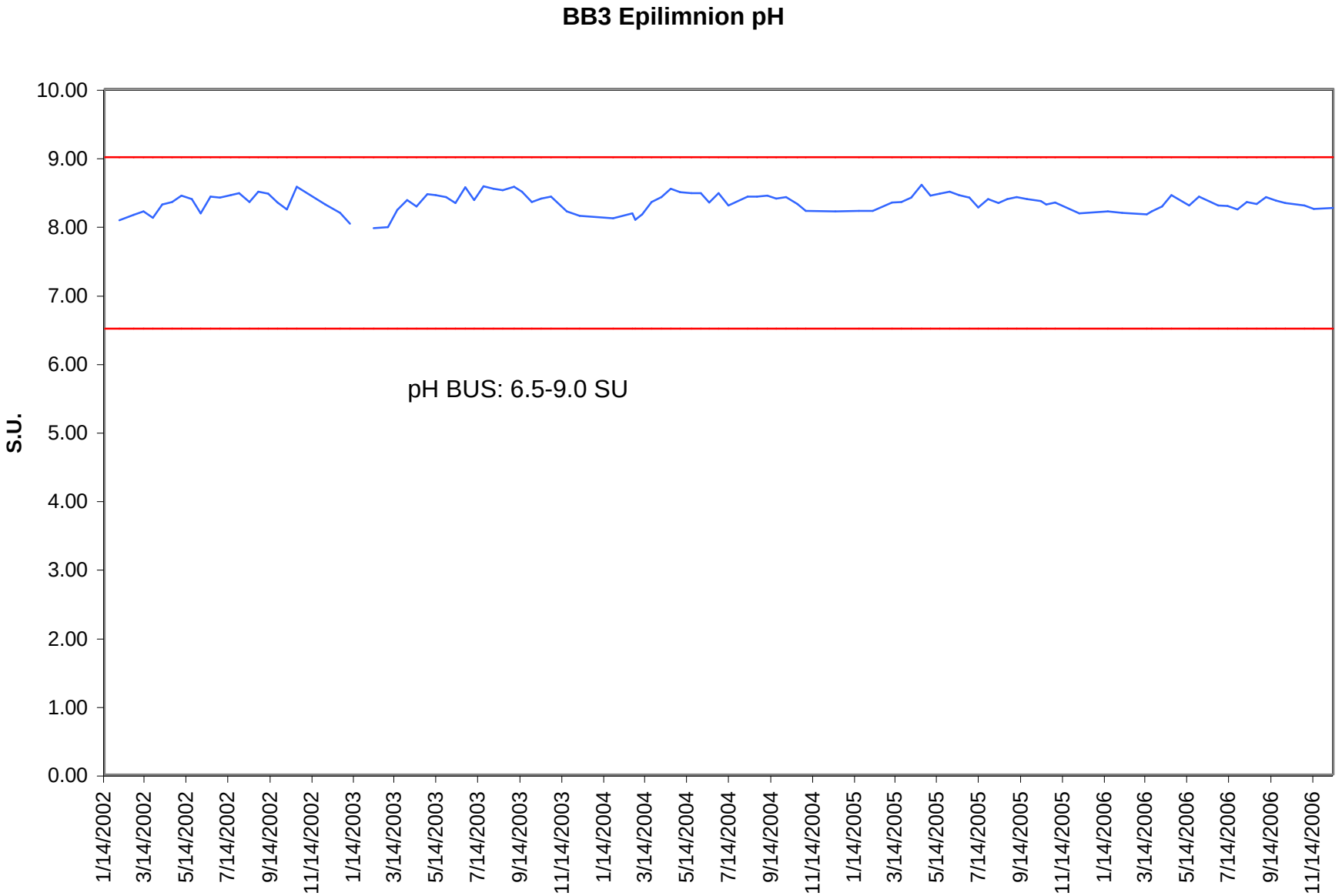



BB3 Epilimnion Total Nitrogen
N mg/L
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

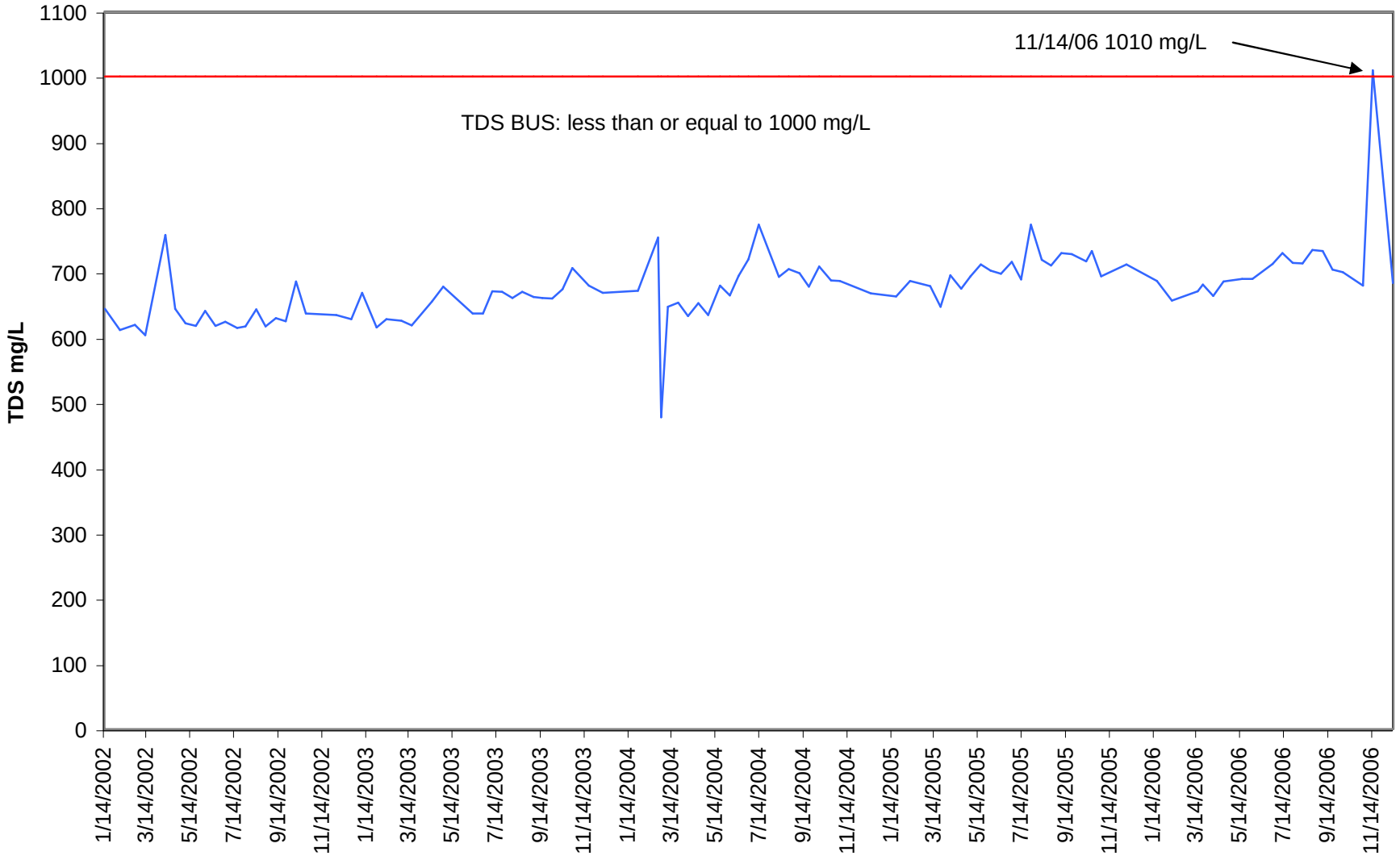

BB3 Epilimnion Dissolved Oxygen
DO mg/L
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Dissolved Oxygen BUS: greater than or equal to 5 mg/L
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

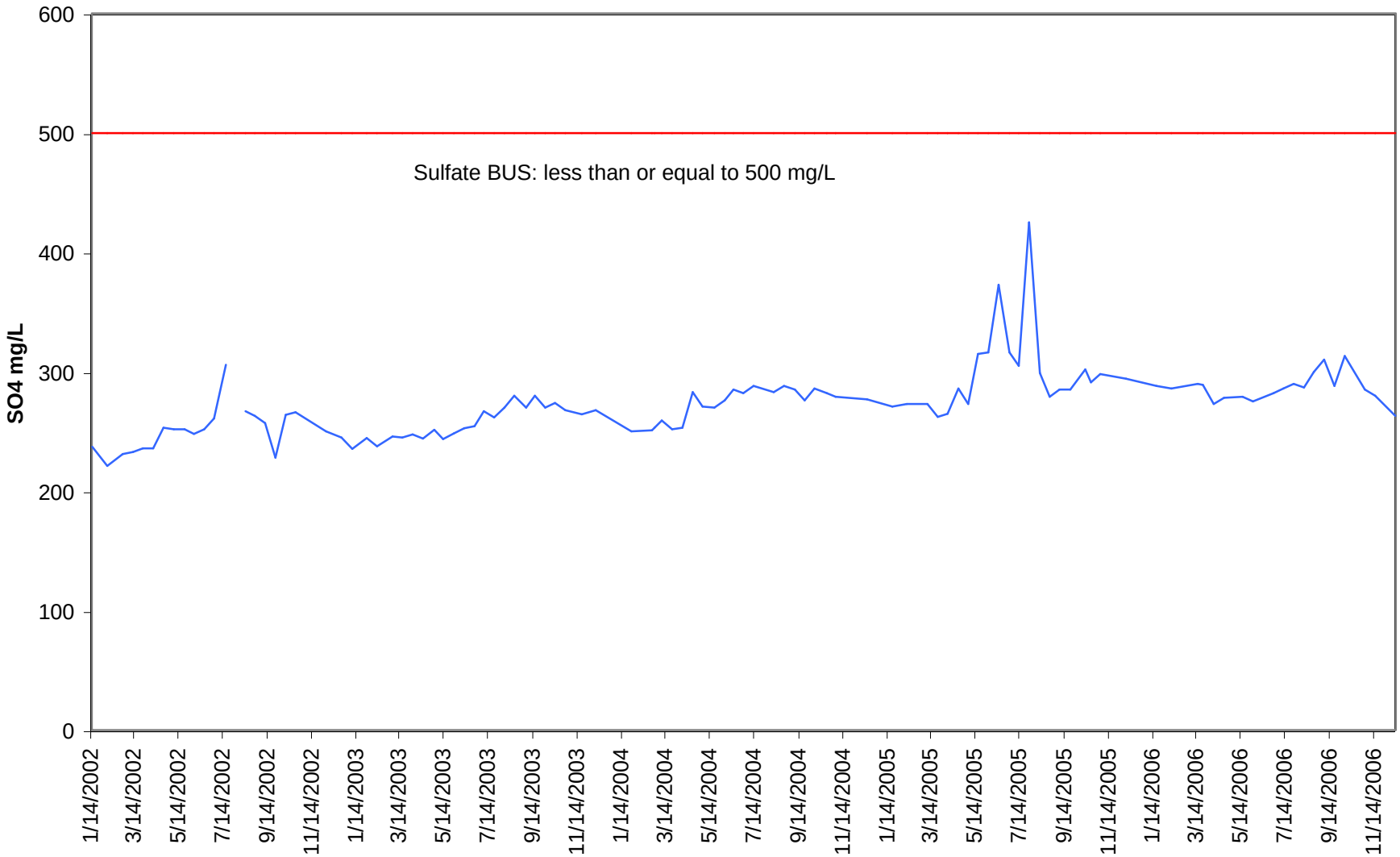

BB3 Epilimnion Conductivity
µS/cm
1,200
1,000
800
600
400
200
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006


BB3 Epilimnion Temperature
°C
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

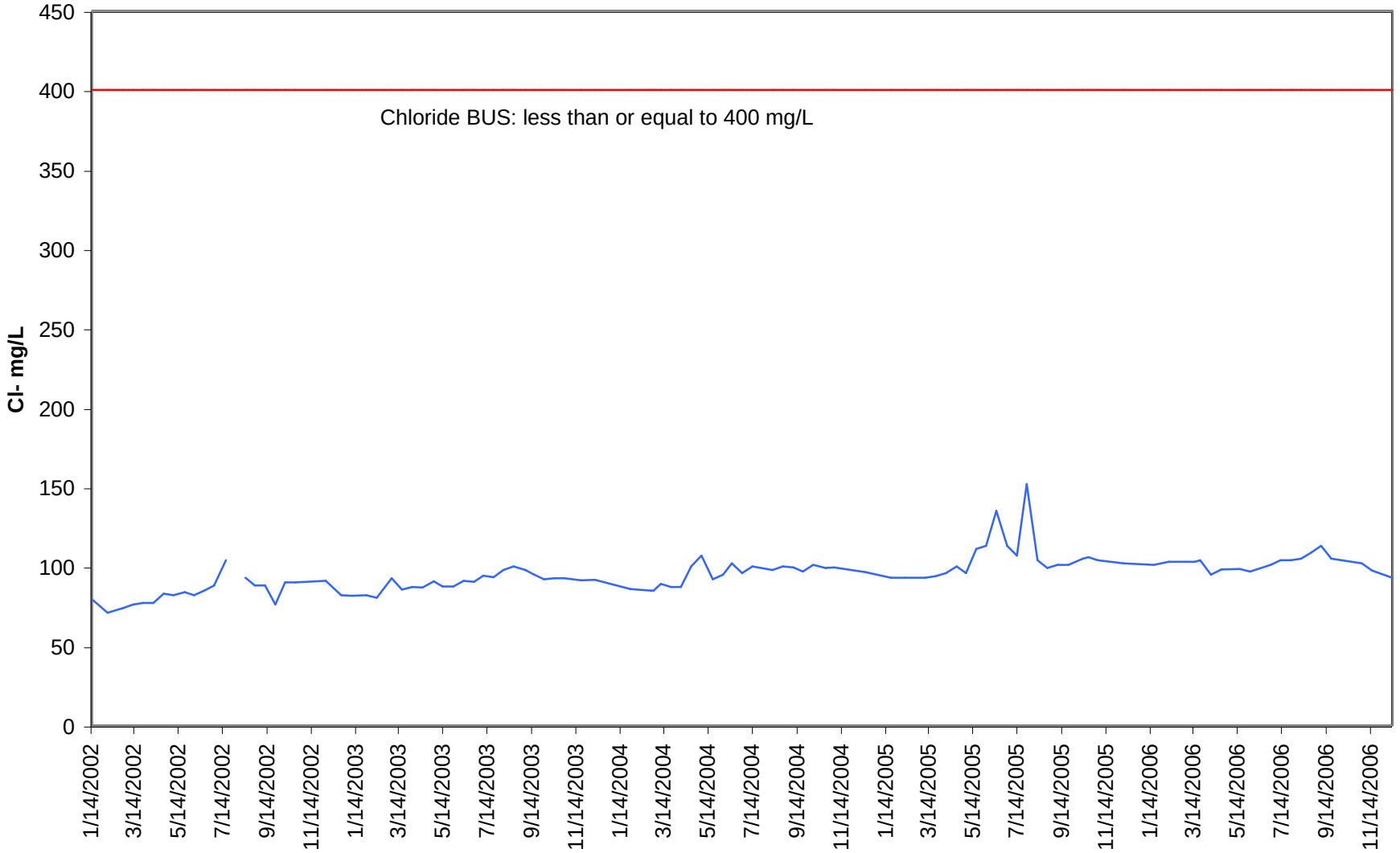

BB3 Epilimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

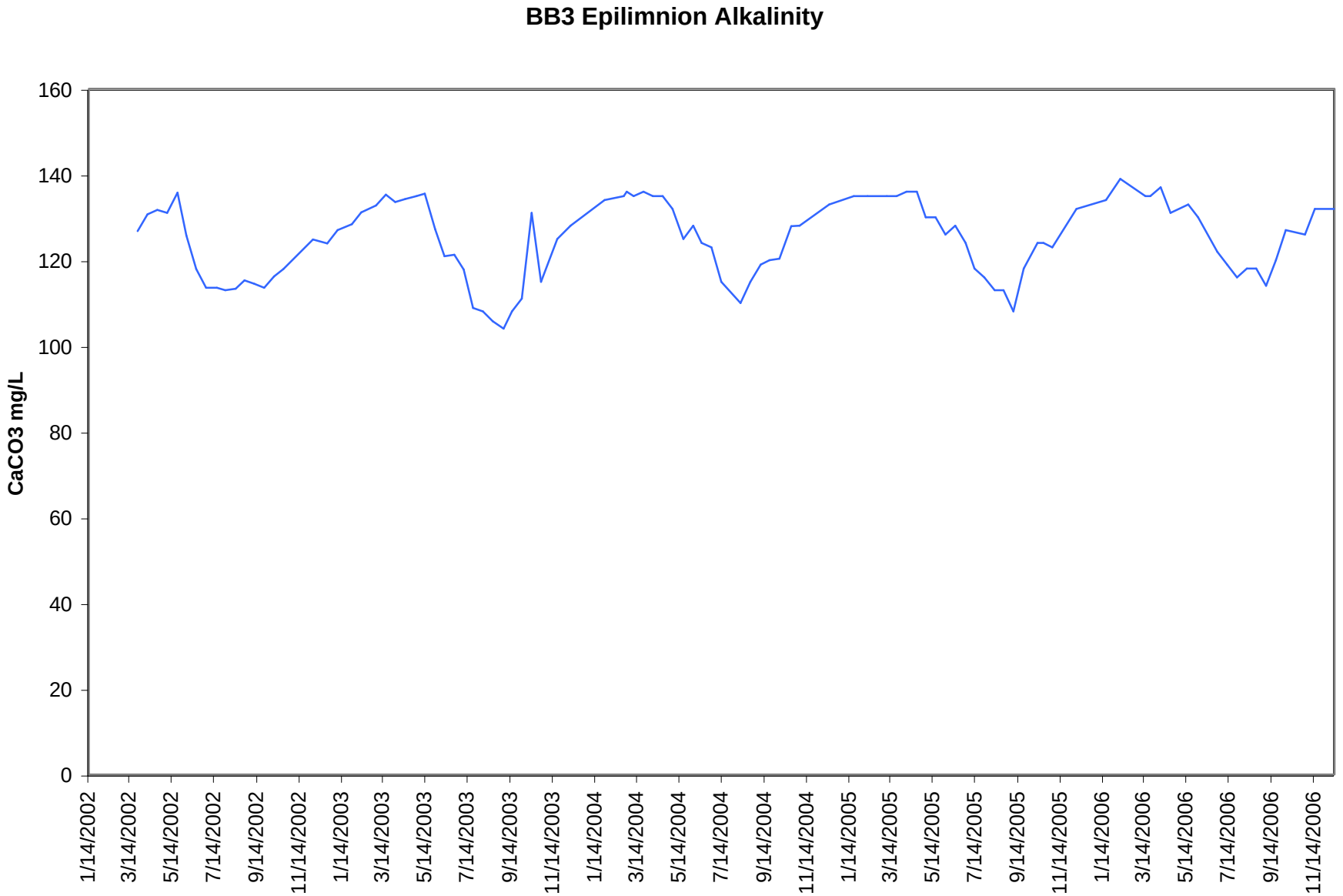
BB3 Epilimnion Total Dissolved Solids



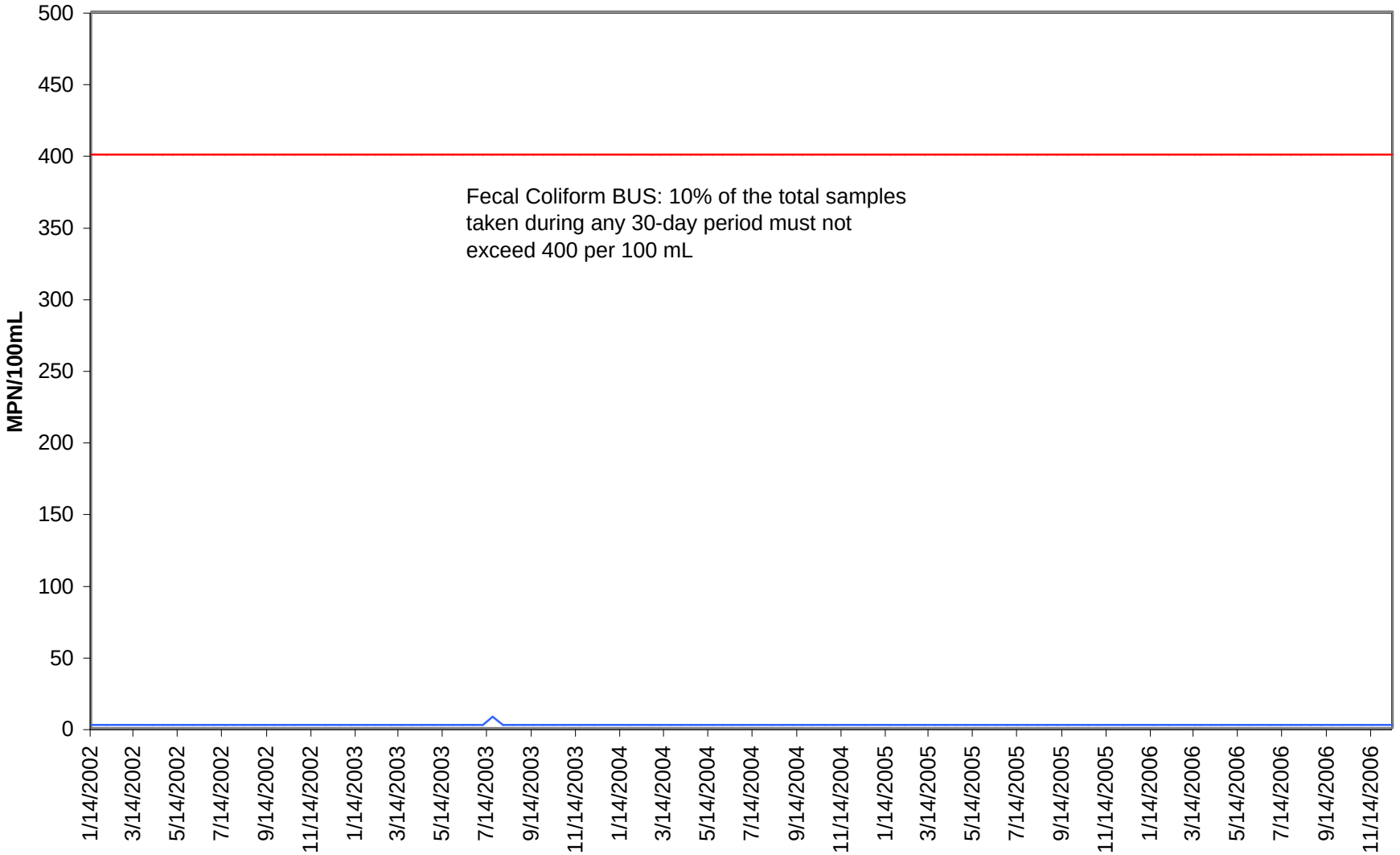

BB3 Epilimnion Sulfate
SO4 mg/L
Sulfate BUS: less than or equal to 500 mg/L
600
500
400
300
200
100
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

BB3 Epilimnion Chloride

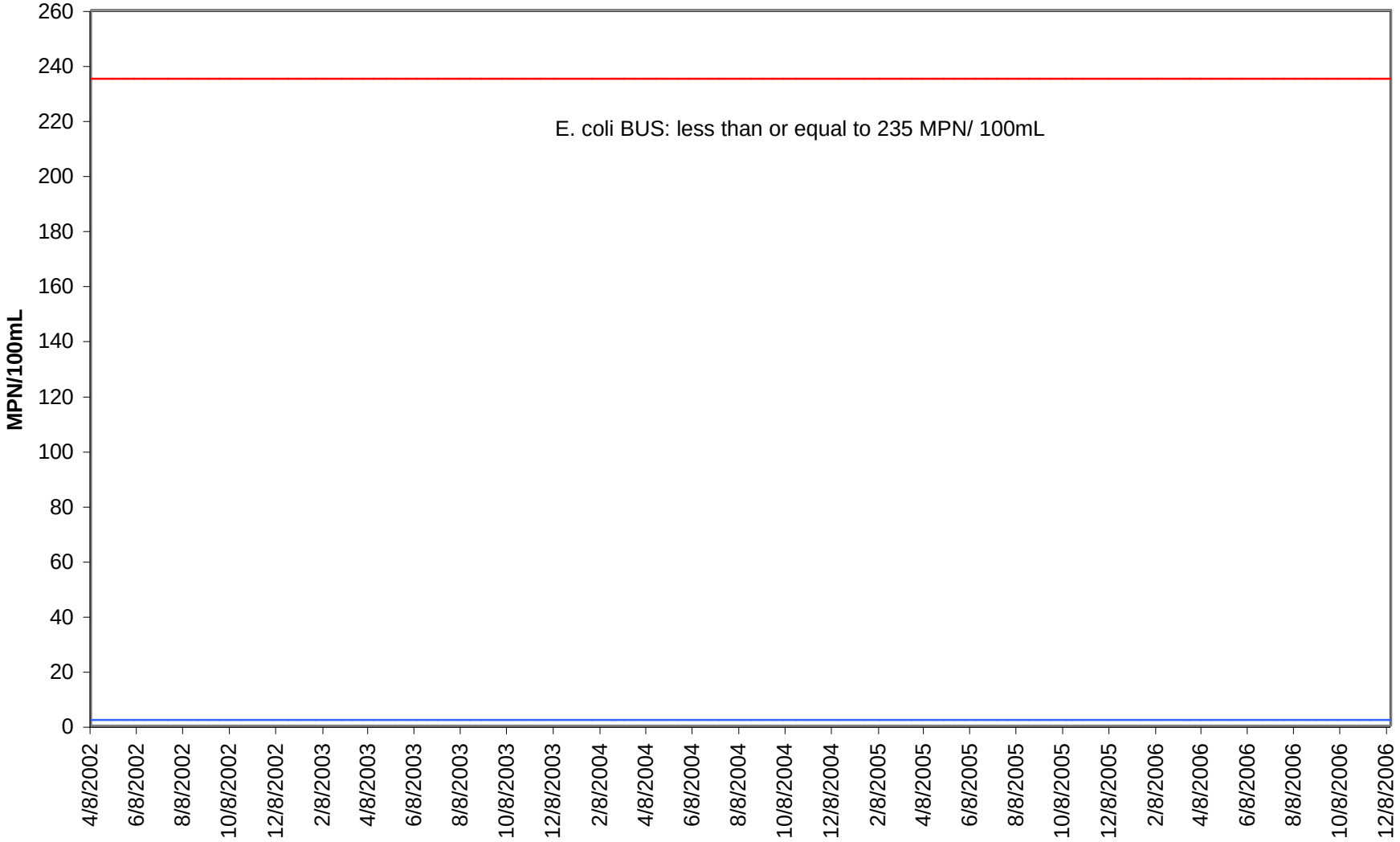



BB3 Epilimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

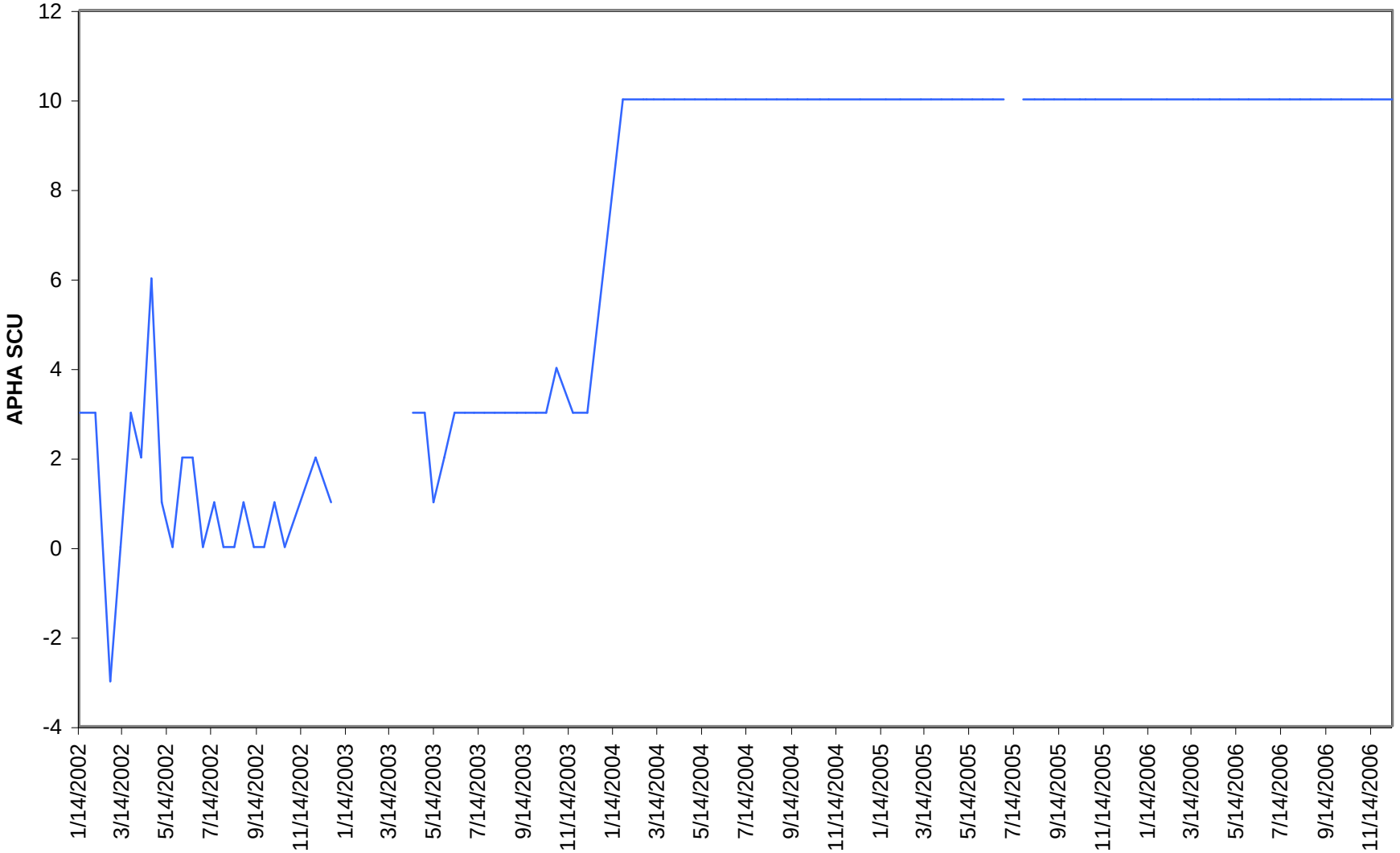
BB3 Epilimnion Fecal Coliform



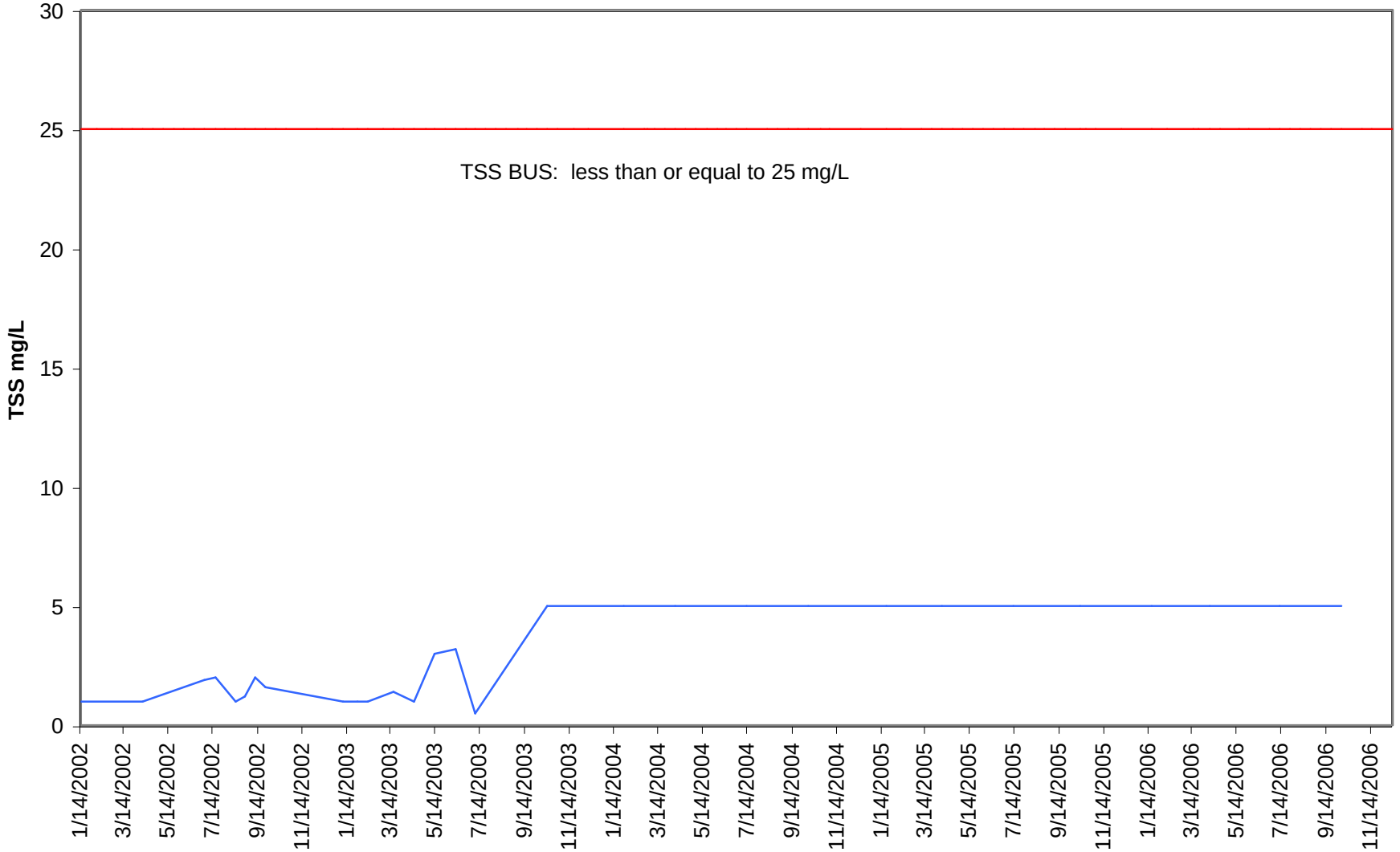
BB3 Epilimnion E. coli



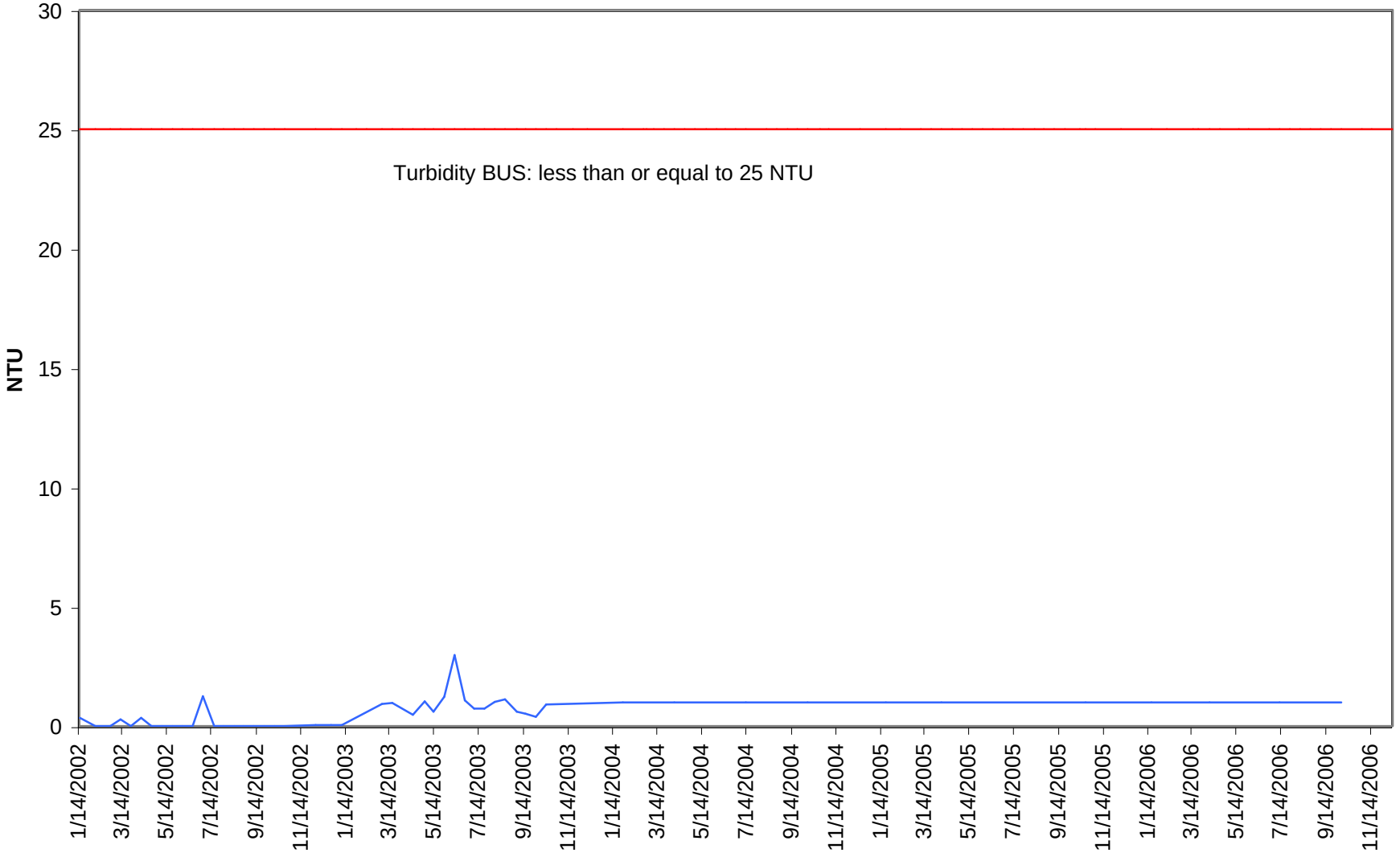
BB3 Epilimnion Color



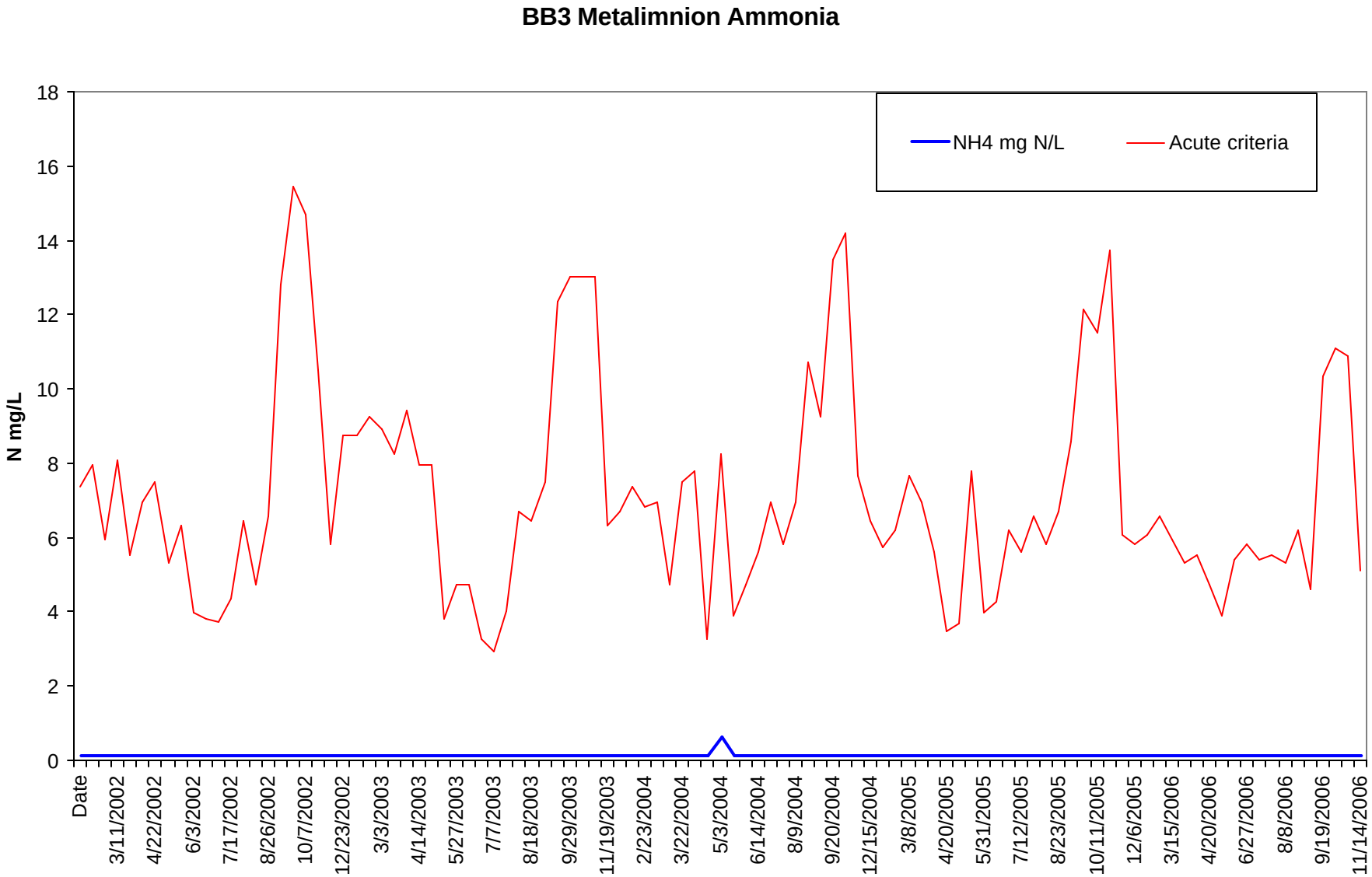
BB3 Epilimnion Total Suspended Solids



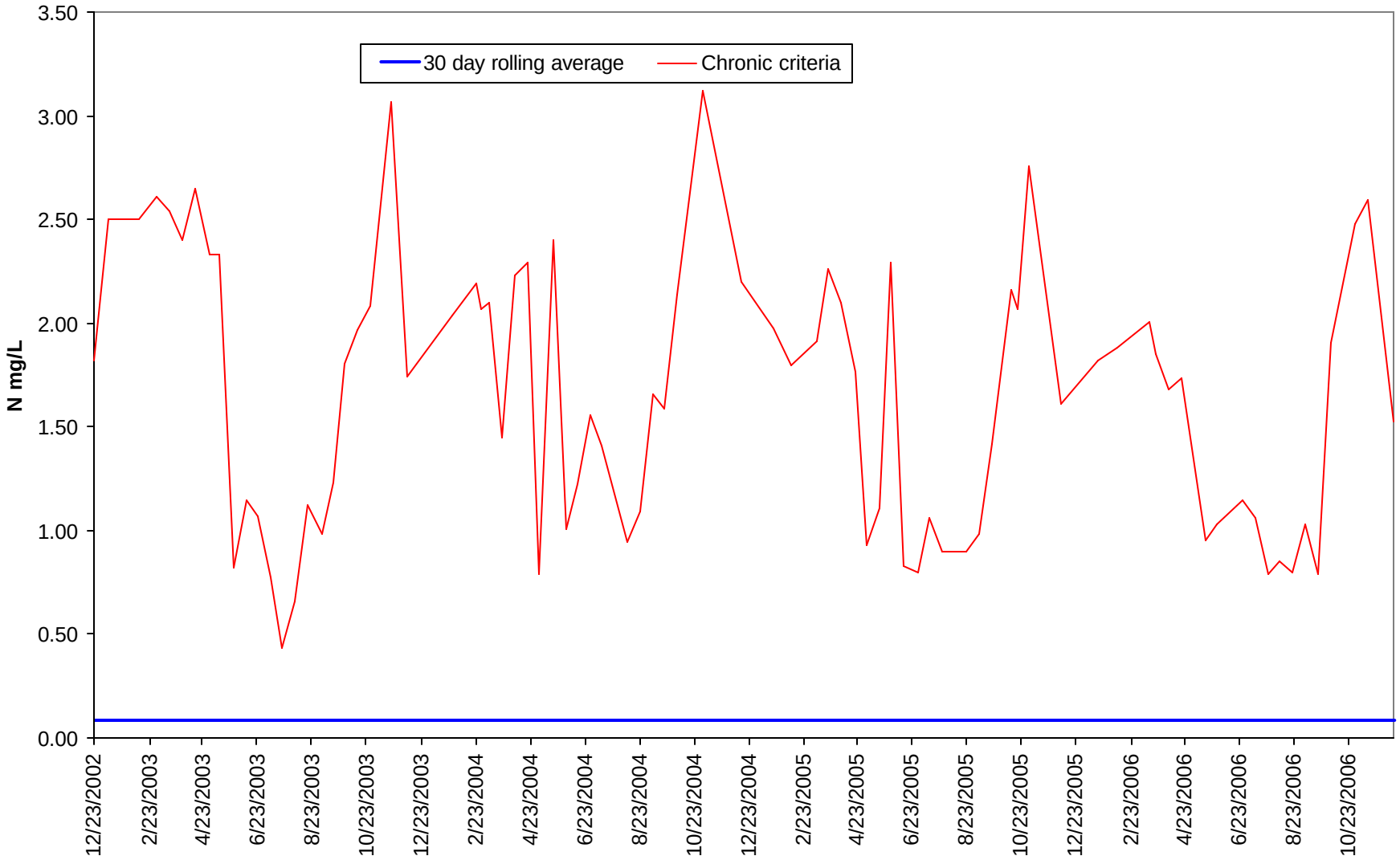
BB3 Epilimnion Turbidity

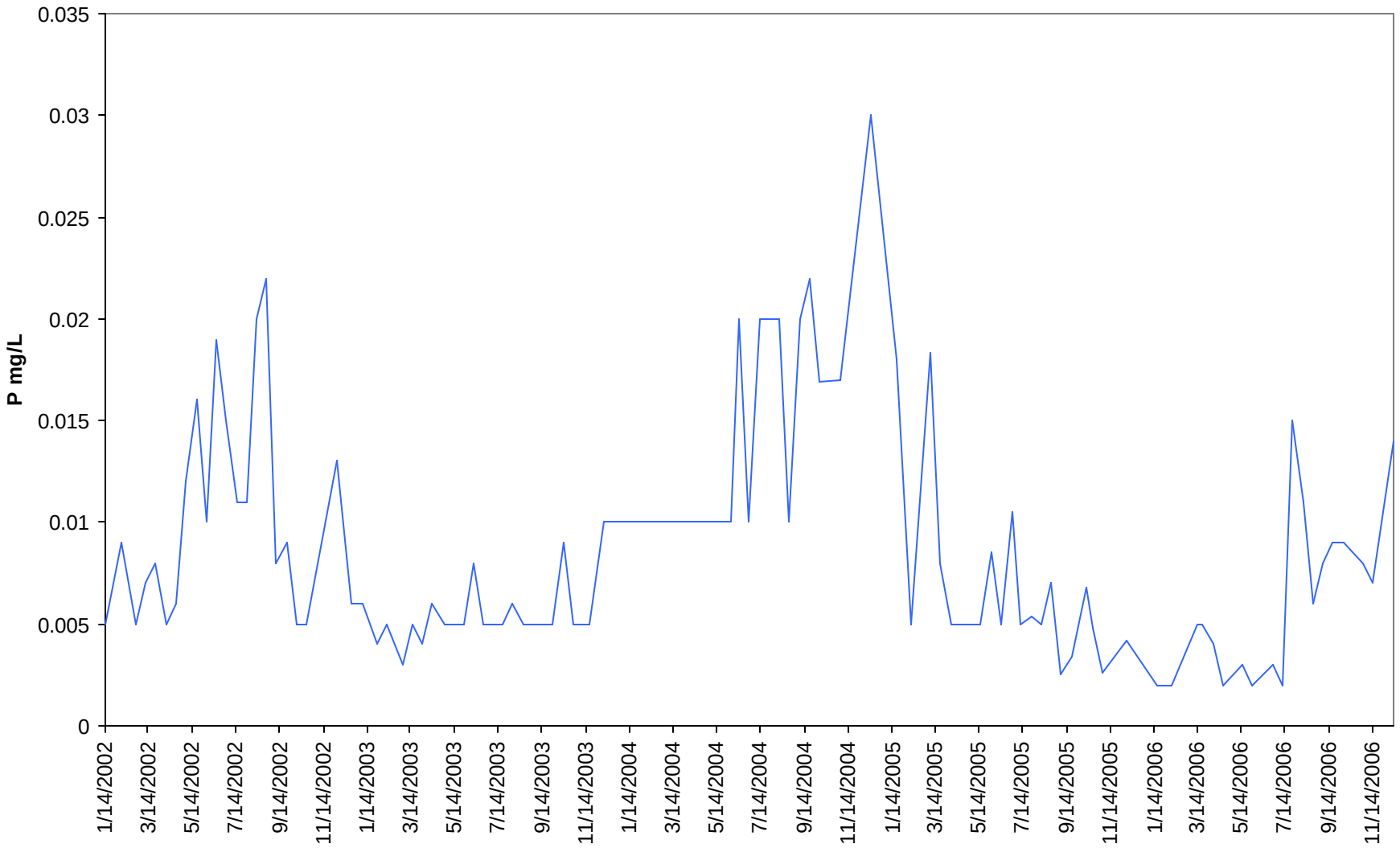


BB3
Metalimnion

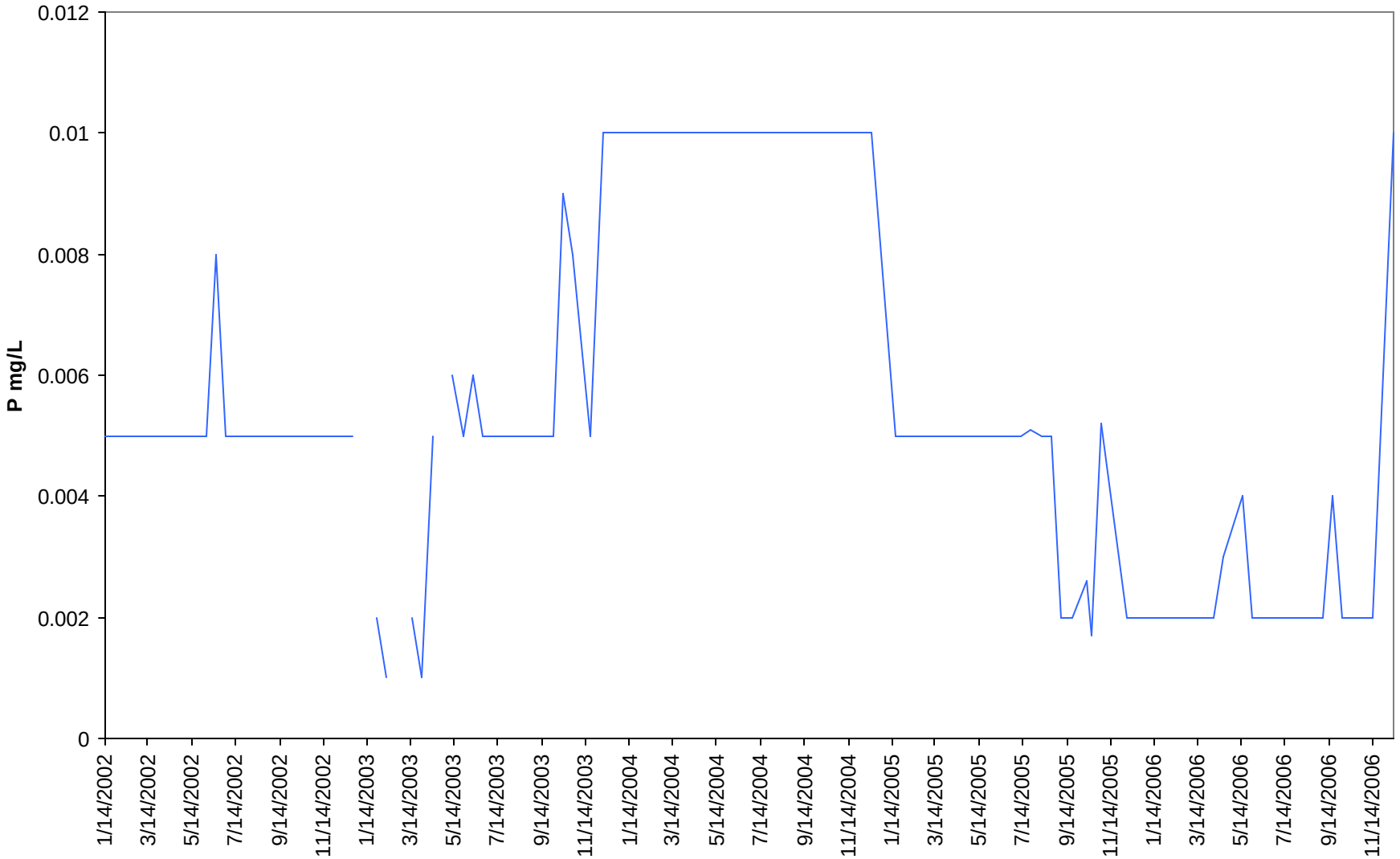

BB3 Metalimnion Ammonia
N mg/L
18
16
14
12
10
8
6
4
2
0
NH4 mg N/L
Acute criteria
Date
3/11/2002
4/22/2002
6/3/2002
7/17/2002
8/26/2002
10/7/2002
12/23/2002
3/3/2003
4/14/2003
5/27/2003
7/7/2003
8/18/2003
9/29/2003
11/19/2003
2/23/2004
3/22/2004
5/3/2004
6/14/2004
8/9/2004
9/20/2004
12/15/2004
3/8/2005
4/20/2005
5/31/2005
7/12/2005
8/23/2005
10/11/2005
12/6/2005
3/15/2006
4/20/2006
6/27/2006
8/8/2006
9/19/2006
11/14/2006

BB3 Metalimnion Chronic Ammonia

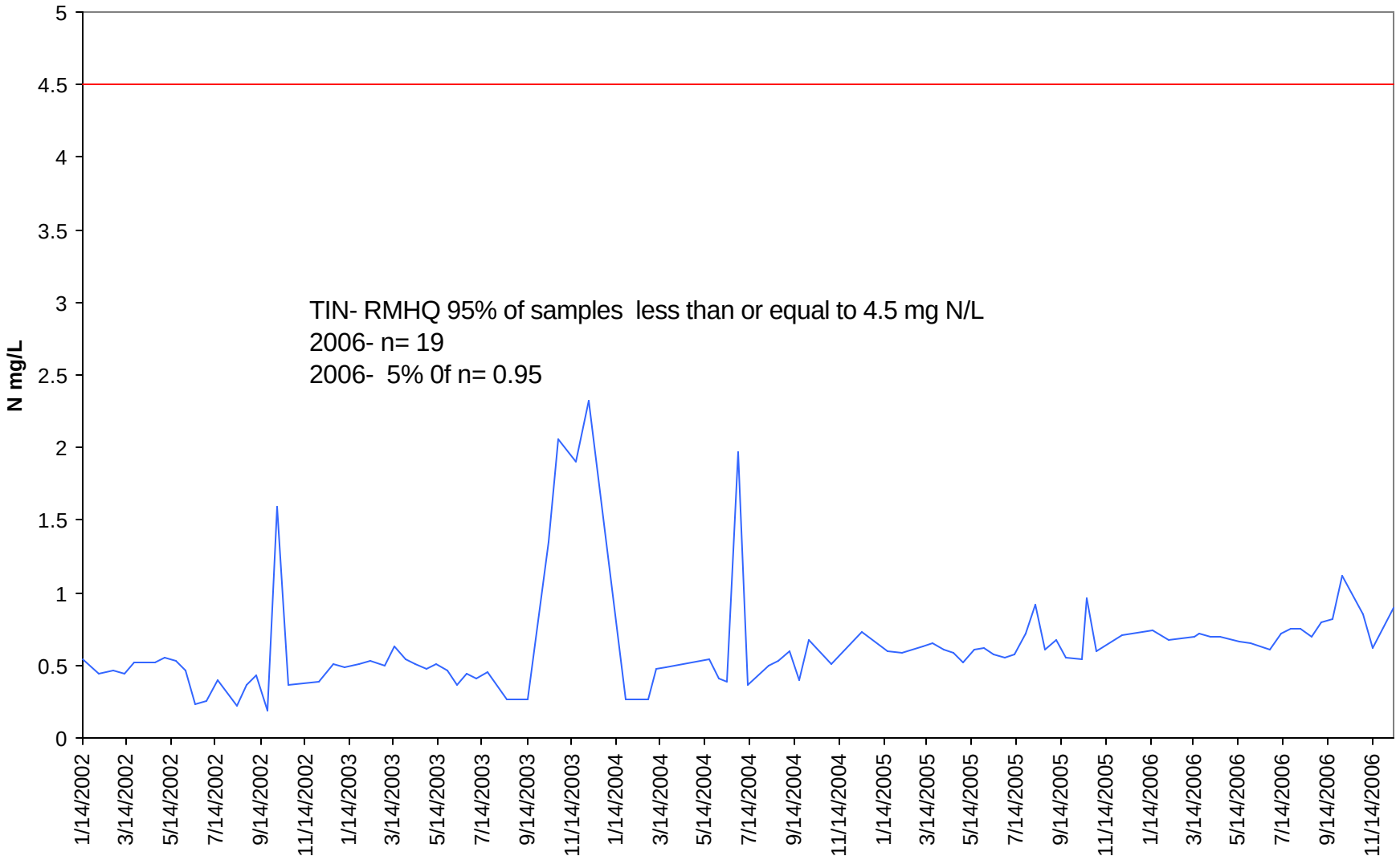


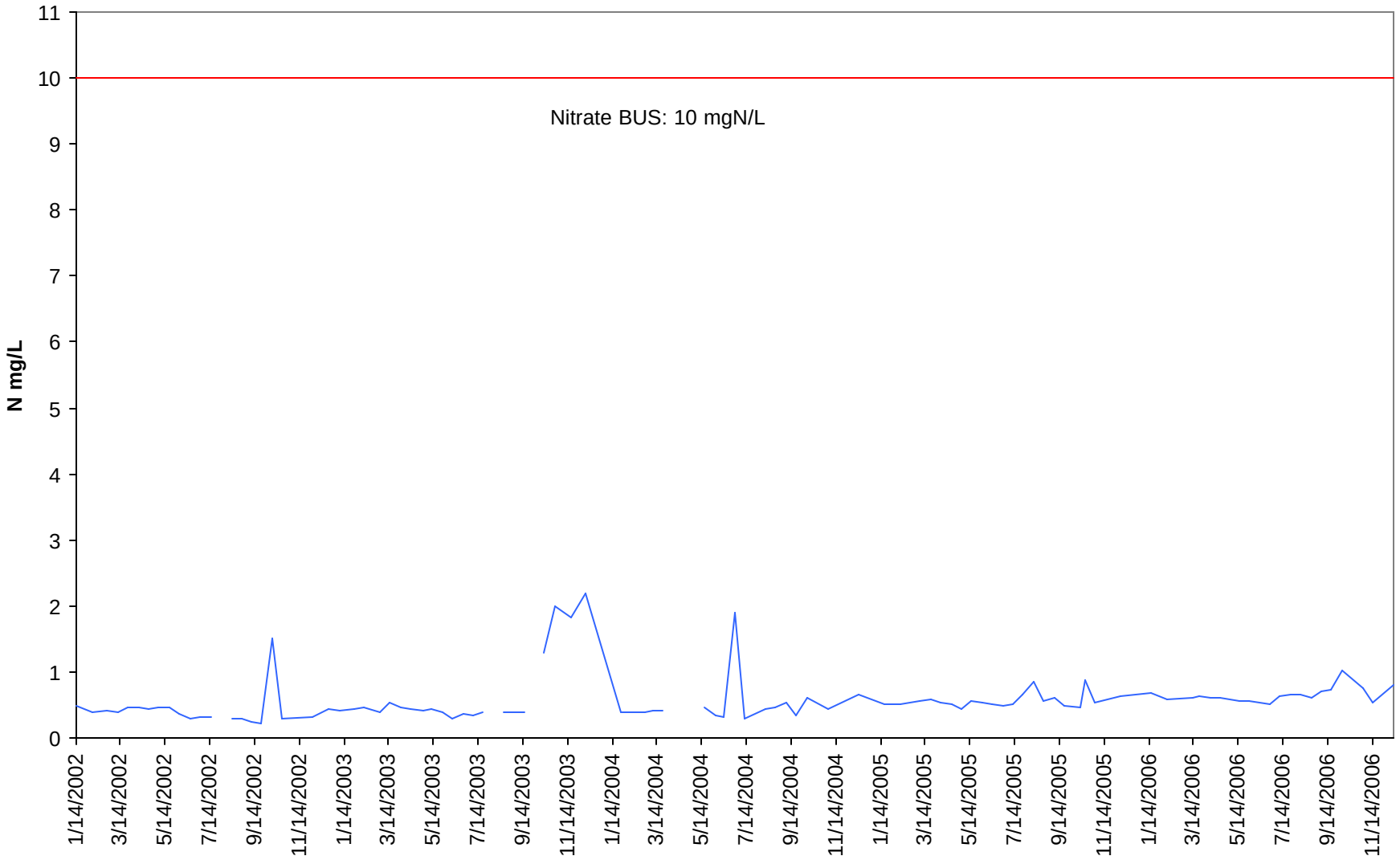

BB3 Metalimnion Total Phosphorus
P mg/L
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

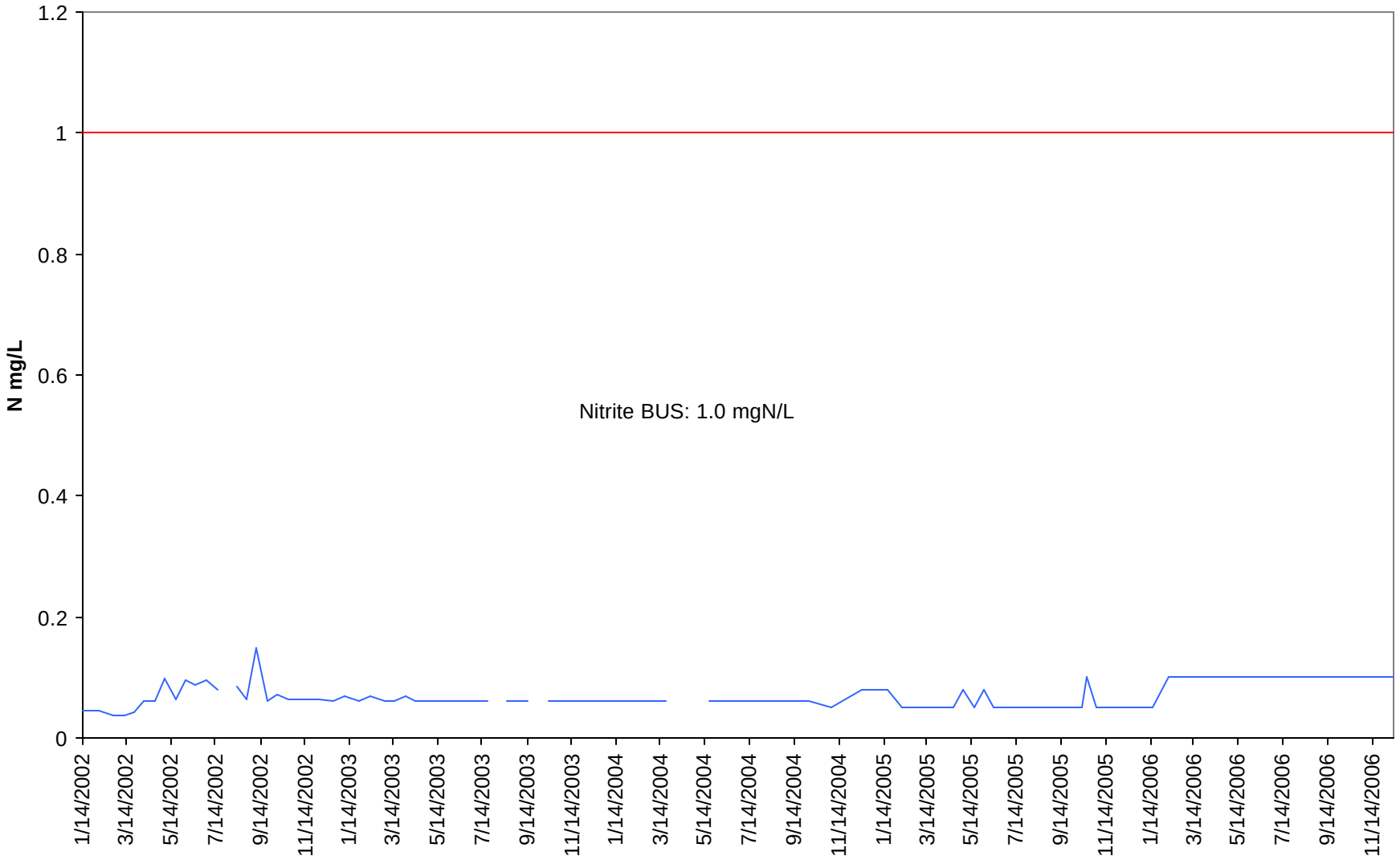
BB3 Metalimnion Dissolved ortho-Phosphorus

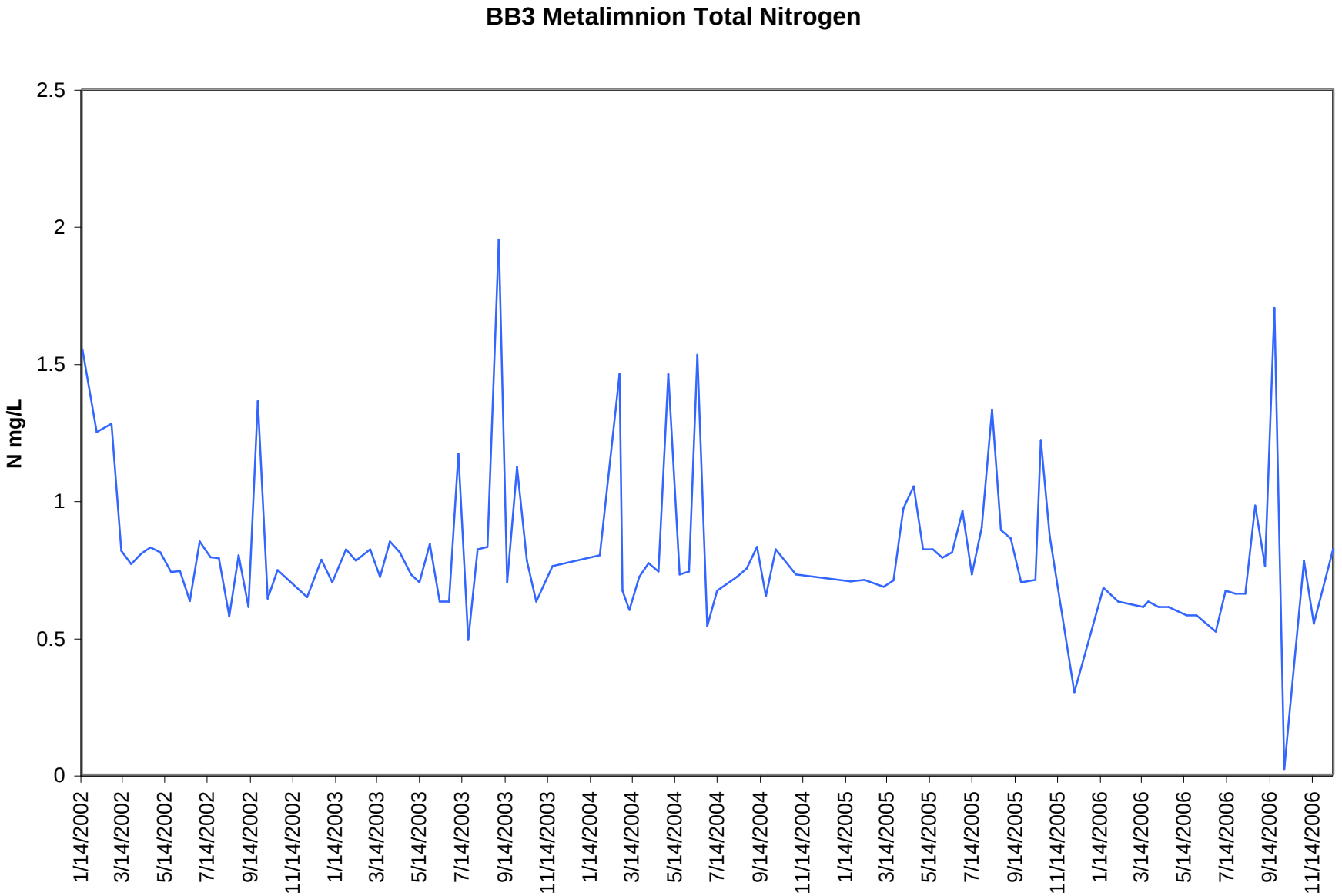


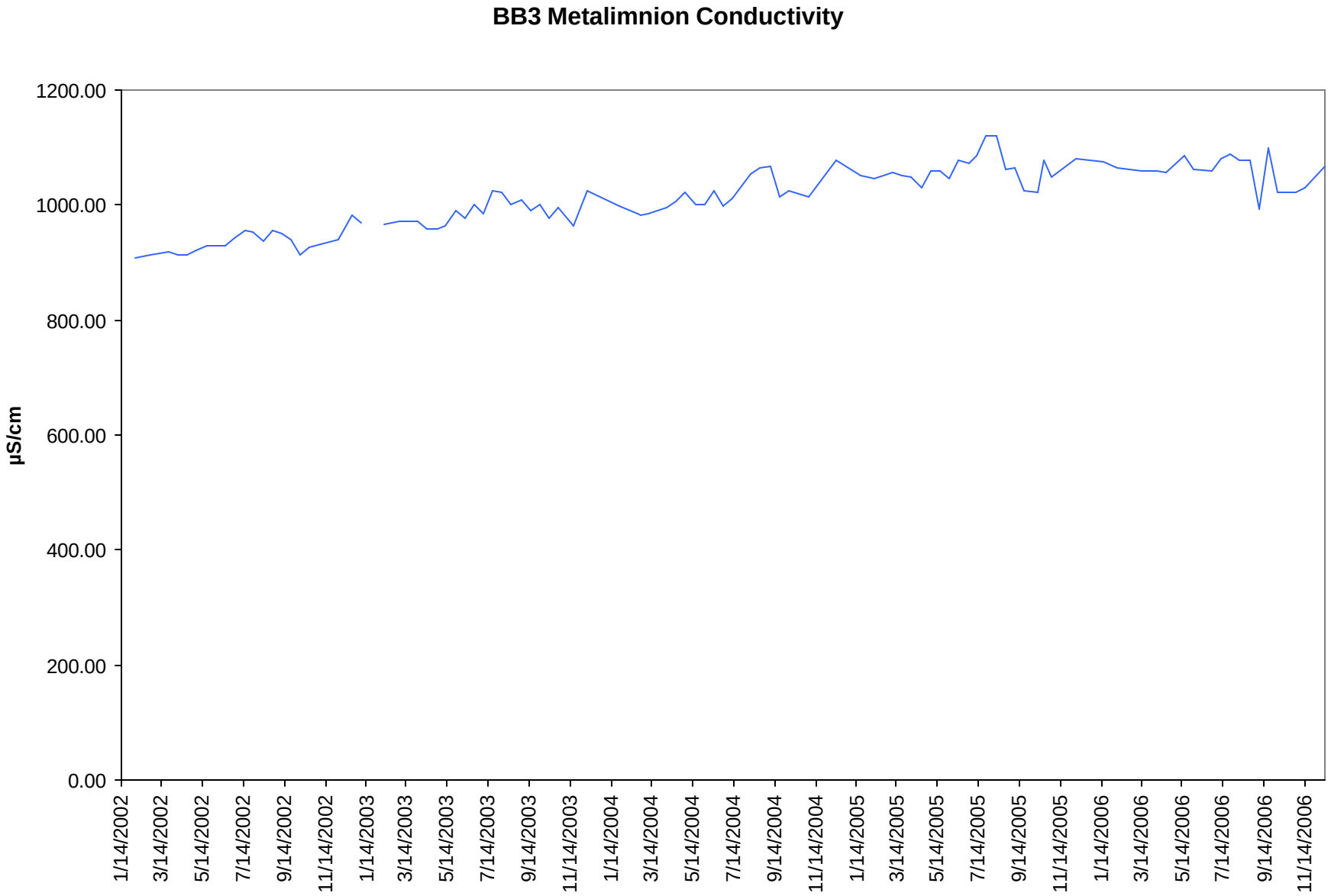
BB3 Metalimnion Total Inorganic Nitrogen

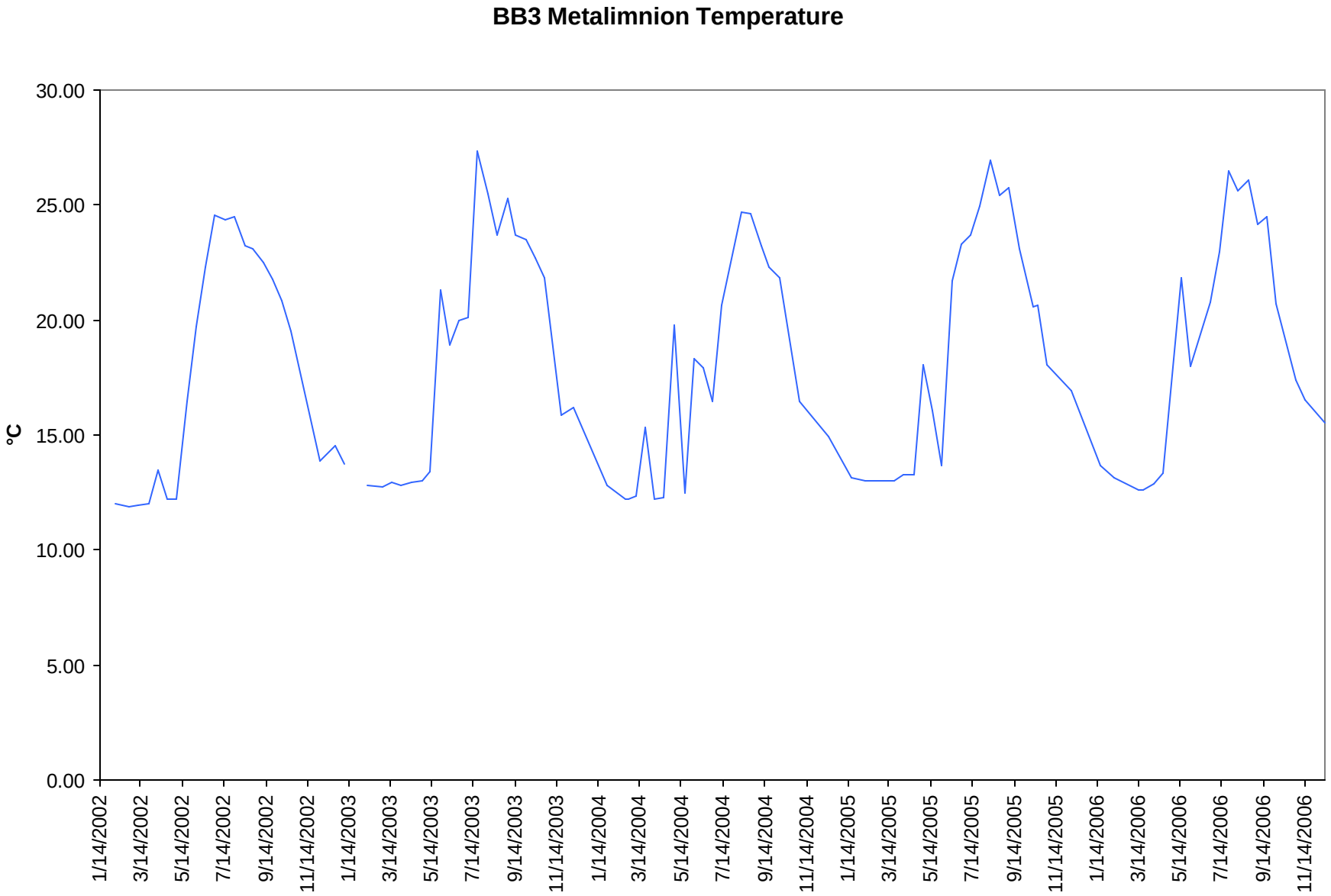


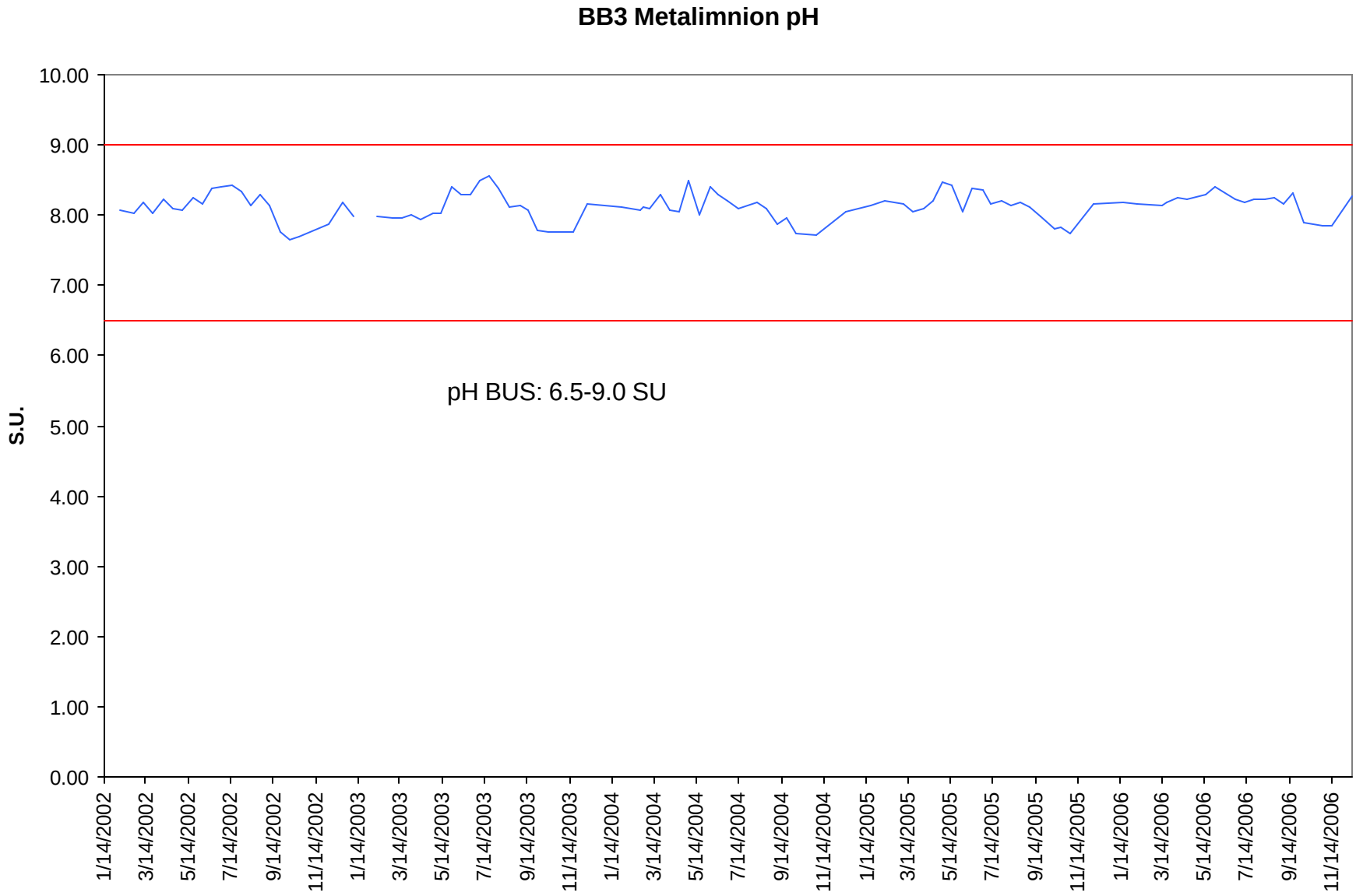

BB3 Metalimnion Nitrate
Nitrate BUS: 10 mgN/L
N mg/L
11
10
9
8
7
6
5
4
3
2
1
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006


BB3 Metalimnion Nitrite
N mg/L
1.2
1
0.8
0.6
0.4
0.2
0
Nitrite BUS: 1.0 mgN/L
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

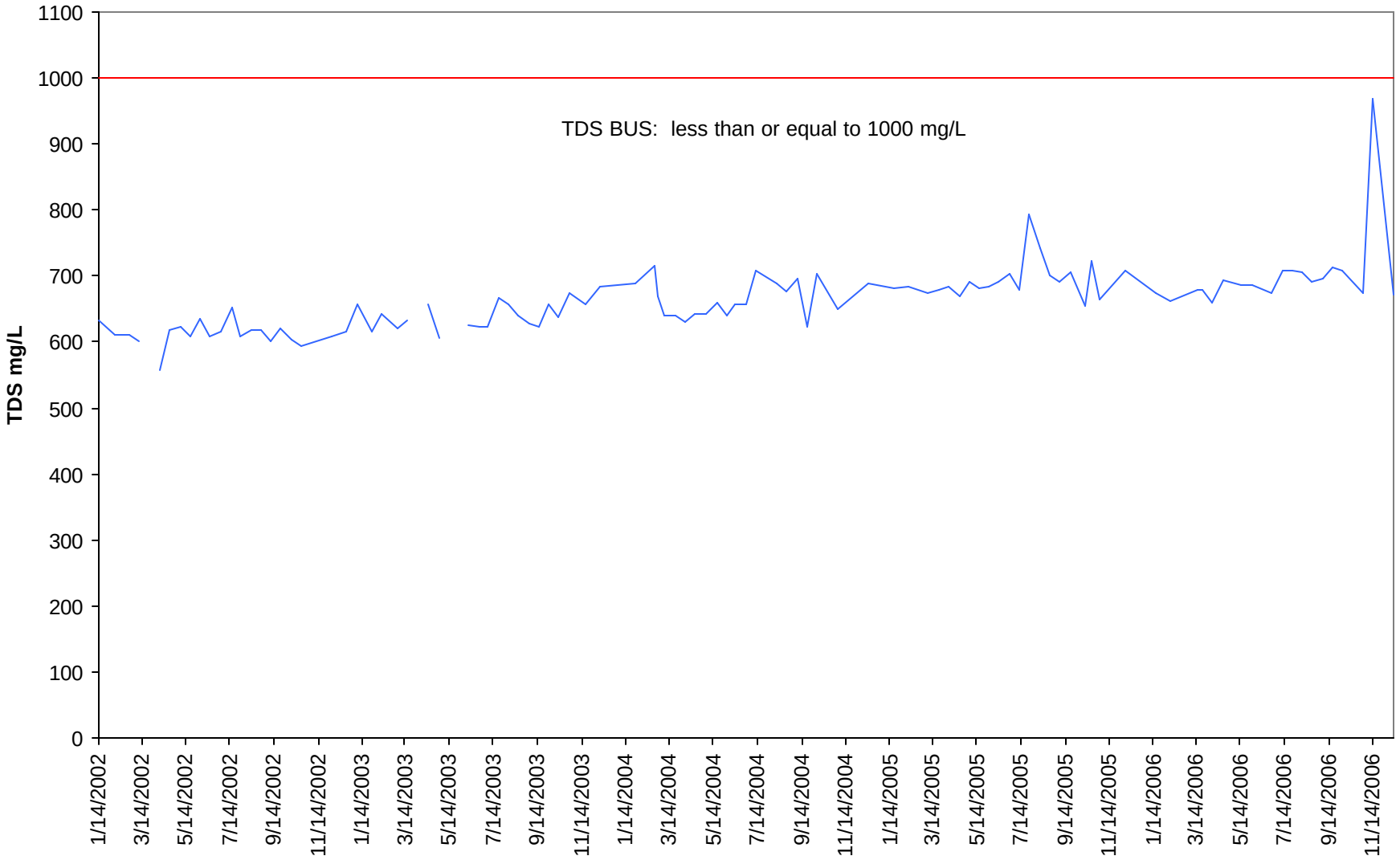

BB3 Metalimnion Total Nitrogen
N mg/L
2.5
2
1.5
1
0.5
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

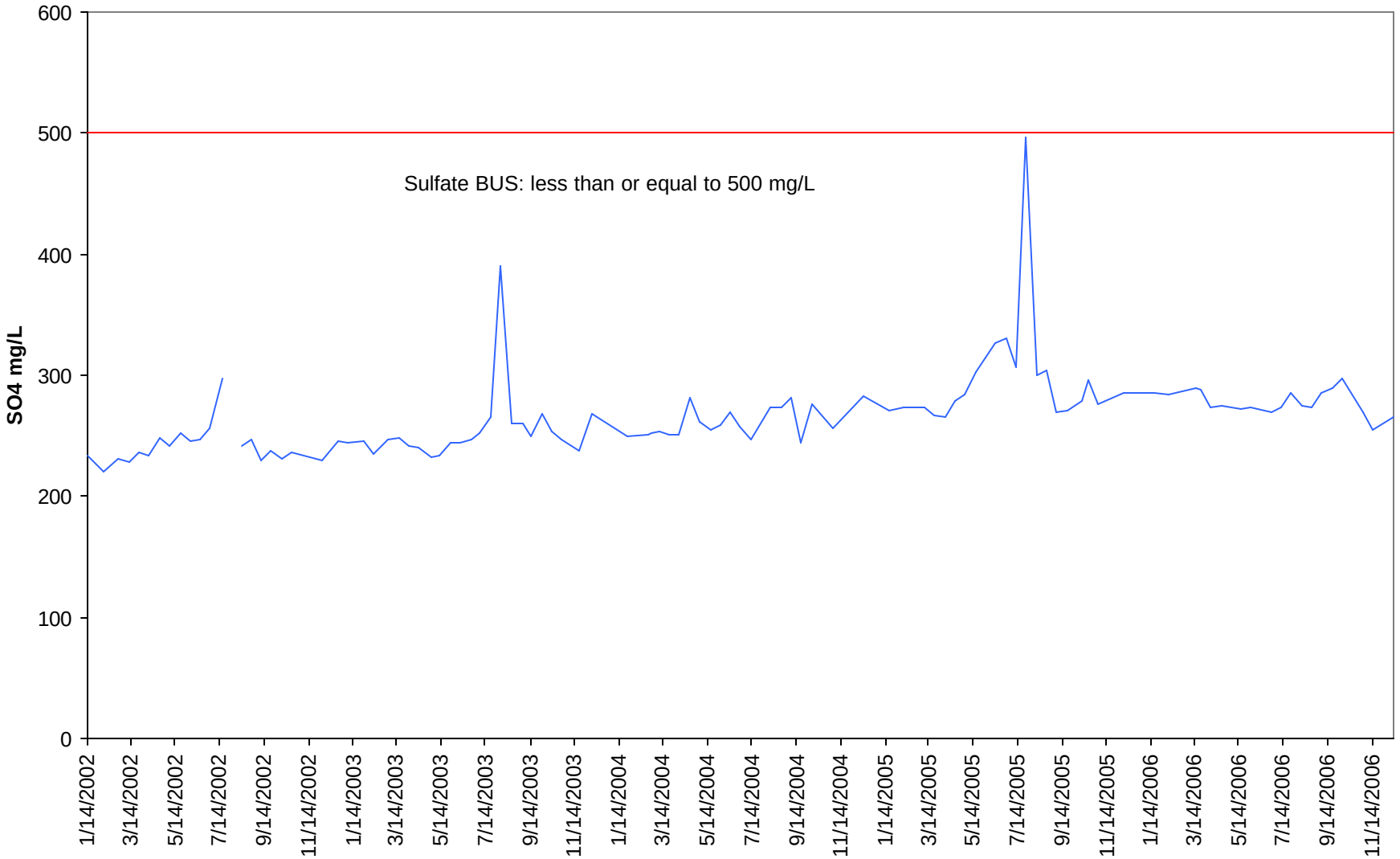

BB3 Metalimnion Conductivity
µS/cm
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006


BB3 Metalimnion Temperature
°C
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

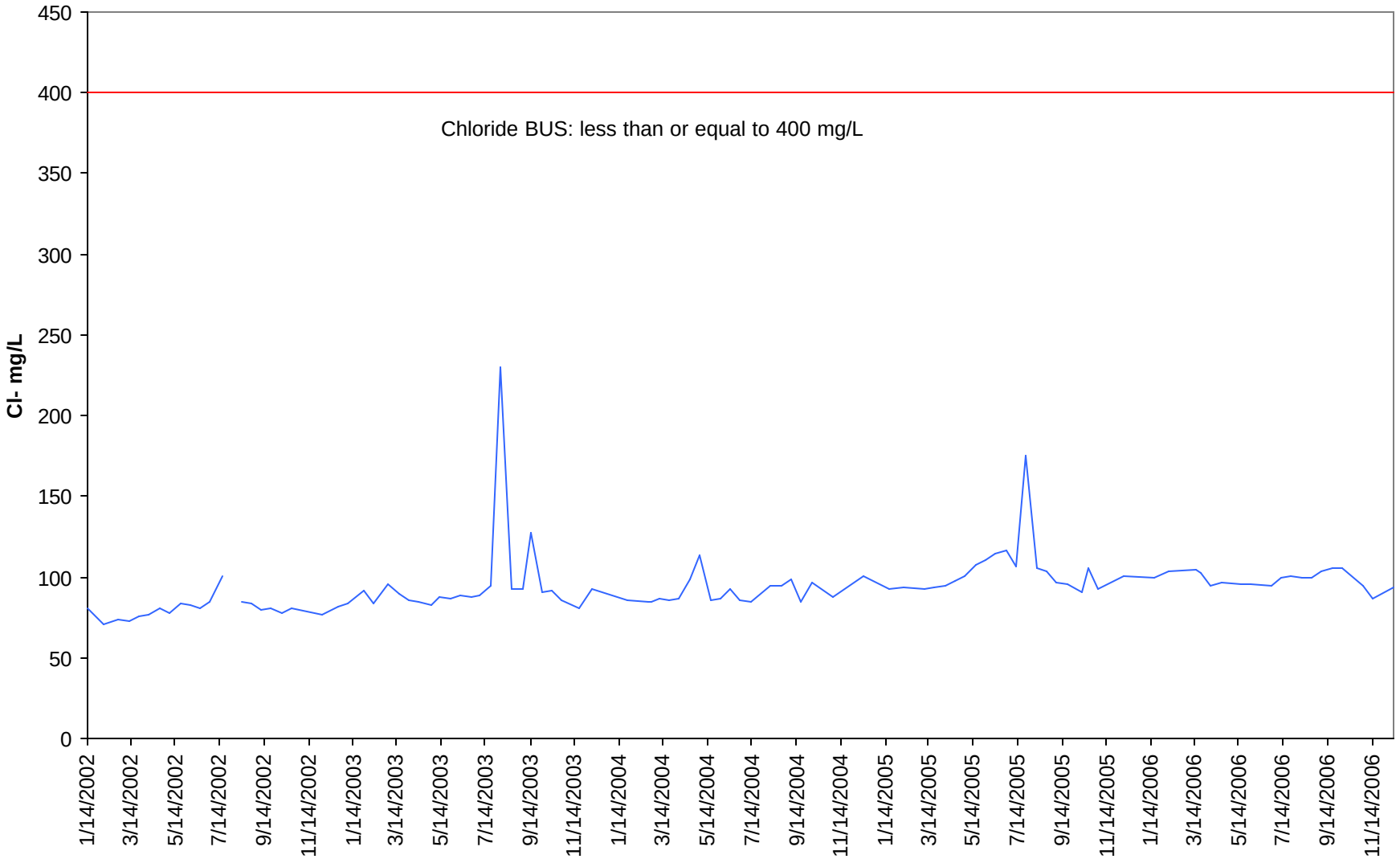

BB3 Metalimnion pH
S.U.
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
pH BUS: 6.5-9.0 SU
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

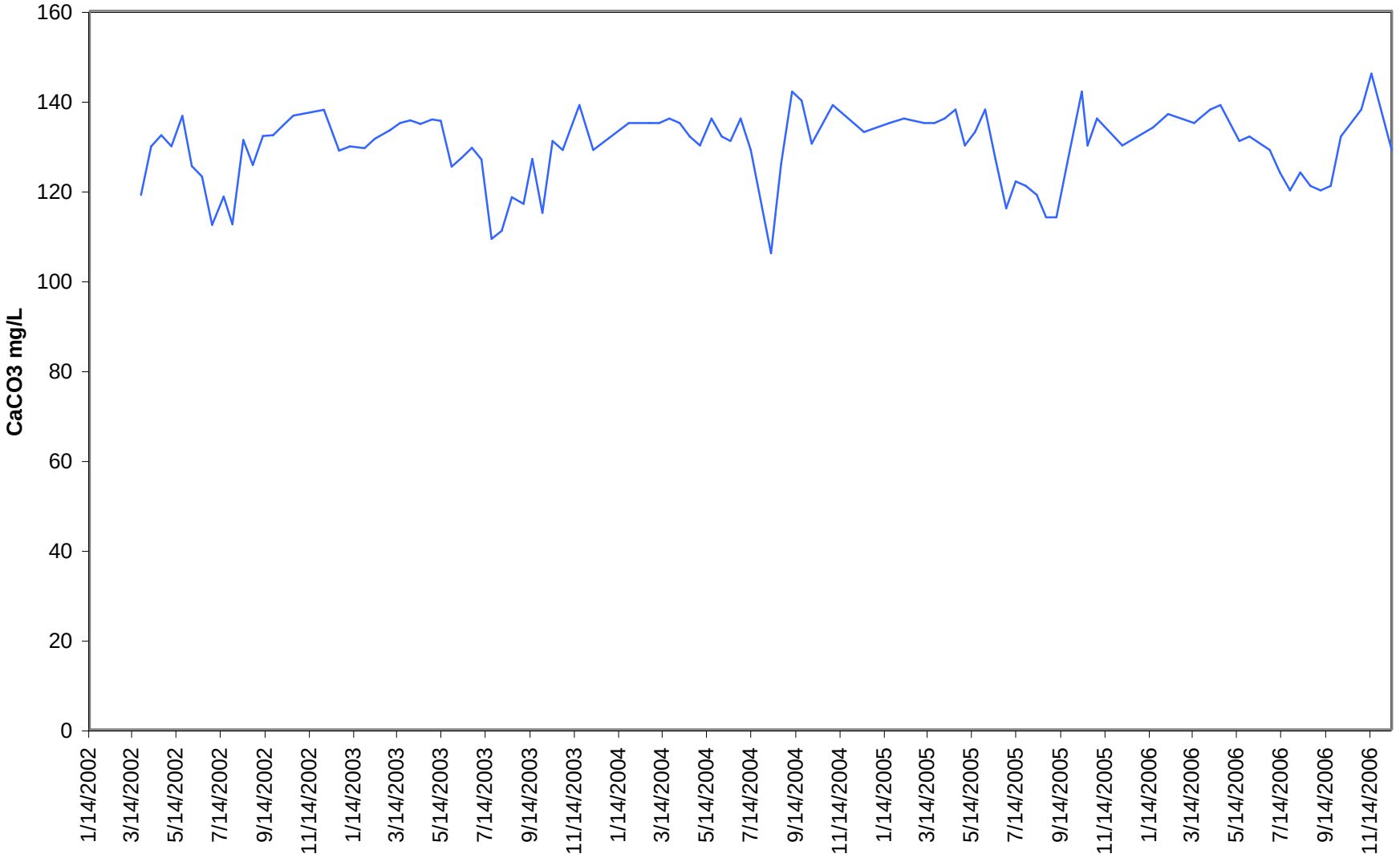
BB3 Metalimnion Total Dissolved Solids



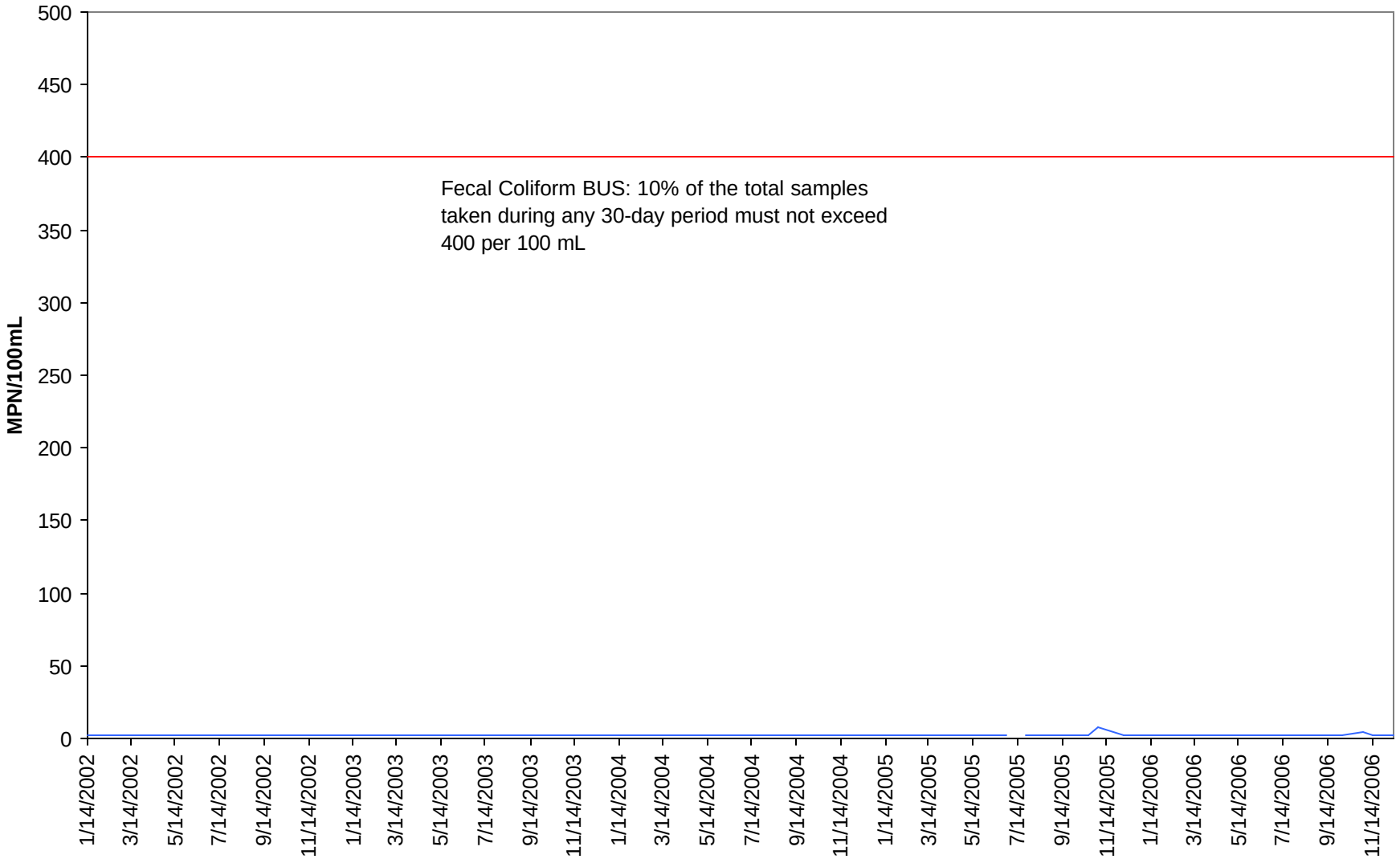

BB3 Metalimnion Sulfate
SO4 mg/L
600
500
400
300
200
100
0
Sulfate BUS: less than or equal to 500 mg/L
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

BB3 Metalimnion Chloride

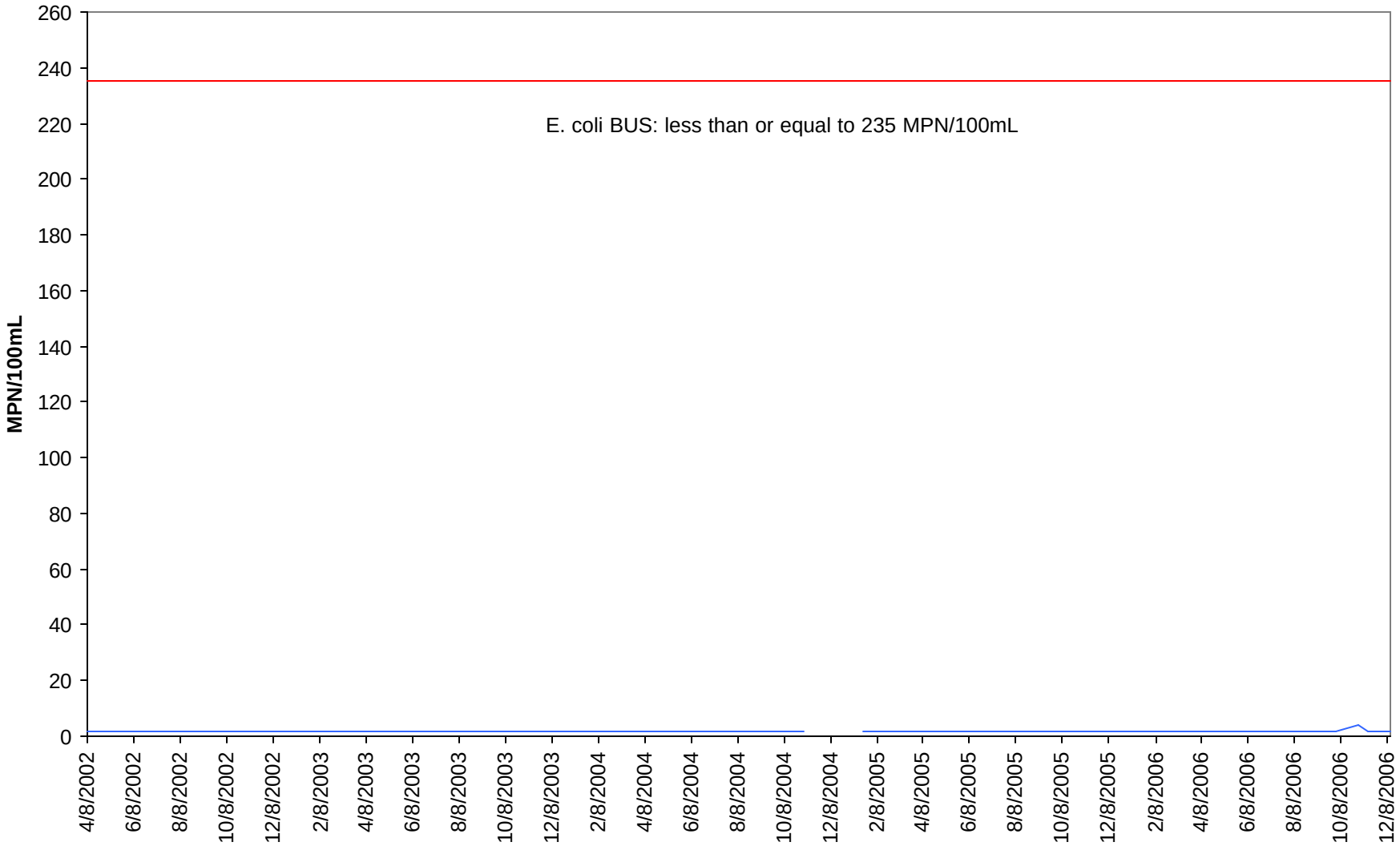



BB3 Metalimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

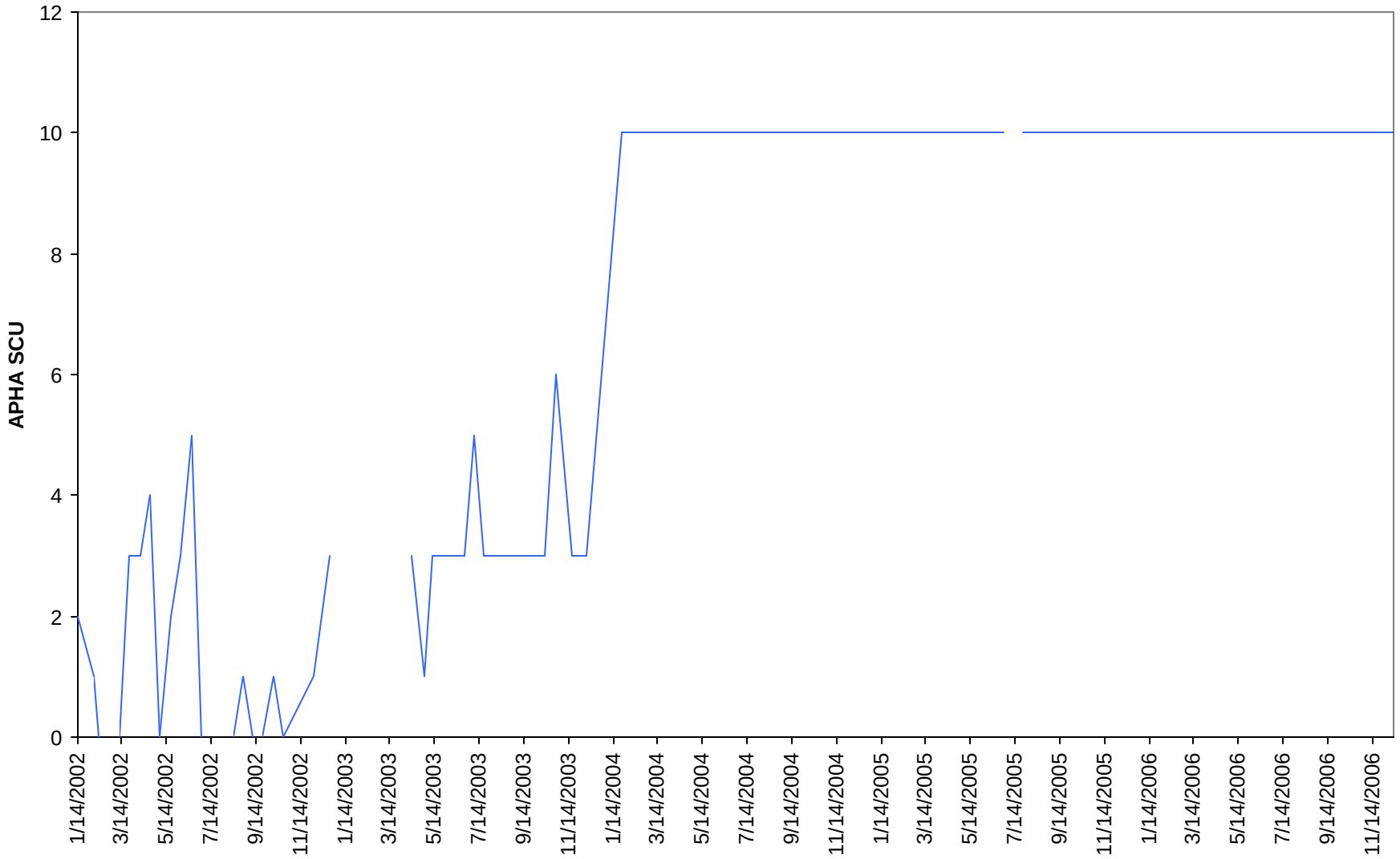
BB3 Metalimnion Fecal Coliform



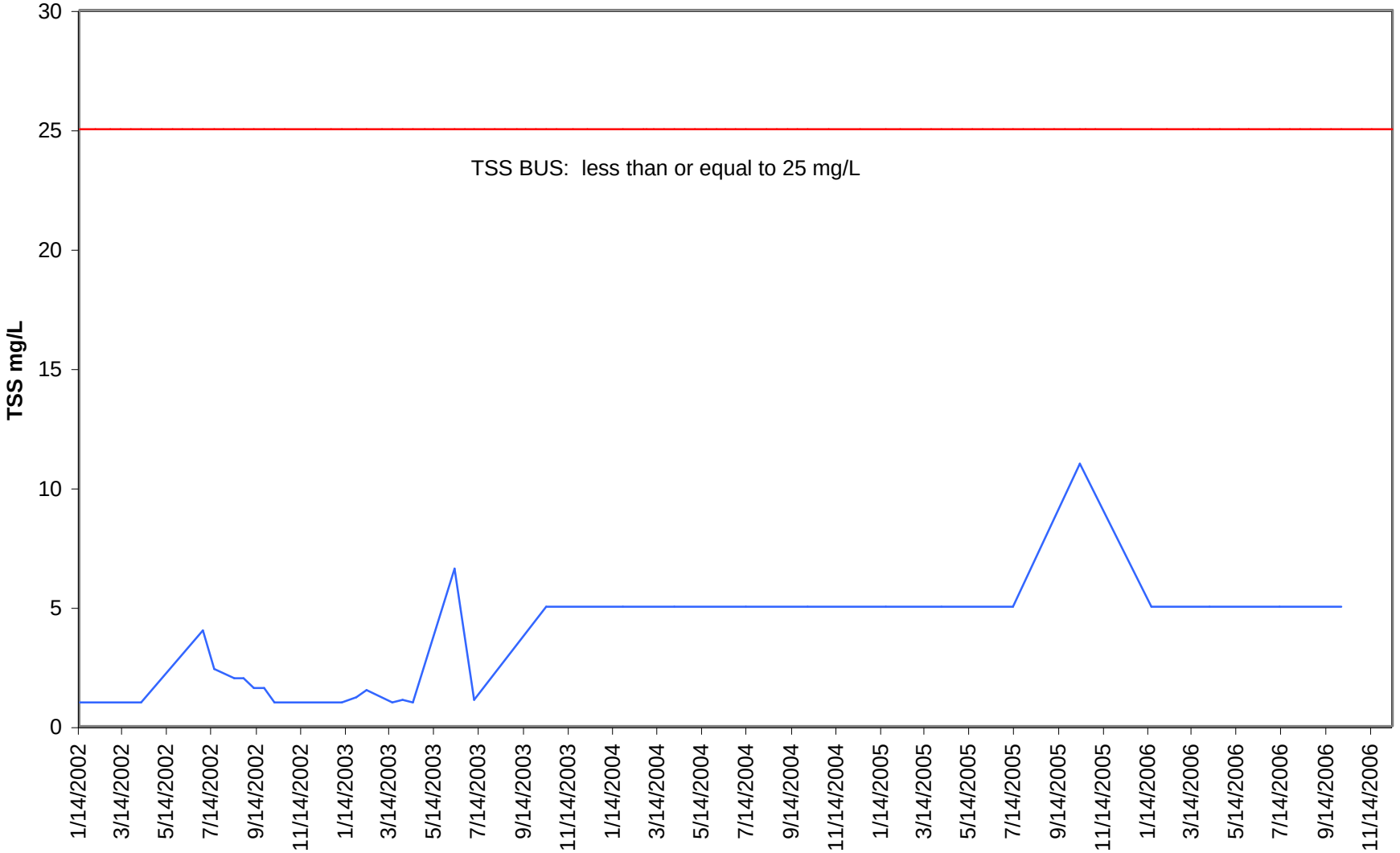
BB3 Metalimnion E. coli.

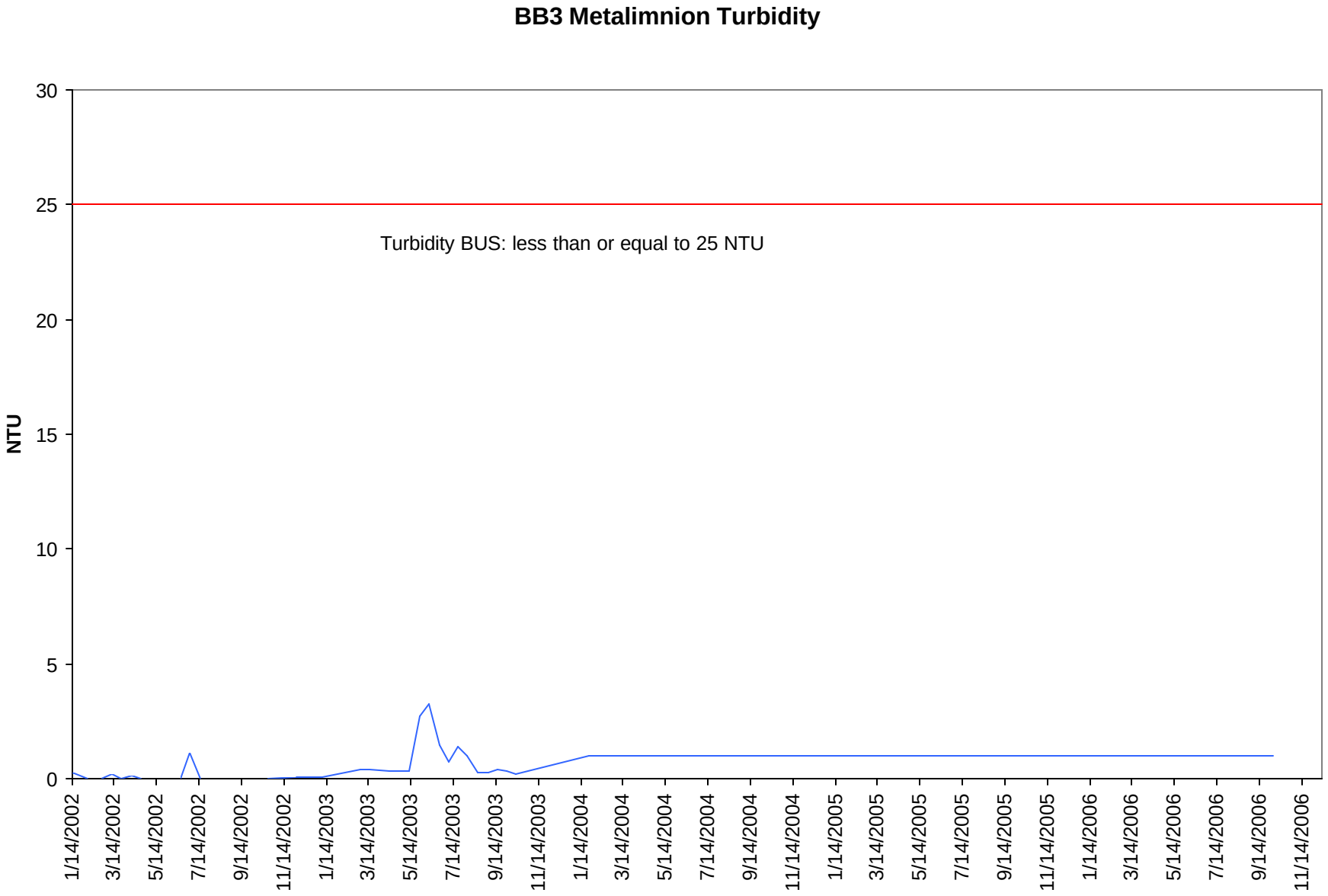


BB3 Metalimnion Color

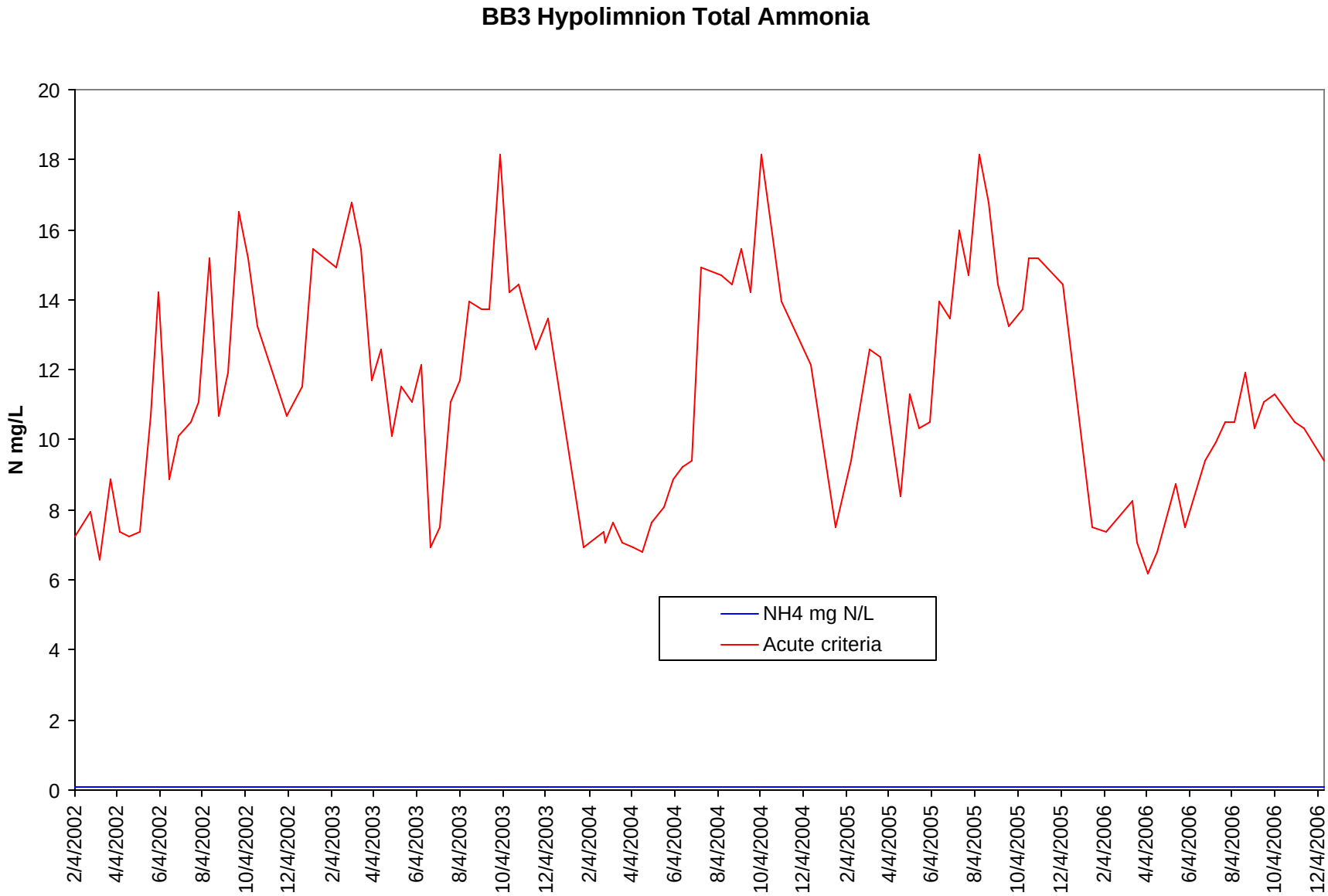


BB3 Metalimnion Total Suspended Solids

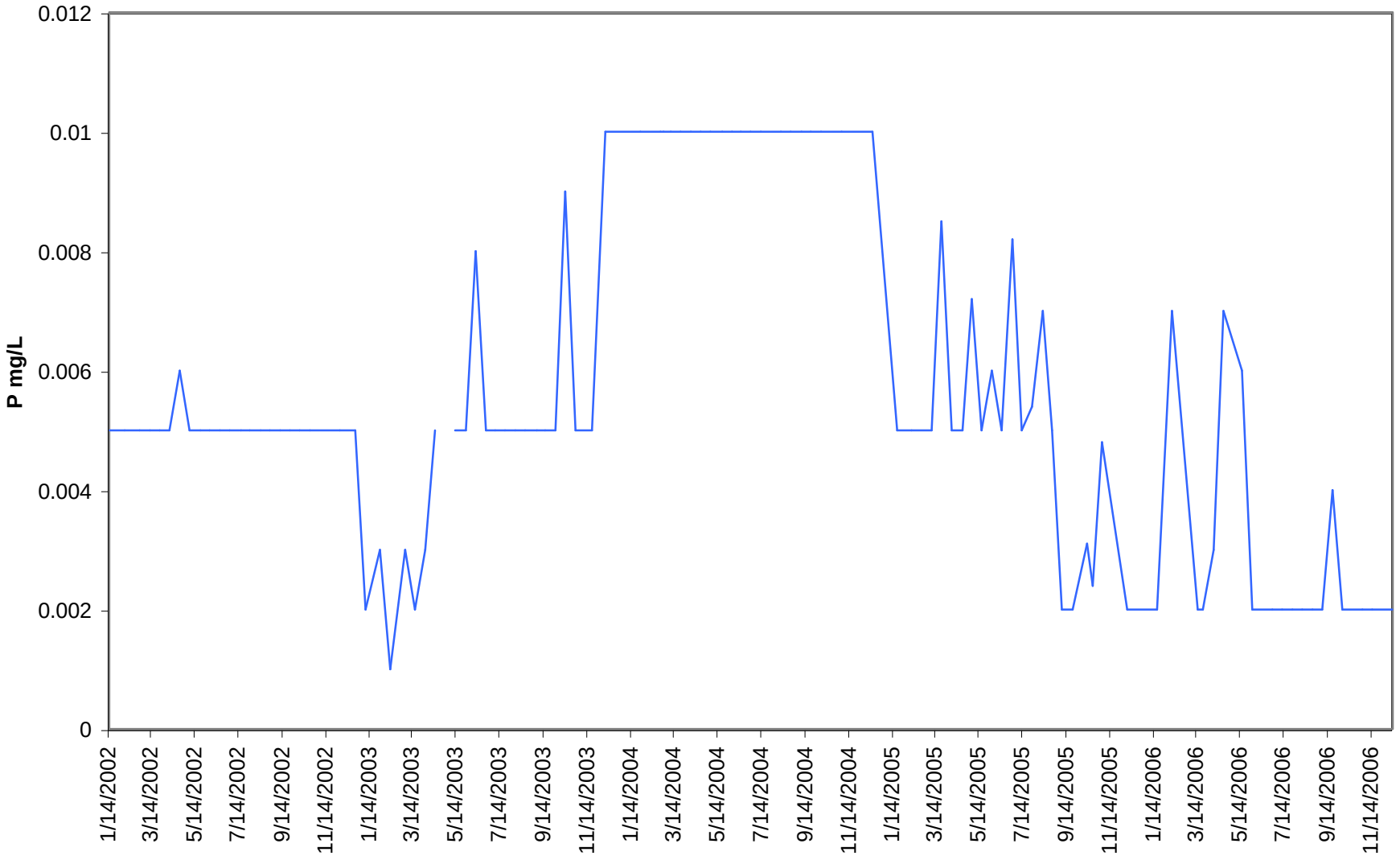


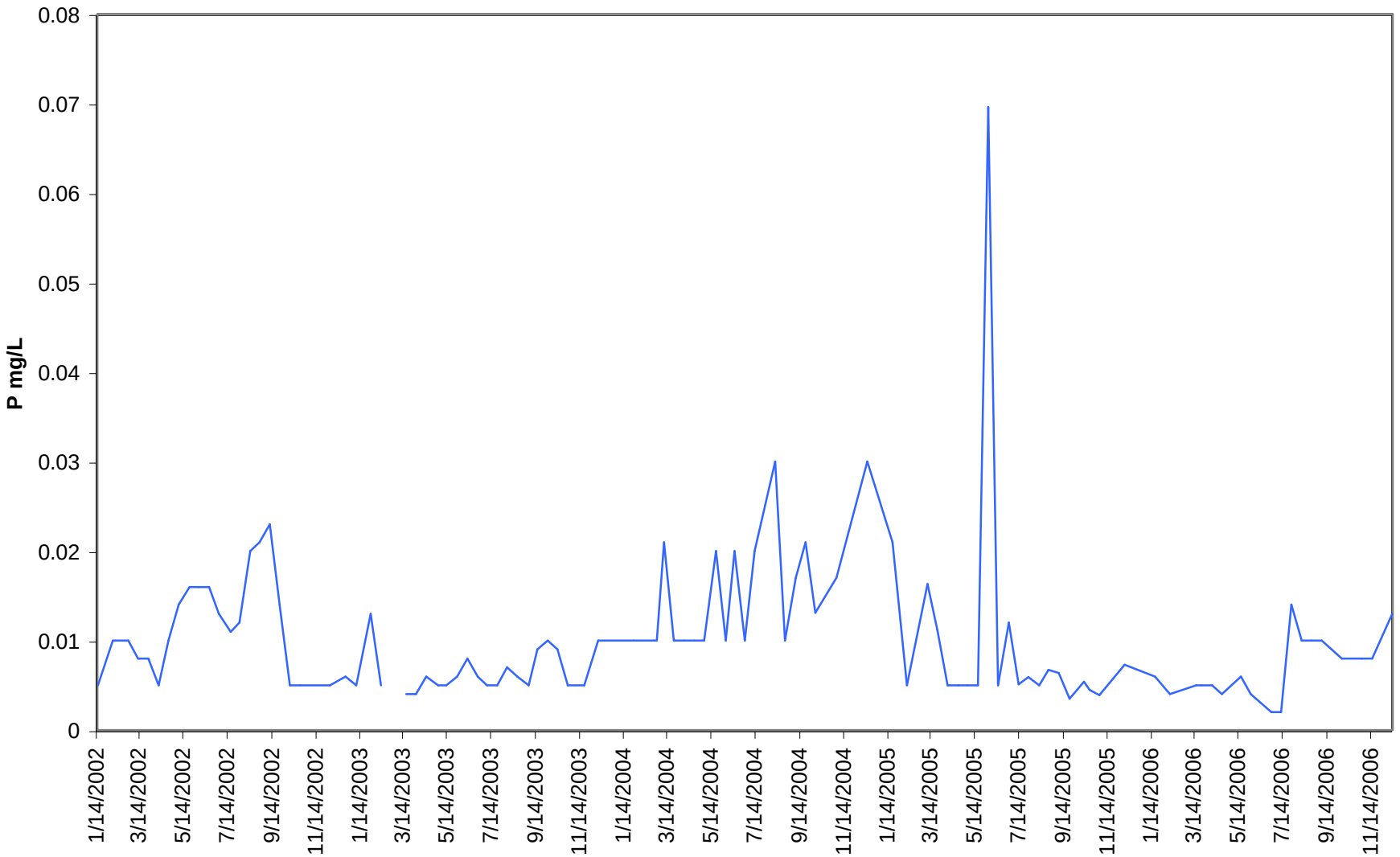

BB3 Metalimnion Turbidity
NTU
30
25
20
15
10
5
0
Turbidity BUS: less than or equal to 25 NTU
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

BB3
Hypolimnion

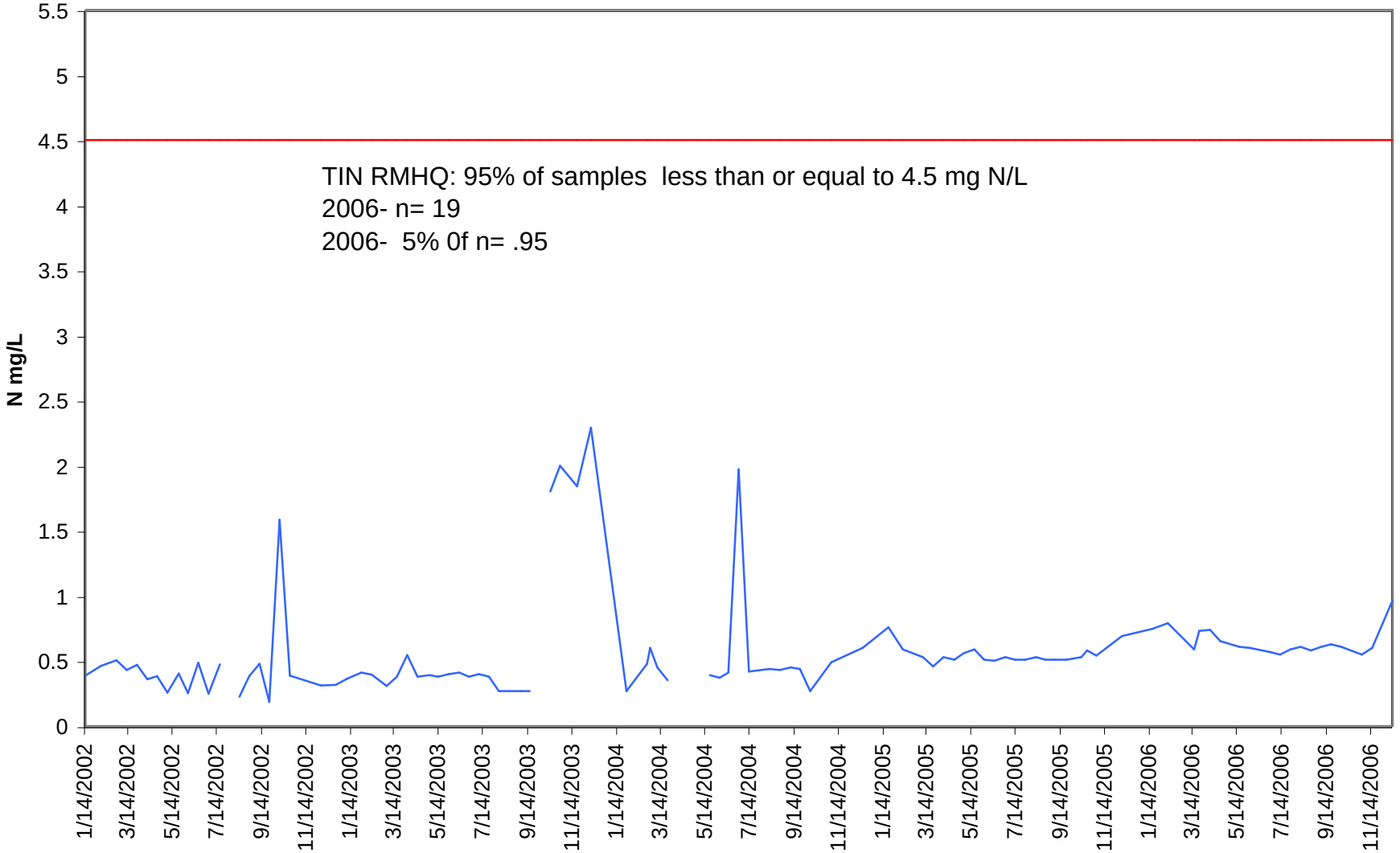

BB3 Hypolimnion Total Ammonia
N mg/L
20
18
16
14
12
10
8
6
4
2
0
NH4 mg N/L
Acute criteria
2/4/2002
4/4/2002
6/4/2002
8/4/2002
10/4/2002
12/4/2002
2/4/2003
4/4/2003
6/4/2003
8/4/2003
10/4/2003
12/4/2003
2/4/2004
4/4/2004
6/4/2004
8/4/2004
10/4/2004
12/4/2004
2/4/2005
4/4/2005
6/4/2005
8/4/2005
10/4/2005
12/4/2005
2/4/2006
4/4/2006
6/4/2006
8/4/2006
10/4/2006
12/4/2006

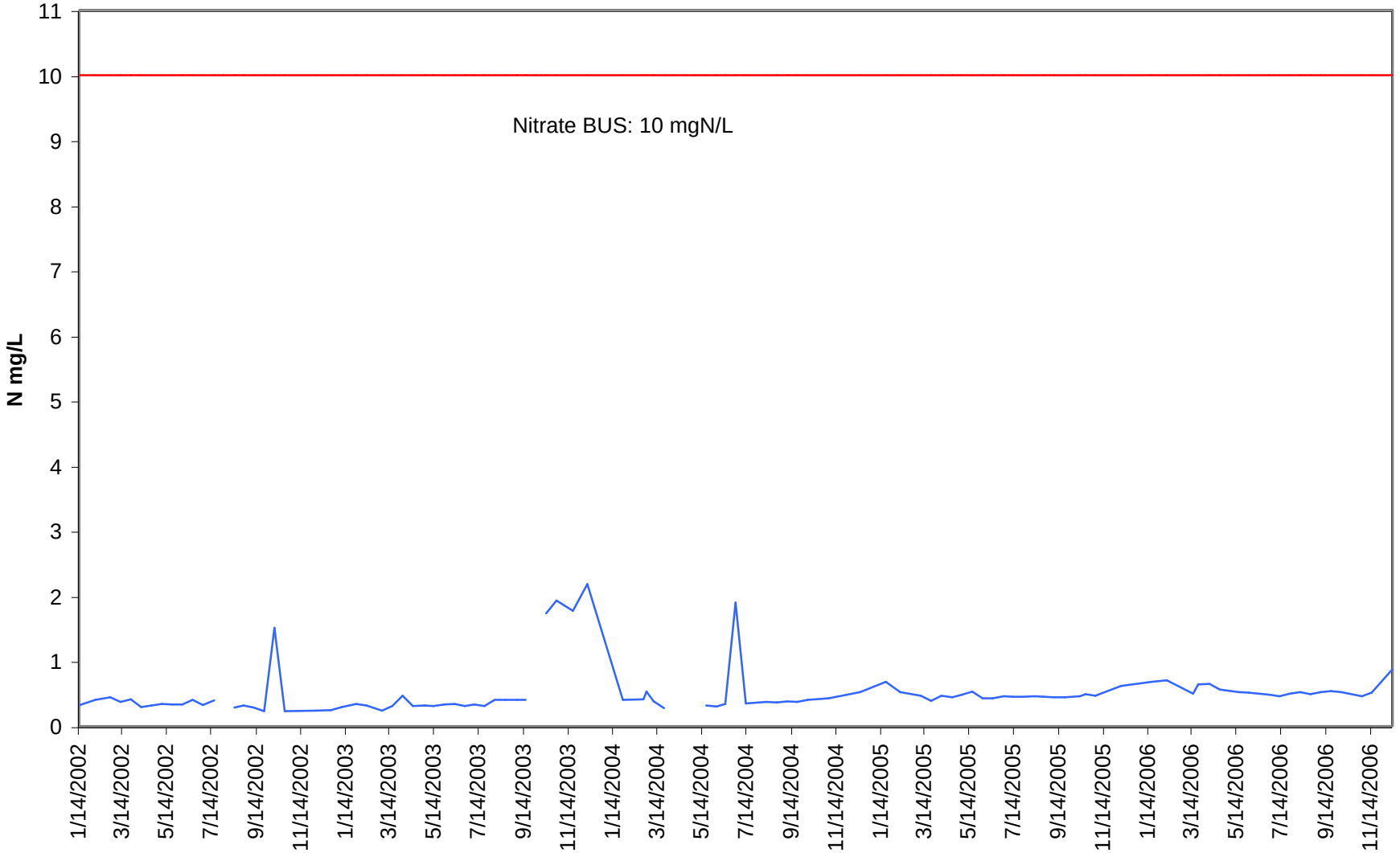

BB3 Hypolimnion Chronic Ammonia
N mg/L
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
12/23/2002
2/23/2003
4/23/2003
6/23/2003
8/23/2003
10/23/2003
12/23/2003
2/23/2004
4/23/2004
6/23/2004
8/23/2004
10/23/2004
12/23/2004
2/23/2005
4/23/2005
6/23/2005
8/23/2005
10/23/2005
12/23/2005
2/23/2006
4/23/2006
6/23/2006
8/23/2006
10/23/2006
Chronic criteria
30 day rolling average

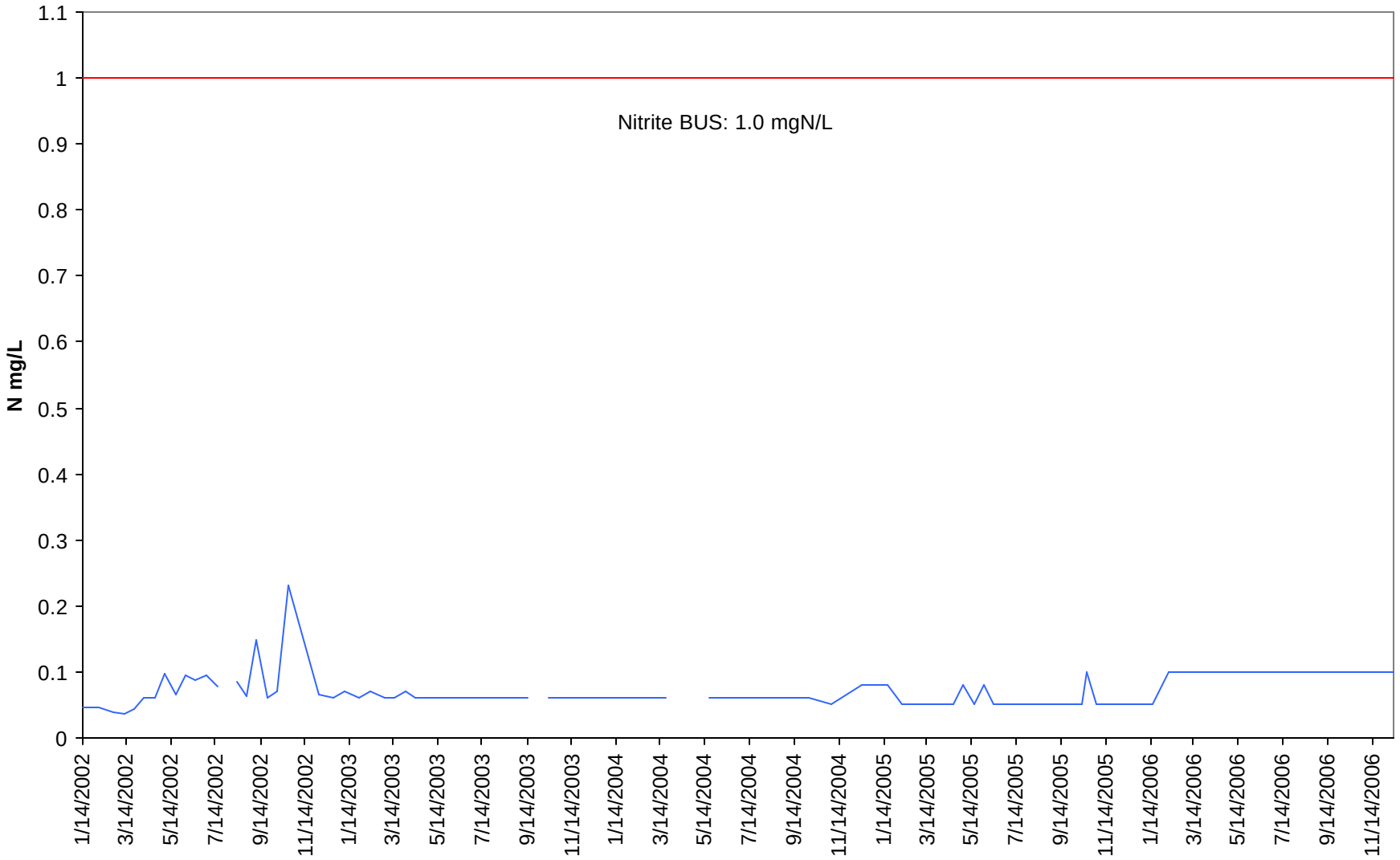

BB3 Hypolimnion Dissolved ortho-Phosphorus
P mg/L
0.012
0.01
0.008
0.006
0.004
0.002
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

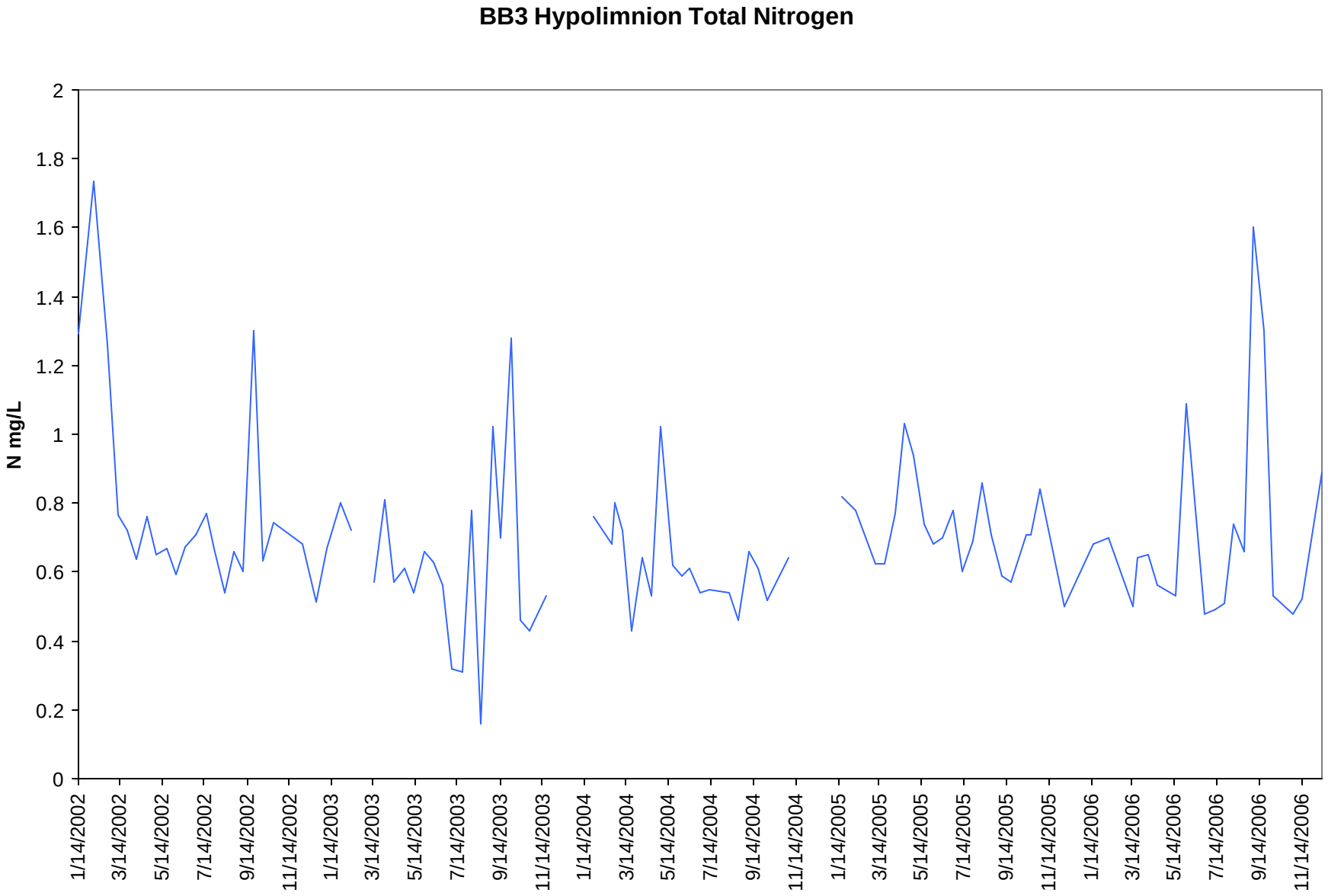

BB3 Hypolimnion Total Phosphorus
P mg/L
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

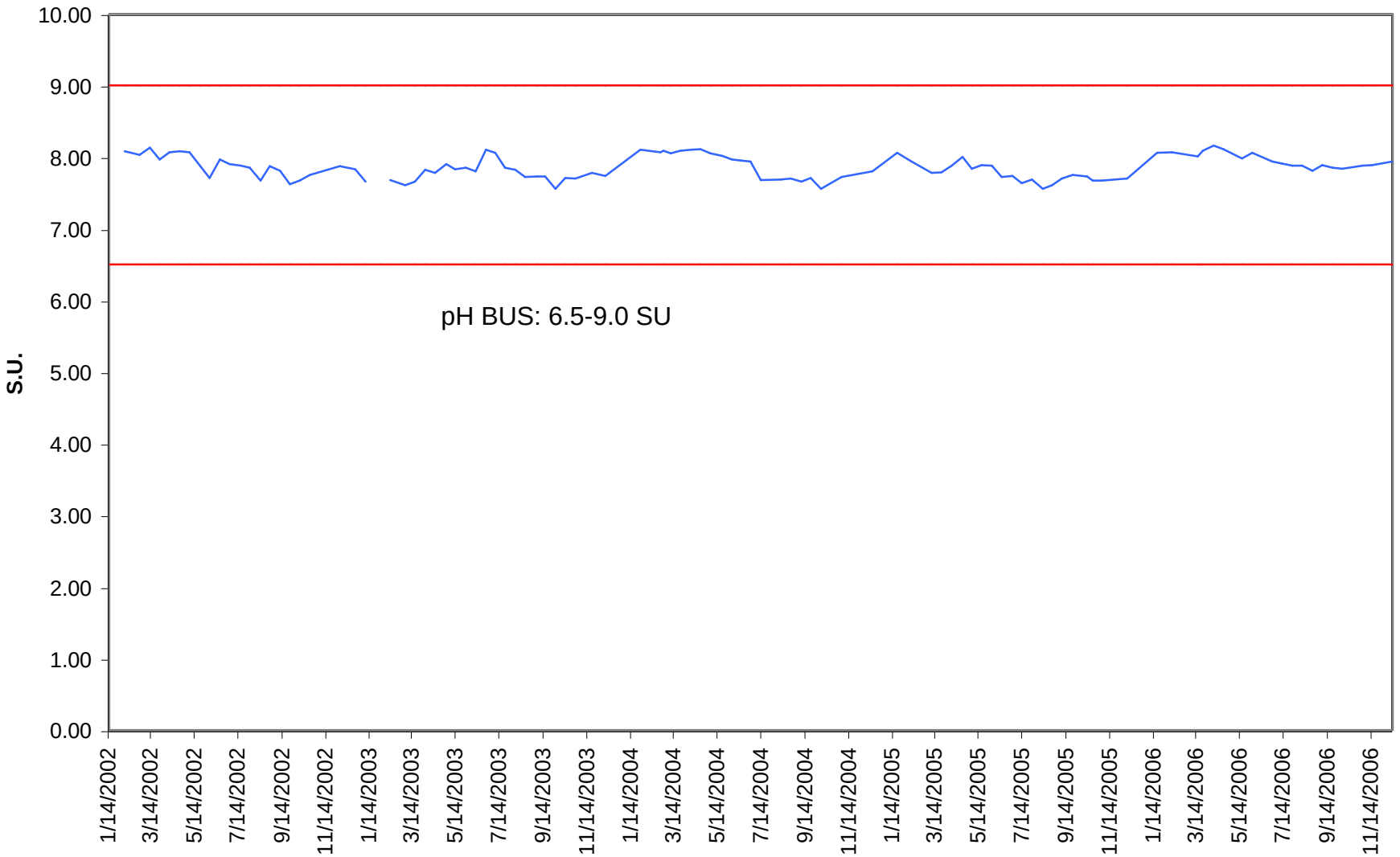
BB3 Hypolimnion Total Inorganic Nitrogen

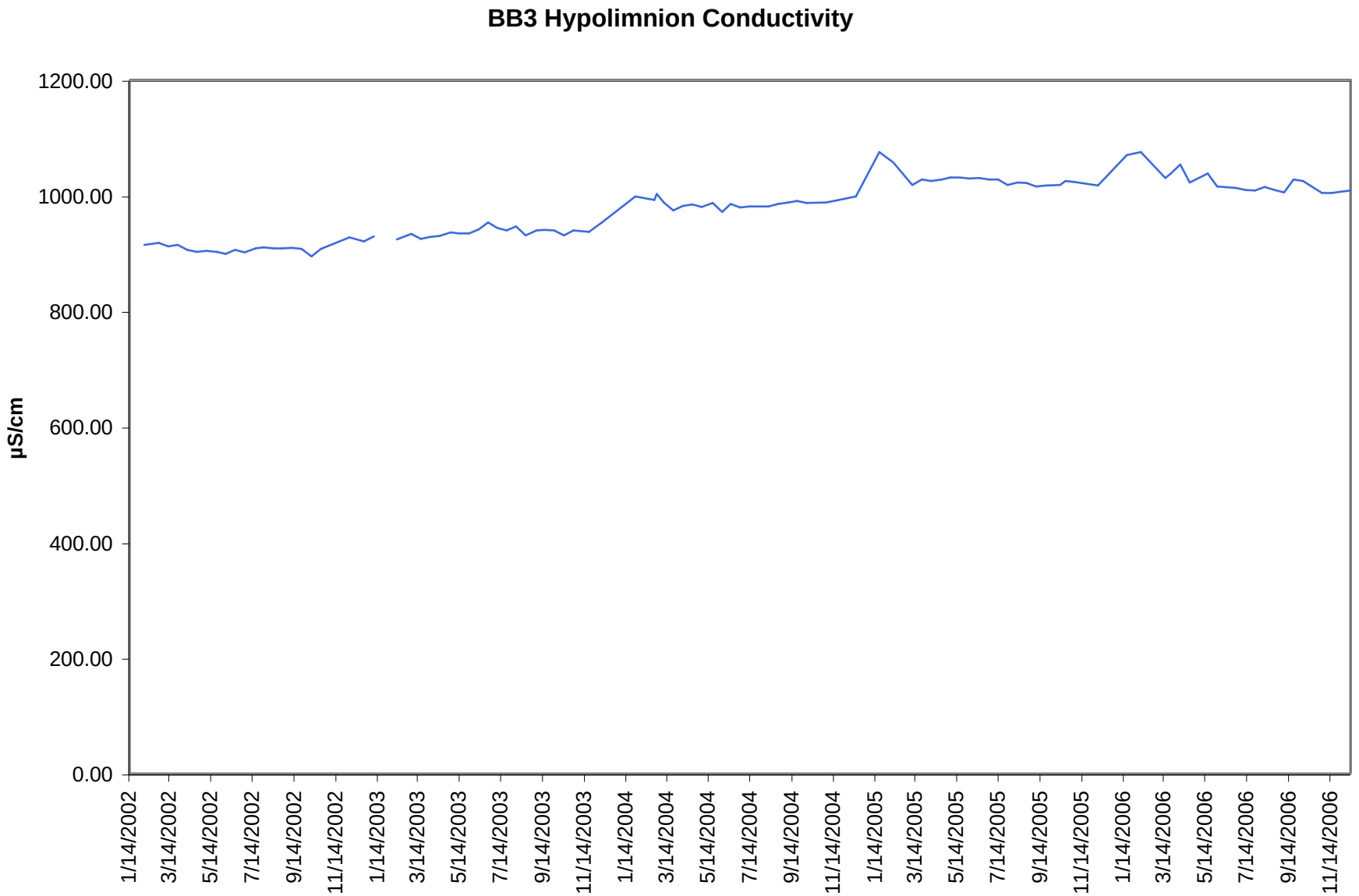


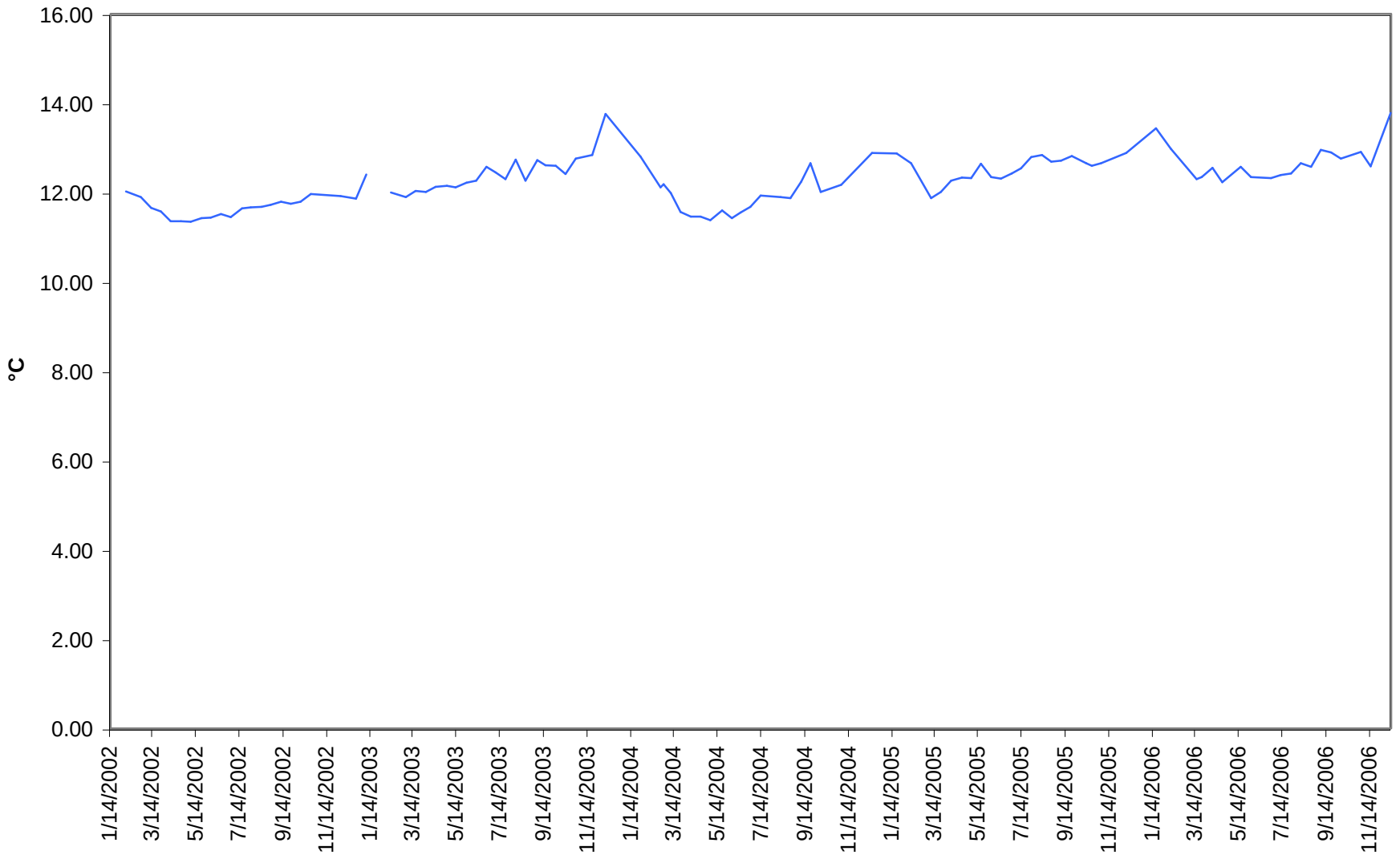

BB3 Hypolimnion Nitrate
N mg/L
Nitrate BUS: 10 mgN/L
11
10
9
8
7
6
5
4
3
2
1
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006


BB3 Hypolimnion Nitrite
Nitrite BUS: 1.0 mgN/L
N mg/L
1.1
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

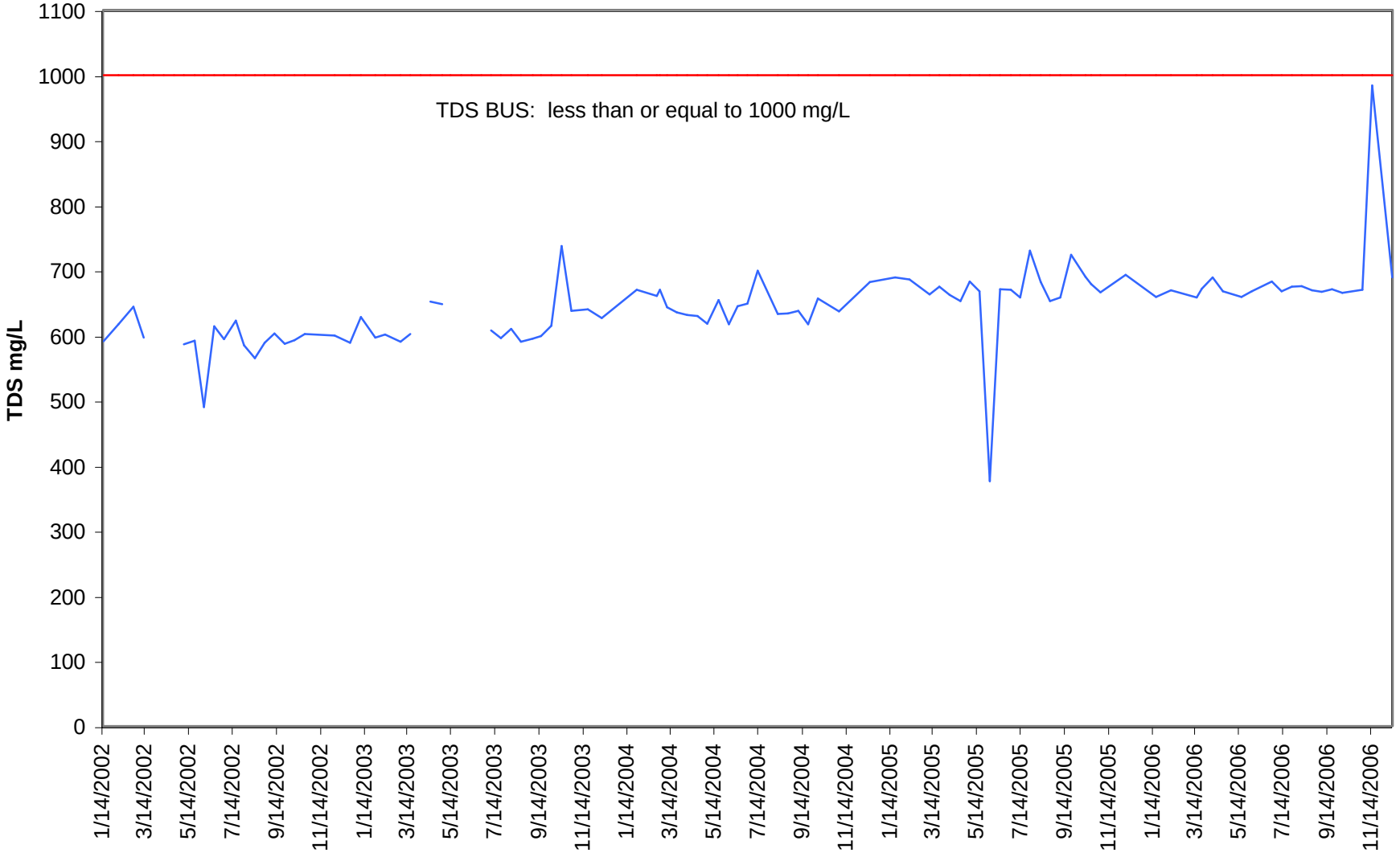

BB3 Hypolimnion Total Nitrogen
N mg/L
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006


BB3 Hypolimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

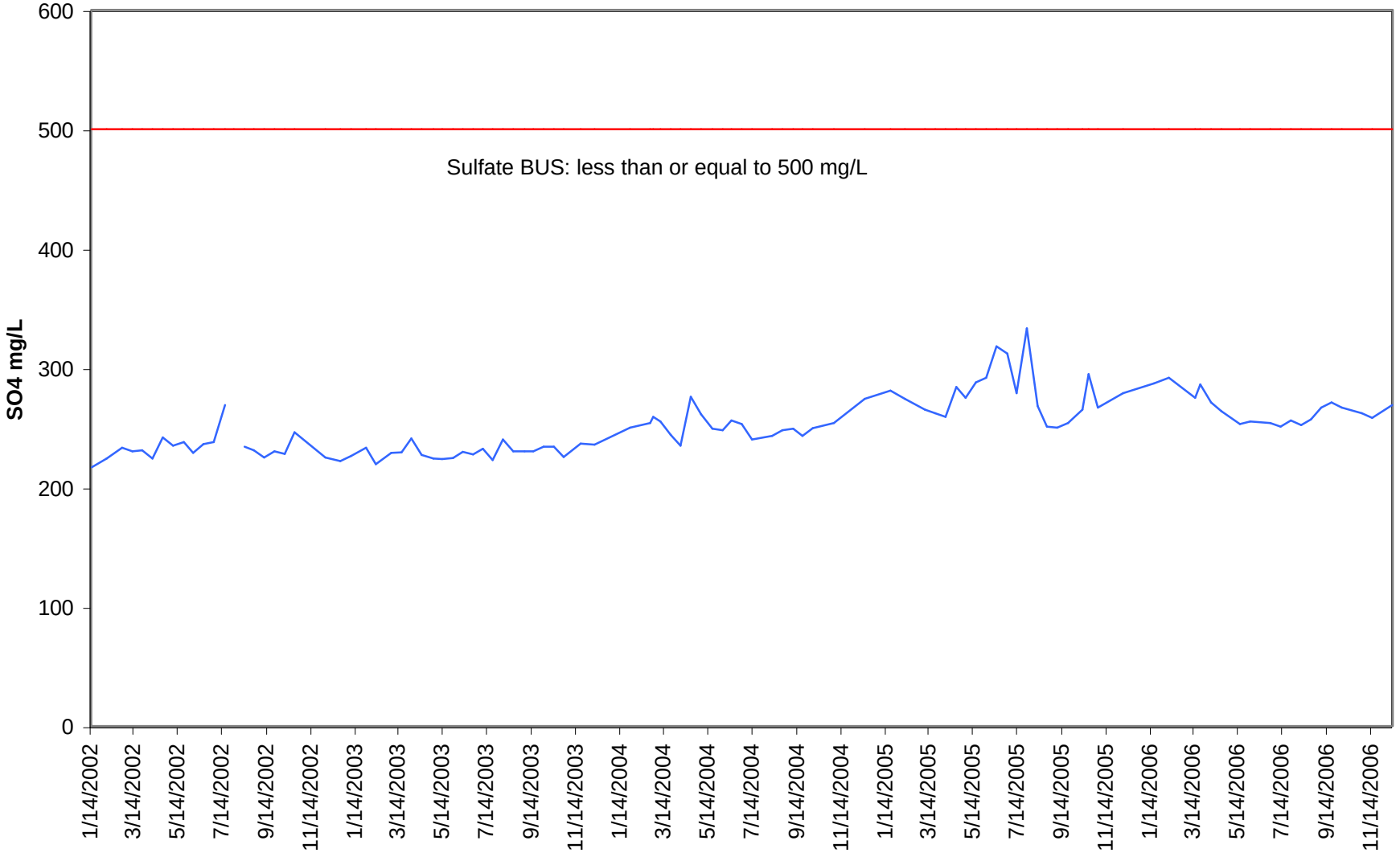

BB3 Hypolimnion Conductivity
µS/cm
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006


BB3 Hypolimnion Temperature
°C
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

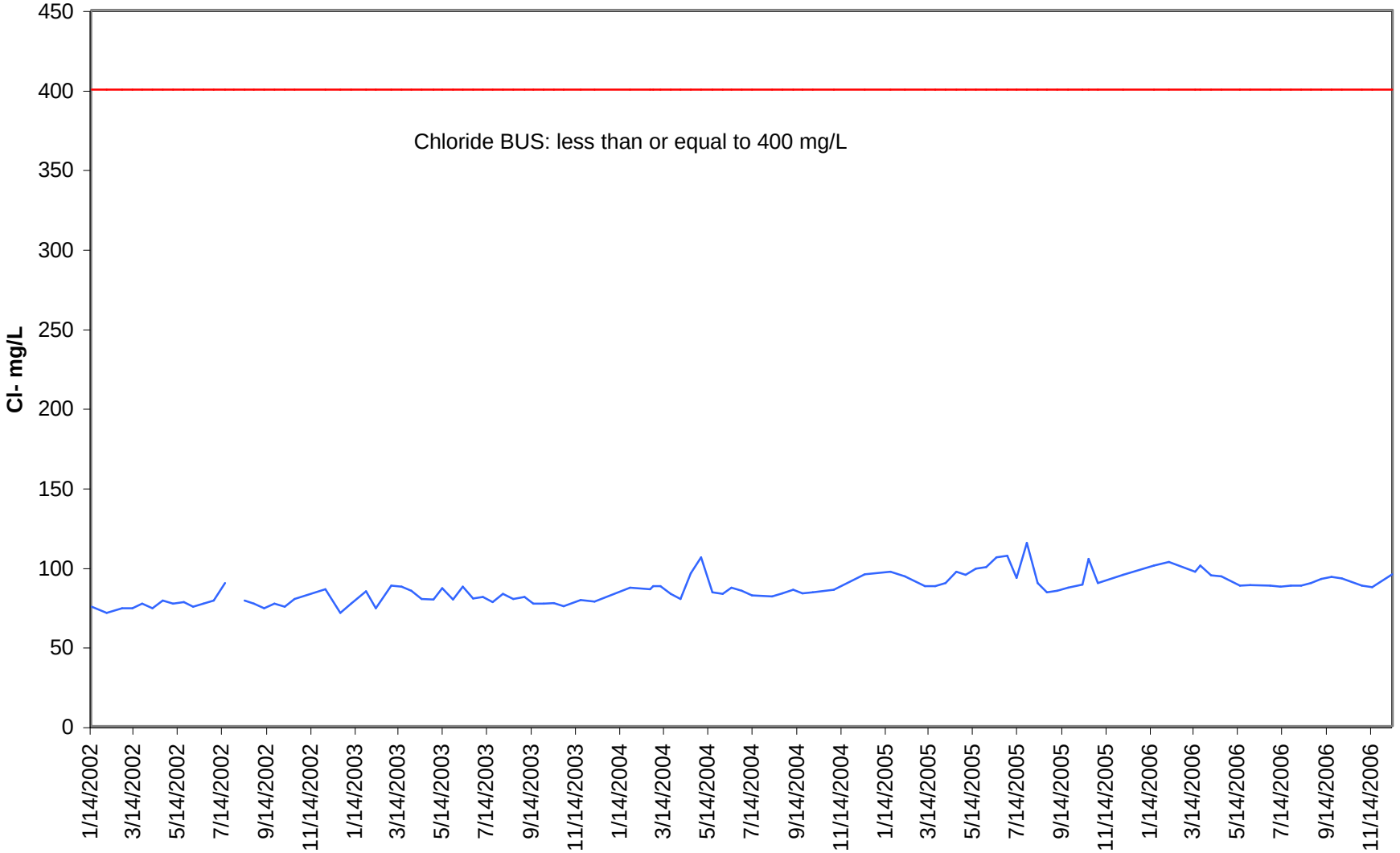
BB3 Hypolimnion Total Dissolved Solids

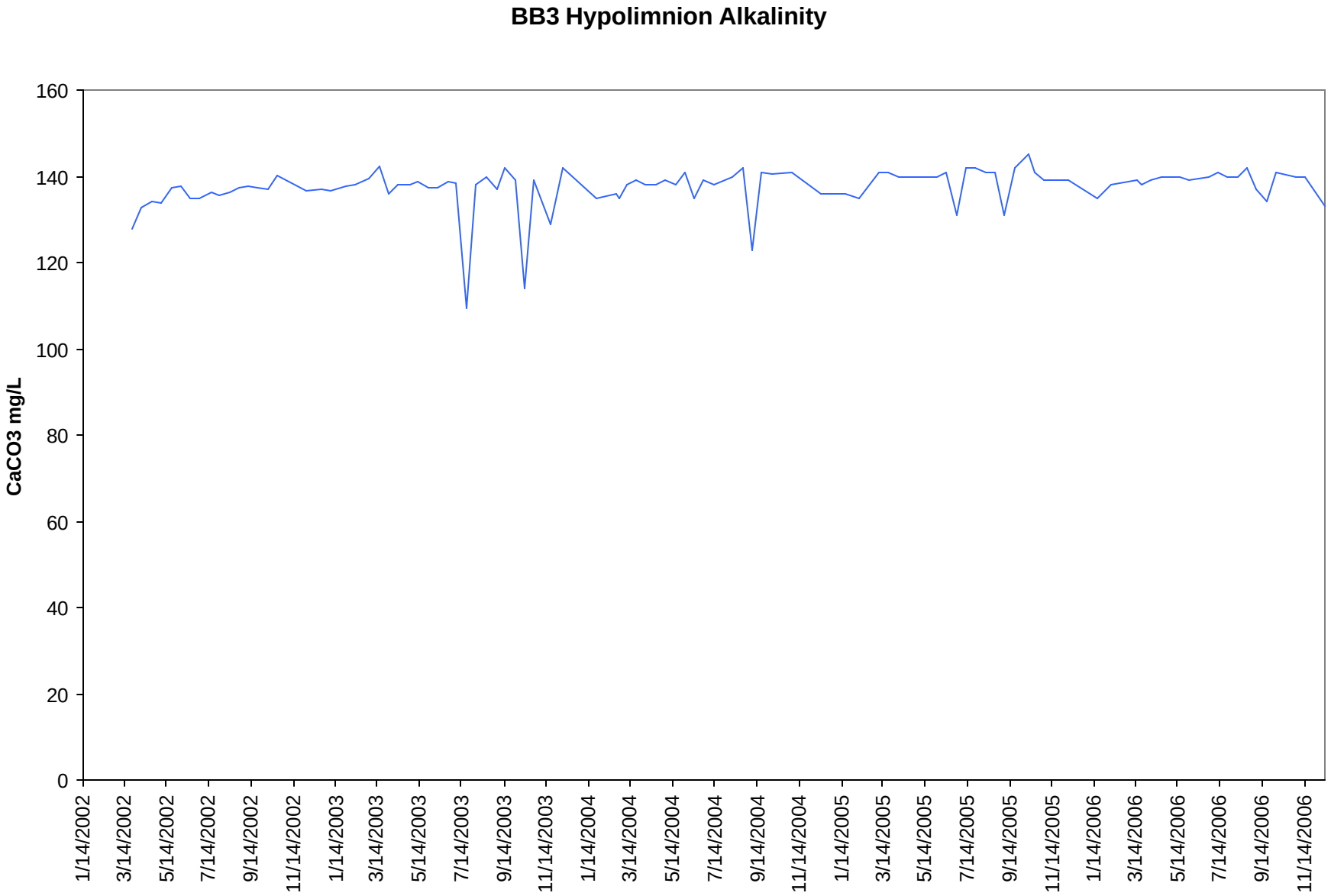


BB3 Hypolimnion Sulfate

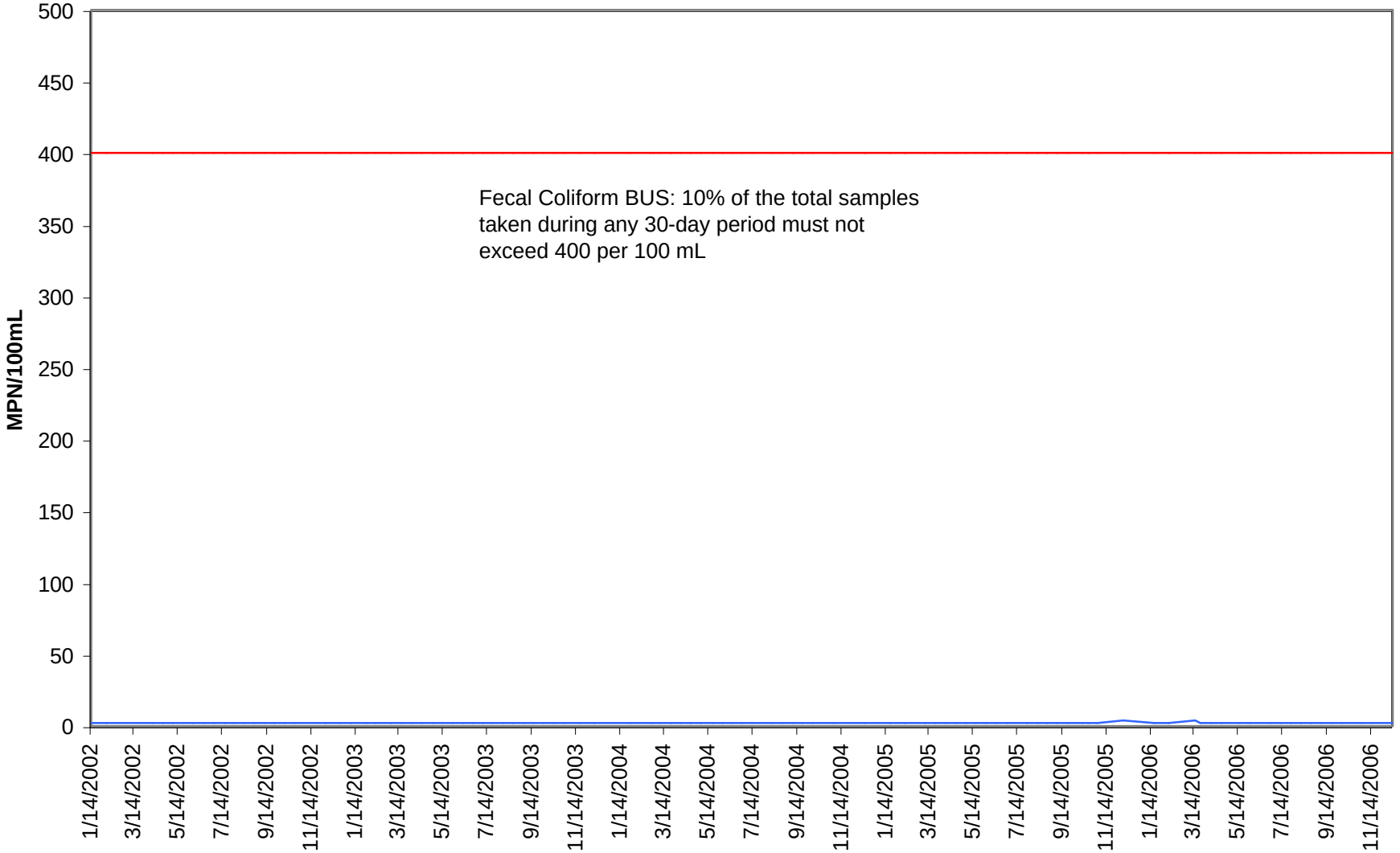


BB3 Hypolimnion Chloride

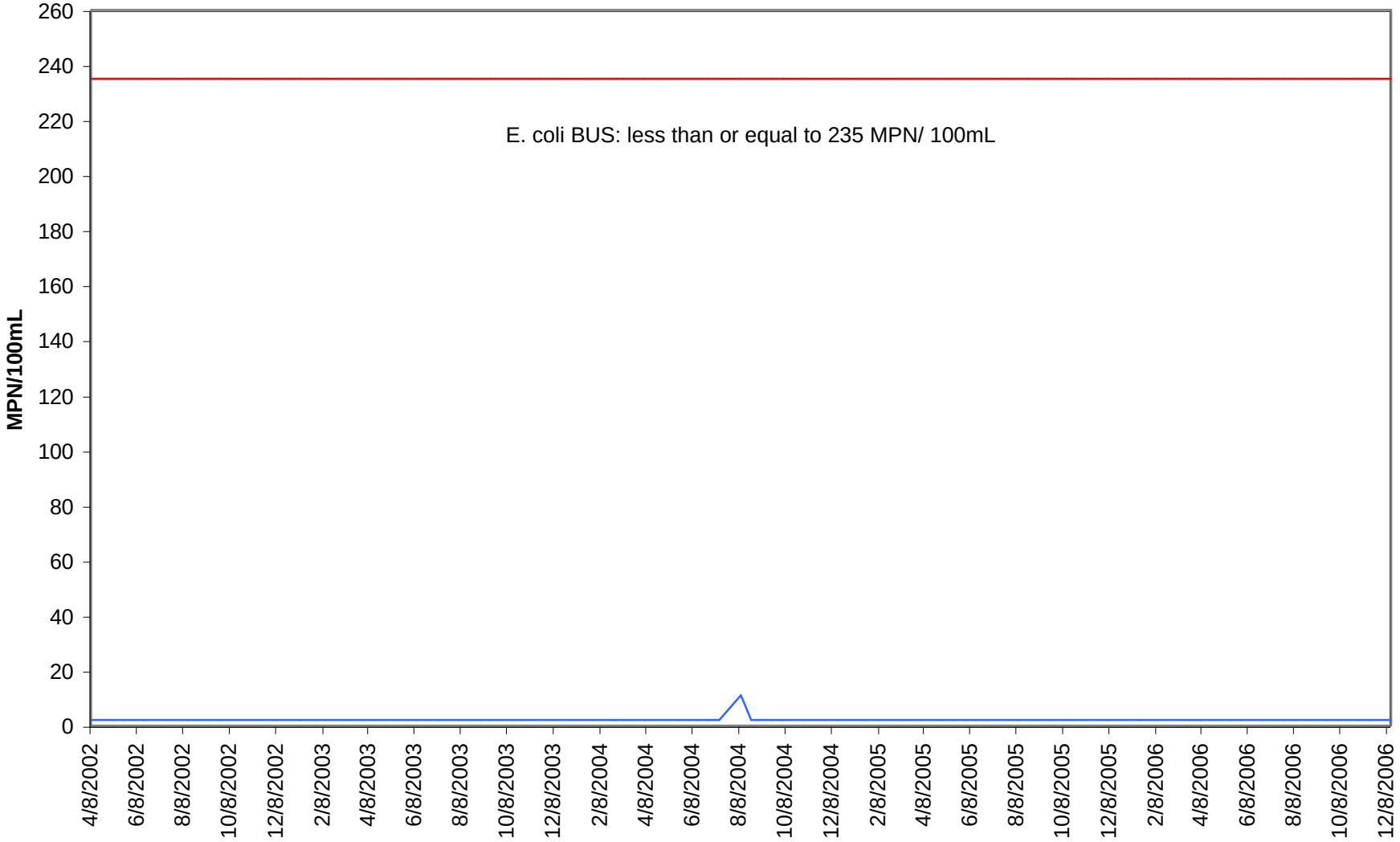



BB3 Hypolimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

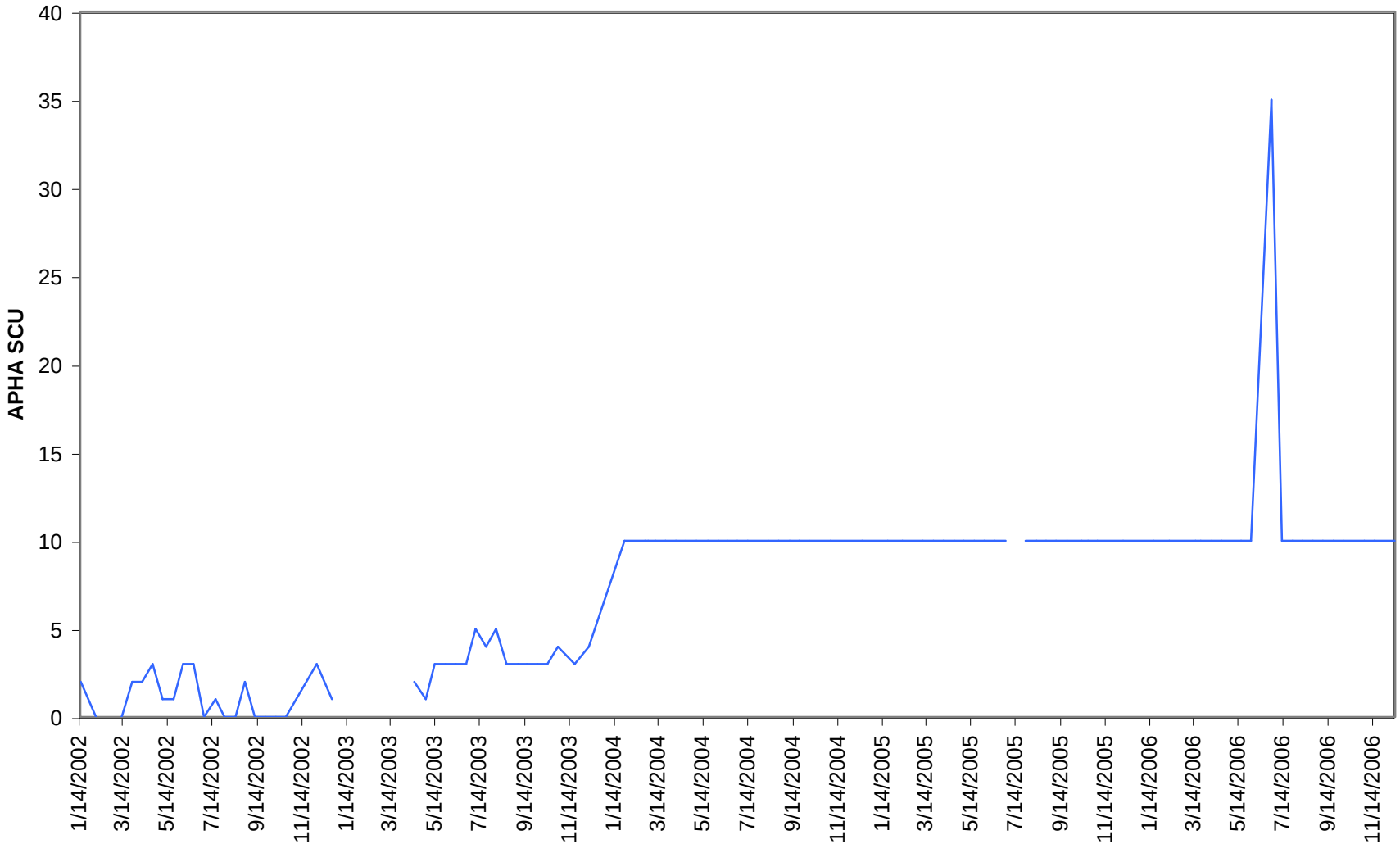
BB3 Hypolimnion Fecal Coliform



BB3 Hypolimnion E. coli.



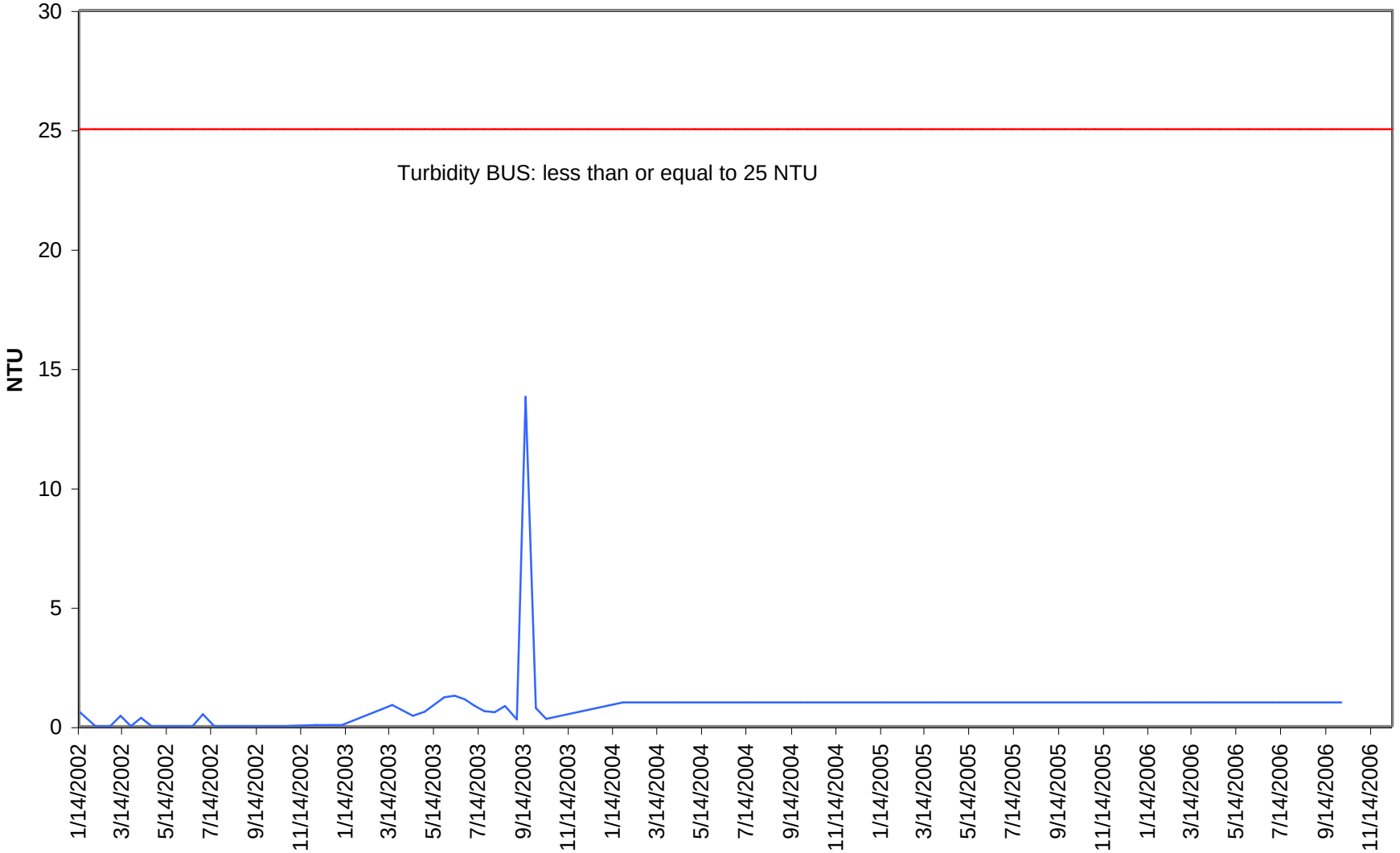
BB3 Hypolimnion Color



BB3 Hypolimnion Total Suspended Solids

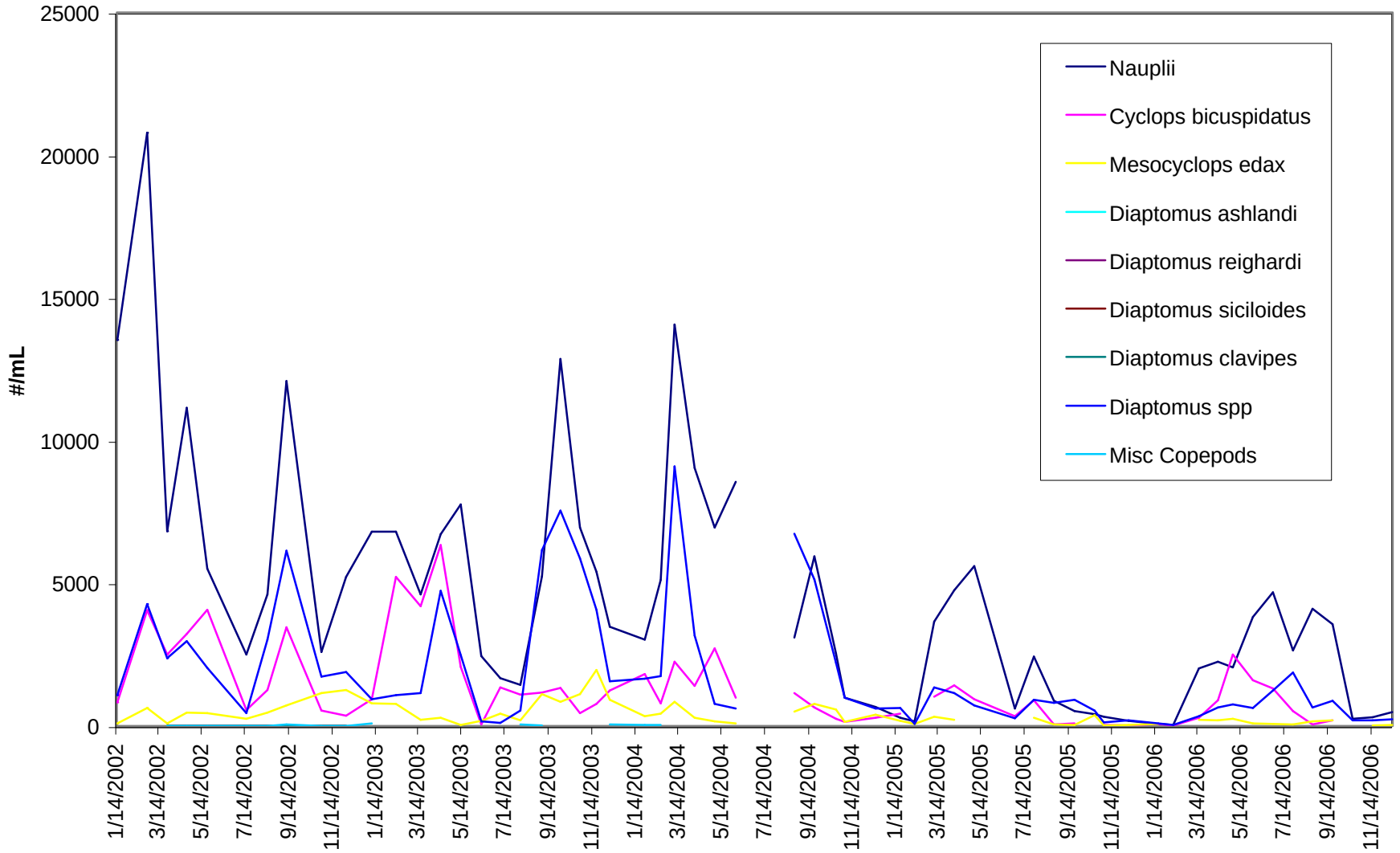


BB3 Hypolimnion Turbidity

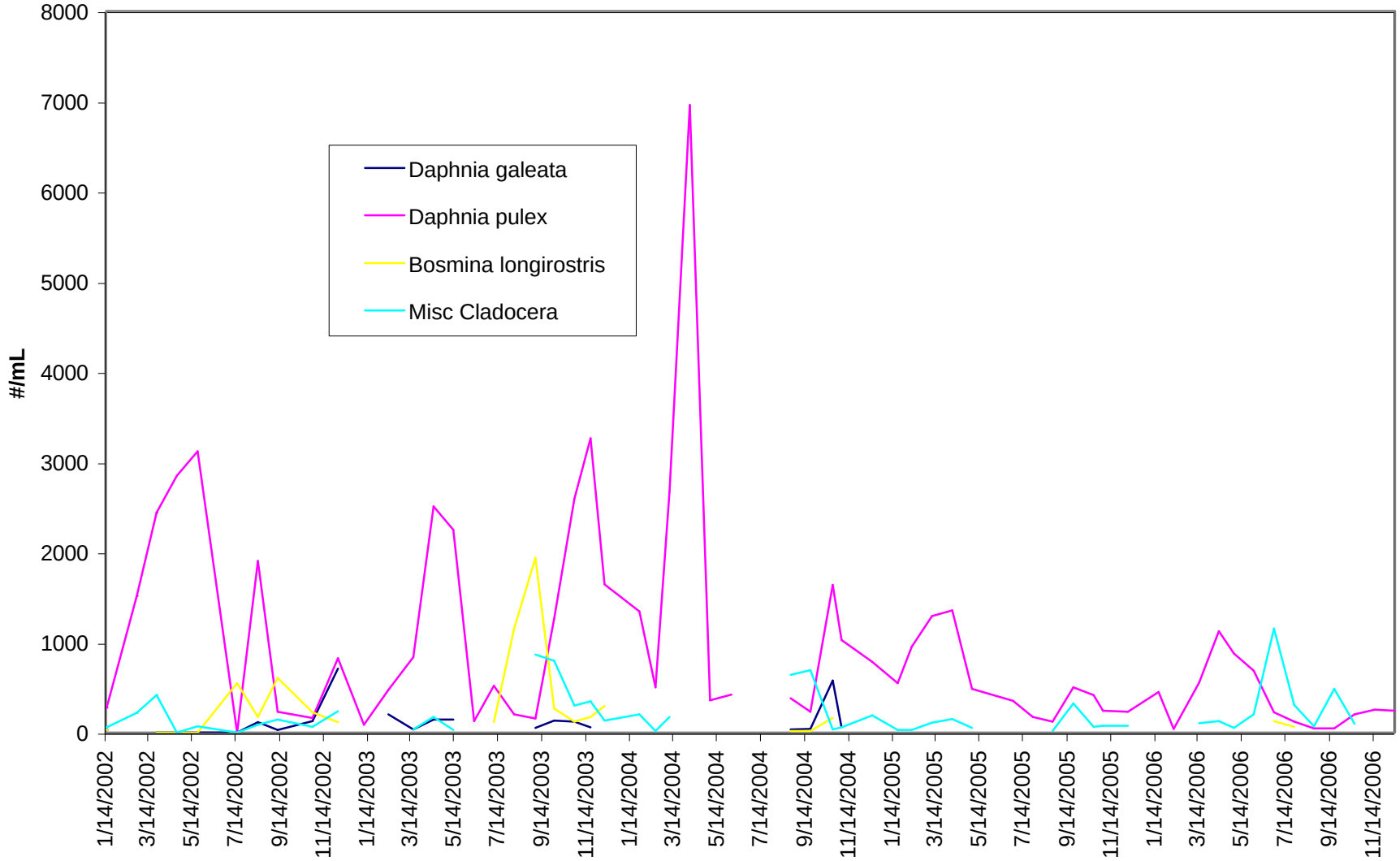


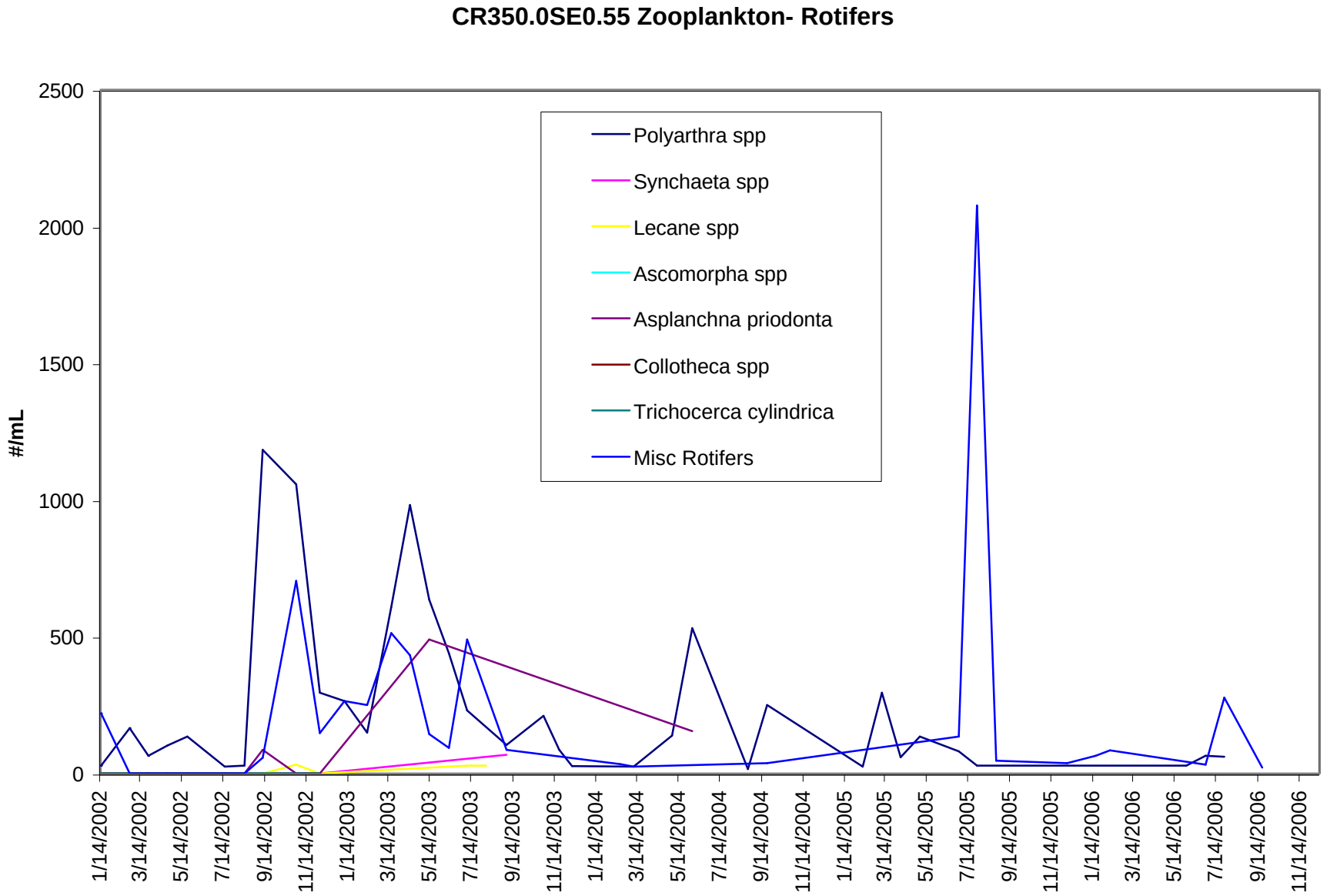
CR350.0SE0.55

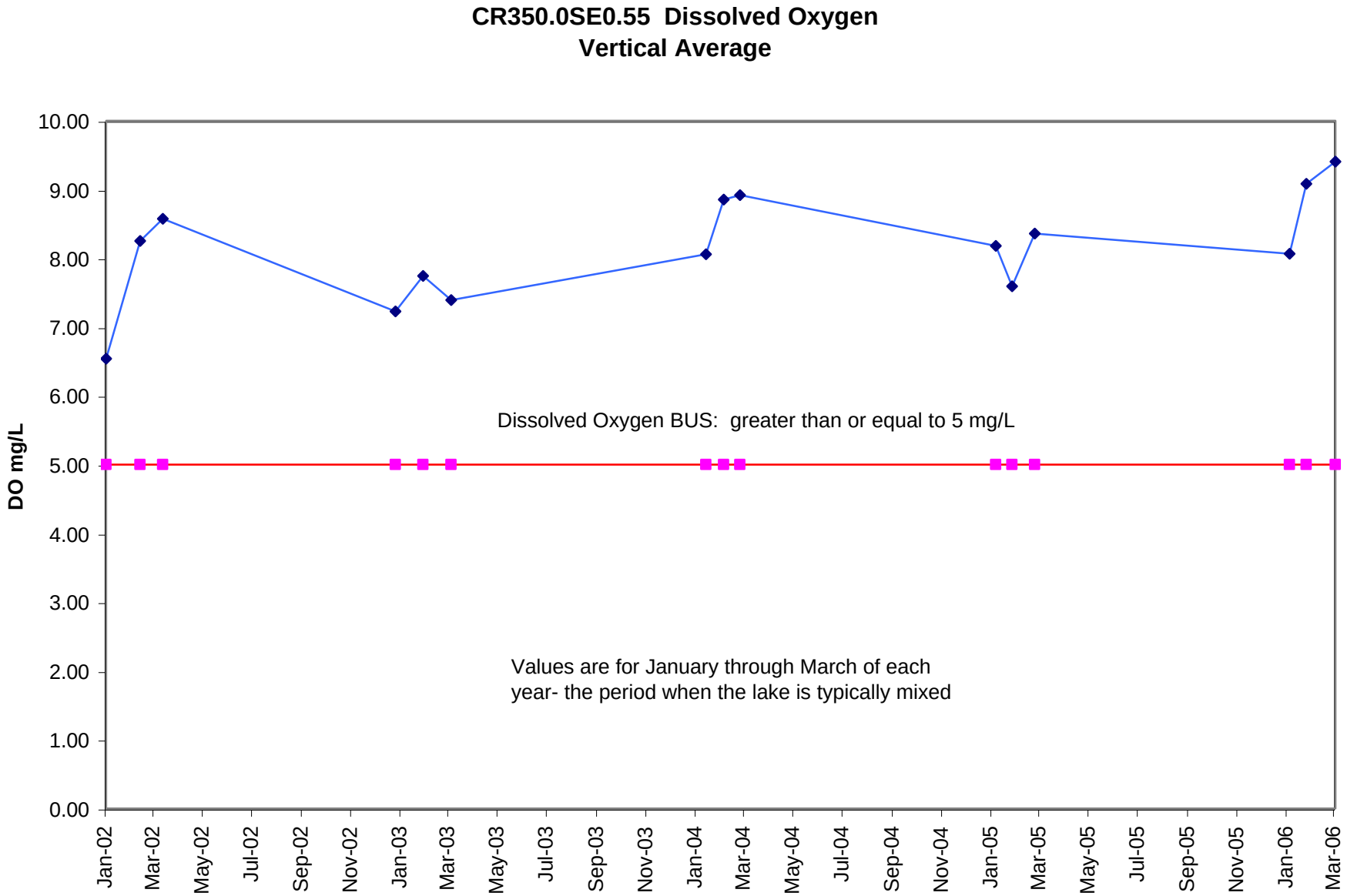
CR350.0SE0.55 Zooplankton- Copepods

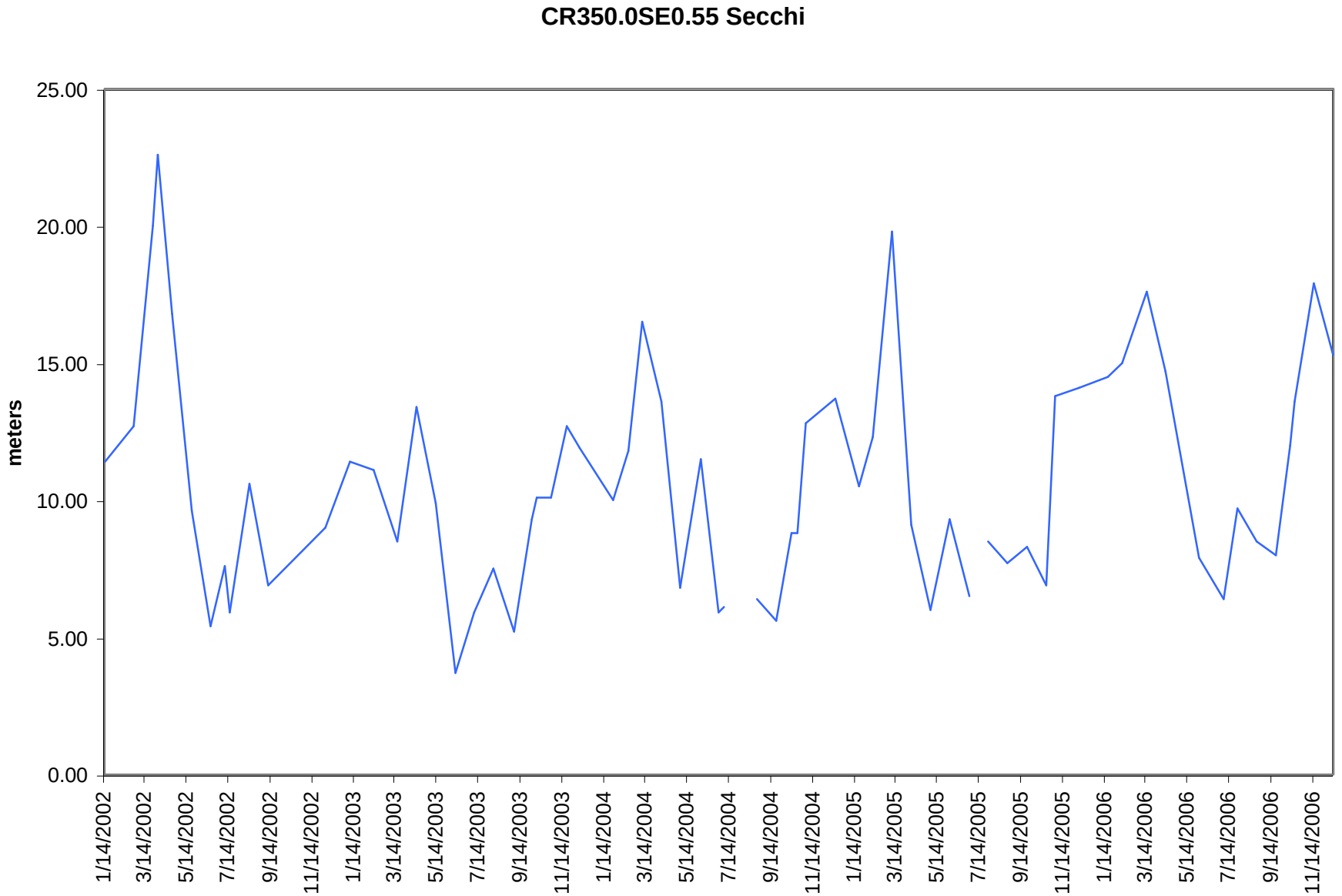


CR350.0SE0.55 Zooplankton- Cladocerans




CR350.0SE0.55 Zooplankton- Rotifers
#/mL
2500
2000
1500
1000
500
0
Polyarthra spp
Synchaeta spp
Lecane spp
Ascomorpha spp
Asplanchna priodonta
Collotheca spp
Trichocerca cylindrica
Misc Rotifers
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006


CR350.0SE0.55 Dissolved Oxygen
Vertical Average
DO mg/L
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
Dissolved Oxygen BUS: greater than or equal to 5 mg/L
Values are for January through March of each
year- the period when the lake is typically mixed
Jan-02
Mar-02
May-02
Jul-02
Sep-02
Nov-02
Jan-03
Mar-03
May-03
Jul-03
Sep-03
Nov-03
Jan-04
Mar-04
May-04
Jul-04
Sep-04
Nov-04
Jan-05
Mar-05
May-05
Jul-05
Sep-05
Nov-05
Jan-06
Mar-06


CR350.0SE0.55 Secchi
meters
25.00
20.00
15.00
10.00
5.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

Climate Tables

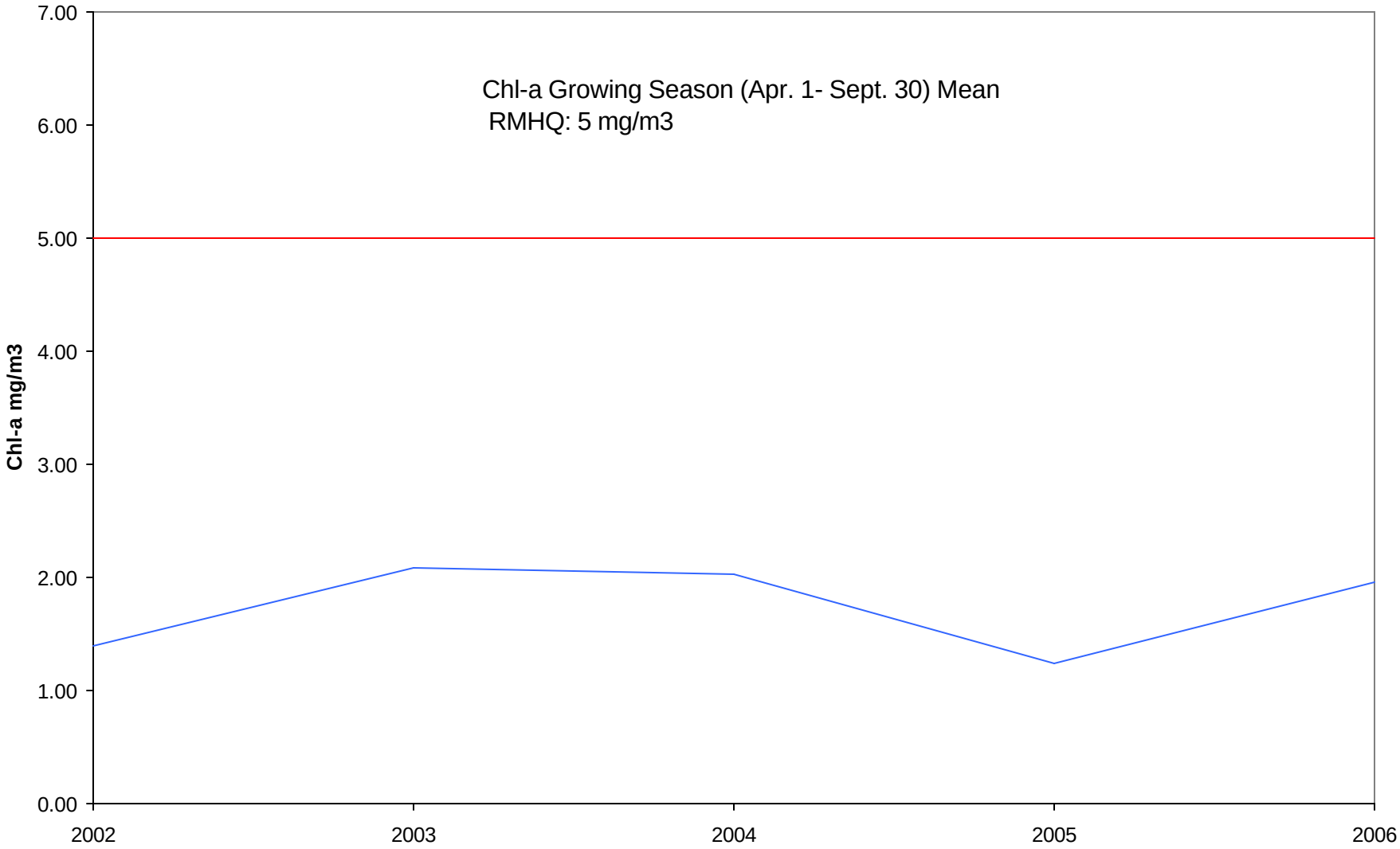
Station	Date	Air Temperature (°C)	Wind	Wind Direction	Climate
CR350.0SE0.55	1/14/02	9.1	3.2	W	Cloudy
CR350.0SE0.55	2/25/02	12.2	1.7	NE	Clear
CR350.0SE0.55	3/25/02	15.8	0	NW	Clear
CR350.0SE0.55	4/1/02	20.1	1.3	E	Clear
CR350.0SE0.55	4/22/02	16.9	0.4	NW	Clear
CR350.0SE0.55	6/17/02		0	W	Clear
CR350.0SE0.55	7/8/02	30.2	5.0	SW	Clear
CR350.0SE0.55	7/15/02	28.8	15.8	S	Overcast
CR350.0SE0.55	8/13/02	29.3	0.6	W	Clear
CR350.0SE0.55	9/9/02	23.1	7.5	NW	Clear
CR350.0SE0.55	10/28/02	15.9	3.3	NW	Overcast
CR350.0SE0.55	12/2/02	13	1.8	NW	Partly Cloudy
CR350.0SE0.55	12/12/02	12.5	0.8	NW	Clear
CR350.0SE0.55	1/7/03	15.5	5.3	NW	Clear
CR350.0SE0.55	1/29/03	17.1	0		Cloudy
CR350.0SE0.55	2/10/03	8	3.8	NW	Overcast
CR350.0SE0.55	3/17/03	12.9	8.8	S	Overcast
CR350.0SE0.55	4/14/03	16	2.8	NE	Cloudy
CR350.0SE0.55	5/12/03	19.1	0.7	SW	Partly Cloudy
CR350.0SE0.55	6/10/03	26	4.6	S	Clear
CR350.0SE0.55	7/7/03	29.6	1.7	SE	Clear
CR350.0SE0.55	8/4/03	30.2	1.8	W	Clear
CR350.0SE0.55	9/3/03	30.5	4.2	W	Partly Cloudy
CR350.0SE0.55	9/29/03	27.6	1.7	NW	Clear
CR350.0SE0.55	10/6/03	24	3.0	W	Cloudy
CR350.0SE0.55	10/27/03	21.5	1.2	SW	Partly Cloudy
CR350.0SE0.55	11/19/03		3.6	NW	Partly Cloudy
CR350.0SE0.55	12/8/03	14.6	6.9	NW	Clear
CR350.0SE0.55	1/26/04	6.8	4.9	W	Clear
CR350.0SE0.55	2/17/04	12.5	3.2	SW	Cloudy

CR350.0SE0.55	3/8/04	17.6	3.0	SW	Clear
CR350.0SE0.55	4/5/04	18.3	7.3	S	Clear
CR350.0SE0.55	5/3/04	23	1.7	SE	Clear
CR350.0SE0.55	6/2/04	25.8	2.1	SE	Clear
CR350.0SE0.55	6/28/04	31.2	4.6	SW	Partly Cloudy
CR350.0SE0.55	7/6/04	28.5	0		Clear
CR350.0SE0.55	7/26/04	31.7	15.6	NE	Partly Cloudy
CR350.0SE0.55	8/23/04	30.2	5.9	S	Overcast
CR350.0SE0.55	9/20/04	19.6	6.5	W	Clear
CR350.0SE0.55	10/12/04	24.2	9.2	N	Clear
CR350.0SE0.55	10/21/04	16.7	8.4	NE	Overcast
CR350.0SE0.55	11/2/04	12.6	5.4	SW	Clear
CR350.0SE0.55	12/15/04	11.3	1.2	W	Clear
CR350.0SE0.55	1/19/05	13.5	3.1	NE	Clear
CR350.0SE0.55	2/8/05	9	2.2	W	Clear
CR350.0SE0.55	3/8/05	14.8	2.4	S	Partly Cloudy
CR350.0SE0.55	4/5/05	14	6.1	W	Clear
CR350.0SE0.55	5/3/05	19.3	7.3	W	Clear
CR350.0SE0.55	5/31/05	24.6	5.0	W	Clear
CR350.0SE0.55	6/29/05	27.2	0		Clear
CR350.0SE0.55	7/5/05	27.2	3.4	S	Clear
CR350.0SE0.55	7/26/05	32	1.5	W	Clear
CR350.0SE0.55	8/23/05	30.1	2.1	NW	Partly Cloudy
CR350.0SE0.55	9/21/05	24.4	6.0	SW	Partly Cloudy
CR350.0SE0.55	10/19/05	17.4	7.2	S	Overcast
CR350.0SE0.55	11/1/05	18.7	3.2	W	Partly Cloudy
CR350.0SE0.55	12/6/05	13.3	0		Clear
CR350.0SE0.55	1/17/06	7.2	2.5	W	Clear
CR350.0SE0.55	2/7/06	9.4	1.2	N	Partly Cloudy
CR350.0SE0.55	3/15/06	18	2.9	S	Clear
CR350.0SE0.55	4/11/06	16	4.6	S	Partly Cloudy

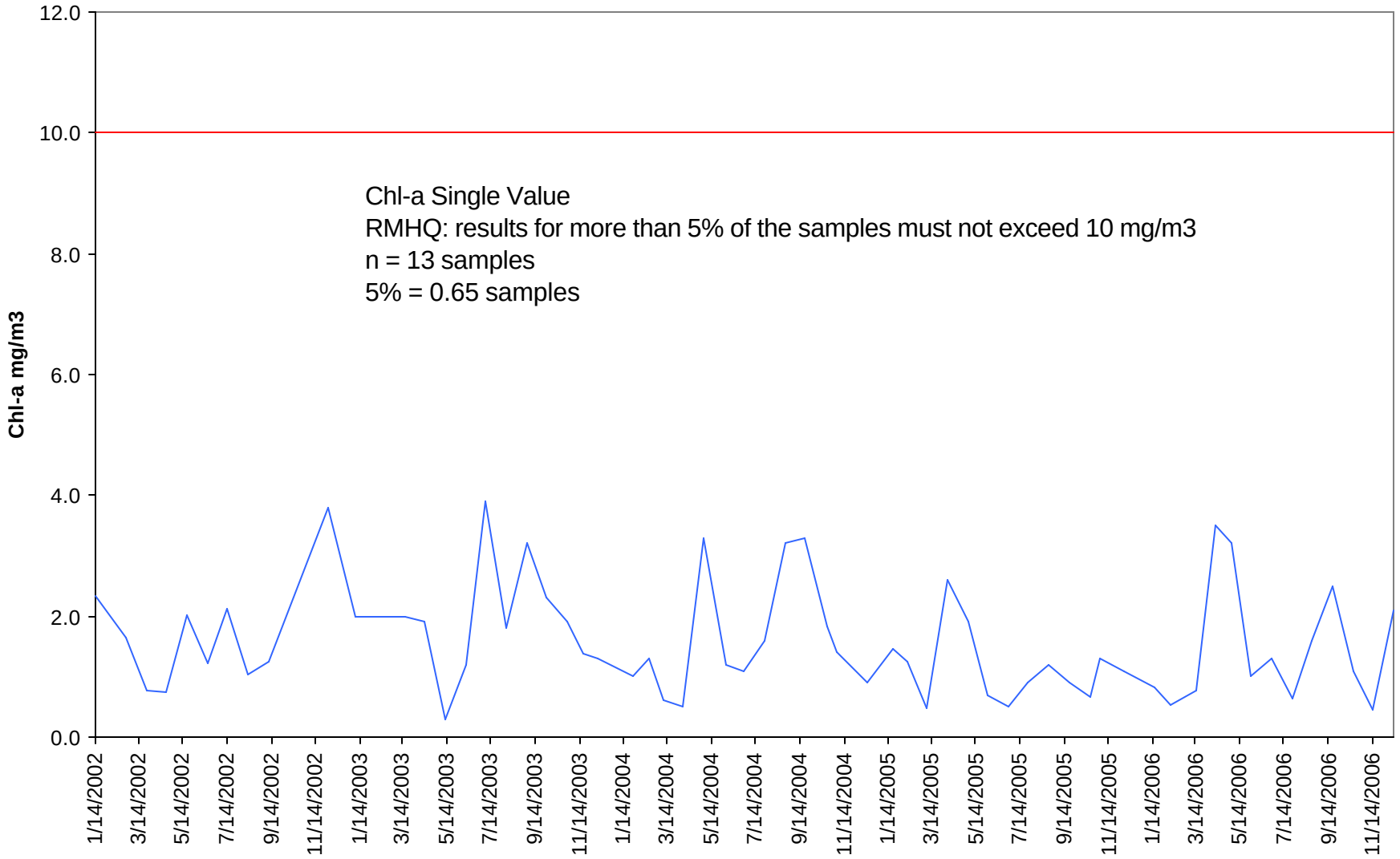
CR350.0SE0.55	5/30/06	25.1	1.5	N	Clear
CR350.0SE0.55	6/28/06	29	3.4	NE	Cloudy
CR350.0SE0.55	7/5/06	27.3	2.1	SW	Cloudy
CR350.0SE0.55	7/25/06	37.4	0		Partly Cloudy
CR350.0SE0.55	8/22/06	32.1	5.3	S	Partly Cloudy
CR350.0SE0.55	9/19/06	21.2	2.6	W	Clear
CR350.0SE0.55	10/10/06	21.7	7.7	W	Overcast
CR350.0SE0.55	10/17/06	18.8	5.1	W	Cloudy
CR350.0SE0.55	11/14/06	17.4	6	NE	Partly Cloudy
CR350.0SE0.55	12/12/06	11.5	1	NW	Partly Cloudy

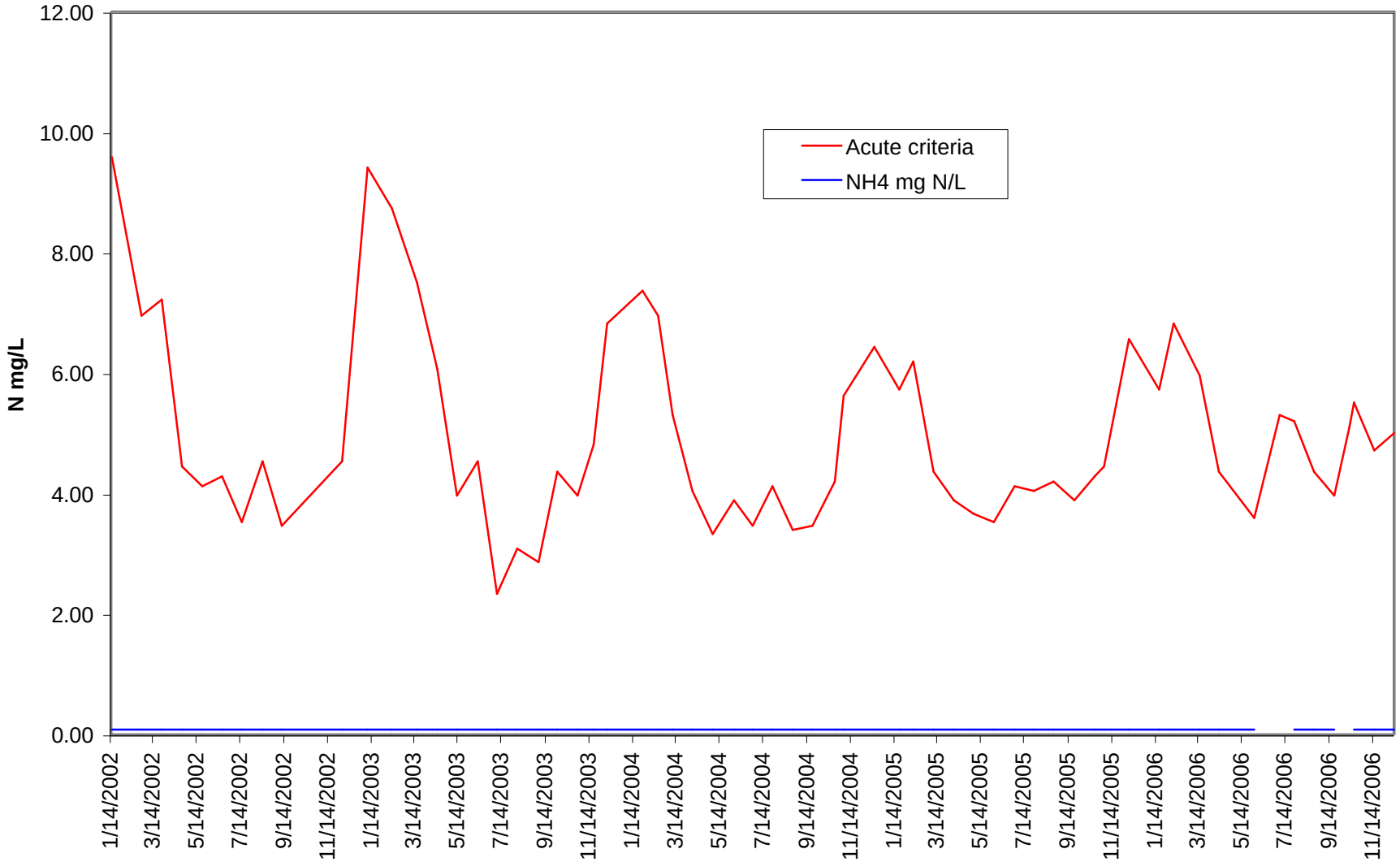
CR350.0SE0.55
Epilimnion

CR350.0SE0.55 Chlorophyll-a Growing Season Mean

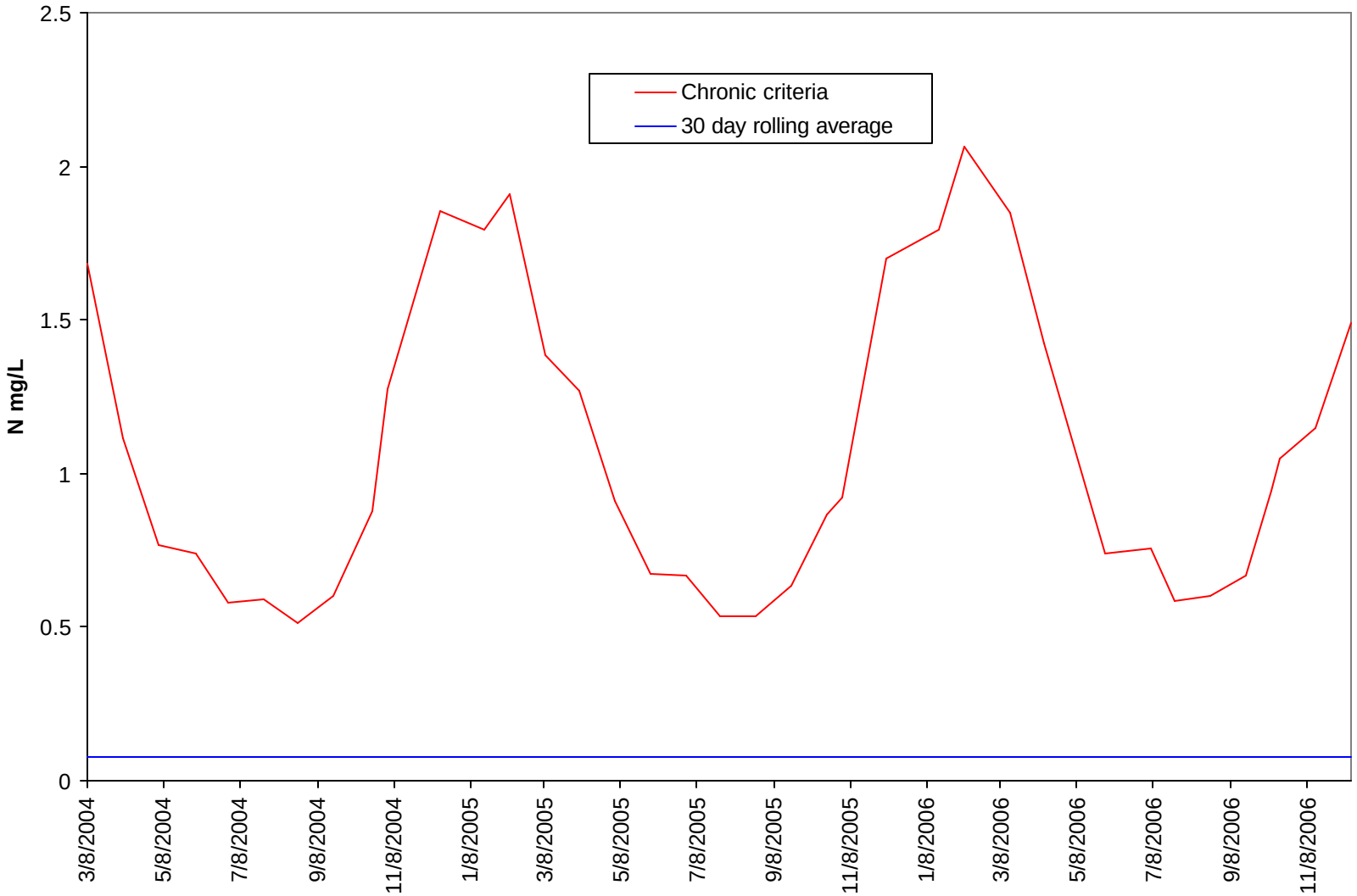


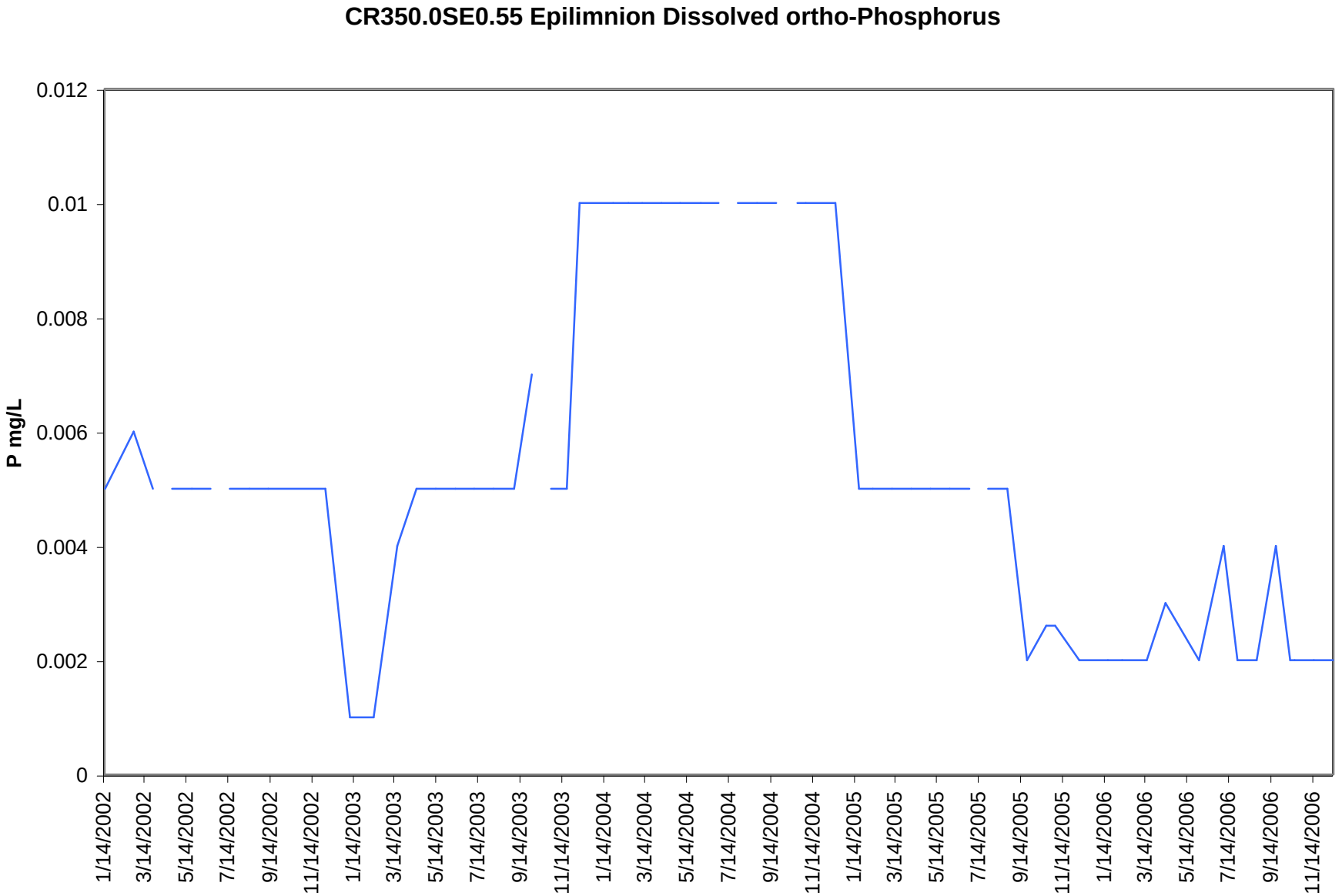
CR350.0SE0.55 Chlorophyll-a Single Value



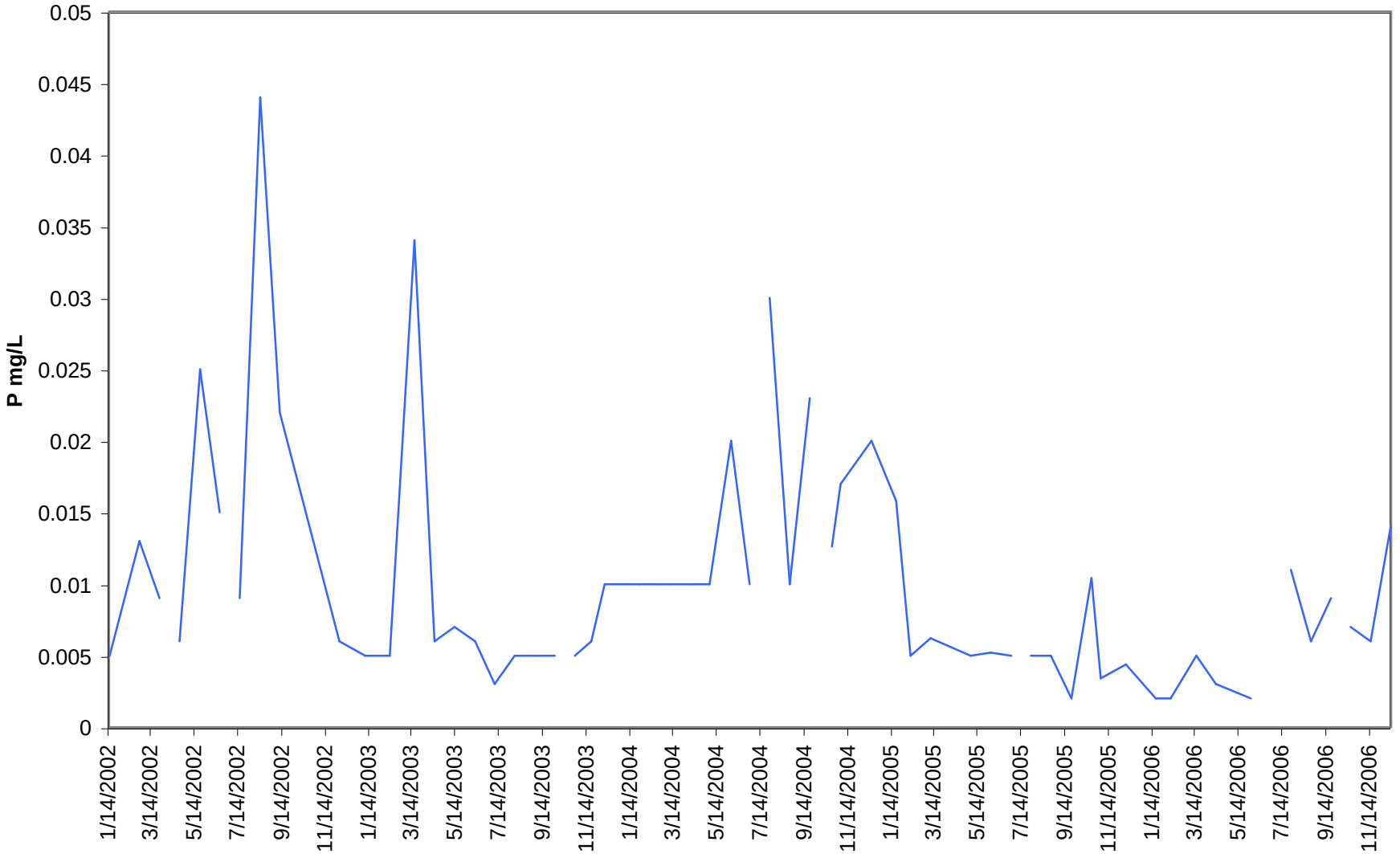

CR350.0SE0.55 Epilimnion Ammonia
N mg/L
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Acute criteria
NH4 mg N/L
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

CR350.0SE0.55 Epilimnion Chronic Ammonia

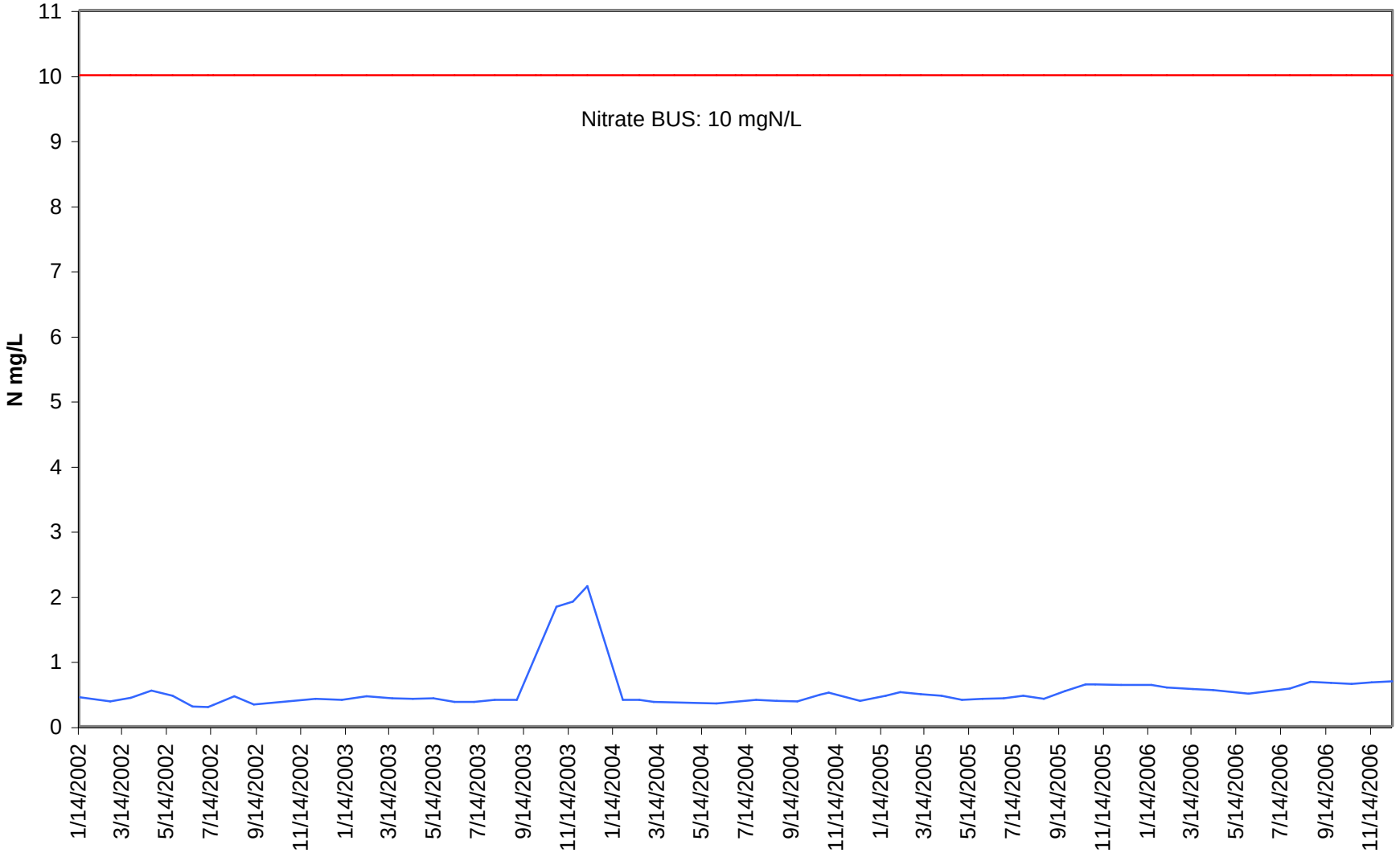



CR350.0SE0.55 Epilimnion Dissolved ortho-Phosphorus
P mg/L
0.012
0.01
0.008
0.006
0.004
0.002
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

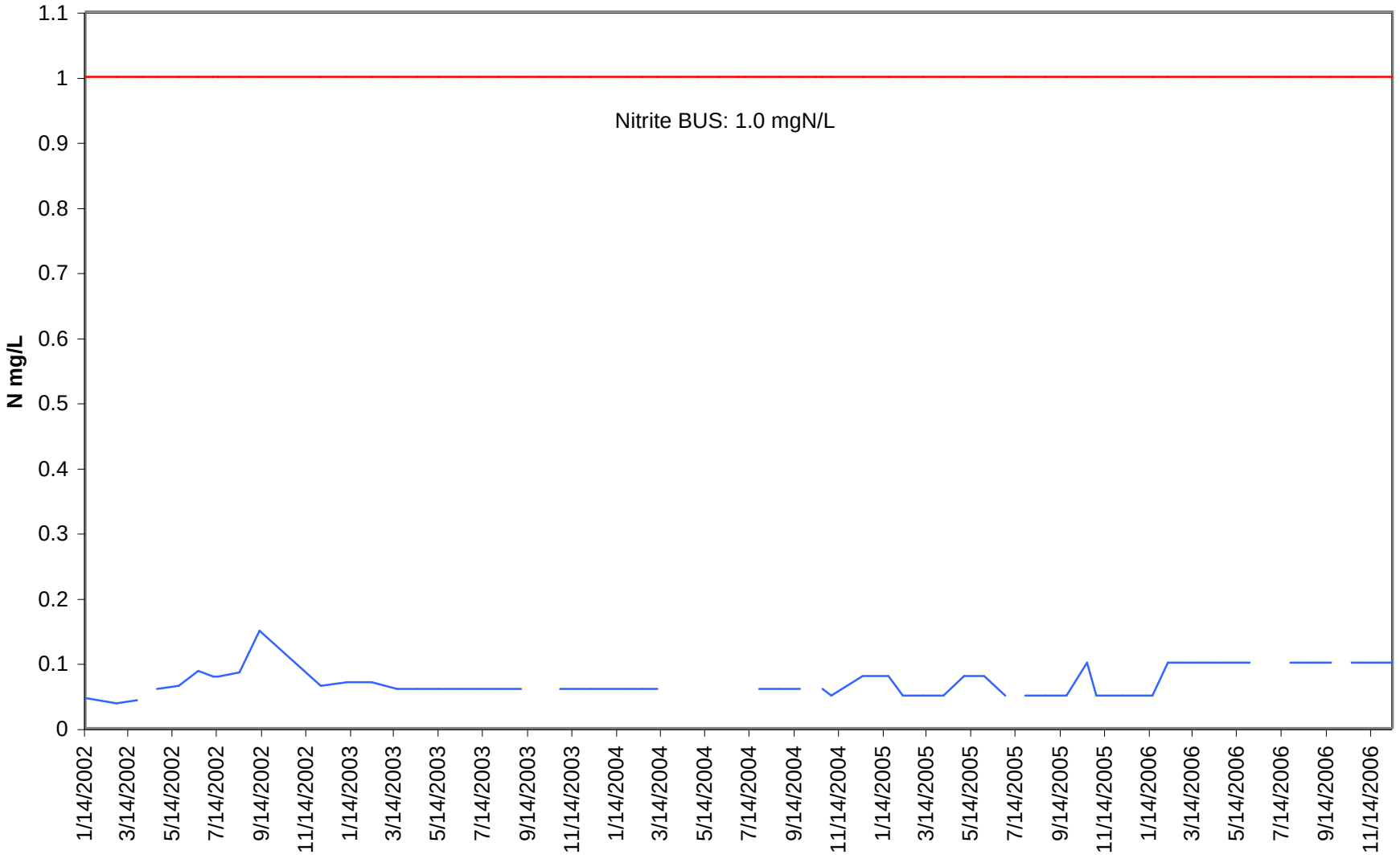
CR350.0SE0.55 Epilimnion Total Phosphorus

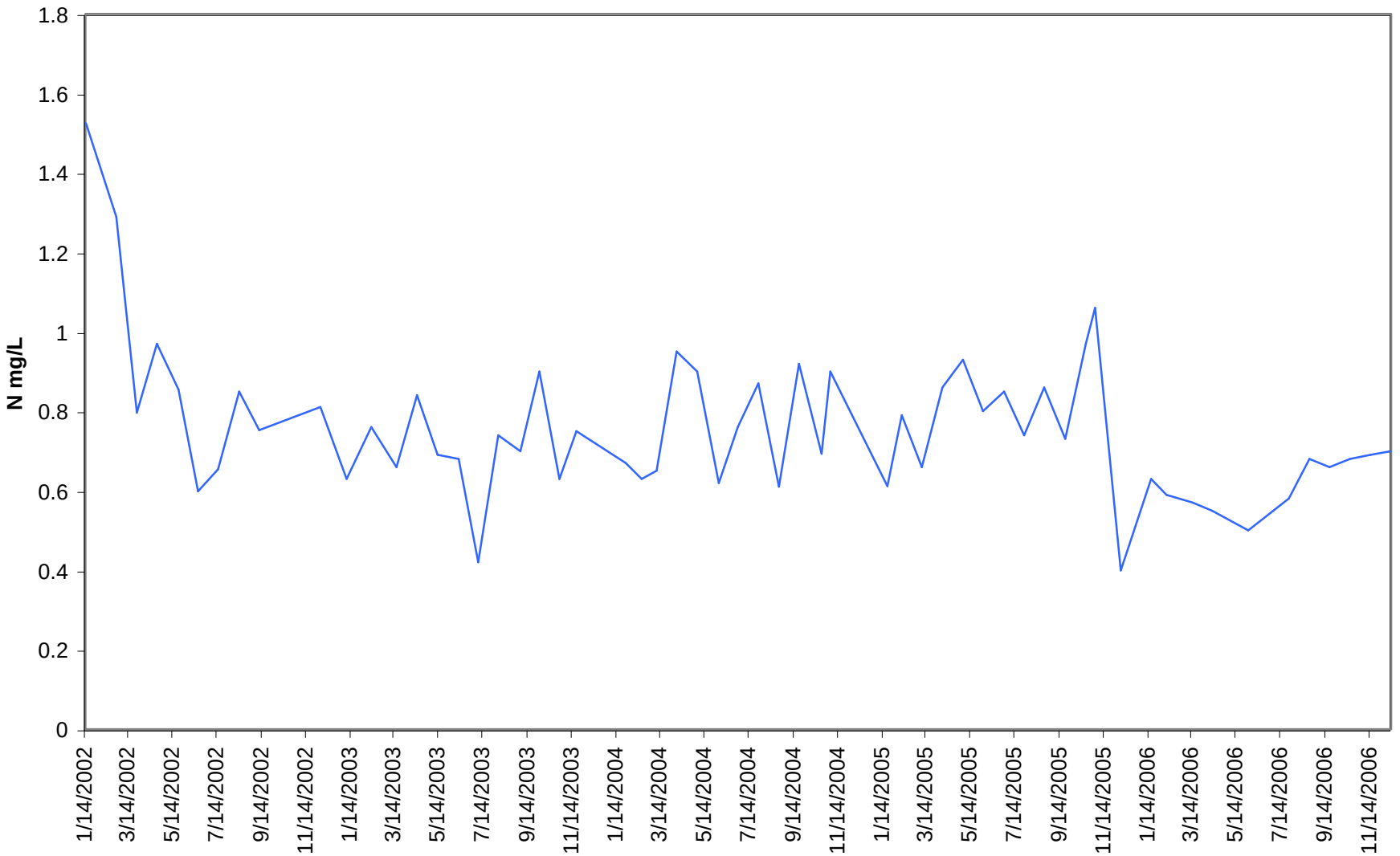


CR350.0SE0.55 Epilimnion Nitrate

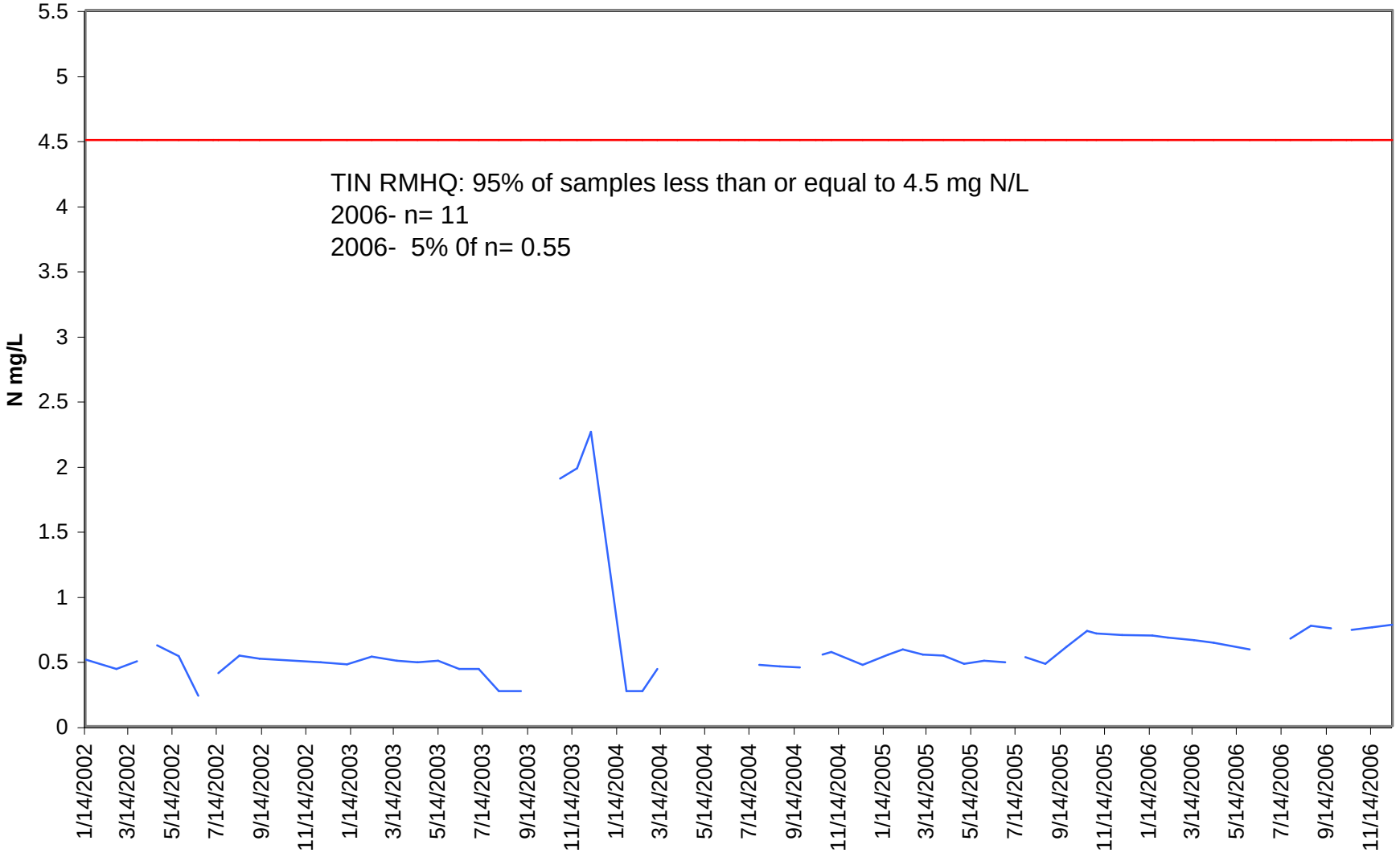


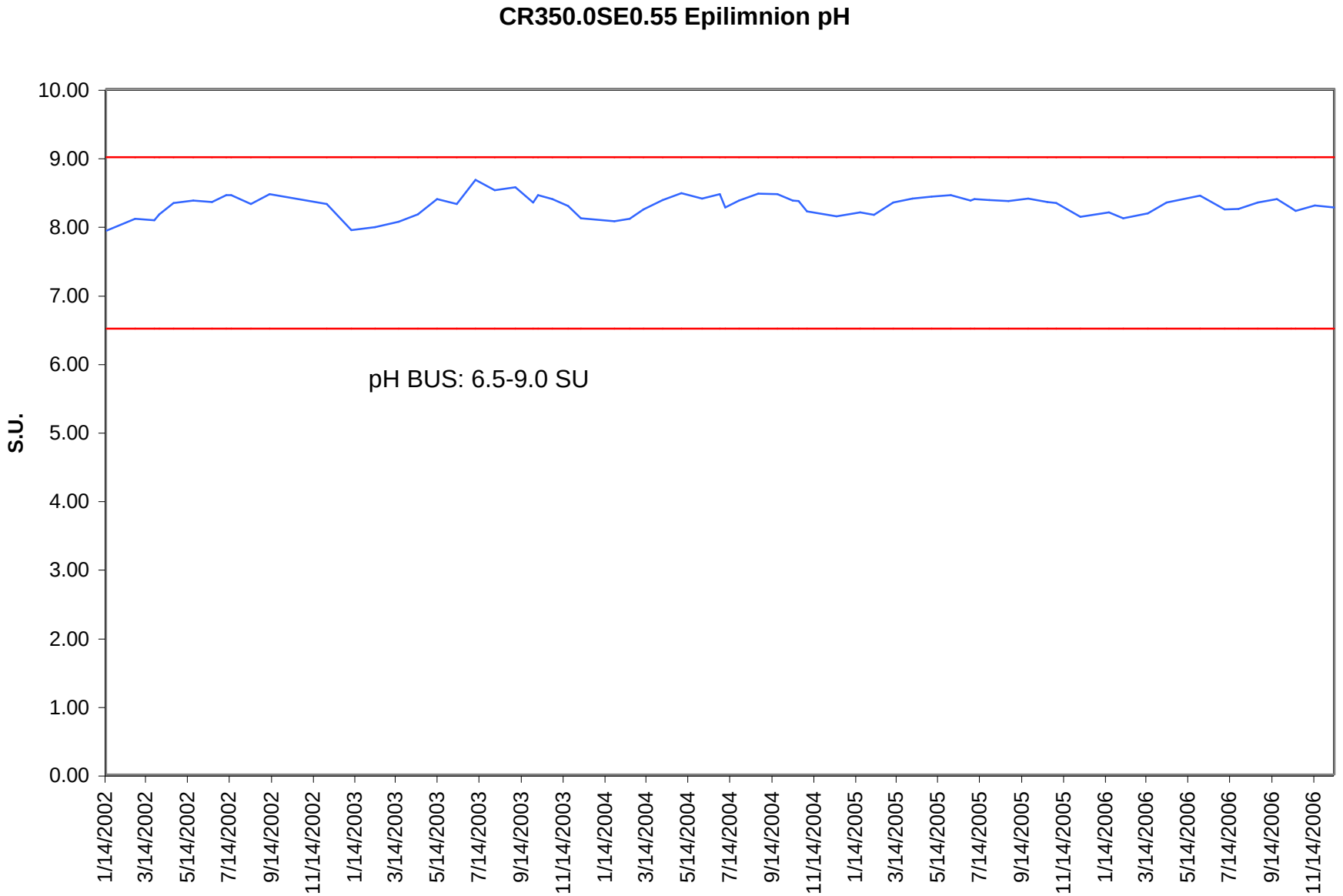
CR350.0SE0.55 Epilimnion Nitrite



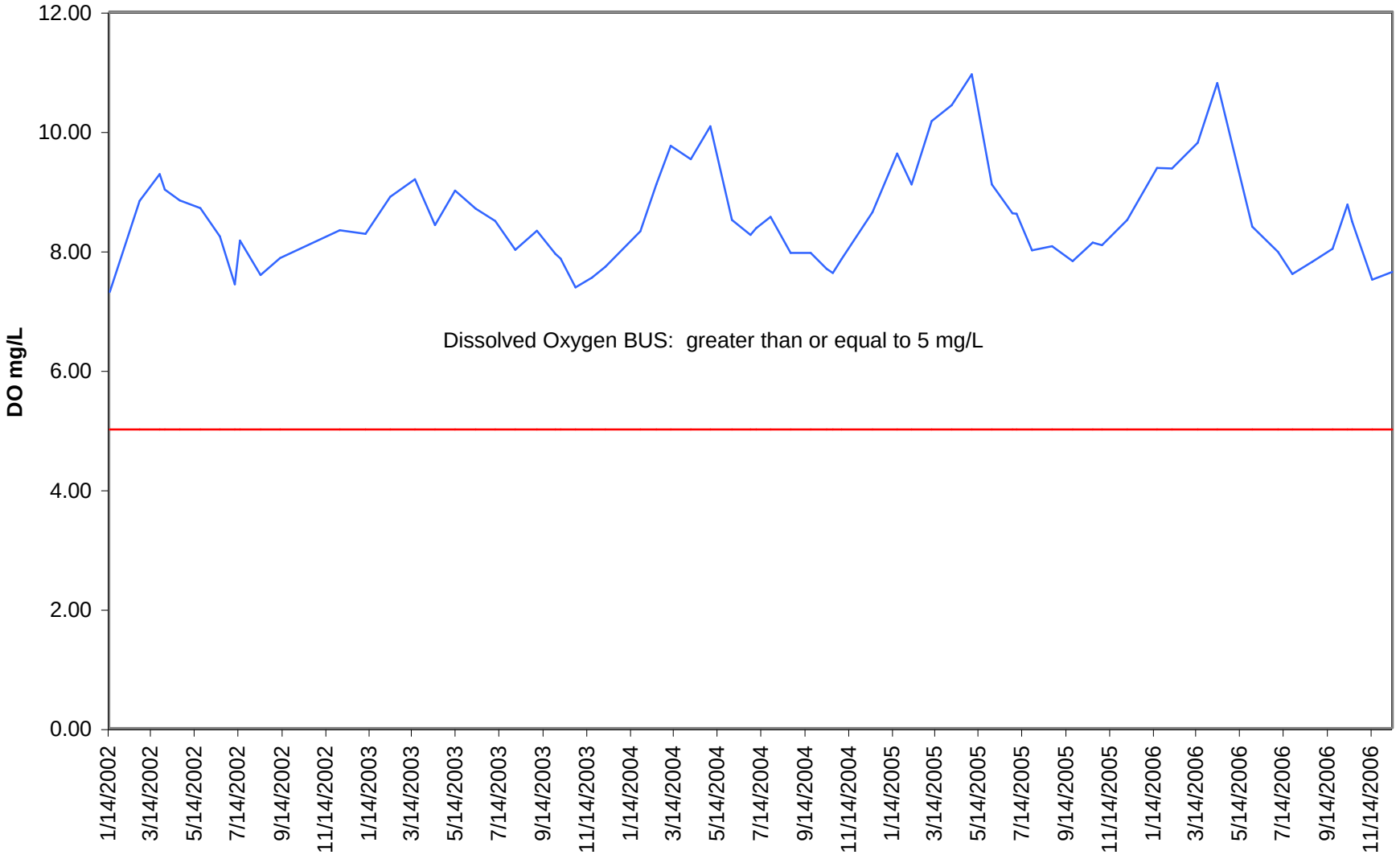

CR350.0SE0.55 Epilimnion Total Nitrogen
N mg/L
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

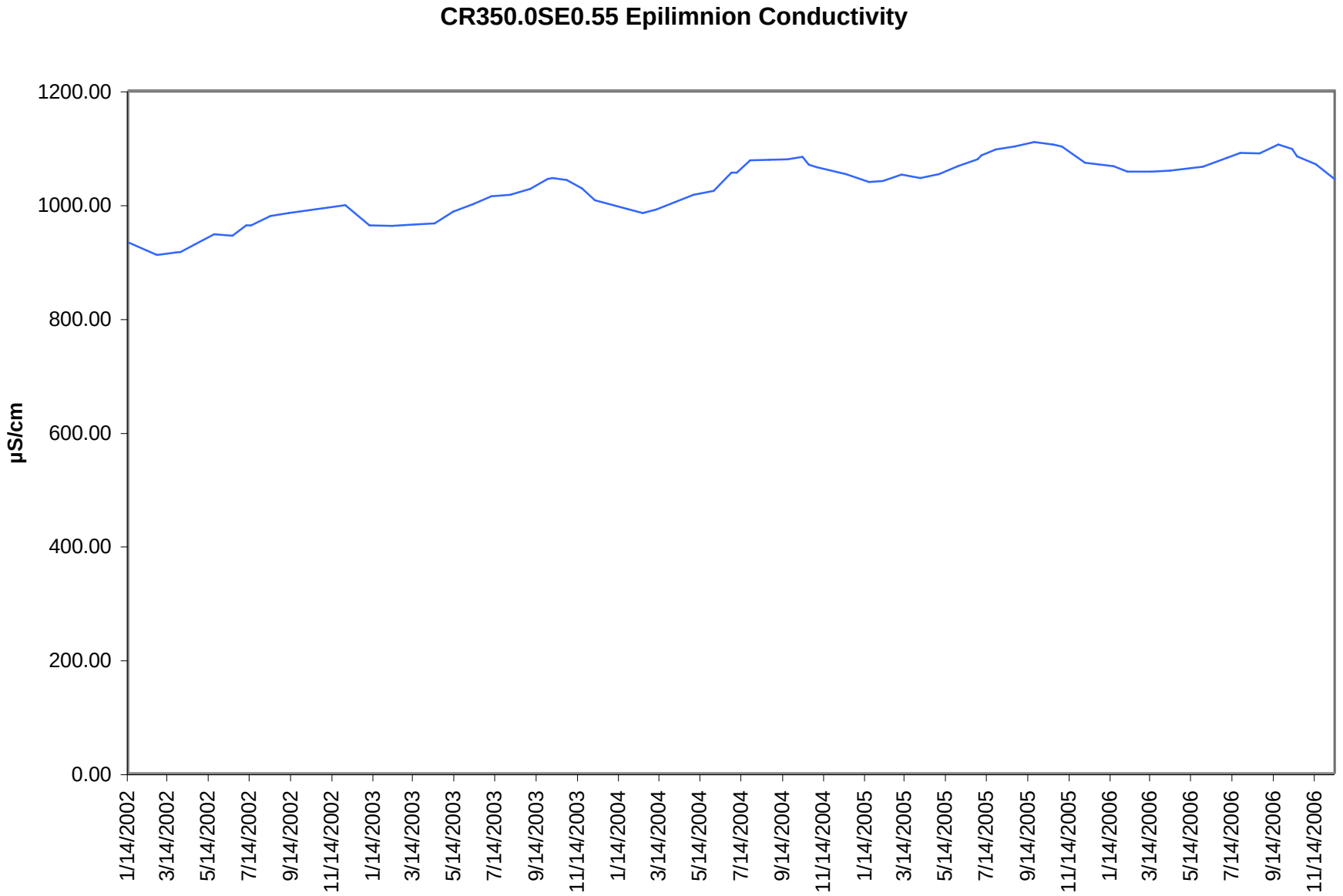
CR350.0SE0.55 Epilimnion Total Inorganic Nitrogen

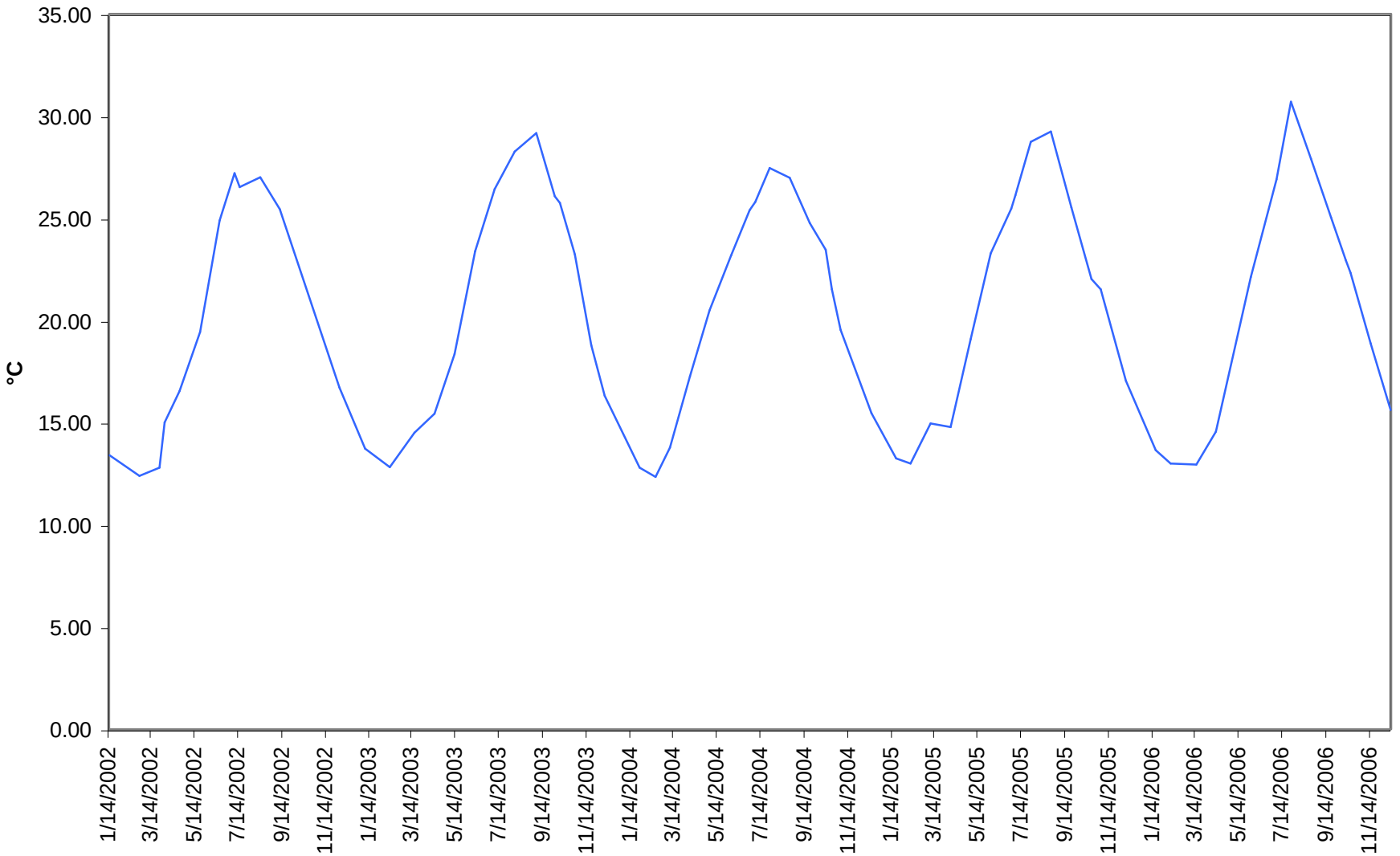



CR350.0SE0.55 Epilimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

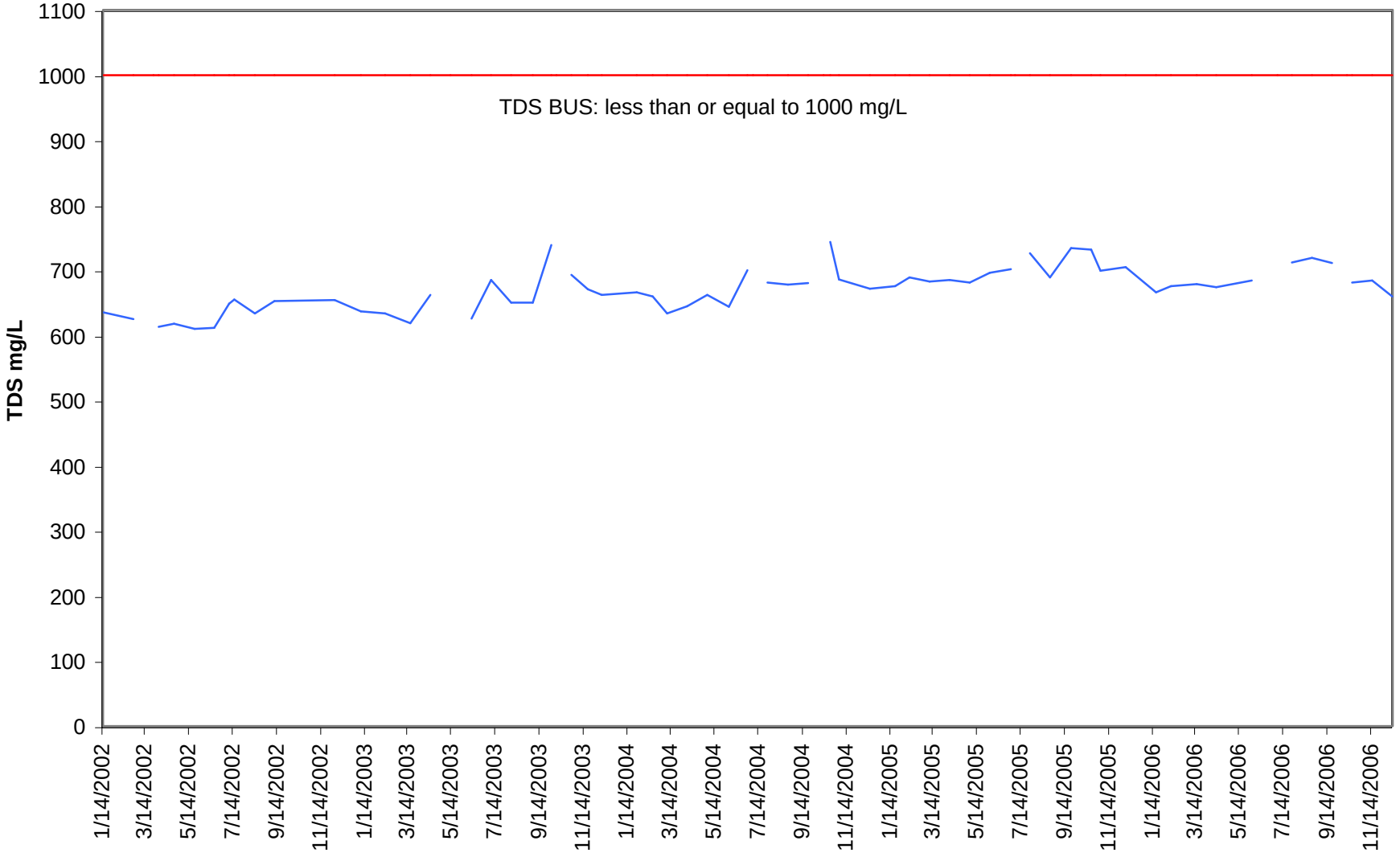
CR350.0SE0.55 Epilimnion Dissolved Oxygen

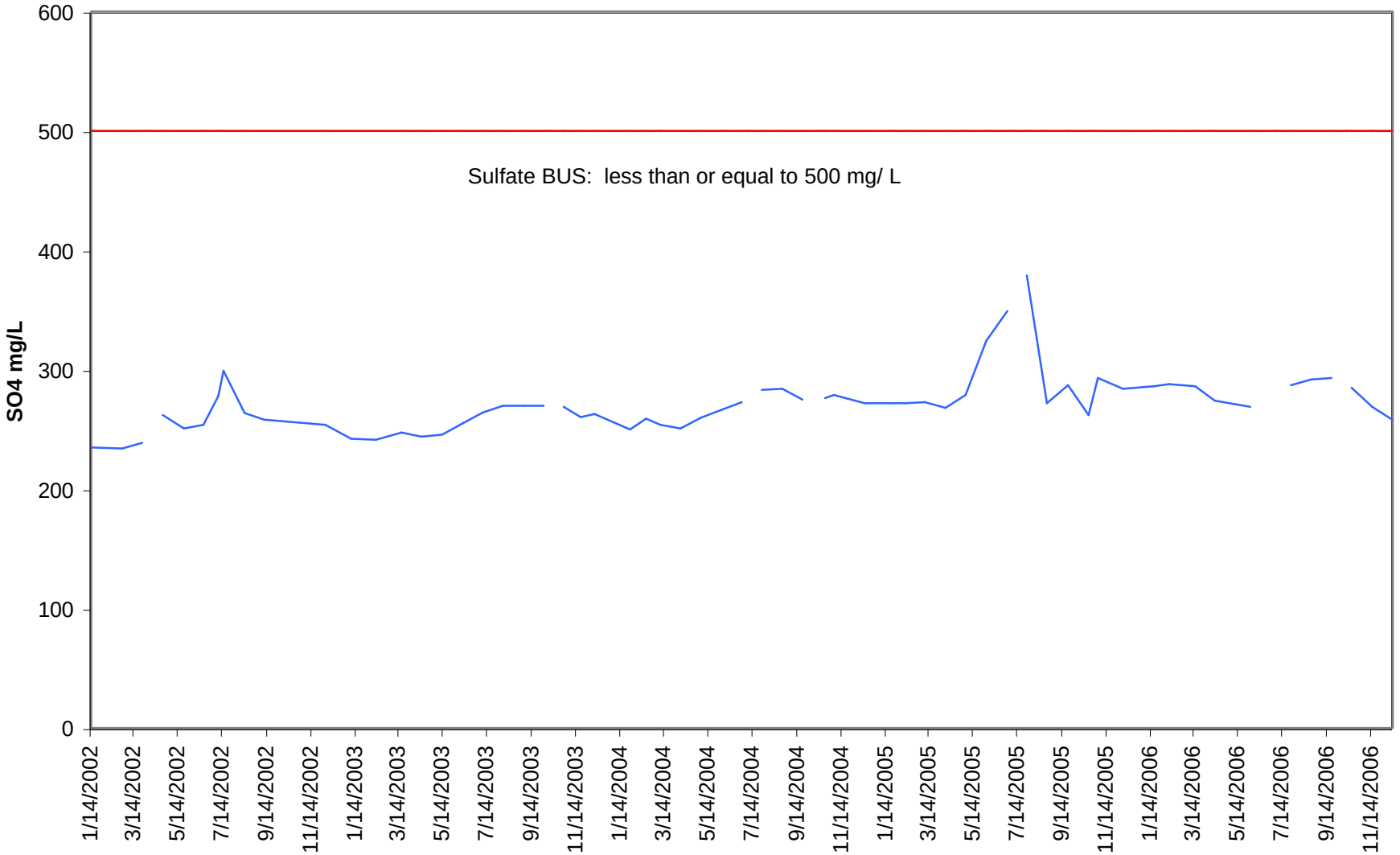



CR350.0SE0.55 Epilimnion Conductivity
µS/cm
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

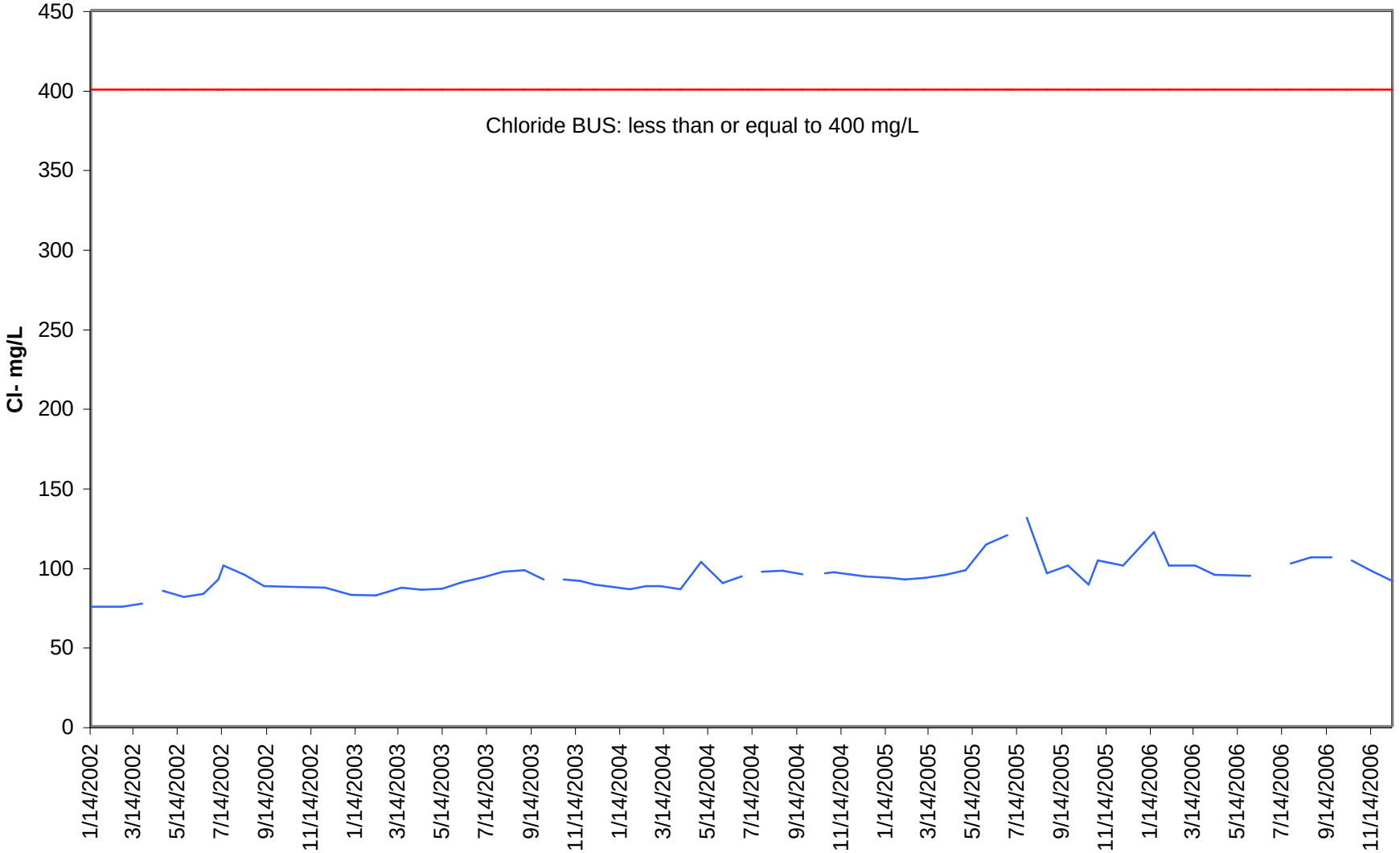

CR350.0SE0.55 Epilimnion Temperature
°C
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

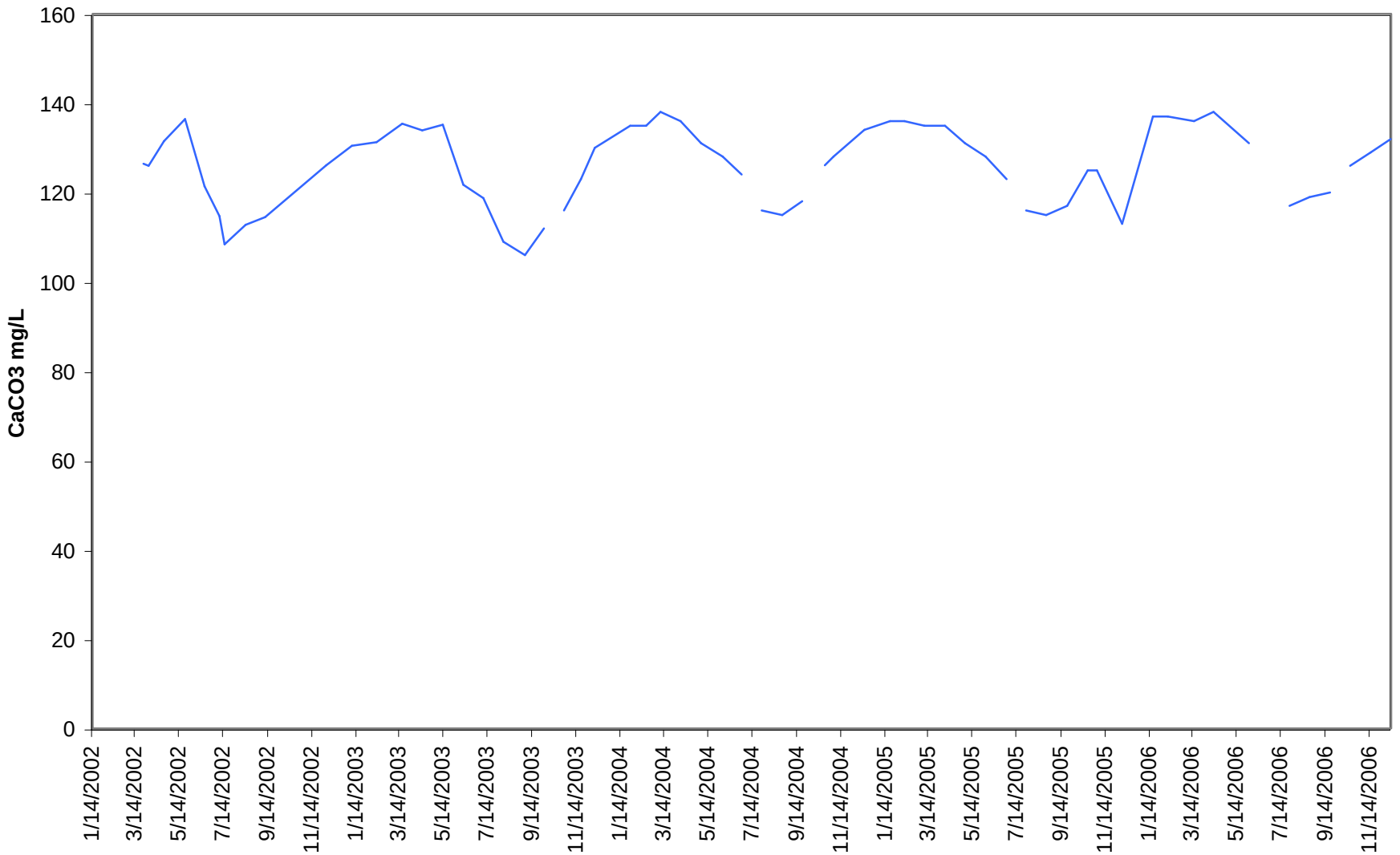
CR350 Epilimnion Total Dissolved Solids



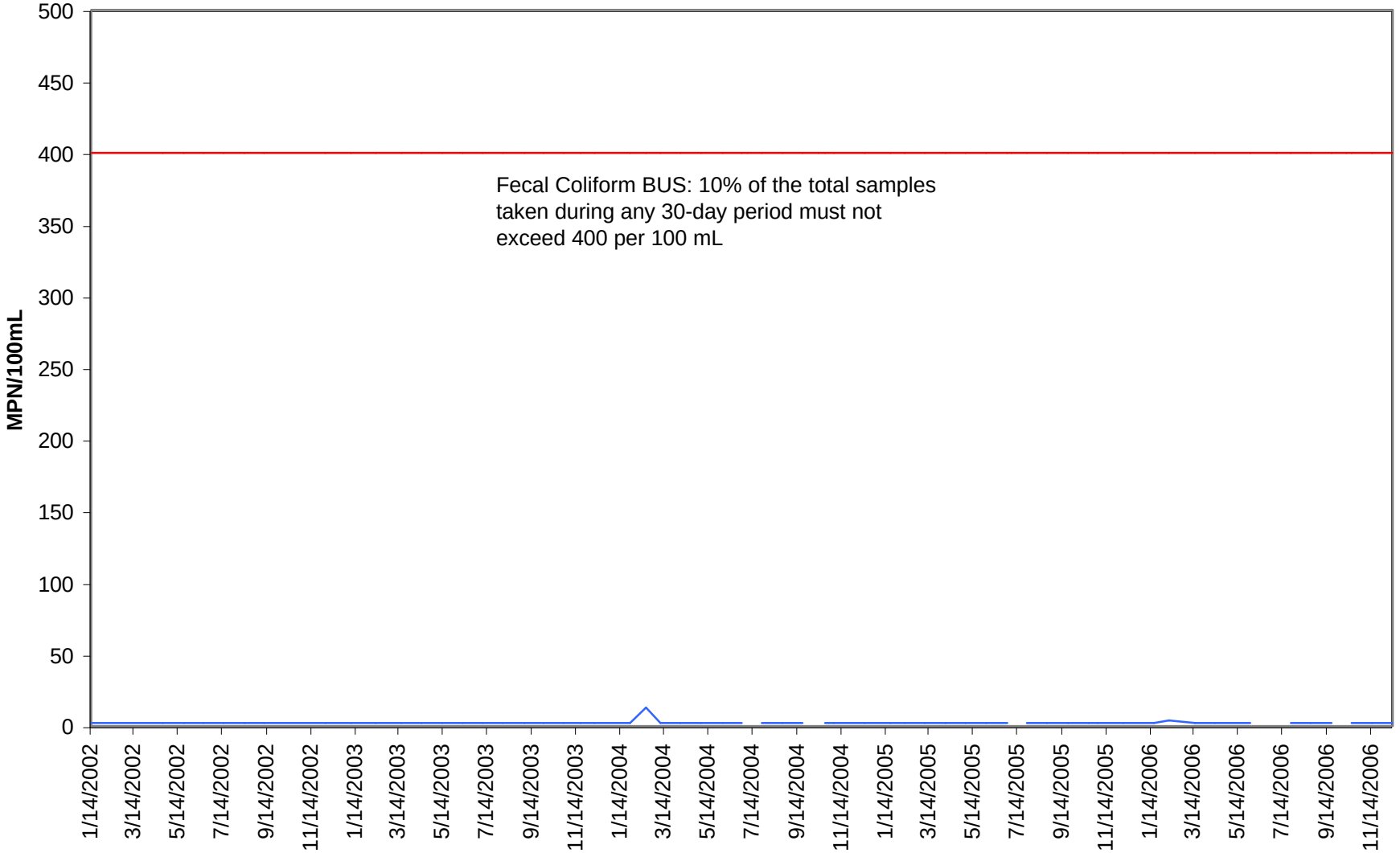

CR350.0SE0.55 Epilimnion Sulfate
Sulfate BUS: less than or equal to 500 mg/ L
SO4 mg/L
600
500
400
300
200
100
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

CR350.0SE0.55 Epilimnion Chloride

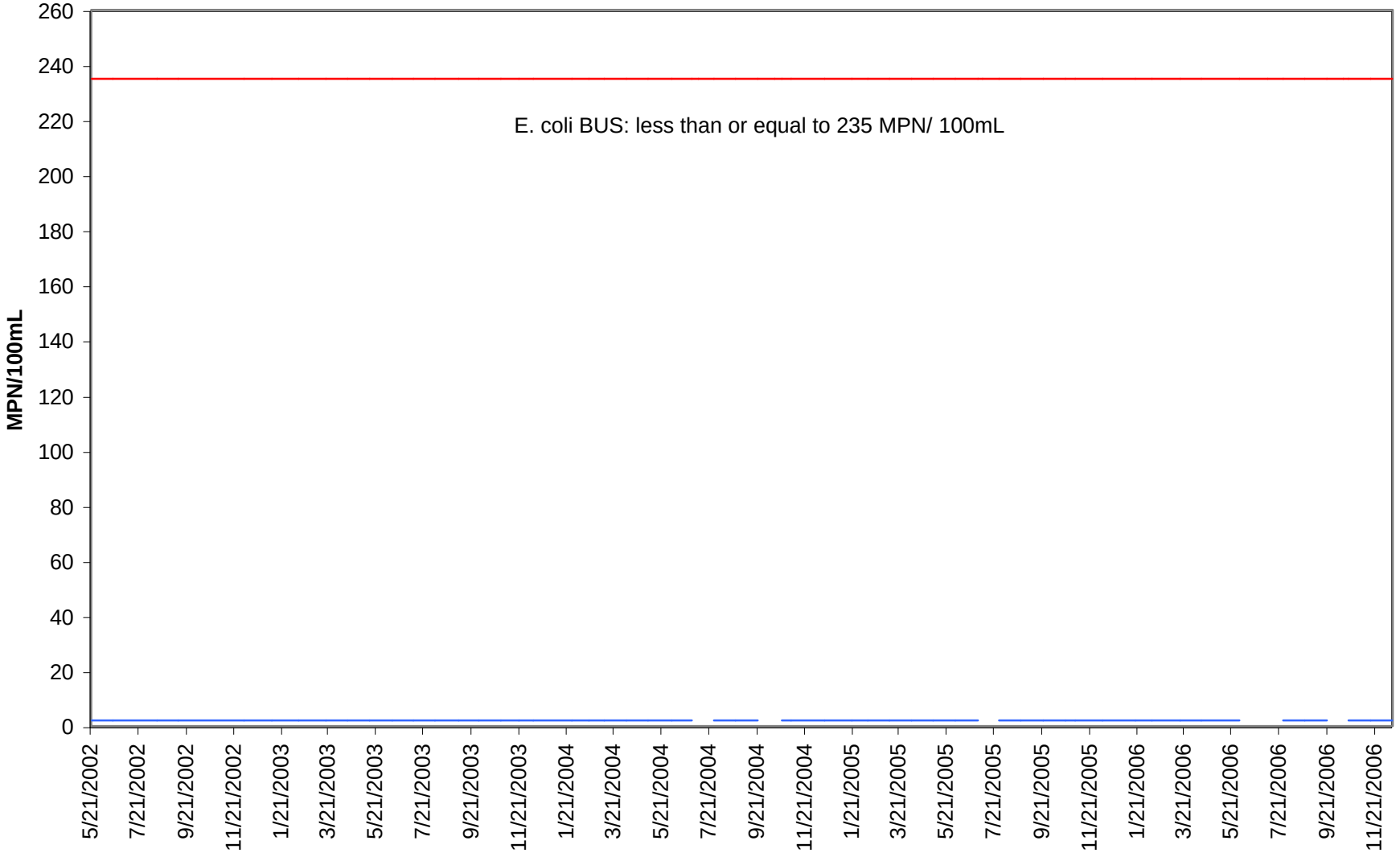



CR350.0SE0.55 Epilimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

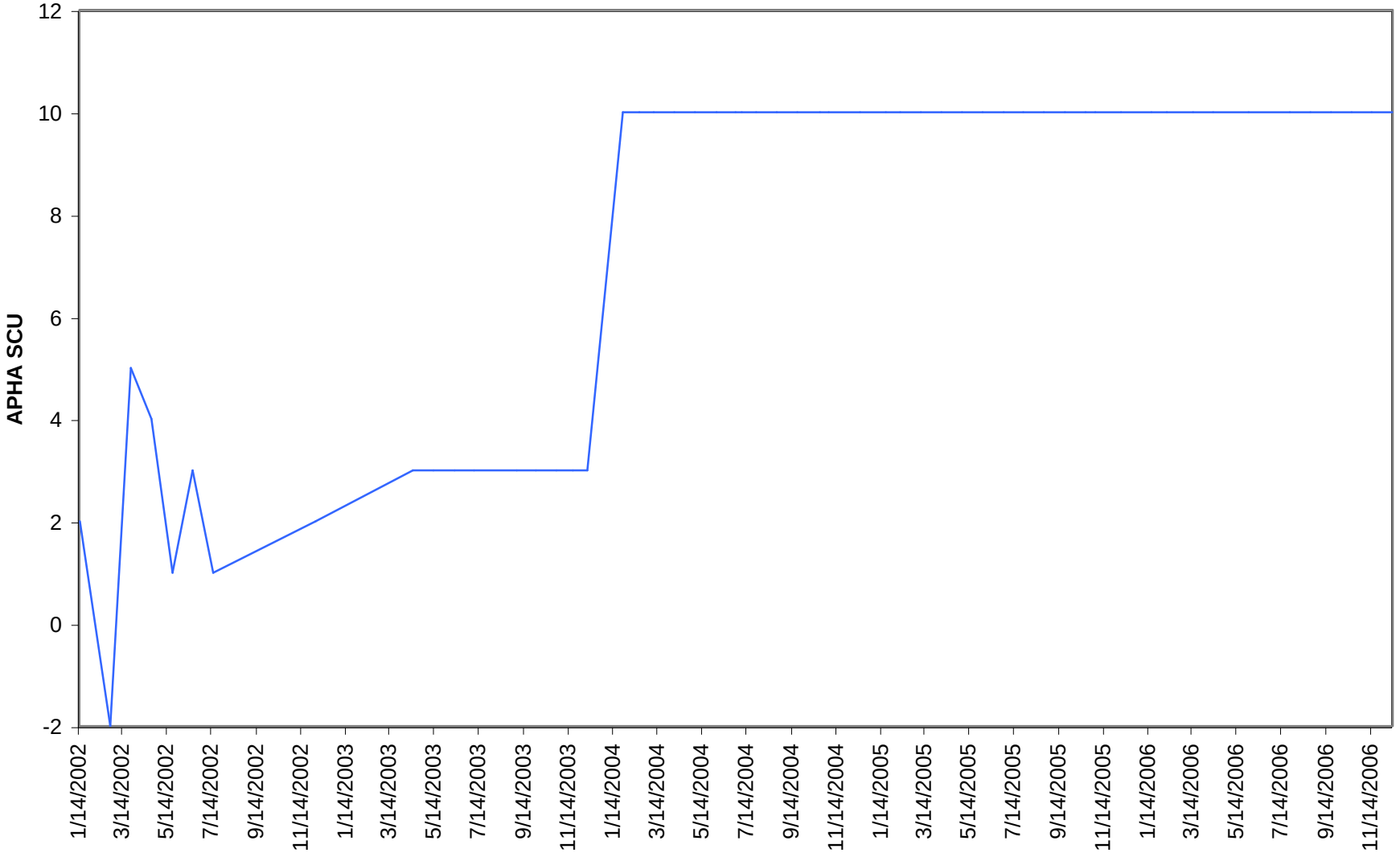
CR350.0SE0.55 Epilimnion Fecal Coliform



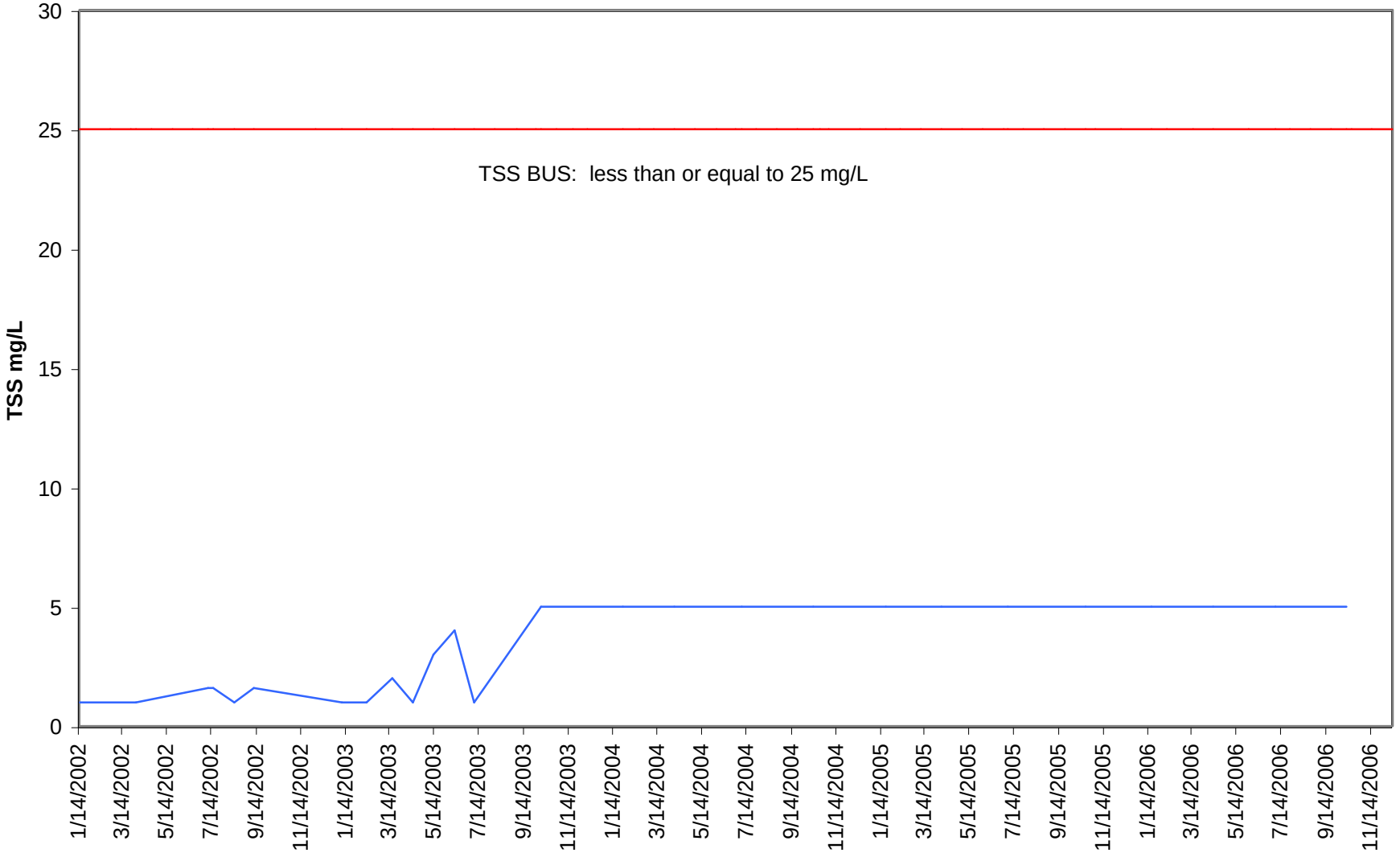
CR350.0SE0.55 Epilimnion E. coli.



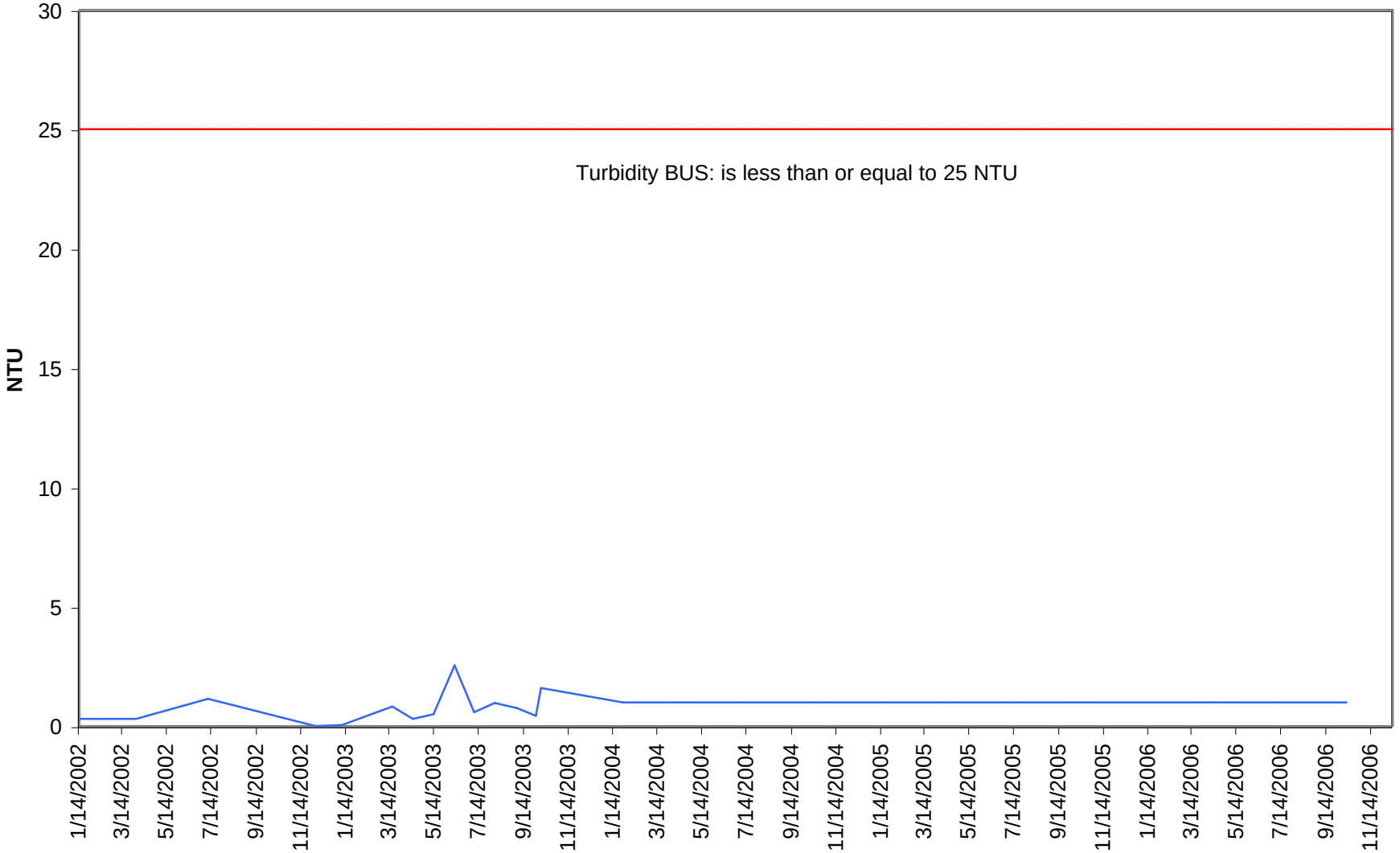
CR350.0SE0.55 Epilimnion Color



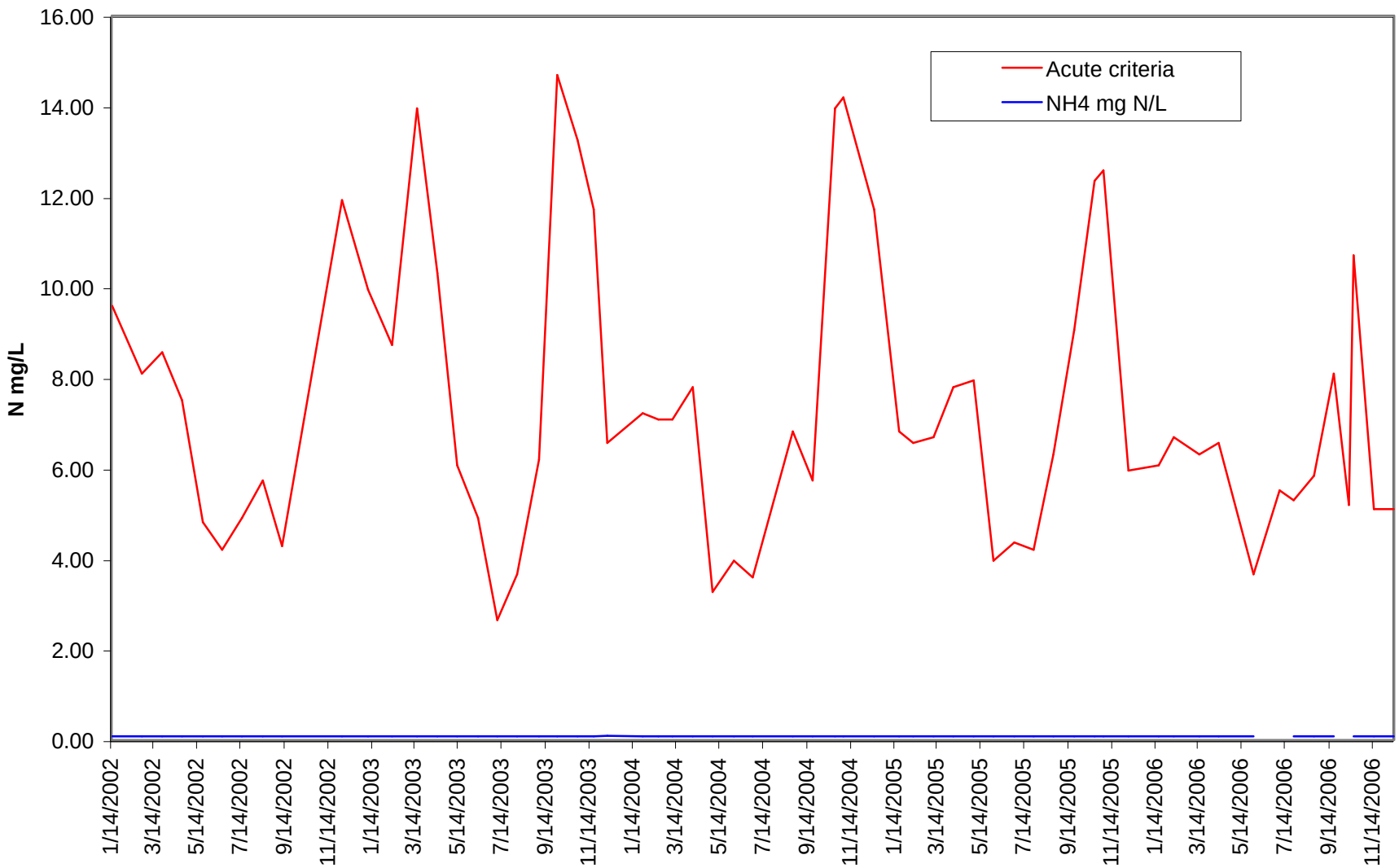
CR350.0SE0.55 Epilimnion Total Suspended Solids



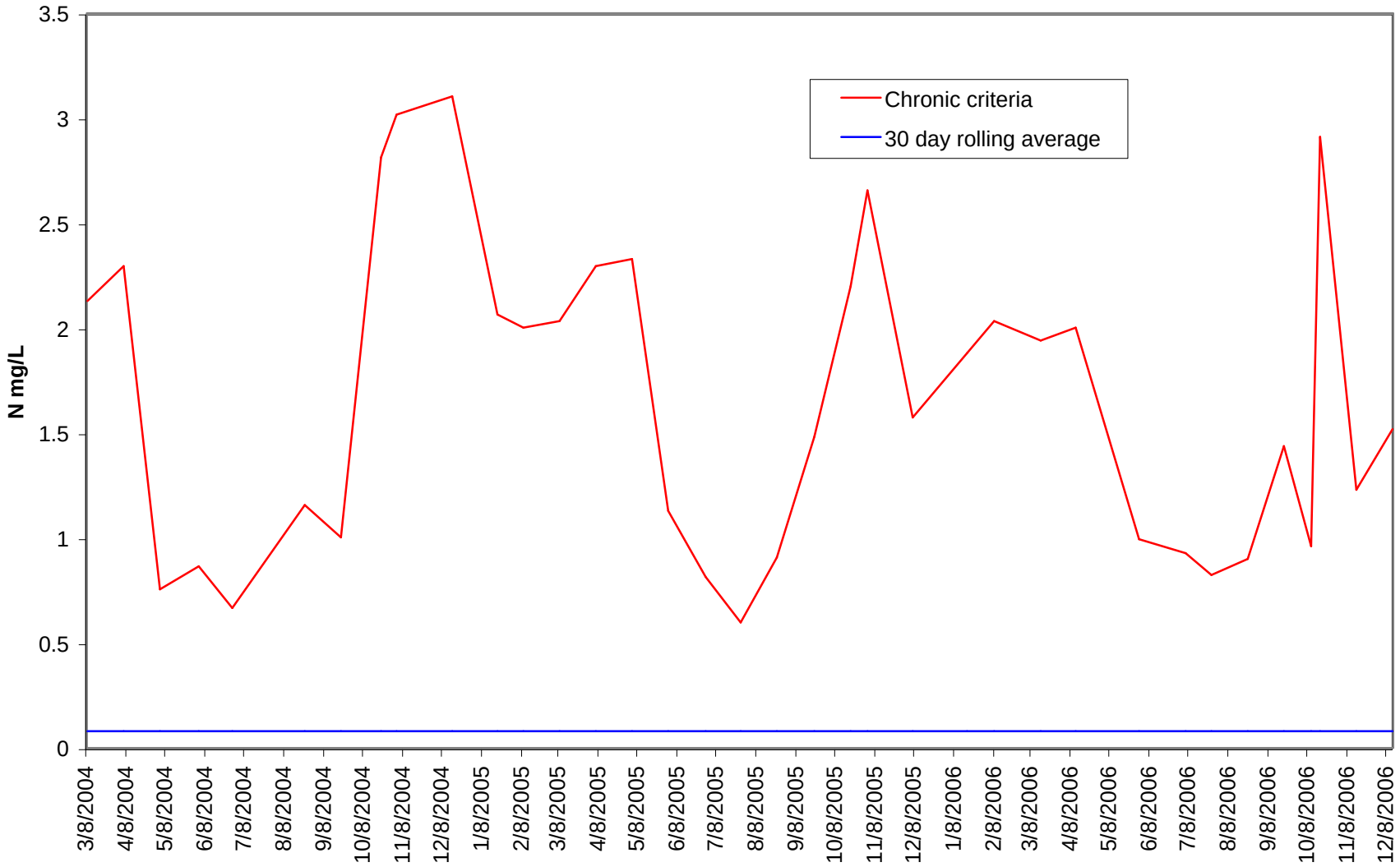
CR350.0SE0.55 Epilimnion Turbidity



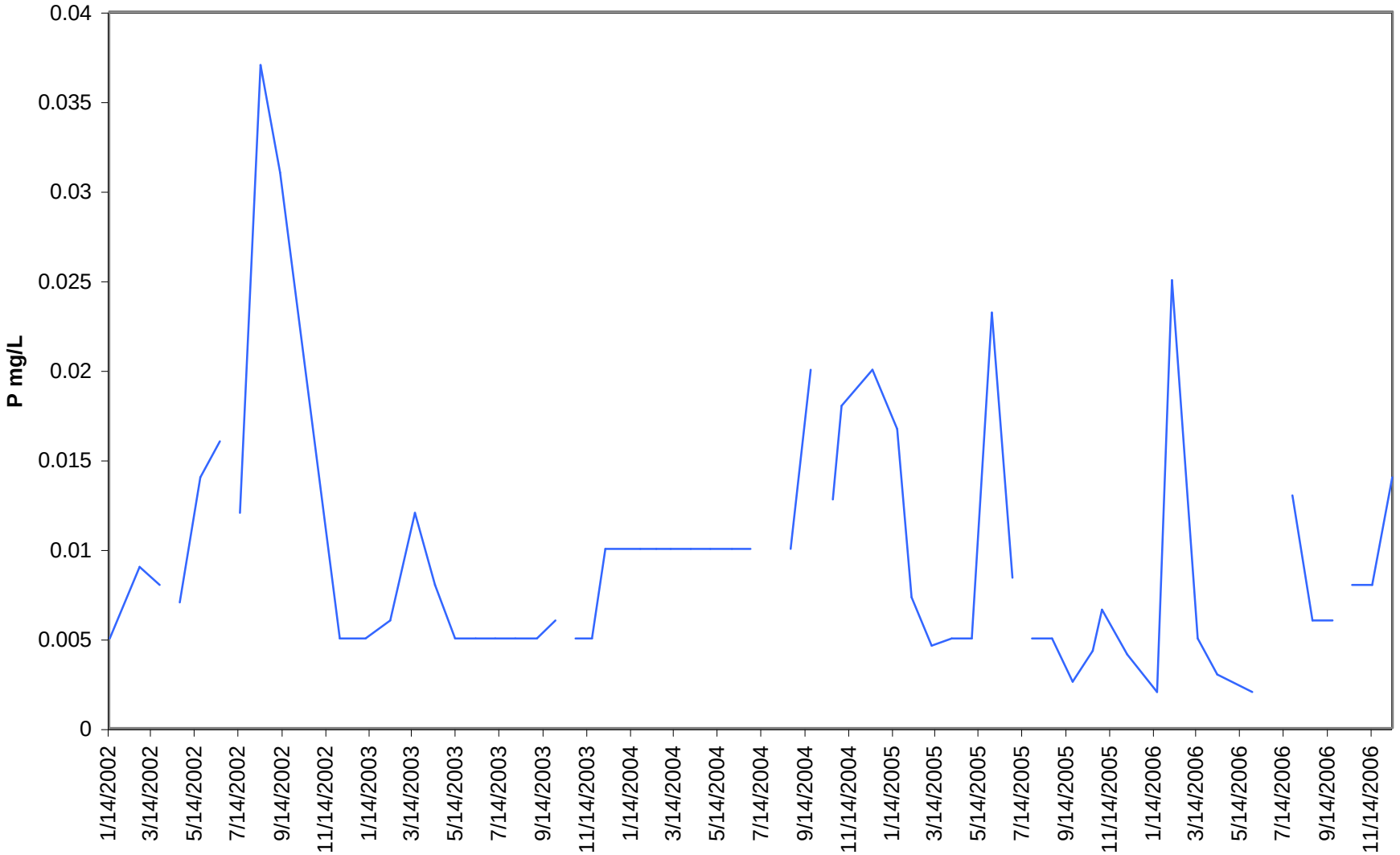
CR350.0SE0.55
Metalimnion


CR350.0SE0.55 Metalimnion Ammonia
N mg/L
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Acute criteria
NH4 mg N/L
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

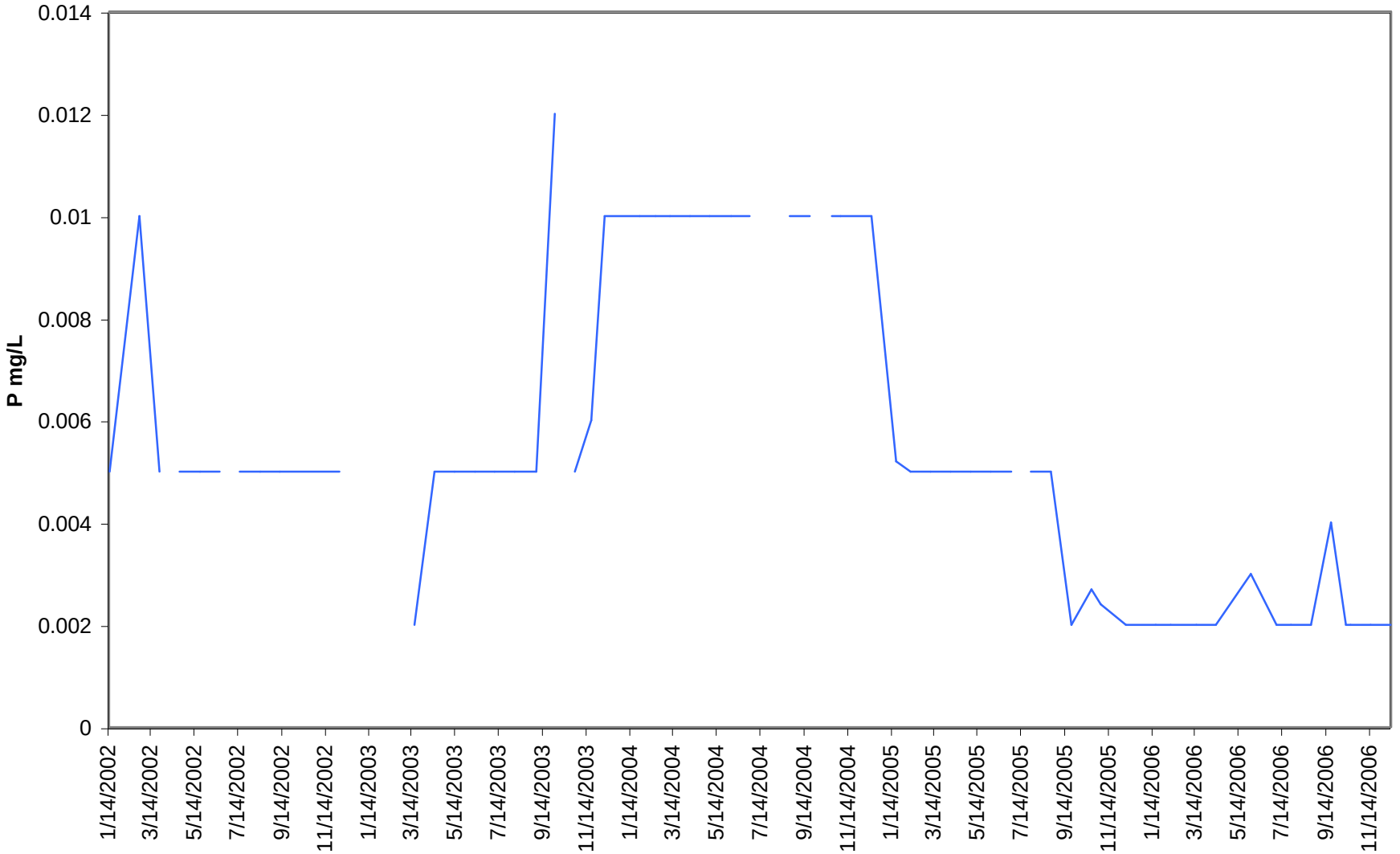
CR350.0SE0.55 Metalimnion Chronic Ammonia



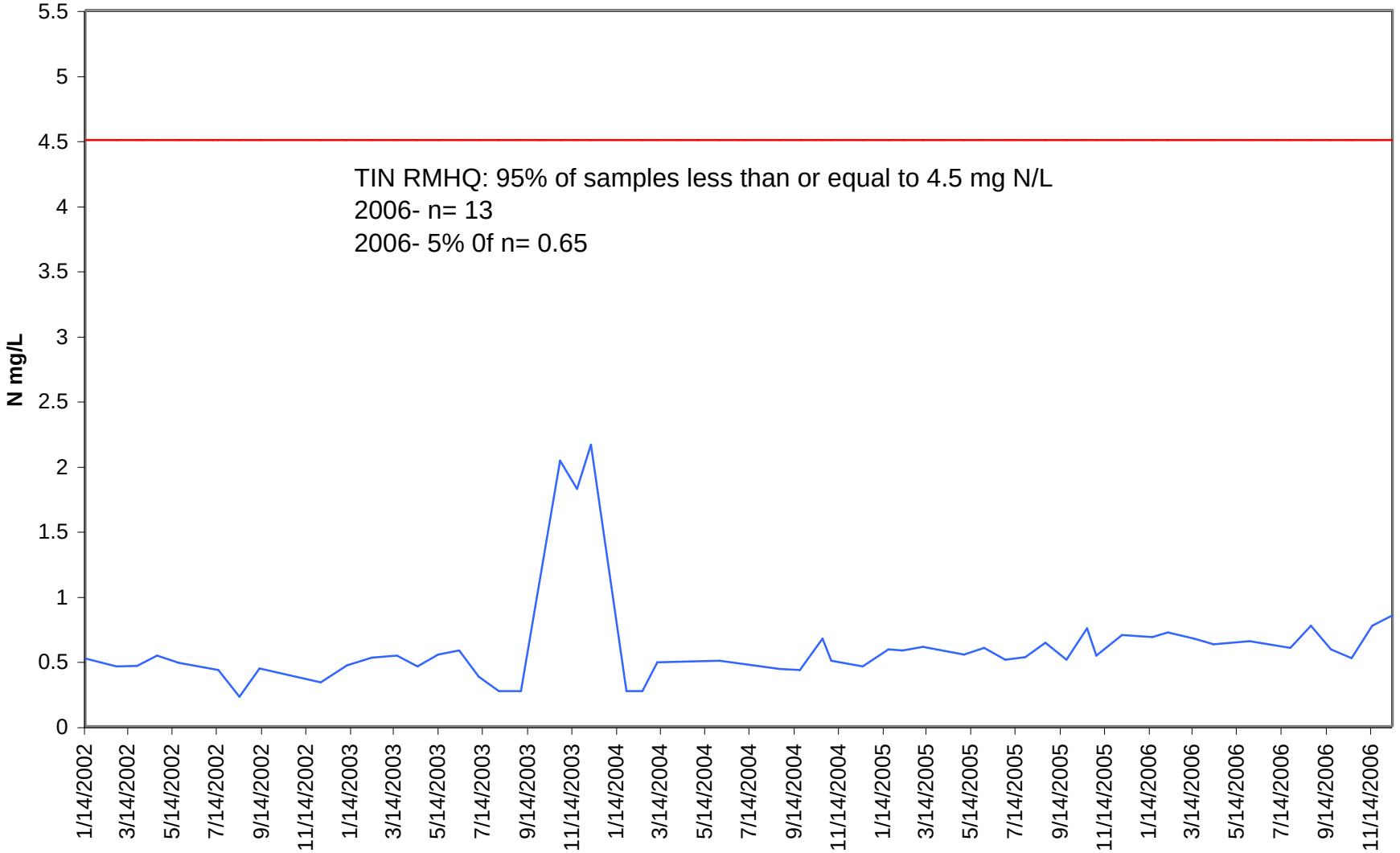
CR350.0SE0.55 Metalimnion Total Phosphorus



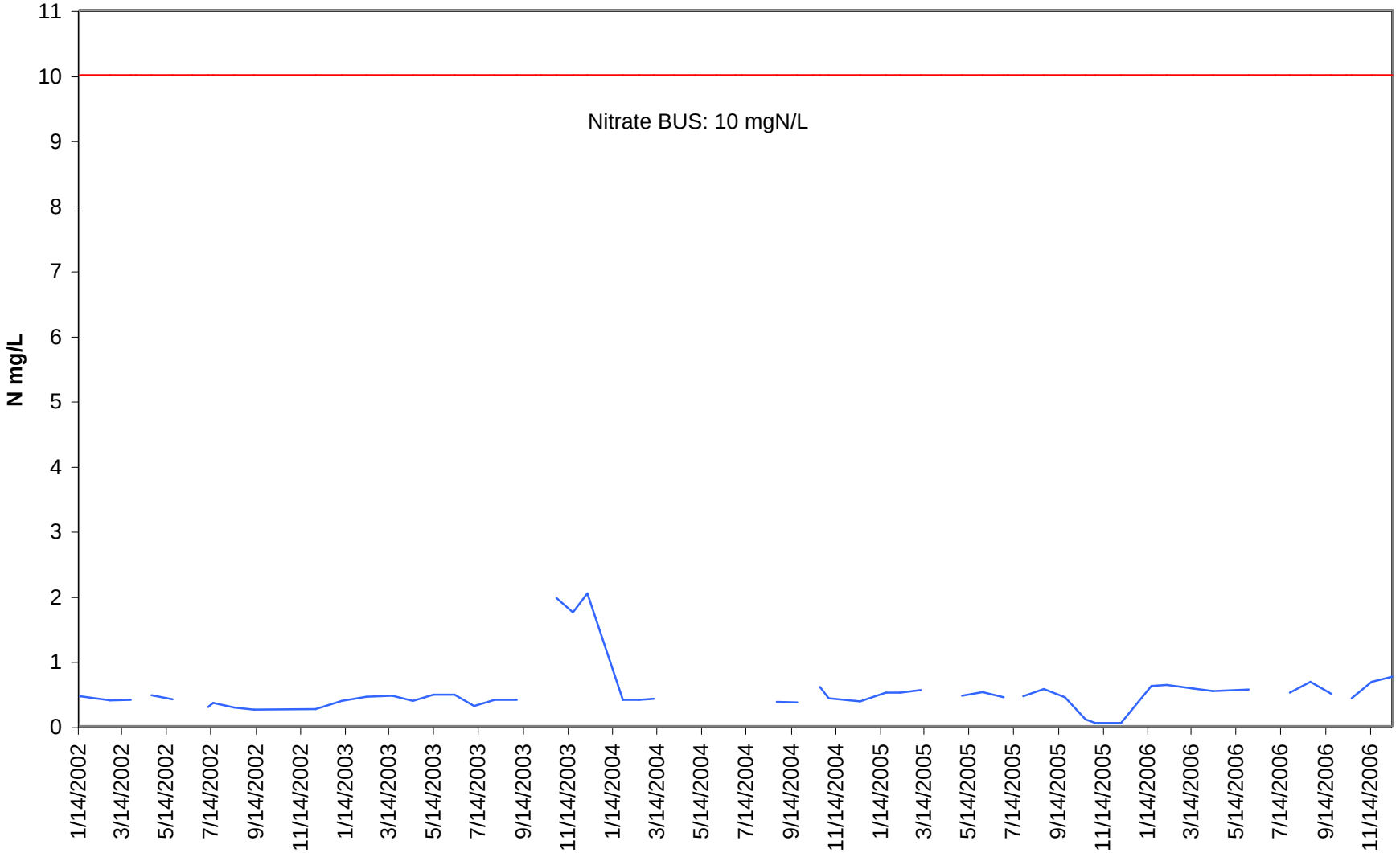
CR350.0SE0.55 Metalimnion Dissolved ortho-Phosphorus



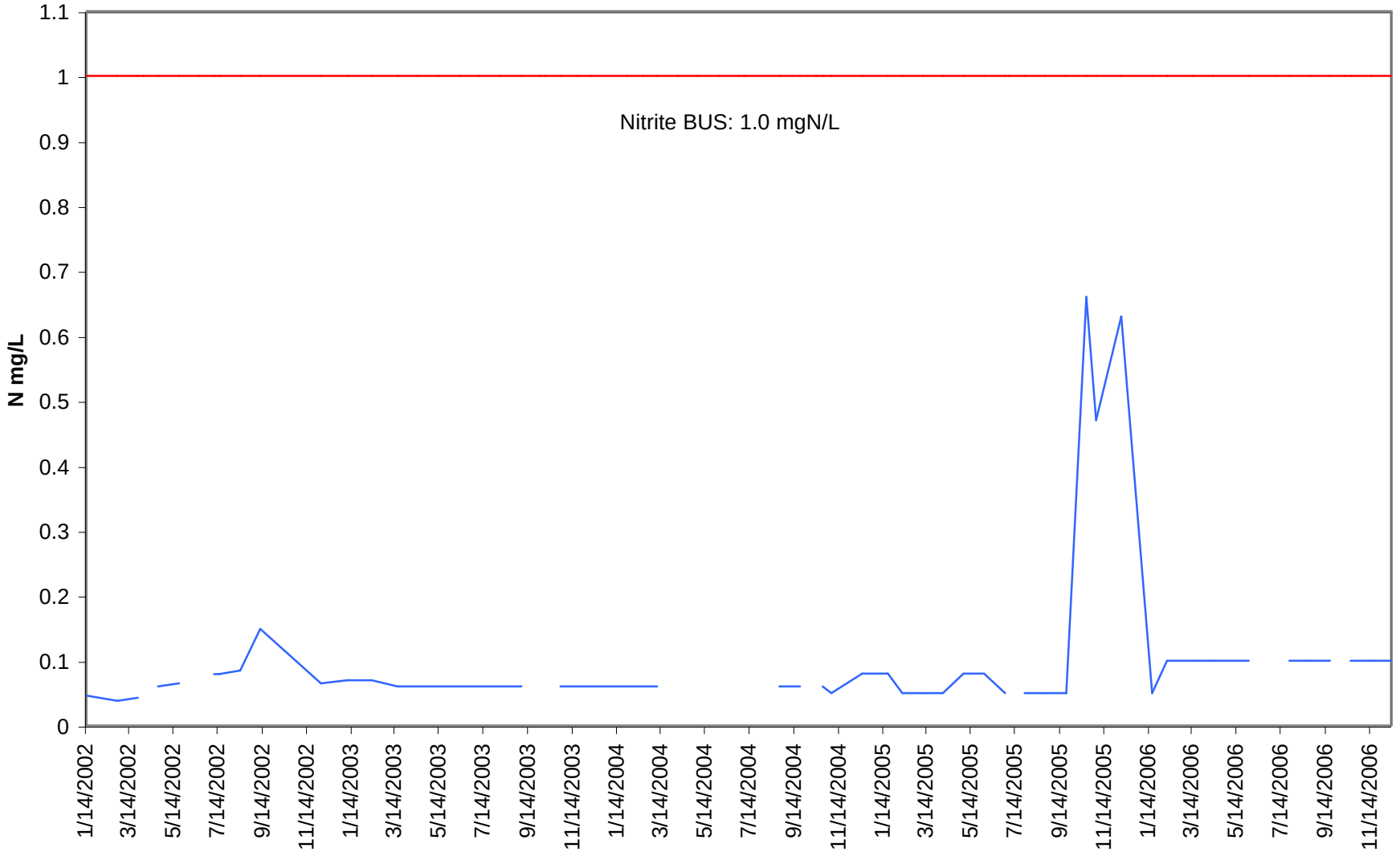
CR350.0SE0.55 Metalimnion Total Inorganic Nitrogen



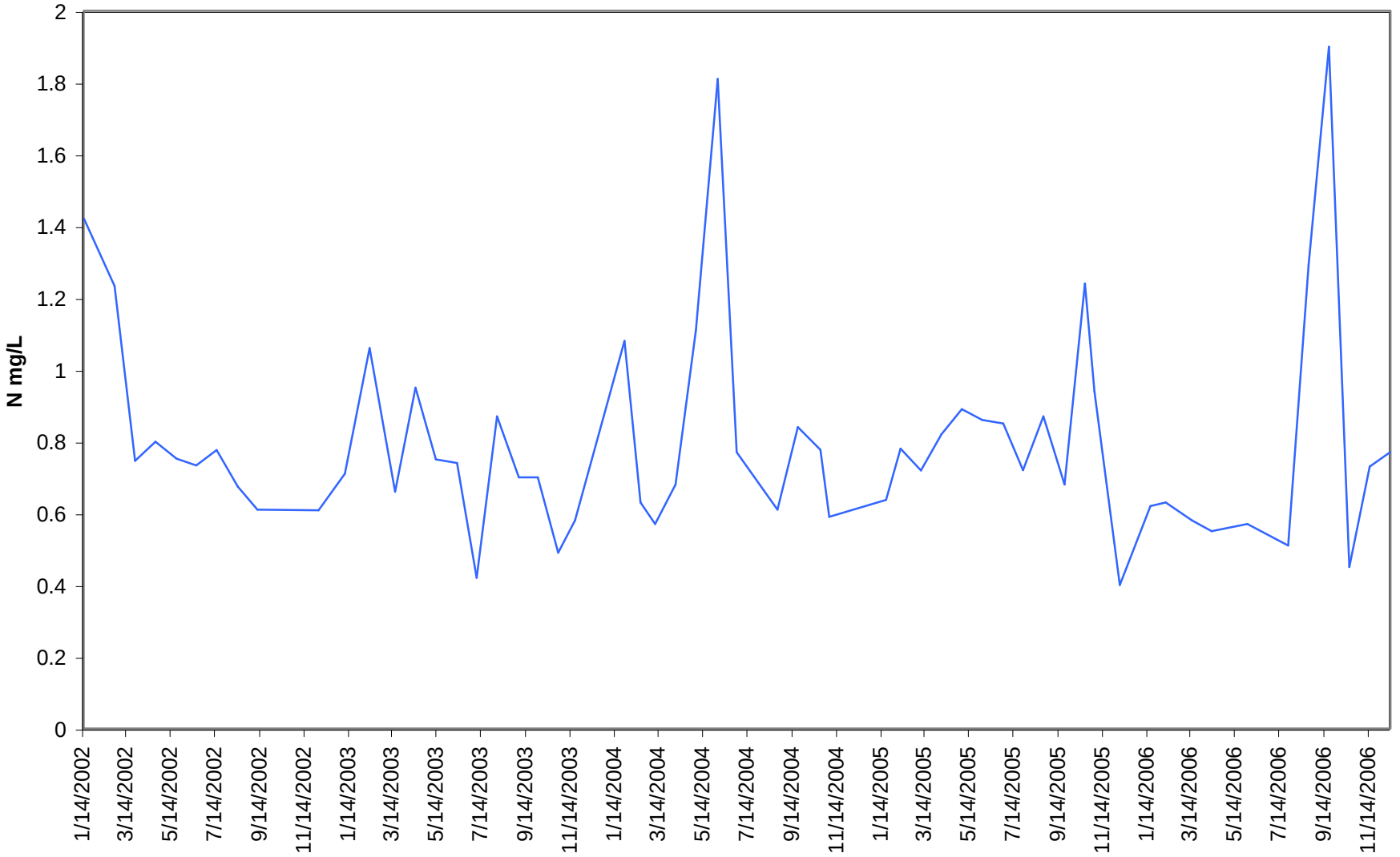
CR350.0SE0.55 Metalimnion Nitrate

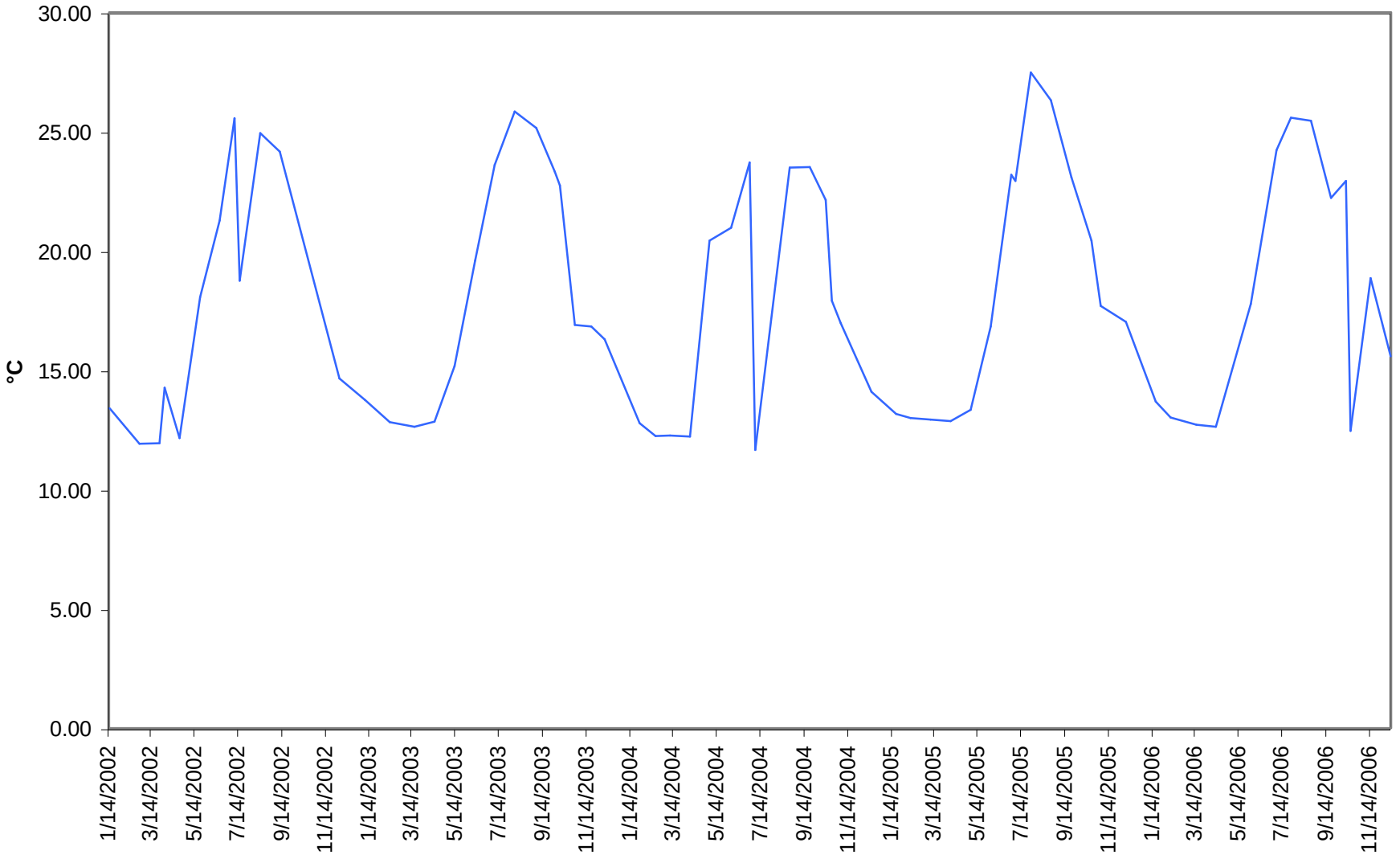


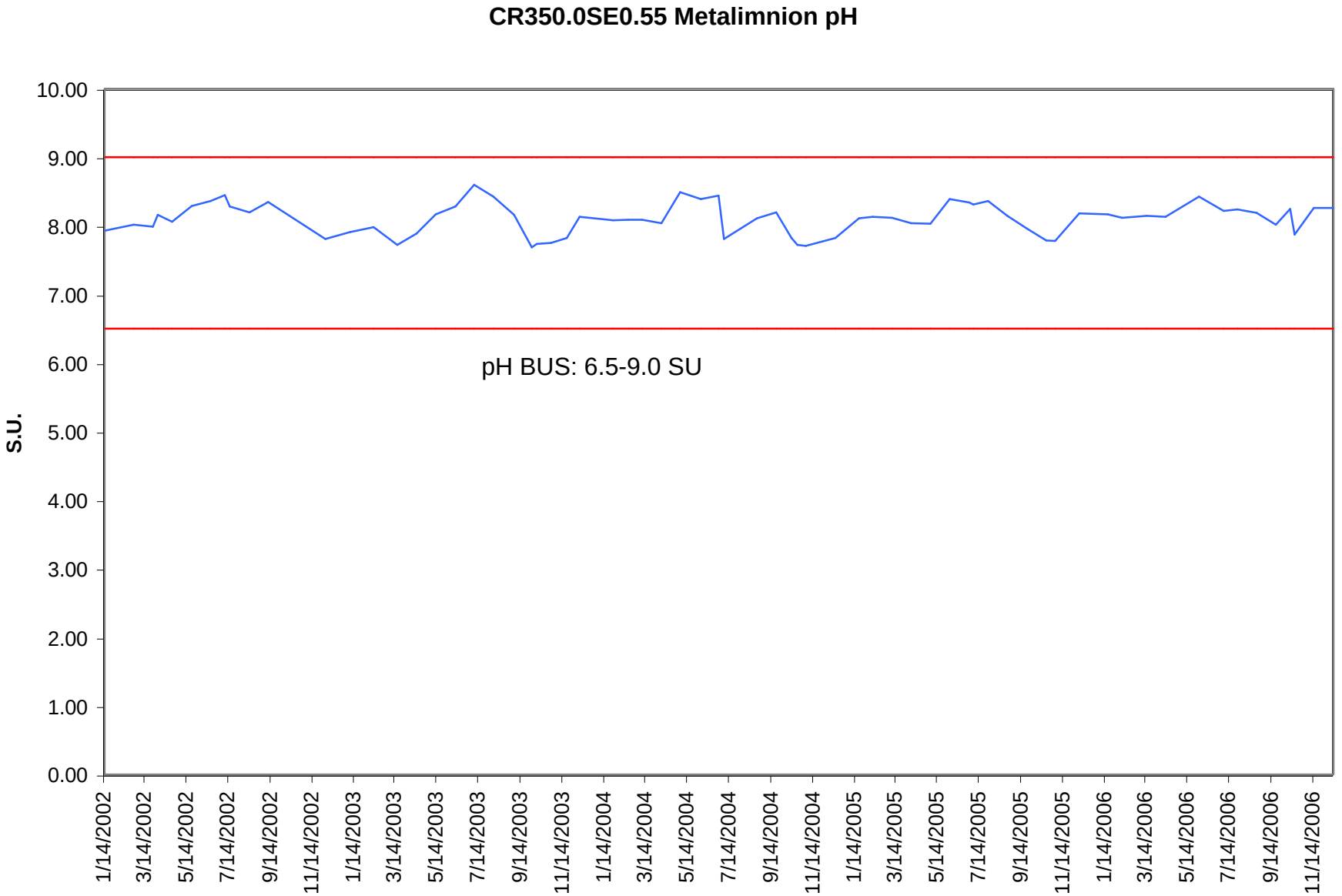
CR350.0SE0.55 Metalimnion Nitrite

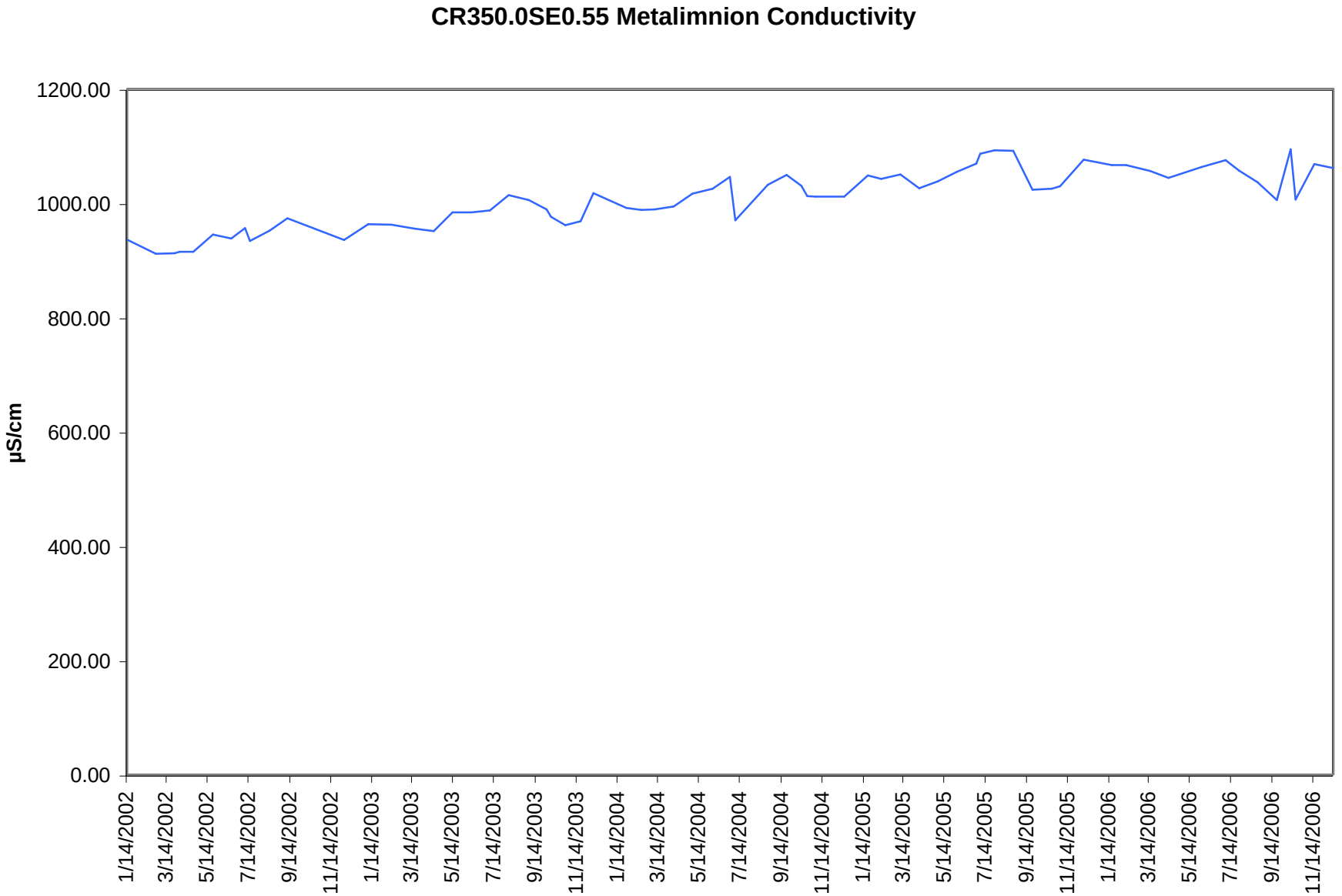


CR350.0SE0.55 Metalimnion Total Nitrogen

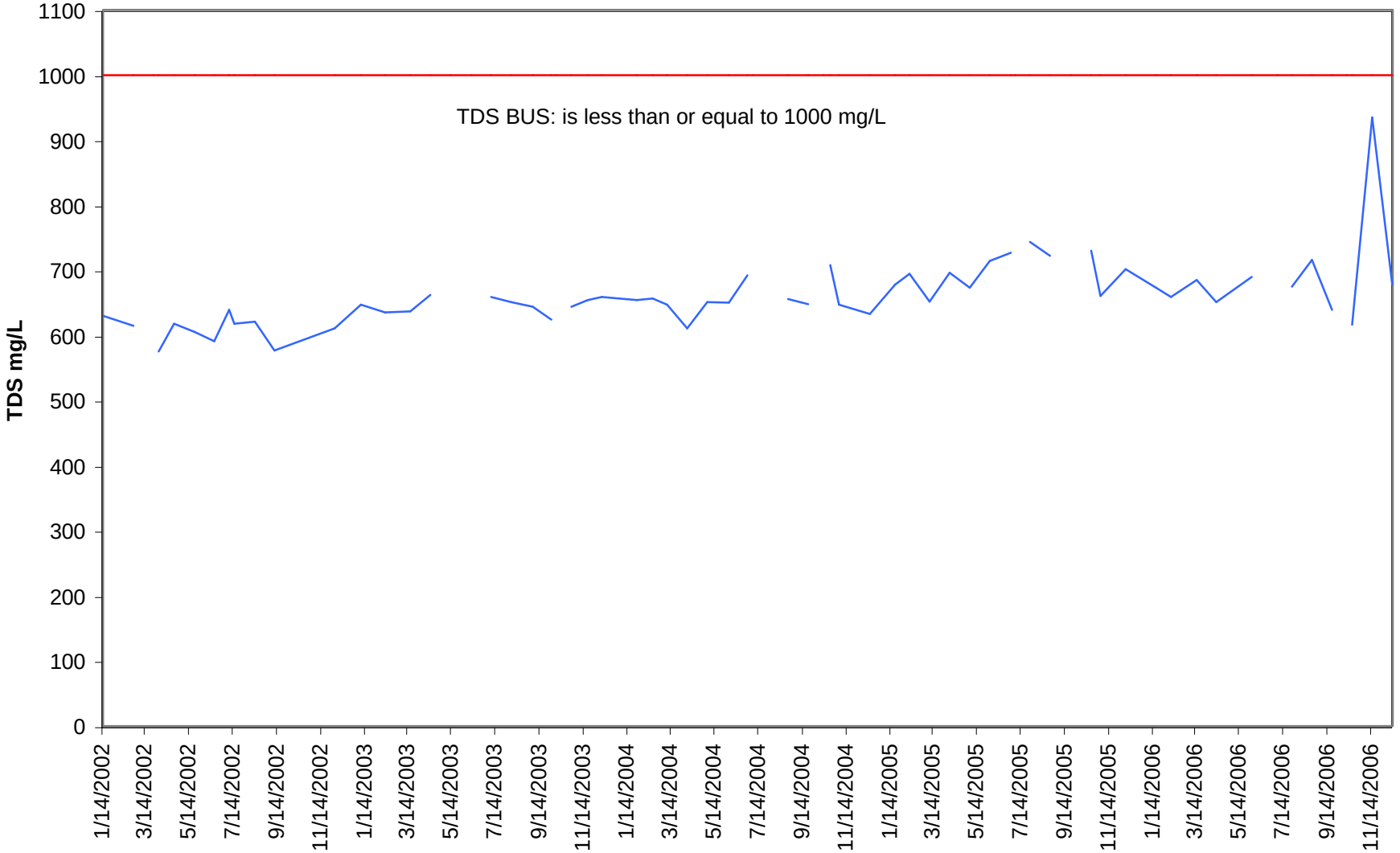



CR350.0SE0.55 Metalimnion Temperature
°C
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

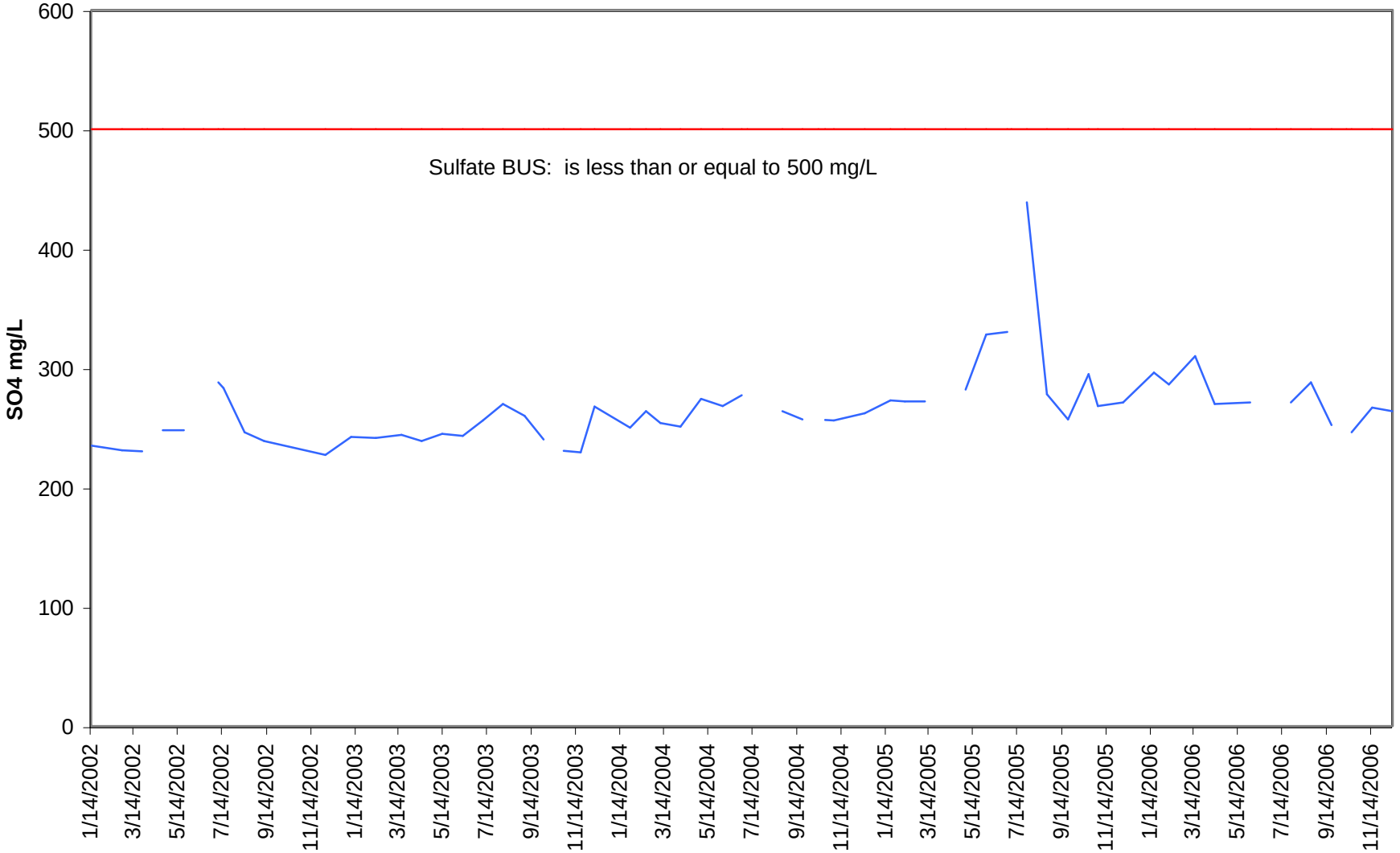

CR350.0SE0.55 Metalimnion pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 SU
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006


CR350.0SE0.55 Metalimnion Conductivity
µS/cm
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

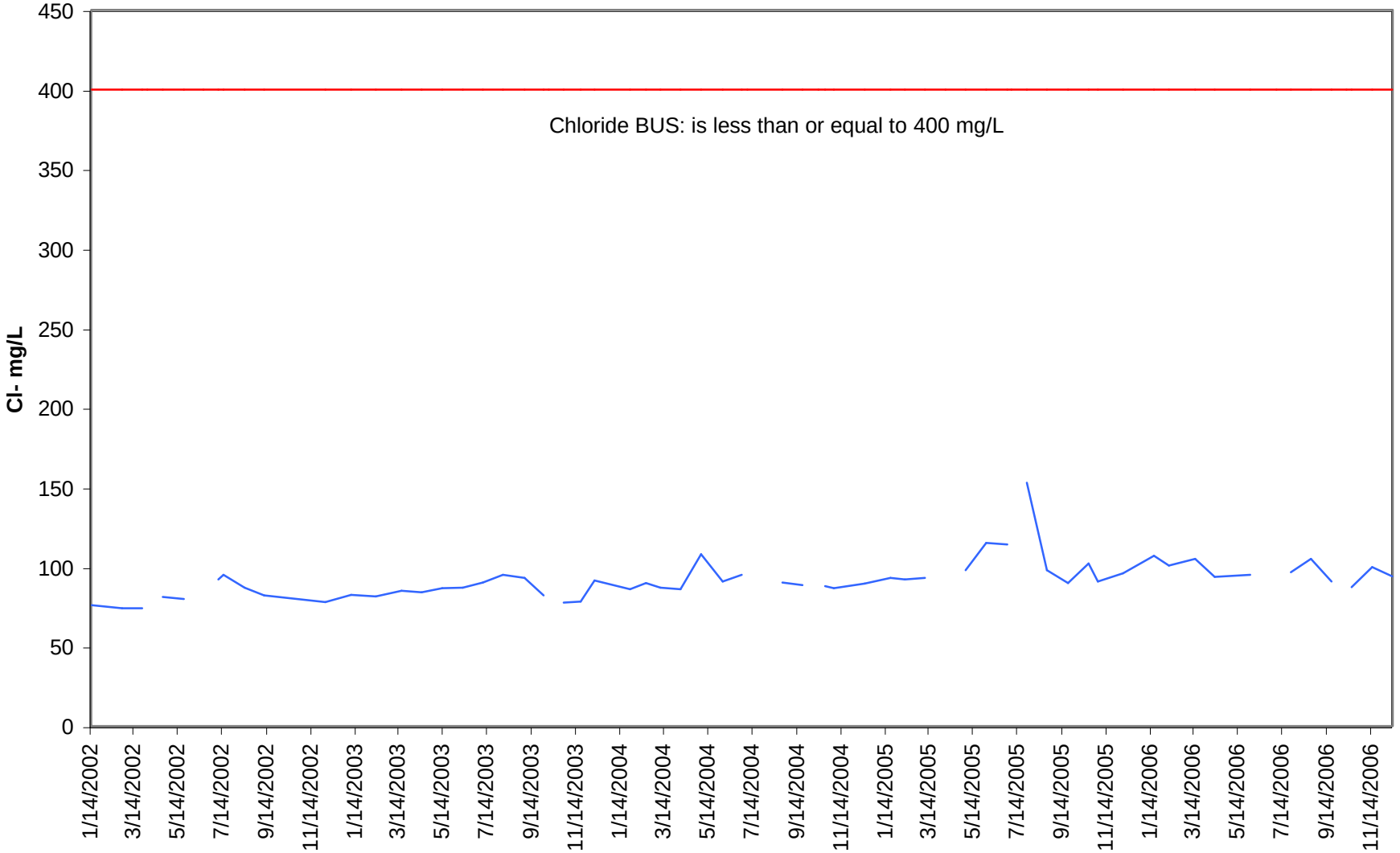
CR350.0SE0.55 Metalimnion Total Dissolved Solids

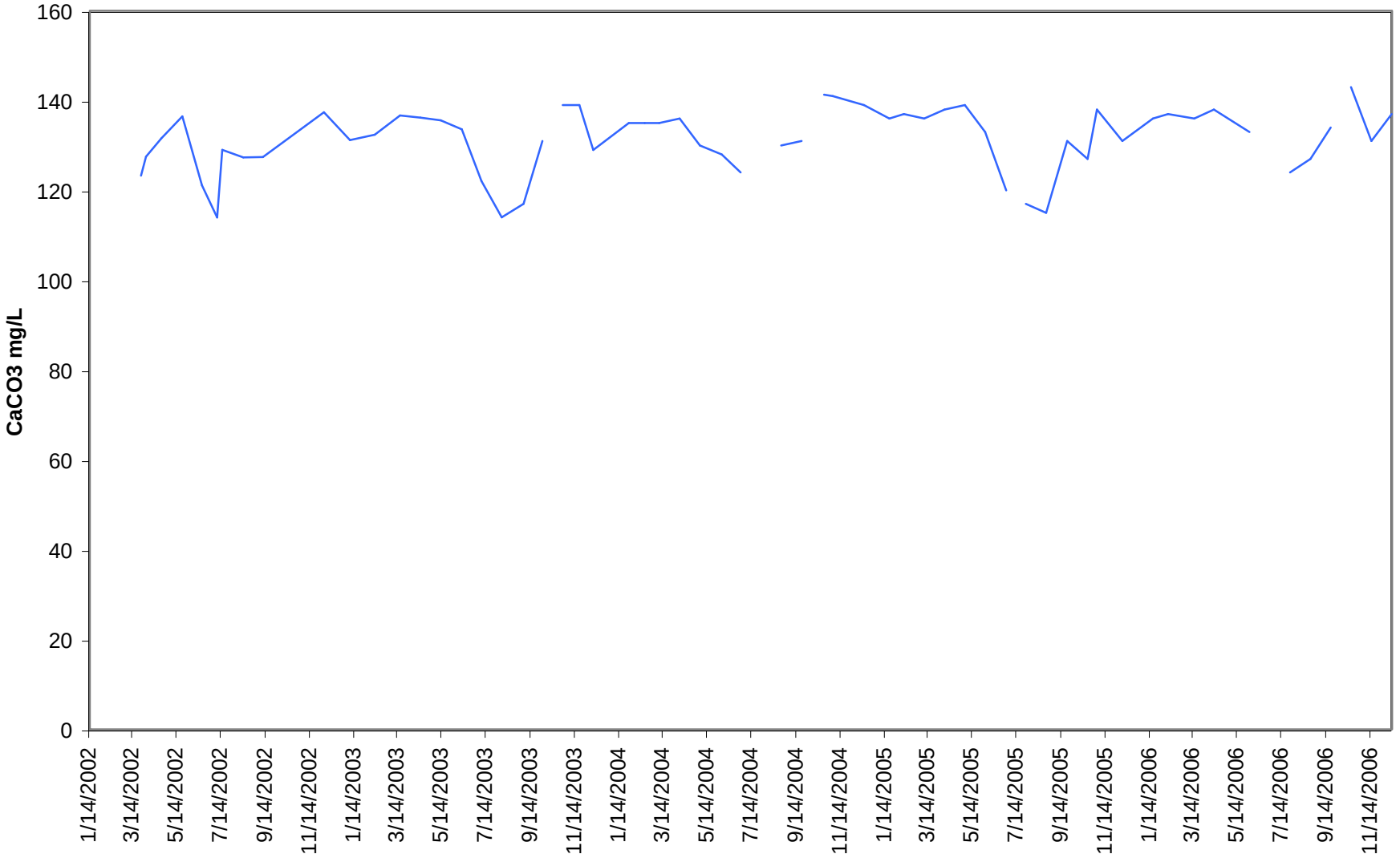


CR350.0SE0.55 Metalimnion Sulfate

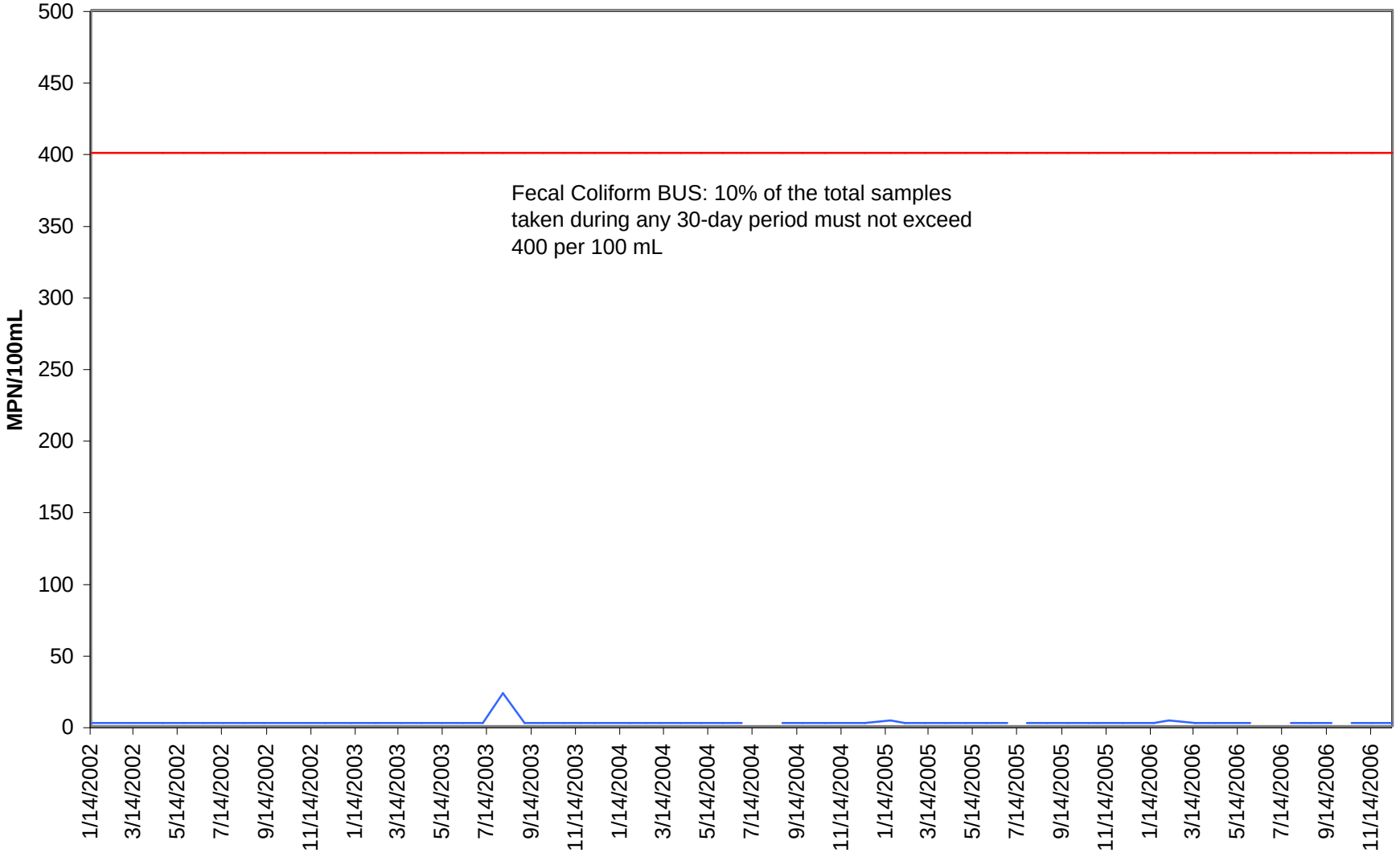


CR350.0SE0.55 Metalimnion Chloride

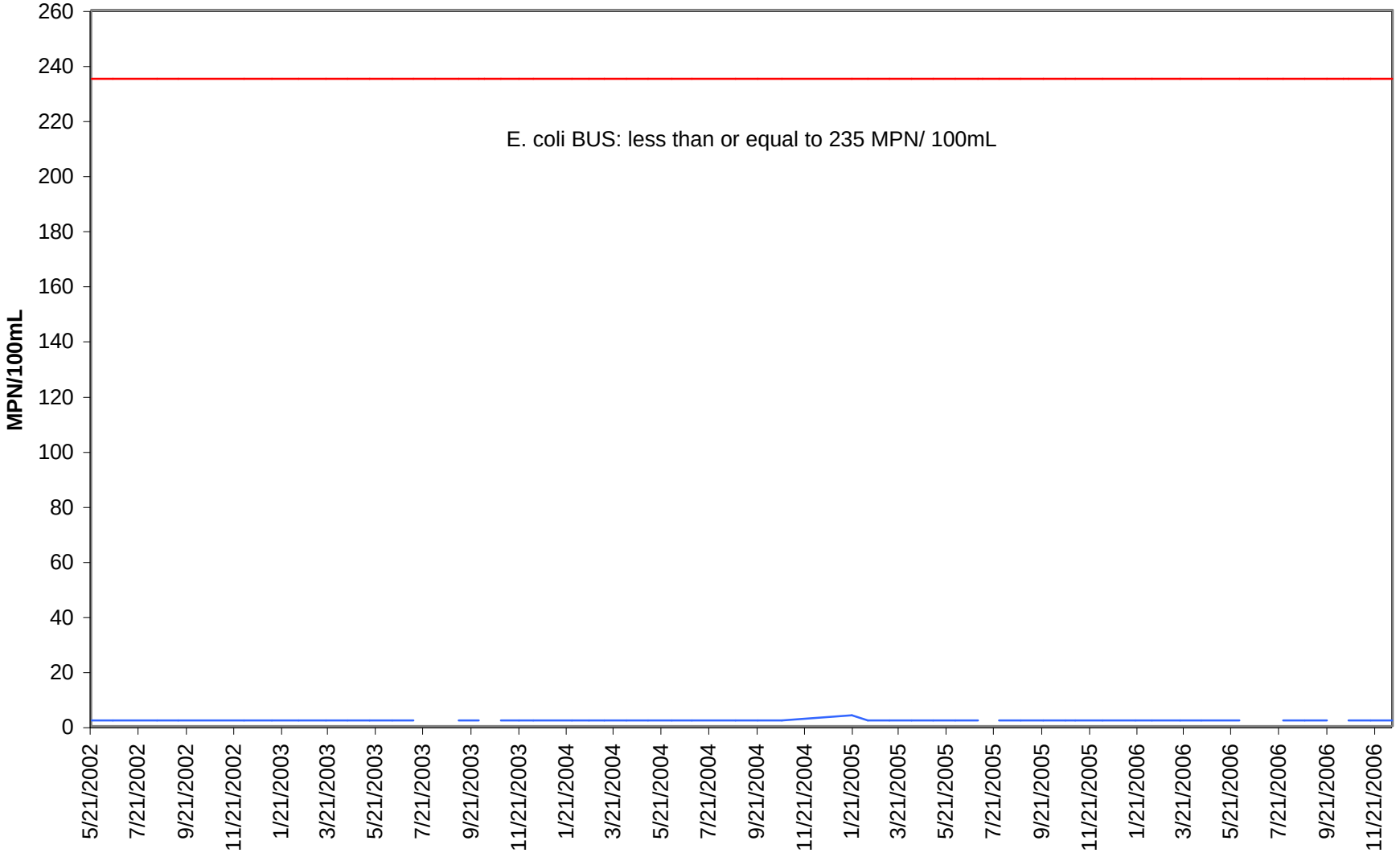



CR350.0SE0.55 Metalimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

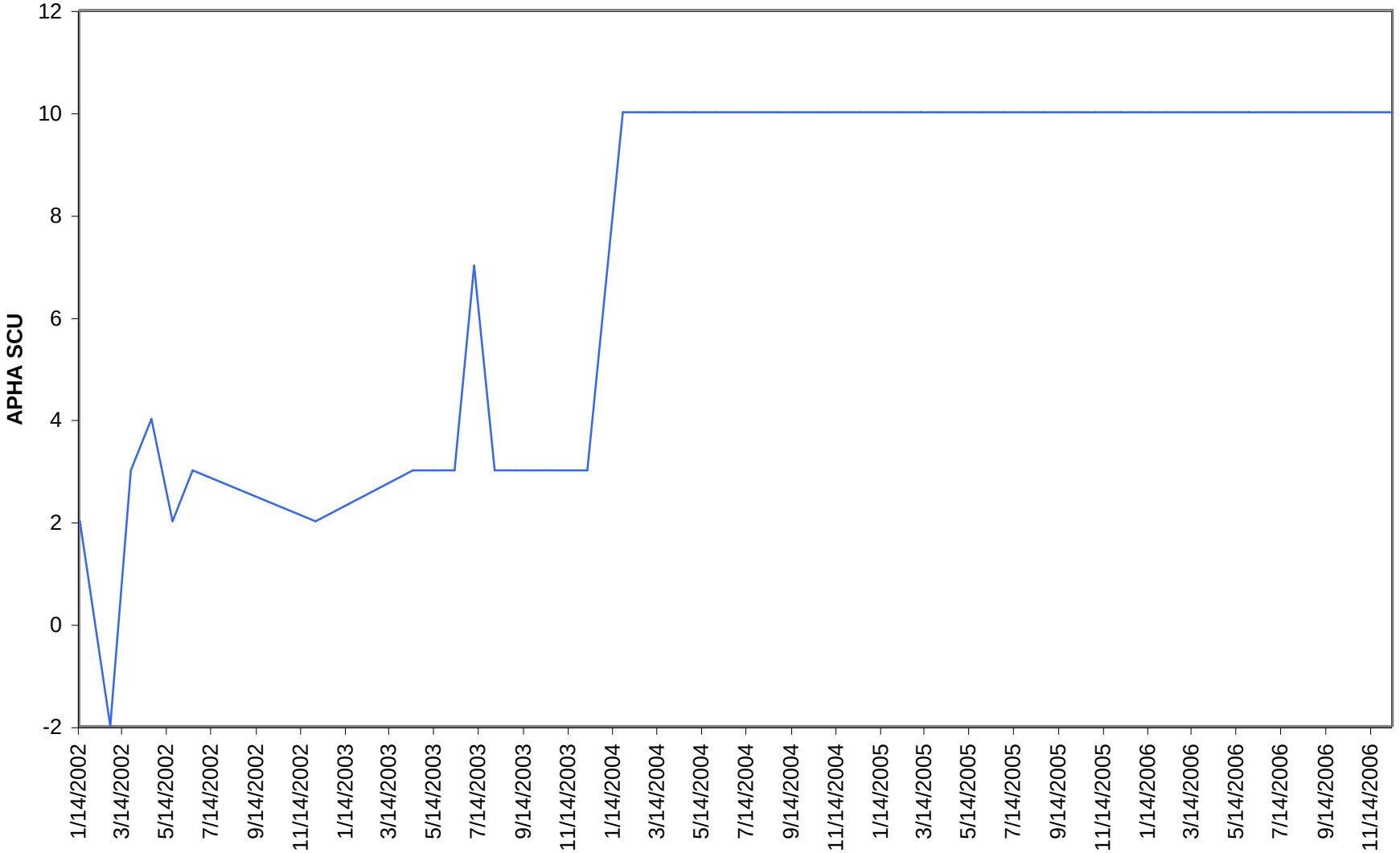
CR350.0SE0.55 Metalimnion Fecal Coliform



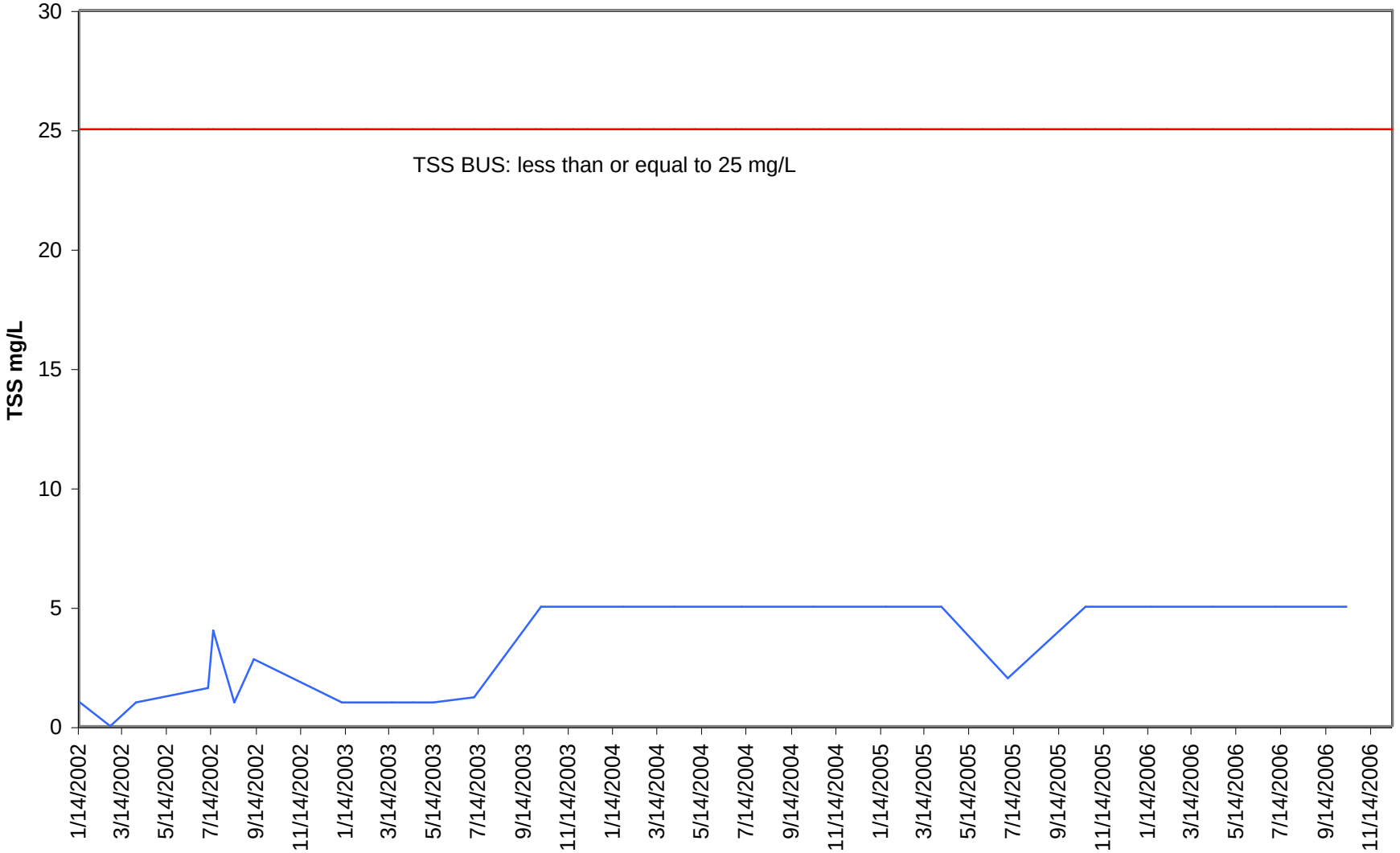
CR350.0SE0.55 Metalimnion E. coli.



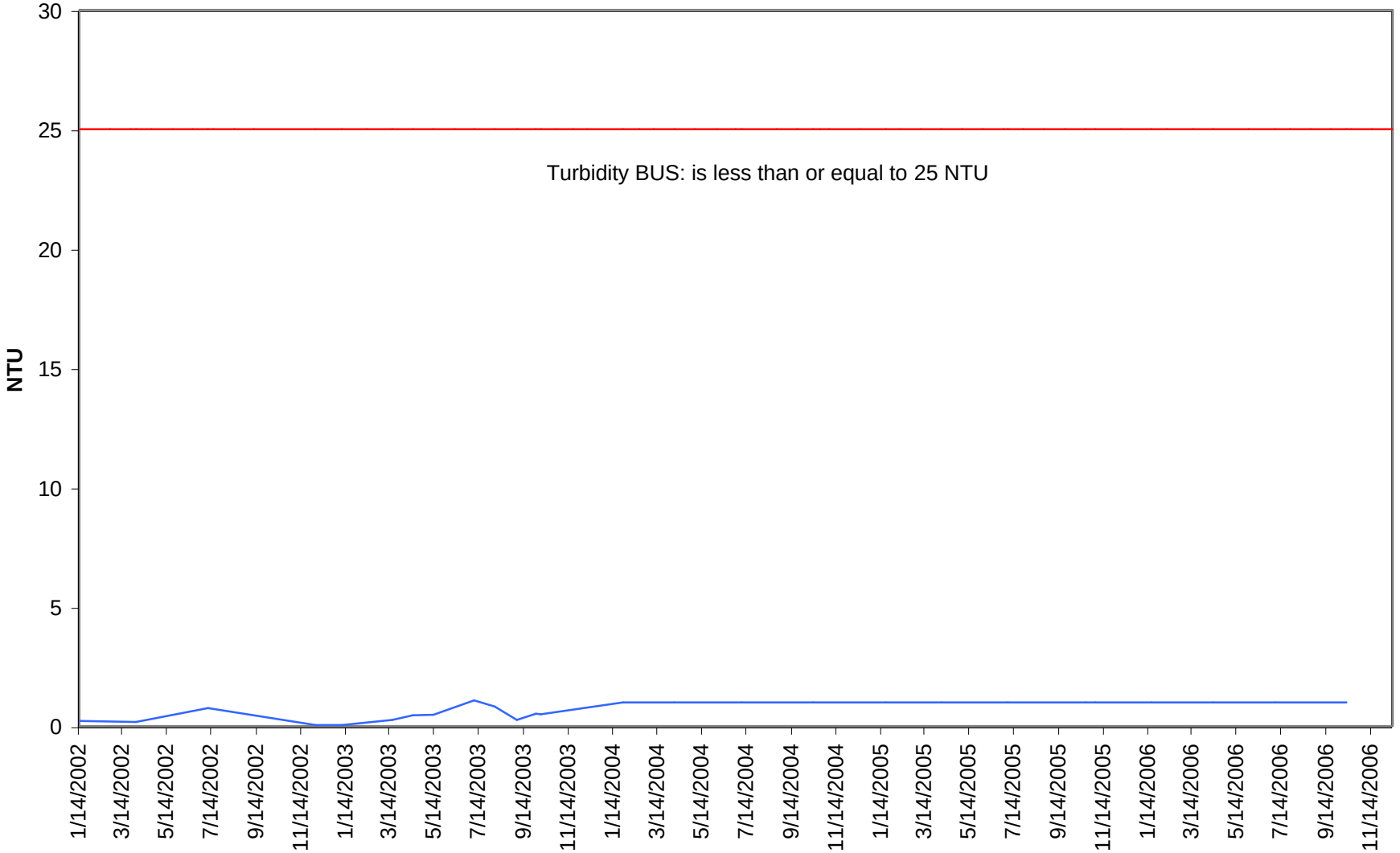
CR350.0SE0.55 Metalimnion Color



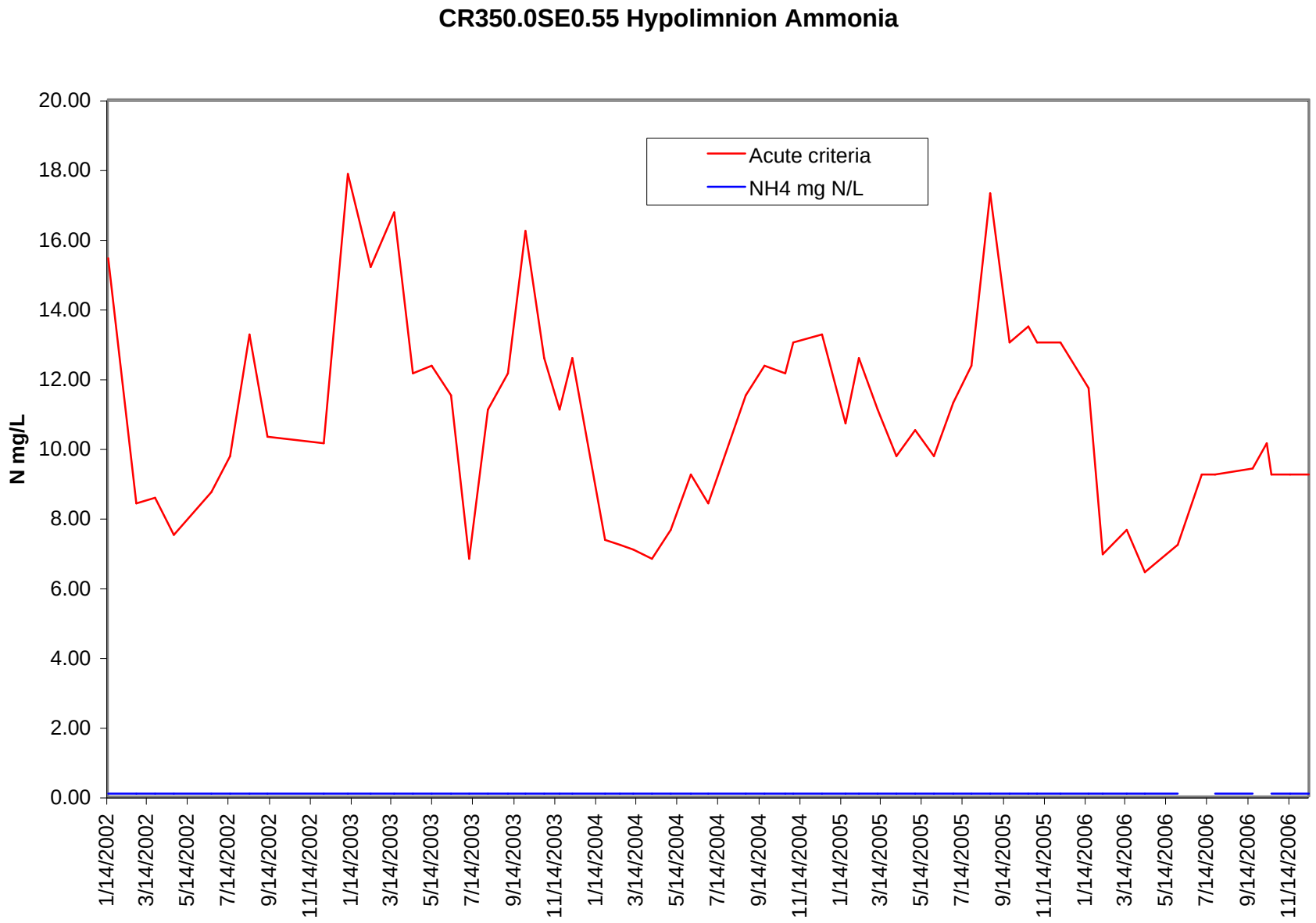
CR350.0SE0.55 Metalimnion Total Suspended Solids



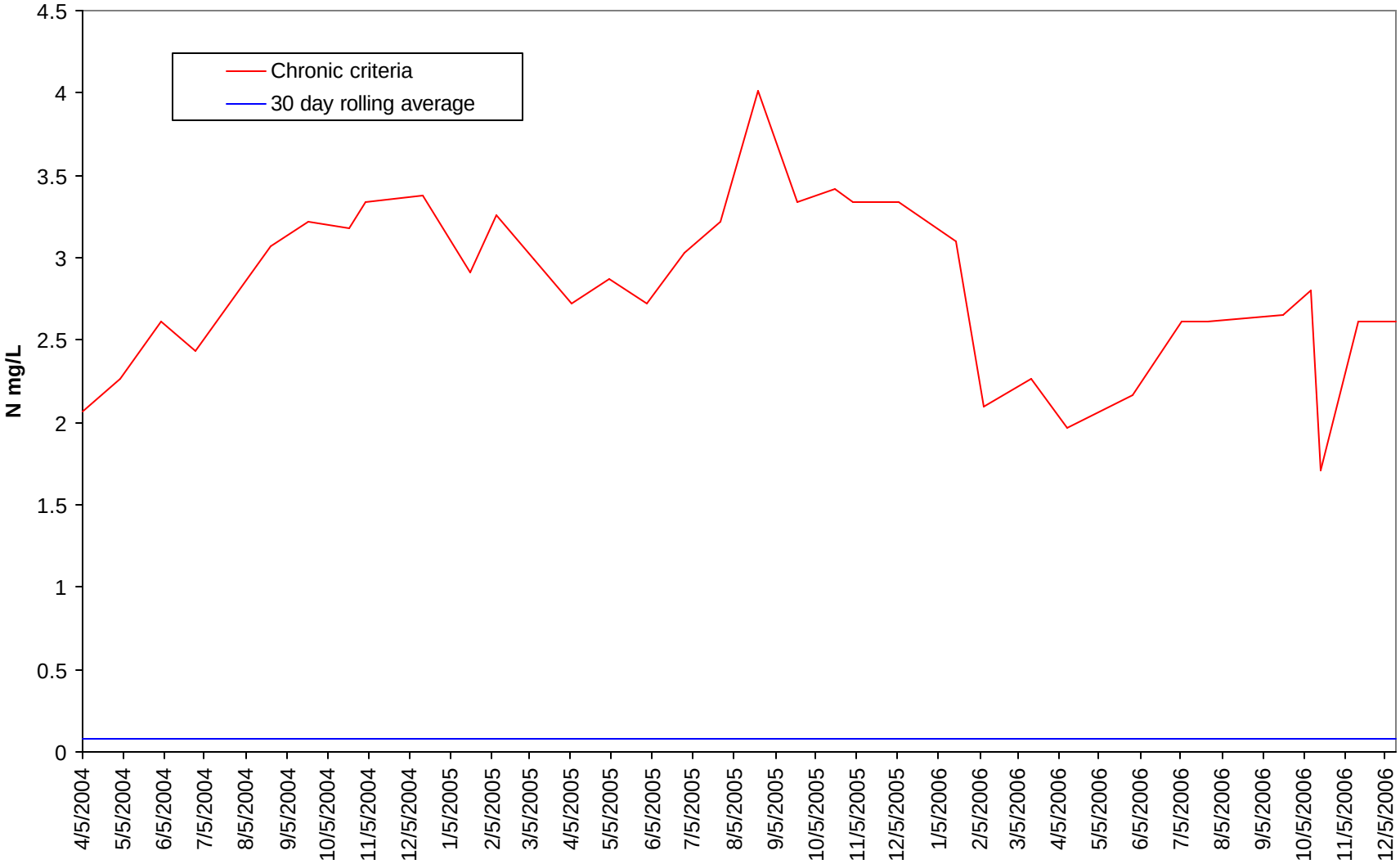
CR350.0SE0.55 Metalimnion Turbidity



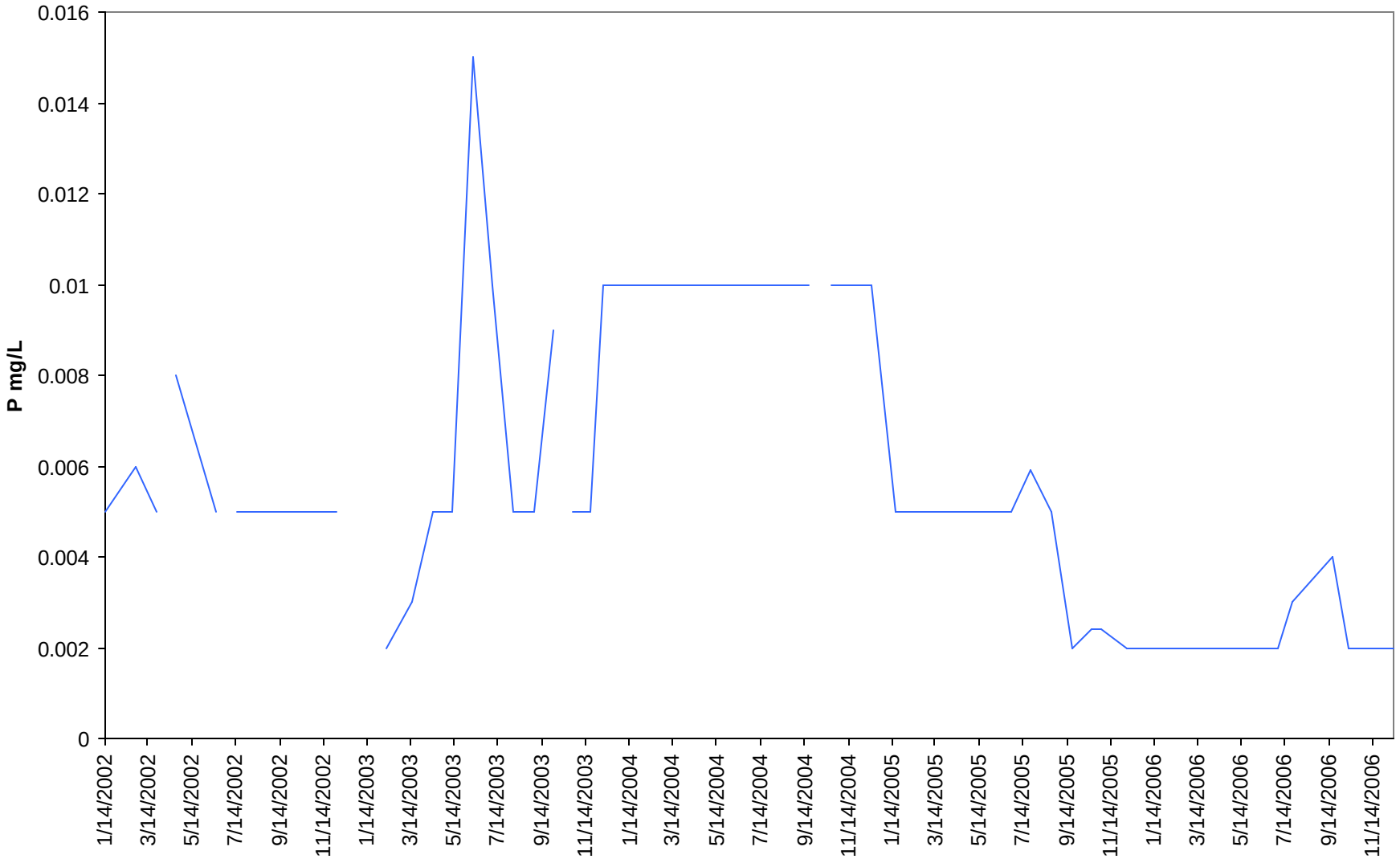
CR350.0SE0.55
Hypolimnion


CR350.0SE0.55 Hypolimnion Ammonia
Acute criteria
NH4 mg N/L
N mg/L
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

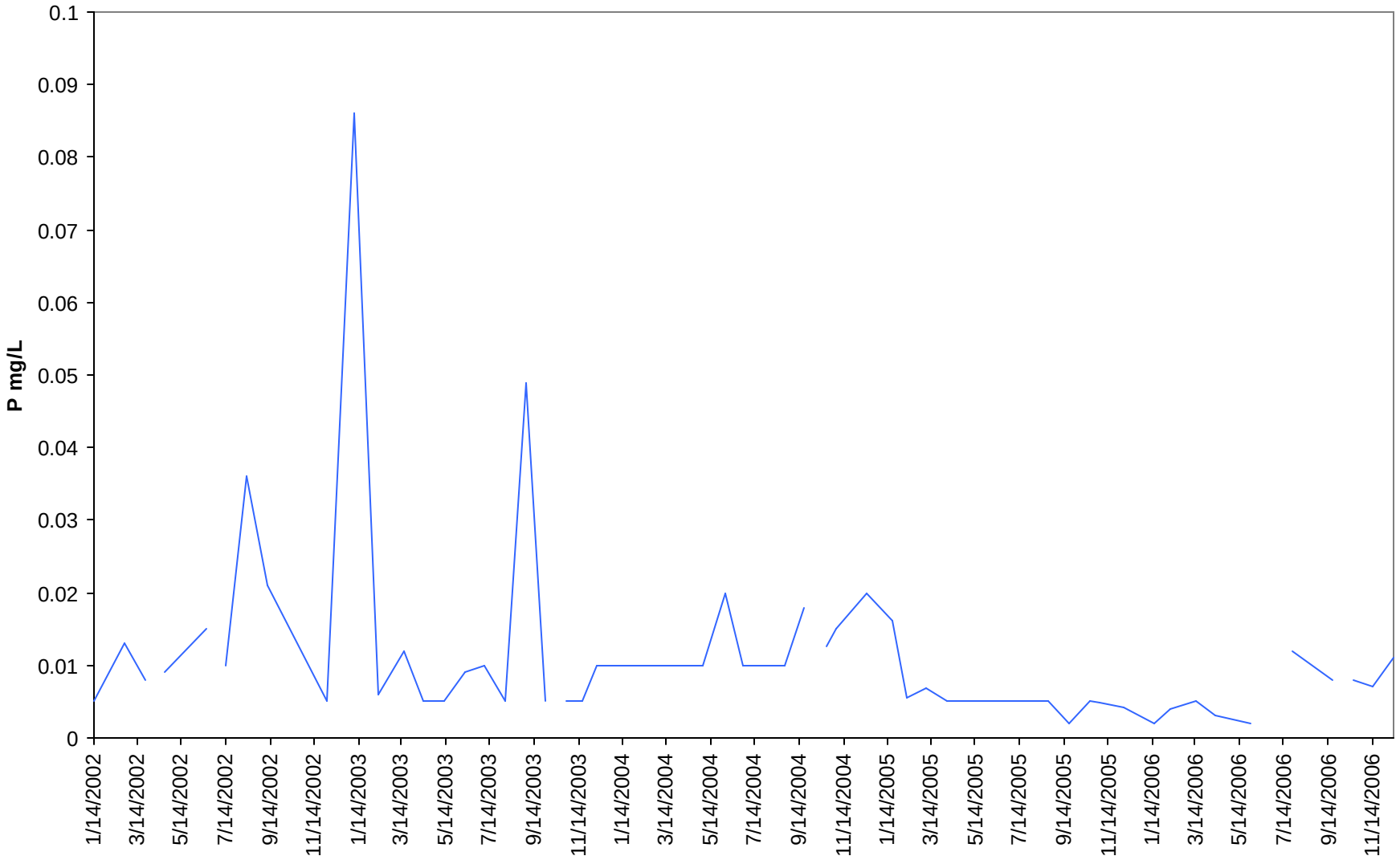
CR350.0SE0.55 Hypolimnion Chronic Ammonia



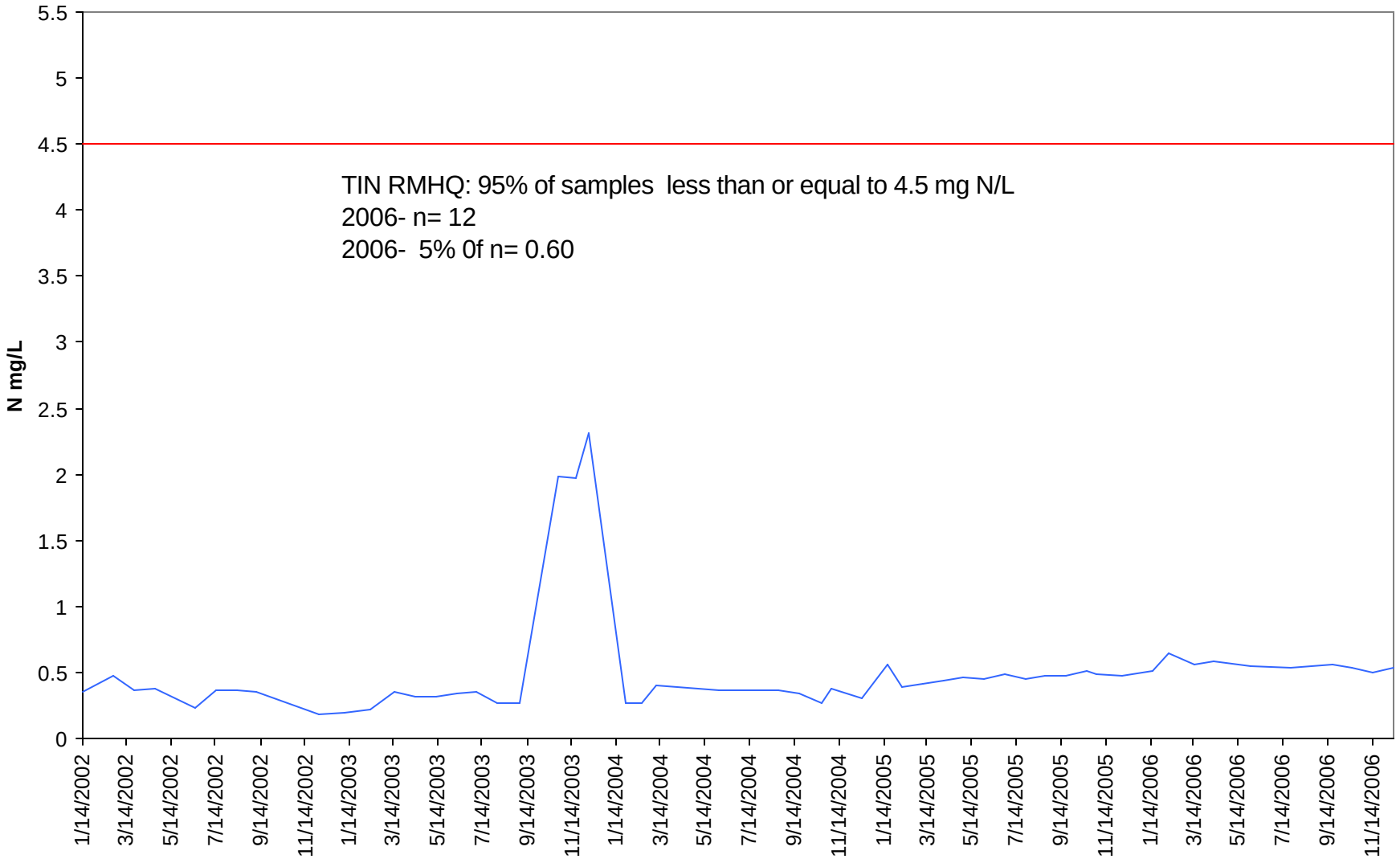
CR350.0SE0.55 Hypolimnion Dissolved ortho-Phosphorus



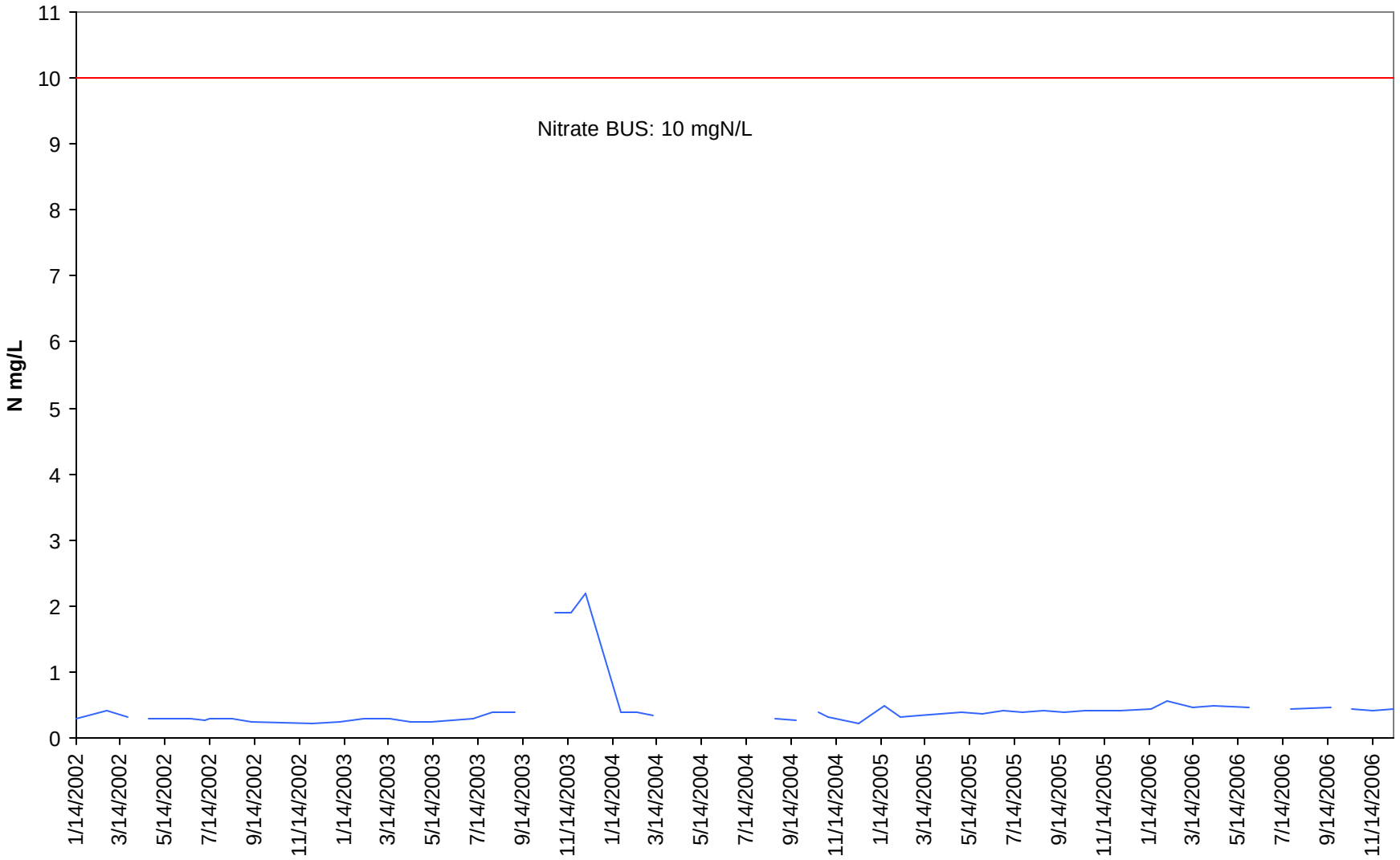
CR350.0SE0.55 Hypolimnion Total Phosphorus



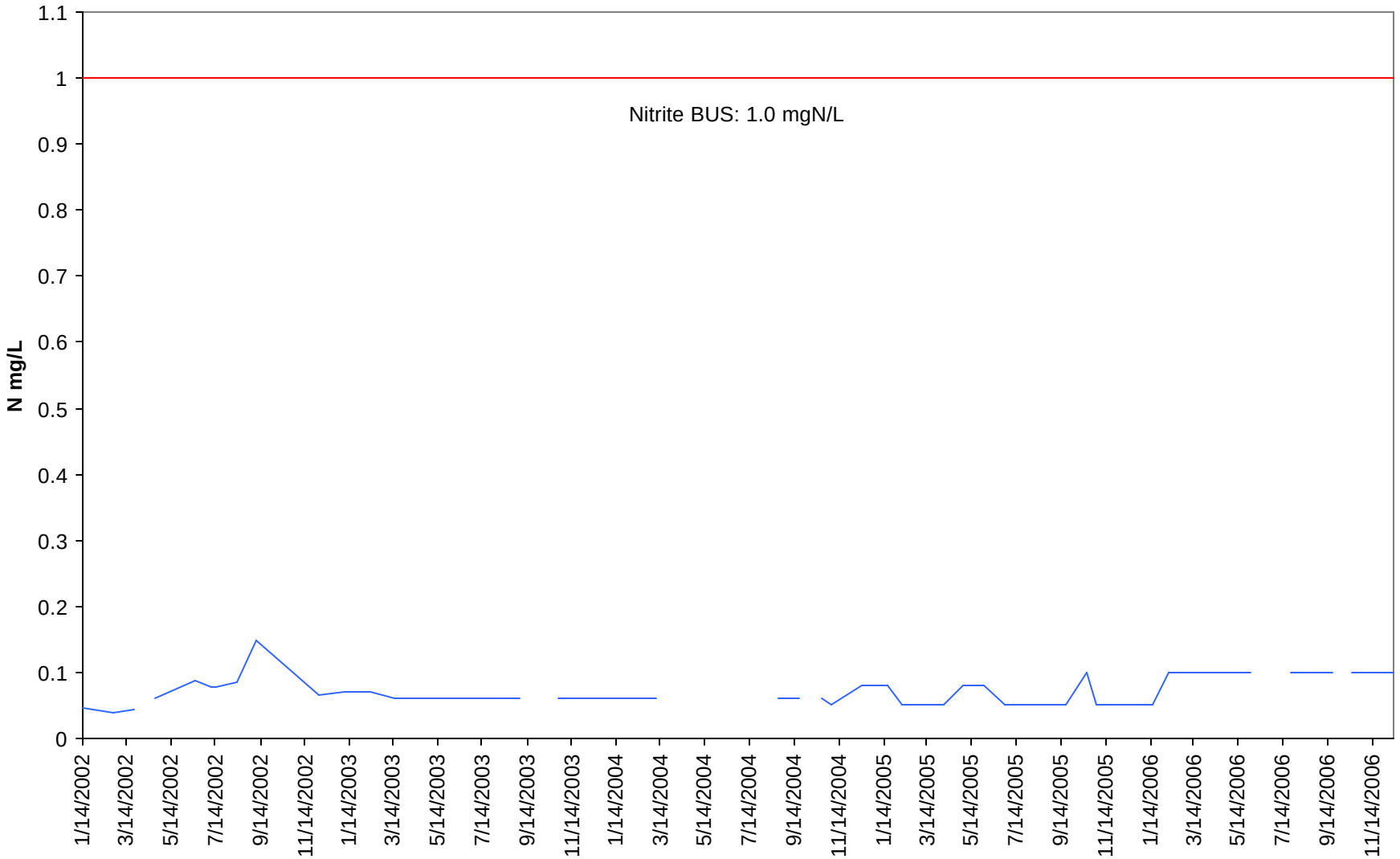
CR350.0SE0.55 Hypolimnion Total Inorganic Nitrogen

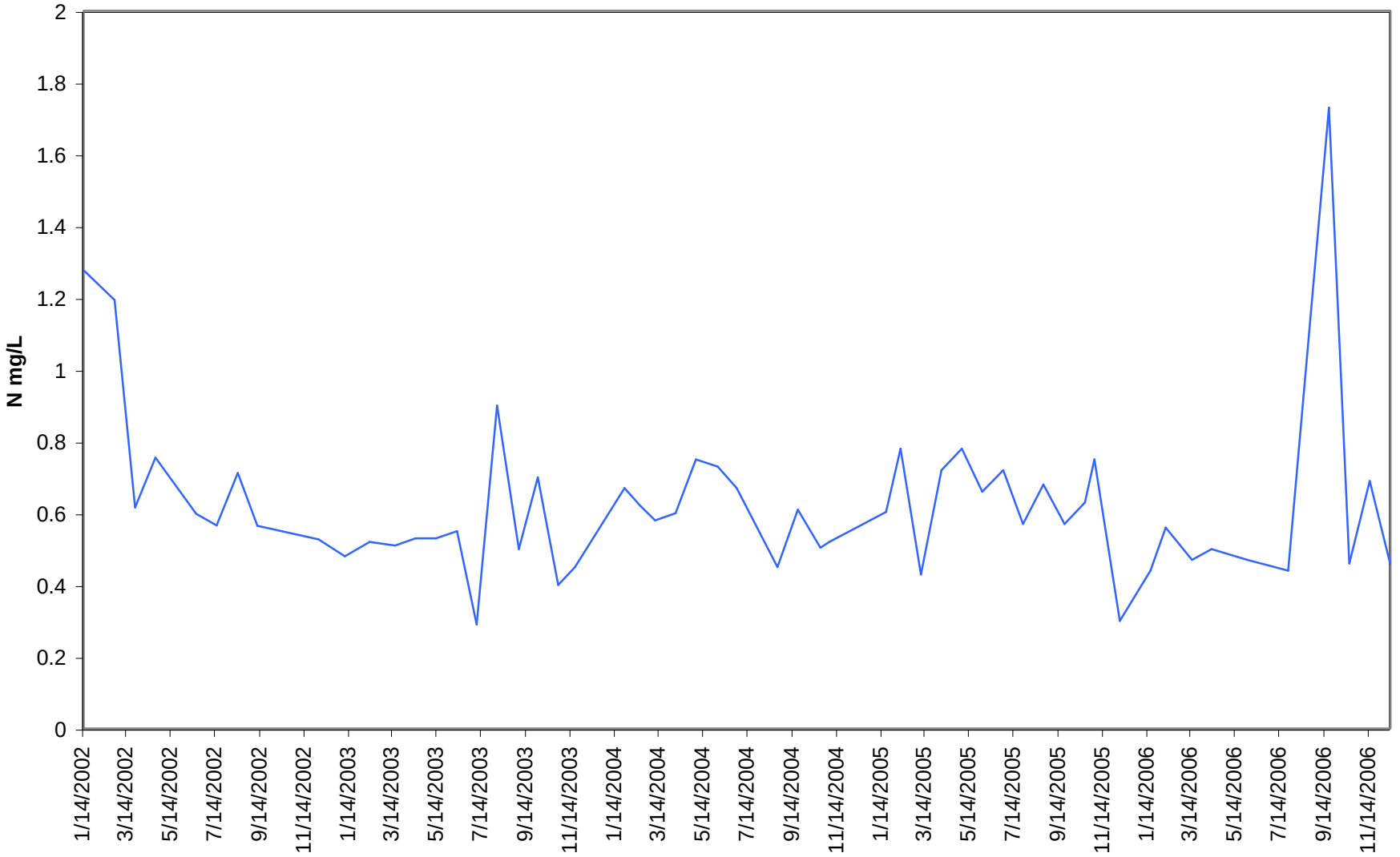


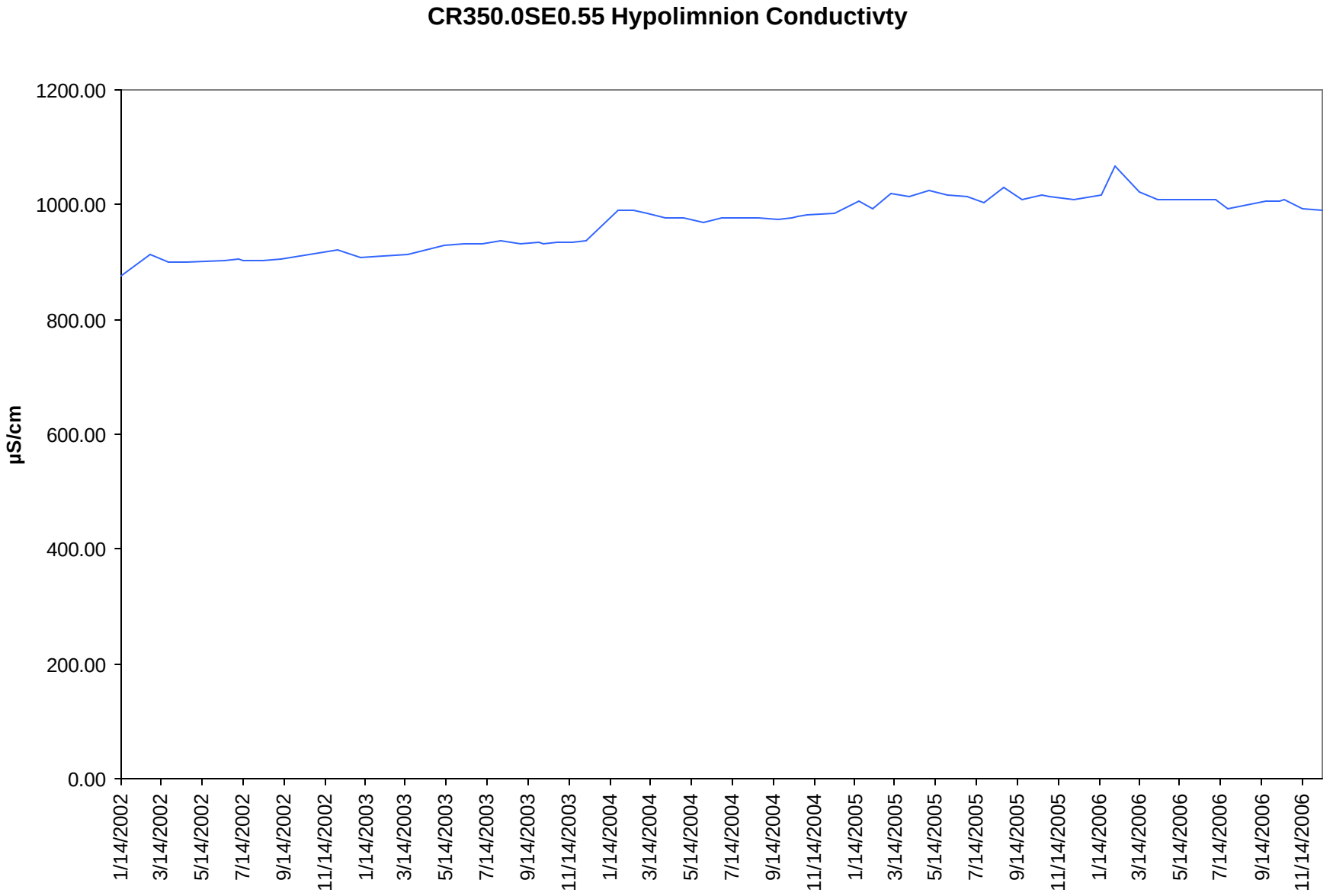
CR350.0SE0.55 Hypolimnion Nitrate

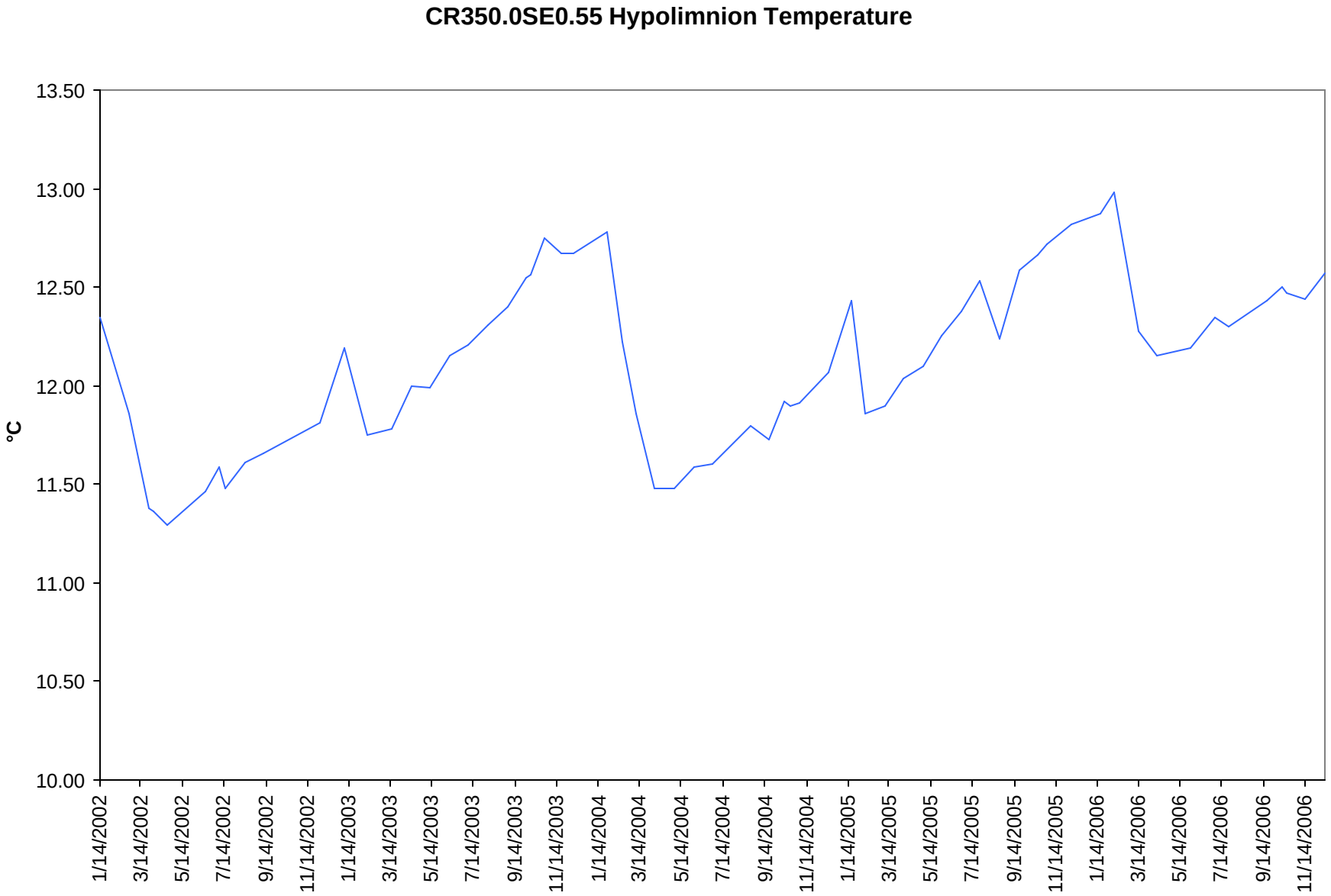


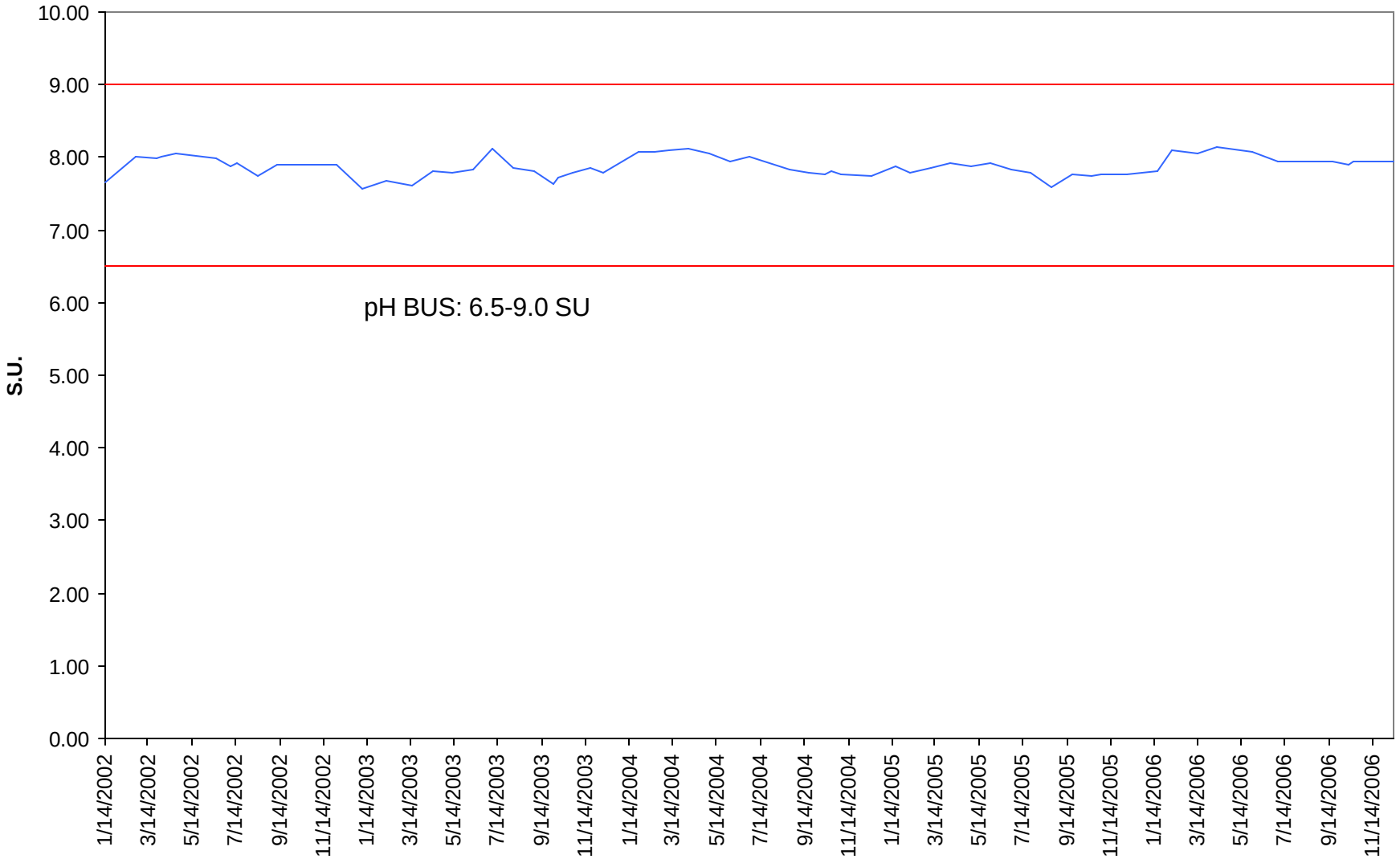
CR350.0SE0.55 Hypolimnion Nitrite



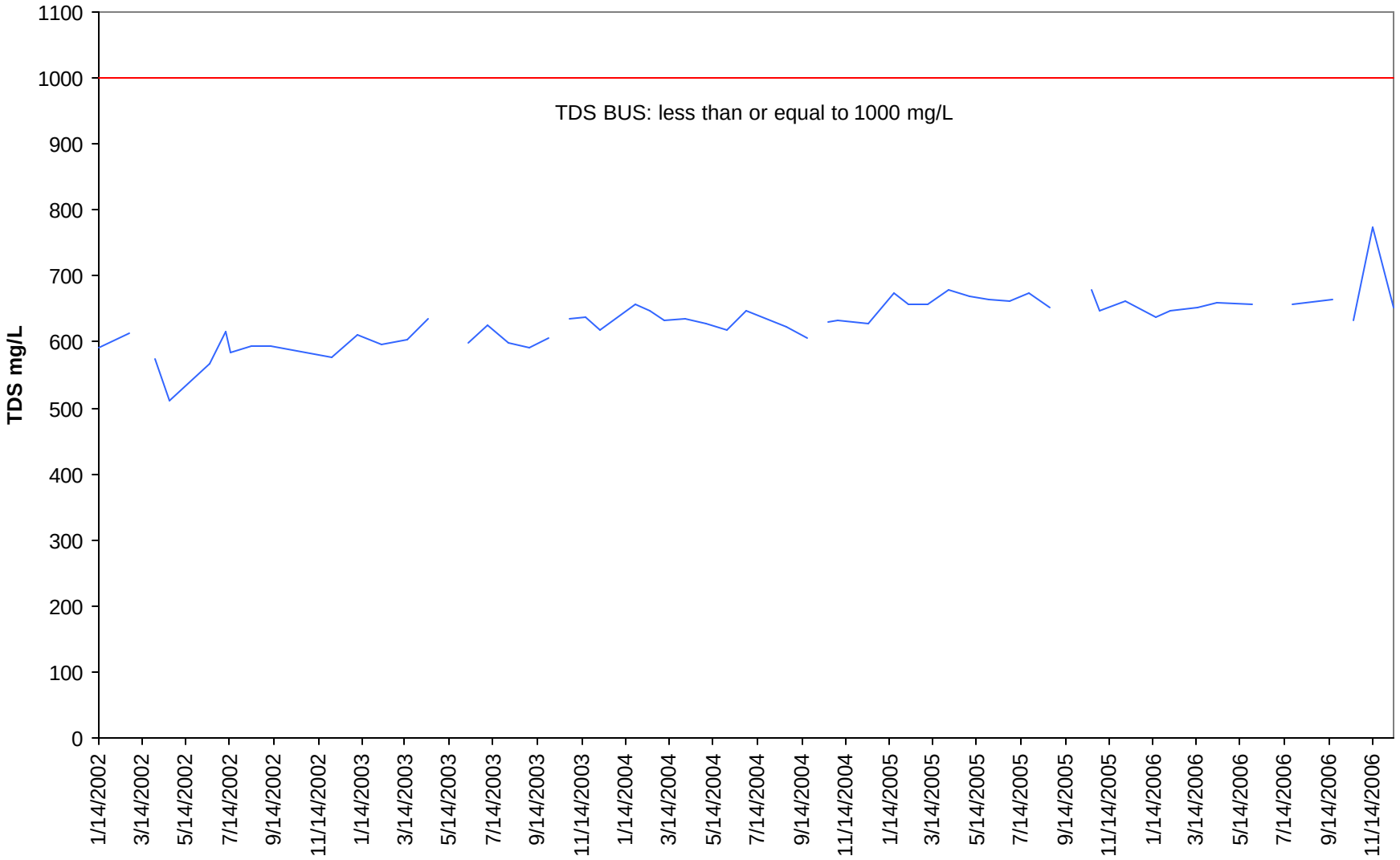

CR350.0SE0.55 Hypolimnion Total Nitrogen
N mg/L
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

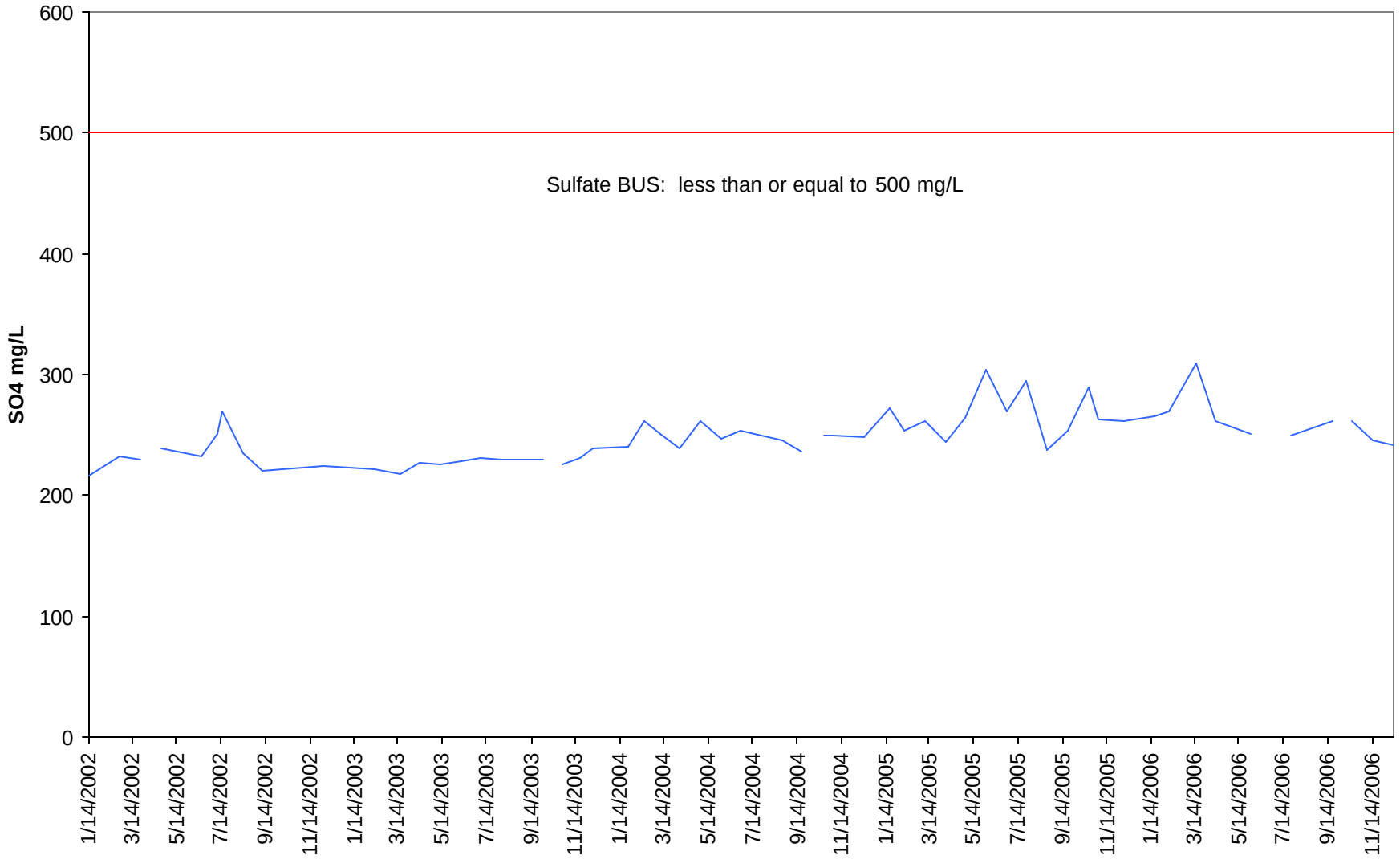

CR350.0SE0.55 Hypolimnion Conductivty
µS/cm
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006


CR350.0SE0.55 Hypolimnion Temperature
°C
13.50
13.00
12.50
12.00
11.50
11.00
10.50
10.00
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

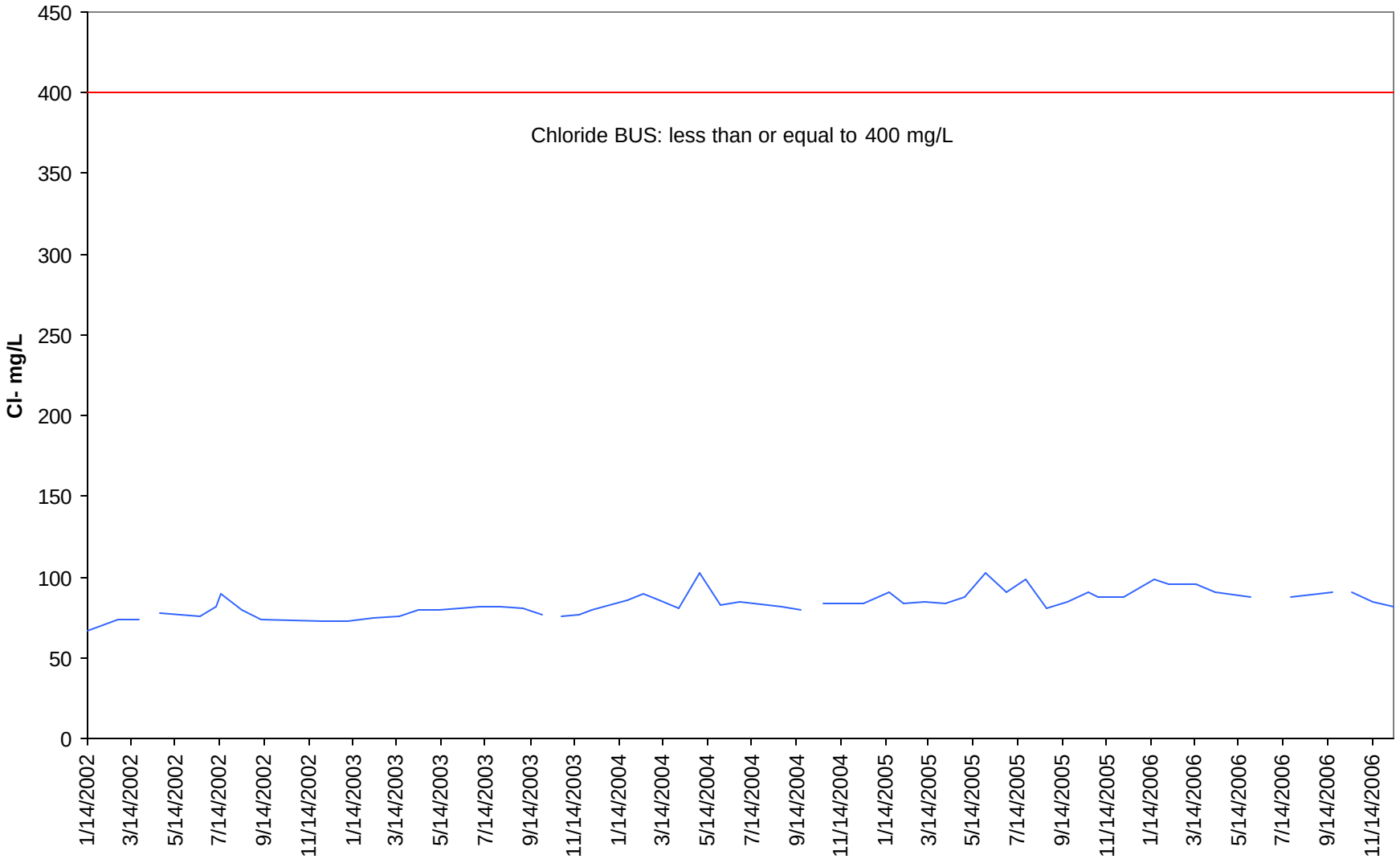

CR350.0SE0.55 Hypolimnion pH
S.U.
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
pH BUS: 6.5-9.0 SU
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

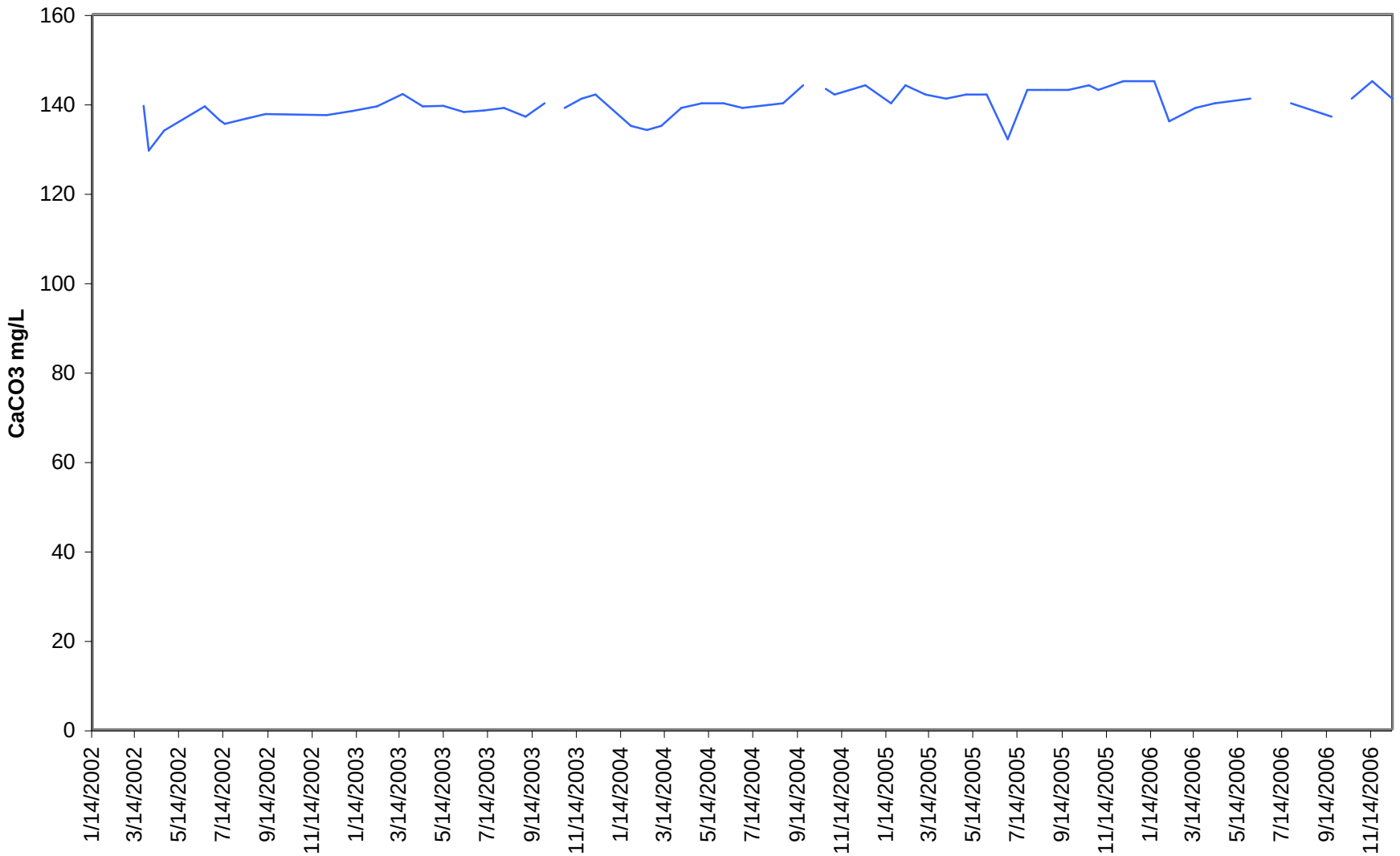
CR350.0SE0.55 Hypolimnion Total Dissolved Solids



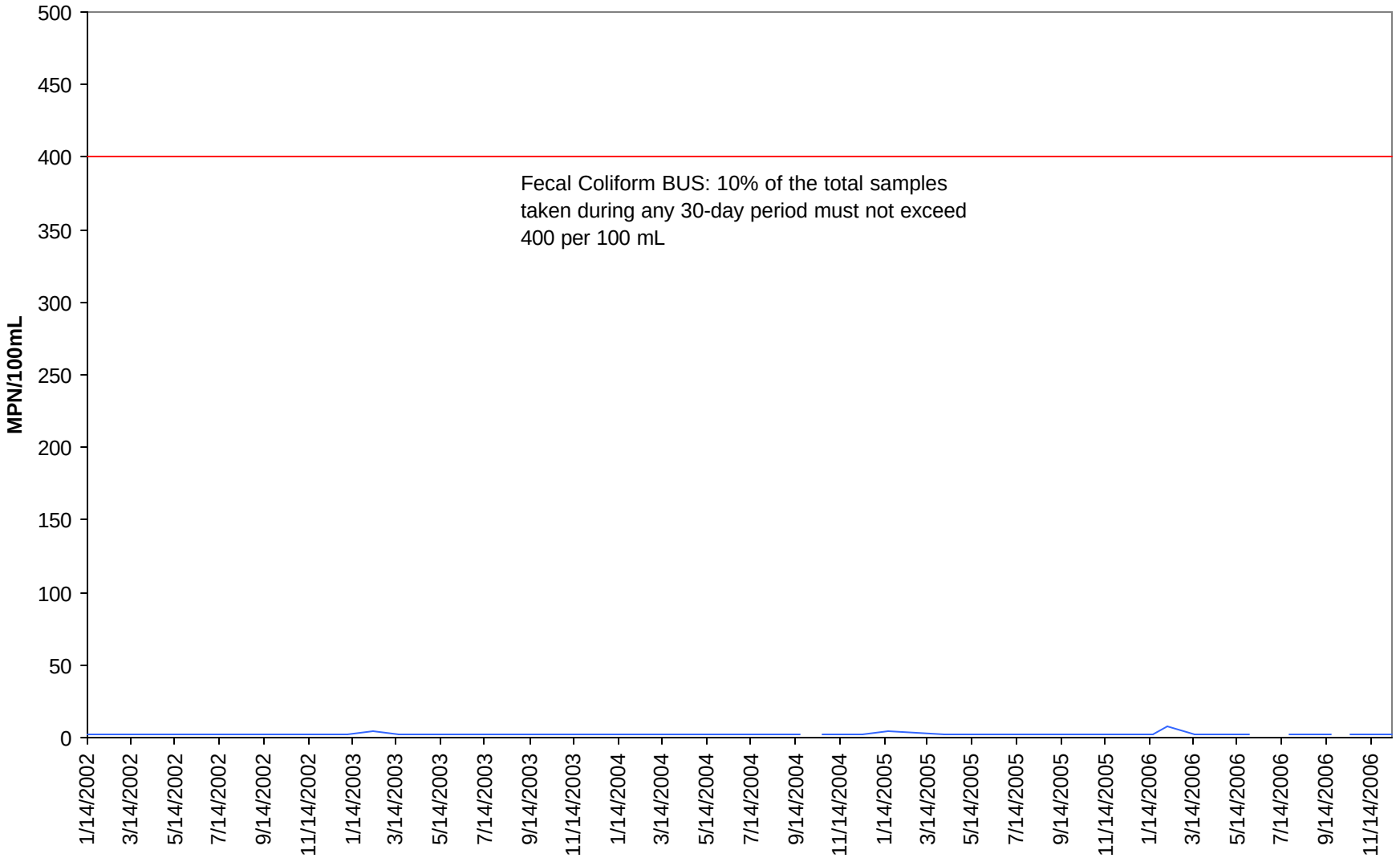

CR350.0SE0.55 Hypolimnion Sulfate
Sulfate BUS: less than or equal to 500 mg/L
SO4 mg/L
600
500
400
300
200
100
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

CR350.0SE0.55 Hypolimnion Chloride

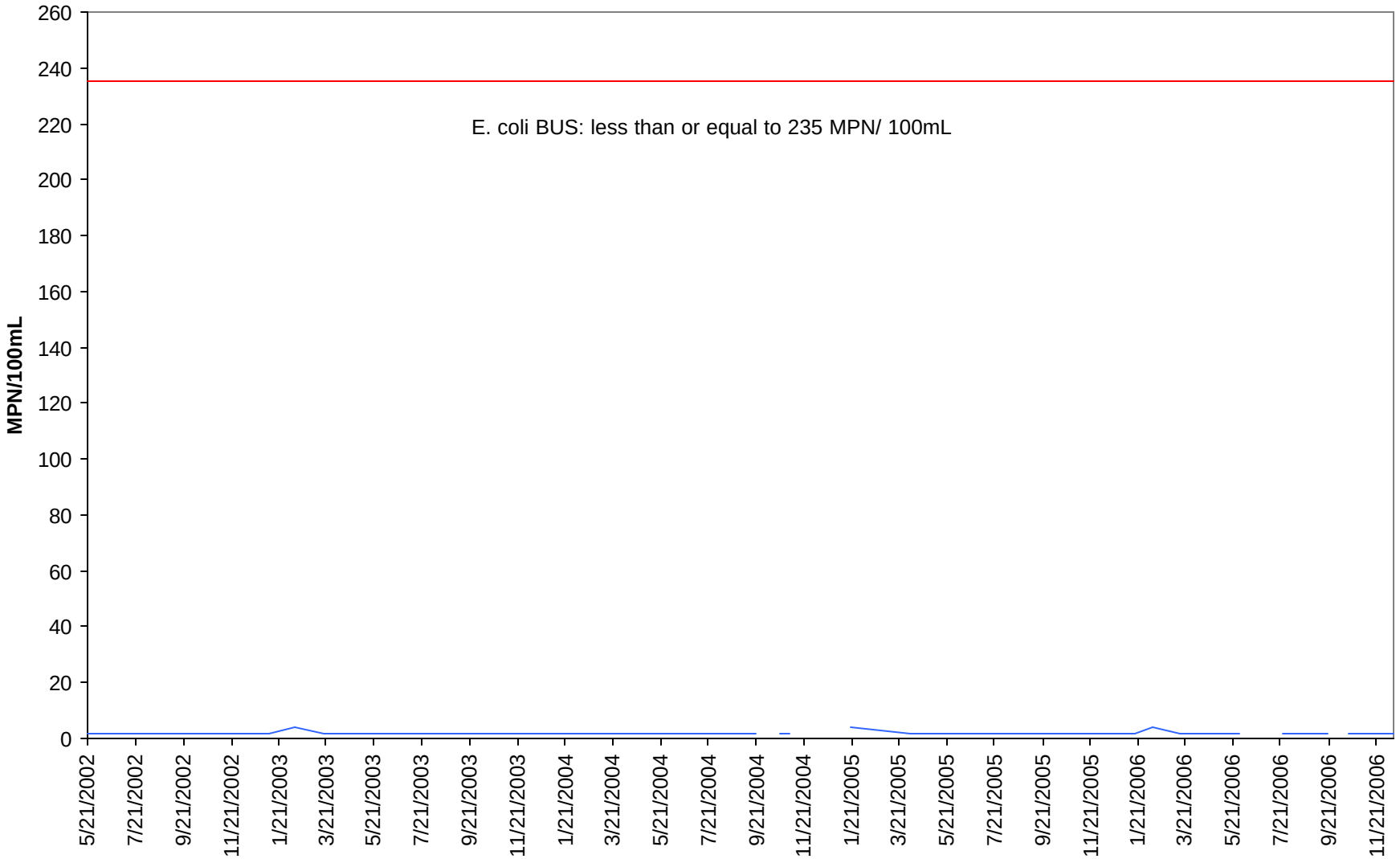



CR350.0SE0.55 Hypolimnion Alkalinity
CaCO3 mg/L
160
140
120
100
80
60
40
20
0
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

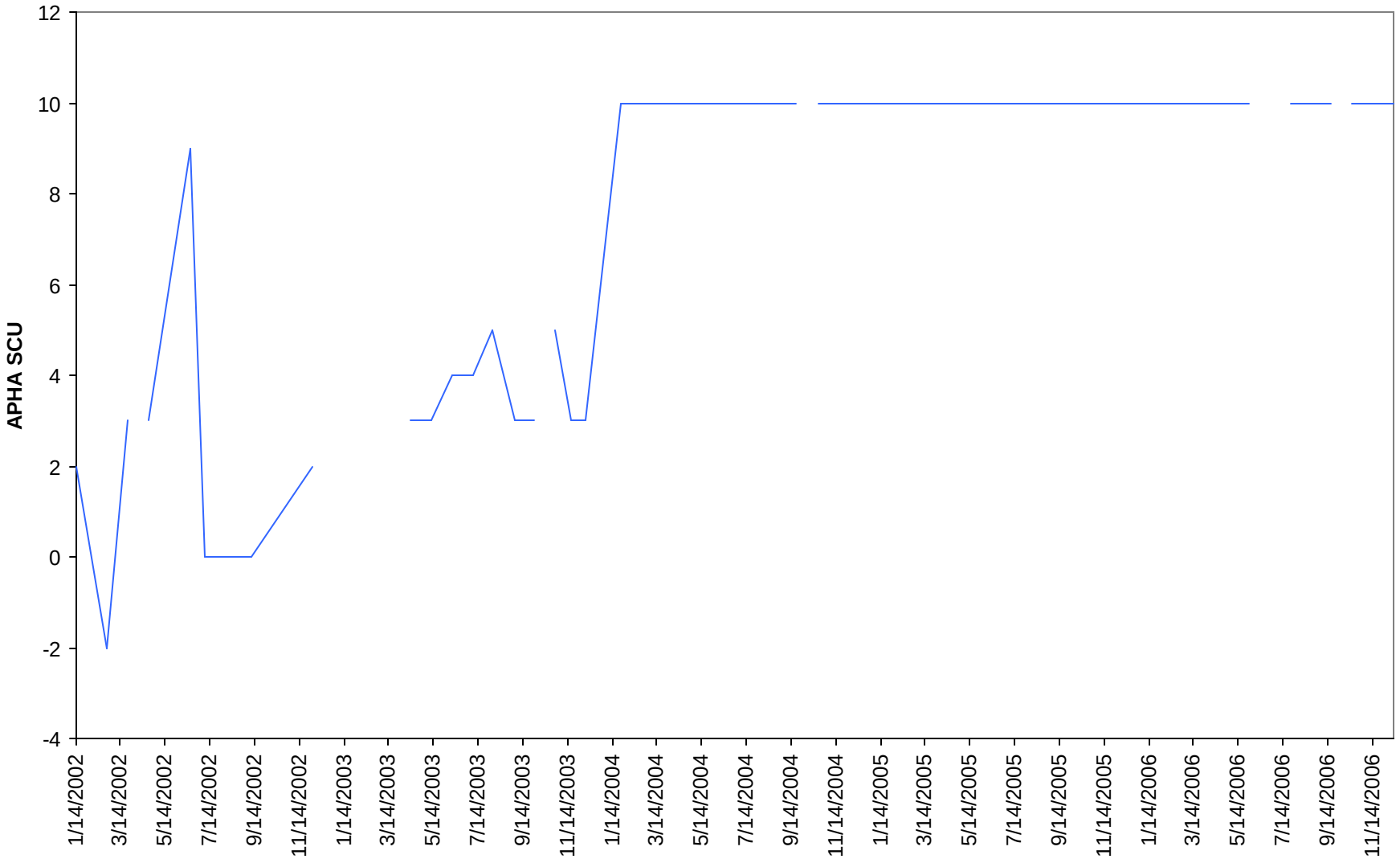
CR350.0SE0.55 Hypolimnion Fecal Coliform



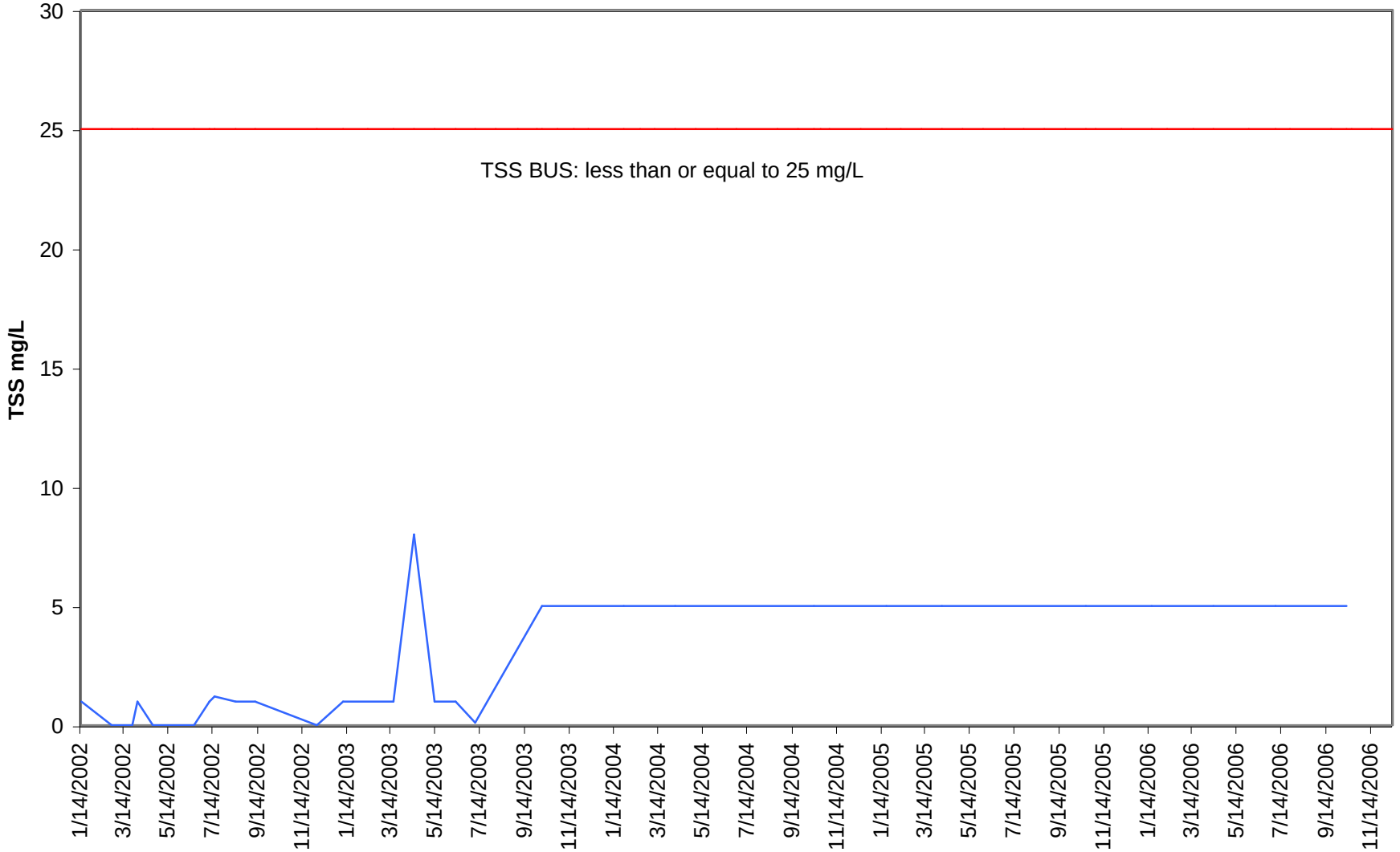
CR350.0SE0.55 Hypolimnion E. coli.

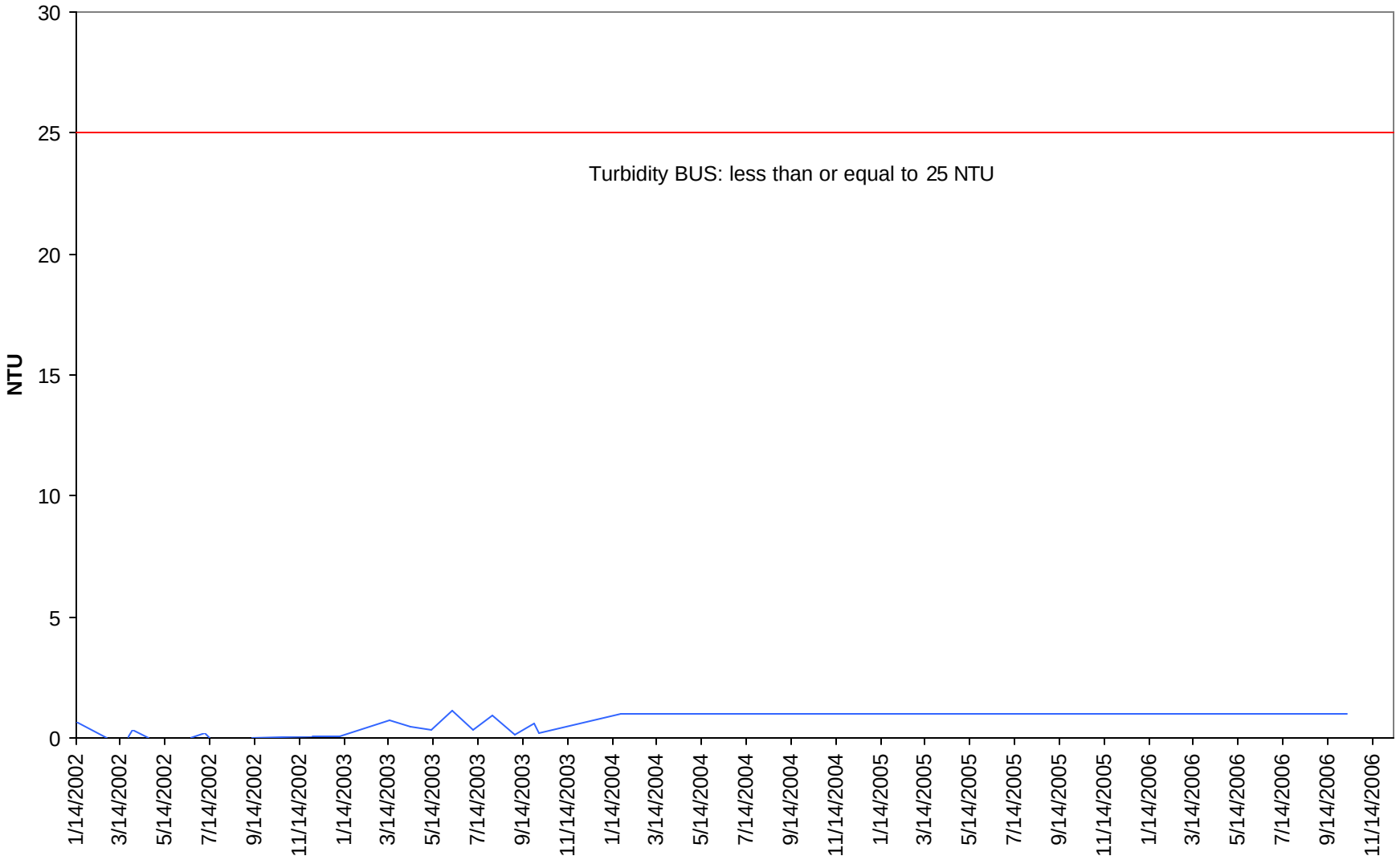


CR350.0SE0.55 Hypolimnion Color



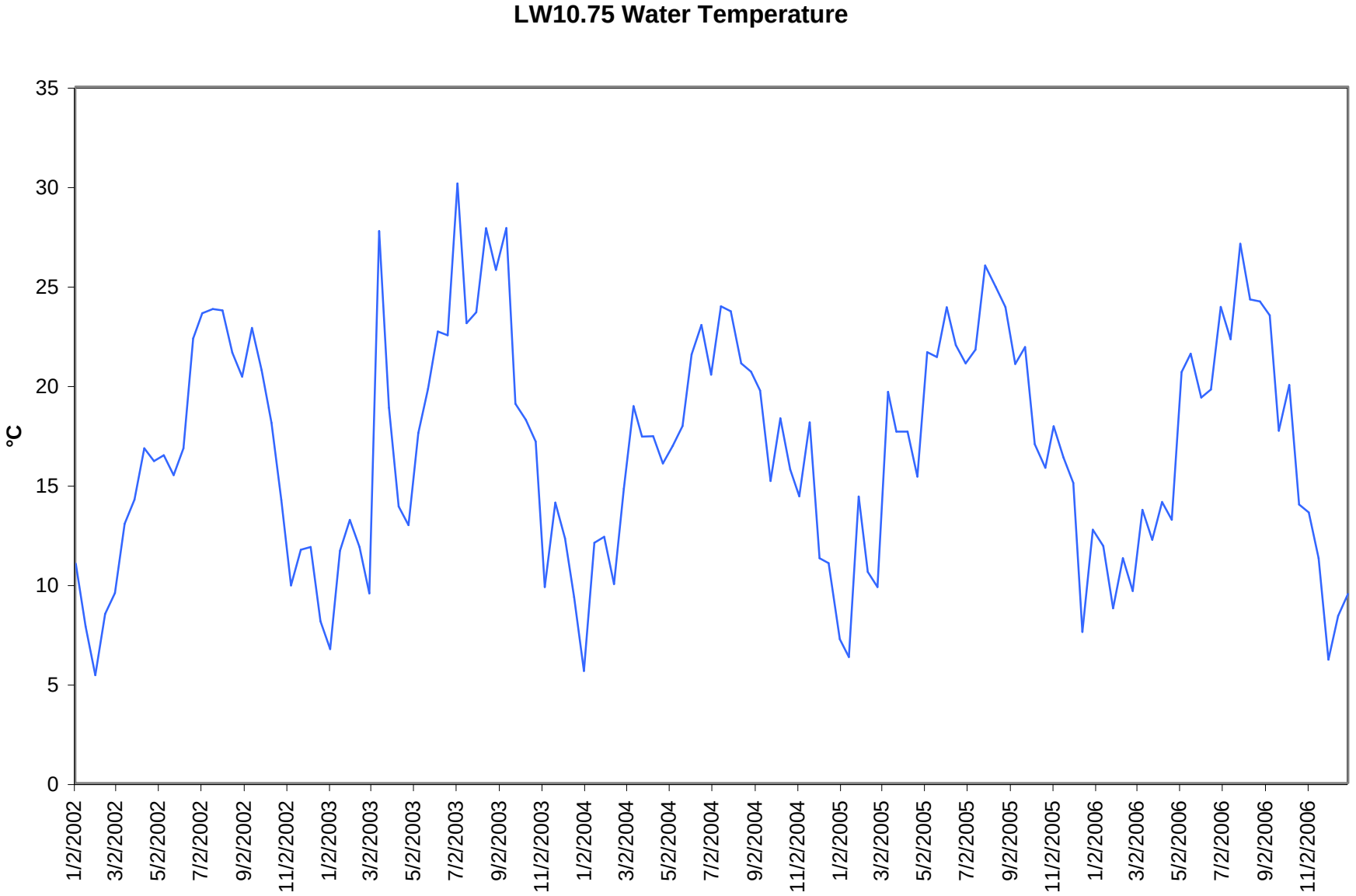
CR350.0SE0.55 Hypolimnion Total Suspended Solids



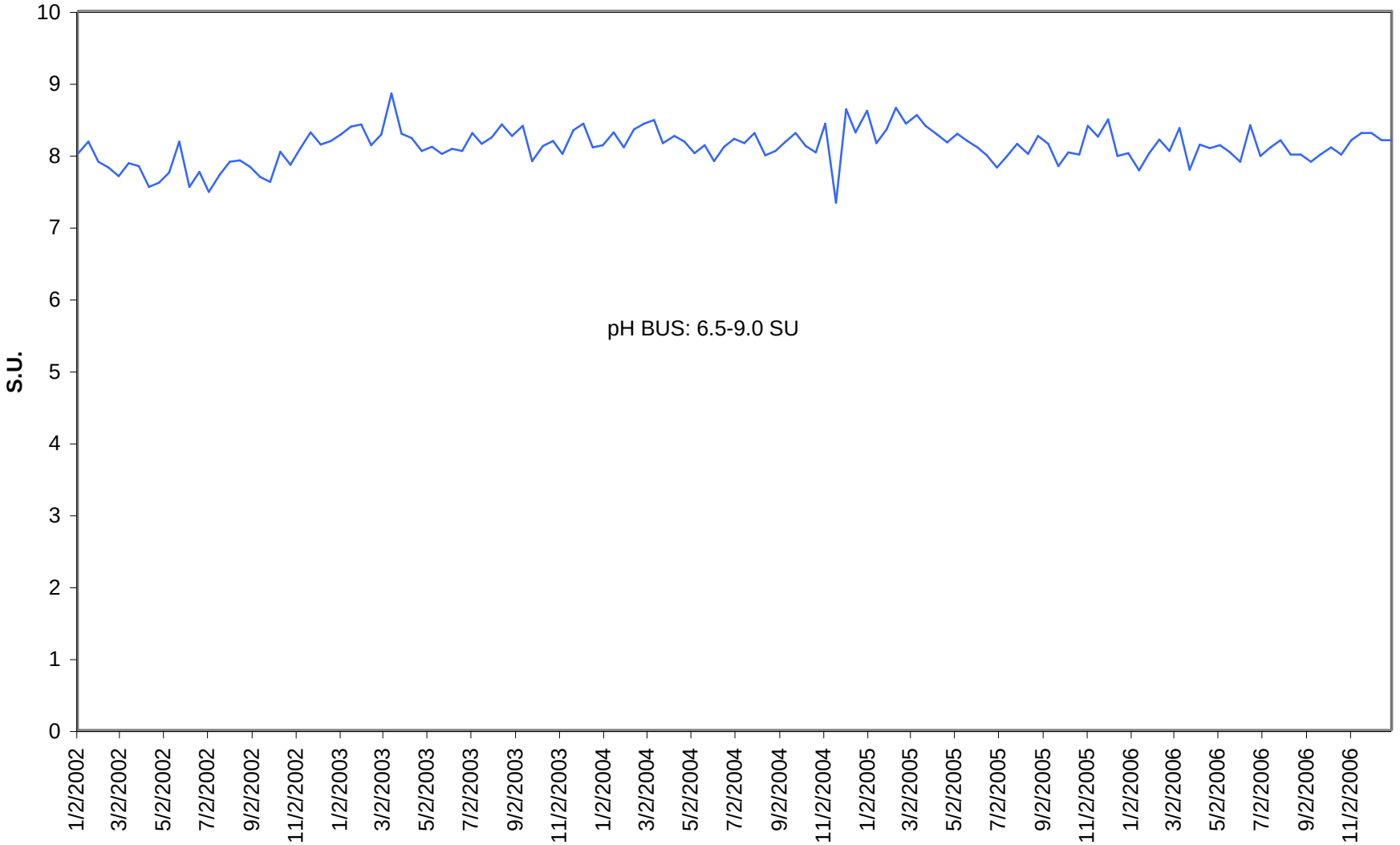

CR350.0SE0.55 Hypolimnion Turbidity
NTU
30
25
20
15
10
5
0
Turbidity BUS: less than or equal to 25 NTU
1/14/2002
3/14/2002
5/14/2002
7/14/2002
9/14/2002
11/14/2002
1/14/2003
3/14/2003
5/14/2003
7/14/2003
9/14/2003
11/14/2003
1/14/2004
3/14/2004
5/14/2004
7/14/2004
9/14/2004
11/14/2004
1/14/2005
3/14/2005
5/14/2005
7/14/2005
9/14/2005
11/14/2005
1/14/2006
3/14/2006
5/14/2006
7/14/2006
9/14/2006
11/14/2006

Las Vegas Wash

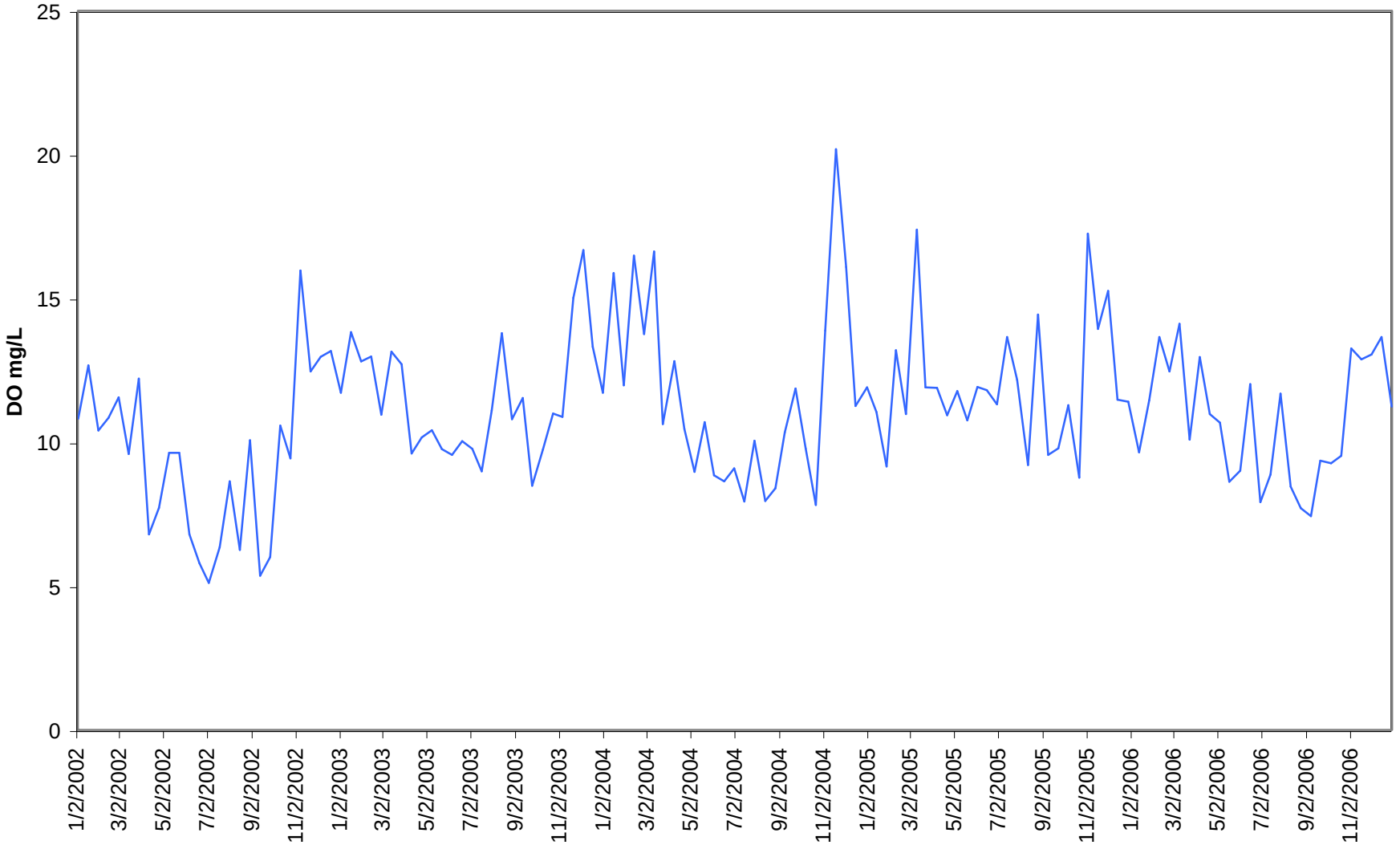
LW10.75

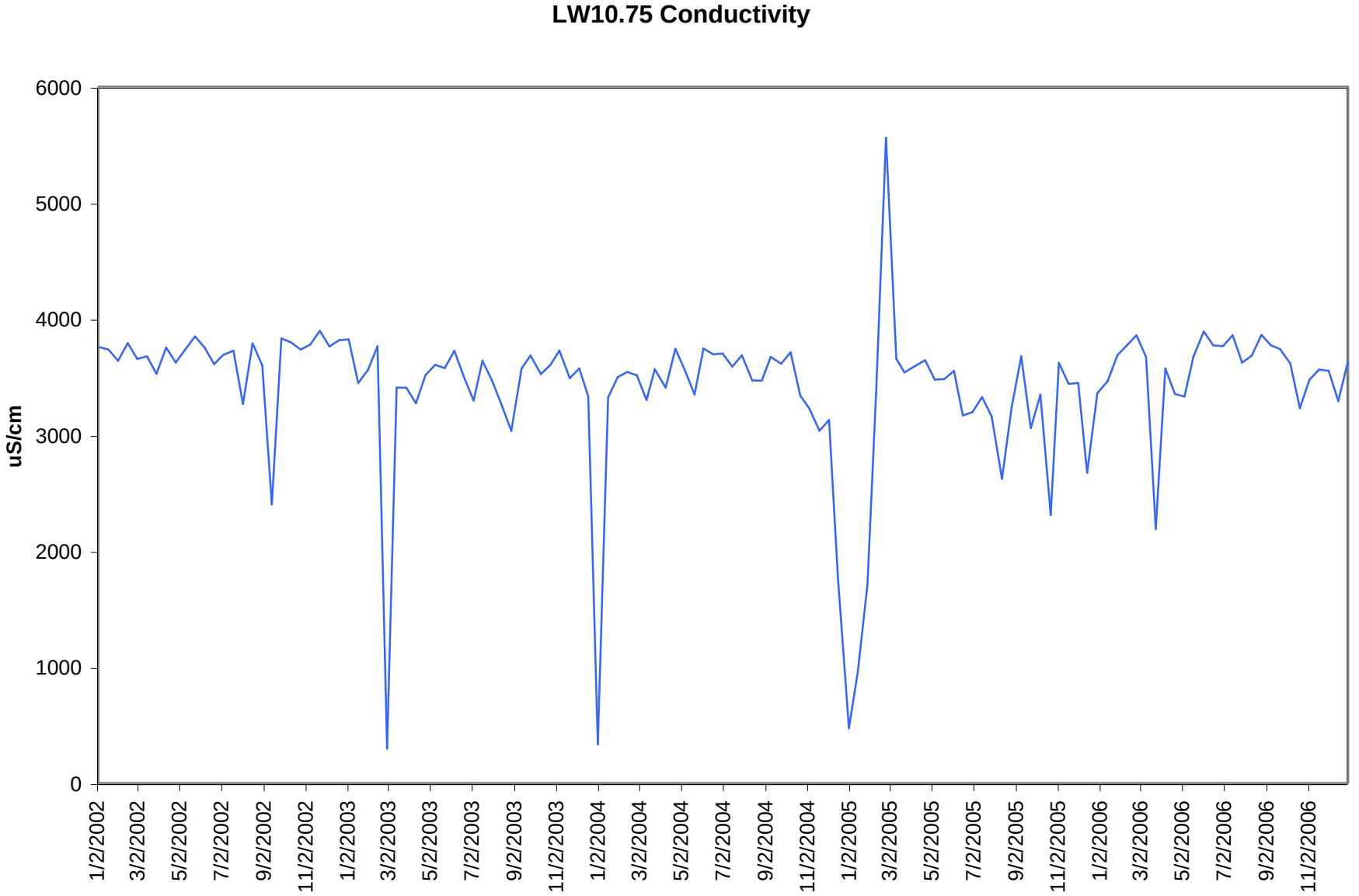

LW10.75 Water Temperature
°C
35
30
25
20
15
10
5
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

LW10.75 pH

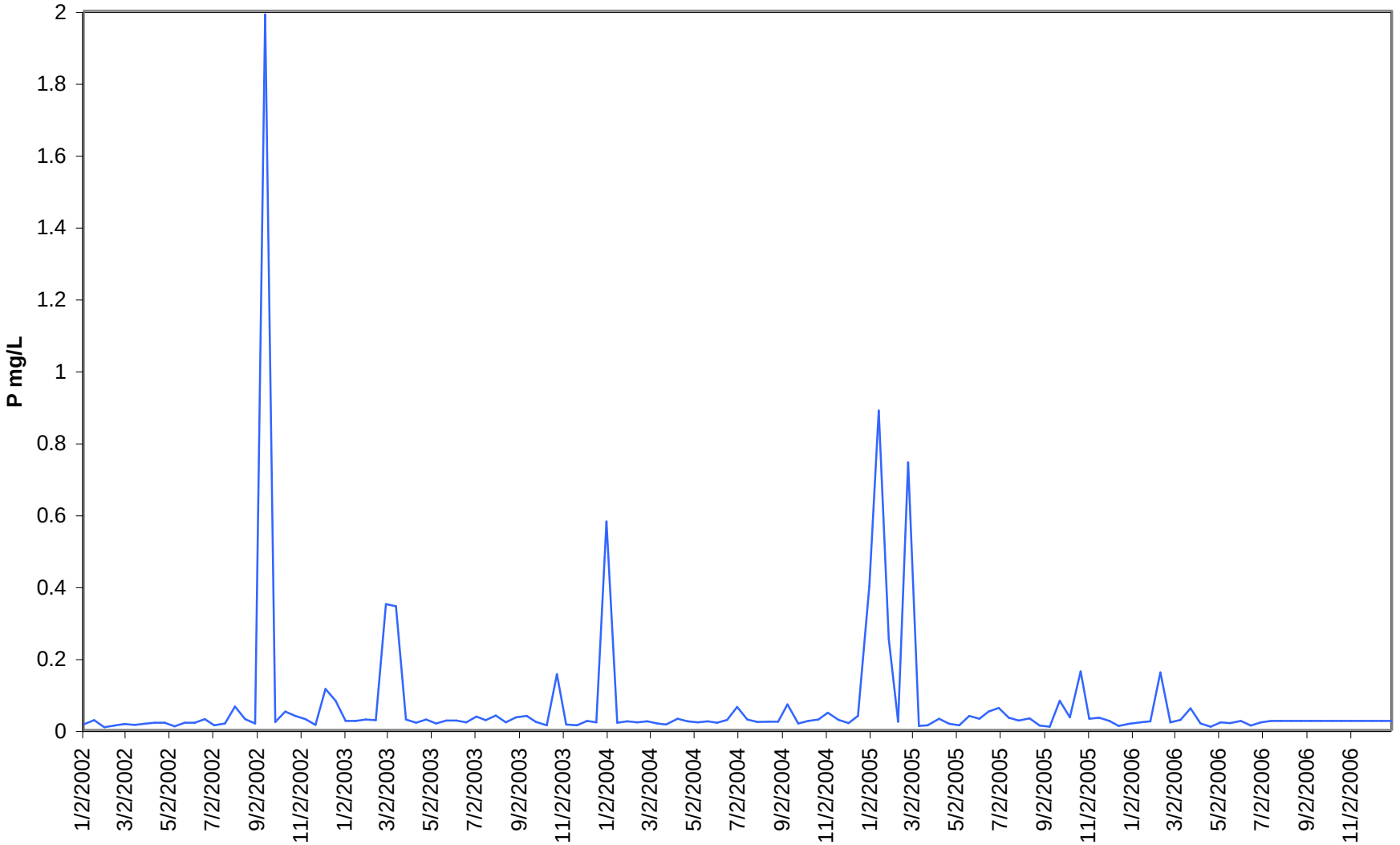

10
9
8
7
6
5
4
3
2
1
0
S.U.
pH BUS: 6.5-9.0 SU
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

LW10.75 Dissolved Oxygen

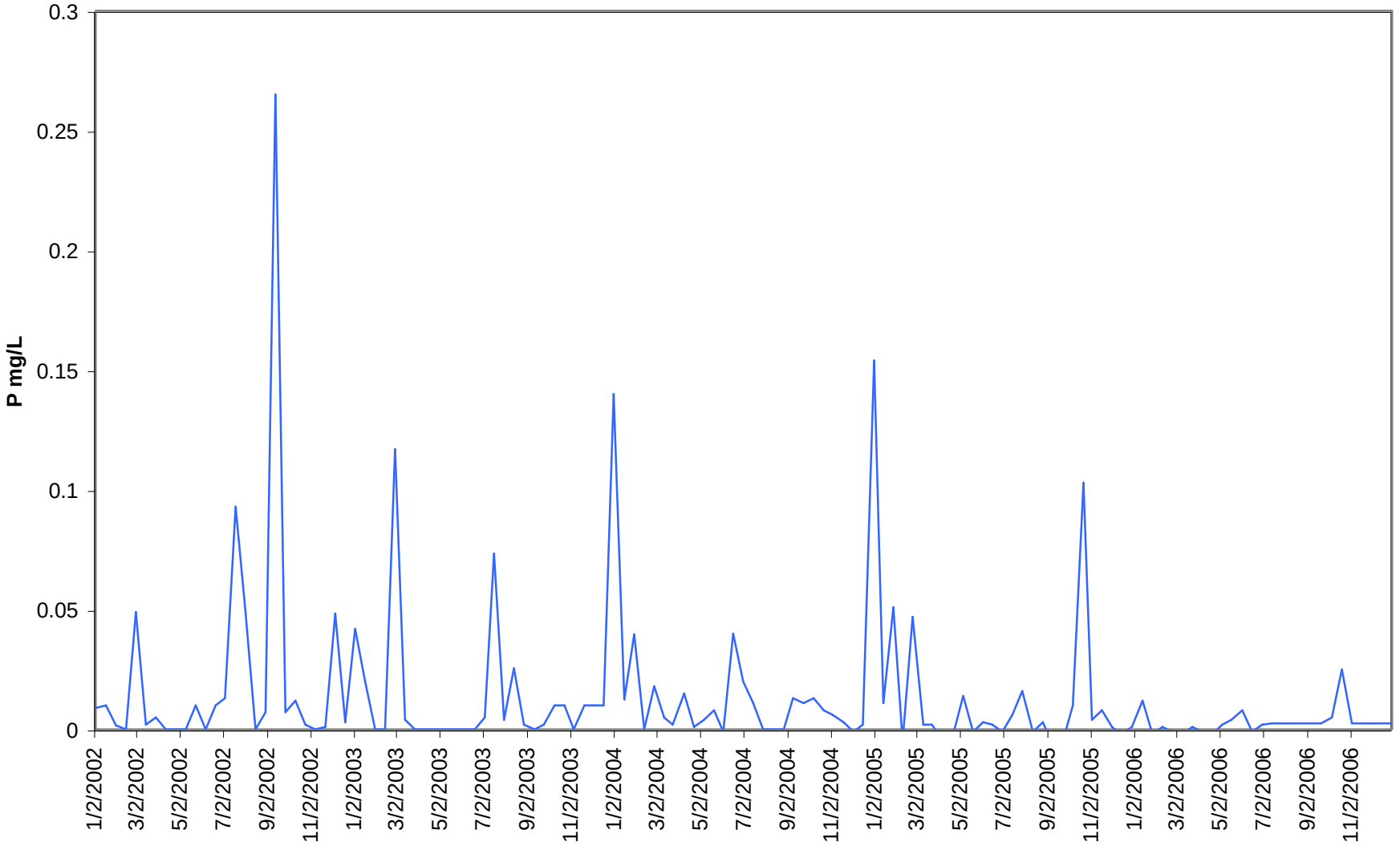



LW10.75 Conductivity
uS/cm
6000
5000
4000
3000
2000
1000
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

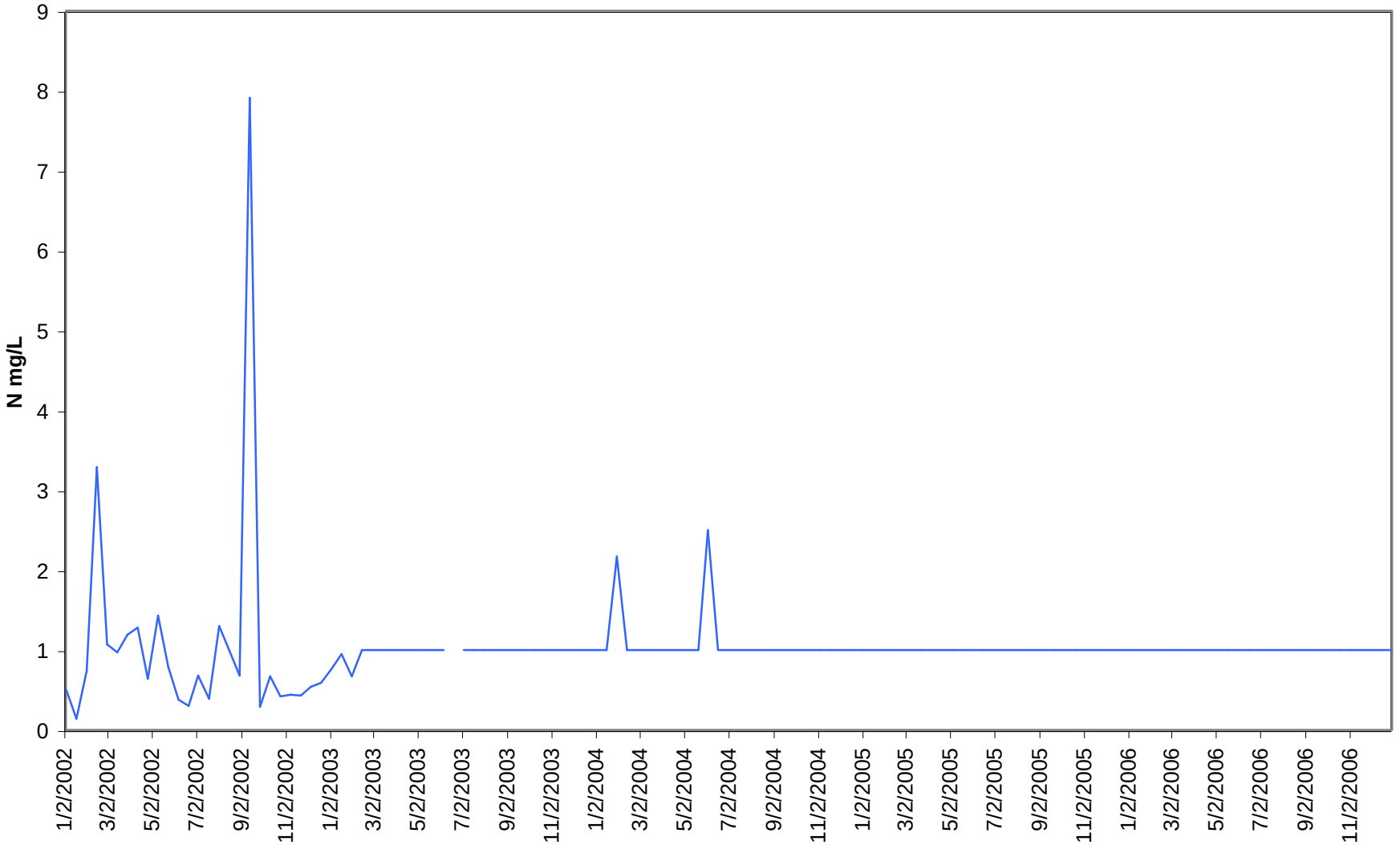
LW10.75 Total Phosphorus



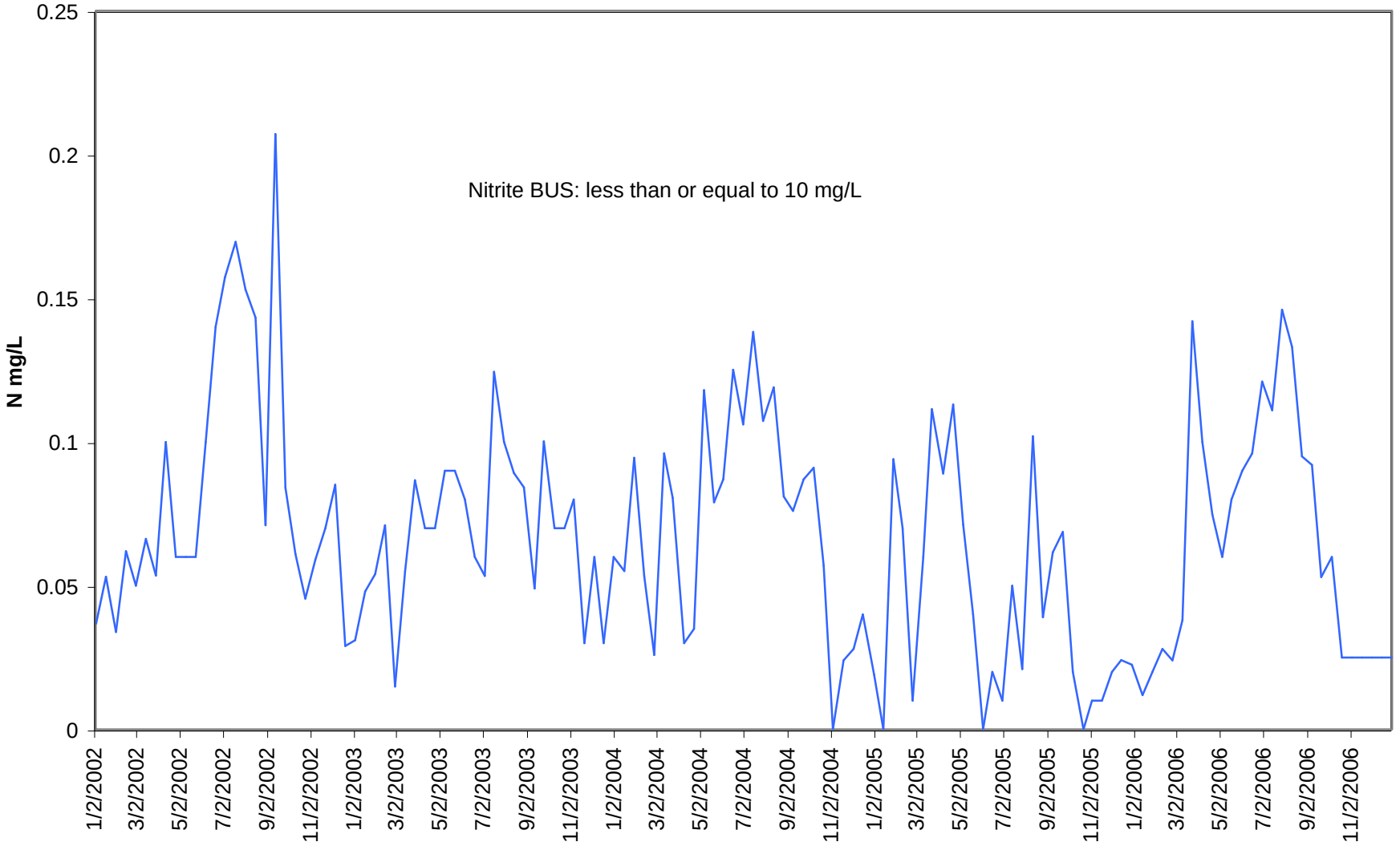
LW10.75 Dissolved ortho-Phosphorus

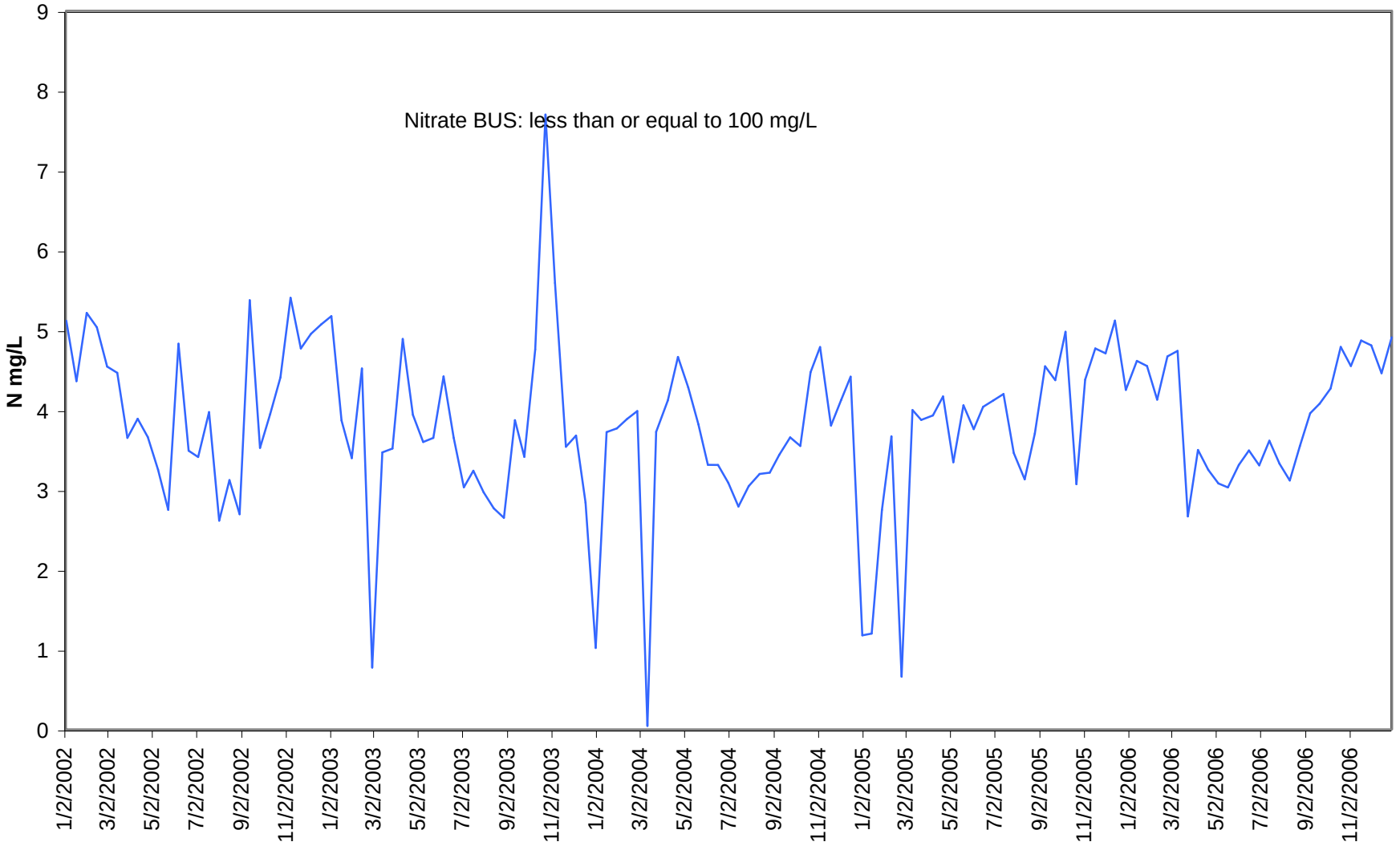


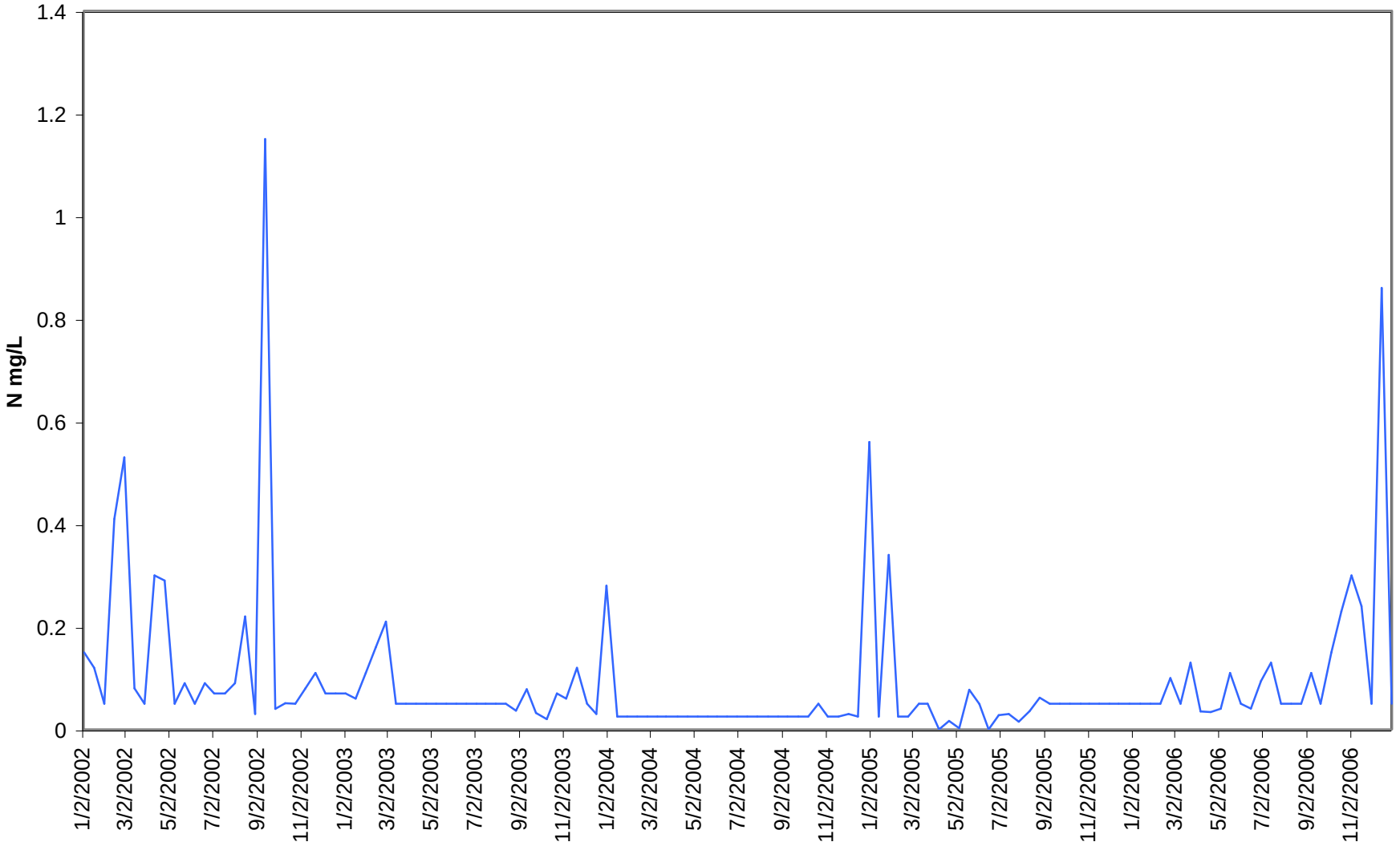
LW10.75 Total Kjeldahl Nitrogen



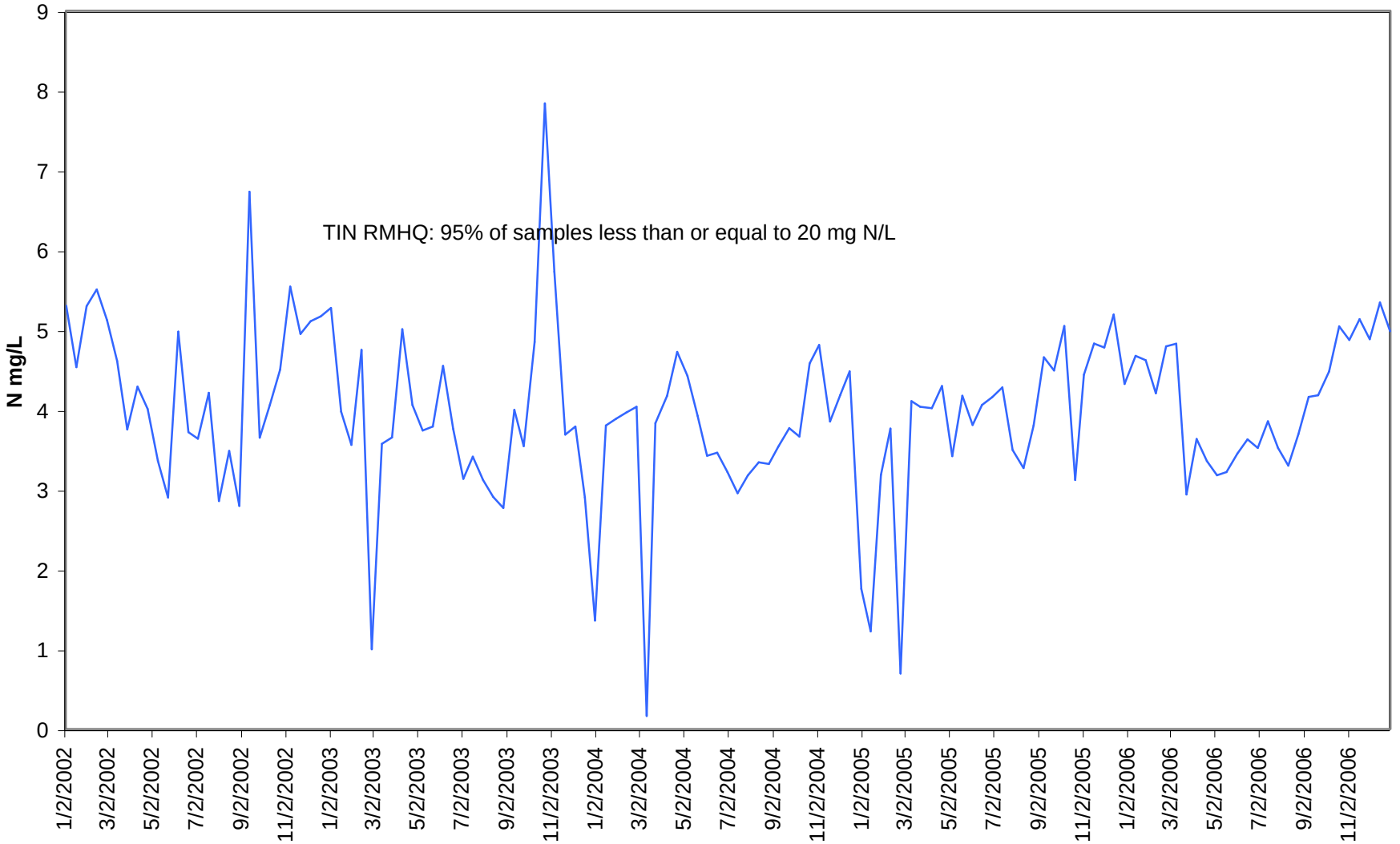
LW10.75 Nitrite



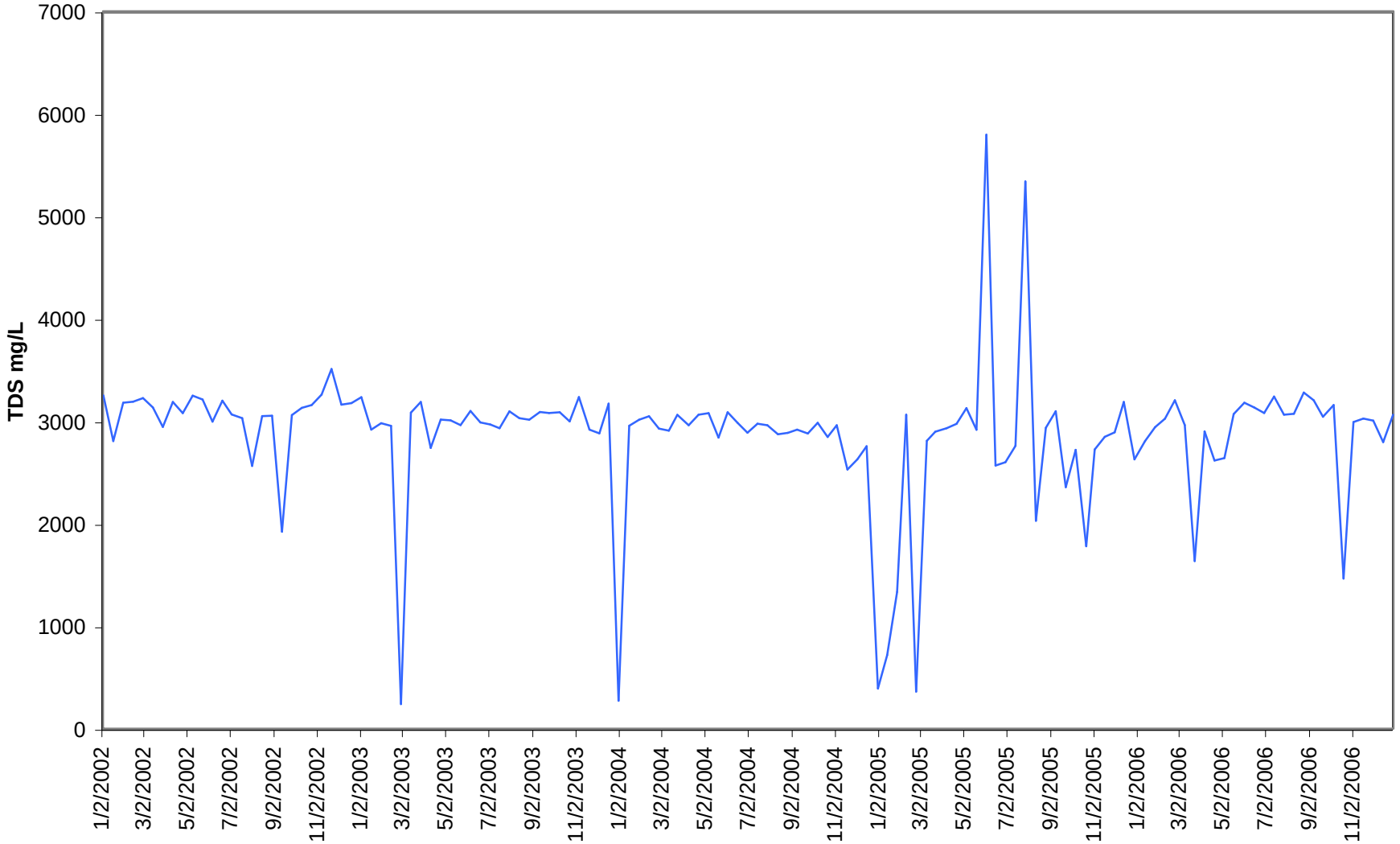

LW10.75 Nitrate
Nitrate BUS: less than or equal to 100 mg/L
N mg/L
0
1
2
3
4
5
6
7
8
9
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006


LW10.75 Ammonia
N mg/L
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

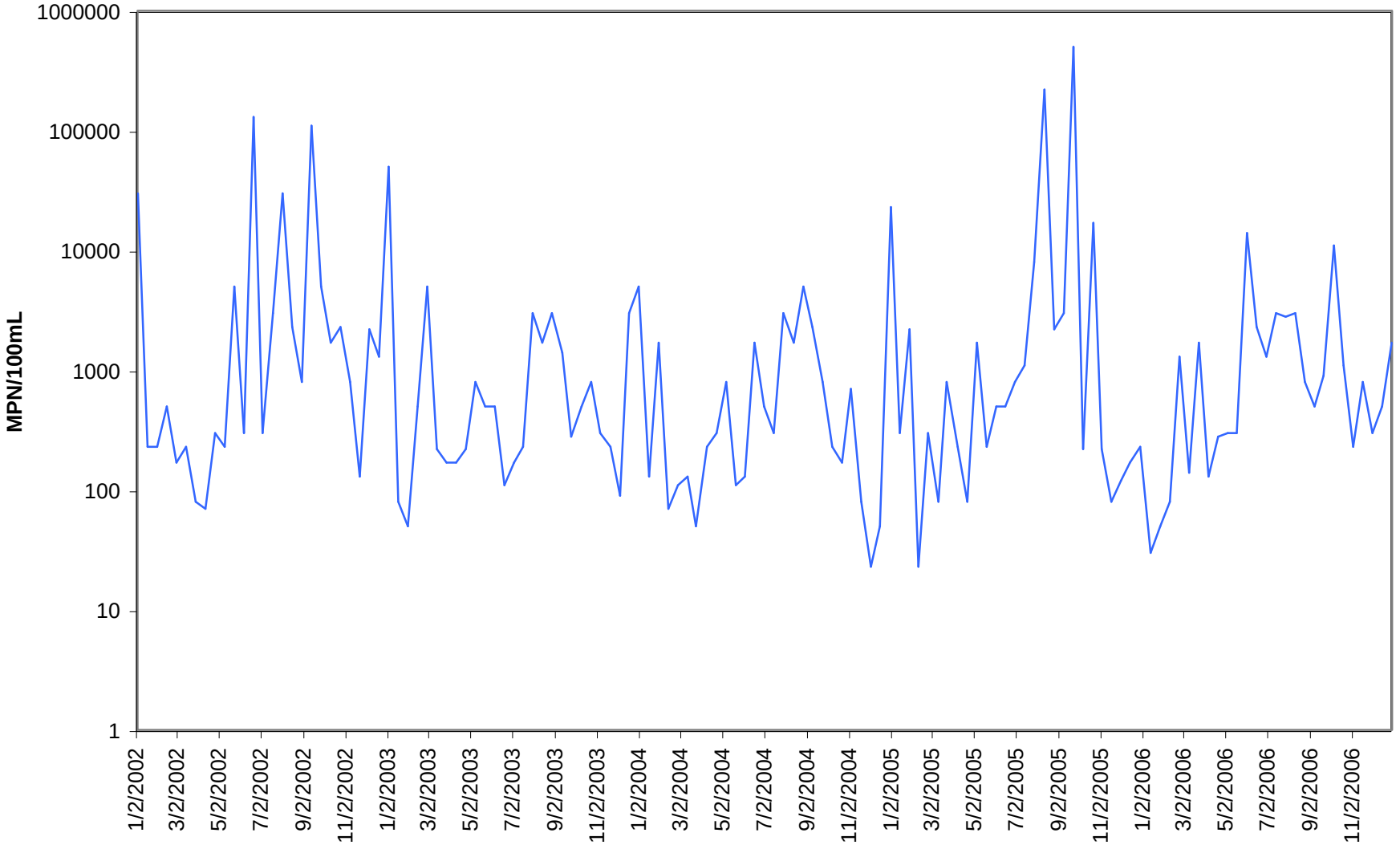
LW10.75 Total Inorganic Nitrogen

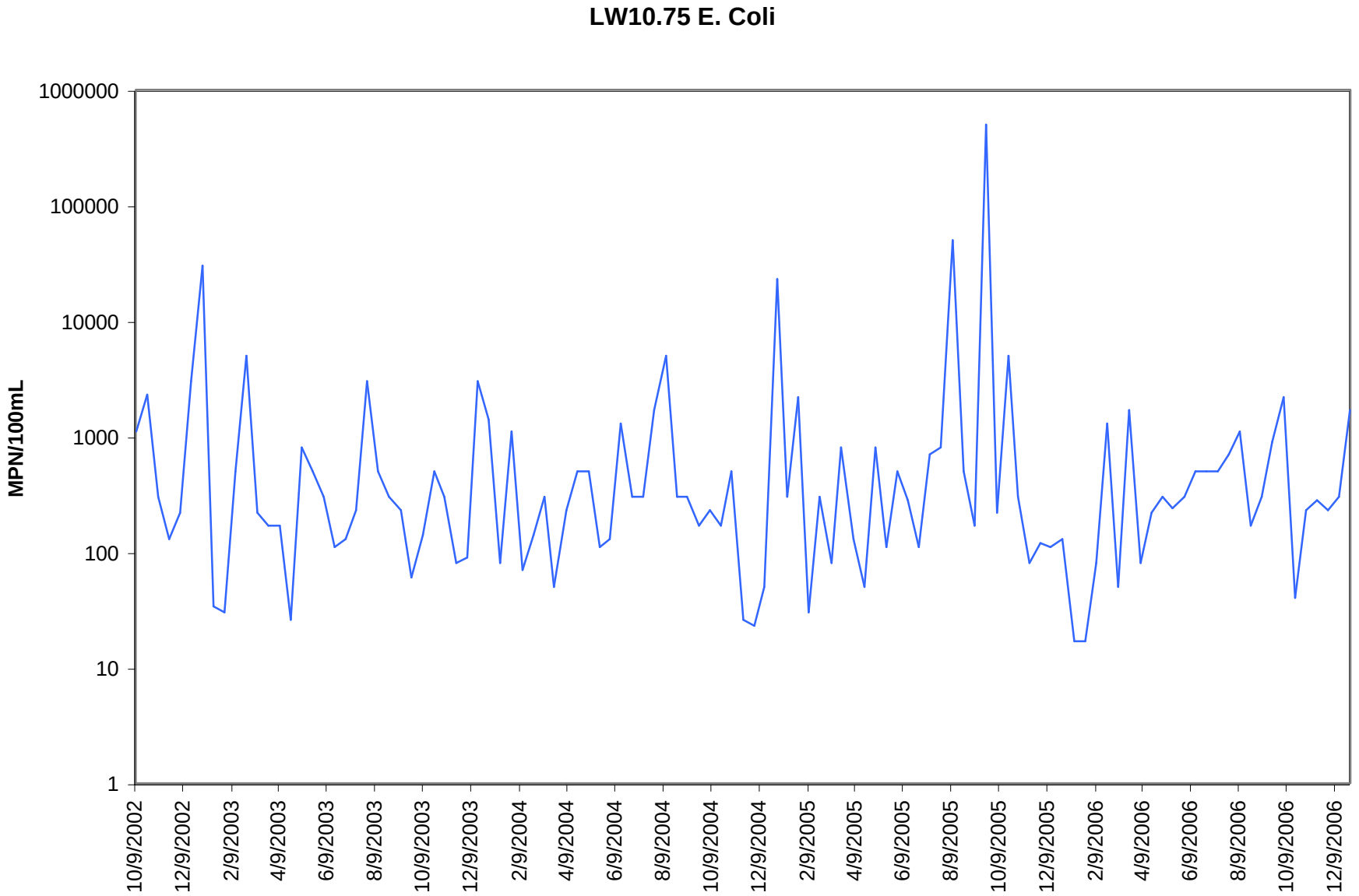


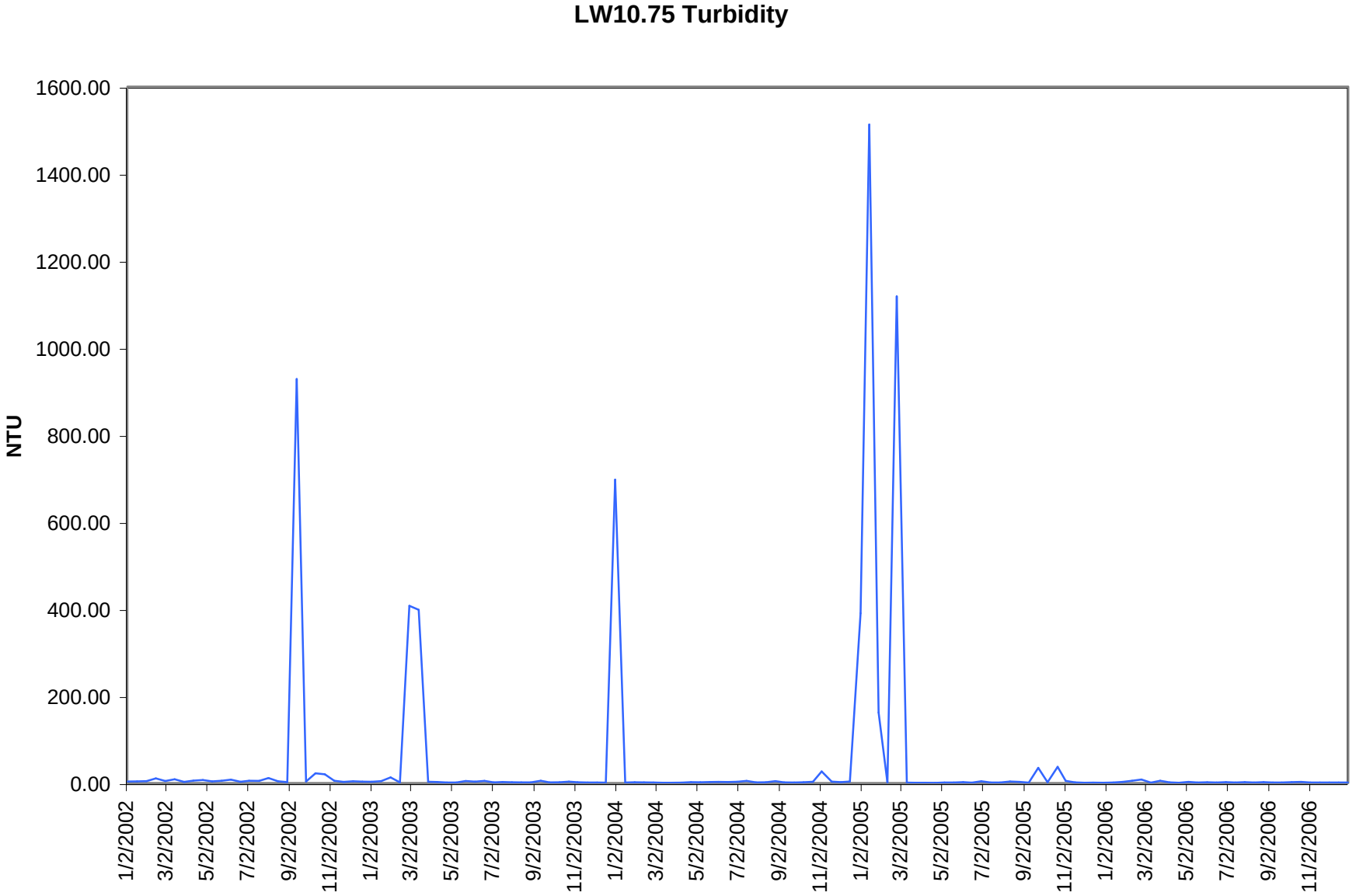
LW10.75 Total Dissolved Solids



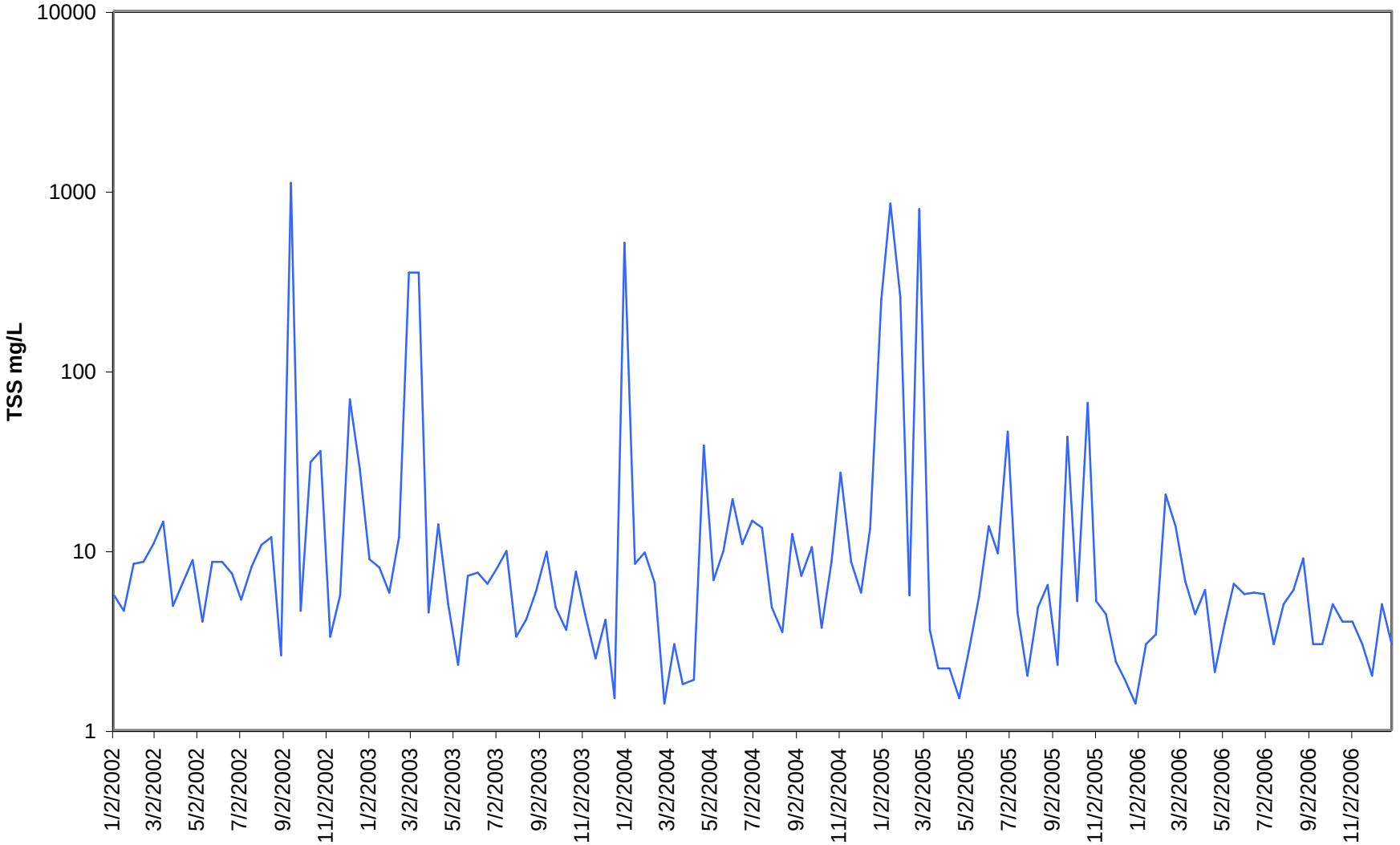
LW10.75 Fecal Coliforms



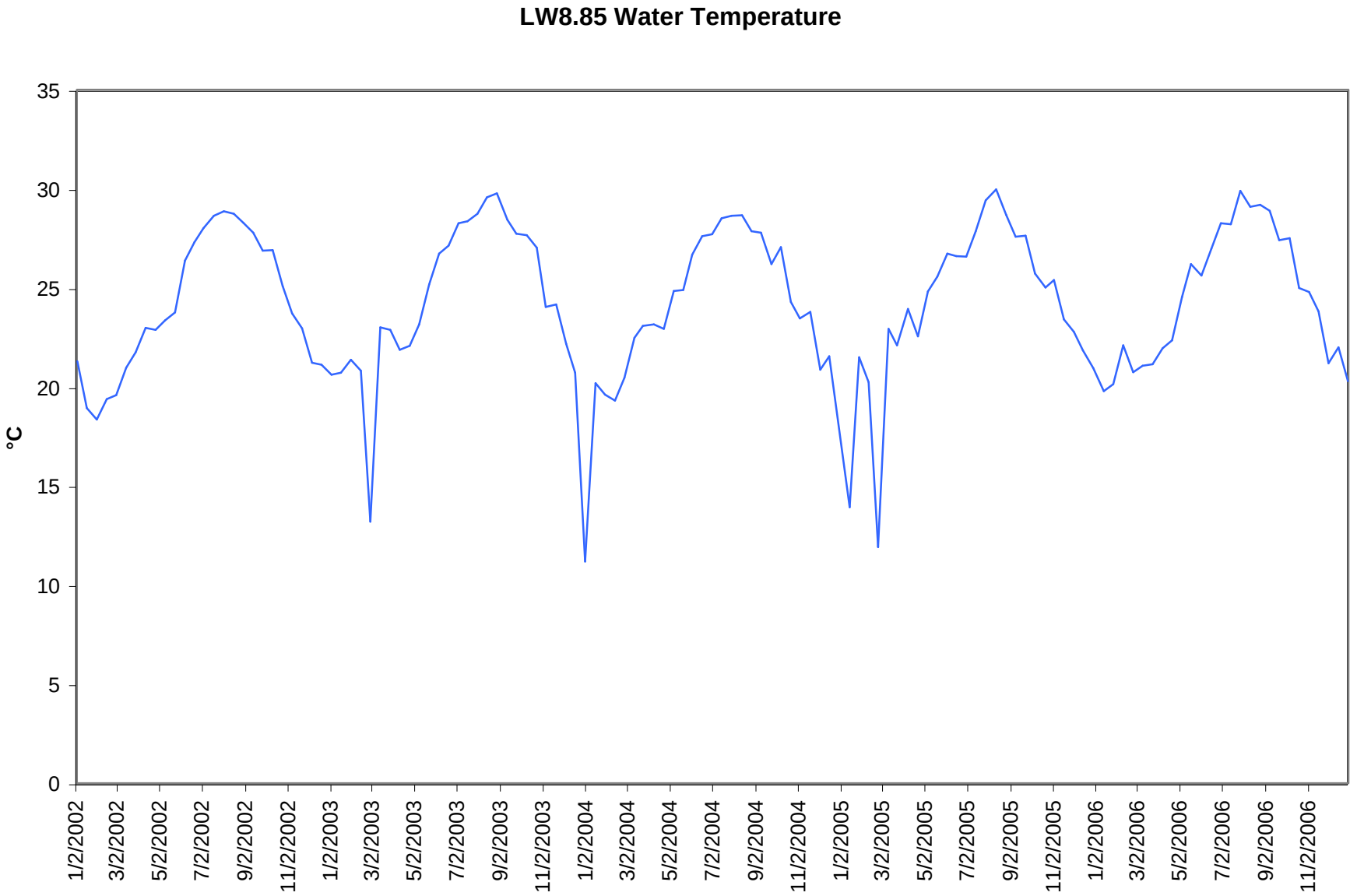

LW10.75 E. Coli
MPN/100mL
1000000
100000
10000
1000
100
10
1
10/9/2002
12/9/2002
2/9/2003
4/9/2003
6/9/2003
8/9/2003
10/9/2003
12/9/2003
2/9/2004
4/9/2004
6/9/2004
8/9/2004
10/9/2004
12/9/2004
2/9/2005
4/9/2005
6/9/2005
8/9/2005
10/9/2005
12/9/2005
2/9/2006
4/9/2006
6/9/2006
8/9/2006
10/9/2006
12/9/2006

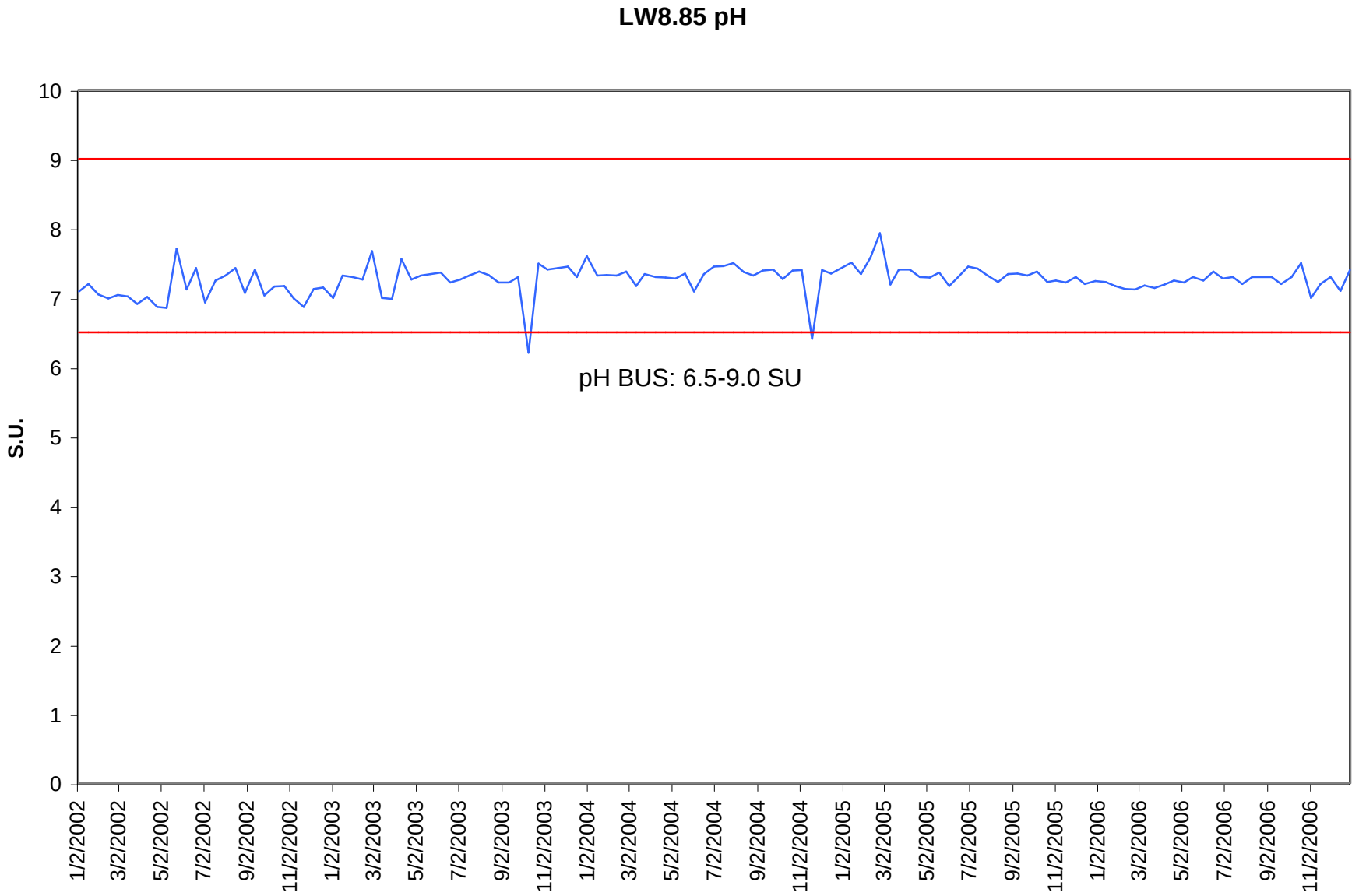

LW10.75 Turbidity
NTU
1600.00
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

LW10.75 Total Suspended Solids

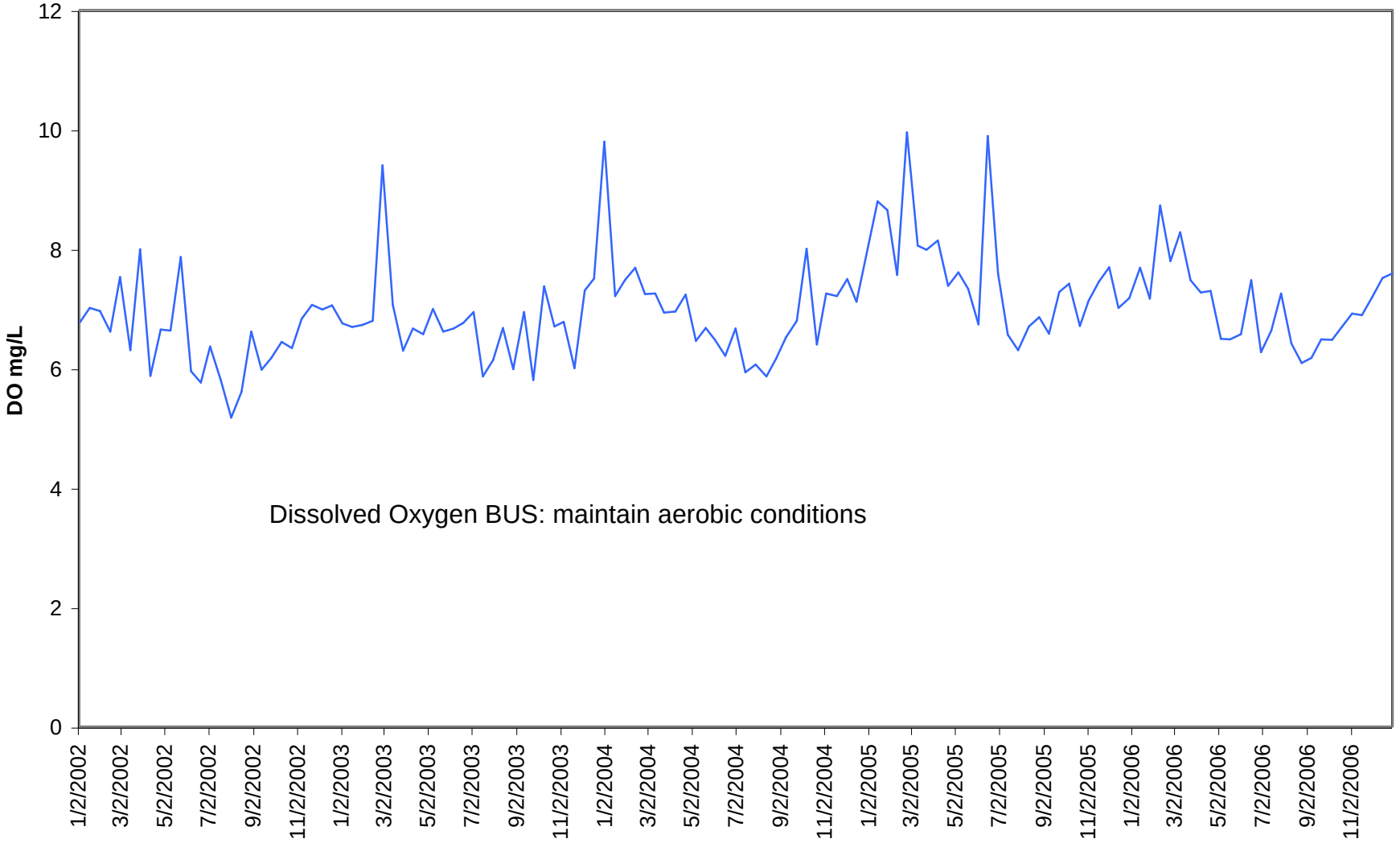


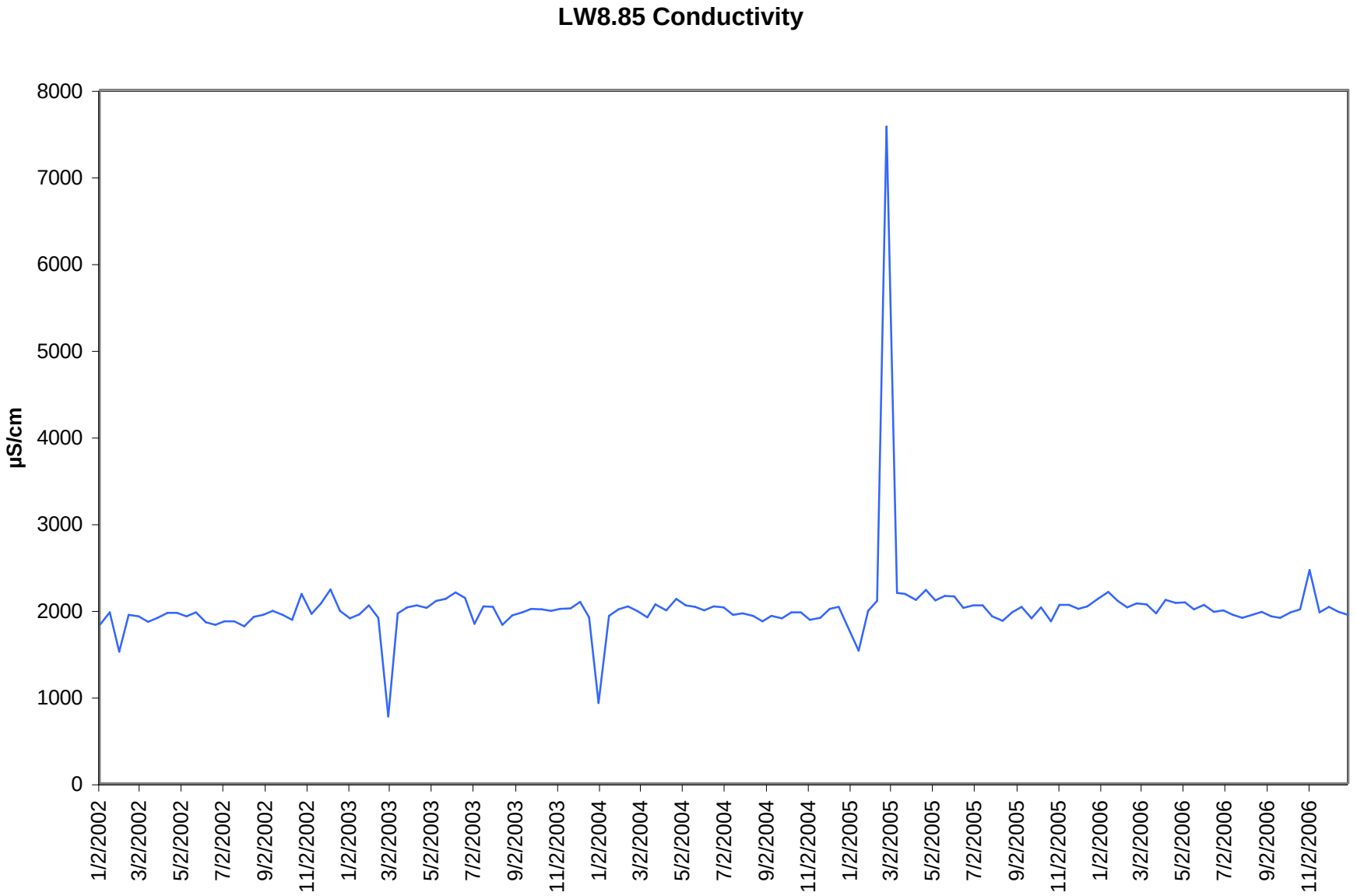
LW8.85

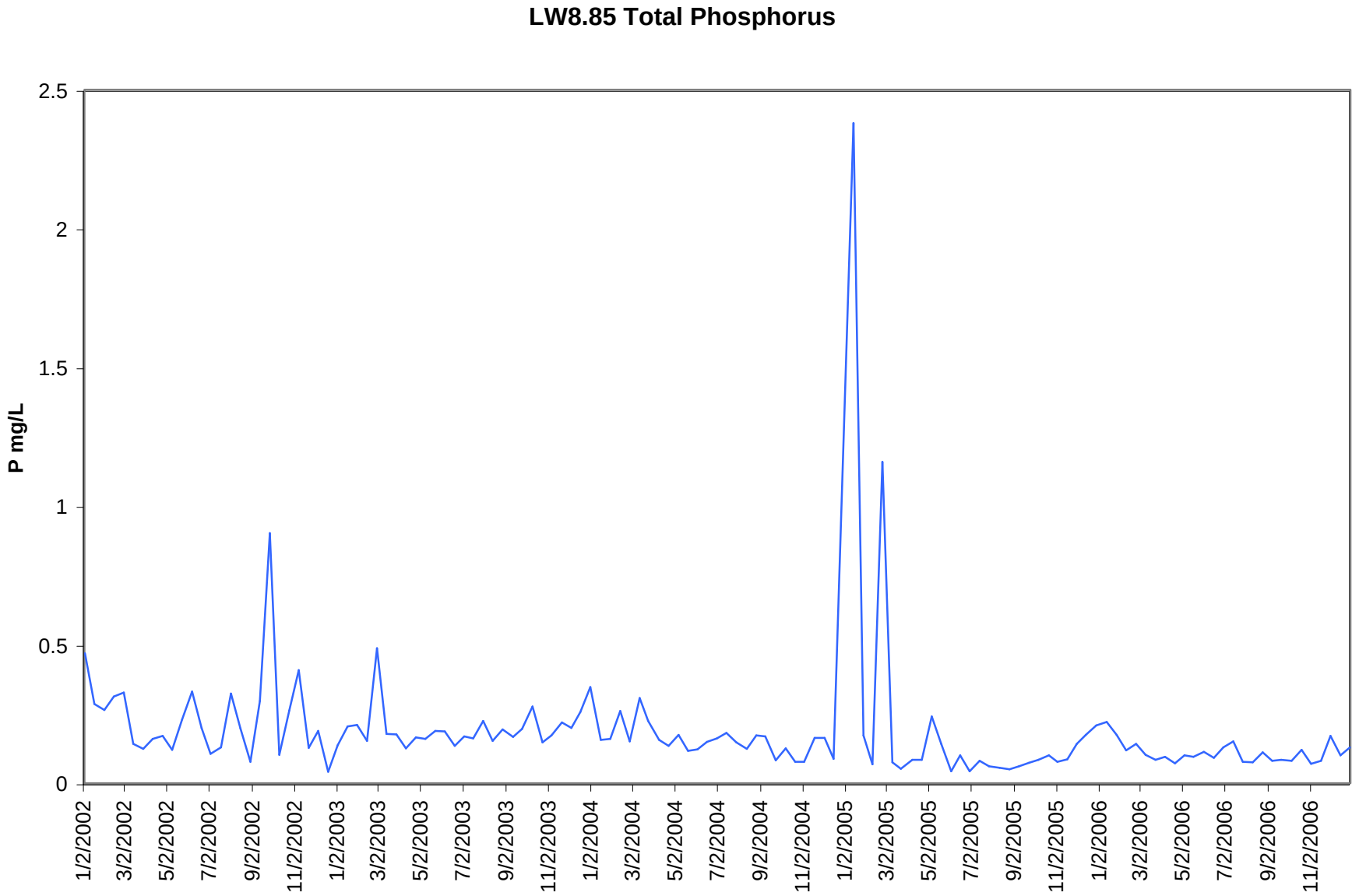

LW8.85 Water Temperature
°C
35
30
25
20
15
10
5
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006


LW8.85 pH
S.U.
10
9
8
7
6
5
4
3
2
1
0
pH BUS: 6.5-9.0 SU
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

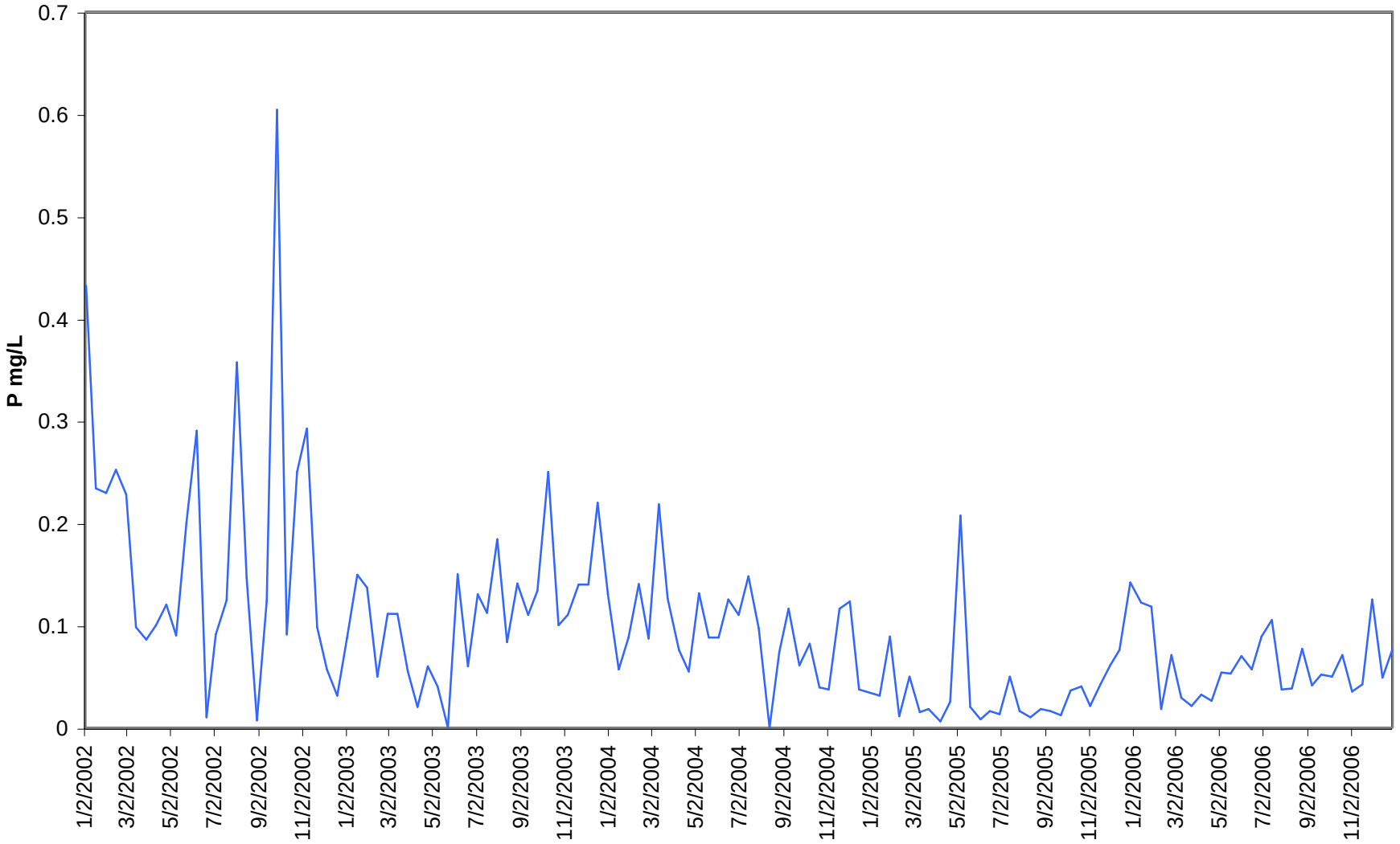
LW8.85 Dissolved Oxygen

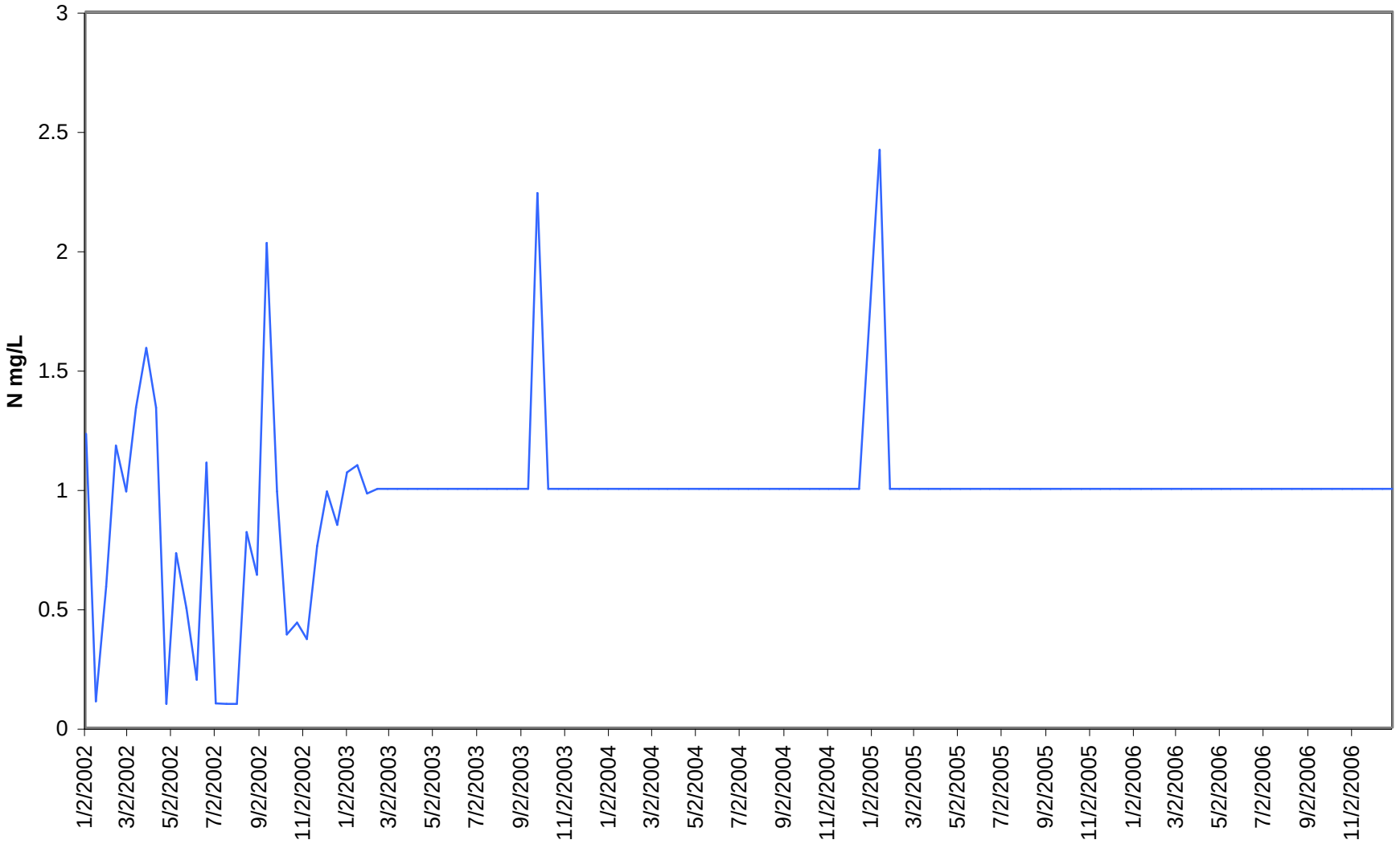



LW8.85 Conductivity
µS/cm
8000
7000
6000
5000
4000
3000
2000
1000
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

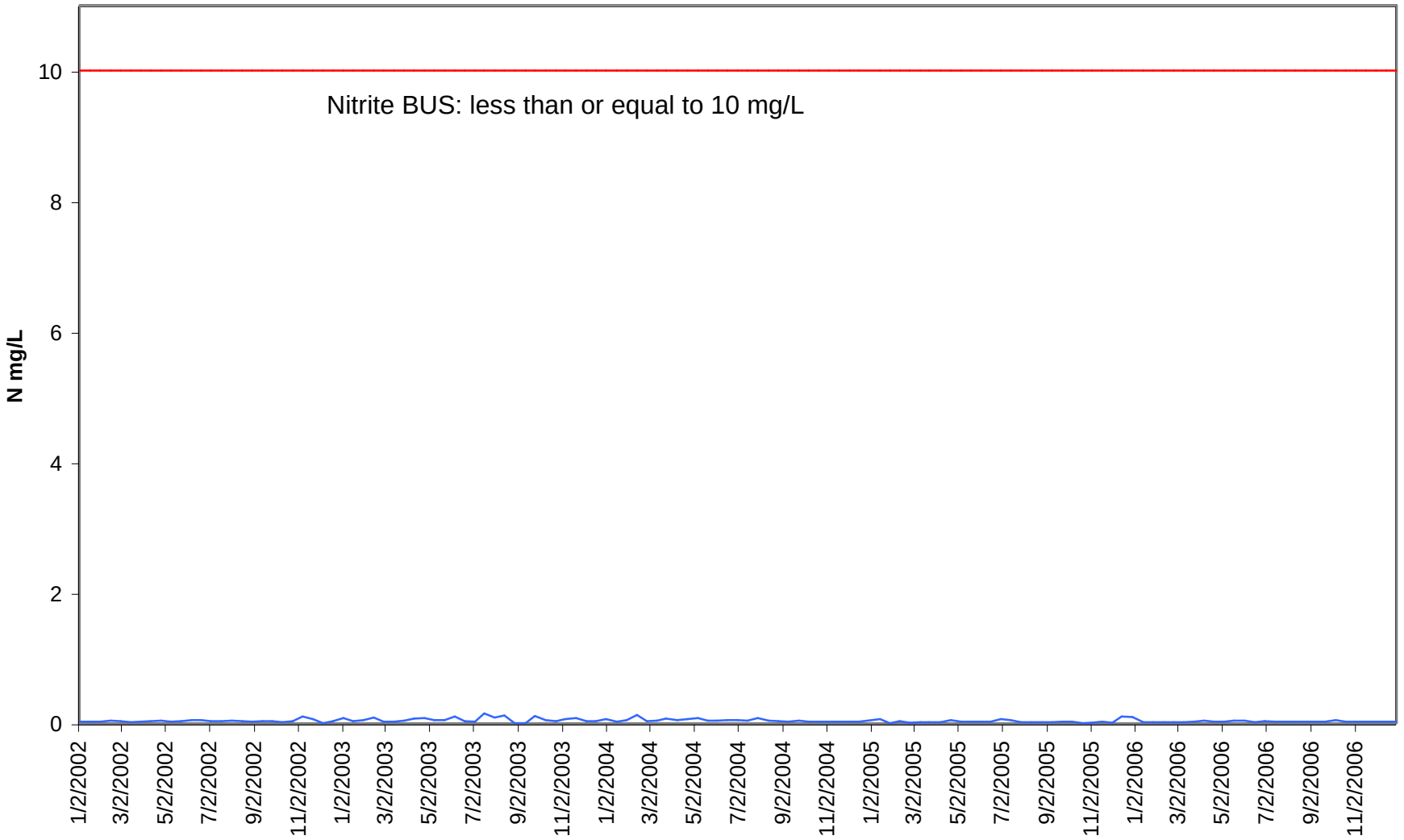

LW8.85 Total Phosphorus
P mg/L
2.5
2
1.5
1
0.5
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

LW8.85 Dissolved ortho-Phosphorus

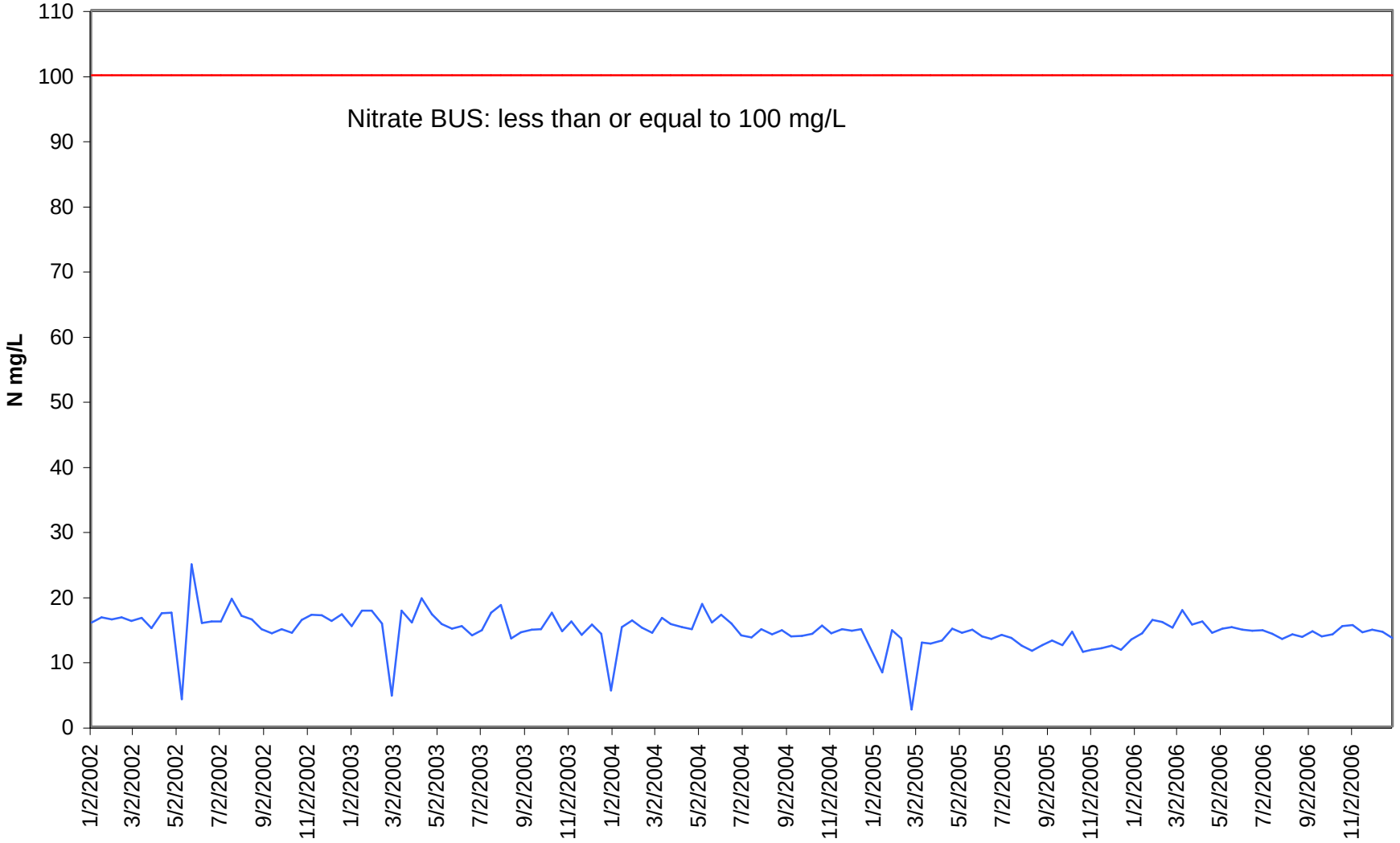


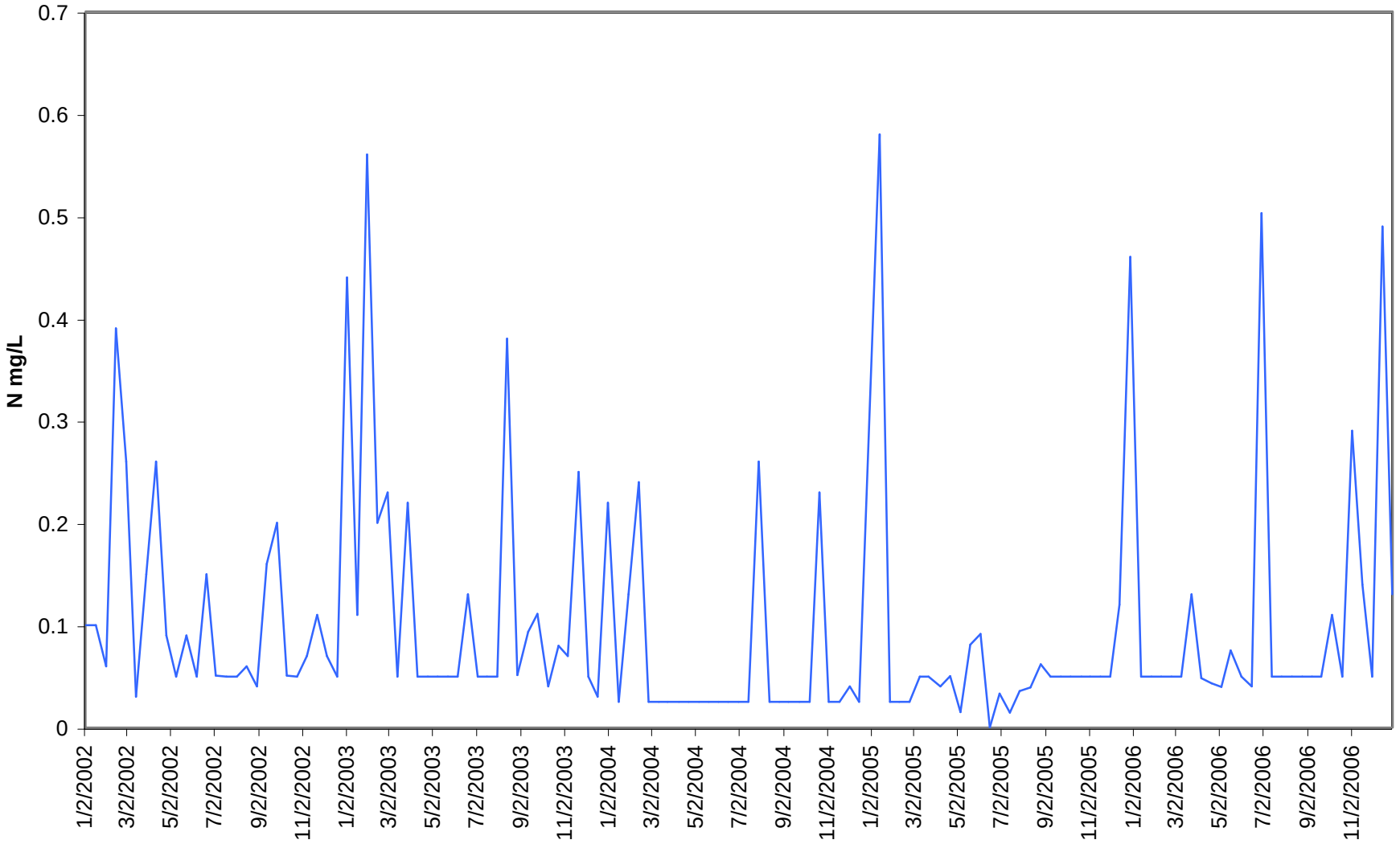

LW8.85 Total Kjeldahl Nitrogen
N mg/L
3
2.5
2
1.5
1
0.5
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

LW8.85 Nitrite

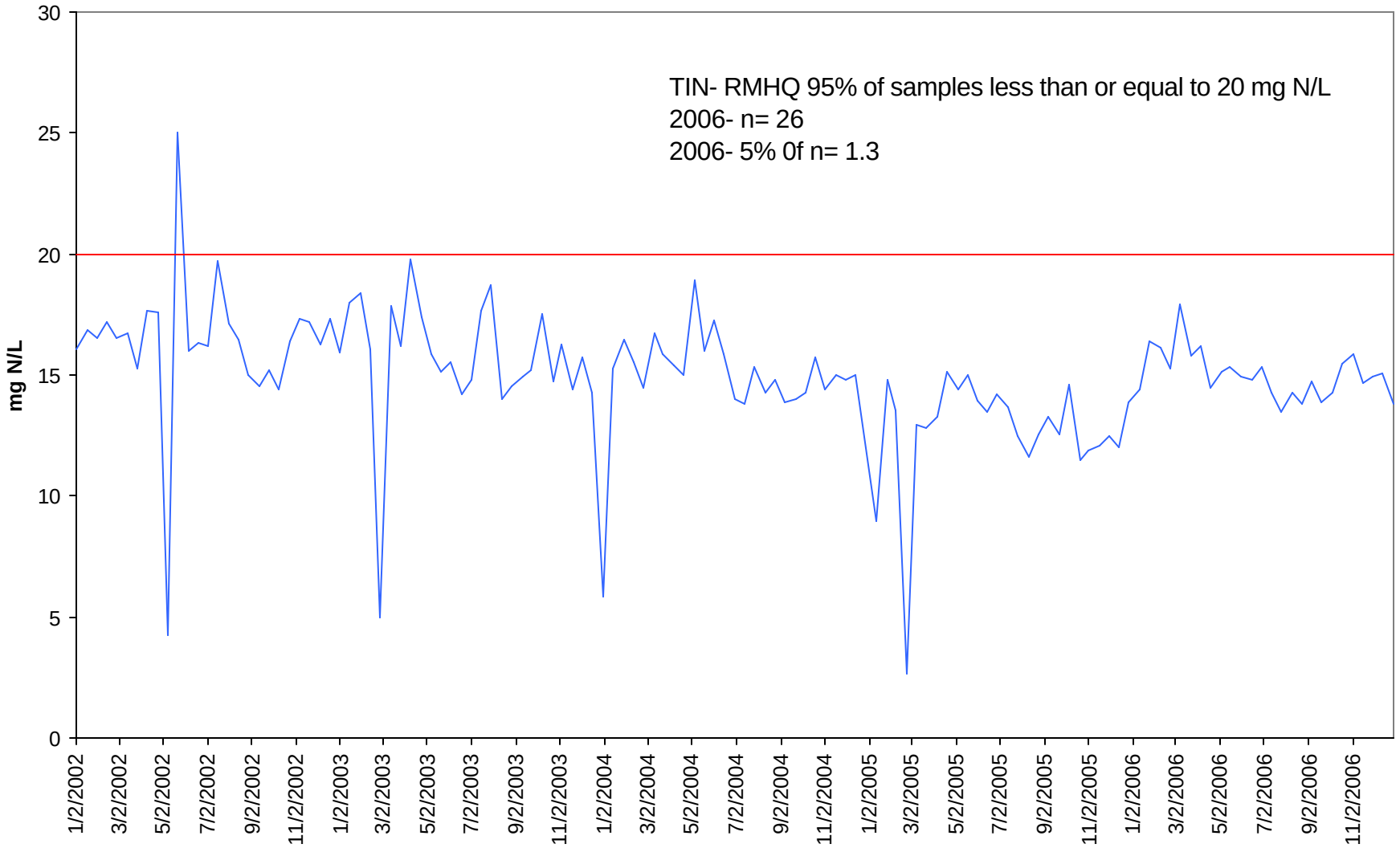


LW8.85 Nitrate

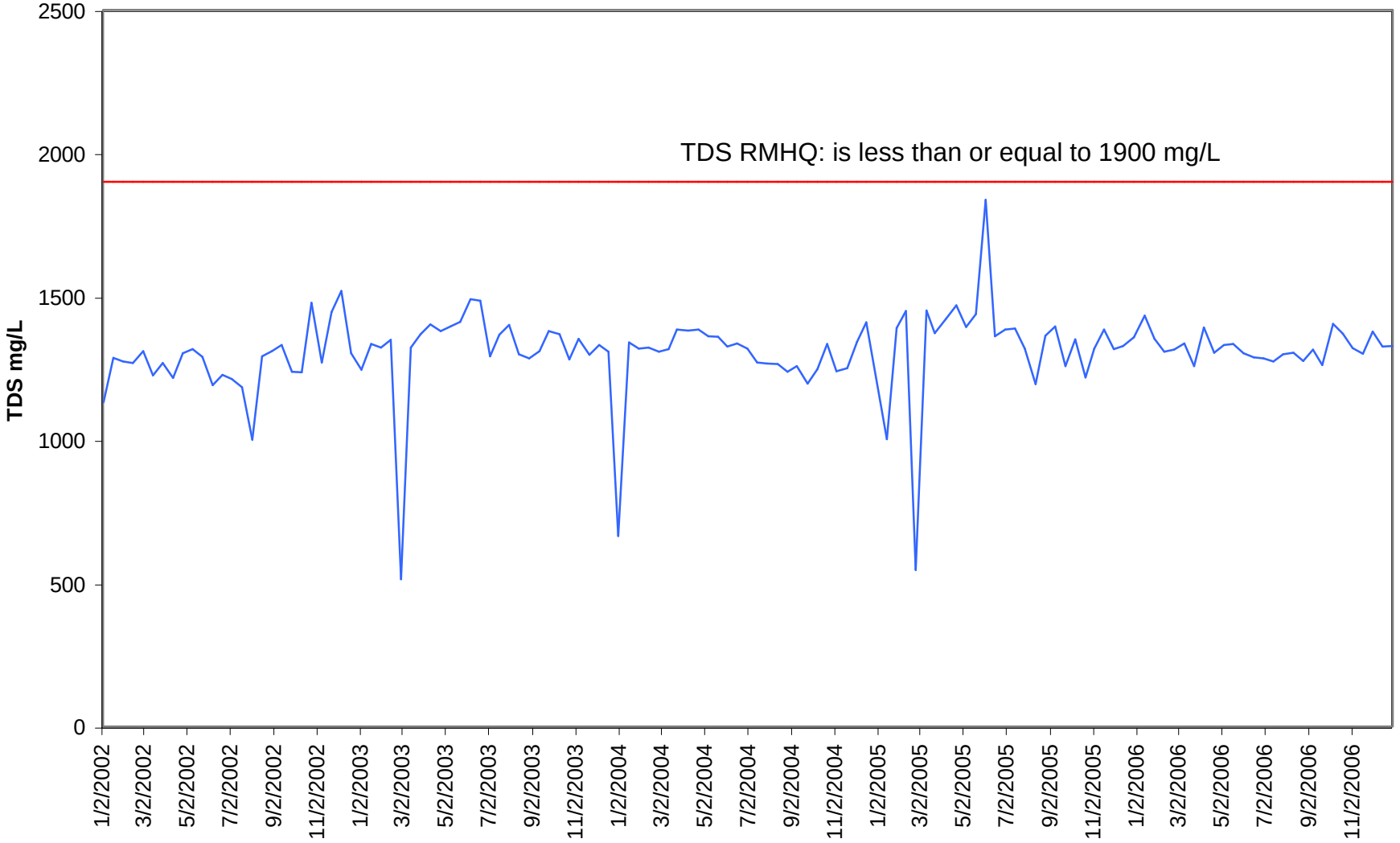


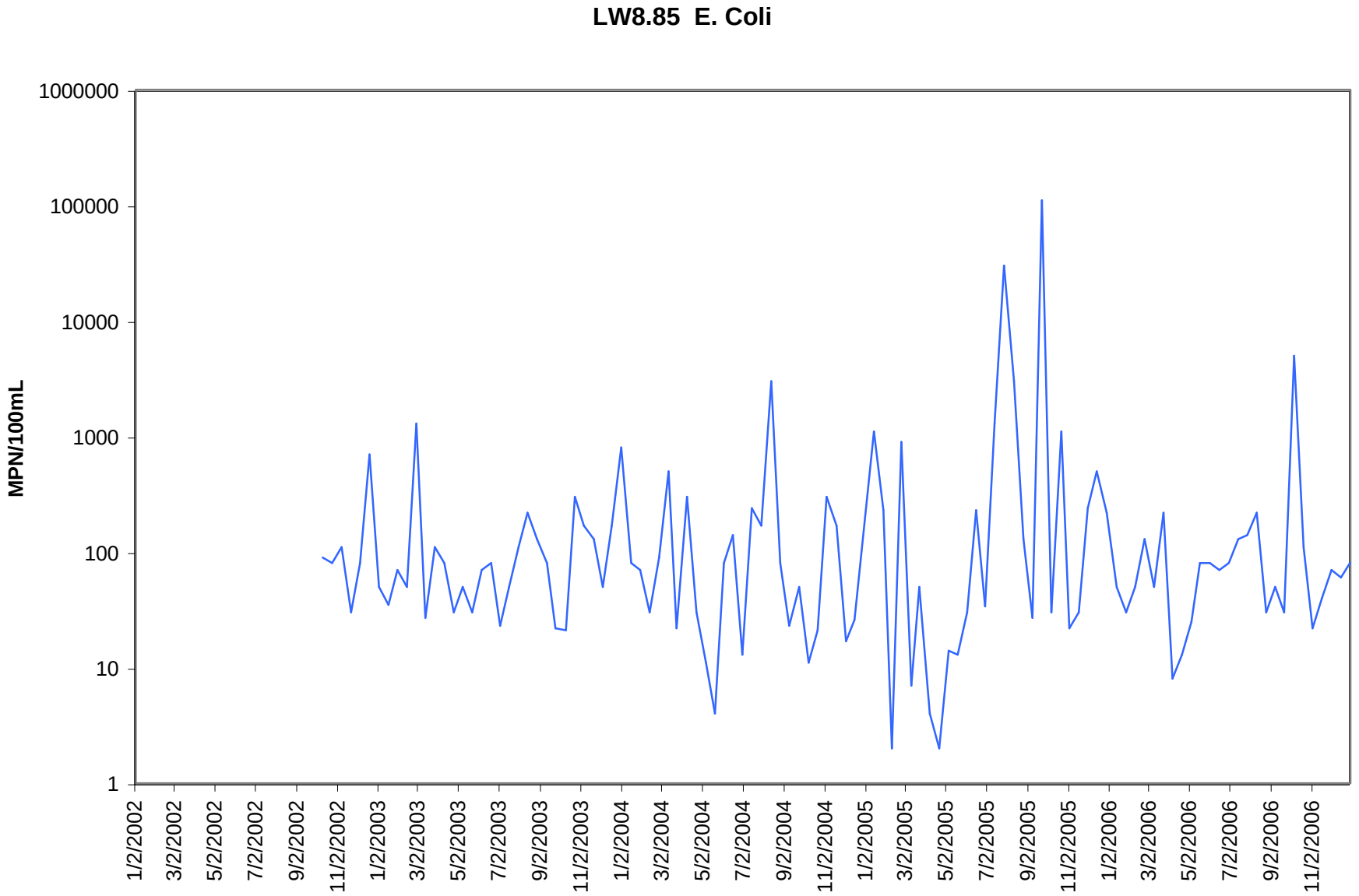

LW8.85 Ammonia
N mg/L
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

LW8.85 Total Inorganic Nitrogen

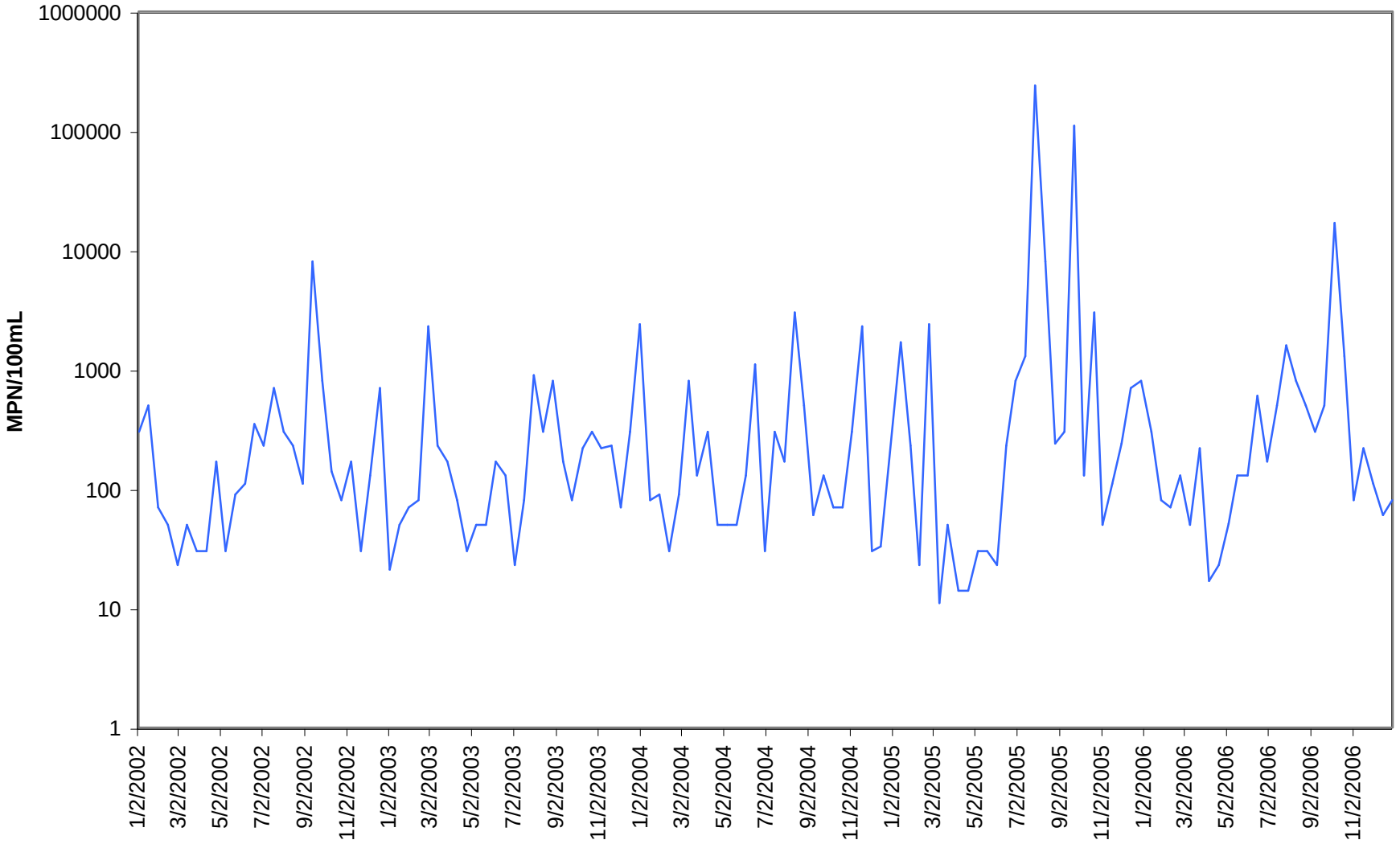


LW8.85 Total Dissolved Solids

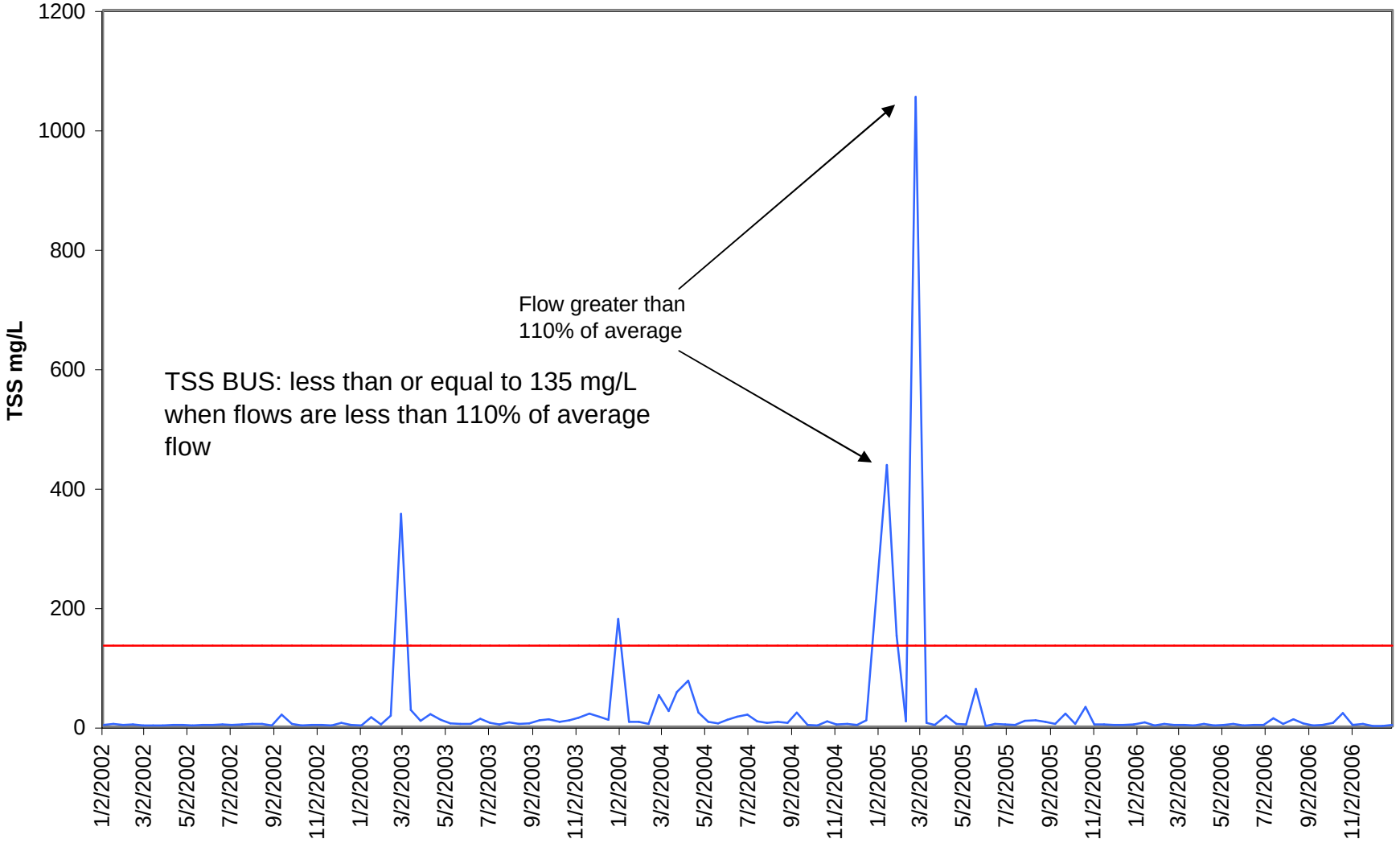


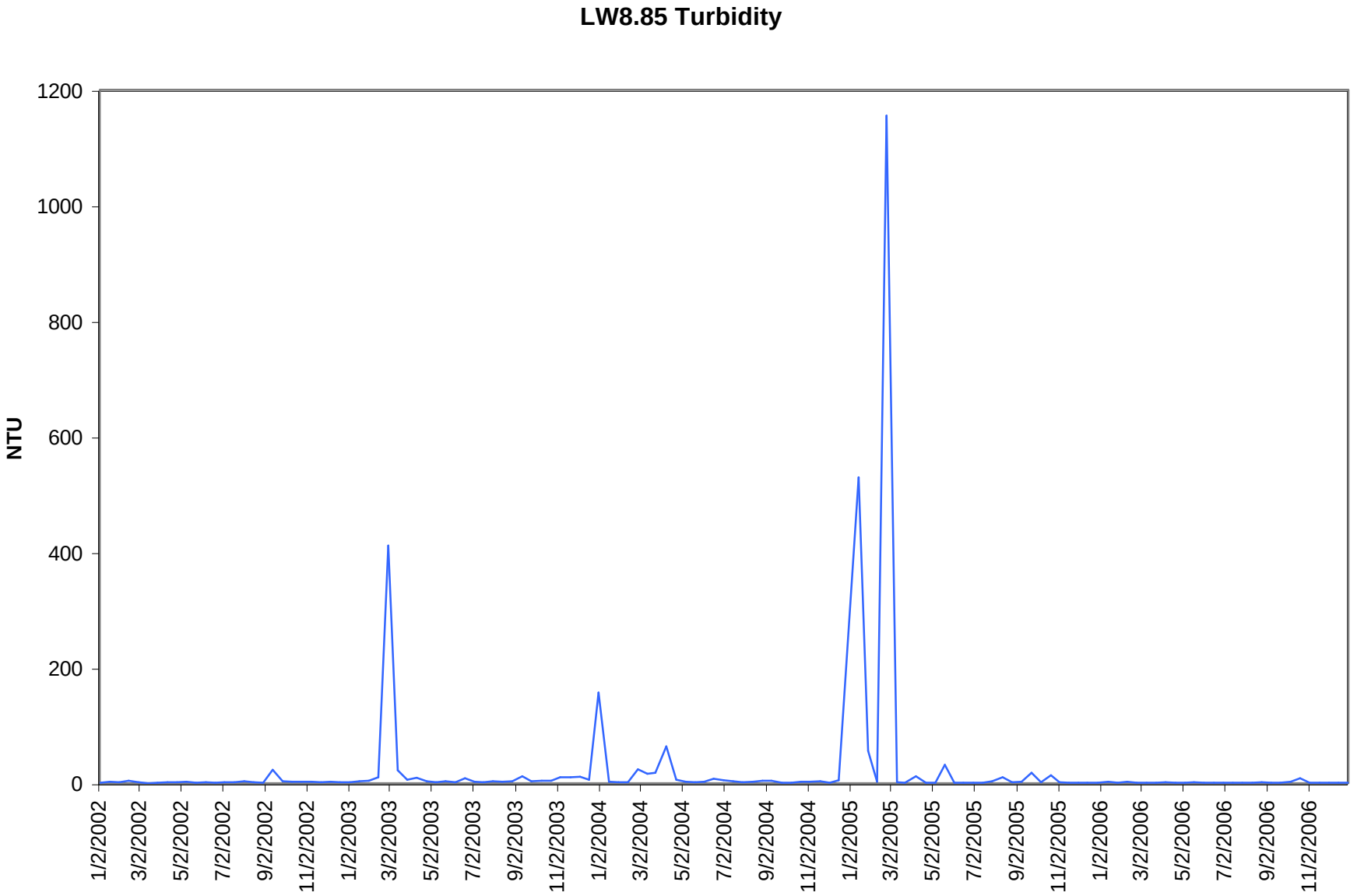

LW8.85 E. Coli
MPN/100mL
1000000
100000
10000
1000
100
10
1
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

LW8.85 Fecal Coliforms

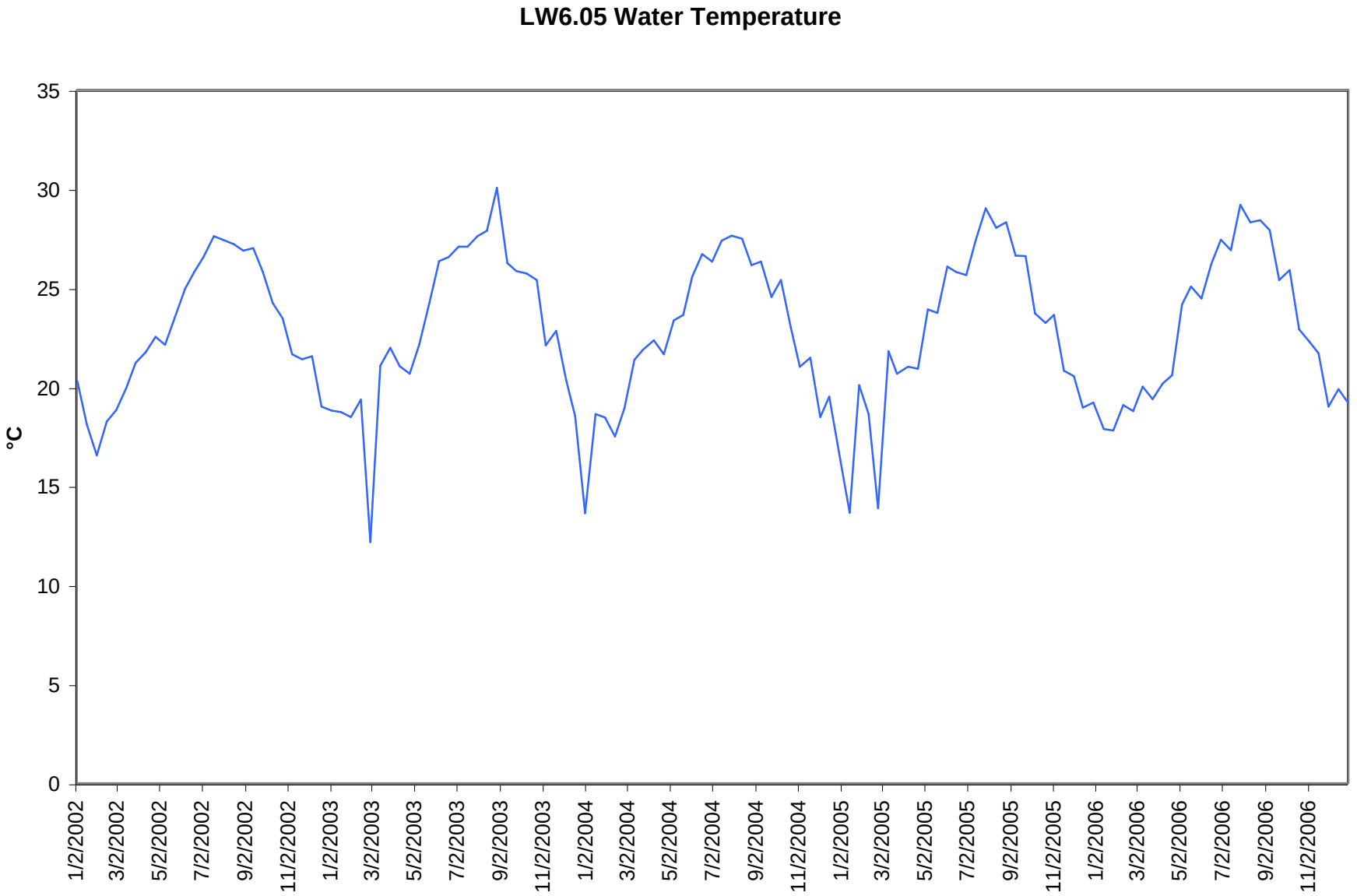


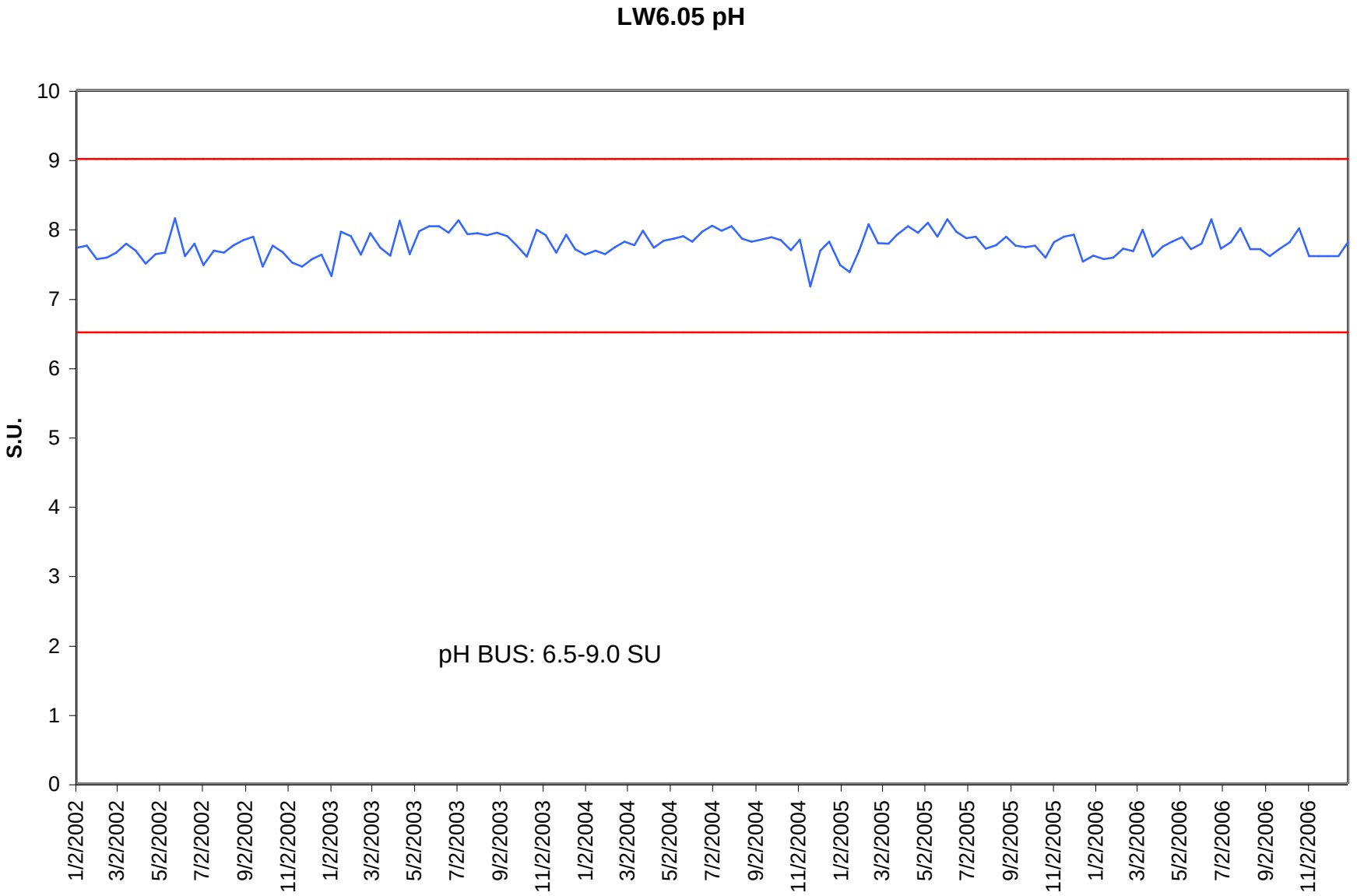
LW8.85 Total Suspended Solids

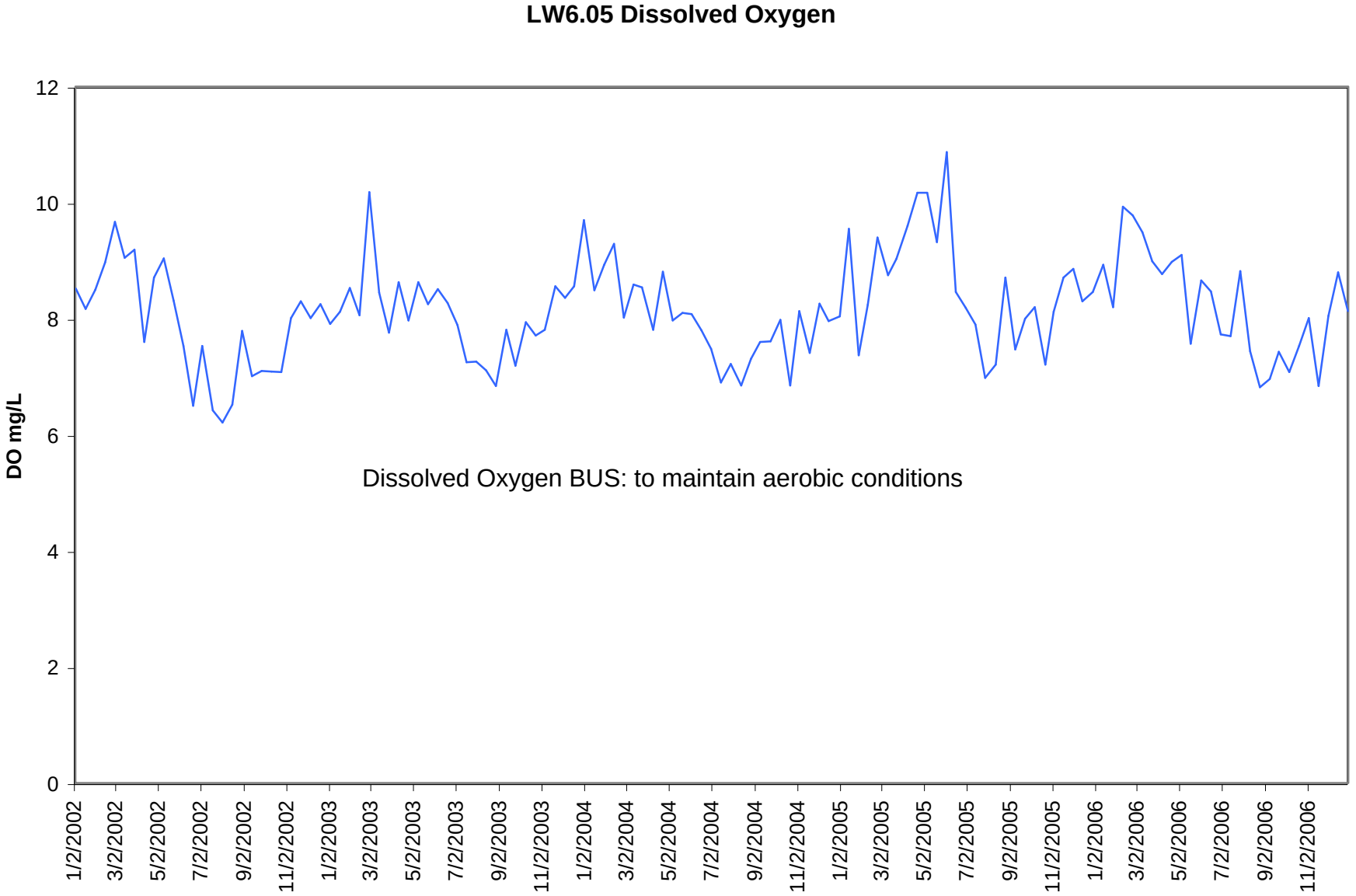


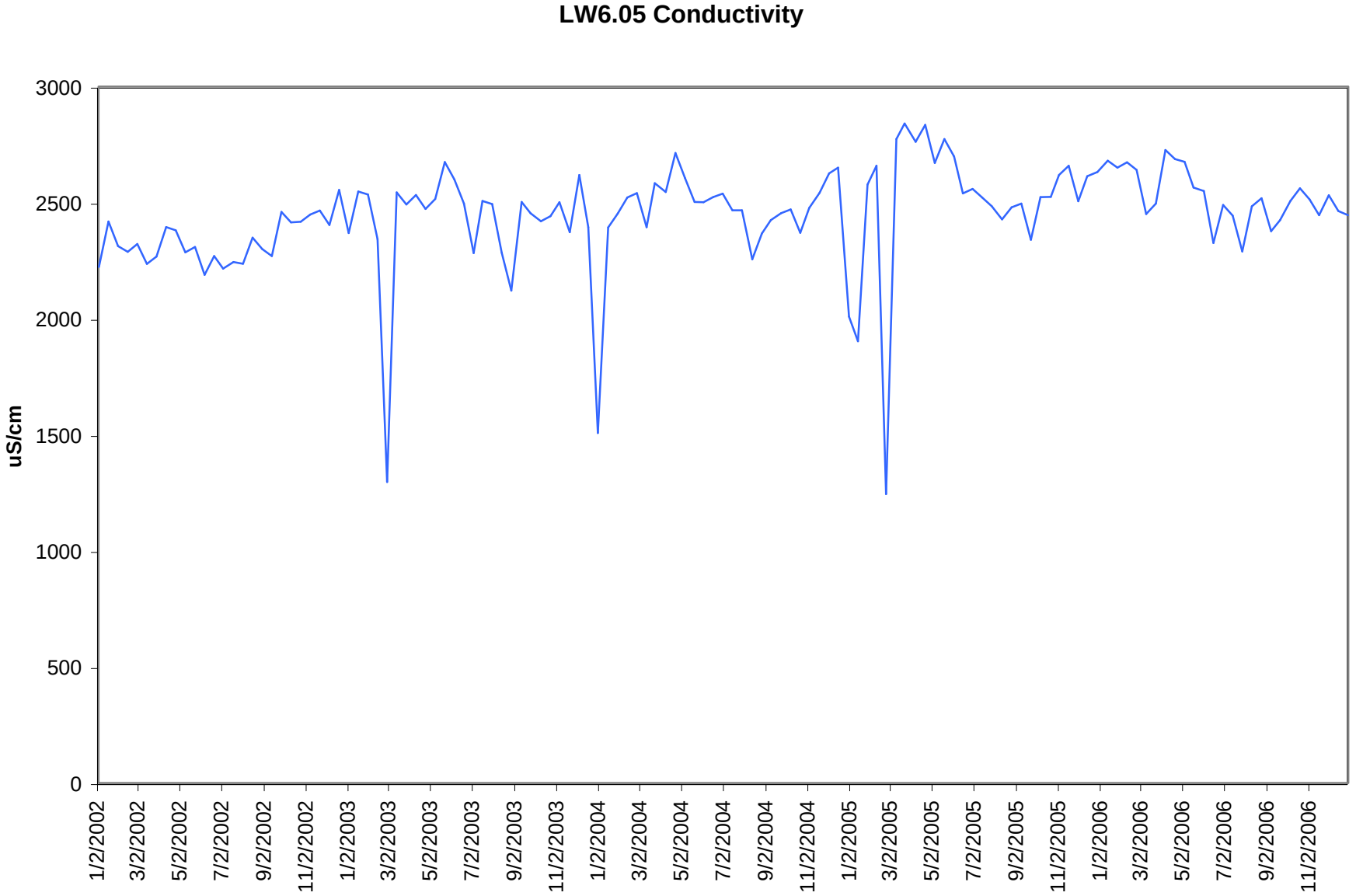

LW8.85 Turbidity
NTU
1200
1000
800
600
400
200
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

LW6.05

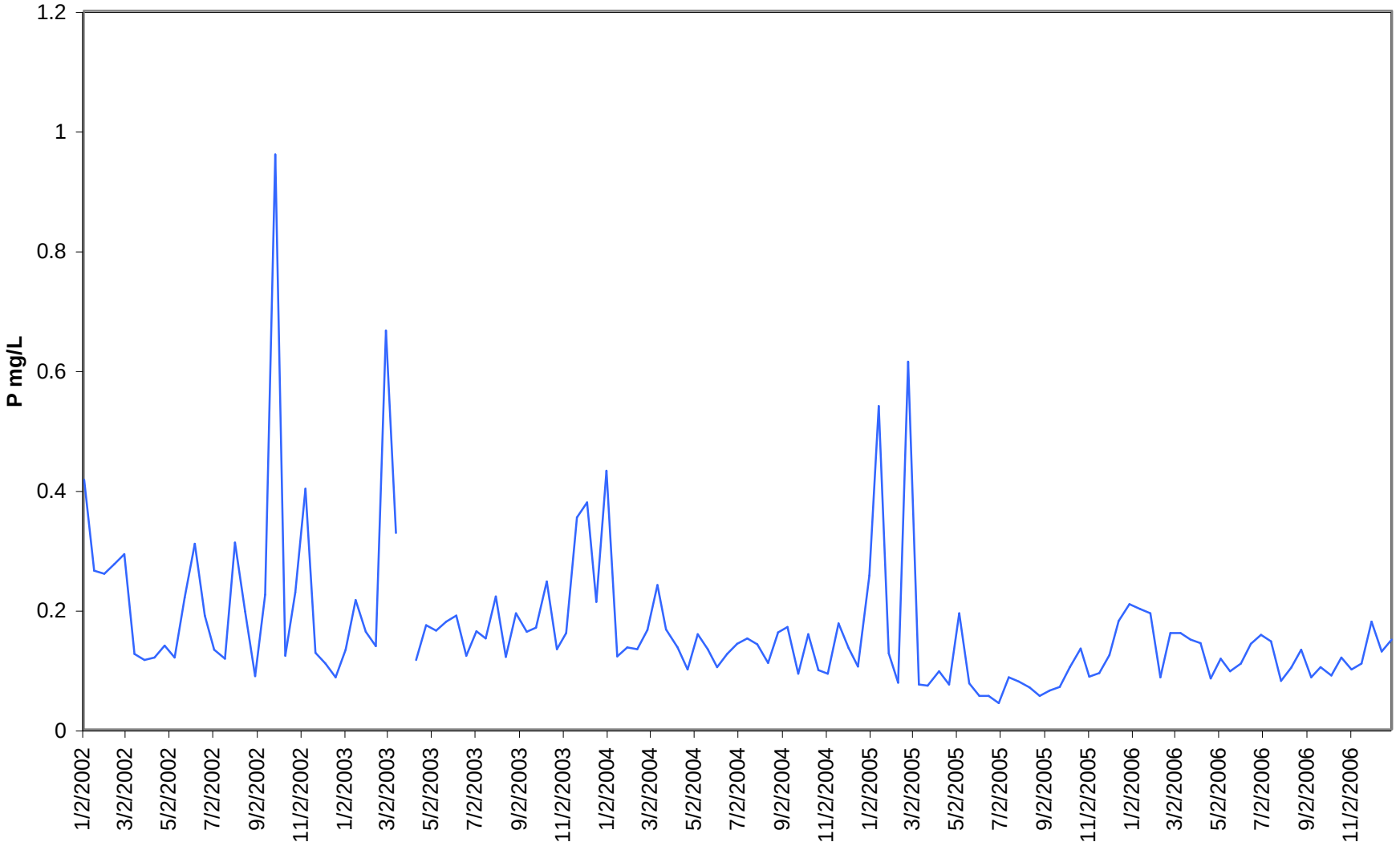

LW6.05 Water Temperature
°C
35
30
25
20
15
10
5
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006


LW6.05 pH
S.U.
10
9
8
7
6
5
4
3
2
1
0
pH BUS: 6.5-9.0 SU
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

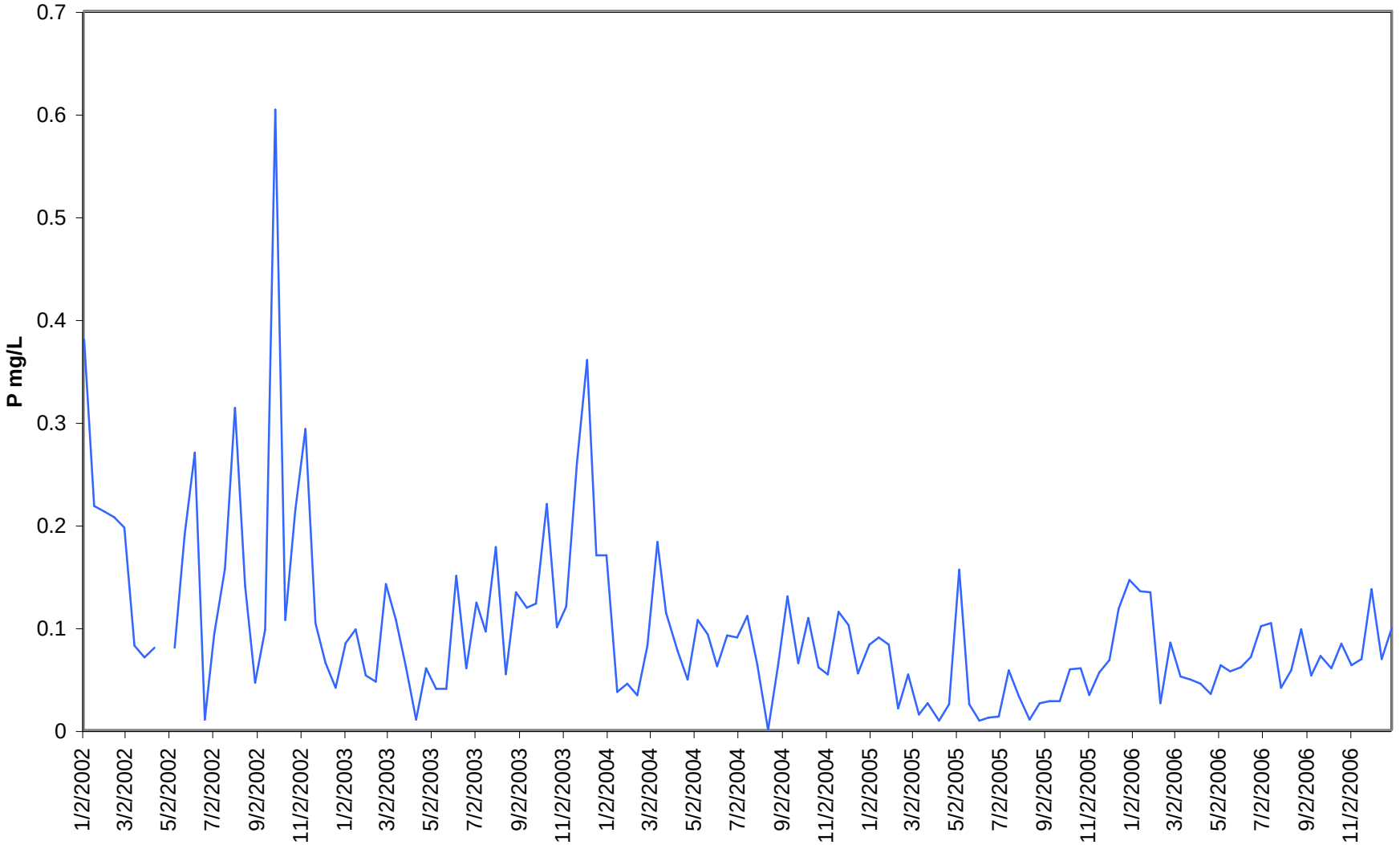

LW6.05 Dissolved Oxygen
DO mg/L
12
10
8
6
4
2
0
Dissolved Oxygen BUS: to maintain aerobic conditions
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006


LW6.05 Conductivity
uS/cm
3000
2500
2000
1500
1000
500
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

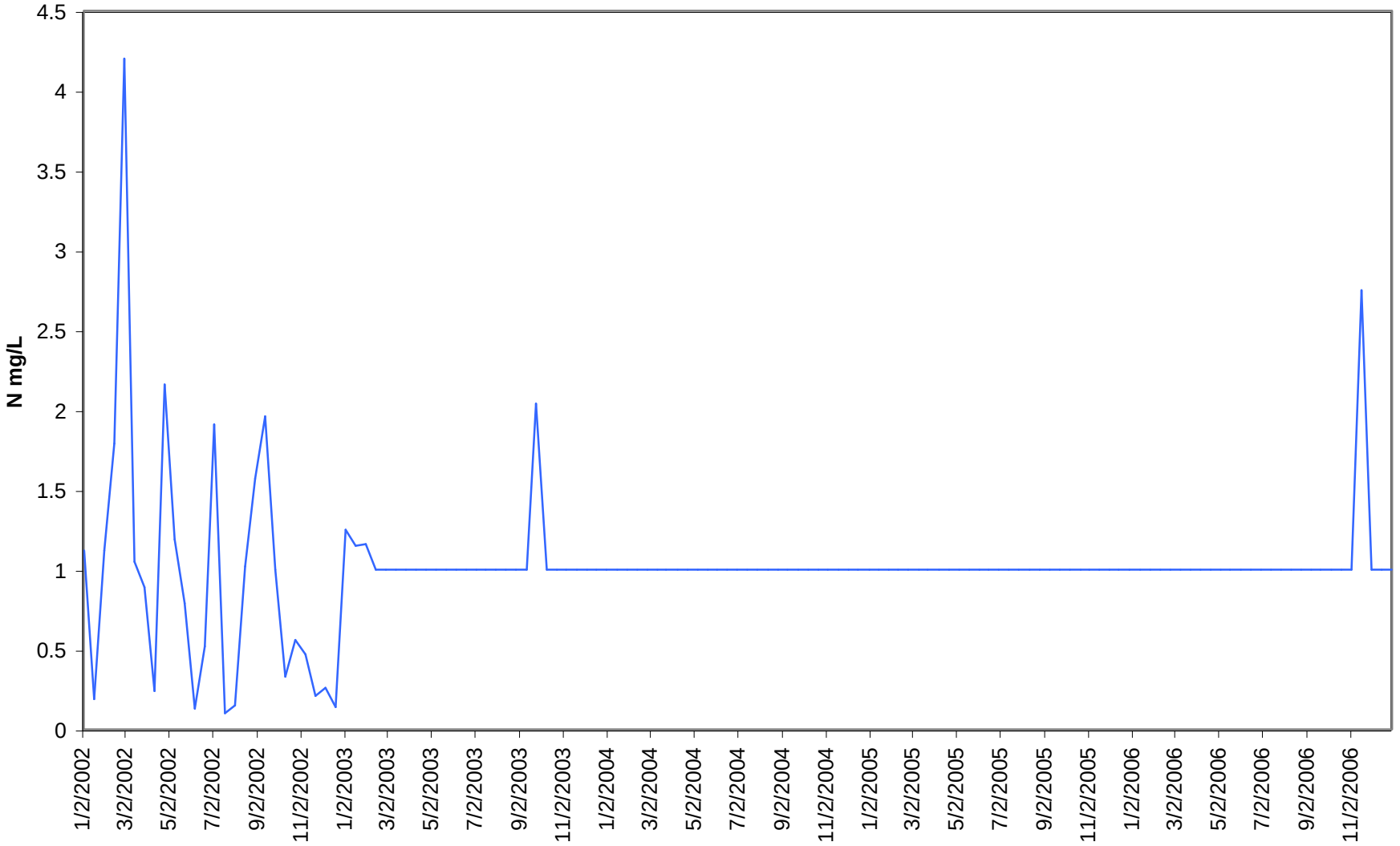
LW6.05 Total Phosphorus



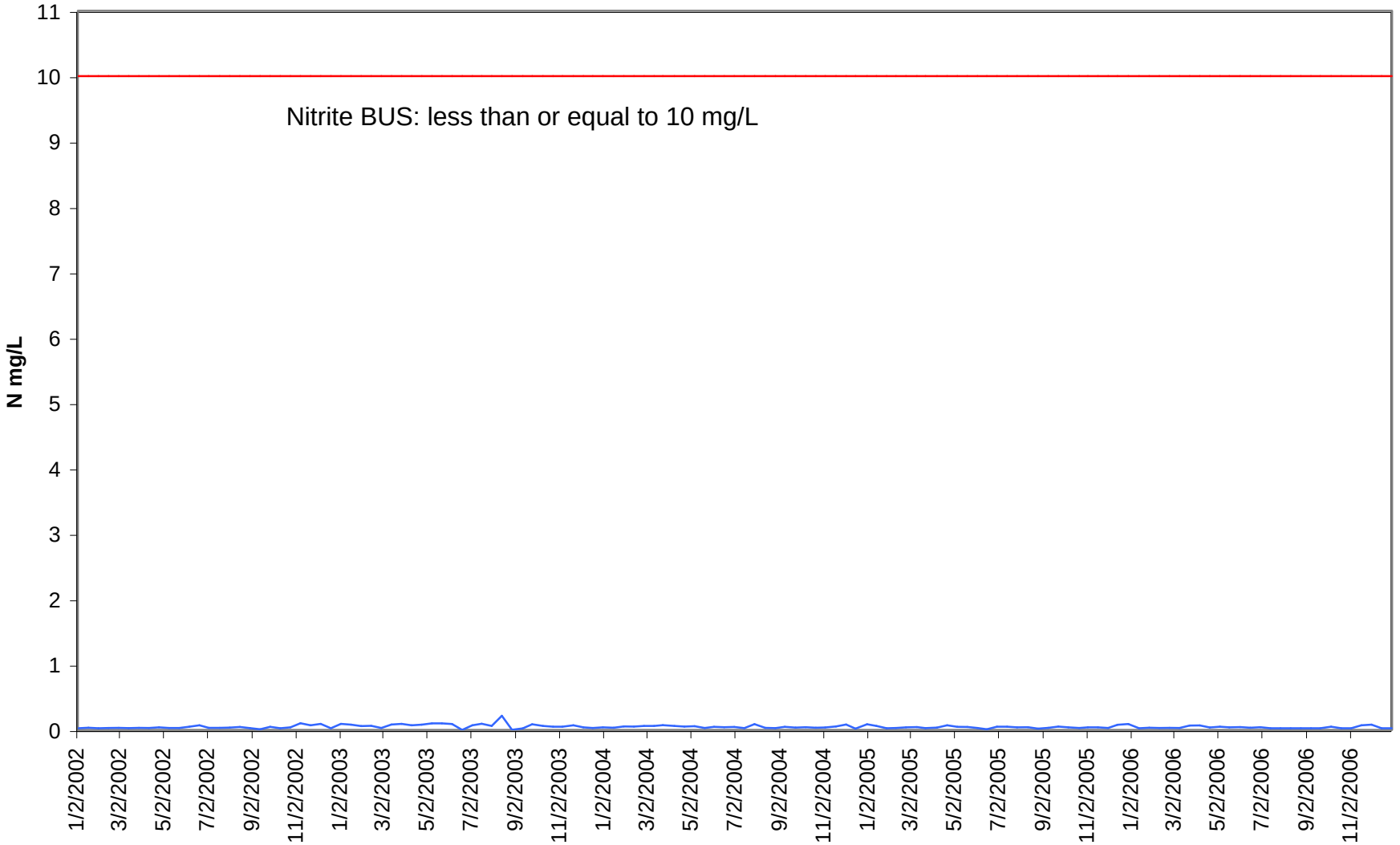
LW6.05 Dissolved ortho-Phosphorus

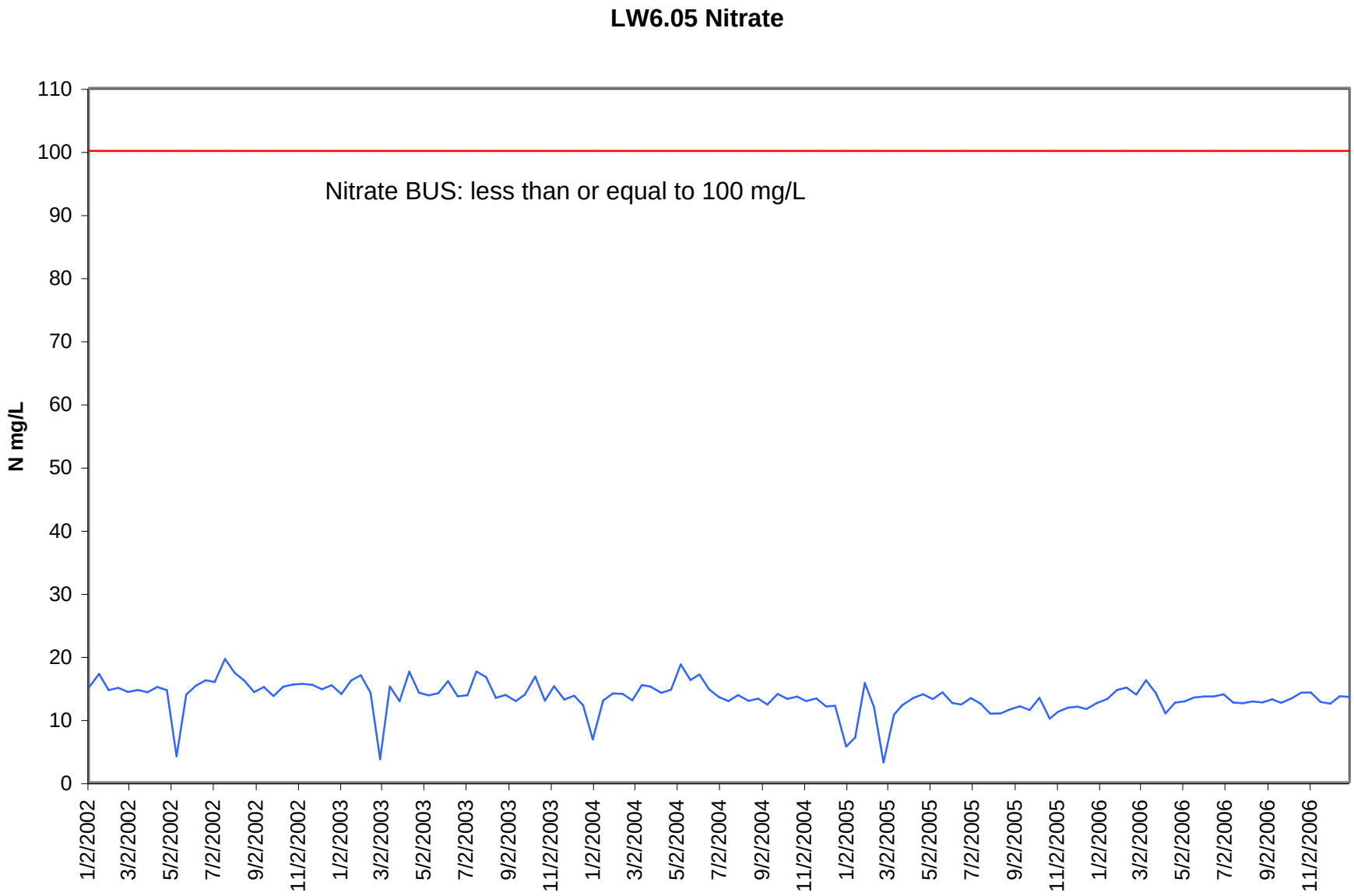


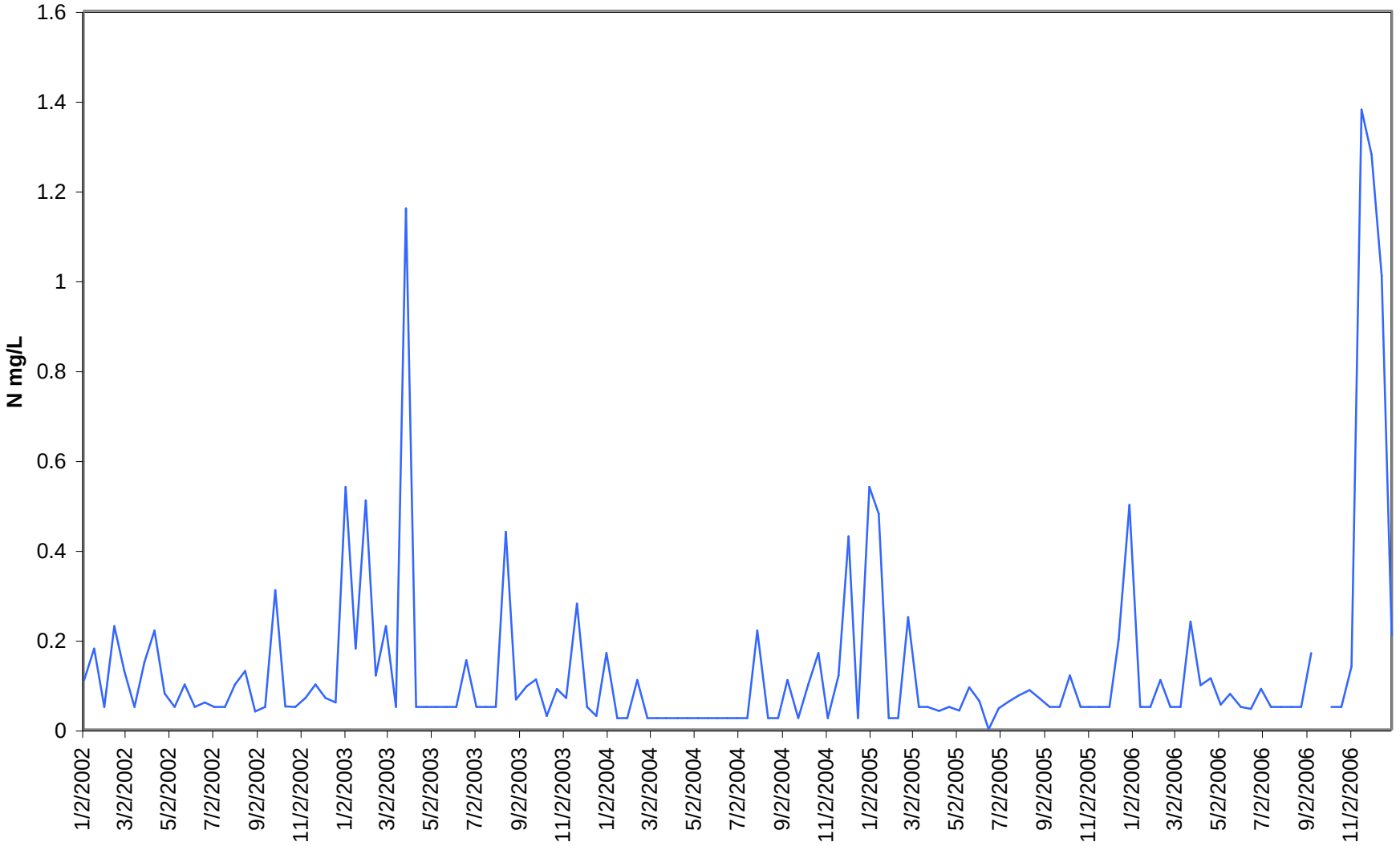
LW6.05 Total Kjeldahl Nitrogen



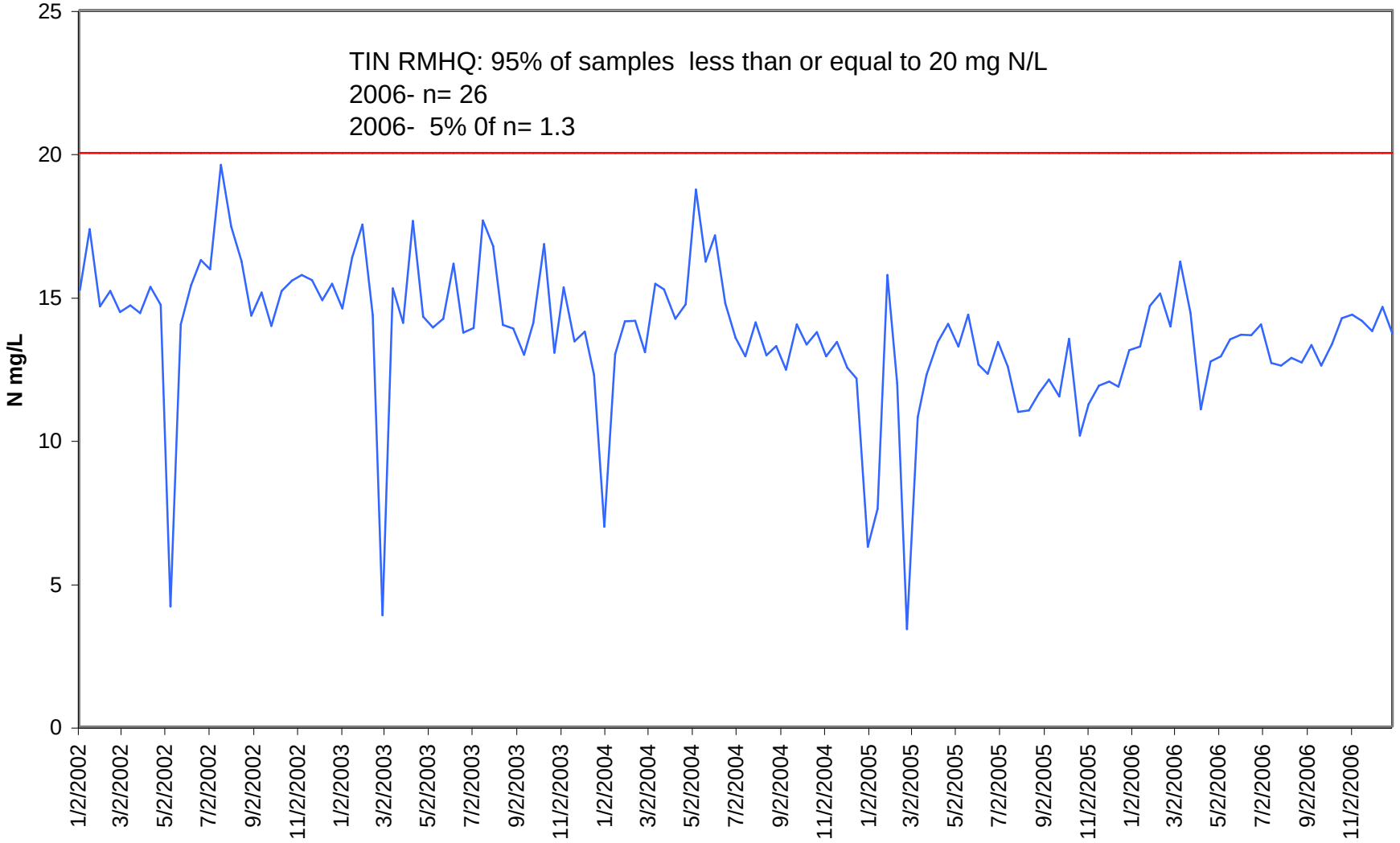
LW6.05 Nitrite



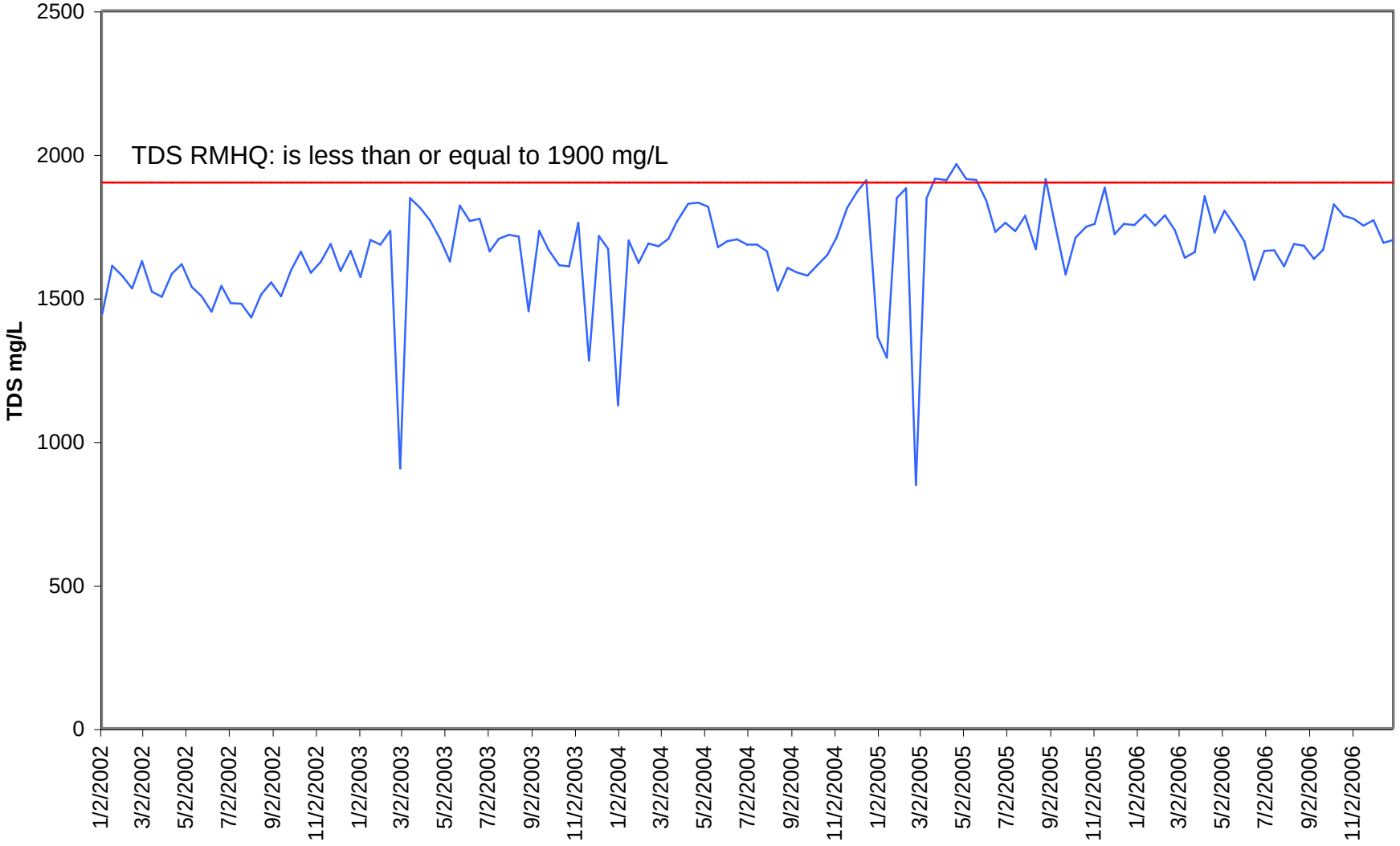

LW6.05 Nitrate
Nitrate BUS: less than or equal to 100 mg/L
N mg/L
110
100
90
80
70
60
50
40
30
20
10
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006


LW6.05 Ammonia
N mg/L
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

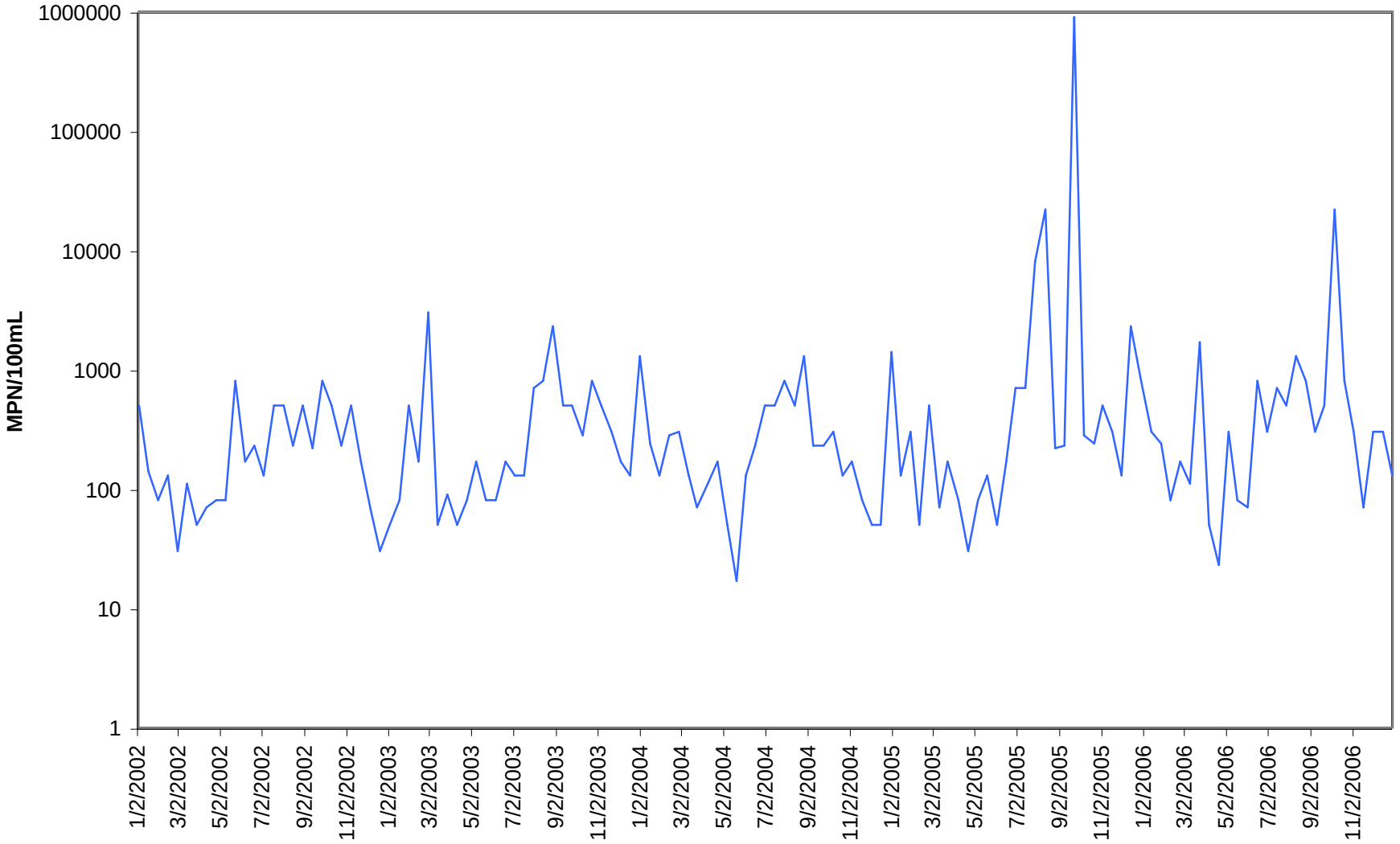
LW6.05 Total Inorganic Nitrogen

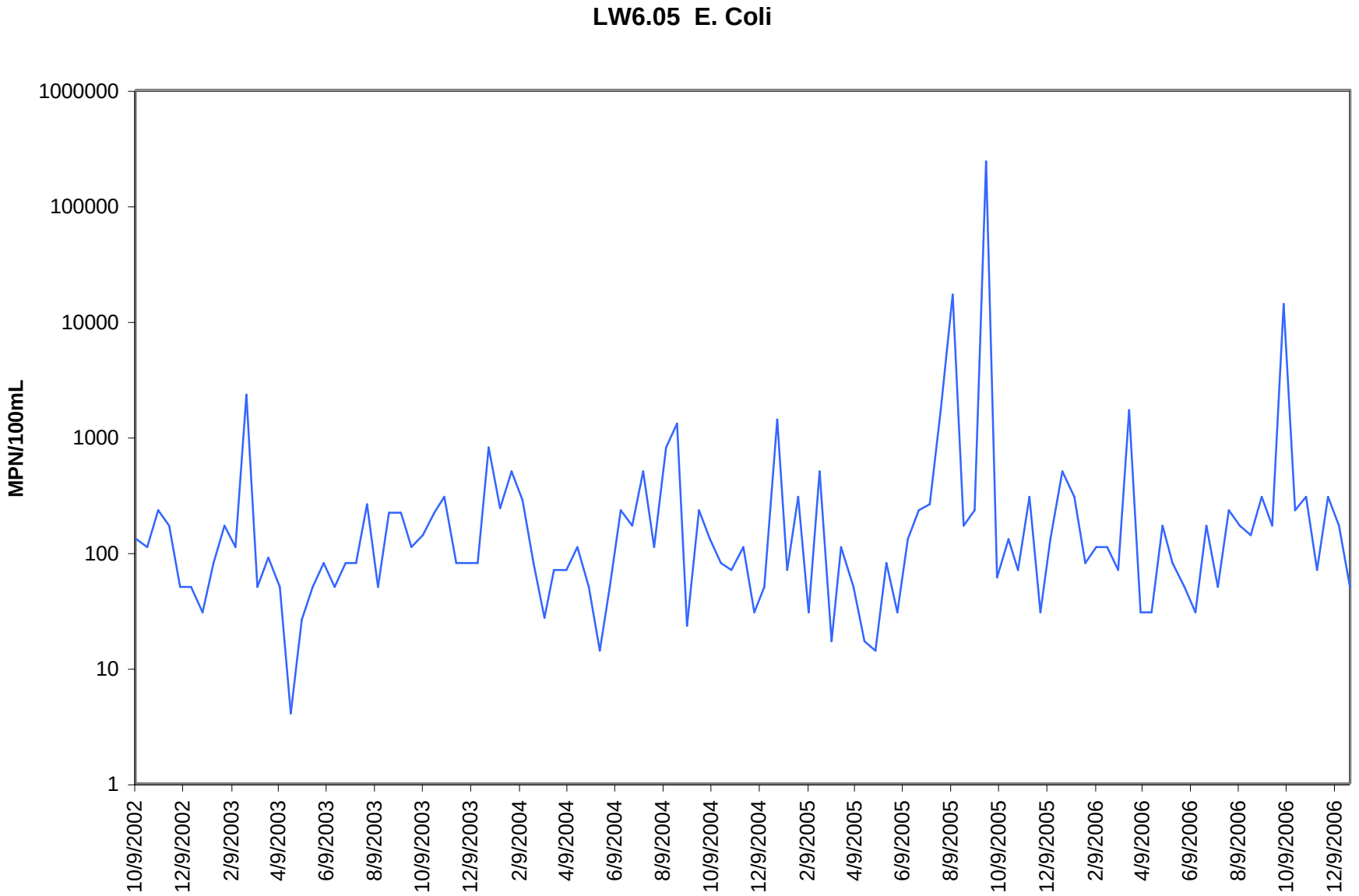


LW6.05 Total Dissolved Solids

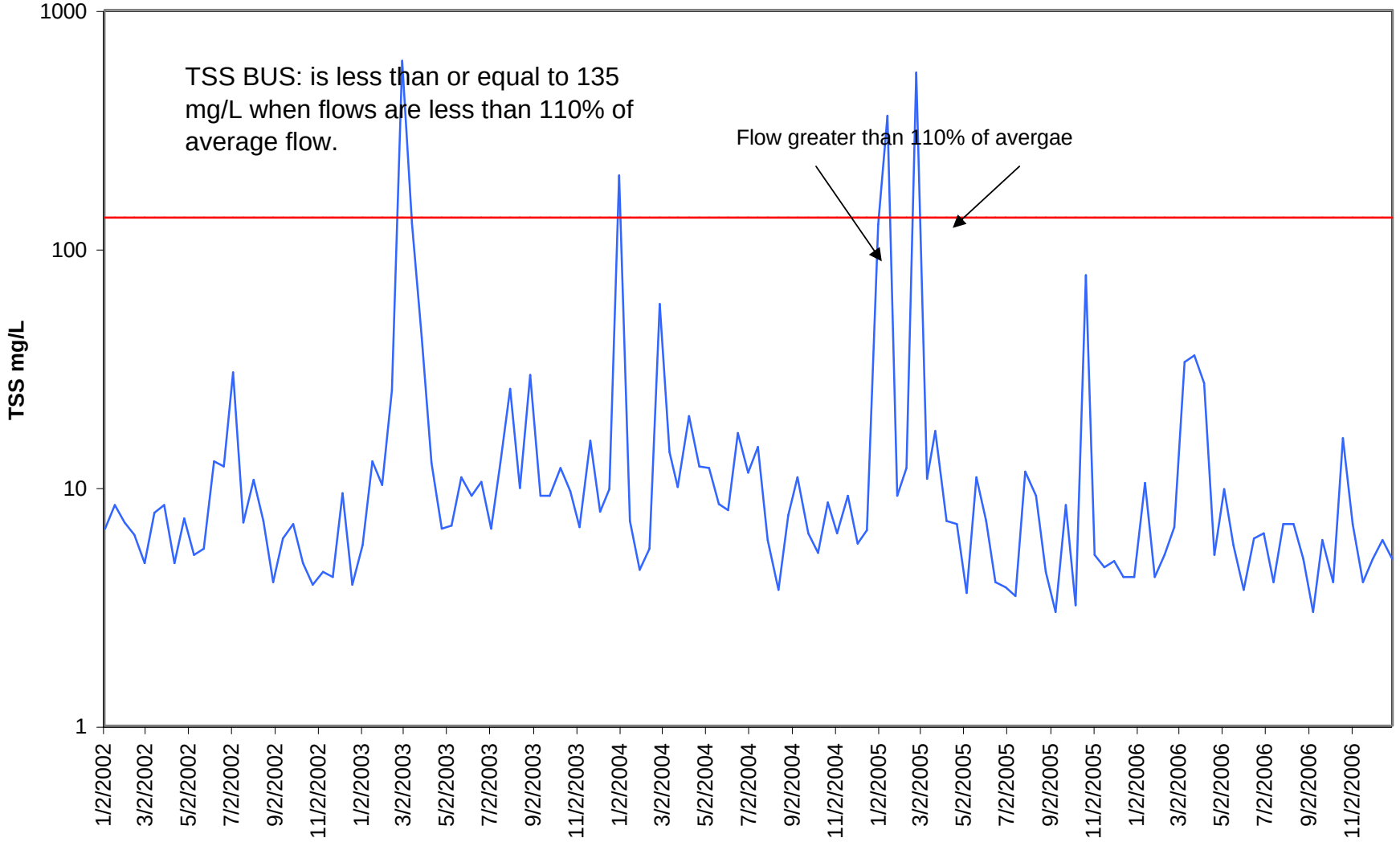


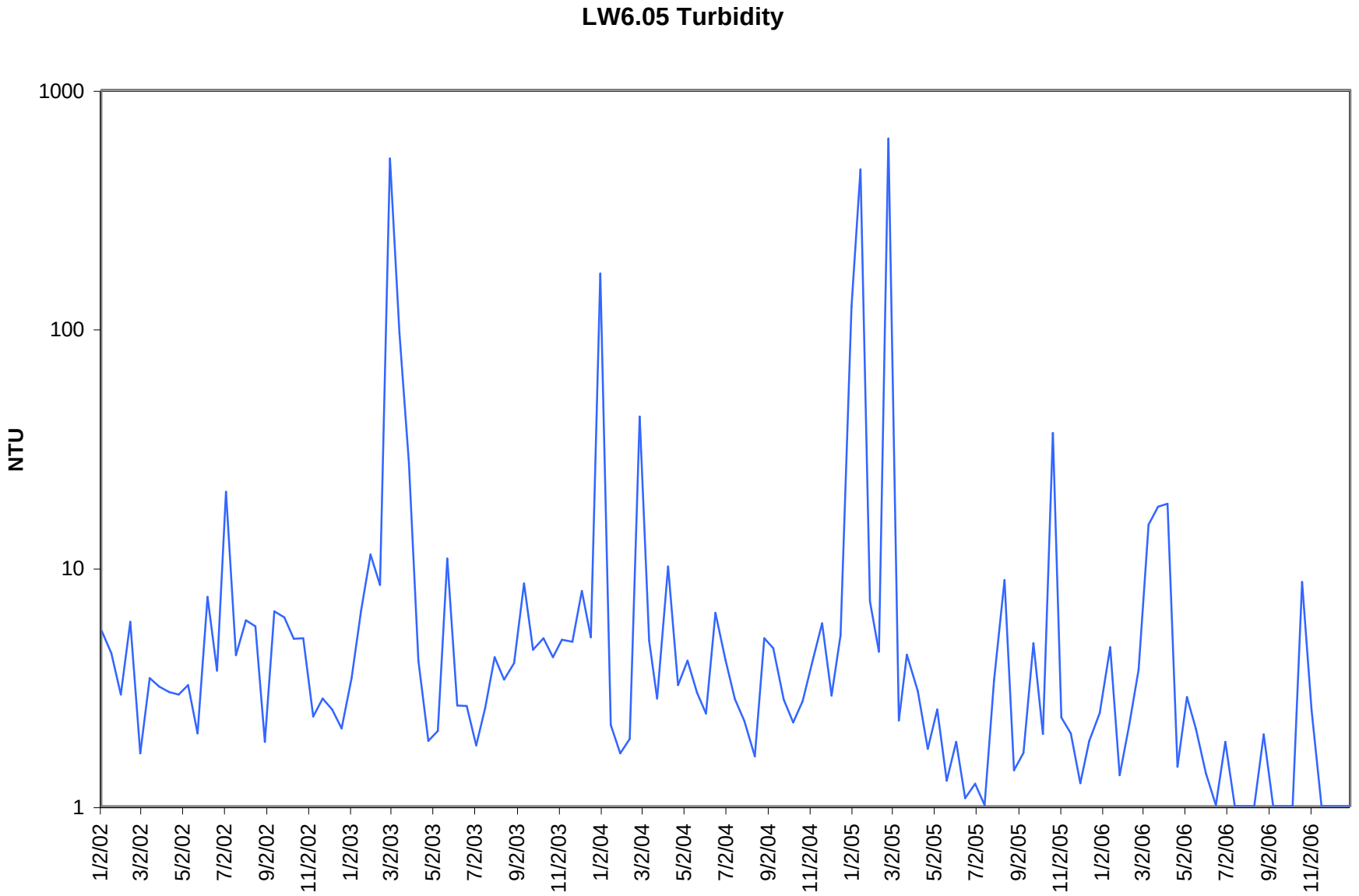
LW6.05 Fecal Coliforms



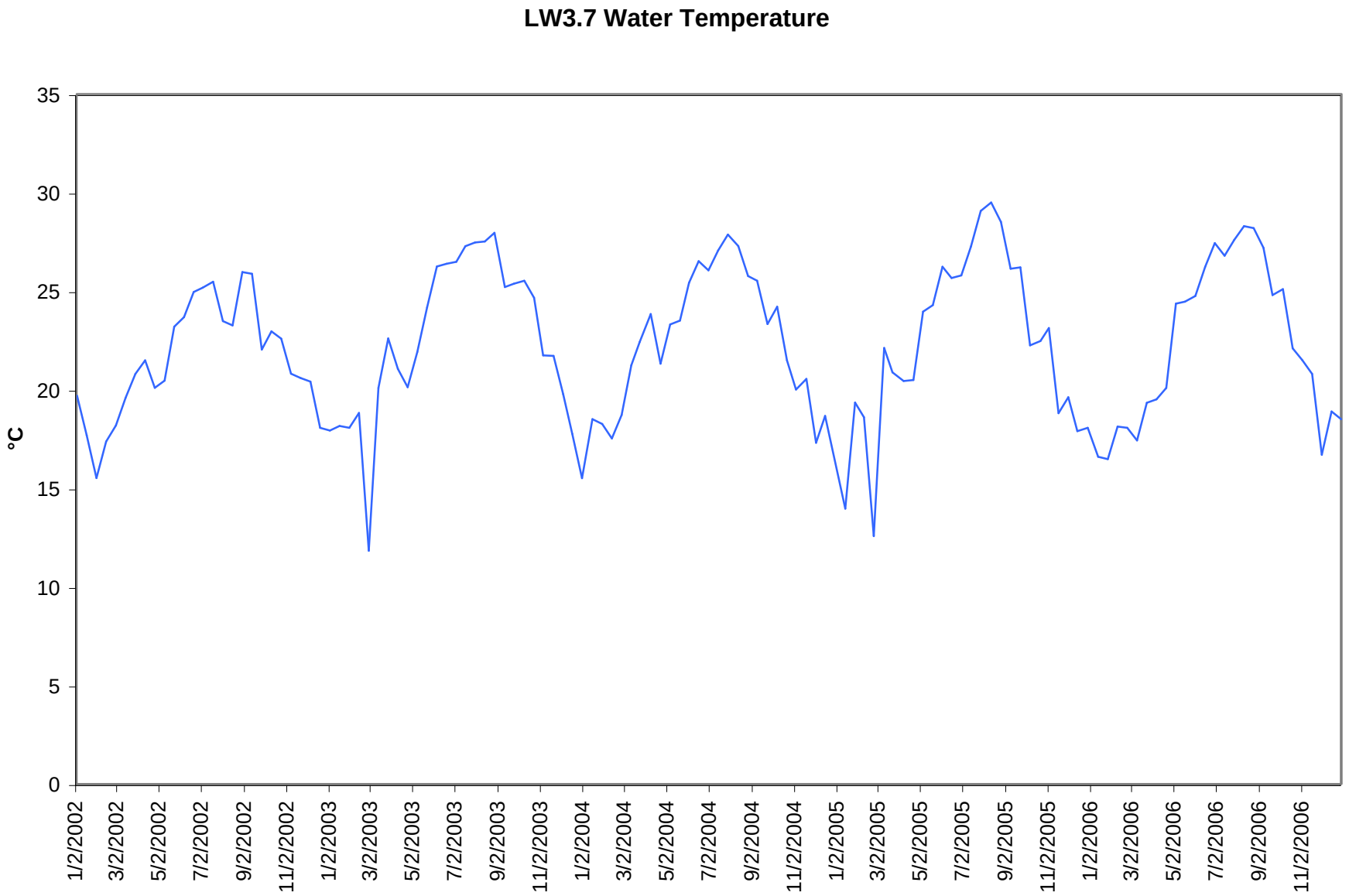

LW6.05 E. Coli
MPN/100mL
1000000
100000
10000
1000
100
10
1
10/9/2002
12/9/2002
2/9/2003
4/9/2003
6/9/2003
8/9/2003
10/9/2003
12/9/2003
2/9/2004
4/9/2004
6/9/2004
8/9/2004
10/9/2004
12/9/2004
2/9/2005
4/9/2005
6/9/2005
8/9/2005
10/9/2005
12/9/2005
2/9/2006
4/9/2006
6/9/2006
8/9/2006
10/9/2006
12/9/2006

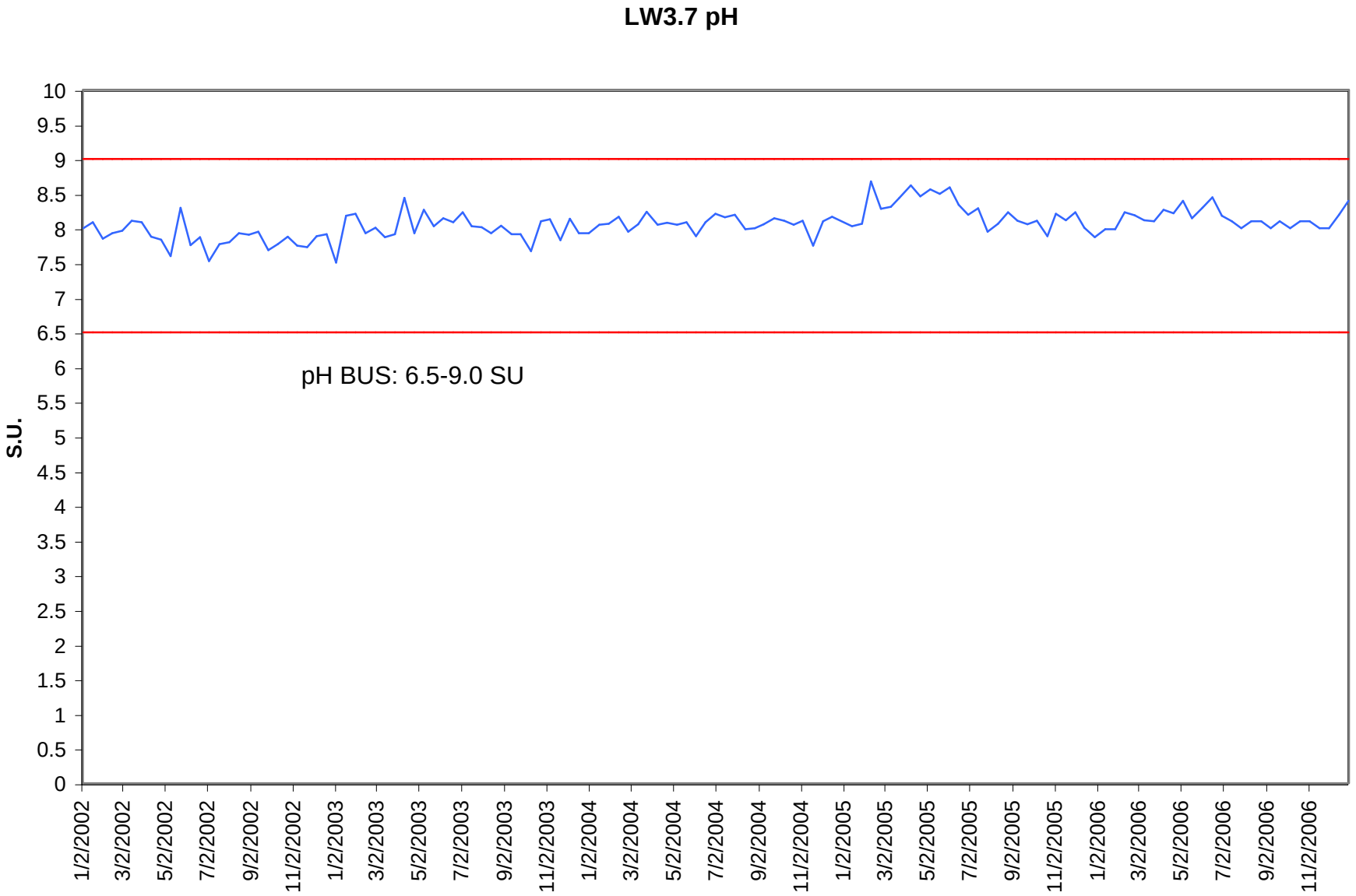
LW6.05 Total Suspended Solids



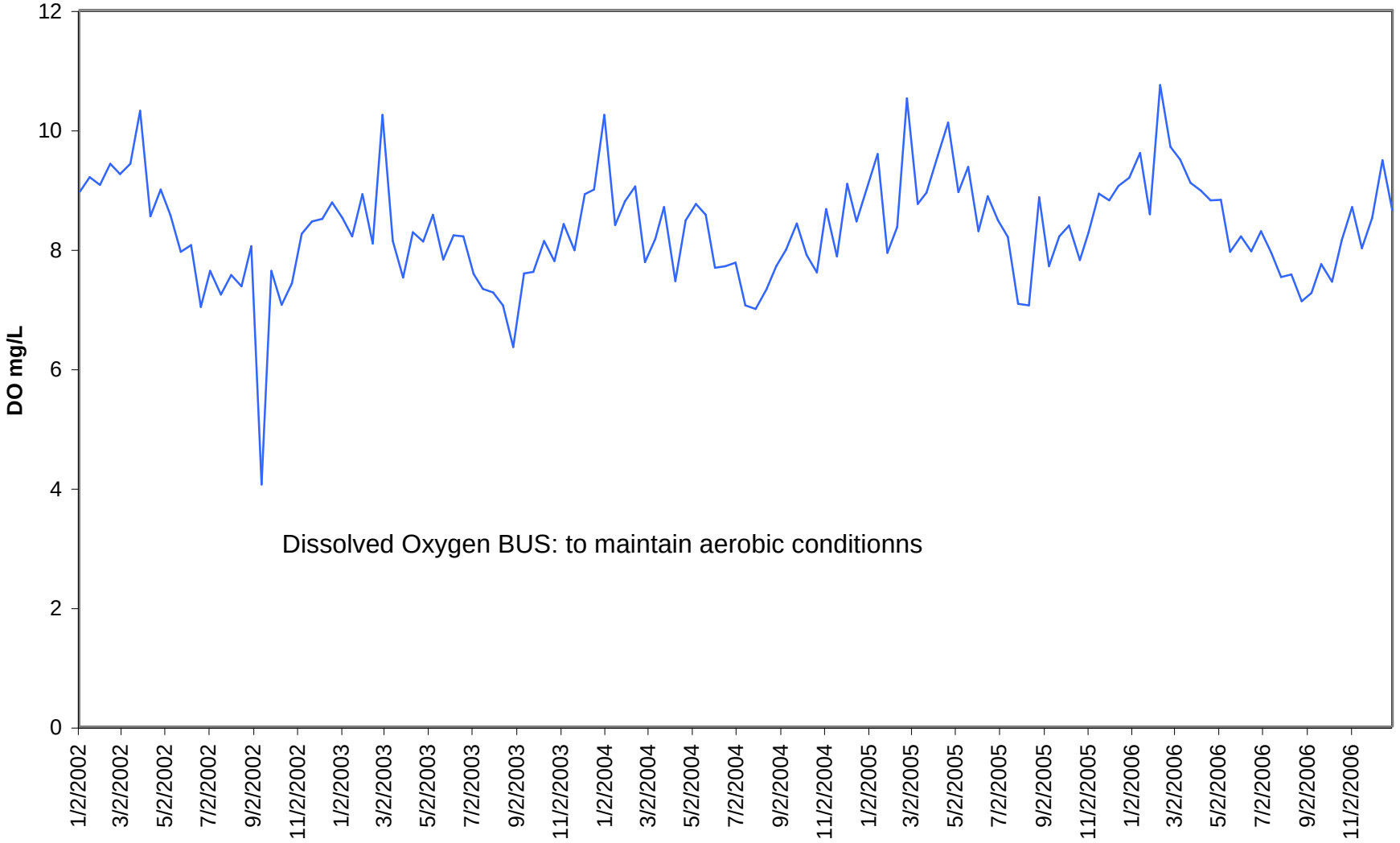

LW6.05 Turbidity
NTU
1000
100
10
1
1/2/02
3/2/02
5/2/02
7/2/02
9/2/02
11/2/02
1/2/03
3/2/03
5/2/03
7/2/03
9/2/03
11/2/03
1/2/04
3/2/04
5/2/04
7/2/04
9/2/04
11/2/04
1/2/05
3/2/05
5/2/05
7/2/05
9/2/05
11/2/05
1/2/06
3/2/06
5/2/06
7/2/06
9/2/06
11/2/06

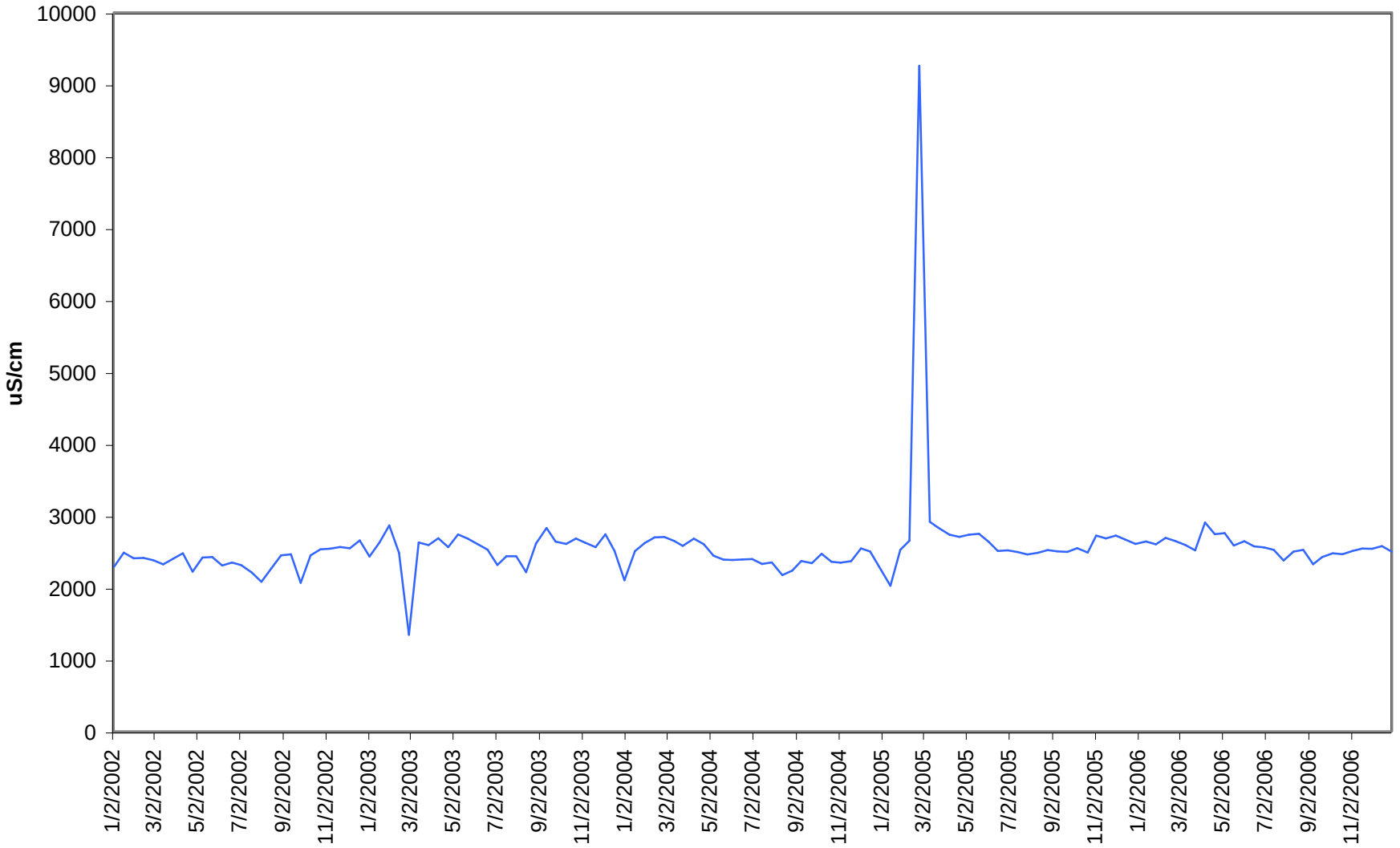
LW3.7


LW3.7 Water Temperature
°C
35
30
25
20
15
10
5
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

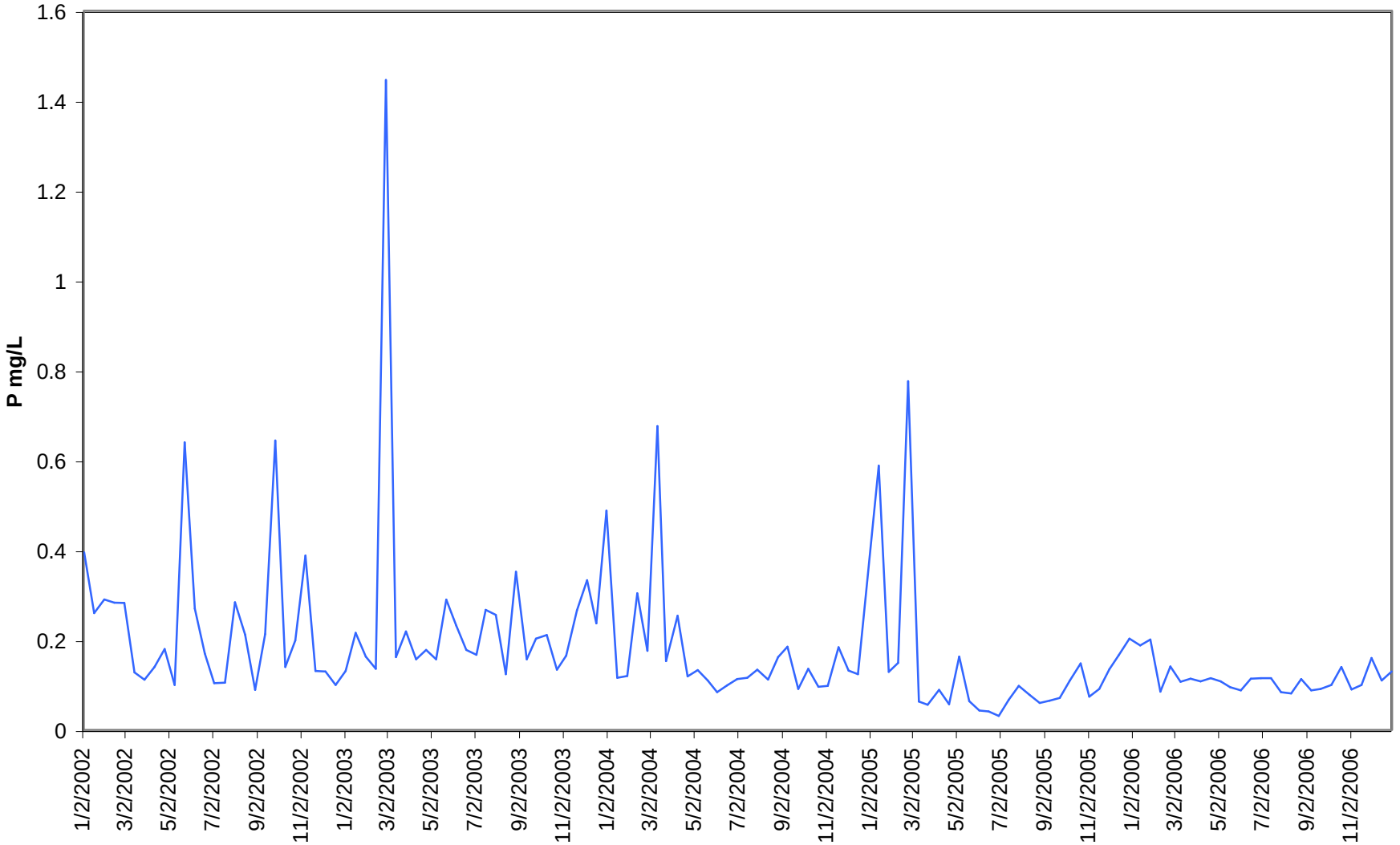

LW3.7 pH
S.U.
10
9.5
9
8.5
8
7.5
7
6.5
6
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
pH BUS: 6.5-9.0 SU
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

LW3.7 Dissolved Oxygen

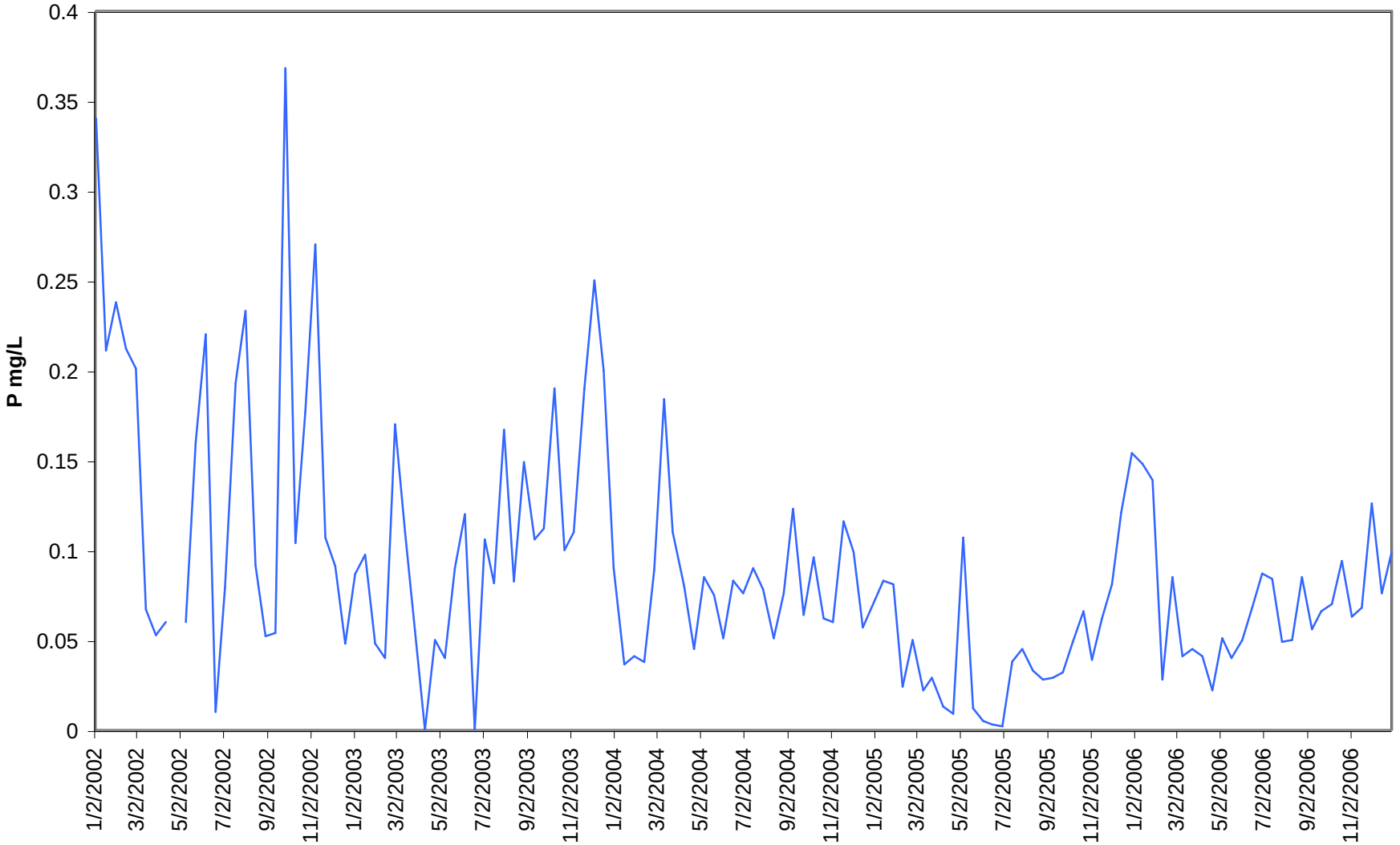



LW3.7 Conductivity
uS/cm
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

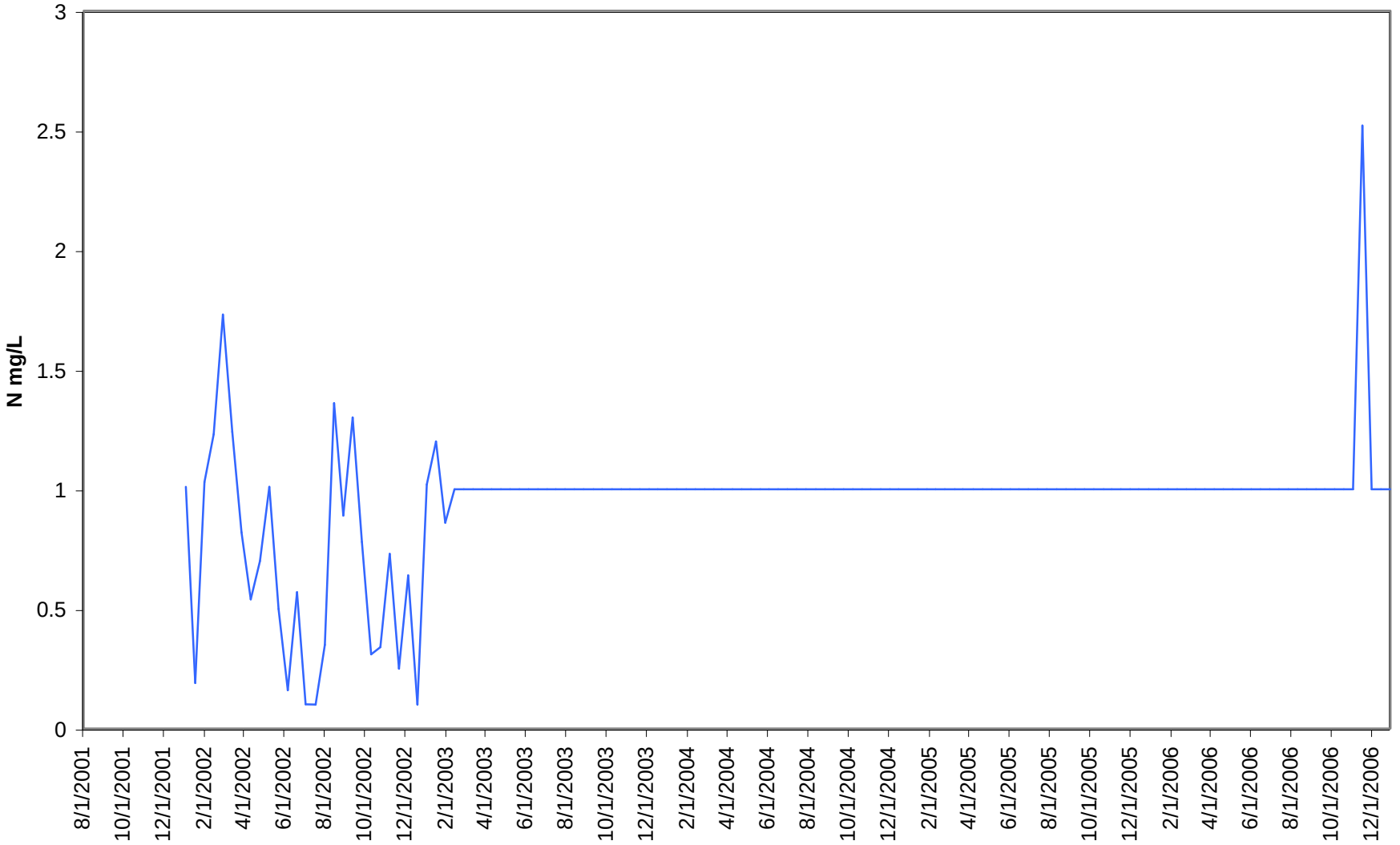
LW3.7 Total Phosphorus



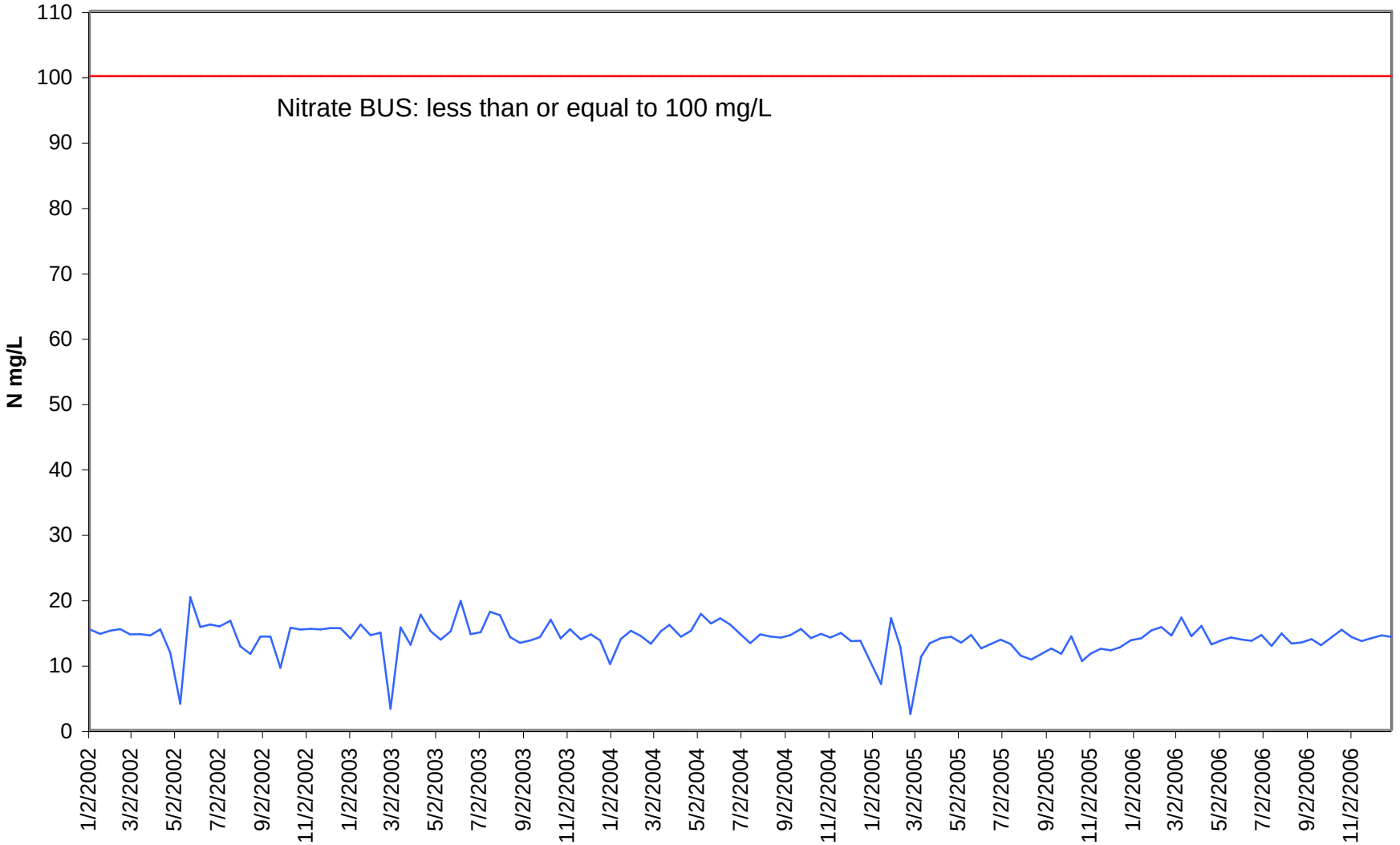
LW3.7 Dissolved ortho-Phosphorus



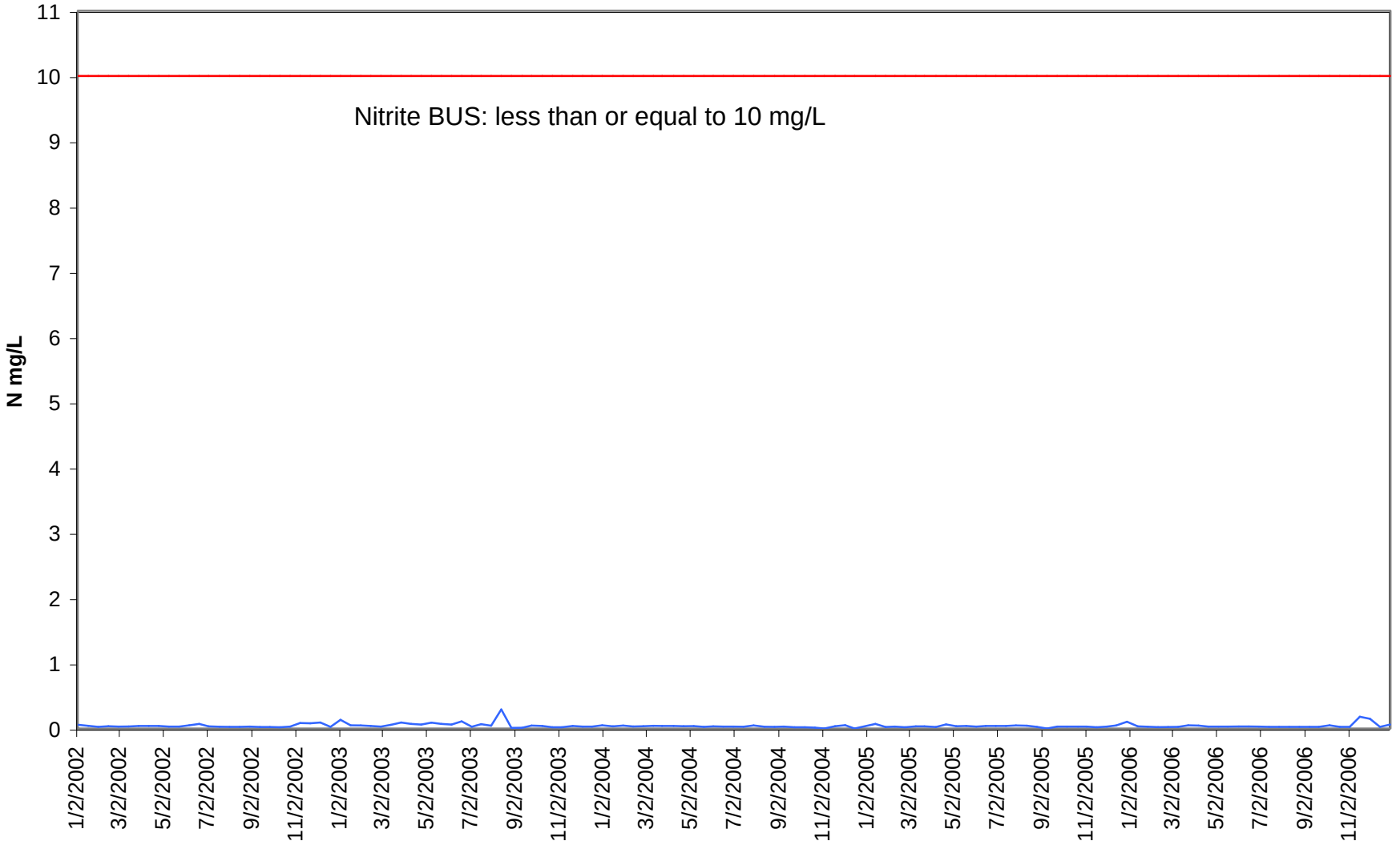
LW3.7 Total Kjeldahl Nitrogen



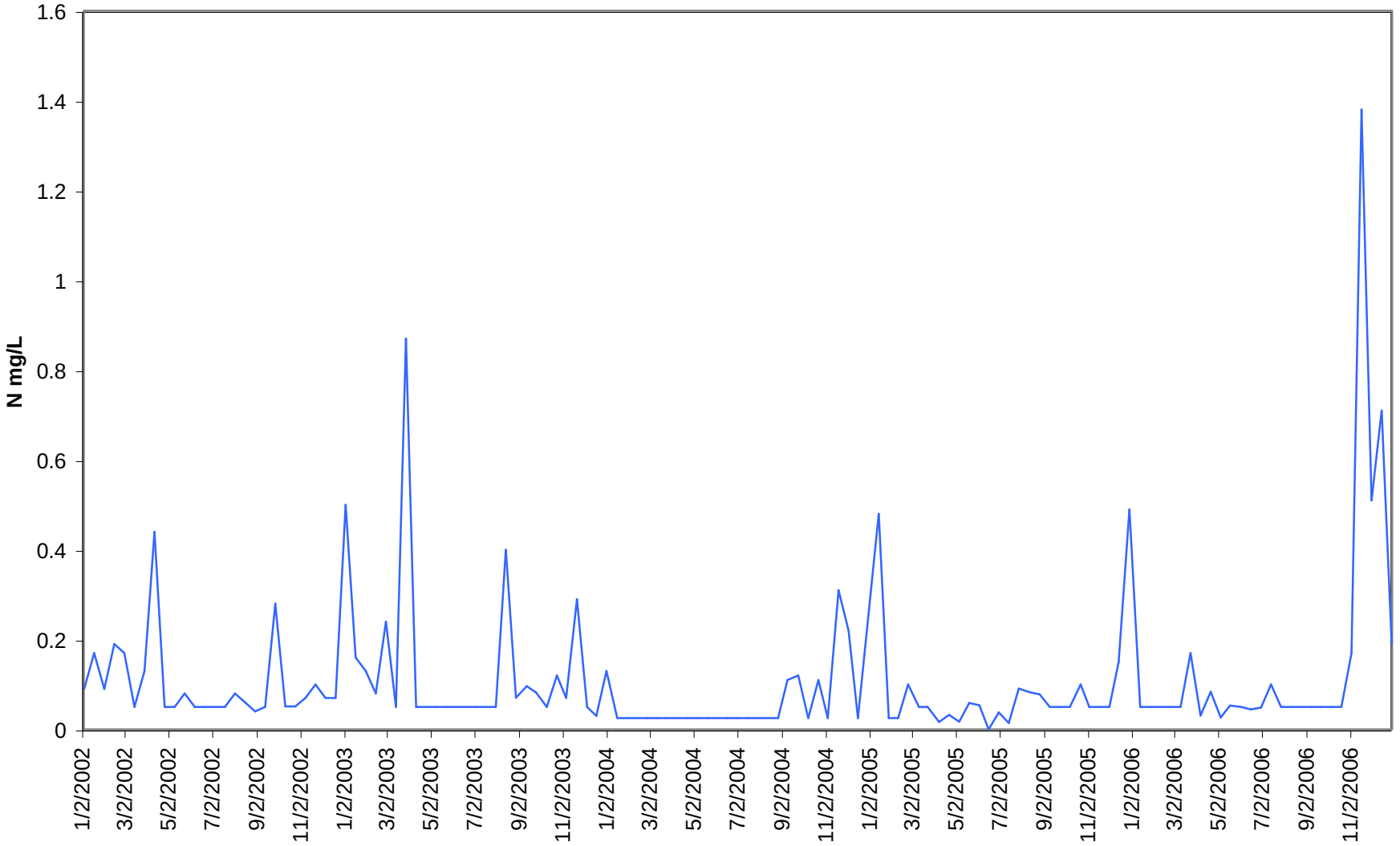
LW3.7 Nitrate



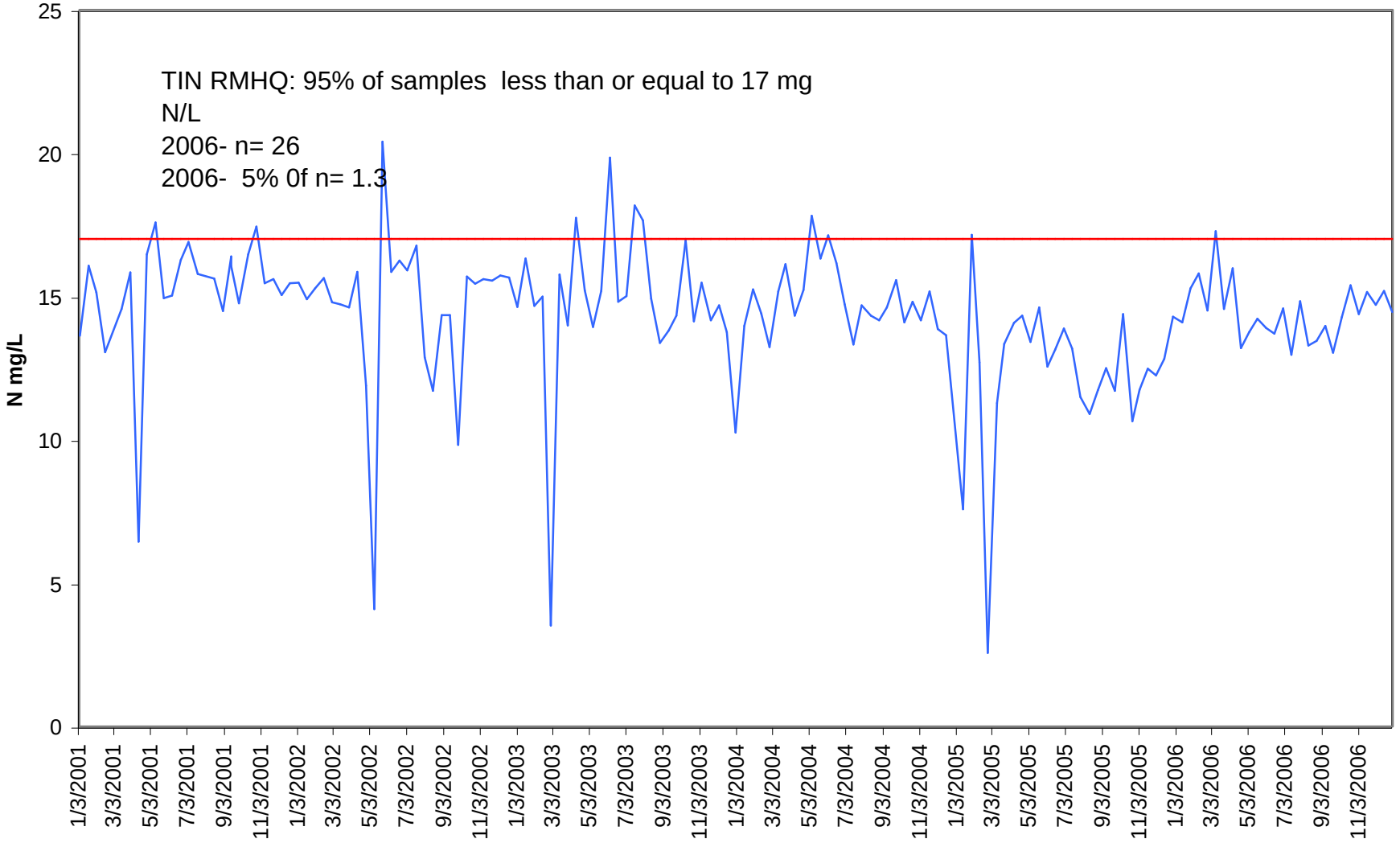
LW3.7 Nitrite



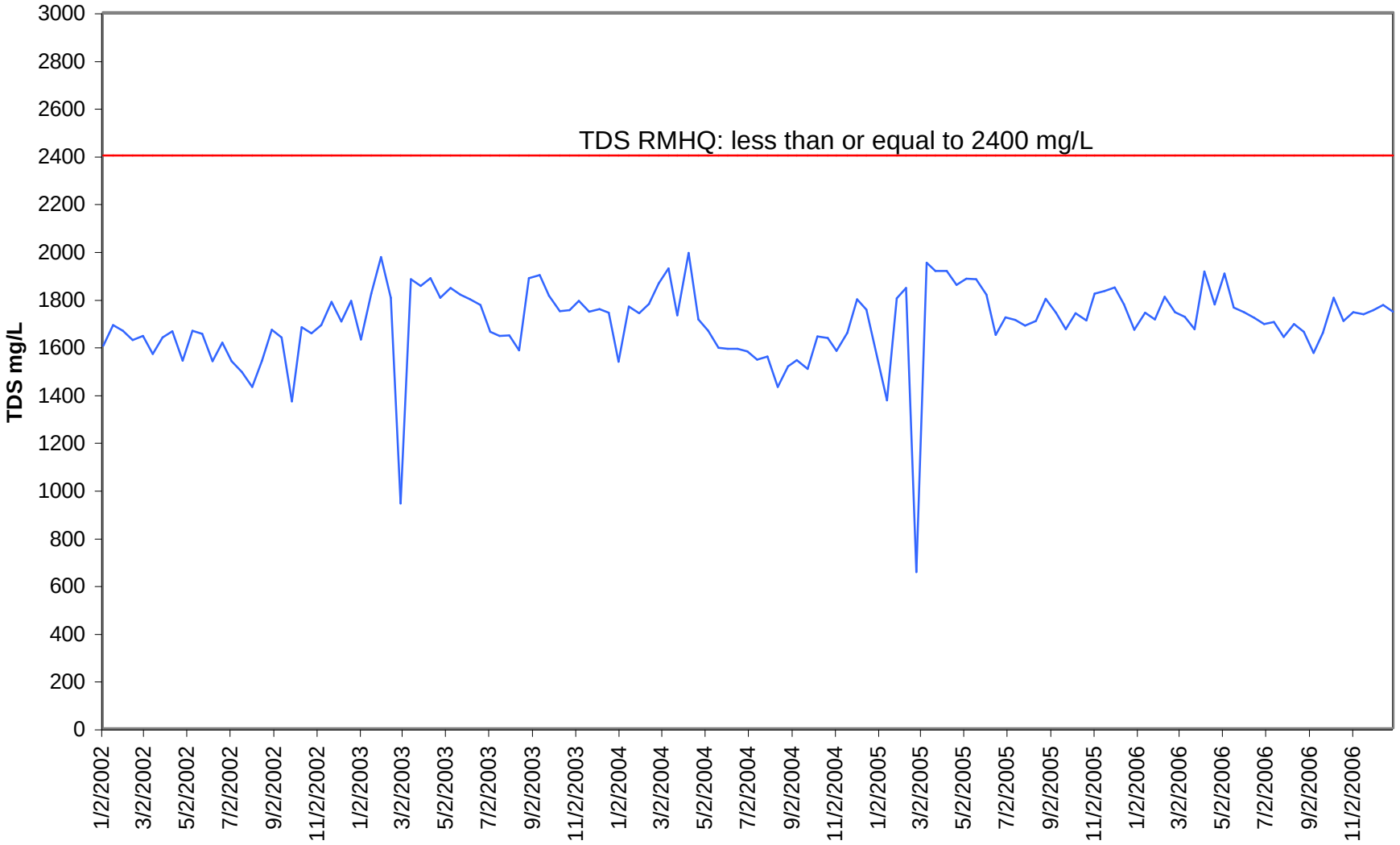
LW3.7 Ammonia

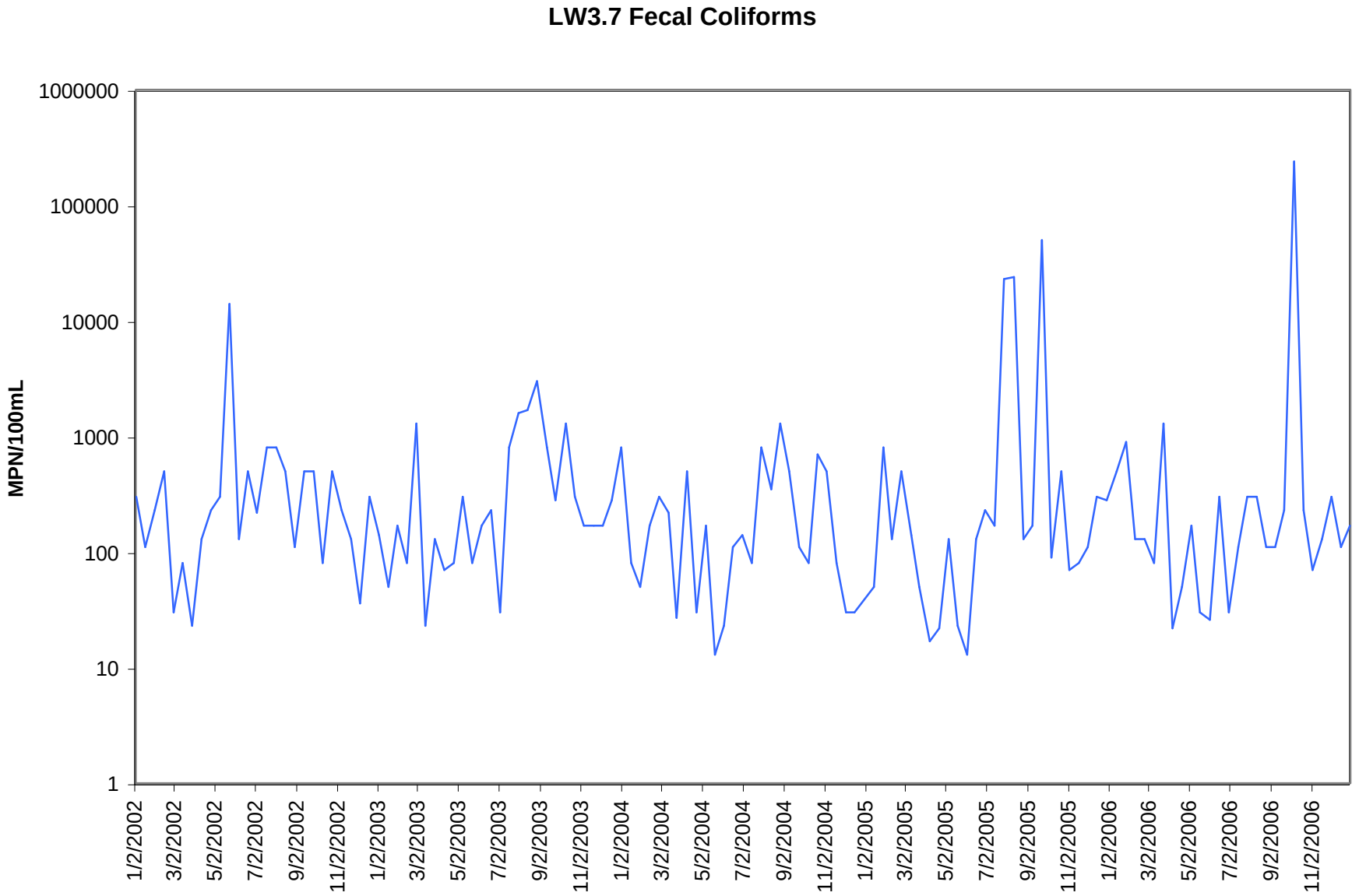


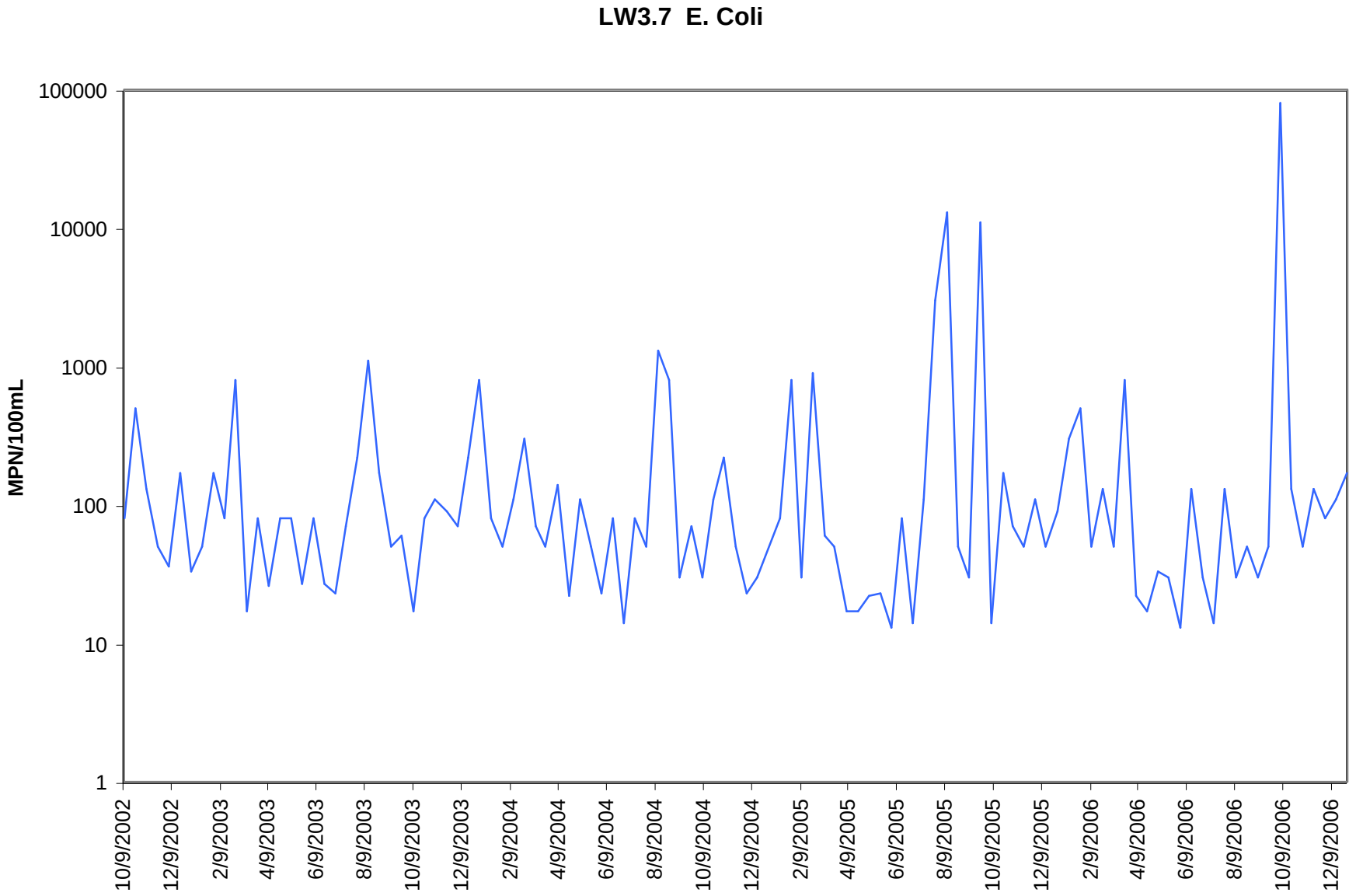
LW3.7 Total Inorganic Nitrogen

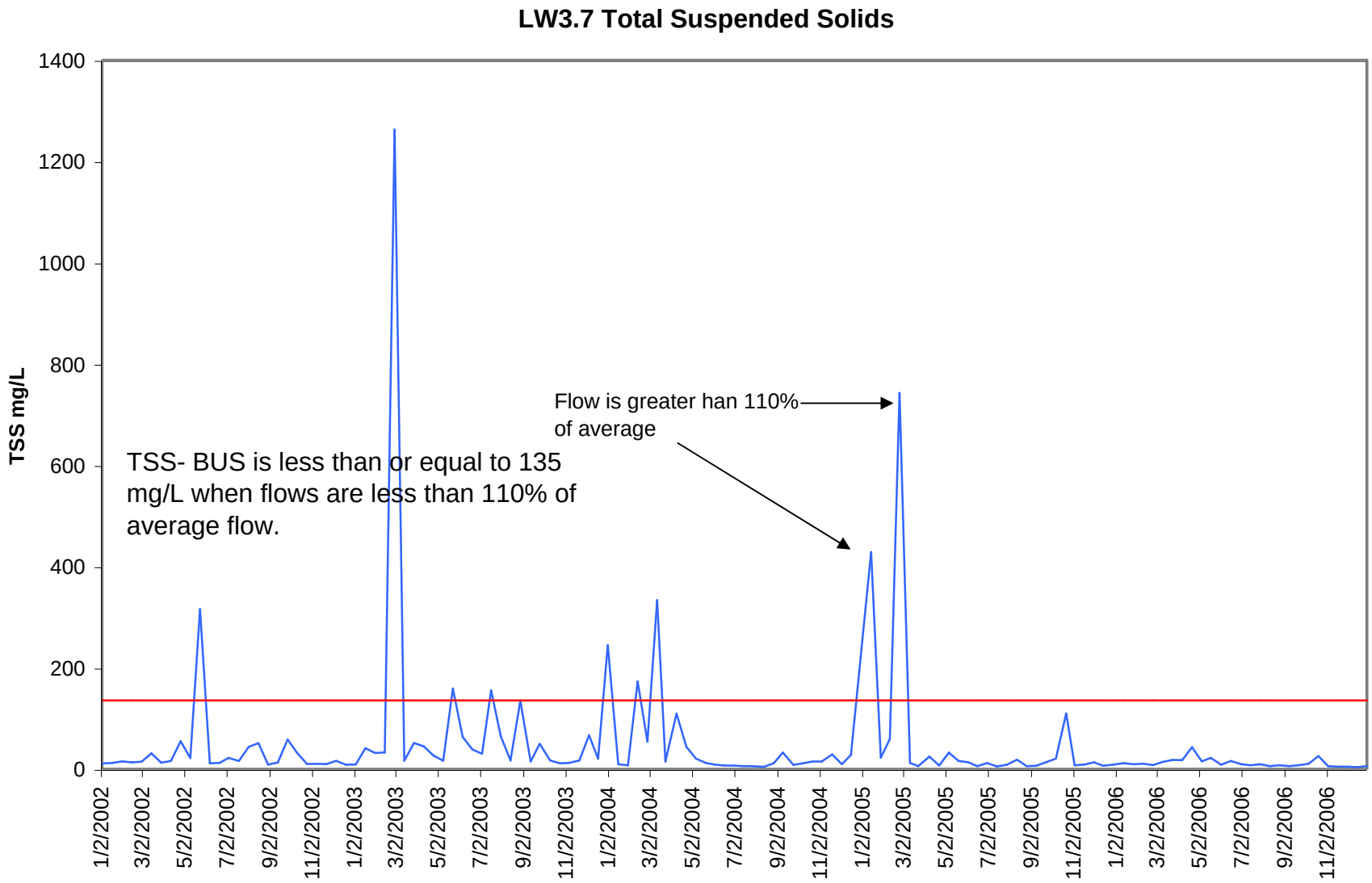


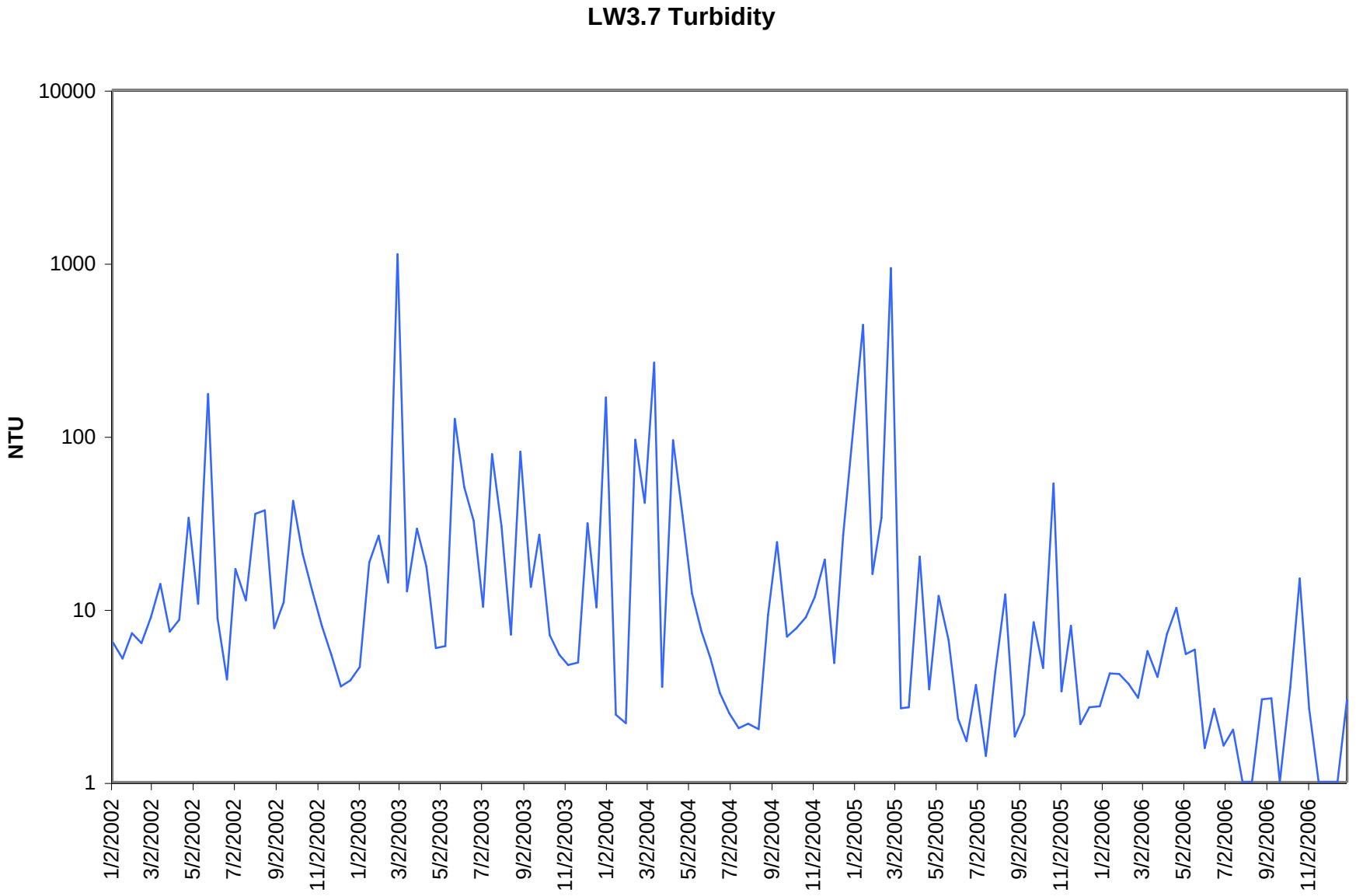
LW3.7 Total Dissolved Solids



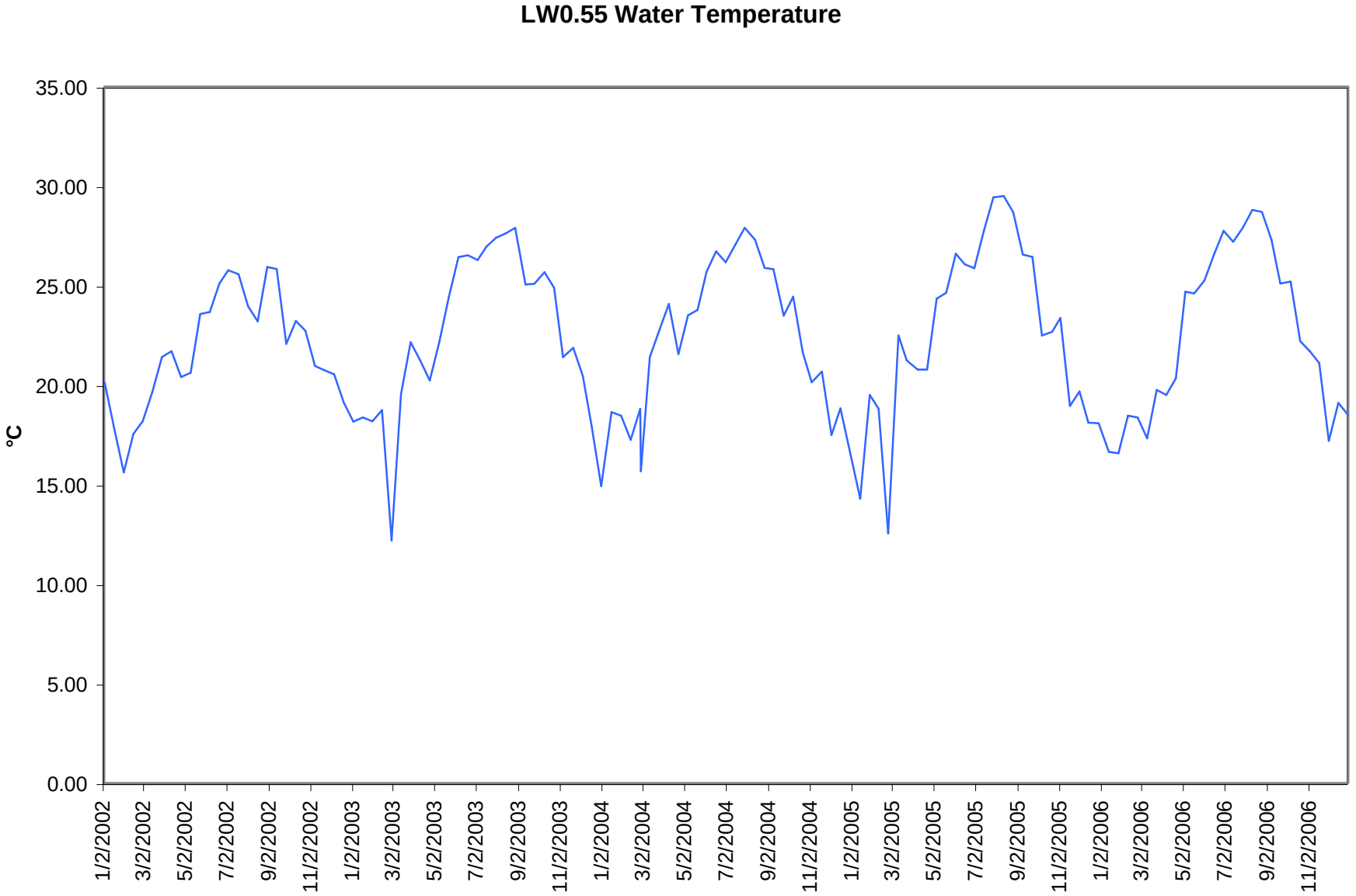

LW3.7 Fecal Coliforms
MPN/100mL
1000000
100000
10000
1000
100
10
1
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

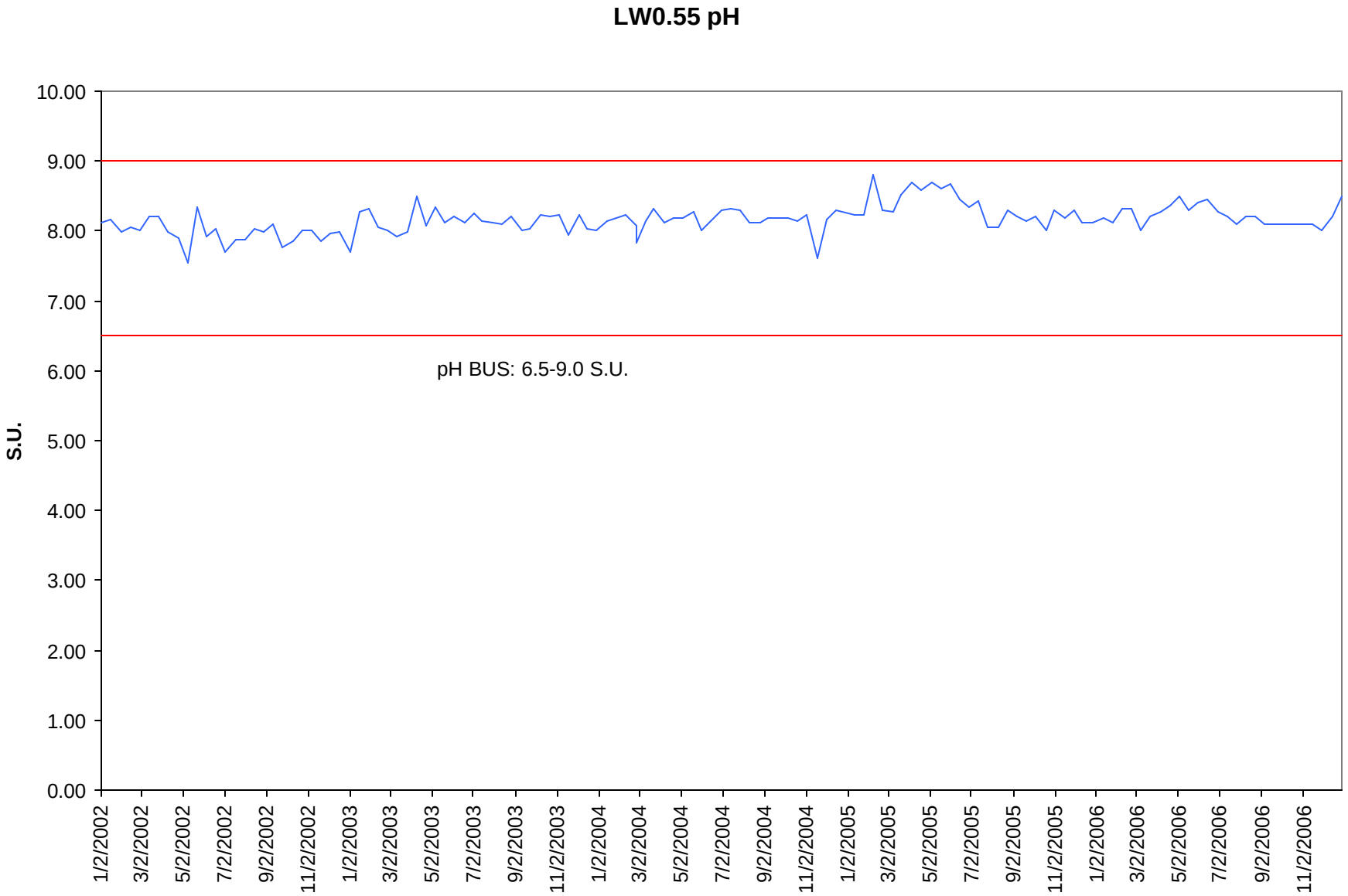

LW3.7 E. Coli
MPN/100mL
100000
10000
1000
100
10
1
10/9/2002
12/9/2002
2/9/2003
4/9/2003
6/9/2003
8/9/2003
10/9/2003
12/9/2003
2/9/2004
4/9/2004
6/9/2004
8/9/2004
10/9/2004
12/9/2004
2/9/2005
4/9/2005
6/9/2005
8/9/2005
10/9/2005
12/9/2005
2/9/2006
4/9/2006
6/9/2006
8/9/2006
10/9/2006
12/9/2006


LW3.7 Total Suspended Solids
TSS mg/L
1400
1200
1000
800
600
400
200
0
Flow is greater han 110% of average
TSS- BUS is less than or equal to 135 mg/L when flows are less than 110% of average flow.
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

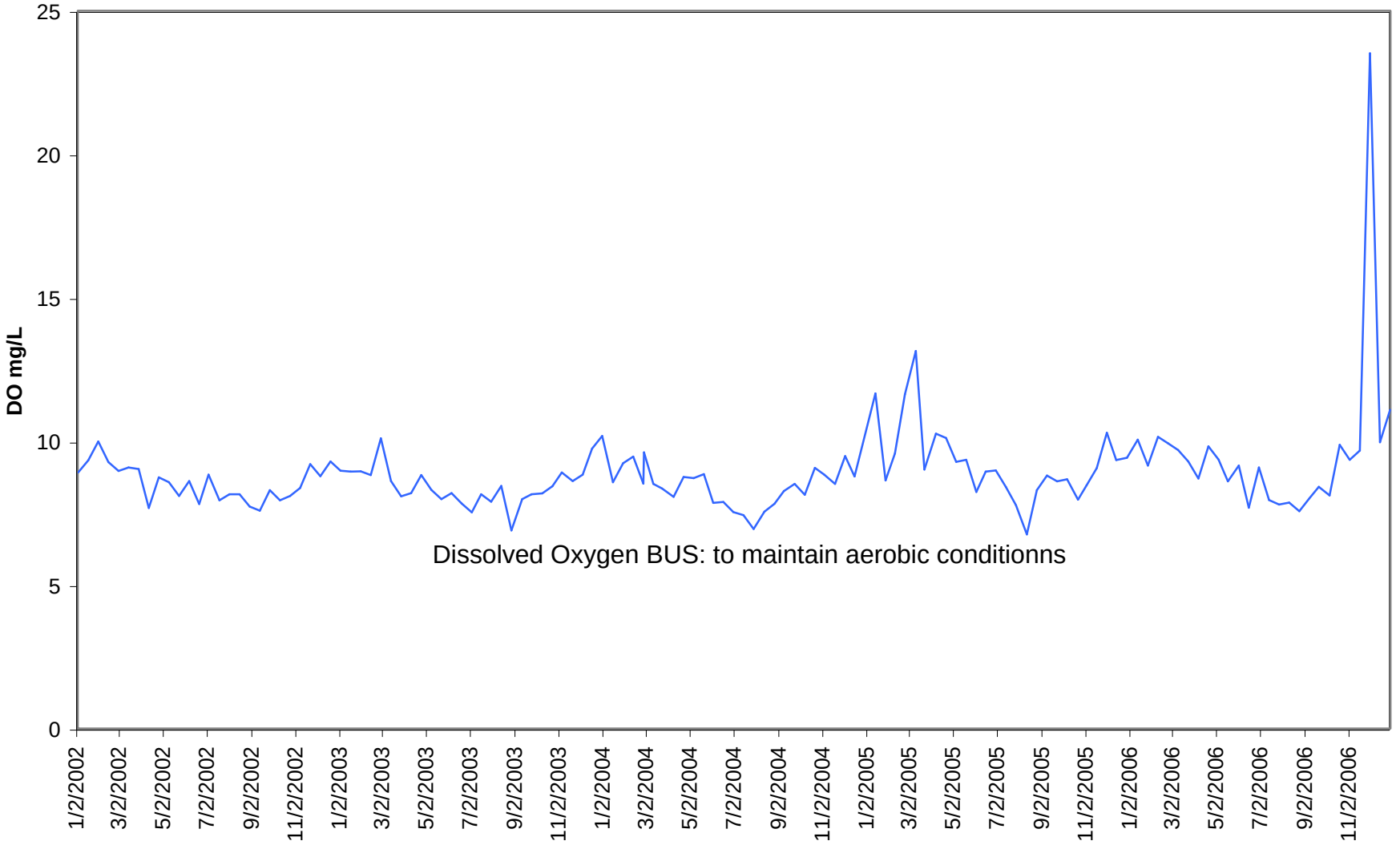

LW3.7 Turbidity
NTU
10000
1000
100
10
1
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

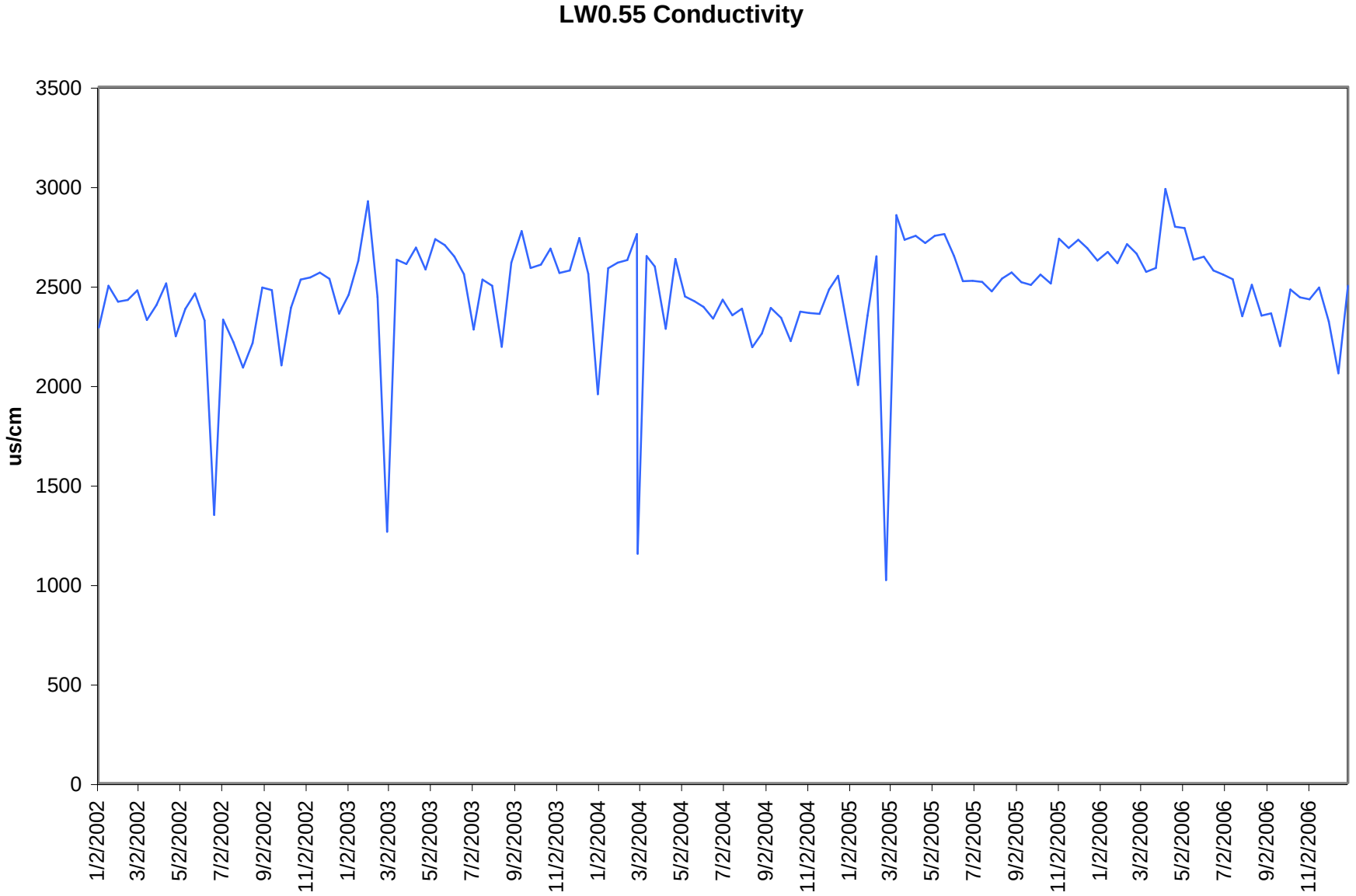
LW0.55

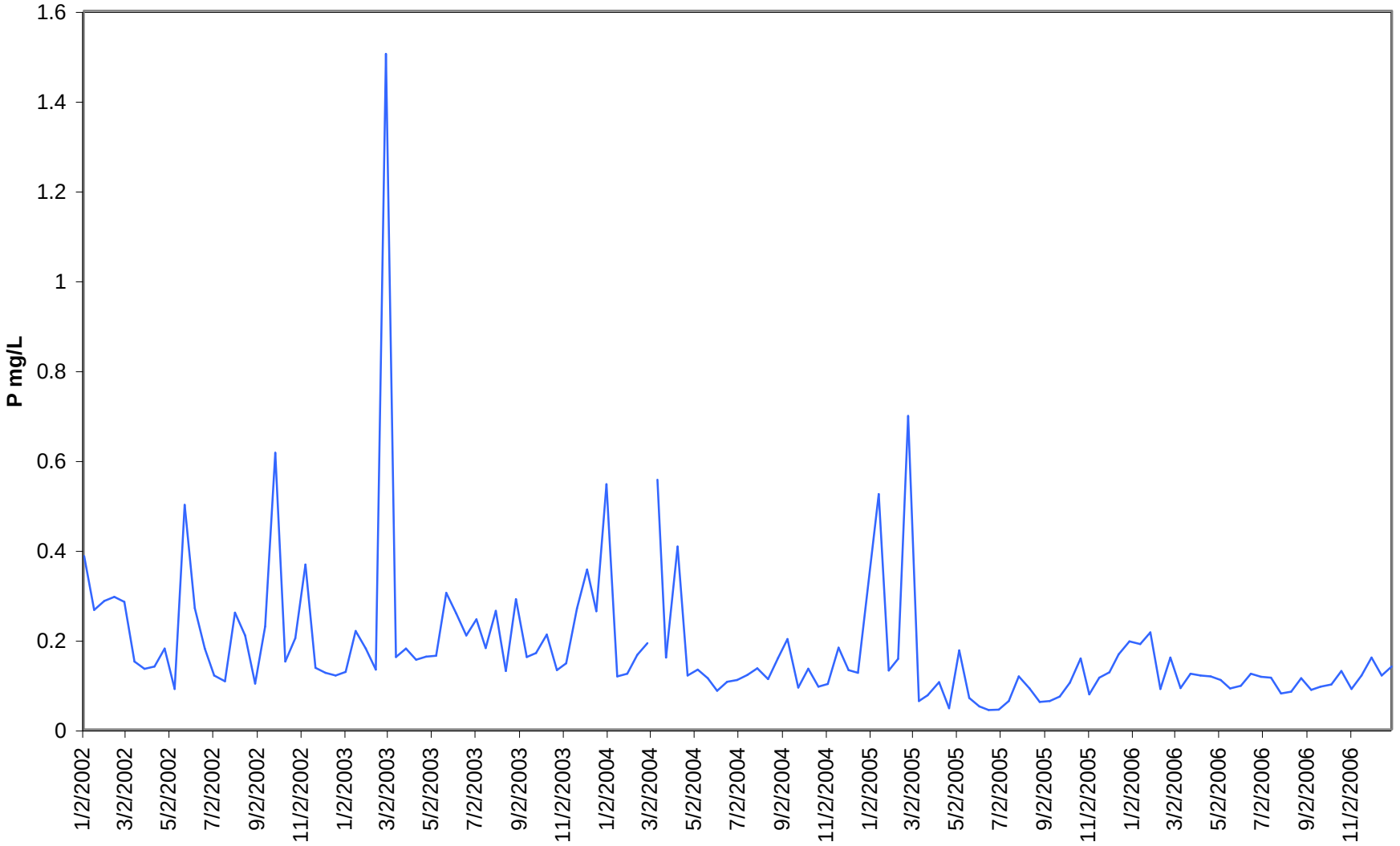

LW0.55 Water Temperature
°C
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

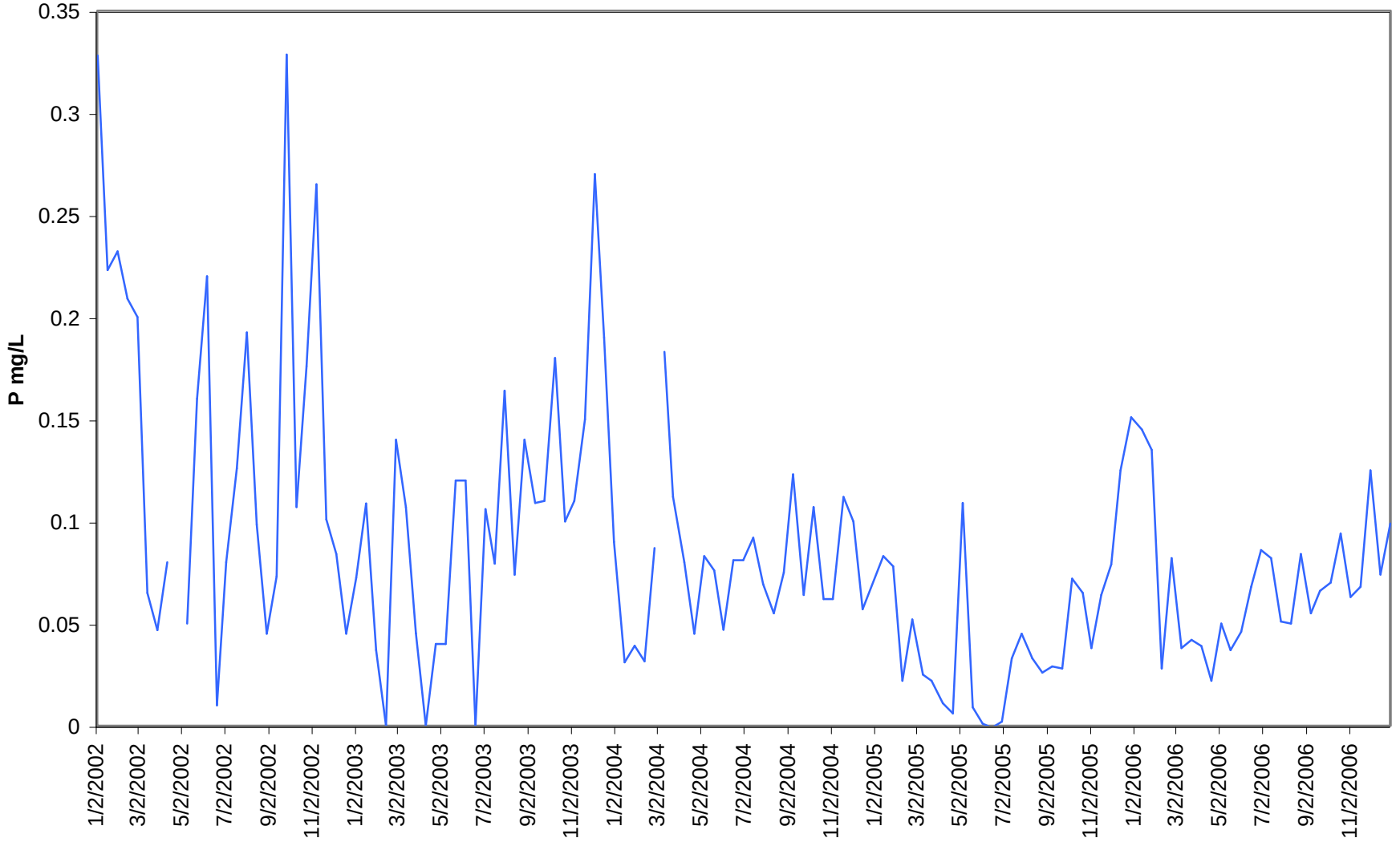

LW0.55 pH
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
S.U.
pH BUS: 6.5-9.0 S.U.
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

LW0.55 Dissolved Oxygen

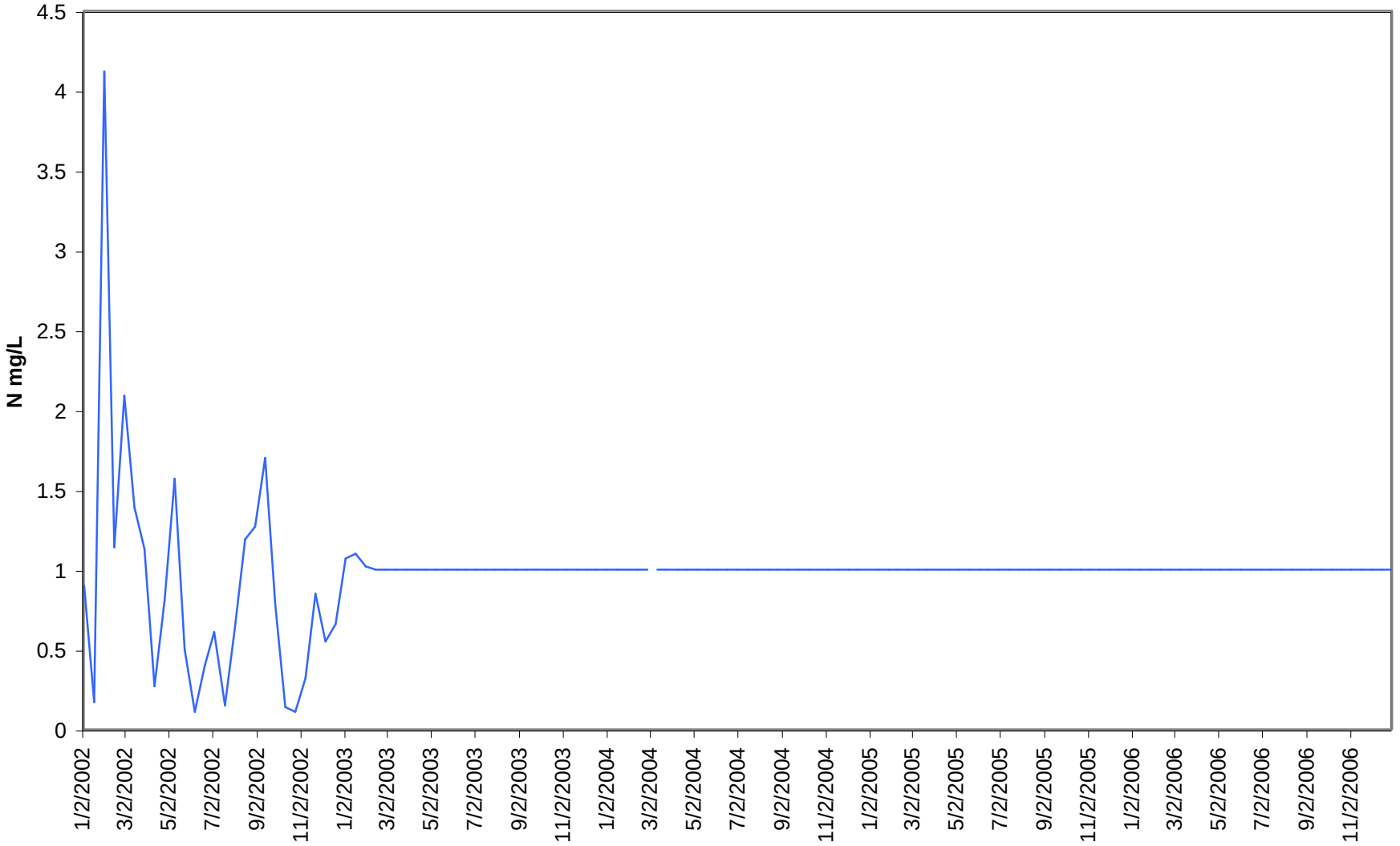



LW0.55 Conductivity
us/cm
3500
3000
2500
2000
1500
1000
500
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

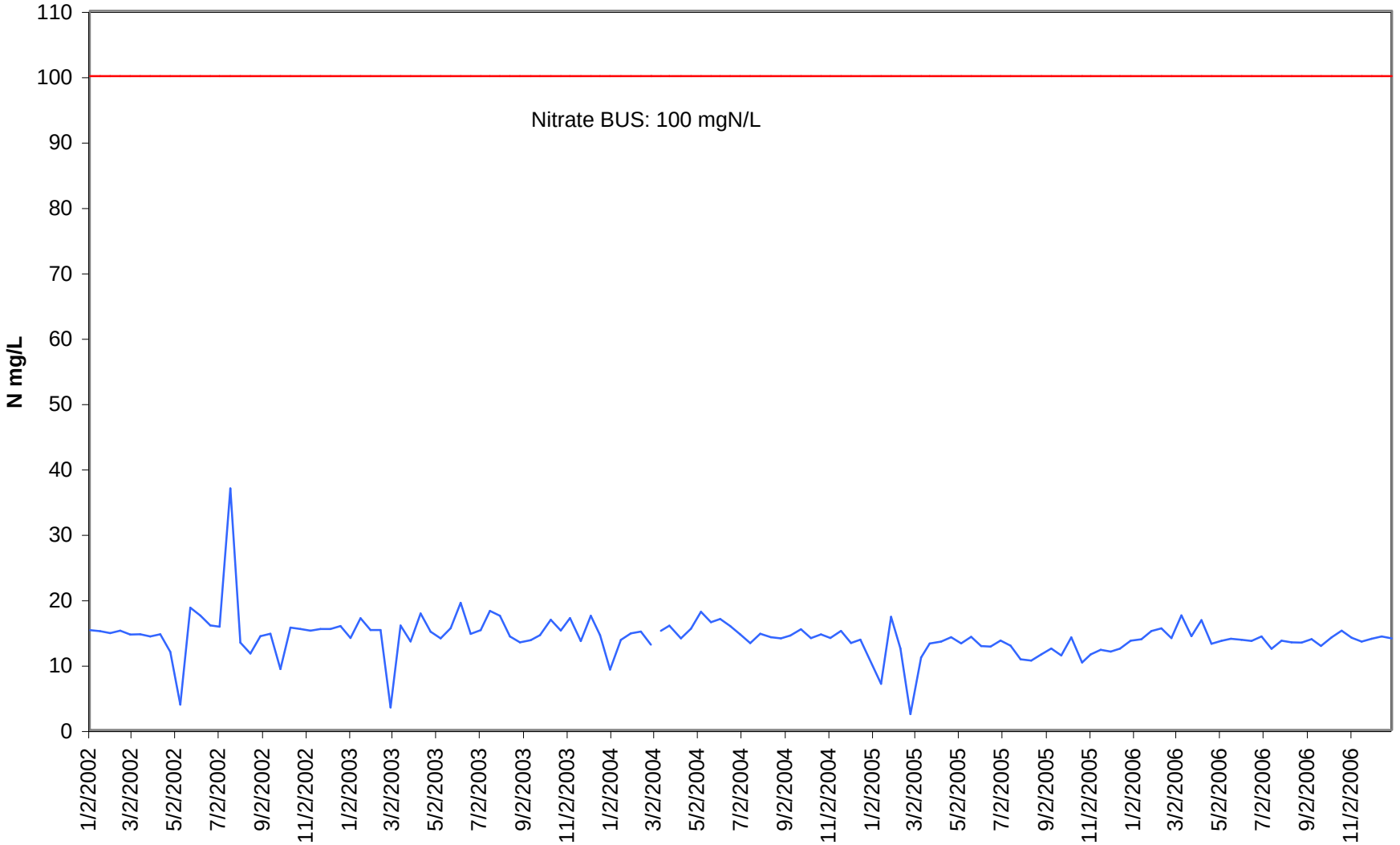

LW0.55 Total Phosphorus
P mg/L
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006


LW0.55 Dissolved ortho-Phosphorus
P mg/L
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

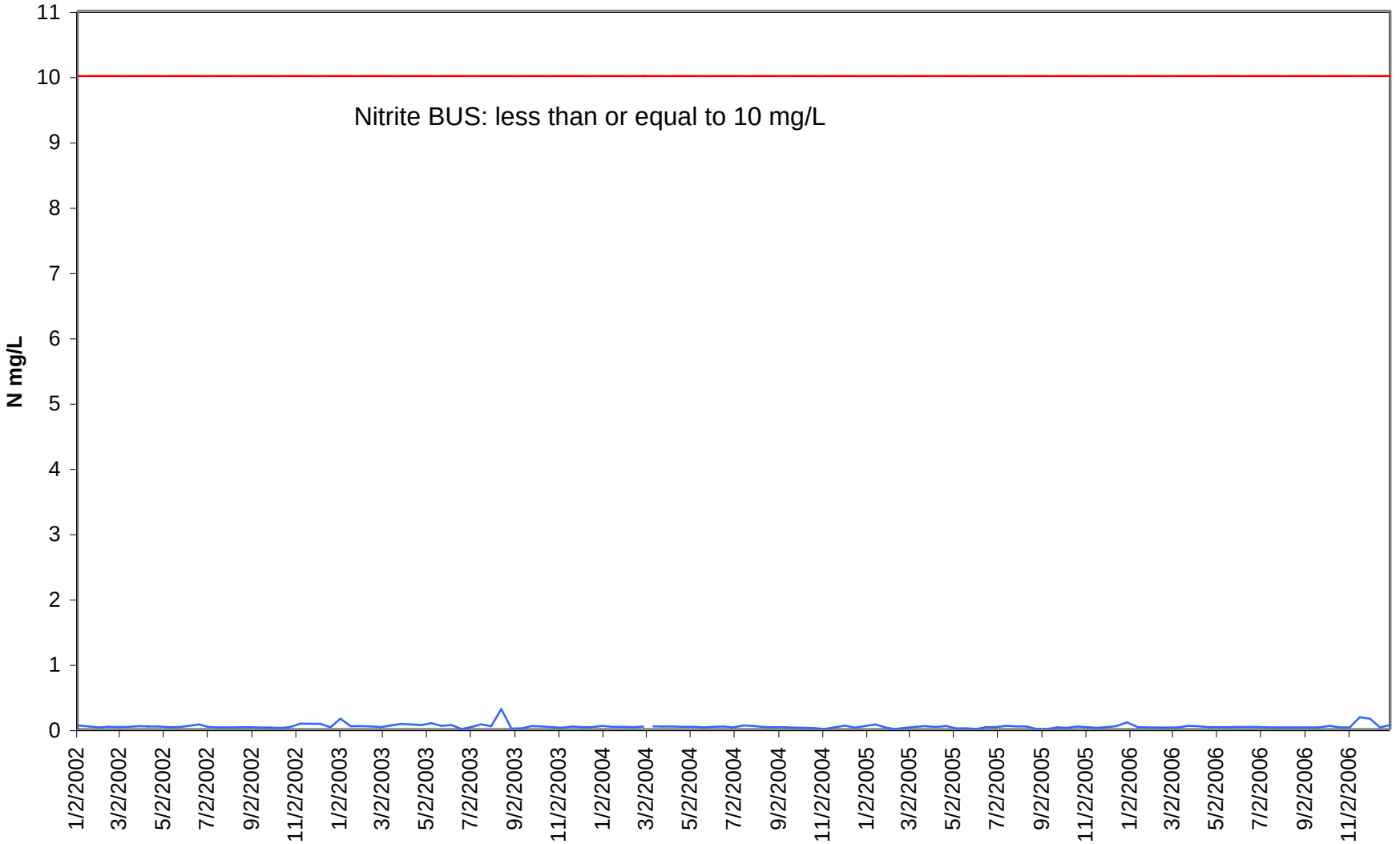
LW0.55 Total Kjeldahl Nitrogen

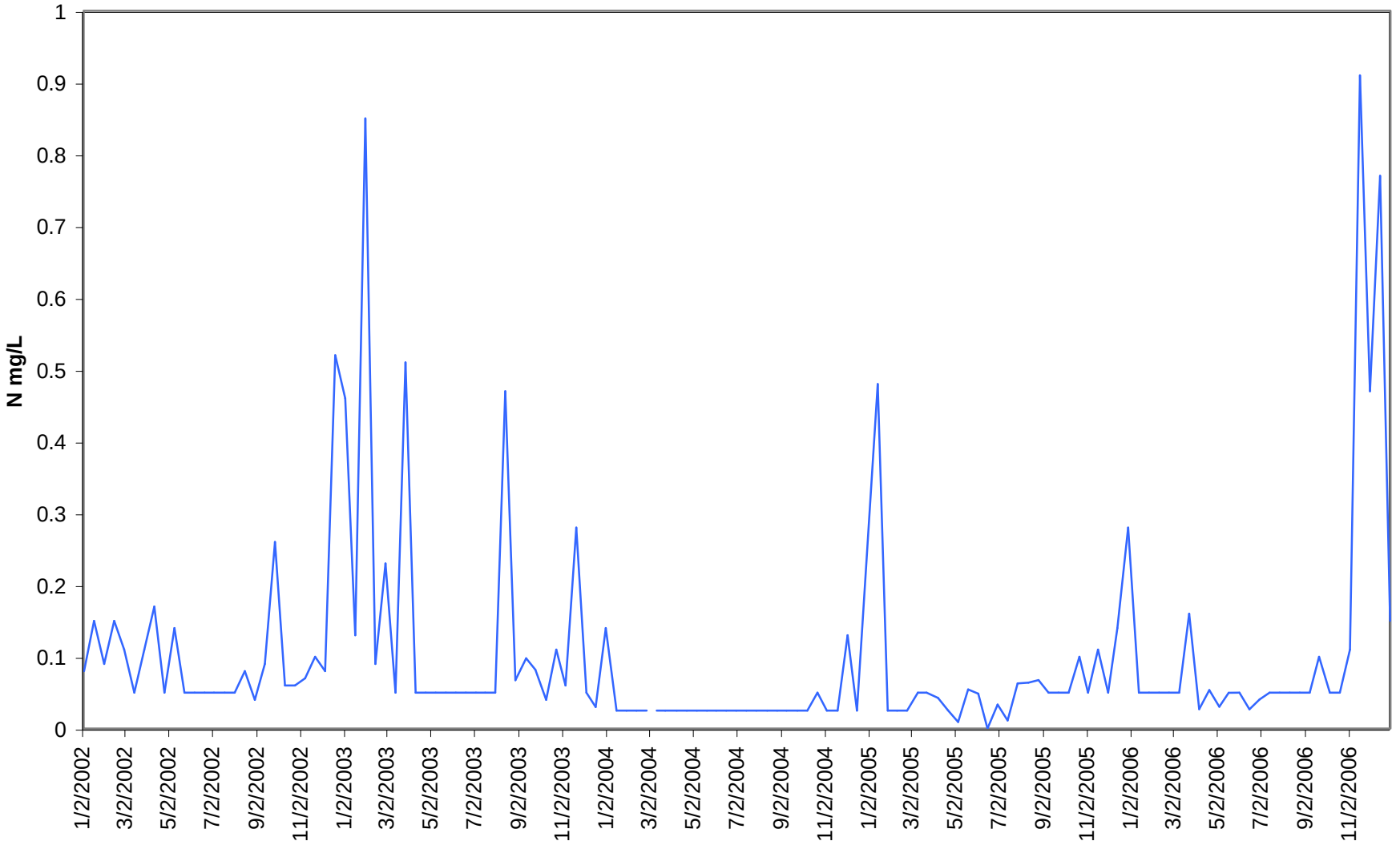


LW0.55 Nitrate

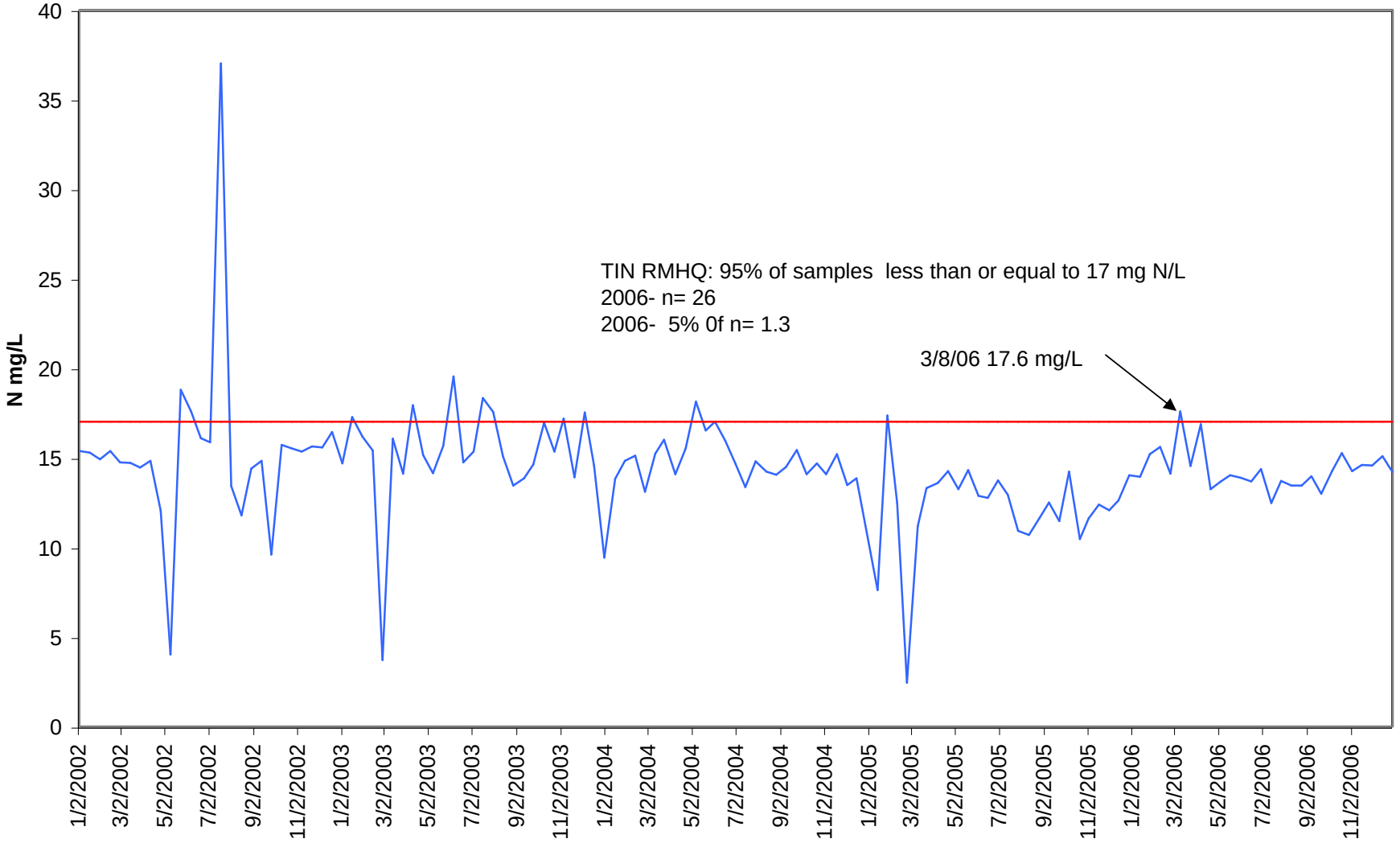


LW0.55 Nitrite

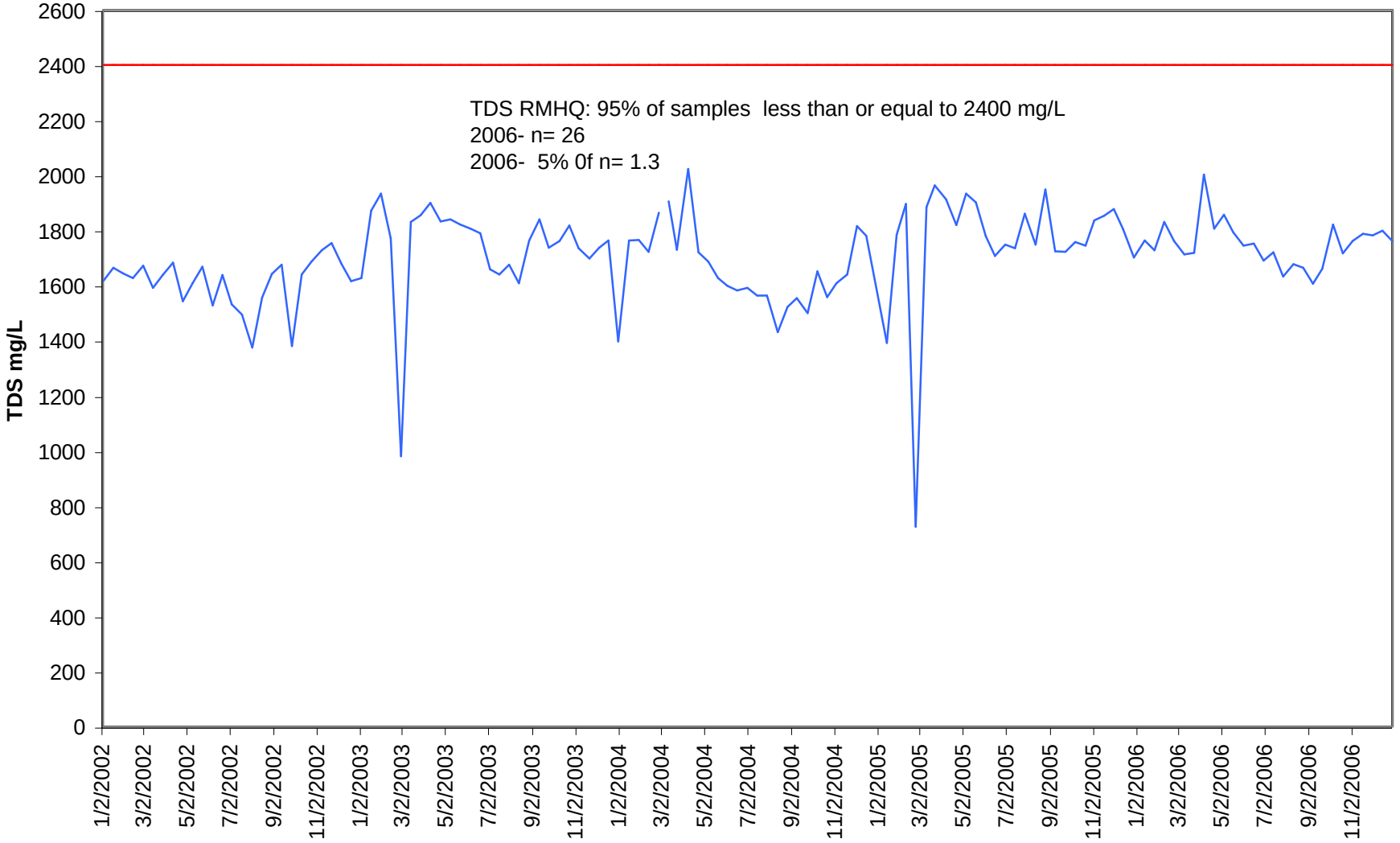



LW0.55 Ammonia
N mg/L
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

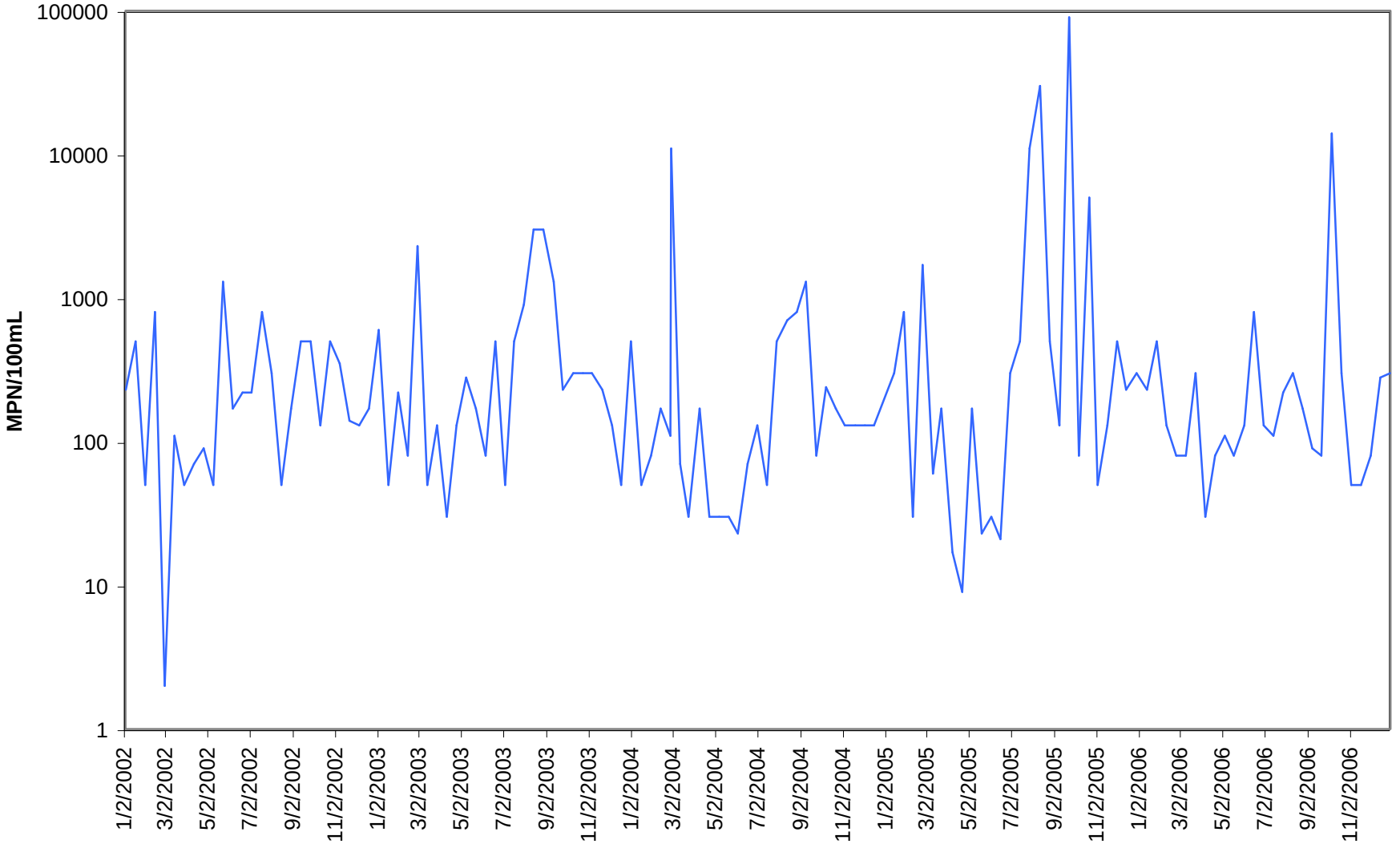
LW0.55 Total Inorganic Nitrogen



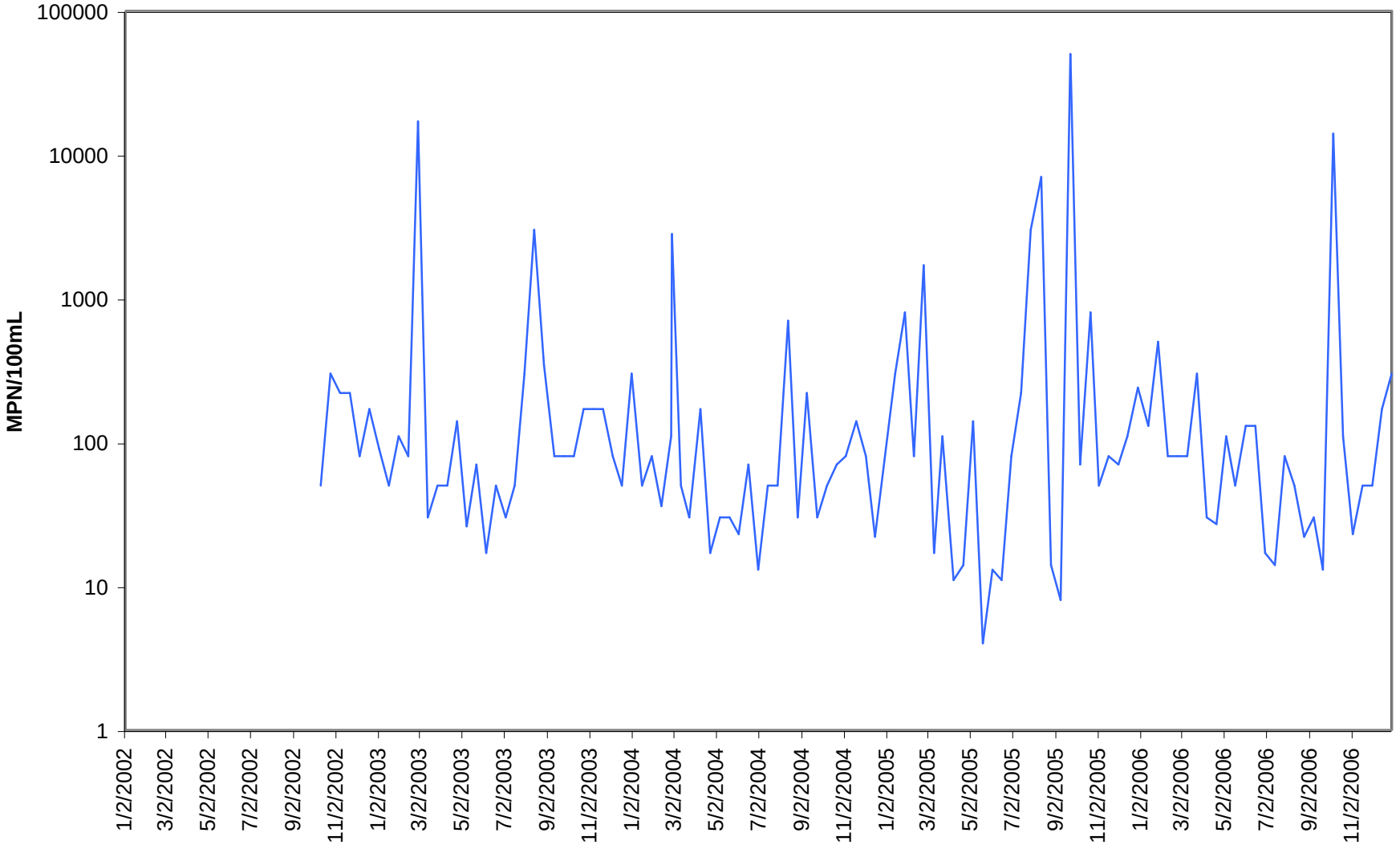
LW.055 Total Dissolved Solids



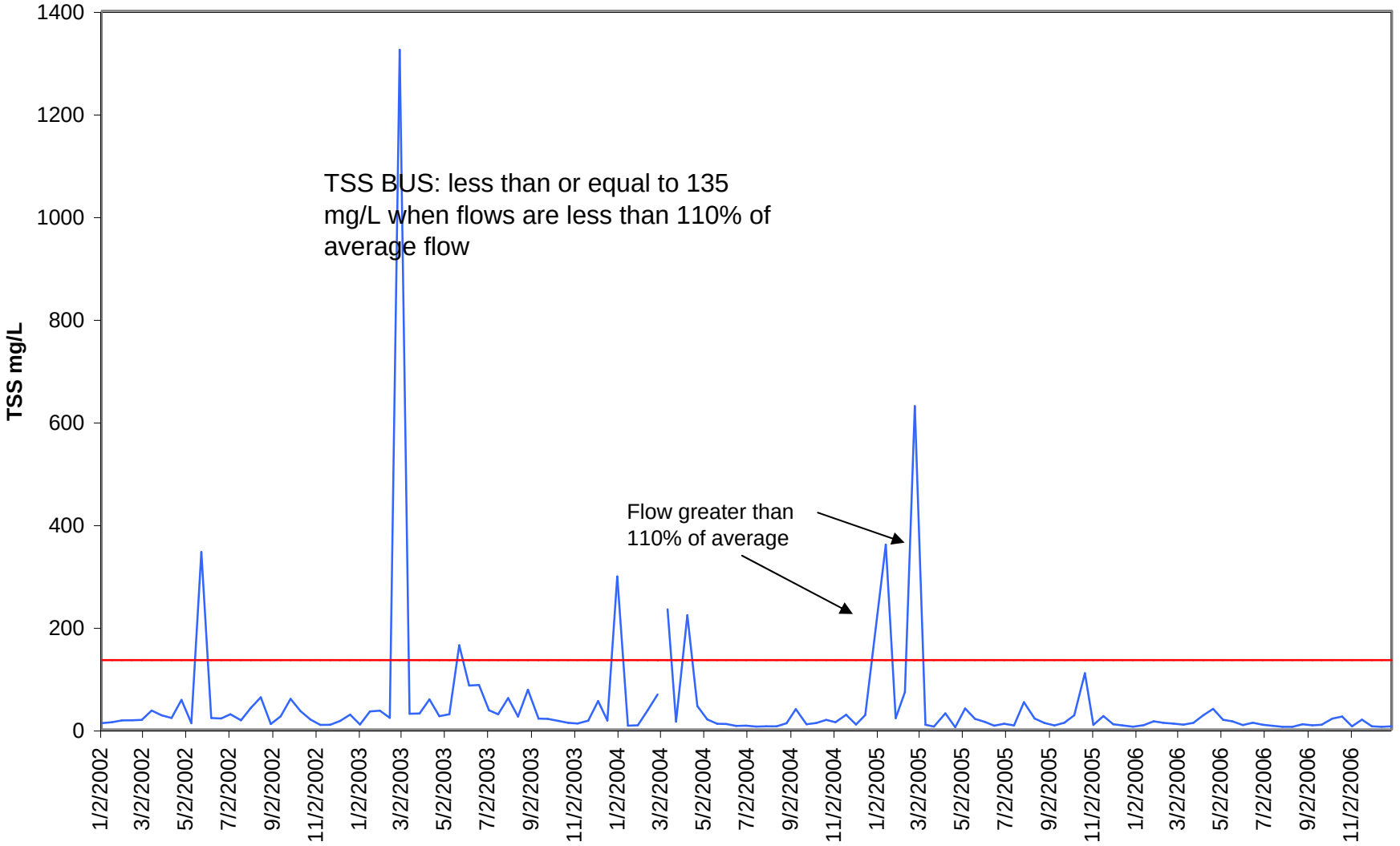
LW0.55 Fecal Coliforms

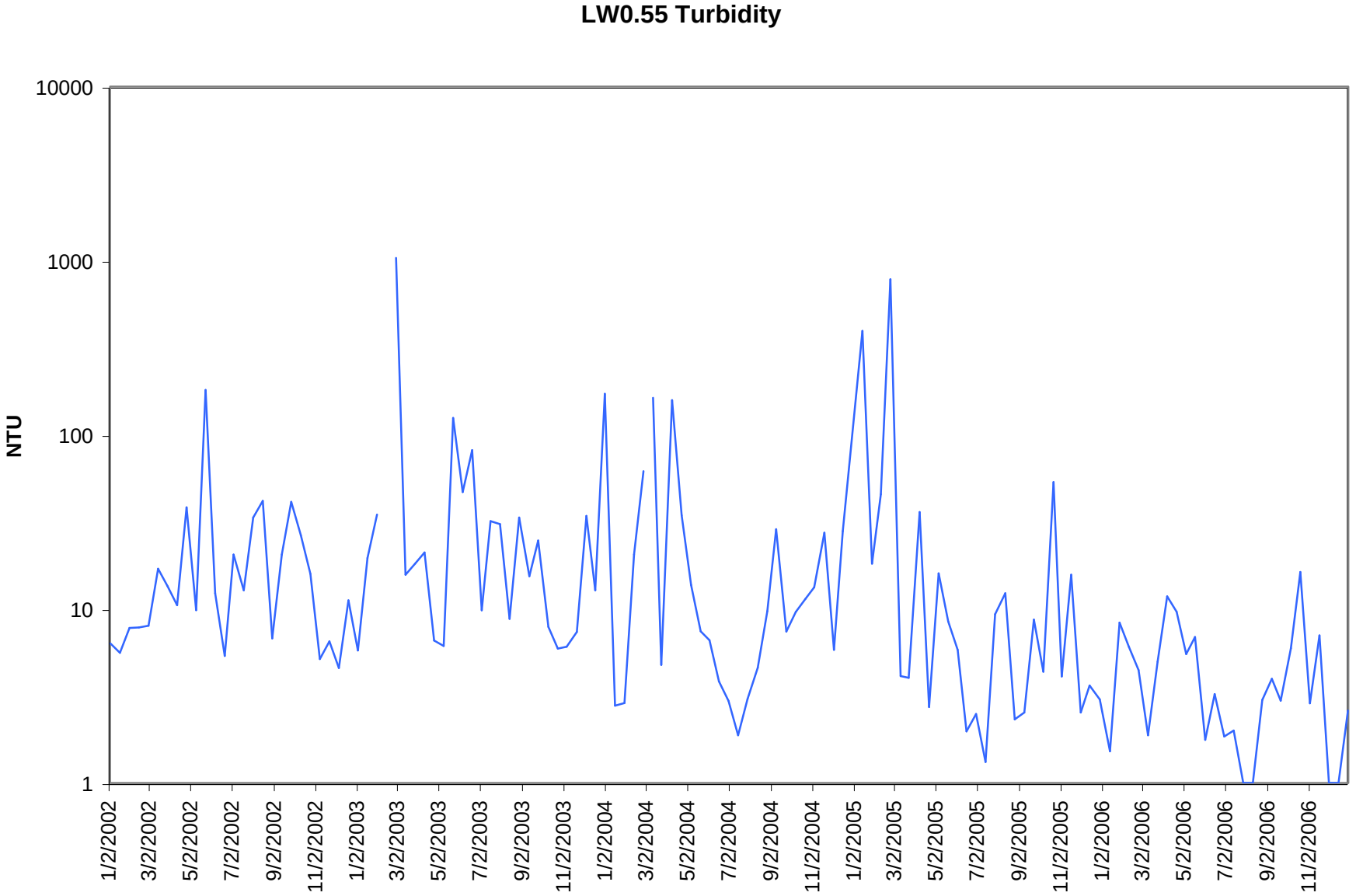


LW0.55 E. Coli


MPN/100mL
100000
10000
1000
100
10
1
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006

LW0.55 Total Suspended Solids




LW0.55 Turbidity
NTU
10000
1000
100
10
1
1/2/2002
3/2/2002
5/2/2002
7/2/2002
9/2/2002
11/2/2002
1/2/2003
3/2/2003
5/2/2003
7/2/2003
9/2/2003
11/2/2003
1/2/2004
3/2/2004
5/2/2004
7/2/2004
9/2/2004
11/2/2004
1/2/2005
3/2/2005
5/2/2005
7/2/2005
9/2/2005
11/2/2005
1/2/2006
3/2/2006
5/2/2006
7/2/2006
9/2/2006
11/2/2006