Appendix F

Graphical Summary of Results

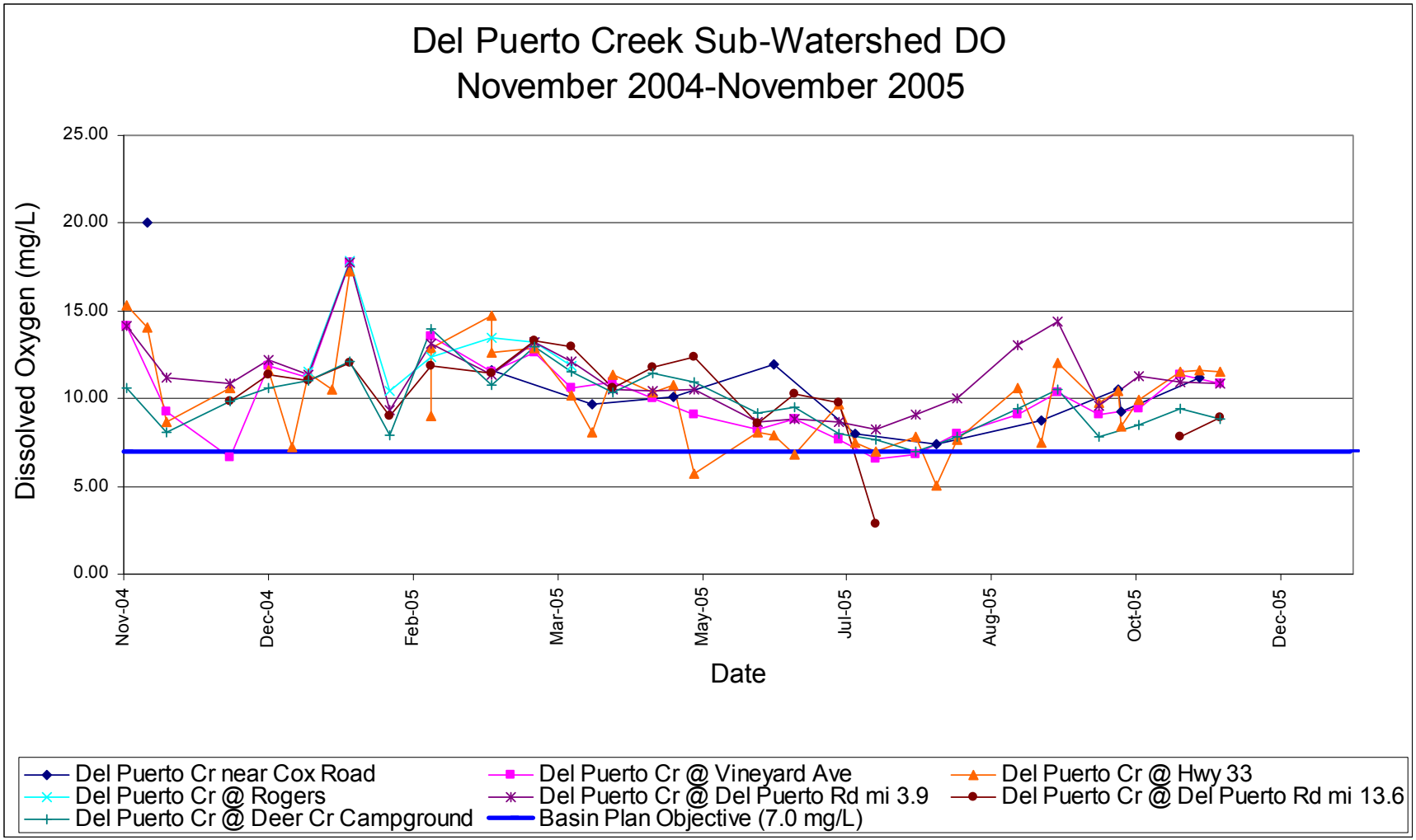
Appendix F: GRAPHICAL SUMMARY OF RESULTS

F1: Del Puerto Creek Watershed…….…….…….4

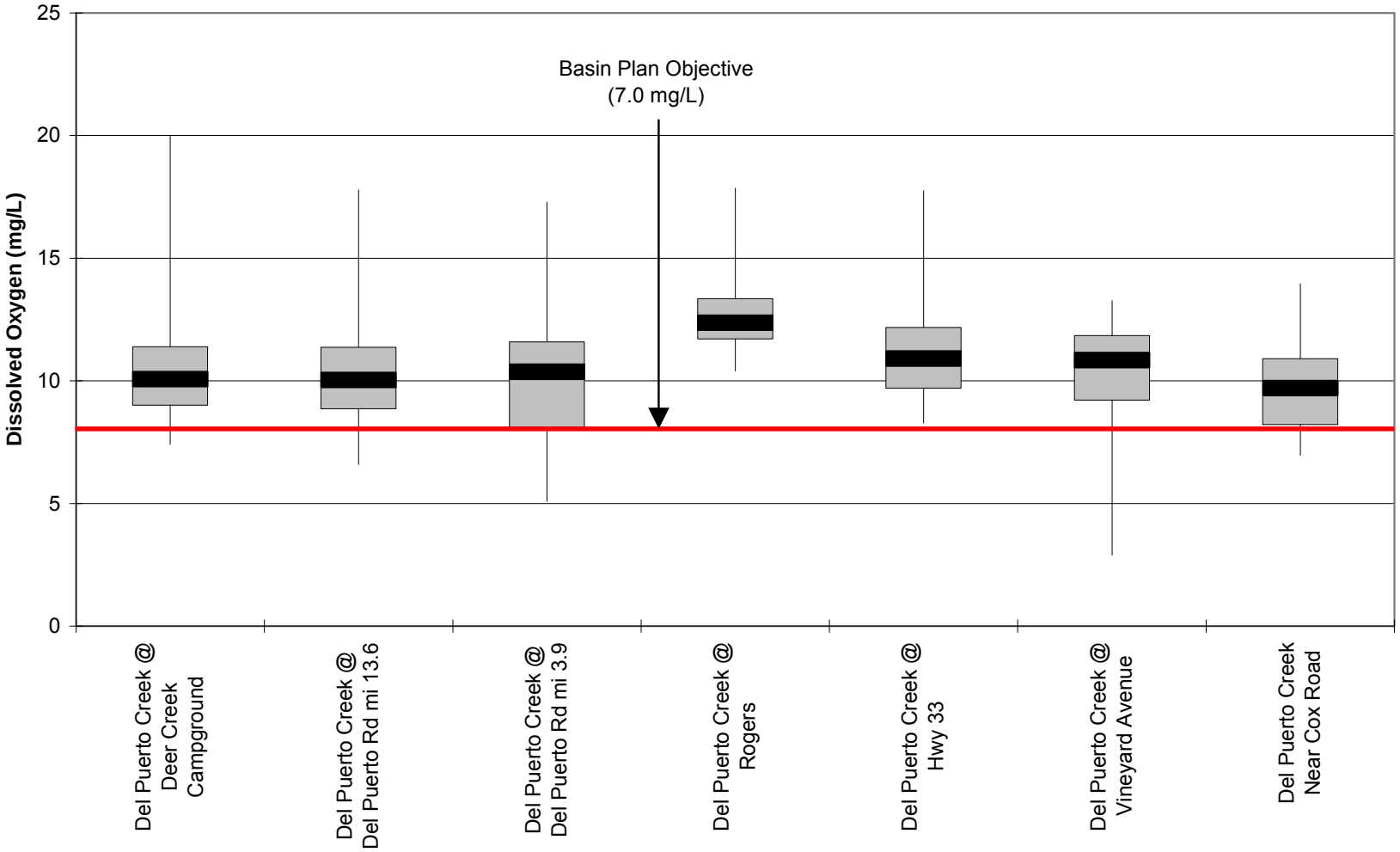
F2: Orestimba Creek Watershed…….…….…...17

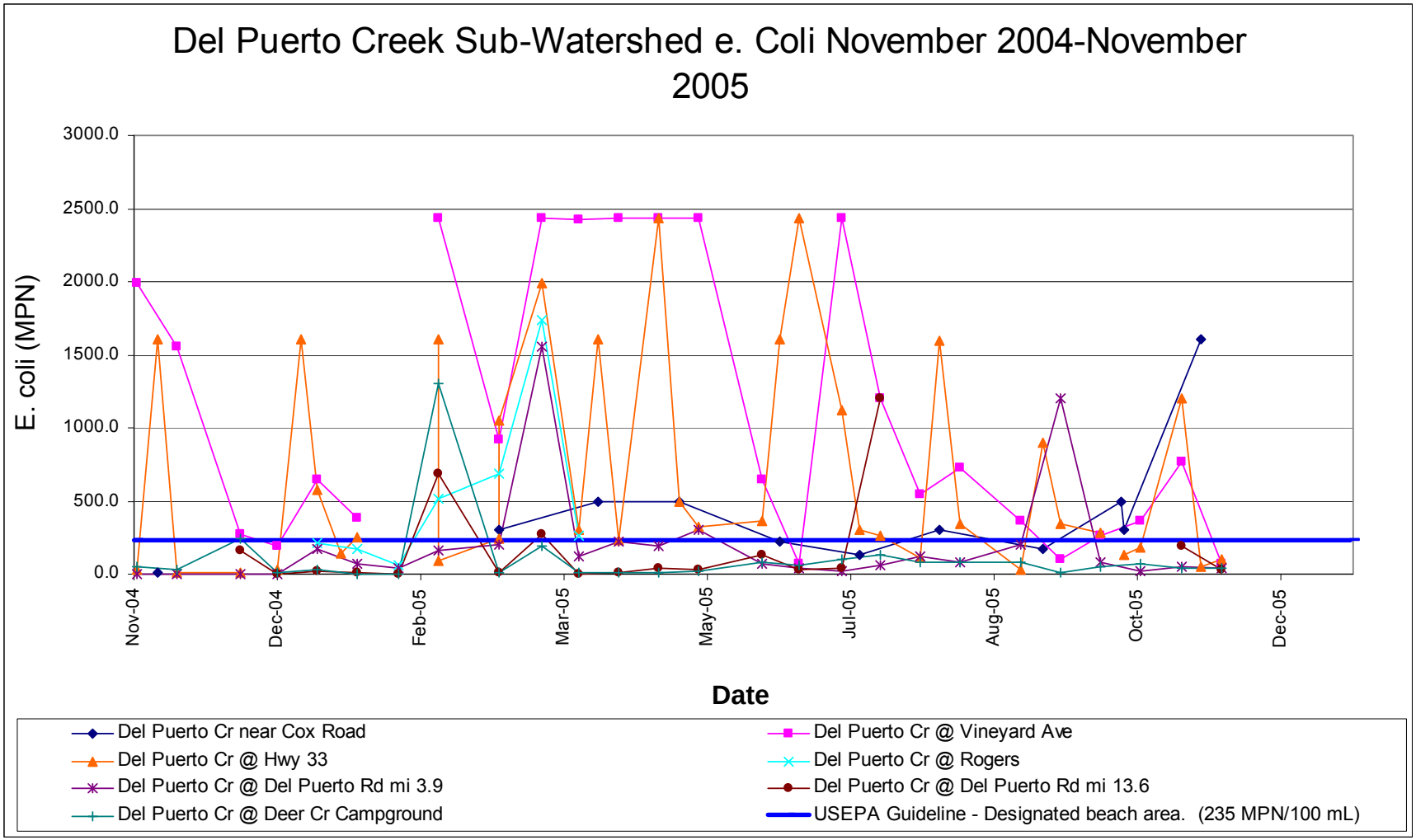
F3: Hospital and Ingram Creek Watershed……...…….……32

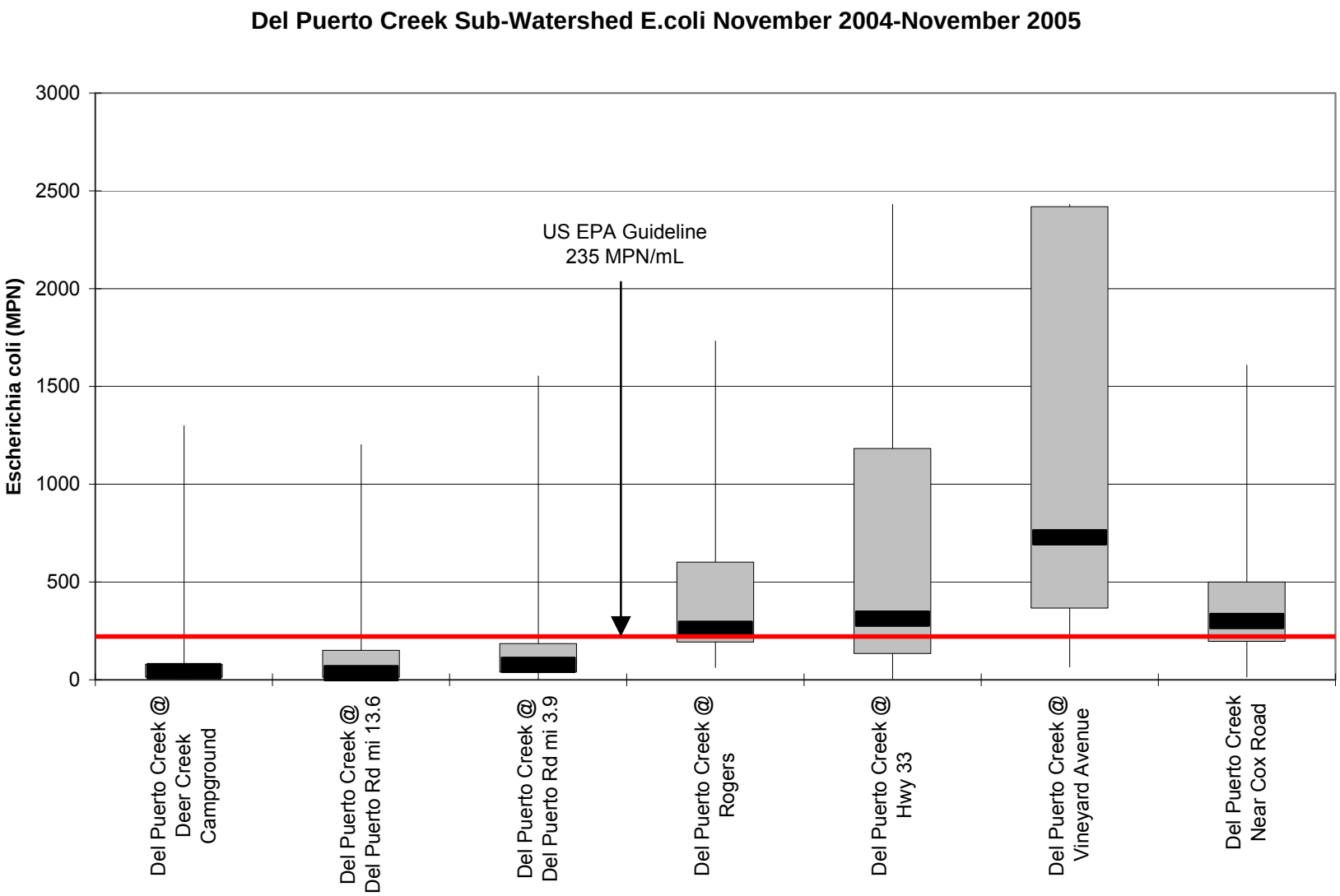
F4: San Joaquin River Watershed……...…….……46

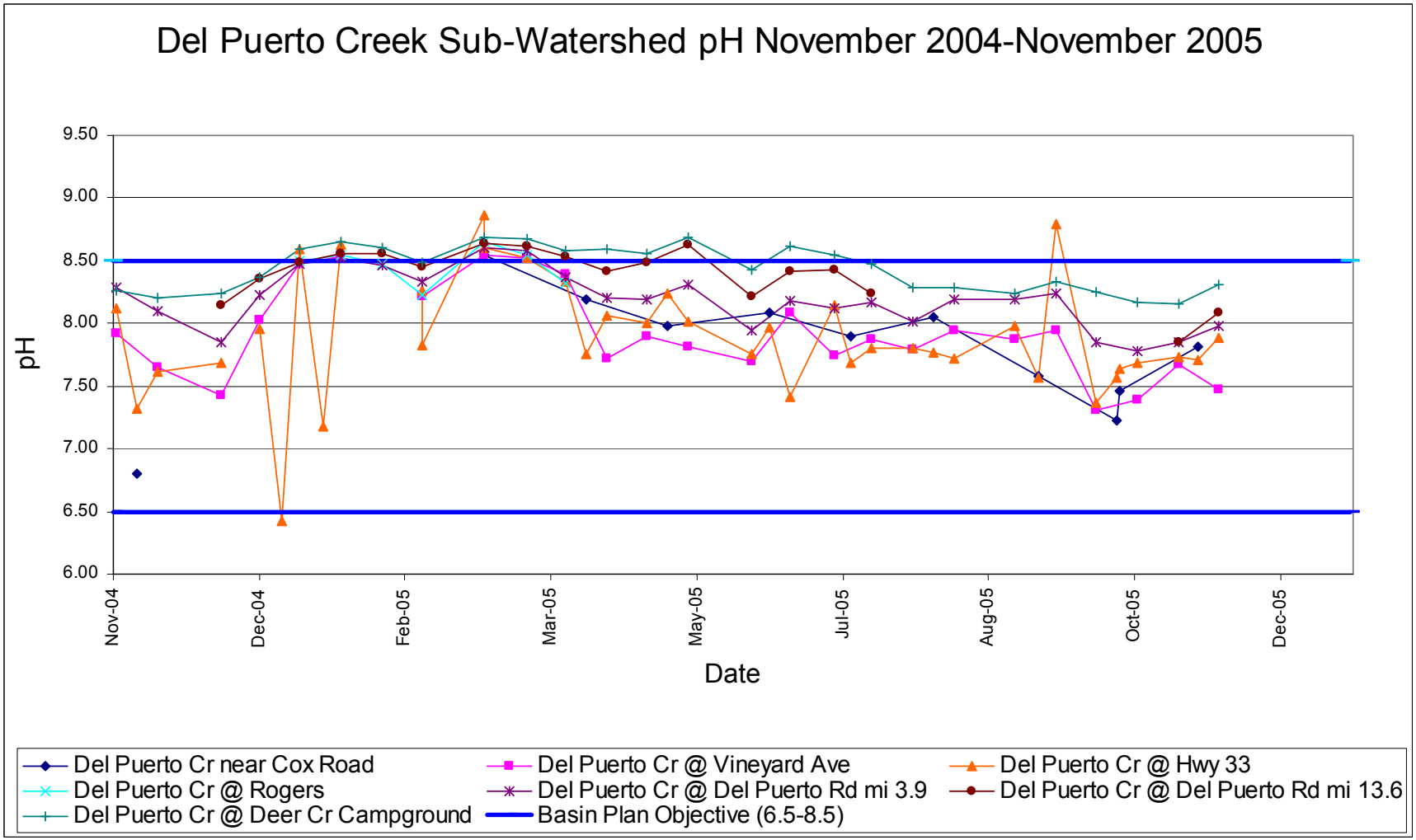

Del Puerto Creek Sub-Watershed DO
November 2004-November 2005
Dissolved Oxygen (mg/L)
25.00
20.00
15.00
10.00
5.00
0.00
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Del Puerto Cr near Cox Road
Del Puerto Cr @ Vineyard Ave
Del Puerto Cr @ Hwy 33
Del Puerto Cr @ Rogers
Del Puerto Cr @ Del Puerto Rd mi 3.9
Del Puerto Cr @ Del Puerto Rd mi 13.6
Del Puerto Cr @ Deer Cr Campground
Basin Plan Objective (7.0 mg/L)

Del Puerto Creek Sub-Watershed DO November 2004-November 2005

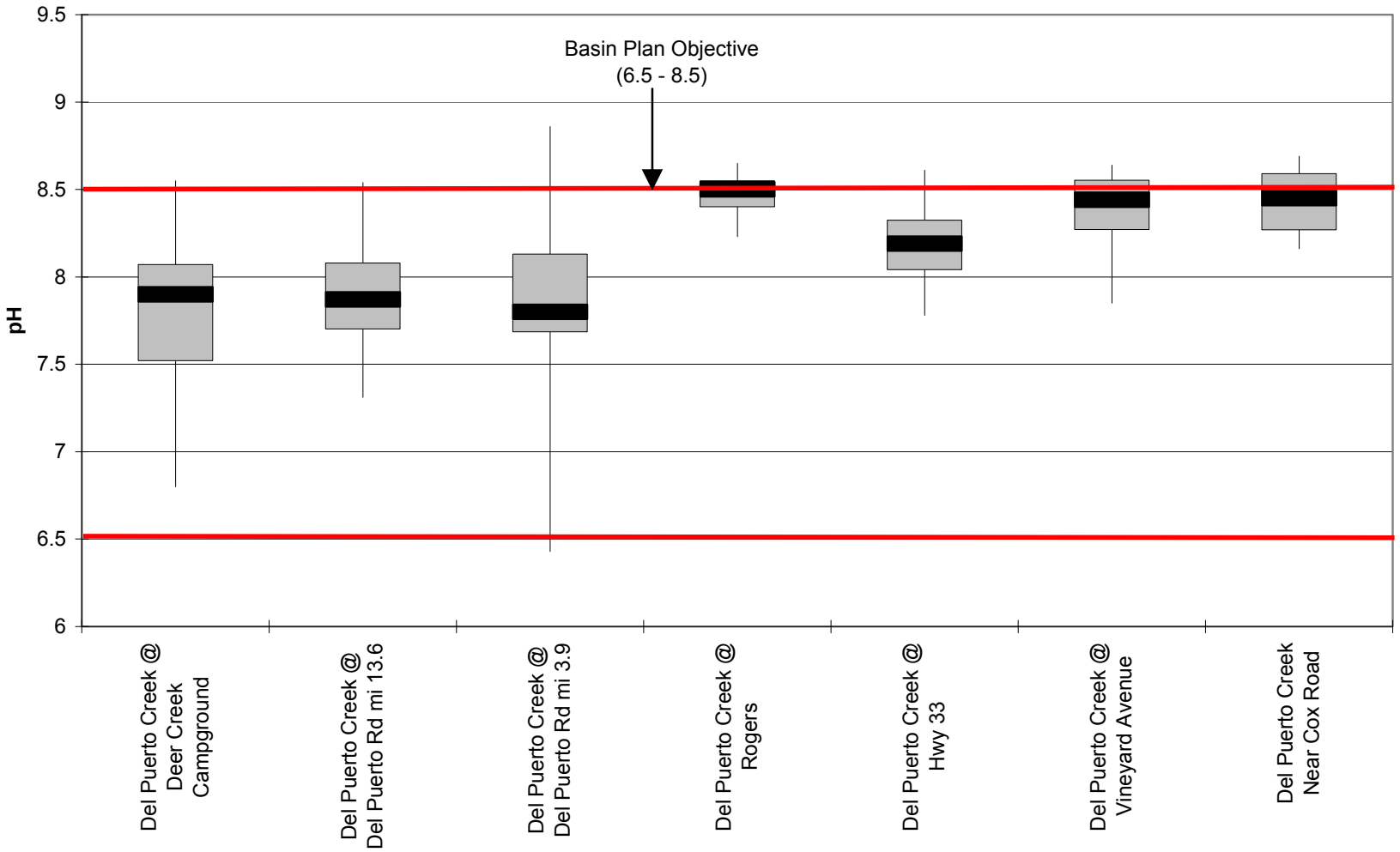


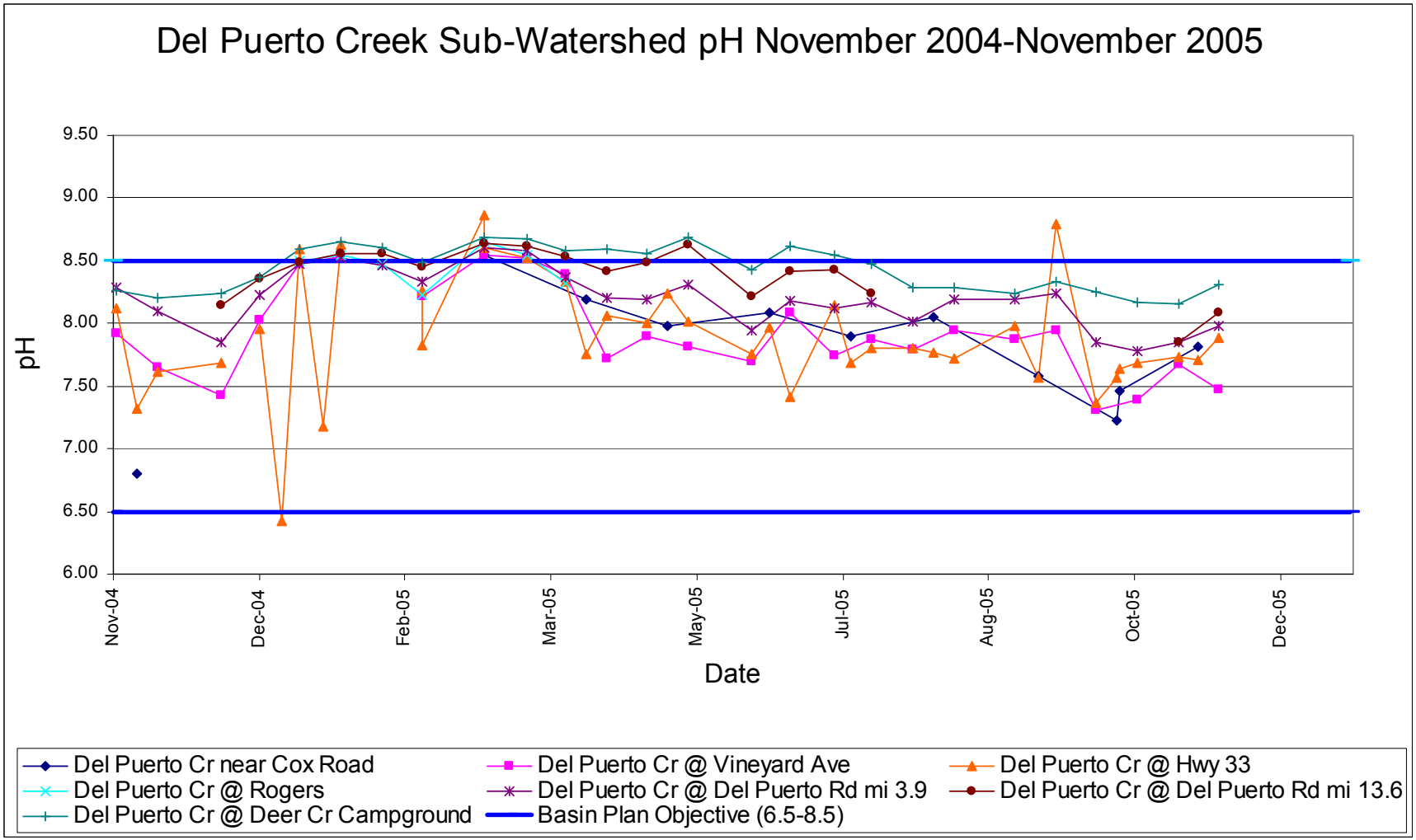

Del Puerto Creek Sub-Watershed e. Coli November 2004-November 2005
E. coli (MPN)
3000.0
2500.0
2000.0
1500.0
1000.0
500.0
0.0
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Del Puerto Cr near Cox Road
Del Puerto Cr @ Vineyard Ave
Del Puerto Cr @ Hwy 33
Del Puerto Cr @ Rogers
Del Puerto Cr @ Del Puerto Rd mi 3.9
Del Puerto Cr @ Del Puerto Rd mi 13.6
Del Puerto Cr @ Deer Cr Campground
USEPA Guideline - Designated beach area. (235 MPN/100 mL)

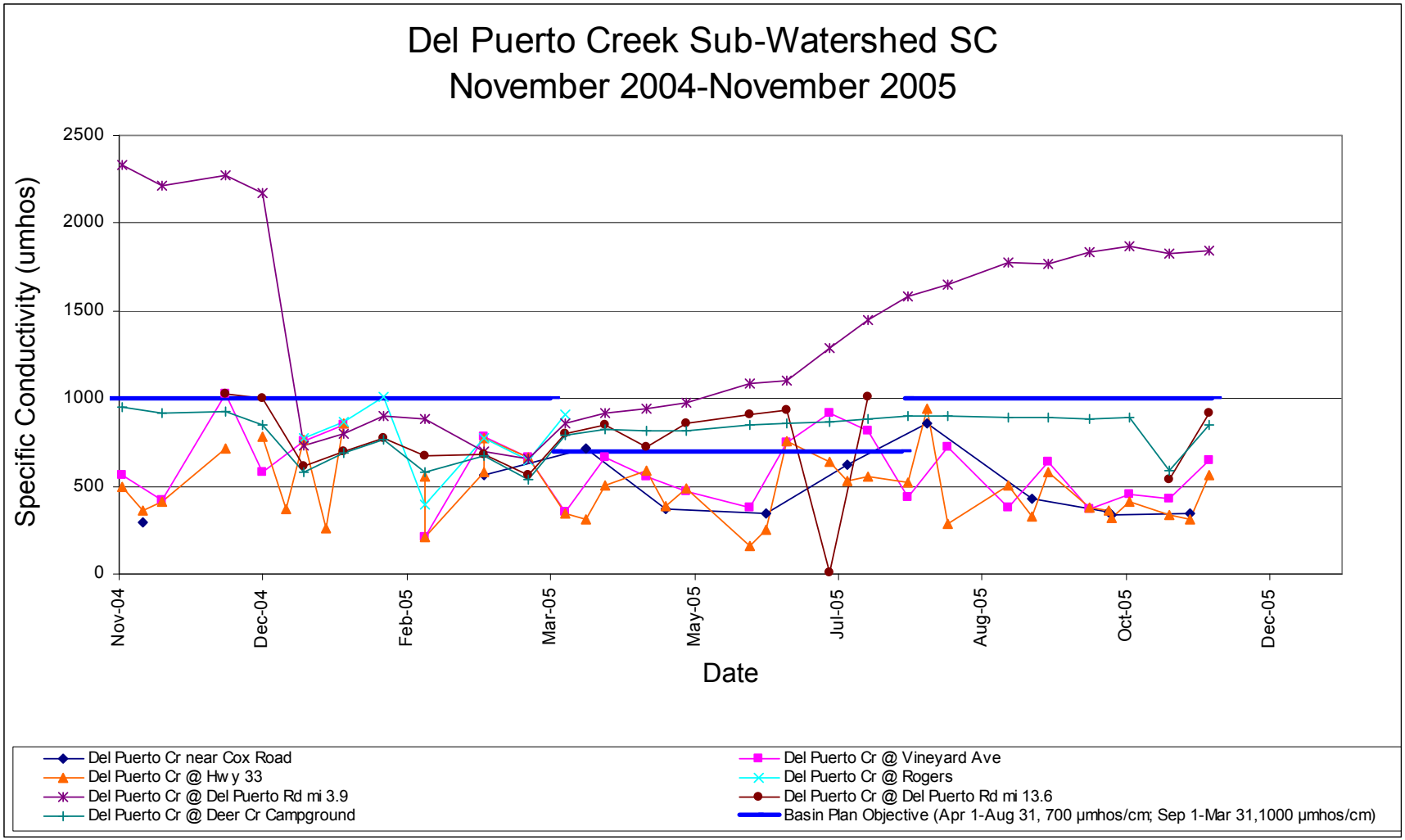

Del Puerto Creek Sub-Watershed E.coli November 2004-November 2005
Escherichia coli (MPN)
3000
2500
2000
1500
1000
500
0
US EPA Guideline
235 MPN/mL
Del Puerto Creek @ Deer Creek Campground
Del Puerto Creek @ Del Puerto Rd mi 13.6
Del Puerto Creek @ Del Puerto Rd mi 3.9
Del Puerto Creek @ Rogers
Del Puerto Creek @ Hwy 33
Del Puerto Creek @ Vineyard Avenue
Del Puerto Creek Near Cox Road

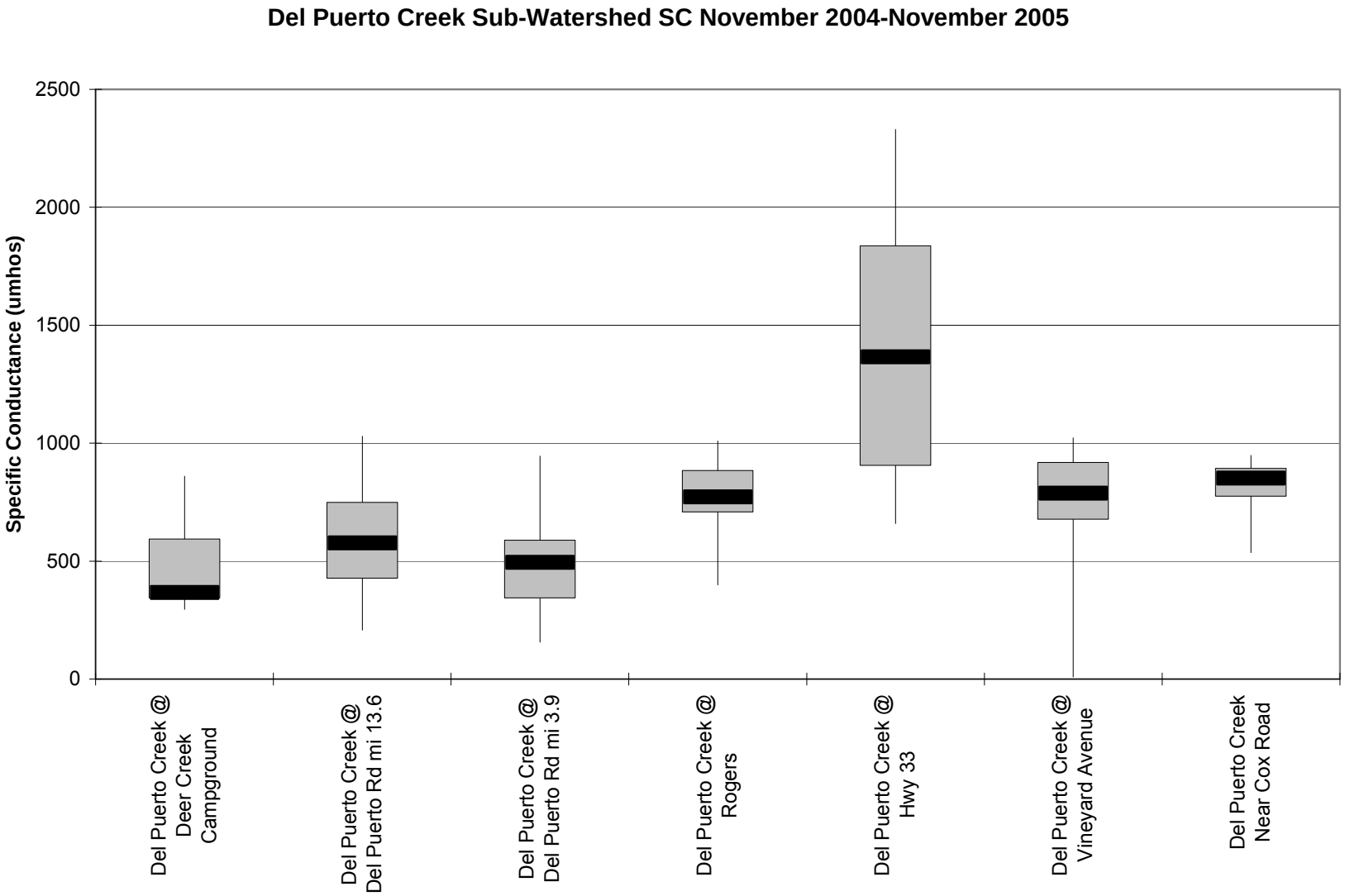

Del Puerto Creek Sub-Watershed pH November 2004-November 2005
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
pH
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Del Puerto Cr near Cox Road
Del Puerto Cr @ Vineyard Ave
Del Puerto Cr @ Hwy 33
Del Puerto Cr @ Rogers
Del Puerto Cr @ Del Puerto Rd mi 3.9
Del Puerto Cr @ Del Puerto Rd mi 13.6
Del Puerto Cr @ Deer Cr Campground
Basin Plan Objective (6.5-8.5)

Del Puerto Creek Sub-Watershed pH November 2004-November 2005




Del Puerto Creek Sub-Watershed pH November 2004-November 2005
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
pH
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Del Puerto Cr near Cox Road
Del Puerto Cr @ Vineyard Ave
Del Puerto Cr @ Hwy 33
Del Puerto Cr @ Rogers
Del Puerto Cr @ Del Puerto Rd mi 3.9
Del Puerto Cr @ Del Puerto Rd mi 13.6
Del Puerto Cr @ Deer Cr Campground
Basin Plan Objective (6.5-8.5)


Del Puerto Creek Sub-Watershed SC
November 2004-November 2005
Specific Conductivity (umhos)
2500
2000
1500
1000
500
0
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Del Puerto Cr near Cox Road
Del Puerto Cr @ Hwy 33
Del Puerto Cr @ Del Puerto Rd mi 3.9
Del Puerto Cr @ Deer Cr Campground
Del Puerto Cr @ Vineyard Ave
Del Puerto Cr @ Rogers
Del Puerto Cr @ Del Puerto Rd mi 13.6
Basin Plan Objective (Apr 1-Aug 31, 700 µmhos/cm; Sep 1-Mar 31,1000 µmhos/cm)


Del Puerto Creek Sub-Watershed SC November 2004-November 2005
Specific Conductance (umhos)
2500
2000
1500
1000
500
0
Del Puerto Creek @ Deer Creek Campground
Del Puerto Creek @ Del Puerto Rd mi 13.6
Del Puerto Creek @ Del Puerto Rd mi 3.9
Del Puerto Creek @ Rogers
Del Puerto Creek @ Hwy 33
Del Puerto Creek @ Vineyard Avenue
Del Puerto Creek Near Cox Road

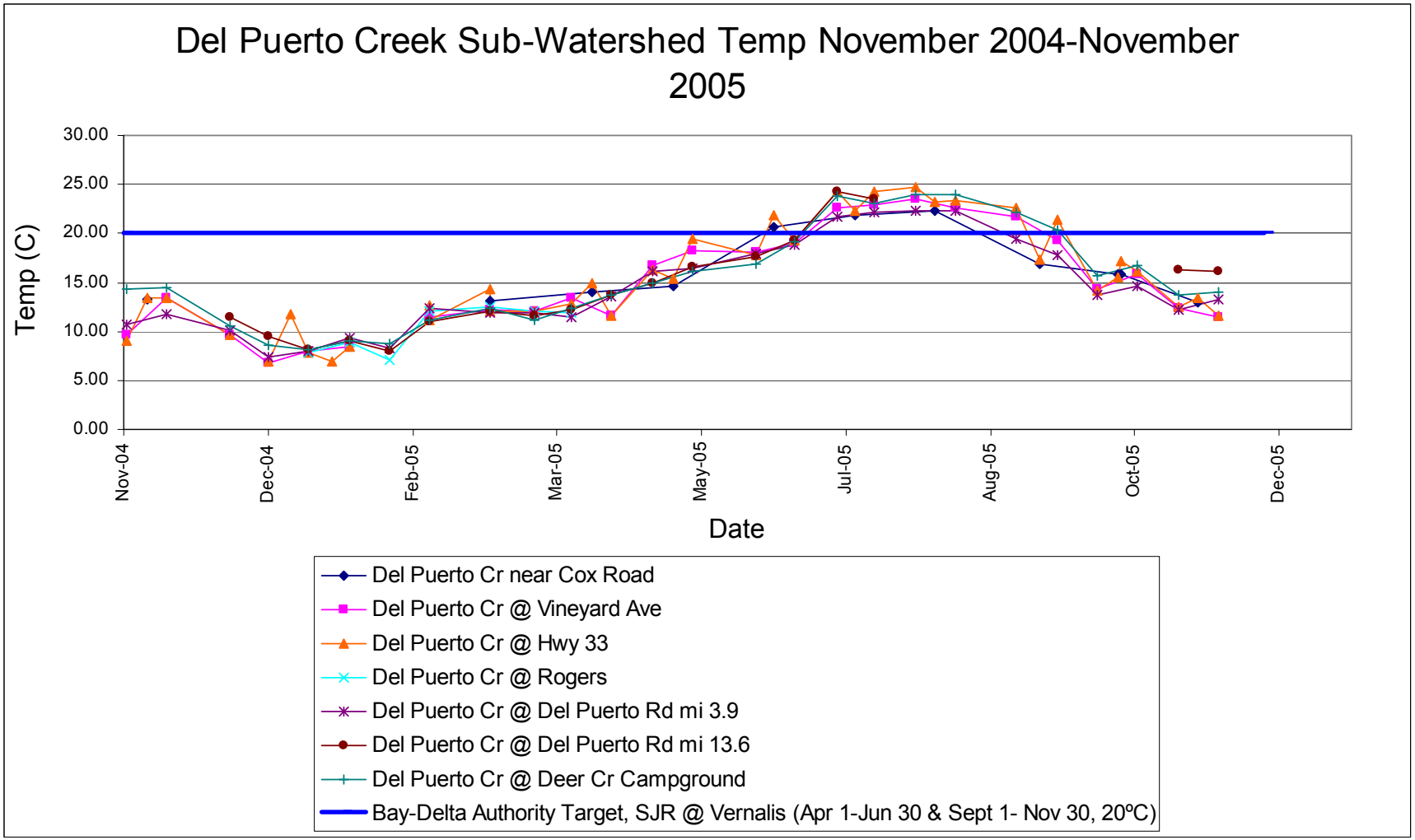
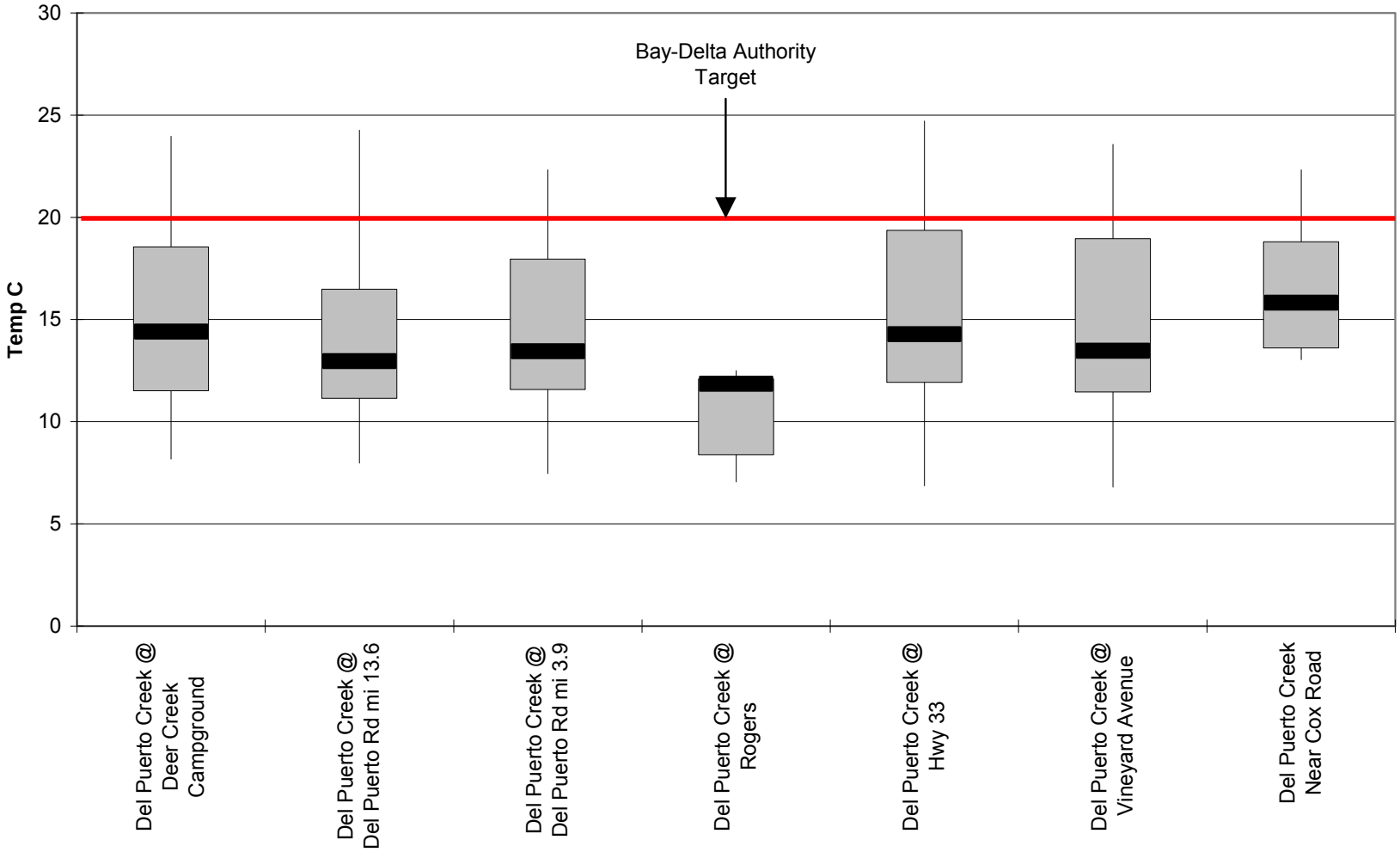
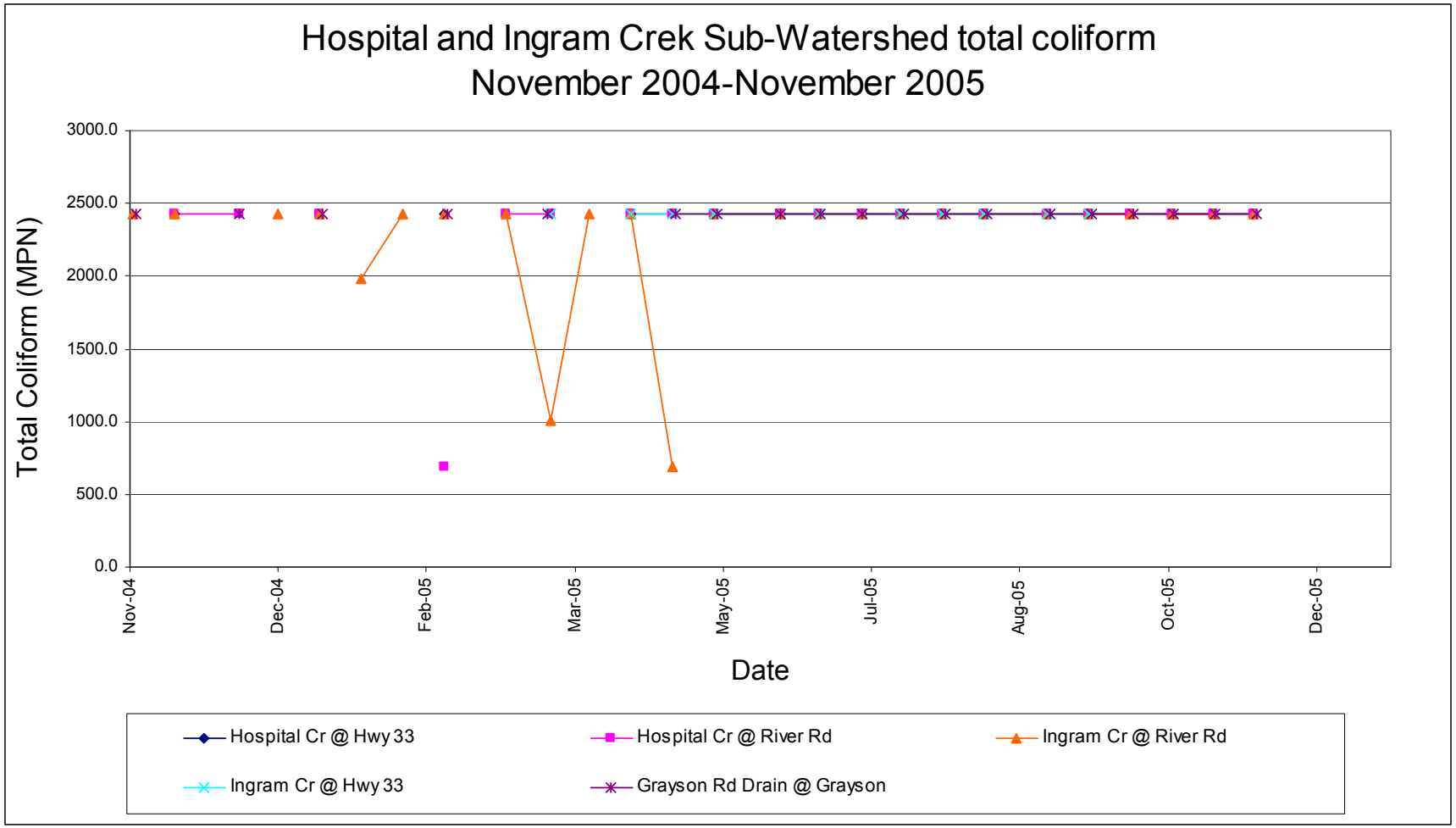
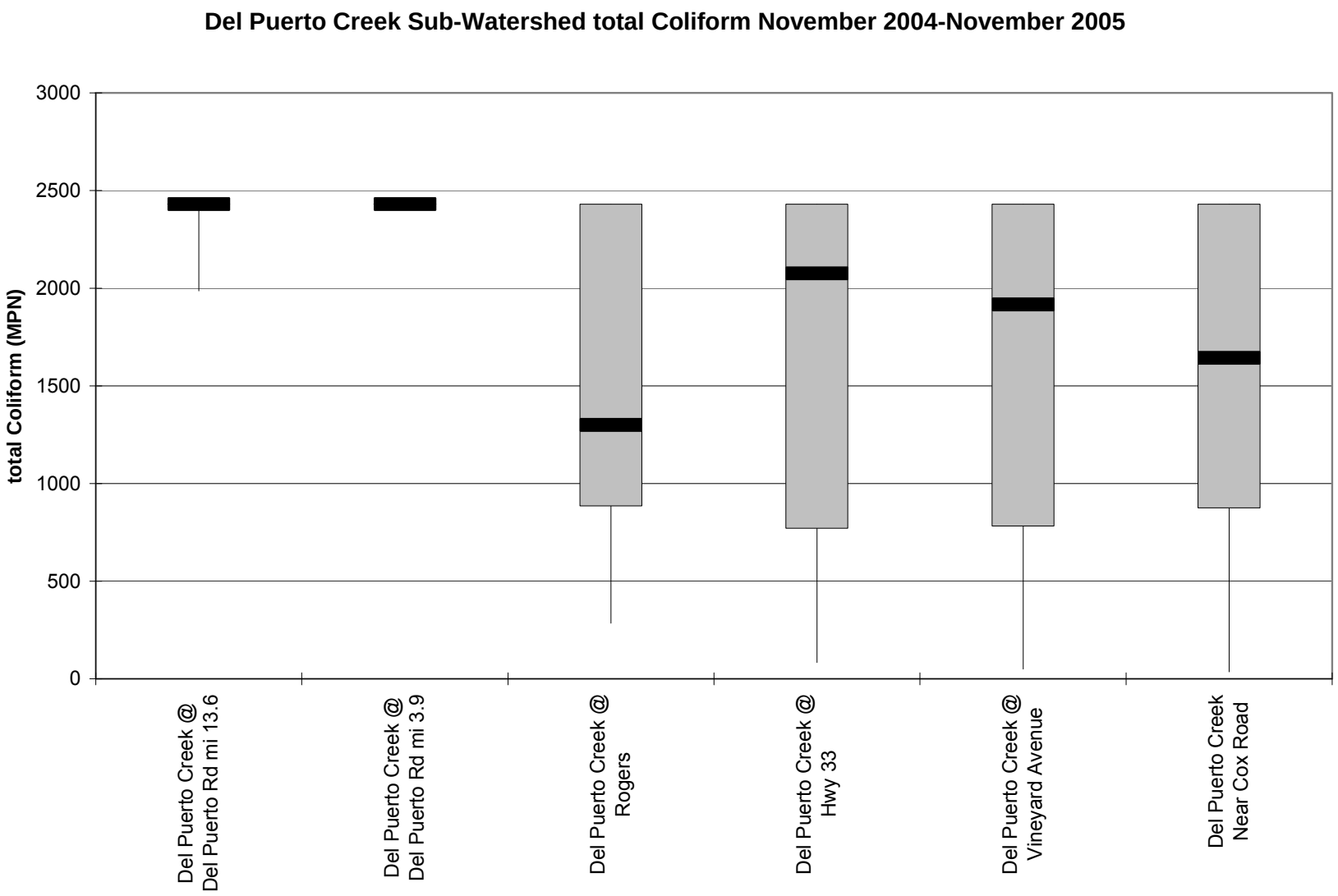
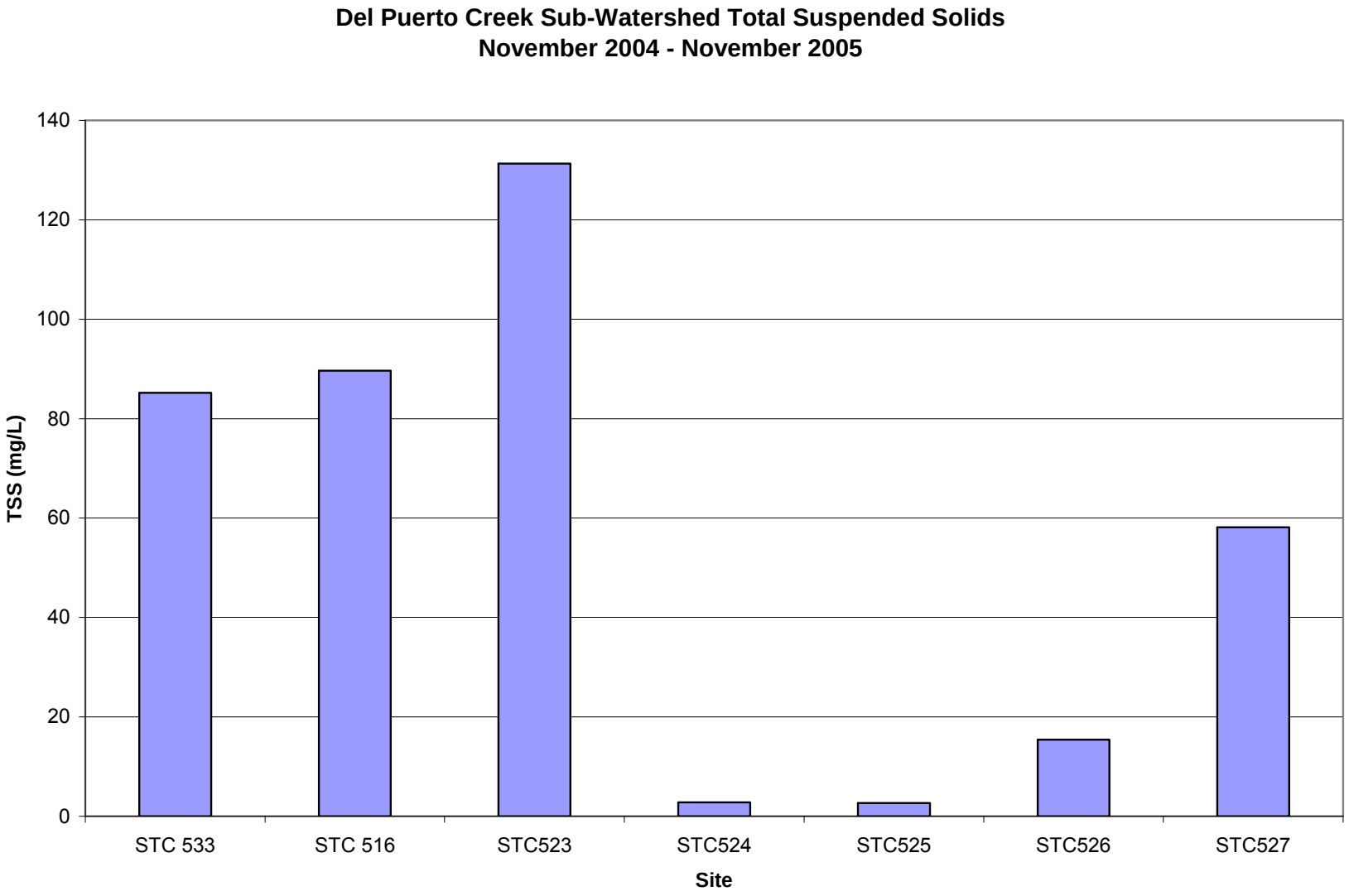

Del Puerto Creek Sub-Watershed Temp November 2004-November 2005
Temp (C)
30.00
25.00
20.00
15.00
10.00
5.00
0.00
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Del Puerto Cr near Cox Road
Del Puerto Cr @ Vineyard Ave
Del Puerto Cr @ Hwy 33
Del Puerto Cr @ Rogers
Del Puerto Cr @ Del Puerto Rd mi 3.9
Del Puerto Cr @ Del Puerto Rd mi 13.6
Del Puerto Cr @ Deer Cr Campground
Bay-Delta Authority Target, SJR @ Vernalis (Apr 1-Jun 30 & Sept 1- Nov 30, 20ºC)

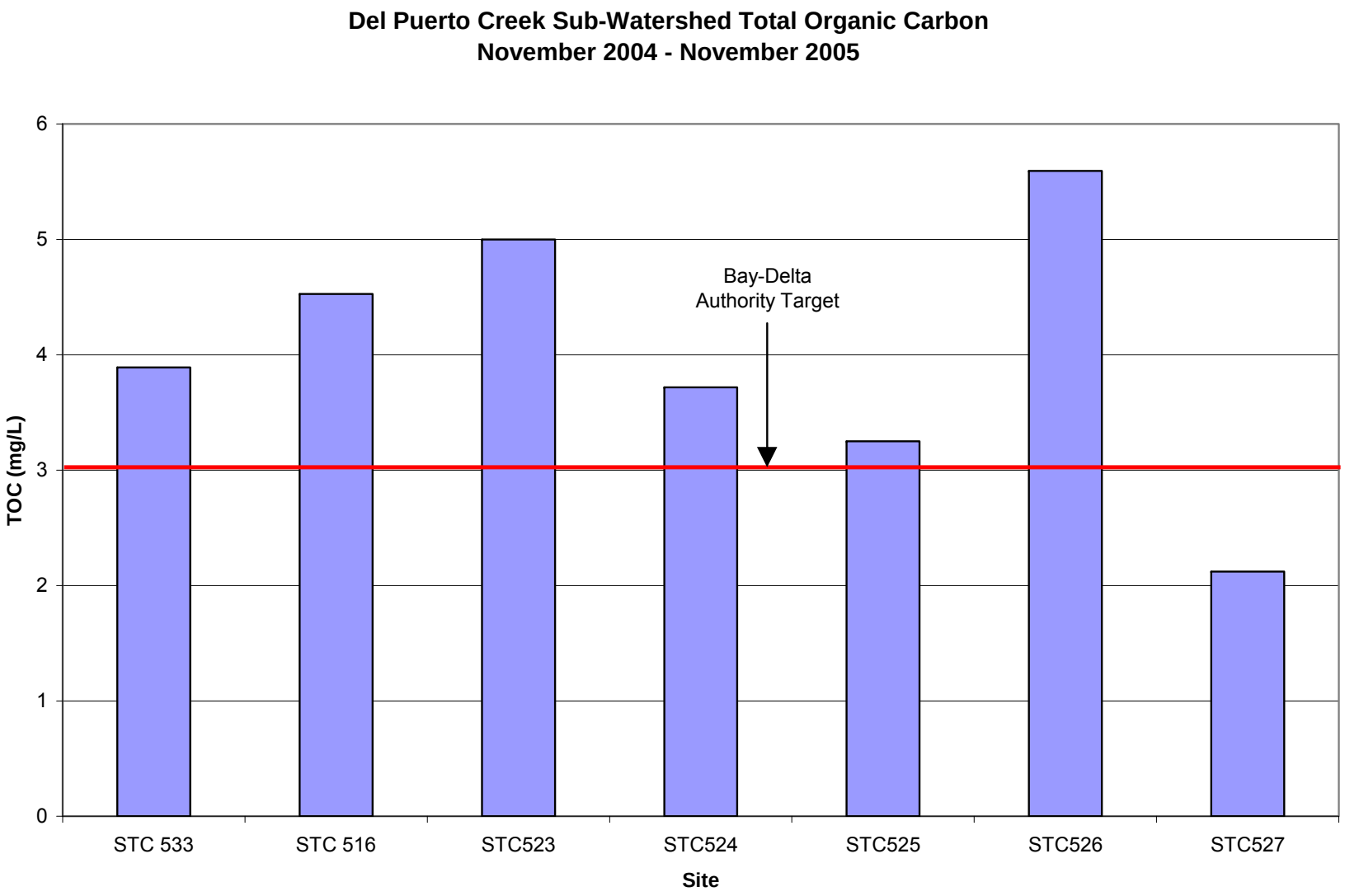
Figure 10: Del Puerto Creek Sub-Watershed Temperature November 2004-November 2005

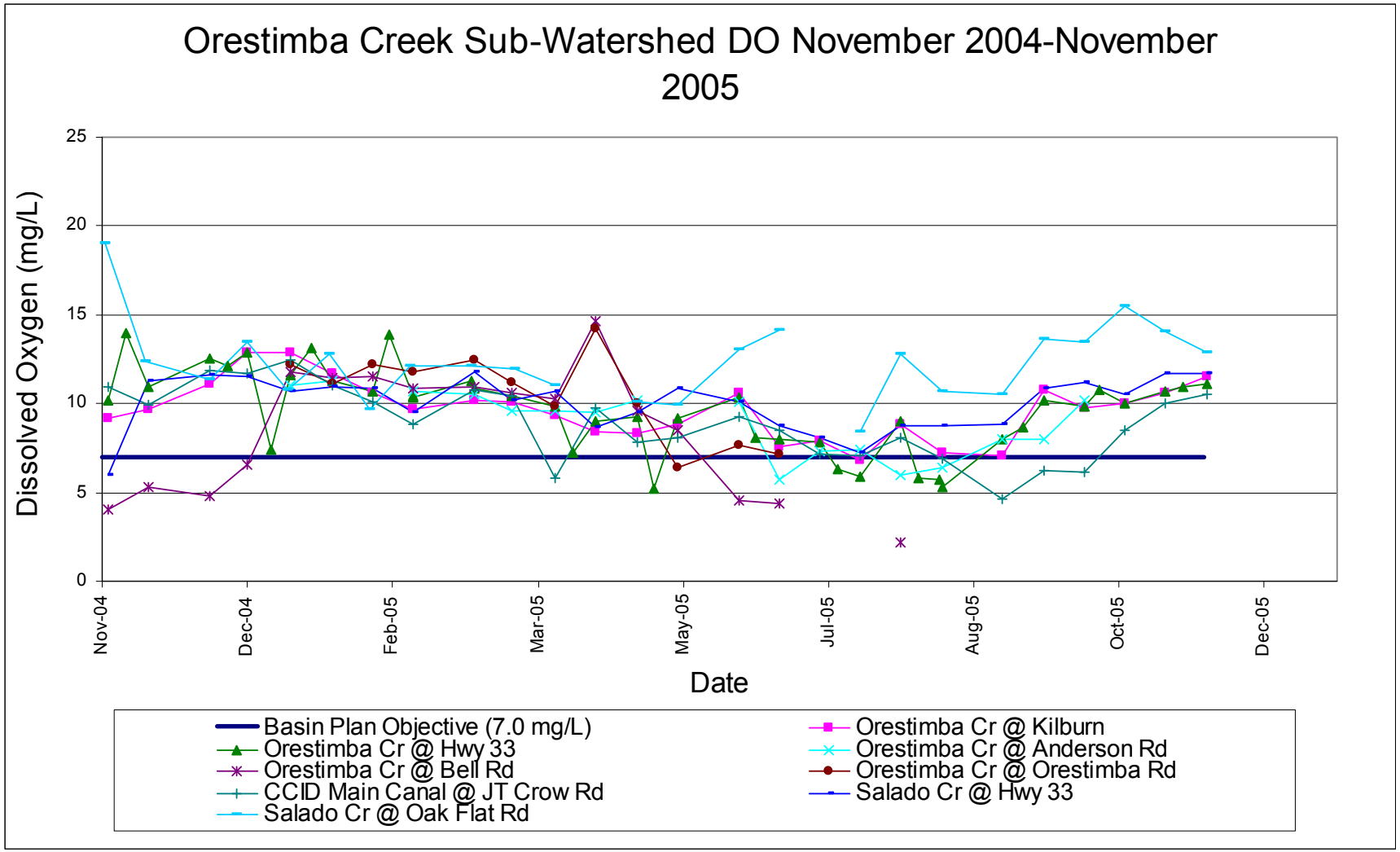



Hospital and Ingram Crek Sub-Watershed total coliform
November 2004-November 2005
Total Coliform (MPN)
3000.0
2500.0
2000.0
1500.0
1000.0
500.0
0.0
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Hospital Cr @ Hwy 33
Hospital Cr @ River Rd
Ingram Cr @ River Rd
Ingram Cr @ Hwy 33
Grayson Rd Drain @ Grayson

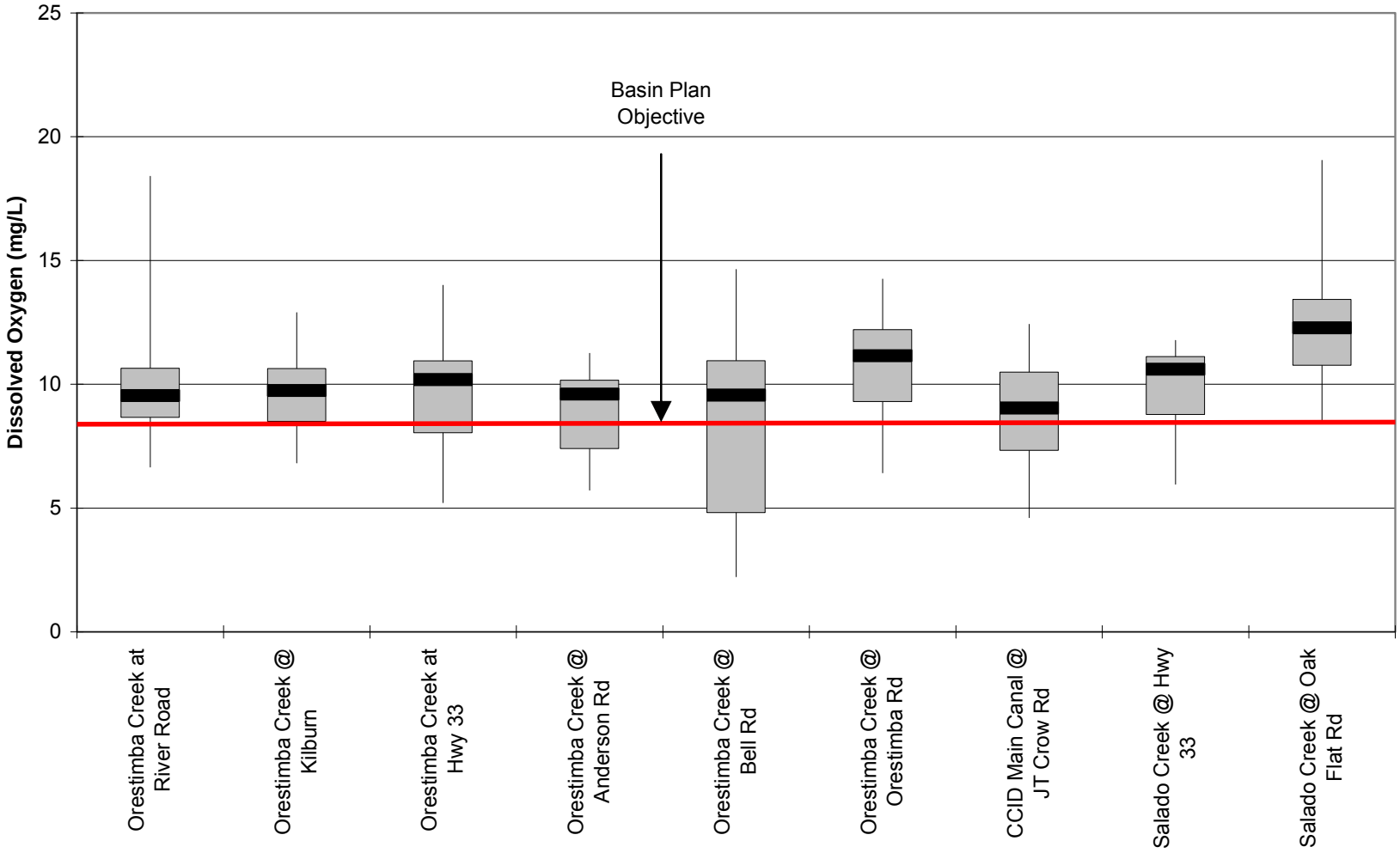

Del Puerto Creek Sub-Watershed total Coliform November 2004-November 2005
total Coliform (MPN)
3000
2500
2000
1500
1000
500
0
Del Puerto Creek @ Del Puerto Rd mi 13.6
Del Puerto Creek @ Del Puerto Rd mi 3.9
Del Puerto Creek @ Rogers
Del Puerto Creek @ Hwy 33
Del Puerto Creek @ Vineyard Avenue
Del Puerto Creek Near Cox Road

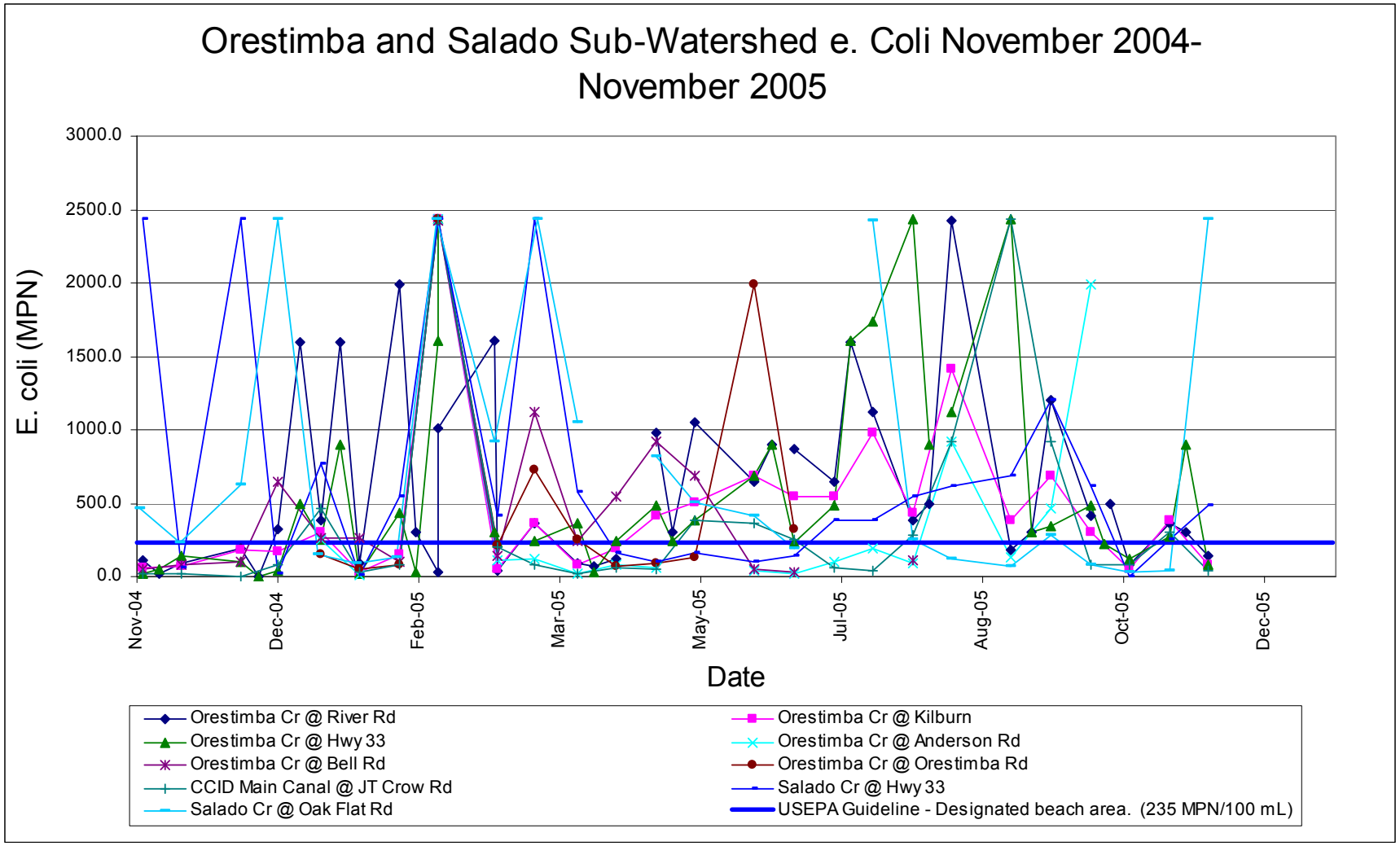

Del Puerto Creek Sub-Watershed Total Suspended Solids
November 2004 - November 2005
TSS (mg/L)
140
120
100
80
60
40
20
0
STC 533
STC 516
STC523
STC524
STC525
STC526
STC527
Site

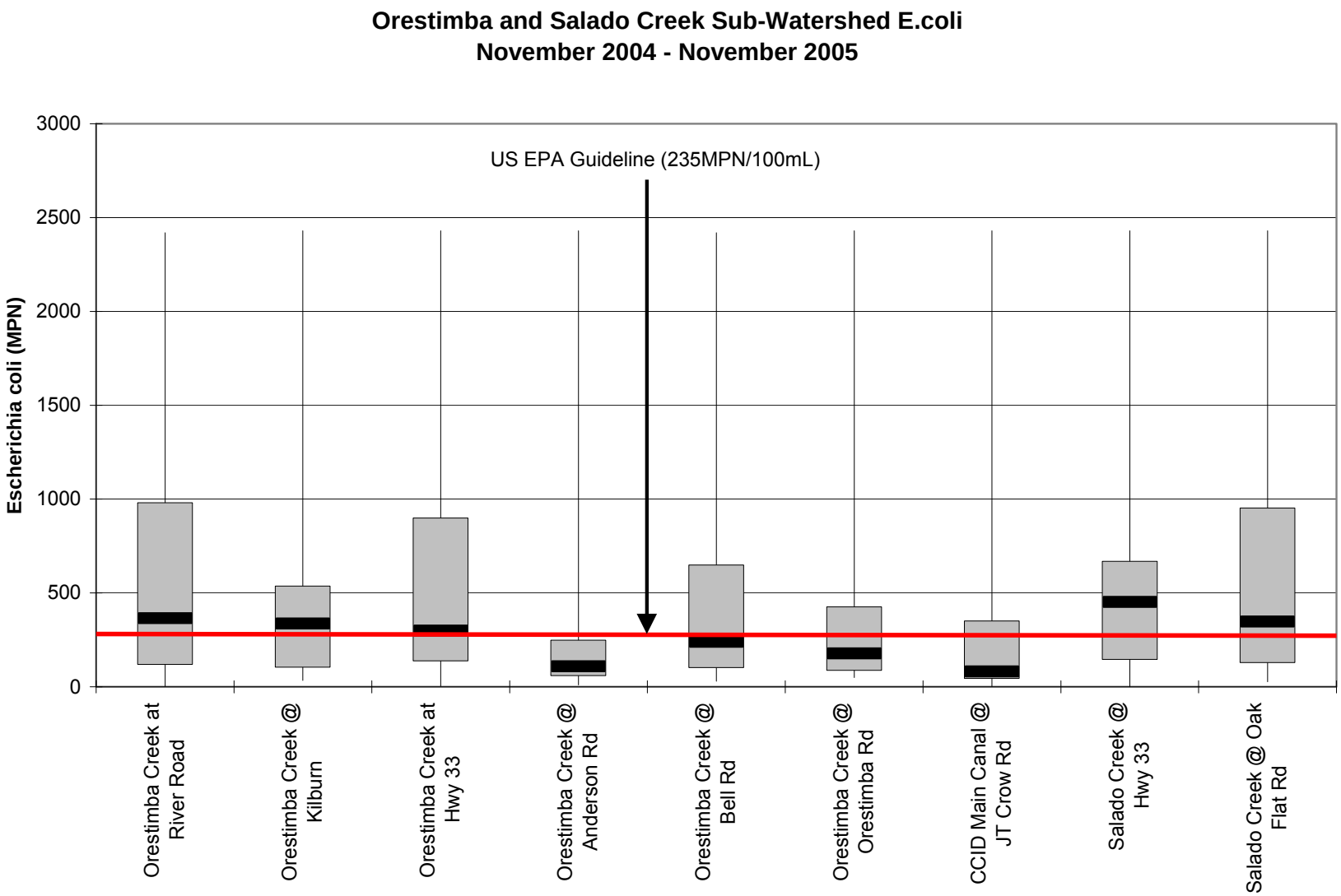

Del Puerto Creek Sub-Watershed Total Organic Carbon
November 2004 - November 2005
TOC (mg/L)
6
5
4
3
2
1
0
Bay-Delta
Authority Target
STC 533
STC 516
STC523
STC524
STC525
STC526
STC527
Site

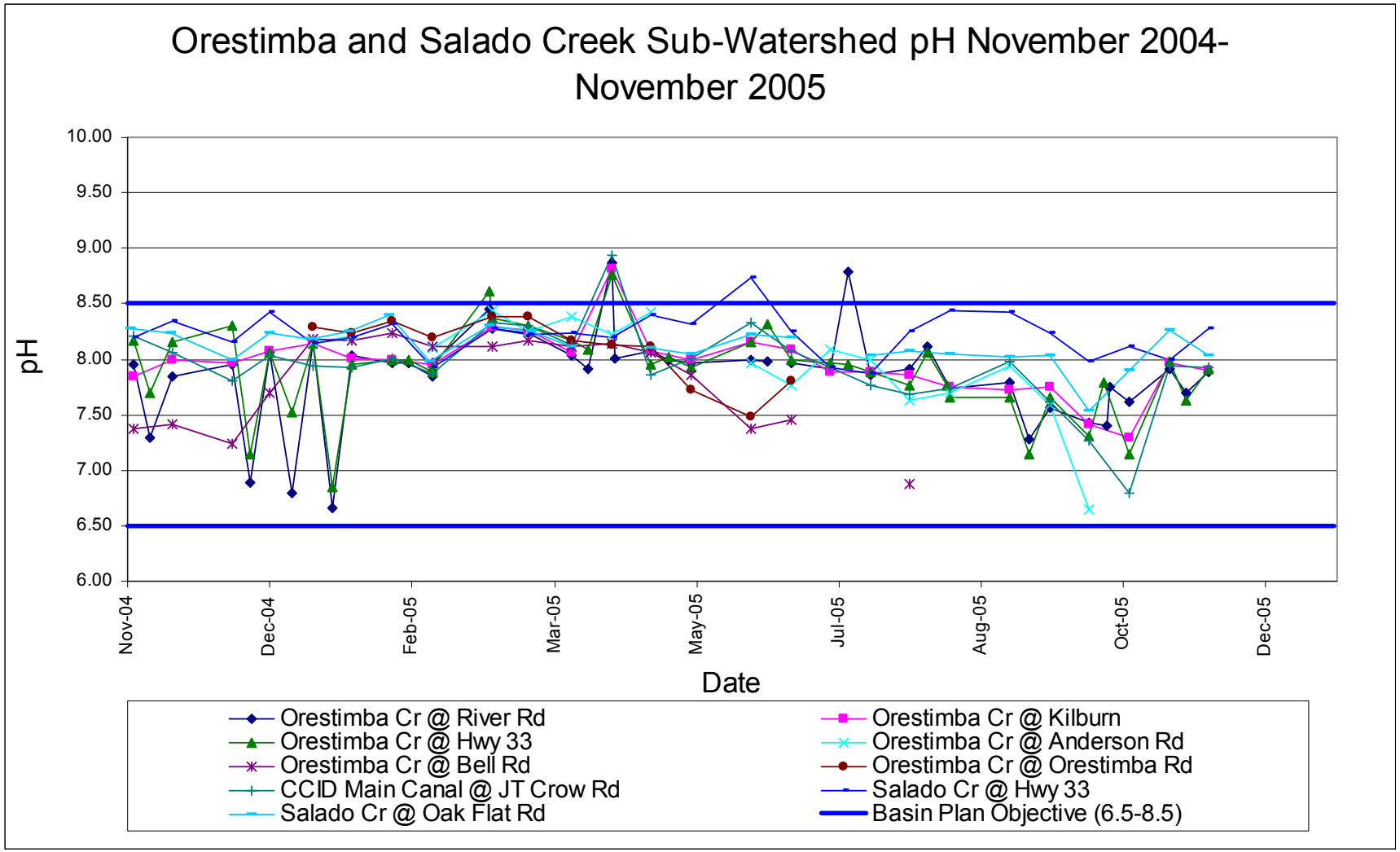

Orestimba Creek Sub-Watershed DO November 2004-November 2005
Dissolved Oxygen (mg/L)
25
20
15
10
5
0
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Basin Plan Objective (7.0 mg/L)
Orestimba Cr @ Kilburn
Orestimba Cr @ Hwy 33
Orestimba Cr @ Anderson Rd
Orestimba Cr @ Bell Rd
Orestimba Cr @ Orestimba Rd
CCID Main Canal @ JT Crow Rd
Salado Cr @ Hwy 33
Salado Cr @ Oak Flat Rd

Orestimba and Salado Creek Sub-Watershed DO November 2004-November 2005

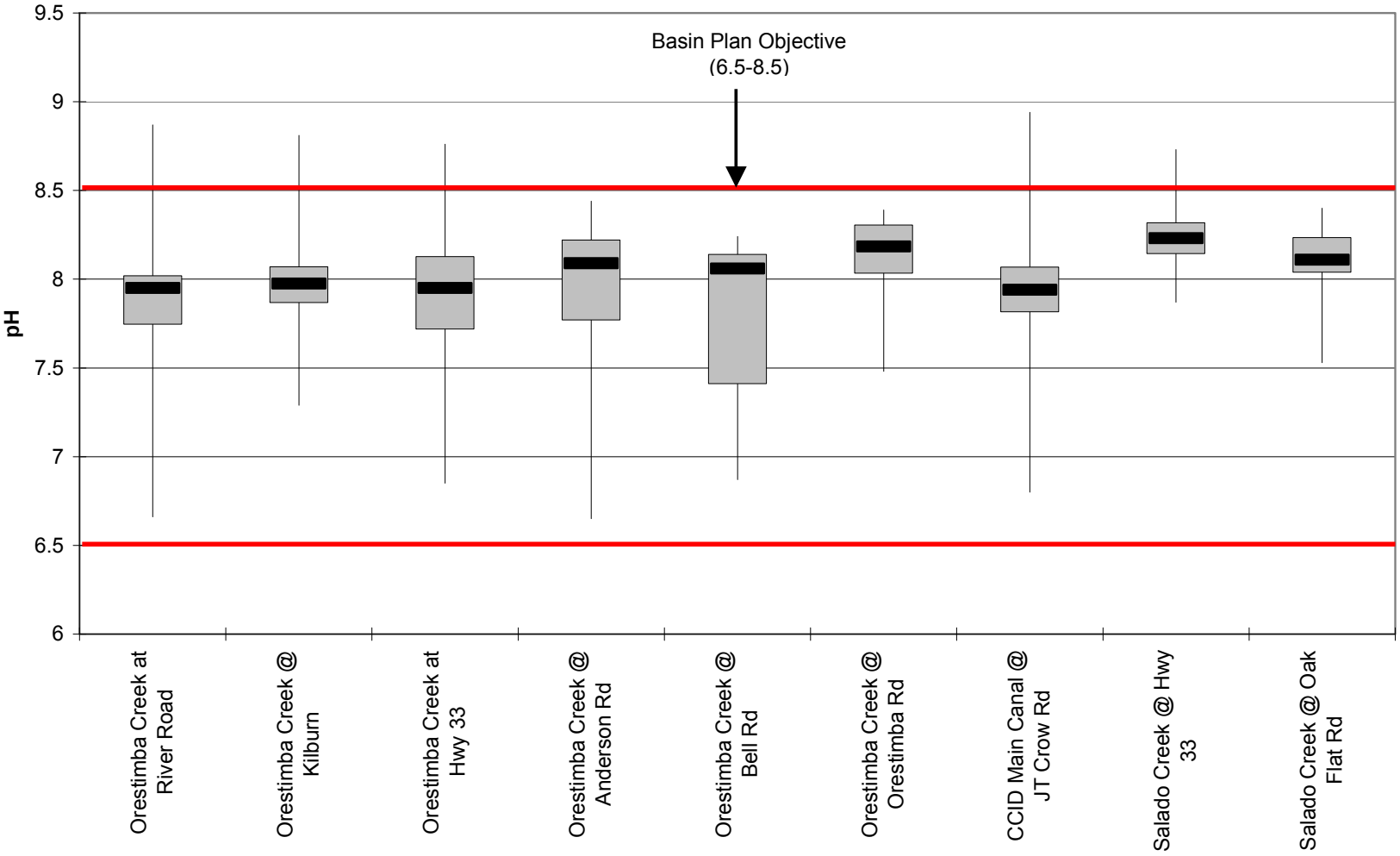


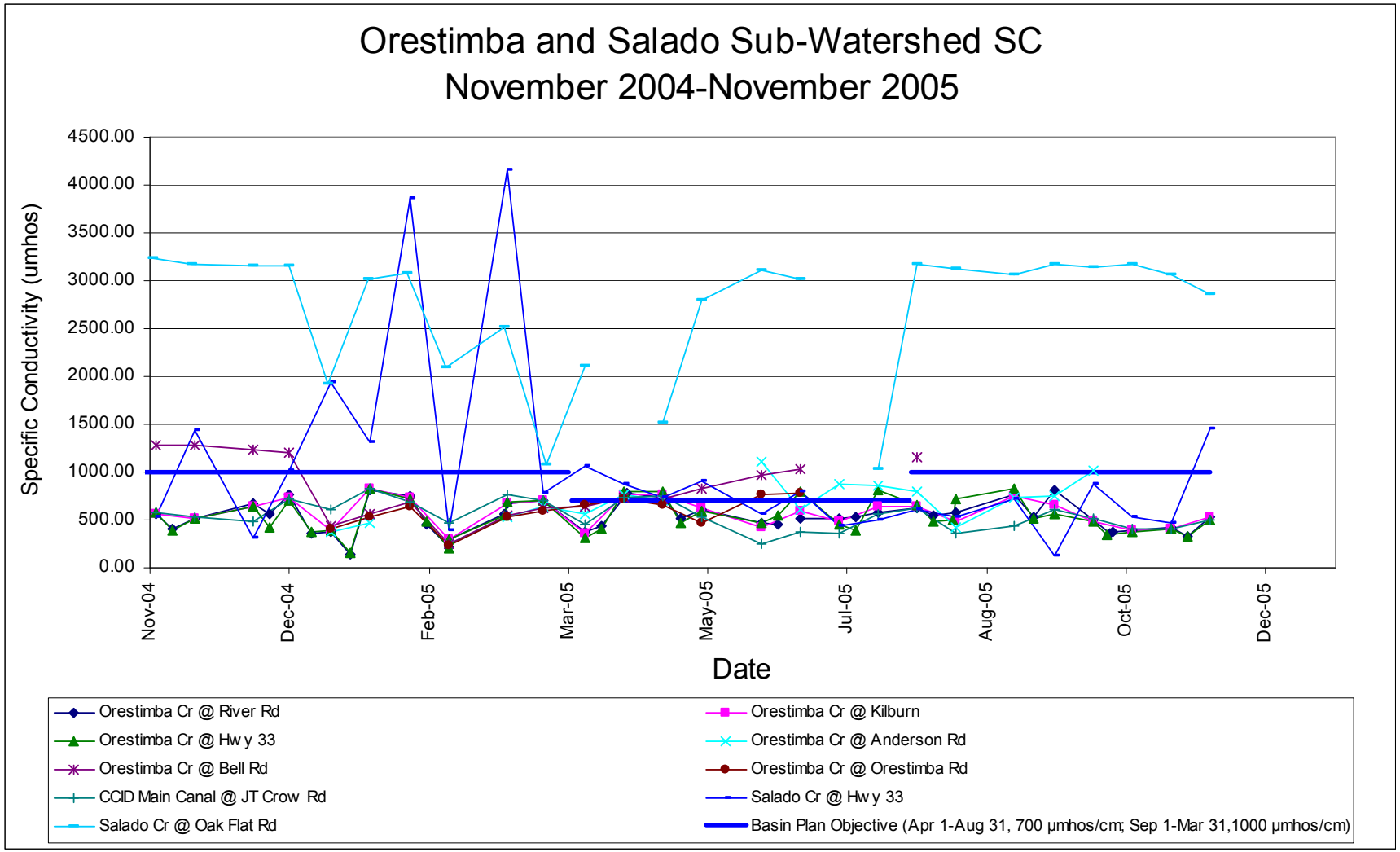

Orestimba and Salado Sub-Watershed e. Coli November 2004-November 2005
E. coli (MPN)
3000.0
2500.0
2000.0
1500.0
1000.0
500.0
0.0
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Orestimba Cr @ River Rd
Orestimba Cr @ Kilburn
Orestimba Cr @ Hwy 33
Orestimba Cr @ Anderson Rd
Orestimba Cr @ Bell Rd
Orestimba Cr @ Orestimba Rd
CCID Main Canal @ JT Crow Rd
Salado Cr @ Hwy 33
Salado Cr @ Oak Flat Rd
USEPA Guideline - Designated beach area. (235 MPN/100 mL)


Orestimba and Salado Creek Sub-Watershed E.coli
November 2004 - November 2005
Escherichia coli (MPN)
3000
2500
2000
1500
1000
500
0
US EPA Guideline (235MPN/100mL)
Orestimba Creek at River Road
Orestimba Creek @ Kilburn
Orestimba Creek at Hwy 33
Orestimba Creek @ Anderson Rd
Orestimba Creek @ Bell Rd
Orestimba Creek @ Orestimba Rd
CCID Main Canal @ JT Crow Rd
Salado Creek @ Hwy 33
Salado Creek @ Oak Flat Rd

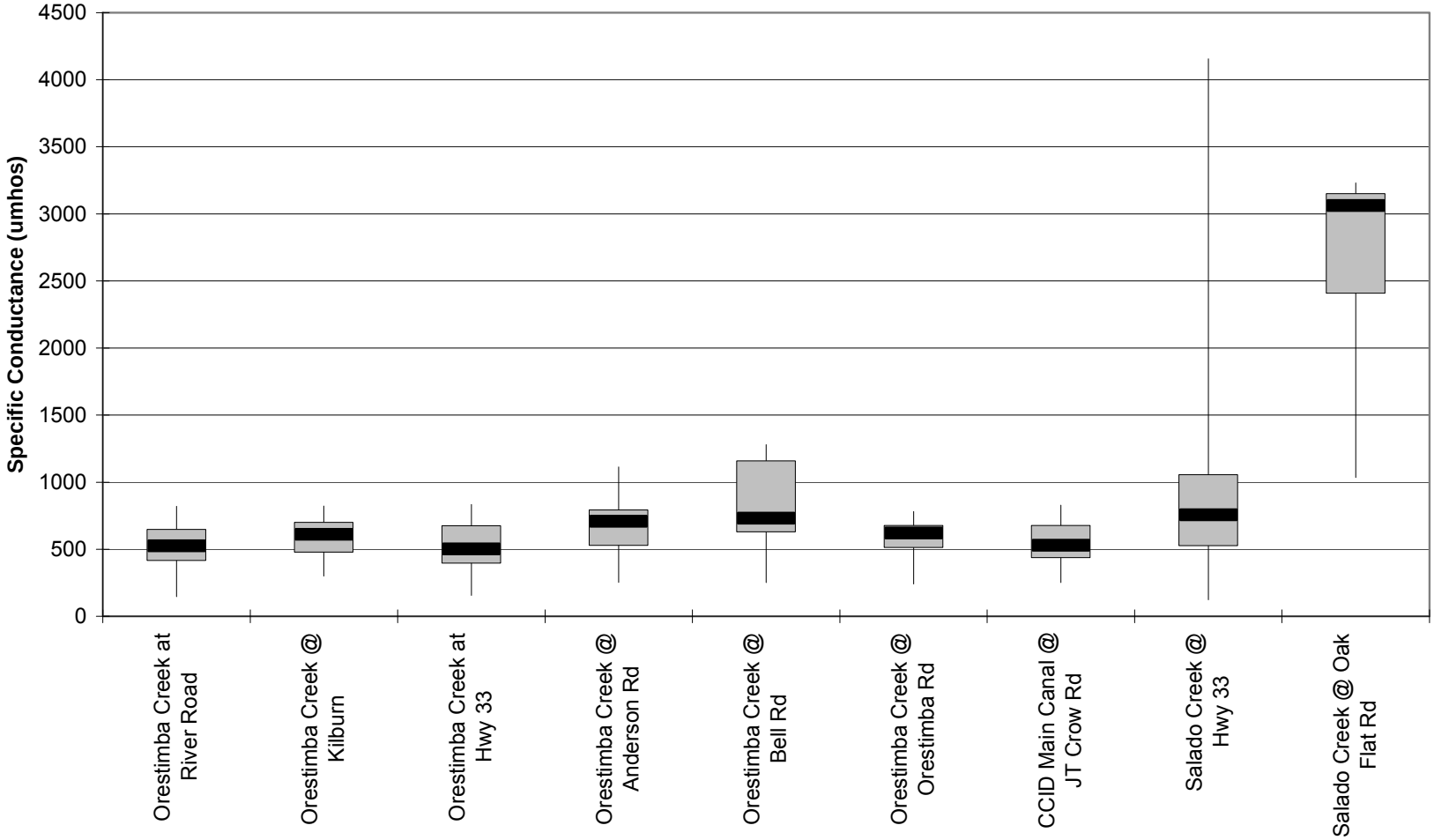

Orestimba and Salado Creek Sub-Watershed pH November 2004-November 2005
pH
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Orestimba Cr @ River Rd
Orestimba Cr @ Kilburn
Orestimba Cr @ Hwy 33
Orestimba Cr @ Anderson Rd
Orestimba Cr @ Bell Rd
Orestimba Cr @ Orestimba Rd
CCID Main Canal @ JT Crow Rd
Salado Cr @ Hwy 33
Salado Cr @ Oak Flat Rd
Basin Plan Objective (6.5-8.5)

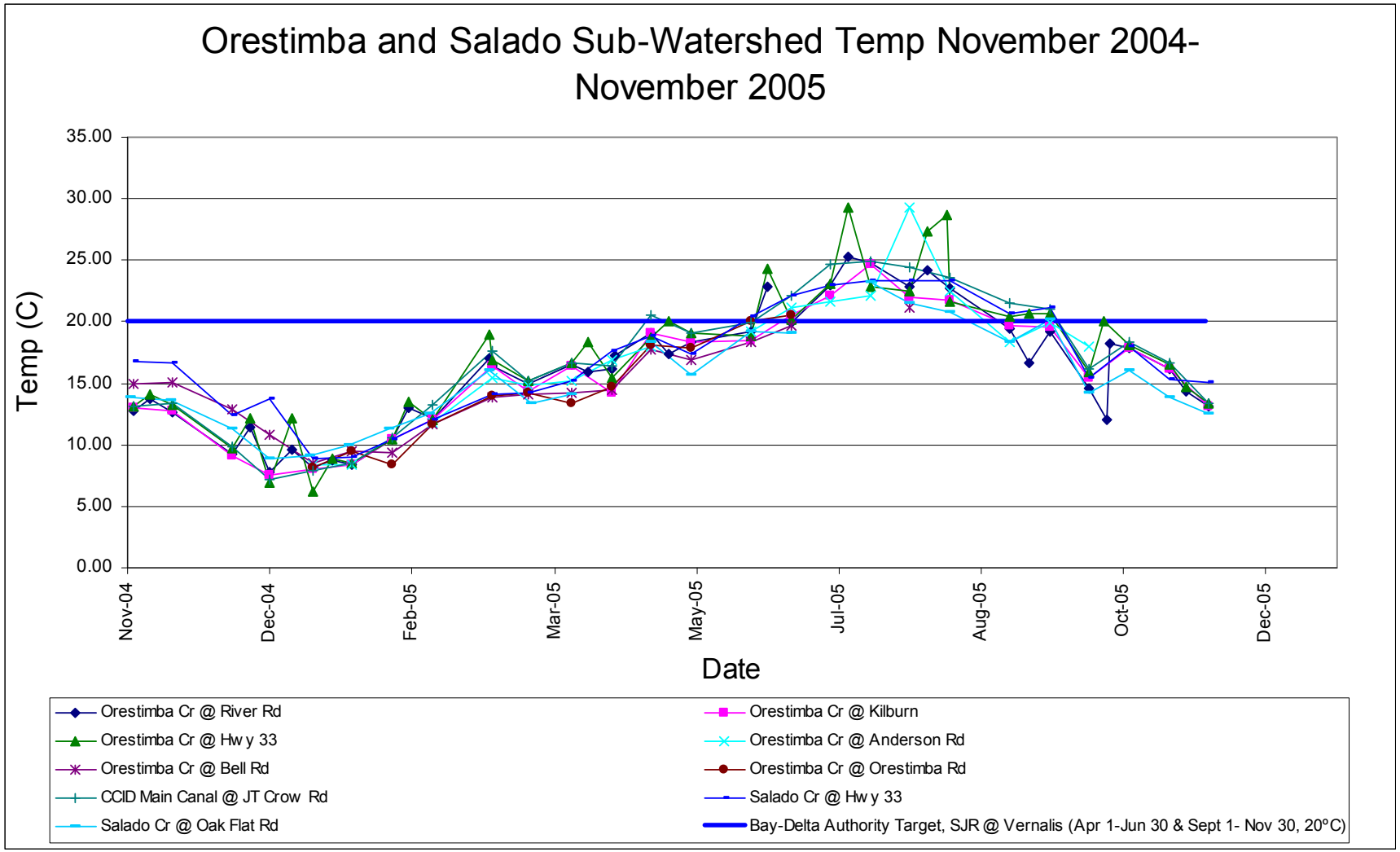
Orestimba and Salado Creek Sub-Watershed pH November 2004-November 2005



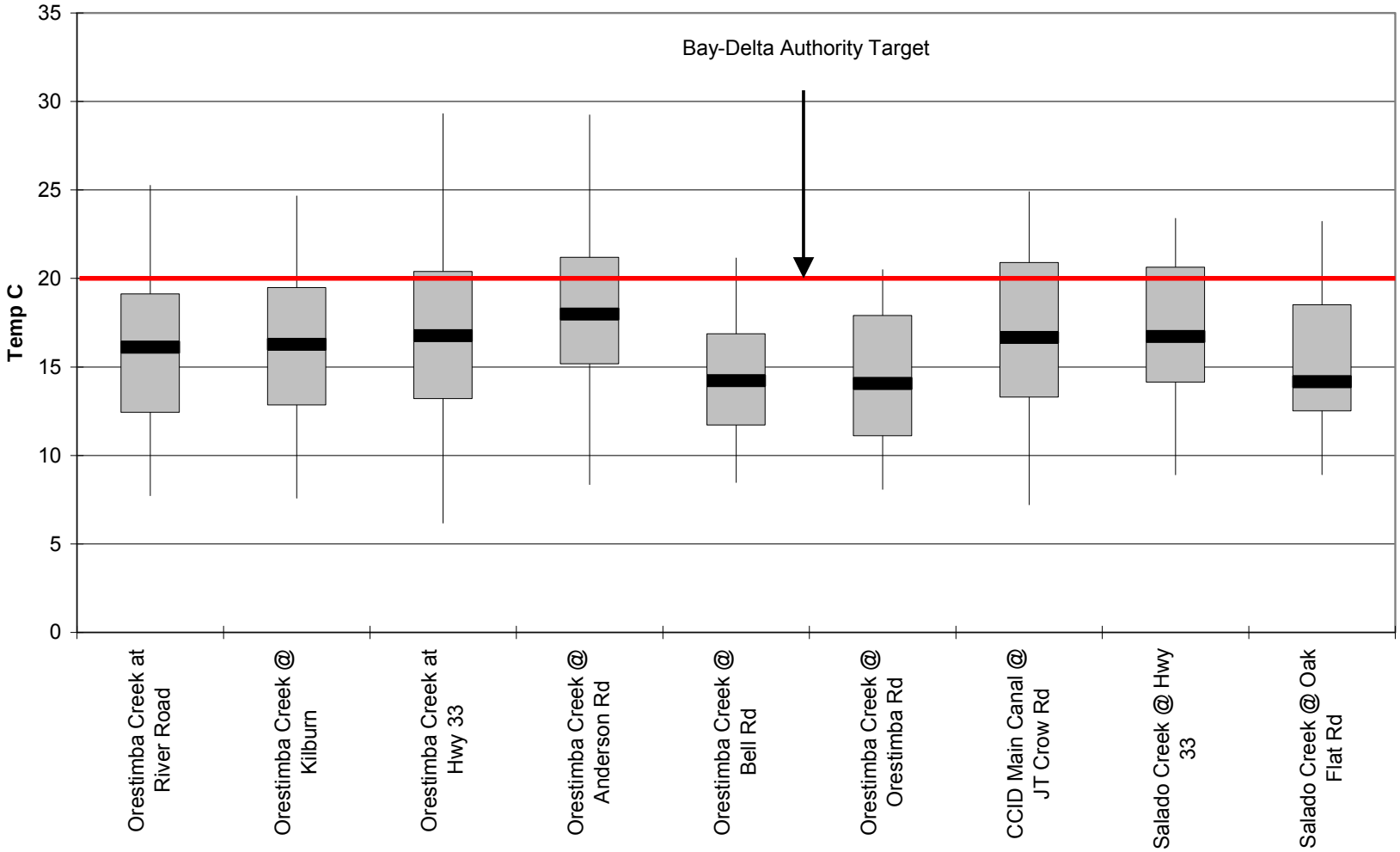

Orestimba and Salado Sub-Watershed SC
November 2004-November 2005
Specific Conductivity (umhos)
4500.00
4000.00
3500.00
3000.00
2500.00
2000.00
1500.00
1000.00
500.00
0.00
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Orestimba Cr @ River Rd
Orestimba Cr @ Kilburn
Orestimba Cr @ Hwy 33
Orestimba Cr @ Anderson Rd
Orestimba Cr @ Bell Rd
Orestimba Cr @ Orestimba Rd
CCID Main Canal @ JT Crow Rd
Salado Cr @ Hwy 33
Salado Cr @ Oak Flat Rd
Basin Plan Objective (Apr 1-Aug 31, 700 µmhos/cm; Sep 1-Mar 31,1000 µmhos/cm)

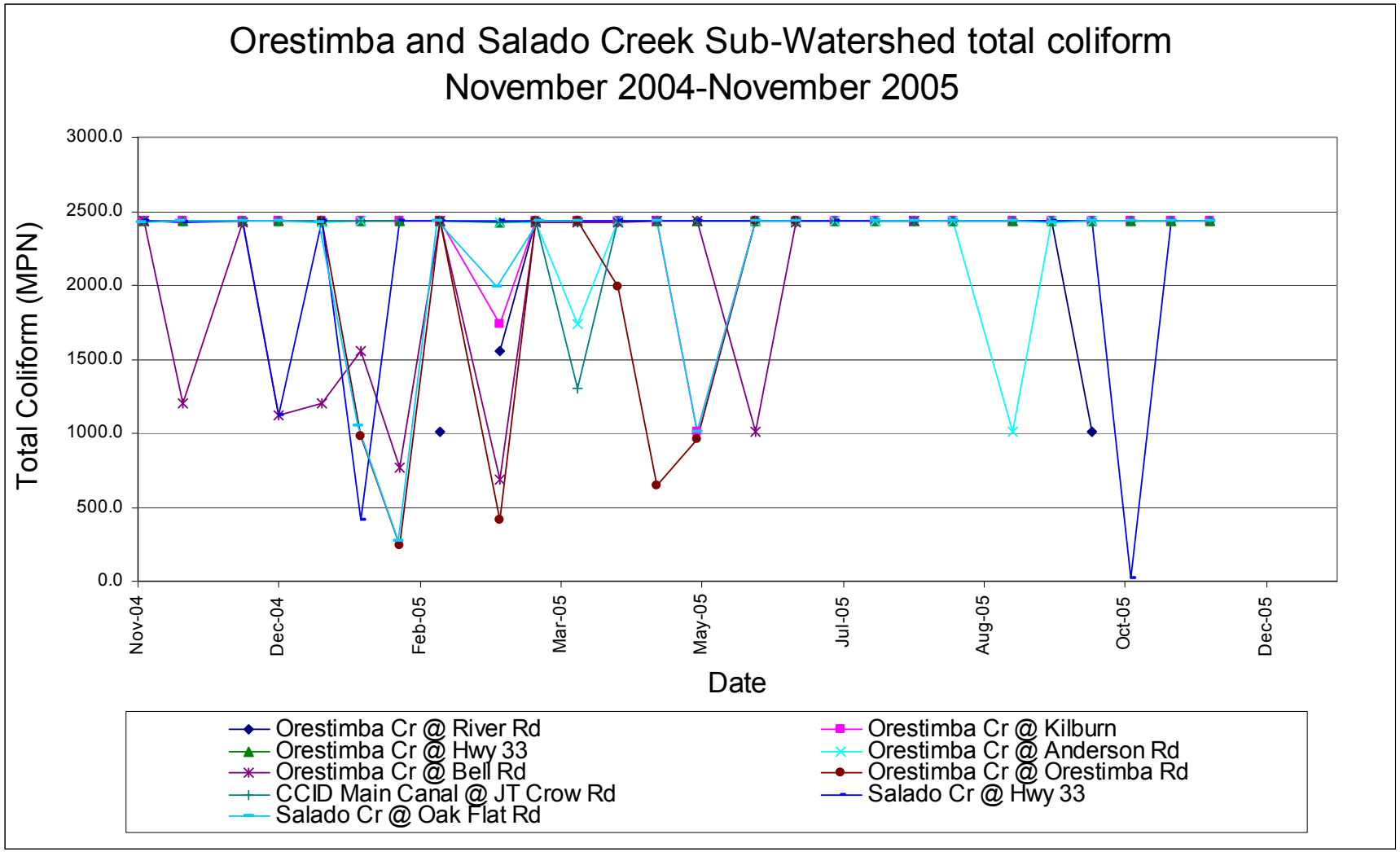
Orestimba and Salado Creek Sub-Watershed SC
November 2004-November 2005



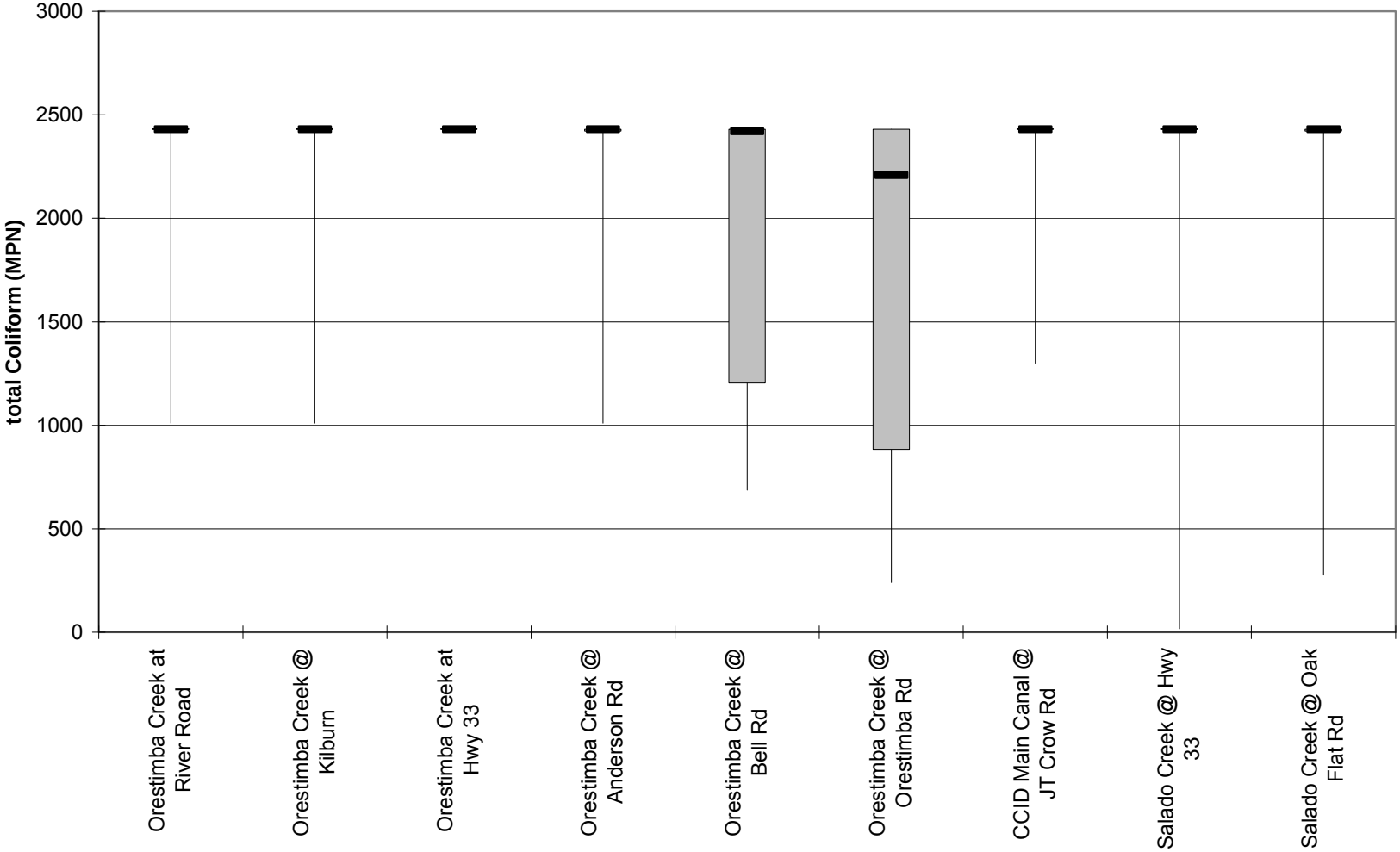

Orestimba and Salado Sub-Watershed Temp November 2004-November 2005
Temp (C)
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Orestimba Cr @ River Rd
Orestimba Cr @ Kilburn
Orestimba Cr @ Hwy 33
Orestimba Cr @ Anderson Rd
Orestimba Cr @ Bell Rd
Orestimba Cr @ Orestimba Rd
CCID Main Canal @ JT Crow Rd
Salado Cr @ Hwy 33
Salado Cr @ Oak Flat Rd
Bay-Delta Authority Target, SJR @ Vernalis (Apr 1-Jun 30 & Sept 1- Nov 30, 20°C)

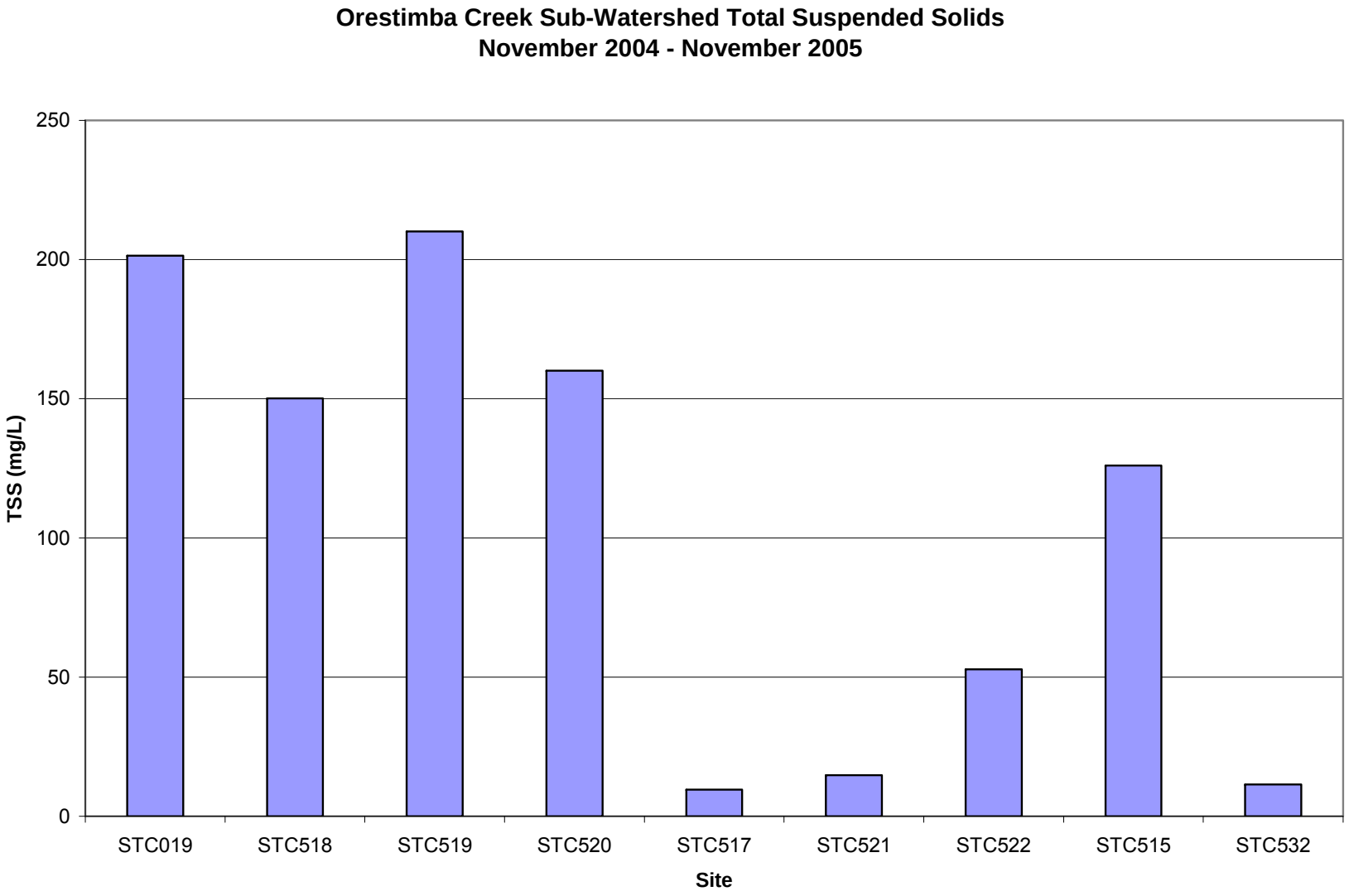
Orestimba and Salado Creek Sub-Watershed Temperature November 2004-November 2005

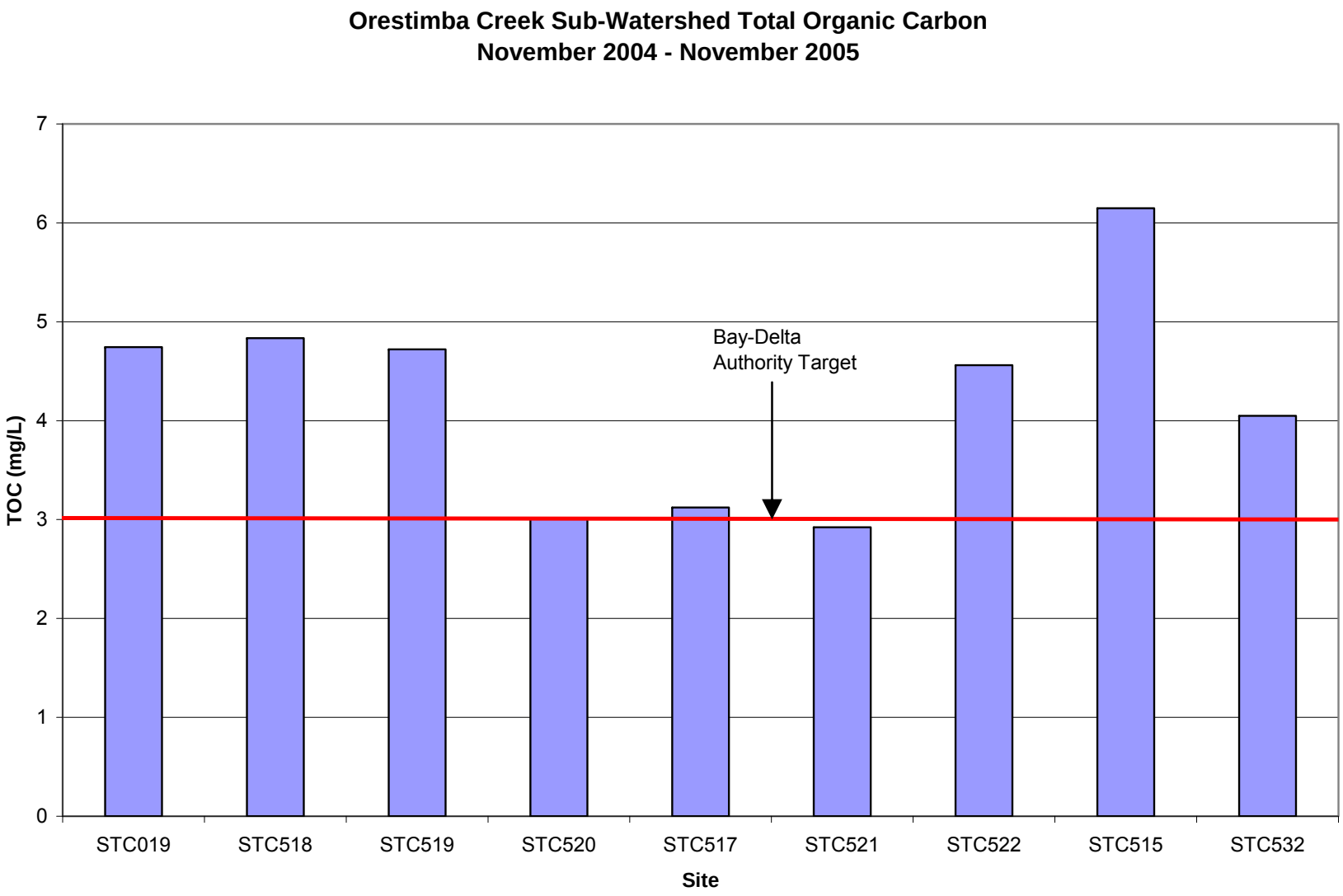


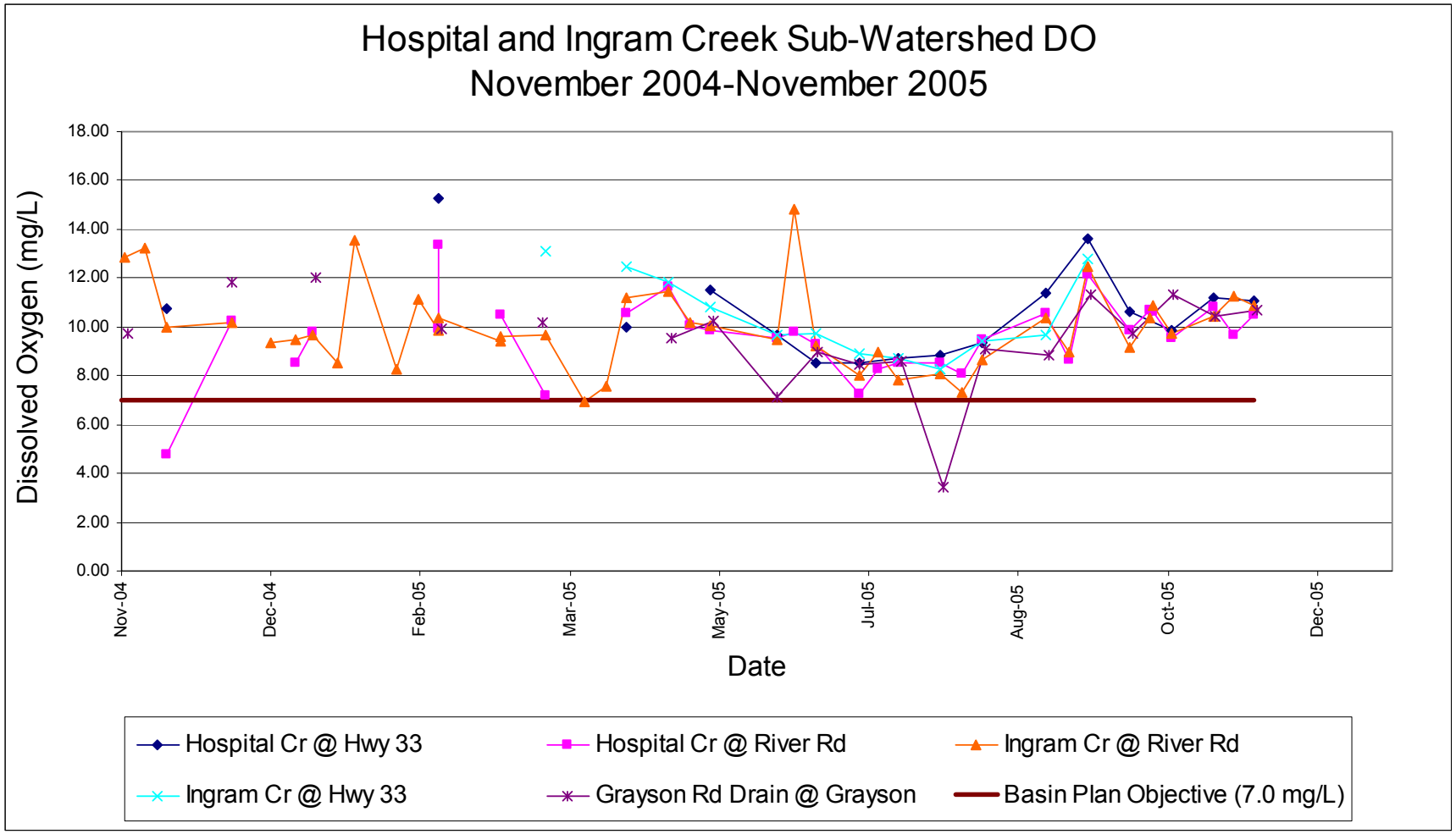

Orestimba and Salado Creek Sub-Watershed total coliform
November 2004-November 2005
Total Coliform (MPN)
3000.0
2500.0
2000.0
1500.0
1000.0
500.0
0.0
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Orestimba Cr @ River Rd
Orestimba Cr @ Kilburn
Orestimba Cr @ Hwy 33
Orestimba Cr @ Anderson Rd
Orestimba Cr @ Bell Rd
Orestimba Cr @ Orestimba Rd
CCID Main Canal @ JT Crow Rd
Salado Cr @ Hwy 33
Salado Cr @ Oak Flat Rd

Orestimba and Salado Creek Sub-Watershed total Coliform November 2004-November 2005

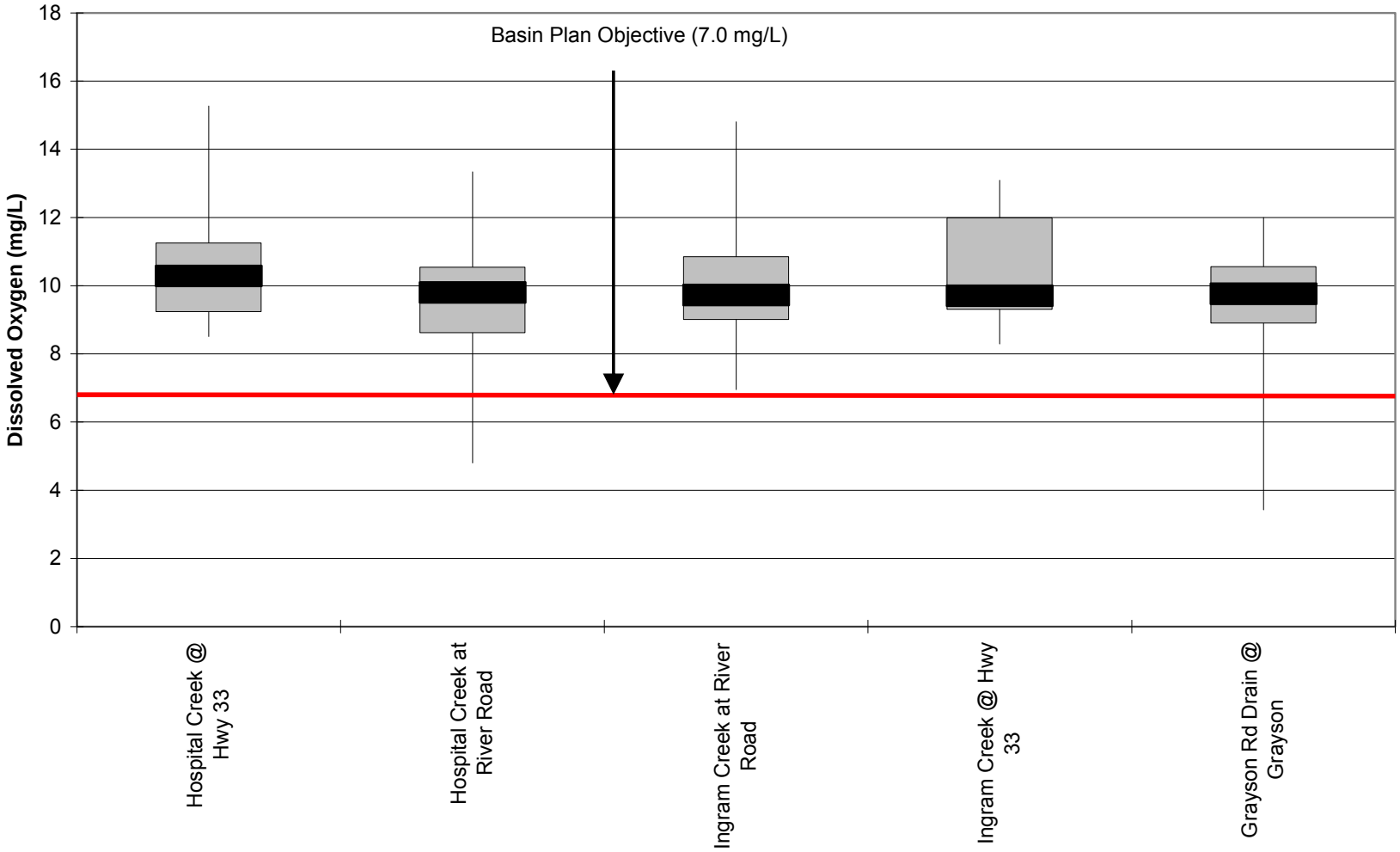


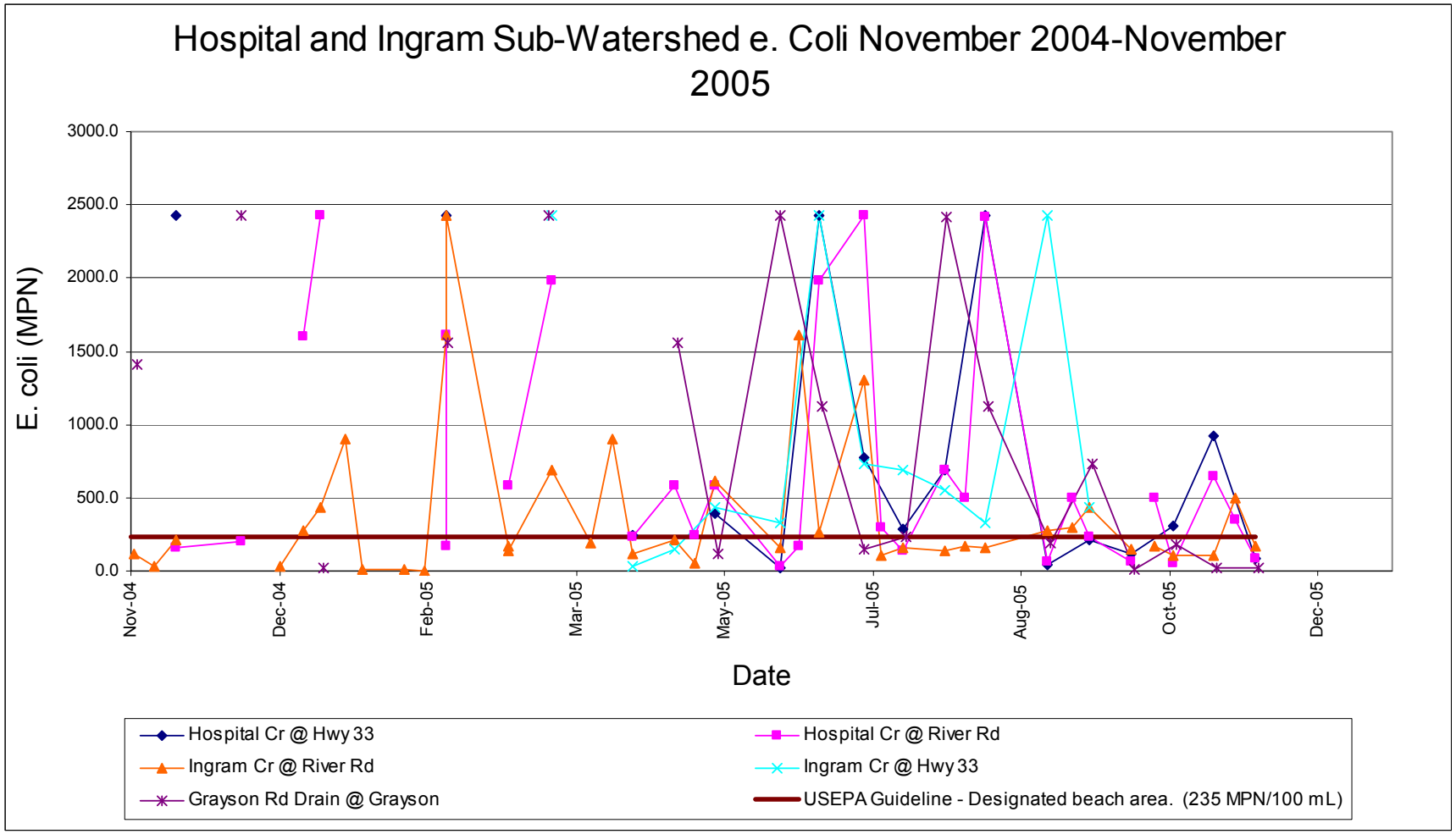

Orestimba Creek Sub-Watershed Total Suspended Solids
November 2004 - November 2005
TSS (mg/L)
250
200
150
100
50
0
STC019
STC518
STC519
STC520
STC517
STC521
STC522
STC515
STC532
Site

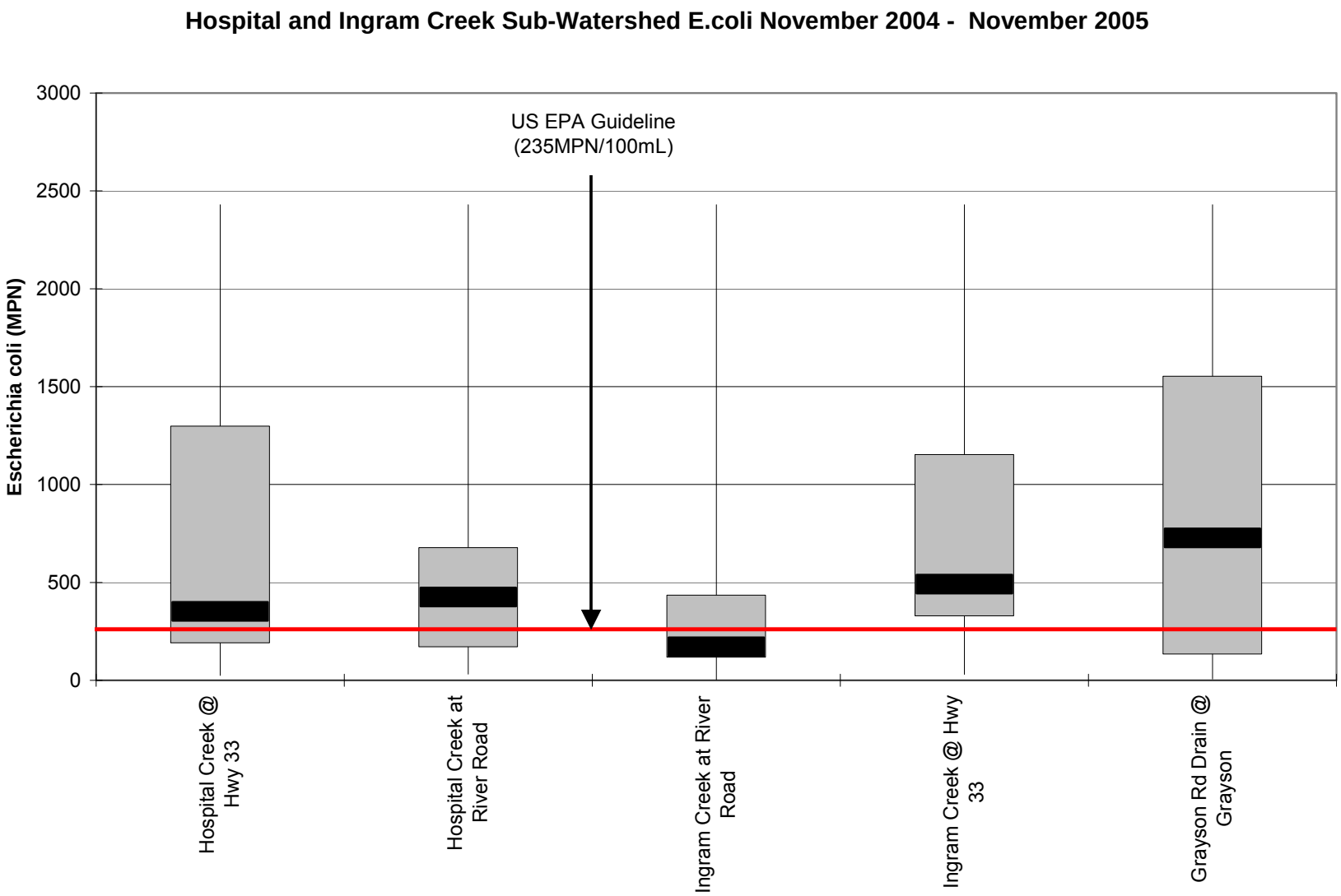

Orestimba Creek Sub-Watershed Total Organic Carbon
November 2004 - November 2005
TOC (mg/L)
0
1
2
3
4
5
6
7
Bay-Delta
Authority Target
STC019
STC518
STC519
STC520
STC517
STC521
STC522
STC515
STC532
Site

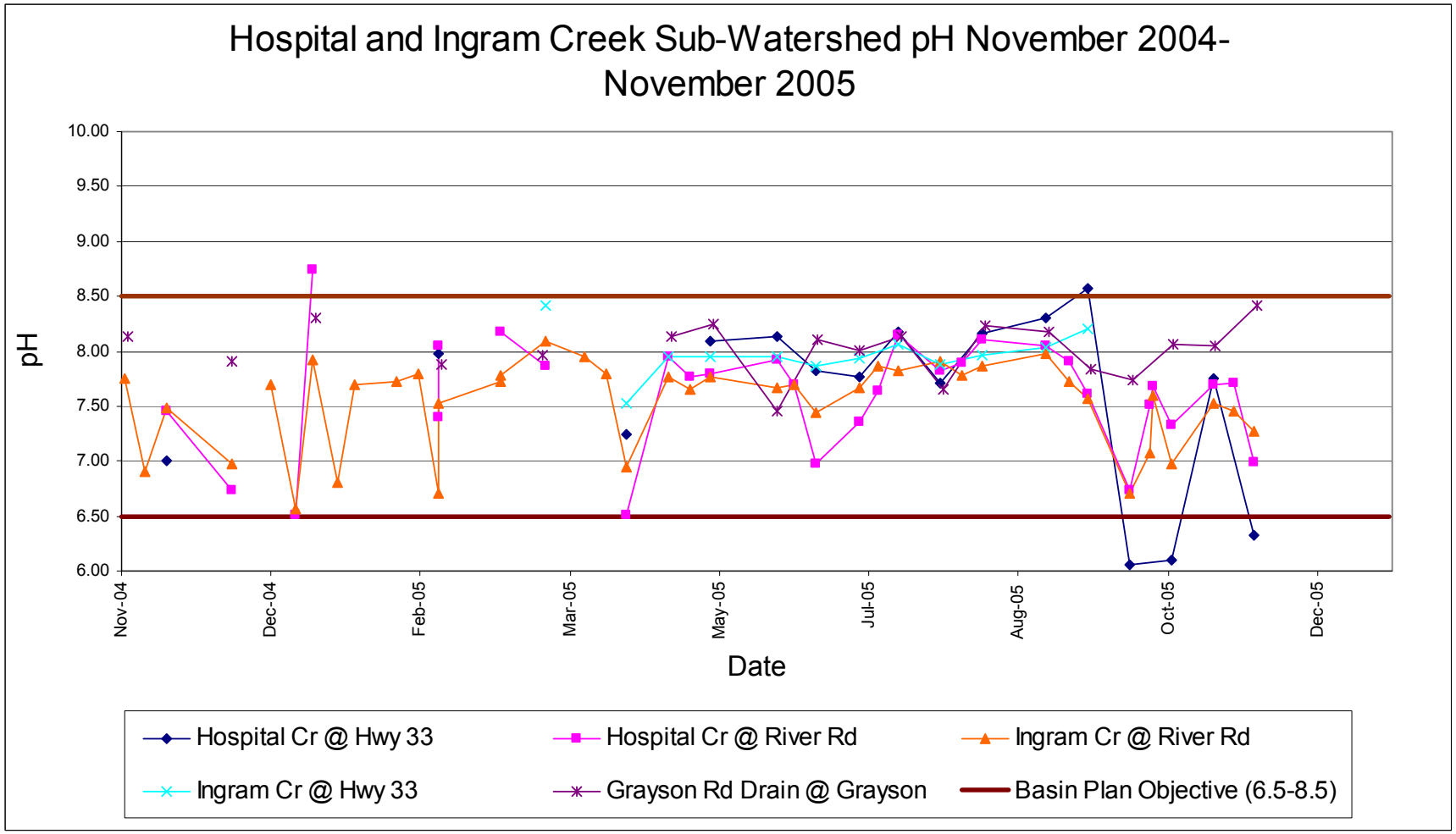

Hospital and Ingram Creek Sub-Watershed DO
November 2004-November 2005
Dissolved Oxygen (mg/L)
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Hospital Cr @ Hwy 33
Hospital Cr @ River Rd
Ingram Cr @ River Rd
Ingram Cr @ Hwy 33
Grayson Rd Drain @ Grayson
Basin Plan Objective (7.0 mg/L)

Hospital and Ingram Creek Sub-Watershed DO November 2004-November 2005

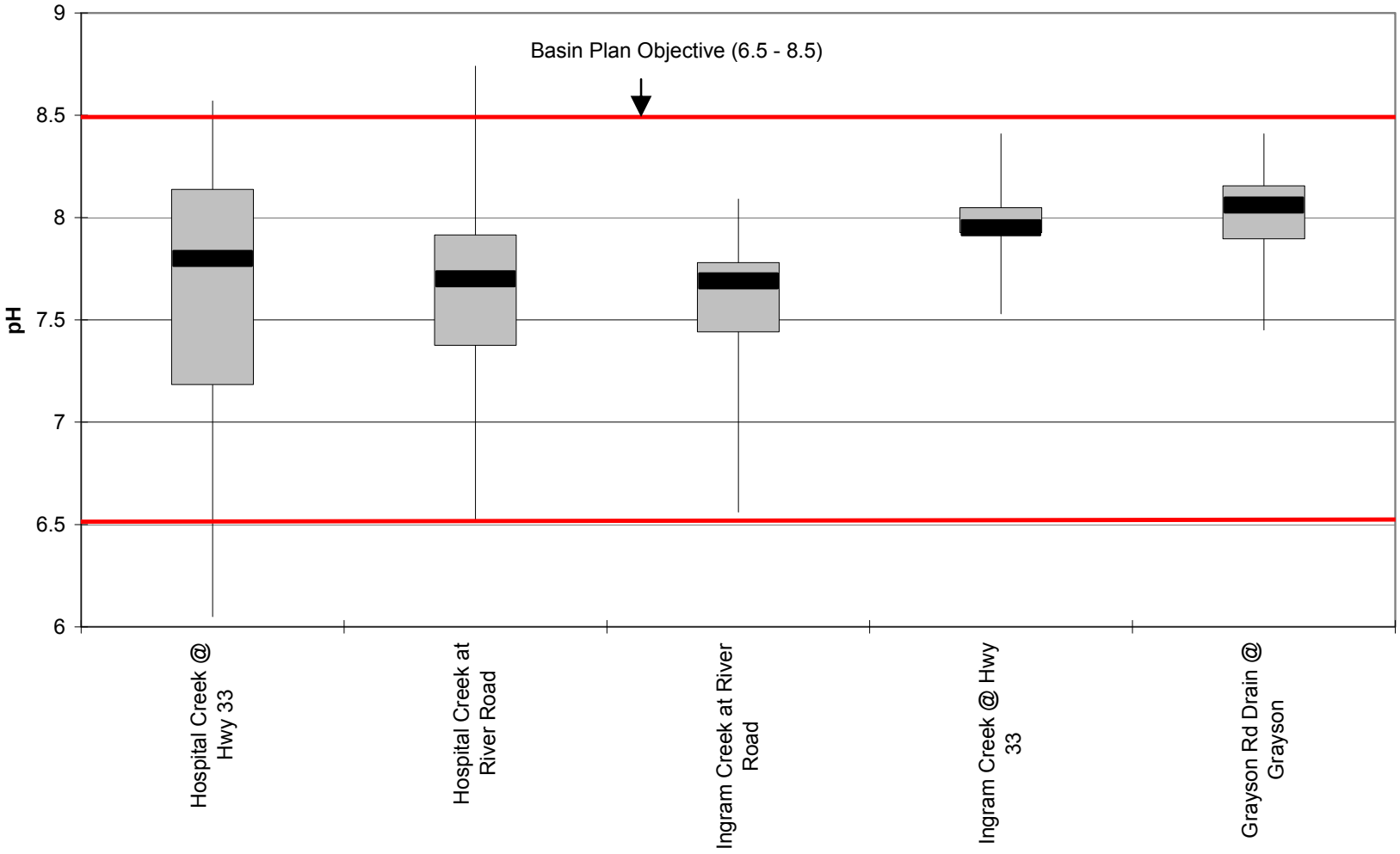


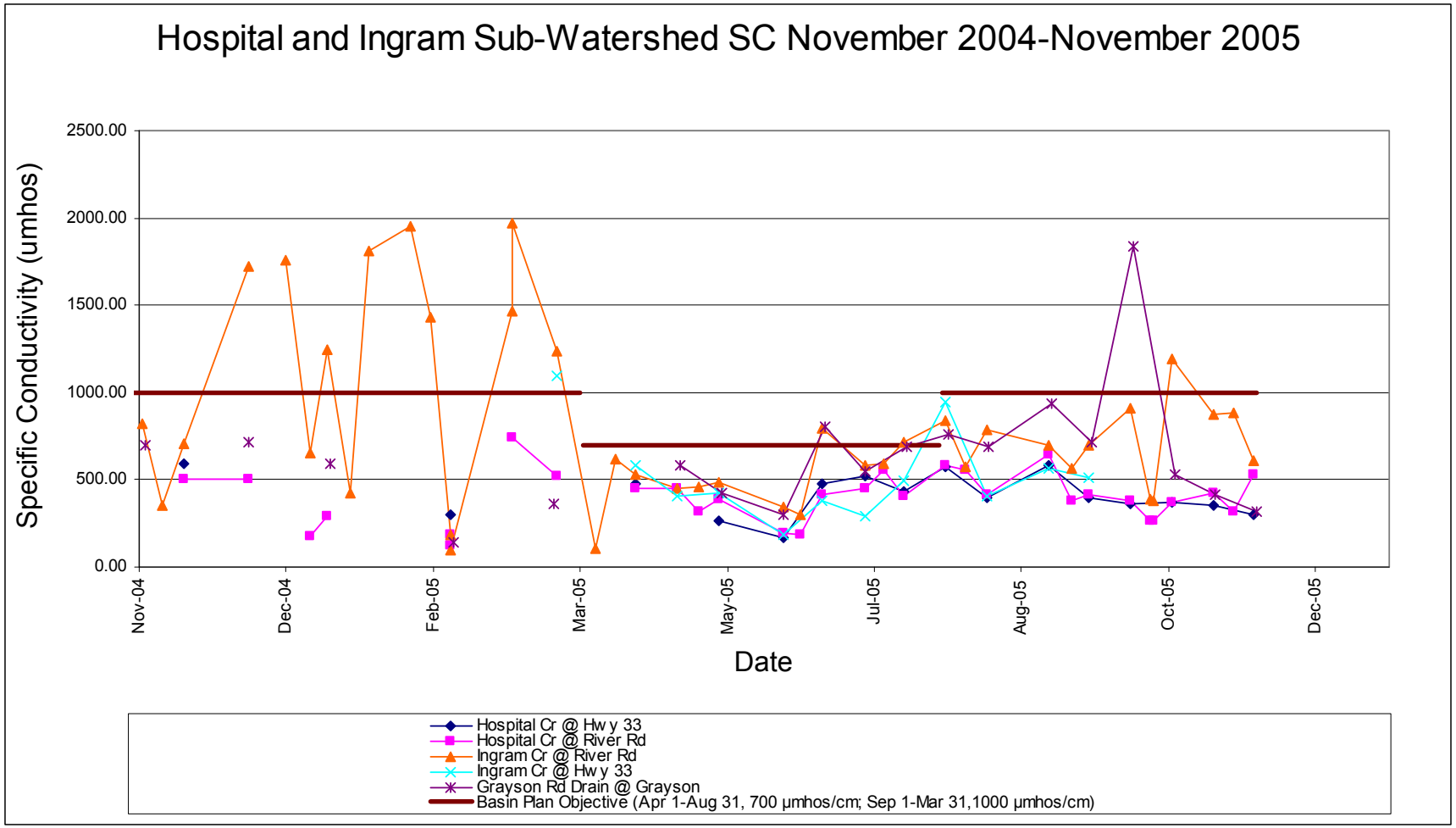

Hospital and Ingram Sub-Watershed e. Coli November 2004-November 2005
E. coli (MPN)
3000.0
2500.0
2000.0
1500.0
1000.0
500.0
0.0
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Hospital Cr @ Hwy 33
Hospital Cr @ River Rd
Ingram Cr @ River Rd
Ingram Cr @ Hwy 33
Grayson Rd Drain @ Grayson
USEPA Guideline - Designated beach area. (235 MPN/100 mL)


Hospital and Ingram Creek Sub-Watershed E.coli November 2004 - November 2005
Escherichia coli (MPN)
3000
2500
2000
1500
1000
500
0
US EPA Guideline
(235MPN/100mL)
Hospital Creek @ Hwy 33
Hospital Creek at River Road
Ingram Creek at River Road
Ingram Creek @ Hwy 33
Grayson Rd Drain @ Grayson

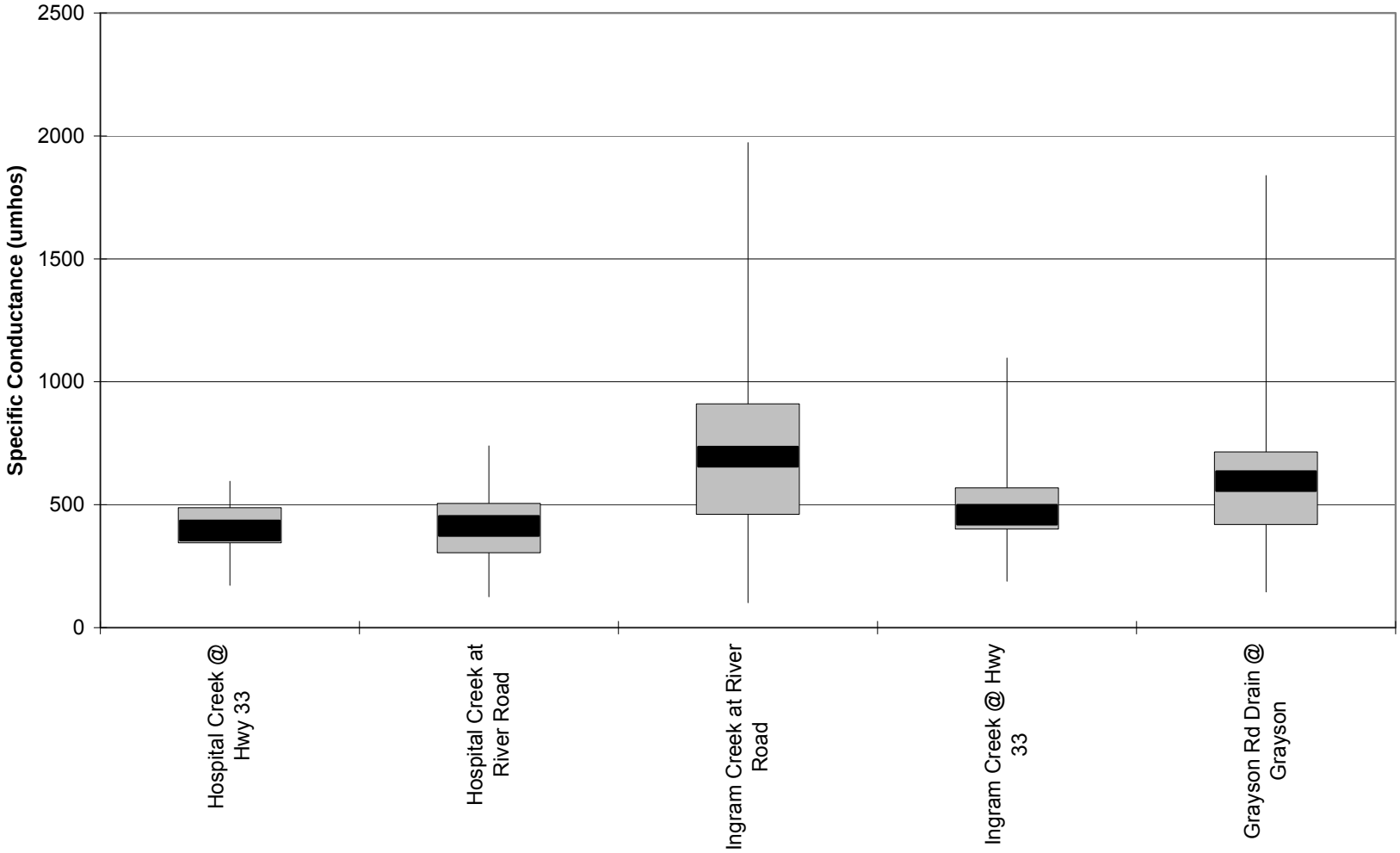

Hospital and Ingram Creek Sub-Watershed pH November 2004-November 2005
pH
10.00
9.50
9.00
8.50
8.00
7.50
7.00
6.50
6.00
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Hospital Cr @ Hwy 33
Hospital Cr @ River Rd
Ingram Cr @ River Rd
Ingram Cr @ Hwy 33
Grayson Rd Drain @ Grayson
Basin Plan Objective (6.5-8.5)

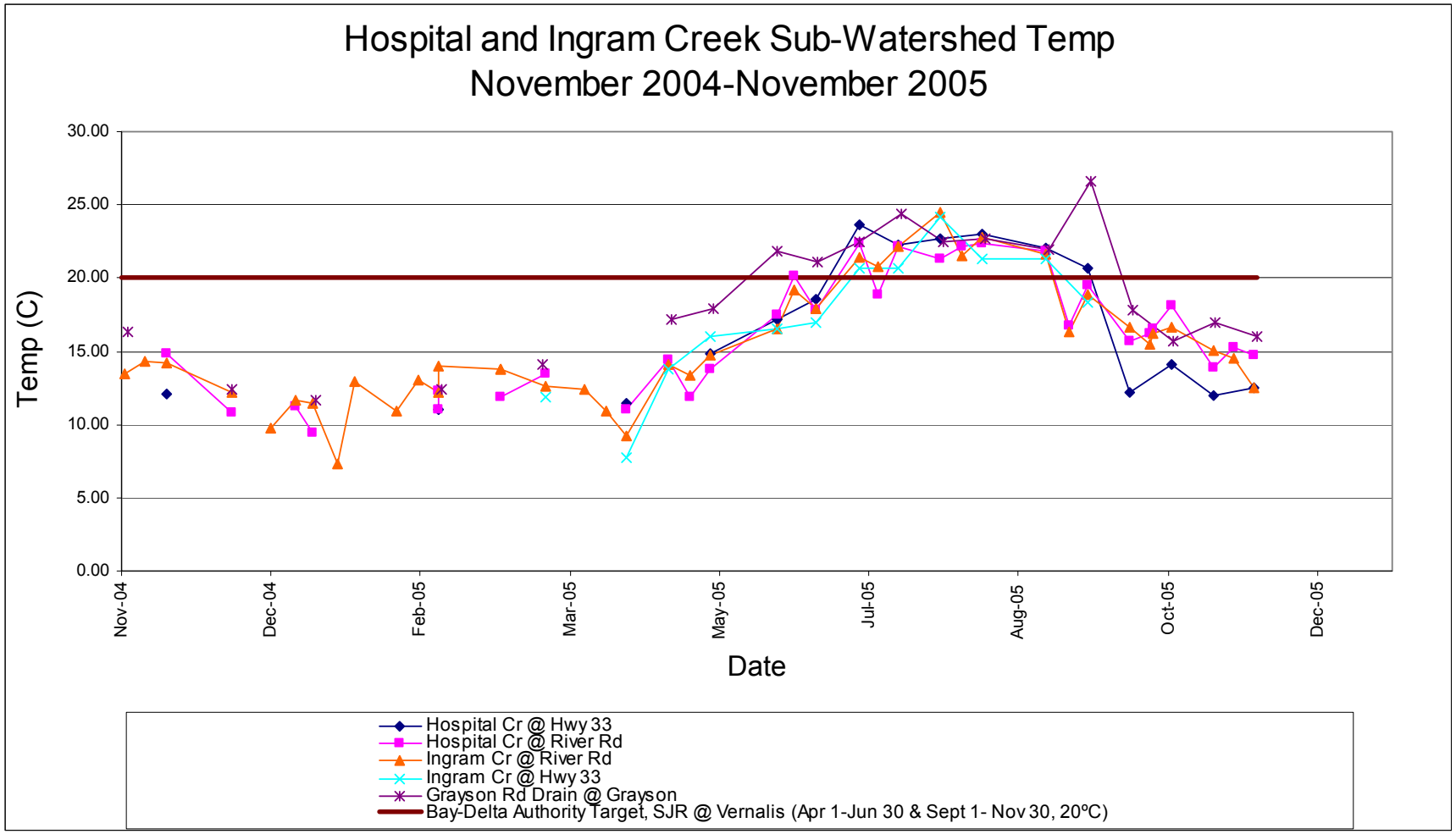
Ingram and Hospital Creek Sub-Watershed pH November 2004-November 2005



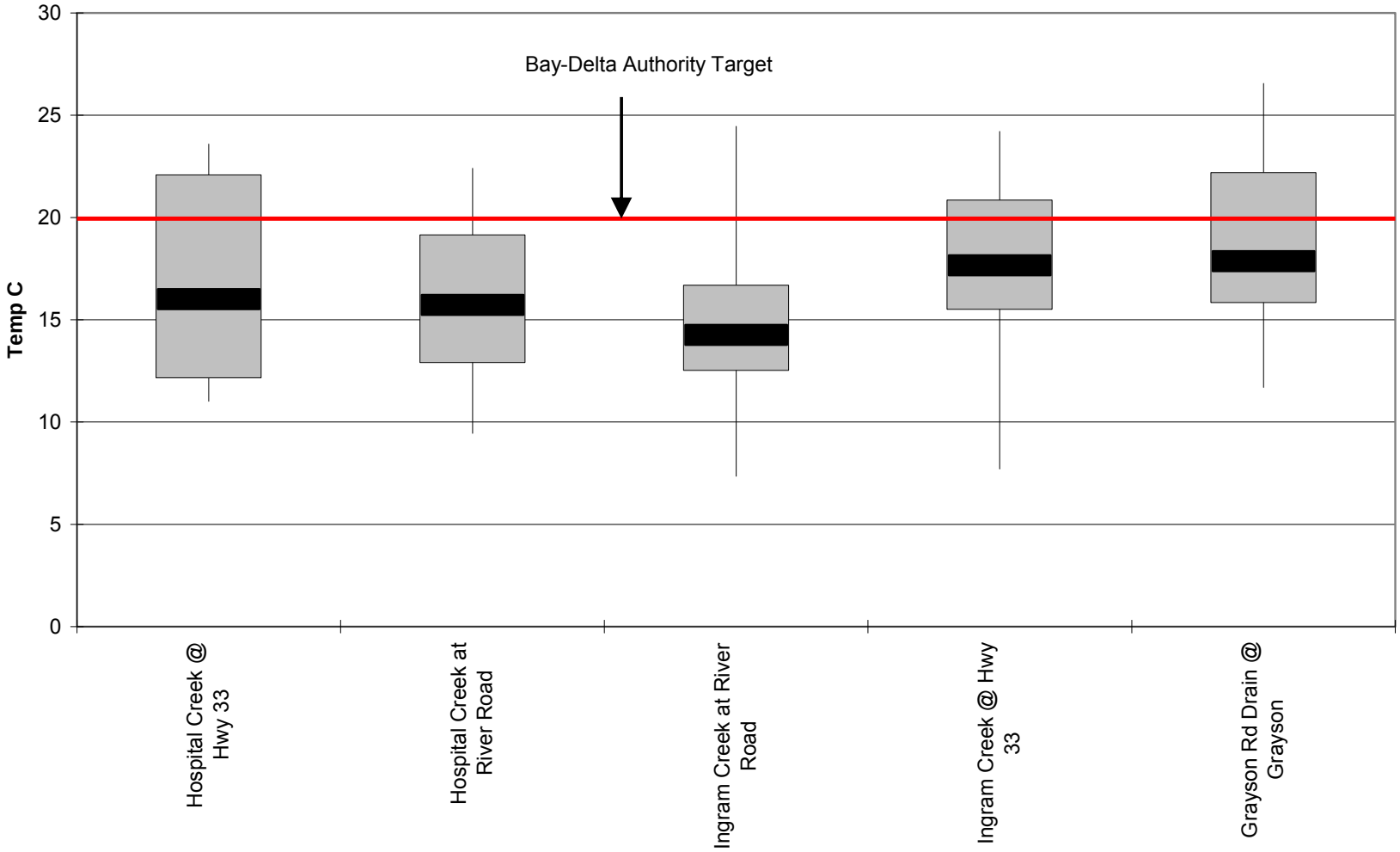

Hospital and Ingram Sub-Watershed SC November 2004-November 2005
Specific Conductivity (umhos)
2500.00
2000.00
1500.00
1000.00
500.00
0.00
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Hospital Cr @ Hwy 33
Hospital Cr @ River Rd
Ingram Cr @ River Rd
Ingram Cr @ Hwy 33
Grayson Rd Drain @ Grayson
Basin Plan Objective (Apr 1-Aug 31, 700 µmhos/cm; Sep 1-Mar 31,1000 µmhos/cm)

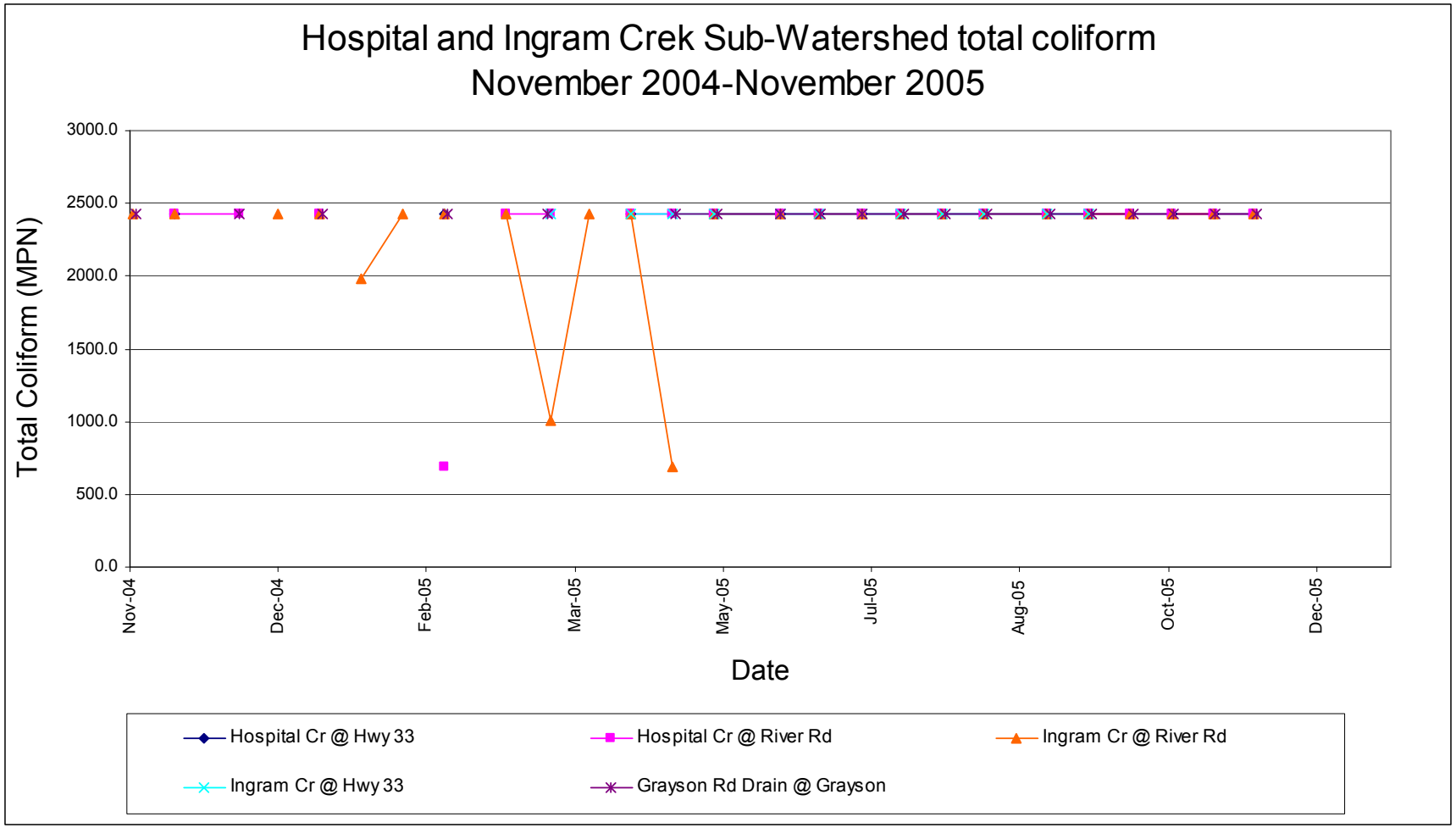
Hospital and Ingram Creek Sub-Watershed SC November 2004-November 2005



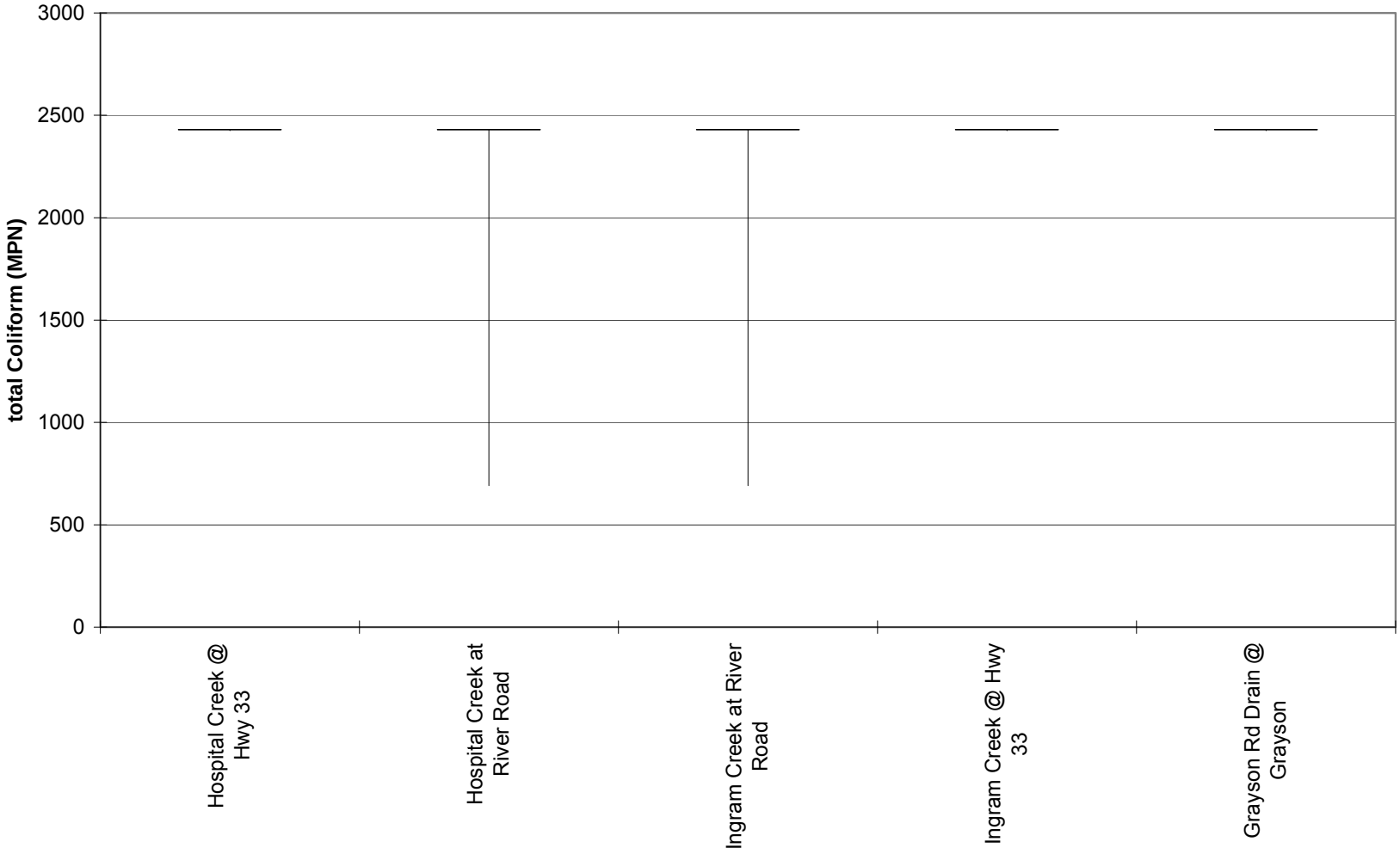

Hospital and Ingram Creek Sub-Watershed Temp
November 2004-November 2005
Temp (C)
30.00
25.00
20.00
15.00
10.00
5.00
0.00
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Hospital Cr @ Hwy 33
Hospital Cr @ River Rd
Ingram Cr @ River Rd
Ingram Cr @ Hwy 33
Grayson Rd Drain @ Grayson
Bay-Delta Authority Target, SJR @ Vernalis (Apr 1-Jun 30 & Sept 1- Nov 30, 20ºC)

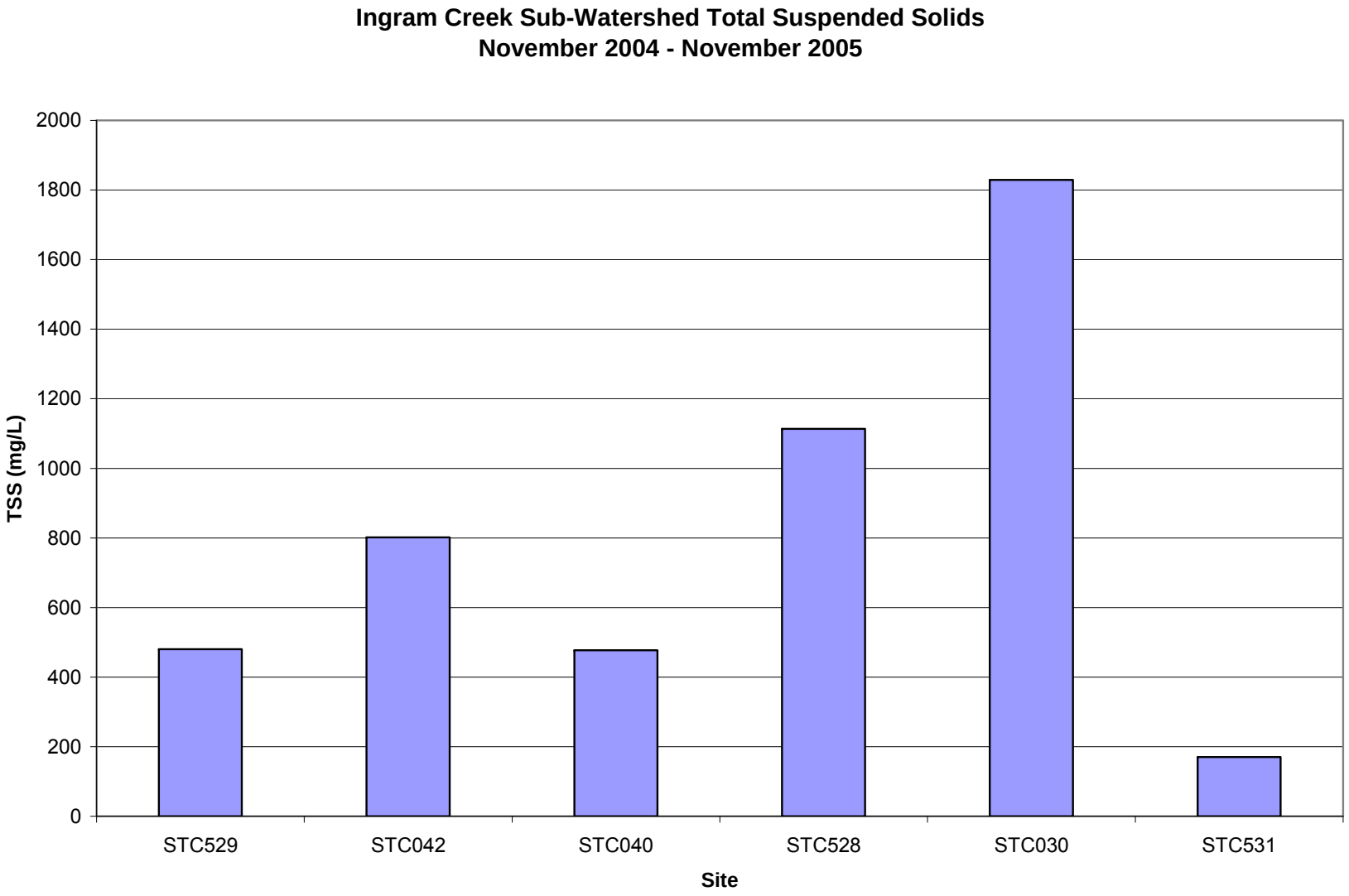
Ingram Creek Sub-Watershed Temperature November 2004-November 2005

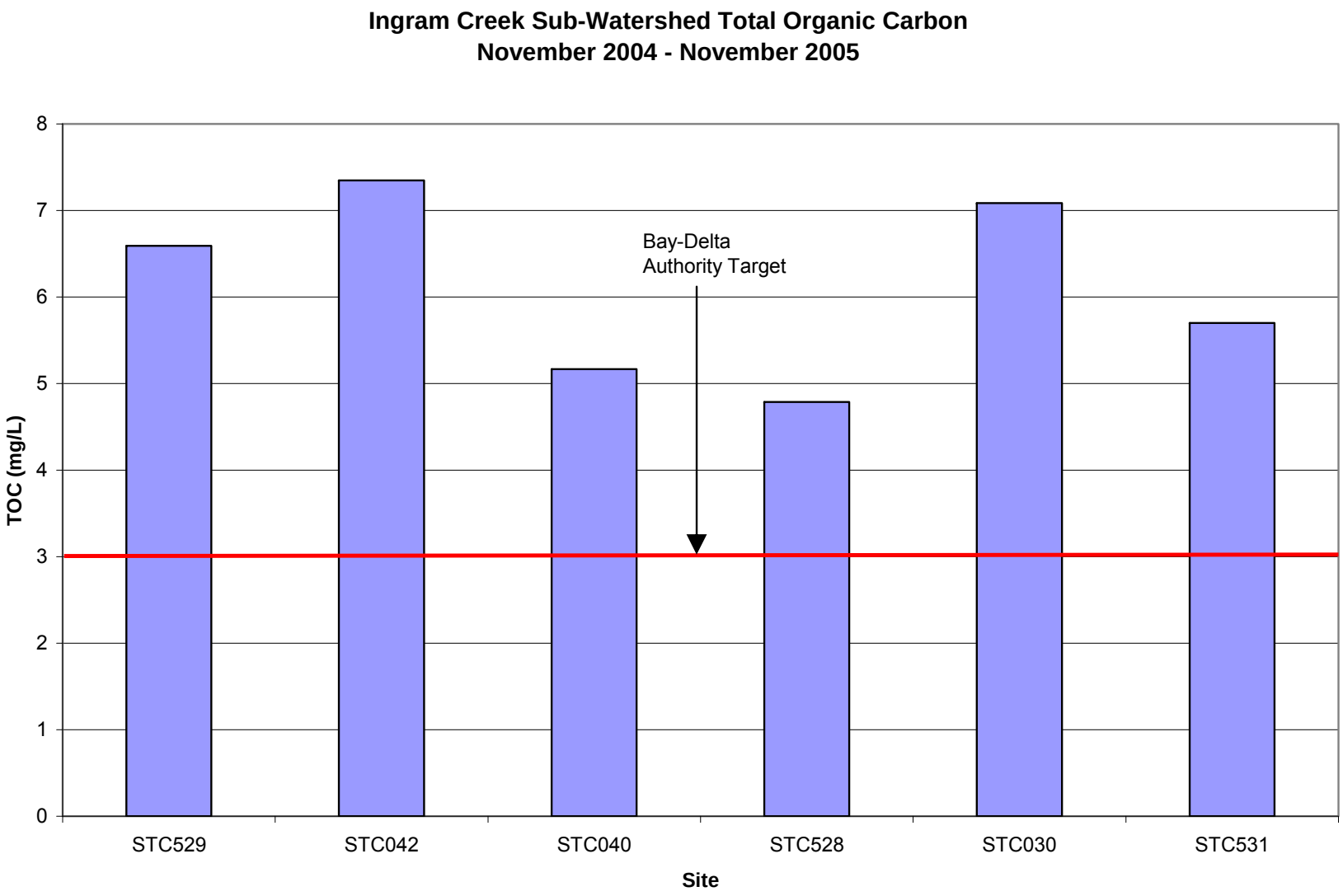


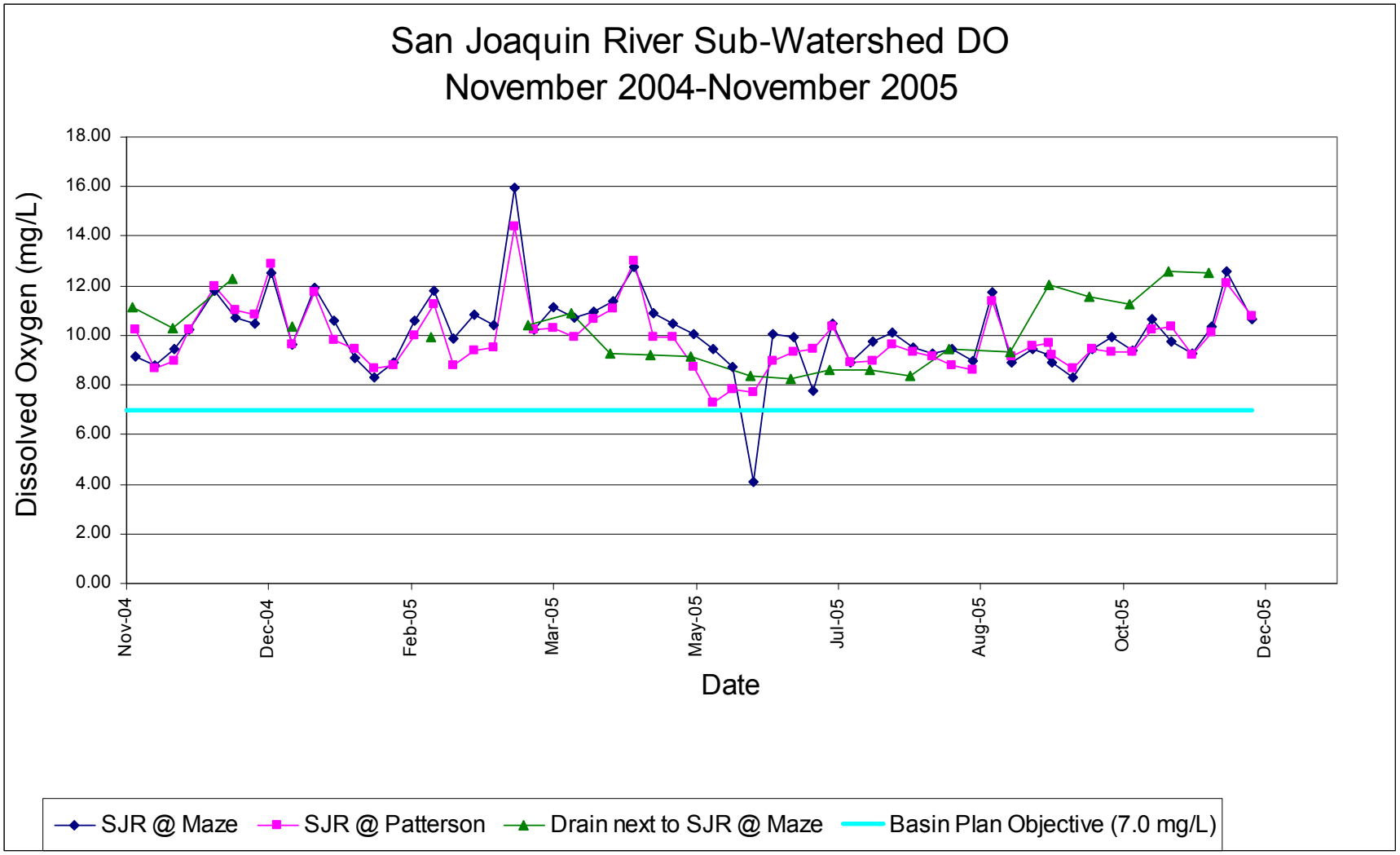

Hospital and Ingram Crek Sub-Watershed total coliform
November 2004-November 2005
Total Coliform (MPN)
3000.0
2500.0
2000.0
1500.0
1000.0
500.0
0.0
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
Hospital Cr @ Hwy 33
Hospital Cr @ River Rd
Ingram Cr @ River Rd
Ingram Cr @ Hwy 33
Grayson Rd Drain @ Grayson

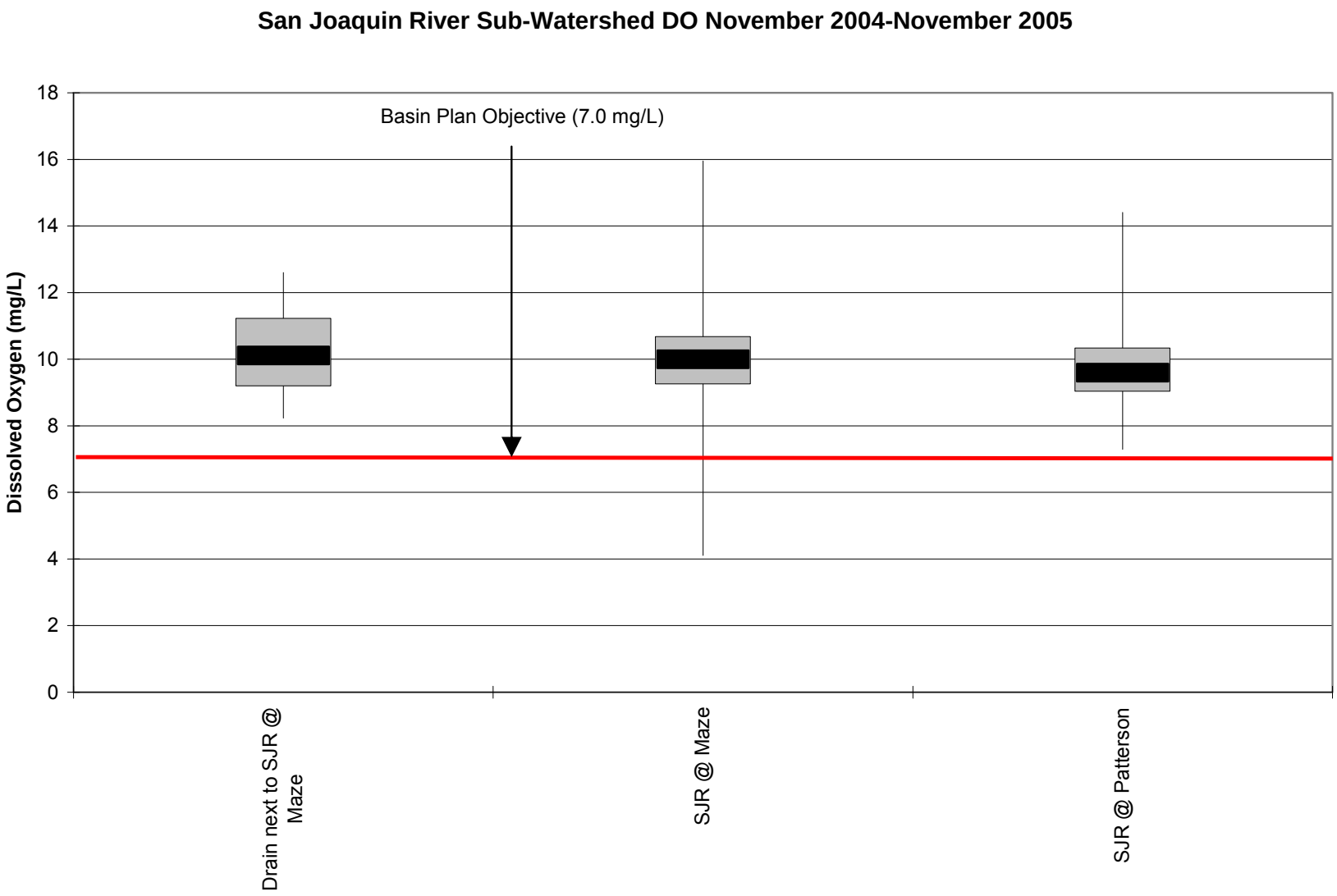
Hospital and Ingram Creek Sub-Watershed total Coliform November 2004-November 2005

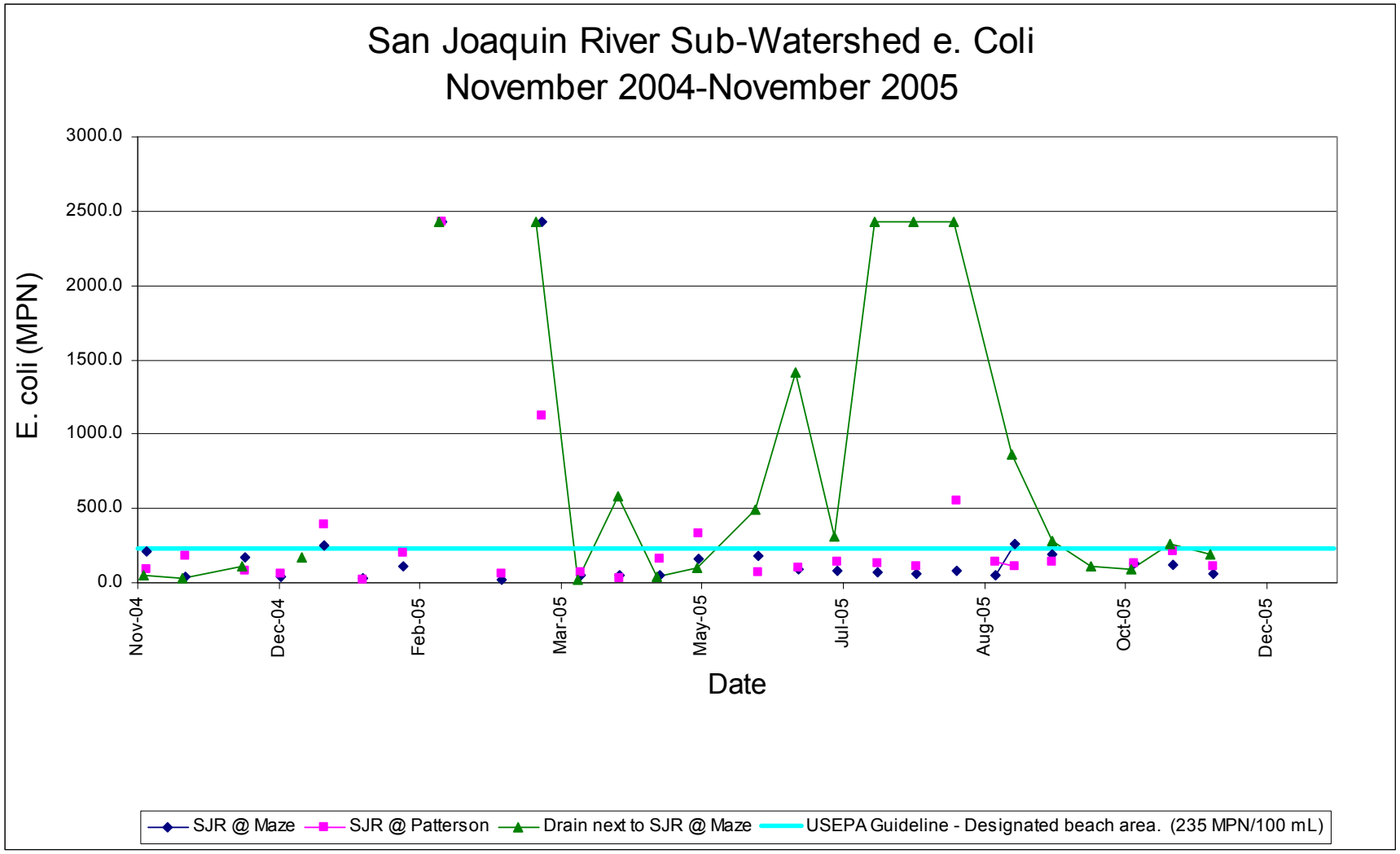


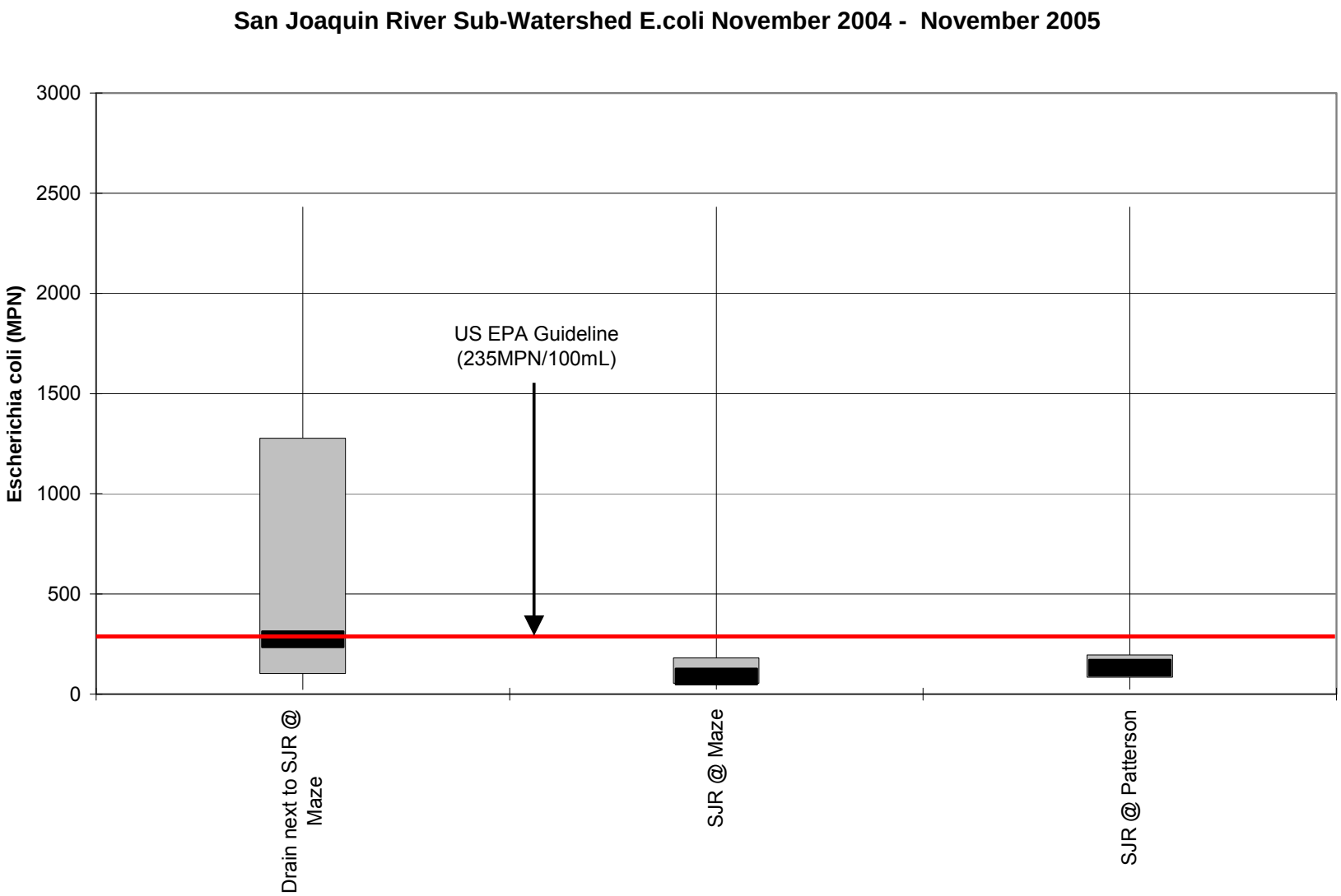

Ingram Creek Sub-Watershed Total Suspended Solids
November 2004 - November 2005
TSS (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
STC529
STC042
STC040
STC528
STC030
STC531
Site

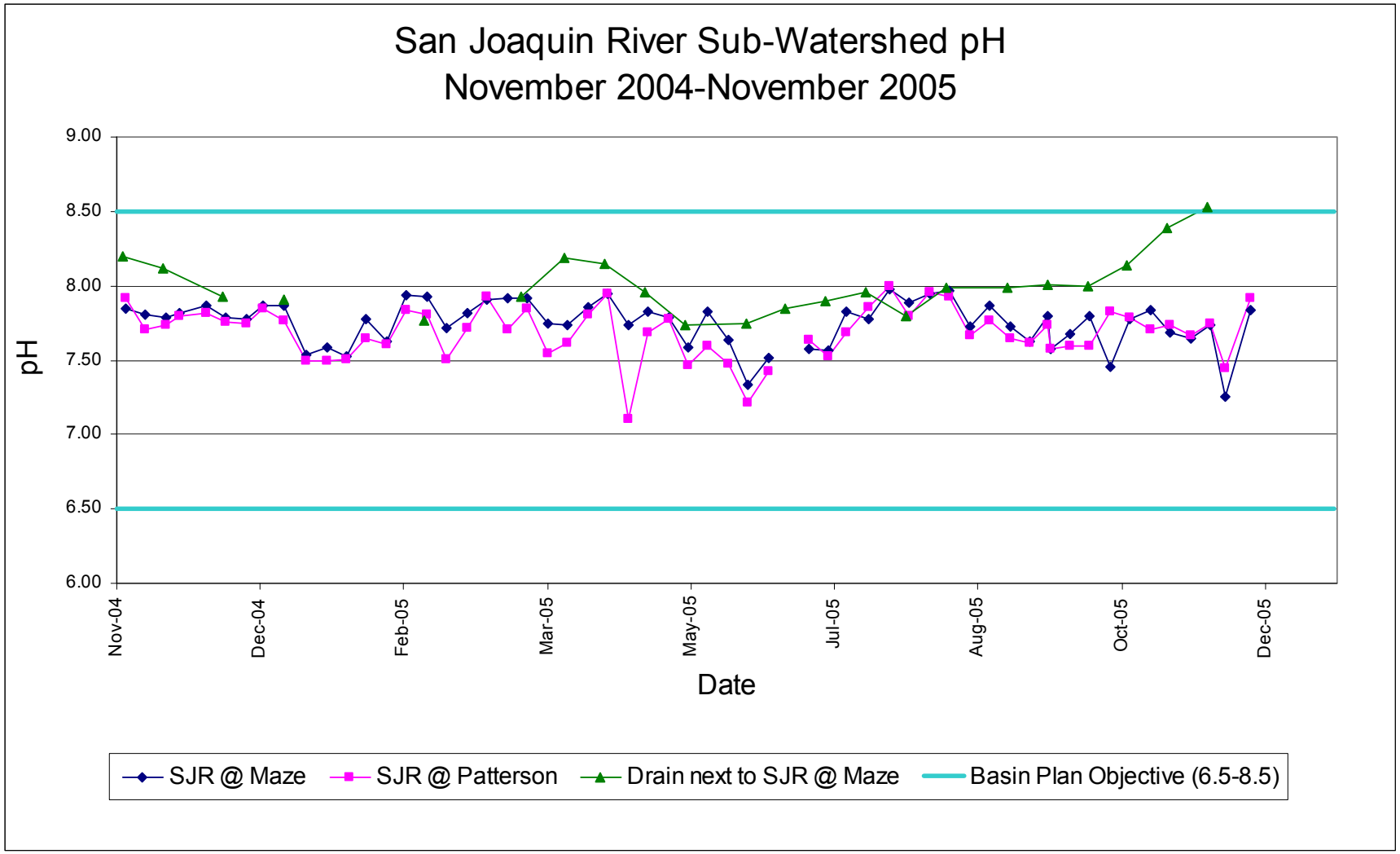

Ingram Creek Sub-Watershed Total Organic Carbon
November 2004 - November 2005
TOC (mg/L)
8
7
6
5
4
3
2
1
0
Bay-Delta
Authority Target
STC529
STC042
STC040
STC528
STC030
STC531
Site

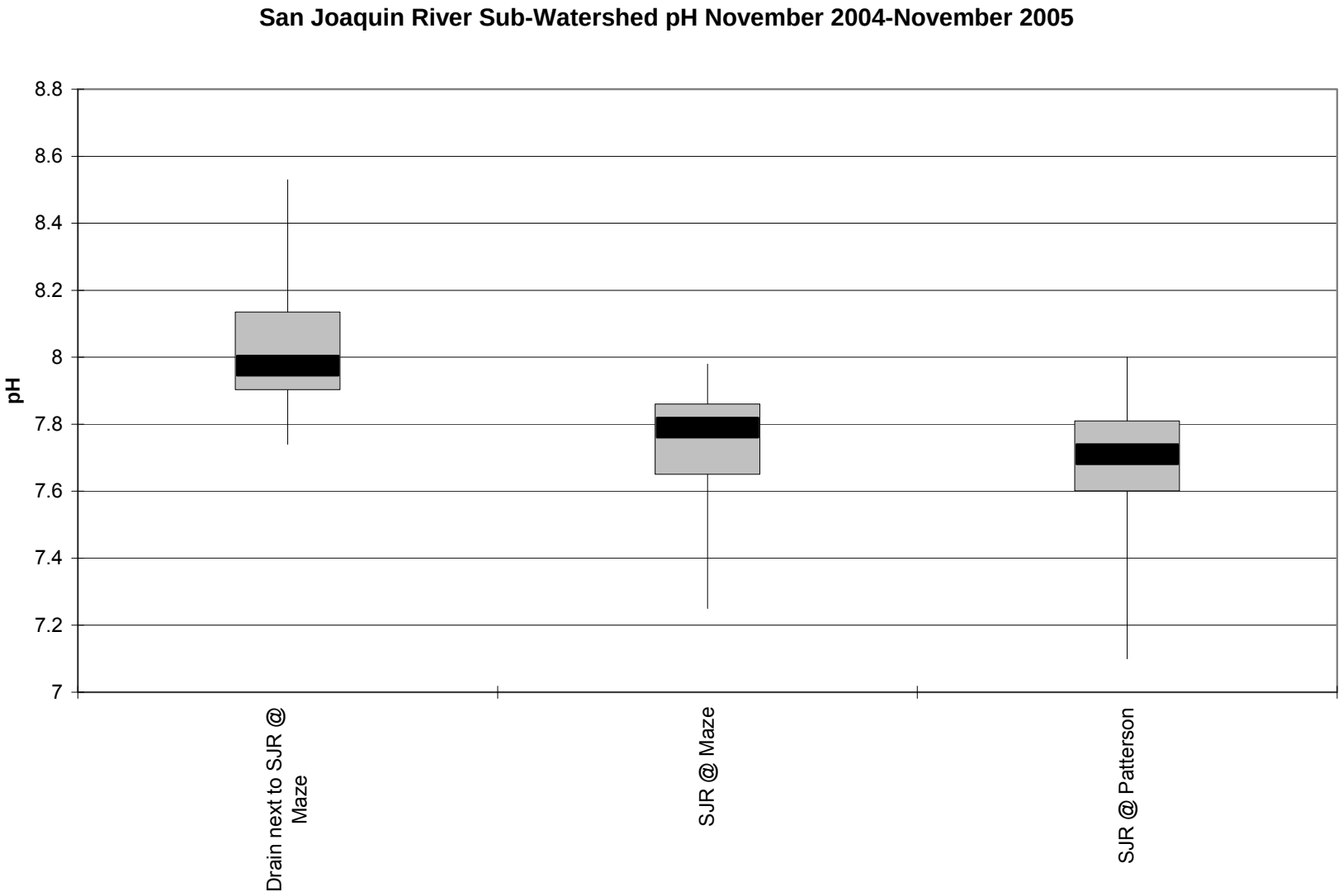

San Joaquin River Sub-Watershed DO
November 2004-November 2005
Dissolved Oxygen (mg/L)
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
SJR @ Maze
SJR @ Patterson
Drain next to SJR @ Maze
Basin Plan Objective (7.0 mg/L)

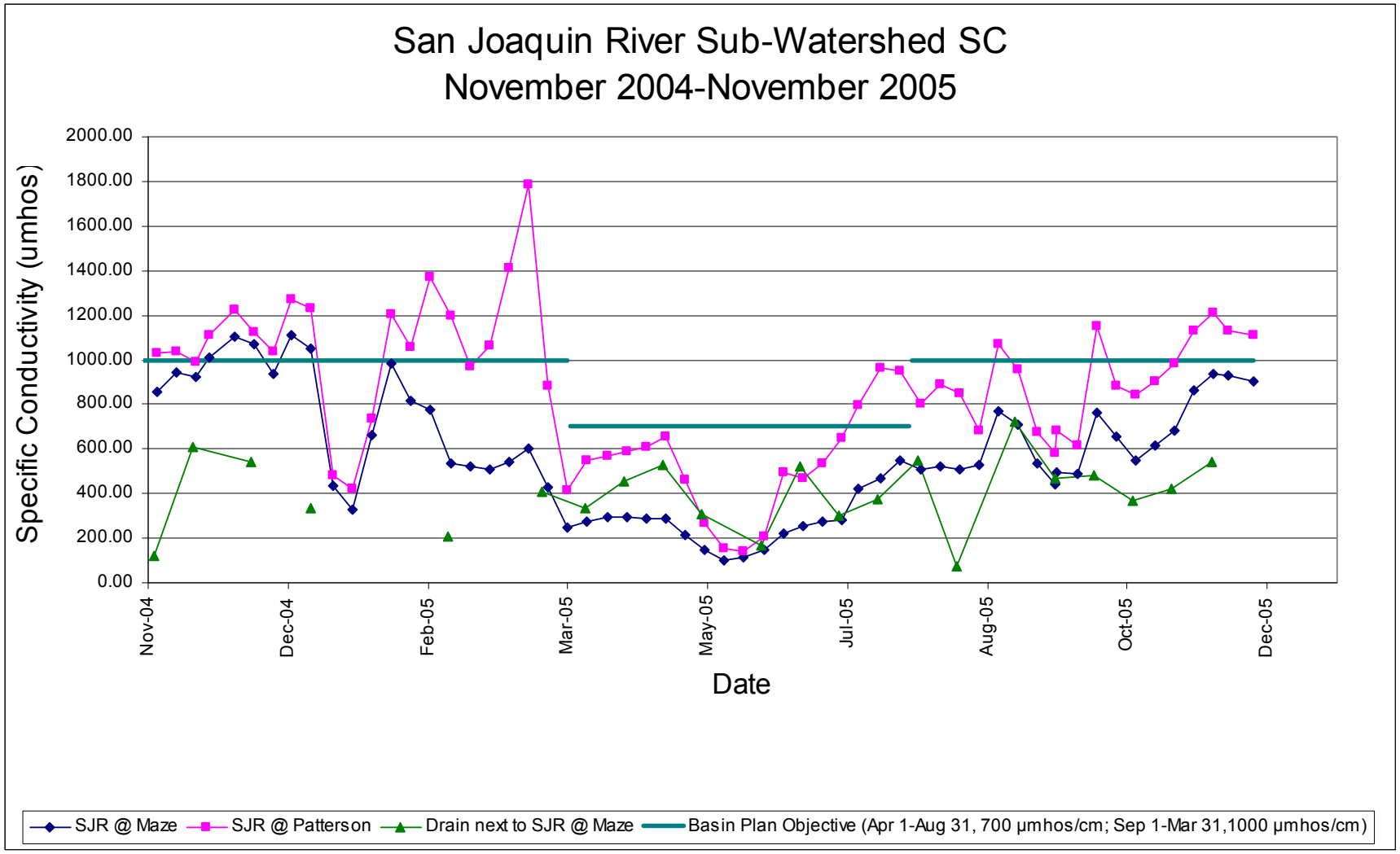

San Joaquin River Sub-Watershed DO November 2004-November 2005
Basin Plan Objective (7.0 mg/L)
Dissolved Oxygen (mg/L)
18
16
14
12
10
8
6
4
2
0
Drain next to SJR @ Maze
SJR @ Maze
SJR @ Patterson

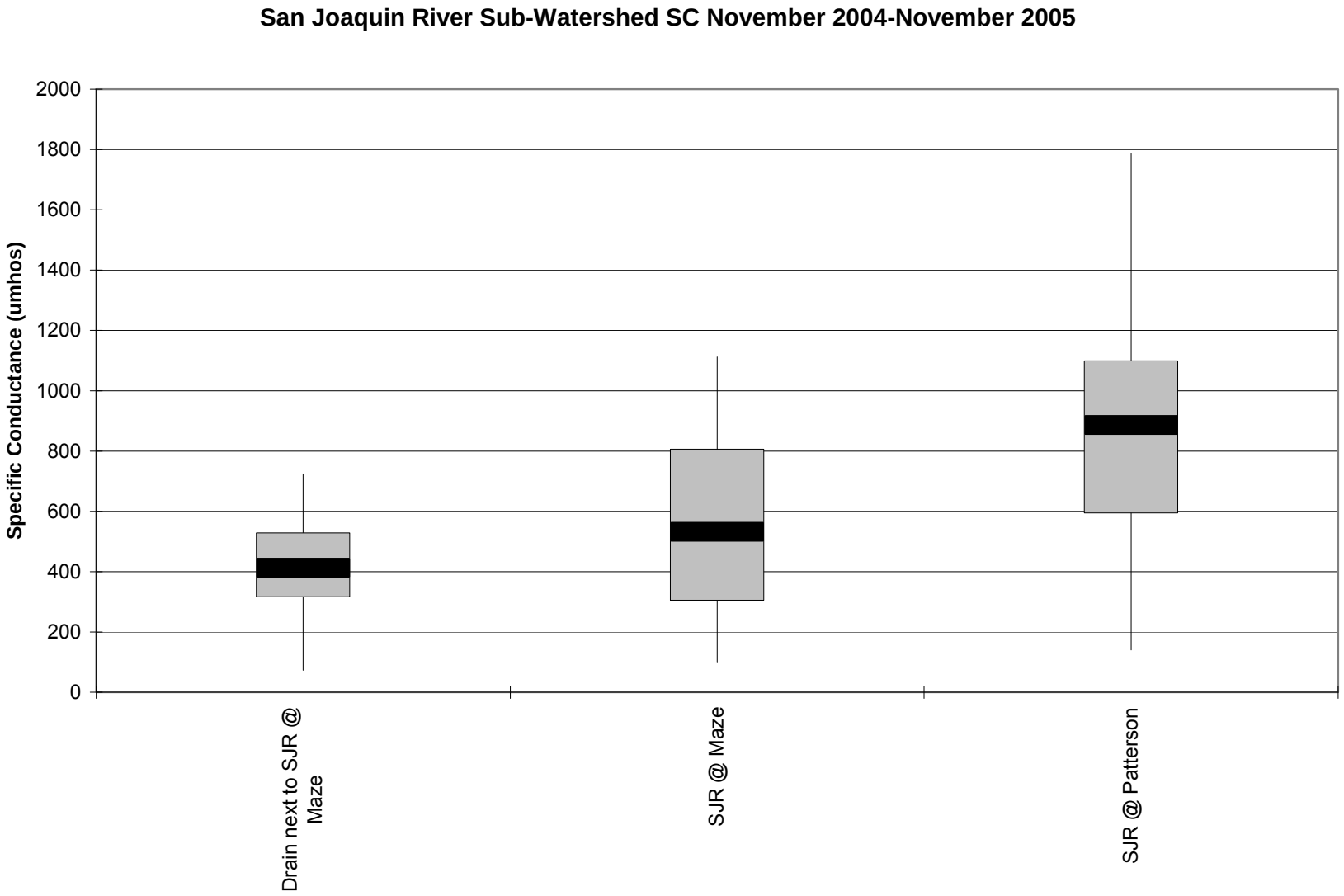

San Joaquin River Sub-Watershed e. Coli
November 2004-November 2005
E. coli (MPN)
3000.0
2500.0
2000.0
1500.0
1000.0
500.0
0.0
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
SJR @ Maze
SJR @ Patterson
Drain next to SJR @ Maze
USEPA Guideline - Designated beach area. (235 MPN/100 mL)

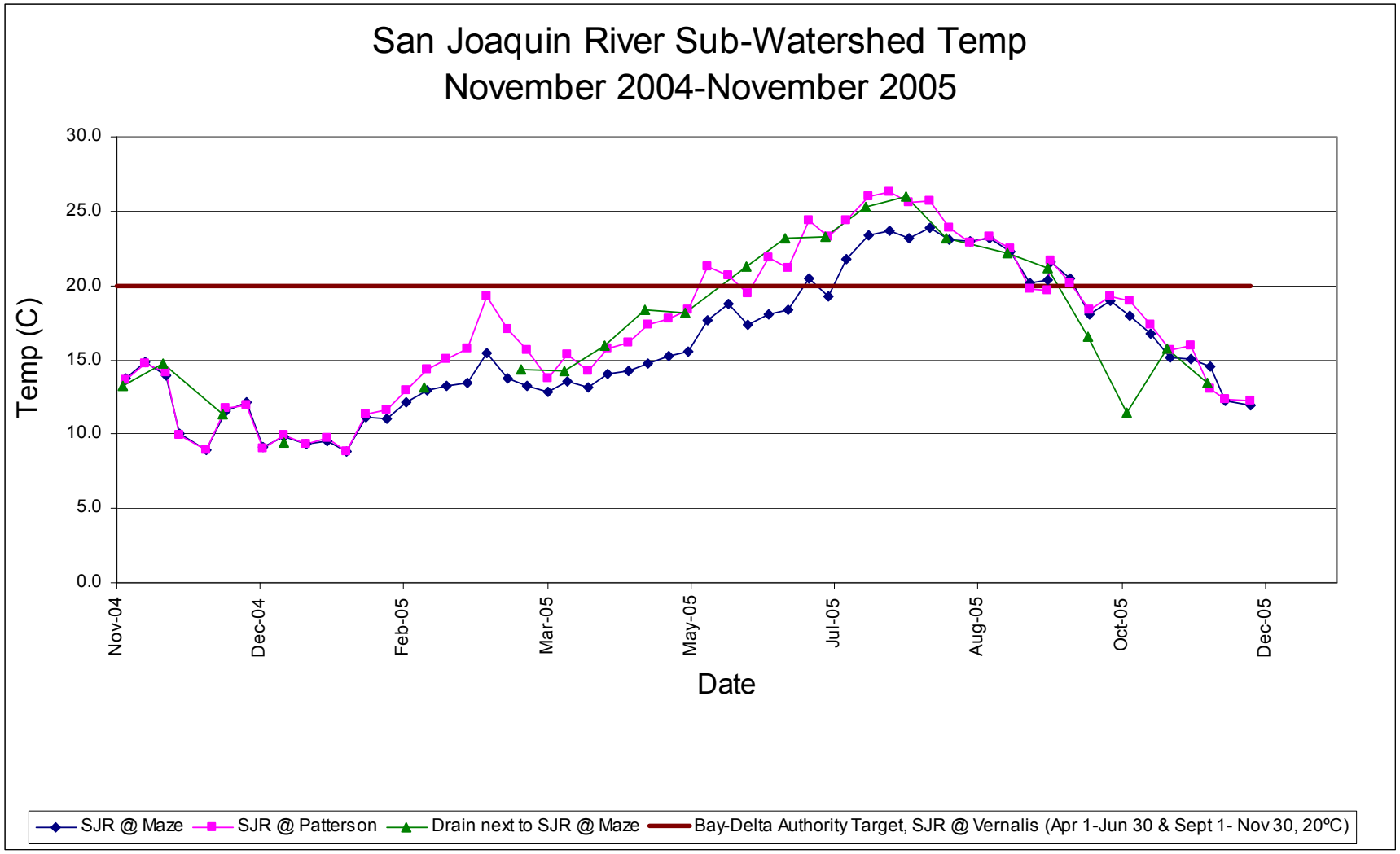

San Joaquin River Sub-Watershed E.coli November 2004 - November 2005
Escherichia coli (MPN)
3000
2500
2000
1500
1000
500
0
US EPA Guideline
(235MPN/100mL)
Drain next to SJR @ Maze
SJR @ Maze
SJR @ Patterson

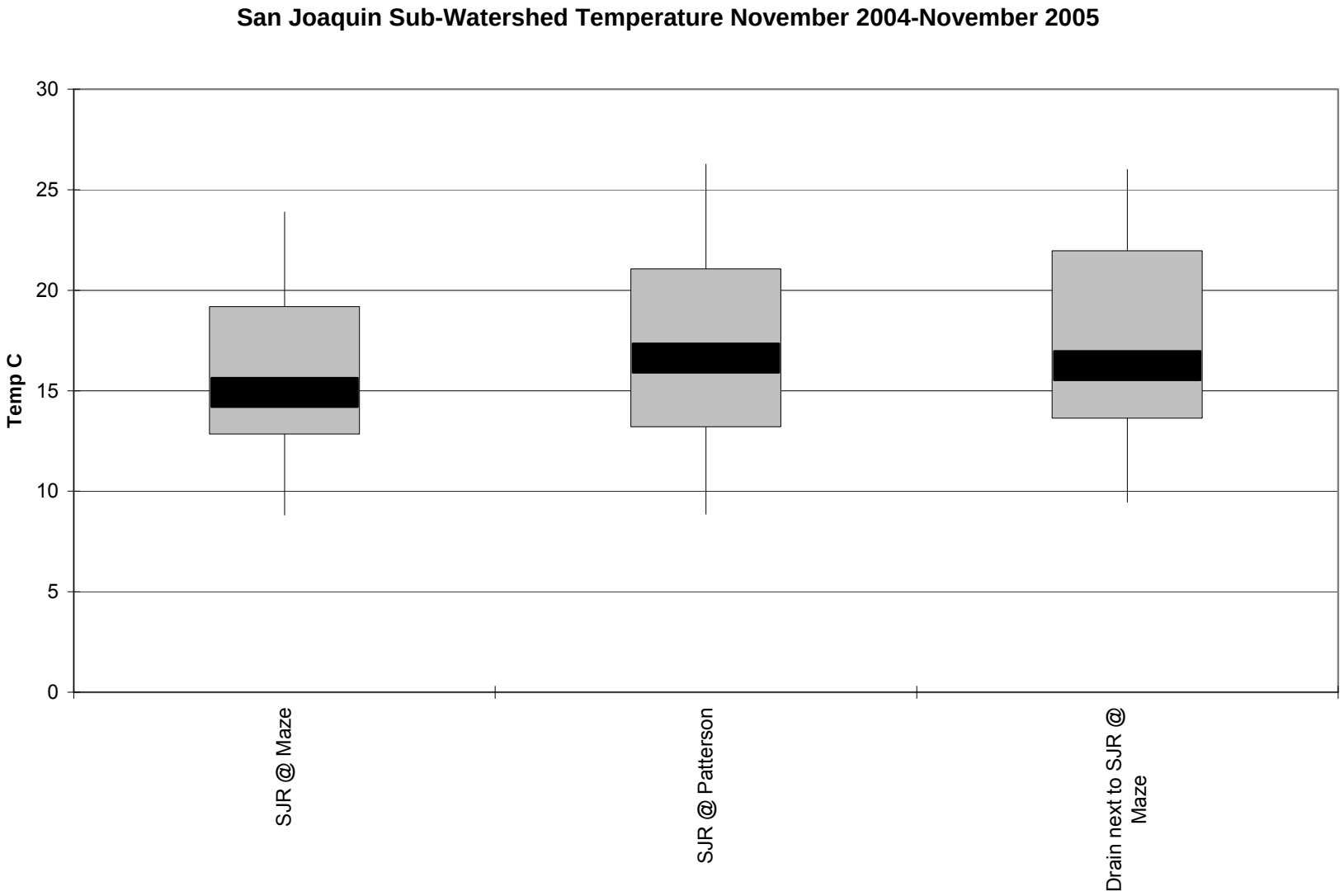

San Joaquin River Sub-Watershed pH
November 2004-November 2005
9.00
8.50
8.00
7.50
7.00
6.50
6.00
pH
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
SJR @ Maze
SJR @ Patterson
Drain next to SJR @ Maze
Basin Plan Objective (6.5-8.5)

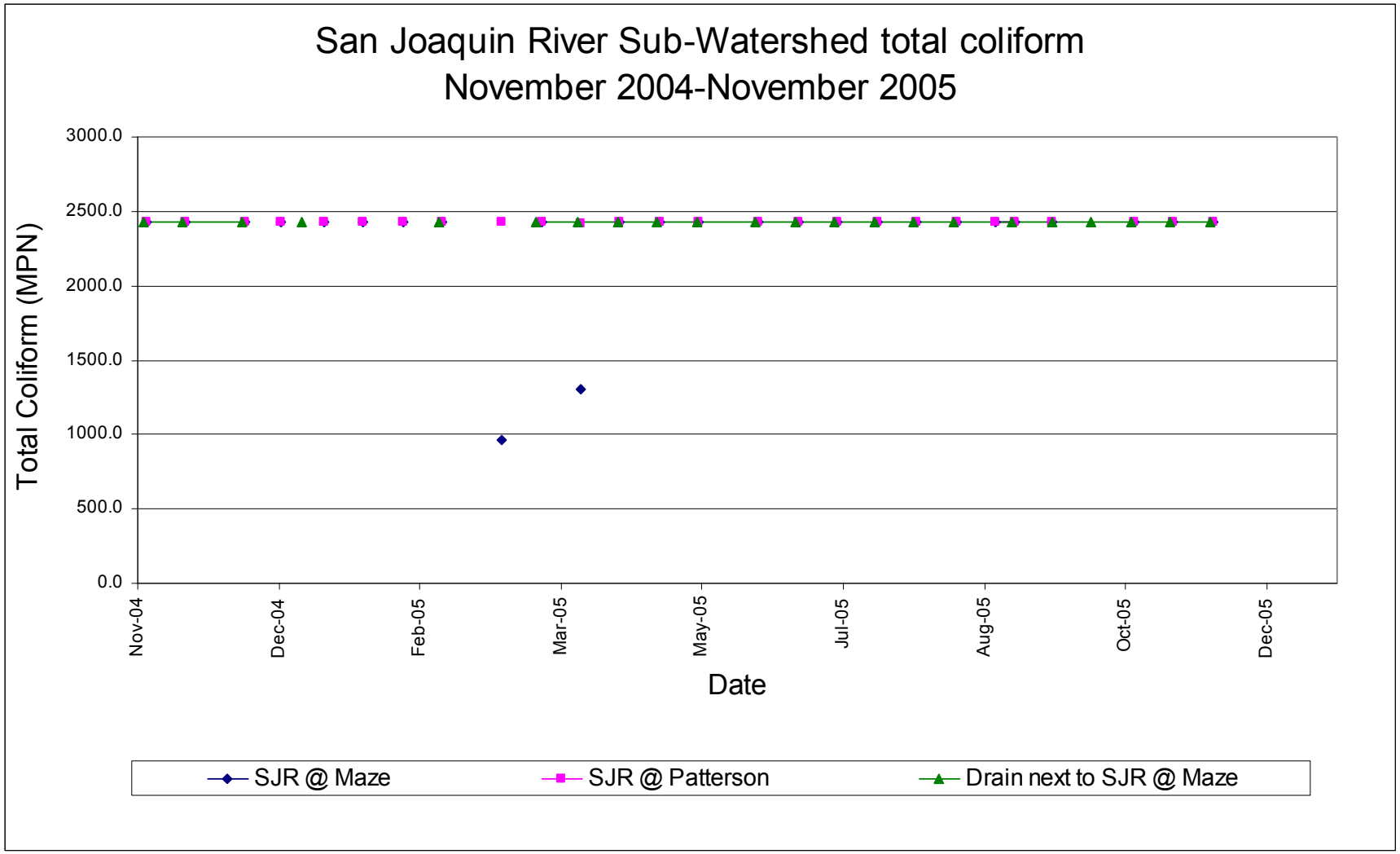

San Joaquin River Sub-Watershed pH November 2004-November 2005
pH
8.8
8.6
8.4
8.2
8
7.8
7.6
7.4
7.2
7
Drain next to SJR @ Maze
SJR @ Maze
SJR @ Patterson

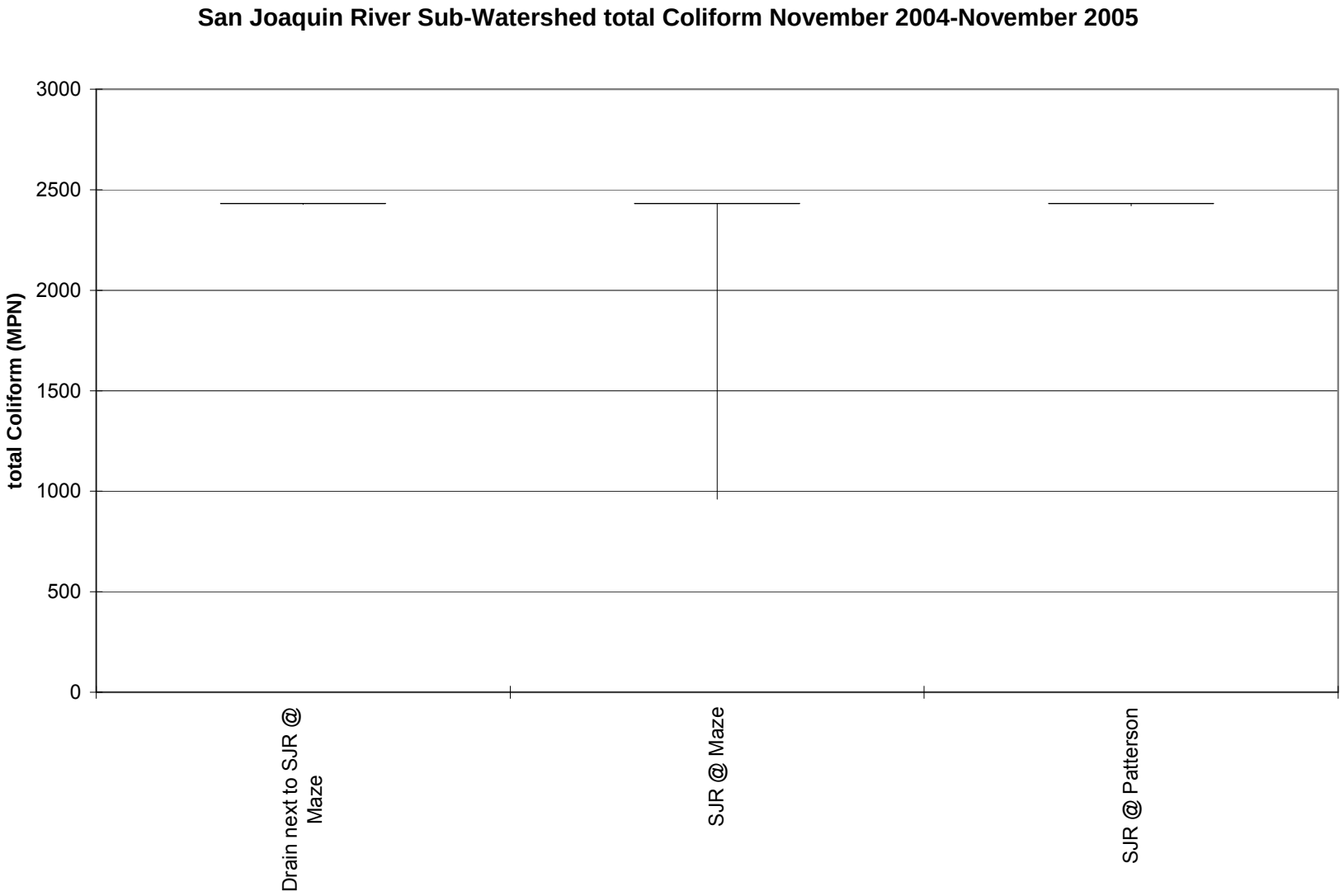

San Joaquin River Sub-Watershed SC
November 2004-November 2005
Specific Conductivity (umhos)
2000.00
1800.00
1600.00
1400.00
1200.00
1000.00
800.00
600.00
400.00
200.00
0.00
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
SJR @ Maze
SJR @ Patterson
Drain next to SJR @ Maze
Basin Plan Objective (Apr 1-Aug 31, 700 µmhos/cm; Sep 1-Mar 31,1000 µmhos/cm)

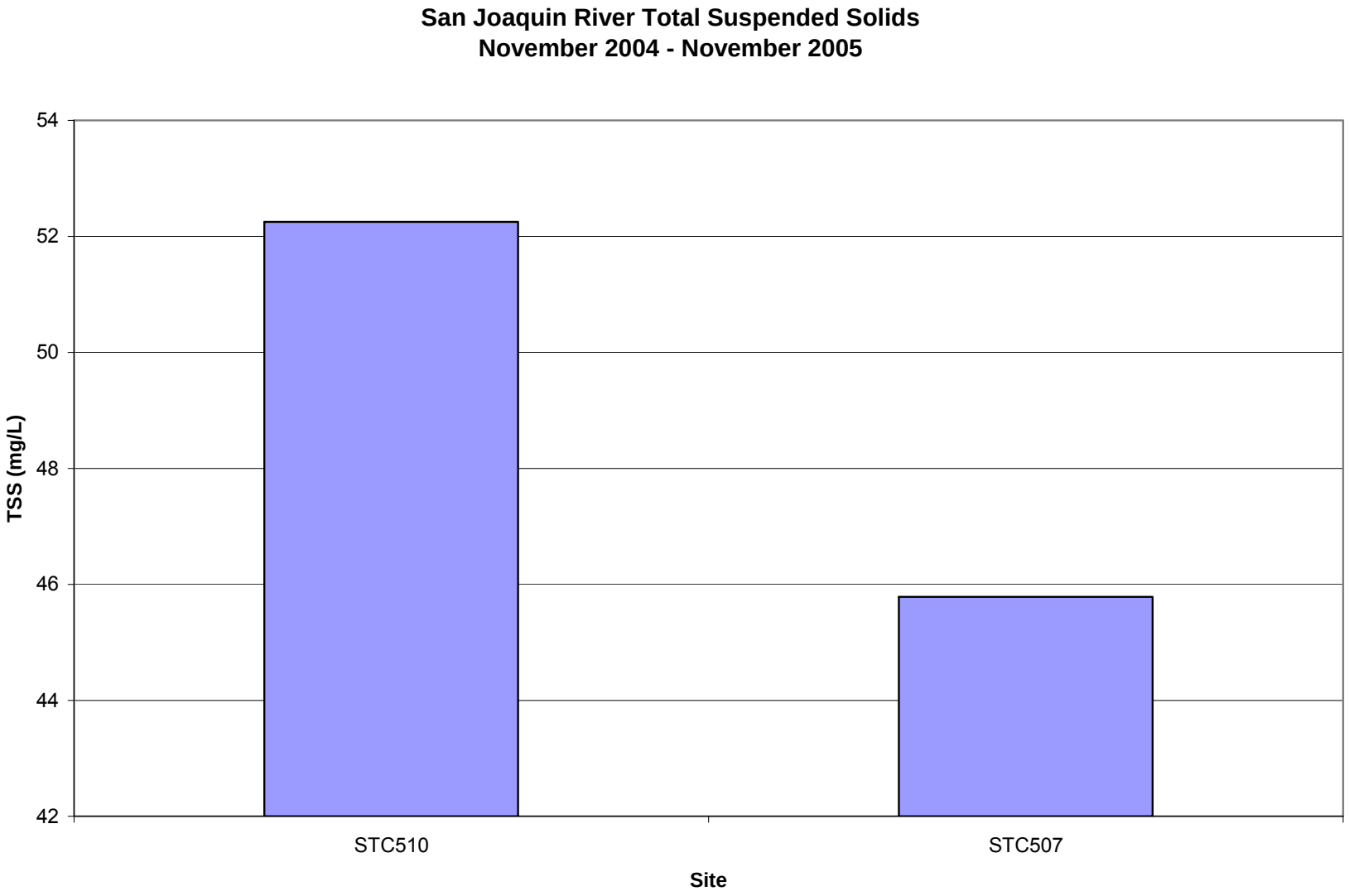

San Joaquin River Sub-Watershed SC November 2004-November 2005
Specific Conductance (umhos)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Drain next to SJR @ Maze
SJR @ Maze
SJR @ Patterson

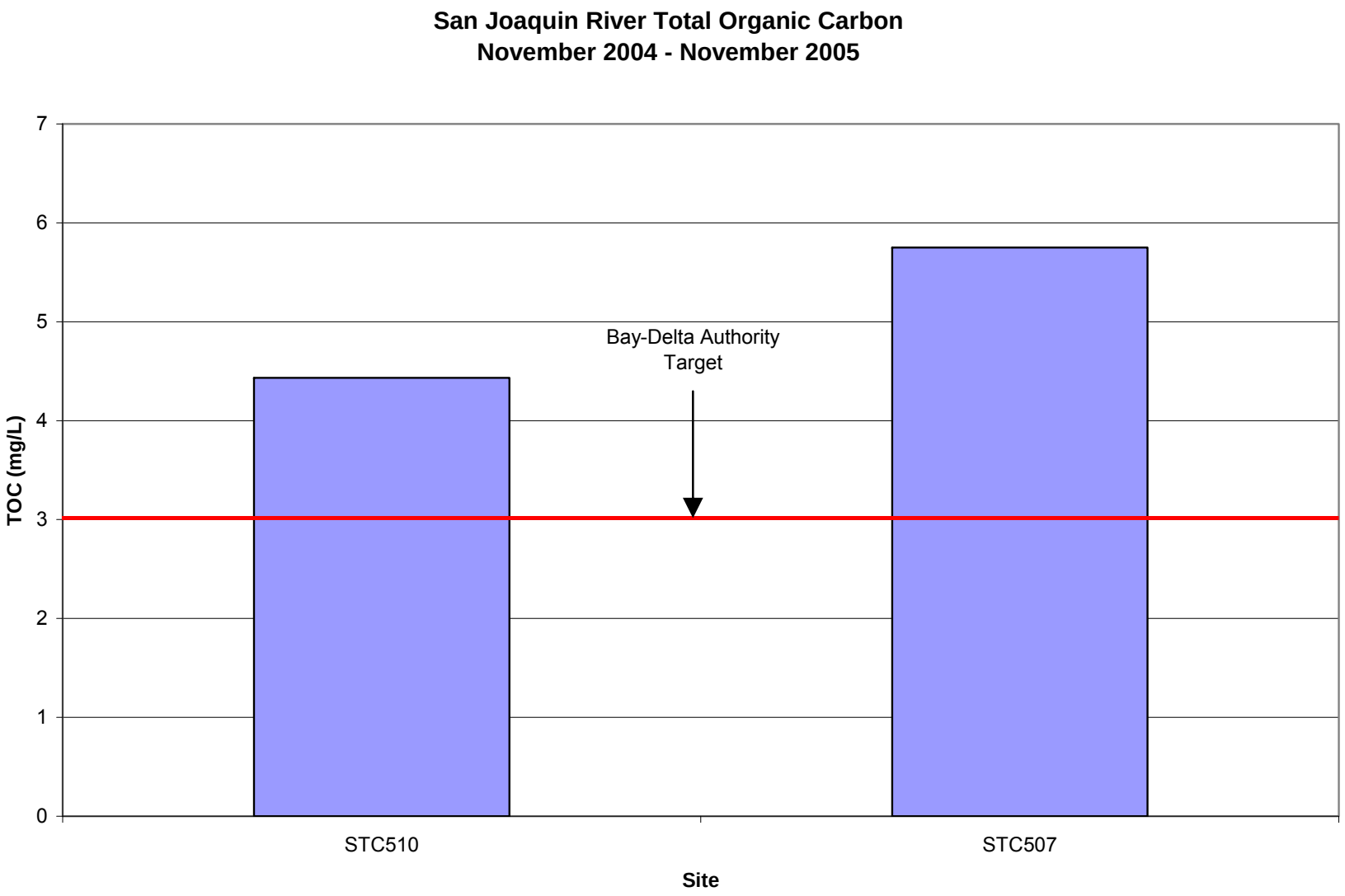

San Joaquin River Sub-Watershed Temp
November 2004-November 2005
Temp (C)
30.0
25.0
20.0
15.0
10.0
5.0
0.0
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
SJR @ Maze
SJR @ Patterson
Drain next to SJR @ Maze
Bay-Delta Authority Target, SJR @ Vernalis (Apr 1-Jun 30 & Sept 1- Nov 30, 20ºC)


San Joaquin Sub-Watershed Temperature November 2004-November 2005
Temp C
30
25
20
15
10
5
0
SJR @ Maze
SJR @ Patterson
Drain next to SJR @ Maze


San Joaquin River Sub-Watershed total coliform
November 2004-November 2005
Total Coliform (MPN)
3000.0
2500.0
2000.0
1500.0
1000.0
500.0
0.0
Nov-04
Dec-04
Feb-05
Mar-05
May-05
Jul-05
Aug-05
Oct-05
Dec-05
Date
SJR @ Maze
SJR @ Patterson
Drain next to SJR @ Maze


San Joaquin River Sub-Watershed total Coliform November 2004-November 2005
total Coliform (MPN)
3000
2500
2000
1500
1000
500
0
Drain next to SJR @ Maze
SJR @ Maze
SJR @ Patterson


San Joaquin River Total Suspended Solids
November 2004 - November 2005
54
52
50
48
46
44
42
TSS (mg/L)
STC510
STC507
Site


San Joaquin River Total Organic Carbon
November 2004 - November 2005
TOC (mg/L)
7
6
5
4
3
2
1
0
Bay-Delta Authority
Target
STC510
STC507
Site