APPENDIX R

GRAPHICAL SUMMARY OF RESULTS

APPENDIX R: GRAPHICAL SUMMARY OF RESULTS

R1: San Joaquin River Main Stem…….…….1-53

R2: Northeast Basin……54-103

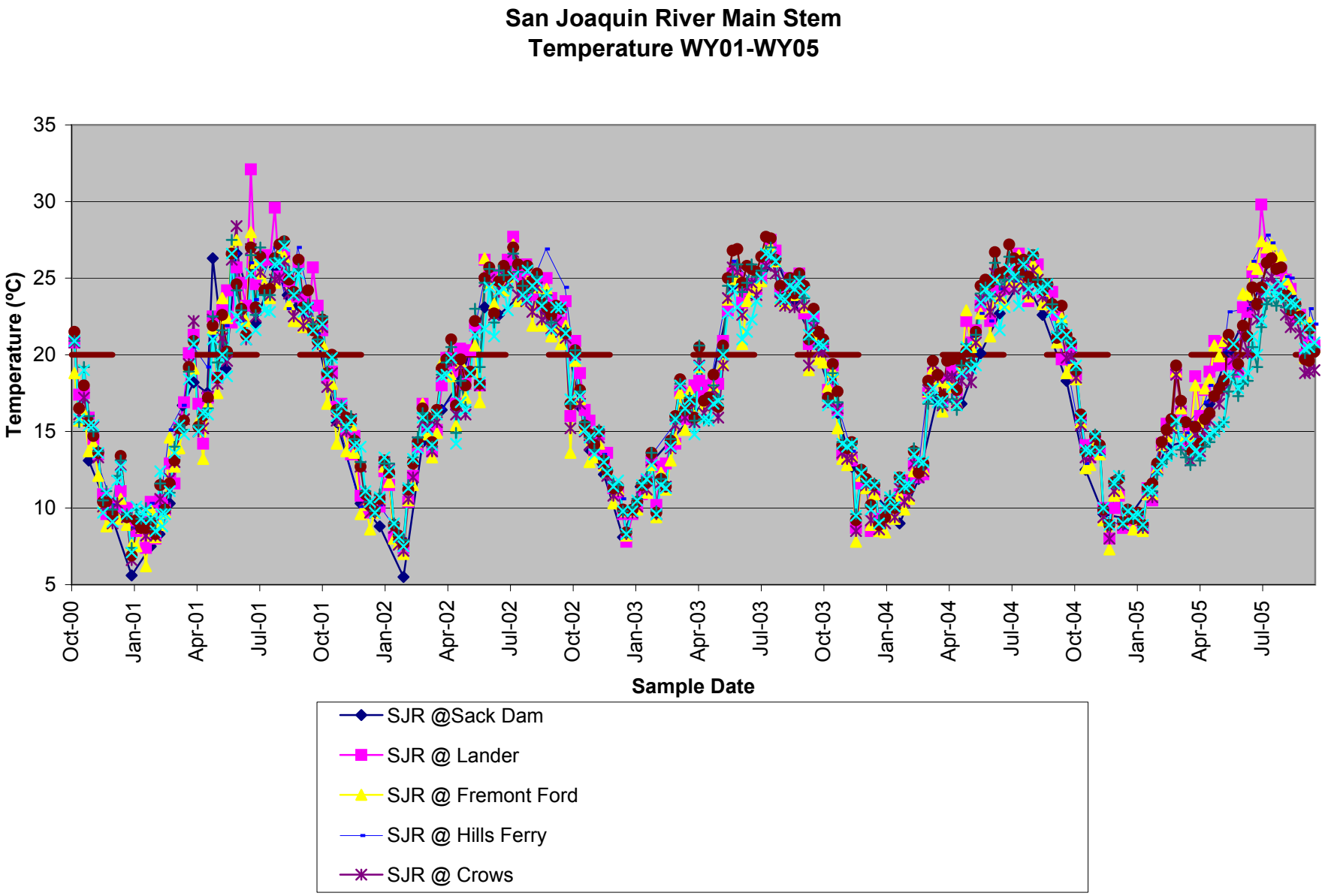
R3: Eastside Basin……104-153

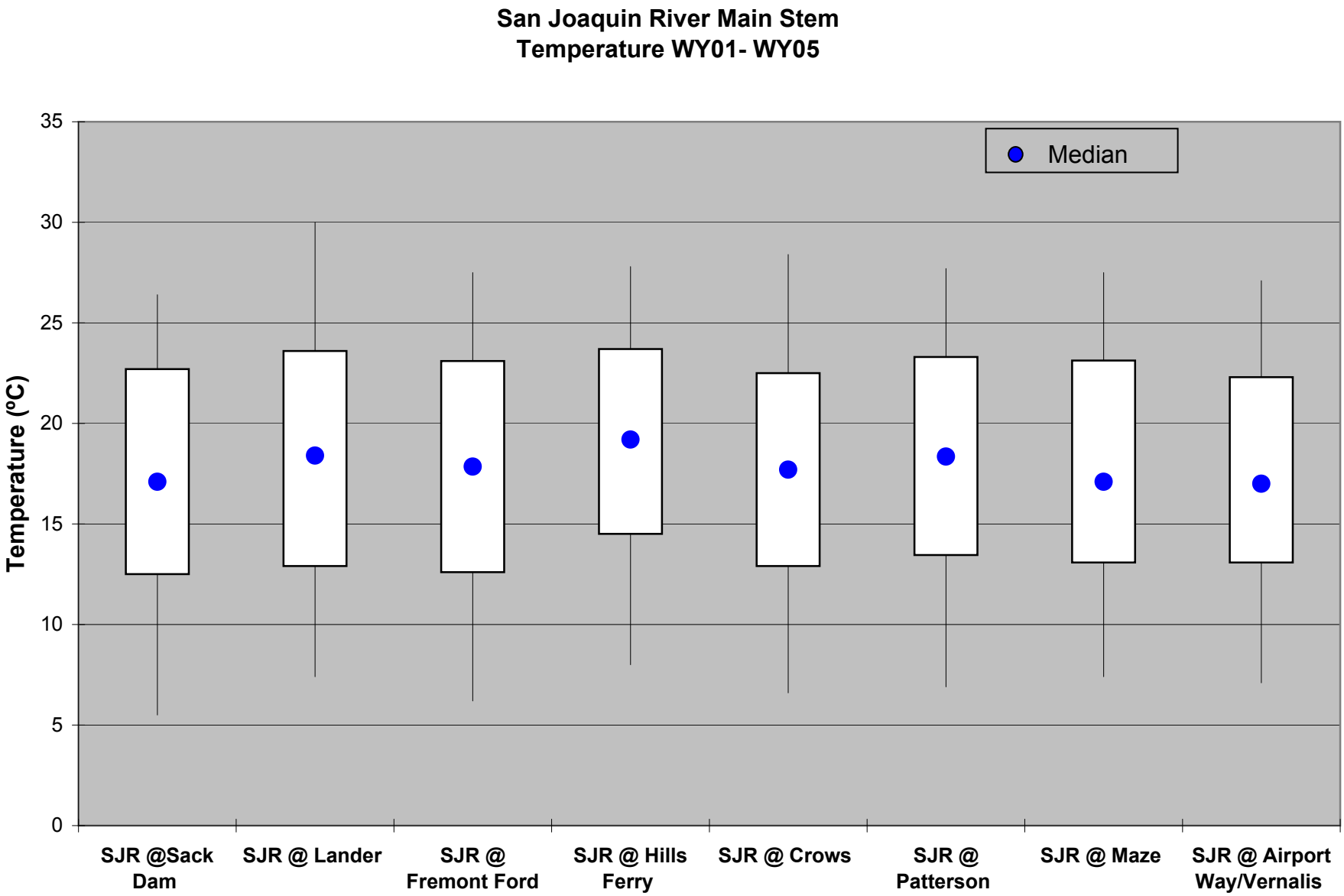
R4: Southeast Basin…….…….154-203

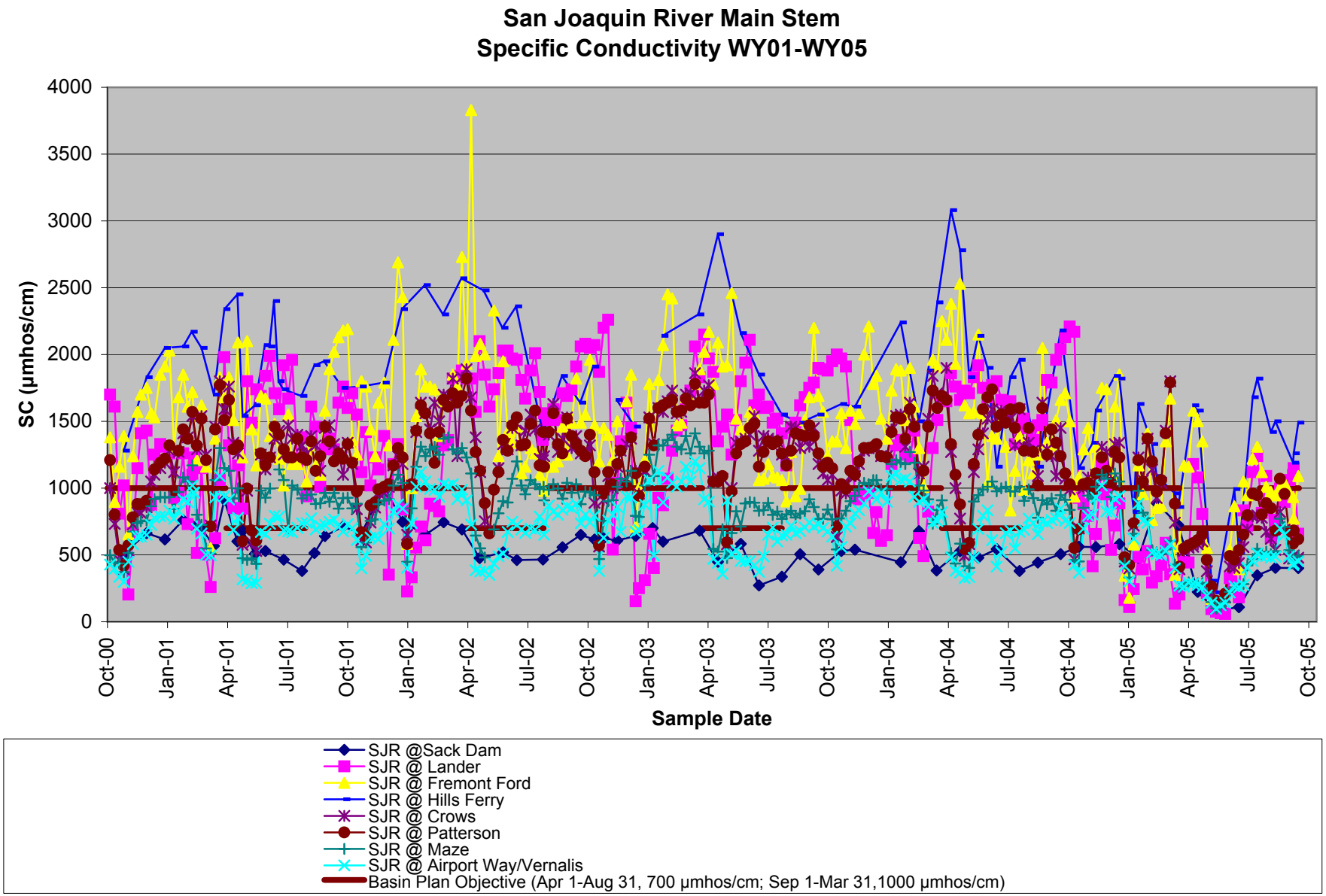
R5: Grassland Basin……..204-255

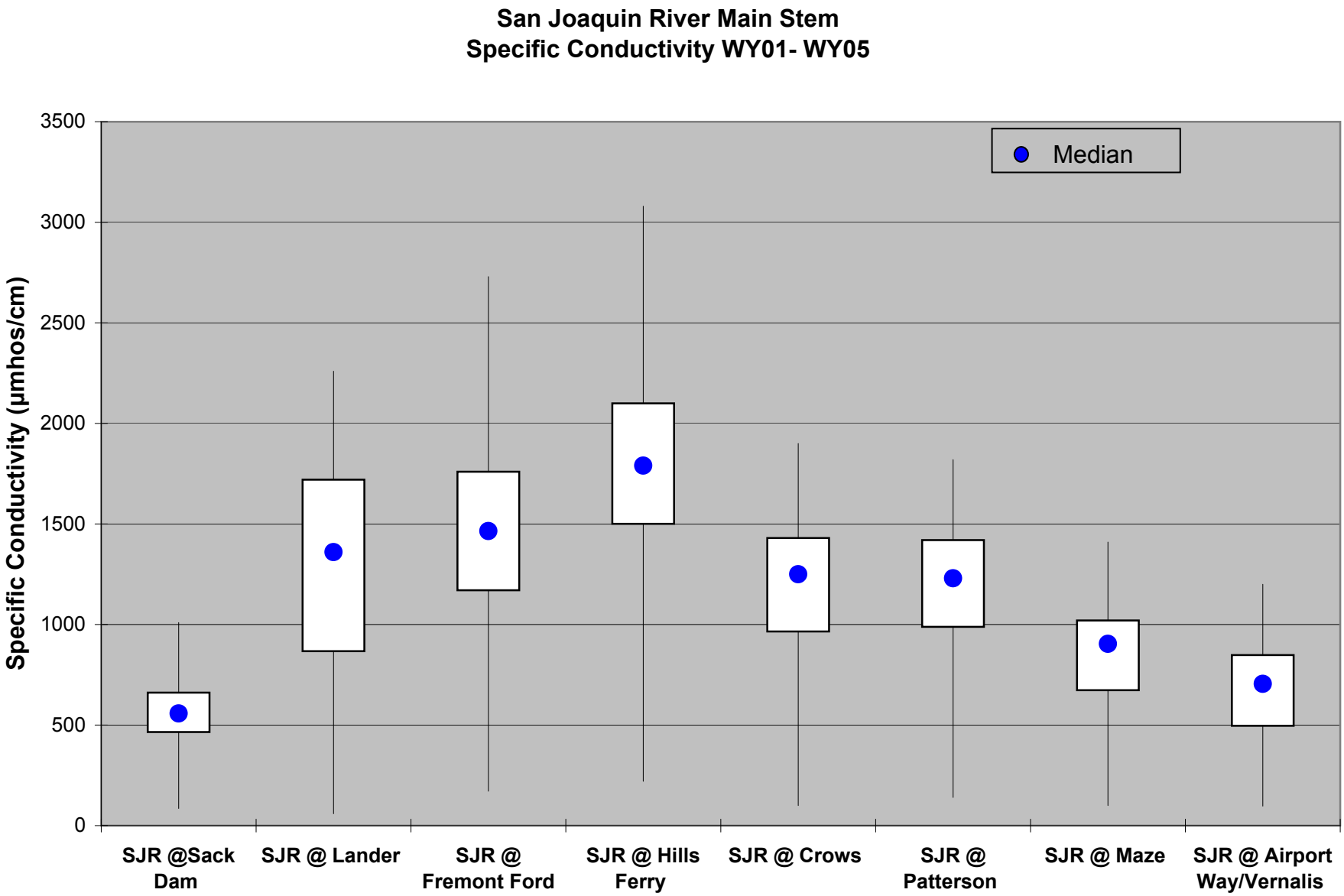
R6: Westside Basin……..…….256-305

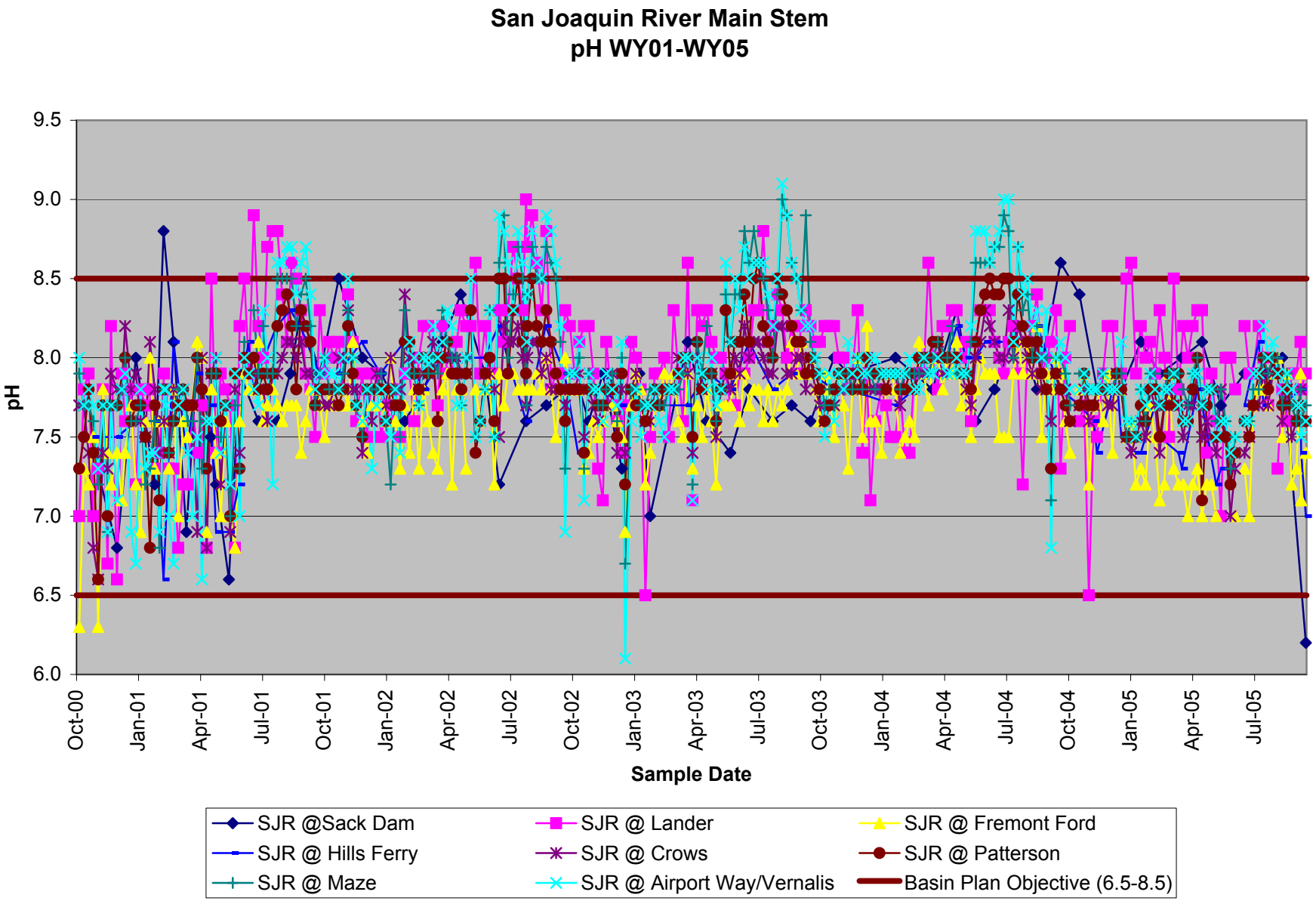
R7: South Delta Basin……...306-356

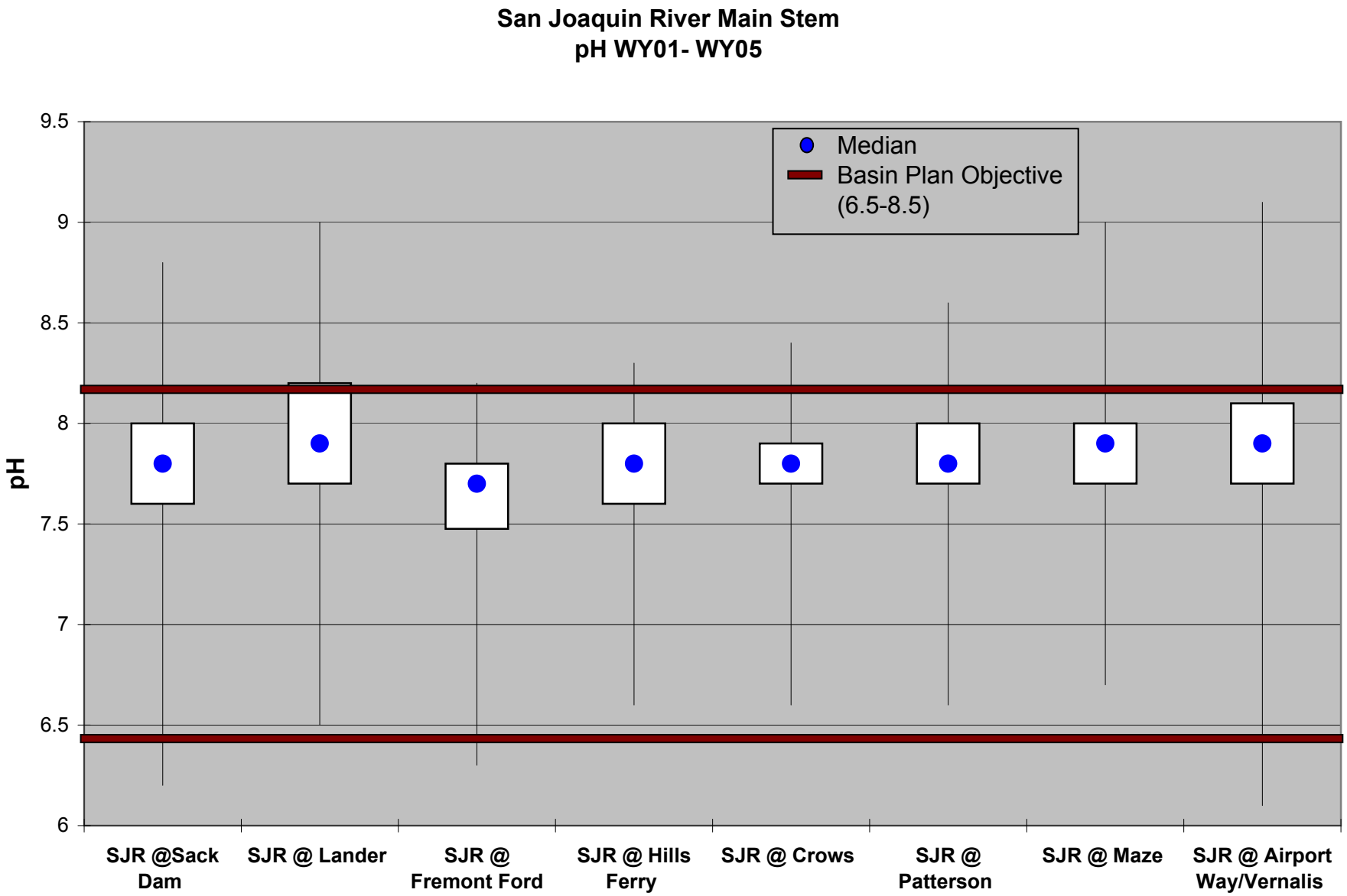

San Joaquin River Main Stem
Temperature WY01-WY05
Temperature (ºC)
35
30
25
20
15
10
5
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows

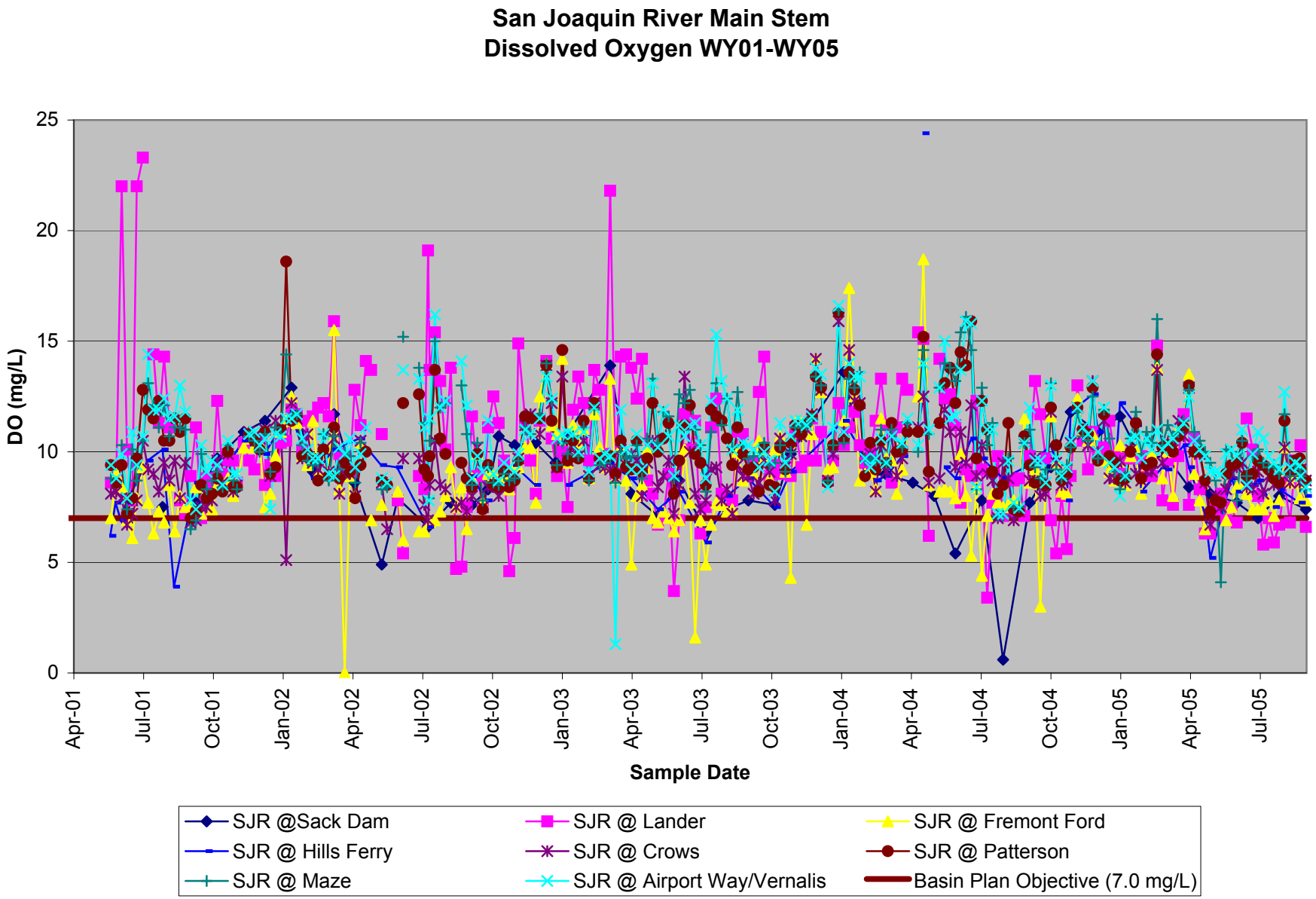

San Joaquin River Main Stem
Temperature WY01- WY05
Median
Temperature (ºC)
35
30
25
20
15
10
5
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

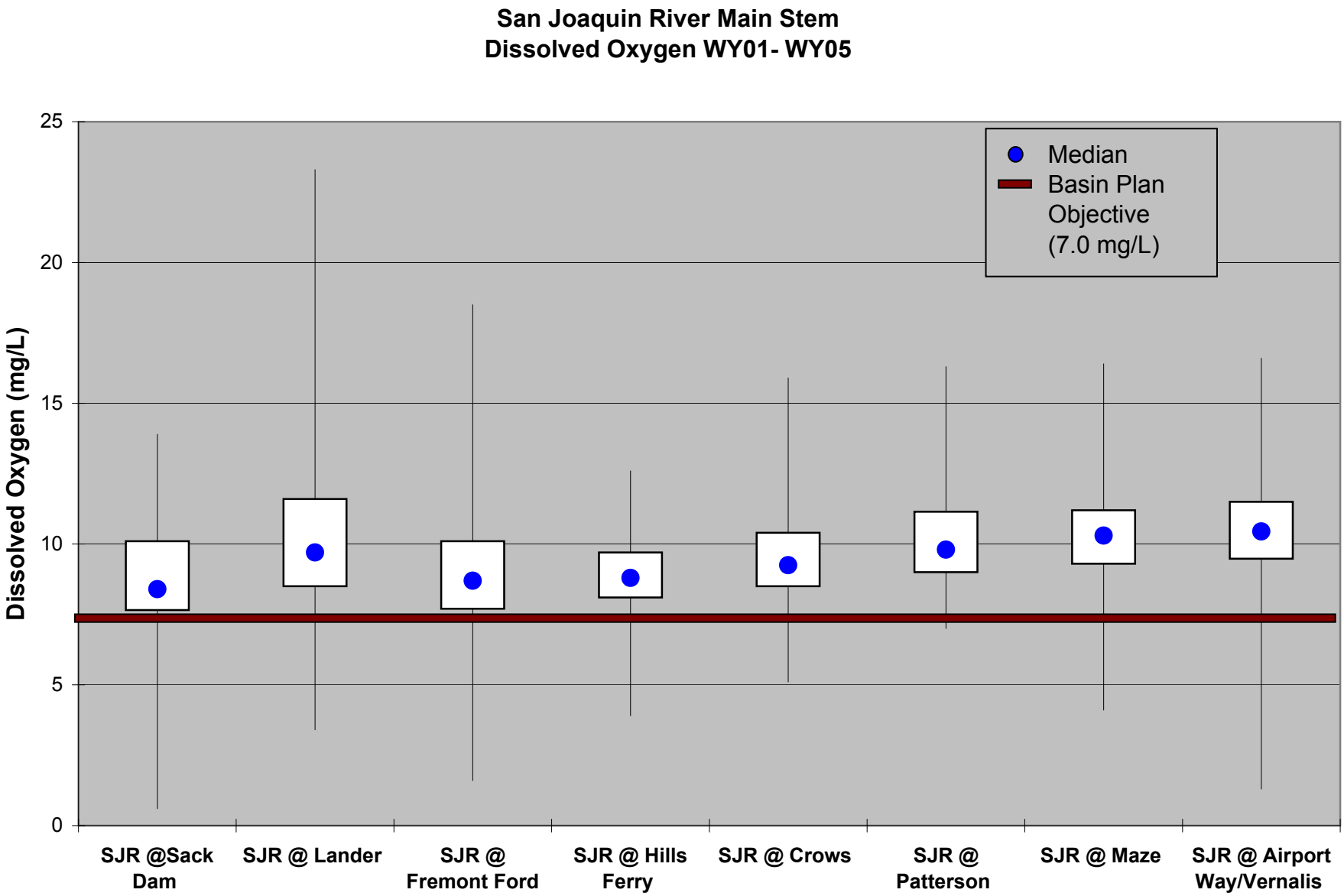

San Joaquin River Main Stem
Specific Conductivity WY01-WY05
SC (µmhos/cm)
4000
3500
3000
2500
2000
1500
1000
500
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Oct-05
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis
Basin Plan Objective (Apr 1-Aug 31, 700 µmhos/cm; Sep 1-Mar 31,1000 µmhos/cm)

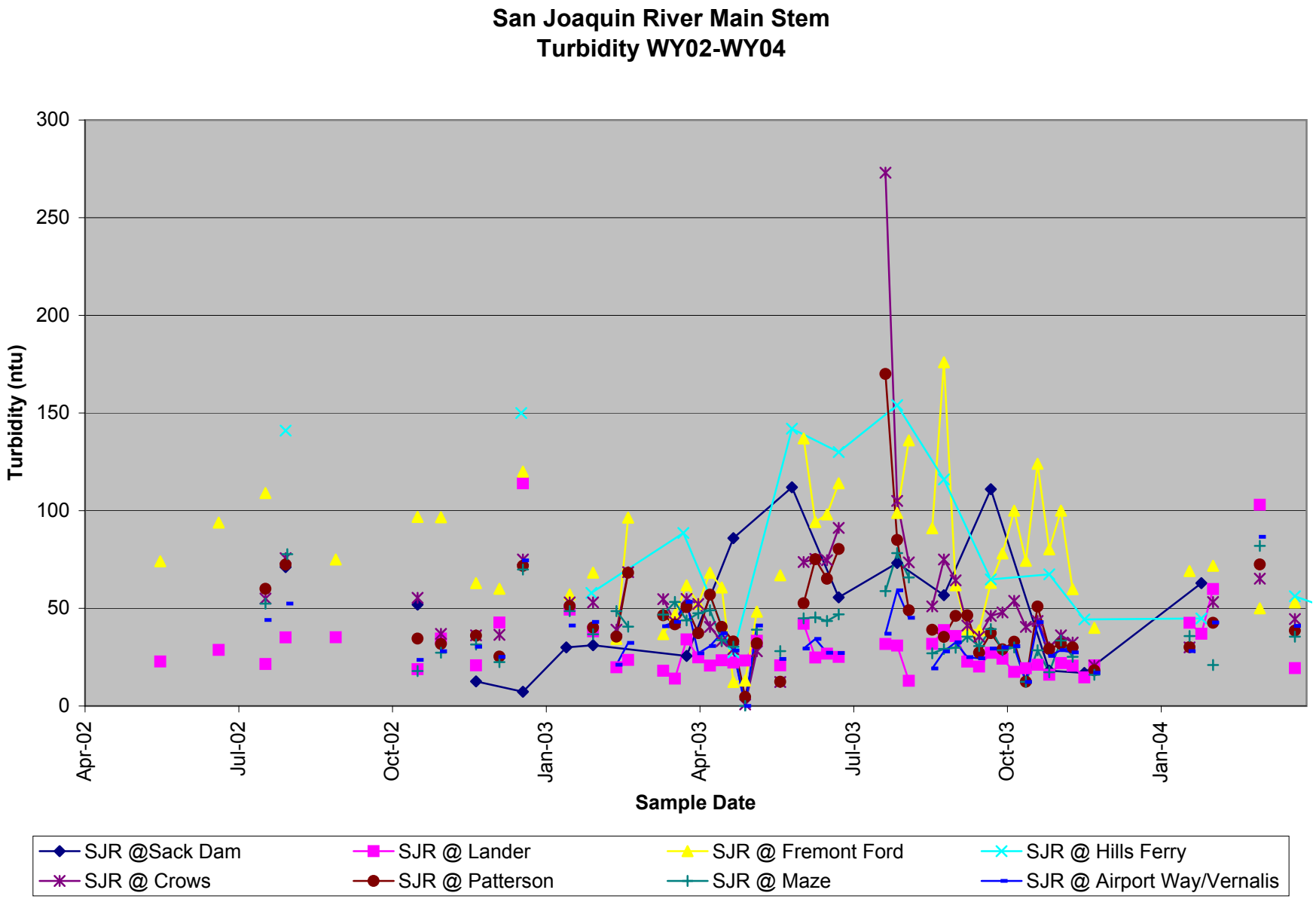

San Joaquin River Main Stem
Specific Conductivity WY01- WY05
Median
Specific Conductivity (µmhos/cm)
3500
3000
2500
2000
1500
1000
500
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

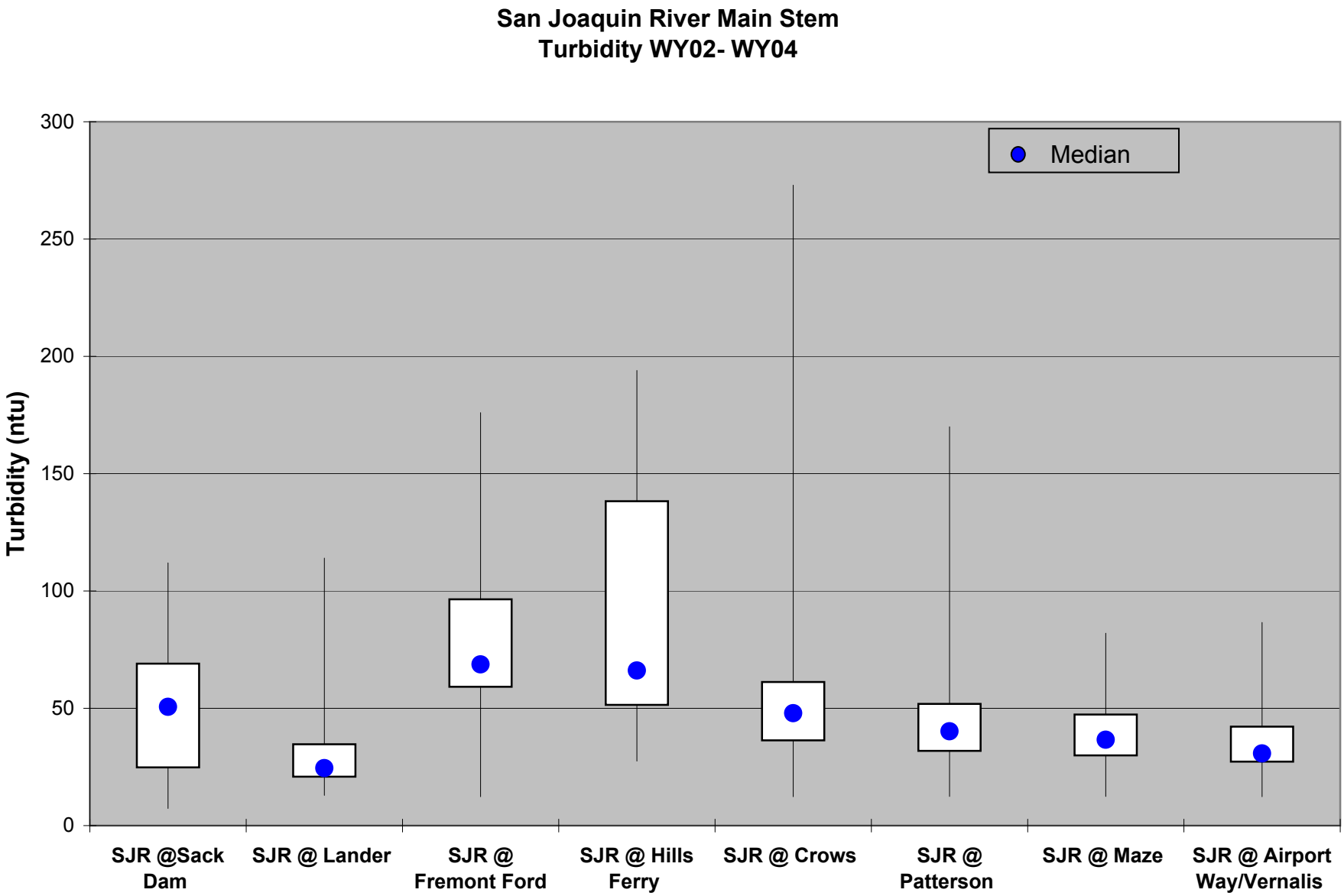

San Joaquin River Main Stem
pH WY01-WY05
pH
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis
Basin Plan Objective (6.5-8.5)

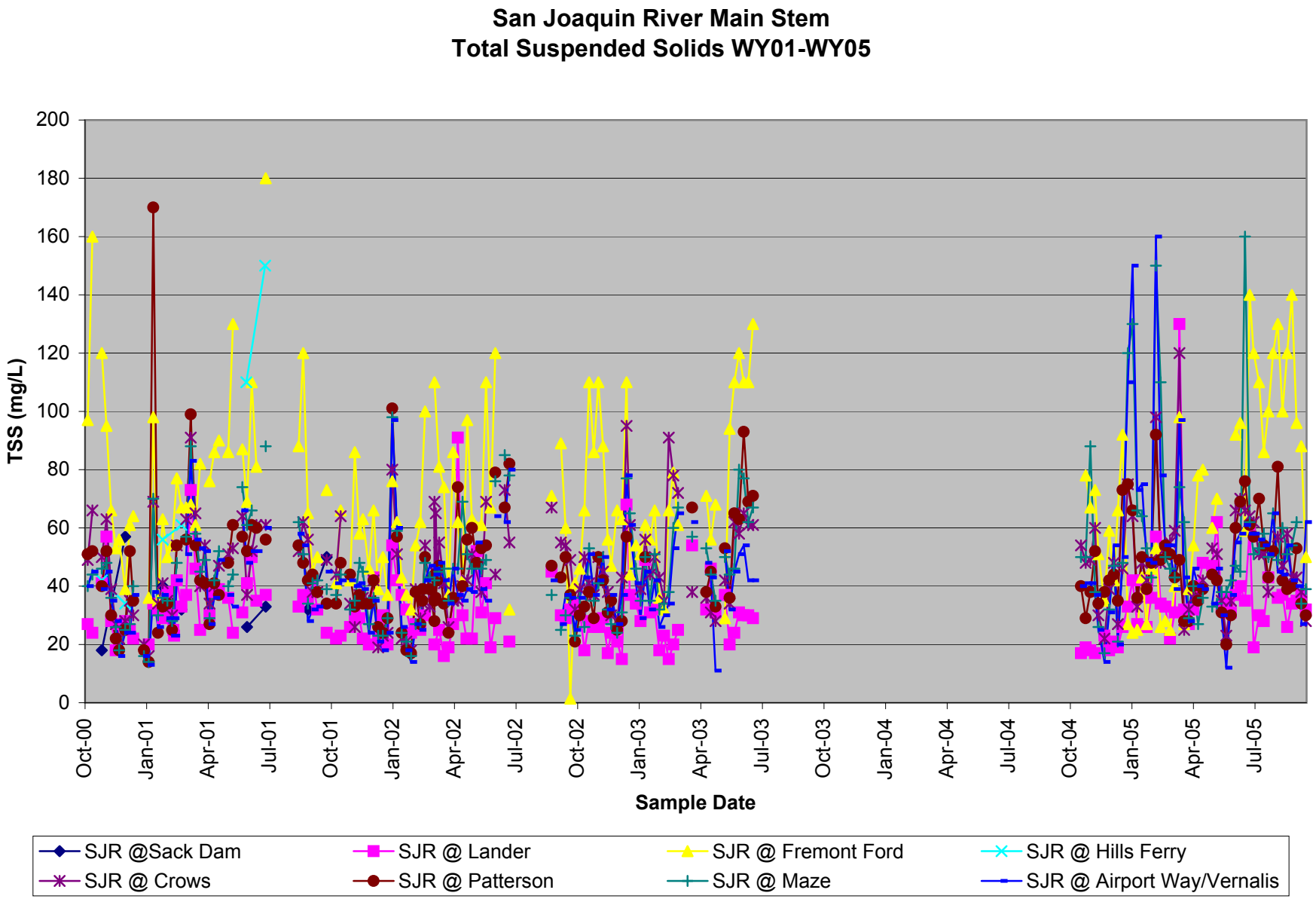

San Joaquin River Main Stem
pH WY01- WY05
Median
Basin Plan Objective
(6.5-8.5)
pH
9.5
9
8.5
8
7.5
7
6.5
6
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

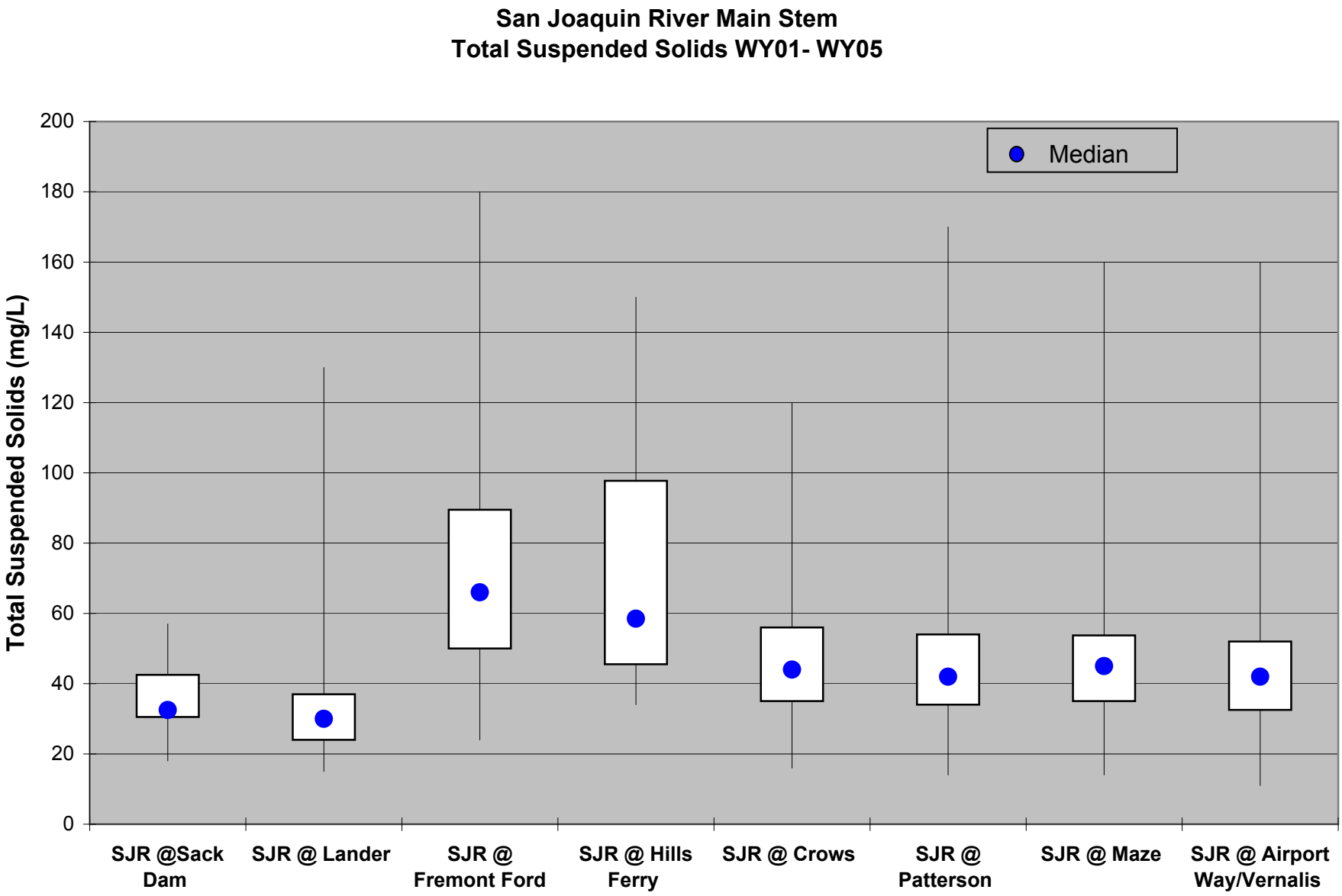

San Joaquin River Main Stem
Dissolved Oxygen WY01-WY05
DO (mg/L)
25
20
15
10
5
0
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis
Basin Plan Objective (7.0 mg/L)

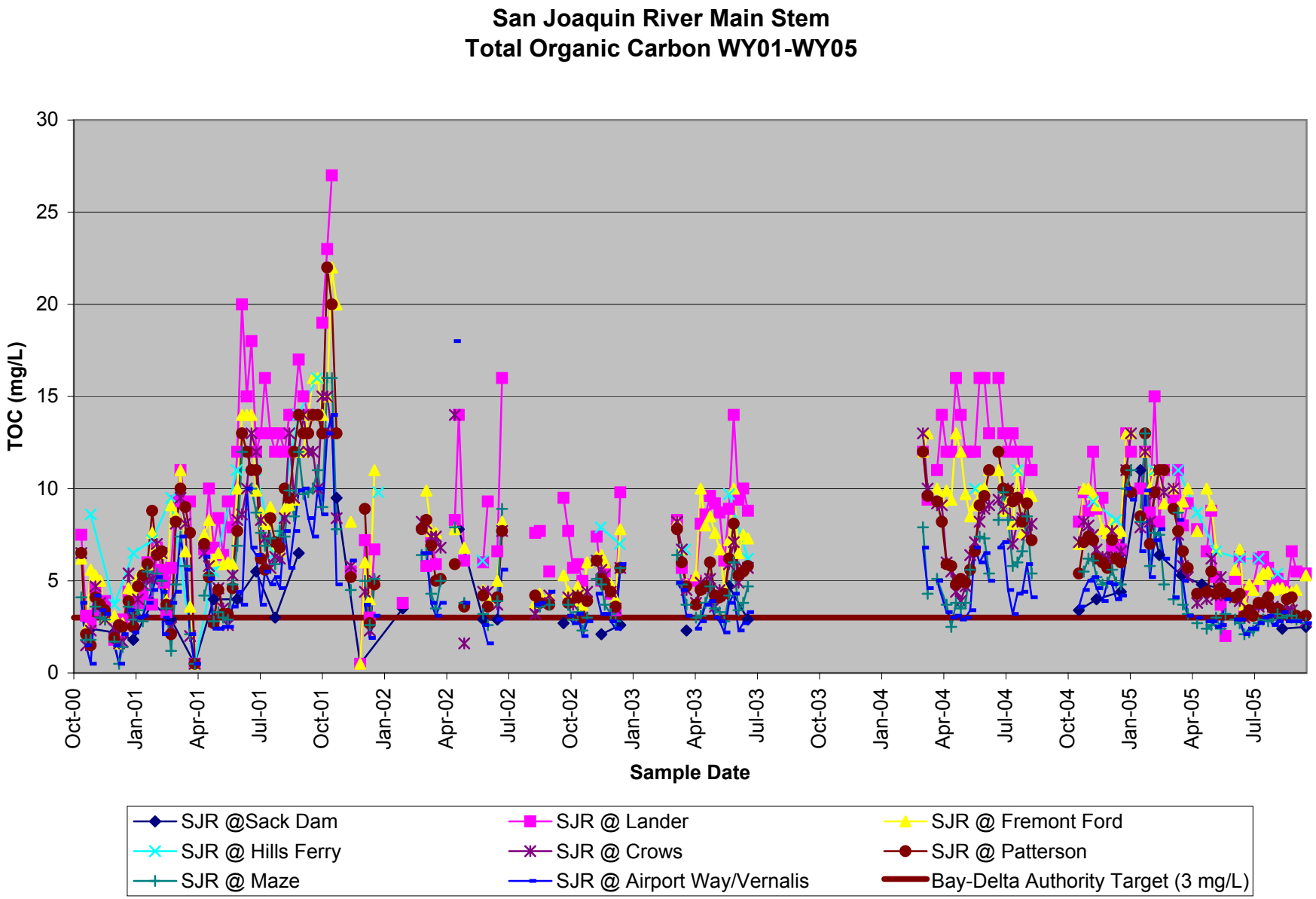

San Joaquin River Main Stem
Dissolved Oxygen WY01- WY05
Dissolved Oxygen (mg/L)
25
20
15
10
5
0
Median
Basin Plan Objective (7.0 mg/L)
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

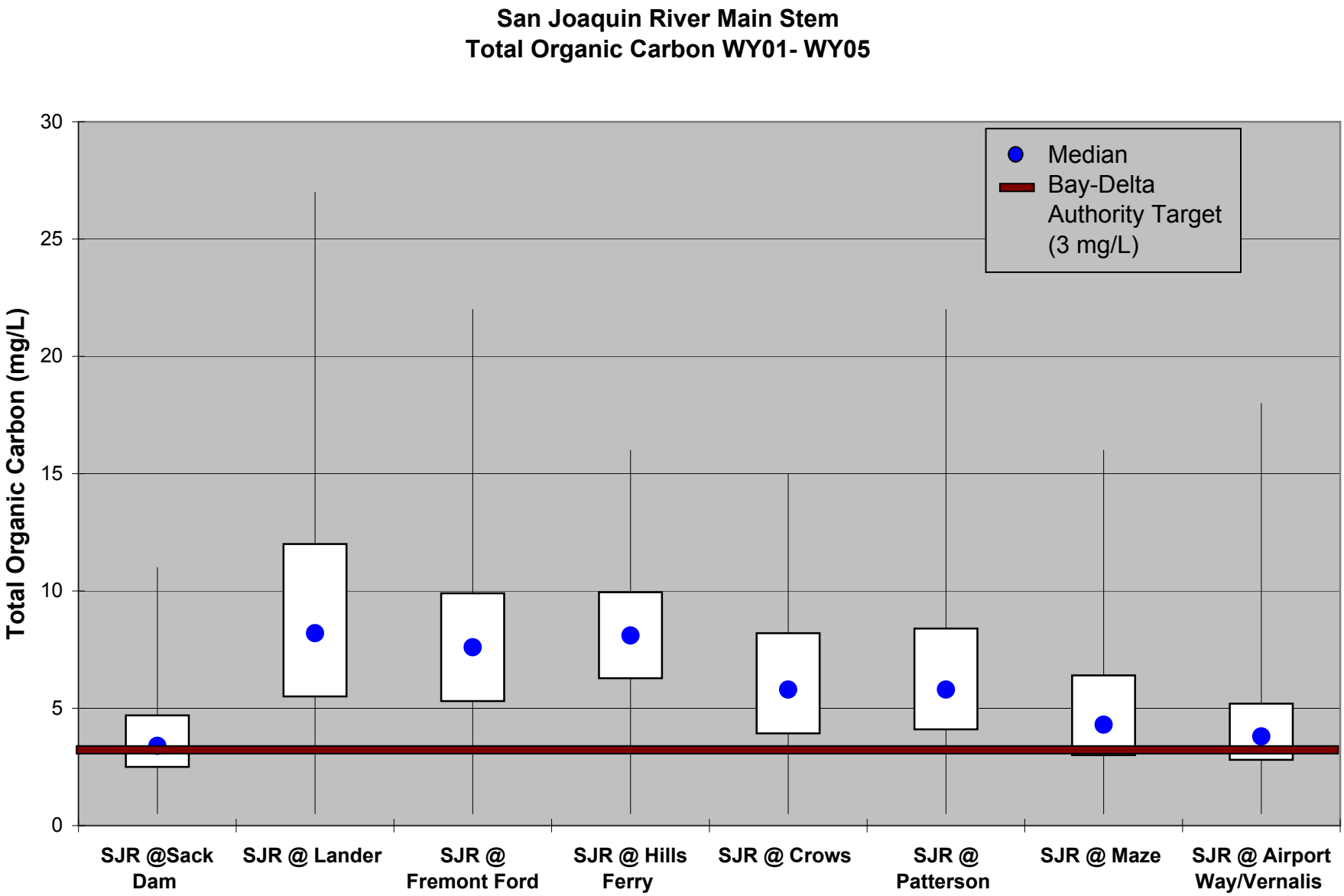

San Joaquin River Main Stem
Turbidity WY02-WY04
Turbidity (ntu)
300
250
200
150
100
50
0
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

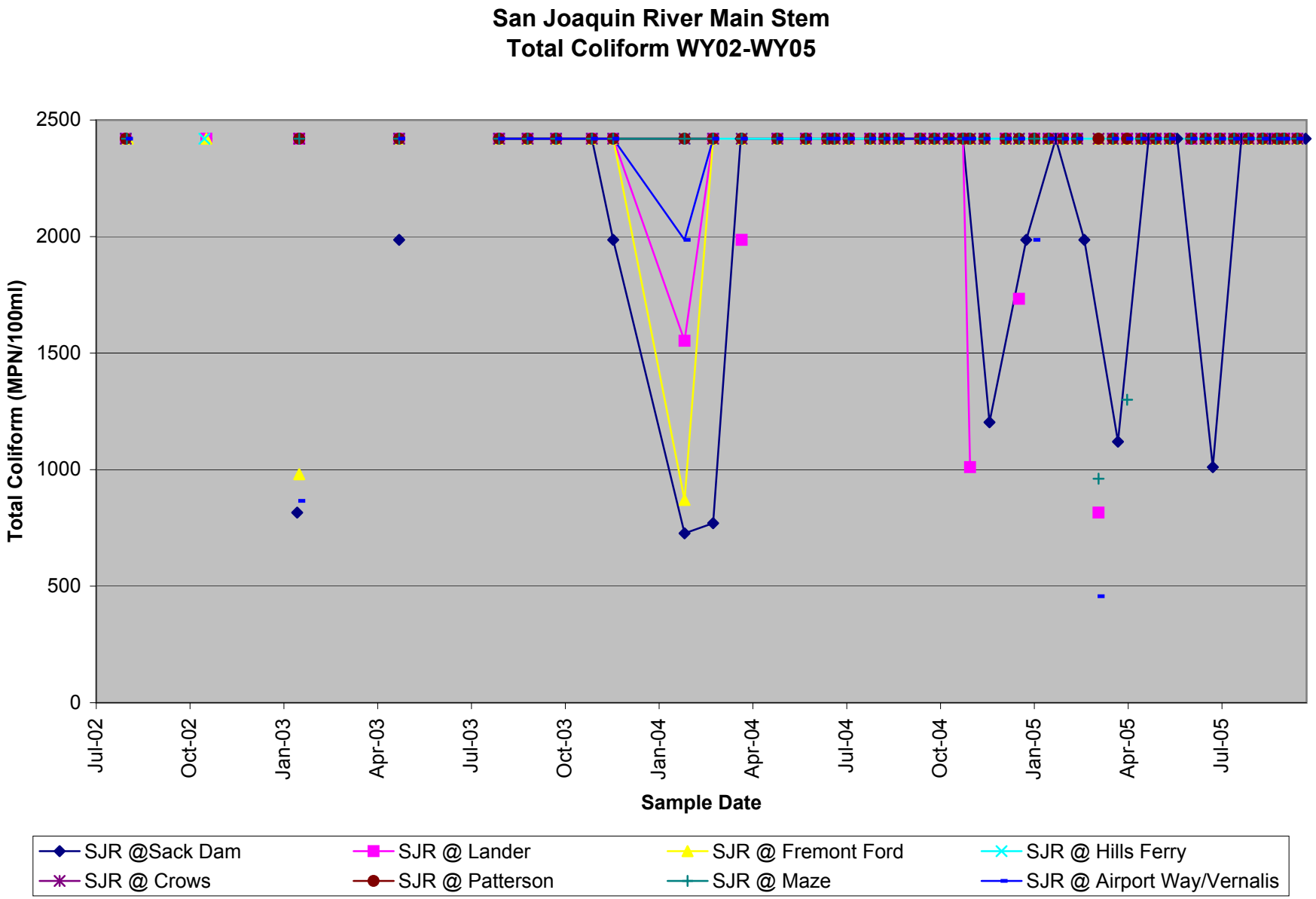

San Joaquin River Main Stem
Turbidity WY02- WY04
Median
Turbidity (ntu)
300
250
200
150
100
50
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

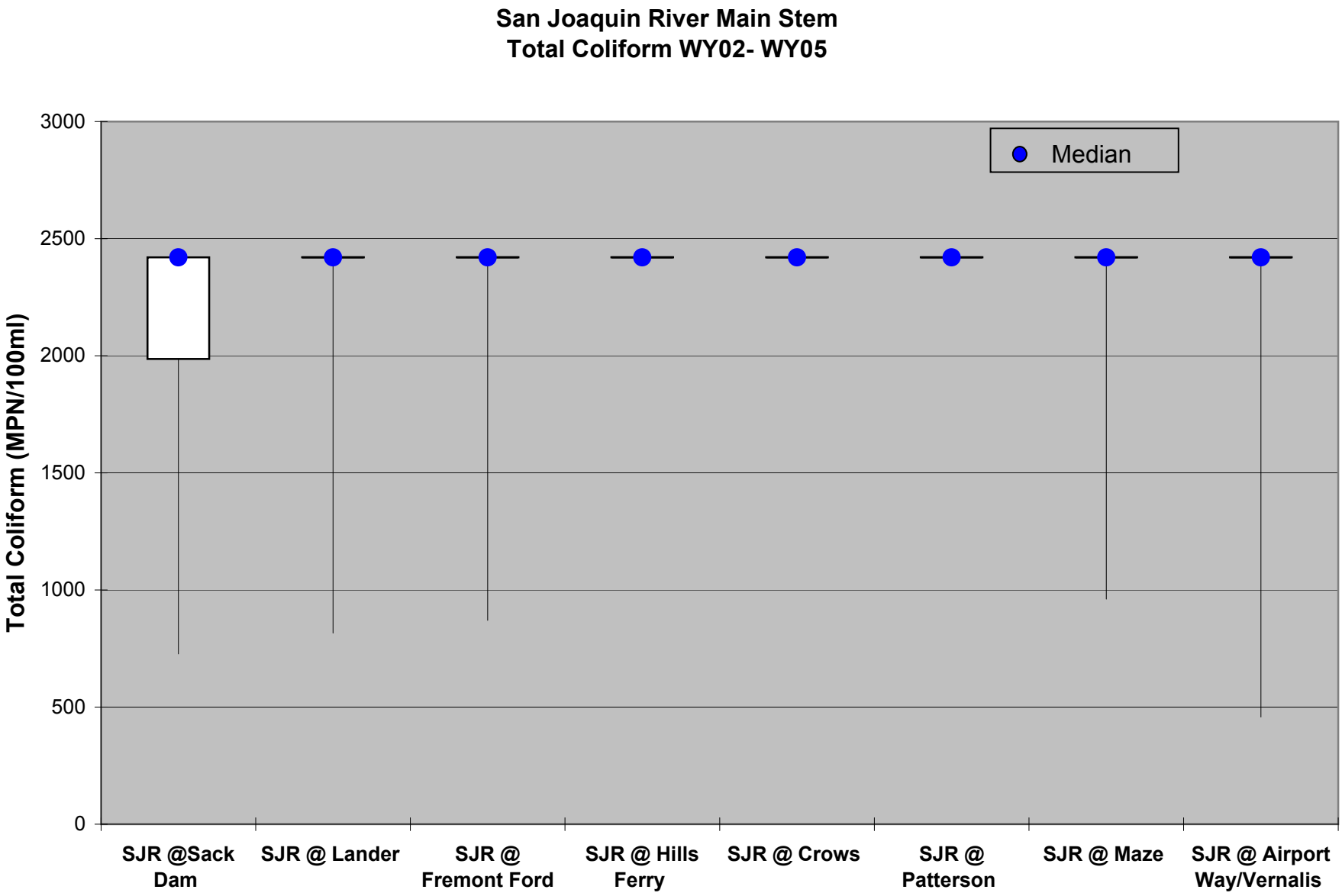

San Joaquin River Main Stem
Total Suspended Solids WY01-WY05
TSS (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

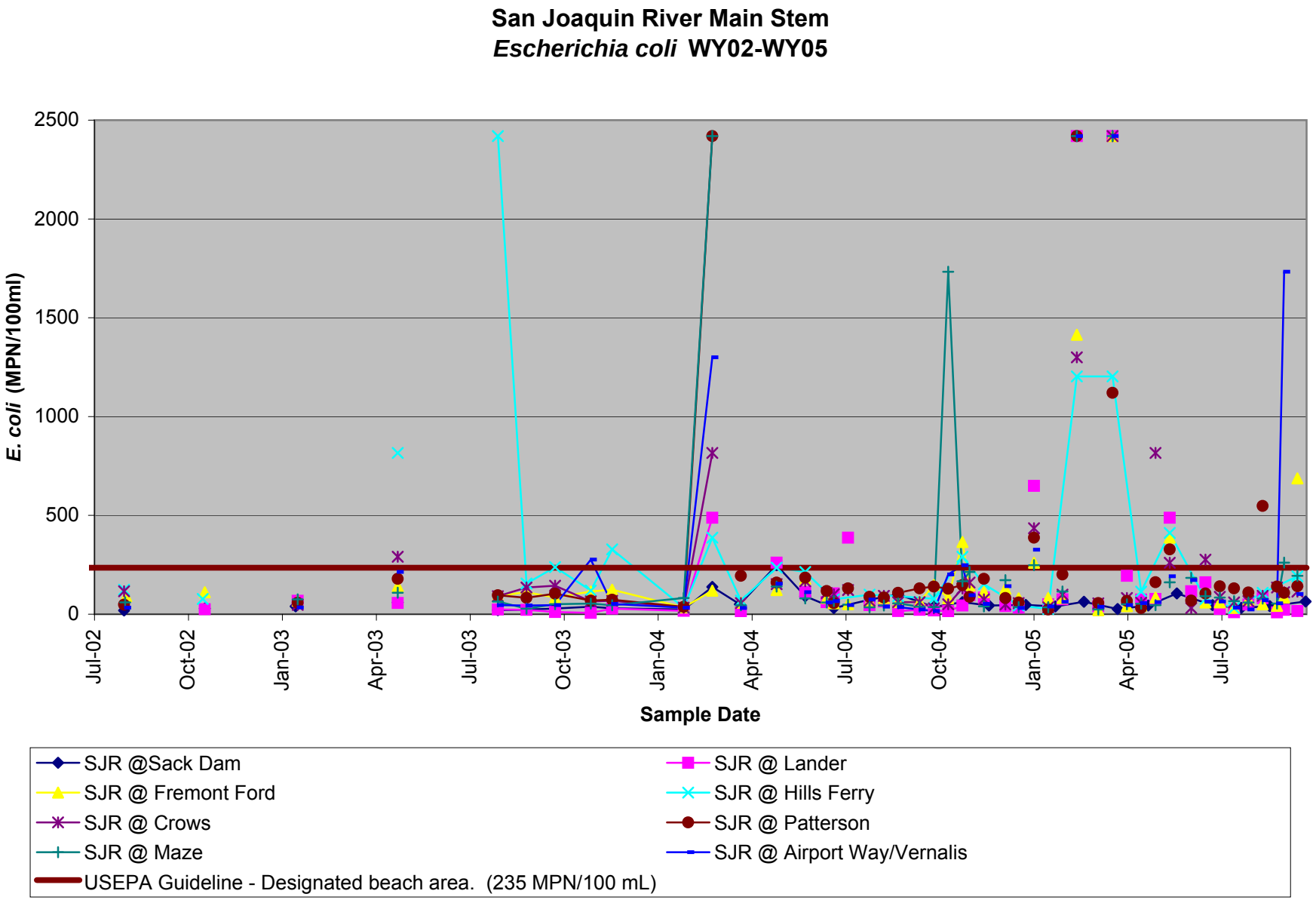

San Joaquin River Main Stem
Total Suspended Solids WY01- WY05
Median
Total Suspended Solids (mg/L)
200
180
160
140
120
100
80
60
40
20
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis


San Joaquin River Main Stem
Total Organic Carbon WY01-WY05
TOC (mg/L)
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis
Bay-Delta Authority Target (3 mg/L)

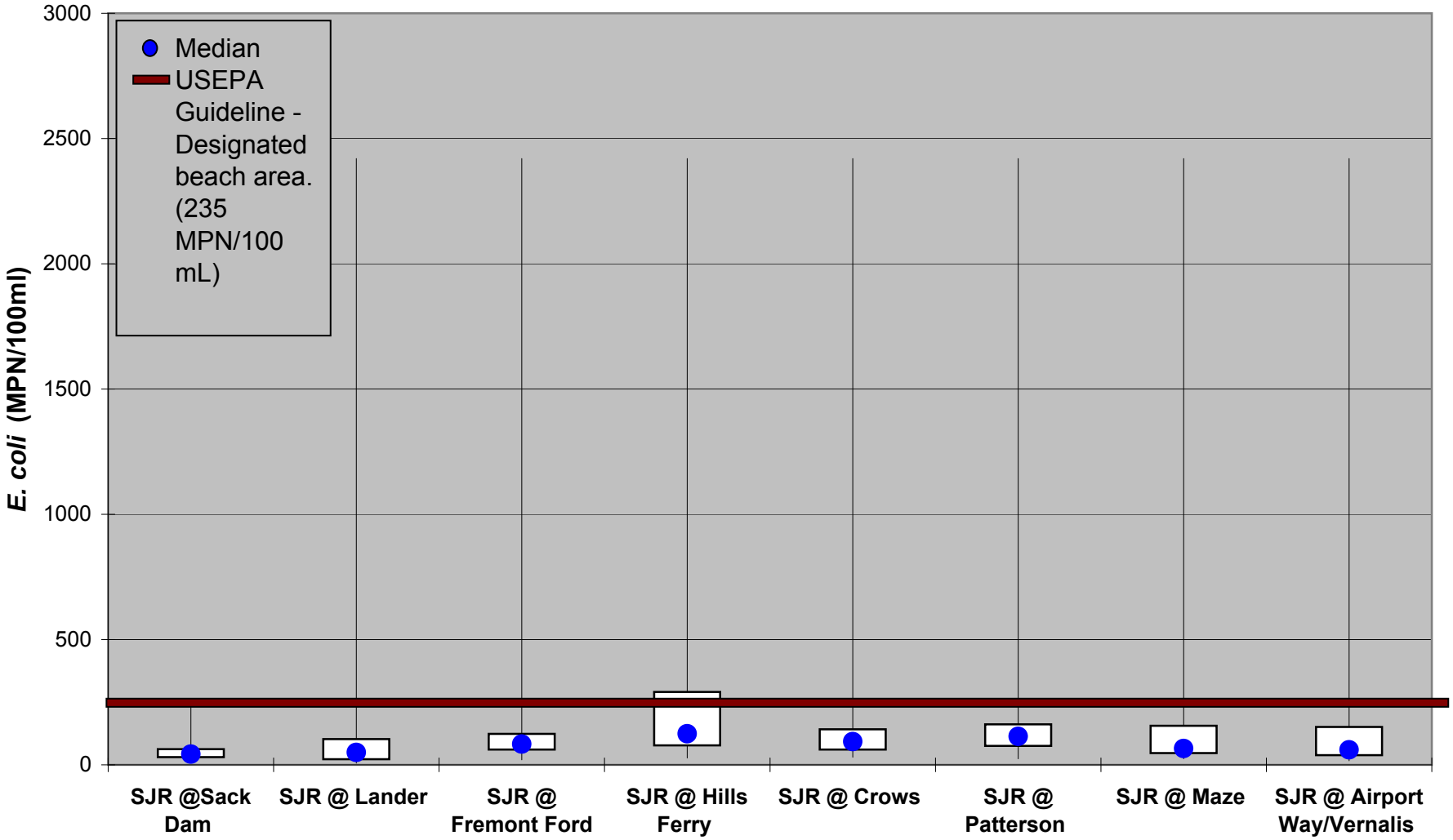

San Joaquin River Main Stem
Total Organic Carbon WY01- WY05
Total Organic Carbon (mg/L)
30
25
20
15
10
5
0
Median
Bay-Delta Authority Target (3 mg/L)
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

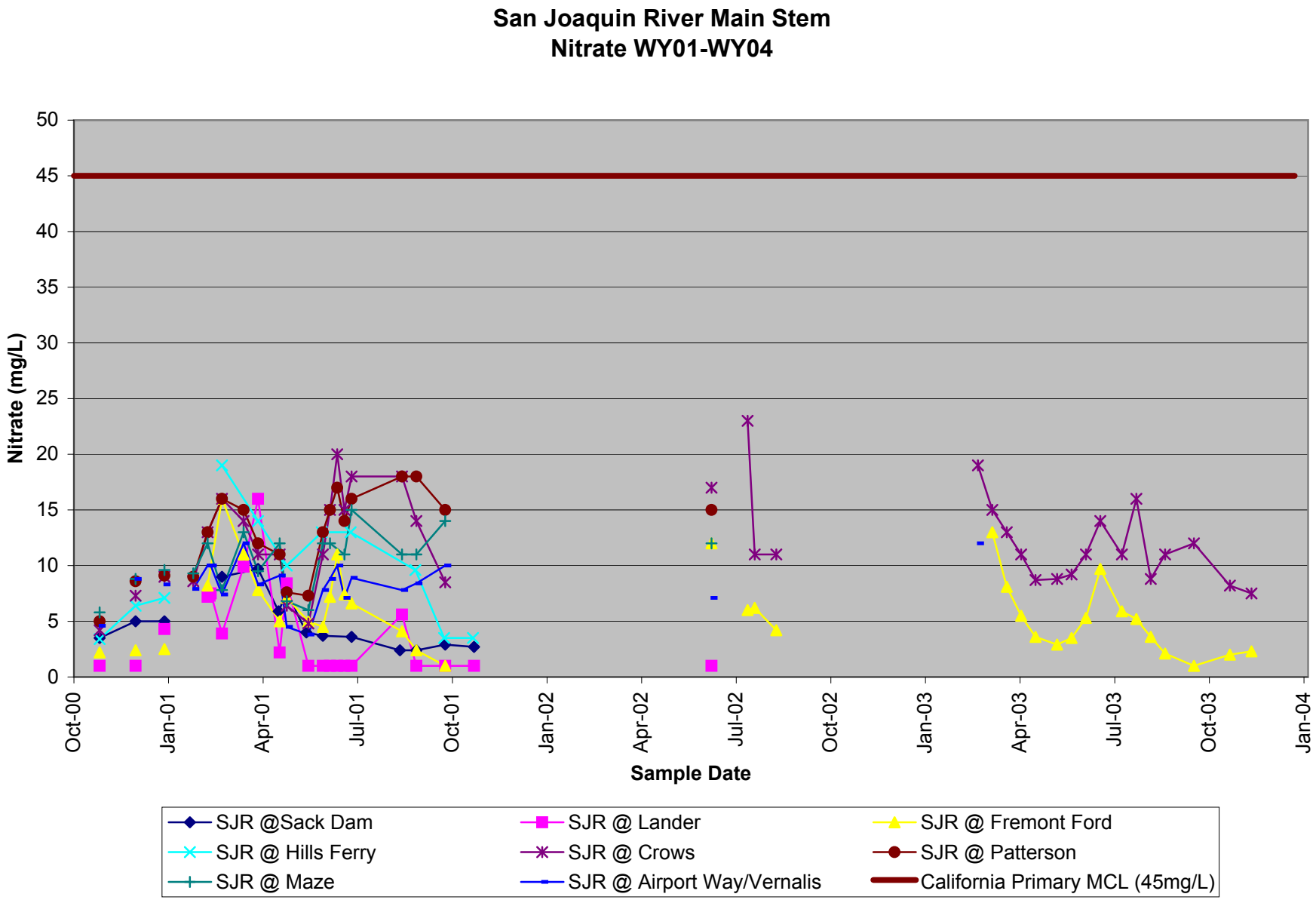

San Joaquin River Main Stem
Total Coliform WY02-WY05
Total Coliform (MPN/100ml)
2500
2000
1500
1000
500
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

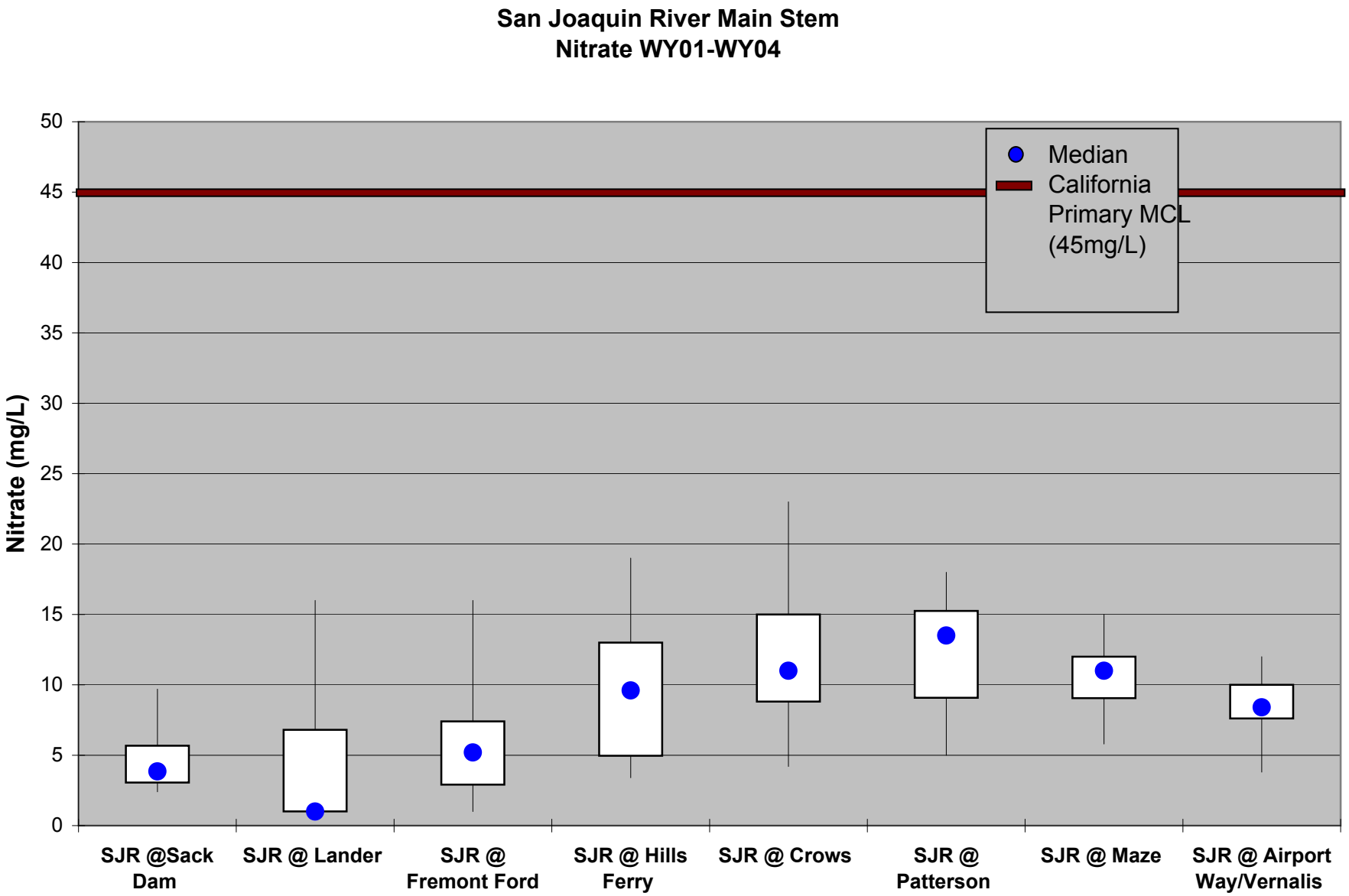

San Joaquin River Main Stem
Total Coliform WY02- WY05
Median
Total Coliform (MPN/100ml)
3000
2500
2000
1500
1000
500
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

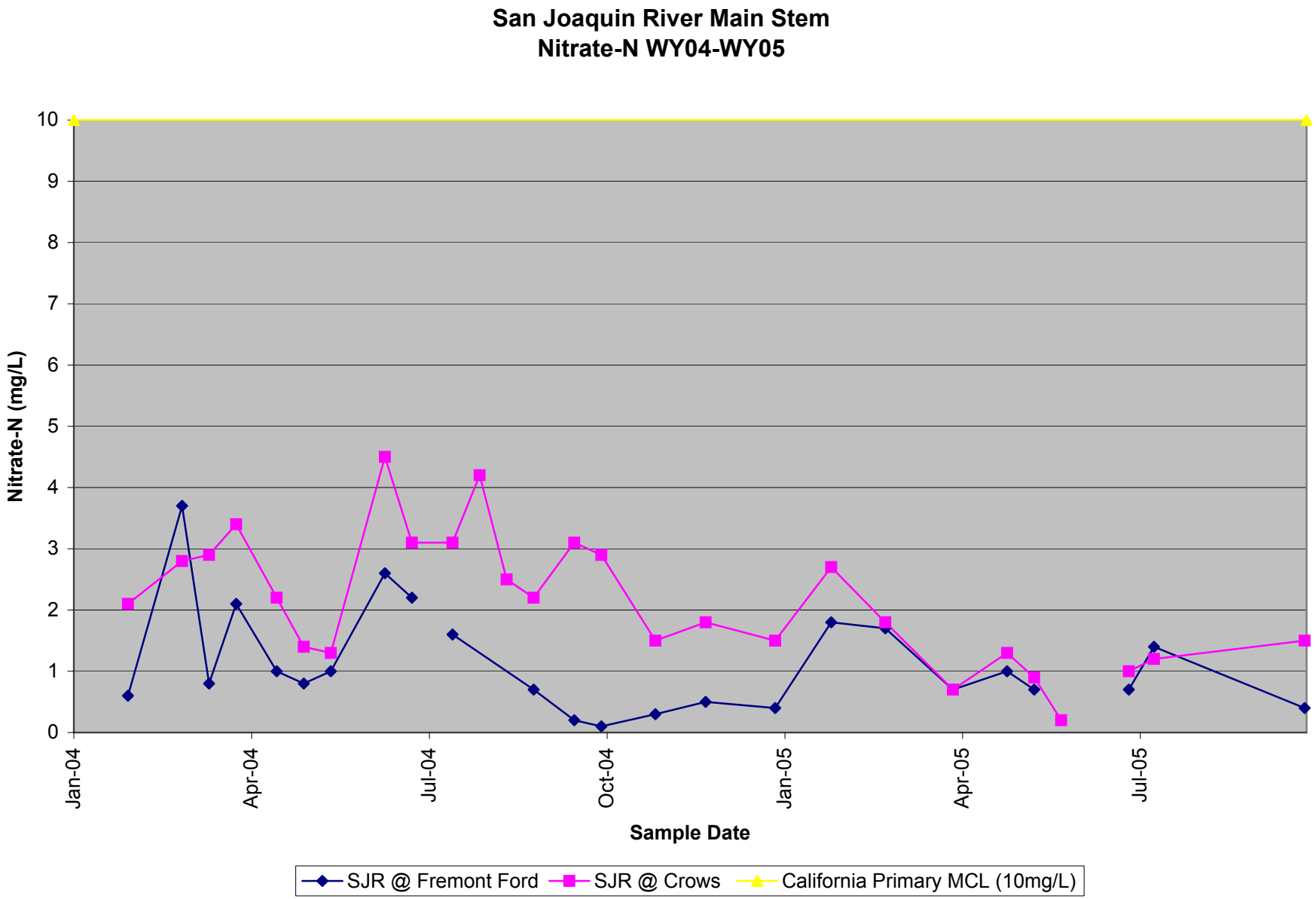

San Joaquin River Main Stem
Escherichia coli WY02-WY05
E. coli (MPN/100ml)
2500
2000
1500
1000
500
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis
USEPA Guideline - Designated beach area. (235 MPN/100 mL)

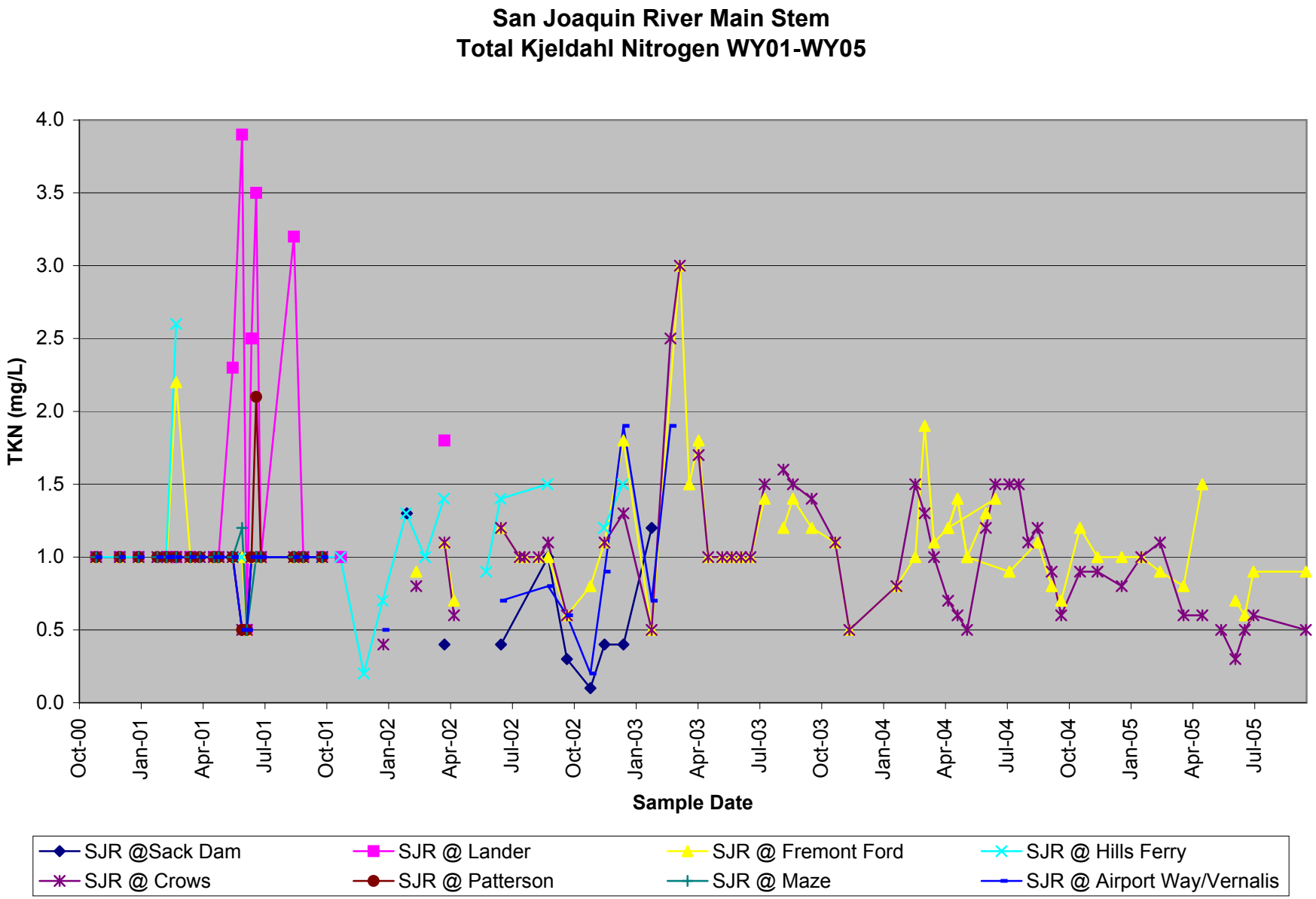
San Joaquin River Main Stem
***Escherichia coli* WY02-WY05**

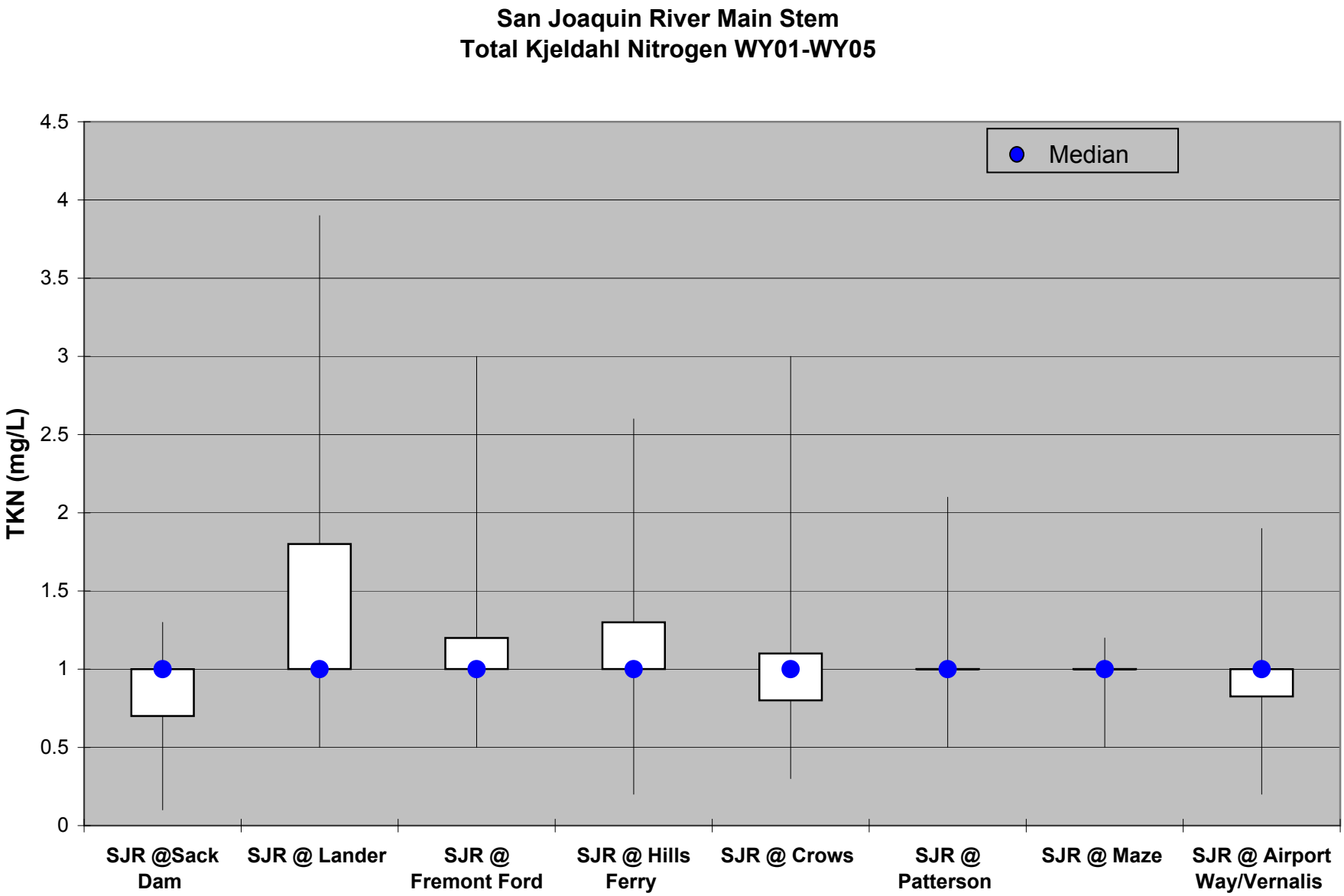


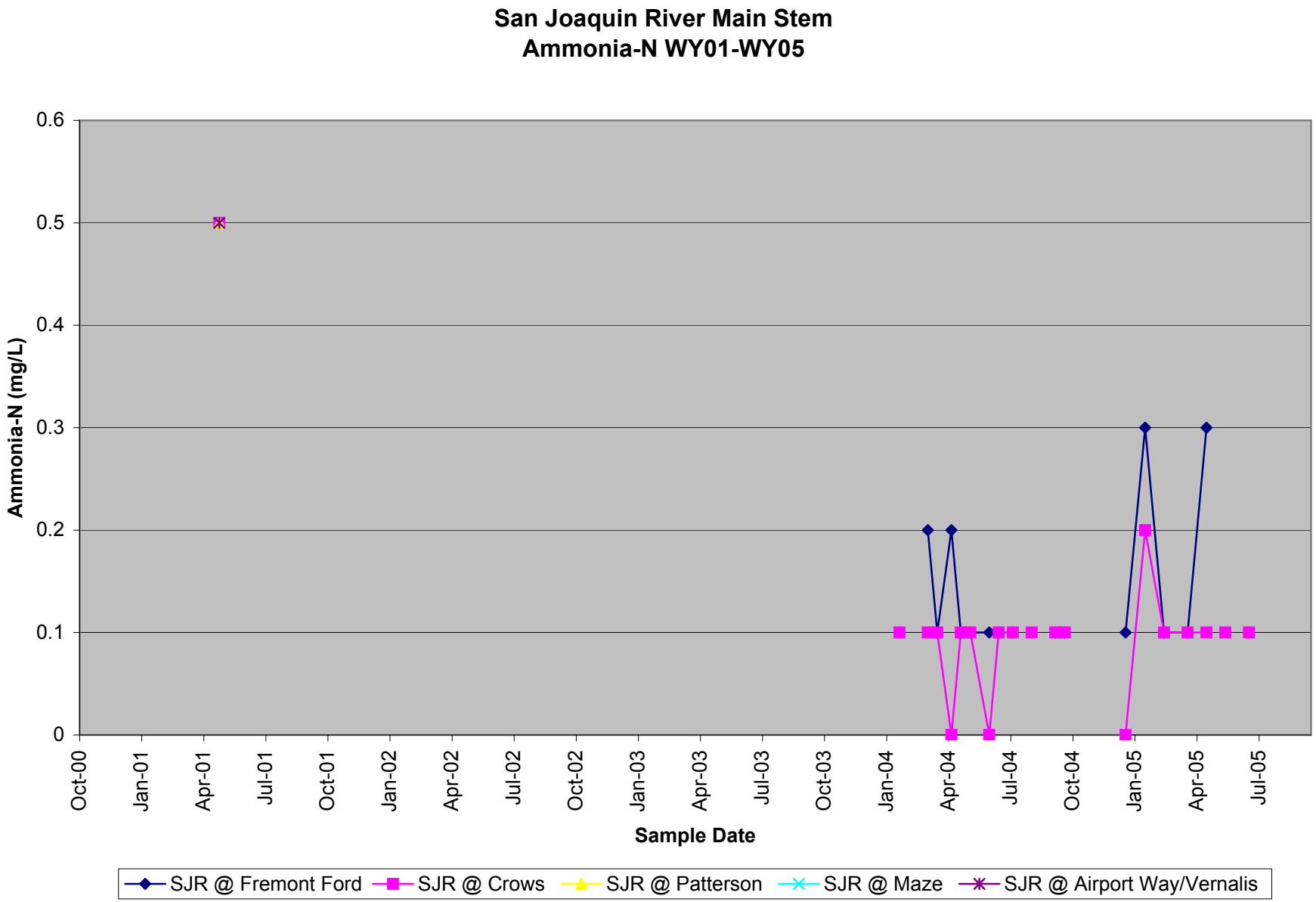

San Joaquin River Main Stem
Nitrate WY01-WY04
Nitrate (mg/L)
50
45
40
35
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis
California Primary MCL (45mg/L)

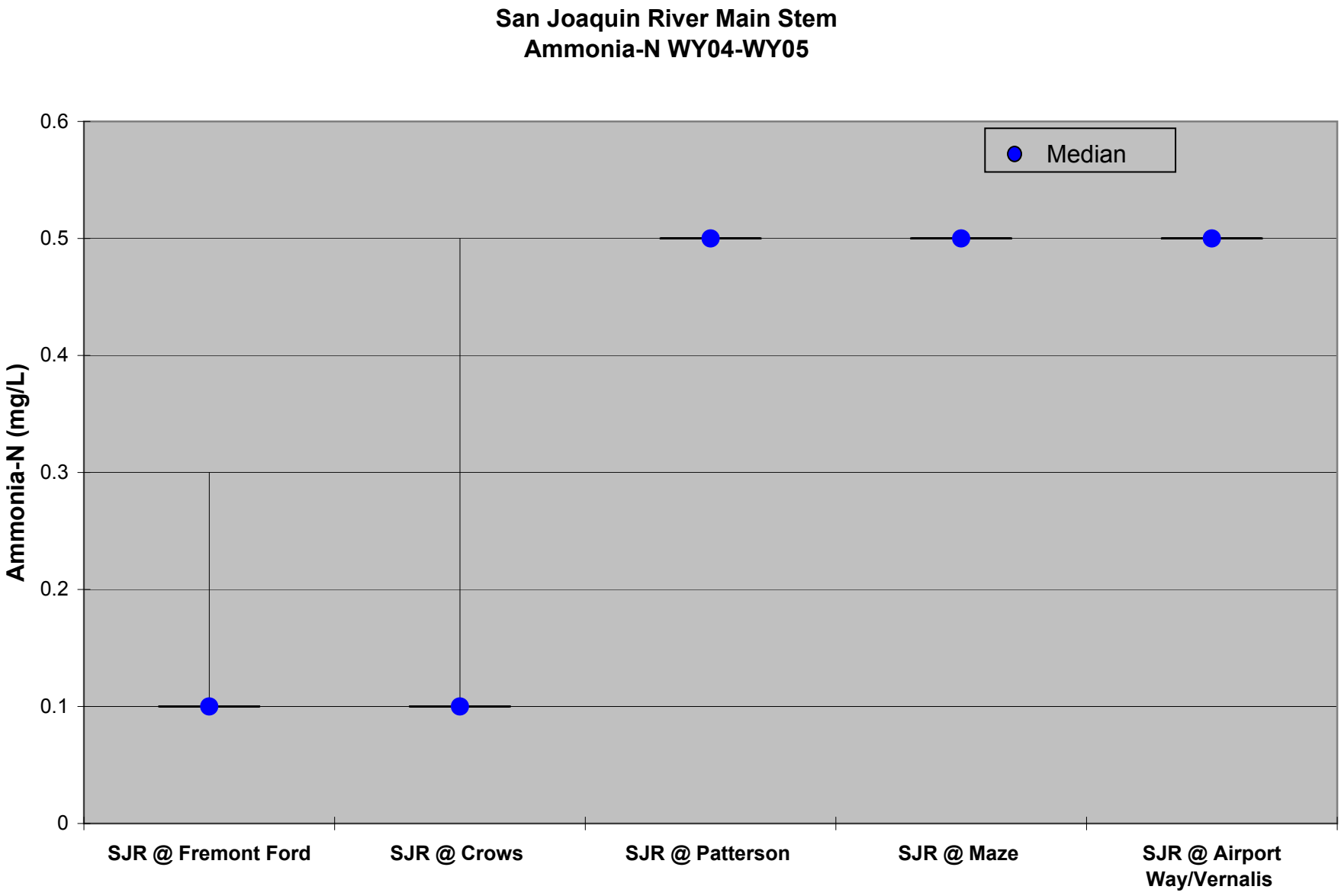

San Joaquin River Main Stem
Nitrate WY01-WY04
Nitrate (mg/L)
50
45
40
35
30
25
20
15
10
5
0
Median
California Primary MCL (45mg/L)
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

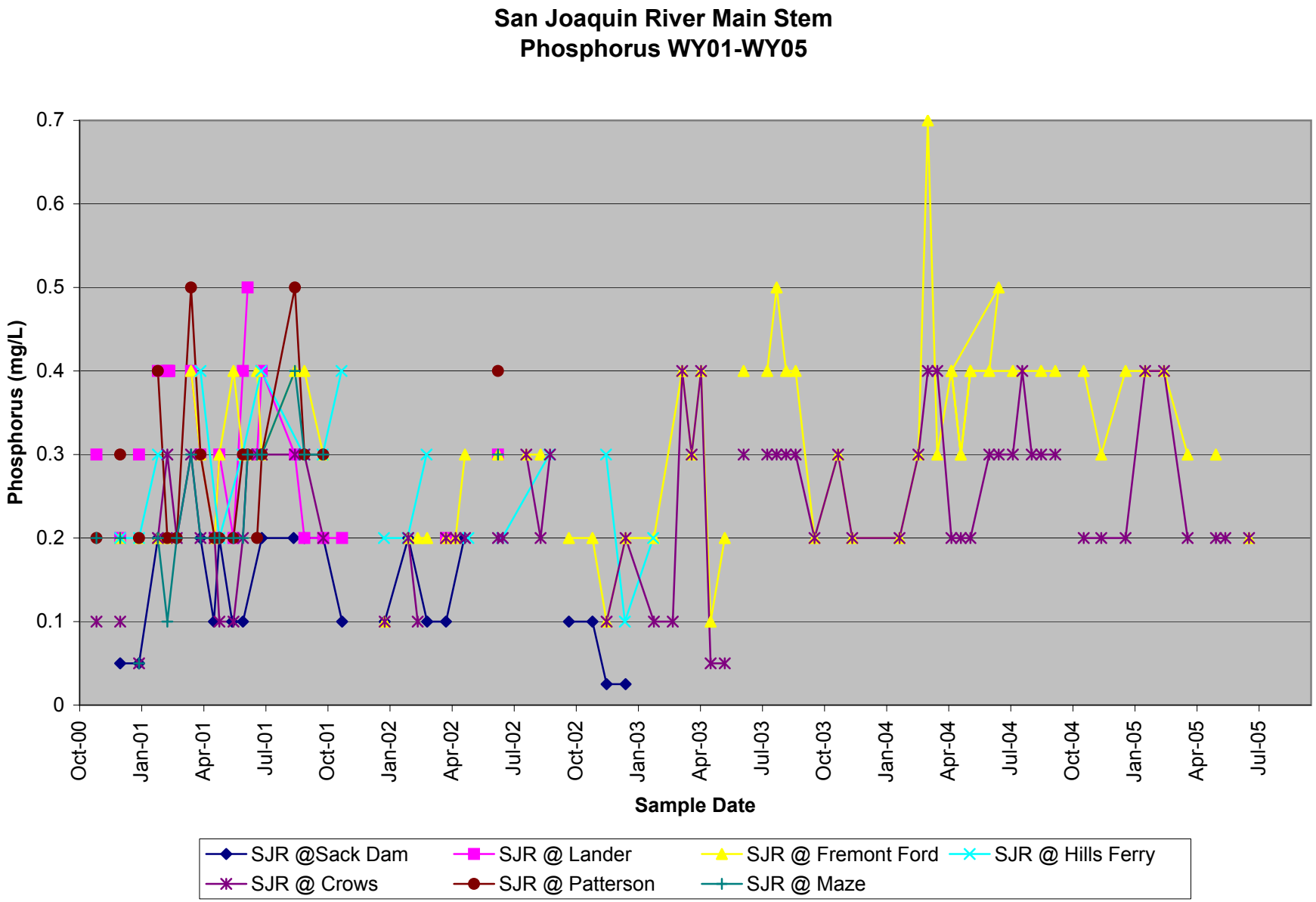

San Joaquin River Main Stem
Nitrate-N WY04-WY05
Nitrate-N (mg/L)
10
9
8
7
6
5
4
3
2
1
0
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
SJR @ Fremont Ford
SJR @ Crows
California Primary MCL (10mg/L)

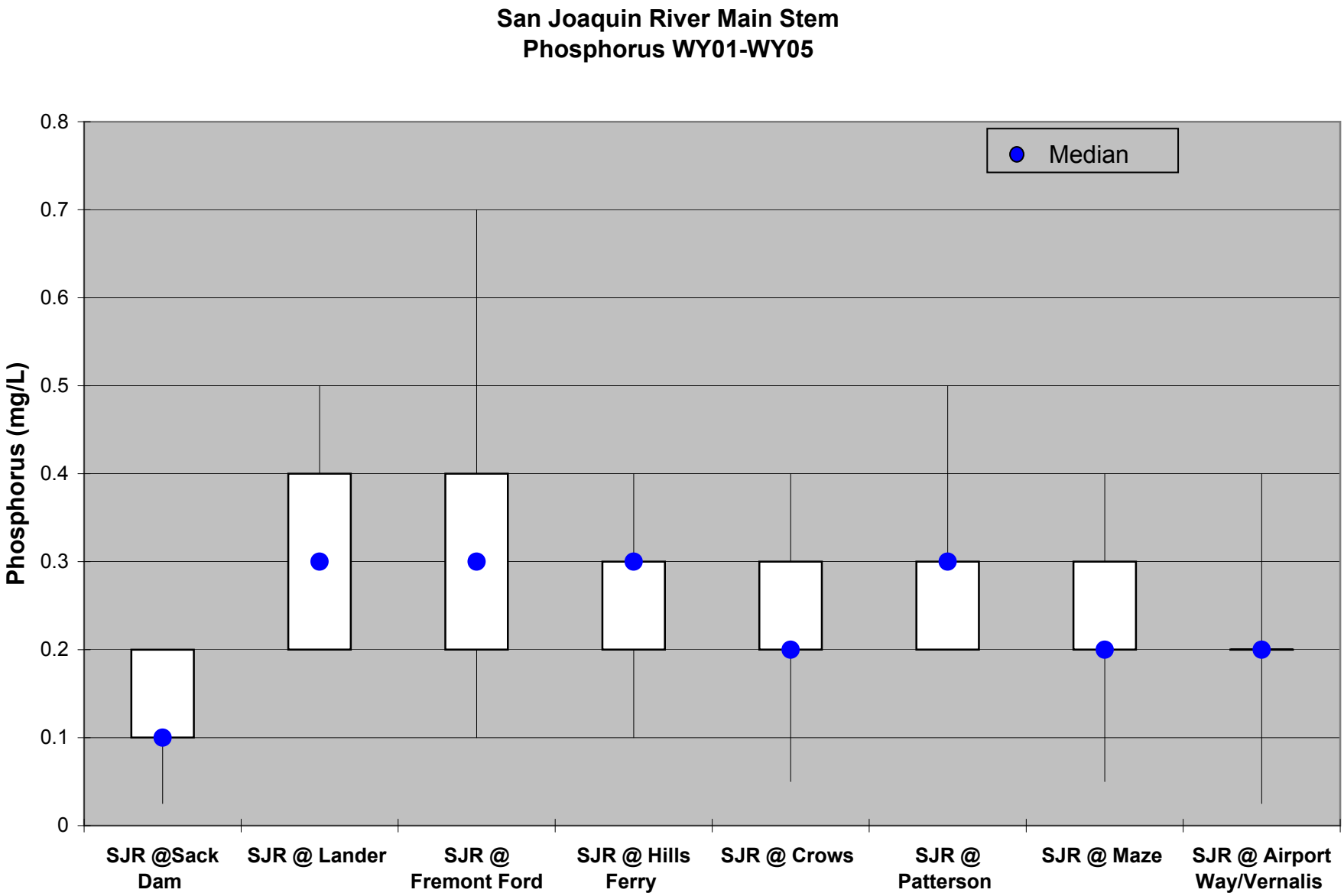

San Joaquin River Main Stem
Total Kjeldahl Nitrogen WY01-WY05
TKN (mg/L)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

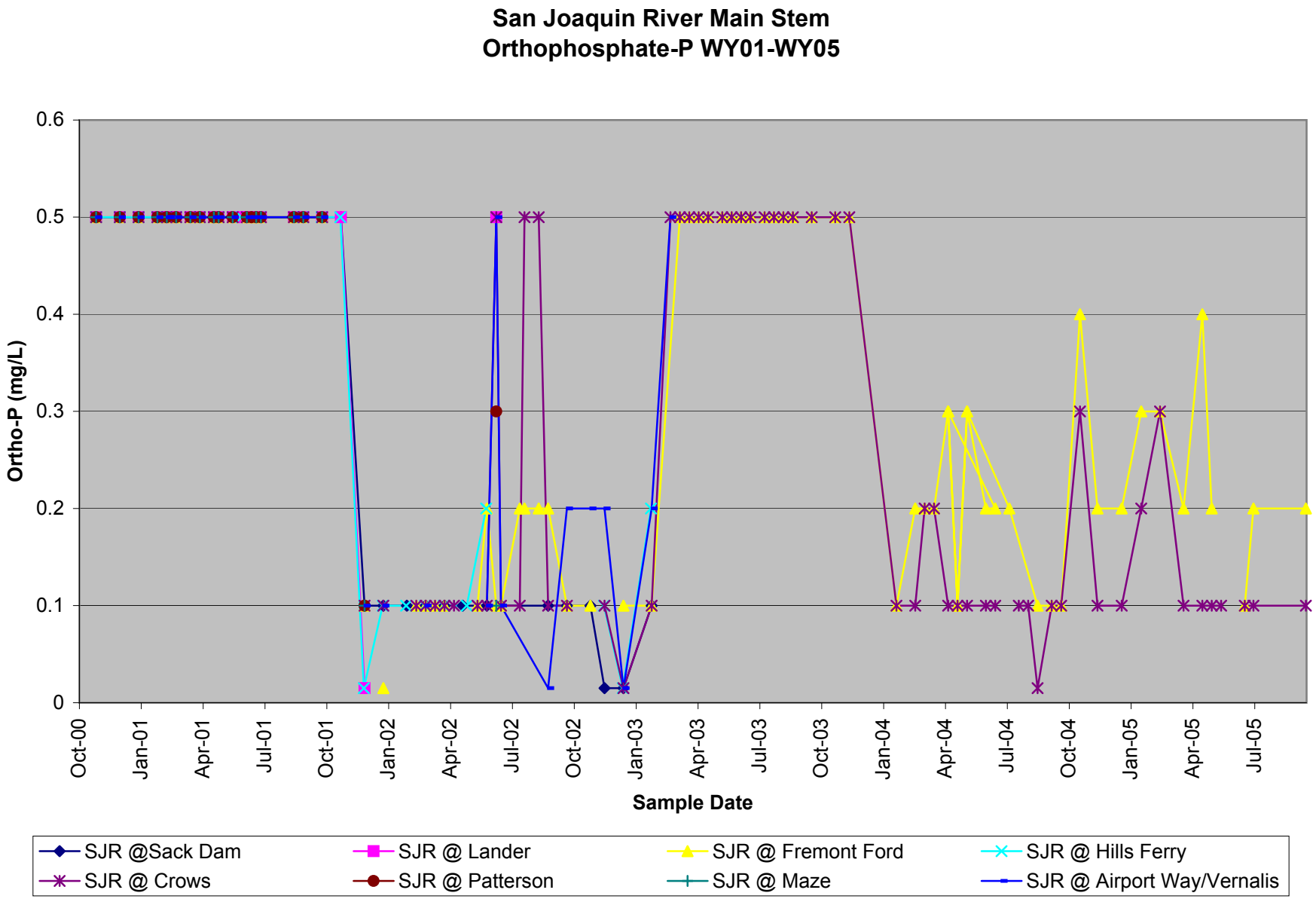

San Joaquin River Main Stem
Total Kjeldahl Nitrogen WY01-WY05
Median
TKN (mg/L)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

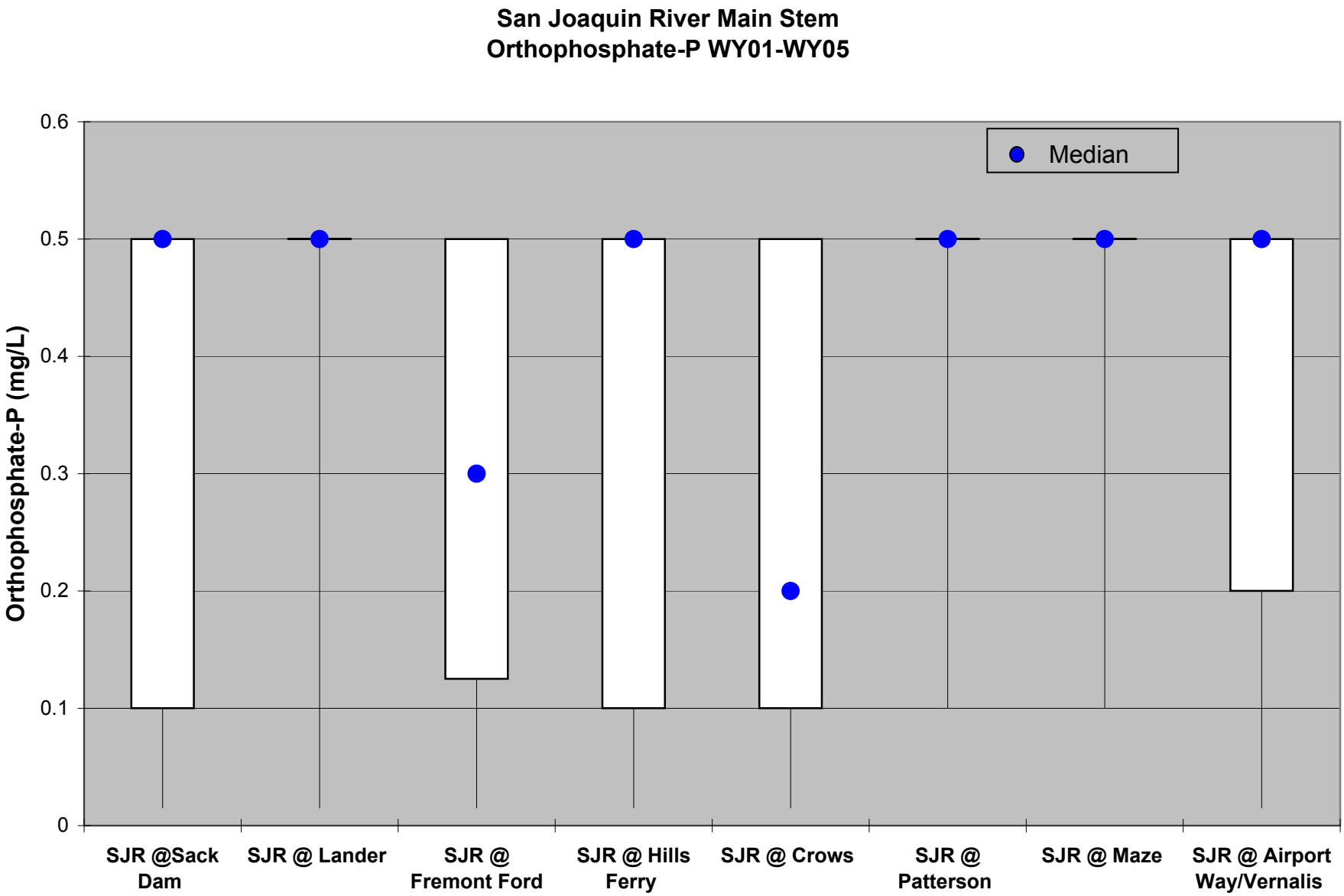

San Joaquin River Main Stem
Ammonia-N WY01-WY05
Ammonia-N (mg/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
SJR @ Fremont Ford
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

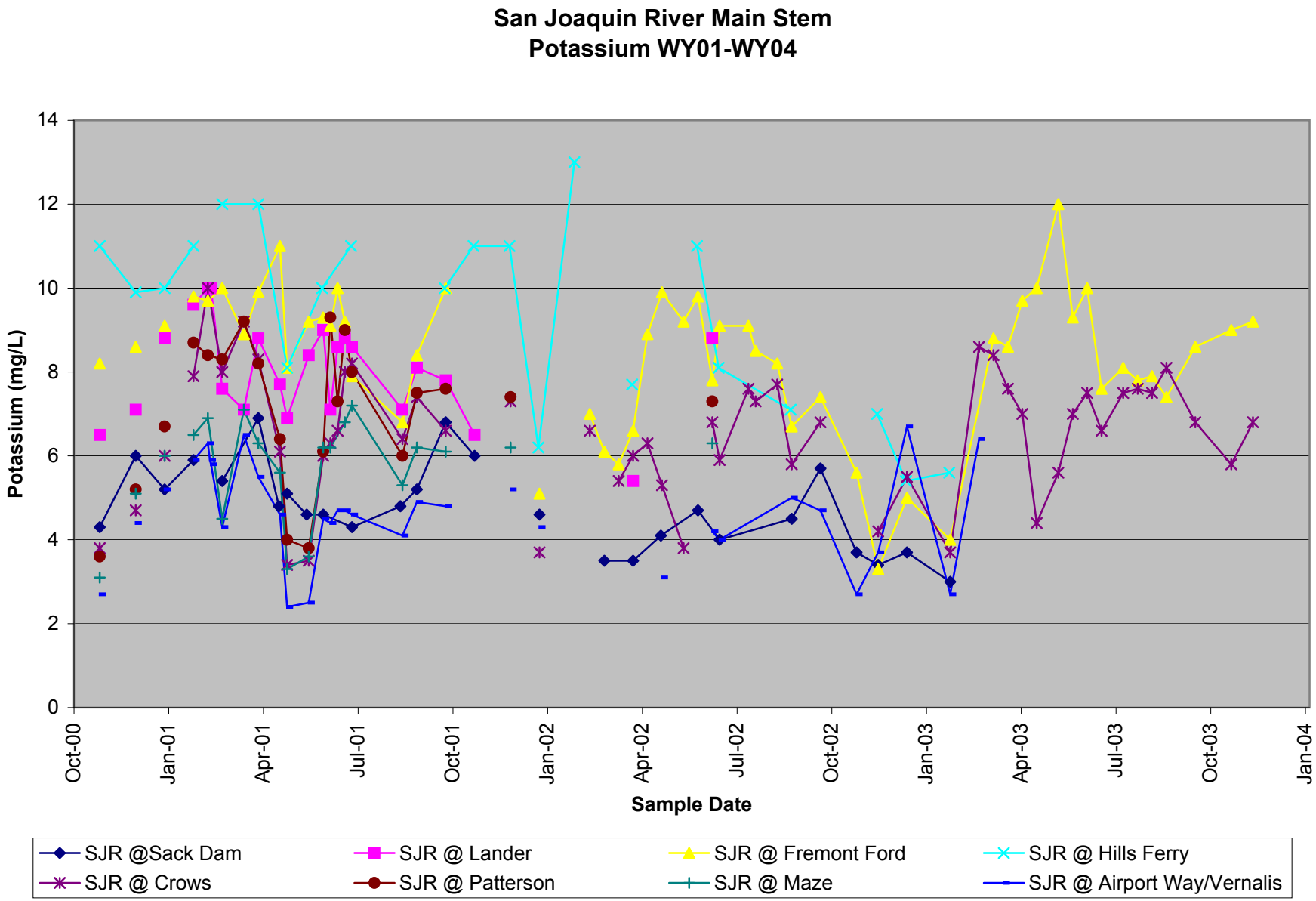

San Joaquin River Main Stem
Ammonia-N WY04-WY05
Median
Ammonia-N (mg/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
SJR @ Fremont Ford
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

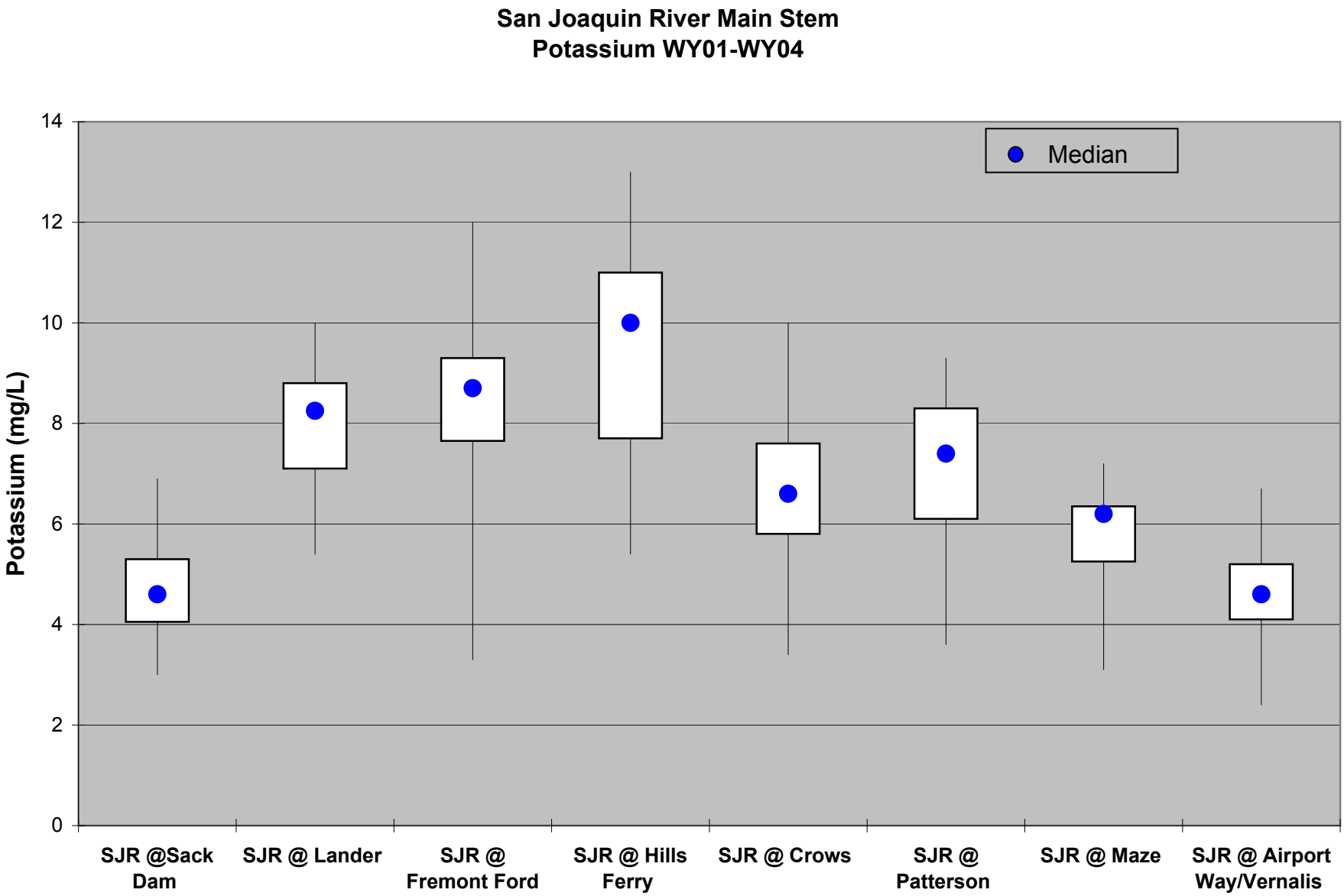

San Joaquin River Main Stem
Phosphorus WY01-WY05
Phosphorus (mg/L)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze

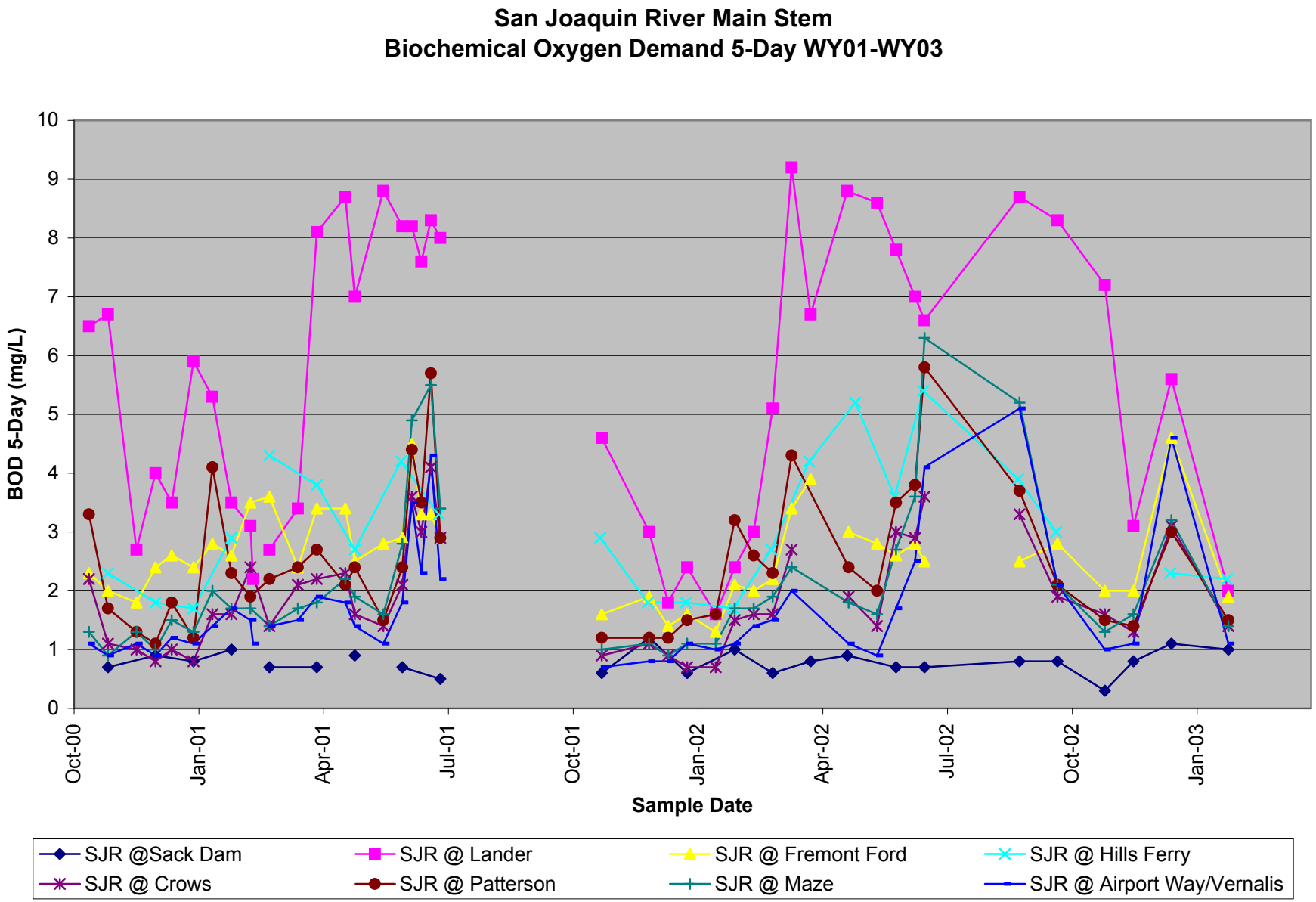

San Joaquin River Main Stem
Phosphorus WY01-WY05
Median
Phosphorus (mg/L)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

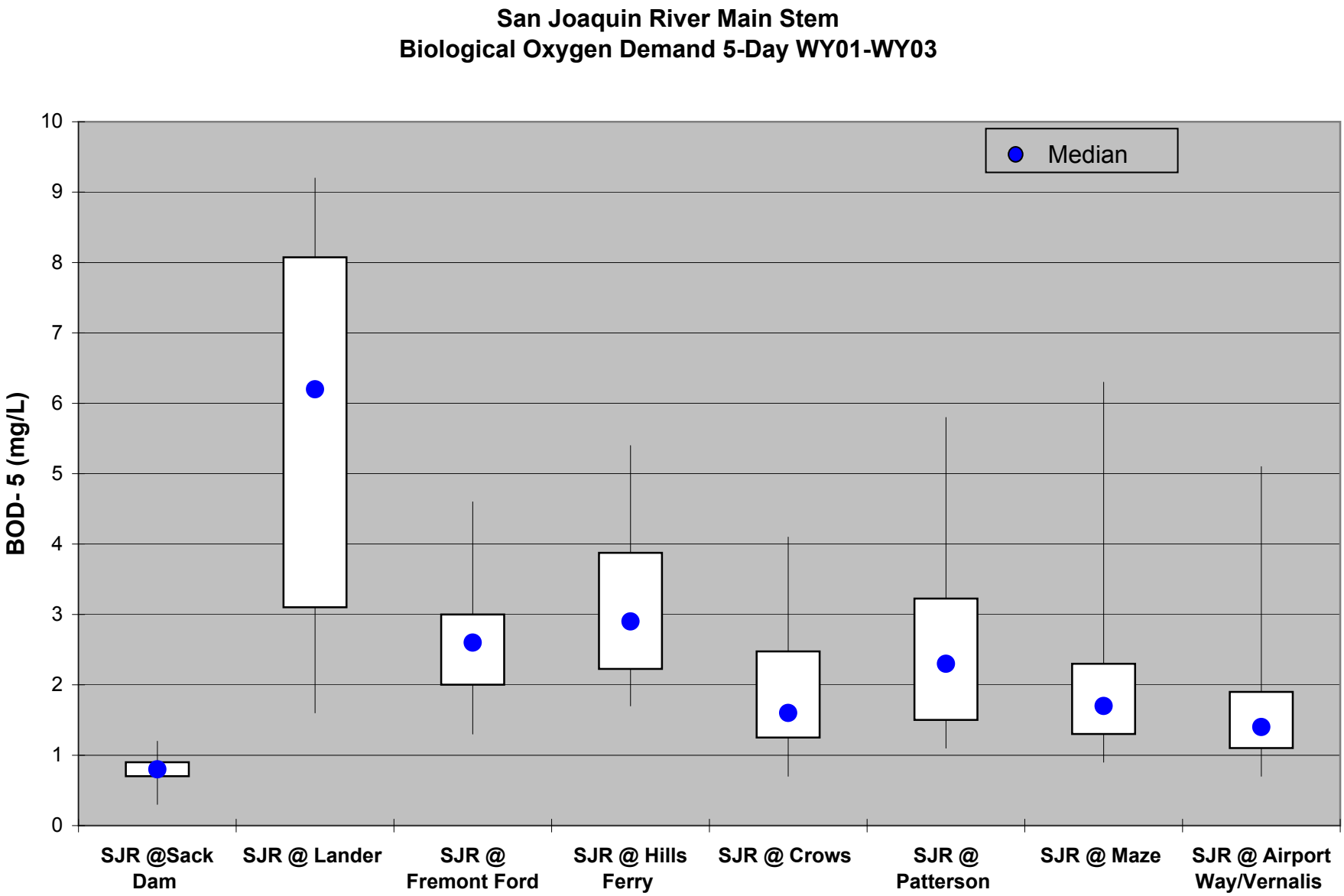

San Joaquin River Main Stem
Orthophosphate-P WY01-WY05
Ortho-P (mg/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

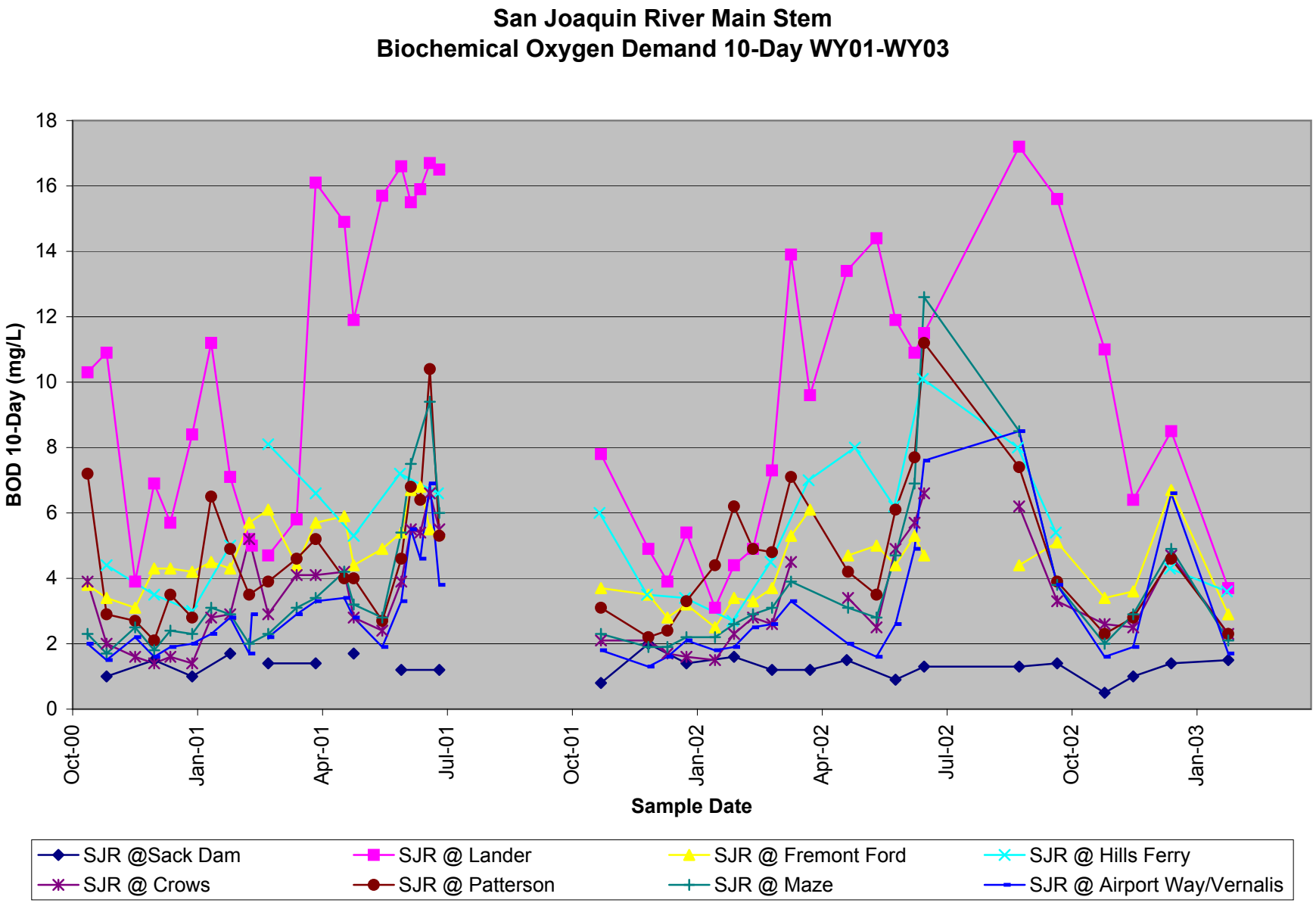

San Joaquin River Main Stem
Orthophosphate-P WY01-WY05
Median
Orthophosphate-P (mg/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

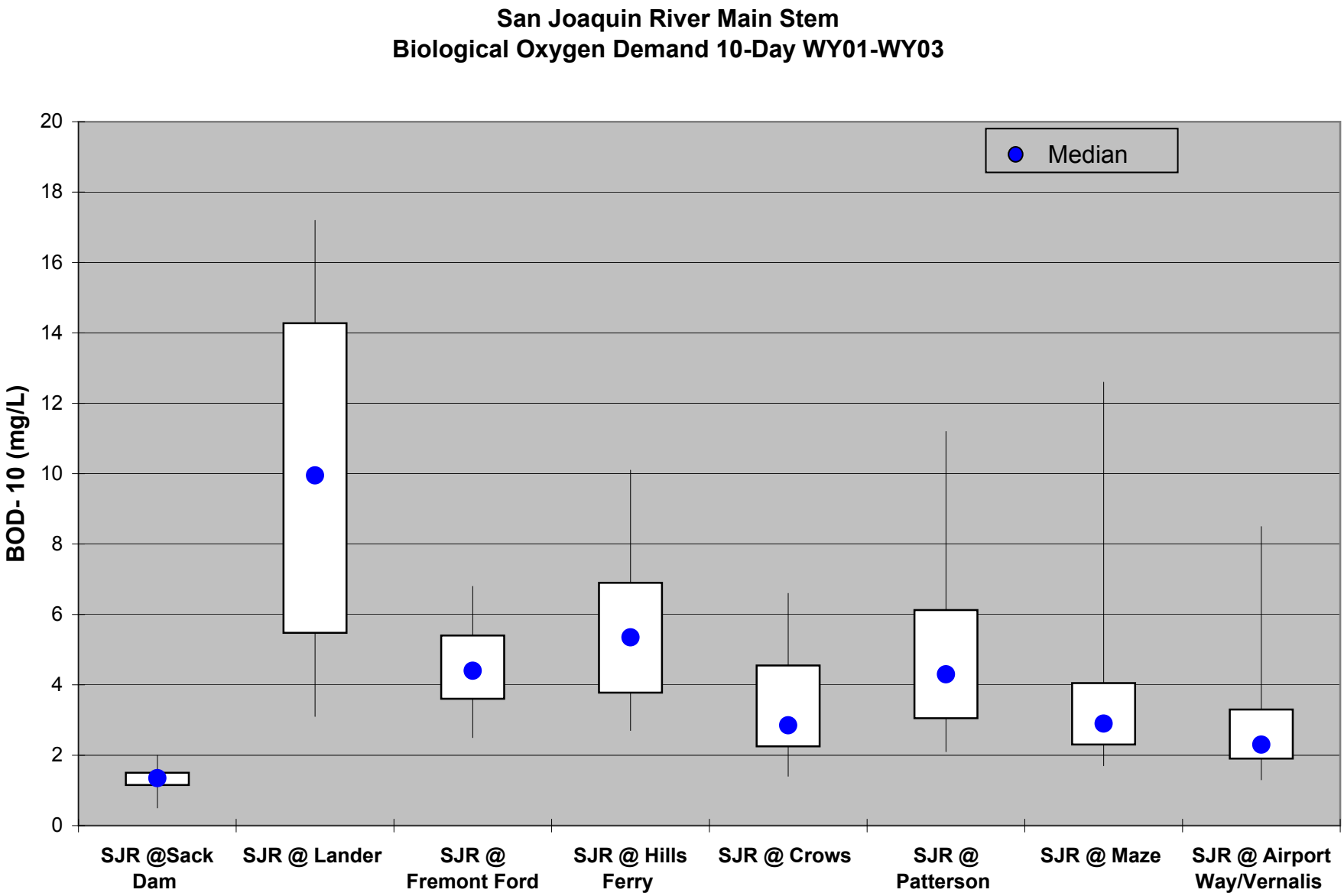

San Joaquin River Main Stem
Potassium WY01-WY04
Potassium (mg/L)
0
2
4
6
8
10
12
14
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

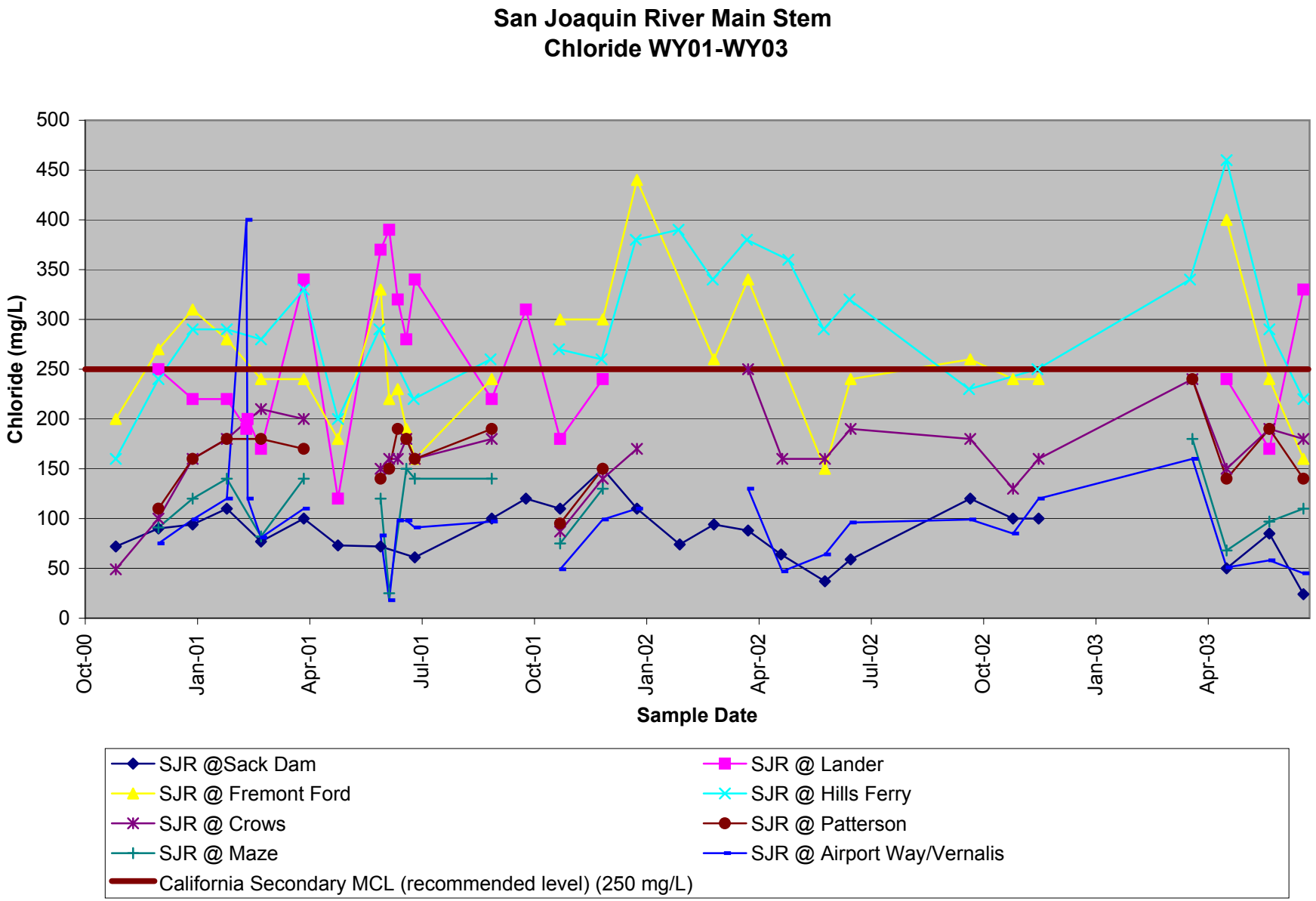

San Joaquin River Main Stem
Potassium WY01-WY04
Median
Potassium (mg/L)
14
12
10
8
6
4
2
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

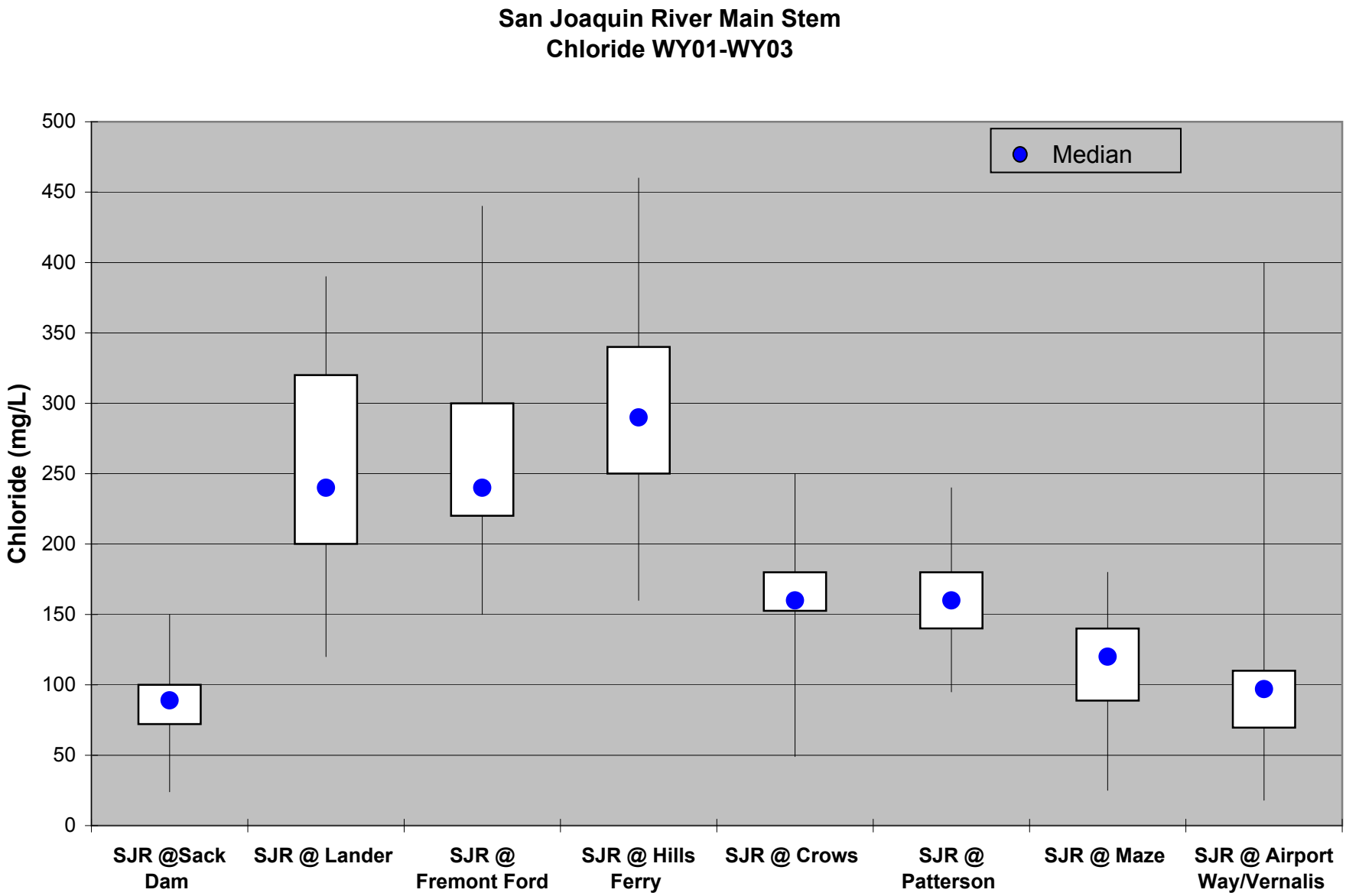

San Joaquin River Main Stem
Biochemical Oxygen Demand 5-Day WY01-WY03
BOD 5-Day (mg/L)
10
9
8
7
6
5
4
3
2
1
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

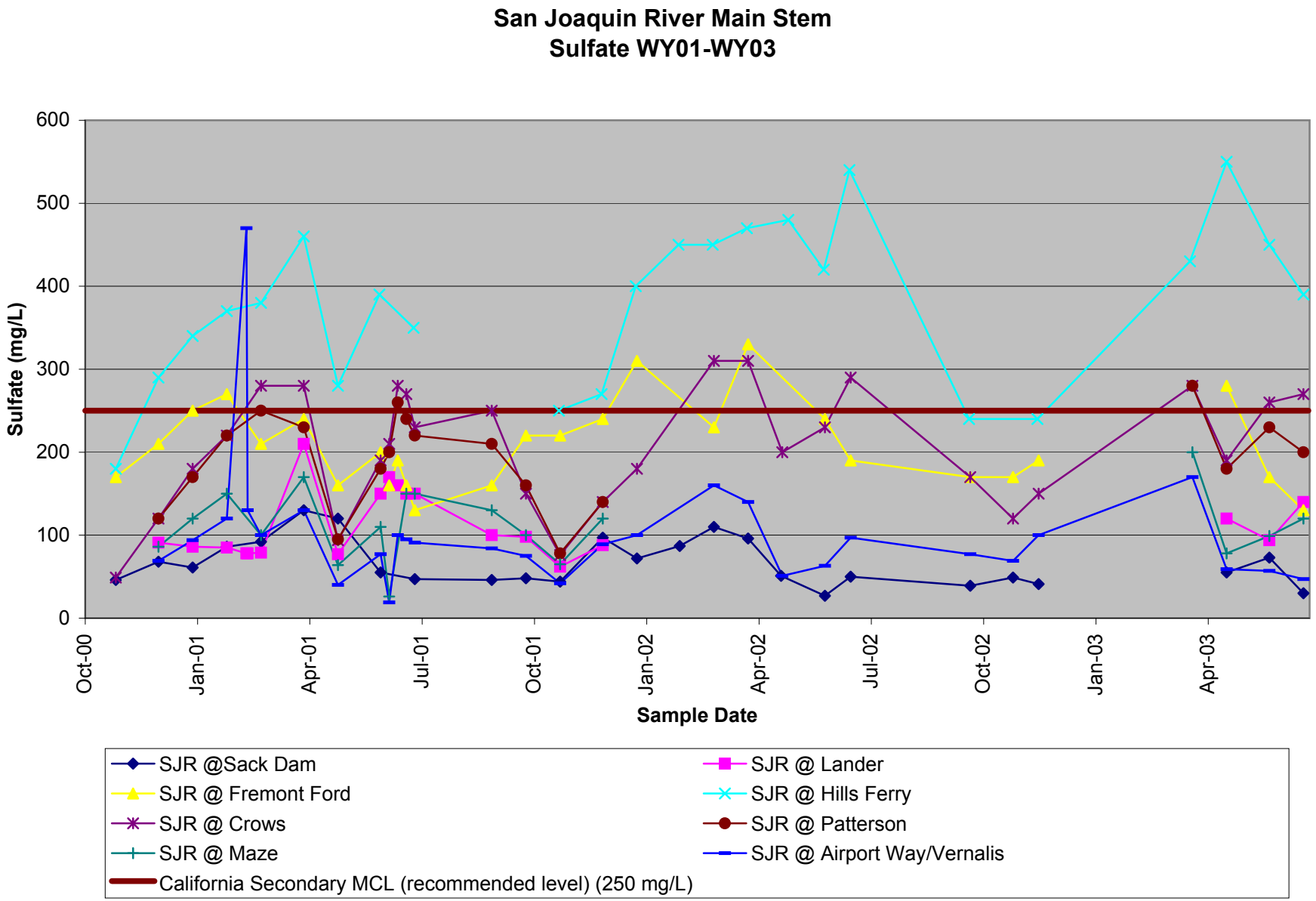

San Joaquin River Main Stem
Biological Oxygen Demand 5-Day WY01-WY03
Median
BOD- 5 (mg/L)
0
1
2
3
4
5
6
7
8
9
10
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

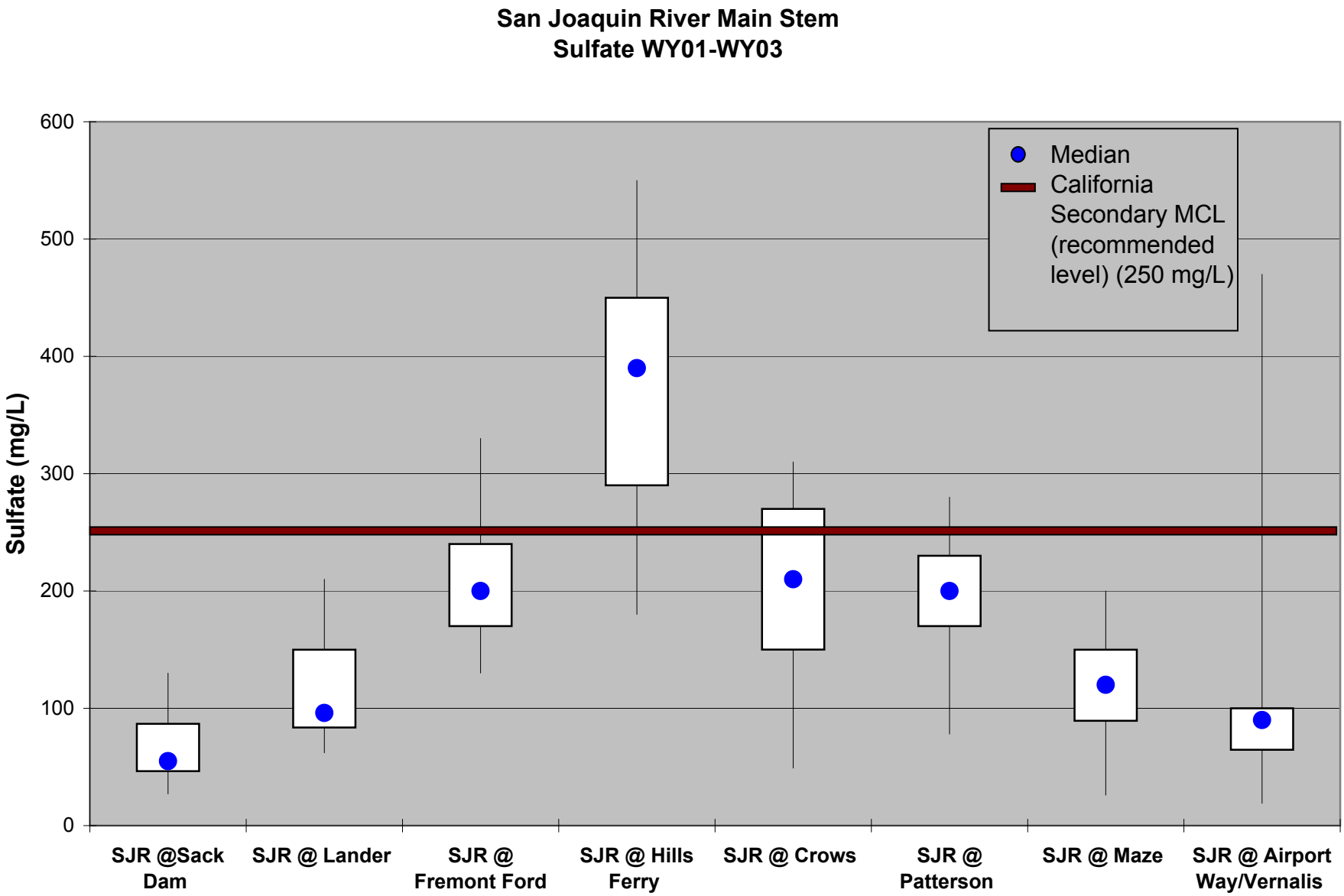

San Joaquin River Main Stem
Biochemical Oxygen Demand 10-Day WY01-WY03
BOD 10-Day (mg/L)
18
16
14
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

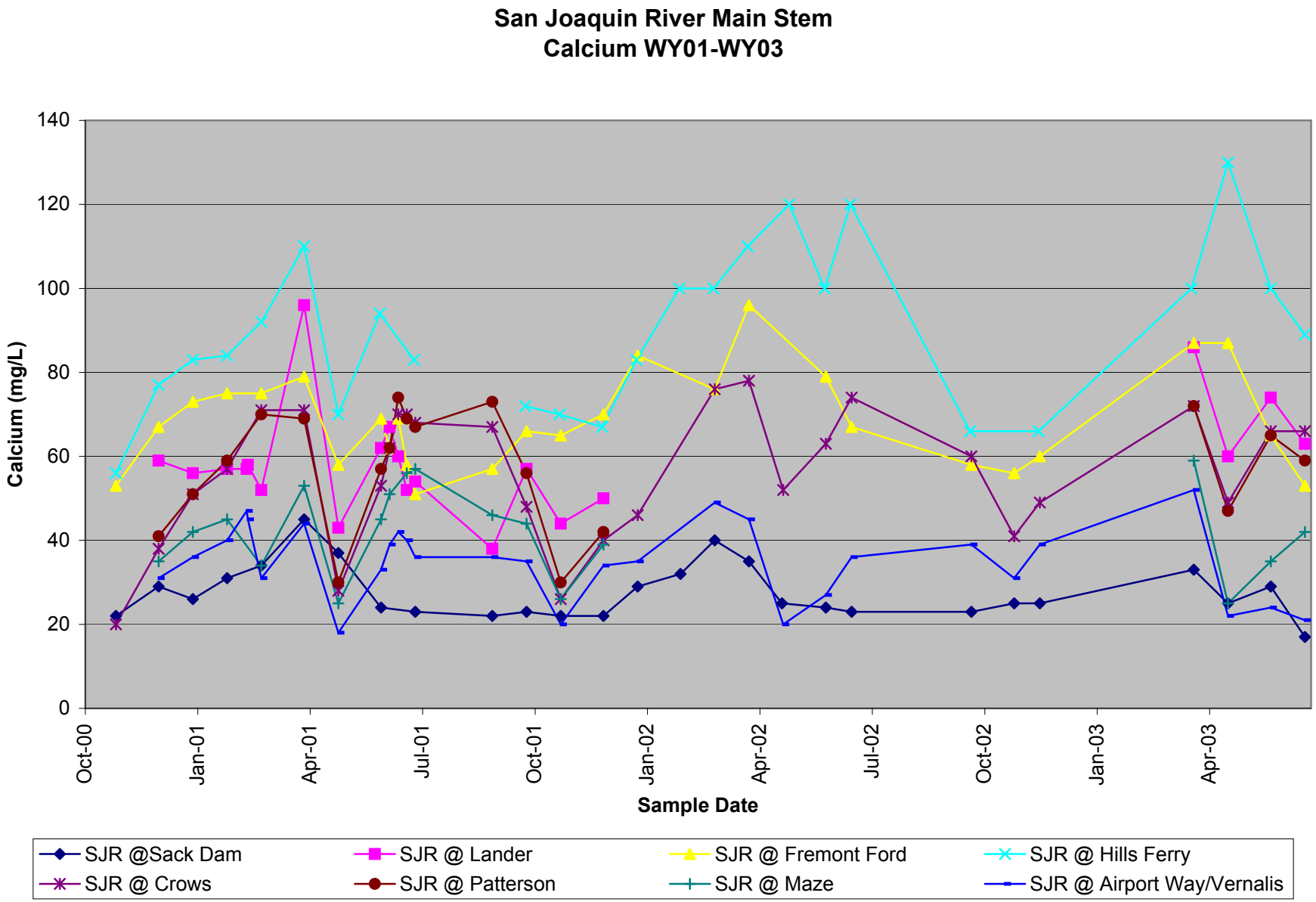

San Joaquin River Main Stem
Biological Oxygen Demand 10-Day WY01-WY03
Median
BOD- 10 (mg/L)
20
18
16
14
12
10
8
6
4
2
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

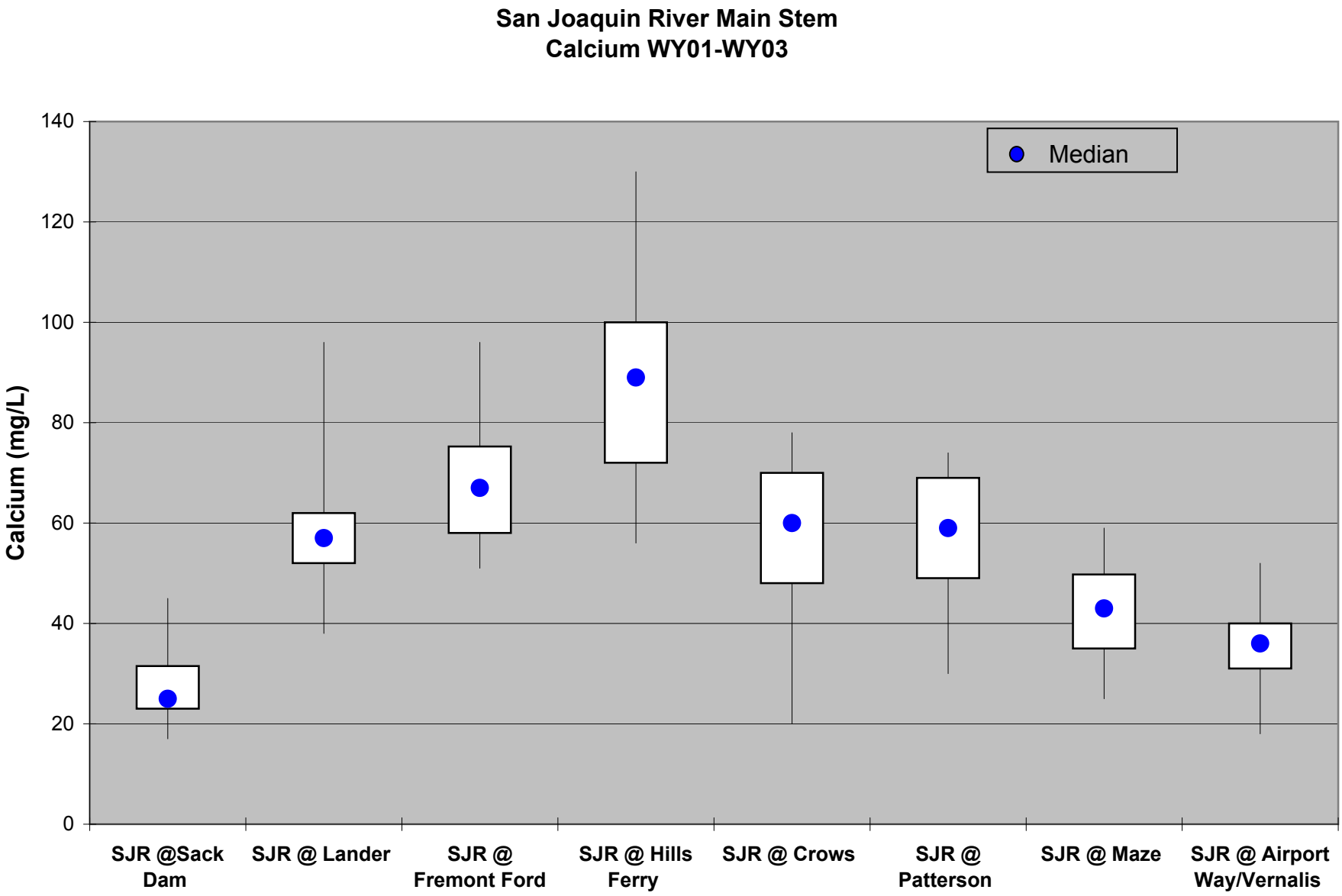

San Joaquin River Main Stem
Chloride WY01-WY03
Chloride (mg/L)
500
450
400
350
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis
California Secondary MCL (recommended level) (250 mg/L)

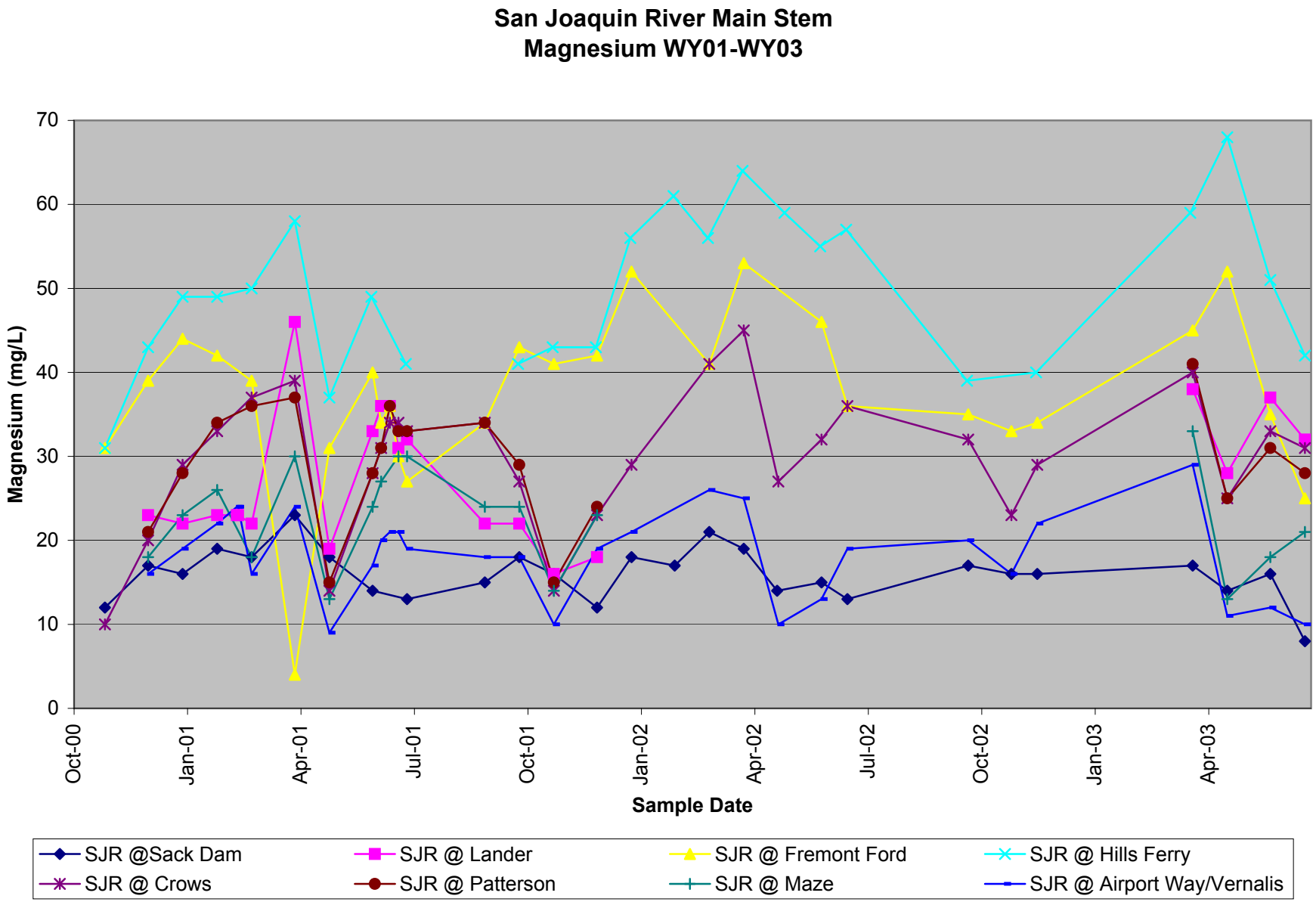

San Joaquin River Main Stem
Chloride WY01-WY03
Median
Chloride (mg/L)
500
450
400
350
300
250
200
150
100
50
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

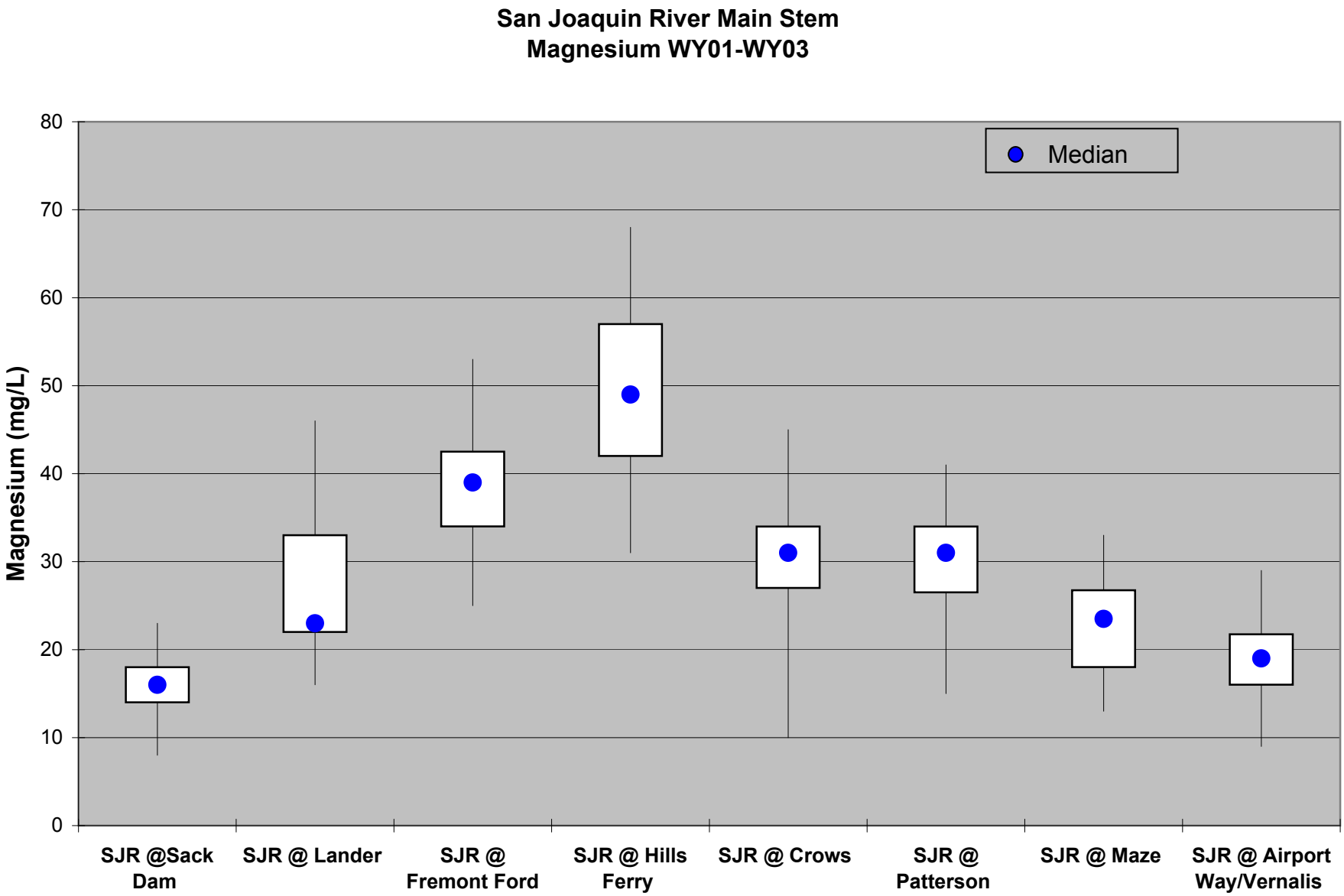

San Joaquin River Main Stem
Sulfate WY01-WY03
Sulfate (mg/L)
600
500
400
300
200
100
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis
California Secondary MCL (recommended level) (250 mg/L)

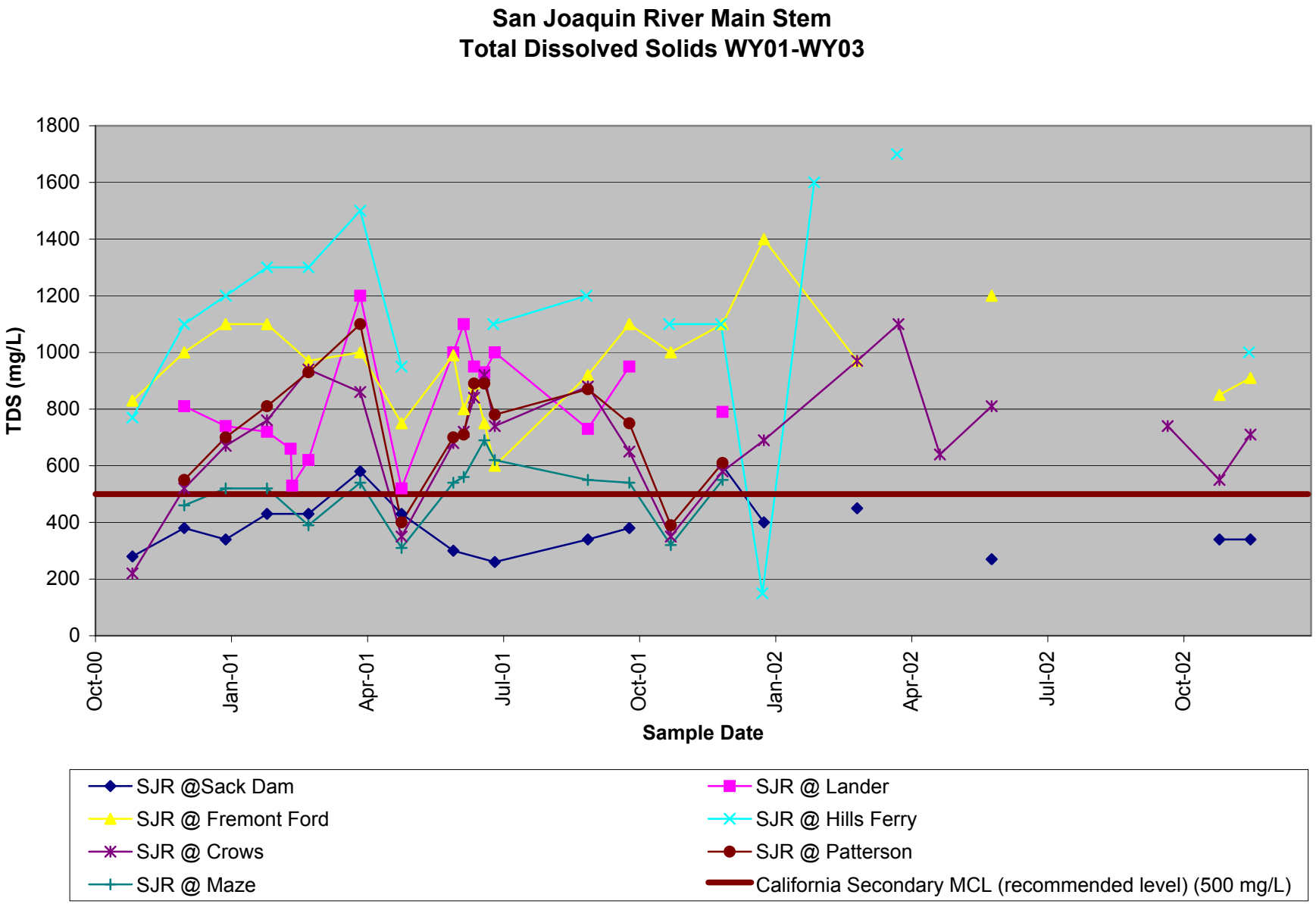

San Joaquin River Main Stem
Sulfate WY01-WY03
Sulfate (mg/L)
600
500
400
300
200
100
0
Median
California Secondary MCL (recommended level) (250 mg/L)
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

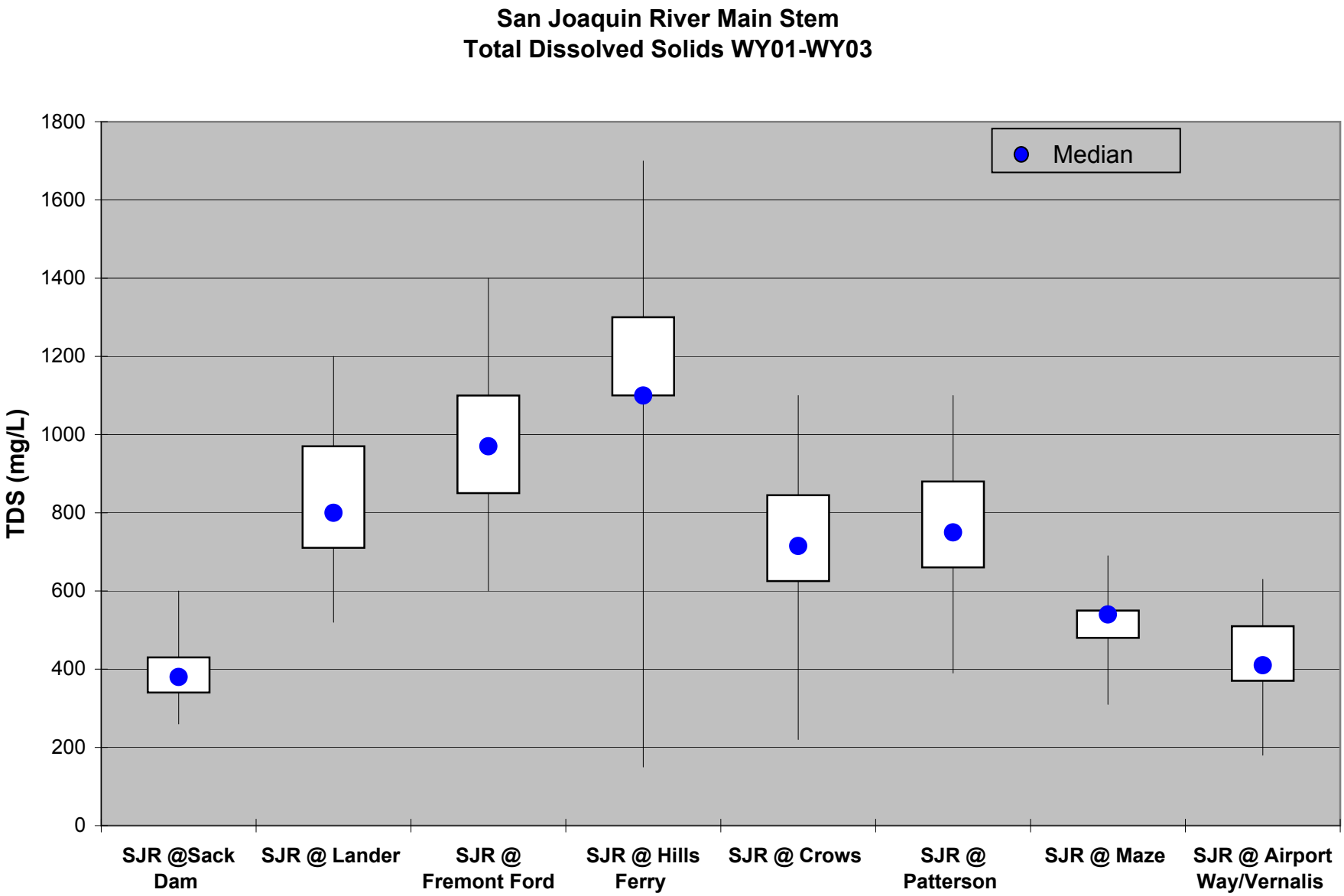

San Joaquin River Main Stem
Calcium WY01-WY03
Calcium (mg/L)
140
120
100
80
60
40
20
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

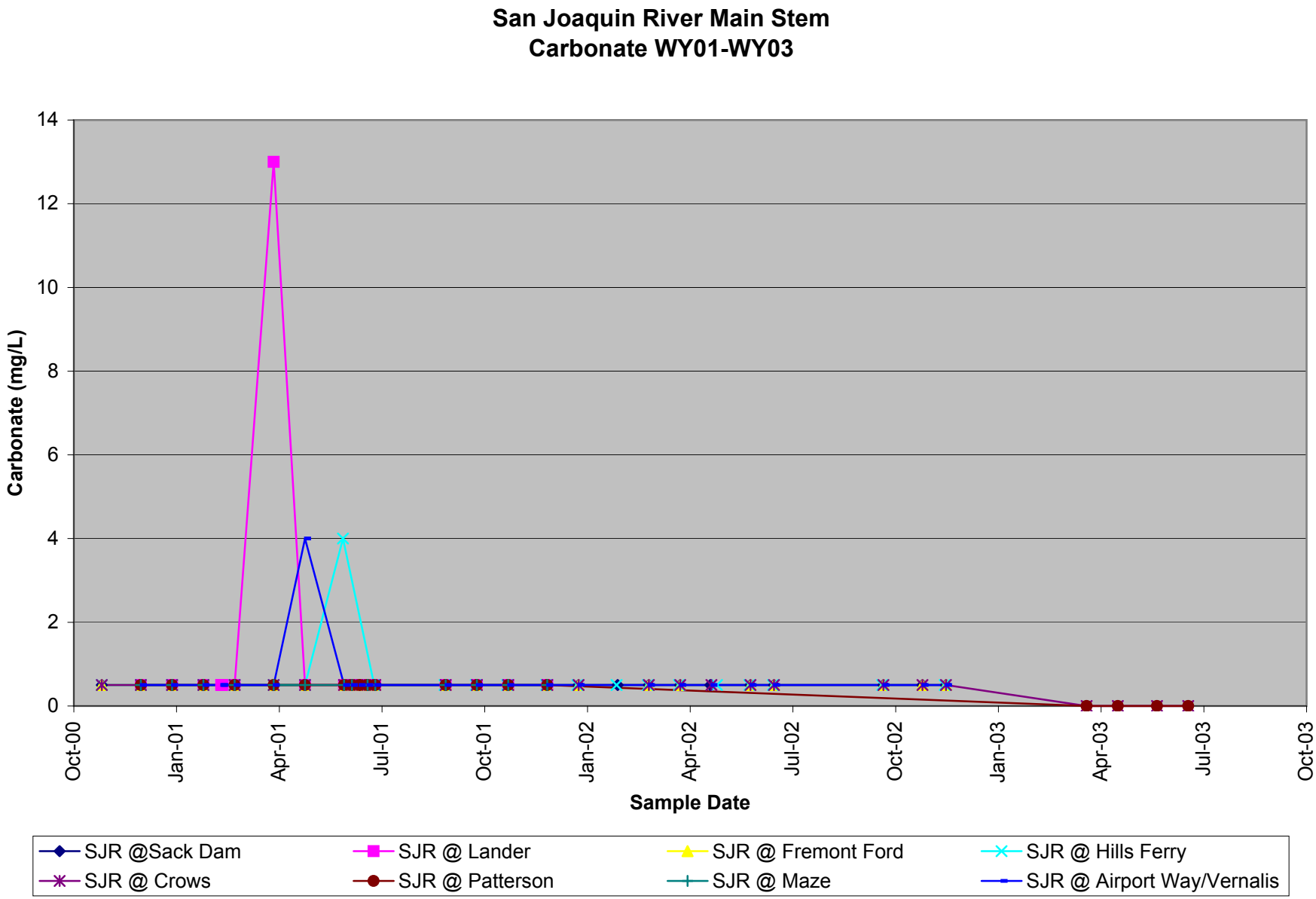

San Joaquin River Main Stem
Calcium WY01-WY03
Median
Calcium (mg/L)
140
120
100
80
60
40
20
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

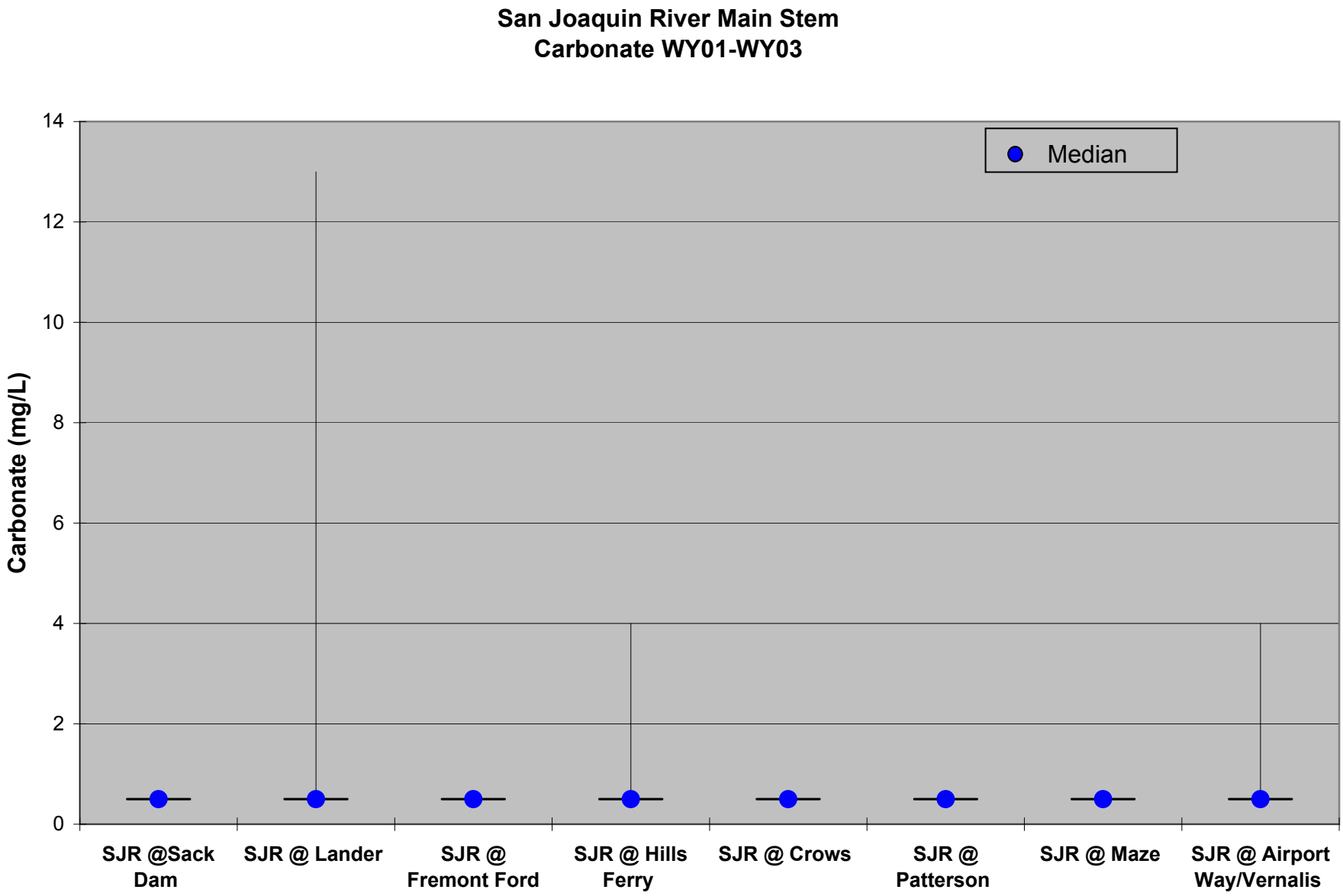

San Joaquin River Main Stem
Magnesium WY01-WY03
Magnesium (mg/L)
70
60
50
40
30
20
10
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

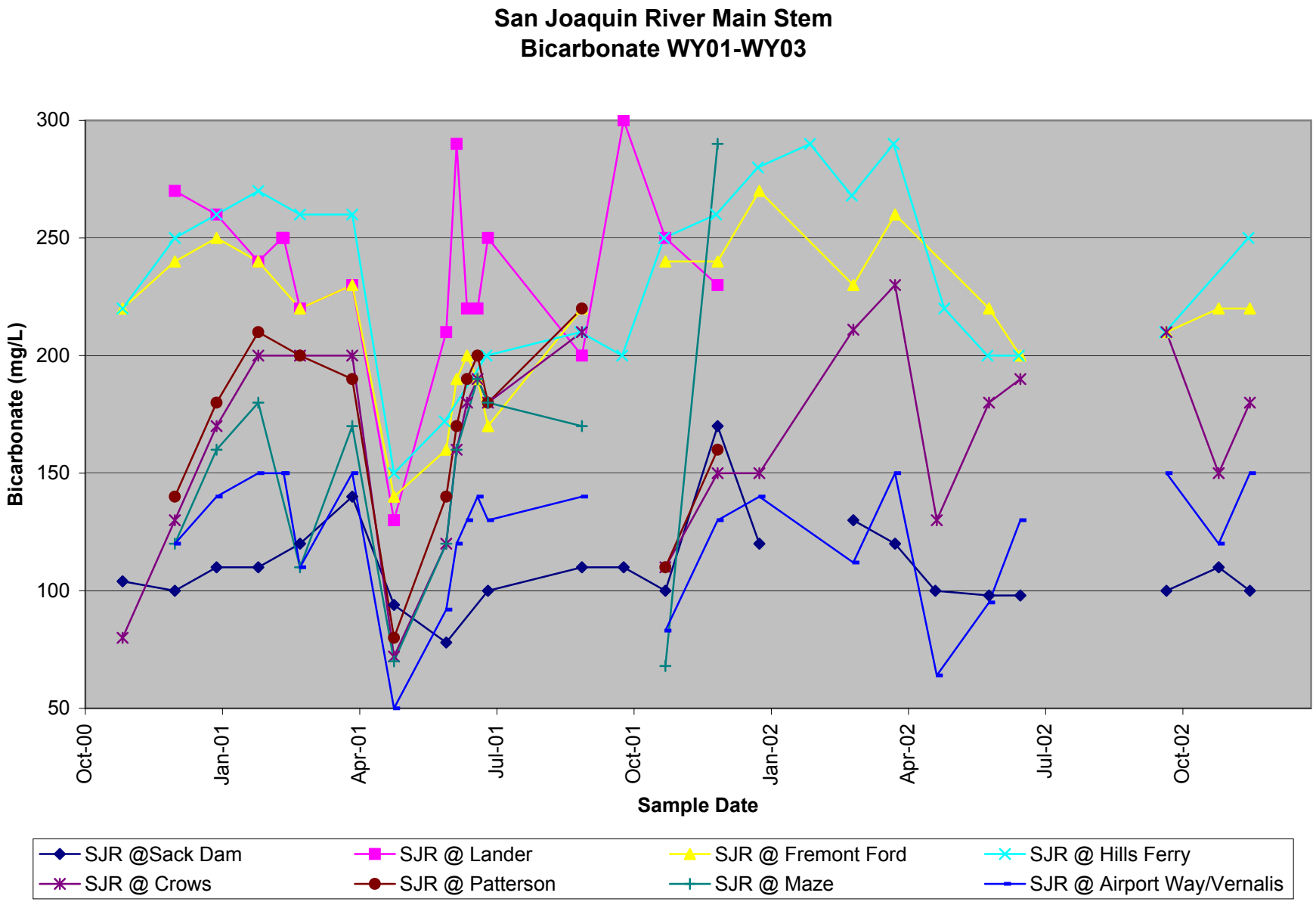

San Joaquin River Main Stem
Magnesium WY01-WY03
Median
Magnesium (mg/L)
80
70
60
50
40
30
20
10
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

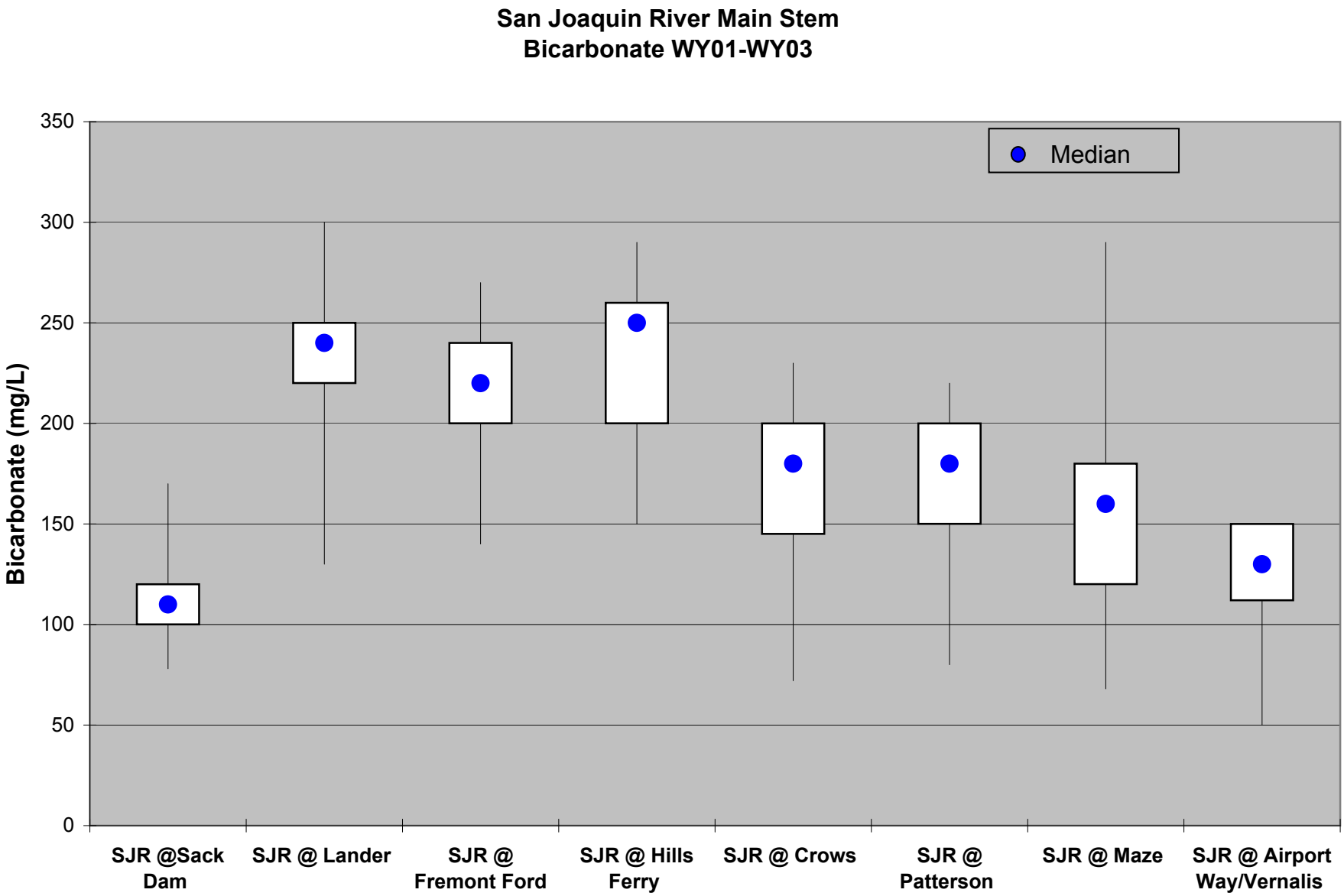

San Joaquin River Main Stem
Total Dissolved Solids WY01-WY03
TDS (mg/L)
1800
1600
1400
1200
1000
800
600
400
200
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
California Secondary MCL (recommended level) (500 mg/L)

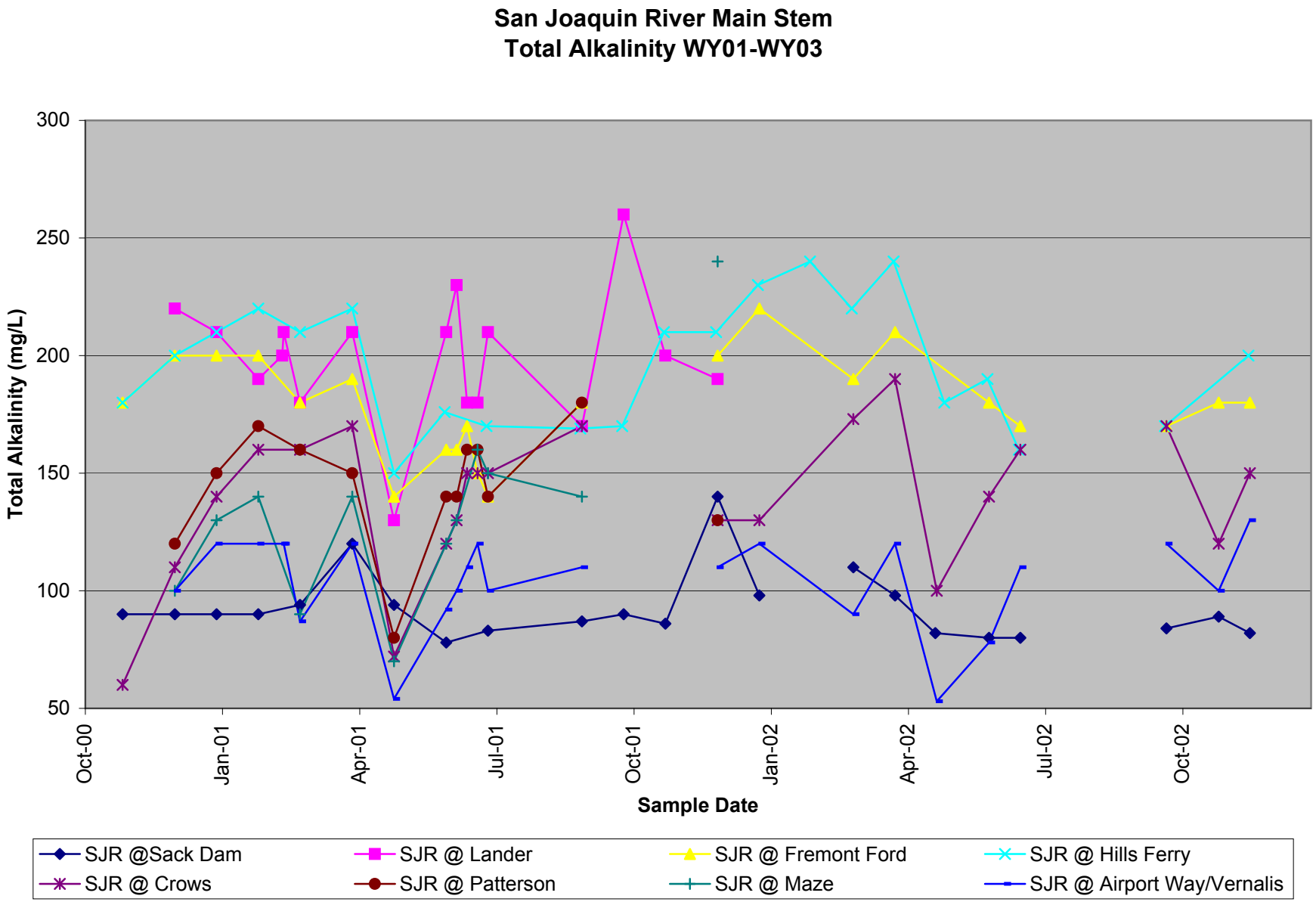

San Joaquin River Main Stem
Total Dissolved Solids WY01-WY03
Median
TDS (mg/L)
1800
1600
1400
1200
1000
800
600
400
200
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

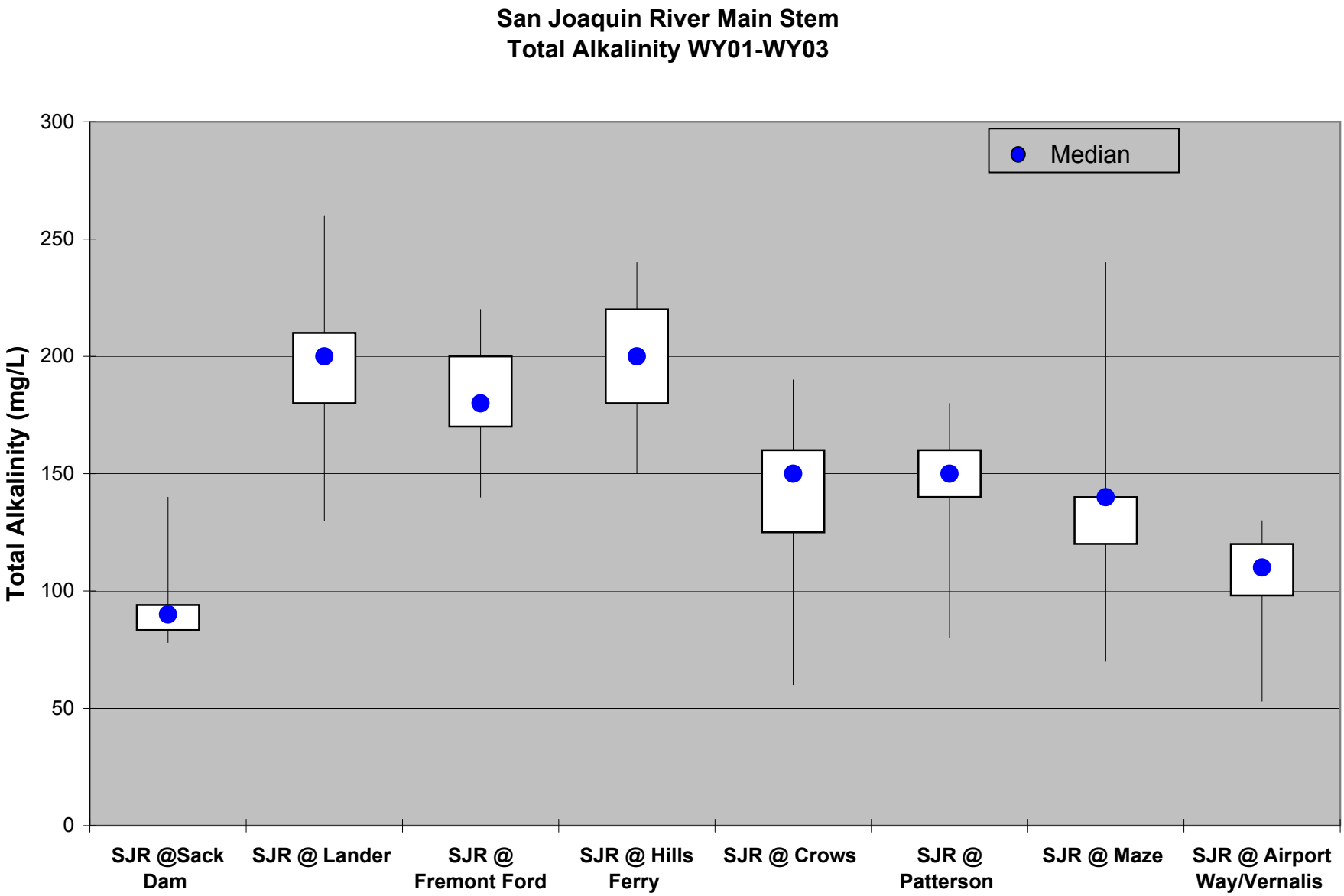

San Joaquin River Main Stem
Carbonate WY01-WY03
Carbonate (mg/L)
14
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

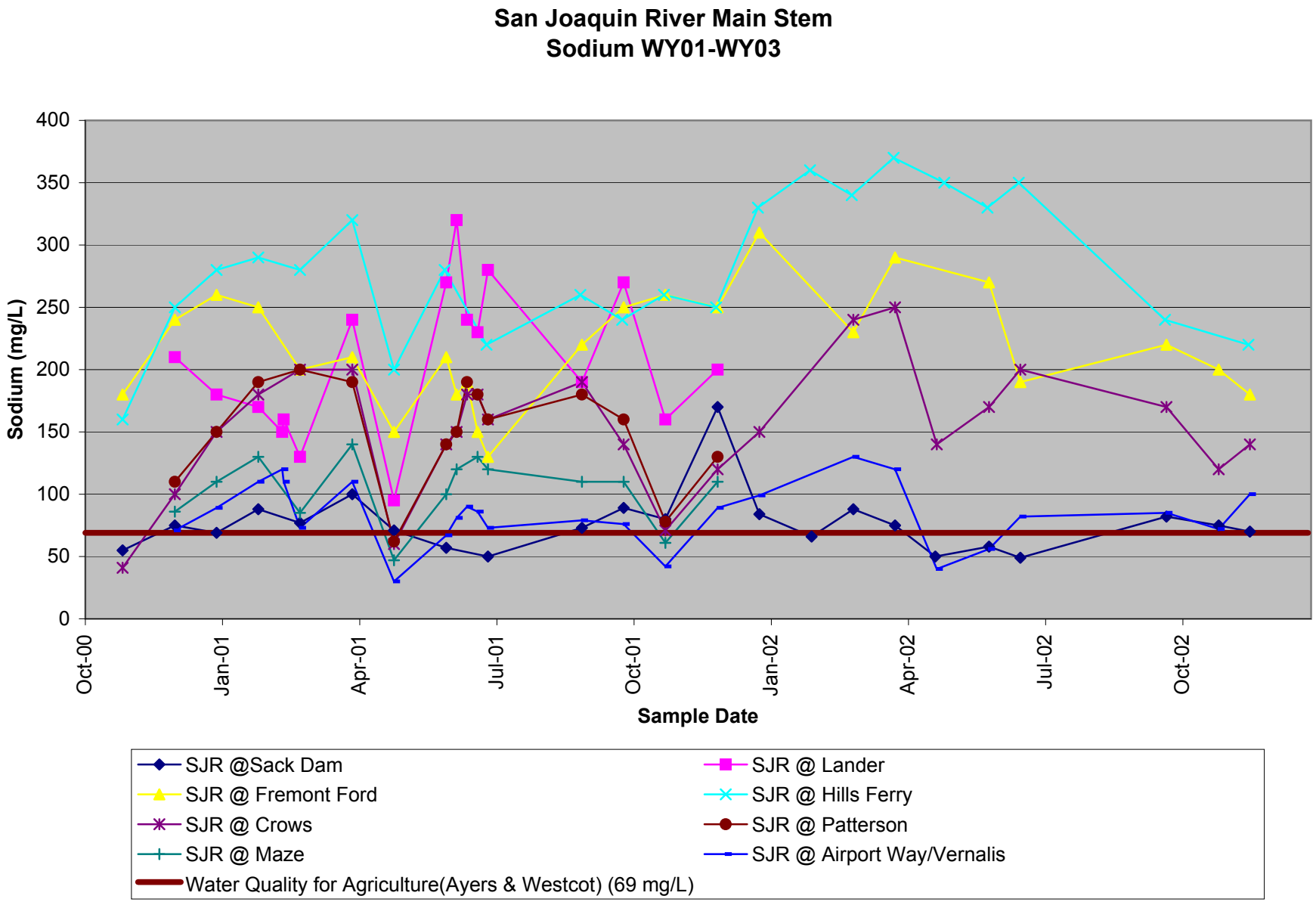

San Joaquin River Main Stem
Carbonate WY01-WY03
Median
Carbonate (mg/L)
14
12
10
8
6
4
2
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

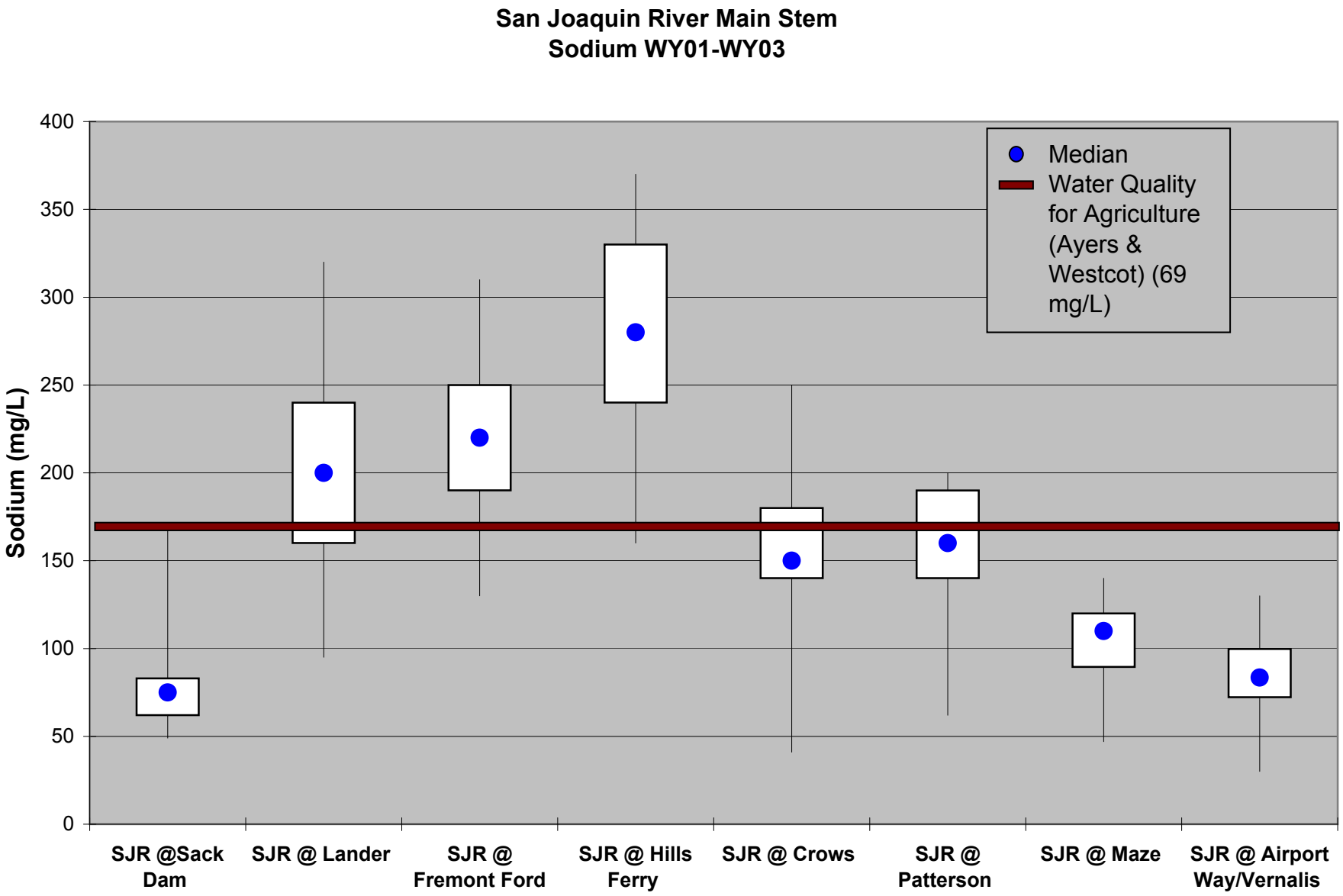

San Joaquin River Main Stem
Bicarbonate WY01-WY03
Bicarbonate (mg/L)
300
250
200
150
100
50
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

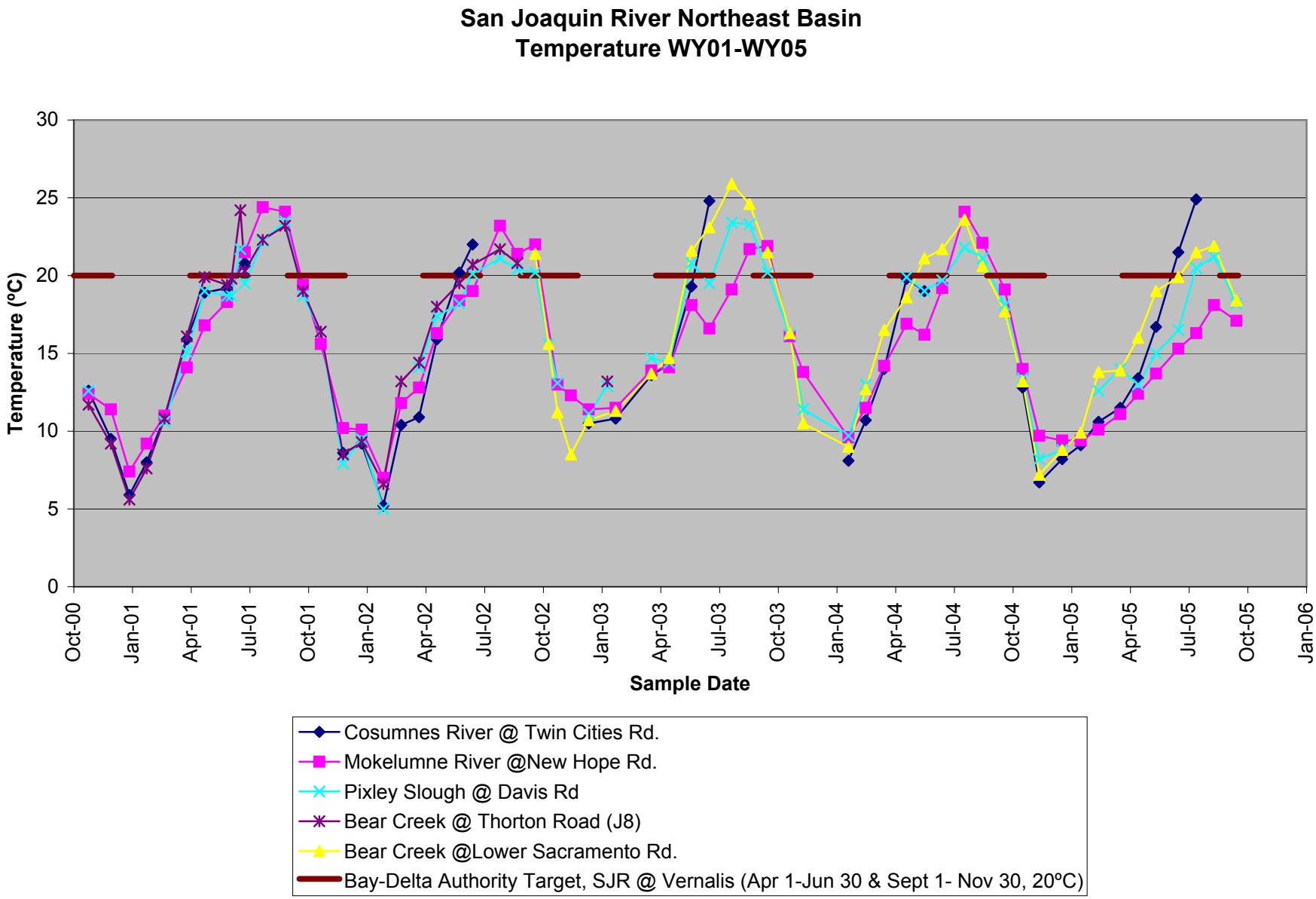

San Joaquin River Main Stem
Bicarbonate WY01-WY03
Median
Bicarbonate (mg/L)
350
300
250
200
150
100
50
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

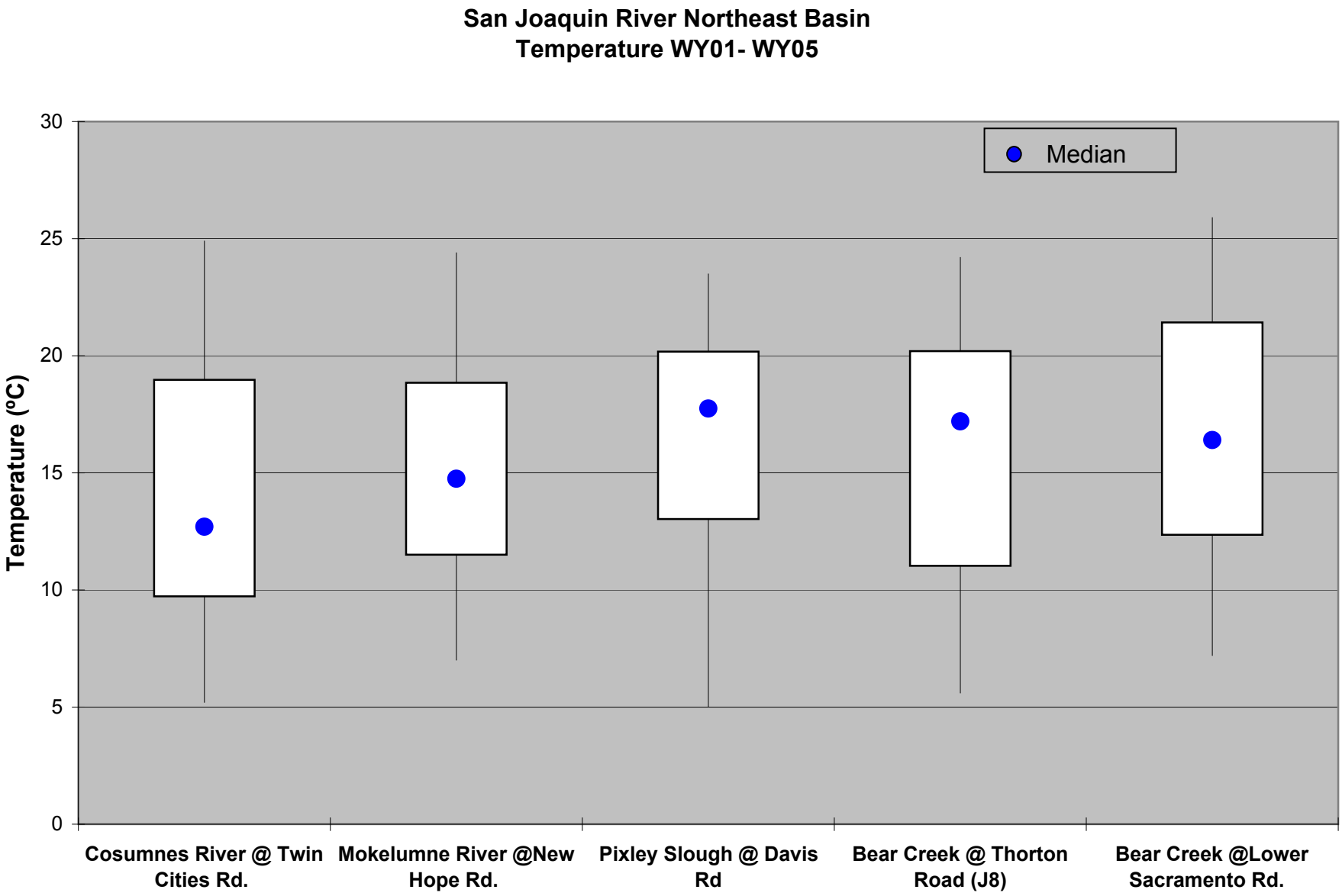

San Joaquin River Main Stem
Total Alkalinity WY01-WY03
Total Alkalinity (mg/L)
300
250
200
150
100
50
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

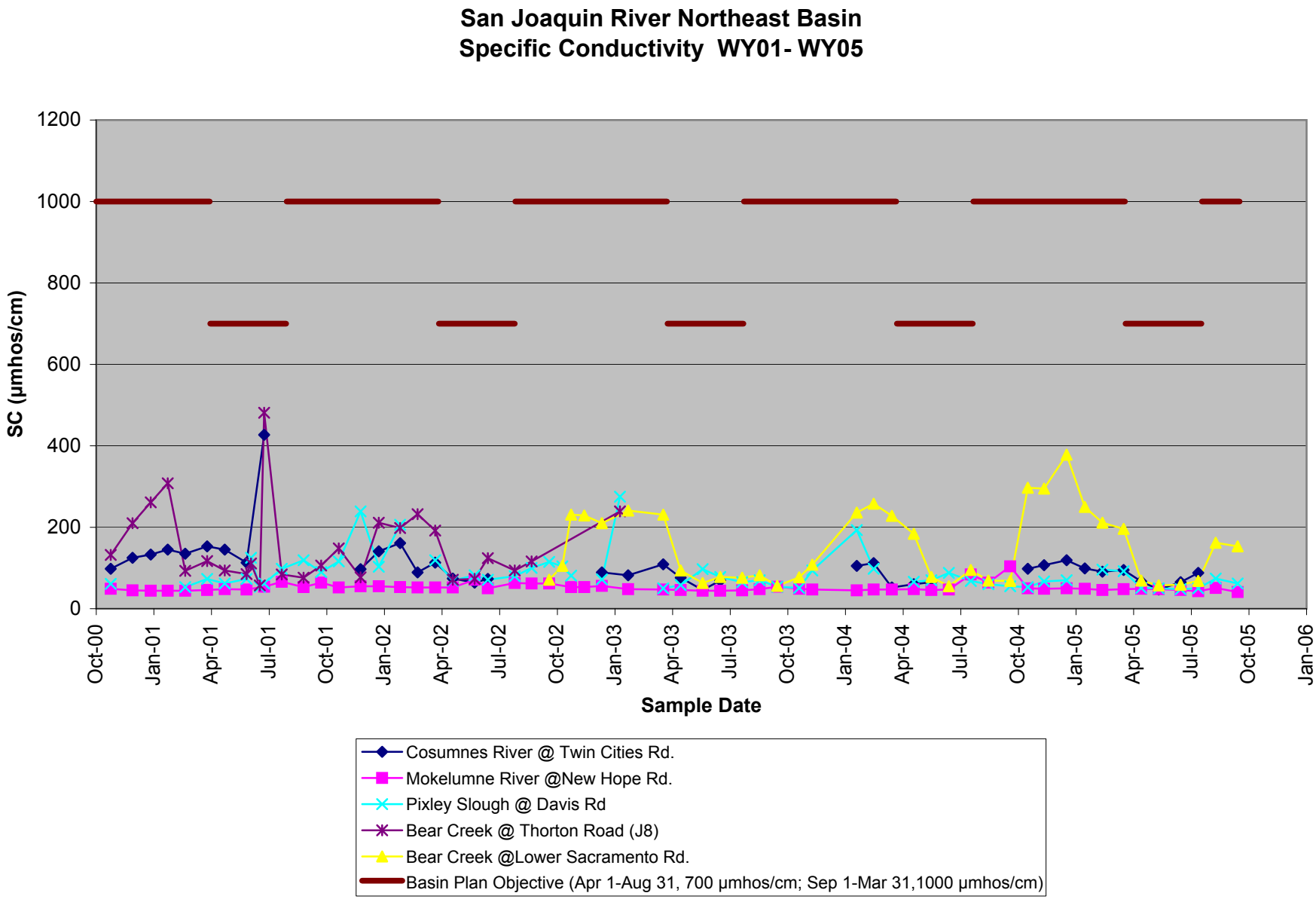

San Joaquin River Main Stem
Total Alkalinity WY01-WY03
Median
Total Alkalinity (mg/L)
300
250
200
150
100
50
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis

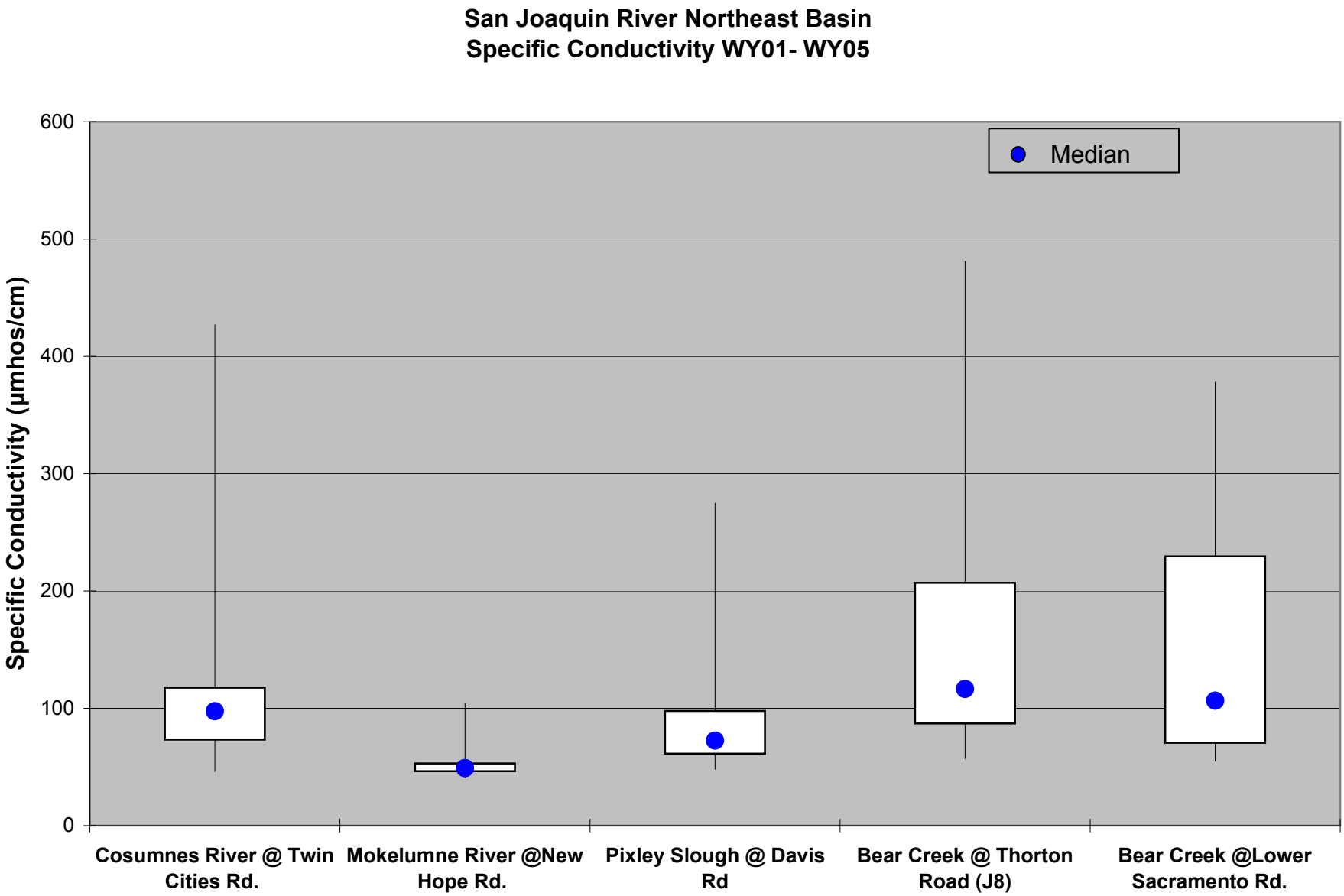

San Joaquin River Main Stem
Sodium WY01-WY03
Sodium (mg/L)
400
350
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis
Water Quality for Agriculture(Ayers & Westcot) (69 mg/L)

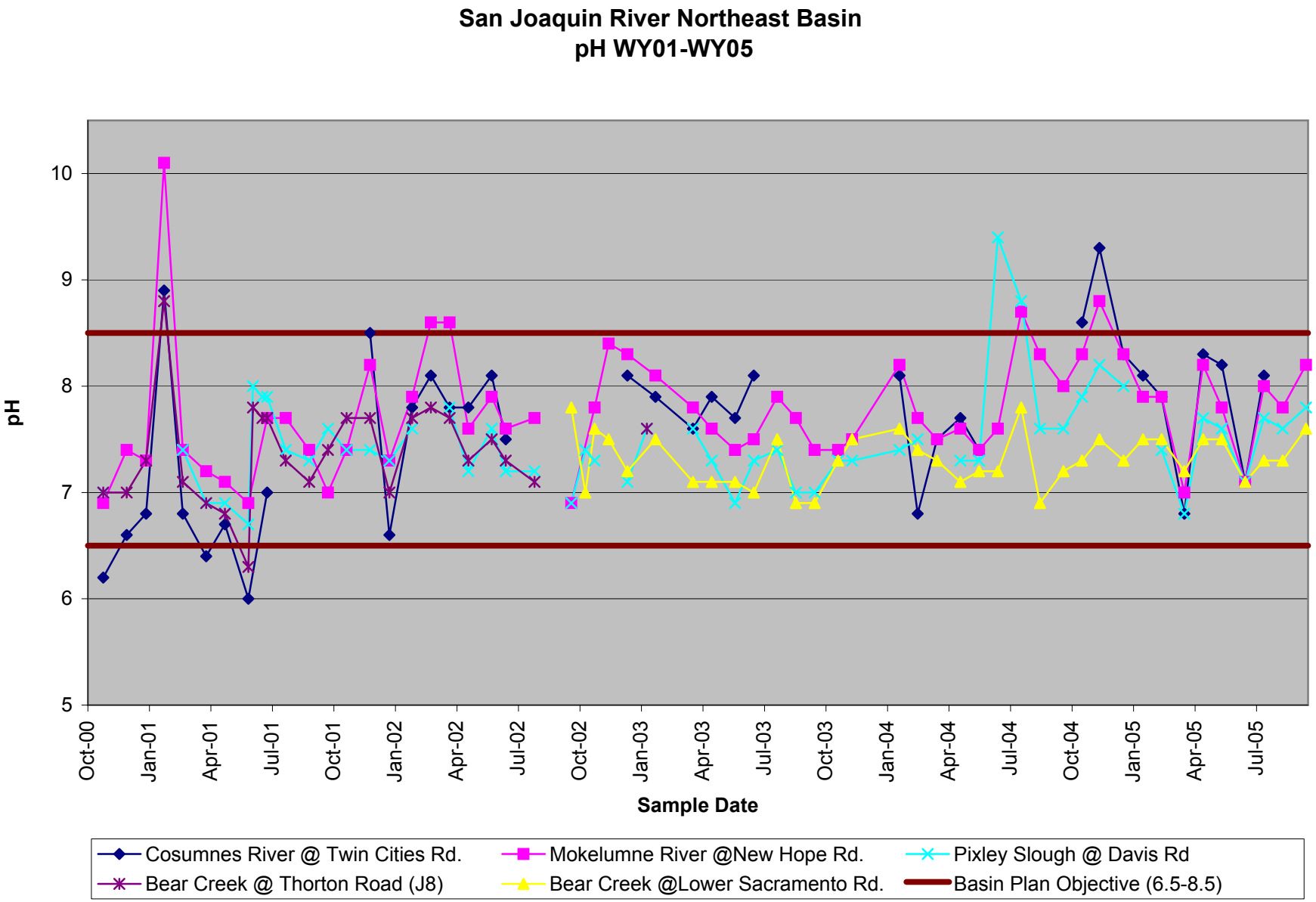

San Joaquin River Main Stem
Sodium WY01-WY03
Sodium (mg/L)
400
350
300
250
200
150
100
50
0
Median
Water Quality for Agriculture (Ayers & Westcot) (69 mg/L)
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford
SJR @ Hills Ferry
SJR @ Crows
SJR @ Patterson
SJR @ Maze
SJR @ Airport Way/Vernalis


San Joaquin River Northeast Basin
Temperature WY01-WY05
Temperature (ºC)
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.
Bay-Delta Authority Target, SJR @ Vernalis (Apr 1-Jun 30 & Sept 1- Nov 30, 20ºC)

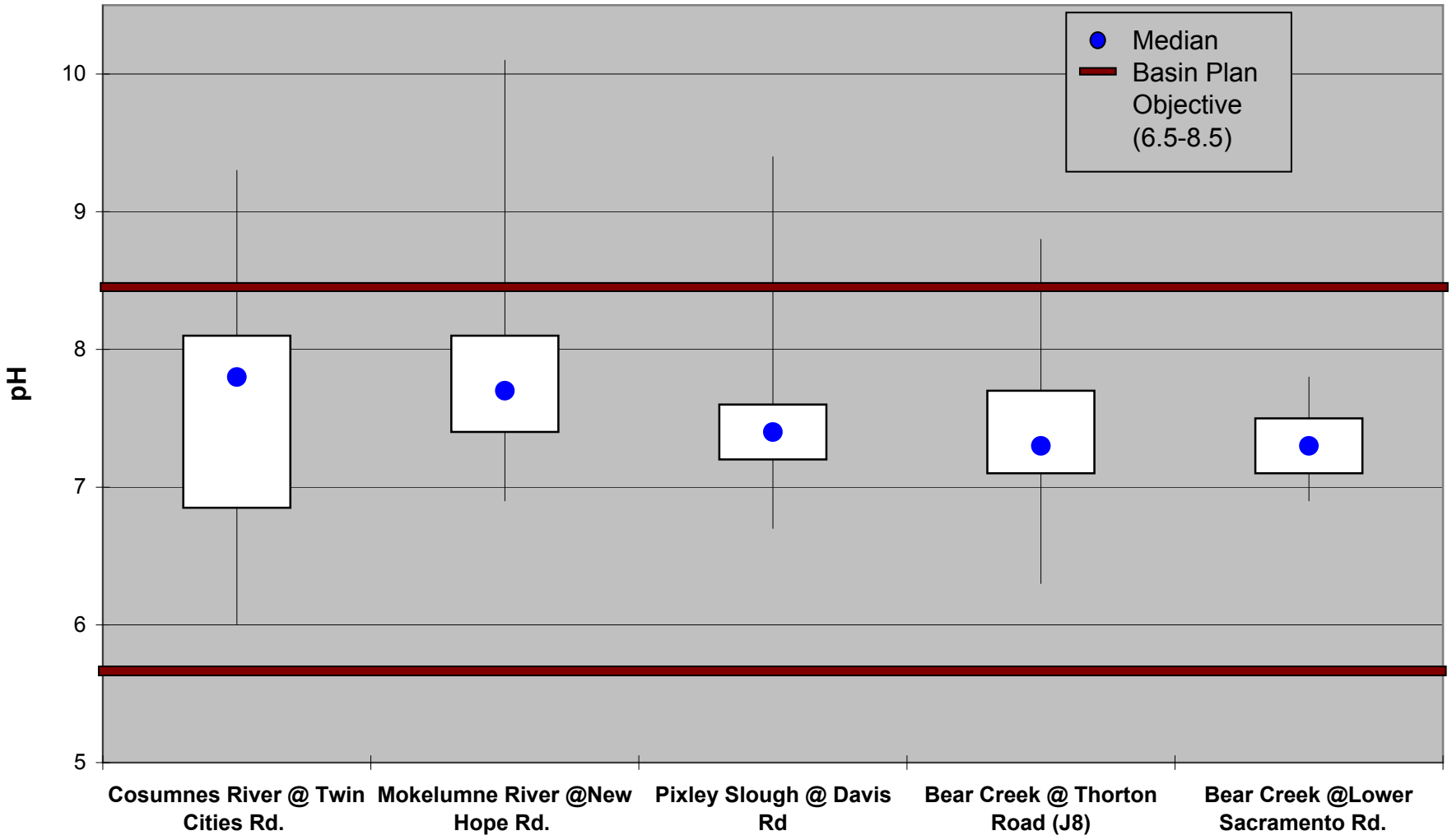

San Joaquin River Northeast Basin
Temperature WY01- WY05
Median
Temperature (ºC)
30
25
20
15
10
5
0
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

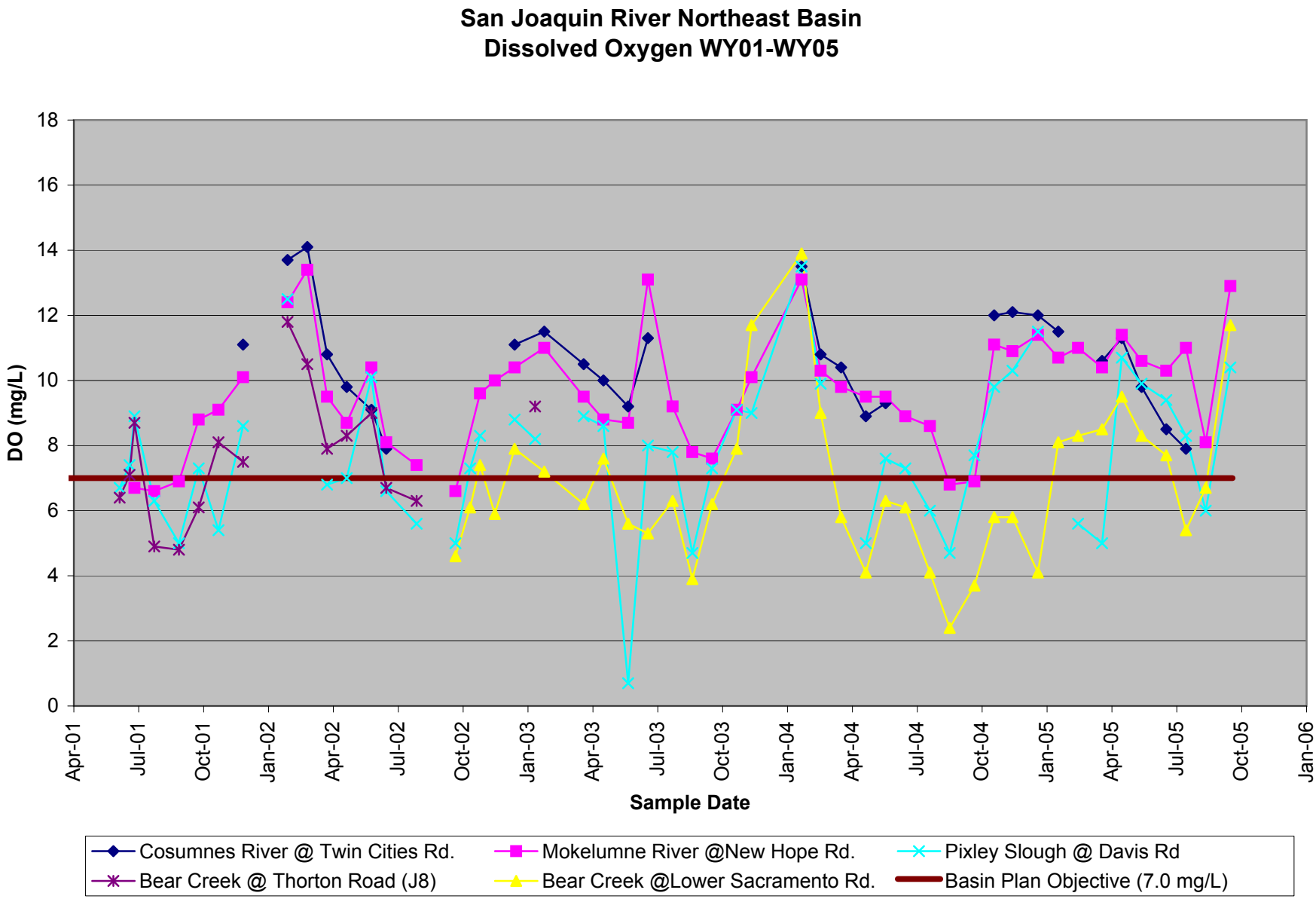

San Joaquin River Northeast Basin
Specific Conductivity WY01- WY05
SC (µmhos/cm)
1200
1000
800
600
400
200
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.
Basin Plan Objective (Apr 1-Aug 31, 700 µmhos/cm; Sep 1-Mar 31,1000 µmhos/cm)

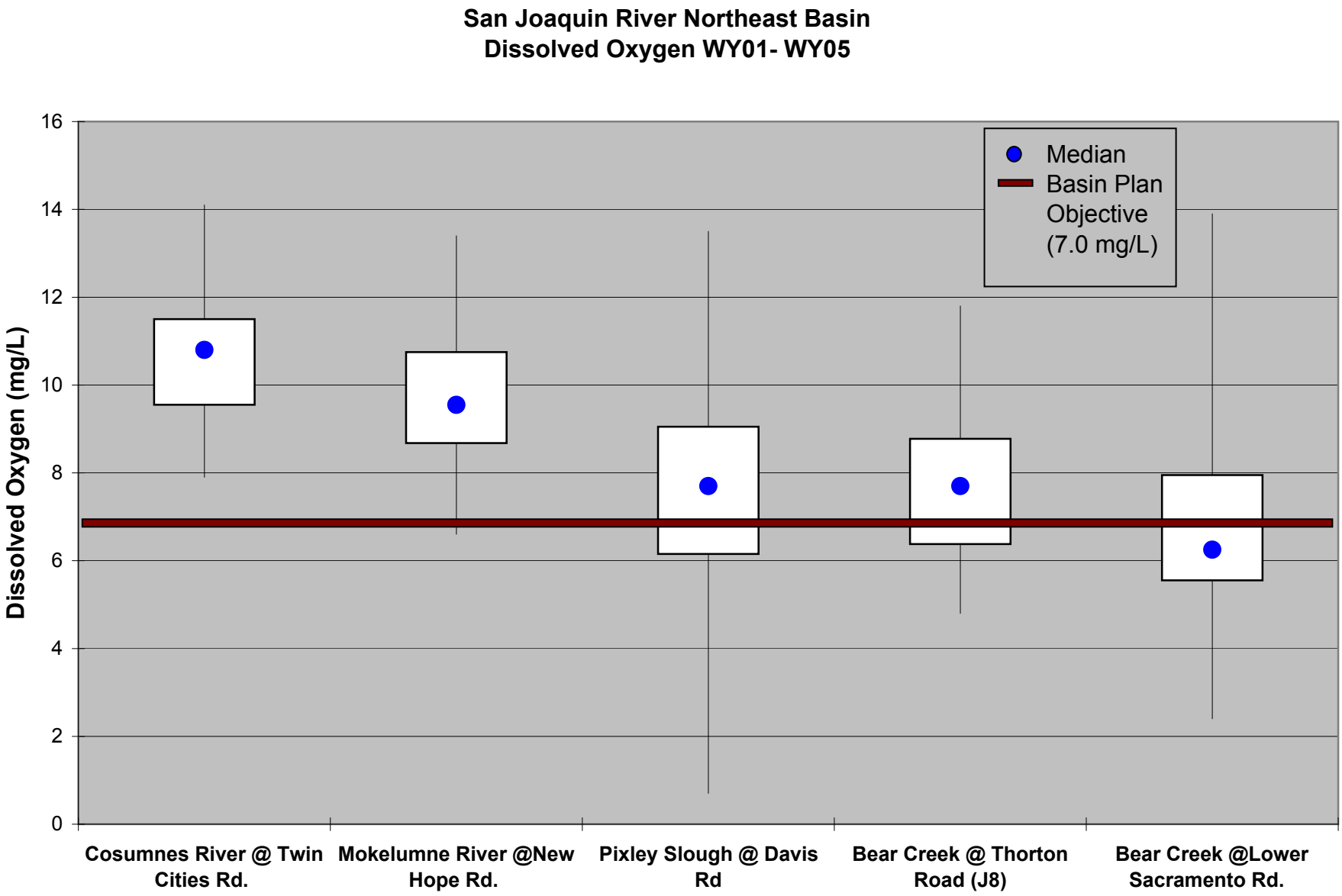

San Joaquin River Northeast Basin
Specific Conductivity WY01- WY05
Median
Specific Conductivity (µmhos/cm)
600
500
400
300
200
100
0
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

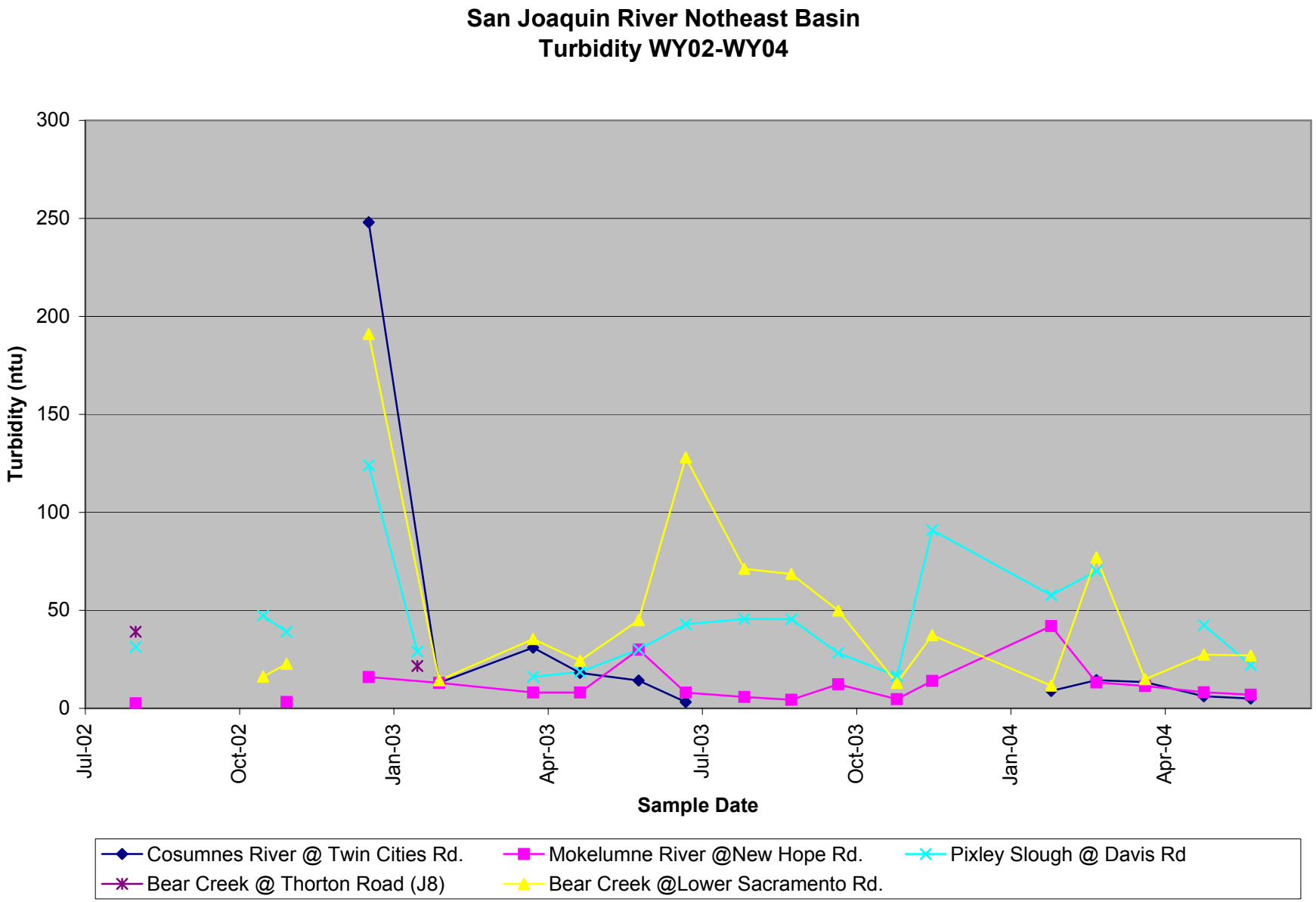

San Joaquin River Northeast Basin
pH WY01-WY05
pH
10
9
8
7
6
5
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.
Basin Plan Objective (6.5-8.5)

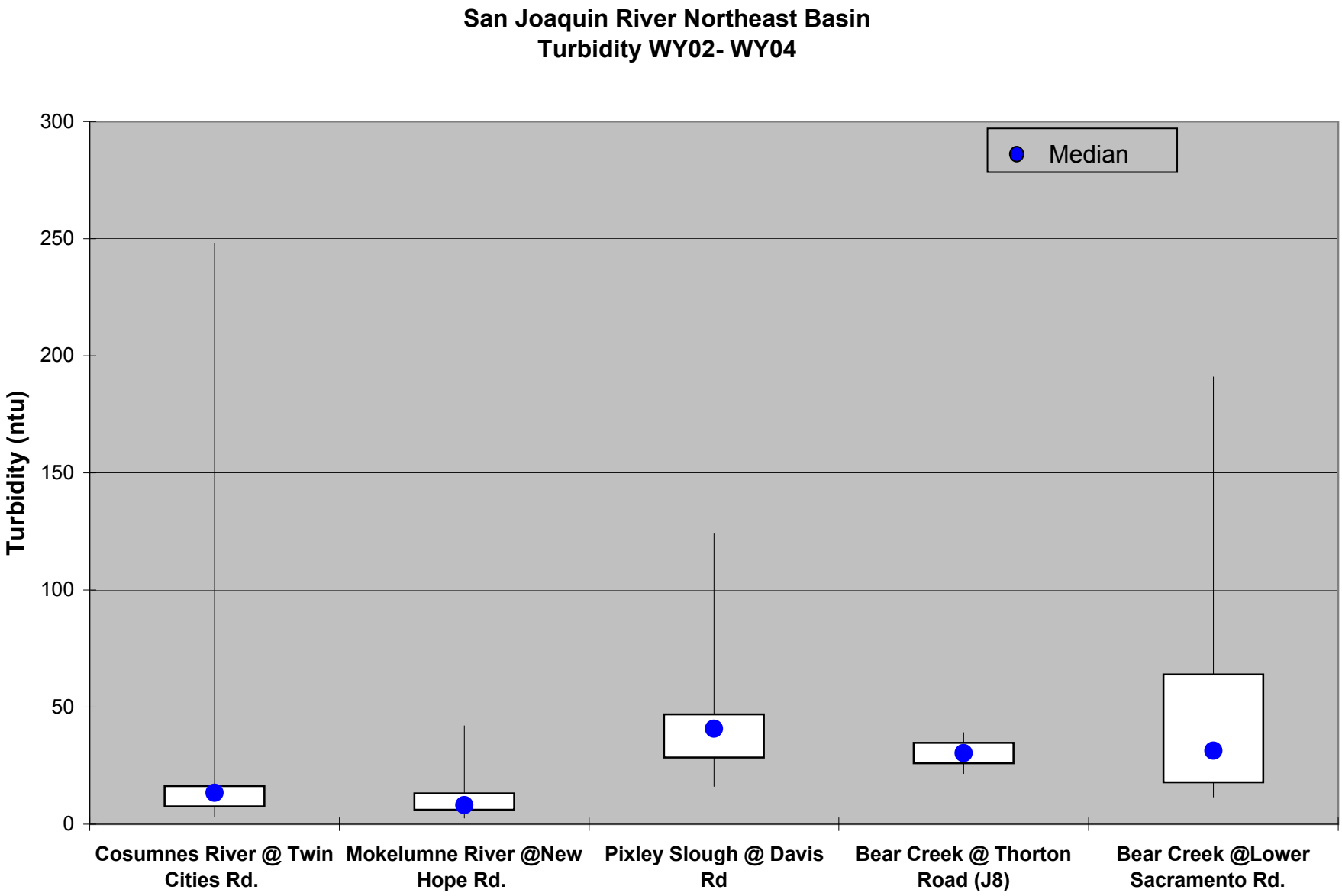
San Joaquin River Northeast Basin
pH WY01- WY05

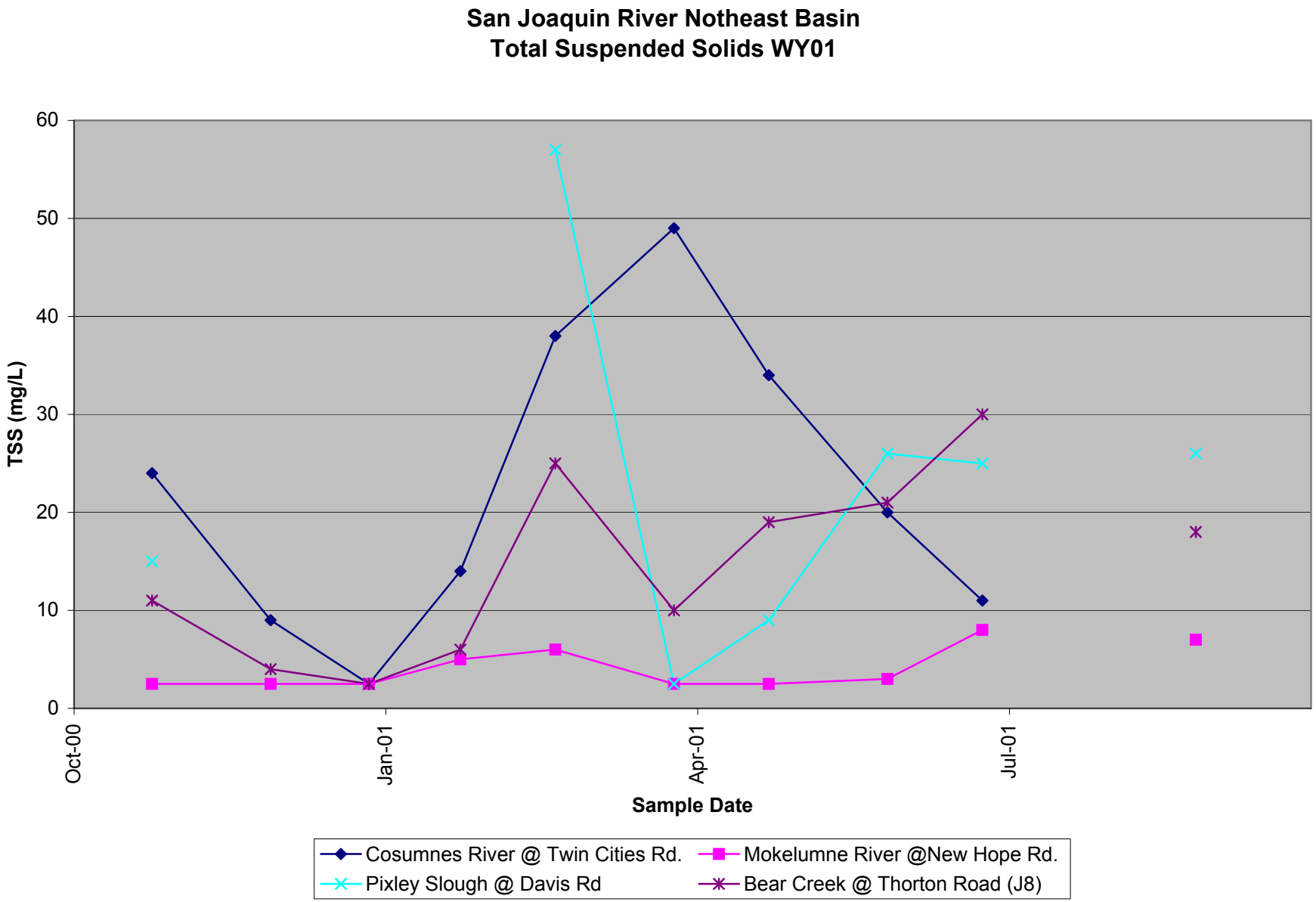



San Joaquin River Northeast Basin
Dissolved Oxygen WY01-WY05
DO (mg/L)
18
16
14
12
10
8
6
4
2
0
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Oct-05
Jan-06
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.
Basin Plan Objective (7.0 mg/L)

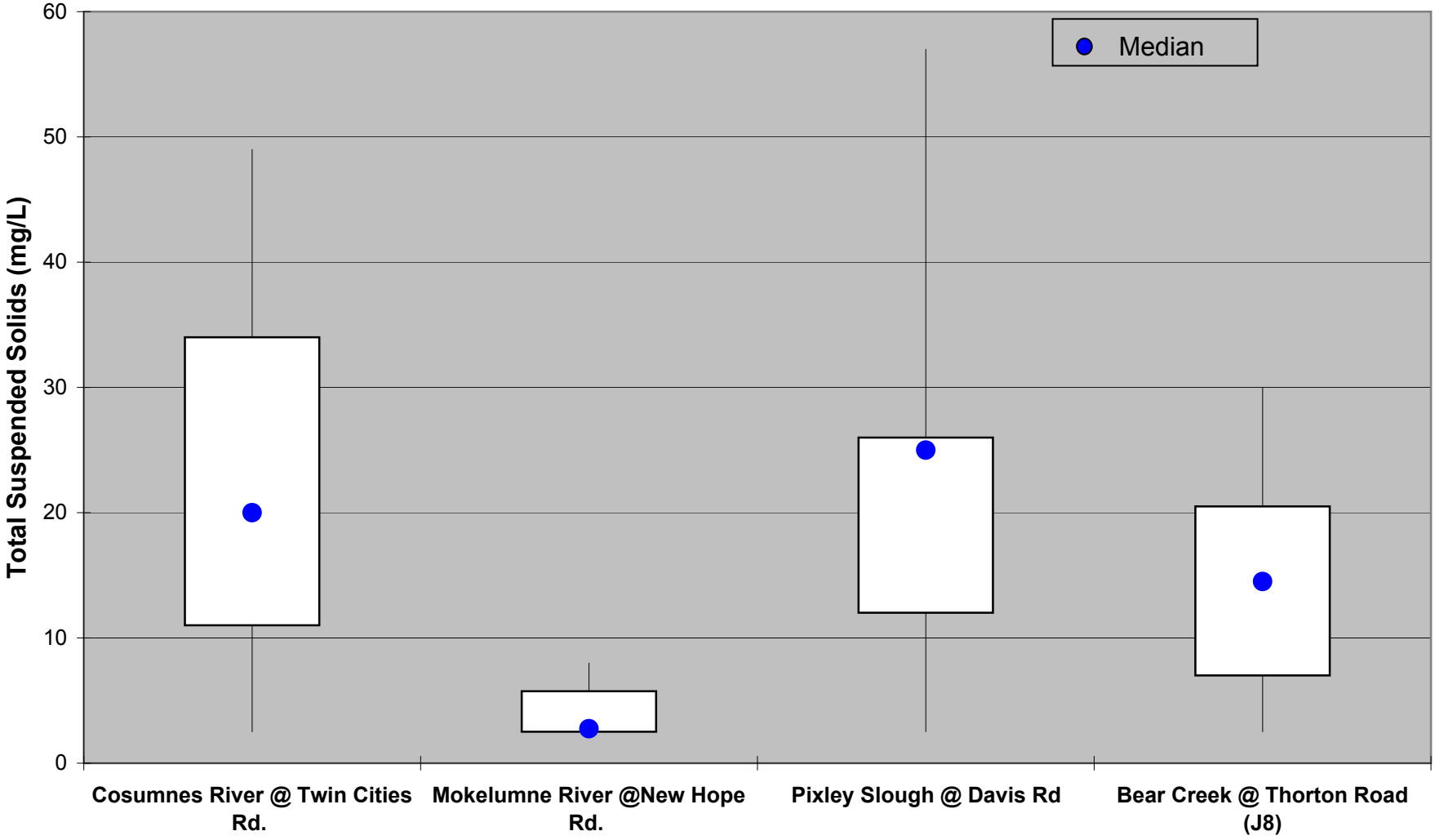

San Joaquin River Northeast Basin
Dissolved Oxygen WY01- WY05
Dissolved Oxygen (mg/L)
16
14
12
10
8
6
4
2
0
Median
Basin Plan Objective (7.0 mg/L)
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

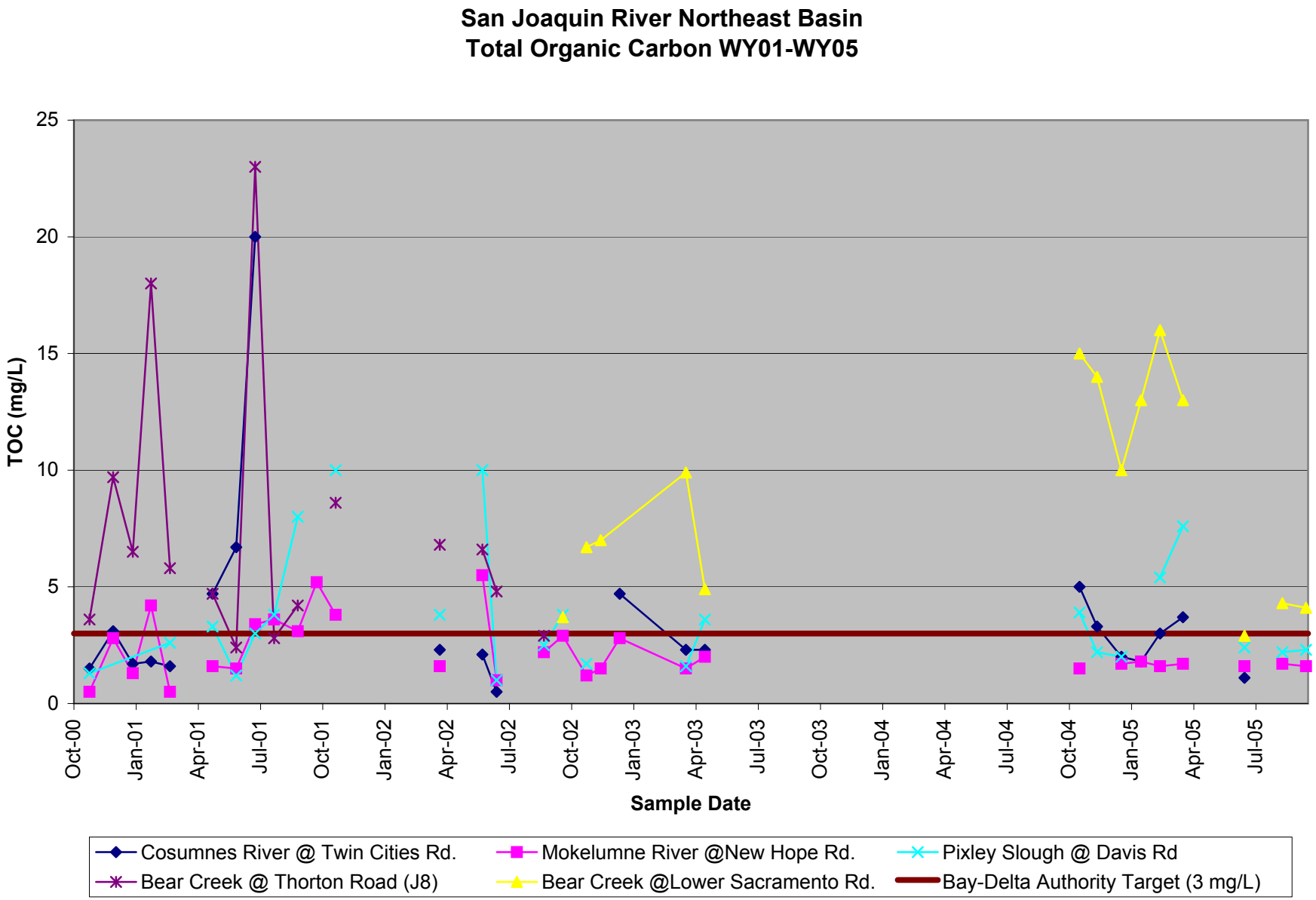

San Joaquin River Notheast Basin
Turbidity WY02-WY04
Turbidity (ntu)
300
250
200
150
100
50
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

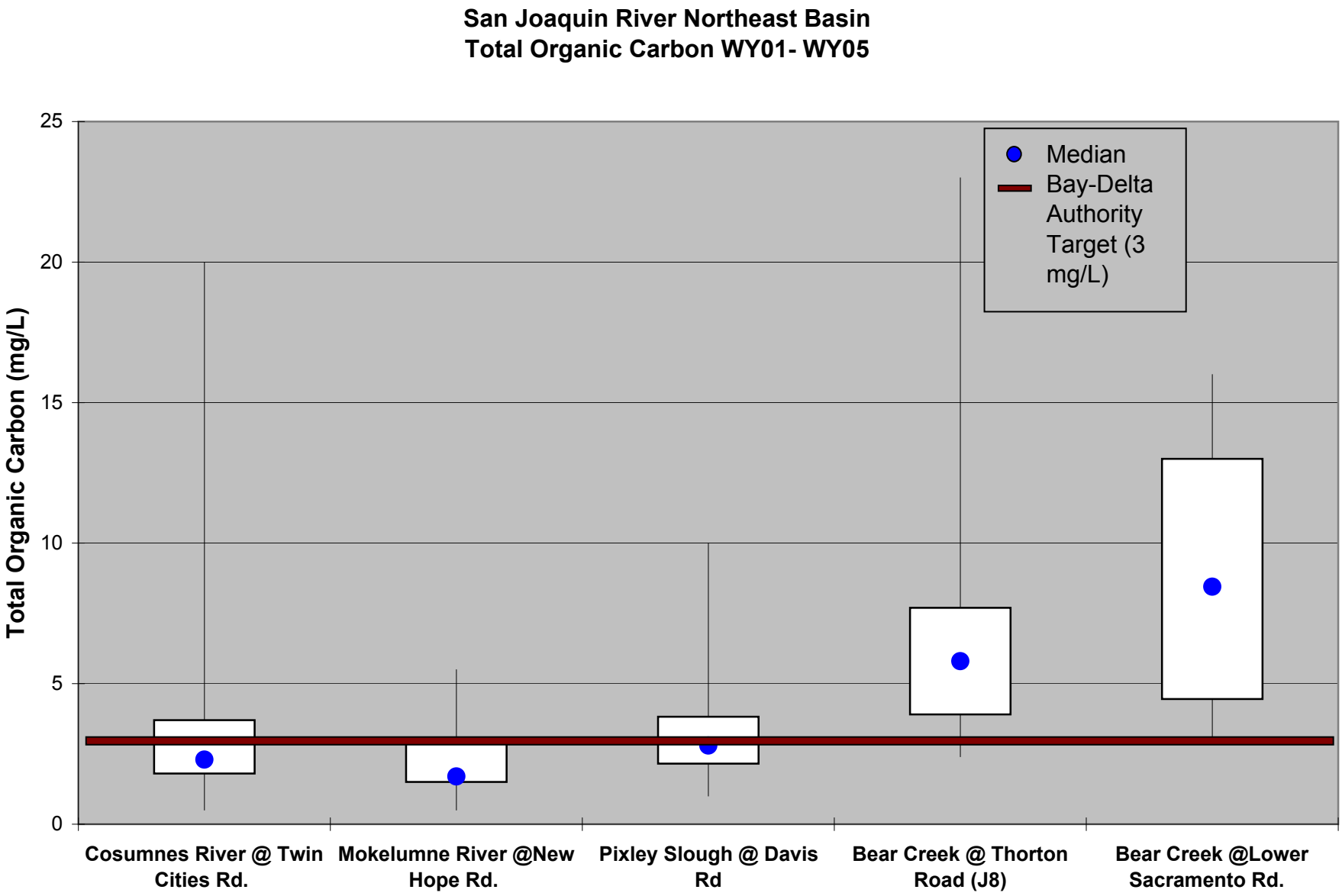

San Joaquin River Northeast Basin
Turbidity WY02- WY04
Median
Turbidity (ntu)
300
250
200
150
100
50
0
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

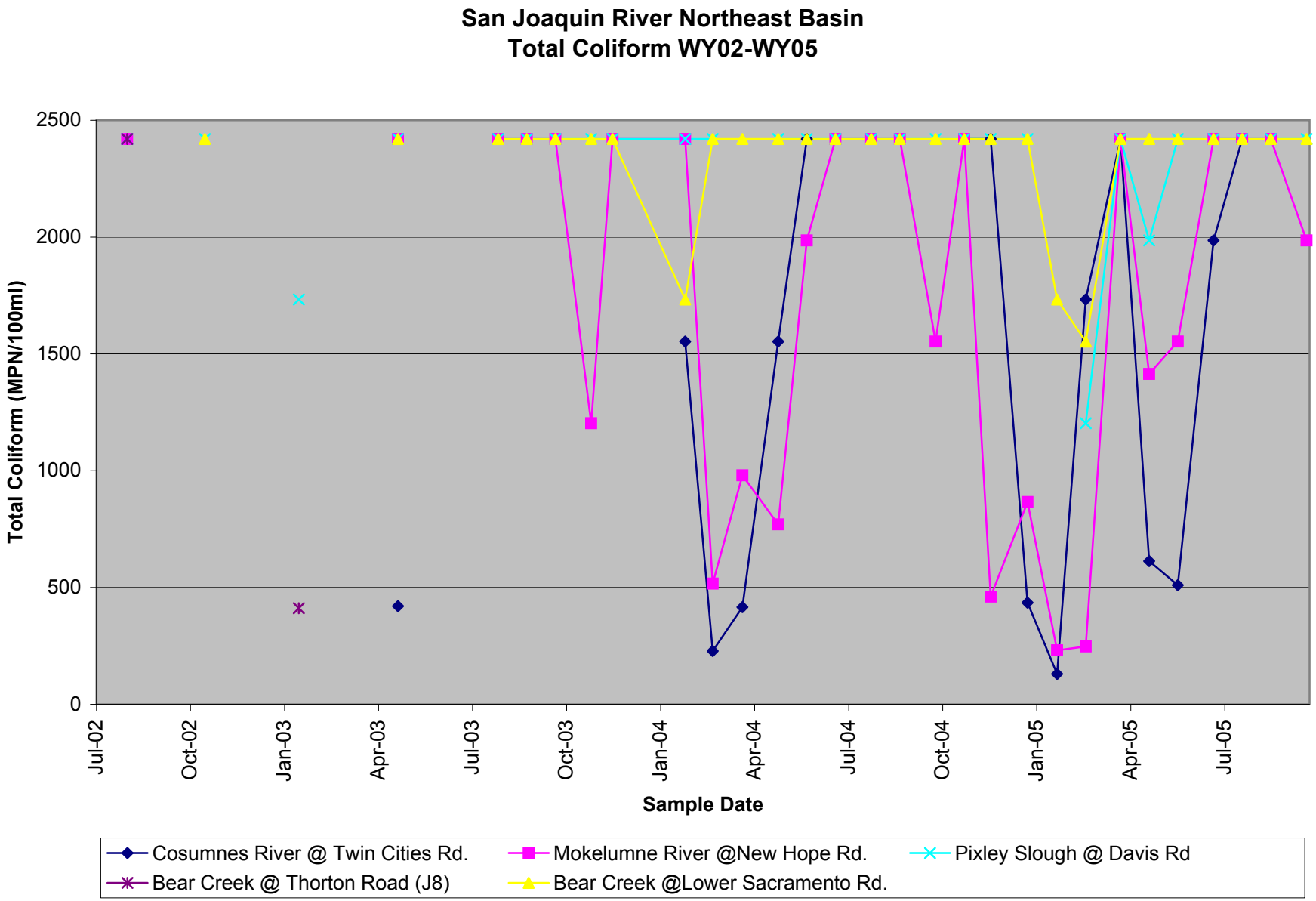

San Joaquin River Notheast Basin
Total Suspended Solids WY01
TSS (mg/L)
60
50
40
30
20
10
0
Oct-00
Jan-01
Apr-01
Jul-01
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)

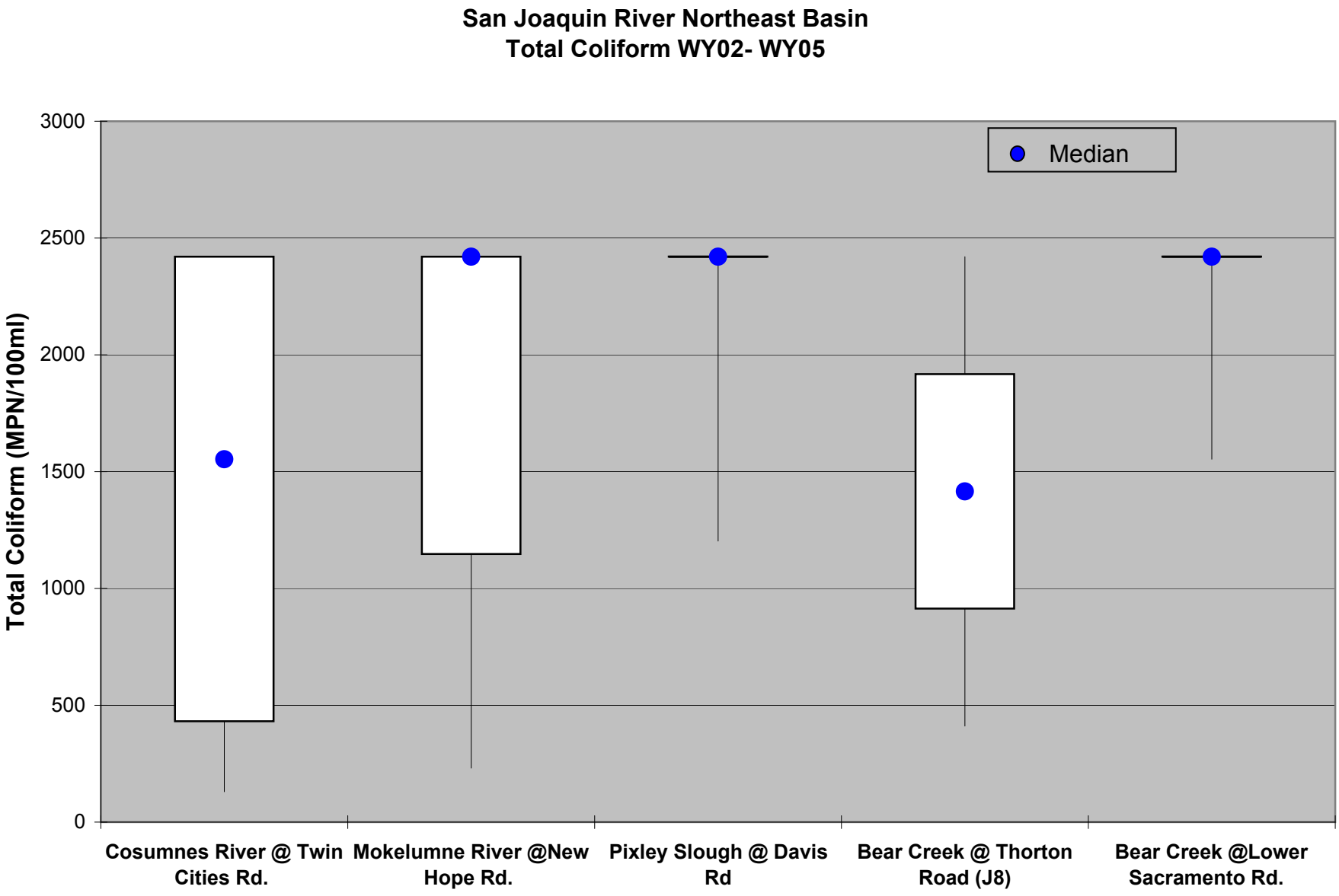
San Joaquin River Northeast Basin
Total Suspended Solids WY01- WY05

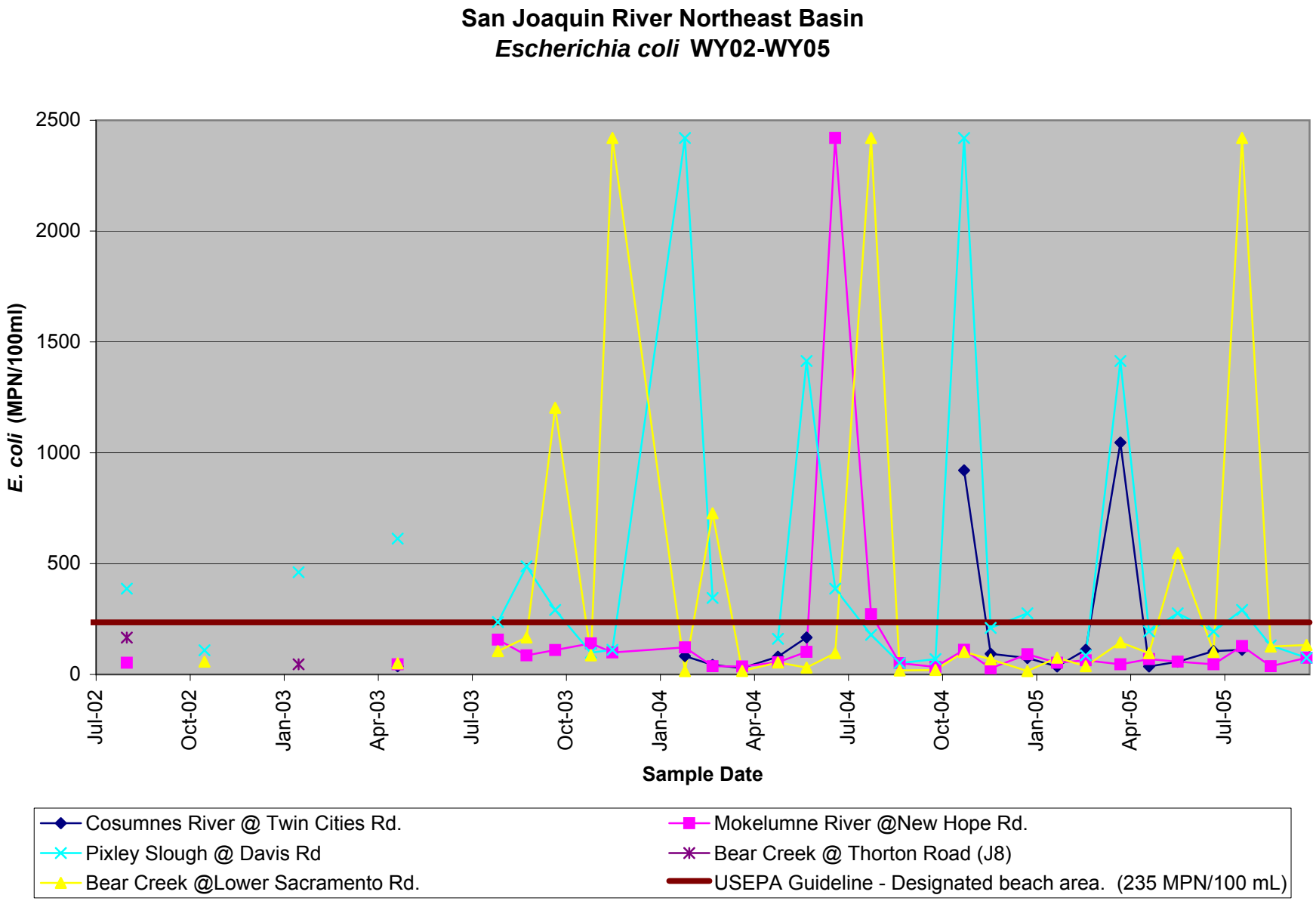



San Joaquin River Northeast Basin
Total Organic Carbon WY01-WY05
TOC (mg/L)
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.
Bay-Delta Authority Target (3 mg/L)

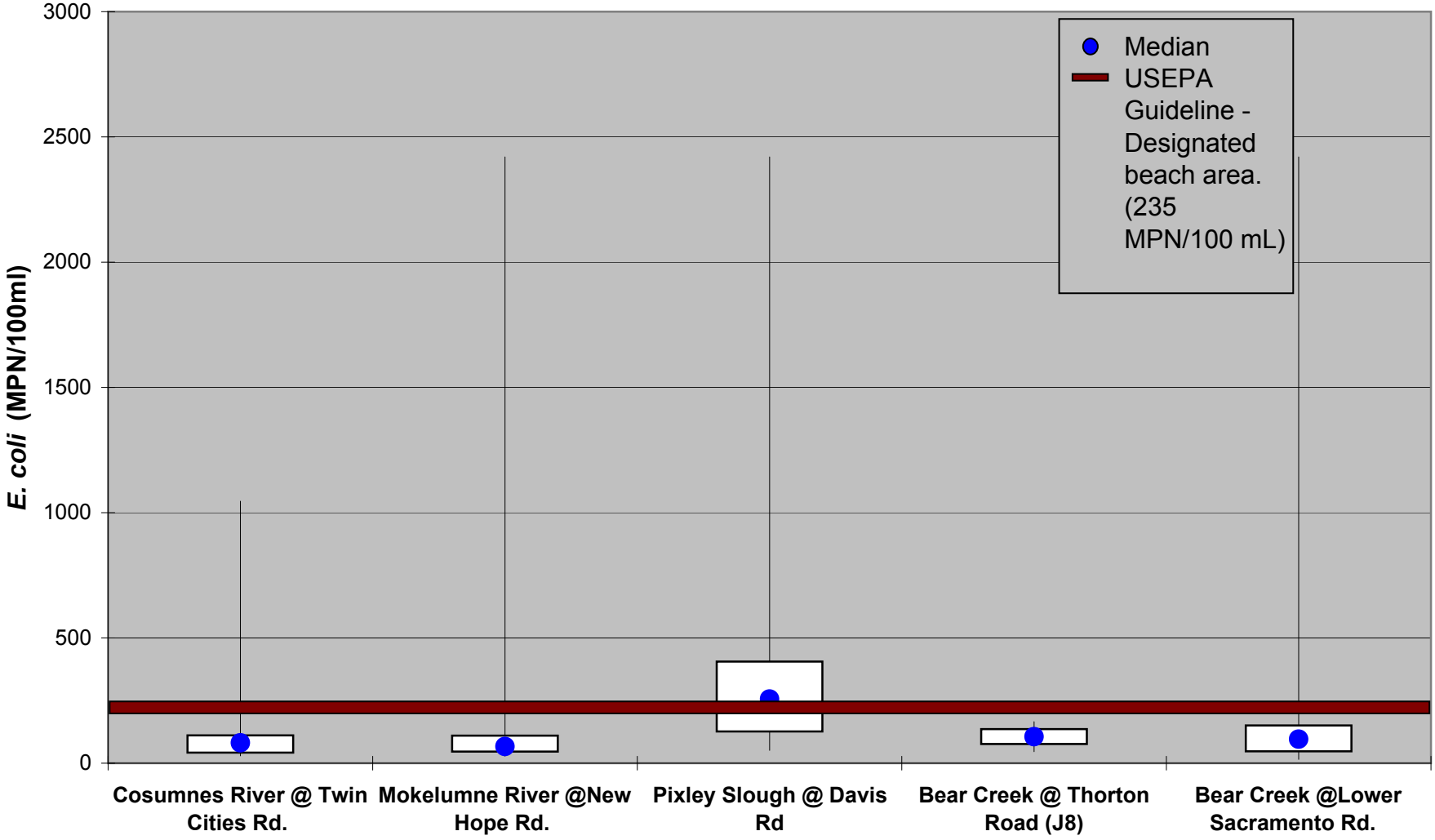

San Joaquin River Northeast Basin
Total Organic Carbon WY01- WY05
Total Organic Carbon (mg/L)
25
20
15
10
5
0
Median
Bay-Delta Authority Target (3 mg/L)
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

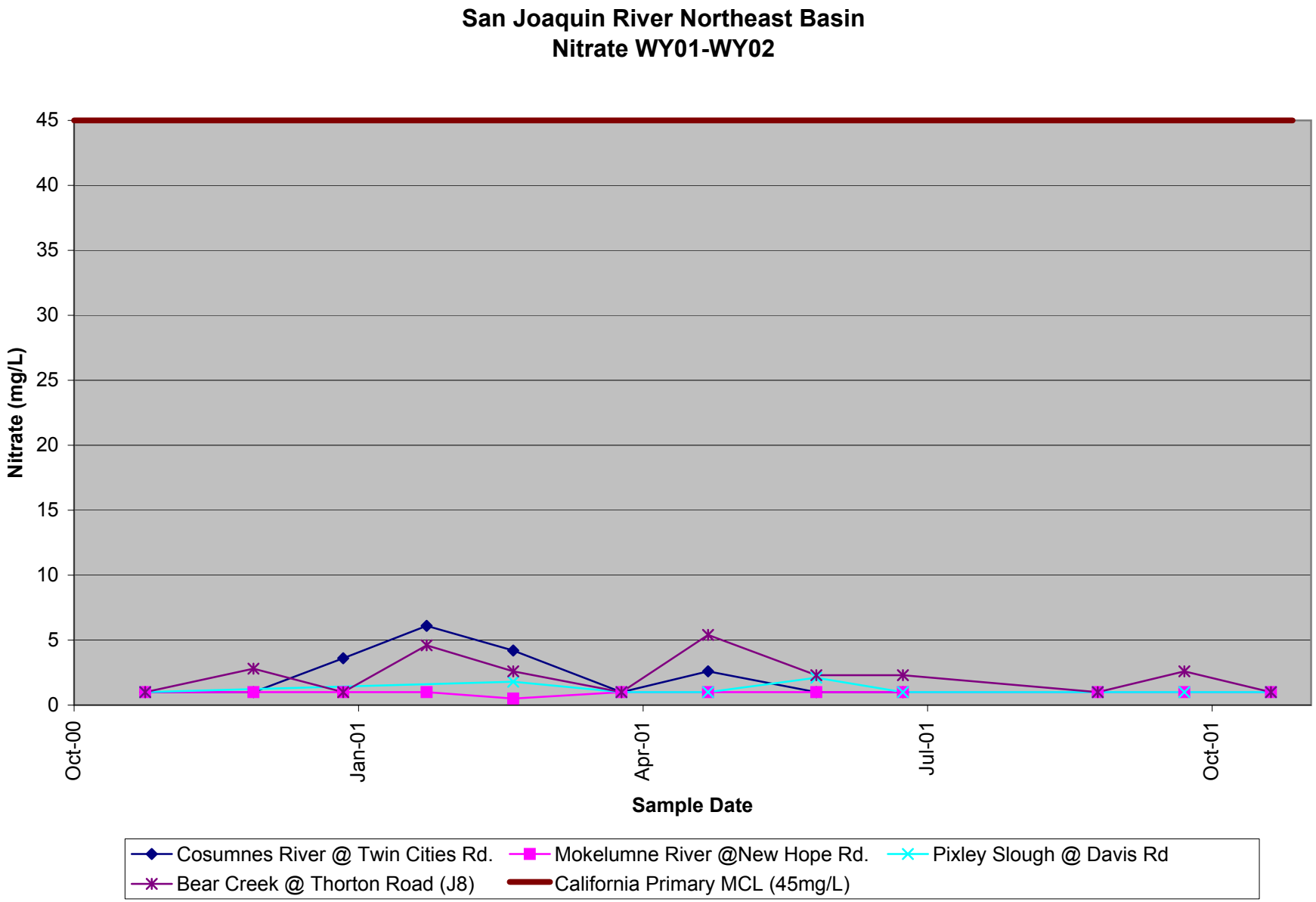

San Joaquin River Northeast Basin
Total Coliform WY02-WY05
Total Coliform (MPN/100ml)
2500
2000
1500
1000
500
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

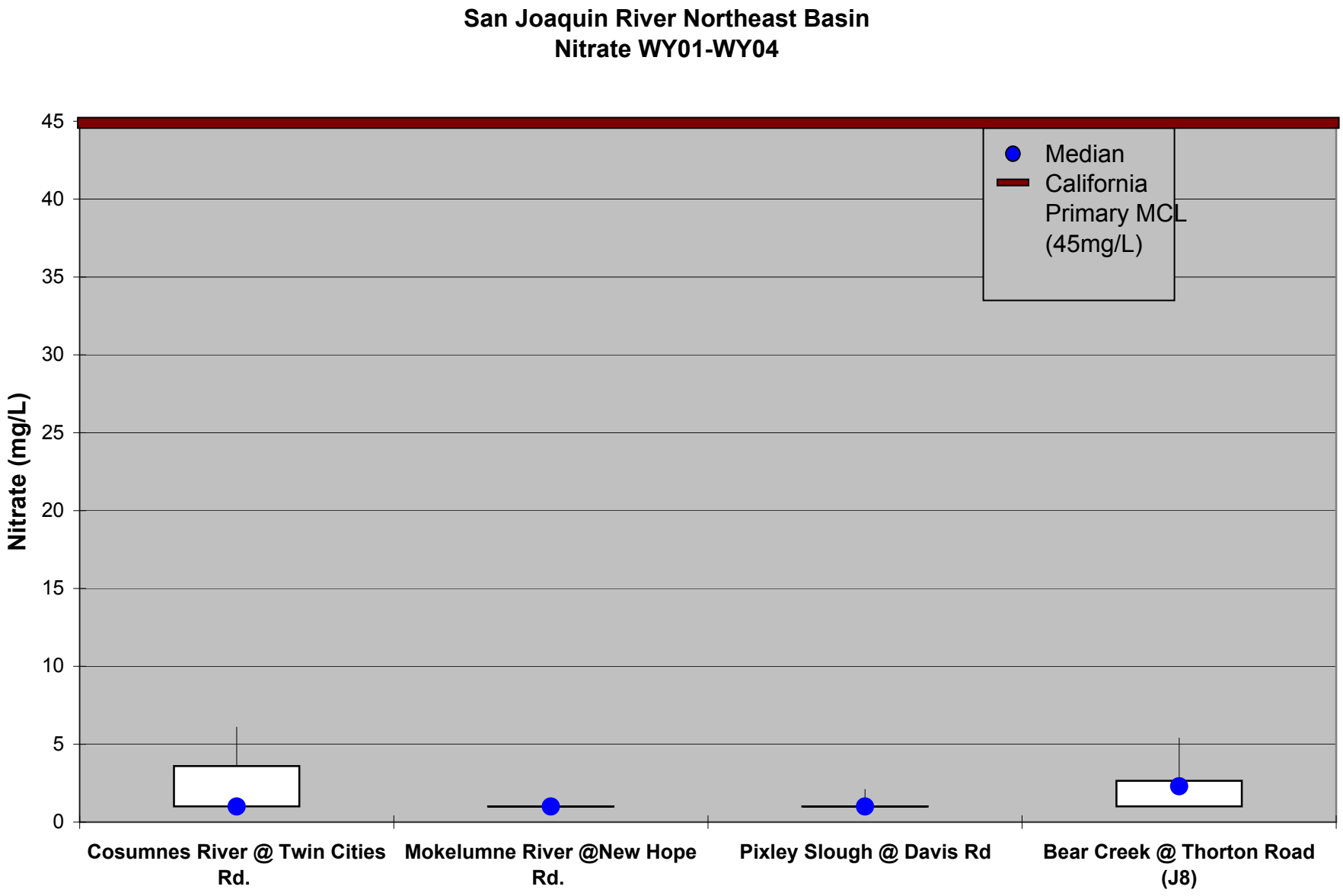

San Joaquin River Northeast Basin
Total Coliform WY02- WY05
Median
Total Coliform (MPN/100ml)
3000
2500
2000
1500
1000
500
0
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

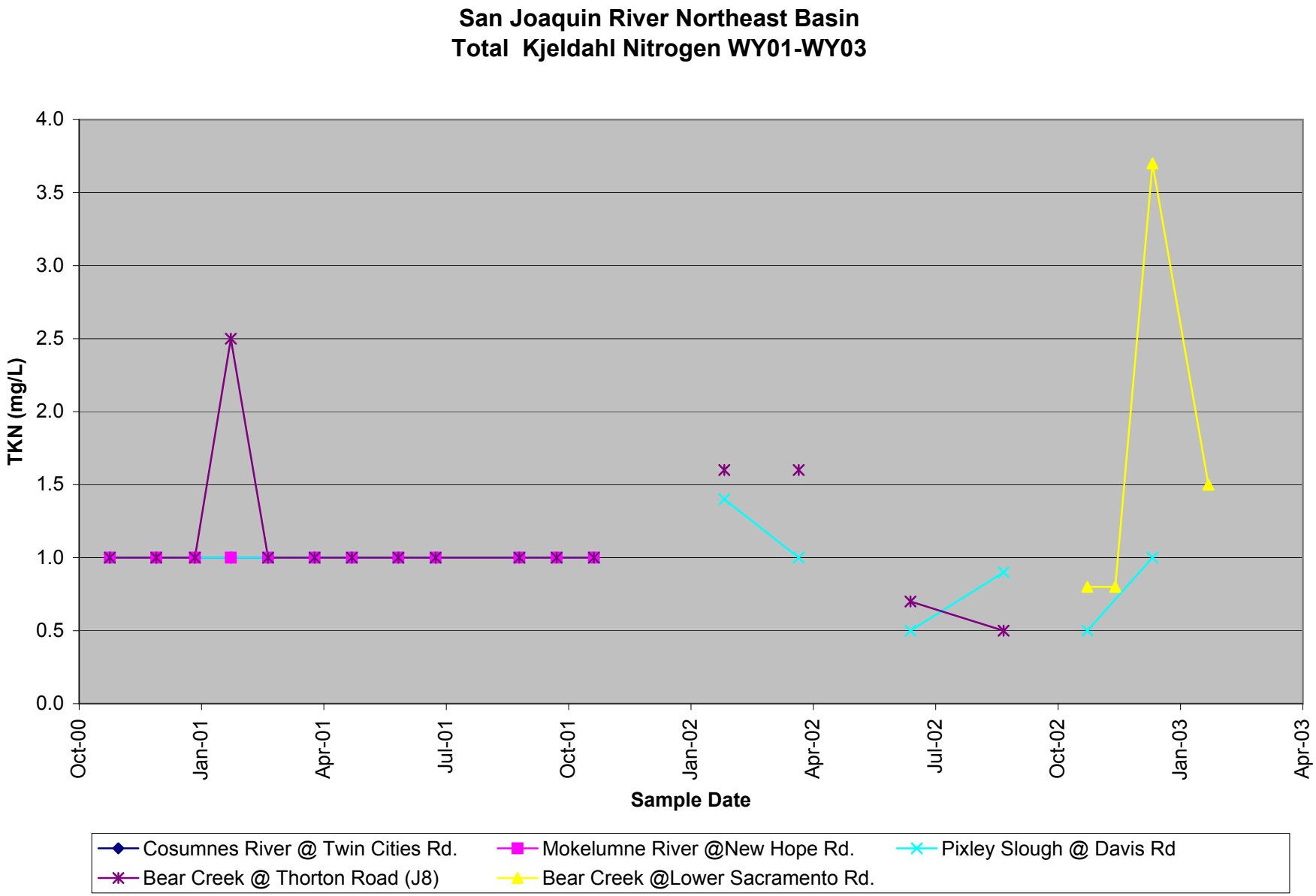

San Joaquin River Northeast Basin
Escherichia coli WY02-WY05
E. coli (MPN/100ml)
2500
2000
1500
1000
500
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.
USEPA Guideline - Designated beach area. (235 MPN/100 mL)

San Joaquin River Northeast Basin
***Escherichia coli* WY02-WY05**

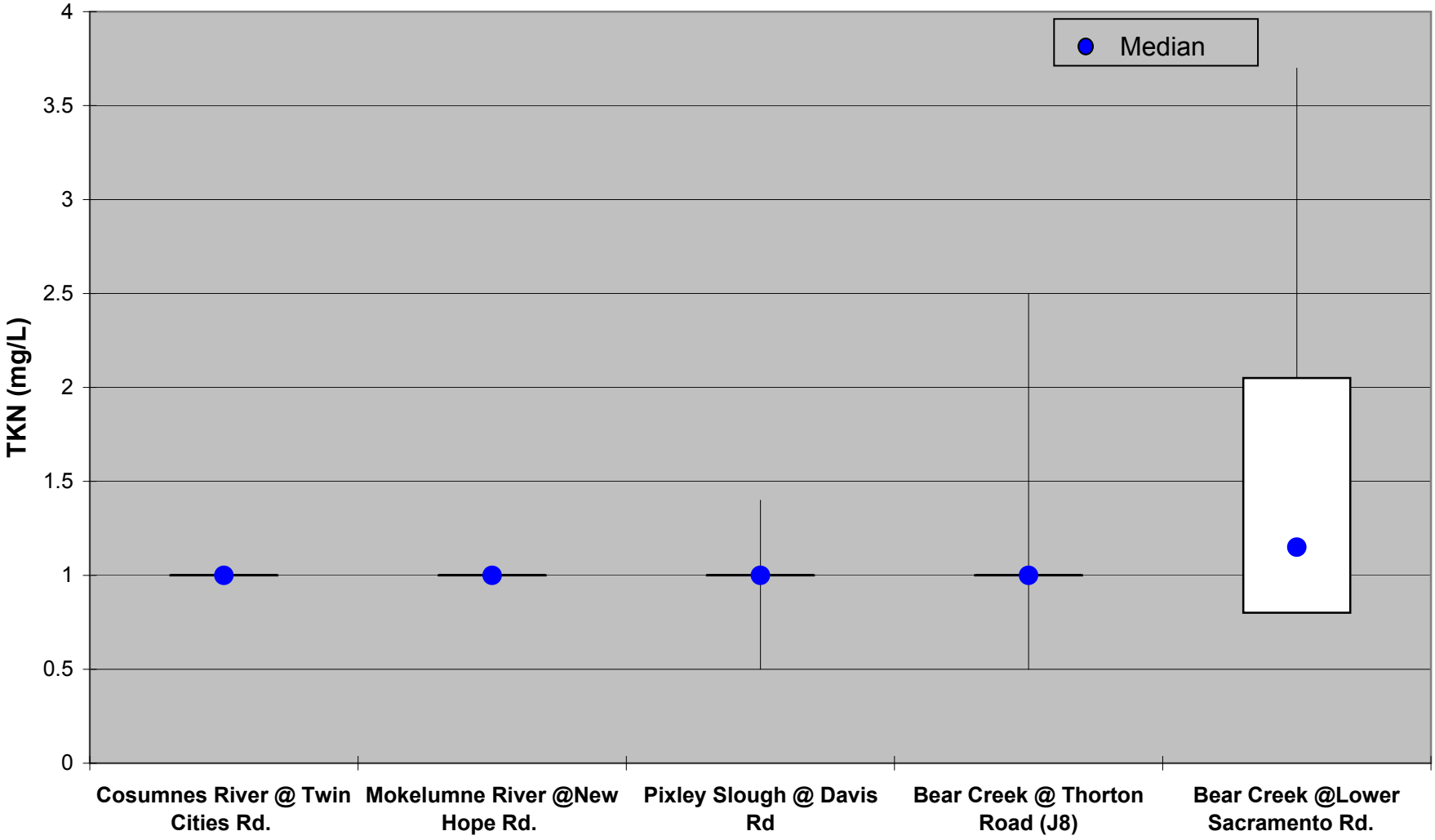


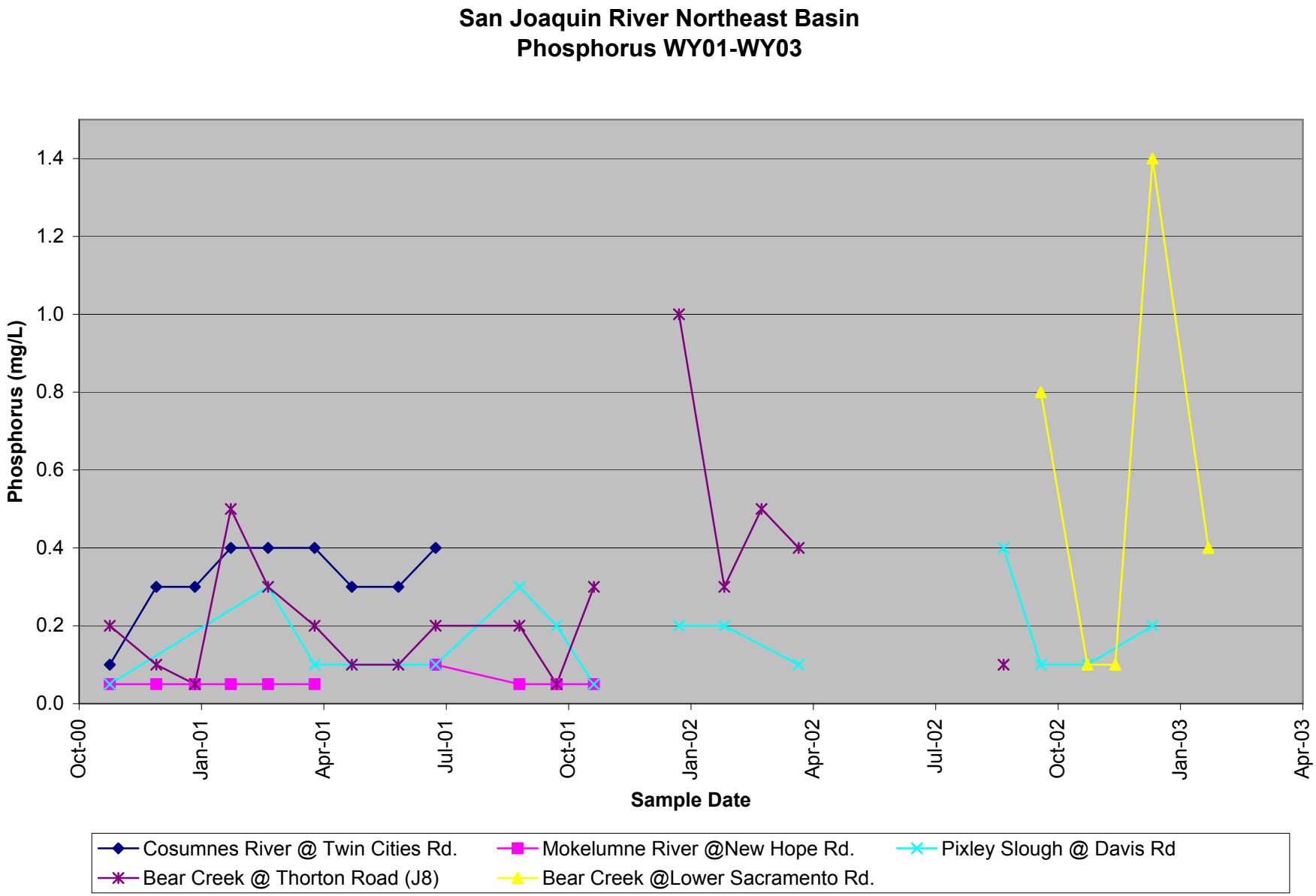

San Joaquin River Northeast Basin
Nitrate WY01-WY02
Nitrate (mg/L)
45
40
35
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
California Primary MCL (45mg/L)

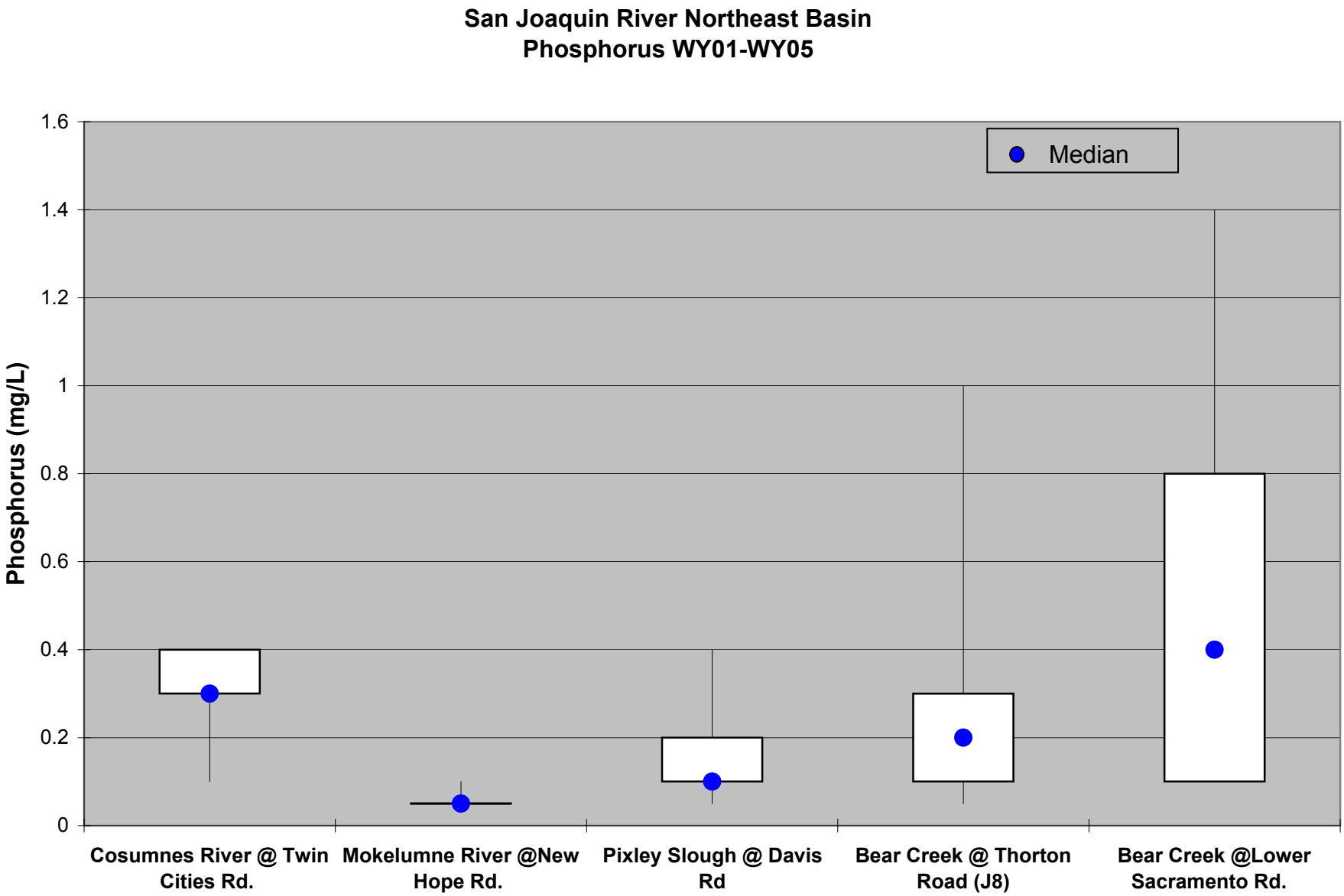

San Joaquin River Northeast Basin
Nitrate WY01-WY04
Nitrate (mg/L)
45
40
35
30
25
20
15
10
5
0
Median
California Primary MCL (45mg/L)
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)

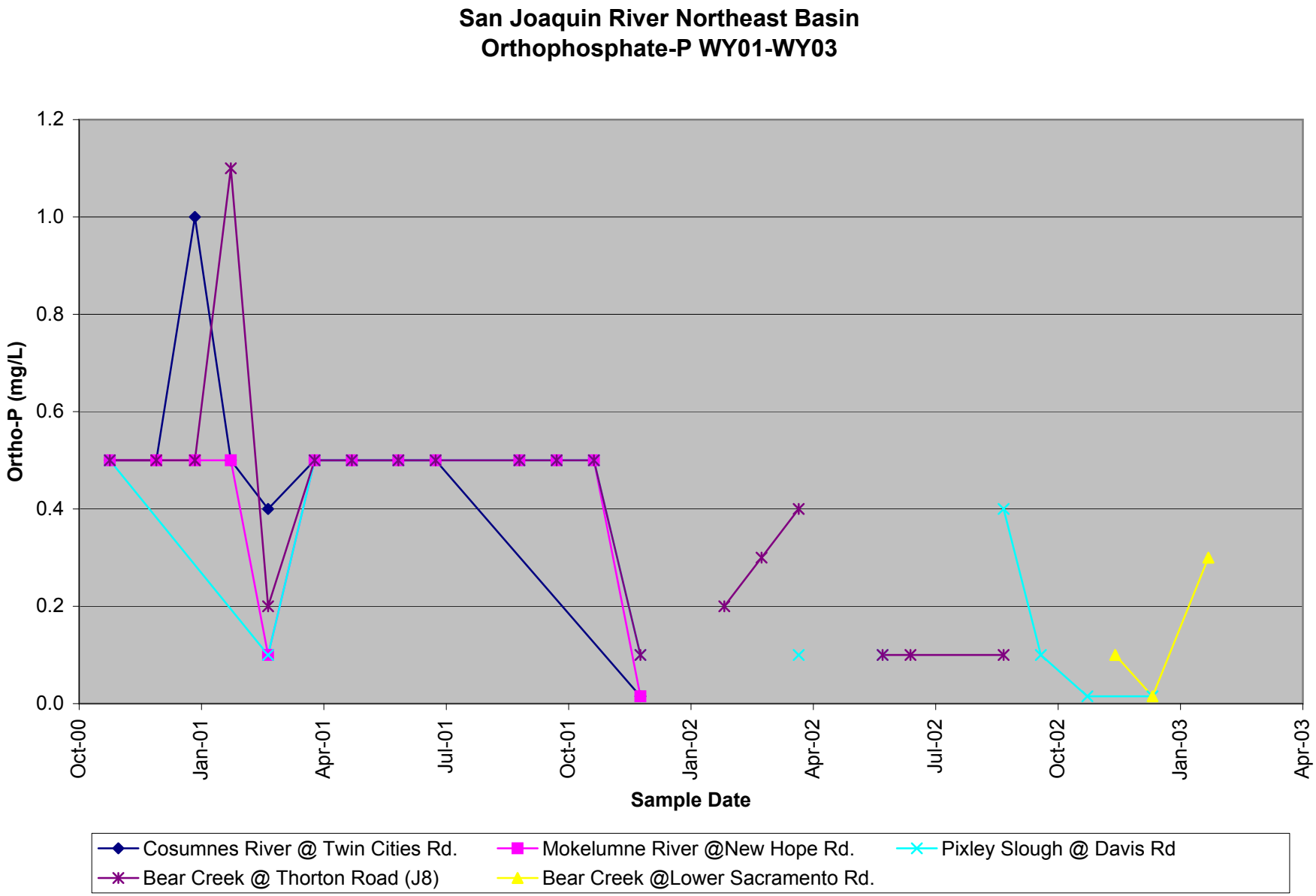

San Joaquin River Northeast Basin
Total Kjeldahl Nitrogen WY01-WY03
TKN (mg/L)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

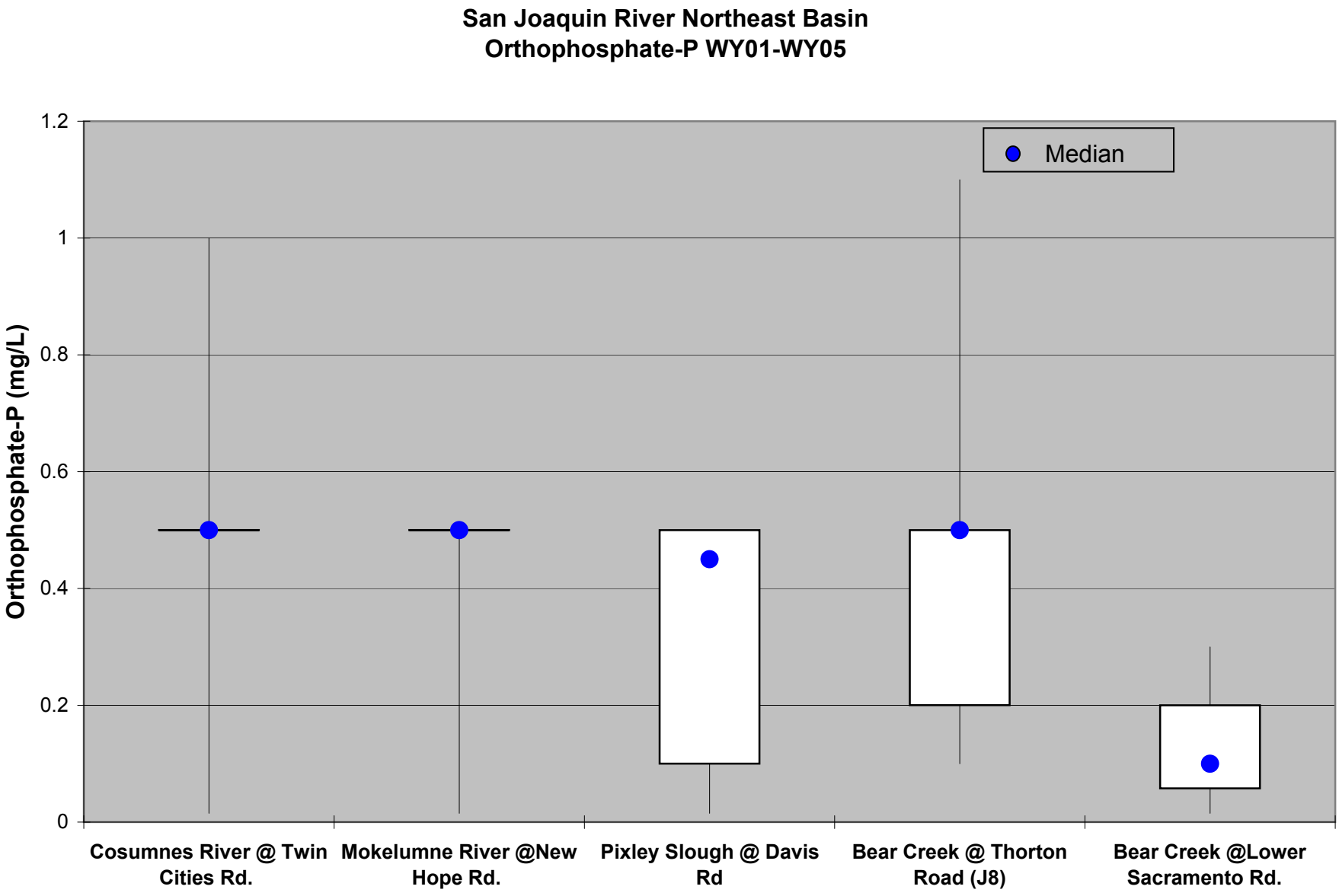
San Joaquin River Northeast Basin
Total Kjeldahl Nitrogen WY01-WY05

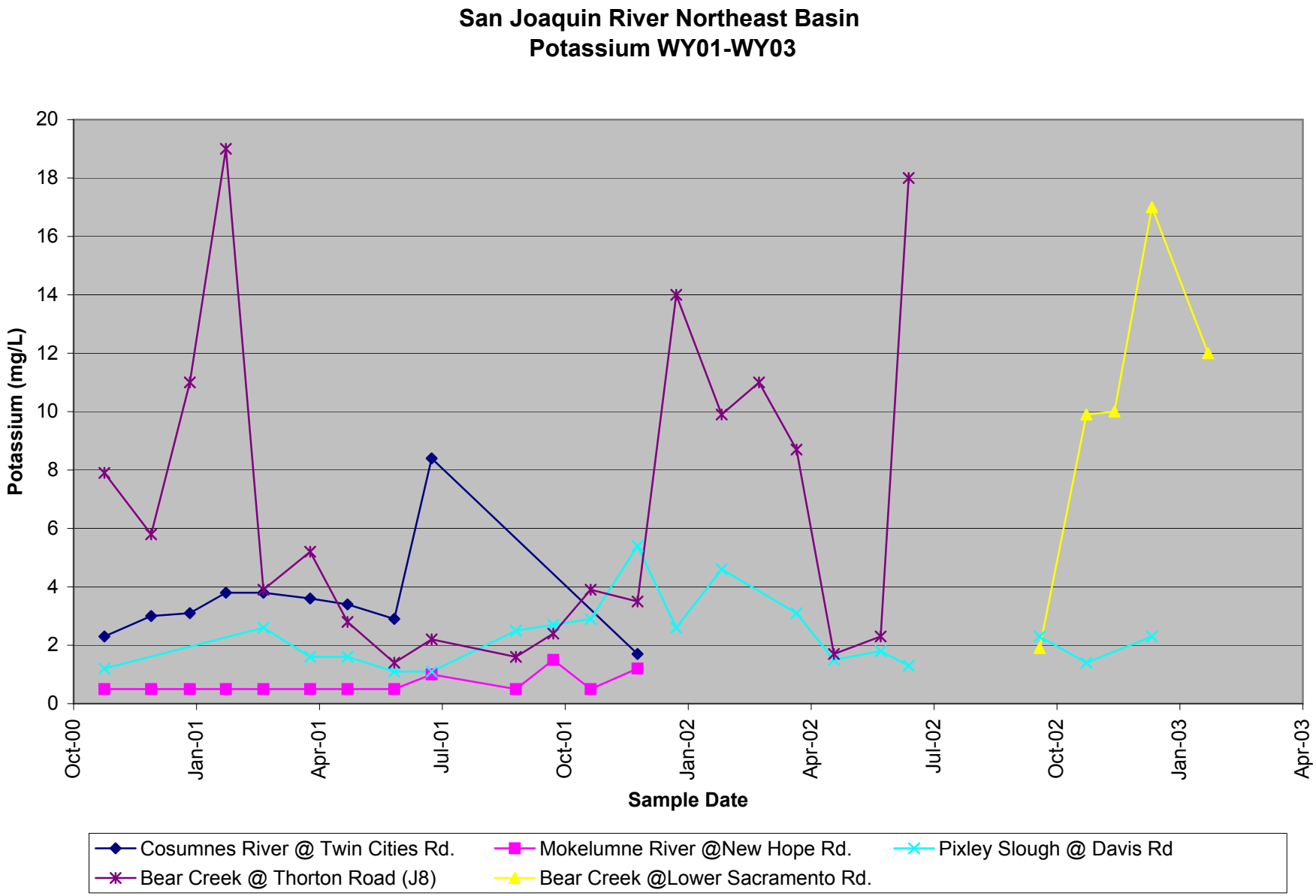


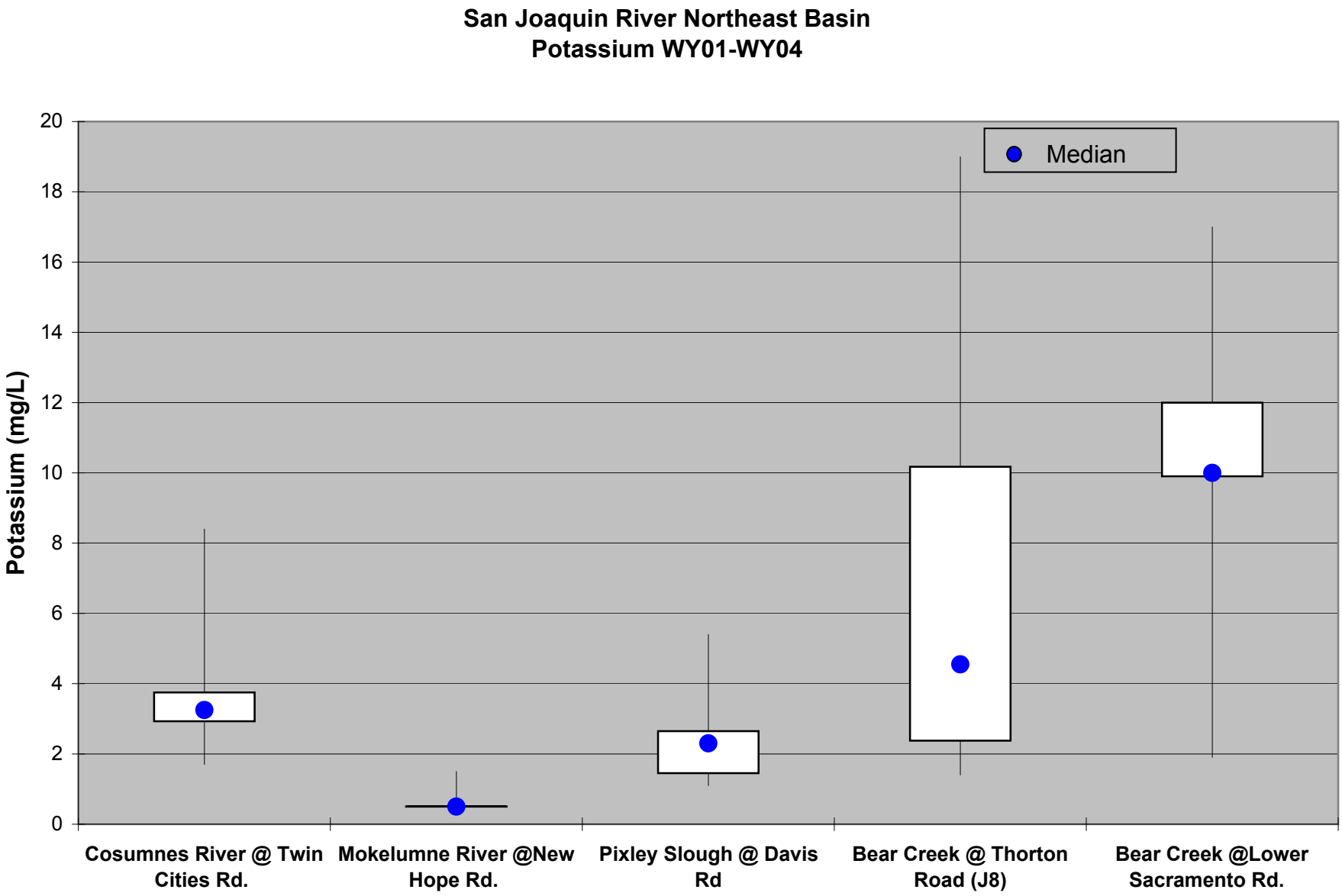

San Joaquin River Northeast Basin
Phosphorus WY01-WY03
Phosphorus (mg/L)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

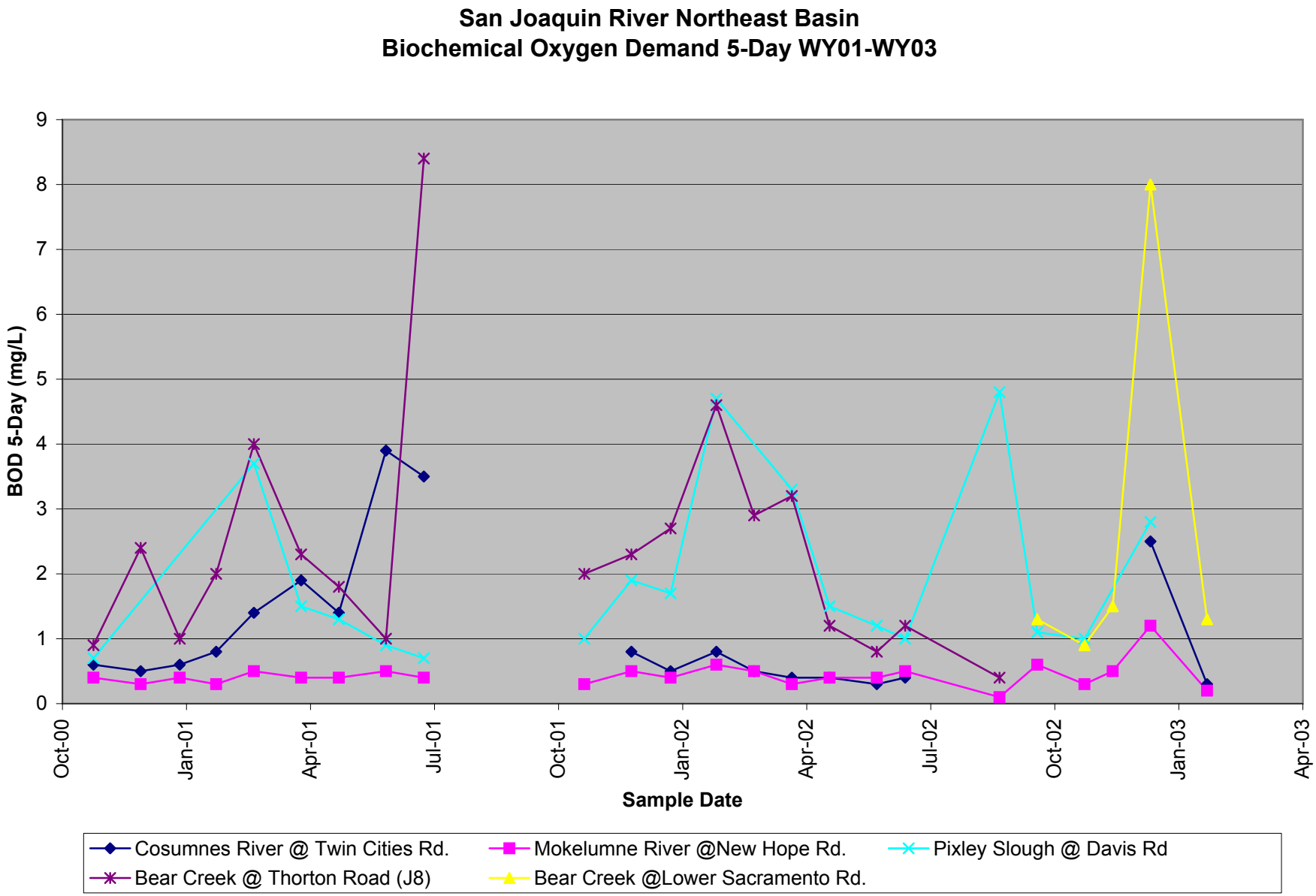

San Joaquin River Northeast Basin
Phosphorus WY01-WY05
Median
Phosphorus (mg/L)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.


San Joaquin River Northeast Basin
Orthophosphate-P WY01-WY03
Ortho-P (mg/L)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

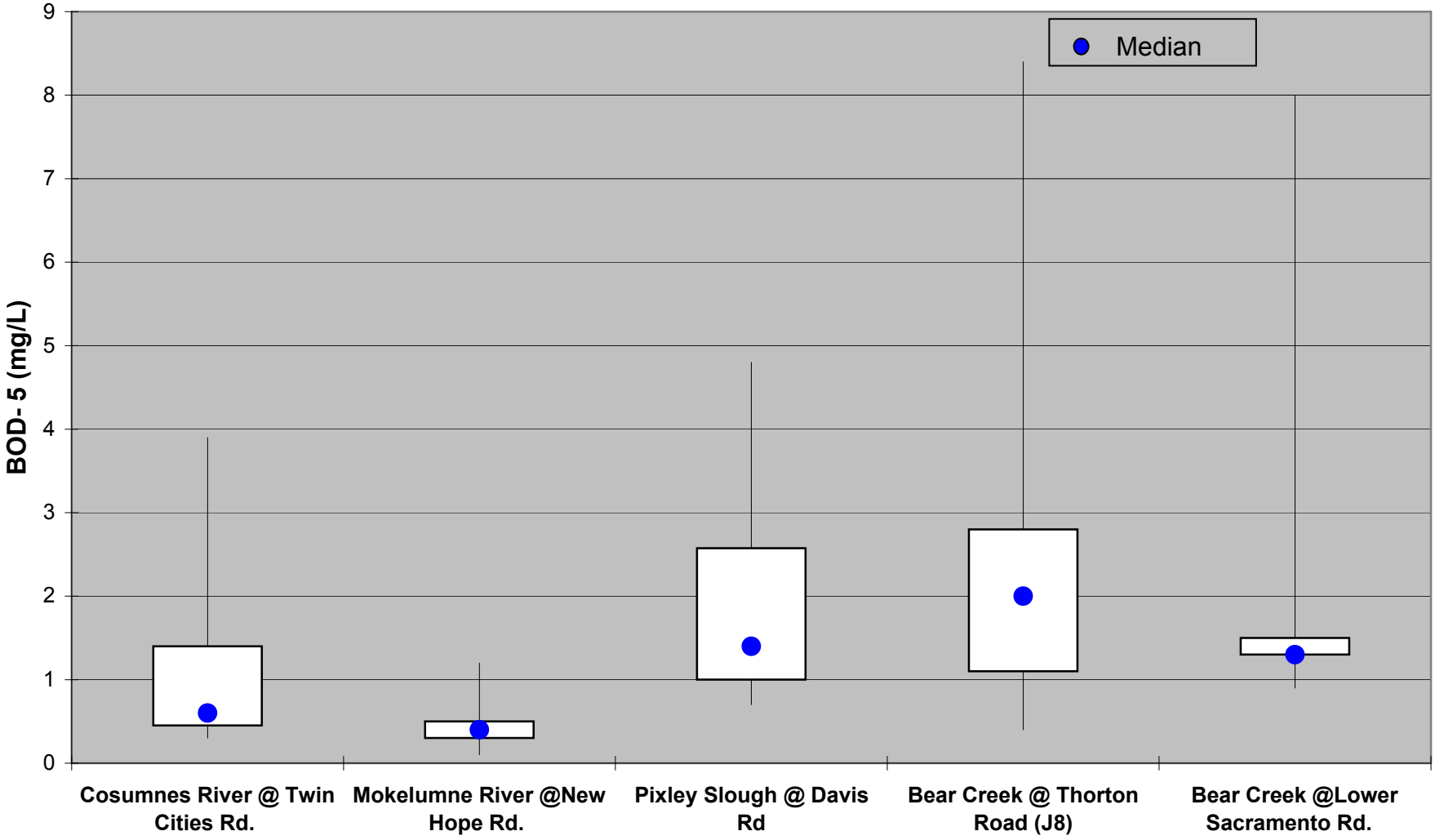

San Joaquin River Northeast Basin
Orthophosphate-P WY01-WY05
Median
Orthophosphate-P (mg/L)
1.2
1
0.8
0.6
0.4
0.2
0
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

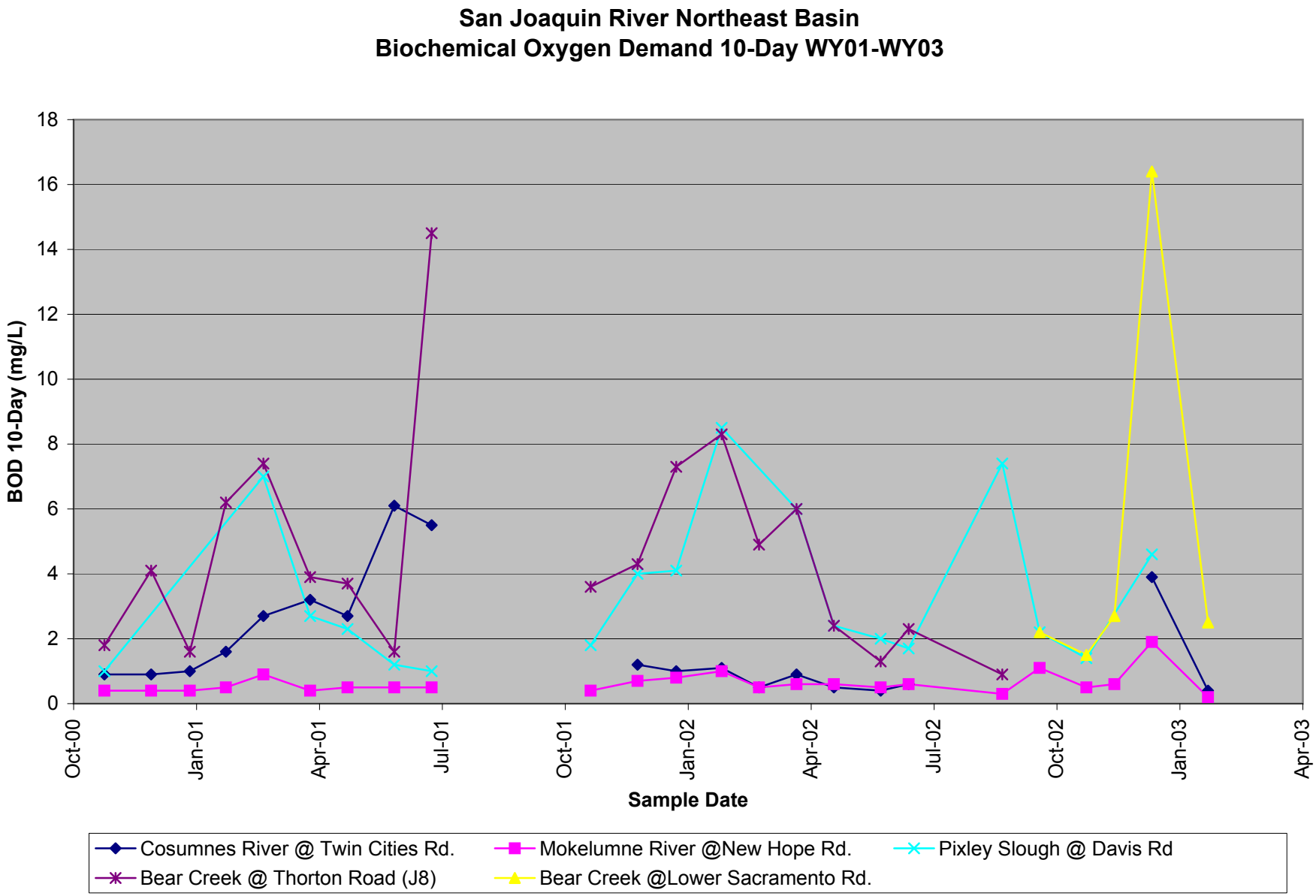

San Joaquin River Northeast Basin
Potassium WY01-WY03
Potassium (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.


San Joaquin River Northeast Basin
Potassium WY01-WY04
Median
Potassium (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

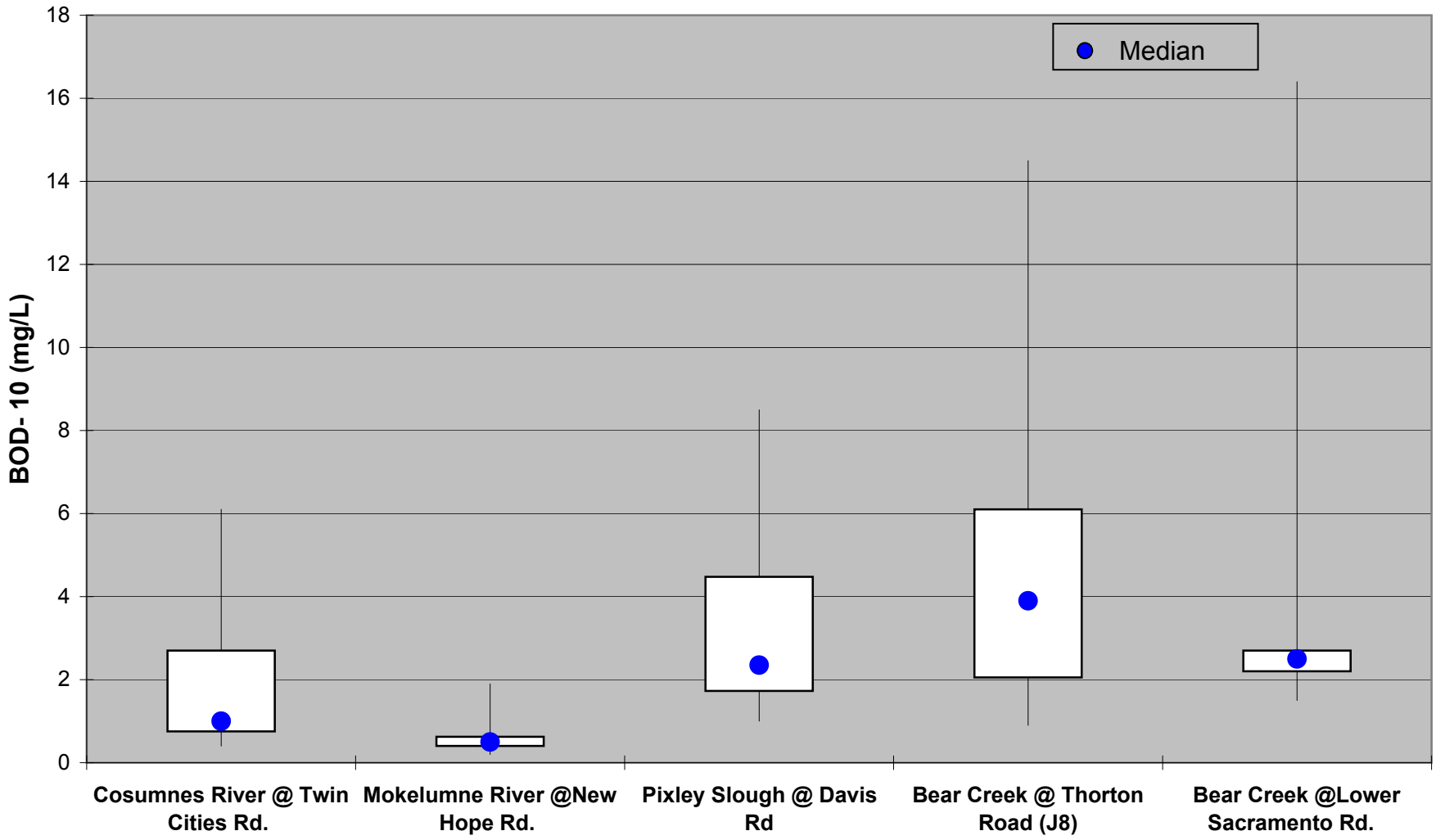

San Joaquin River Northeast Basin
Biochemical Oxygen Demand 5-Day WY01-WY03
BOD 5-Day (mg/L)
0
1
2
3
4
5
6
7
8
9
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

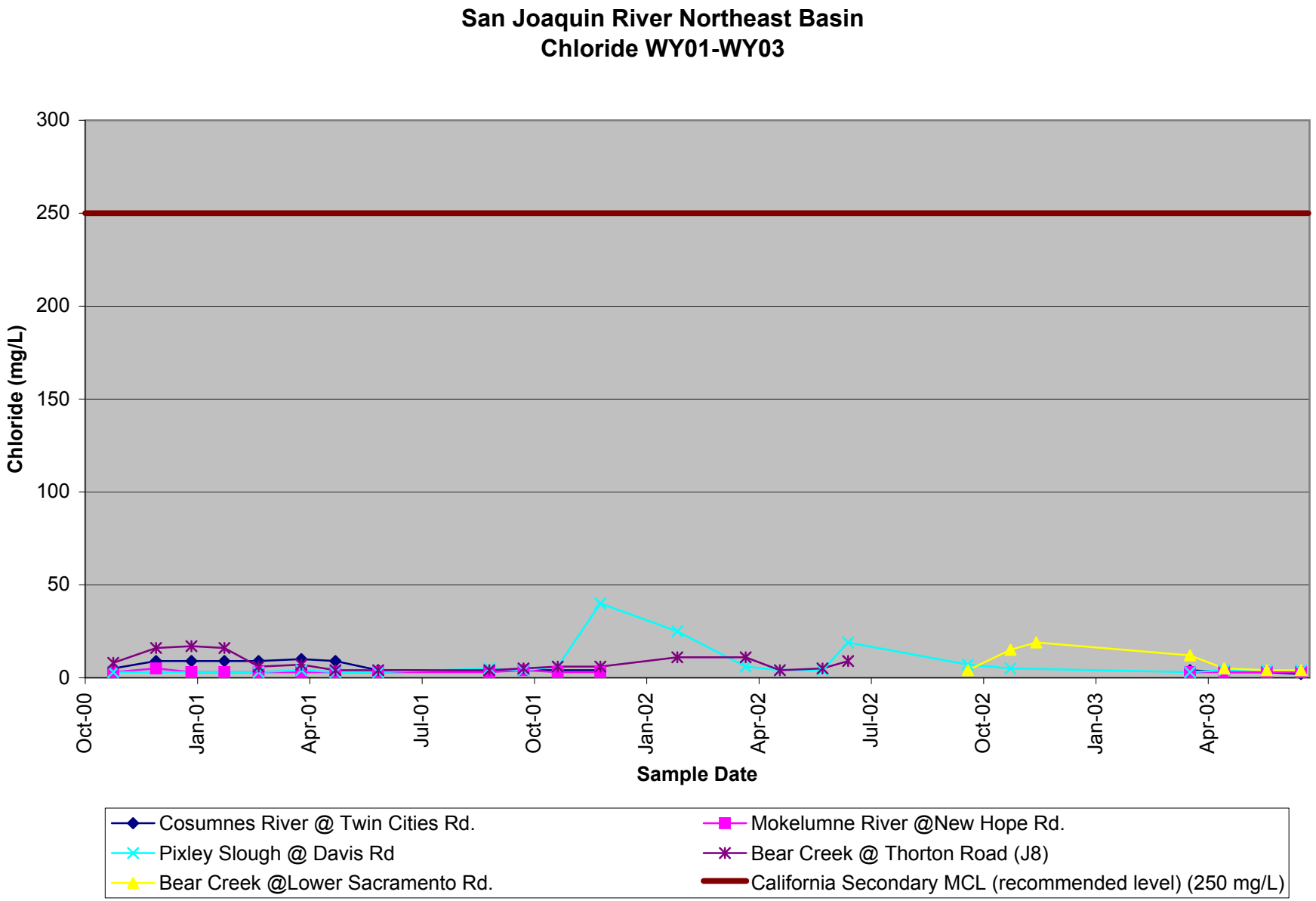
San Joaquin River Northeast Basin
Biological Oxygen Demand 5-Day WY01-WY03

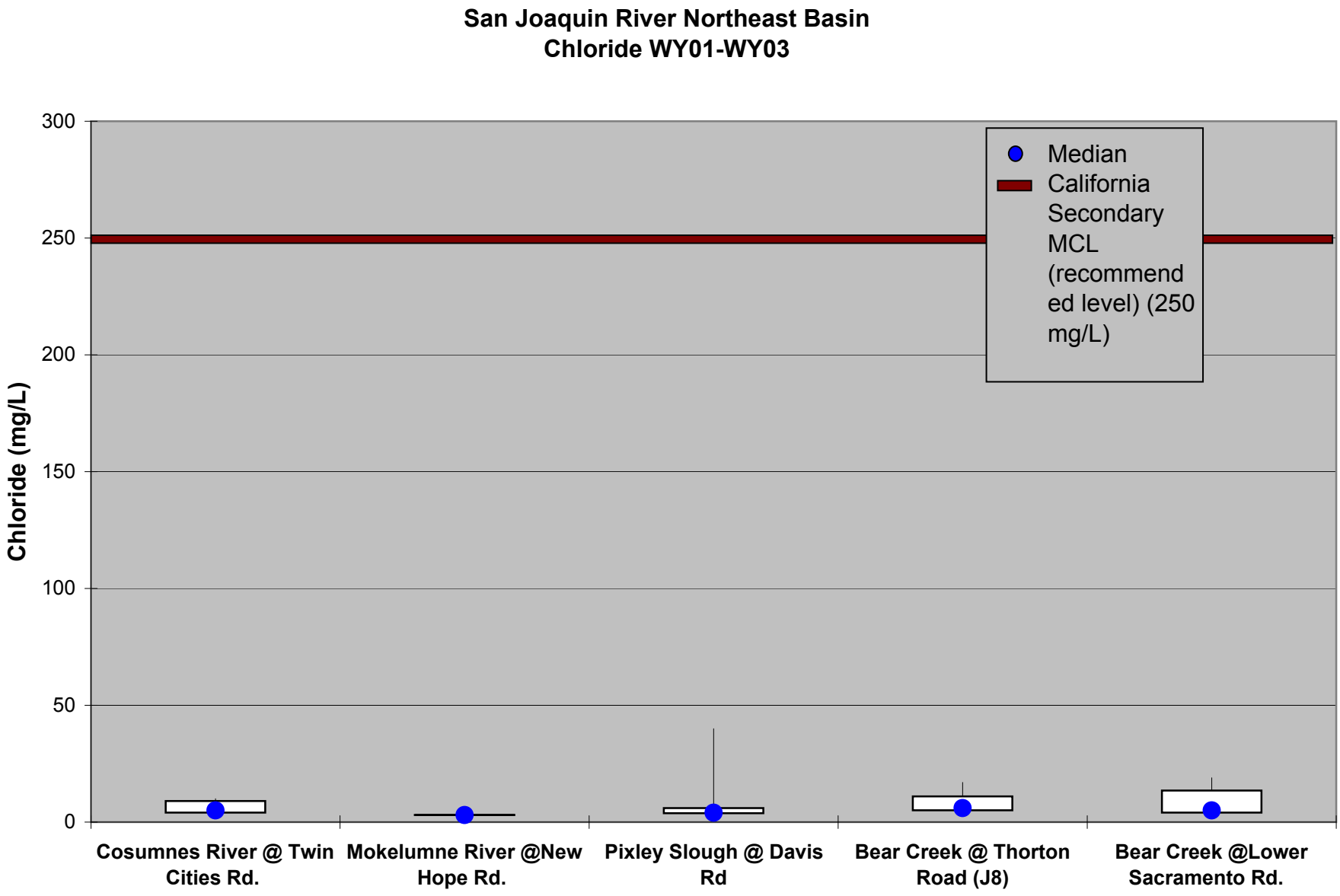


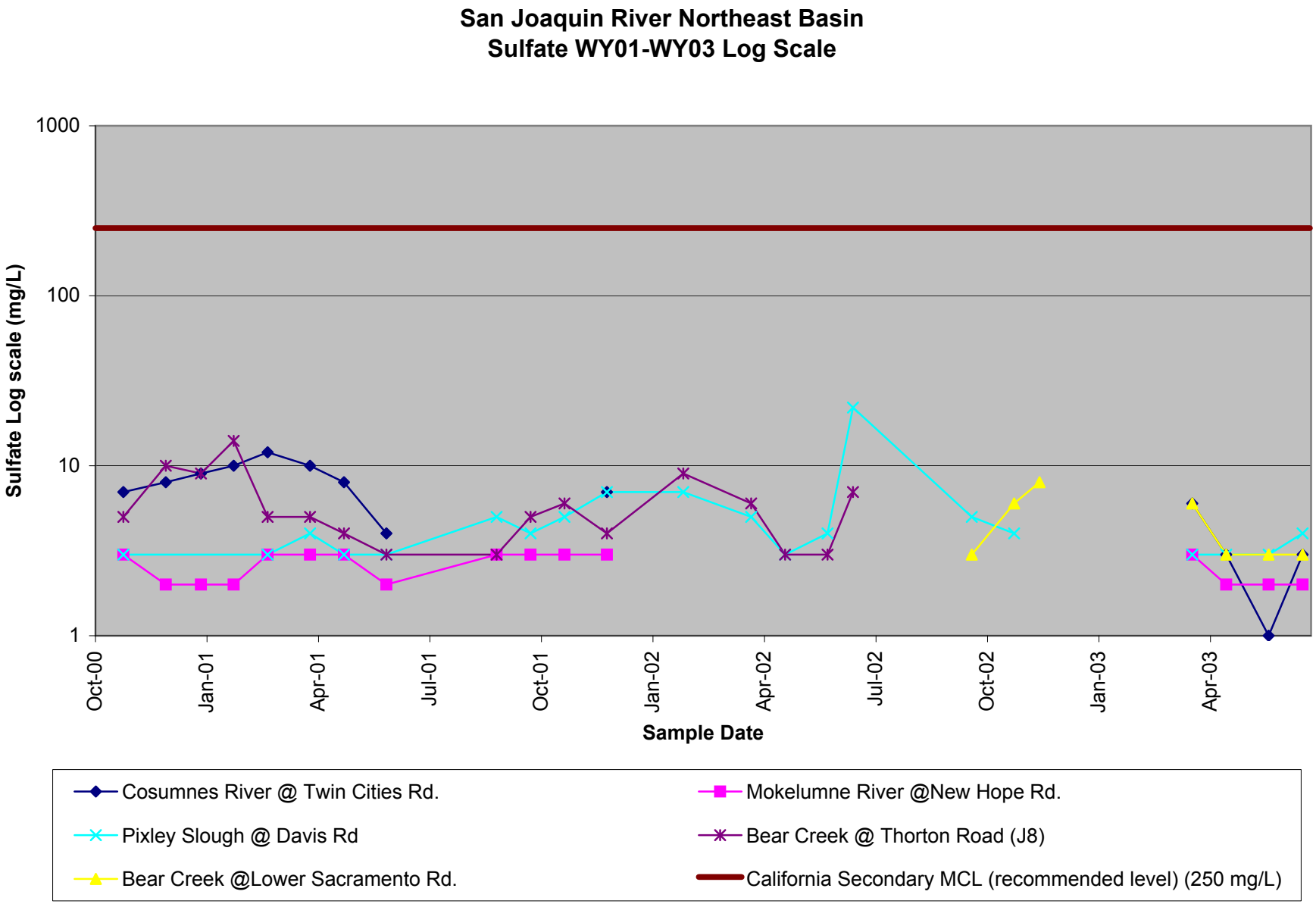

San Joaquin River Northeast Basin
Biochemical Oxygen Demand 10-Day WY01-WY03
BOD 10-Day (mg/L)
18
16
14
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

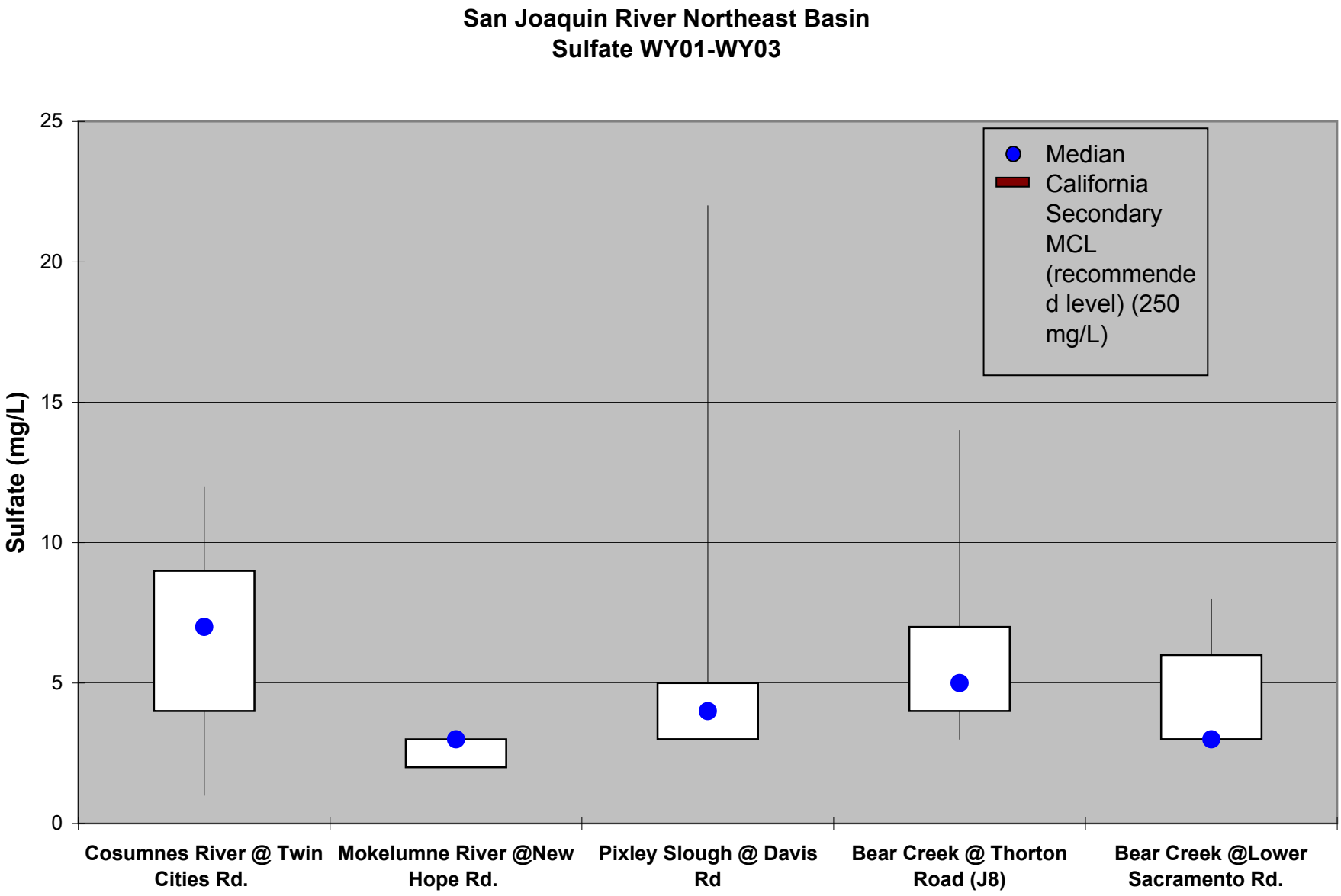
San Joaquin River Northeast Basin
Biological Oxygen Demand 10-Day WY01-WY03

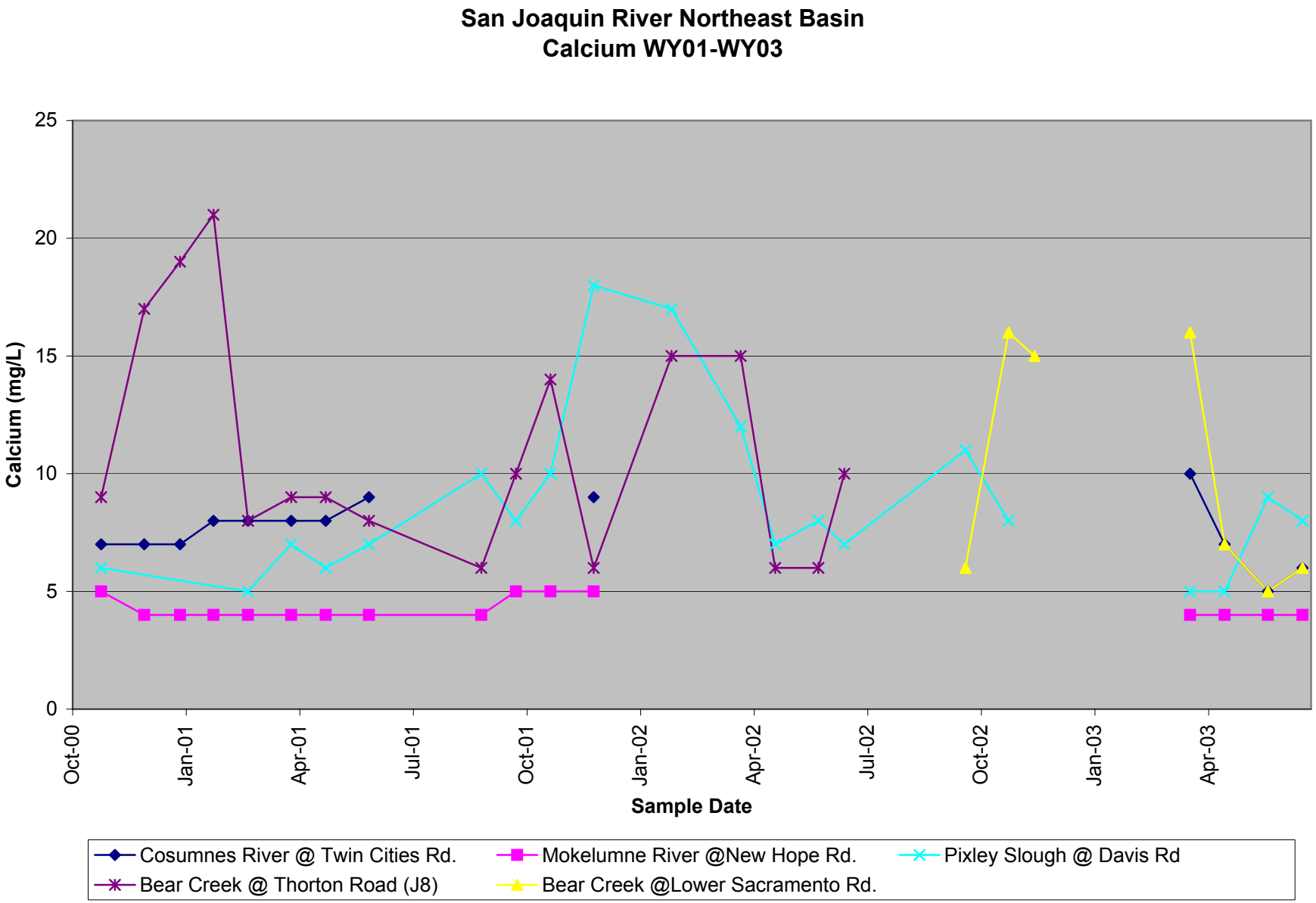


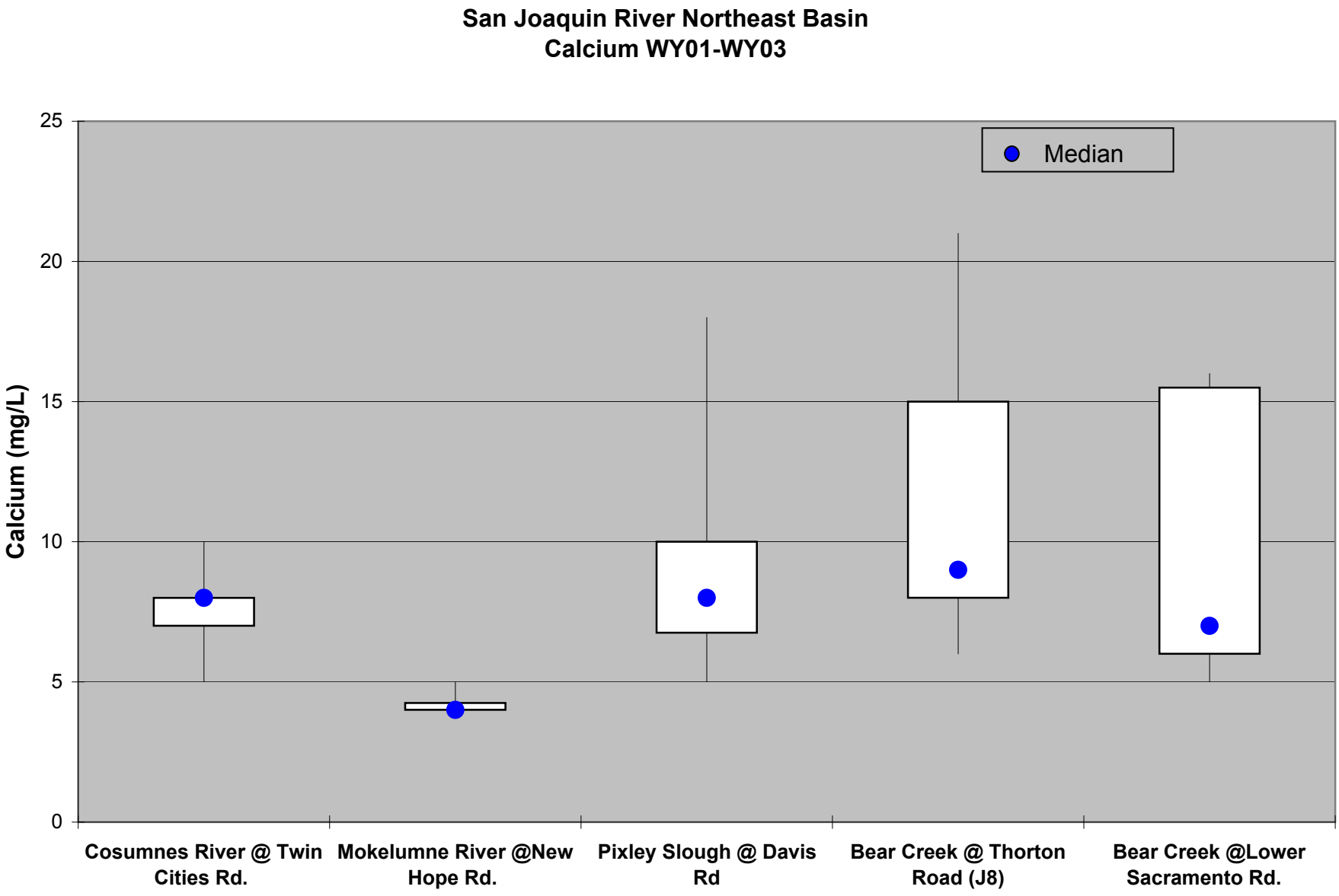

San Joaquin River Northeast Basin
Chloride WY01-WY03
Chloride (mg/L)
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.
California Secondary MCL (recommended level) (250 mg/L)

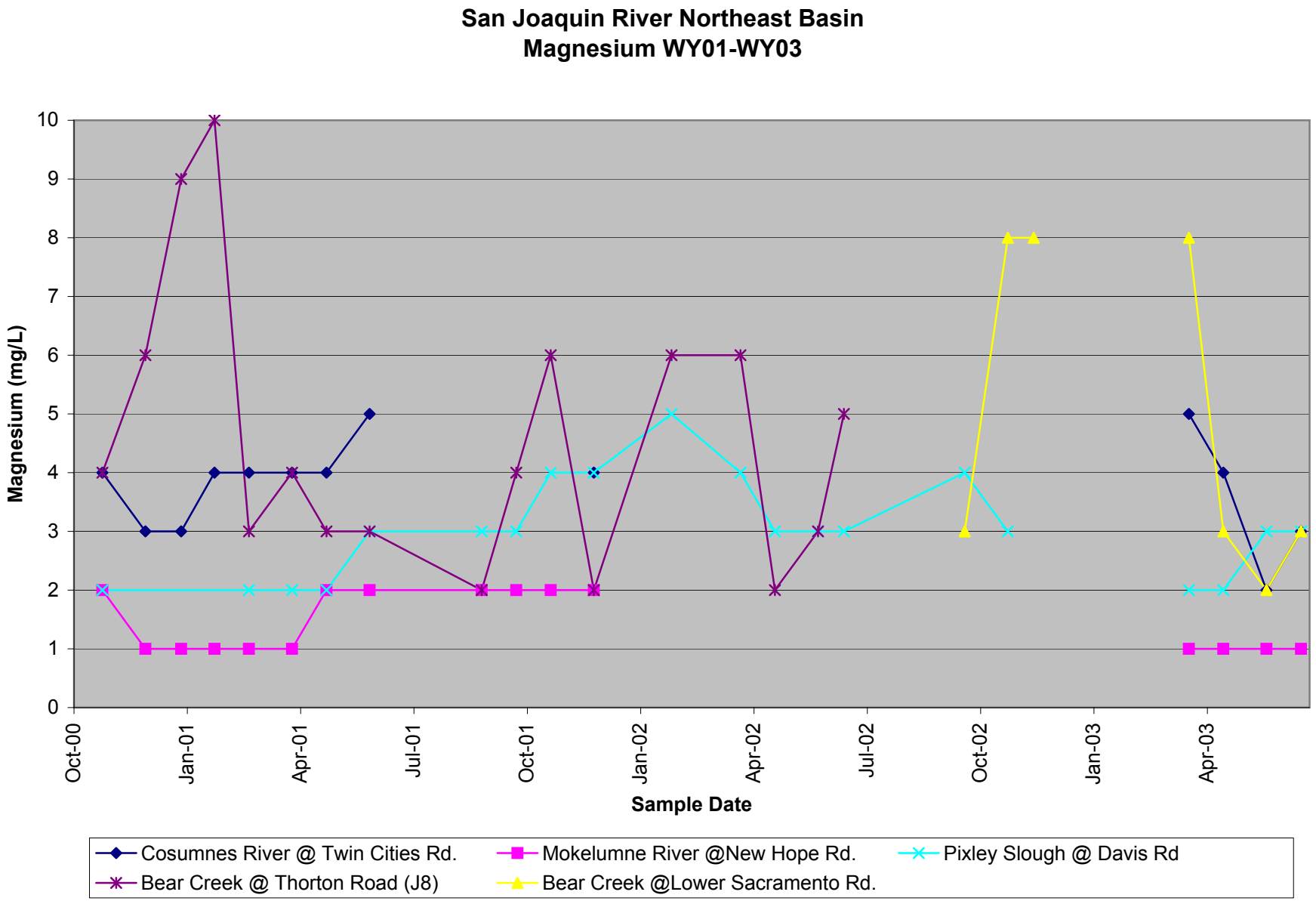

San Joaquin River Northeast Basin
Chloride WY01-WY03
Chloride (mg/L)
300
250
200
150
100
50
0
Median
California Secondary MCL (recommended level) (250 mg/L)
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

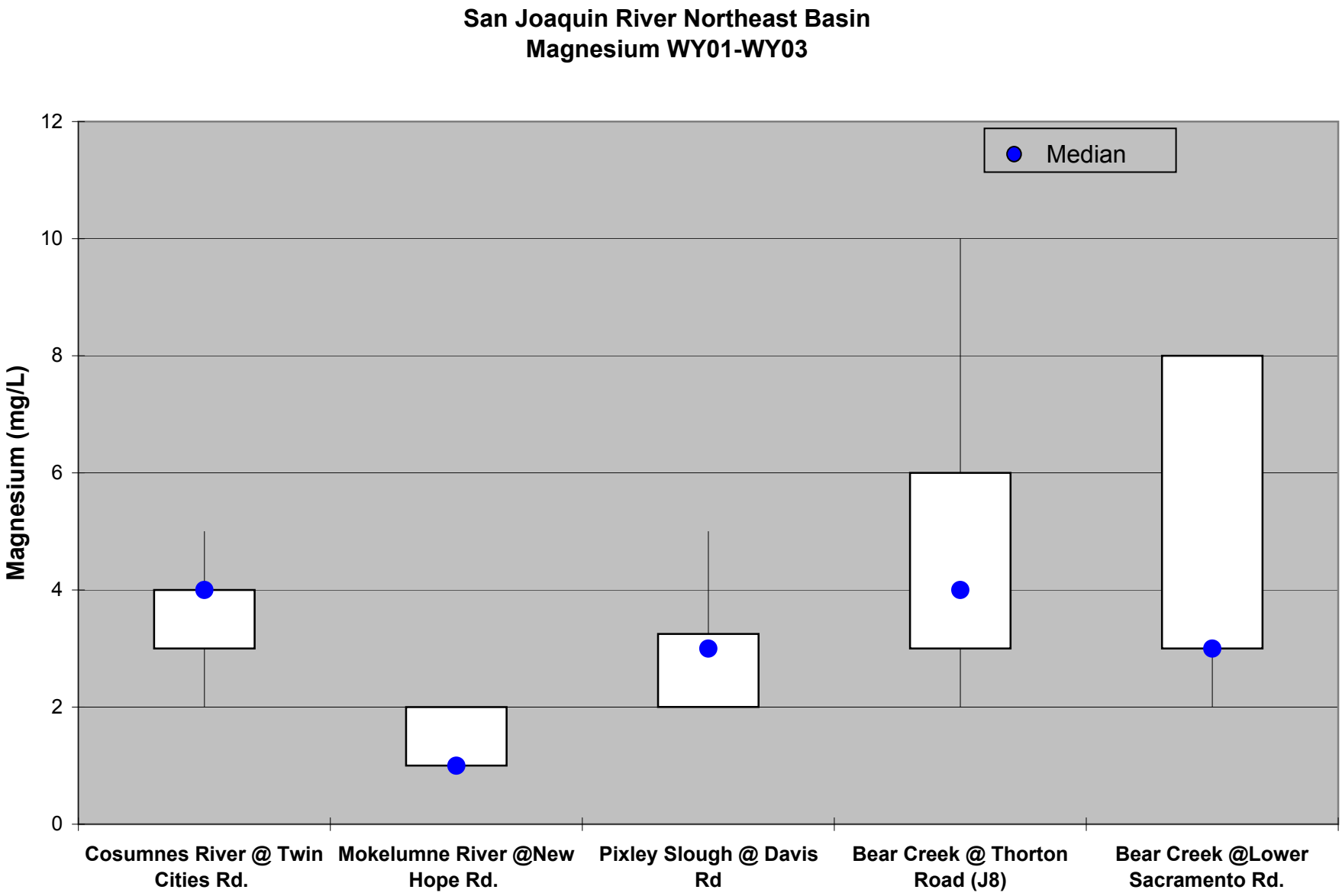

San Joaquin River Northeast Basin
Sulfate WY01-WY03 Log Scale
Sulfate Log scale (mg/L)
1000
100
10
1
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.
California Secondary MCL (recommended level) (250 mg/L)

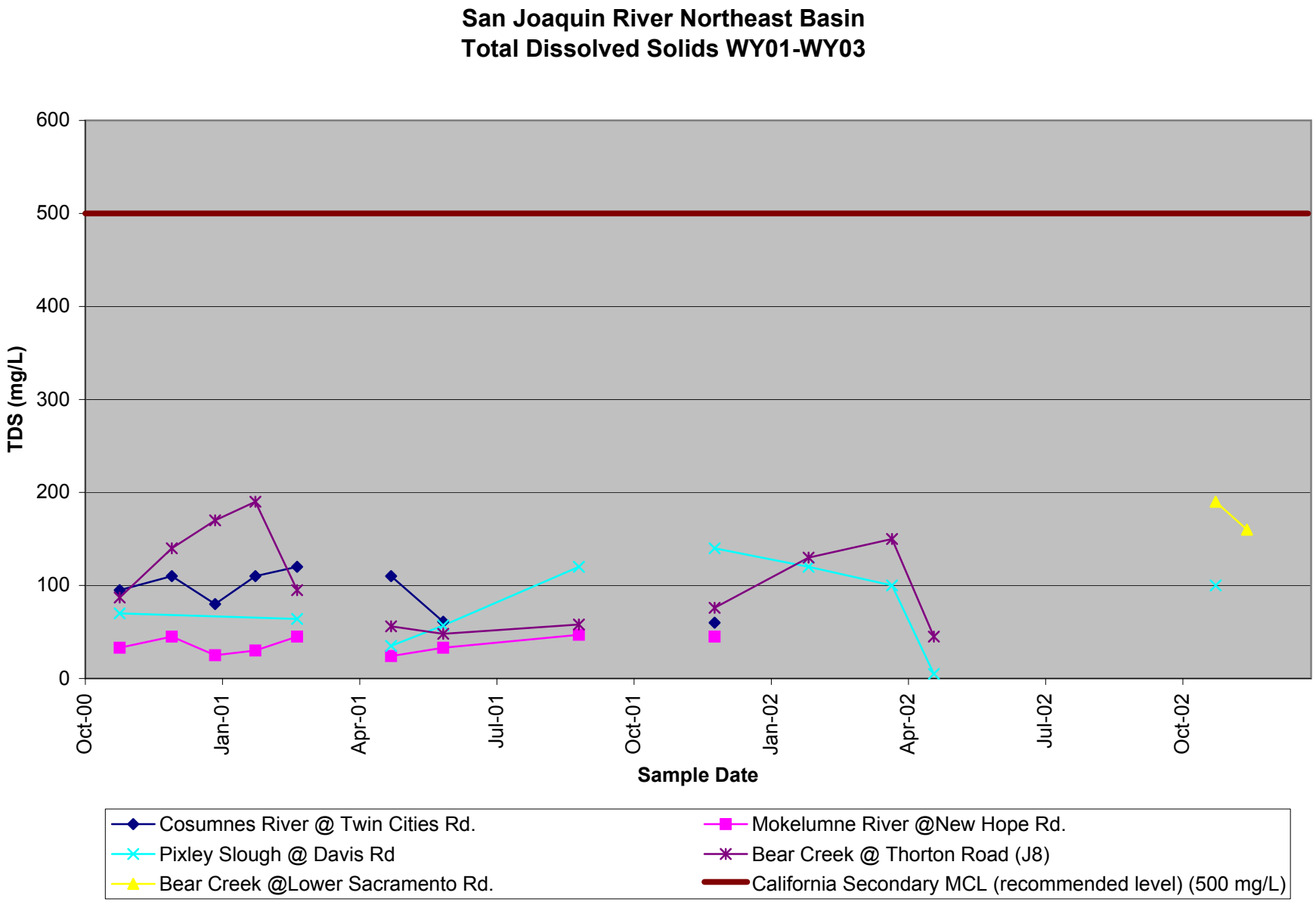

San Joaquin River Northeast Basin
Sulfate WY01-WY03
Sulfate (mg/L)
25
20
15
10
5
0
Median
California Secondary MCL (recommended level) (250 mg/L)
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

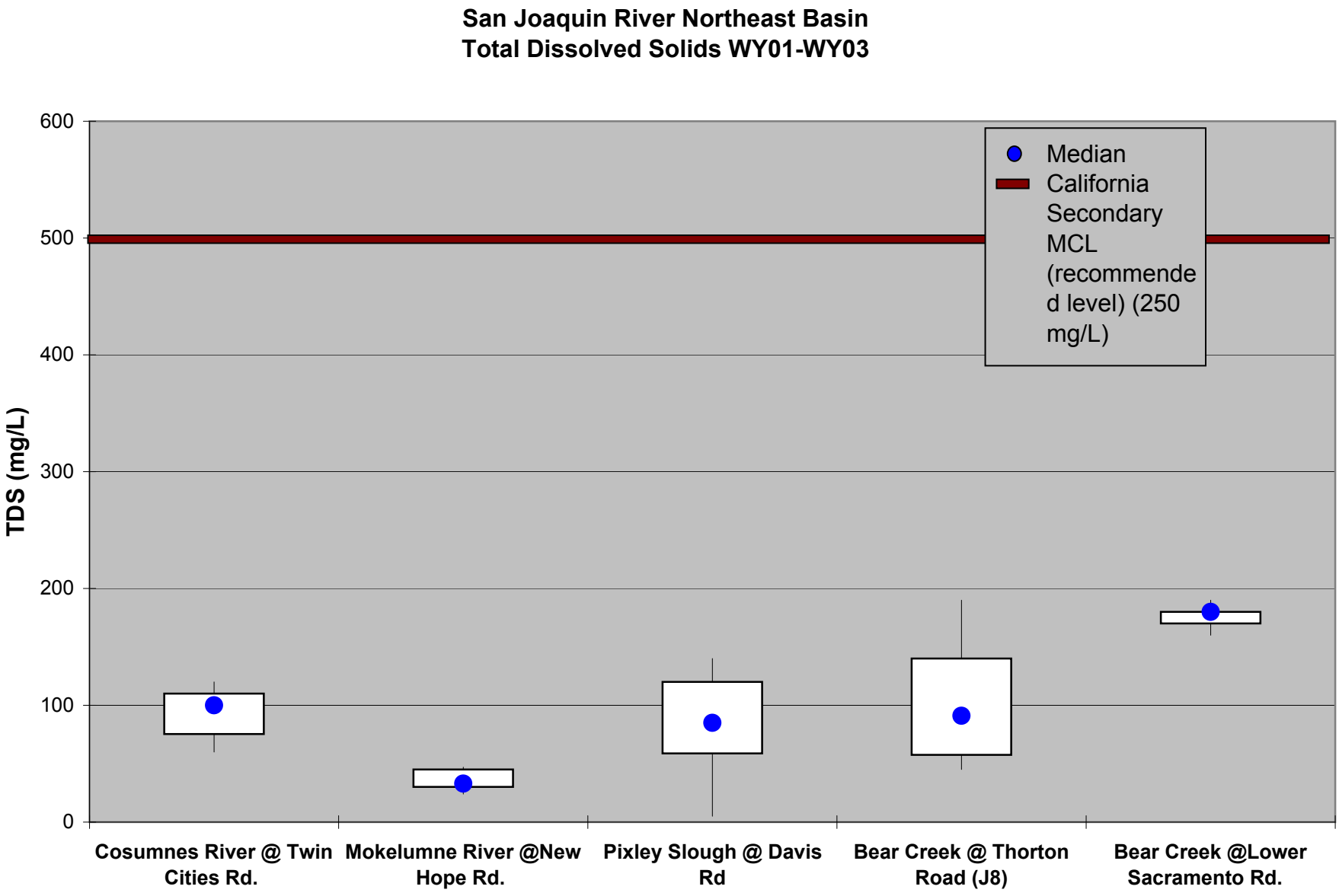

San Joaquin River Northeast Basin
Calcium WY01-WY03
Calcium (mg/L)
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

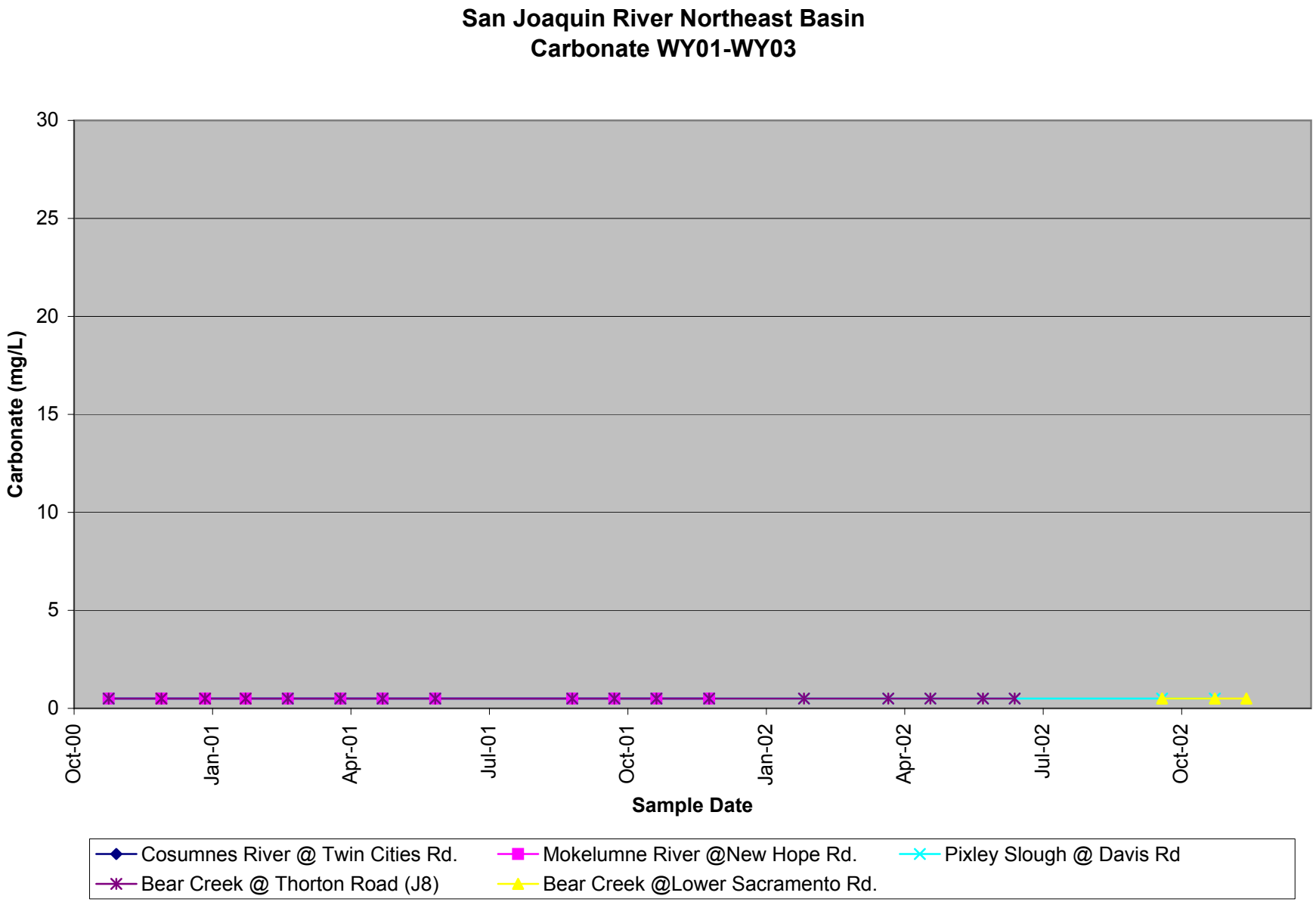

San Joaquin River Northeast Basin
Calcium WY01-WY03
Median
Calcium (mg/L)
25
20
15
10
5
0
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

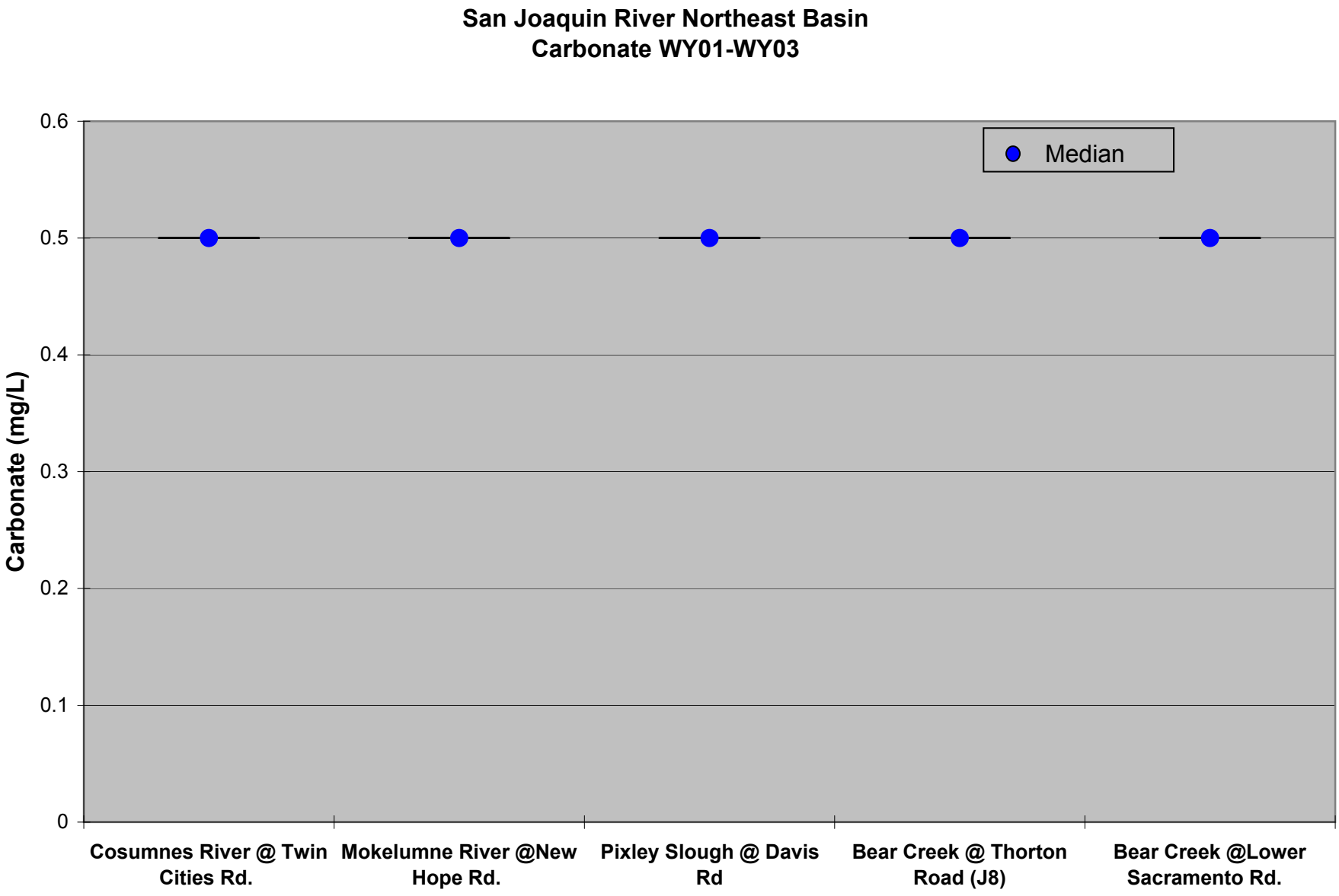

San Joaquin River Northeast Basin
Magnesium WY01-WY03
Magnesium (mg/L)
10
9
8
7
6
5
4
3
2
1
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

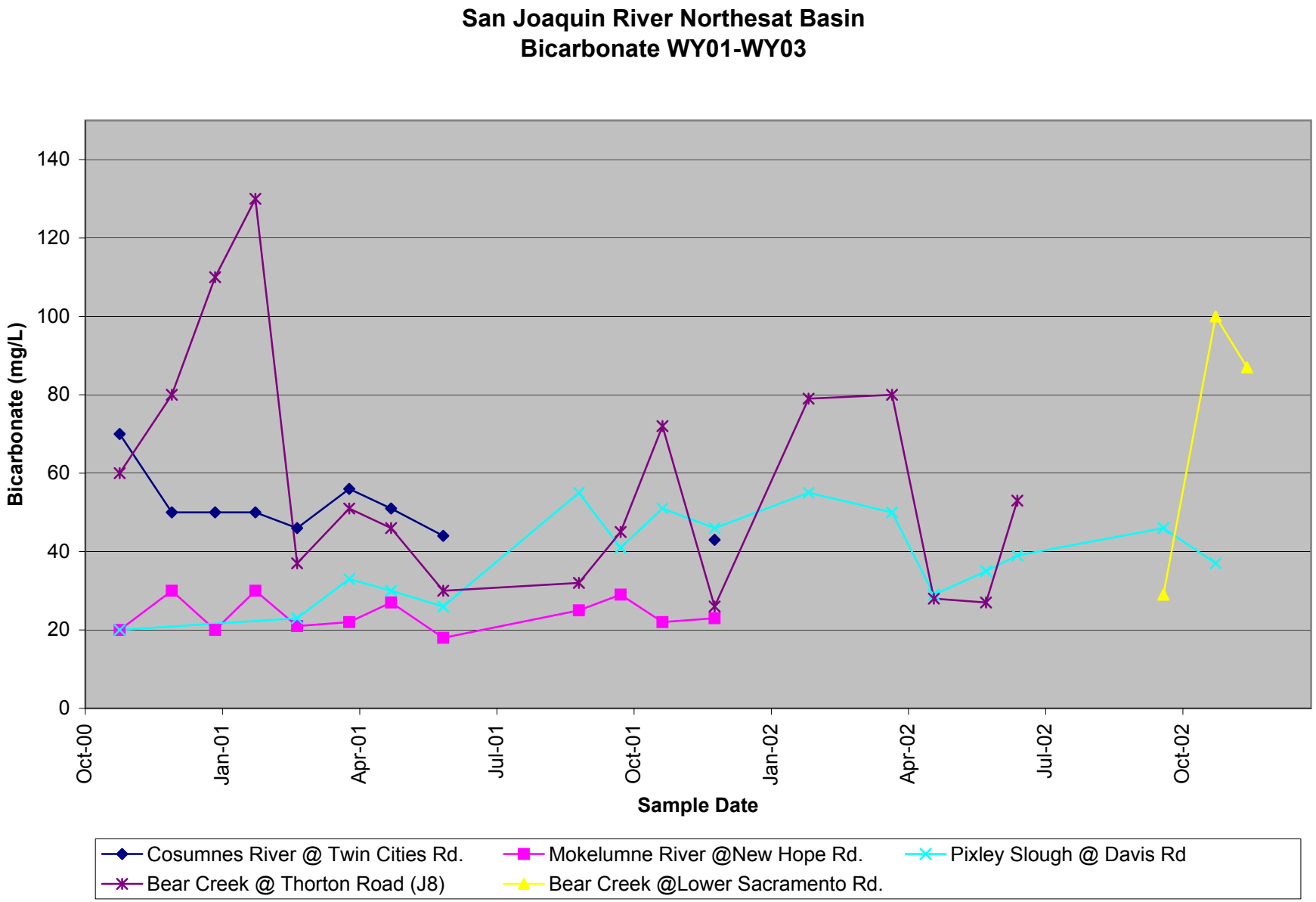

San Joaquin River Northeast Basin
Magnesium WY01-WY03
Median
Magnesium (mg/L)
12
10
8
6
4
2
0
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

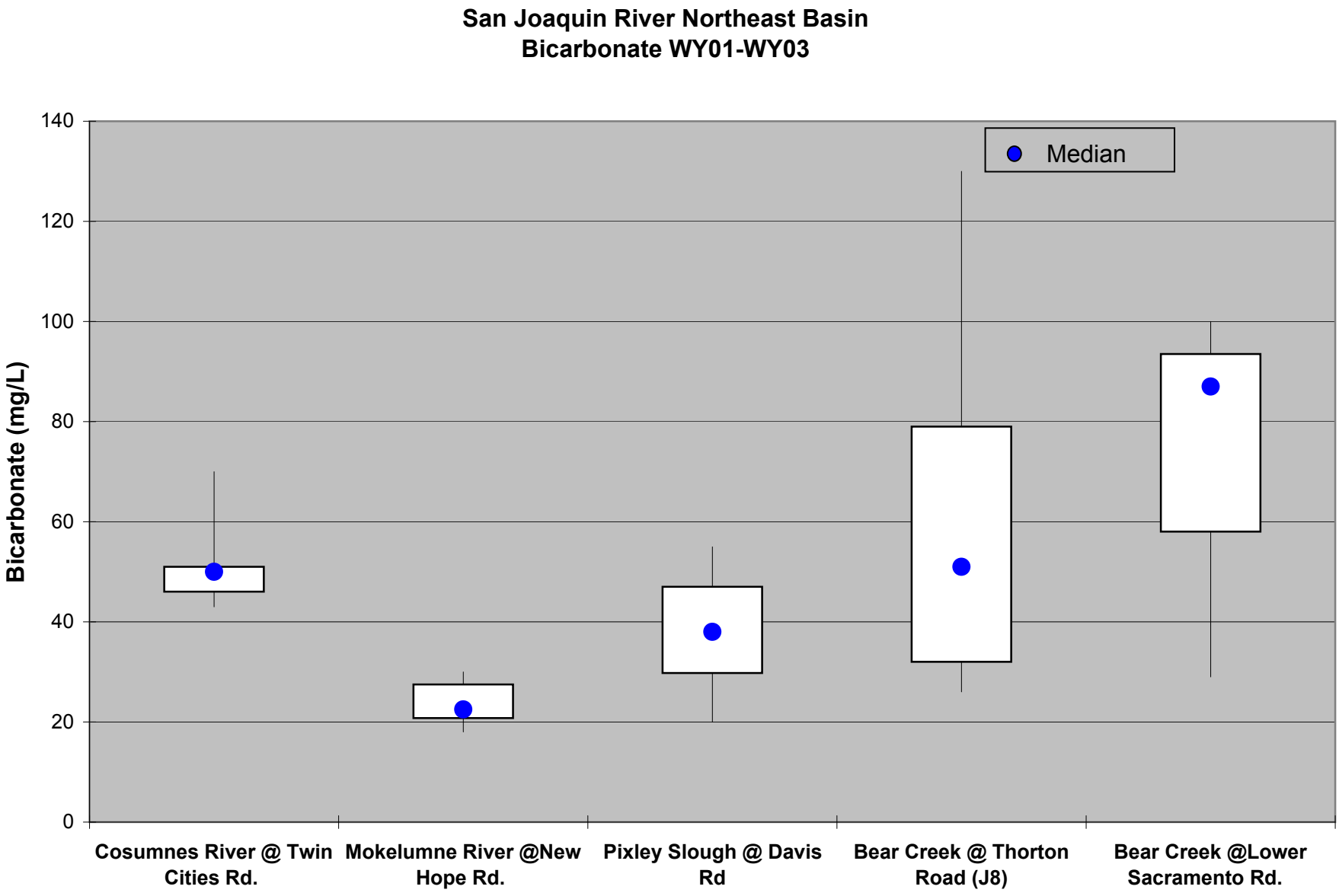

San Joaquin River Northeast Basin
Total Dissolved Solids WY01-WY03
TDS (mg/L)
600
500
400
300
200
100
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.
California Secondary MCL (recommended level) (500 mg/L)

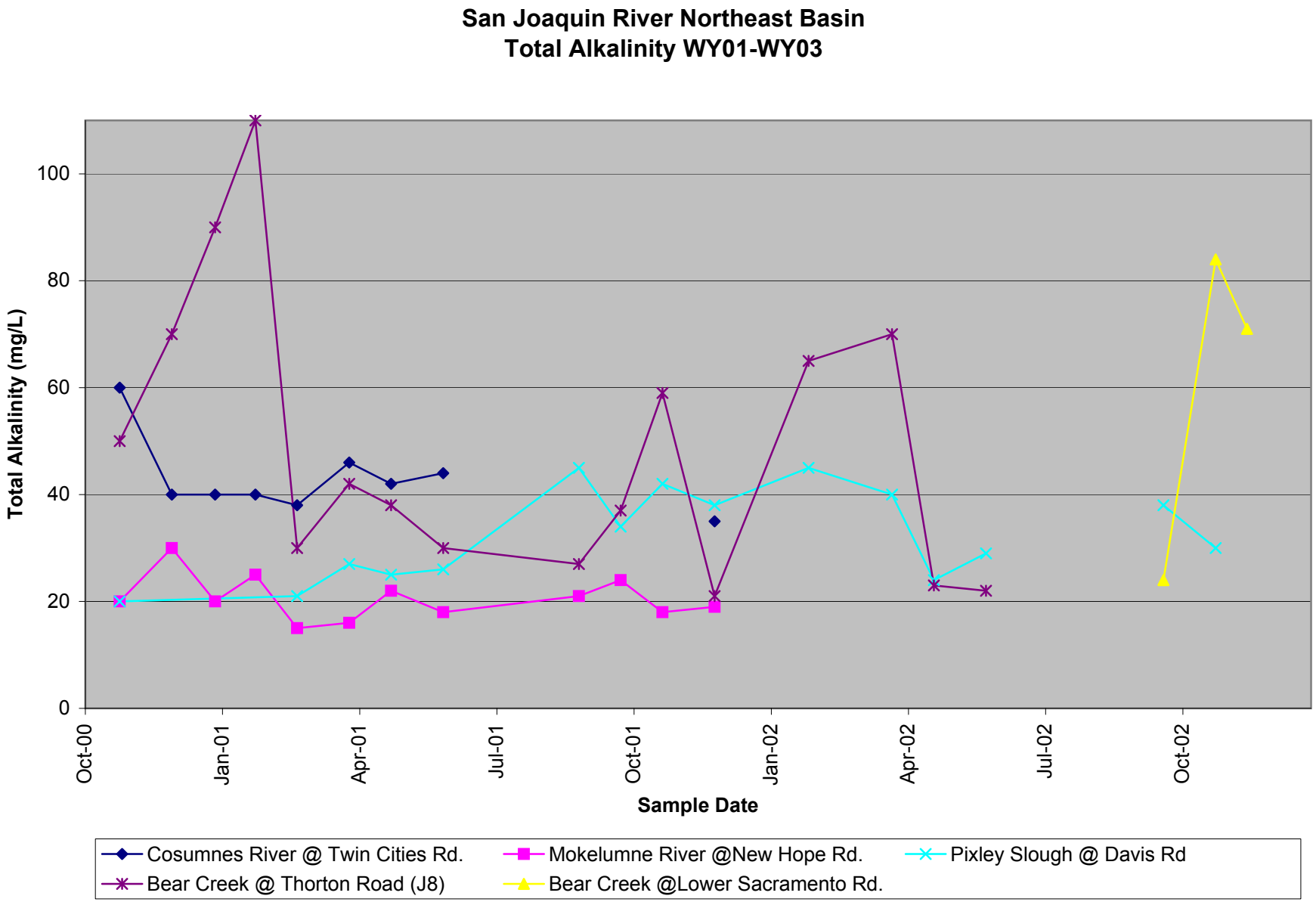

San Joaquin River Northeast Basin
Total Dissolved Solids WY01-WY03
TDS (mg/L)
600
500
400
300
200
100
0
Median
California Secondary MCL (recommended level) (250 mg/L)
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

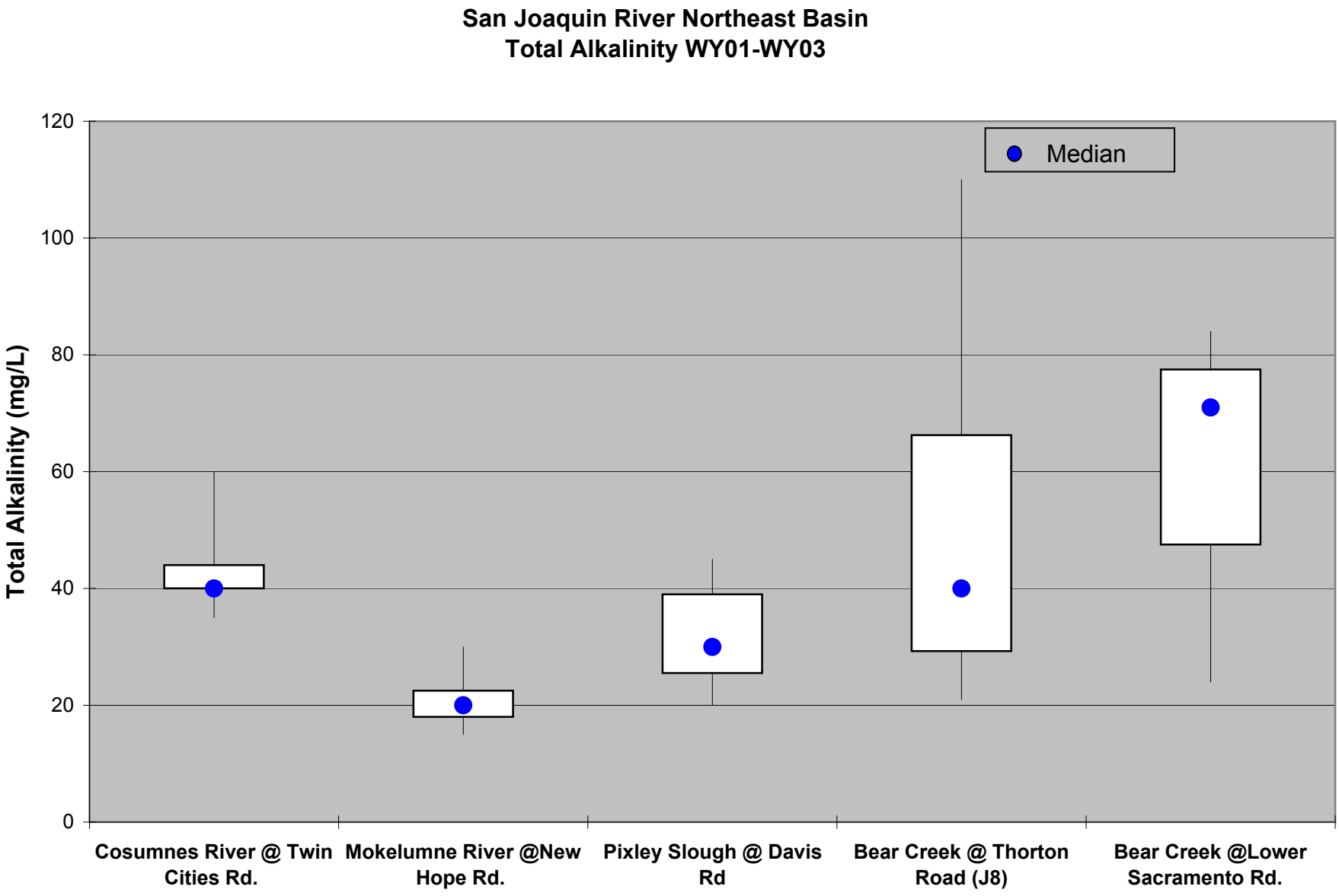

San Joaquin River Northeast Basin
Carbonate WY01-WY03
Carbonate (mg/L)
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

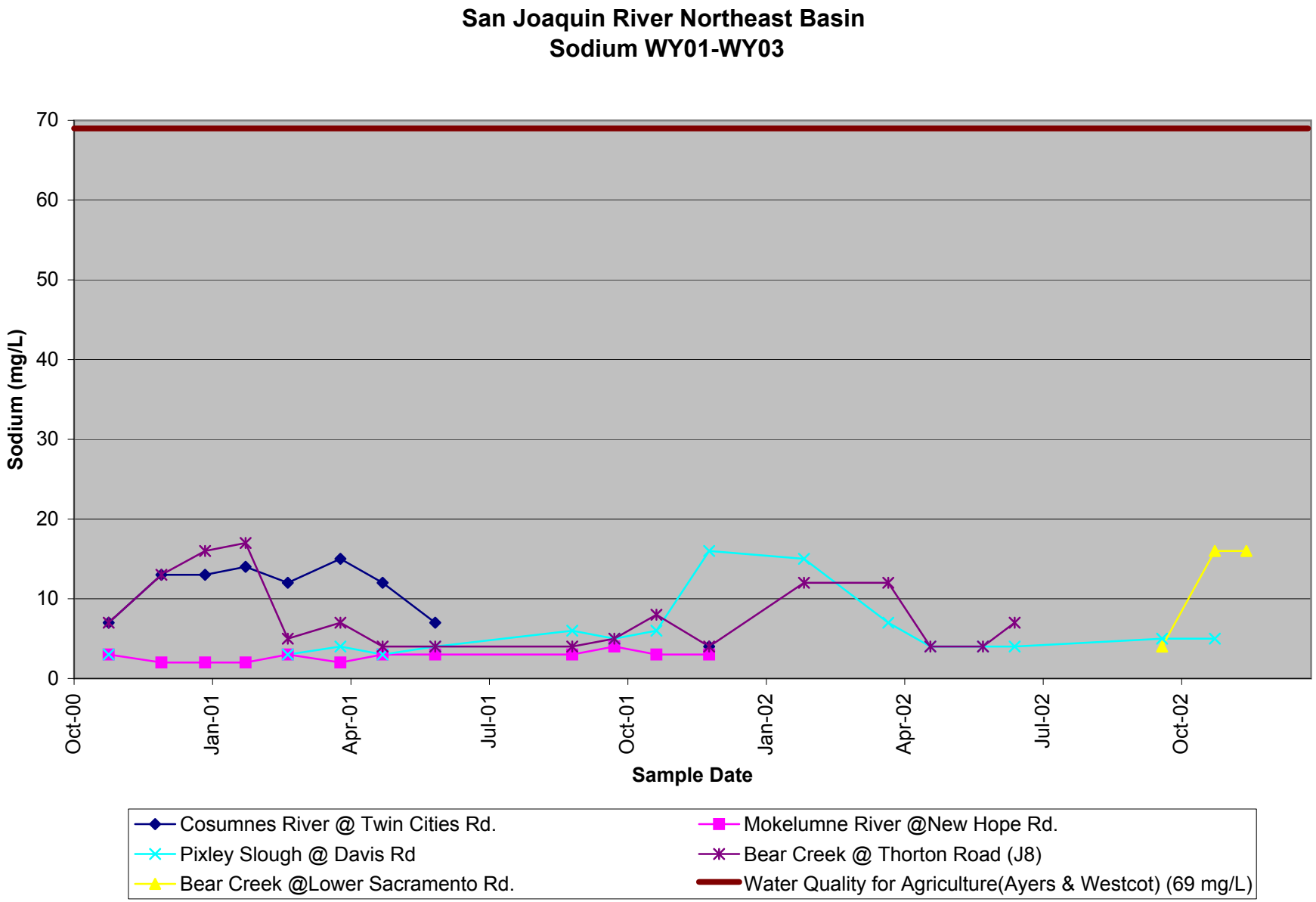

San Joaquin River Northeast Basin
Carbonate WY01-WY03
Median
Carbonate (mg/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

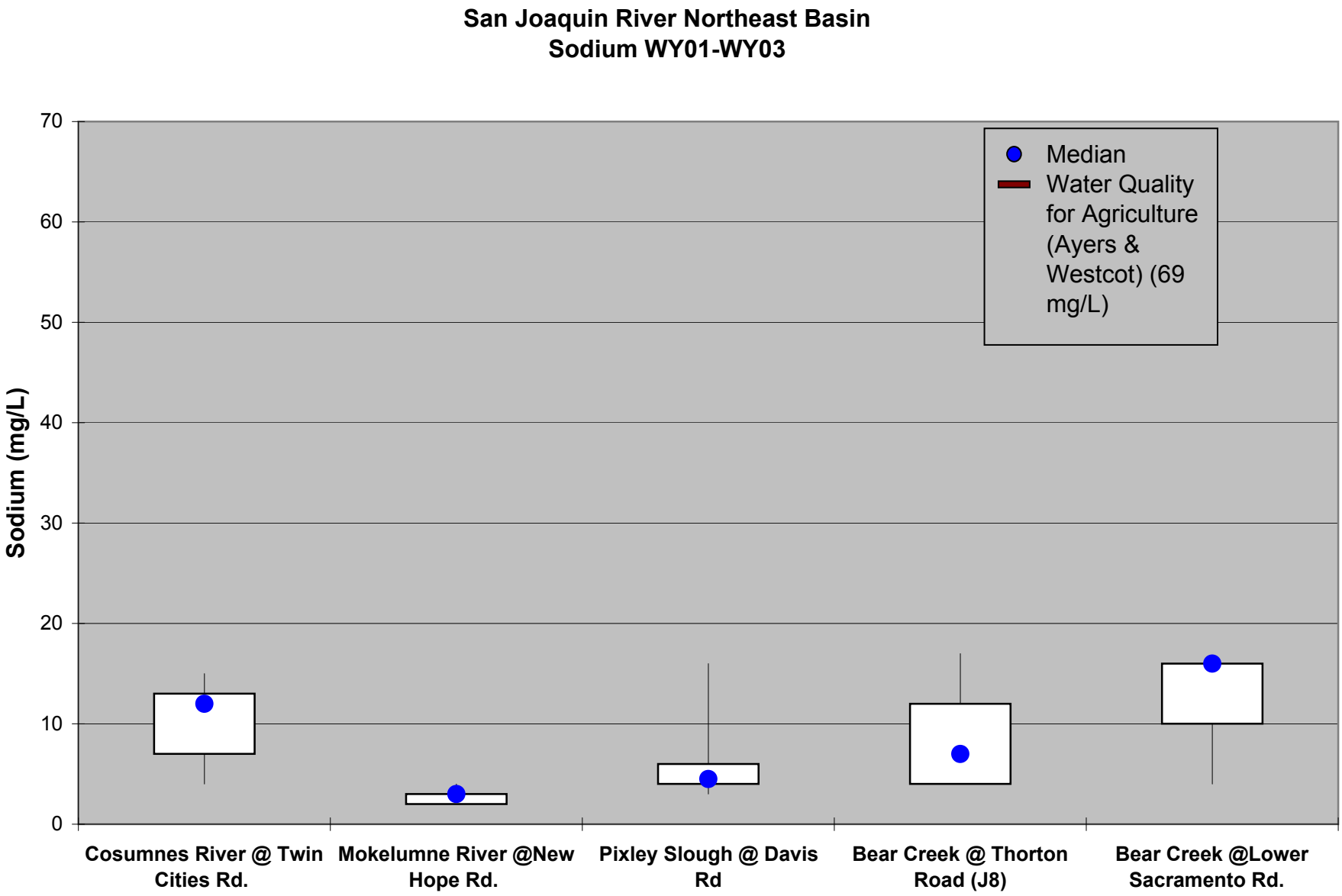

San Joaquin River Northesat Basin
Bicarbonate WY01-WY03
Bicarbonate (mg/L)
0
20
40
60
80
100
120
140
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

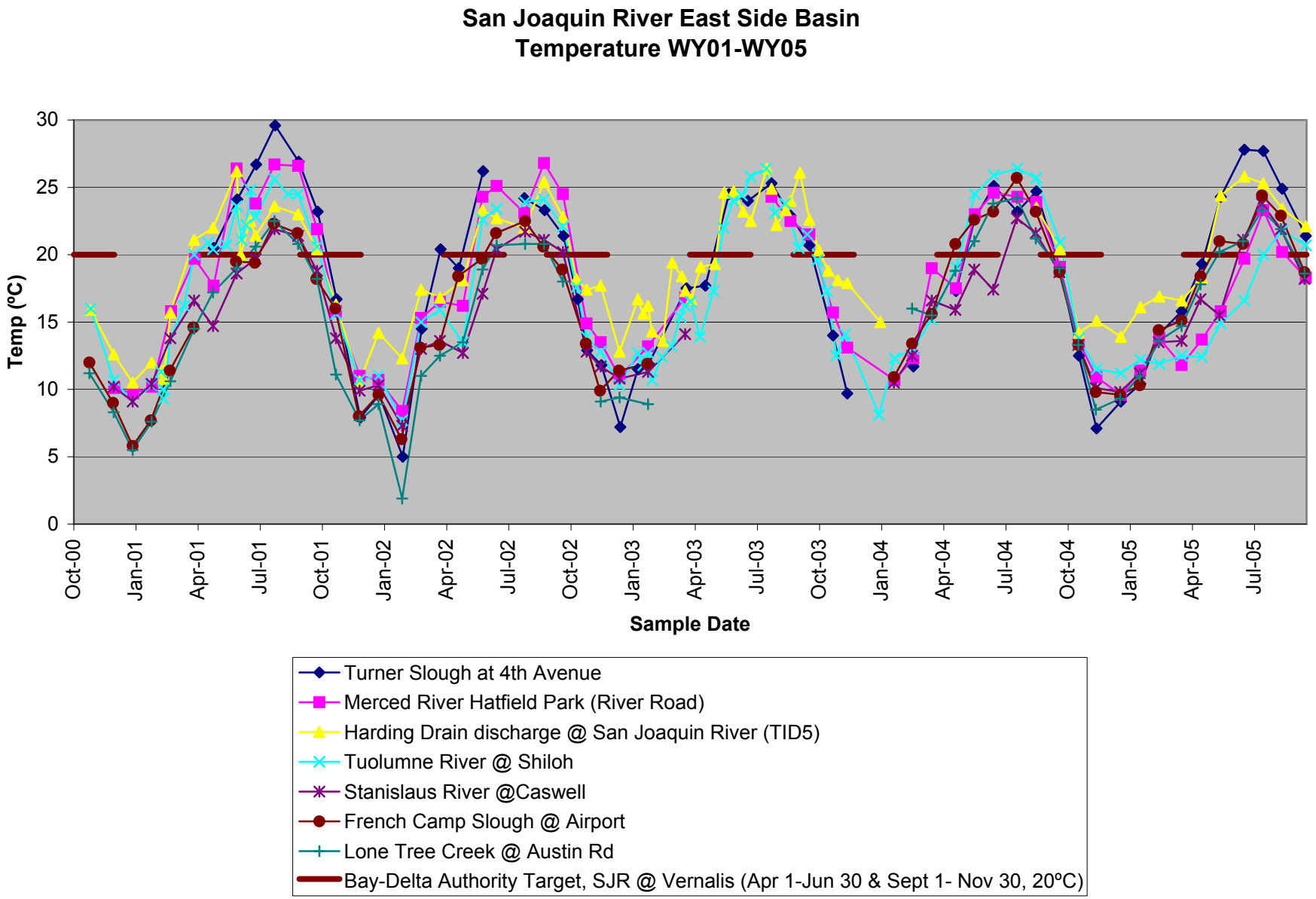

San Joaquin River Northeast Basin
Bicarbonate WY01-WY03
Median
Bicarbonate (mg/L)
140
120
100
80
60
40
20
0
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

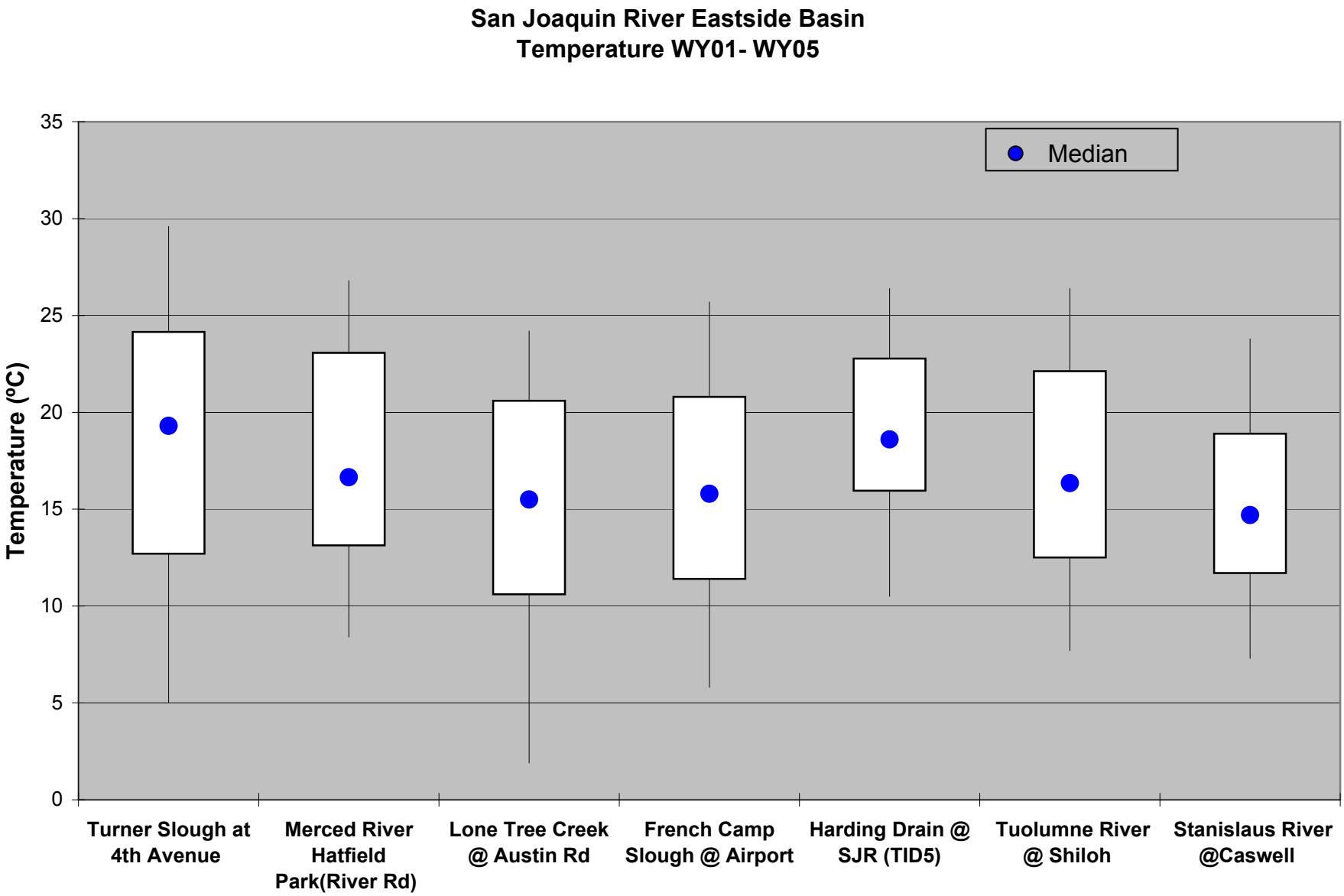

San Joaquin River Northeast Basin
Total Alkalinity WY01-WY03
Total Alkalinity (mg/L)
0
20
40
60
80
100
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

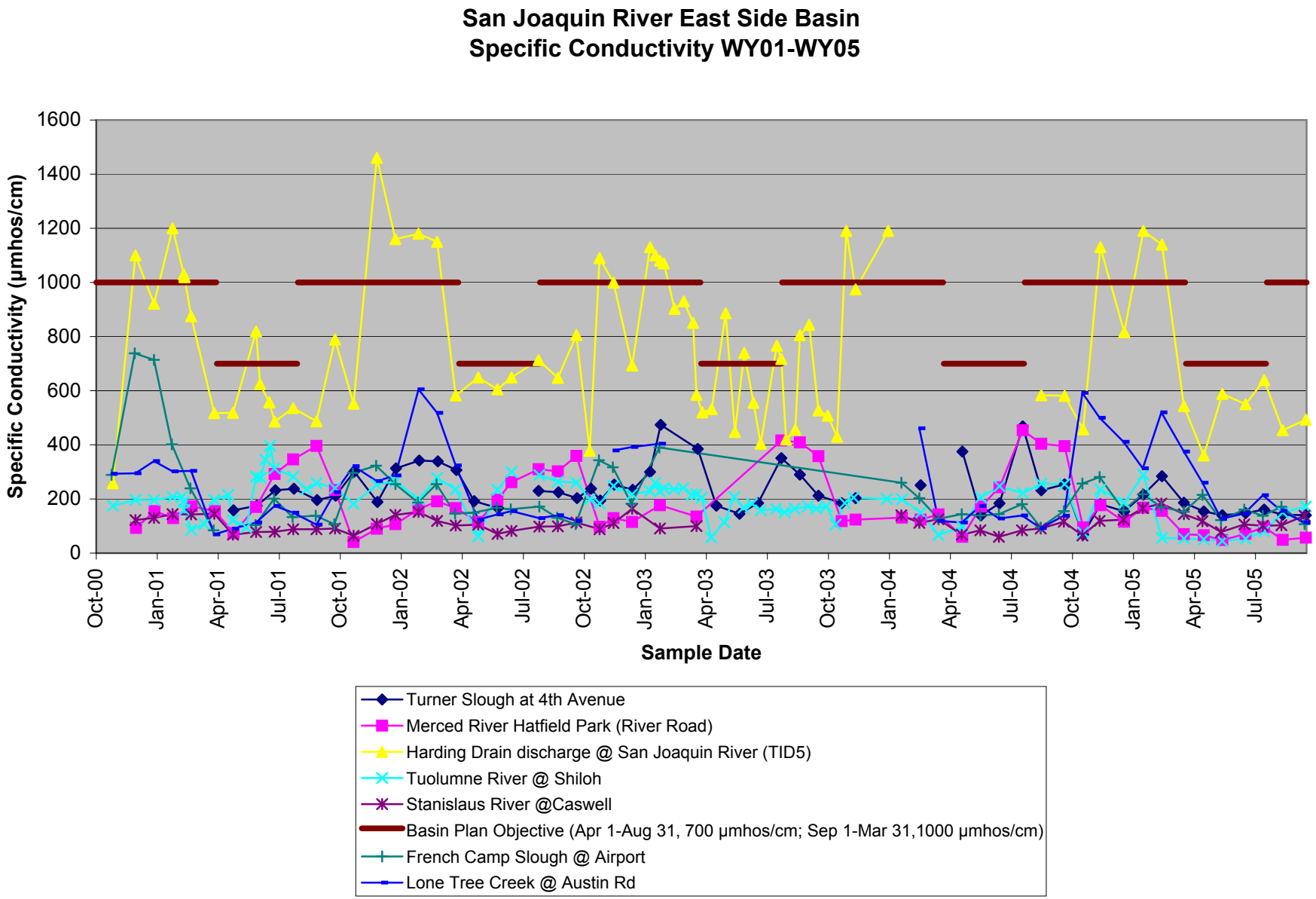

San Joaquin River Northeast Basin
Total Alkalinity WY01-WY03
Median
Total Alkalinity (mg/L)
120
100
80
60
40
20
0
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

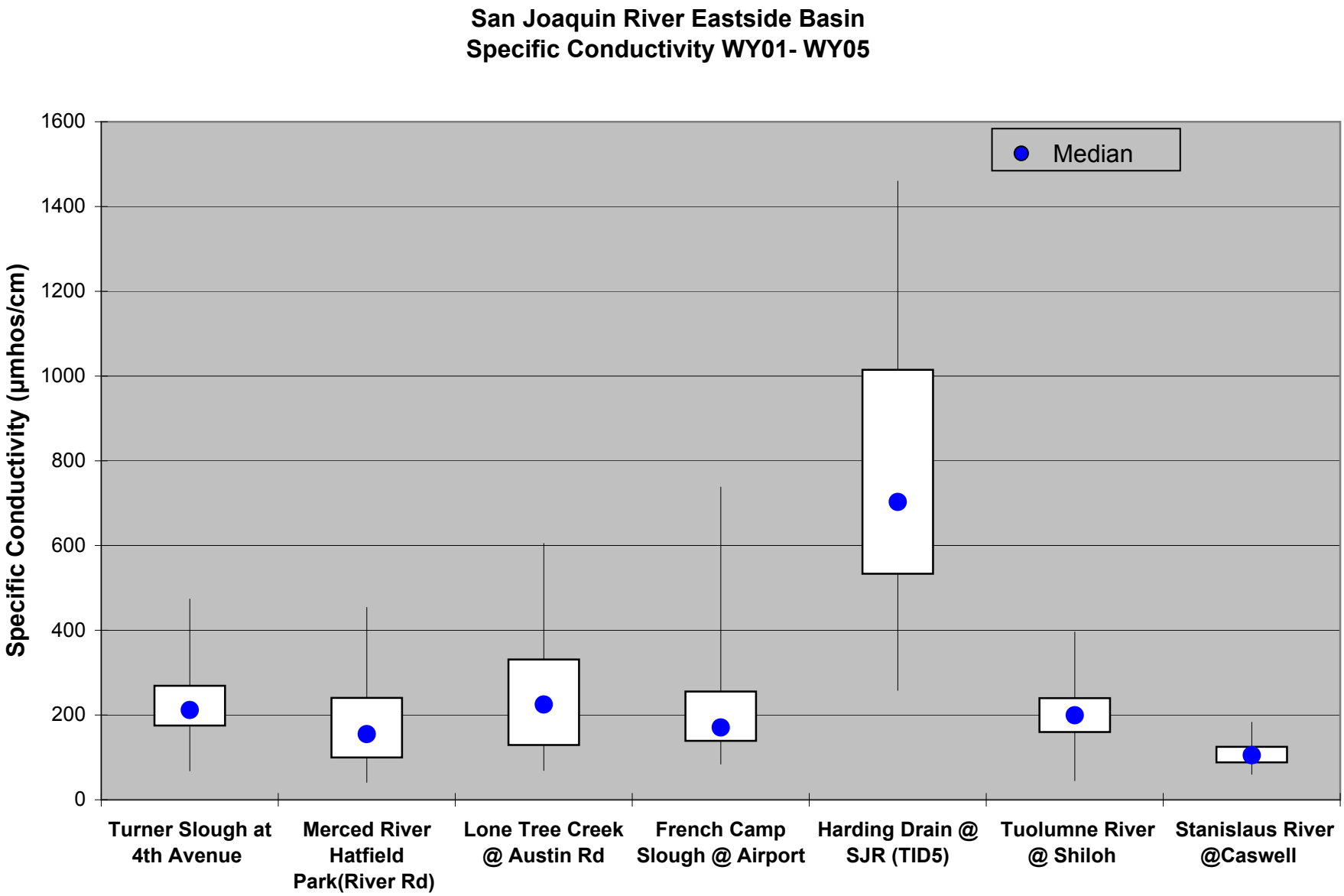

San Joaquin River Northeast Basin
Sodium WY01-WY03
Sodium (mg/L)
70
60
50
40
30
20
10
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.
Water Quality for Agriculture(Ayers & Westcot) (69 mg/L)

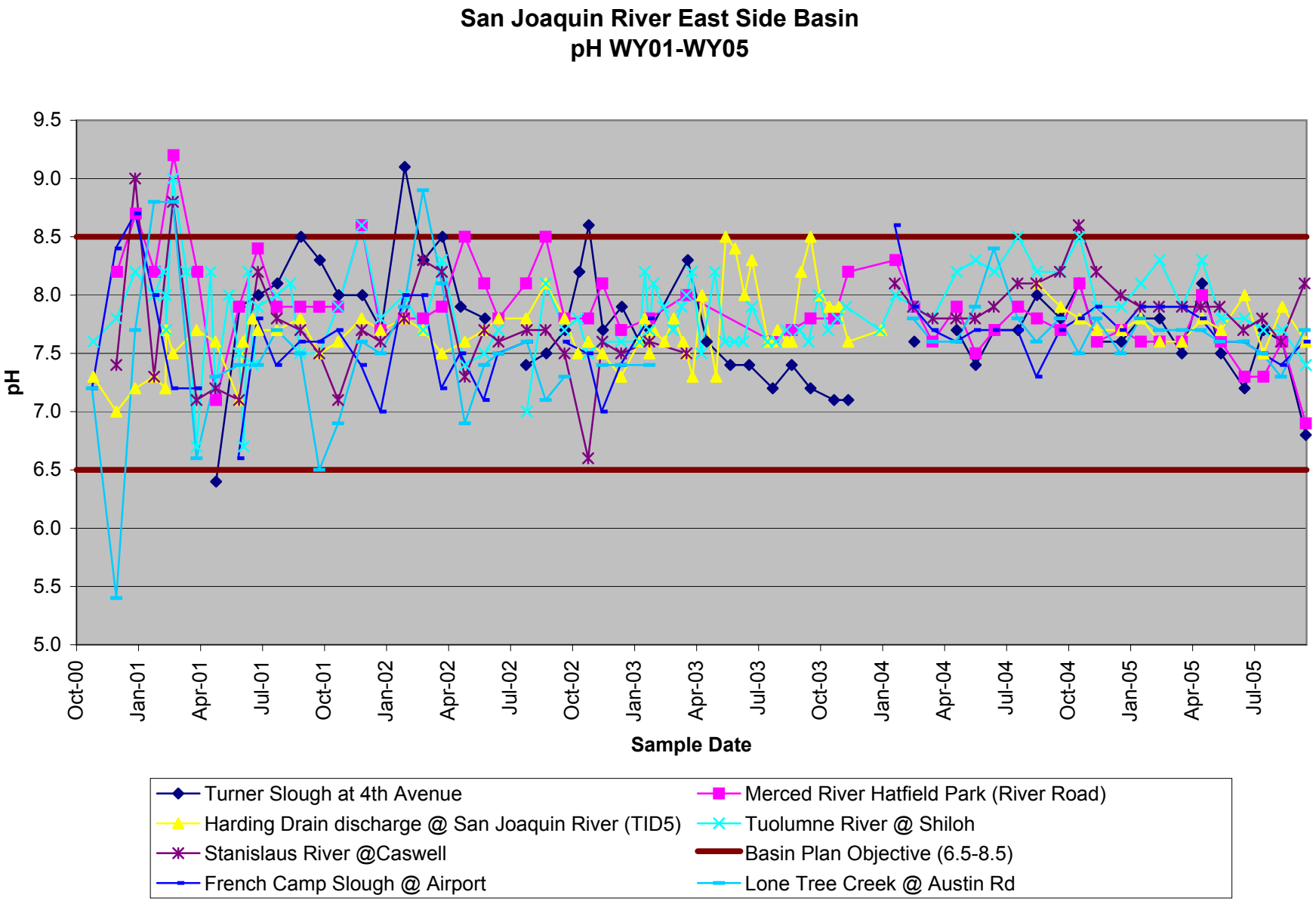

San Joaquin River Northeast Basin
Sodium WY01-WY03
Sodium (mg/L)
70
60
50
40
30
20
10
0
Median
Water Quality for Agriculture (Ayers & Westcot) (69 mg/L)
Cosumnes River @ Twin Cities Rd.
Mokelumne River @New Hope Rd.
Pixley Slough @ Davis Rd
Bear Creek @ Thorton Road (J8)
Bear Creek @Lower Sacramento Rd.

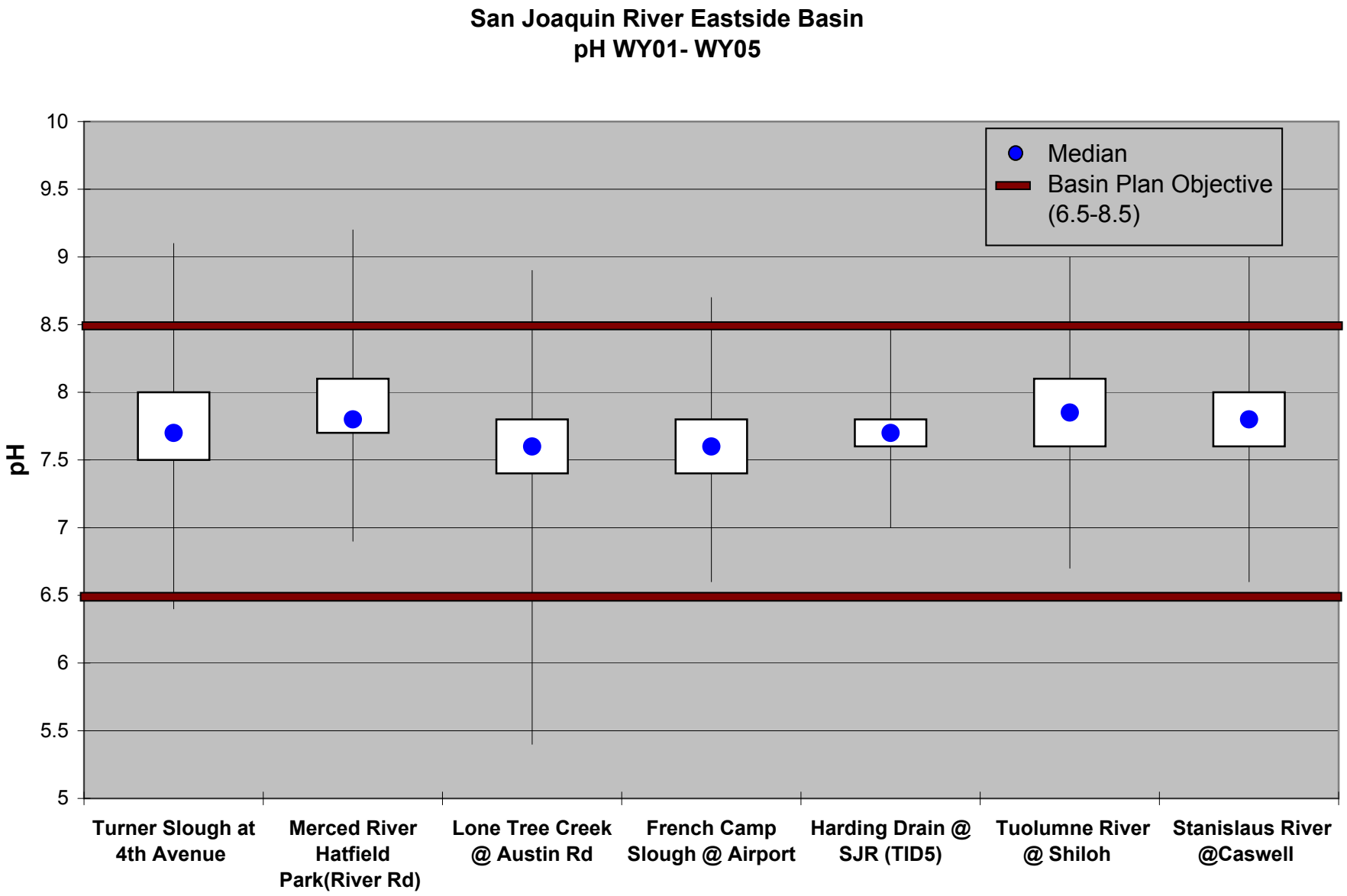

San Joaquin River East Side Basin
Temperature WY01-WY05
Temp (ºC)
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd
Bay-Delta Authority Target, SJR @ Vernalis (Apr 1-Jun 30 & Sept 1- Nov 30, 20ºC)

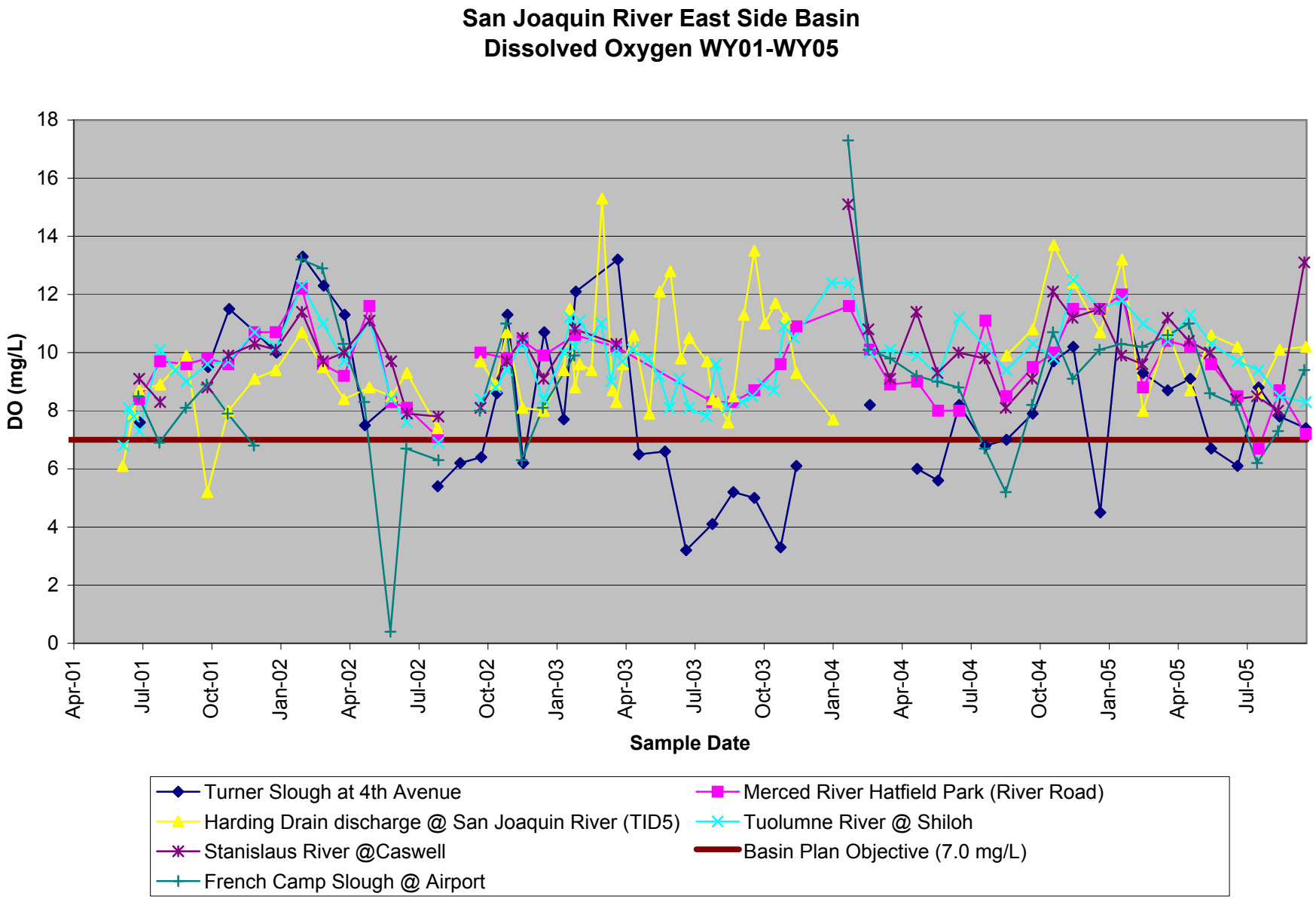

San Joaquin River Eastside Basin
Temperature WY01- WY05
Median
Temperature (ºC)
35
30
25
20
15
10
5
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

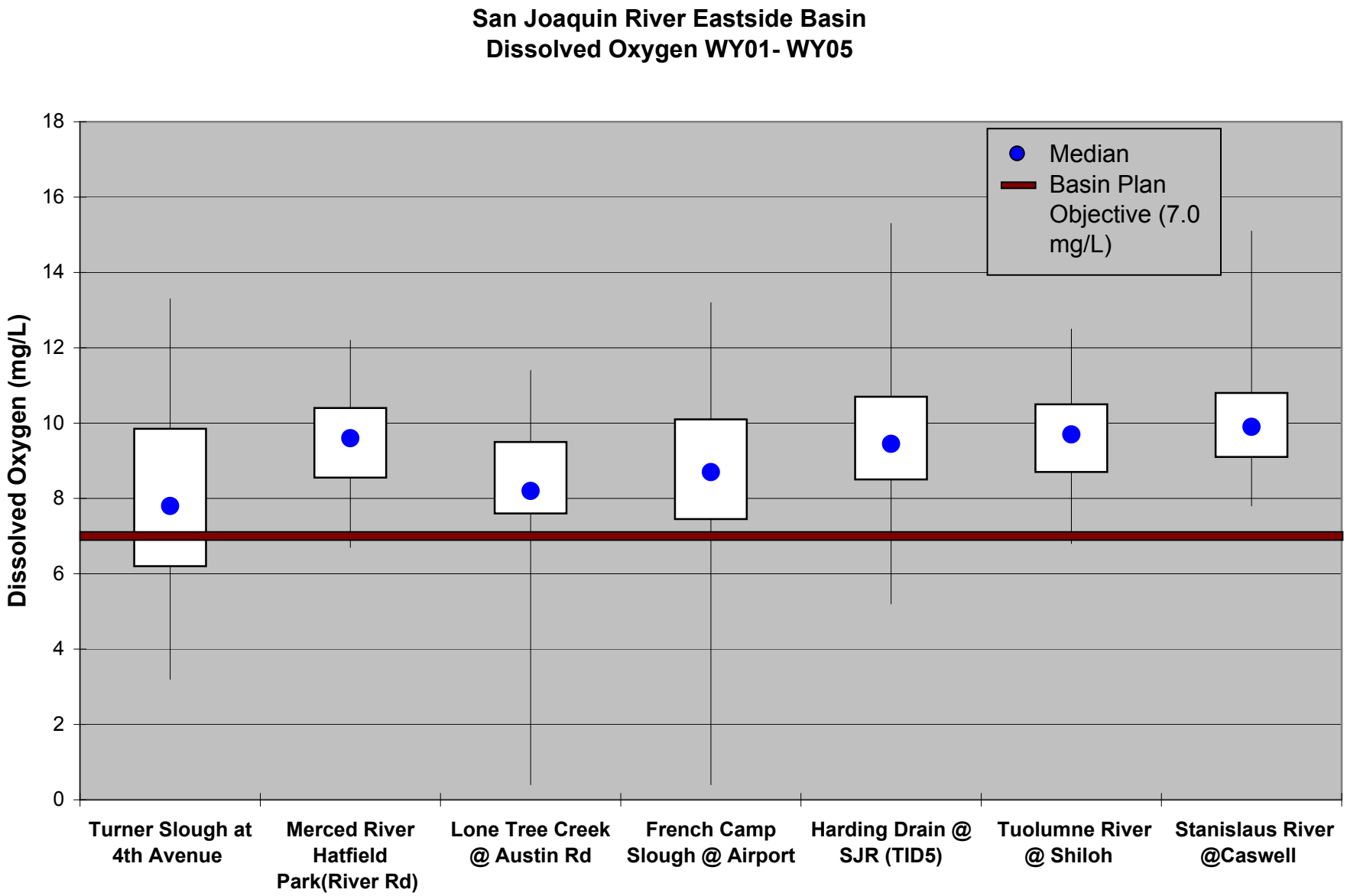

San Joaquin River East Side Basin
Specific Conductivity WY01-WY05
Specific Conductivity (µmhos/cm)
1600
1400
1200
1000
800
600
400
200
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
Basin Plan Objective (Apr 1-Aug 31, 700 µmhos/cm; Sep 1-Mar 31,1000 µmhos/cm)
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

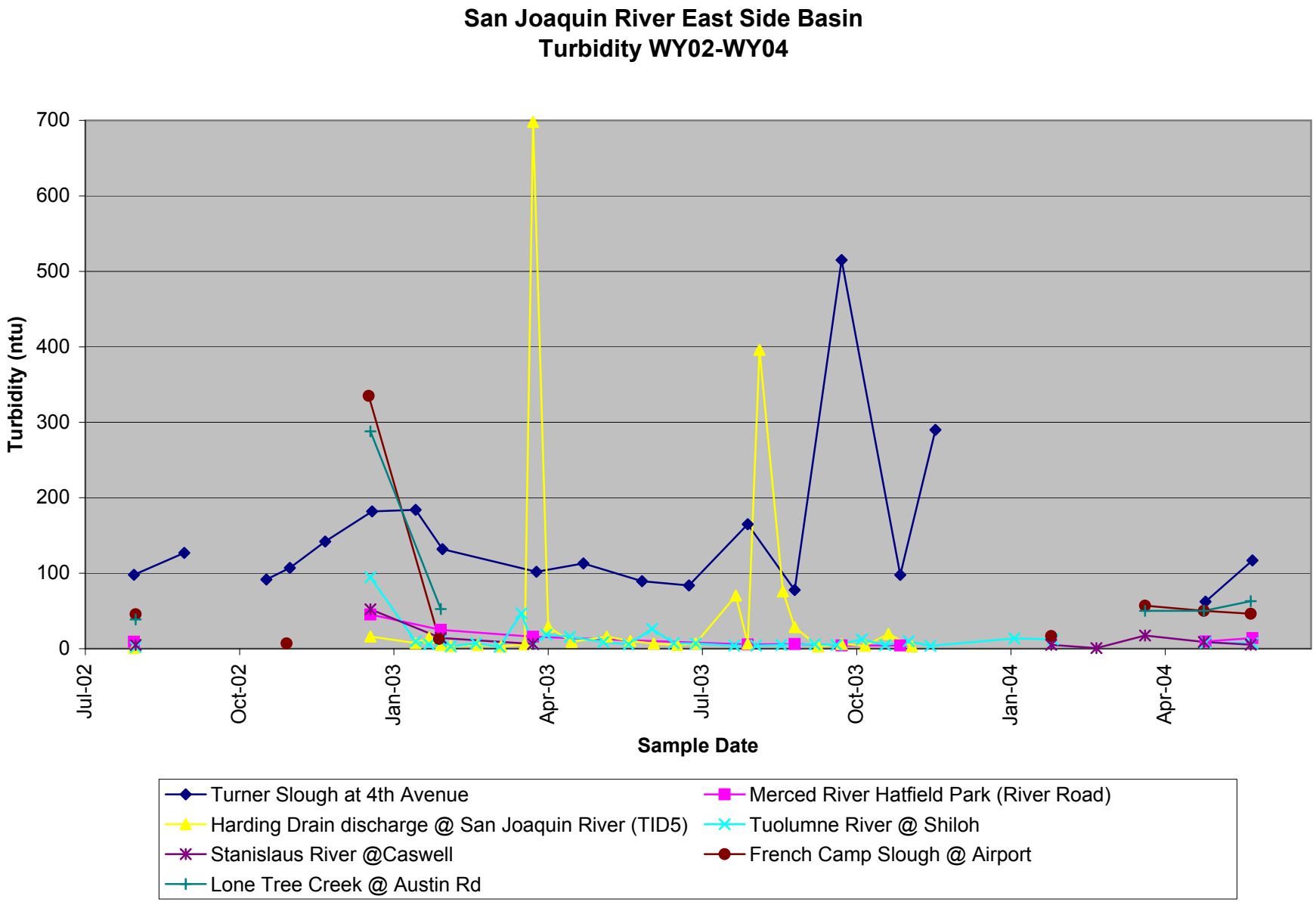

San Joaquin River Eastside Basin
Specific Conductivity WY01- WY05
Median
Specific Conductivity (µmhos/cm)
1600
1400
1200
1000
800
600
400
200
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

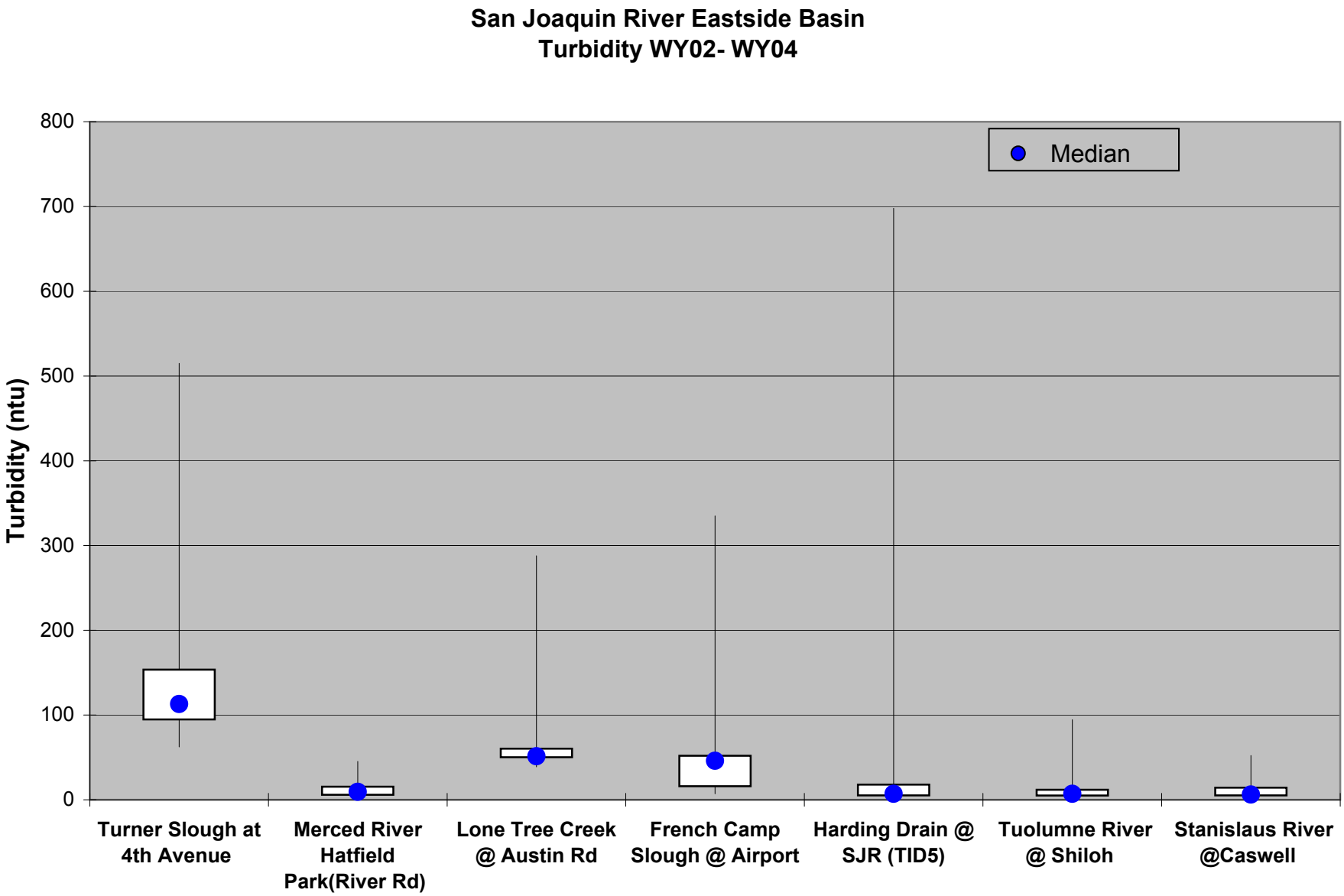

San Joaquin River East Side Basin
pH WY01-WY05
pH
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
Basin Plan Objective (6.5-8.5)
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd


San Joaquin River Eastside Basin
pH WY01- WY05
pH
10
9.5
9
8.5
8
7.5
7
6.5
6
5.5
5
Median
Basin Plan Objective (6.5-8.5)
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

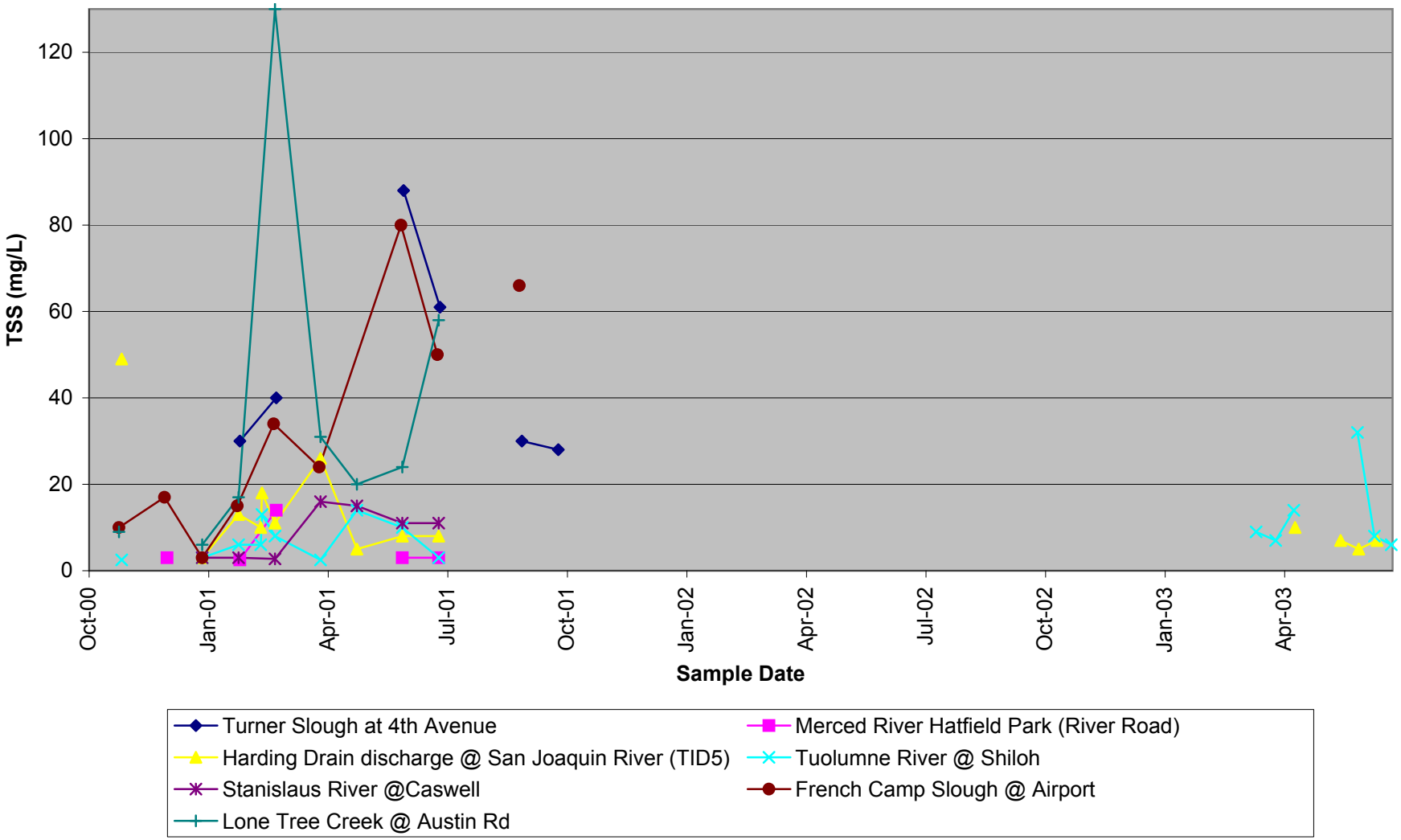

San Joaquin River East Side Basin
Dissolved Oxygen WY01-WY05
DO (mg/L)
18
16
14
12
10
8
6
4
2
0
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
Basin Plan Objective (7.0 mg/L)
French Camp Slough @ Airport

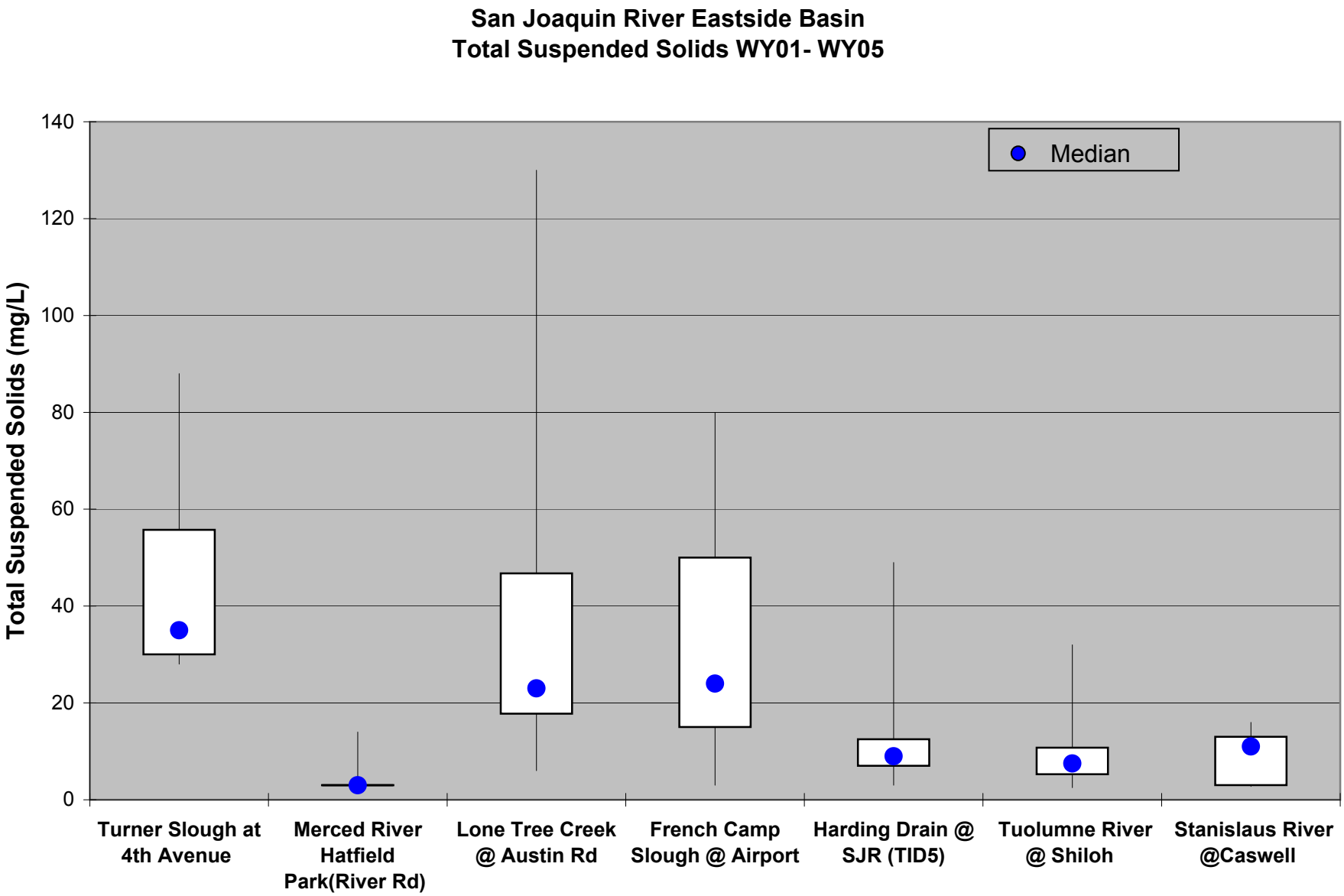

San Joaquin River Eastside Basin
Dissolved Oxygen WY01- WY05
Dissolved Oxygen (mg/L)
18
16
14
12
10
8
6
4
2
0
Median
Basin Plan Objective (7.0 mg/L)
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

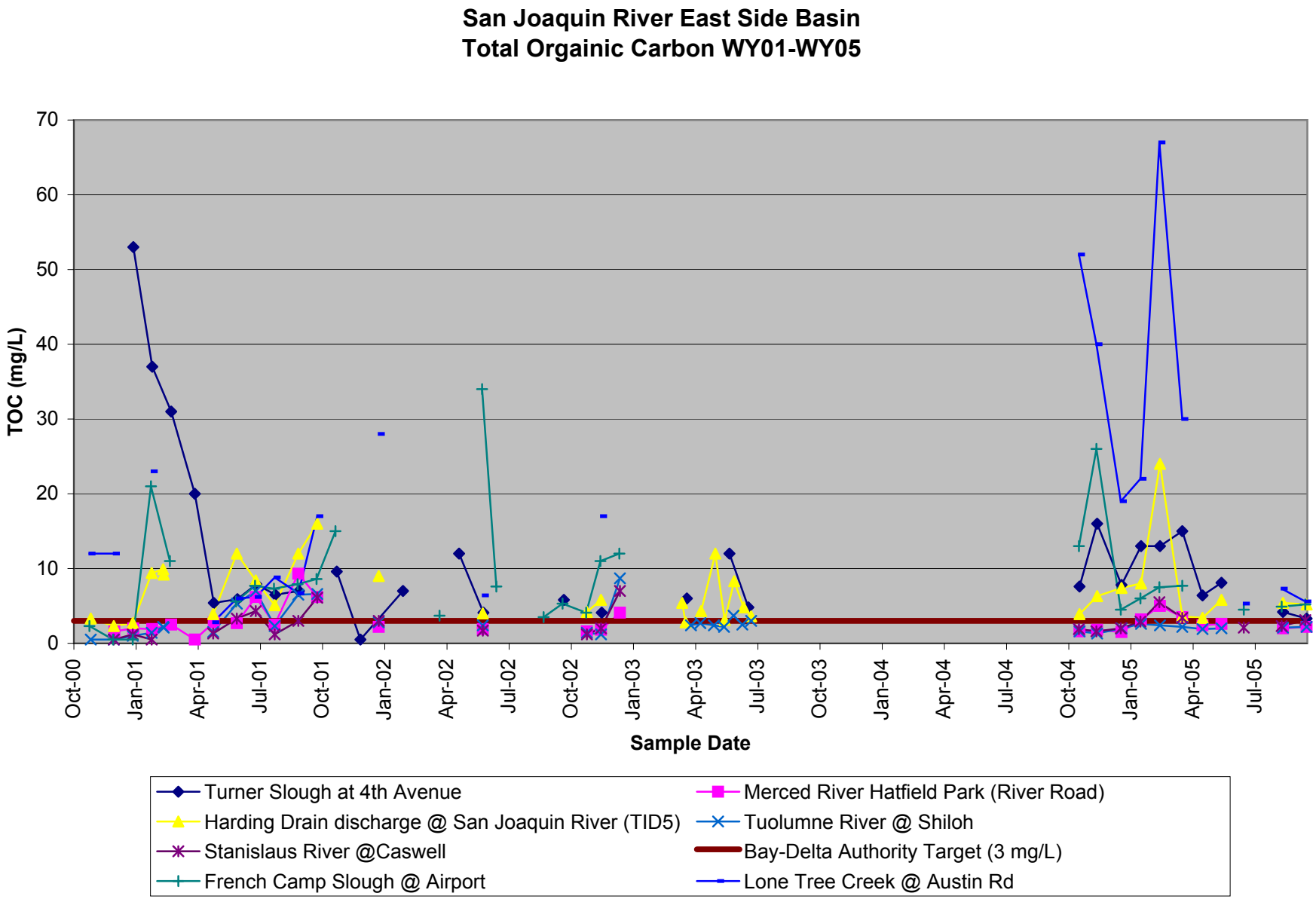

San Joaquin River East Side Basin
Turbidity WY02-WY04
Turbidity (ntu)
700
600
500
400
300
200
100
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

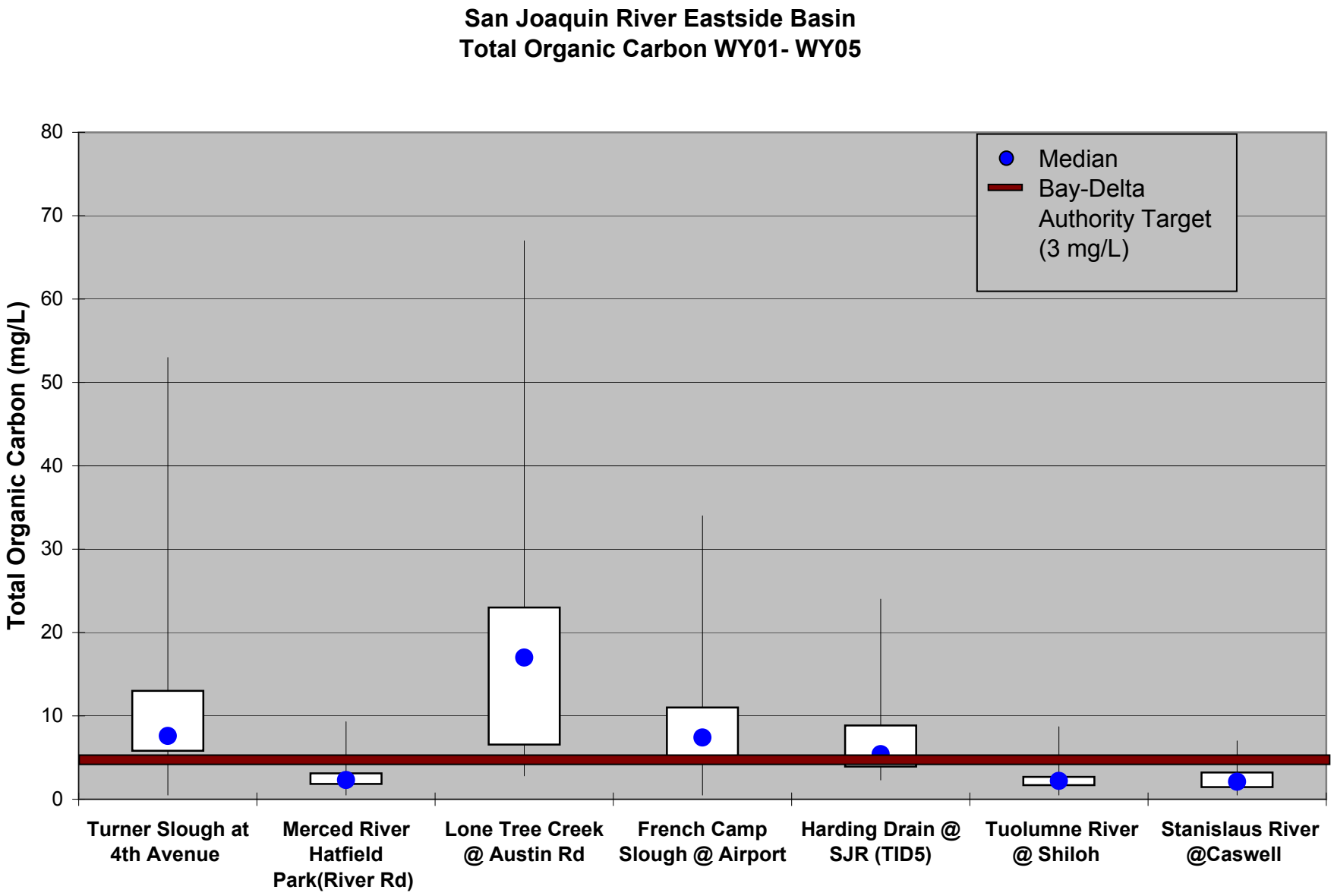

San Joaquin River Eastside Basin
Turbidity WY02- WY04
Median
Turbidity (ntu)
800
700
600
500
400
300
200
100
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

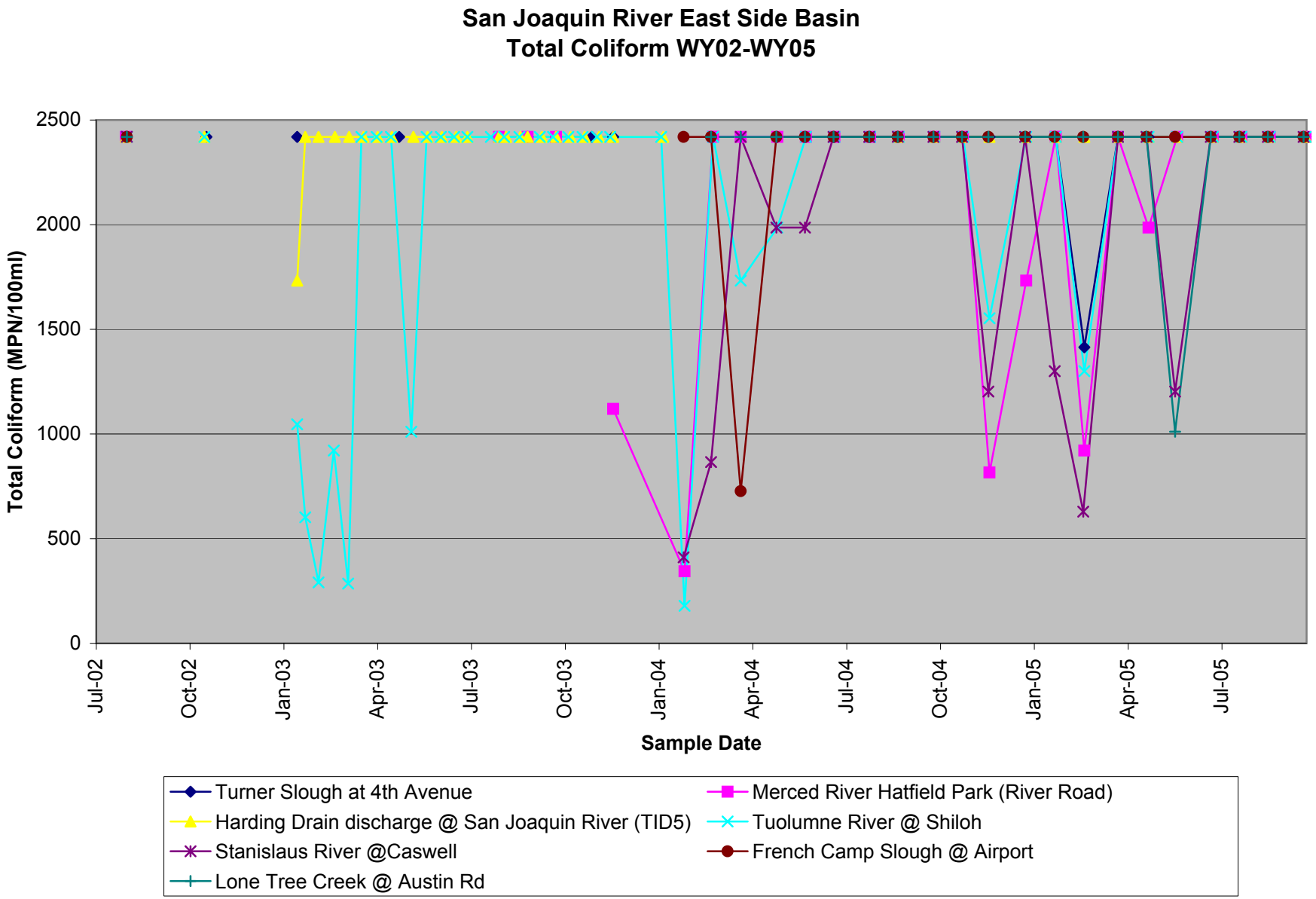
San Joaquin River East Side Basin
Total Suspended Solids WY01-WY03

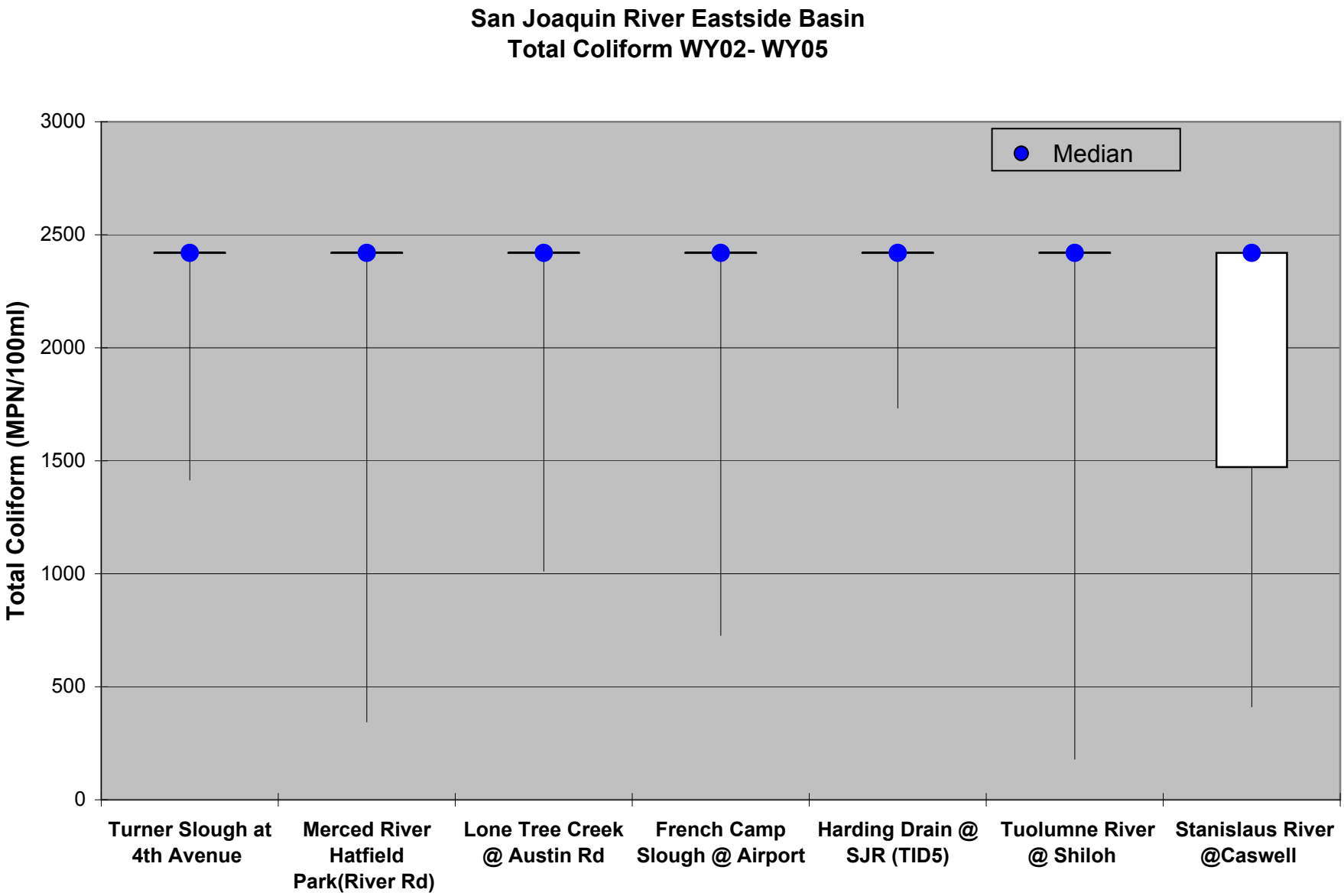


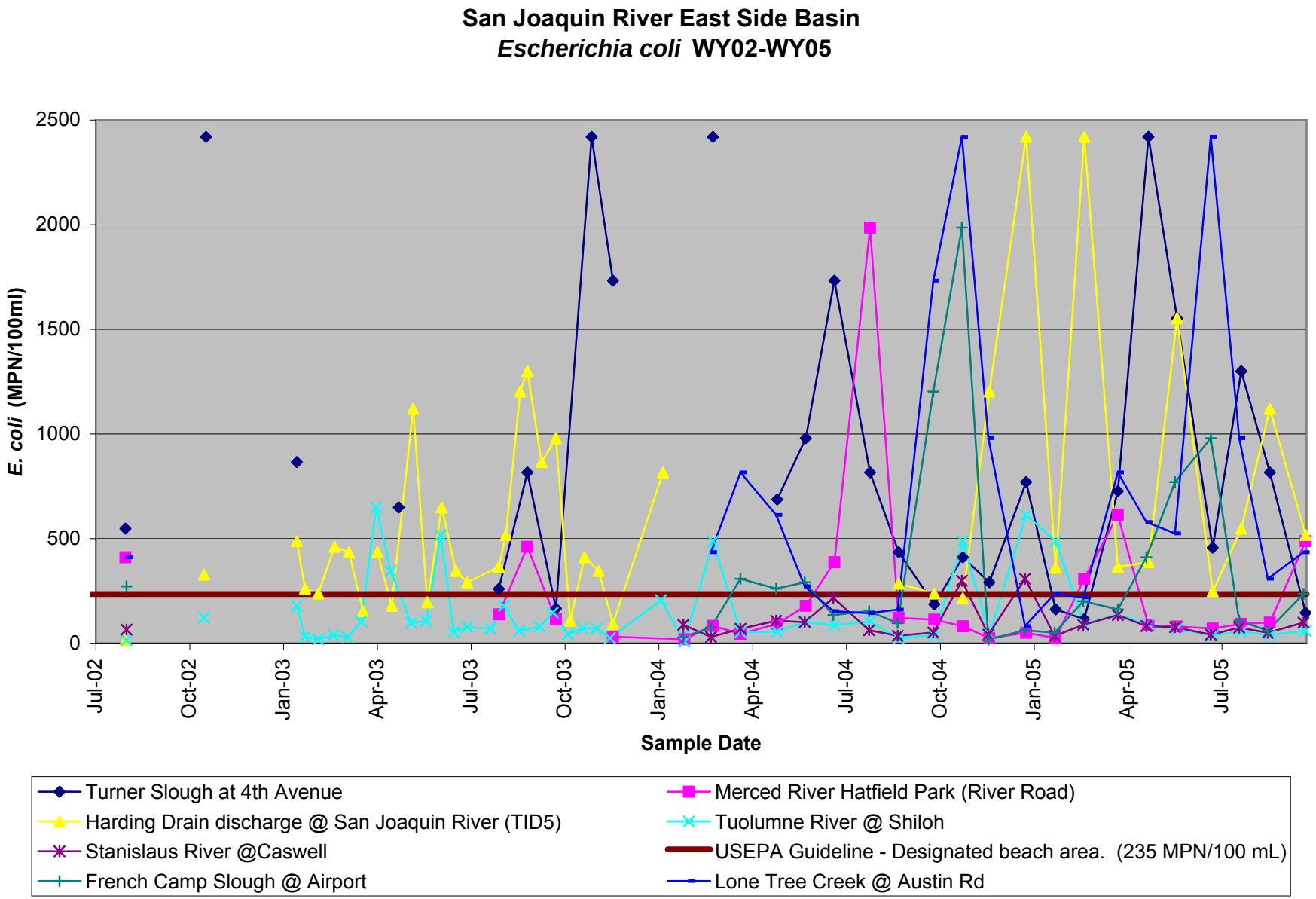

San Joaquin River Eastside Basin
Total Suspended Solids WY01- WY05
Median
Total Suspended Solids (mg/L)
140
120
100
80
60
40
20
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

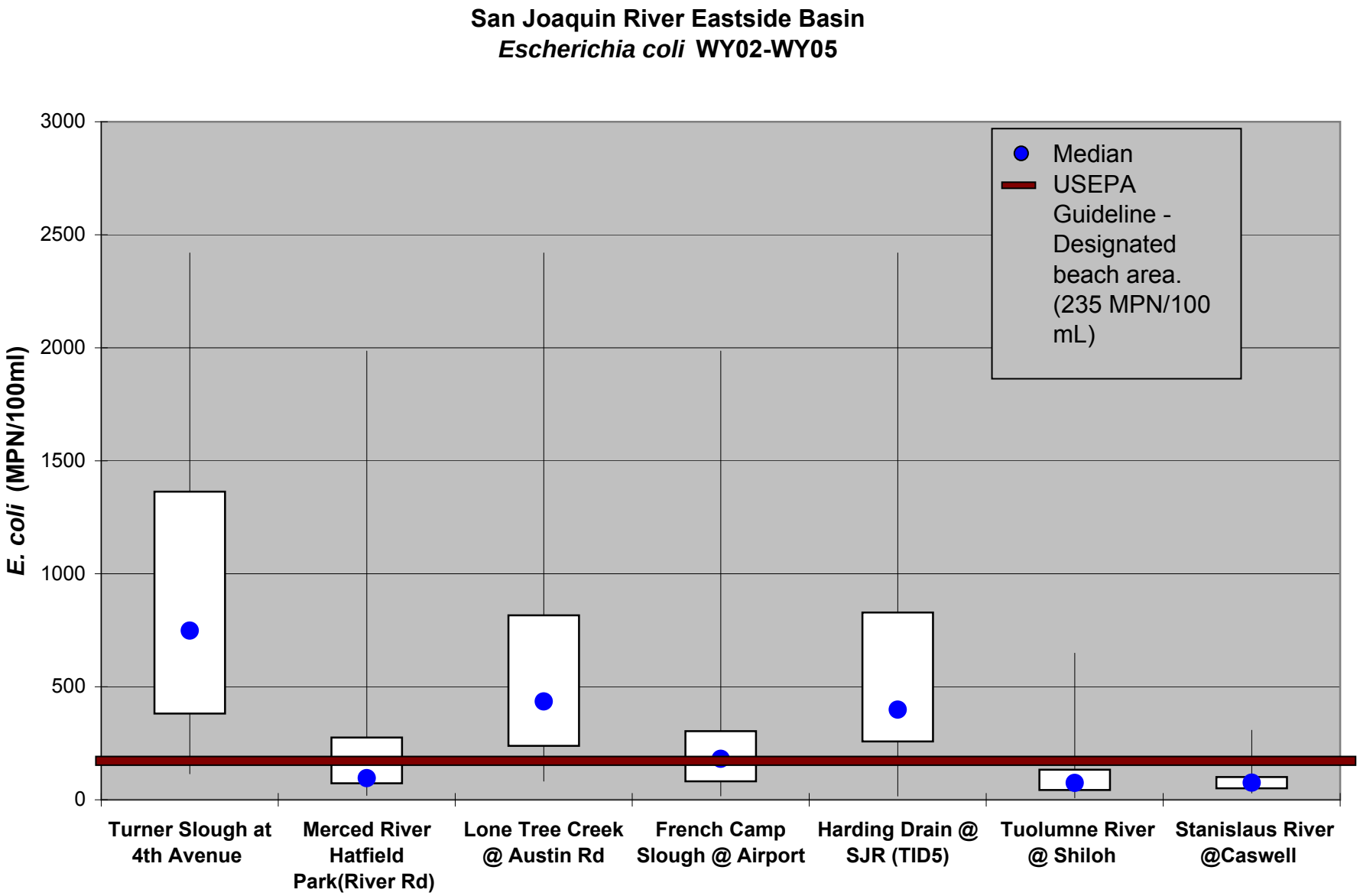

San Joaquin River East Side Basin
Total Orgainic Carbon WY01-WY05
TOC (mg/L)
70
60
50
40
30
20
10
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
Bay-Delta Authority Target (3 mg/L)
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

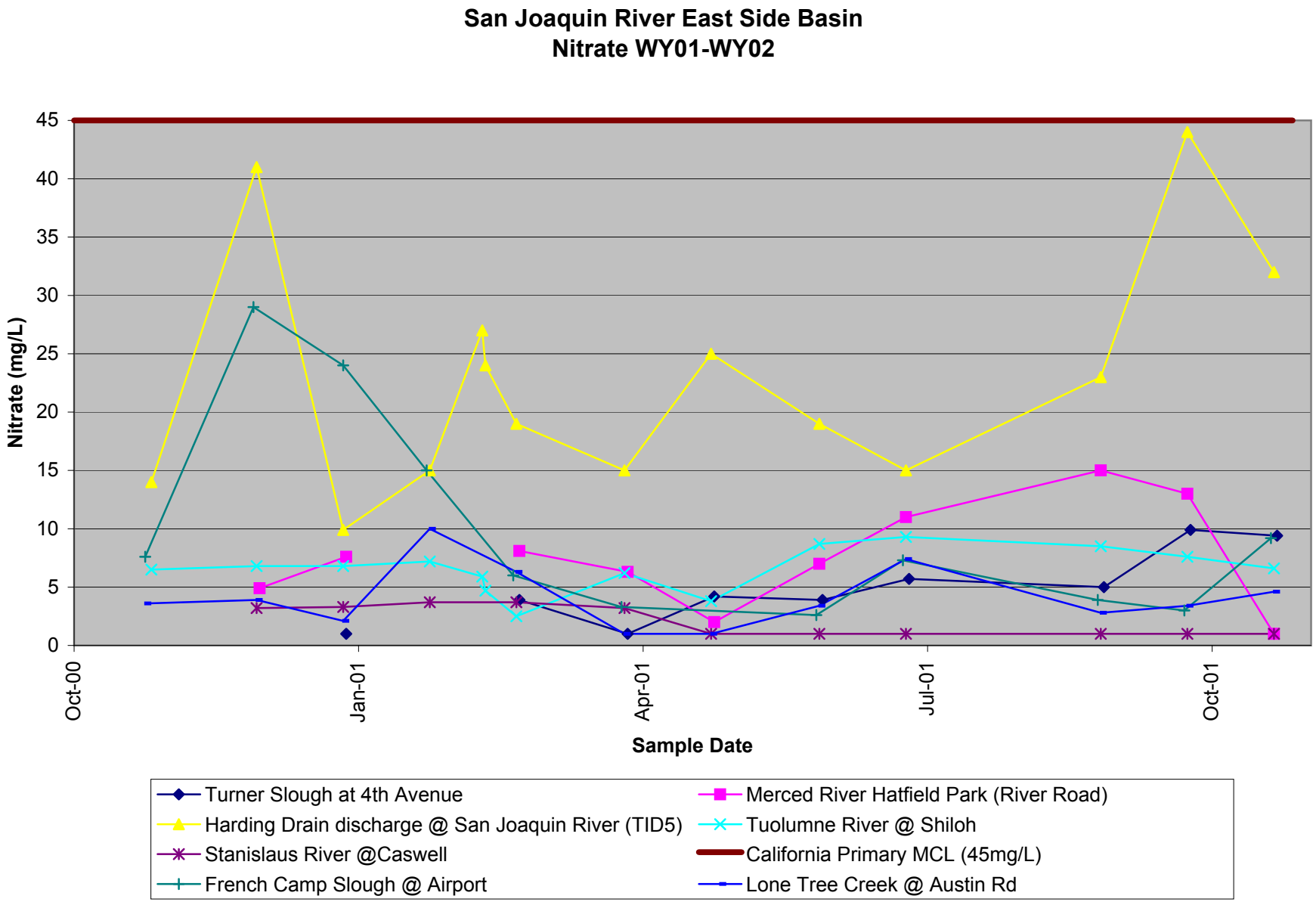

San Joaquin River Eastside Basin
Total Organic Carbon WY01- WY05
Total Organic Carbon (mg/L)
80
70
60
50
40
30
20
10
0
Median
Bay-Delta Authority Target (3 mg/L)
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

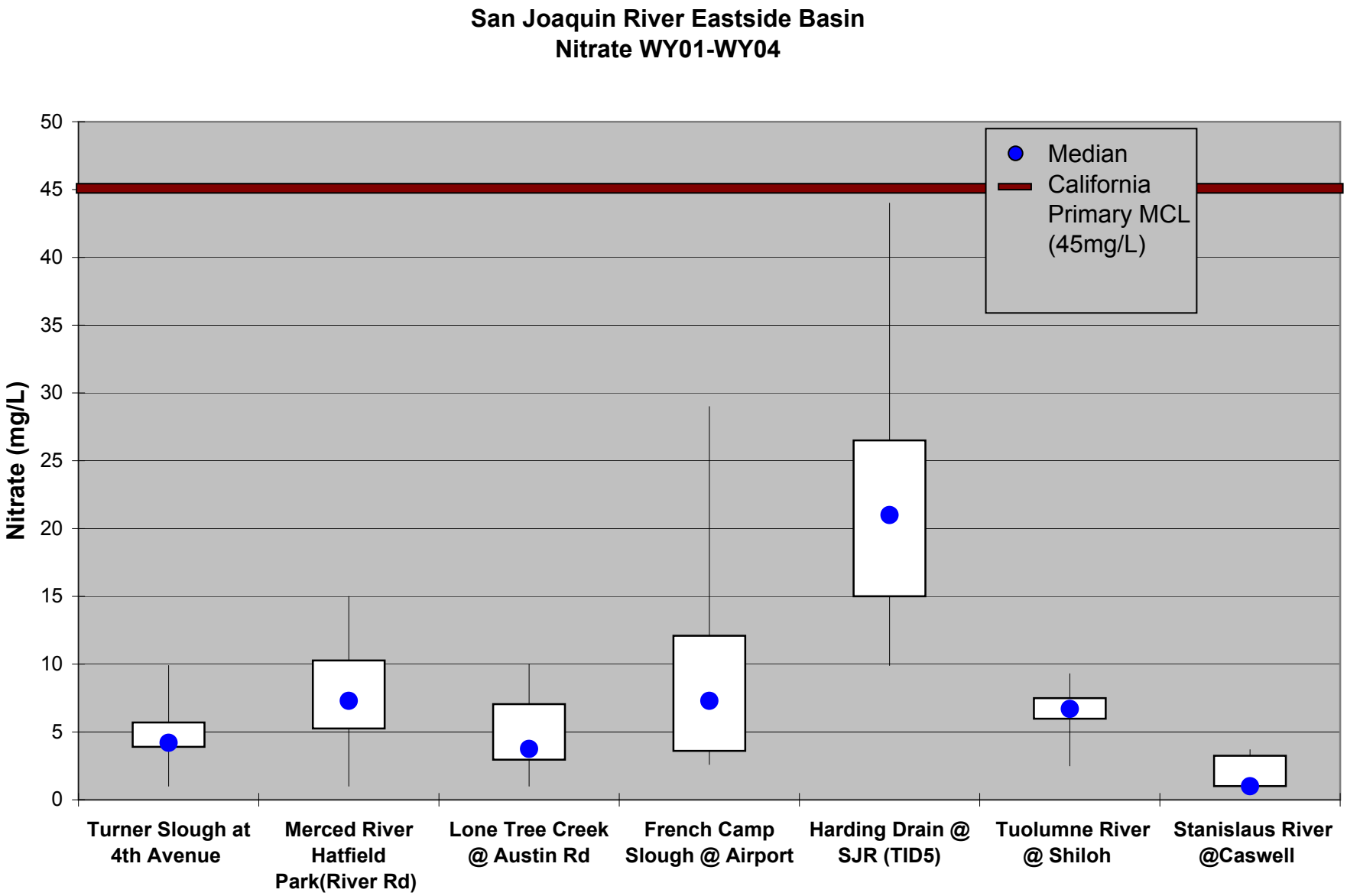

San Joaquin River East Side Basin
Total Coliform WY02-WY05
Total Coliform (MPN/100ml)
2500
2000
1500
1000
500
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

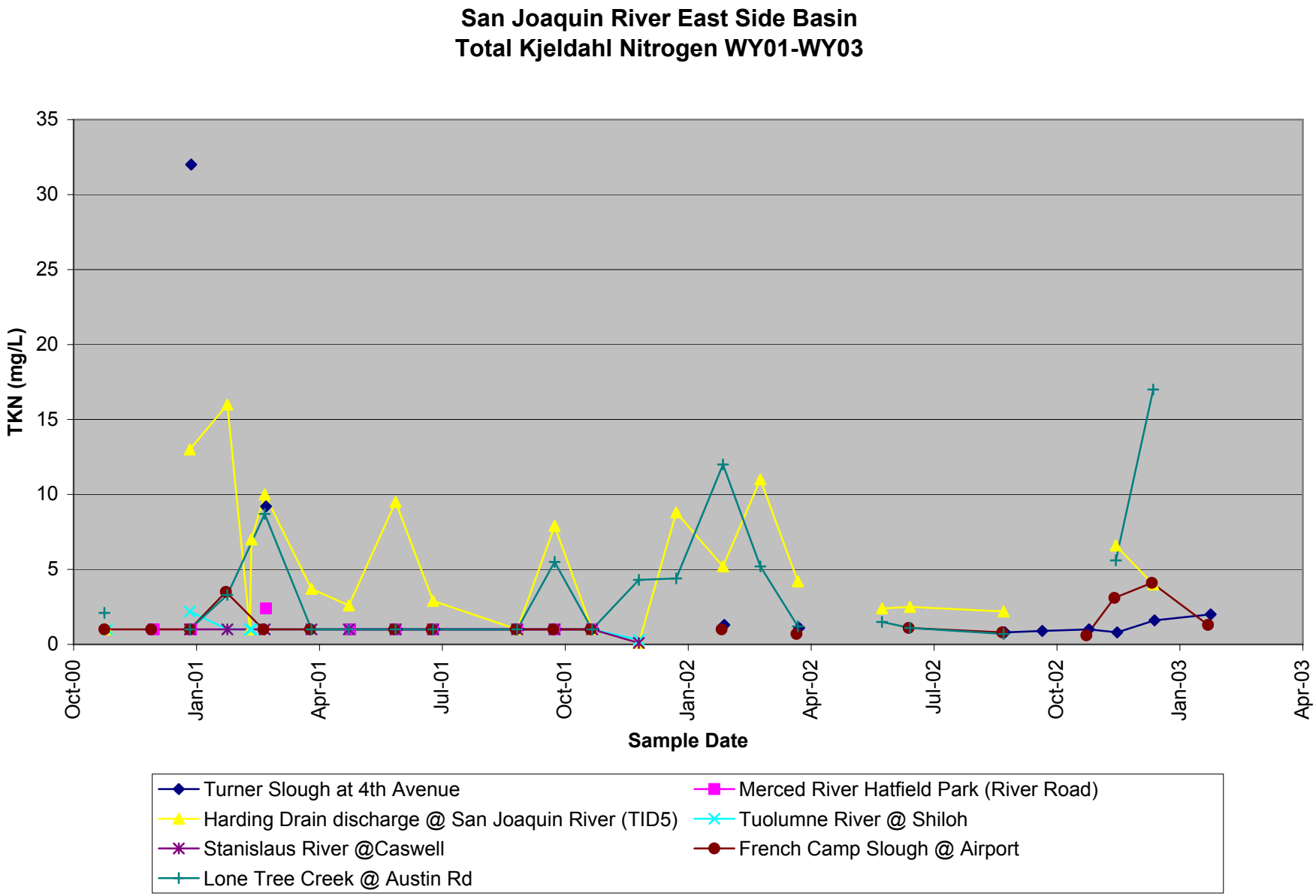

San Joaquin River Eastside Basin
Total Coliform WY02- WY05
Median
Total Coliform (MPN/100ml)
3000
2500
2000
1500
1000
500
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell


San Joaquin River East Side Basin
Escherichia coli WY02-WY05
E. coli (MPN/100ml)
2500
2000
1500
1000
500
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
USEPA Guideline - Designated beach area. (235 MPN/100 mL)
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

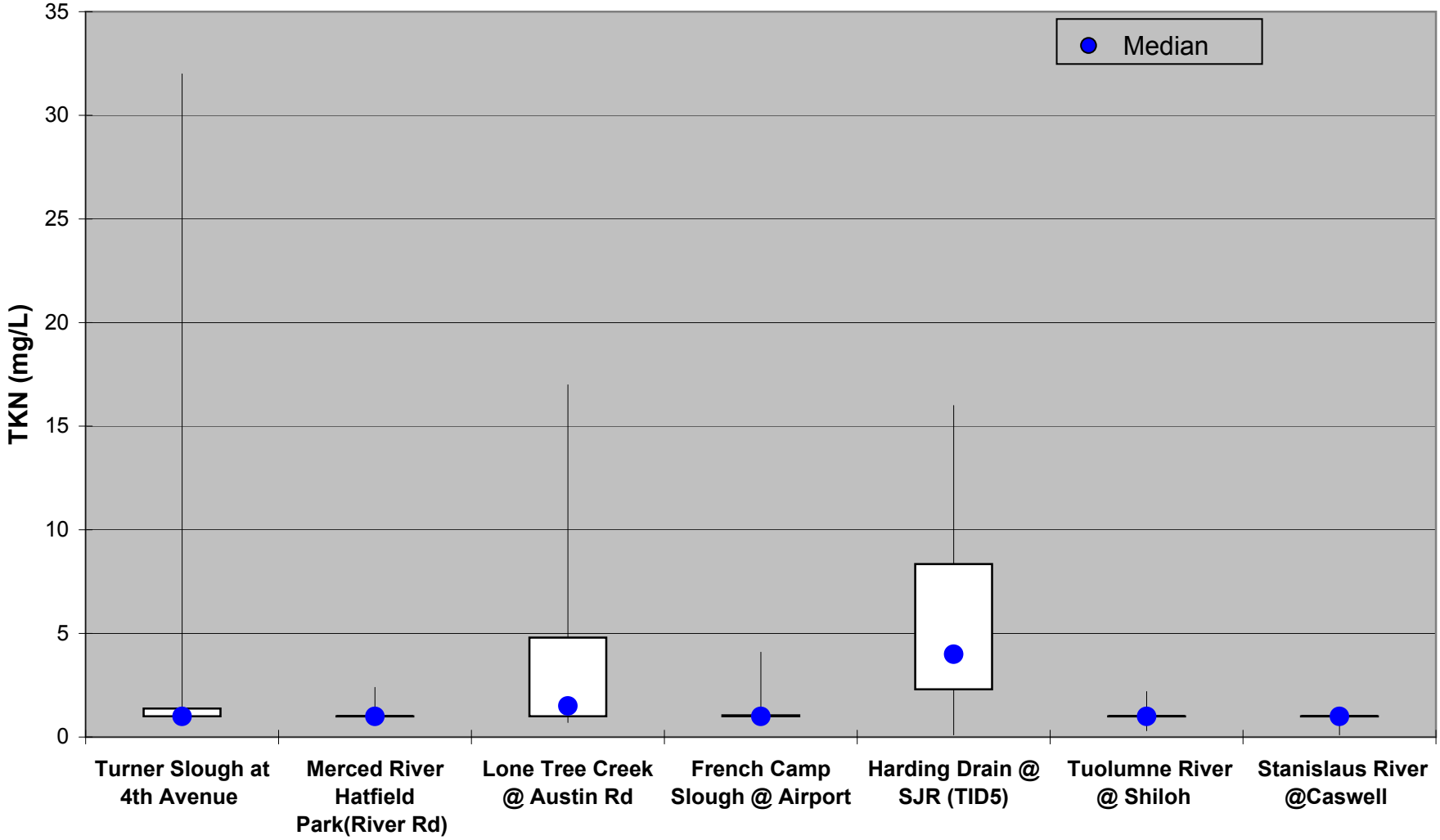

San Joaquin River Eastside Basin
Escherichia coli WY02-WY05
E. coli (MPN/100ml)
3000
2500
2000
1500
1000
500
0
Median
USEPA Guideline - Designated beach area. (235 MPN/100 mL)
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

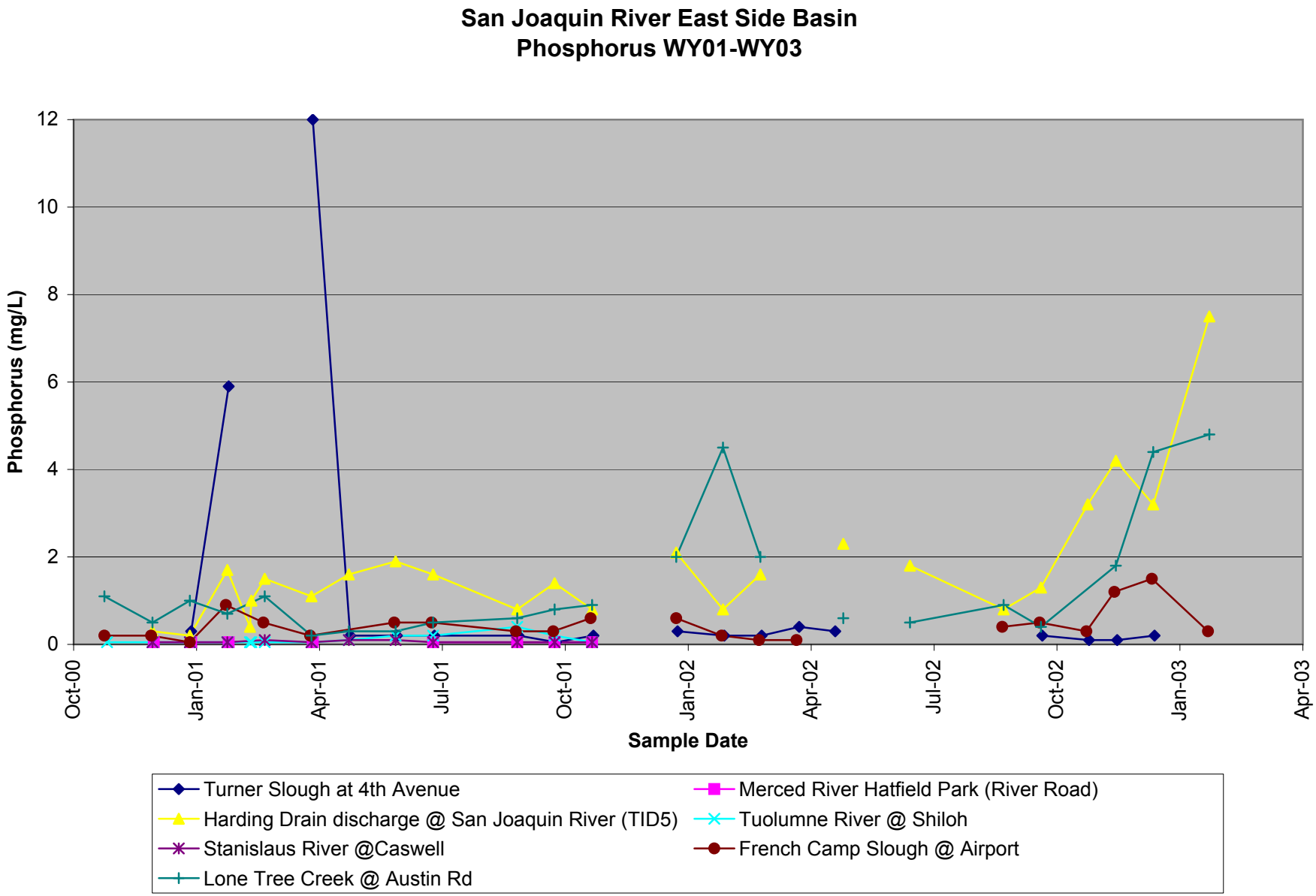

San Joaquin River East Side Basin
Nitrate WY01-WY02
Nitrate (mg/L)
45
40
35
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
California Primary MCL (45mg/L)
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

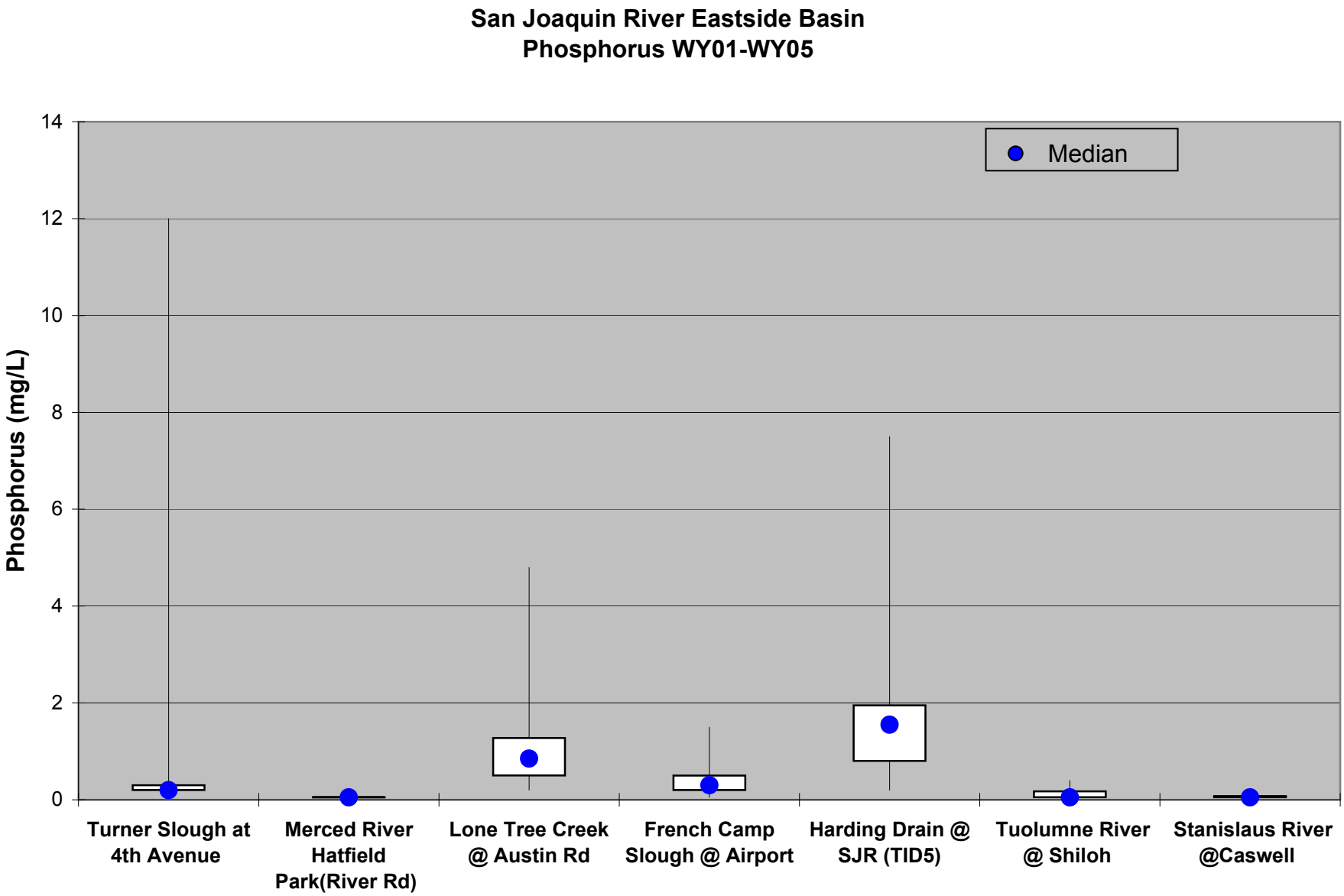

San Joaquin River Eastside Basin
Nitrate WY01-WY04
Nitrate (mg/L)
50
45
40
35
30
25
20
15
10
5
0
Median
California Primary MCL (45mg/L)
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

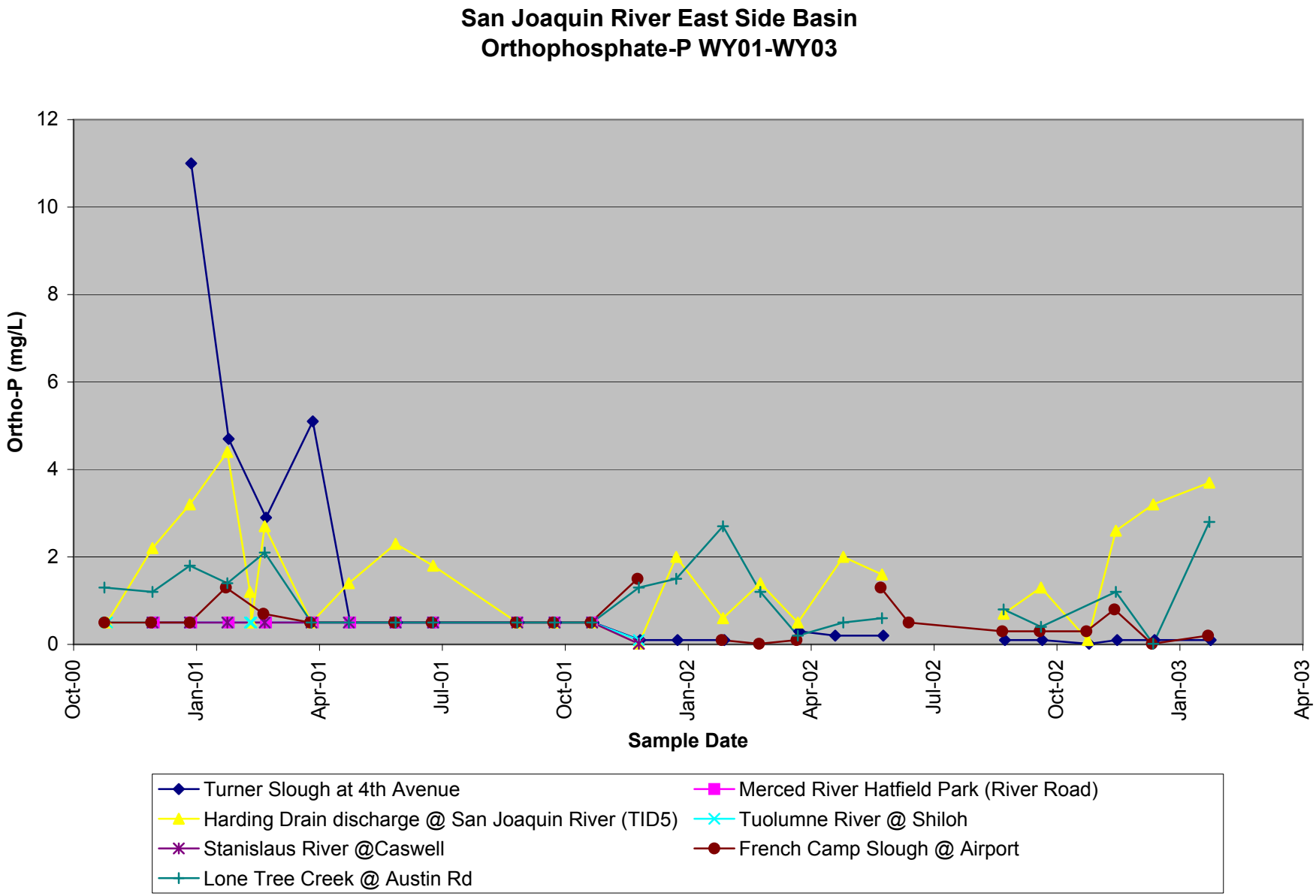

San Joaquin River East Side Basin
Total Kjeldahl Nitrogen WY01-WY03
TKN (mg/L)
35
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

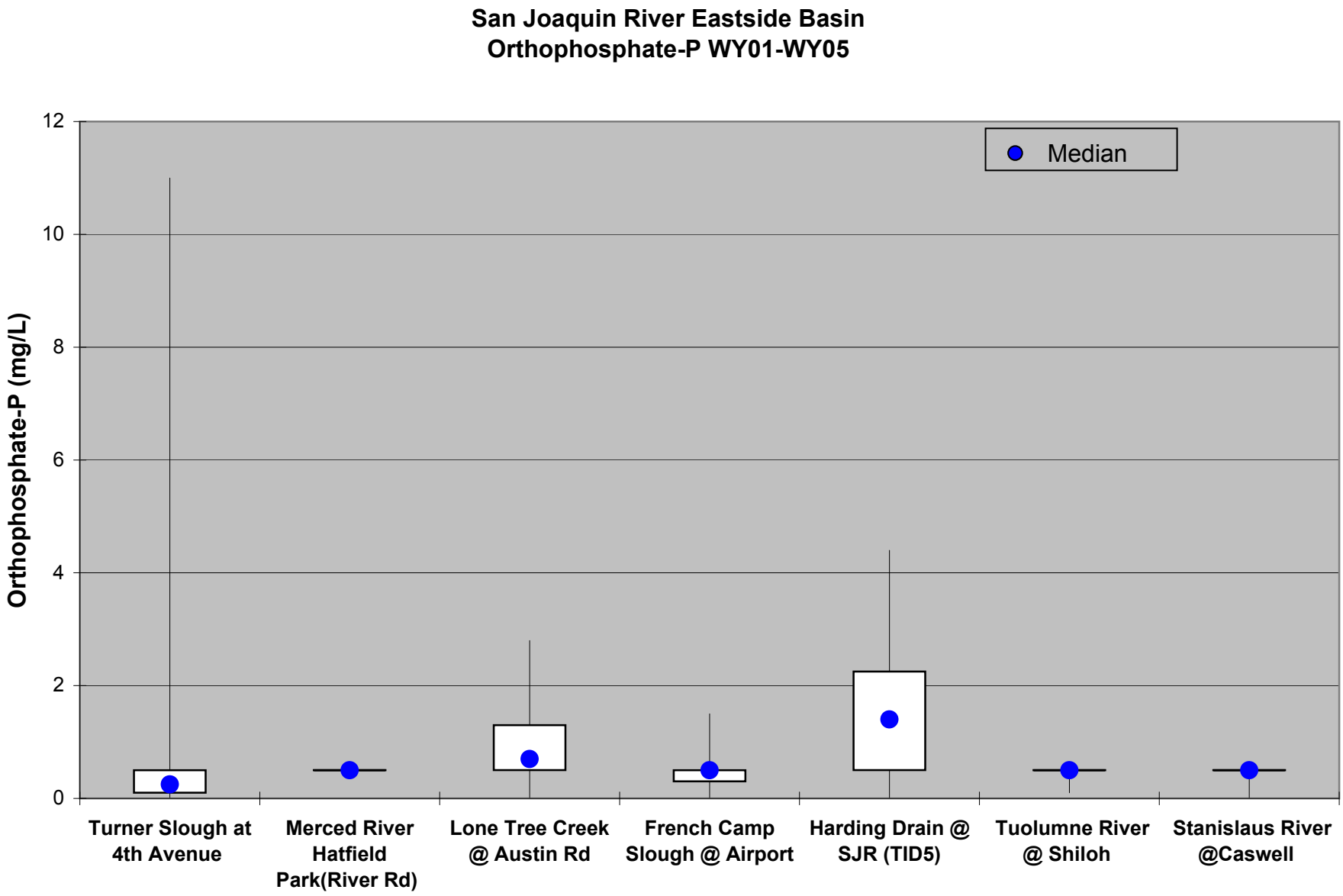
San Joaquin River Eastside Basin
Total Kjeldahl Nitrogen WY01-WY05

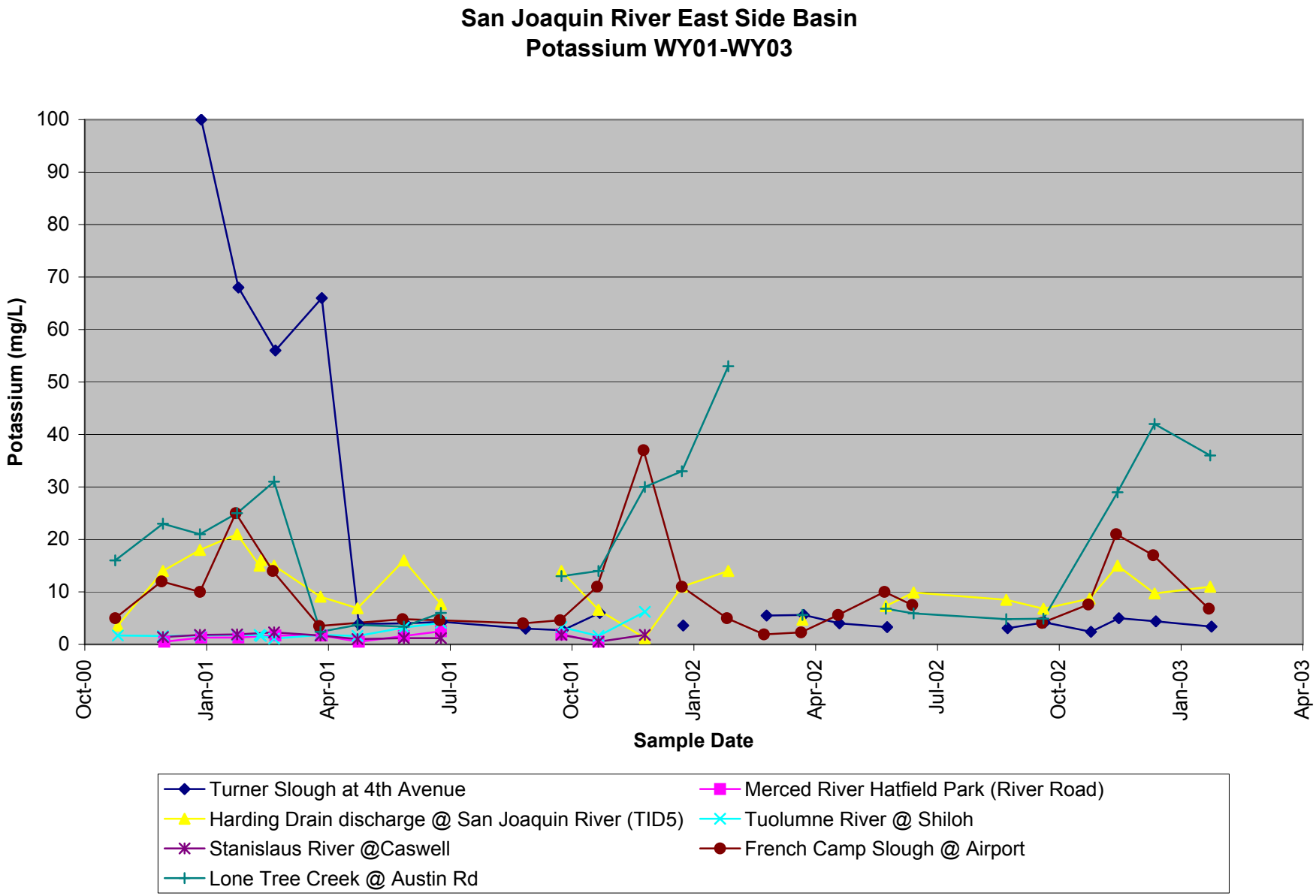


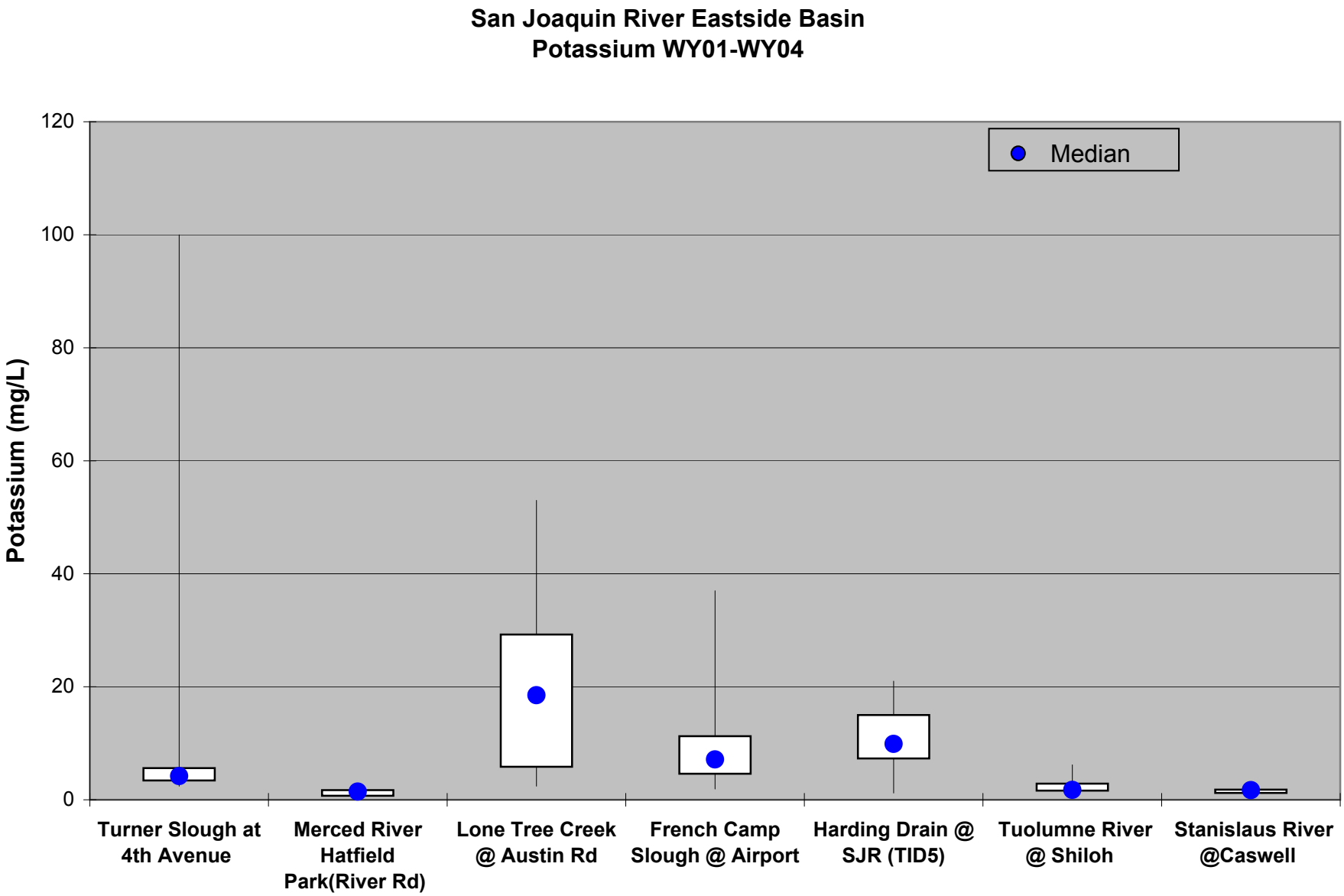

San Joaquin River East Side Basin
Phosphorus WY01-WY03
Phosphorus (mg/L)
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

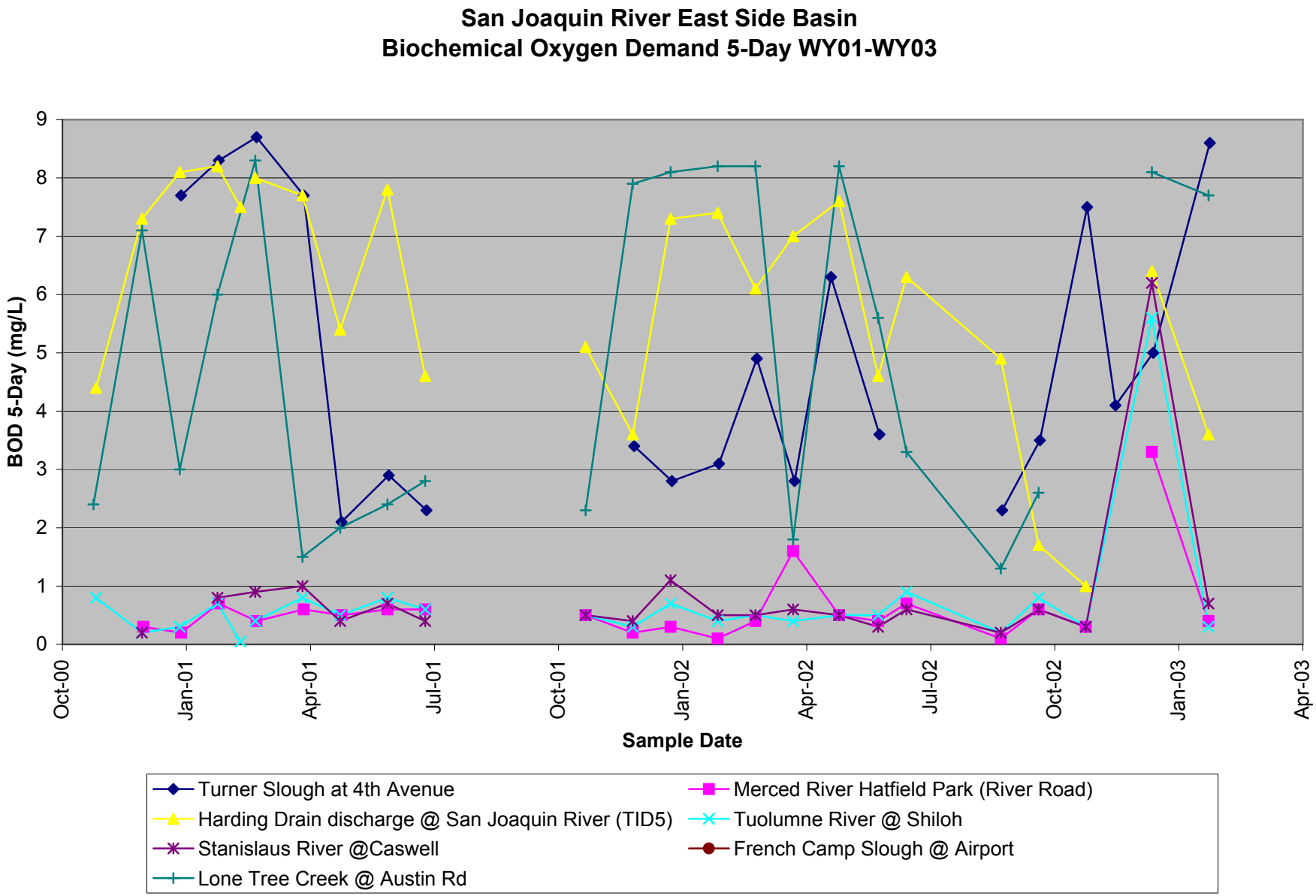

San Joaquin River Eastside Basin
Phosphorus WY01-WY05
Median
Phosphorus (mg/L)
14
12
10
8
6
4
2
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell


San Joaquin River East Side Basin
Orthophosphate-P WY01-WY03
Ortho-P (mg/L)
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

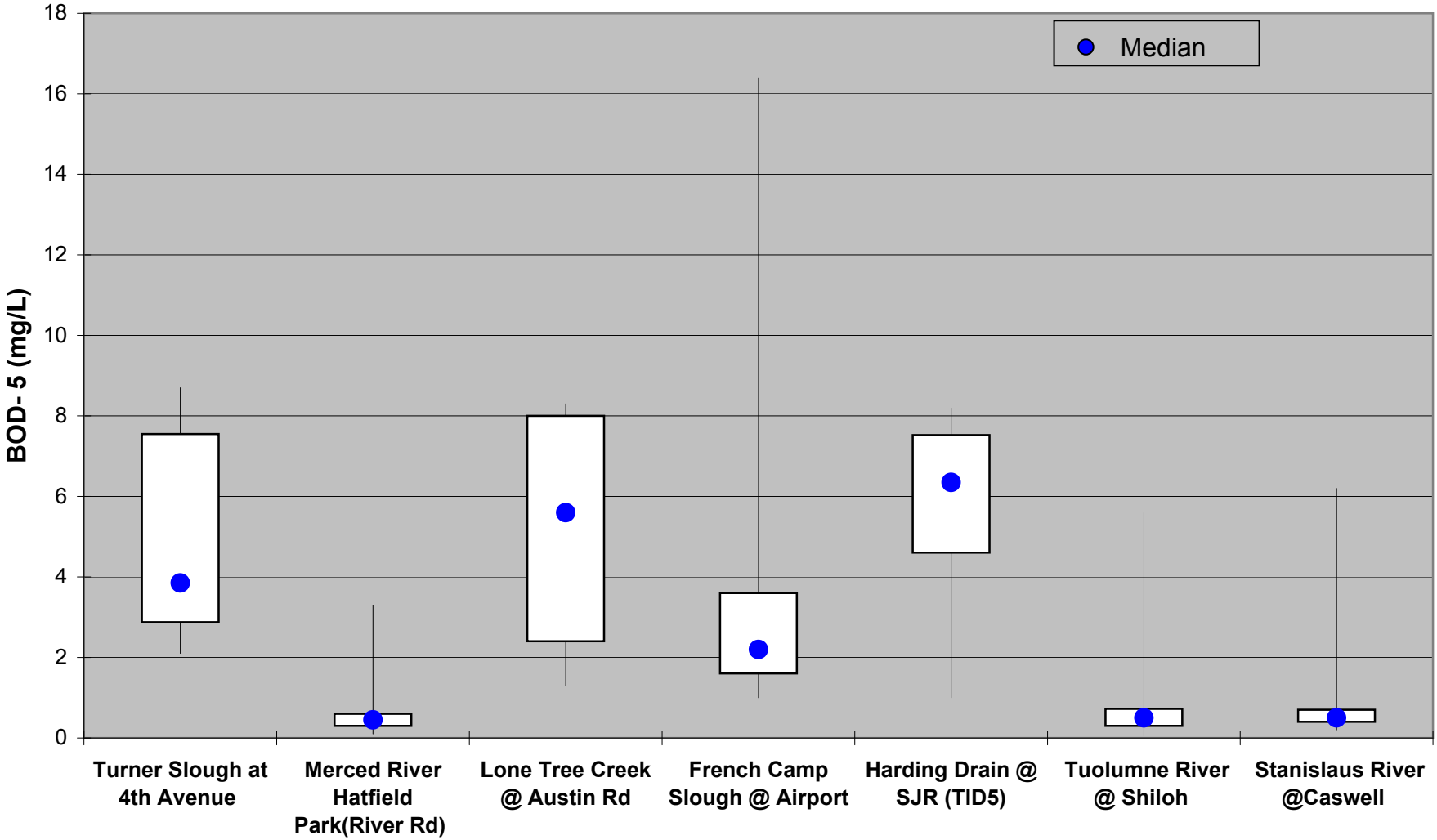

San Joaquin River Eastside Basin
Orthophosphate-P WY01-WY05
Median
Orthophosphate-P (mg/L)
12
10
8
6
4
2
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

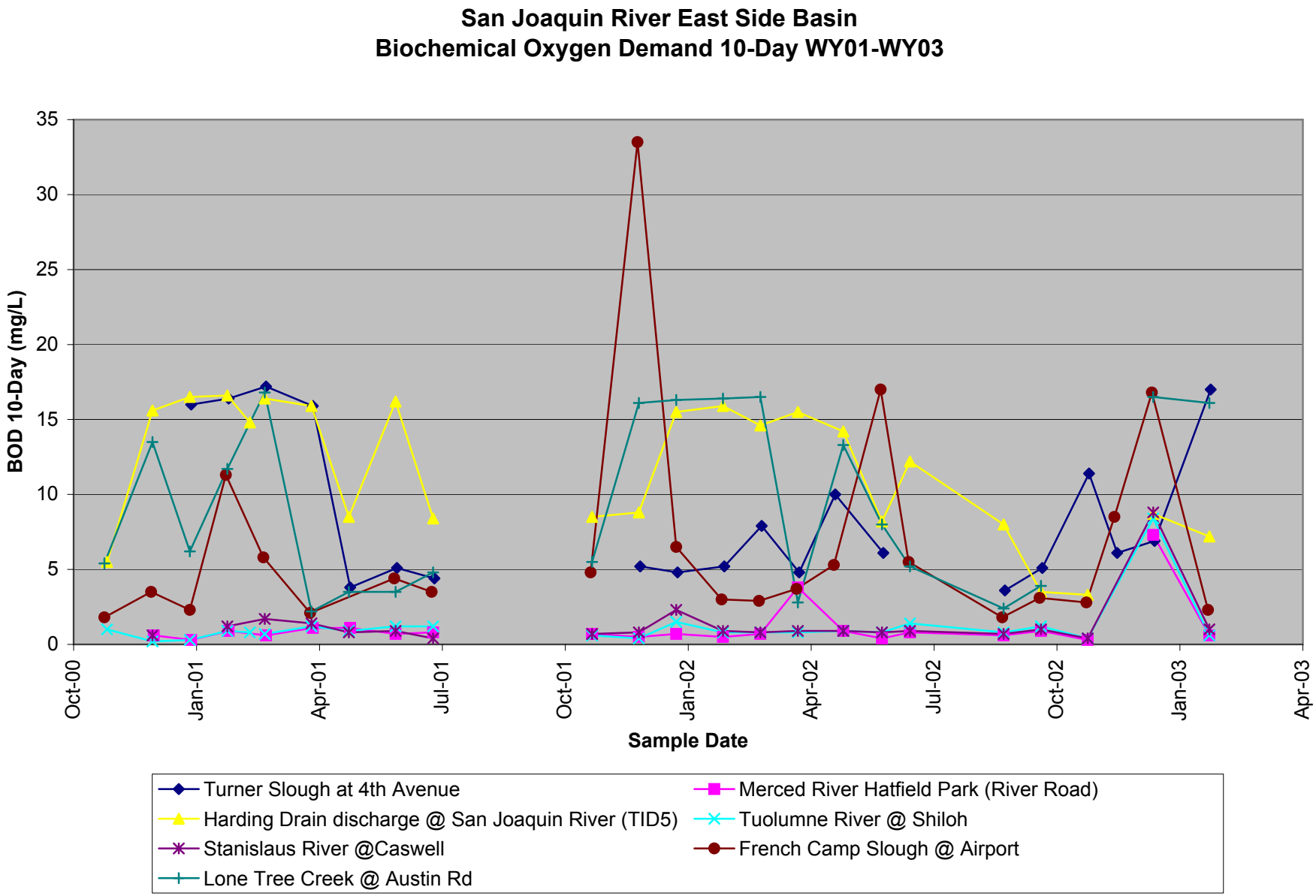

San Joaquin River East Side Basin
Potassium WY01-WY03
Potassium (mg/L)
100
90
80
70
60
50
40
30
20
10
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd


San Joaquin River Eastside Basin
Potassium WY01-WY04
Median
Potassium (mg/L)
120
100
80
60
40
20
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

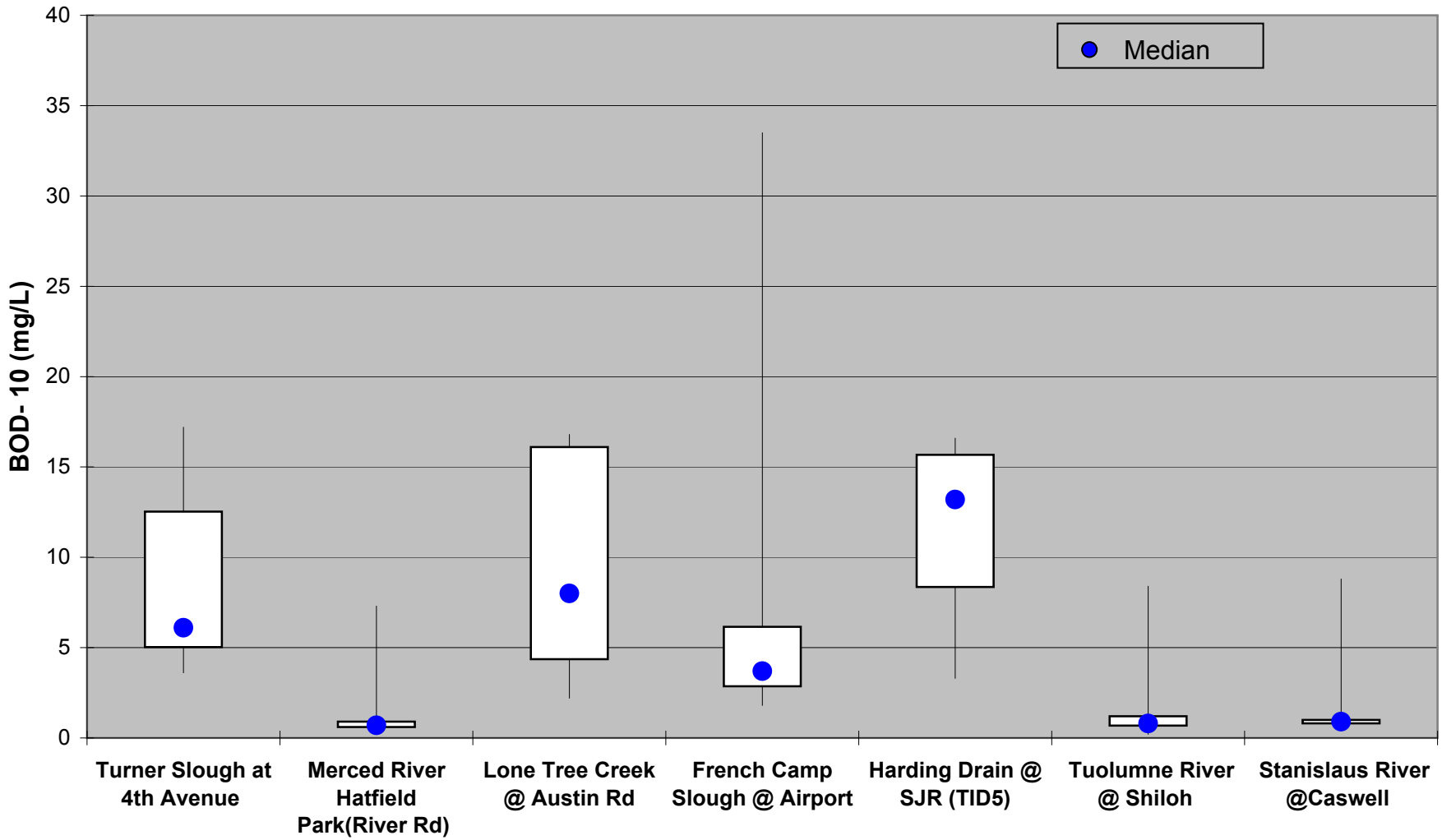

San Joaquin River East Side Basin
Biochemical Oxygen Demand 5-Day WY01-WY03
BOD 5-Day (mg/L)
0
1
2
3
4
5
6
7
8
9
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

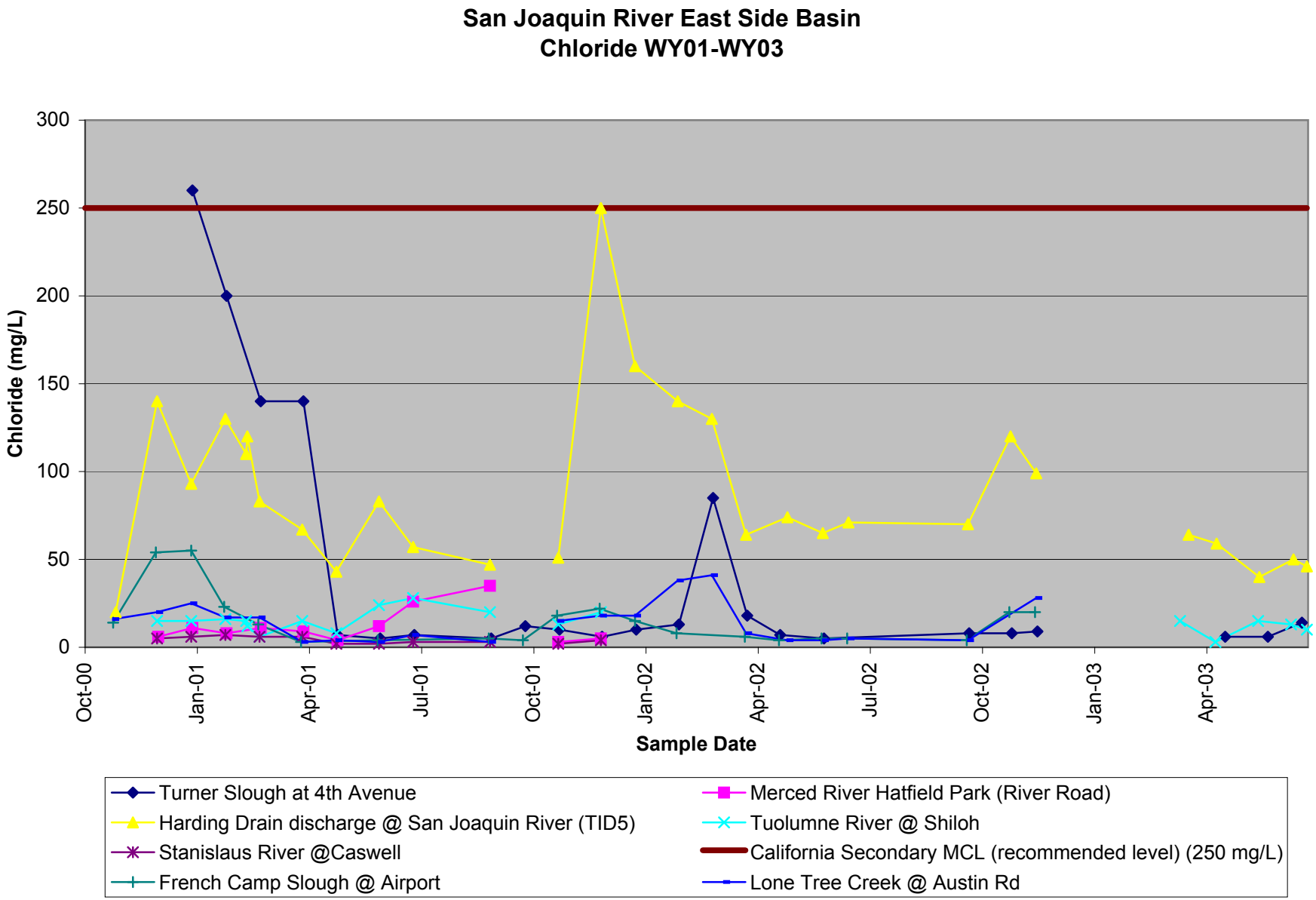
San Joaquin River Eastside Basin
Biological Oxygen Demand 5-Day WY01-WY03

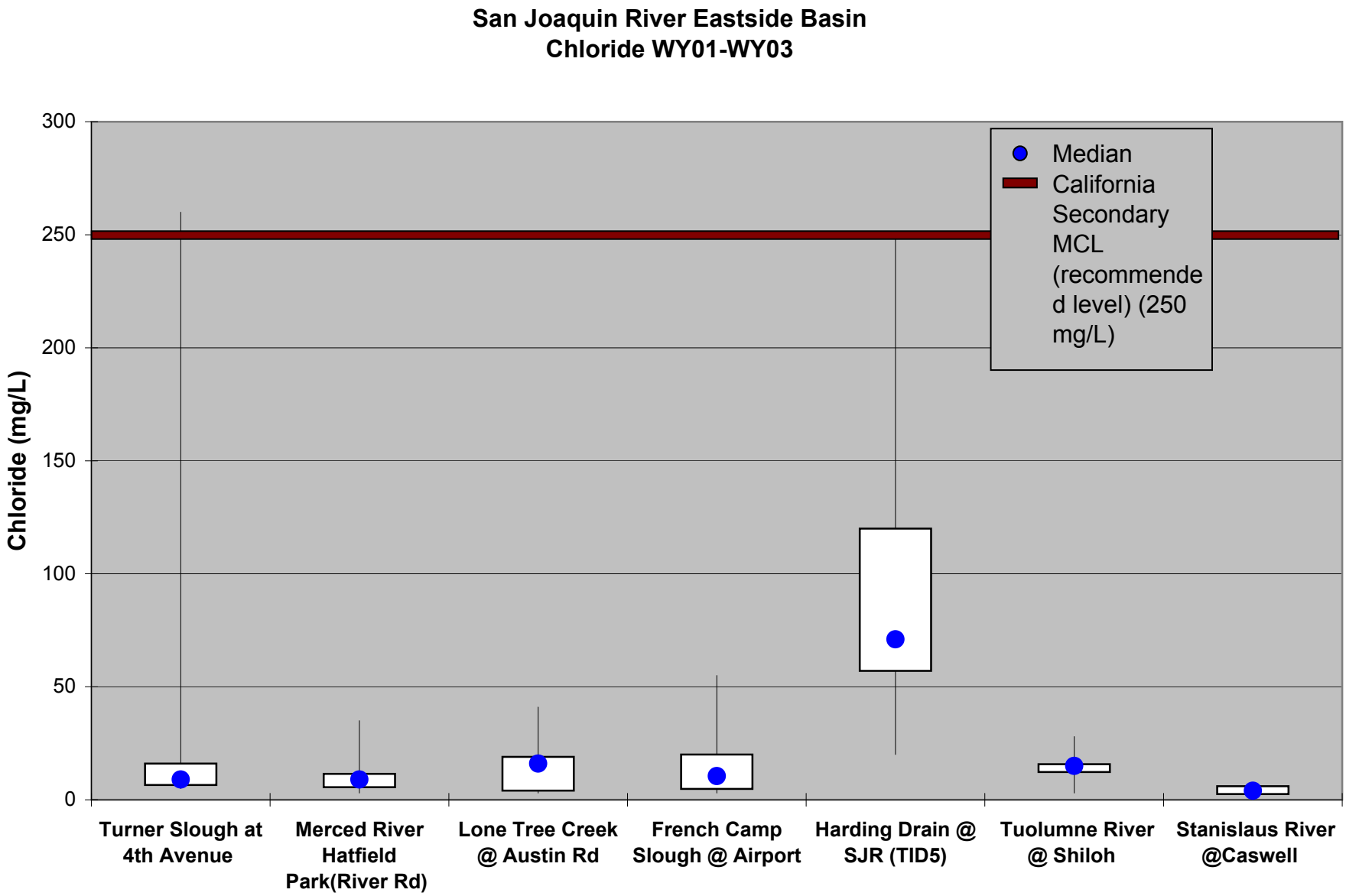


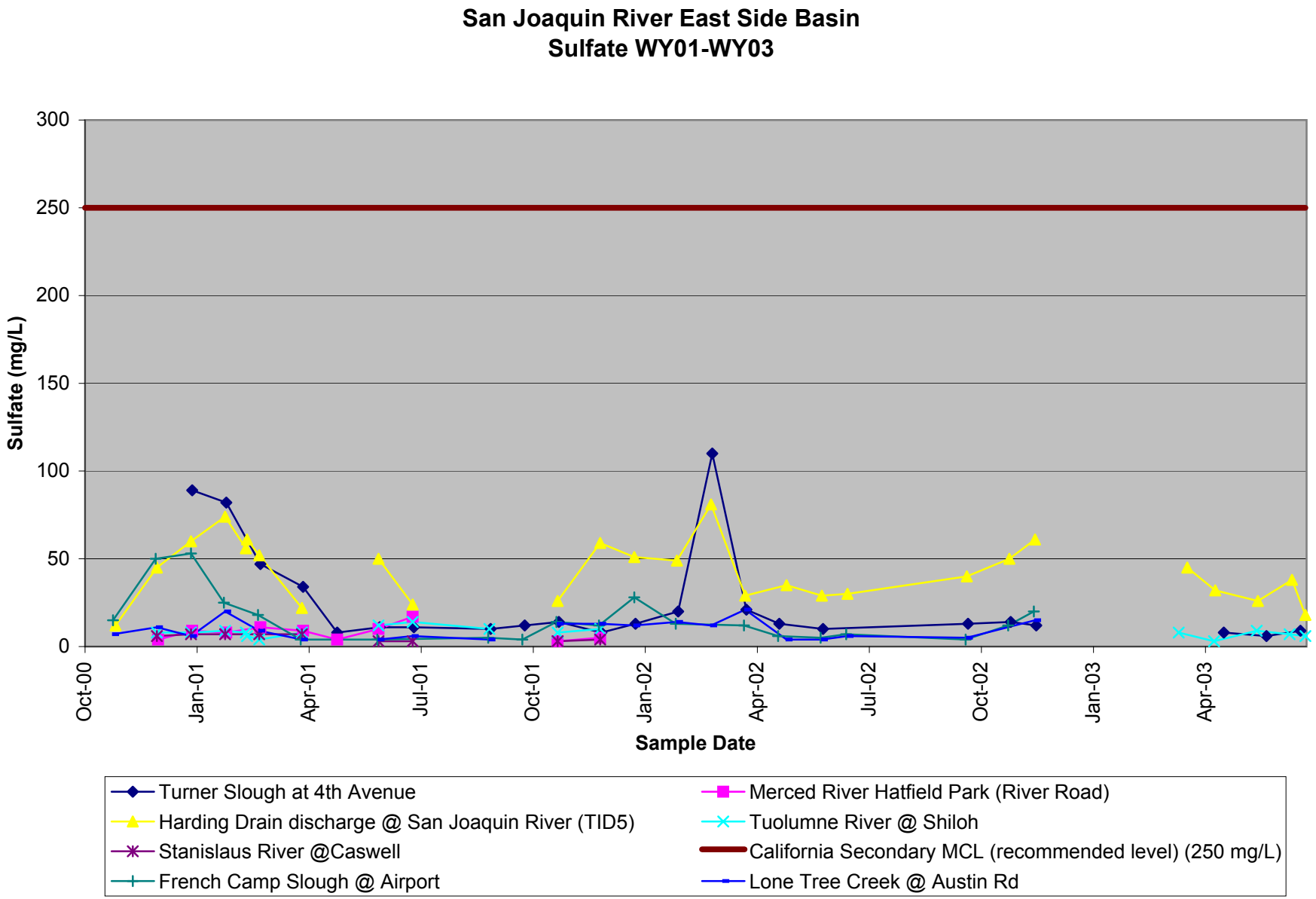

San Joaquin River East Side Basin
Biochemical Oxygen Demand 10-Day WY01-WY03
BOD 10-Day (mg/L)
35
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

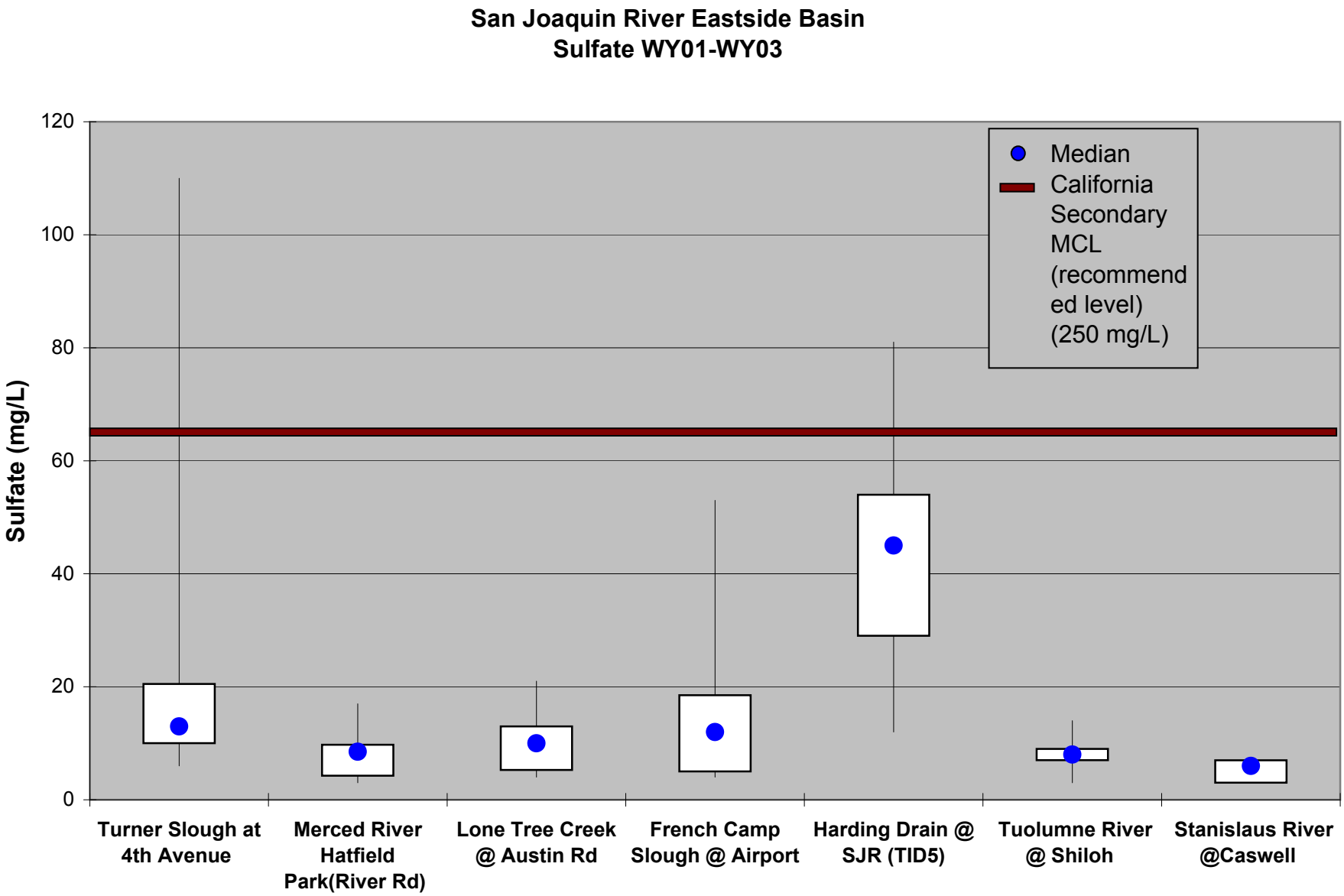
San Joaquin River Eastside Basin
Biological Oxygen Demand 10-Day WY01-WY03

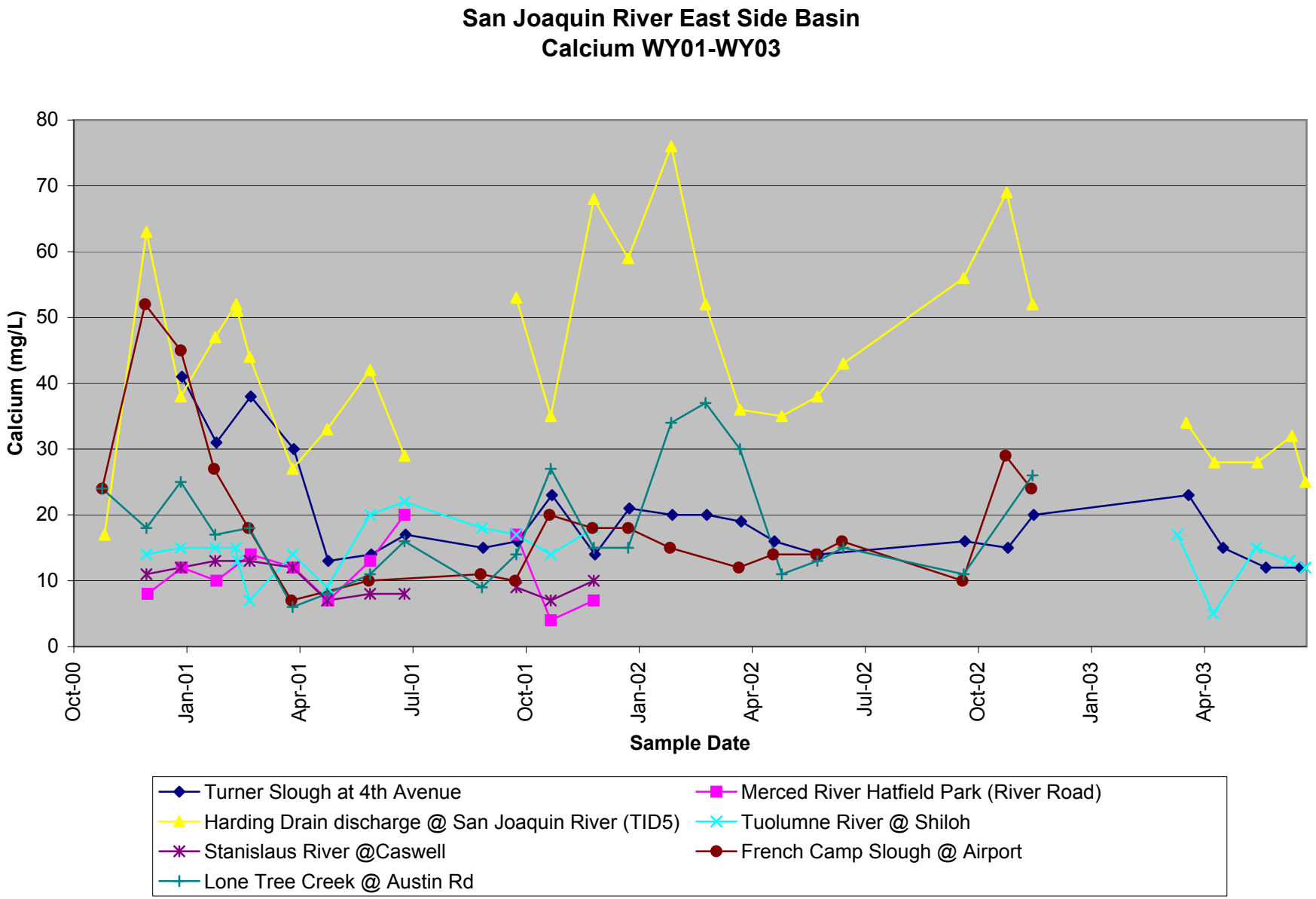


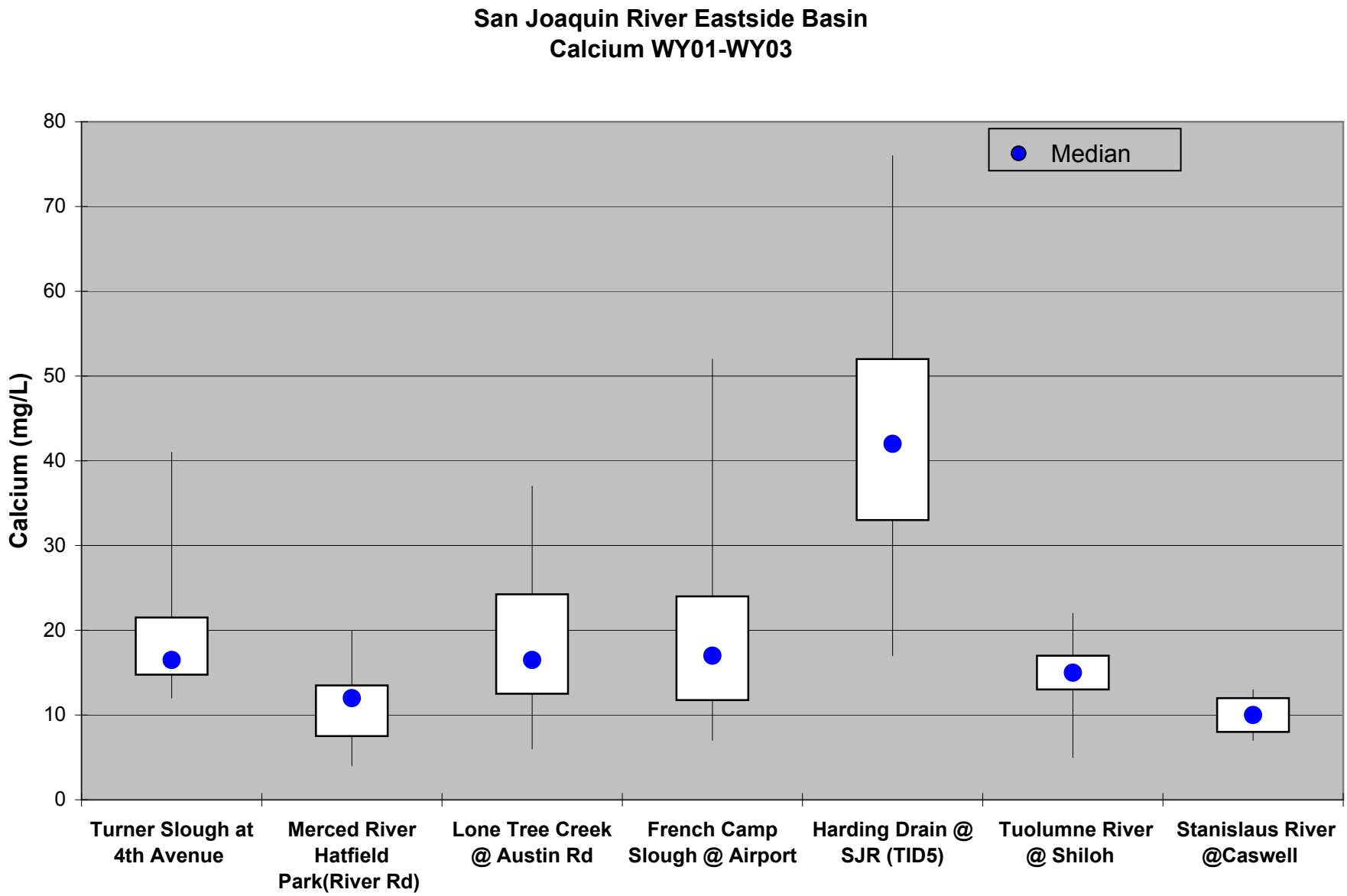

San Joaquin River East Side Basin
Chloride WY01-WY03
Chloride (mg/L)
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
California Secondary MCL (recommended level) (250 mg/L)
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

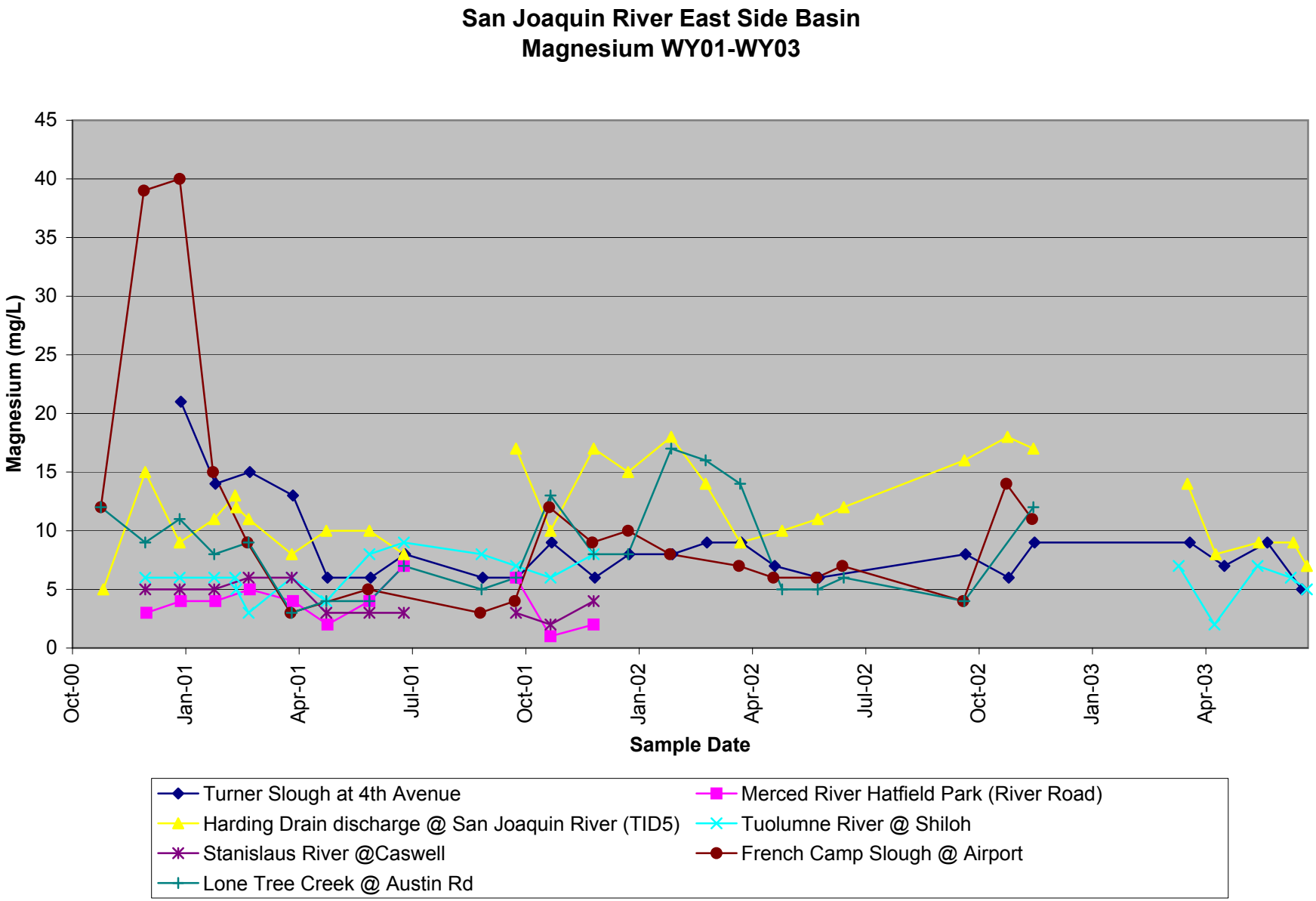

San Joaquin River Eastside Basin
Chloride WY01-WY03
Chloride (mg/L)
300
250
200
150
100
50
0
Median
California Secondary MCL (recommended level) (250 mg/L)
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

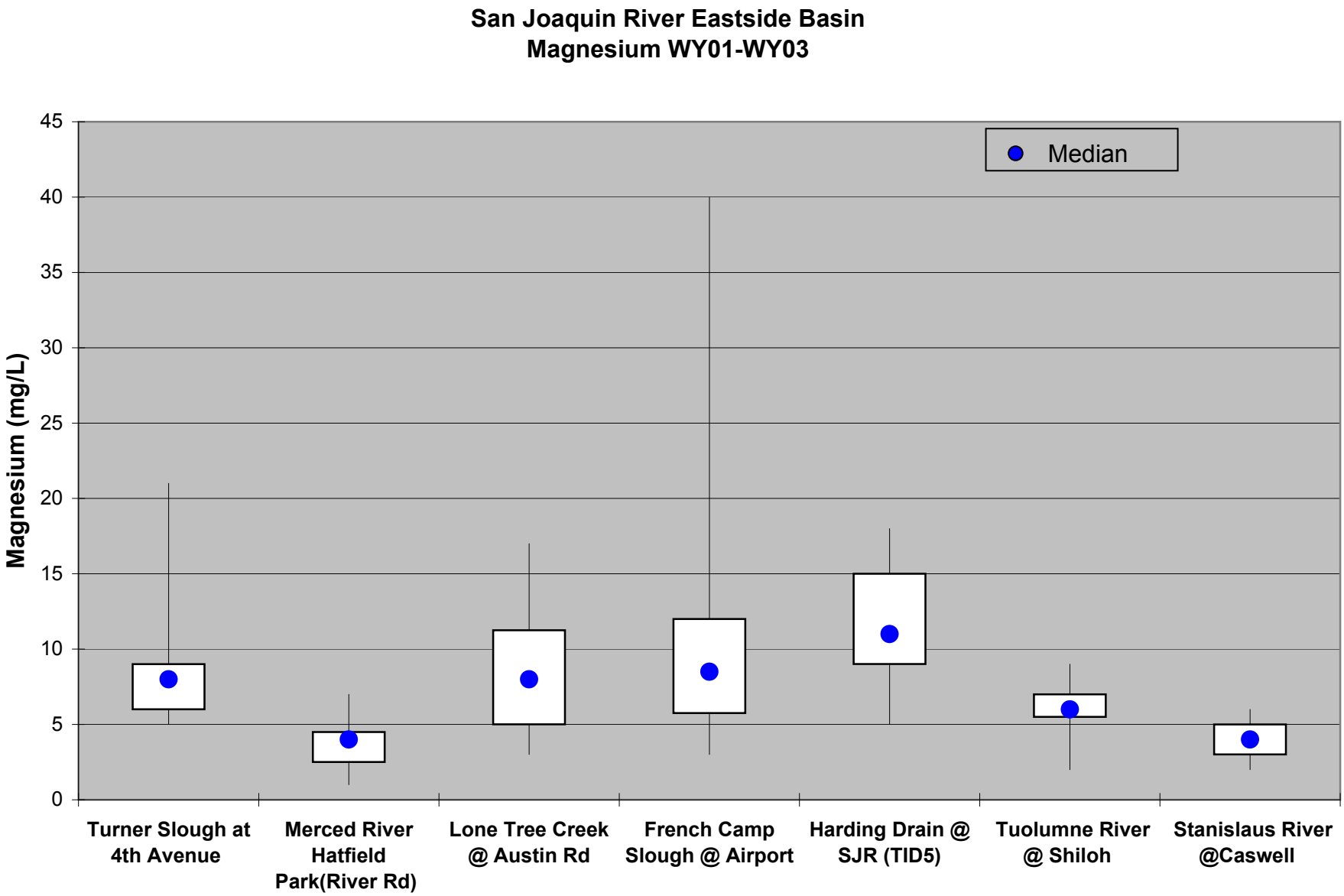

San Joaquin River East Side Basin
Sulfate WY01-WY03
Sulfate (mg/L)
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
California Secondary MCL (recommended level) (250 mg/L)
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

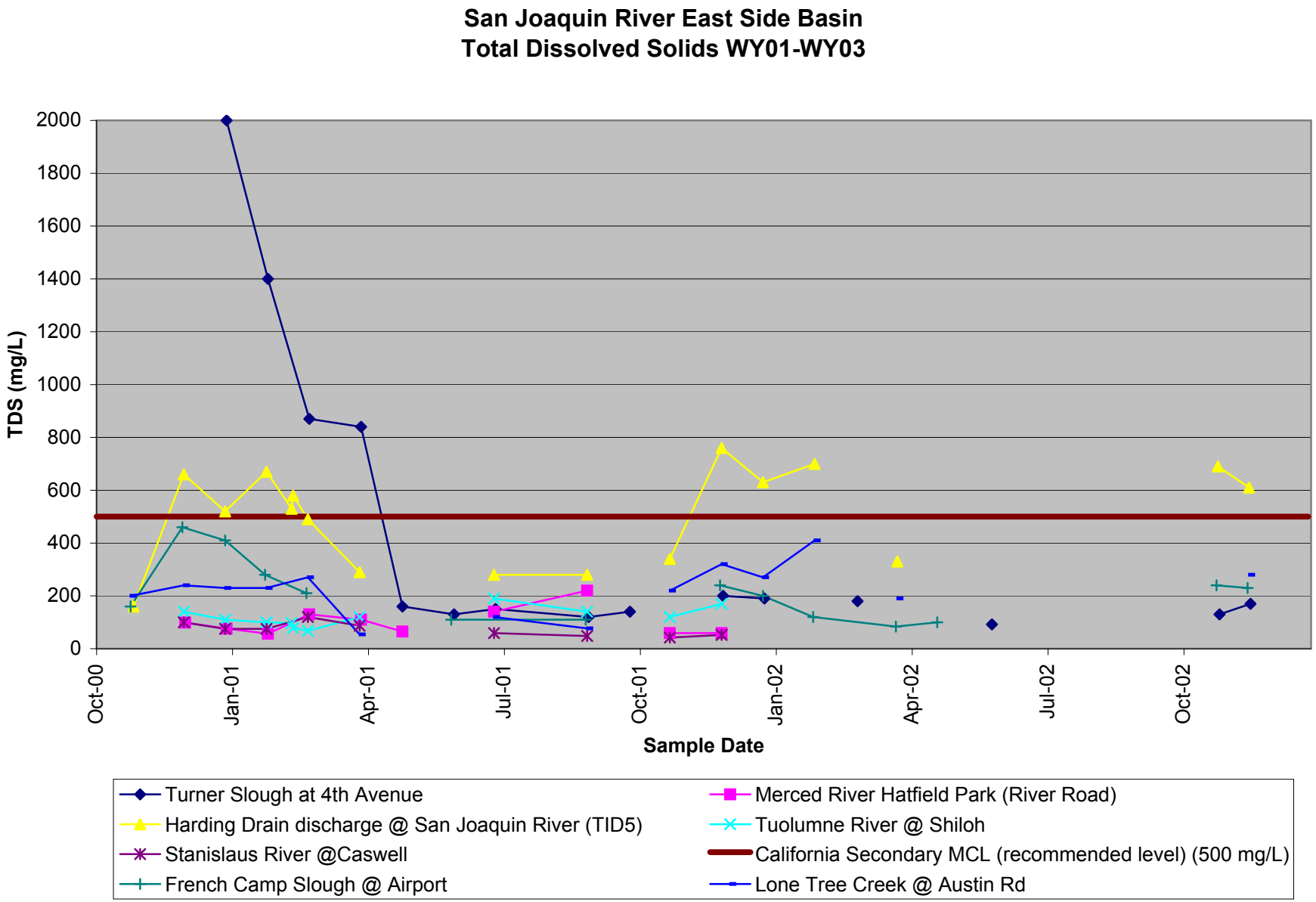

San Joaquin River Eastside Basin
Sulfate WY01-WY03
Sulfate (mg/L)
120
100
80
60
40
20
0
Median
California Secondary MCL (recommended level) (250 mg/L)
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

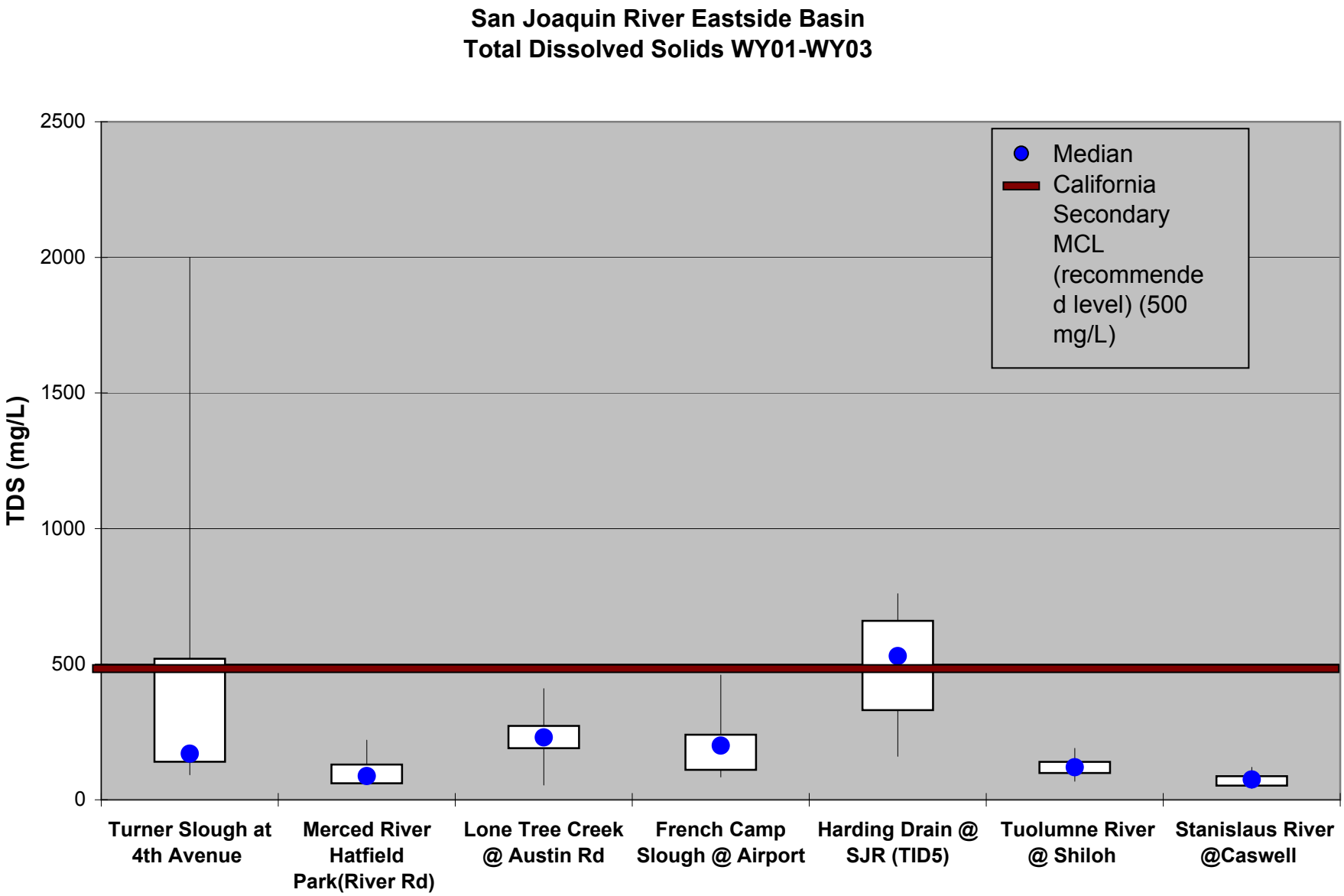

San Joaquin River East Side Basin
Calcium WY01-WY03
Calcium (mg/L)
80
70
60
50
40
30
20
10
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

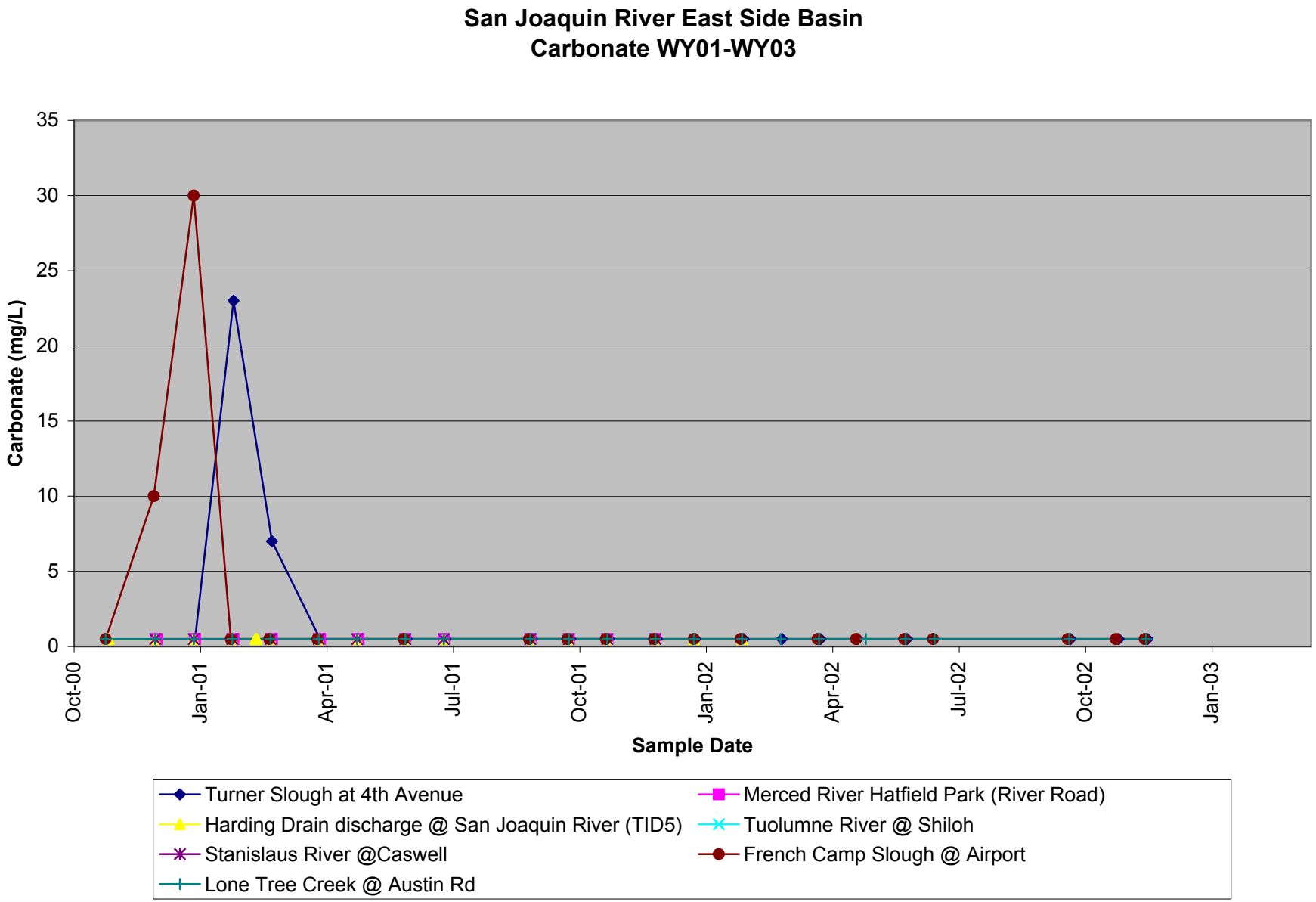

San Joaquin River Eastside Basin
Calcium WY01-WY03
Median
Calcium (mg/L)
80
70
60
50
40
30
20
10
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

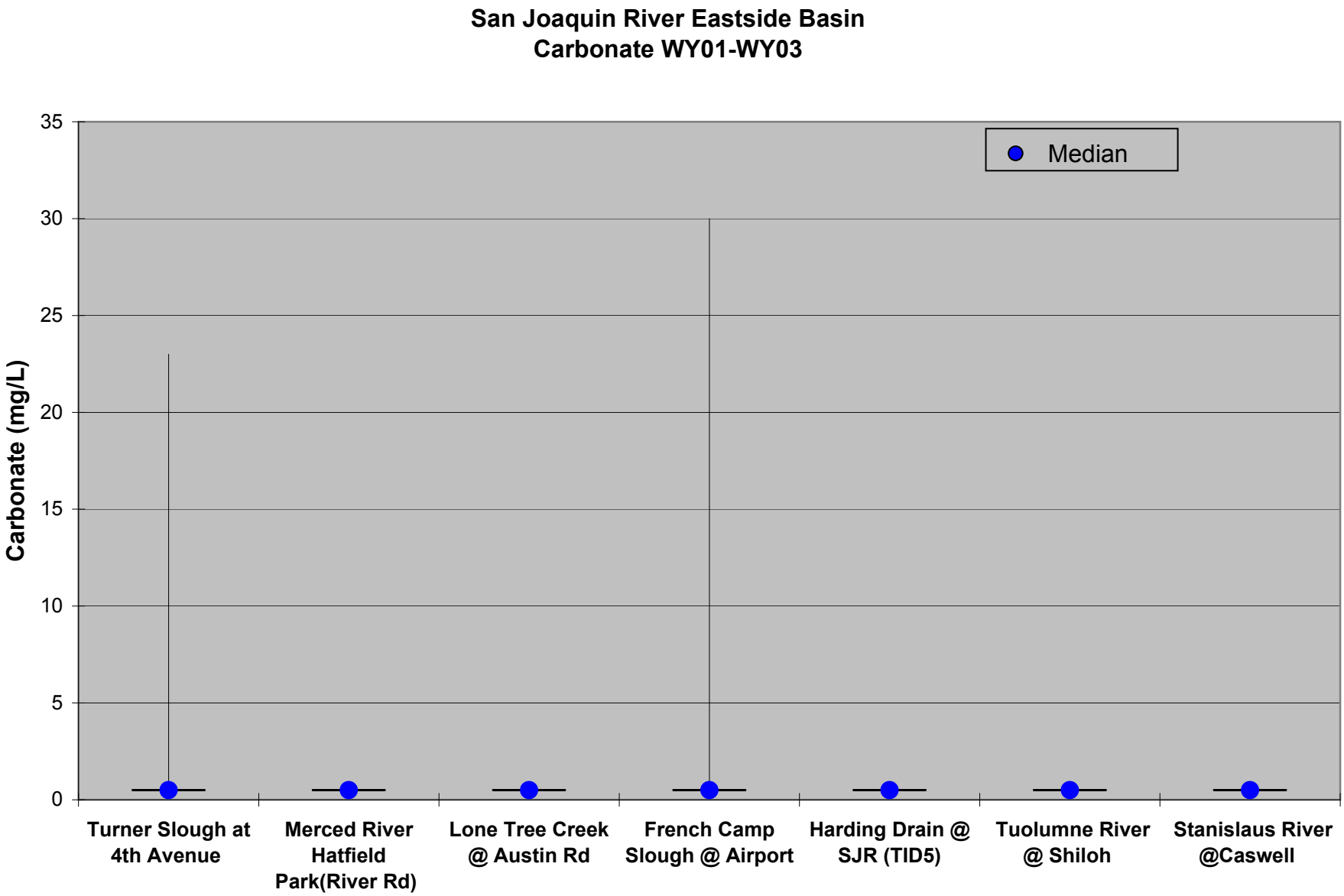

San Joaquin River East Side Basin
Magnesium WY01-WY03
Magnesium (mg/L)
45
40
35
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

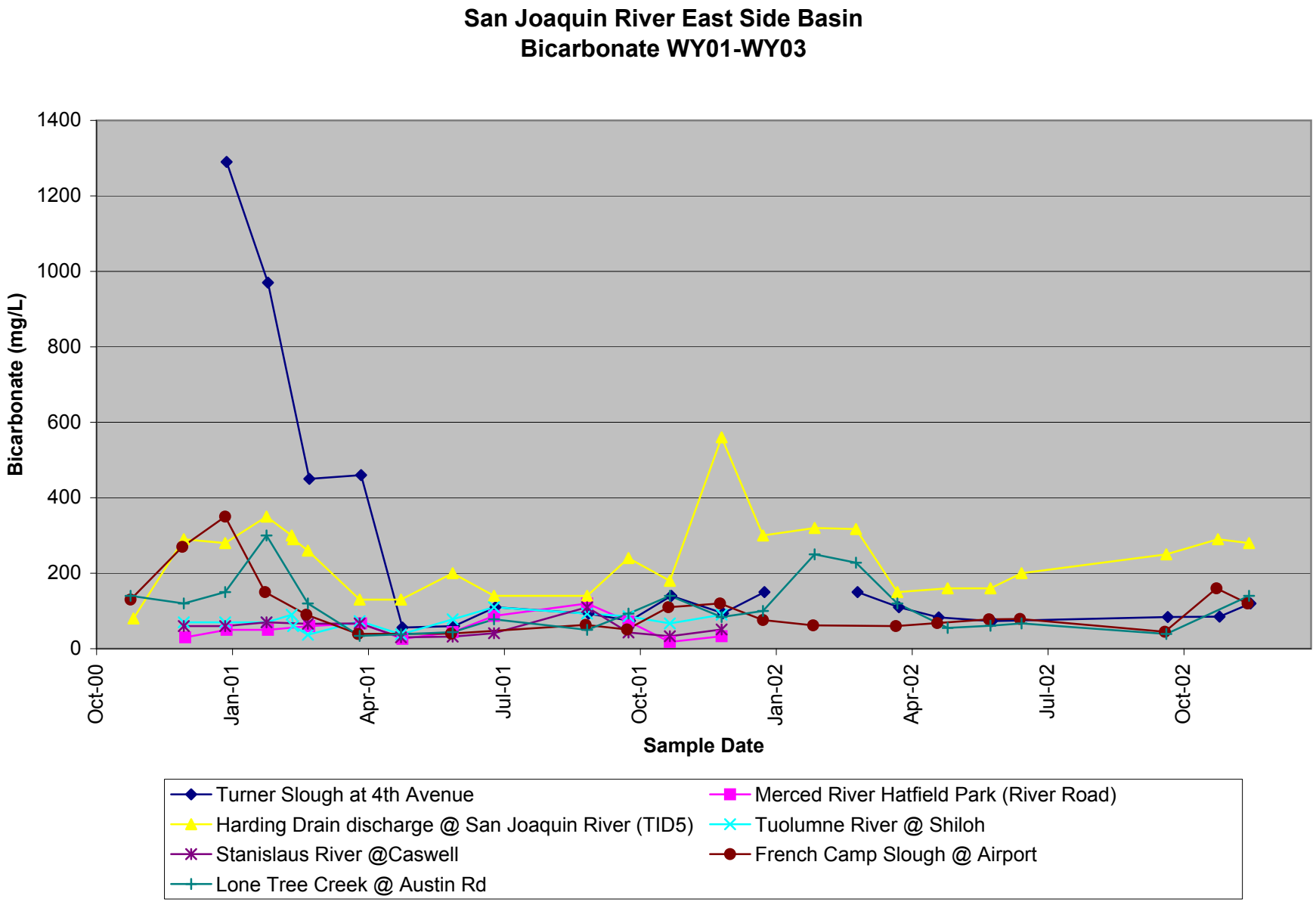

San Joaquin River Eastside Basin
Magnesium WY01-WY03
Median
Magnesium (mg/L)
45
40
35
30
25
20
15
10
5
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

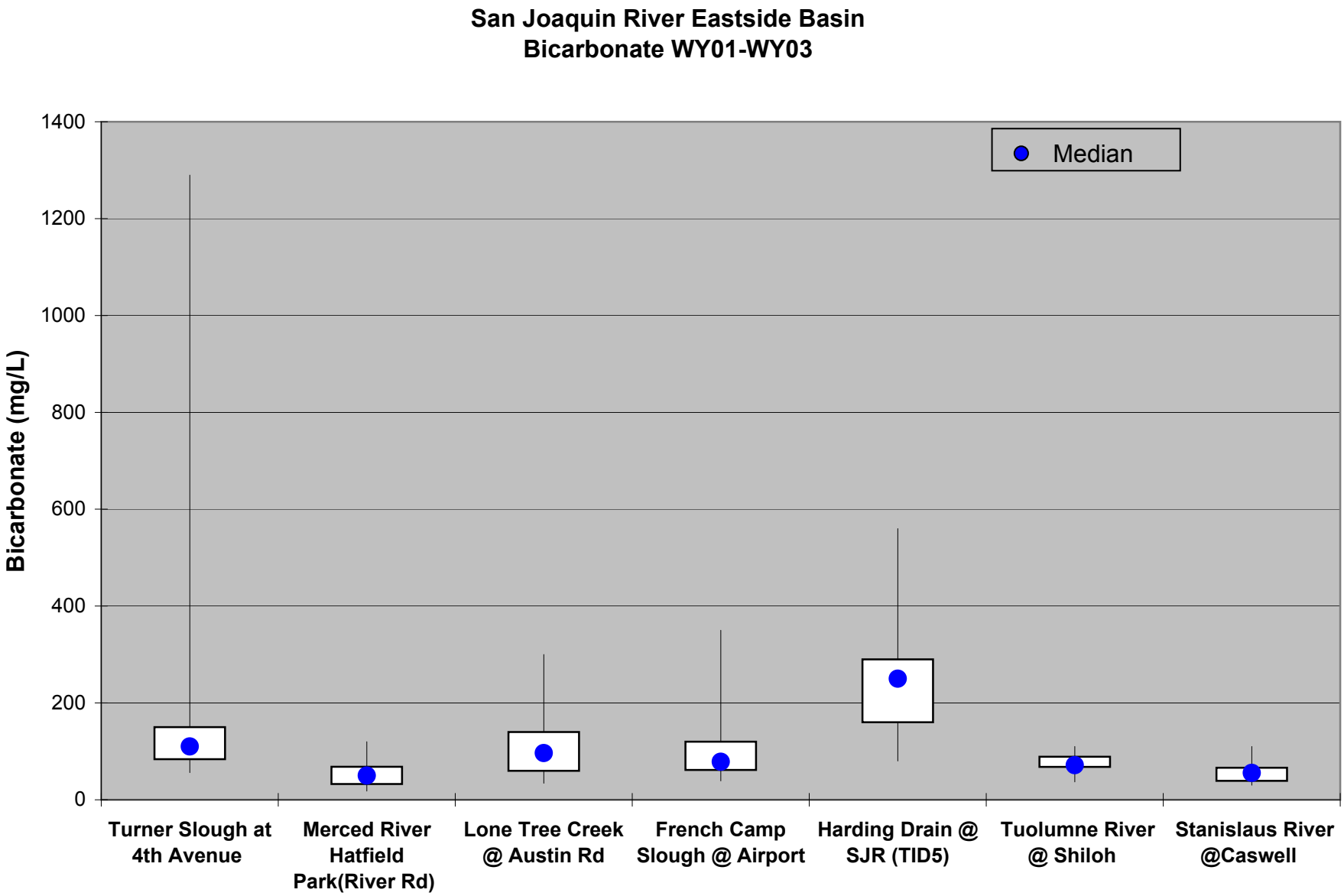

San Joaquin River East Side Basin
Total Dissolved Solids WY01-WY03
TDS (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
California Secondary MCL (recommended level) (500 mg/L)
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

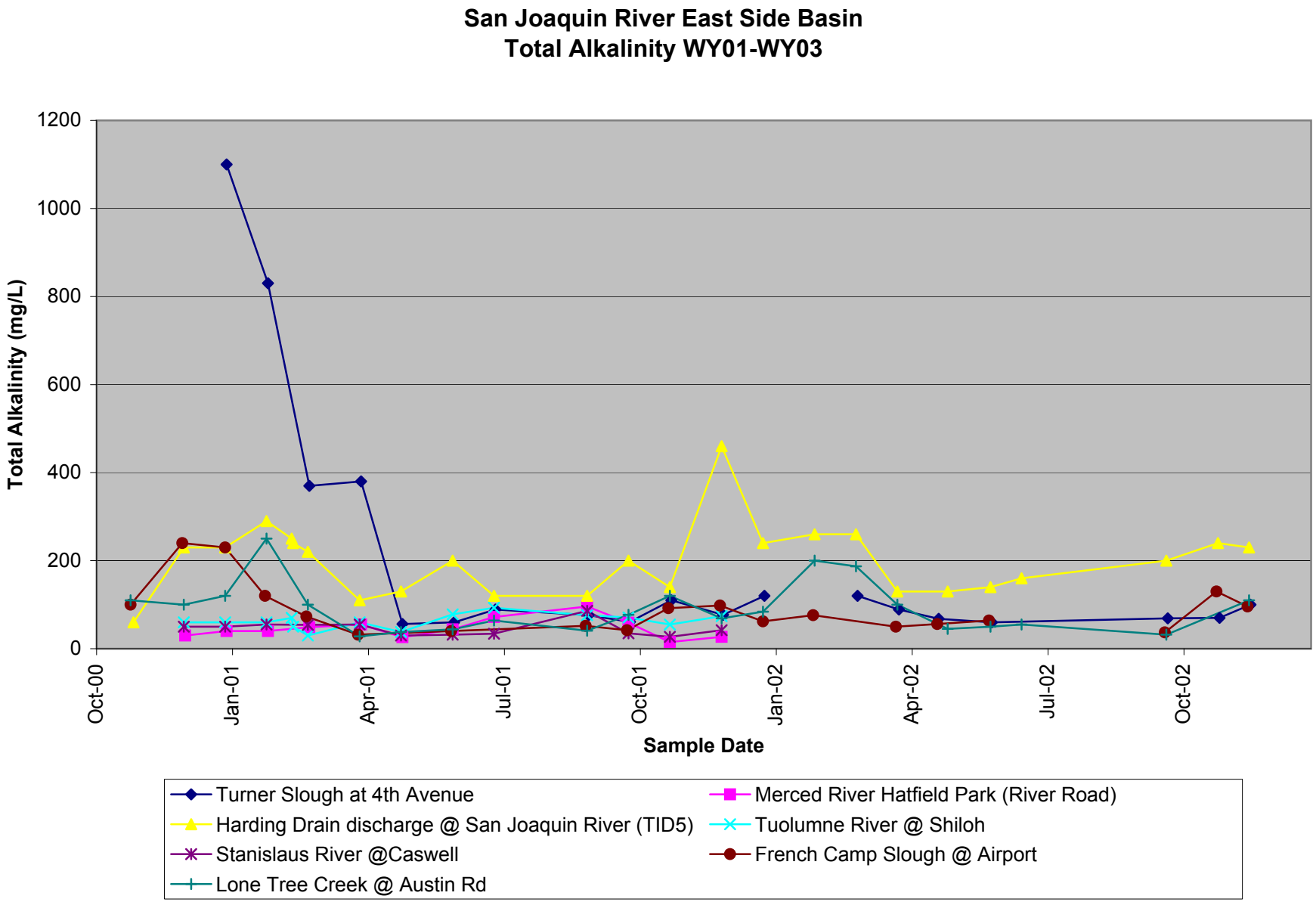

San Joaquin River Eastside Basin
Total Dissolved Solids WY01-WY03
TDS (mg/L)
2500
2000
1500
1000
500
0
Median
California Secondary MCL (recommended level) (500 mg/L)
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

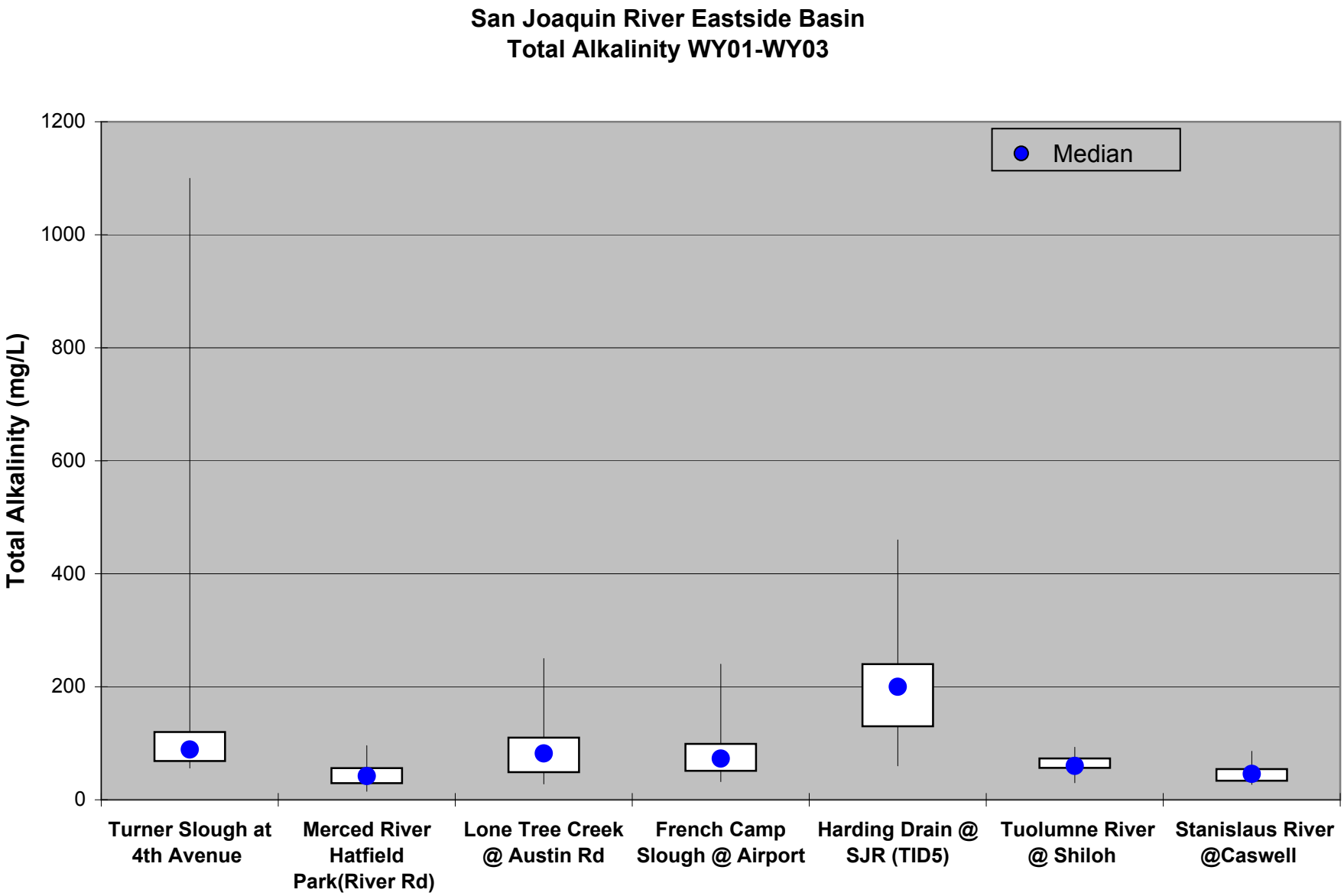

San Joaquin River East Side Basin
Carbonate WY01-WY03
Carbonate (mg/L)
35
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

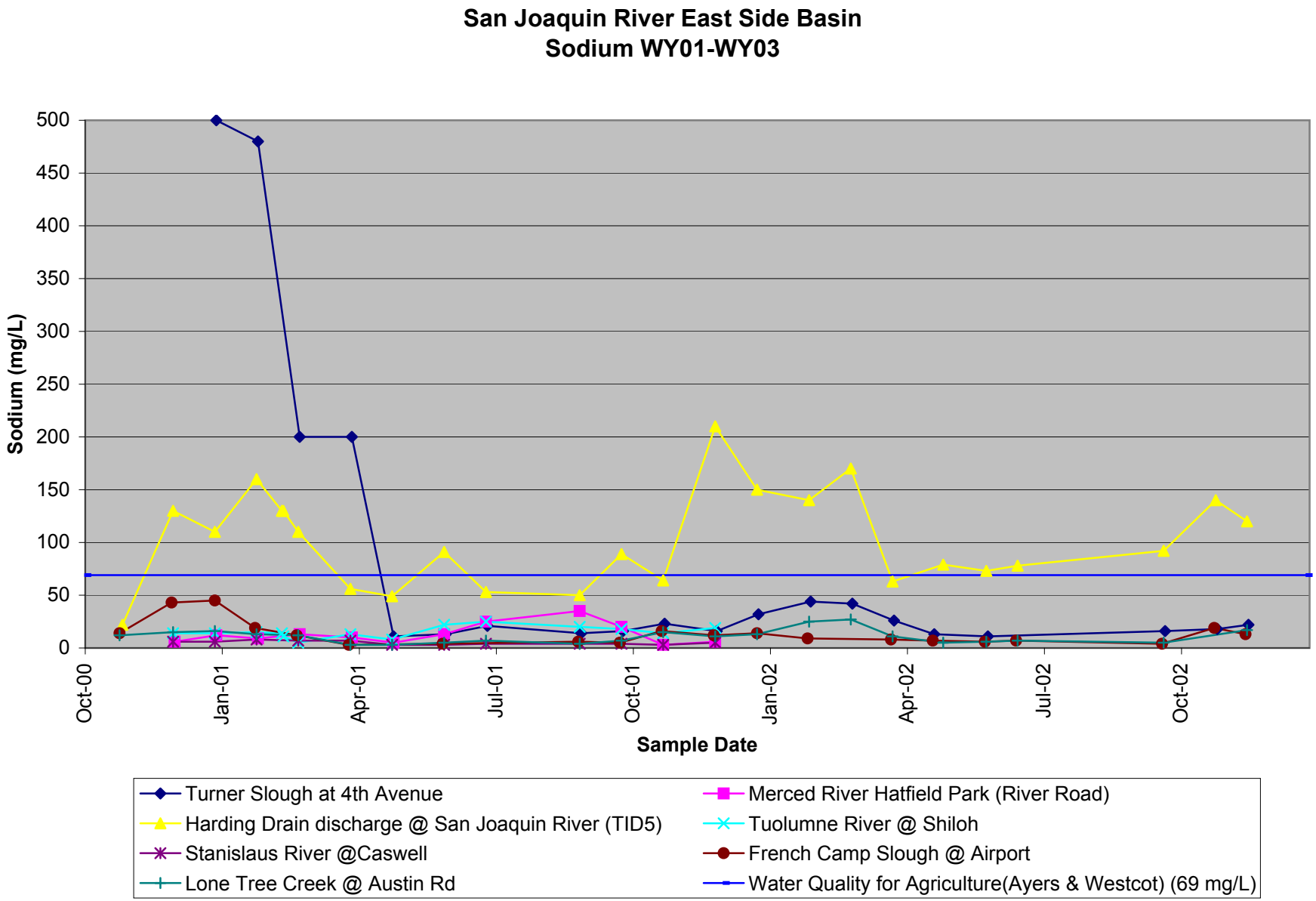

San Joaquin River Eastside Basin
Carbonate WY01-WY03
Median
Carbonate (mg/L)
35
30
25
20
15
10
5
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

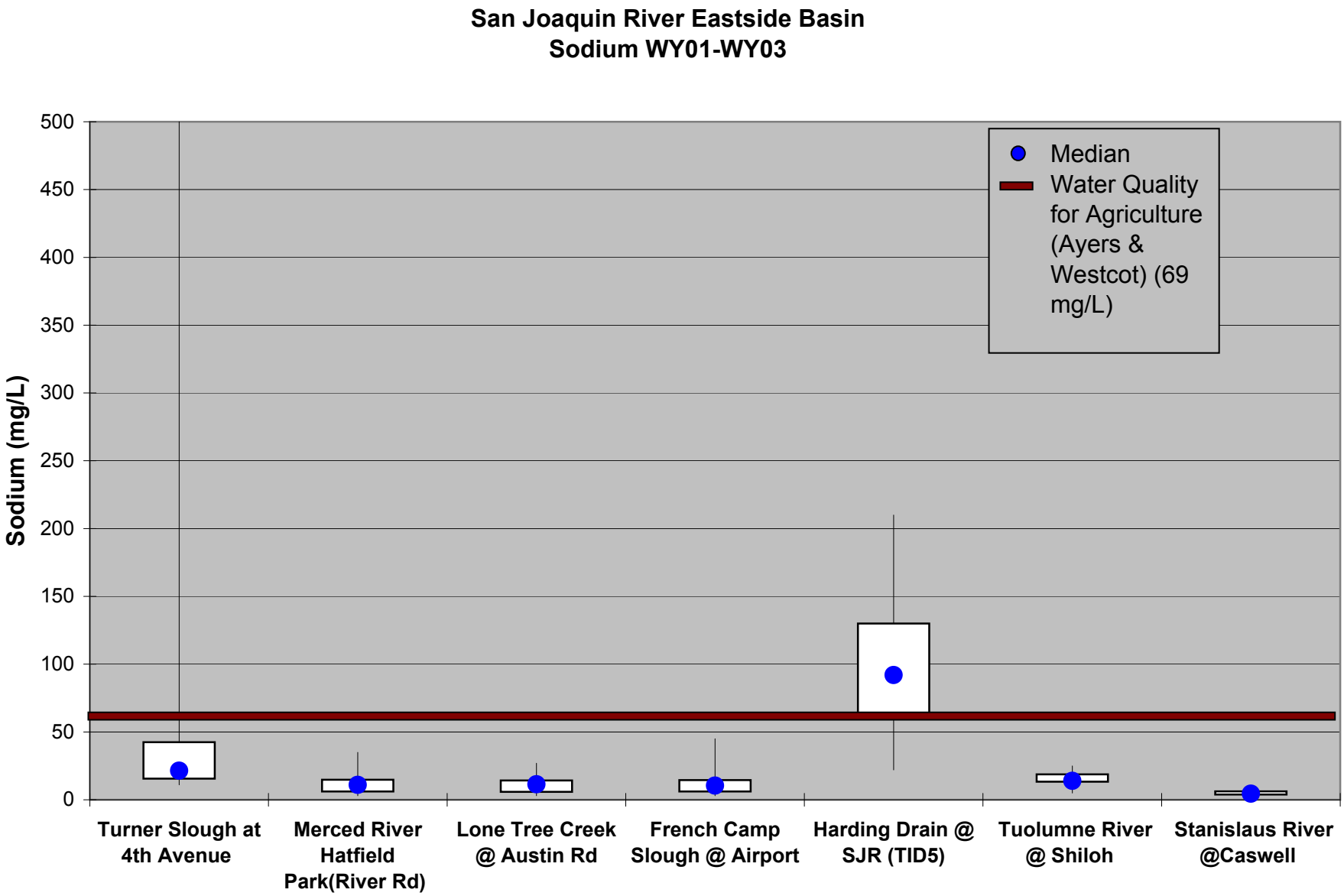

San Joaquin River East Side Basin
Bicarbonate WY01-WY03
Bicarbonate (mg/L)
1400
1200
1000
800
600
400
200
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

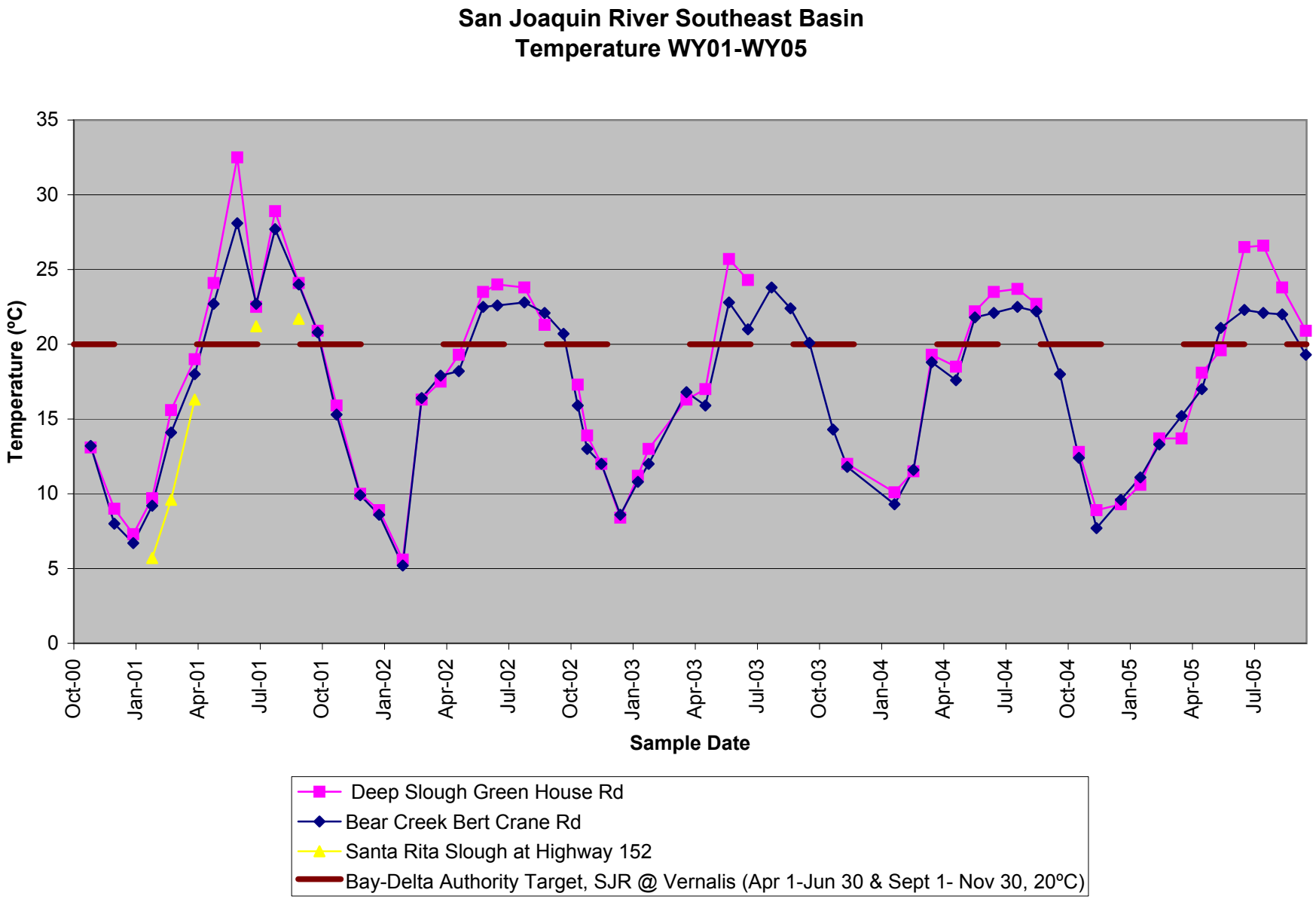

San Joaquin River Eastside Basin
Bicarbonate WY01-WY03
Median
Bicarbonate (mg/L)
1400
1200
1000
800
600
400
200
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

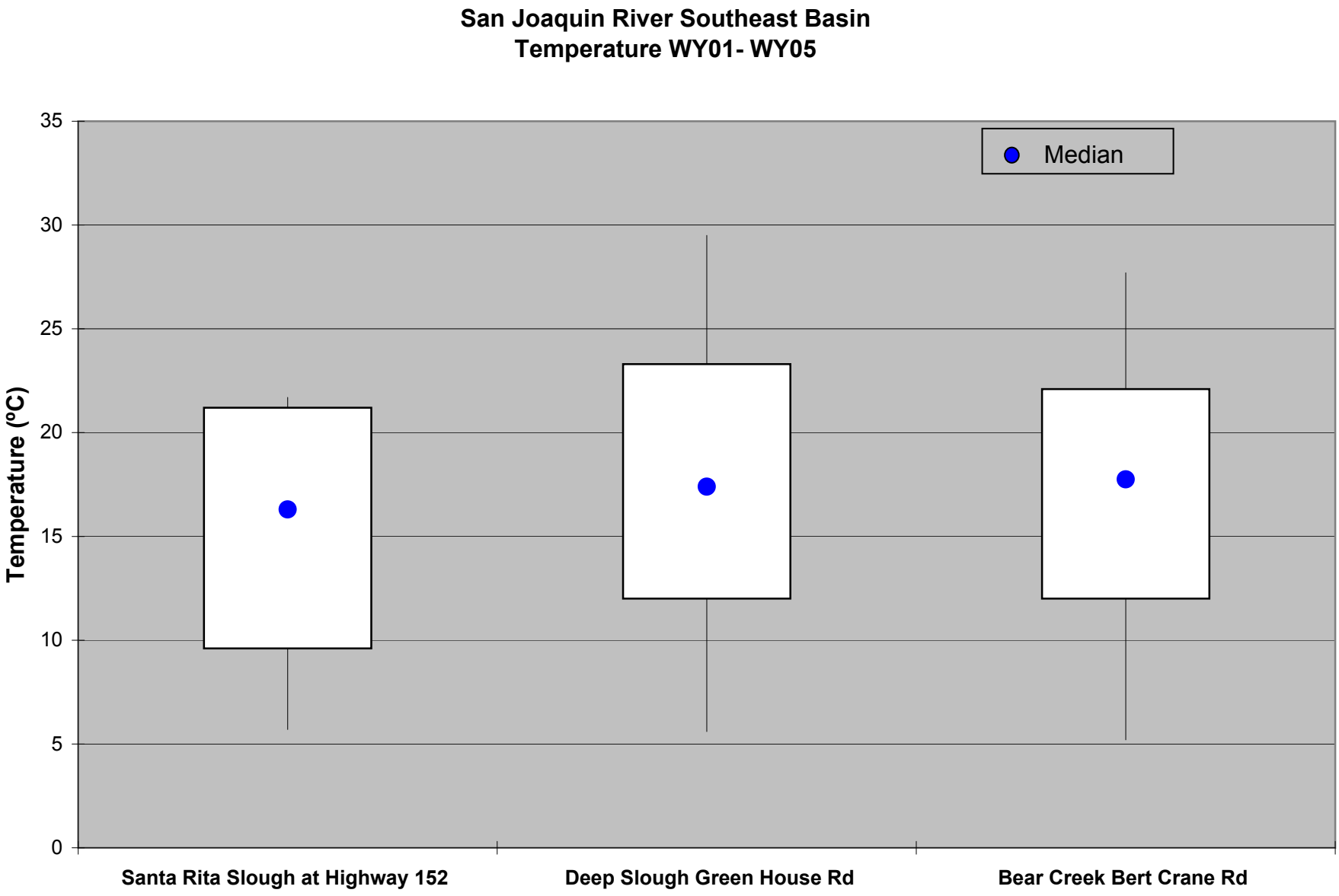

San Joaquin River East Side Basin
Total Alkalinity WY01-WY03
Total Alkalinity (mg/L)
1200
1000
800
600
400
200
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd

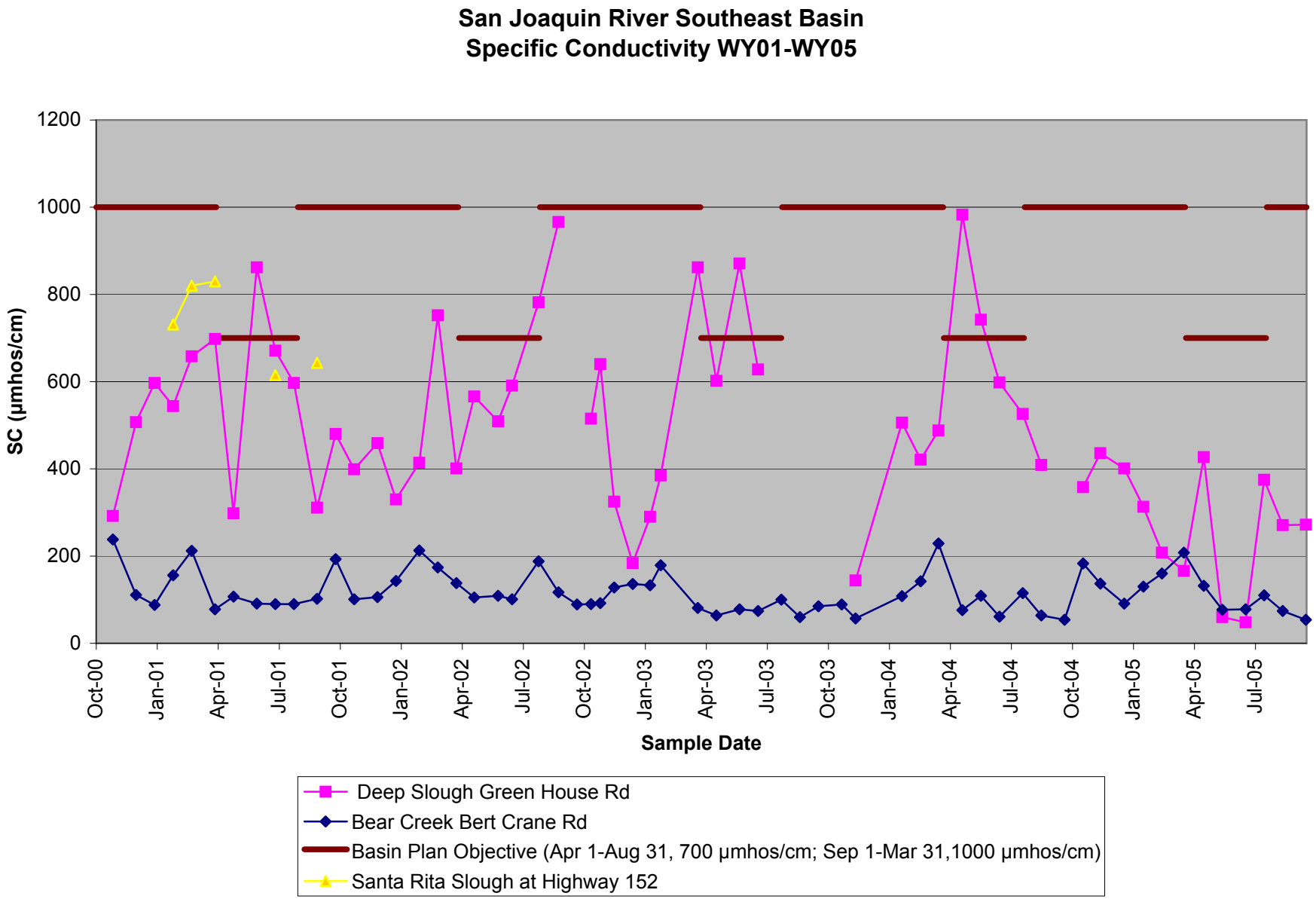

San Joaquin River Eastside Basin
Total Alkalinity WY01-WY03
Median
Total Alkalinity (mg/L)
1200
1000
800
600
400
200
0
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

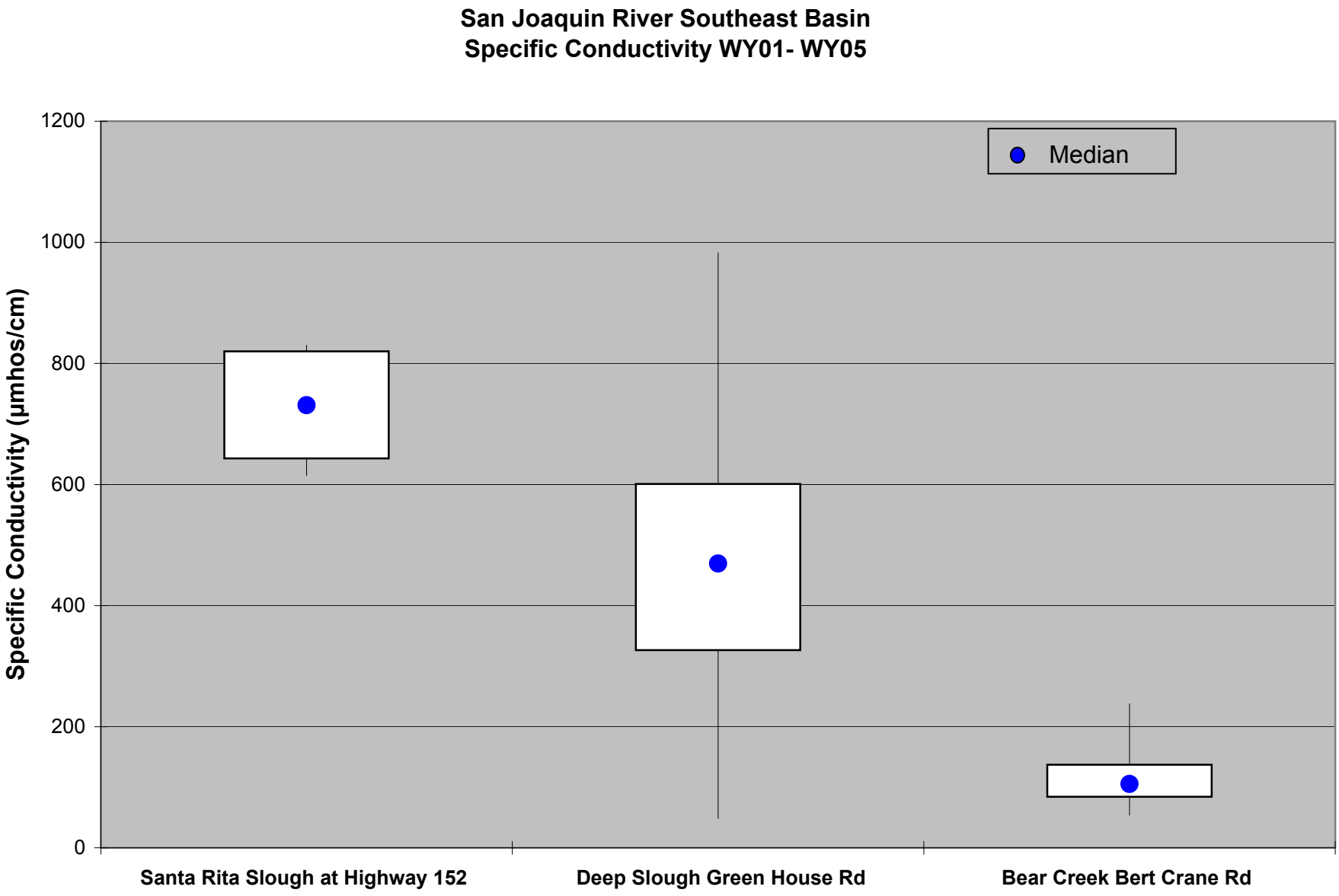

San Joaquin River East Side Basin
Sodium WY01-WY03
Sodium (mg/L)
500
450
400
350
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Turner Slough at 4th Avenue
Merced River Hatfield Park (River Road)
Harding Drain discharge @ San Joaquin River (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell
French Camp Slough @ Airport
Lone Tree Creek @ Austin Rd
Water Quality for Agriculture(Ayers & Westcot) (69 mg/L)

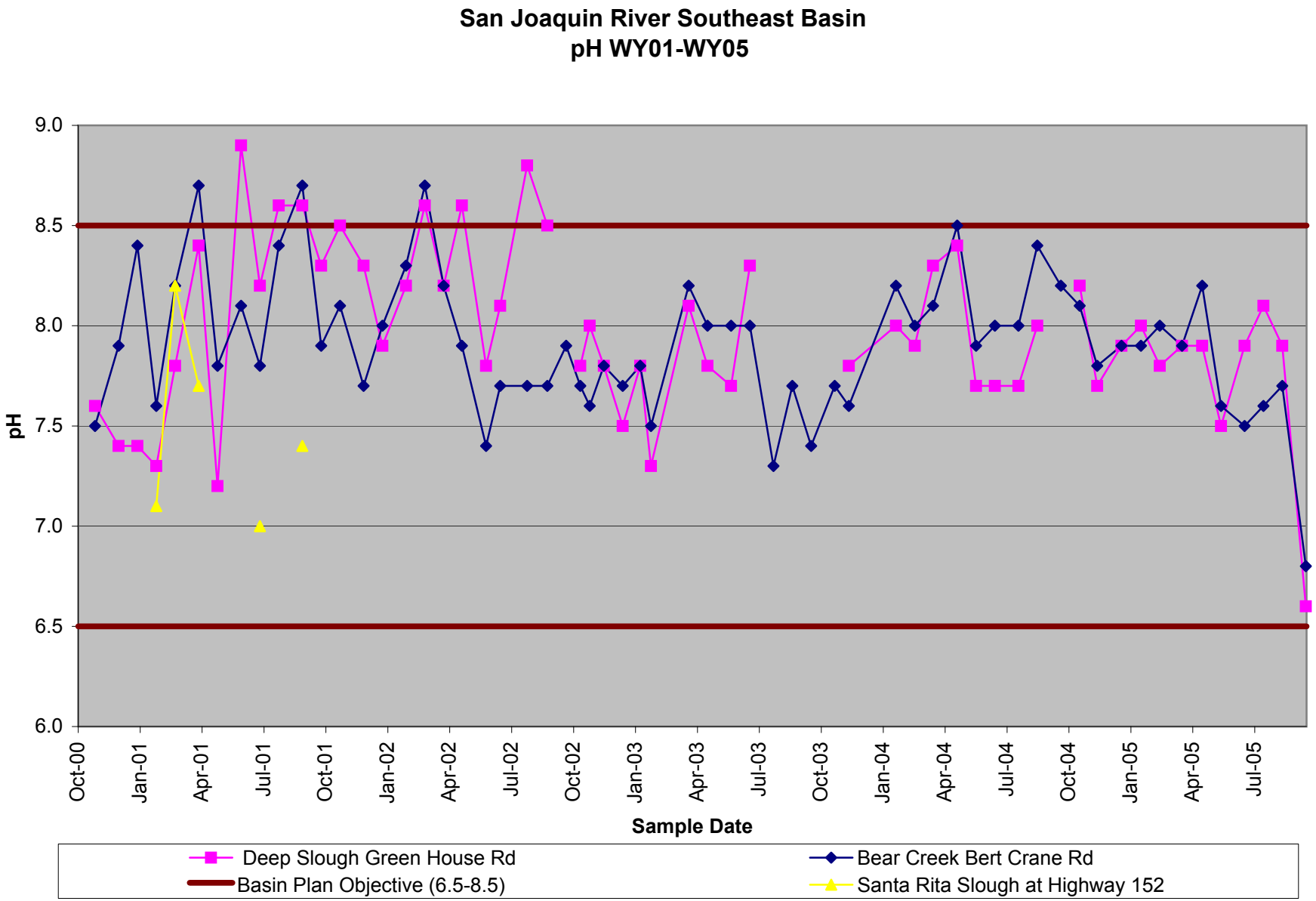

San Joaquin River Eastside Basin
Sodium WY01-WY03
Sodium (mg/L)
500
450
400
350
300
250
200
150
100
50
0
Median
Water Quality for Agriculture (Ayers & Westcot) (69 mg/L)
Turner Slough at 4th Avenue
Merced River Hatfield Park(River Rd)
Lone Tree Creek @ Austin Rd
French Camp Slough @ Airport
Harding Drain @ SJR (TID5)
Tuolumne River @ Shiloh
Stanislaus River @Caswell

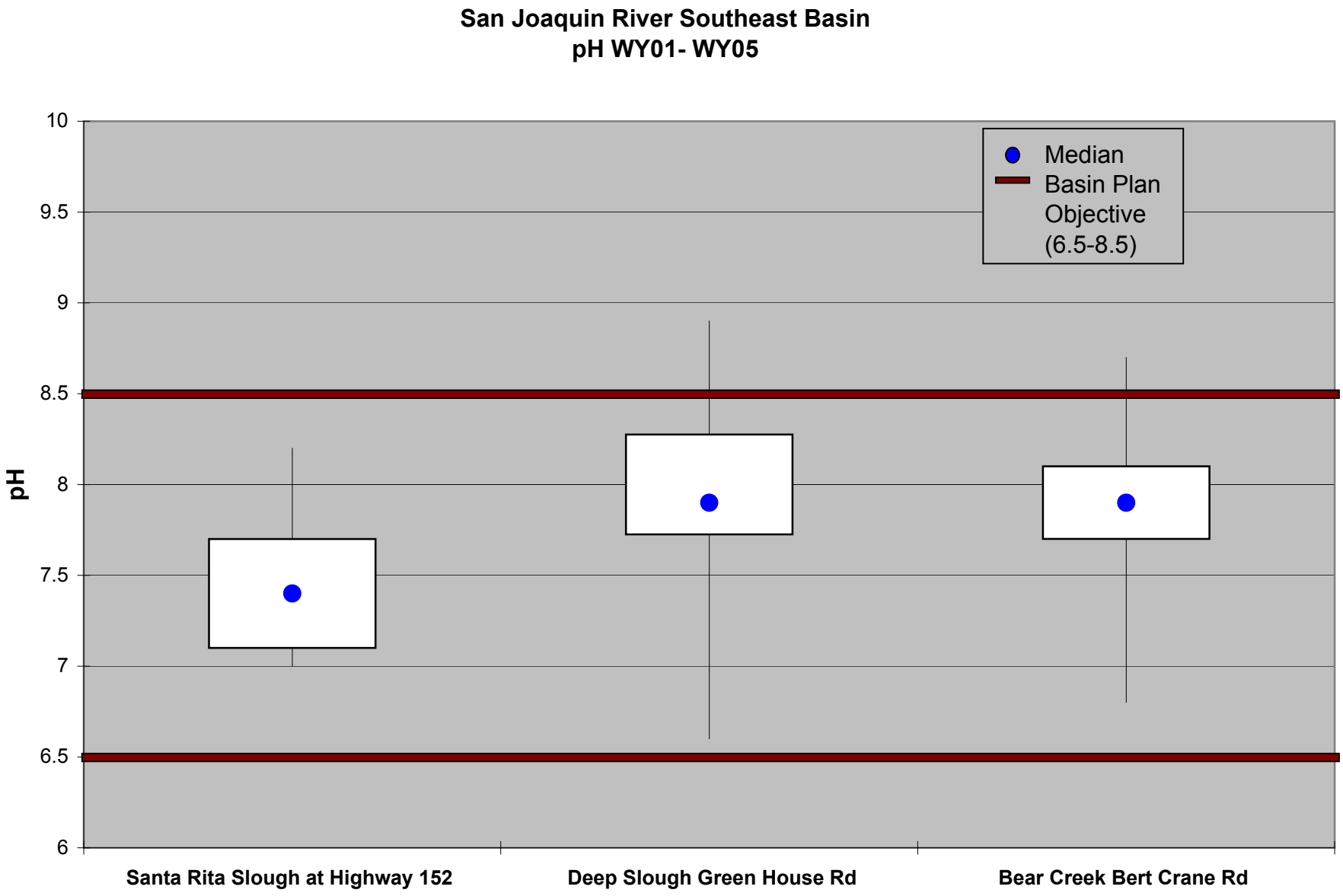

San Joaquin River Southeast Basin
Temperature WY01-WY05
Temperature (ºC)
35
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152
Bay-Delta Authority Target, SJR @ Vernalis (Apr 1-Jun 30 & Sept 1- Nov 30, 20ºC)

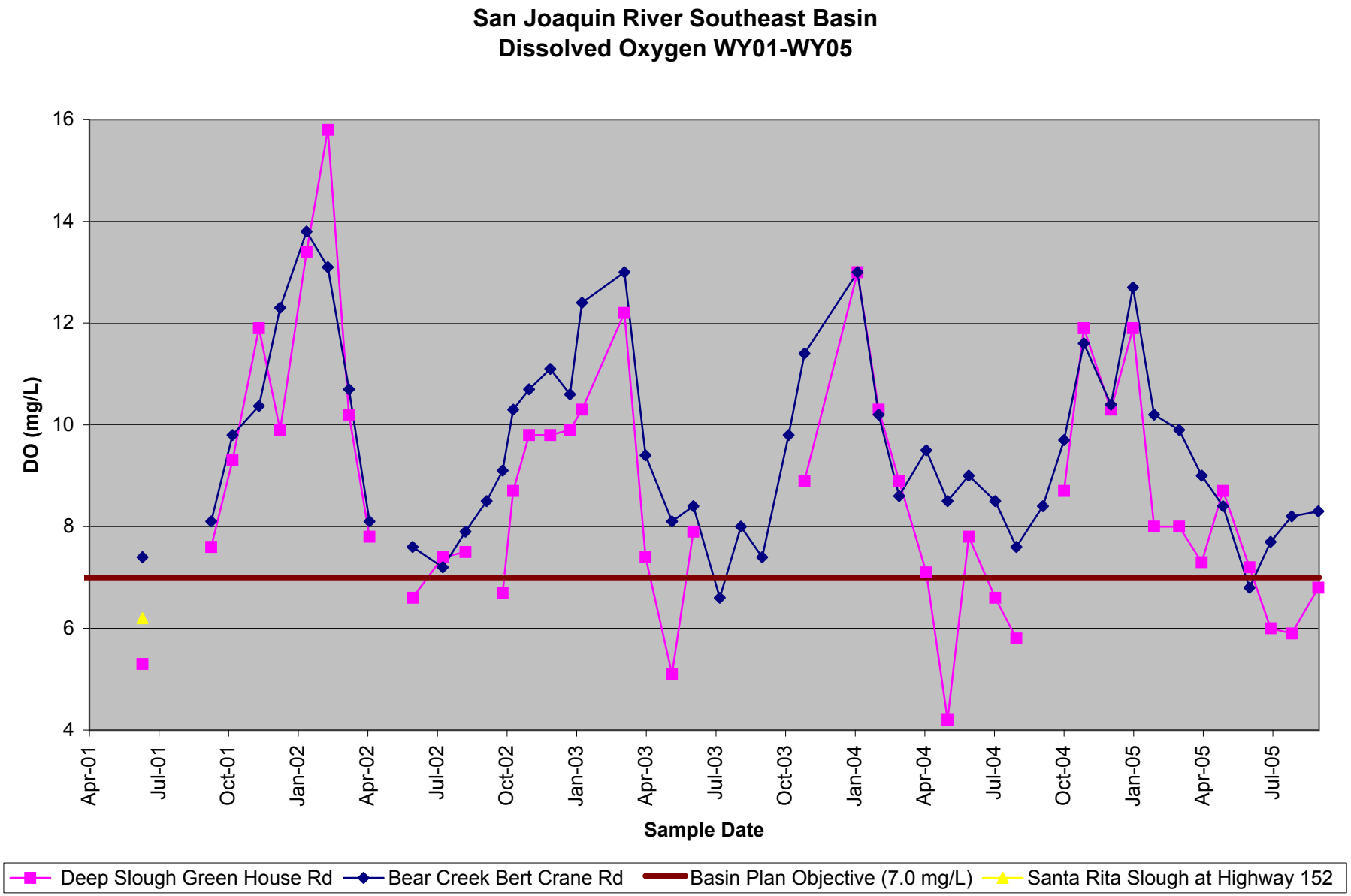

San Joaquin River Southeast Basin
Temperature WY01- WY05
Median
Temperature (ºC)
35
30
25
20
15
10
5
0
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

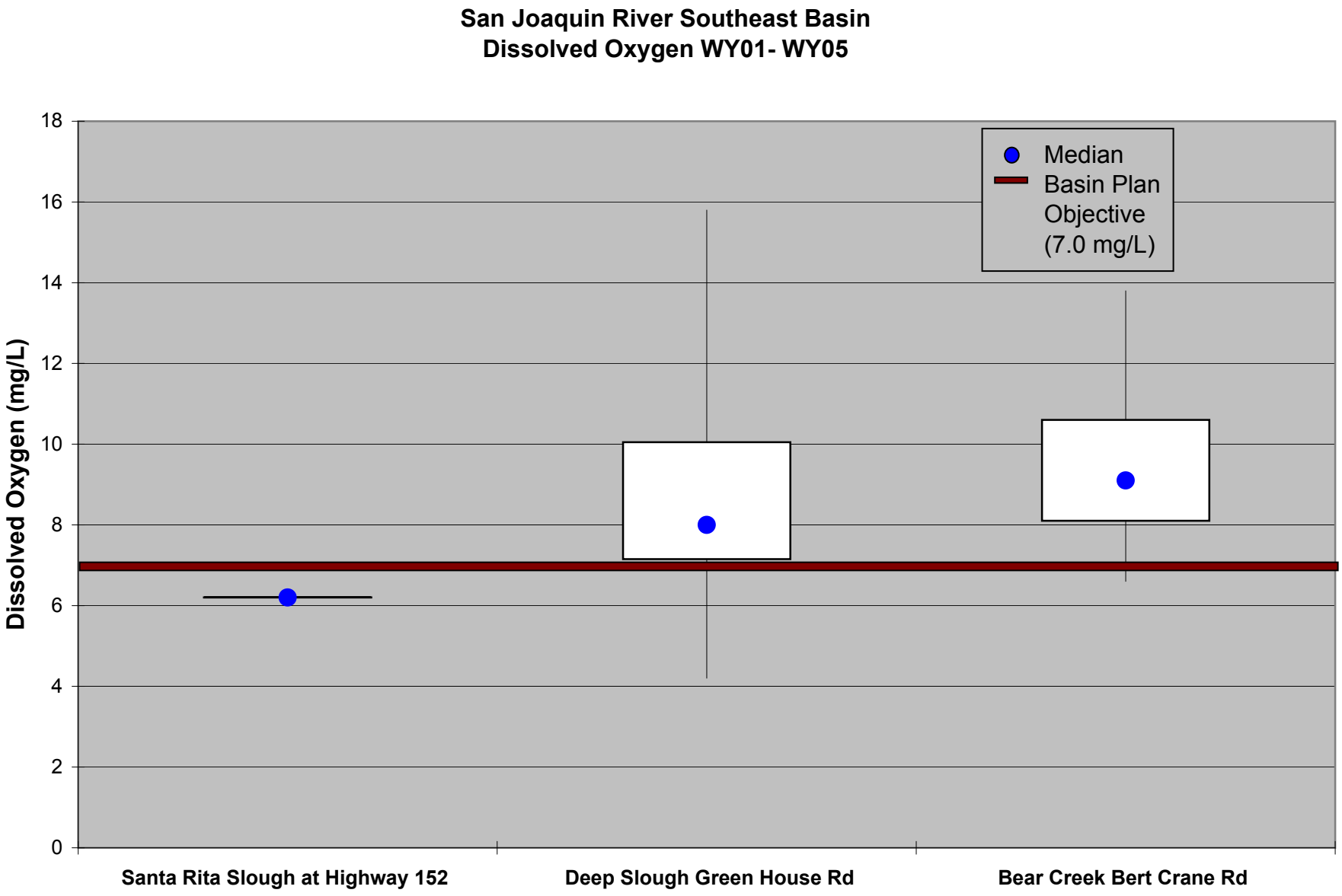

San Joaquin River Southeast Basin
Specific Conductivity WY01-WY05
SC (µmhos/cm)
1200
1000
800
600
400
200
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Basin Plan Objective (Apr 1-Aug 31, 700 µmhos/cm; Sep 1-Mar 31,1000 µmhos/cm)
Santa Rita Slough at Highway 152

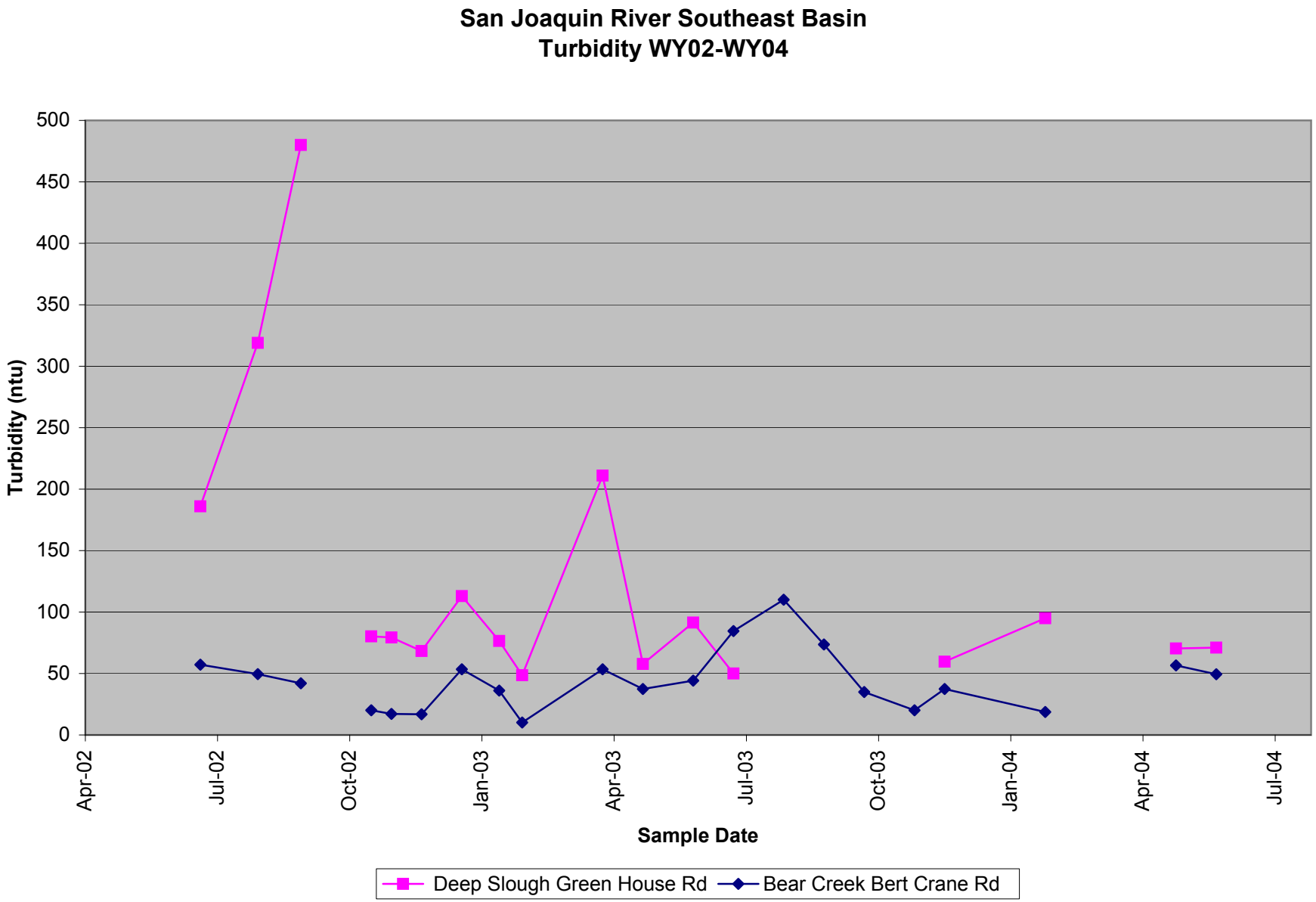

San Joaquin River Southeast Basin
Specific Conductivity WY01- WY05
Median
Specific Conductivity (µmhos/cm)
1200
1000
800
600
400
200
0
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

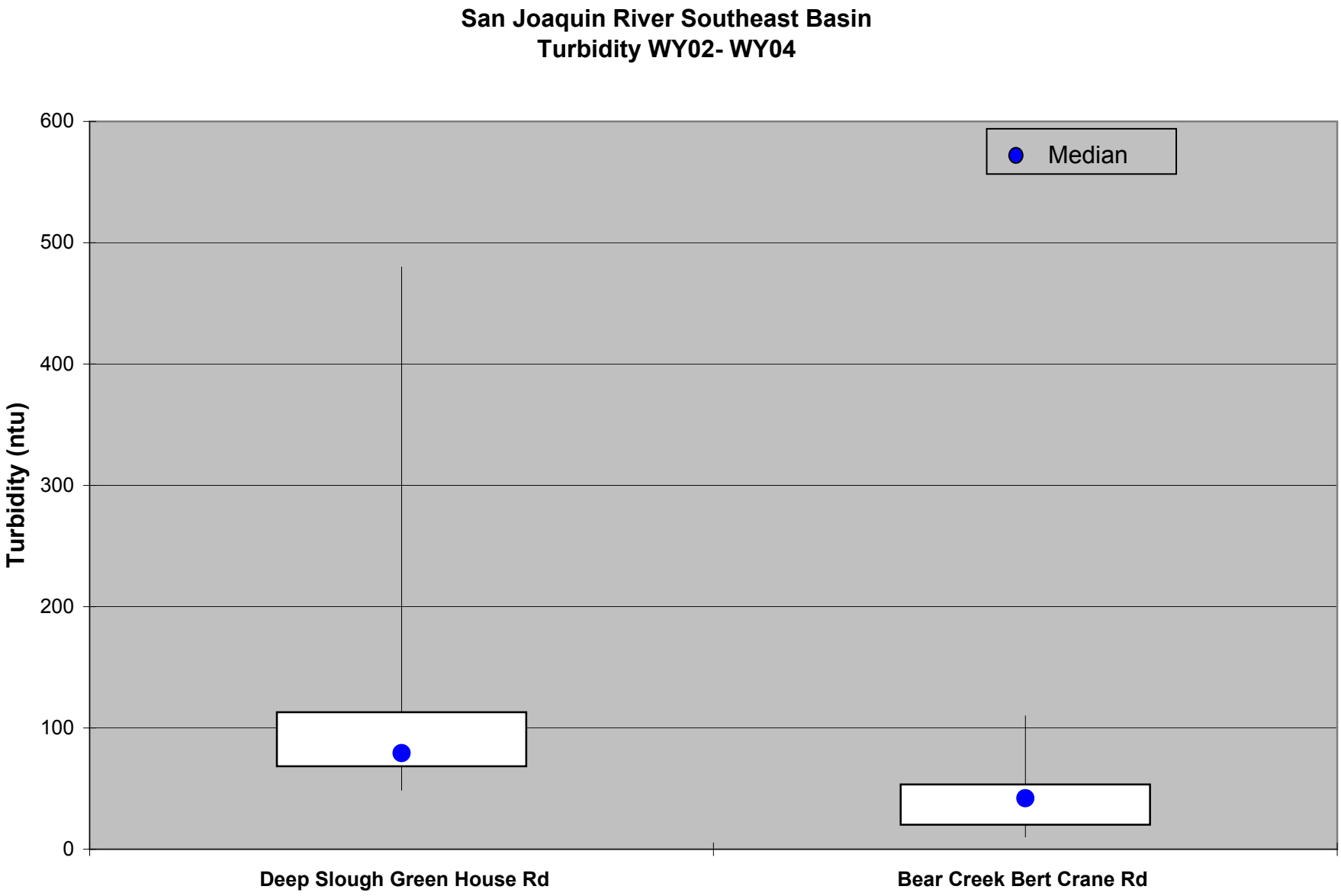

San Joaquin River Southeast Basin
pH WY01-WY05
9.0
8.5
8.0
7.5
7.0
6.5
6.0
pH
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Basin Plan Objective (6.5-8.5)
Santa Rita Slough at Highway 152

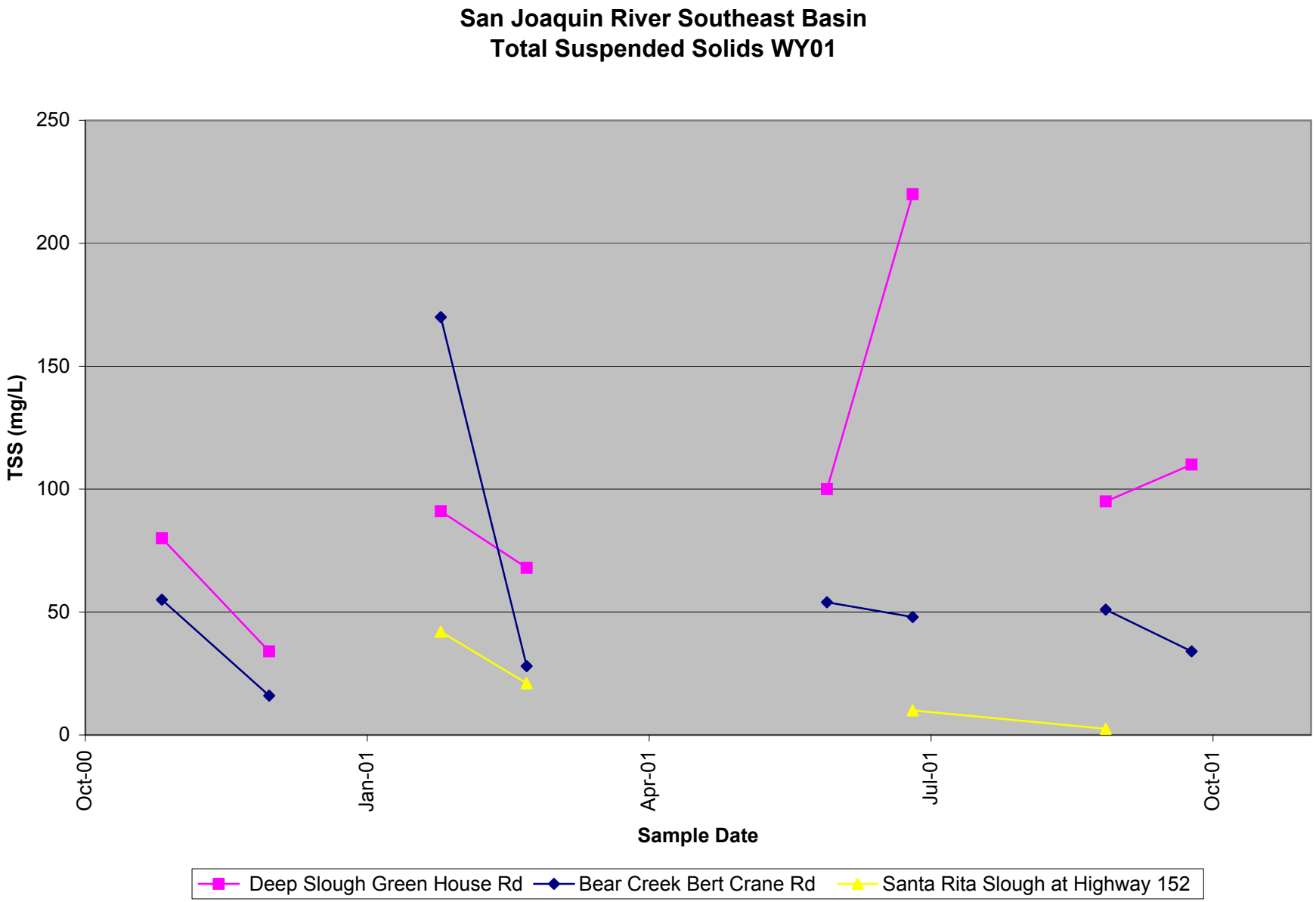

San Joaquin River Southeast Basin
pH WY01- WY05
10
9.5
9
8.5
8
7.5
7
6.5
6
pH
Median
Basin Plan Objective (6.5-8.5)
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

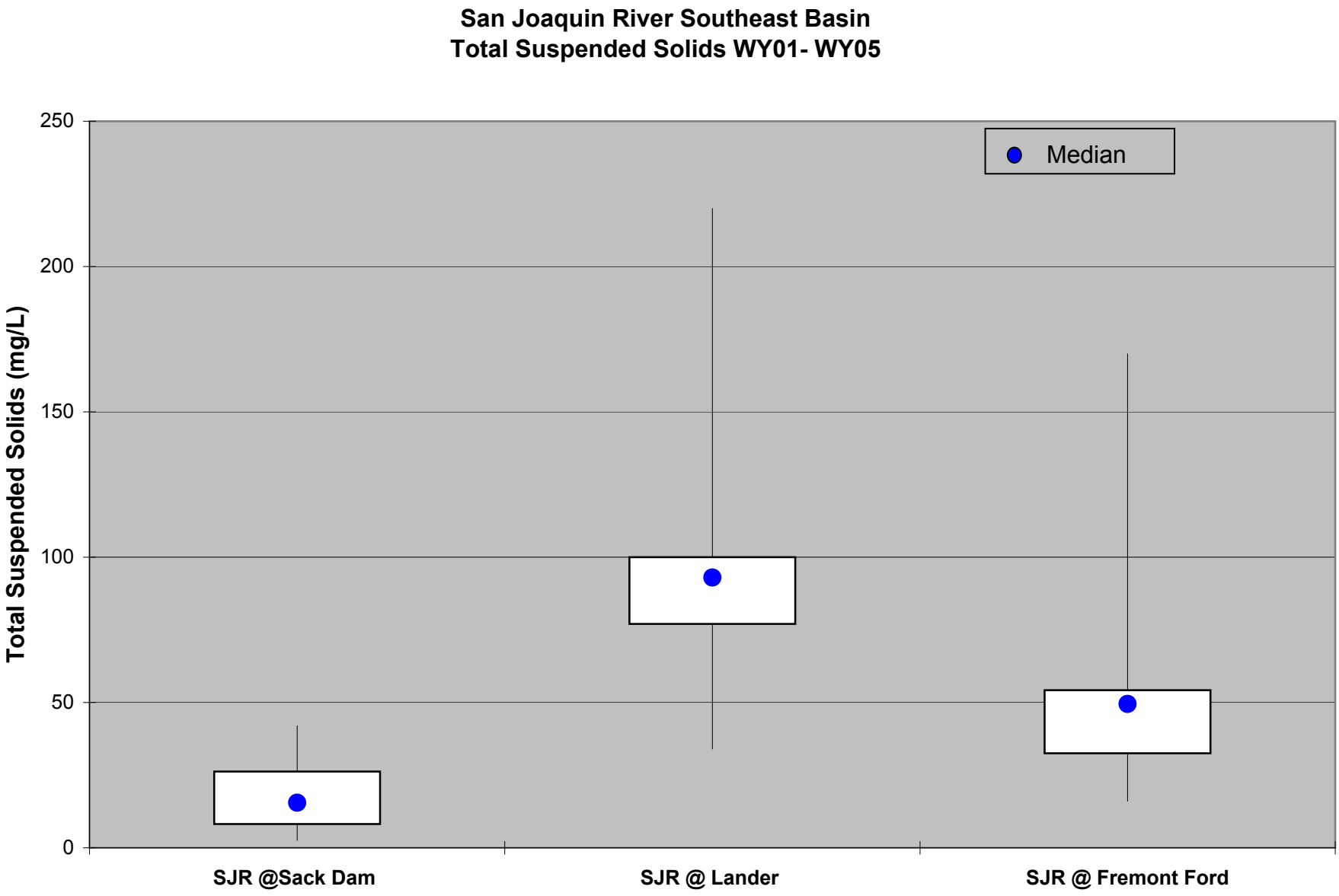

San Joaquin River Southeast Basin
Dissolved Oxygen WY01-WY05
DO (mg/L)
16
14
12
10
8
6
4
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Basin Plan Objective (7.0 mg/L)
Santa Rita Slough at Highway 152

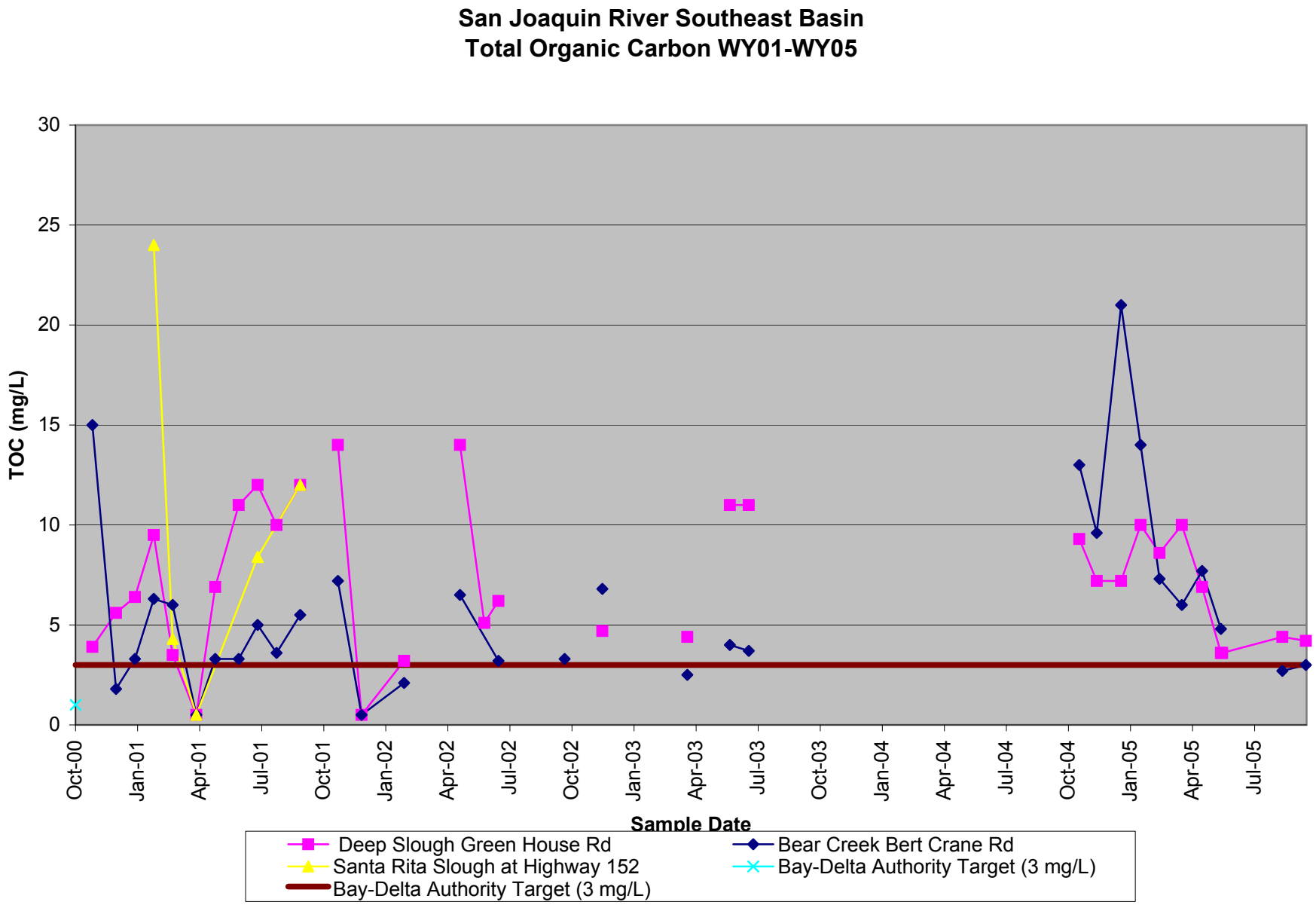

San Joaquin River Southeast Basin
Dissolved Oxygen WY01- WY05
Dissolved Oxygen (mg/L)
18
16
14
12
10
8
6
4
2
0
Median
Basin Plan Objective (7.0 mg/L)
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

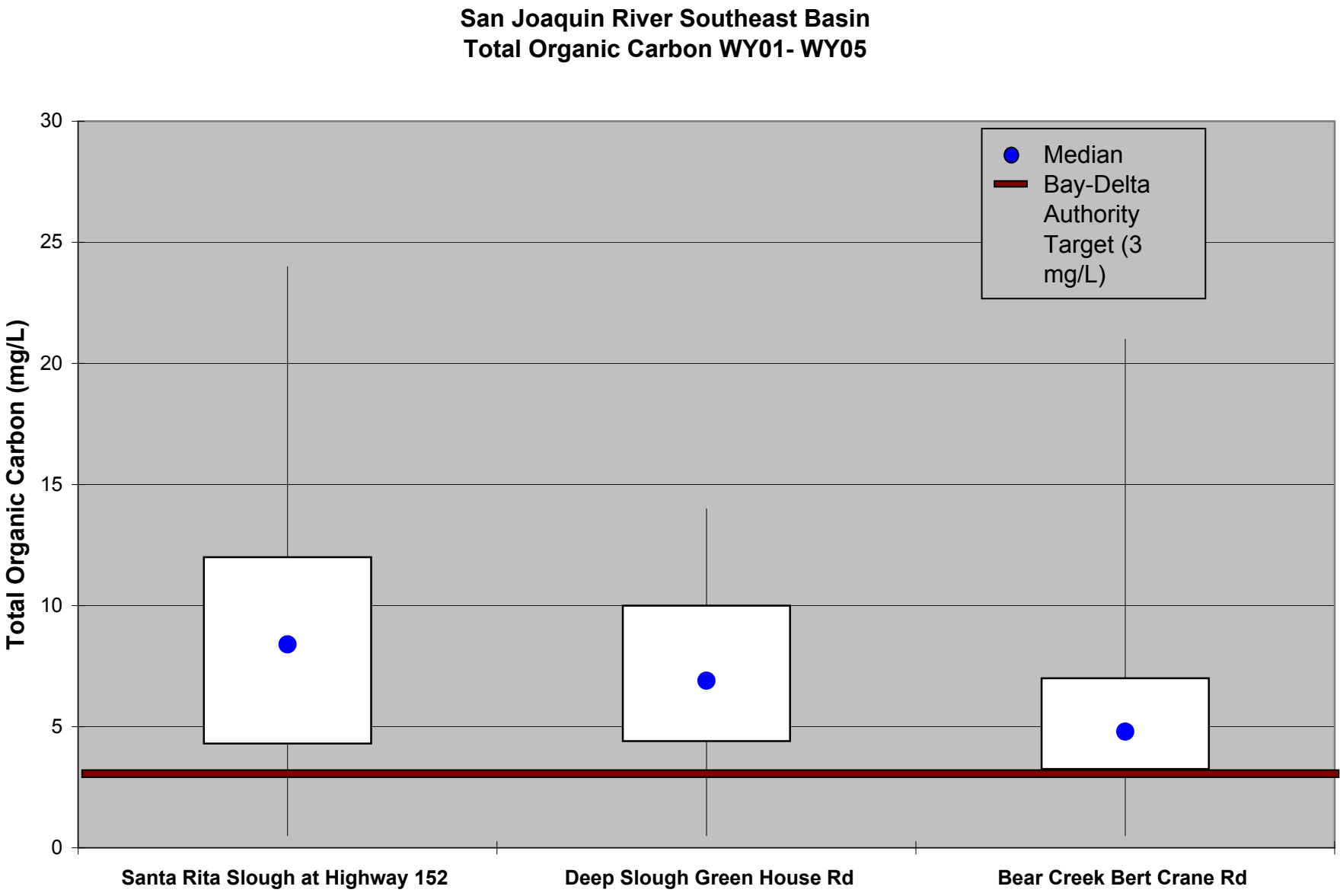

San Joaquin River Southeast Basin
Turbidity WY02-WY04
Turbidity (ntu)
500
450
400
350
300
250
200
150
100
50
0
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

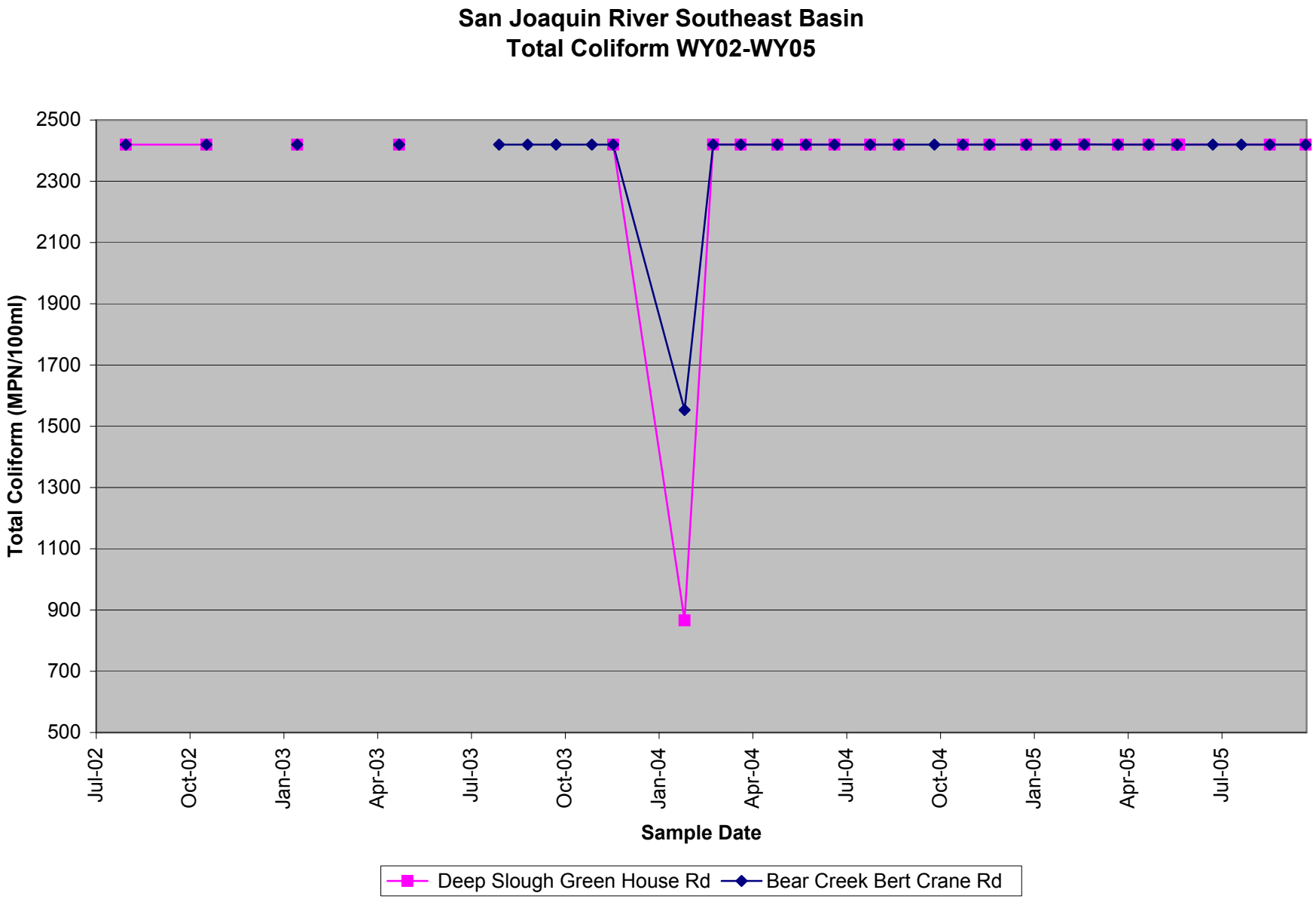

San Joaquin River Southeast Basin
Turbidity WY02- WY04
Median
Turbidity (ntu)
600
500
400
300
200
100
0
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

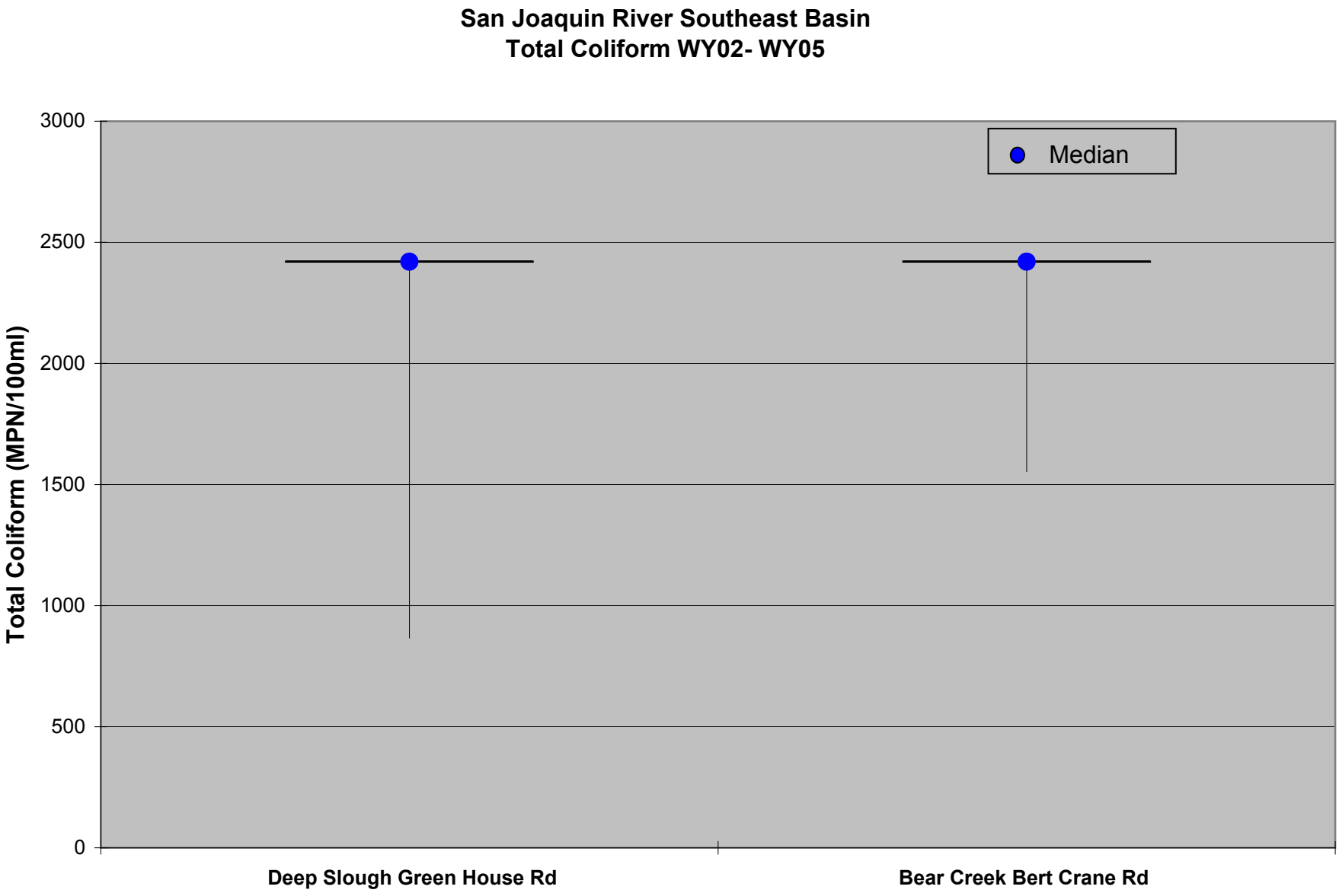

San Joaquin River Southeast Basin
Total Suspended Solids WY01
250
200
150
100
50
0
TSS (mg/L)
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152

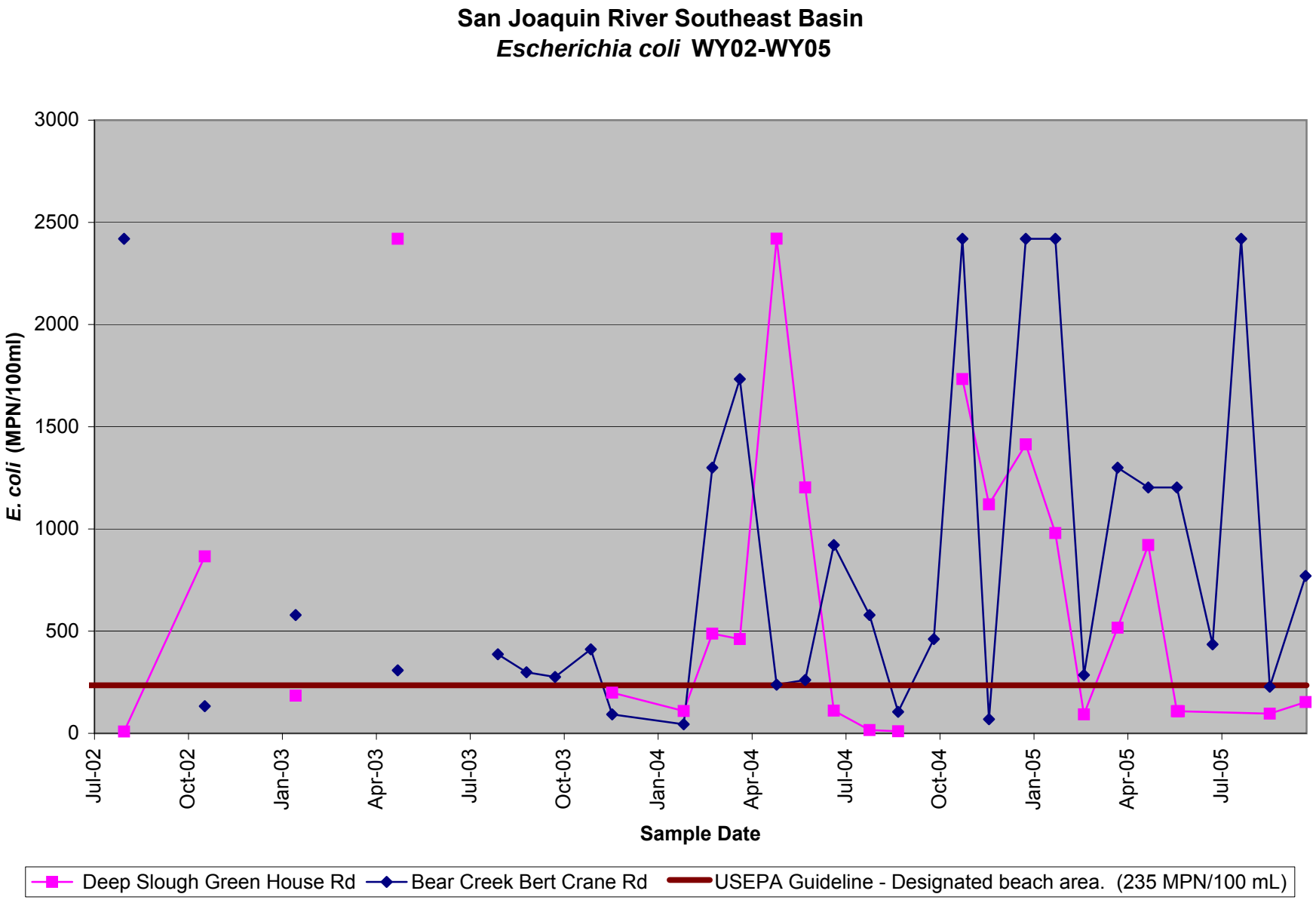

San Joaquin River Southeast Basin
Total Suspended Solids WY01- WY05
Median
Total Suspended Solids (mg/L)
250
200
150
100
50
0
SJR @Sack Dam
SJR @ Lander
SJR @ Fremont Ford


San Joaquin River Southeast Basin
Total Organic Carbon WY01-WY05
TOC (mg/L)
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152
Bay-Delta Authority Target (3 mg/L)
Bay-Delta Authority Target (3 mg/L)

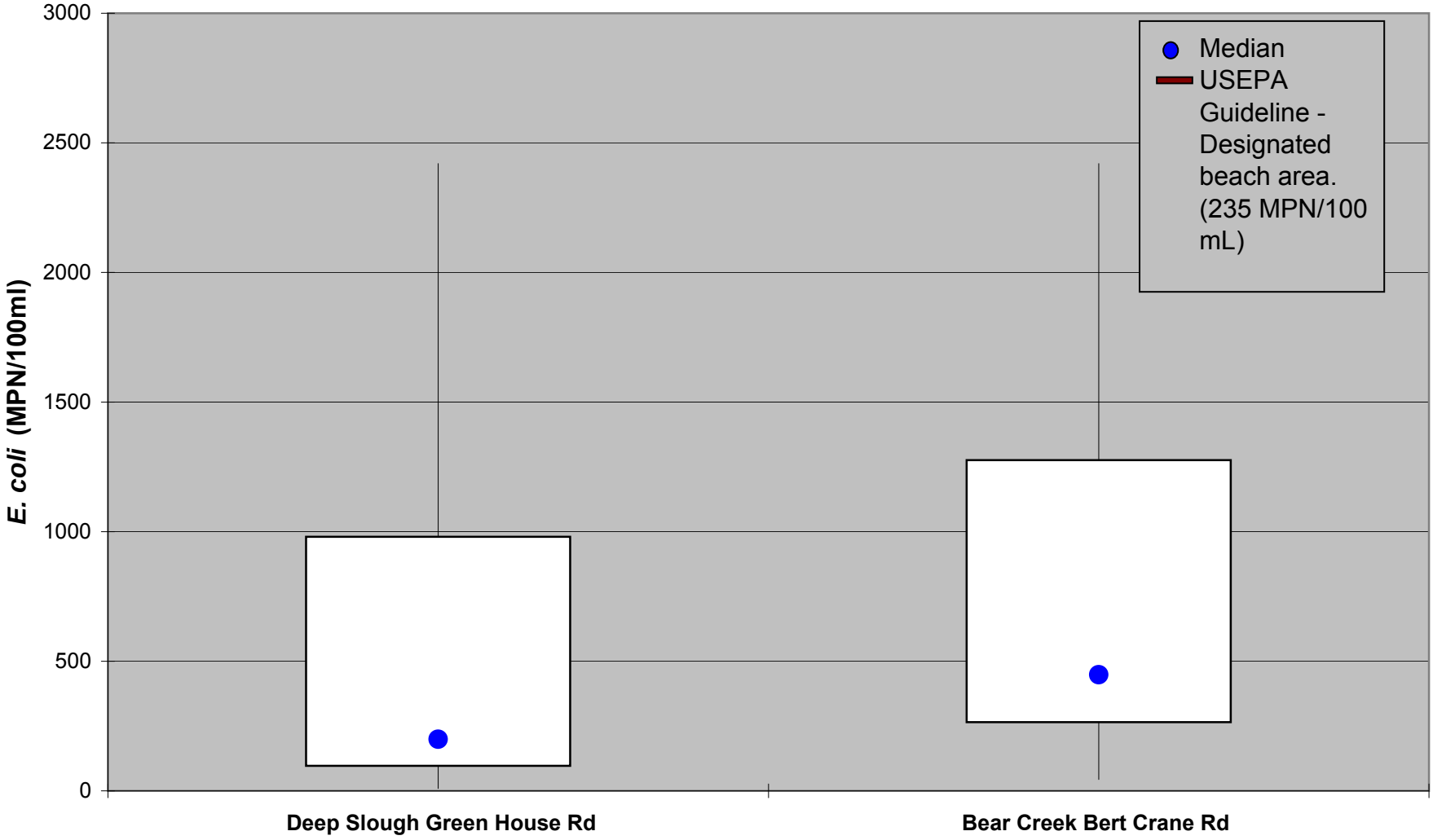

San Joaquin River Southeast Basin
Total Organic Carbon WY01- WY05
Total Organic Carbon (mg/L)
30
25
20
15
10
5
0
Median
Bay-Delta Authority Target (3 mg/L)
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

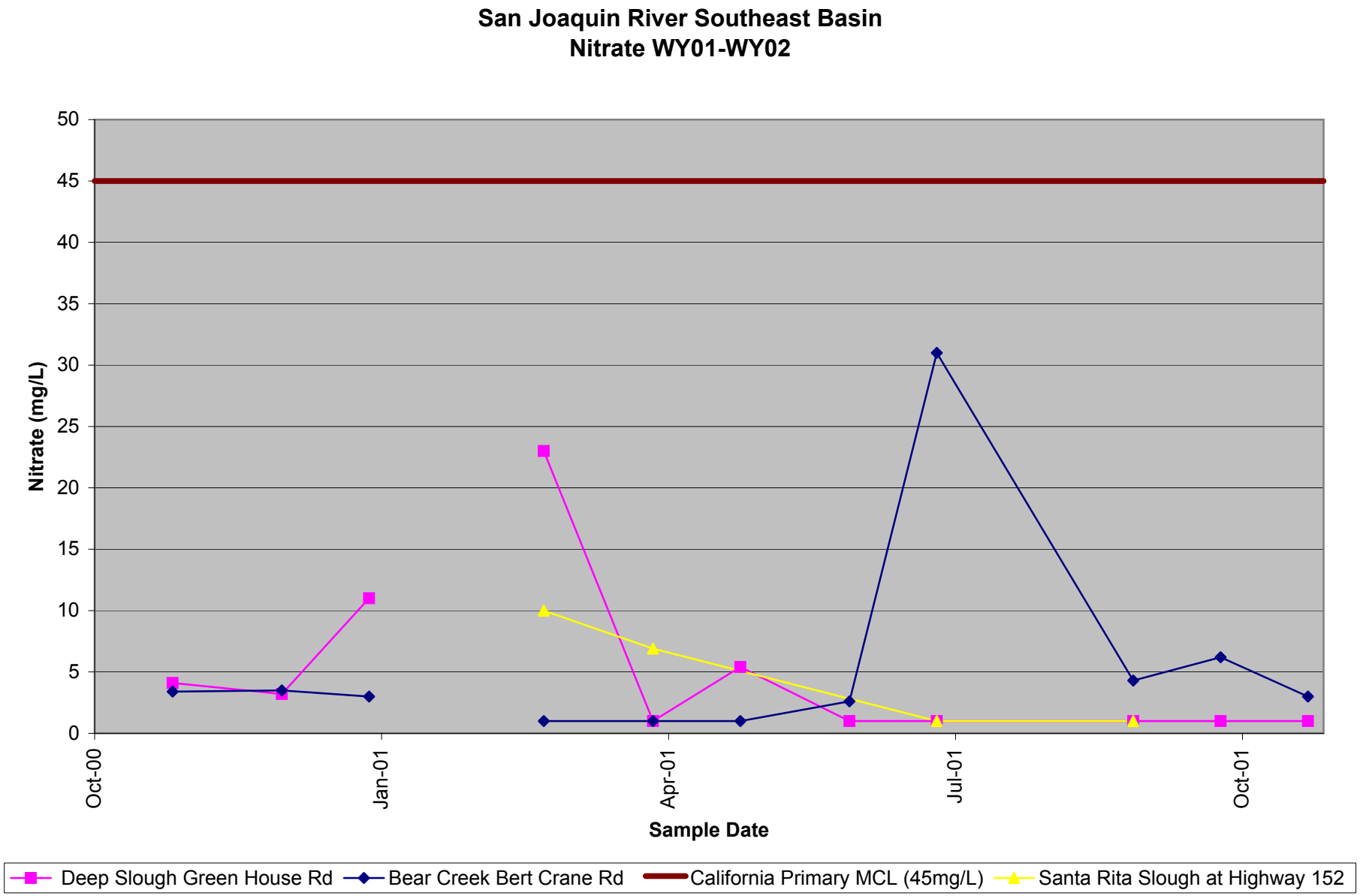

San Joaquin River Southeast Basin
Total Coliform WY02-WY05
Total Coliform (MPN/100ml)
2500
2300
2100
1900
1700
1500
1300
1100
900
700
500
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

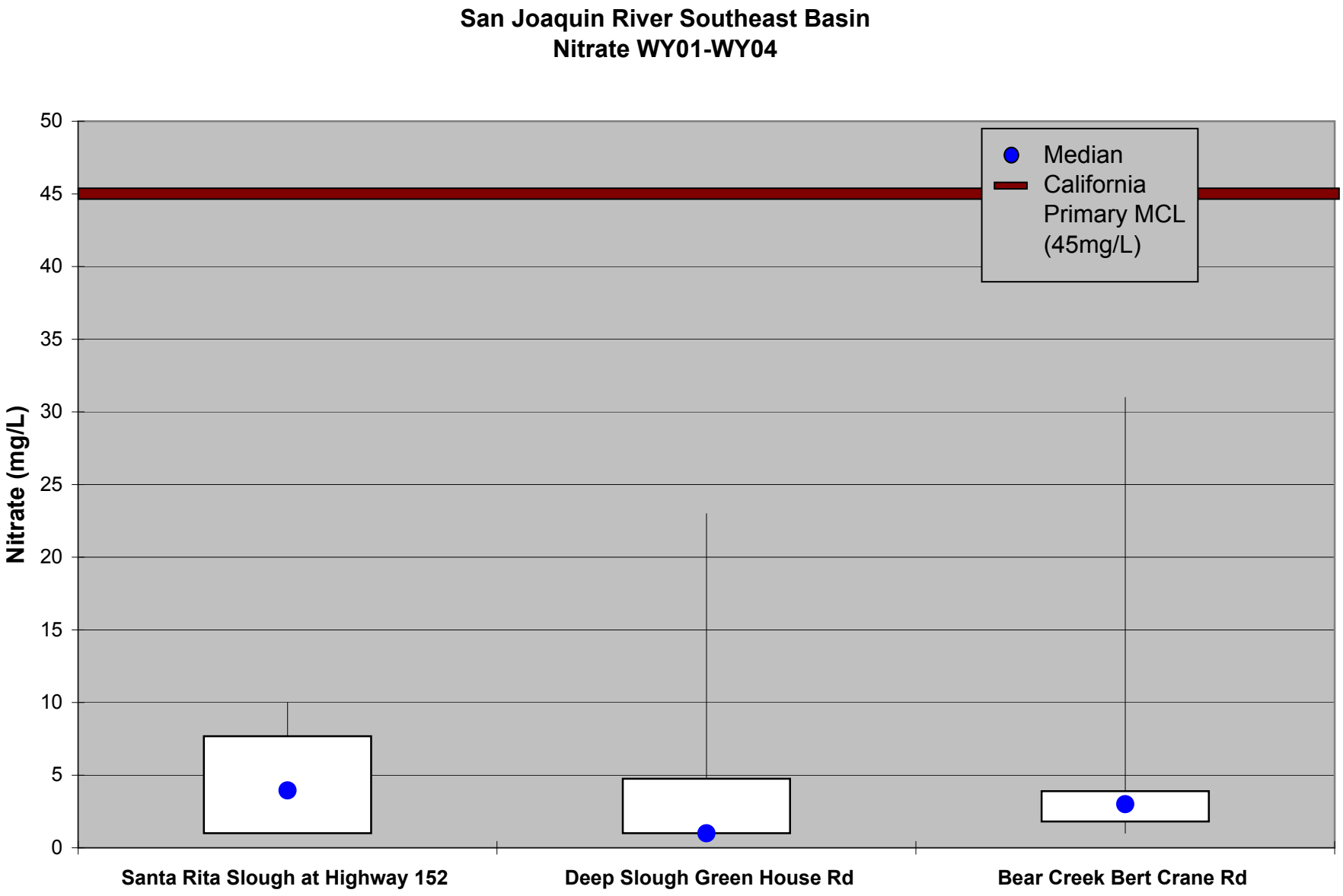

San Joaquin River Southeast Basin
Total Coliform WY02- WY05
Median
Total Coliform (MPN/100ml)
3000
2500
2000
1500
1000
500
0
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

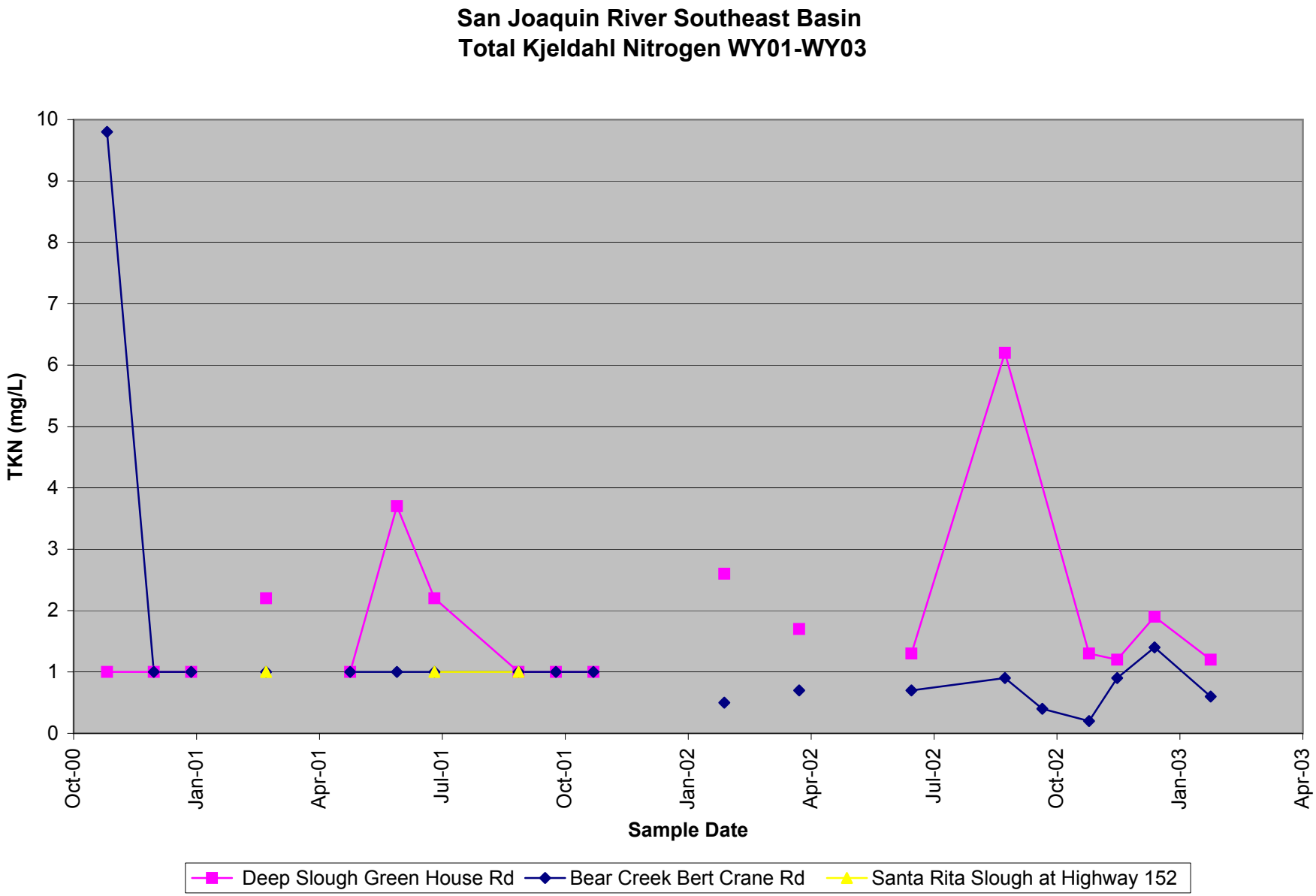

San Joaquin River Southeast Basin
Escherichia coli WY02-WY05
3000
2500
2000
1500
1000
500
0
E. coli (MPN/100ml)
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
USEPA Guideline - Designated beach area. (235 MPN/100 mL)

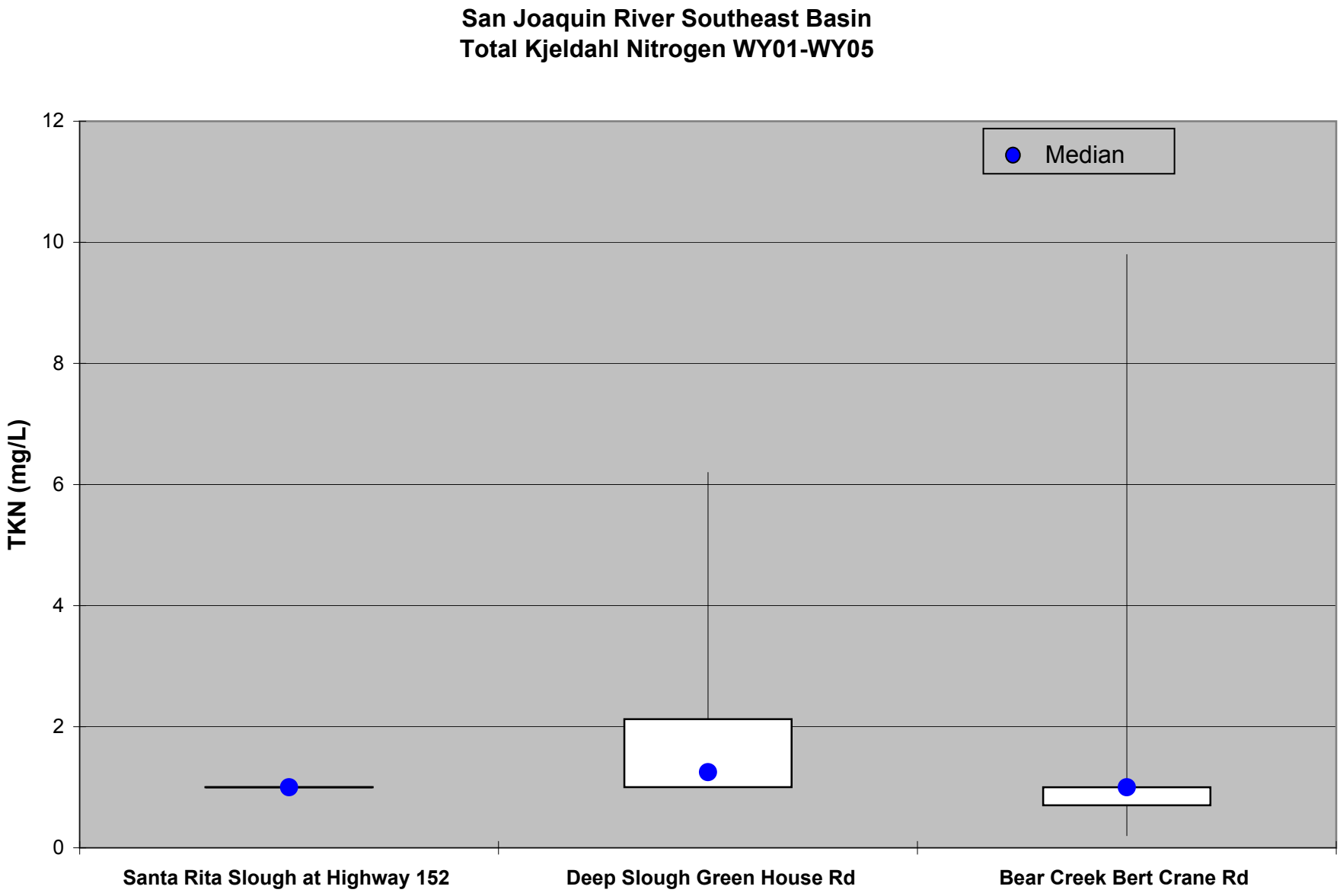
San Joaquin River Southeast Basin
***Escherichia coli* WY02-WY05**

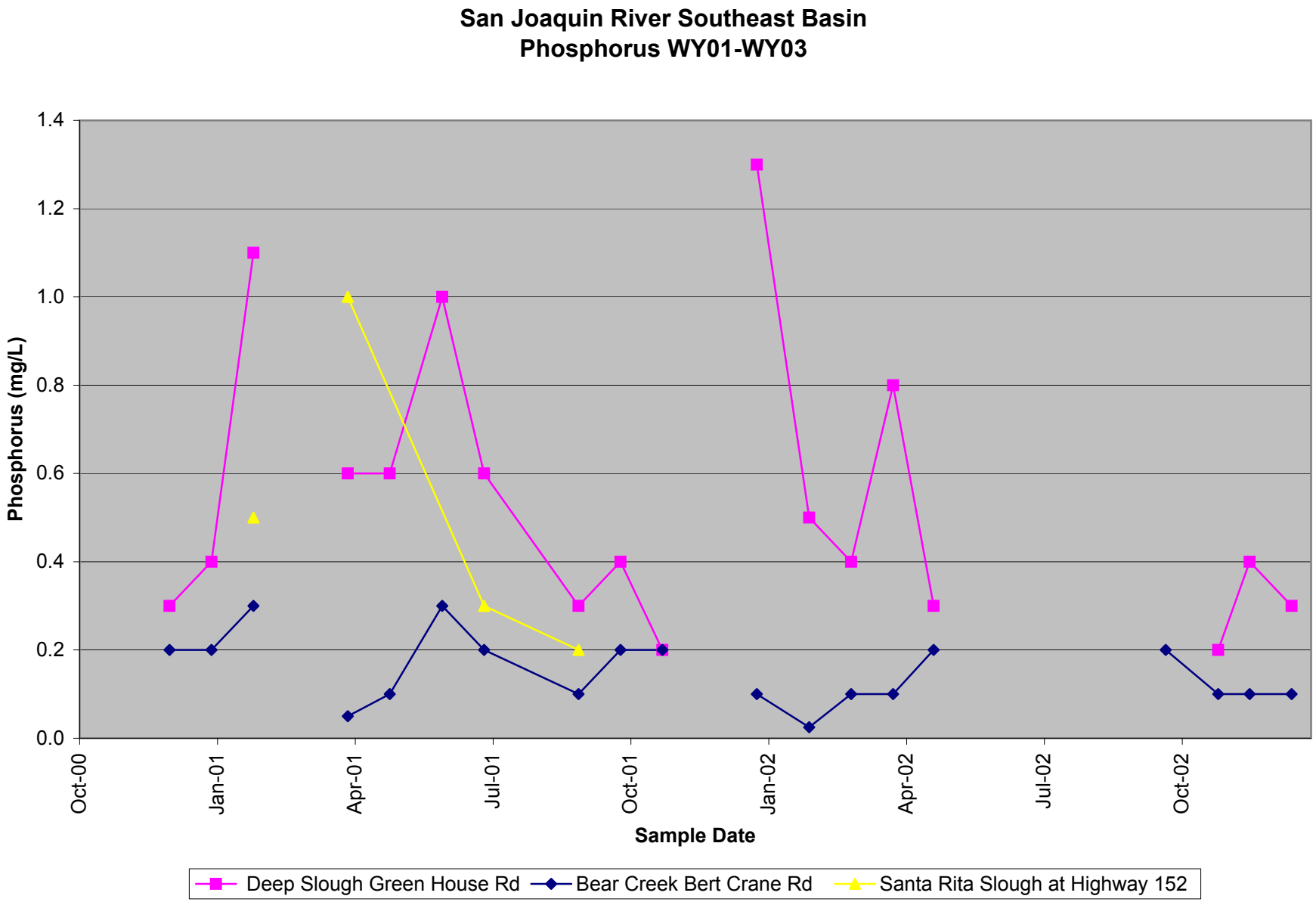


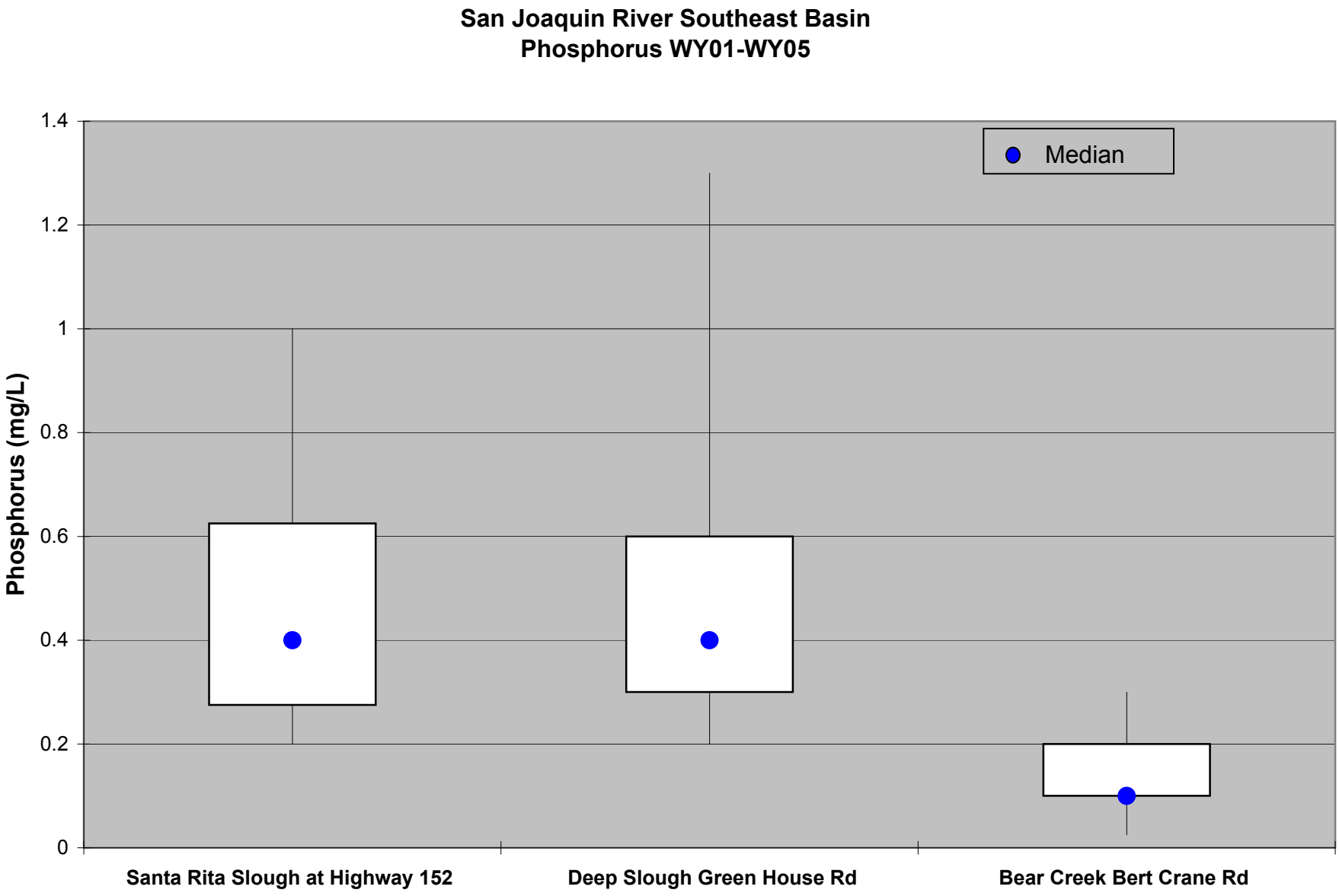

San Joaquin River Southeast Basin
Nitrate WY01-WY02
Nitrate (mg/L)
50
45
40
35
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
California Primary MCL (45mg/L)
Santa Rita Slough at Highway 152

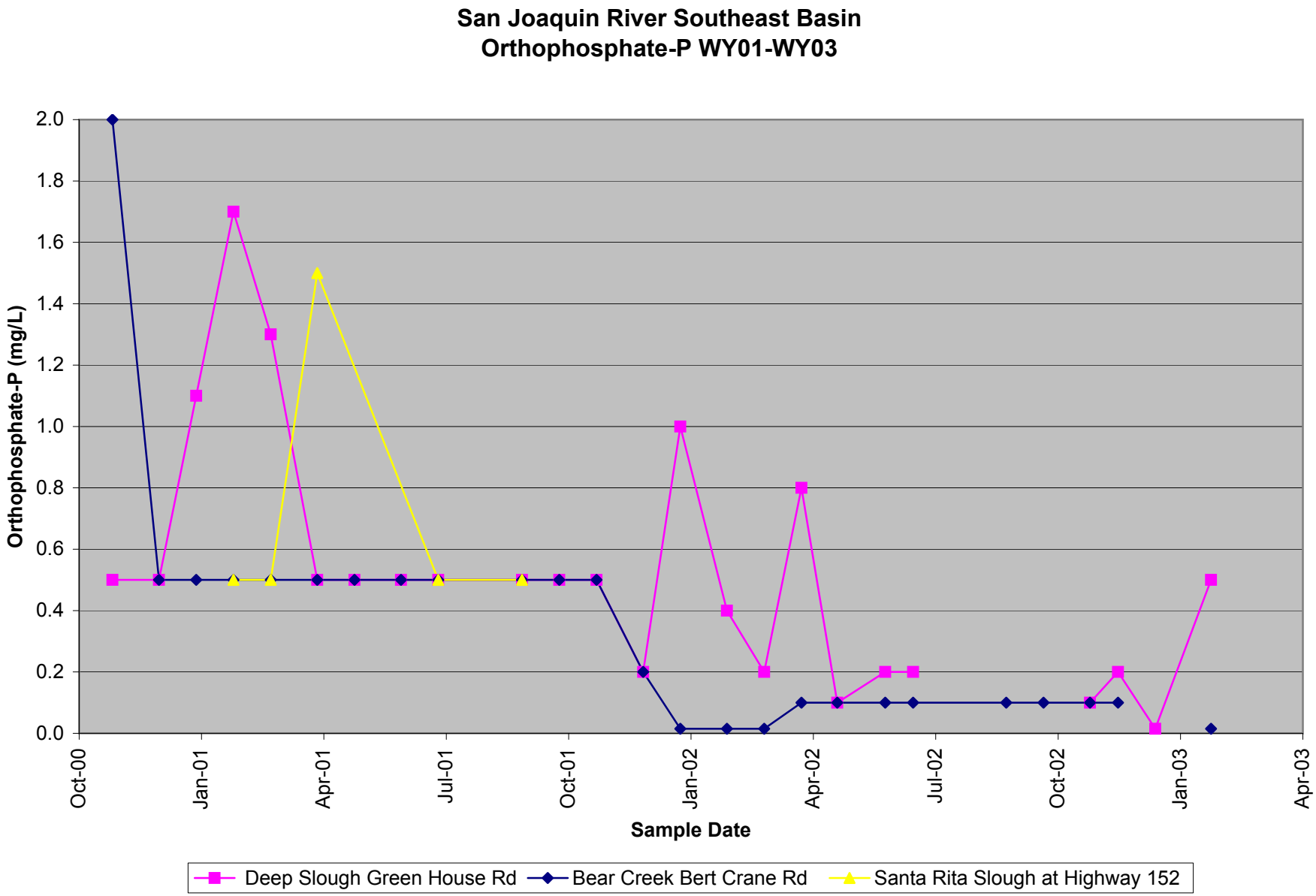

San Joaquin River Southeast Basin
Nitrate WY01-WY04
Nitrate (mg/L)
50
45
40
35
30
25
20
15
10
5
0
Median
California Primary MCL (45mg/L)
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

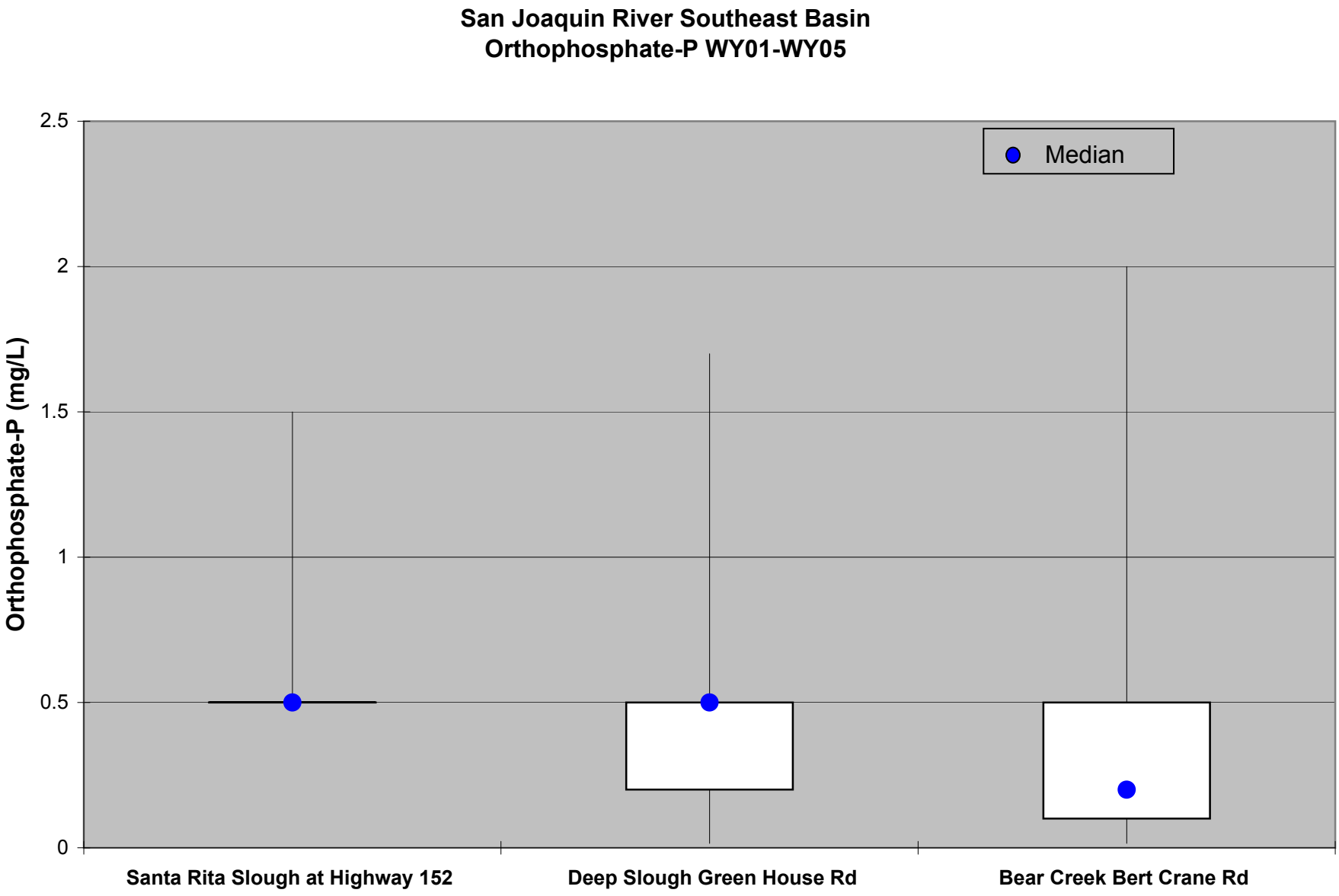

San Joaquin River Southeast Basin
Total Kjeldahl Nitrogen WY01-WY03
TKN (mg/L)
10
9
8
7
6
5
4
3
2
1
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152

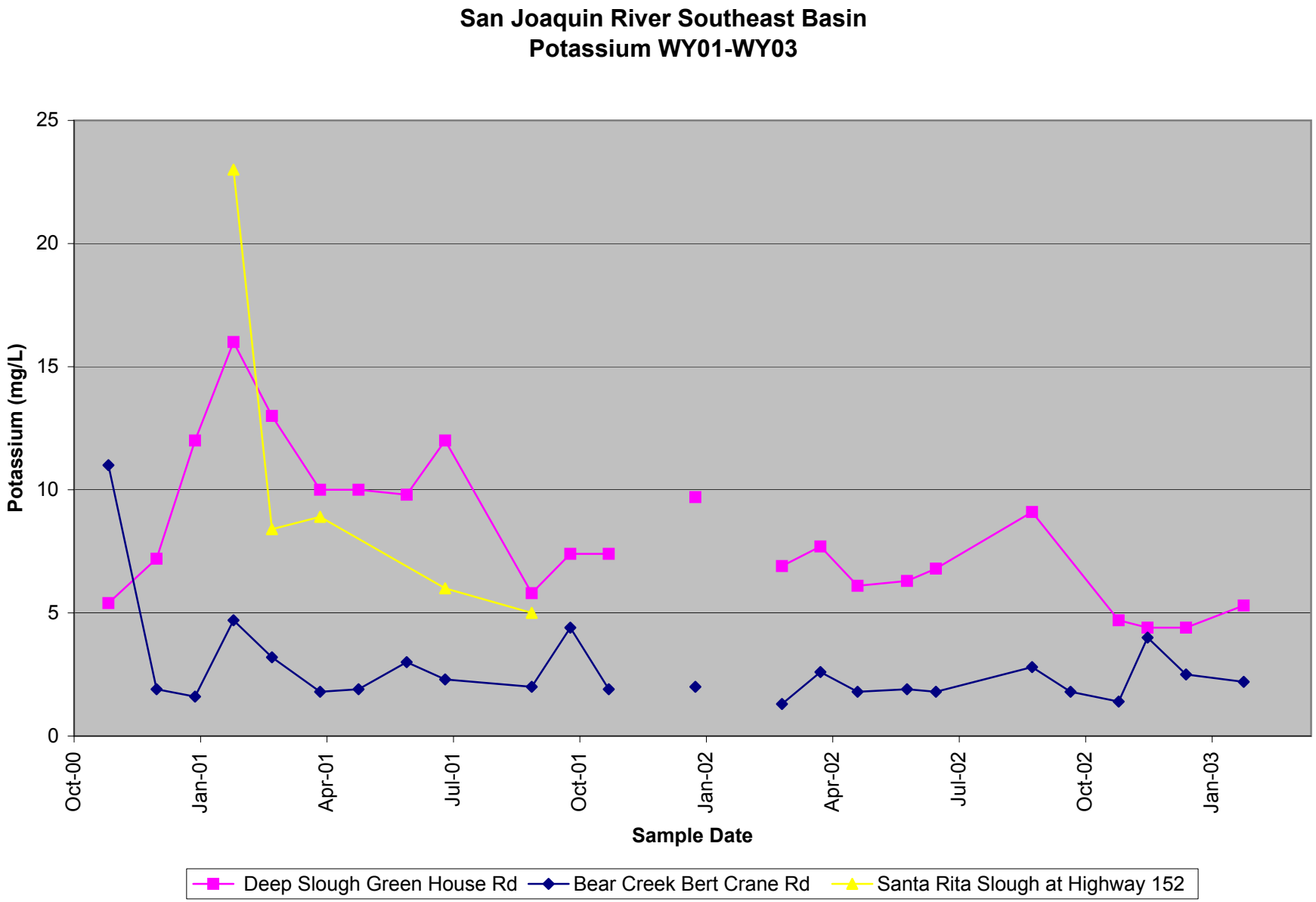

San Joaquin River Southeast Basin
Total Kjeldahl Nitrogen WY01-WY05
Median
TKN (mg/L)
12
10
8
6
4
2
0
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

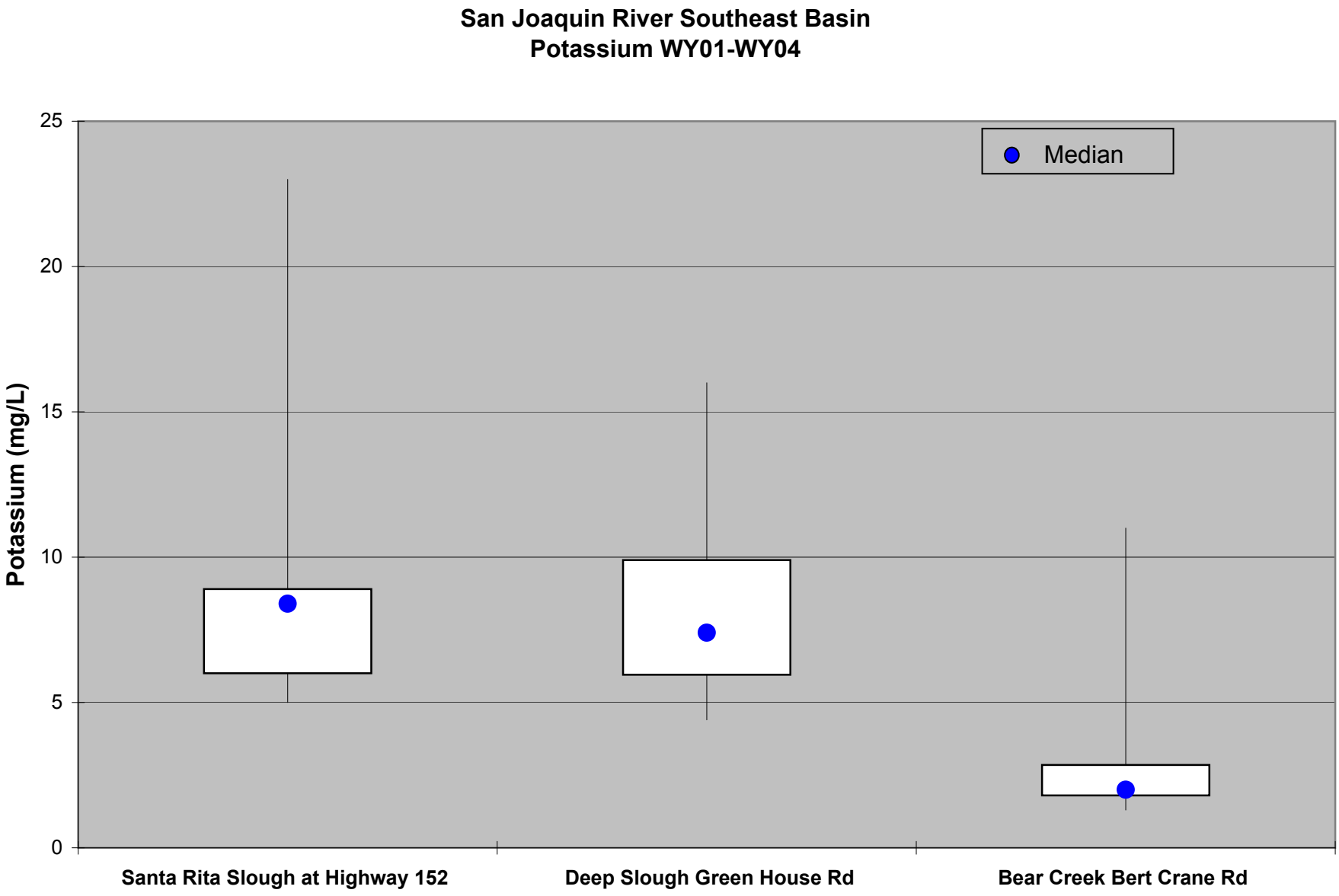

San Joaquin River Southeast Basin
Phosphorus WY01-WY03
Phosphorus (mg/L)
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152

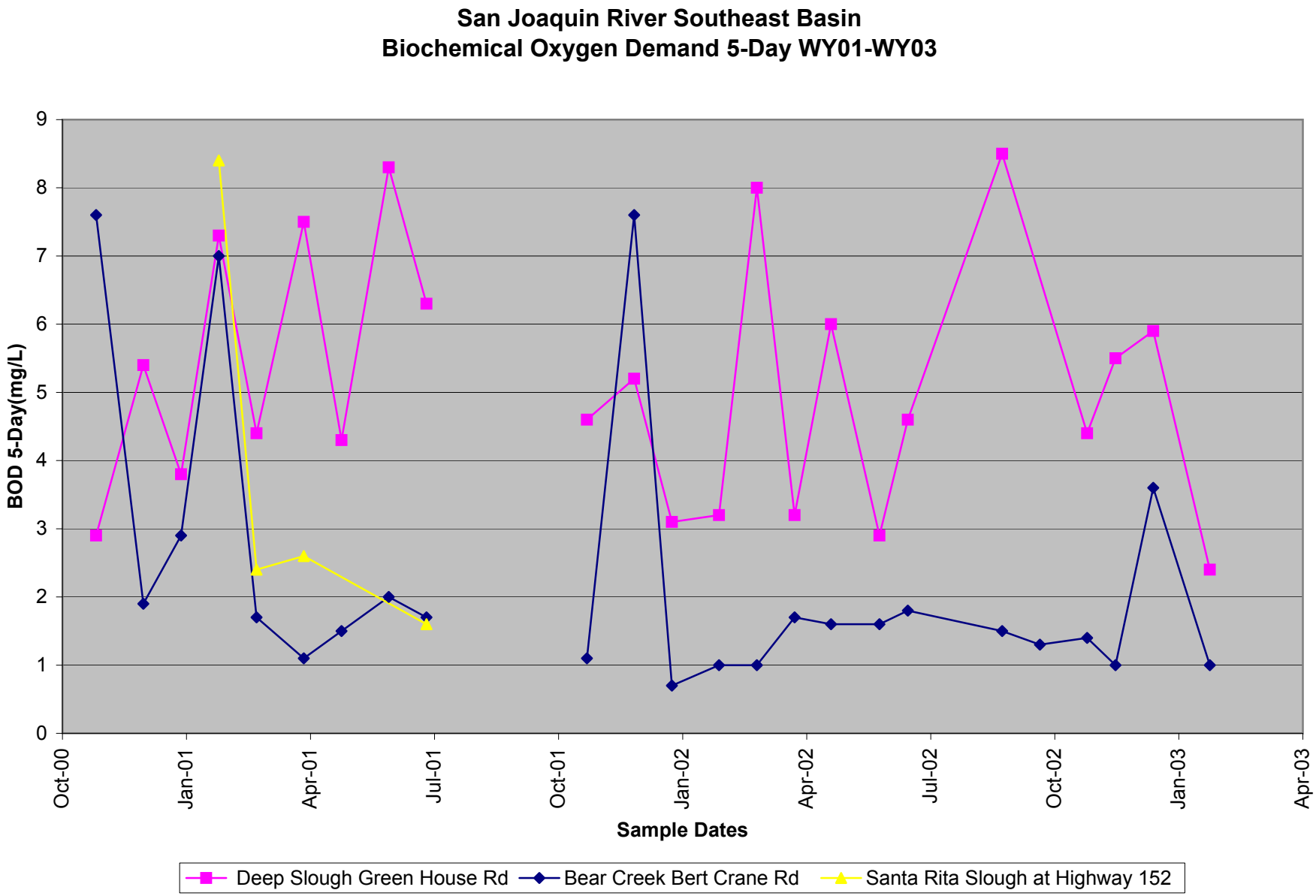

San Joaquin River Southeast Basin
Phosphorus WY01-WY05
Median
Phosphorus (mg/L)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd


San Joaquin River Southeast Basin
Orthophosphate-P WY01-WY03
Orthophosphate-P (mg/L)
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152

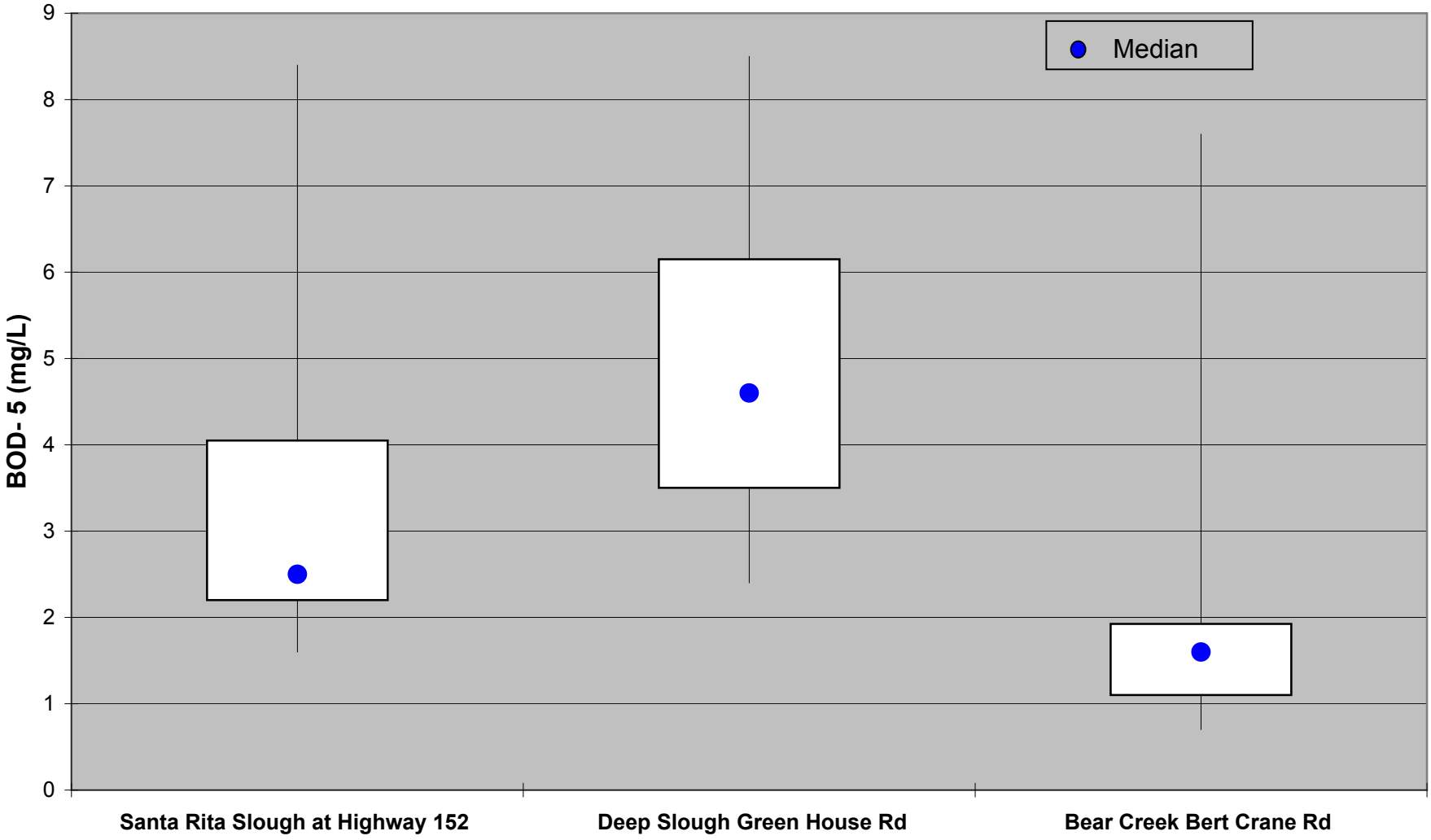

San Joaquin River Southeast Basin
Orthophosphate-P WY01-WY05
Median
Orthophosphate-P (mg/L)
2.5
2
1.5
1
0.5
0
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

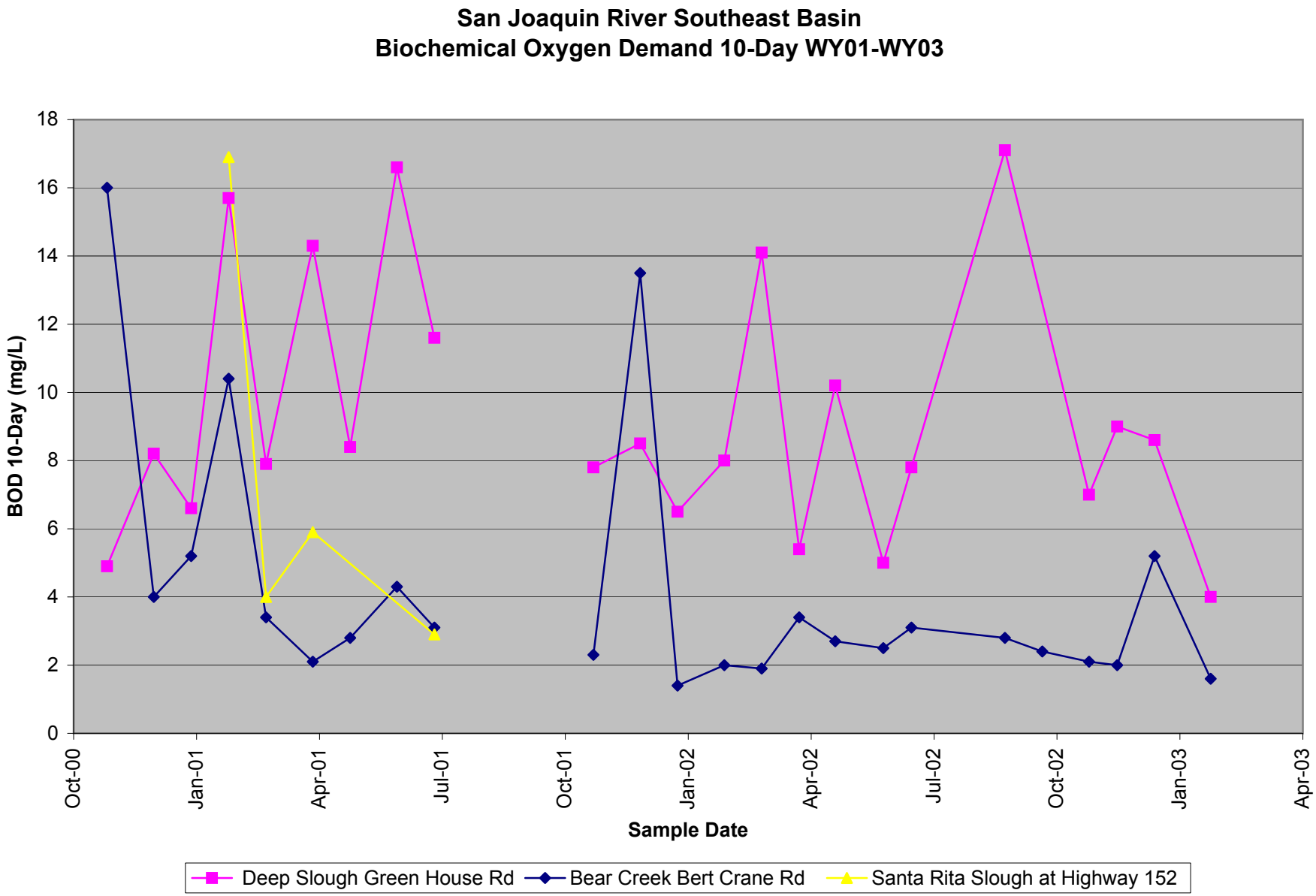

San Joaquin River Southeast Basin
Potassium WY01-WY03
Potassium (mg/L)
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152


San Joaquin River Southeast Basin
Potassium WY01-WY04
Median
Potassium (mg/L)
25
20
15
10
5
0
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

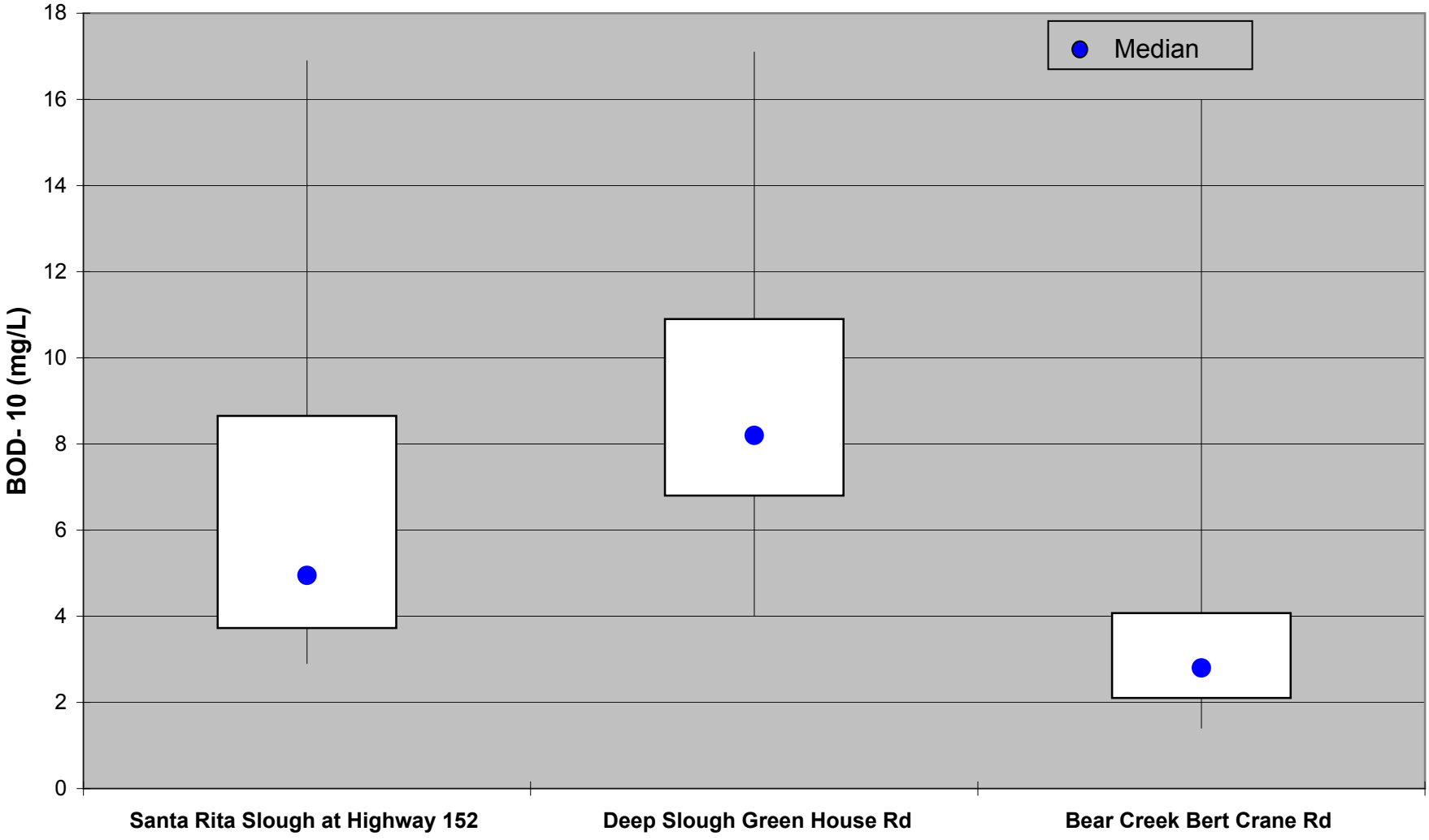

San Joaquin River Southeast Basin
Biochemical Oxygen Demand 5-Day WY01-WY03
BOD 5-Day(mg/L)
0
1
2
3
4
5
6
7
8
9
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Dates
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152

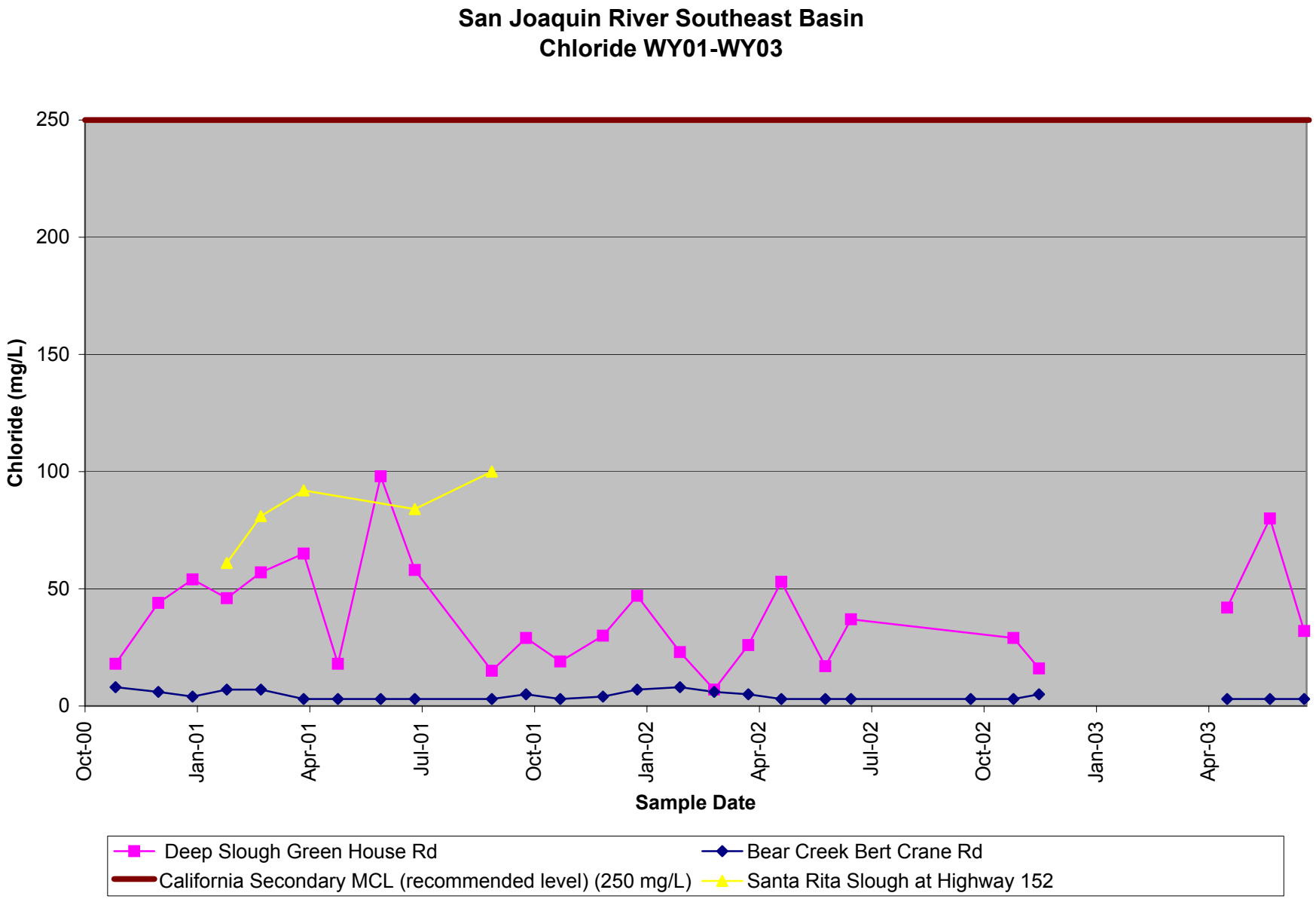
San Joaquin River Southeast Basin
Biological Oxygen Demand 5-Day WY01-WY03

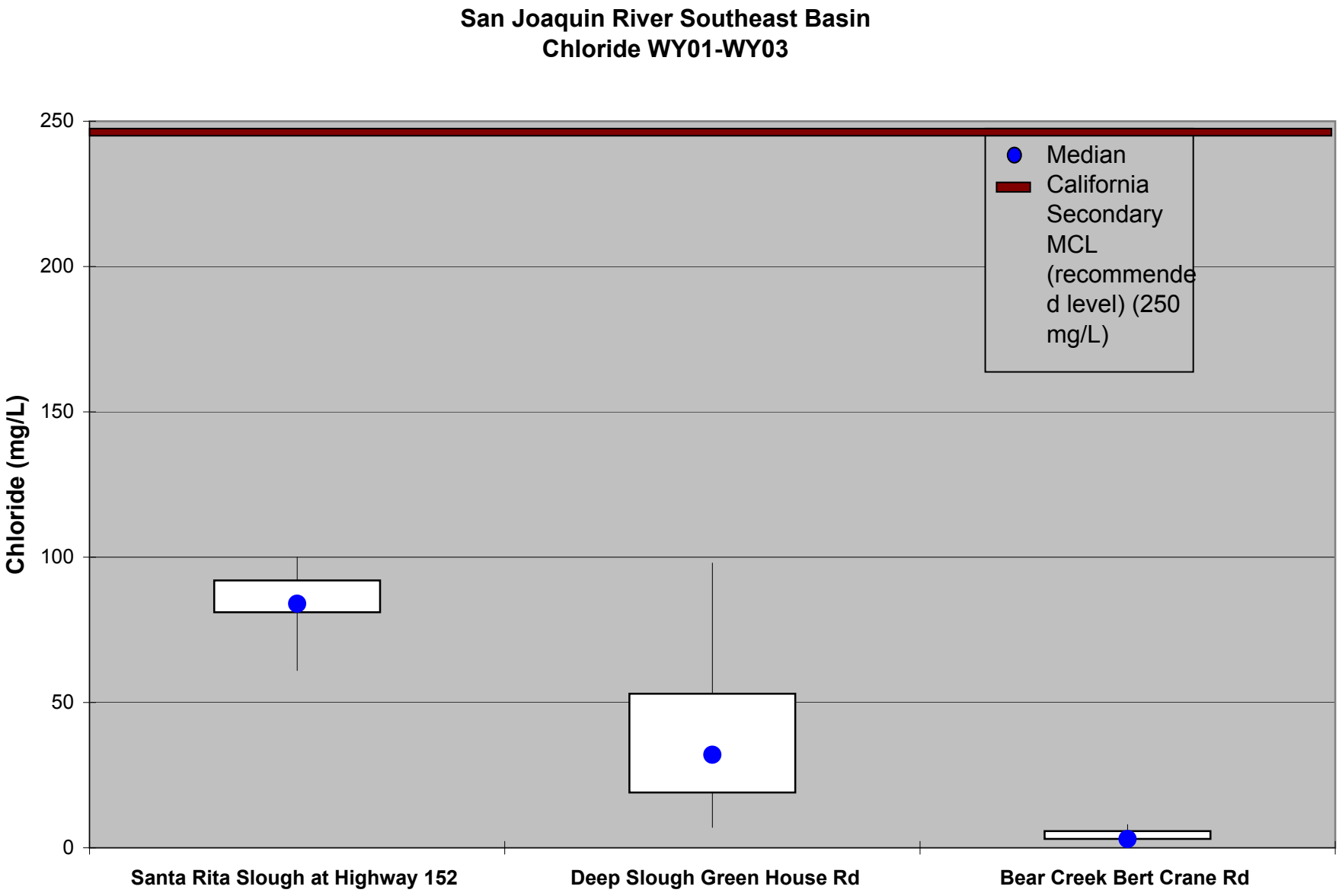


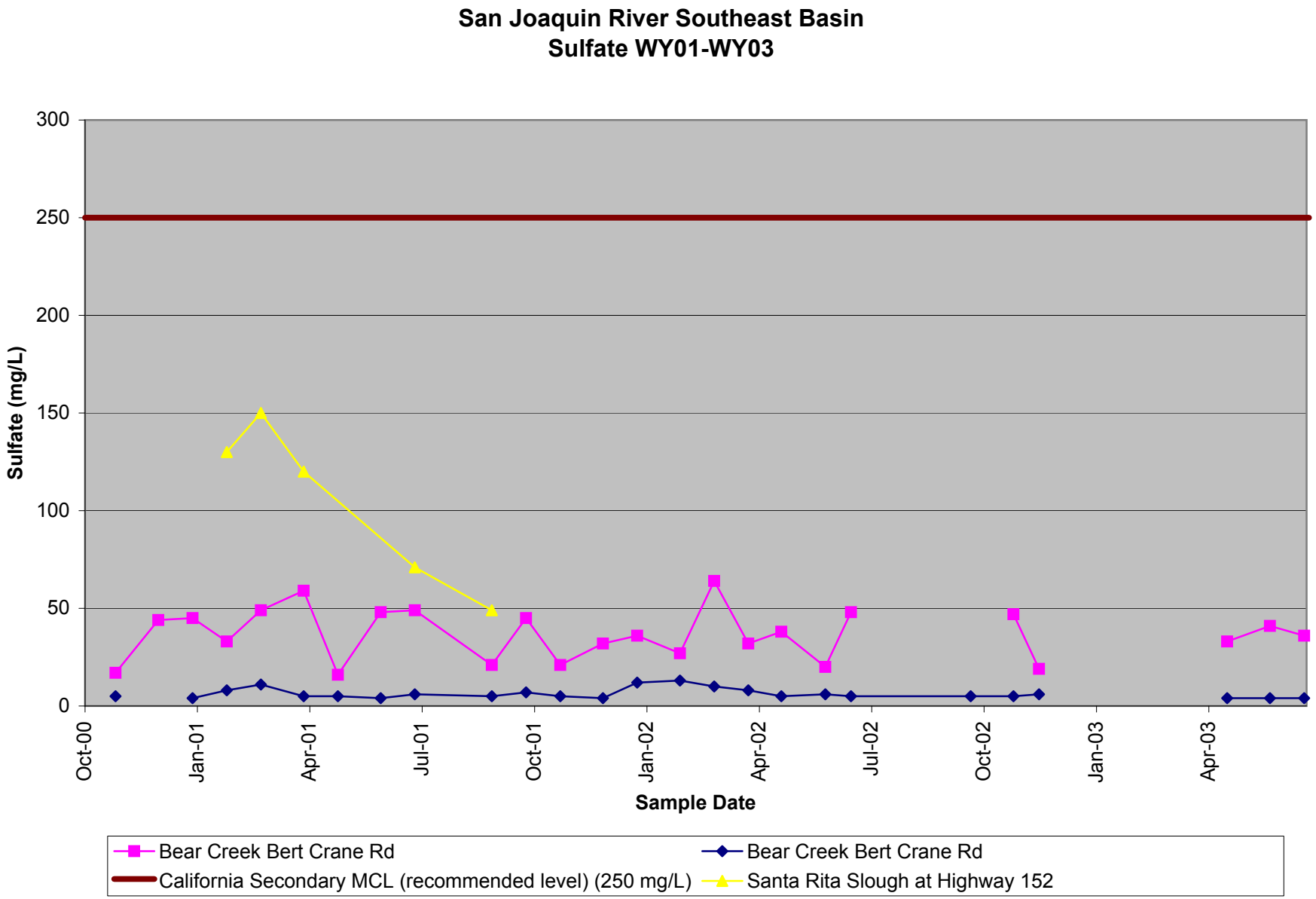

San Joaquin River Southeast Basin
Biochemical Oxygen Demand 10-Day WY01-WY03
BOD 10-Day (mg/L)
0
2
4
6
8
10
12
14
16
18
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152

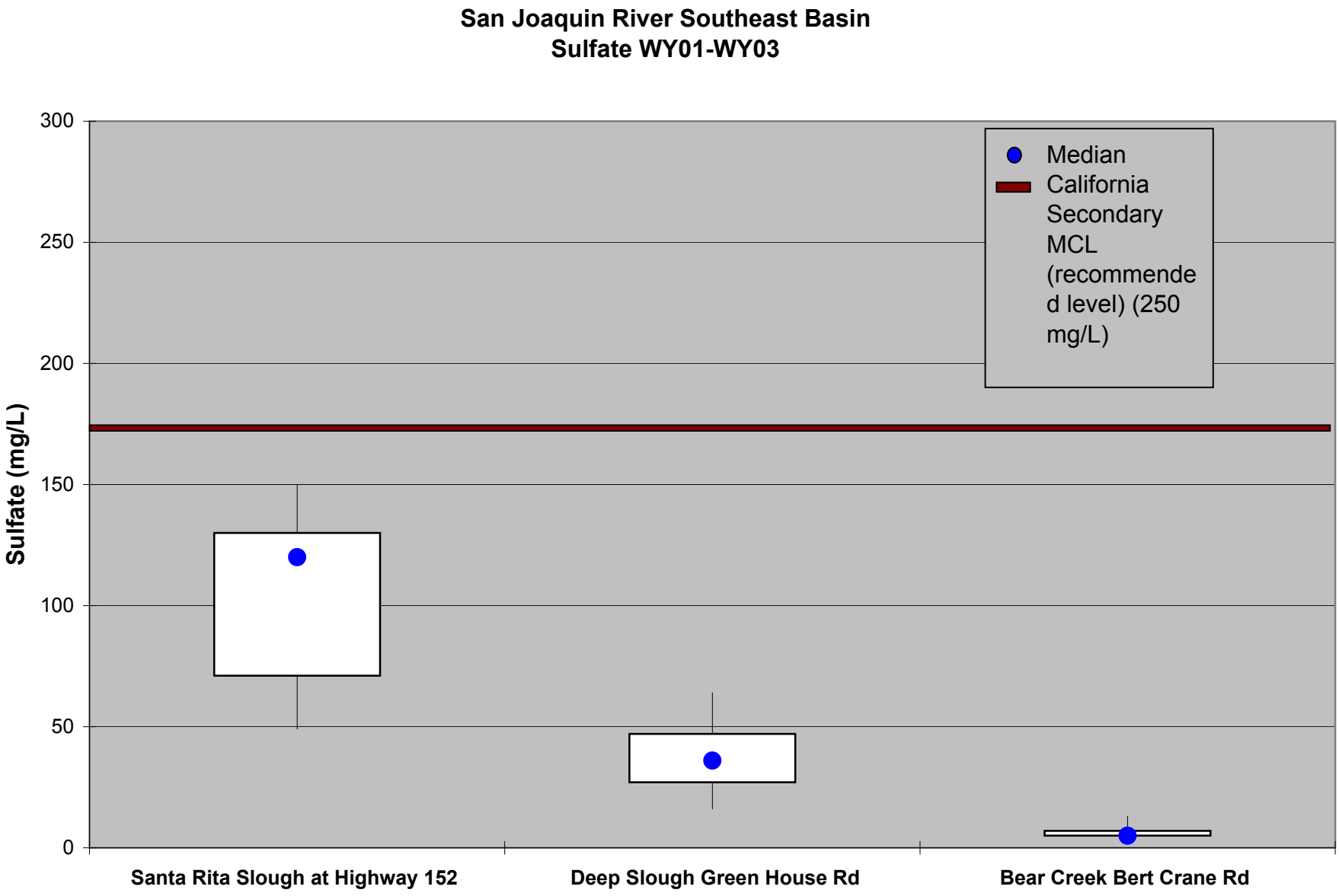
San Joaquin River Southeast Basin
Biological Oxygen Demand 10-Day WY01-WY03

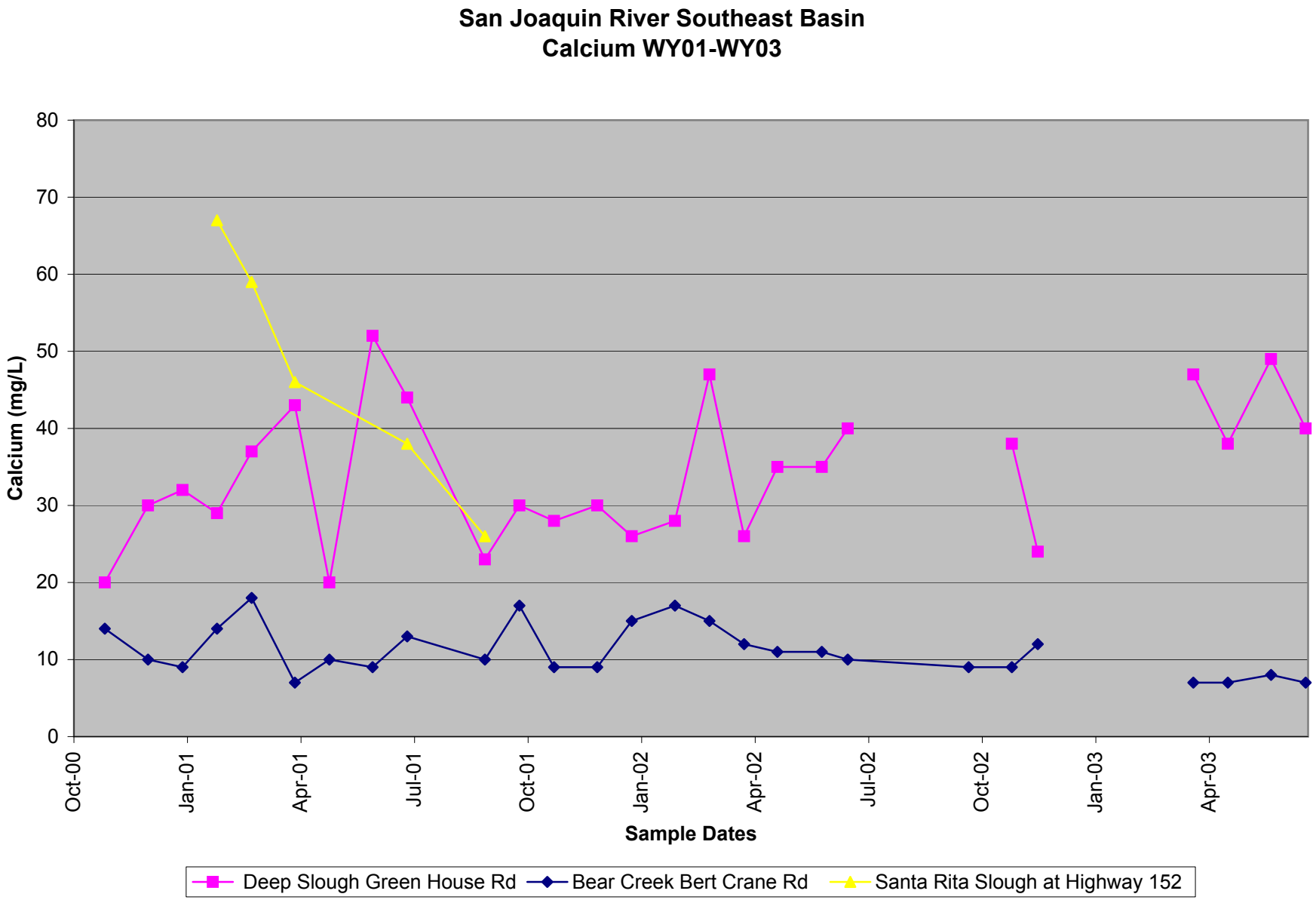


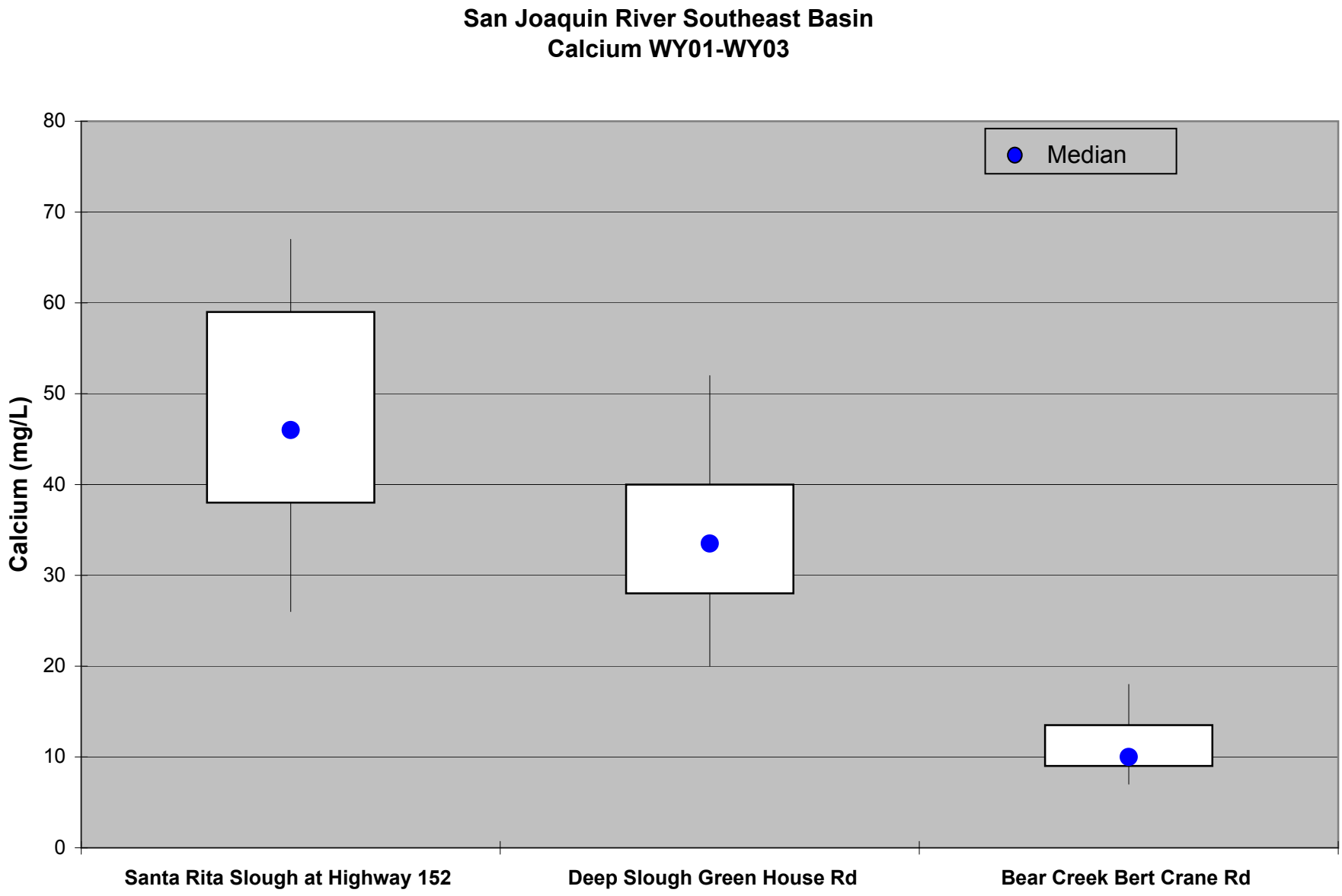

San Joaquin River Southeast Basin
Chloride WY01-WY03
Chloride (mg/L)
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
California Secondary MCL (recommended level) (250 mg/L)
Santa Rita Slough at Highway 152

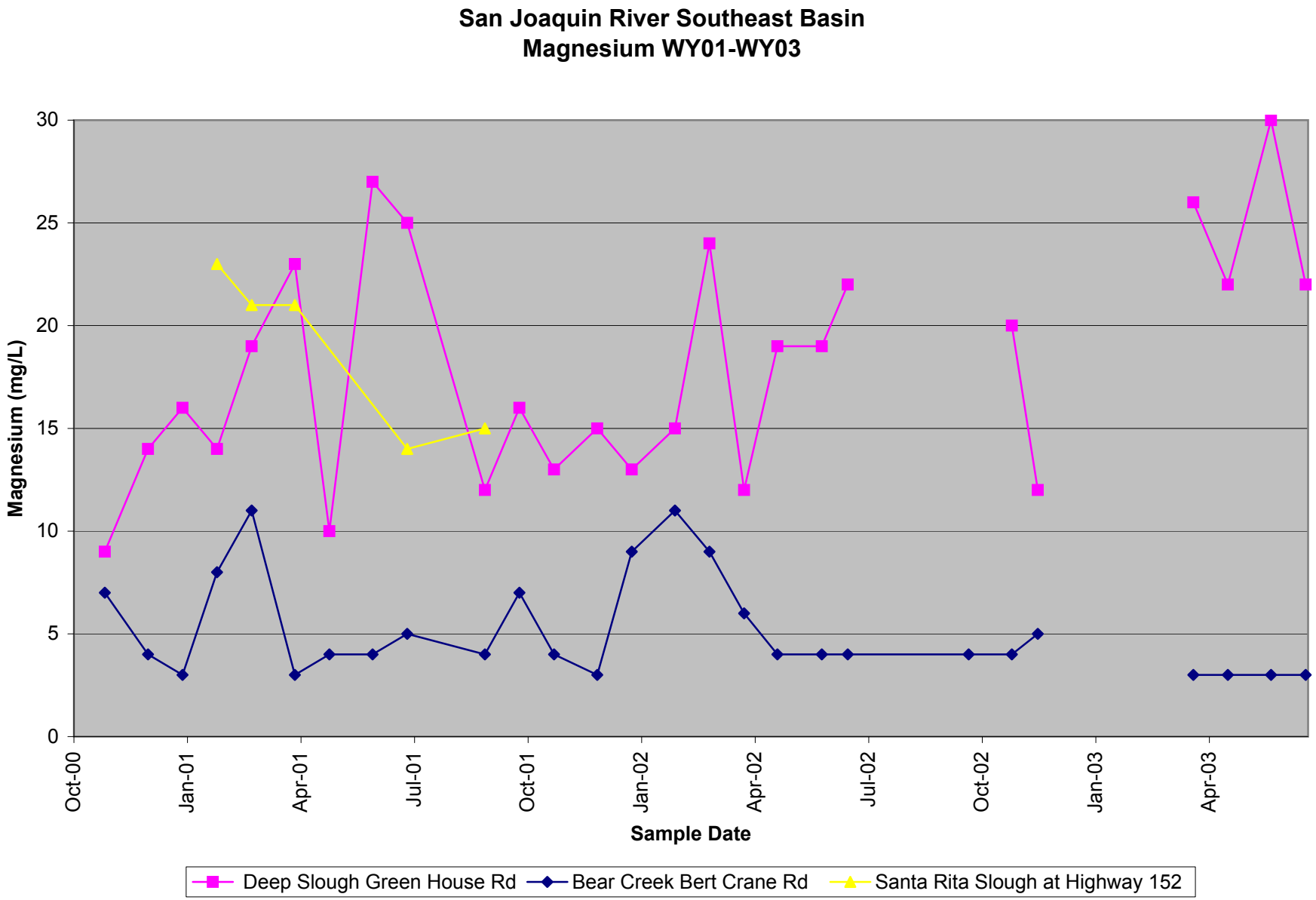

San Joaquin River Southeast Basin
Chloride WY01-WY03
Chloride (mg/L)
250
200
150
100
50
0
Median
California Secondary MCL (recommended level) (250 mg/L)
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd


San Joaquin River Southeast Basin
Sulfate WY01-WY03
Sulfate (mg/L)
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Bear Creek Bert Crane Rd
Bear Creek Bert Crane Rd
California Secondary MCL (recommended level) (250 mg/L)
Santa Rita Slough at Highway 152

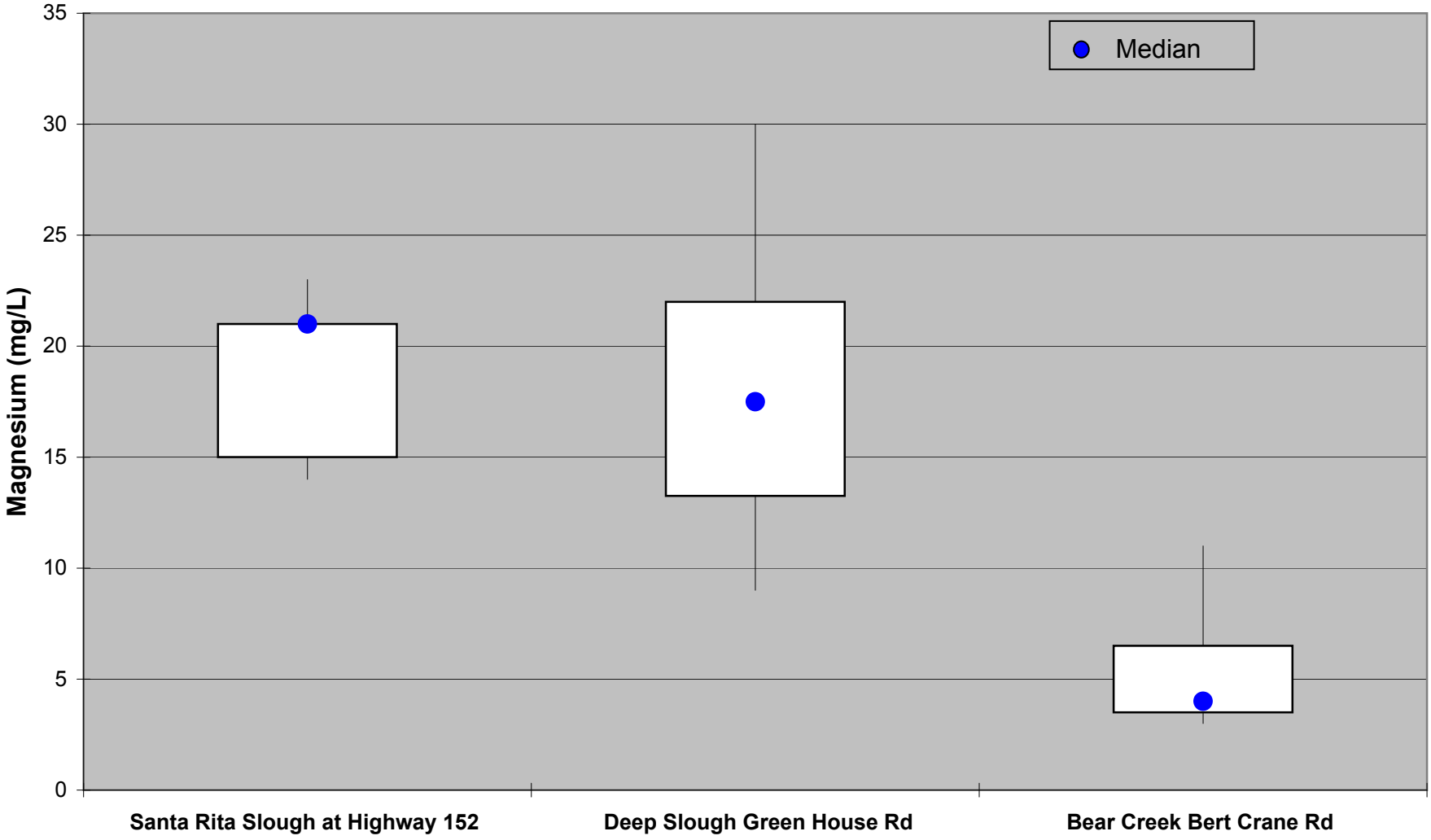

San Joaquin River Southeast Basin
Sulfate WY01-WY03
Sulfate (mg/L)
300
250
200
150
100
50
0
Median
California Secondary MCL (recommended level) (250 mg/L)
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

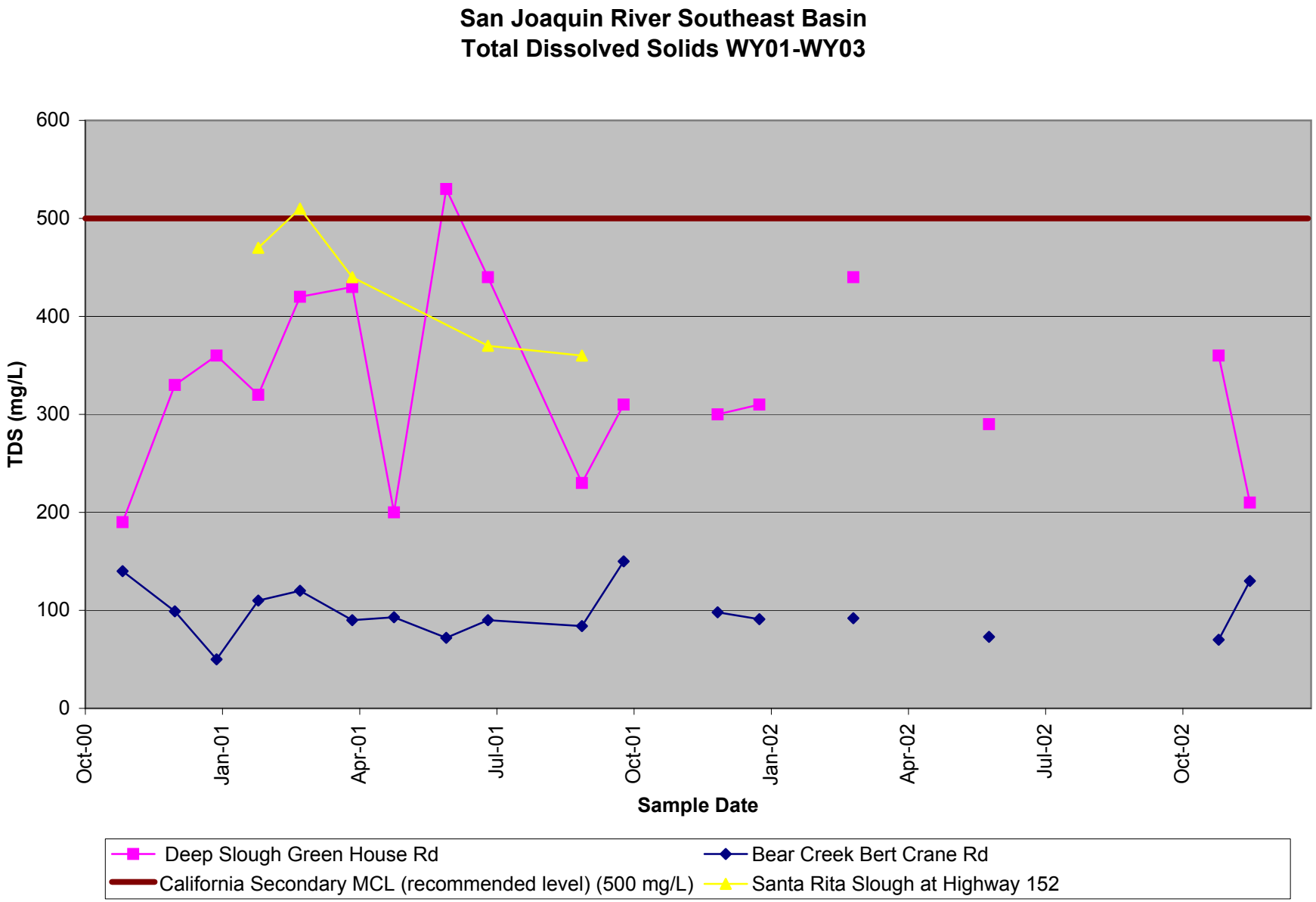

San Joaquin River Southeast Basin
Calcium WY01-WY03
Calcium (mg/L)
80
70
60
50
40
30
20
10
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Dates
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152

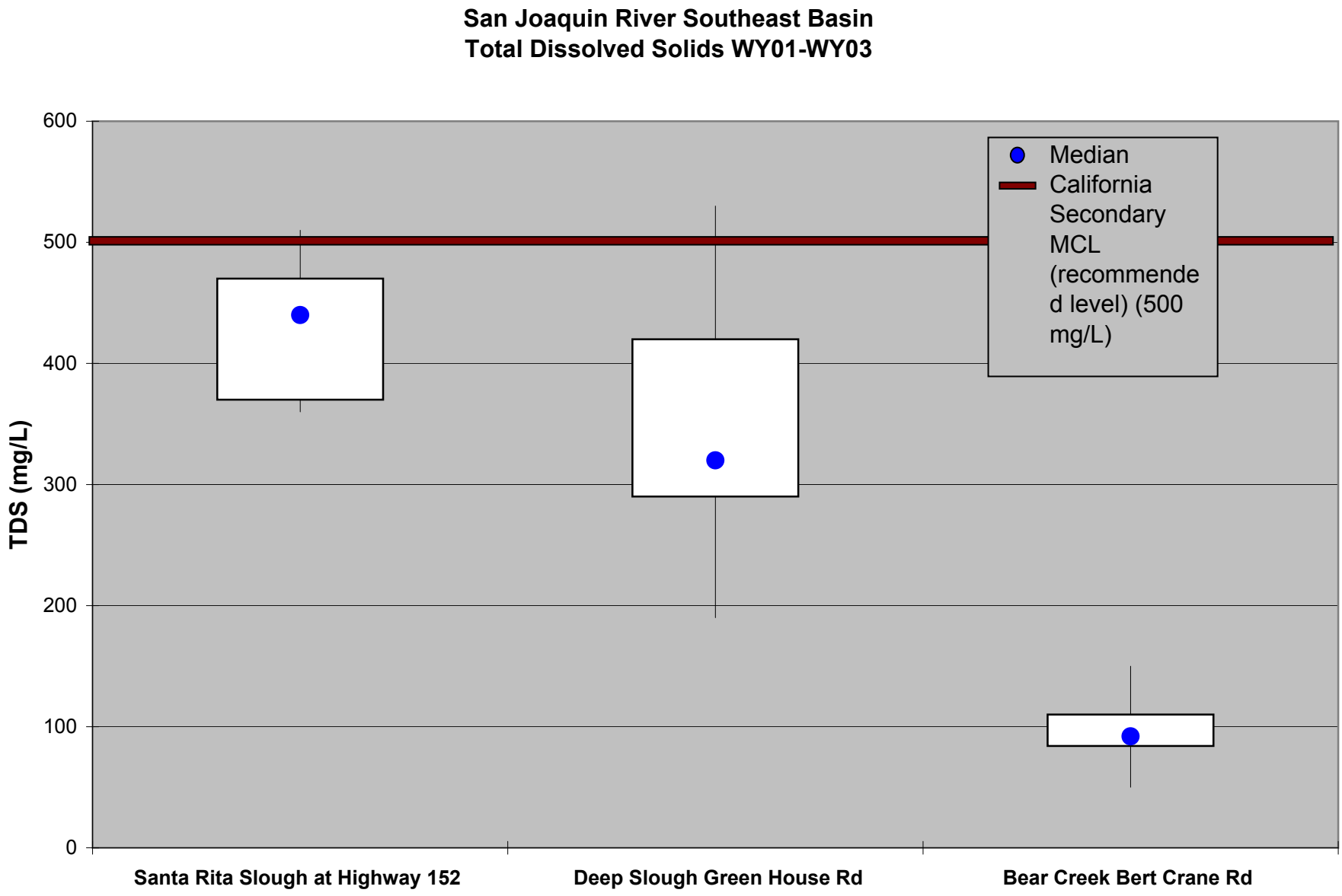

San Joaquin River Southeast Basin
Calcium WY01-WY03
Median
Calcium (mg/L)
80
70
60
50
40
30
20
10
0
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

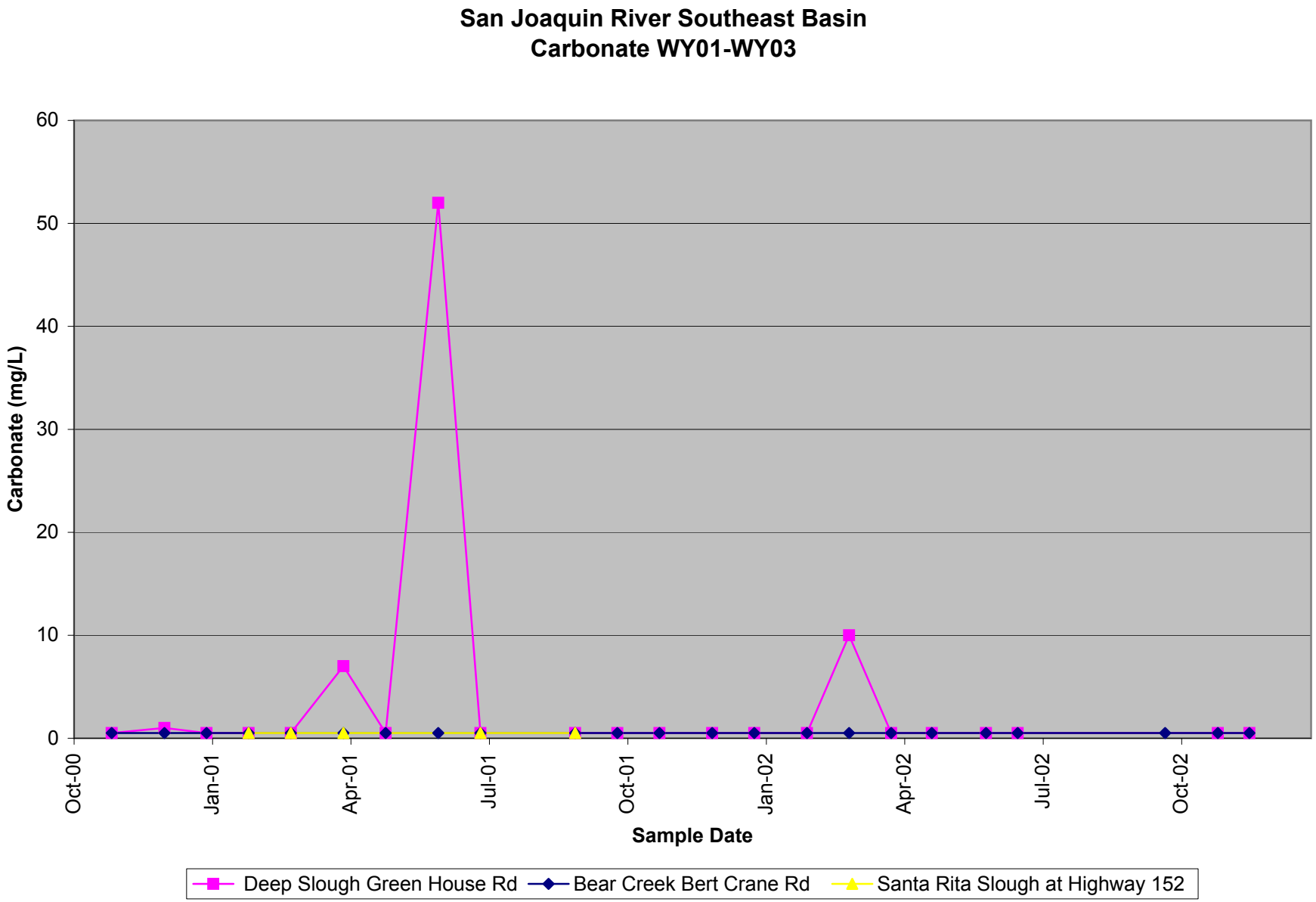

San Joaquin River Southeast Basin
Magnesium WY01-WY03
Magnesium (mg/L)
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152

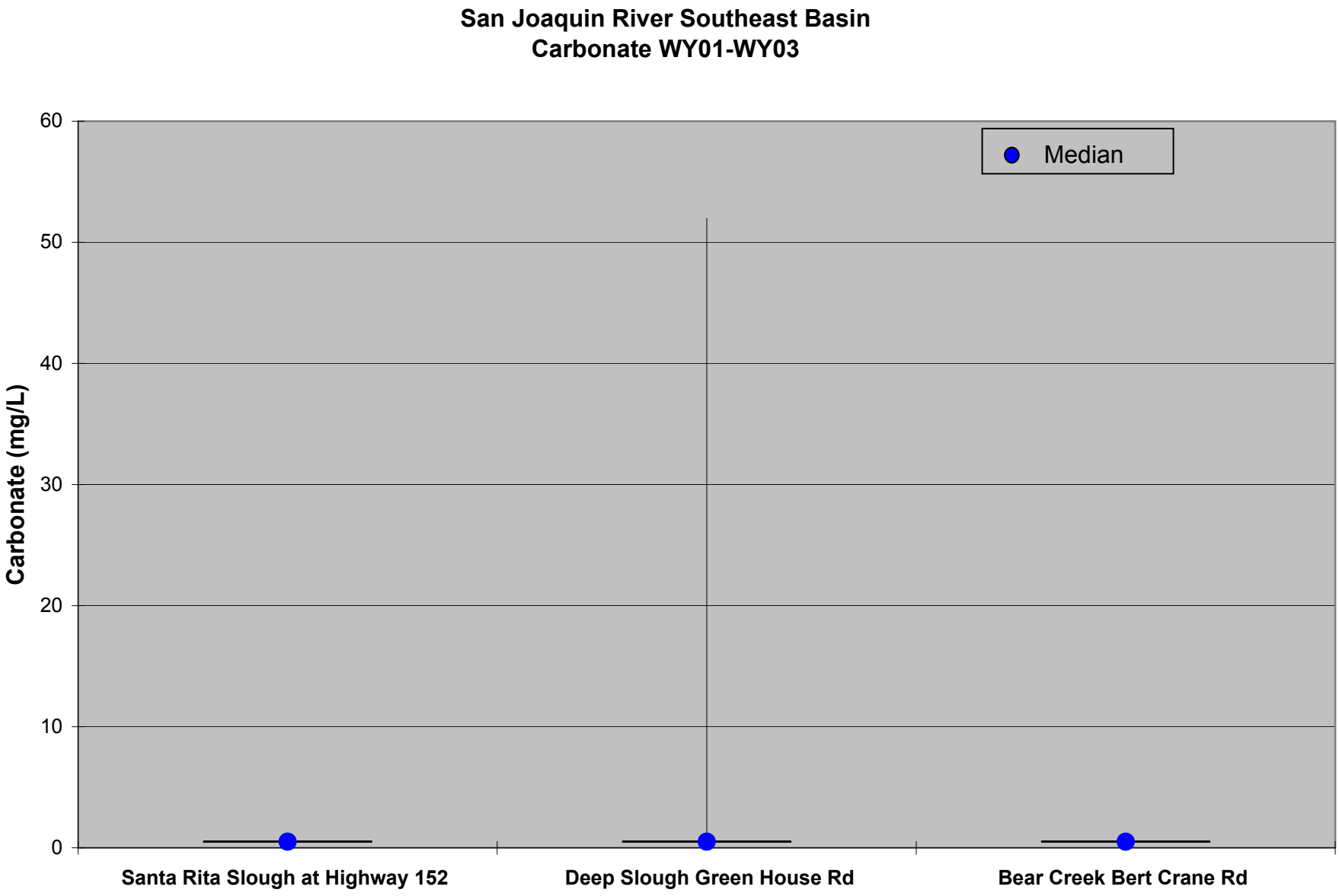
San Joaquin River Southeast Basin
Magnesium WY01-WY03

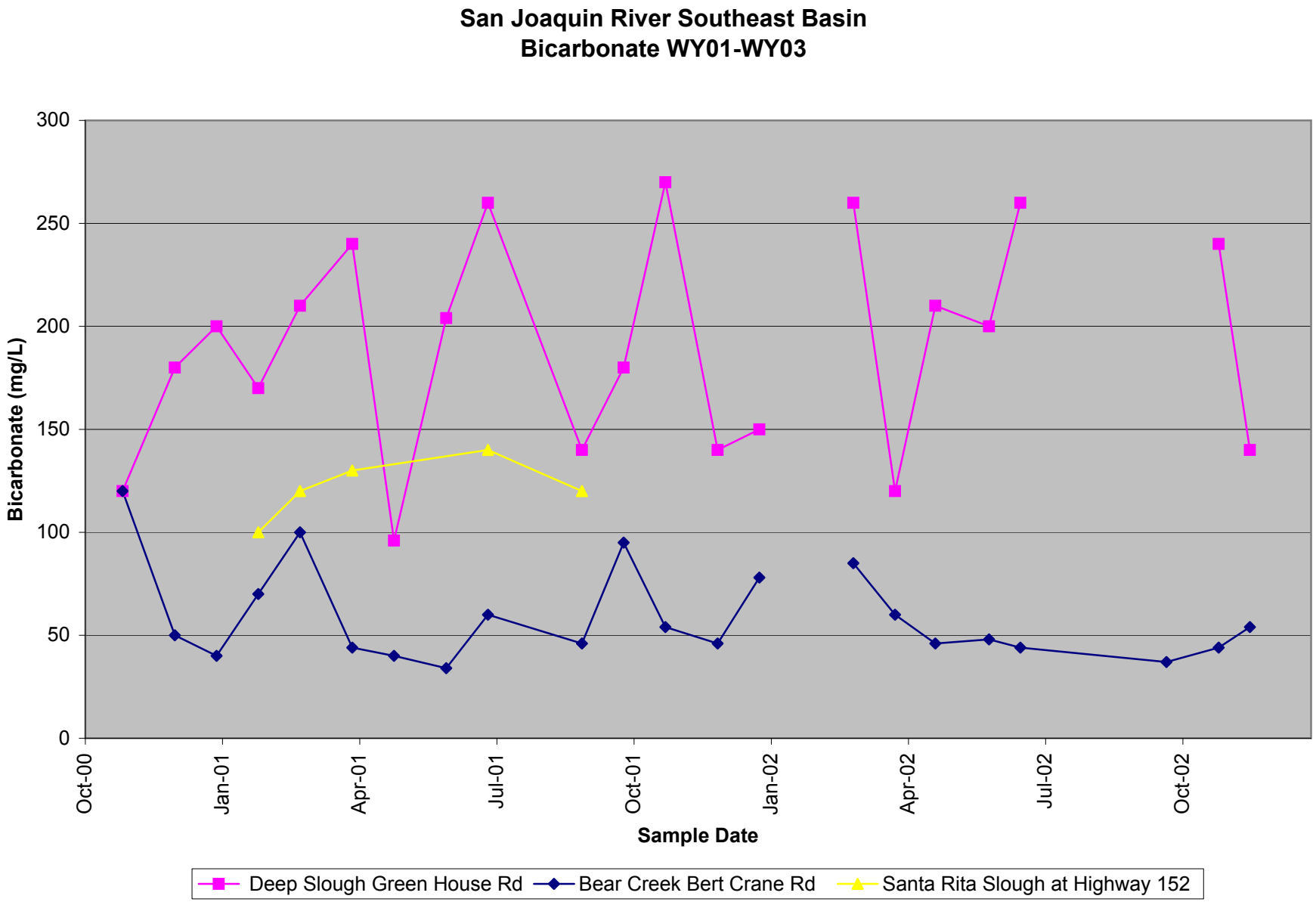


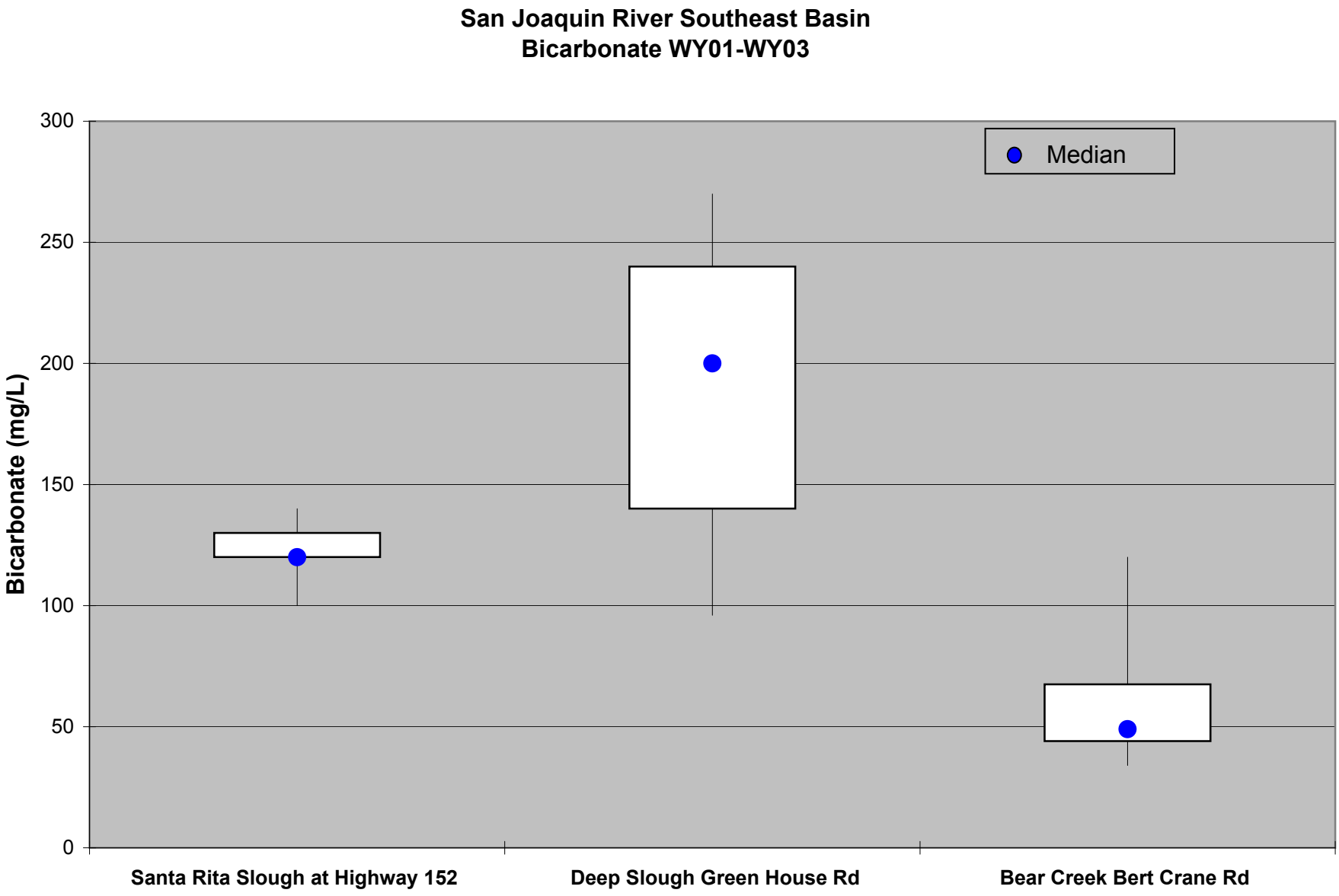

San Joaquin River Southeast Basin
Total Dissolved Solids WY01-WY03
600
500
400
300
200
100
0
TDS (mg/L)
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
California Secondary MCL (recommended level) (500 mg/L)
Santa Rita Slough at Highway 152

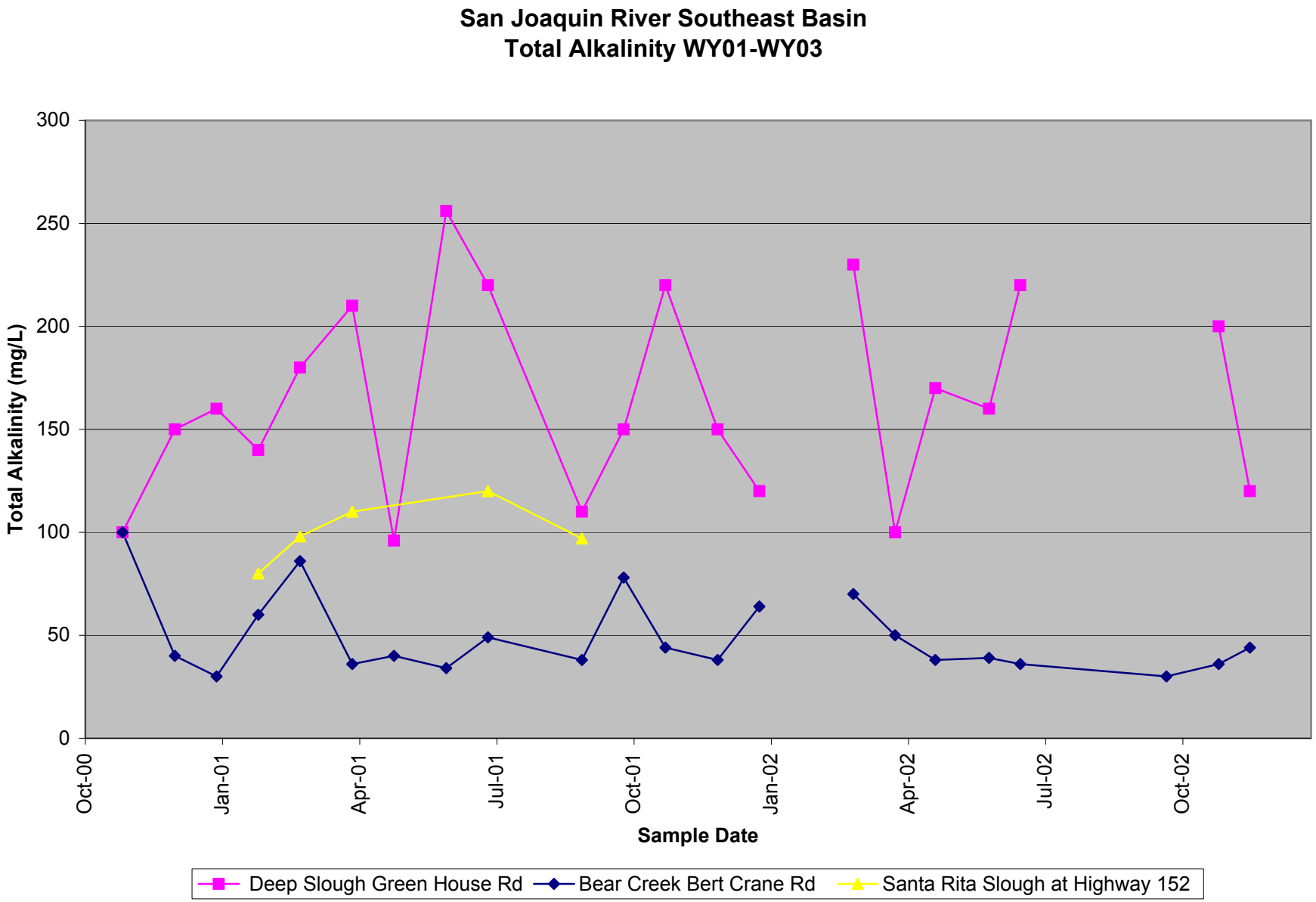

San Joaquin River Southeast Basin
Total Dissolved Solids WY01-WY03
TDS (mg/L)
600
500
400
300
200
100
0
Median
California Secondary MCL (recommended level) (500 mg/L)
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

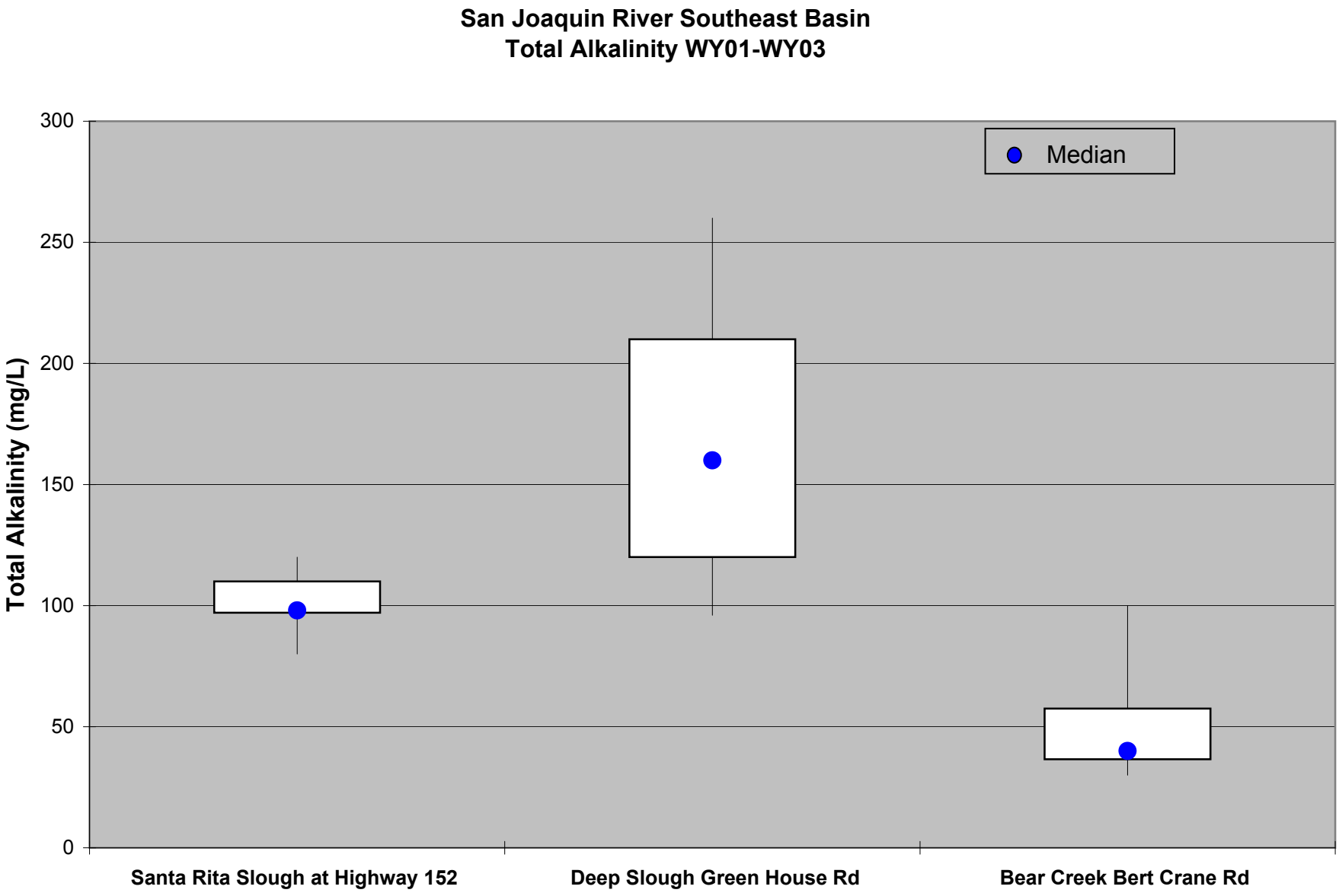

San Joaquin River Southeast Basin
Carbonate WY01-WY03
Carbonate (mg/L)
60
50
40
30
20
10
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152

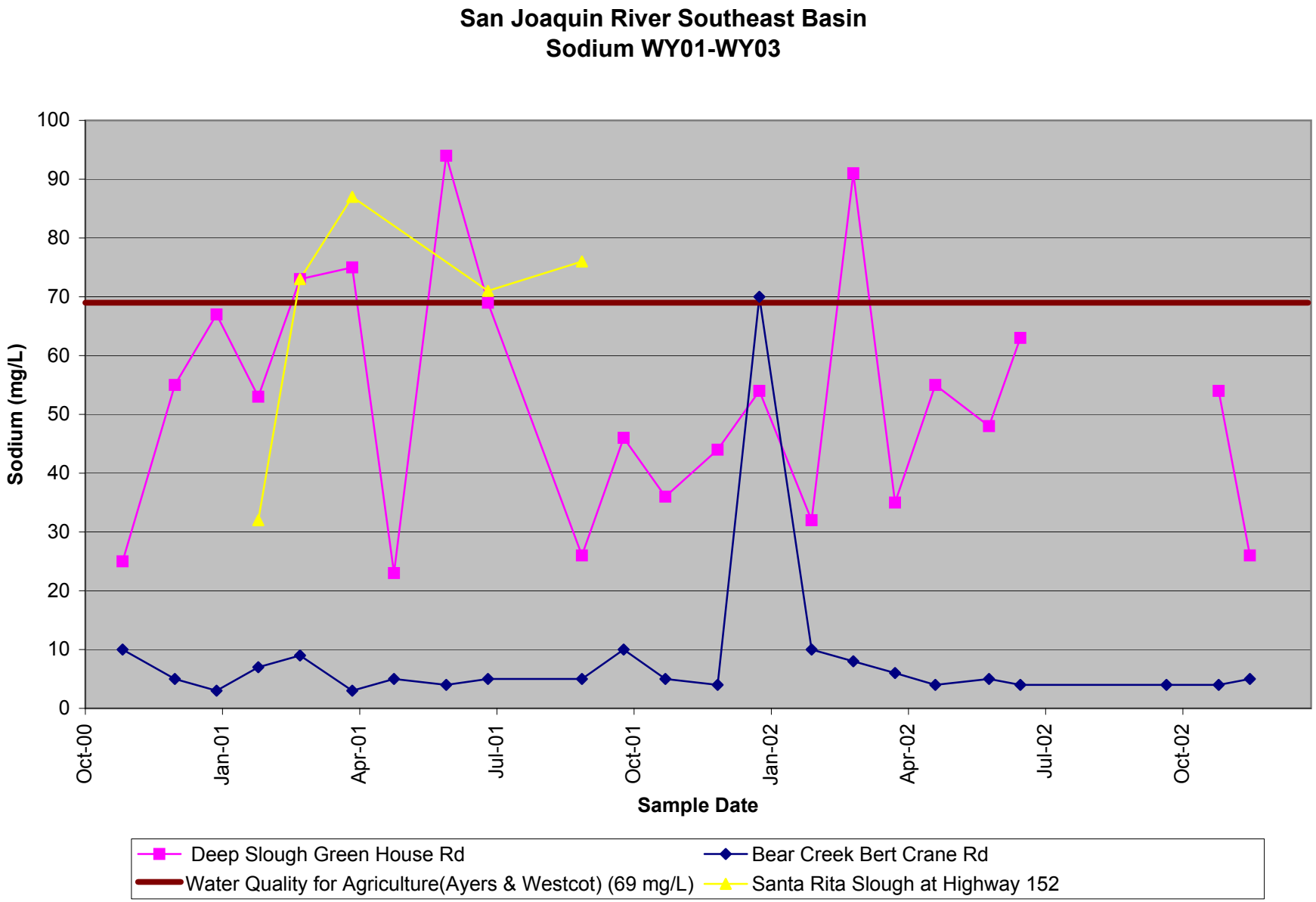

San Joaquin River Southeast Basin
Carbonate WY01-WY03
Median
Carbonate (mg/L)
60
50
40
30
20
10
0
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

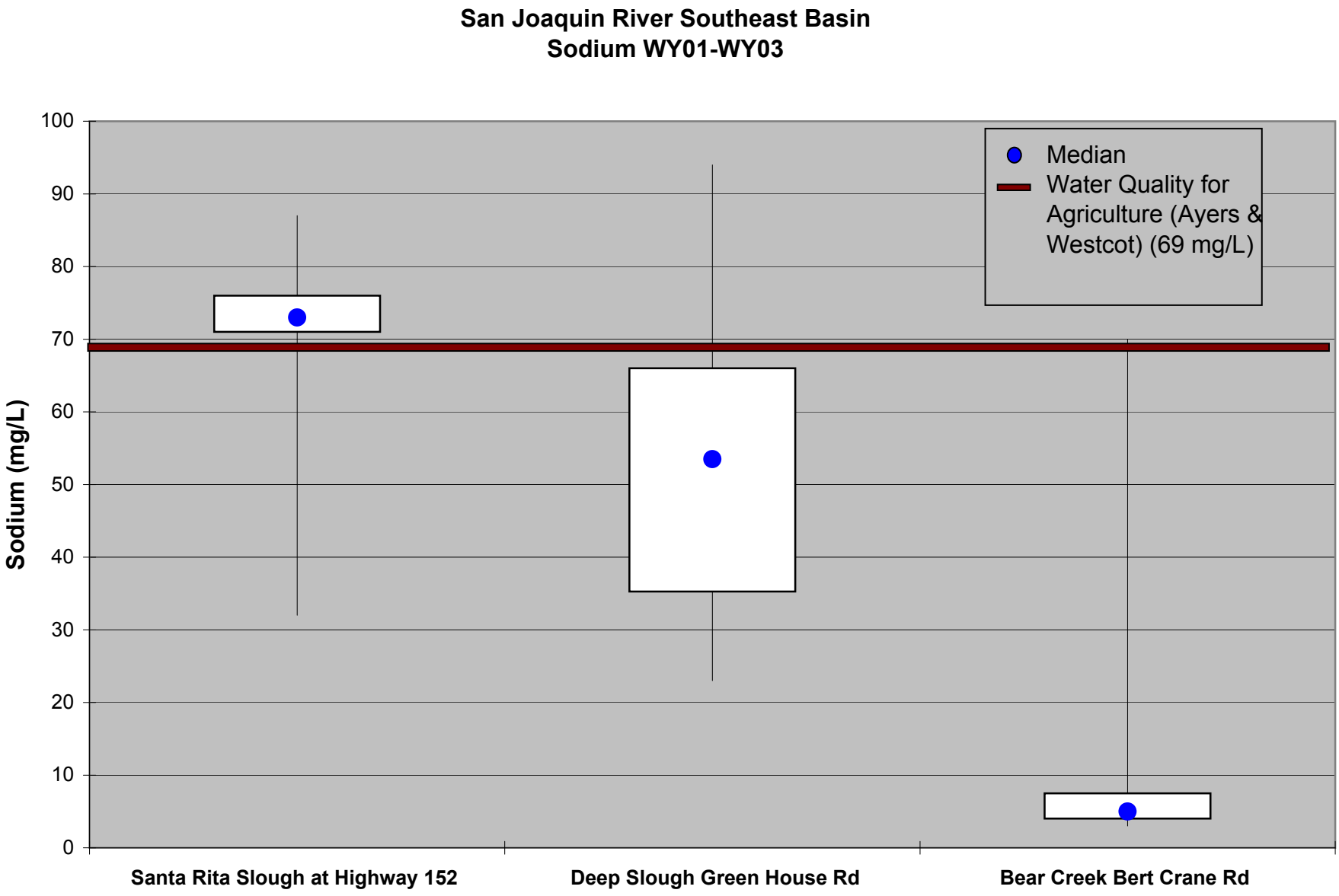

San Joaquin River Southeast Basin
Bicarbonate WY01-WY03
Bicarbonate (mg/L)
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152

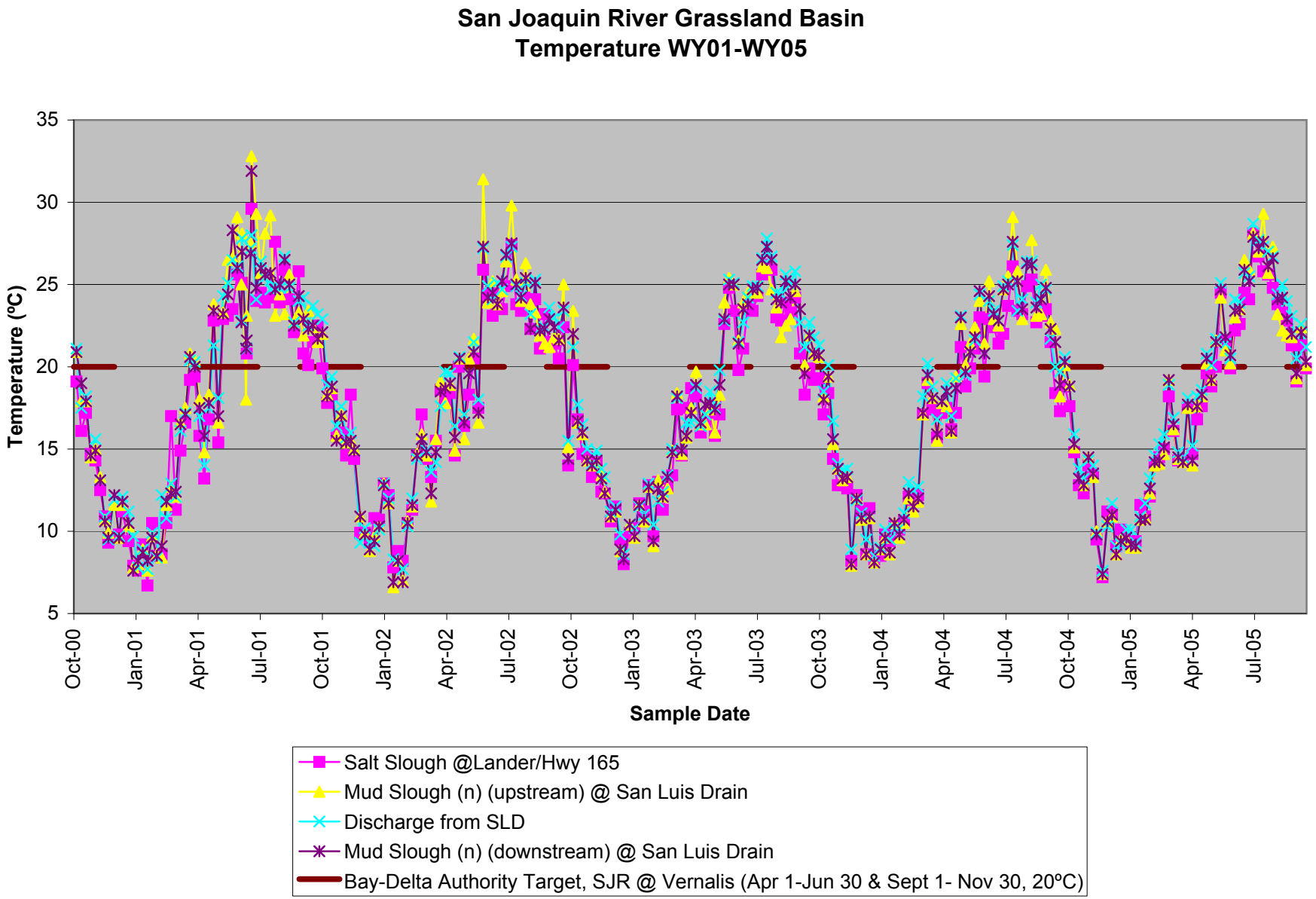

San Joaquin River Southeast Basin
Bicarbonate WY01-WY03
Median
Bicarbonate (mg/L)
300
250
200
150
100
50
0
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

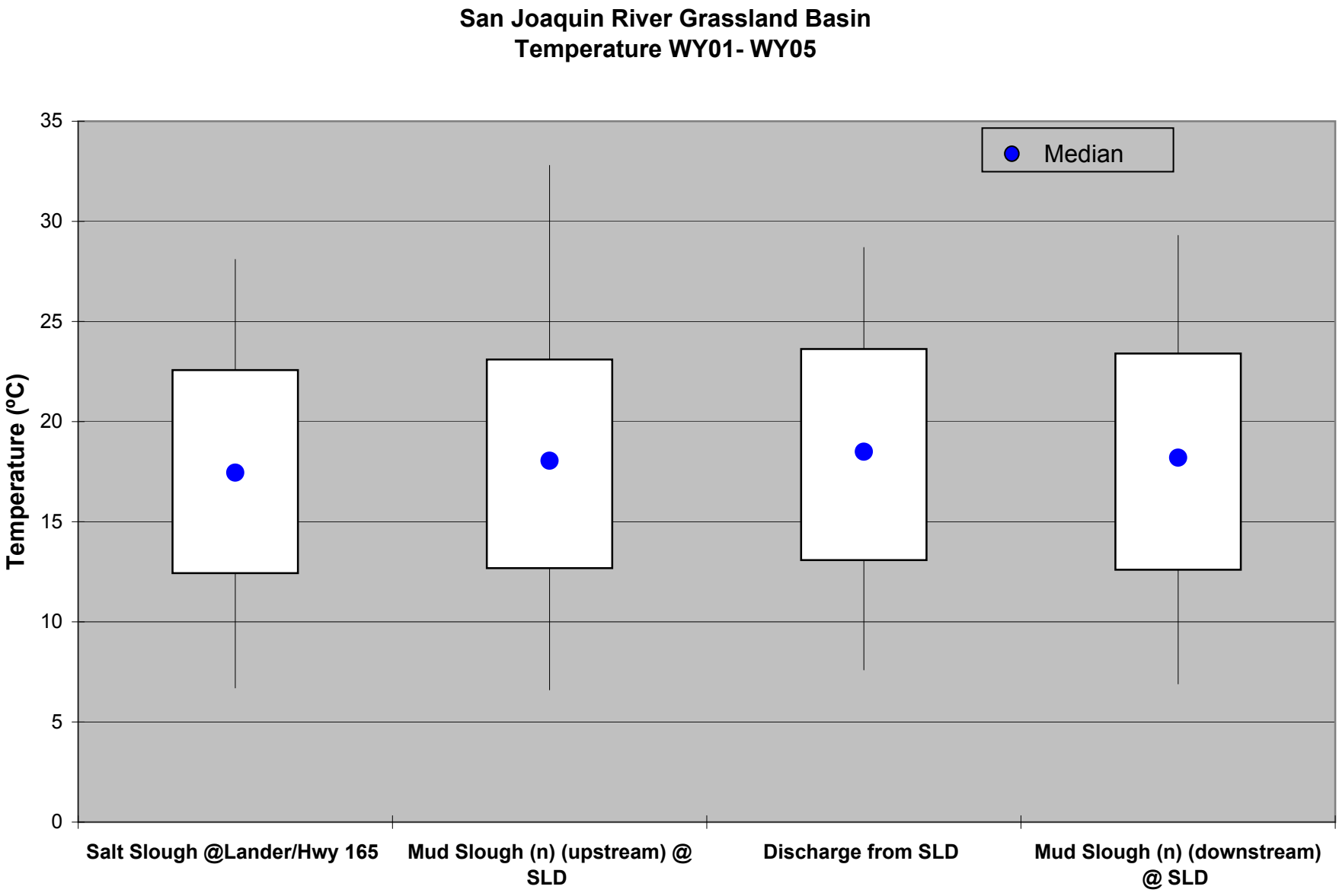

San Joaquin River Southeast Basin
Total Alkalinity WY01-WY03
Total Alkalinity (mg/L)
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Santa Rita Slough at Highway 152

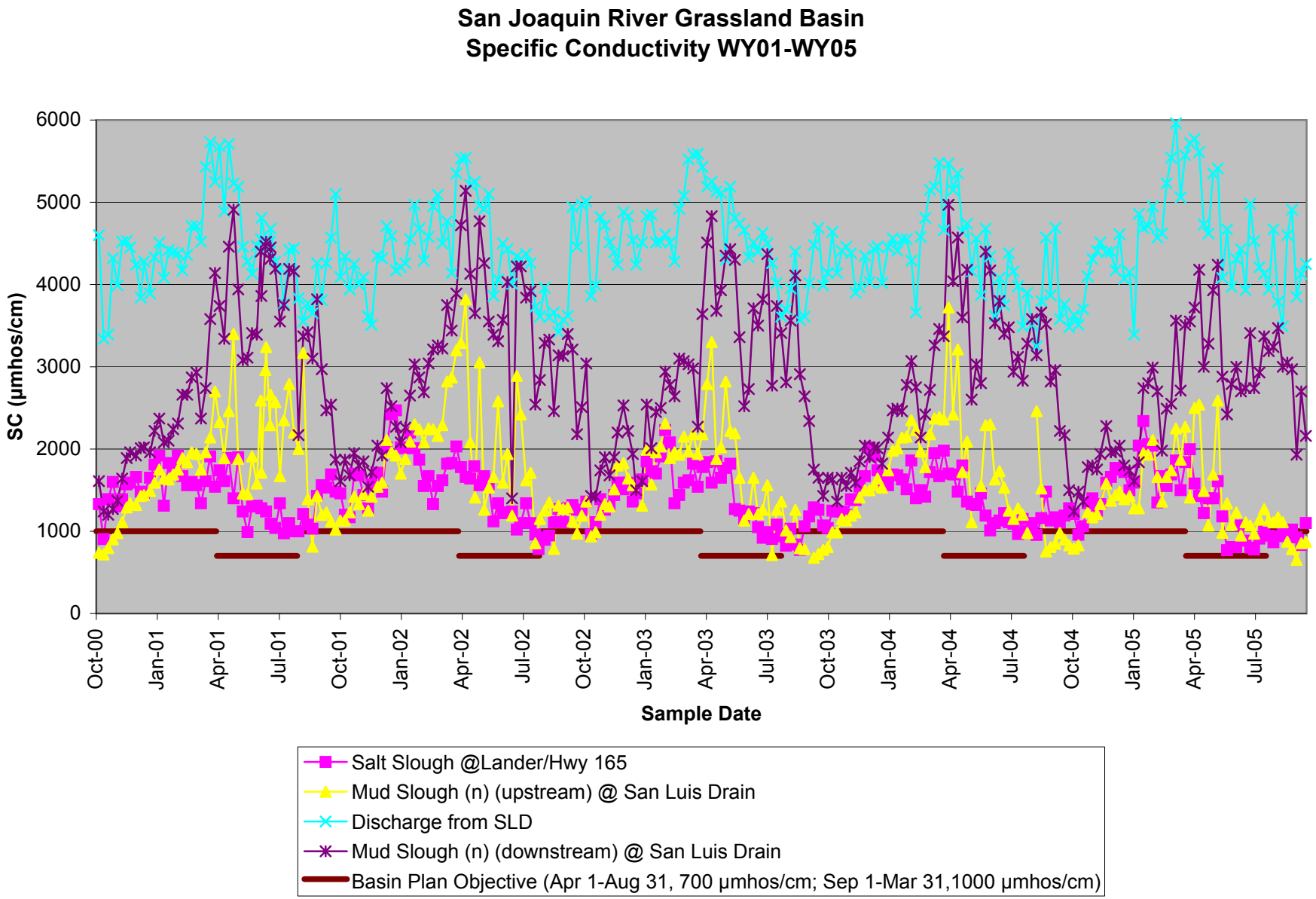

San Joaquin River Southeast Basin
Total Alkalinity WY01-WY03
Median
Total Alkalinity (mg/L)
300
250
200
150
100
50
0
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

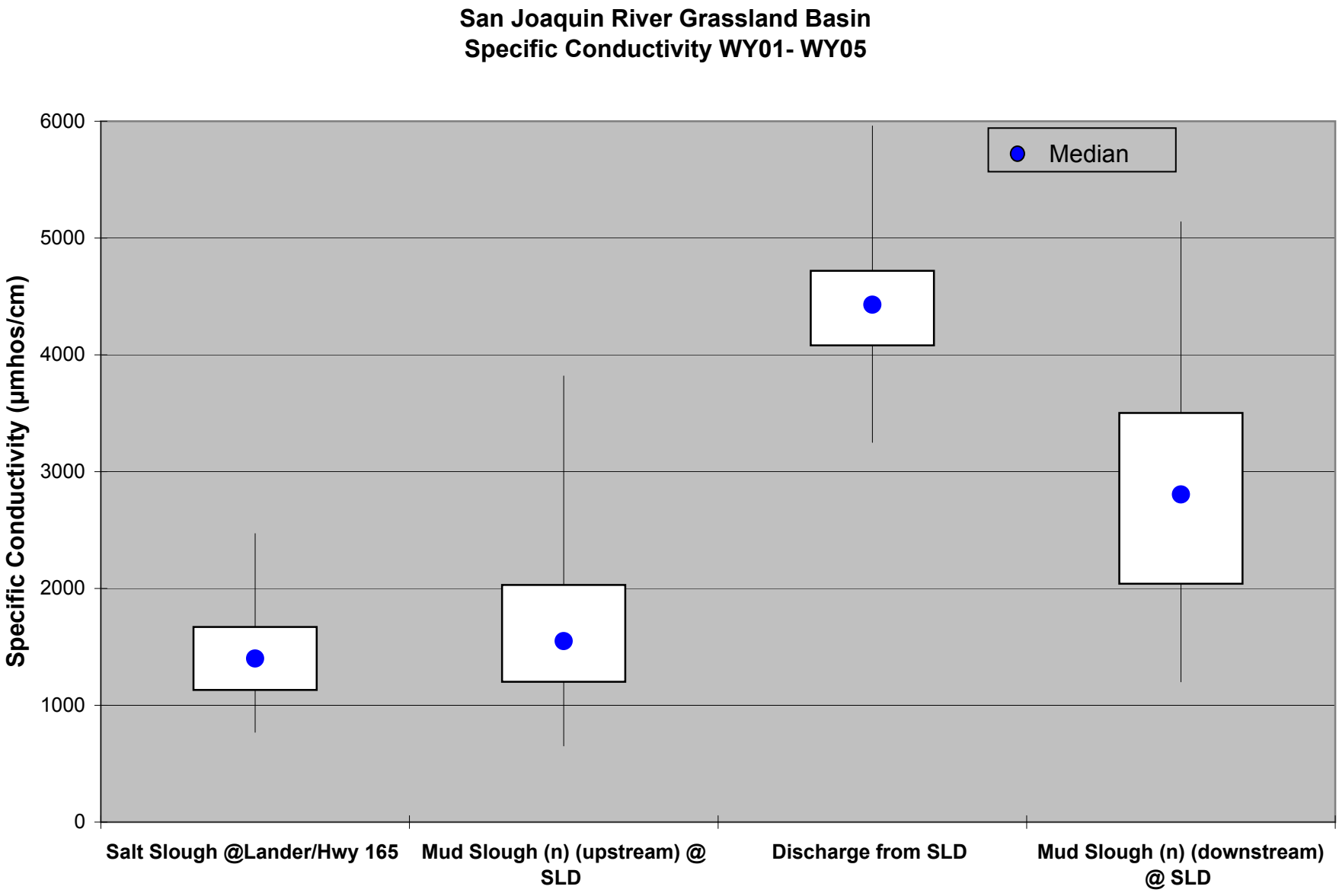

San Joaquin River Southeast Basin
Sodium WY01-WY03
Sodium (mg/L)
100
90
80
70
60
50
40
30
20
10
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Deep Slough Green House Rd
Bear Creek Bert Crane Rd
Water Quality for Agriculture(Ayers & Westcot) (69 mg/L)
Santa Rita Slough at Highway 152

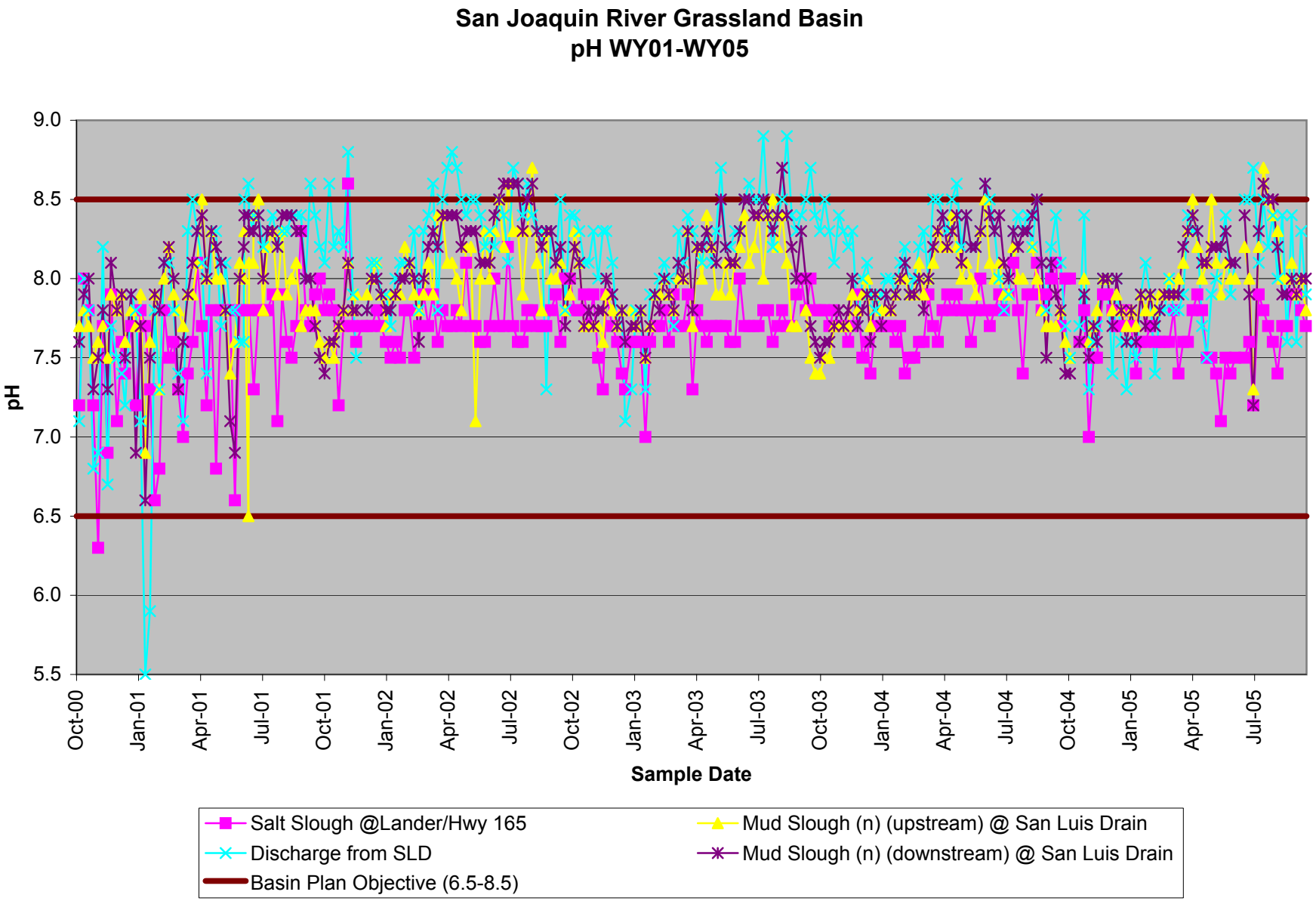

San Joaquin River Southeast Basin
Sodium WY01-WY03
Sodium (mg/L)
100
90
80
70
60
50
40
30
20
10
0
Median
Water Quality for Agriculture (Ayers & Westcot) (69 mg/L)
Santa Rita Slough at Highway 152
Deep Slough Green House Rd
Bear Creek Bert Crane Rd

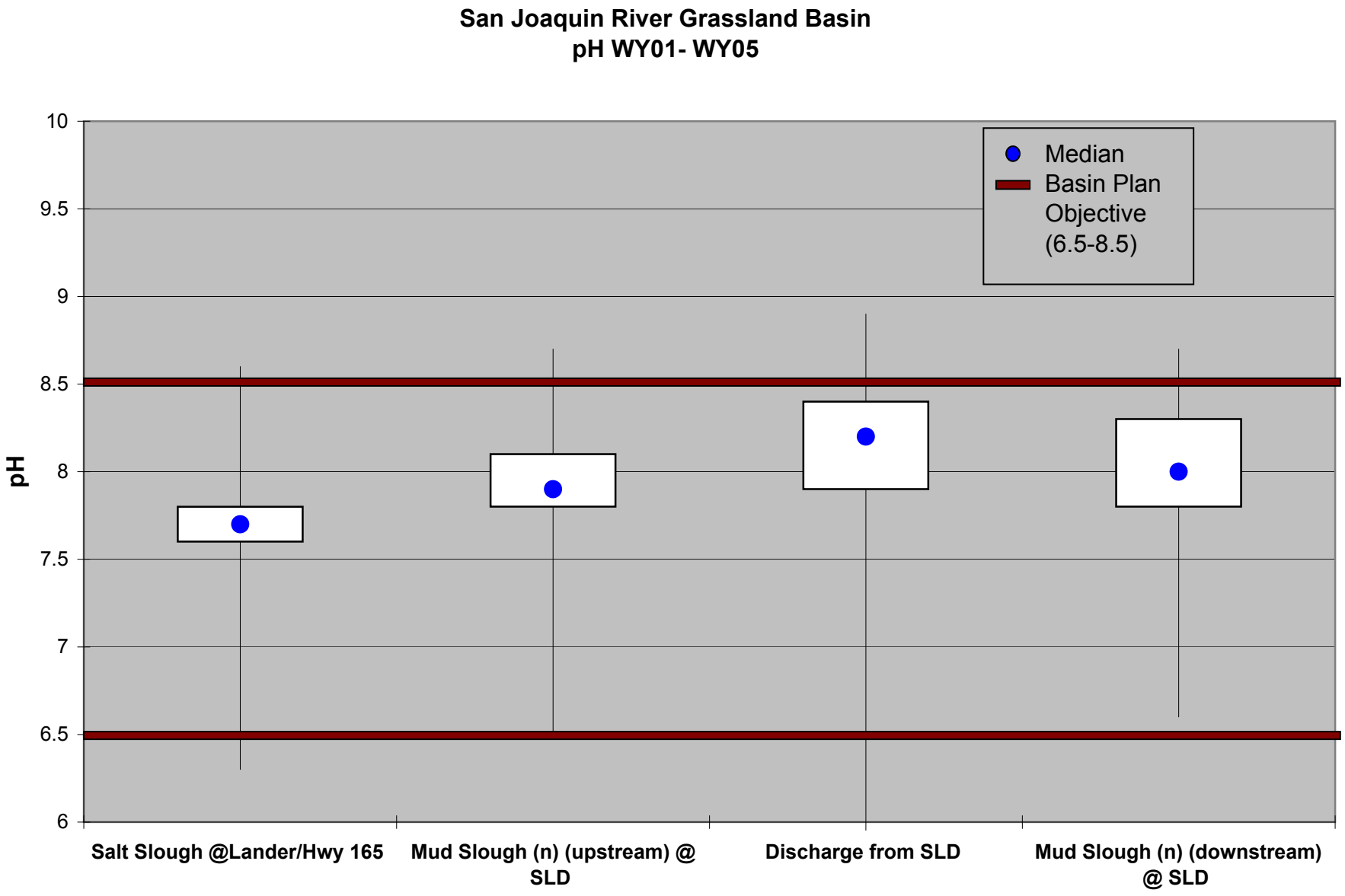

San Joaquin River Grassland Basin
Temperature WY01-WY05
Temperature (ºC)
35
30
25
20
15
10
5
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain
Bay-Delta Authority Target, SJR @ Vernalis (Apr 1-Jun 30 & Sept 1- Nov 30, 20ºC)

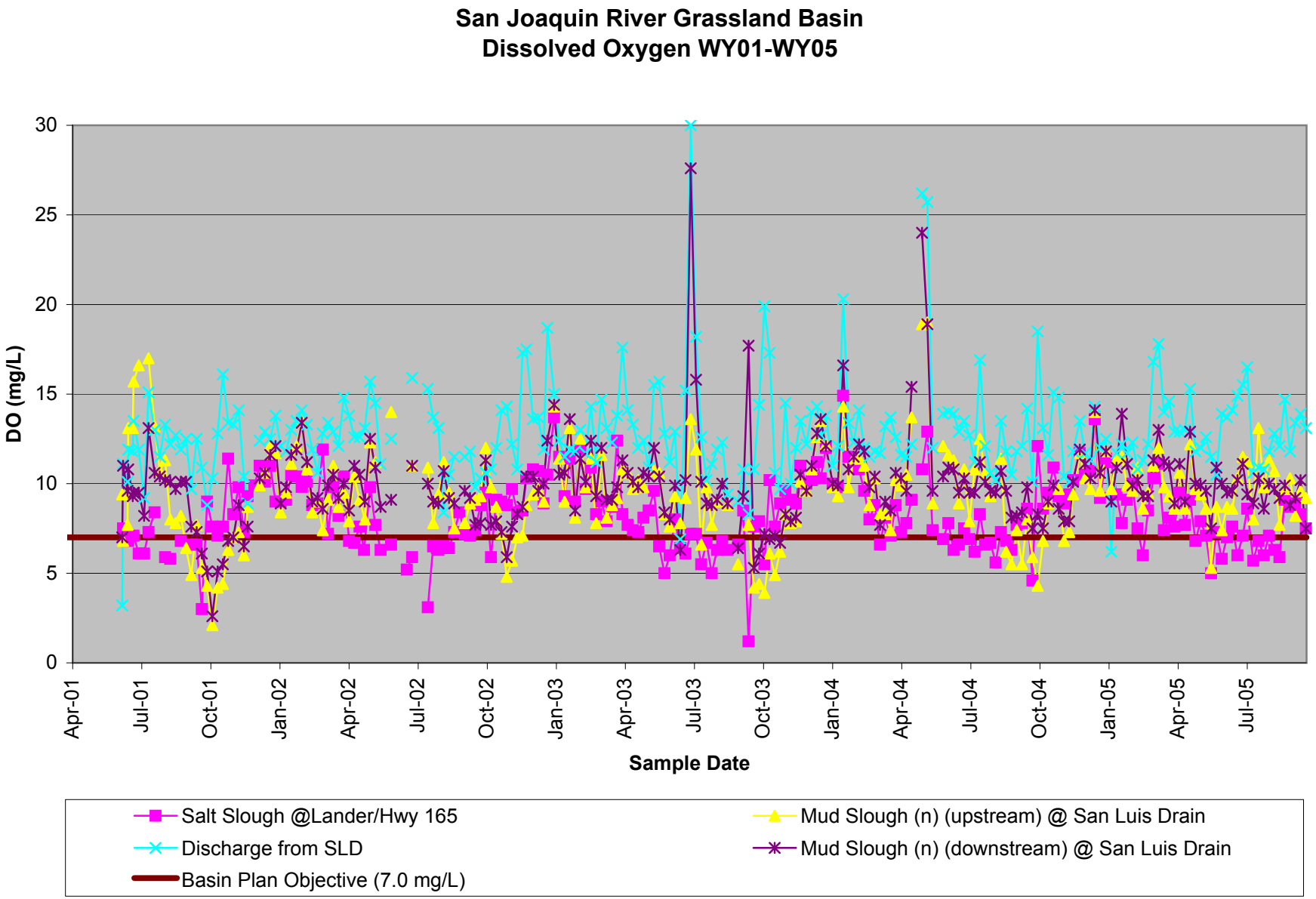

San Joaquin River Grassland Basin
Temperature WY01- WY05
Median
Temperature (ºC)
35
30
25
20
15
10
5
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

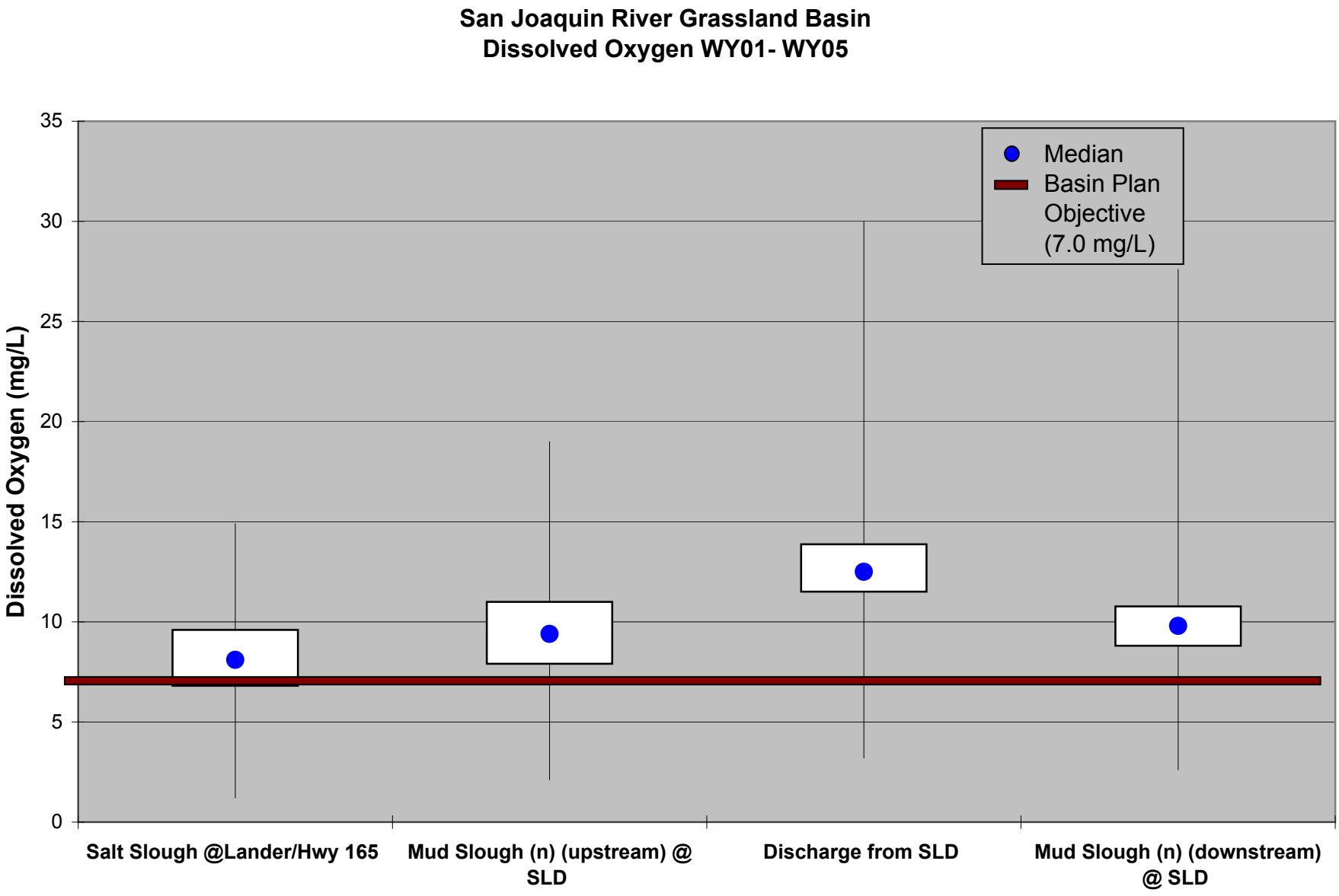

San Joaquin River Grassland Basin
Specific Conductivity WY01-WY05
SC (µmhos/cm)
6000
5000
4000
3000
2000
1000
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain
Basin Plan Objective (Apr 1-Aug 31, 700 µmhos/cm; Sep 1-Mar 31,1000 µmhos/cm)

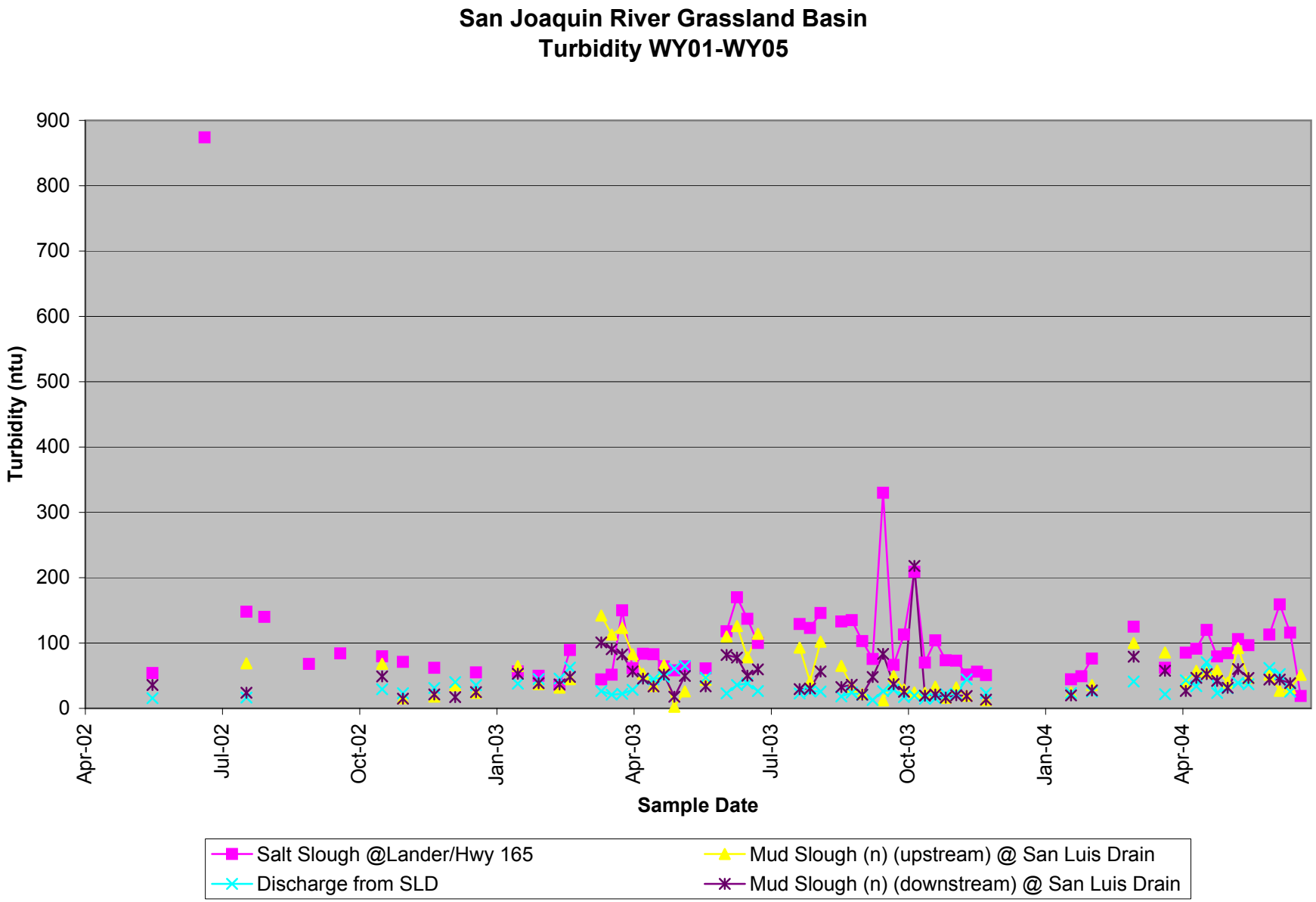

San Joaquin River Grassland Basin
Specific Conductivity WY01- WY05
Median
Specific Conductivity (µmhos/cm)
6000
5000
4000
3000
2000
1000
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

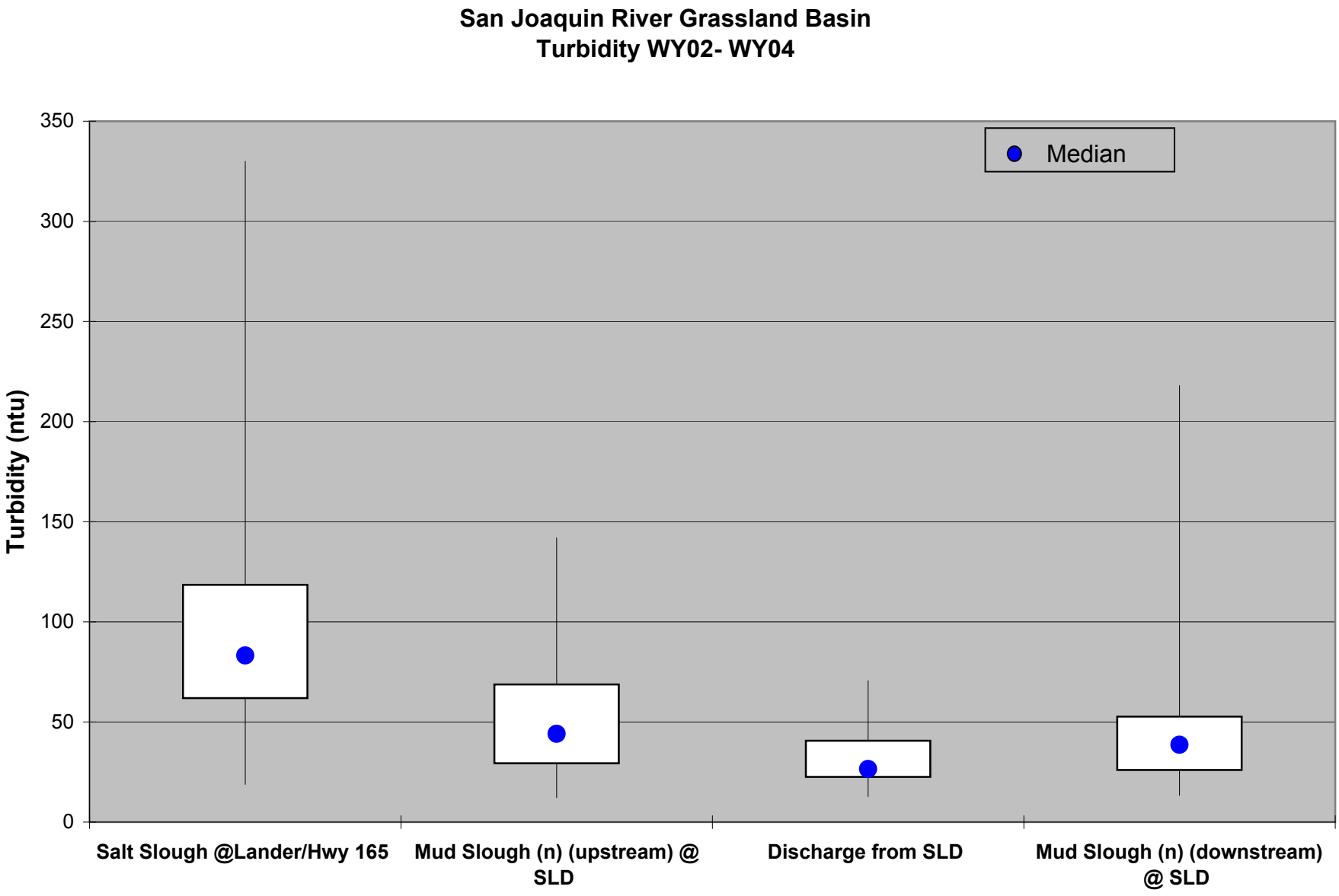

San Joaquin River Grassland Basin
pH WY01-WY05
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
pH
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain
Basin Plan Objective (6.5-8.5)

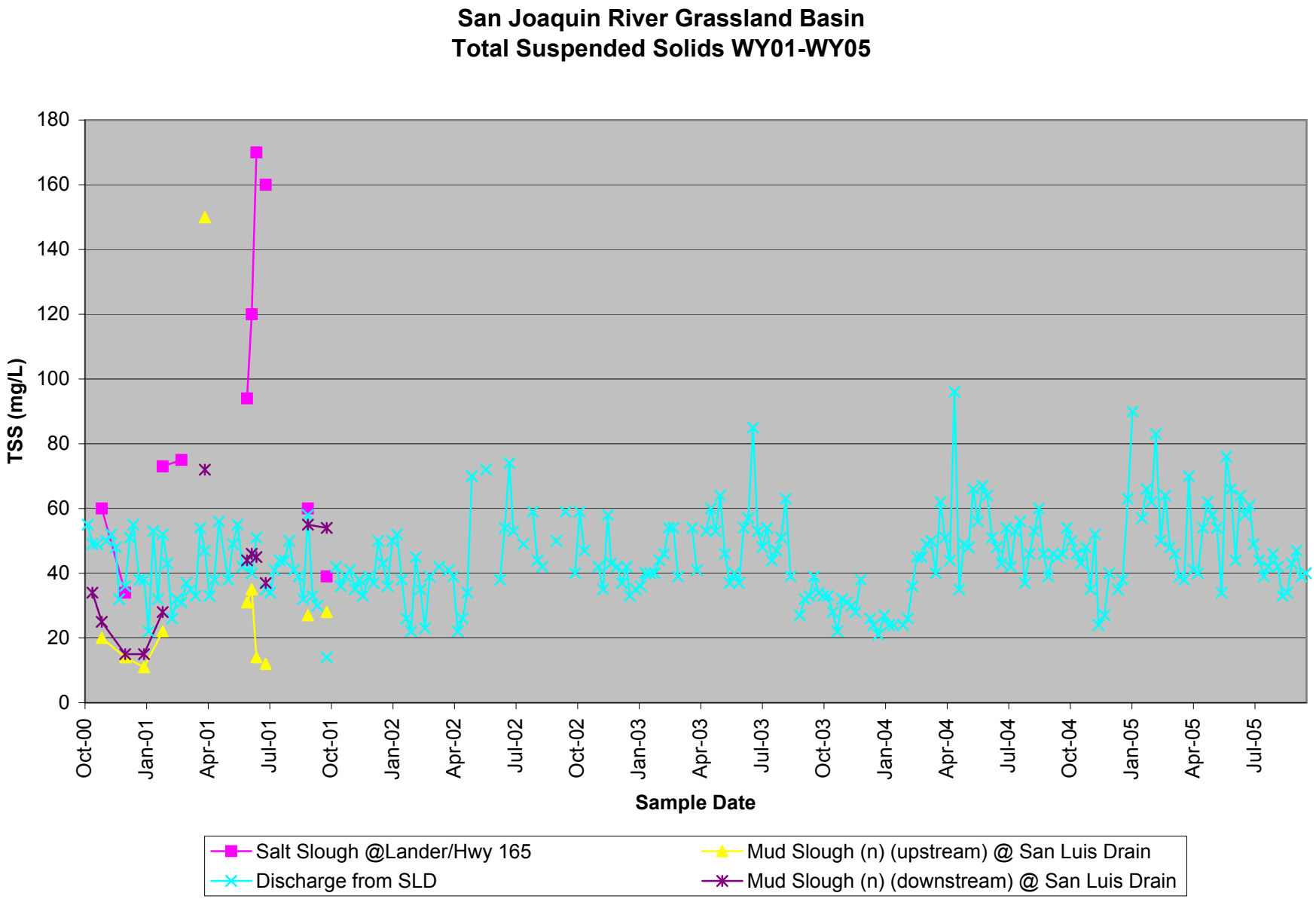

San Joaquin River Grassland Basin
pH WY01- WY05
pH
10
9.5
9
8.5
8
7.5
7
6.5
6
Median
Basin Plan Objective (6.5-8.5)
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

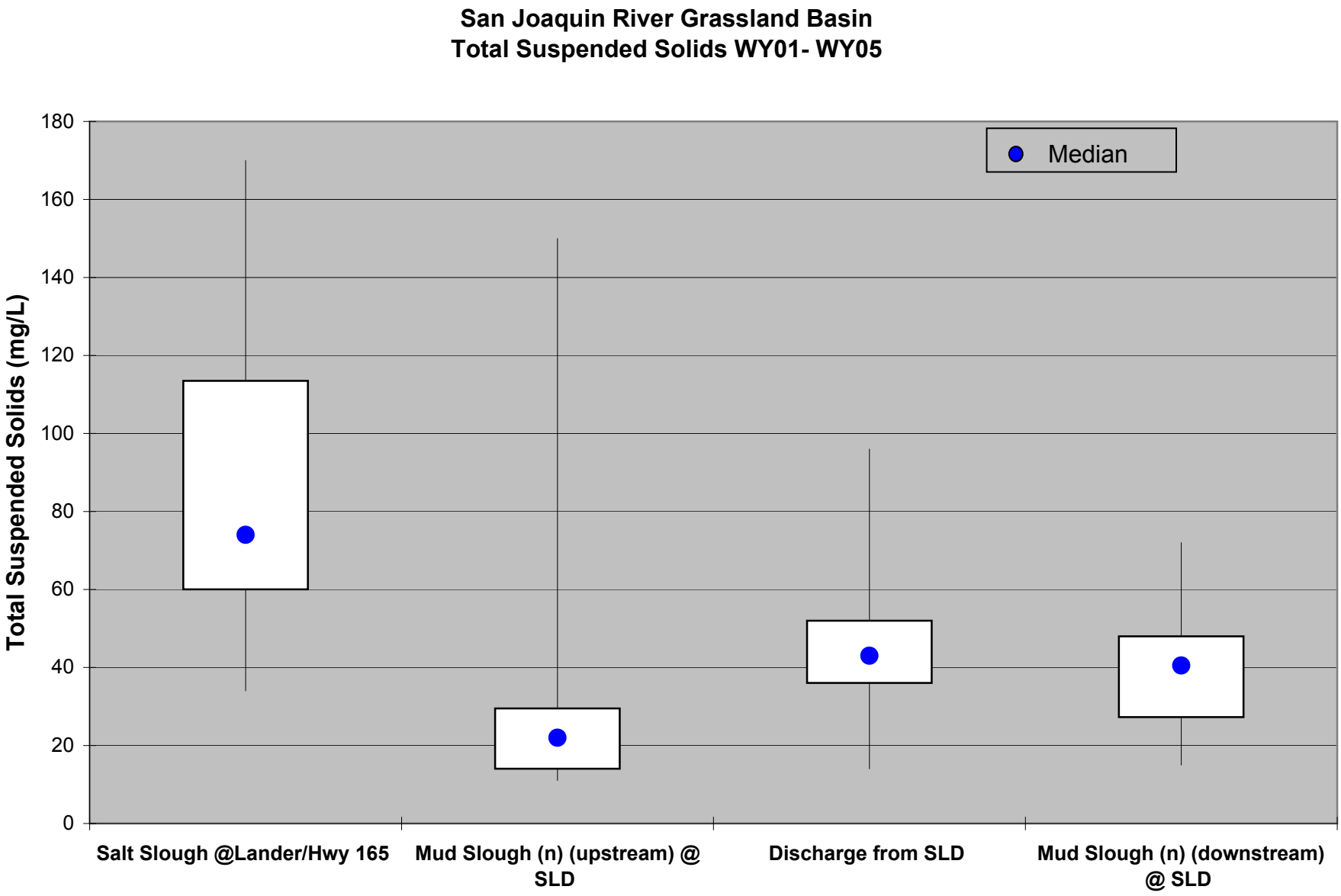

San Joaquin River Grassland Basin
Dissolved Oxygen WY01-WY05
DO (mg/L)
30
25
20
15
10
5
0
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain
Basin Plan Objective (7.0 mg/L)

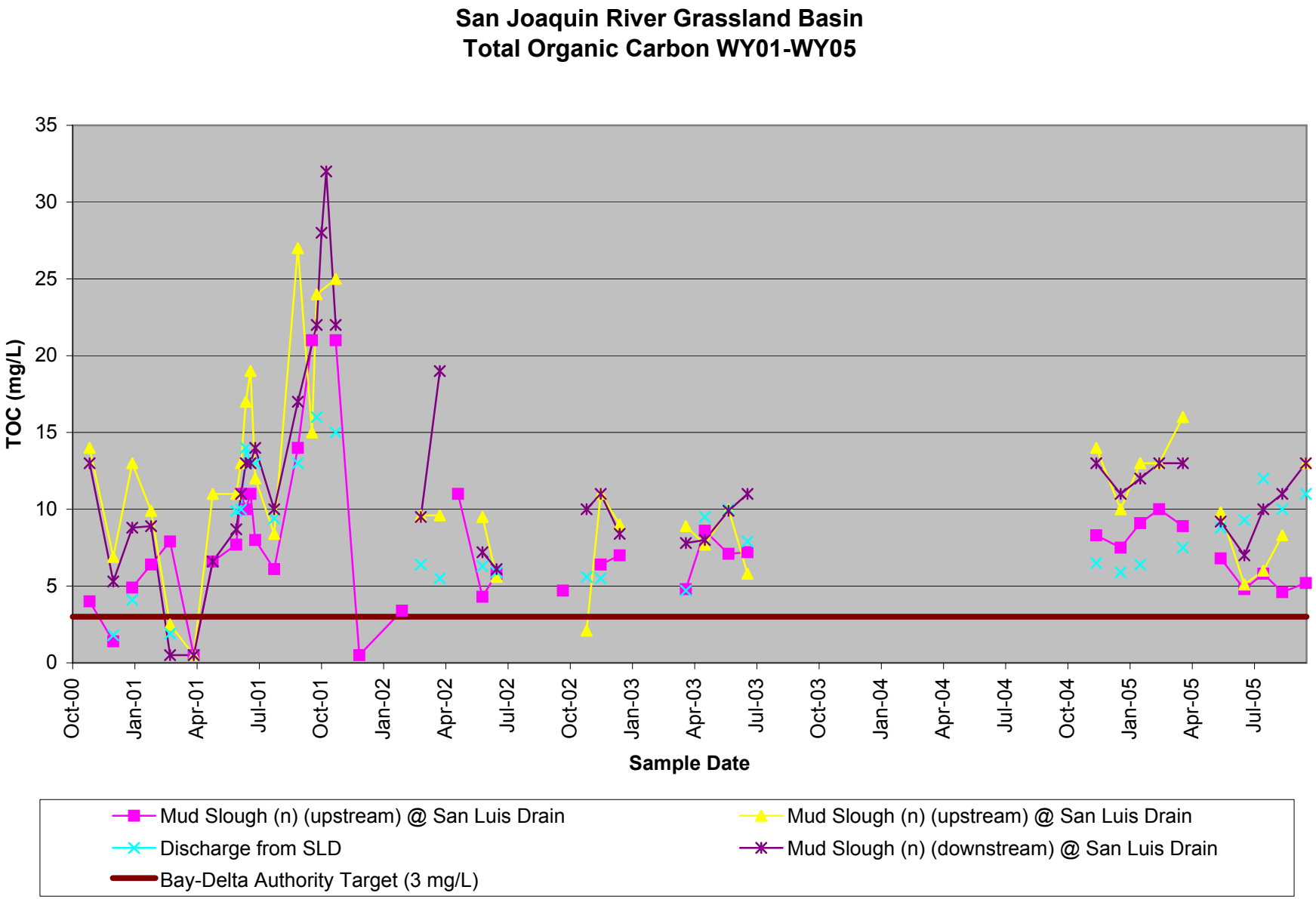

San Joaquin River Grassland Basin
Dissolved Oxygen WY01- WY05
Dissolved Oxygen (mg/L)
35
30
25
20
15
10
5
0
Median
Basin Plan Objective (7.0 mg/L)
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

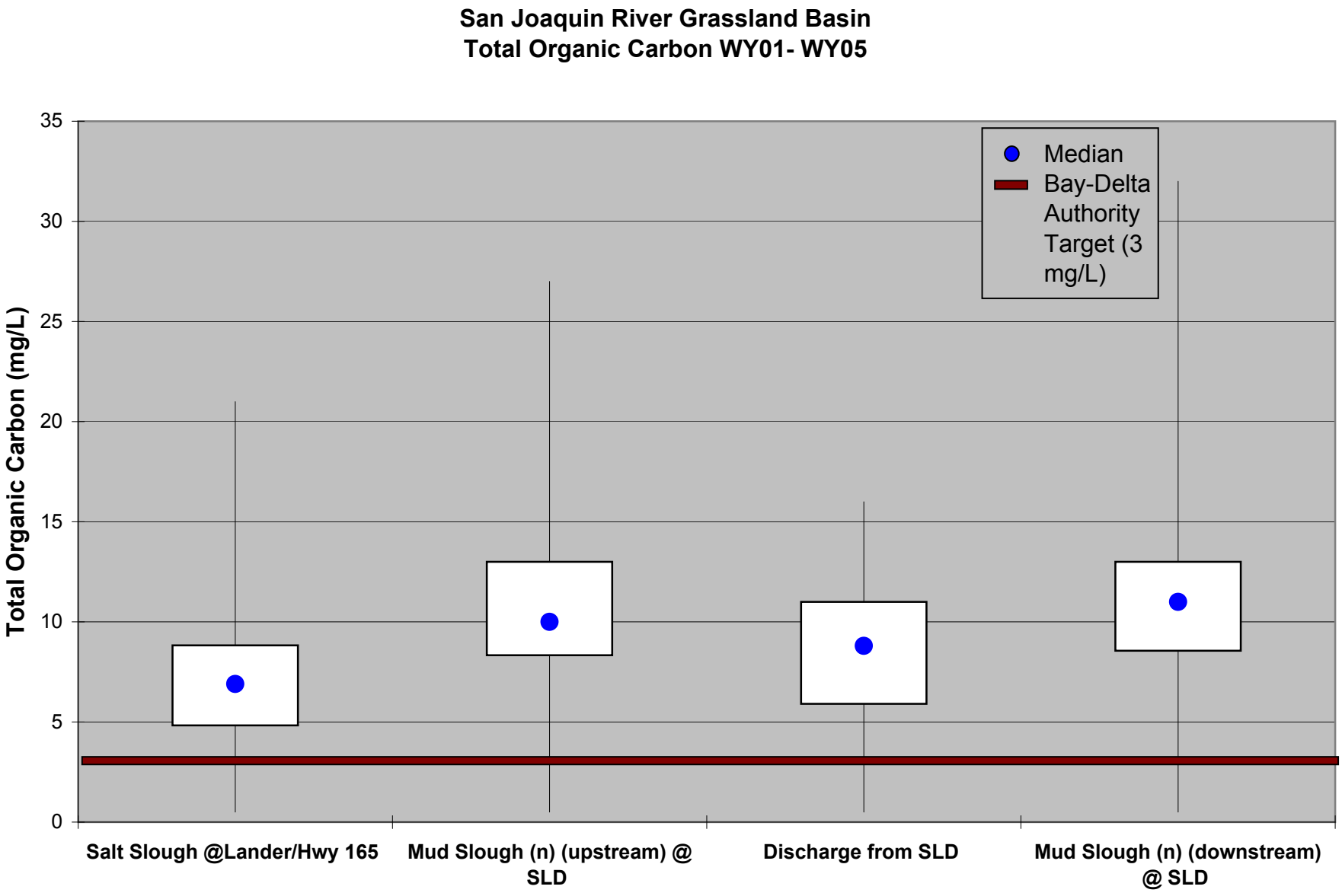

San Joaquin River Grassland Basin
Turbidity WY01-WY05
Turbidity (ntu)
900
800
700
600
500
400
300
200
100
0
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Sample Date
Salt Slough @Lander/Hwy 165
Discharge from SLD
Mud Slough (n) (upstream) @ San Luis Drain
Mud Slough (n) (downstream) @ San Luis Drain

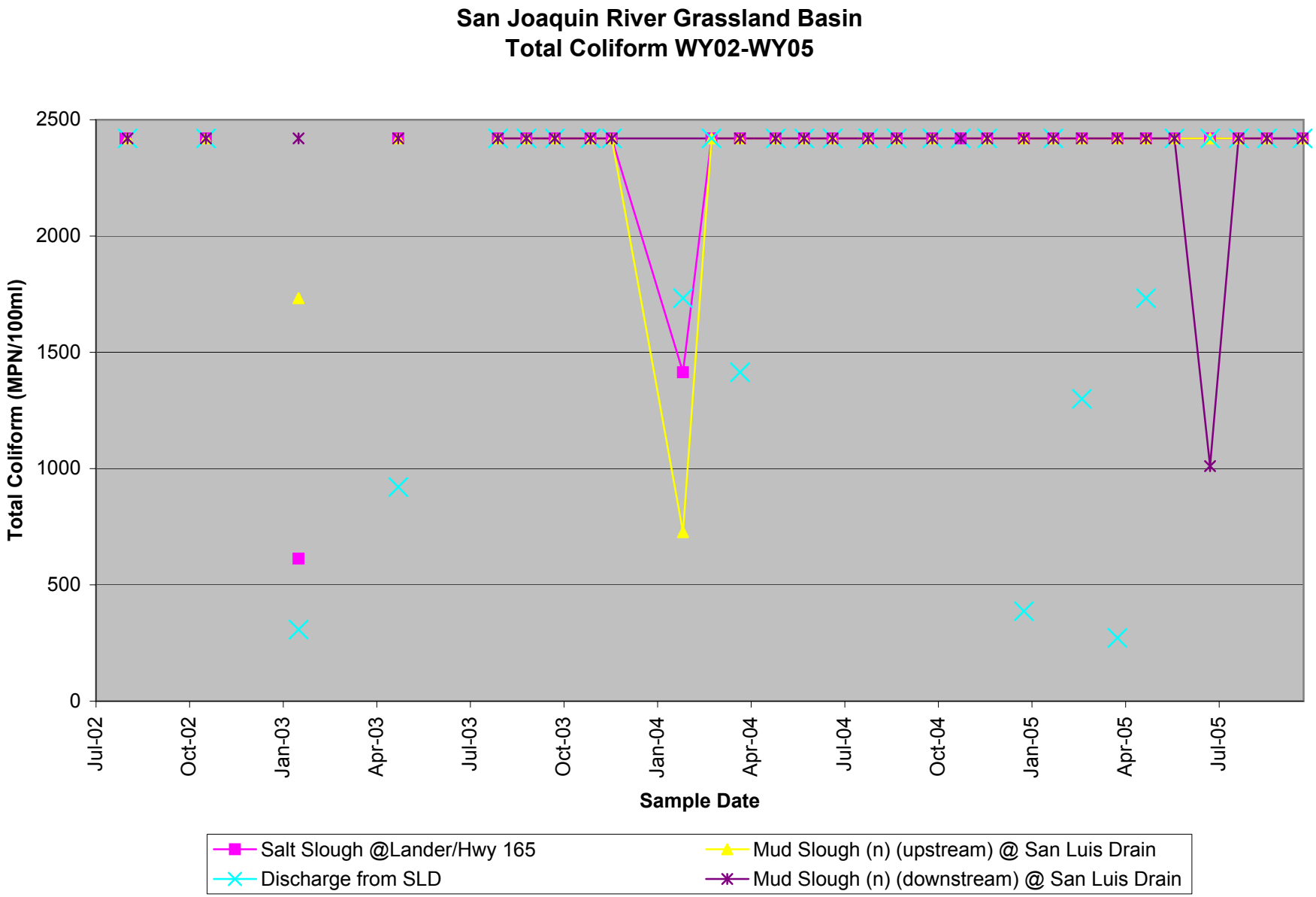

San Joaquin River Grassland Basin
Turbidity WY02- WY04
Median
Turbidity (ntu)
350
300
250
200
150
100
50
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

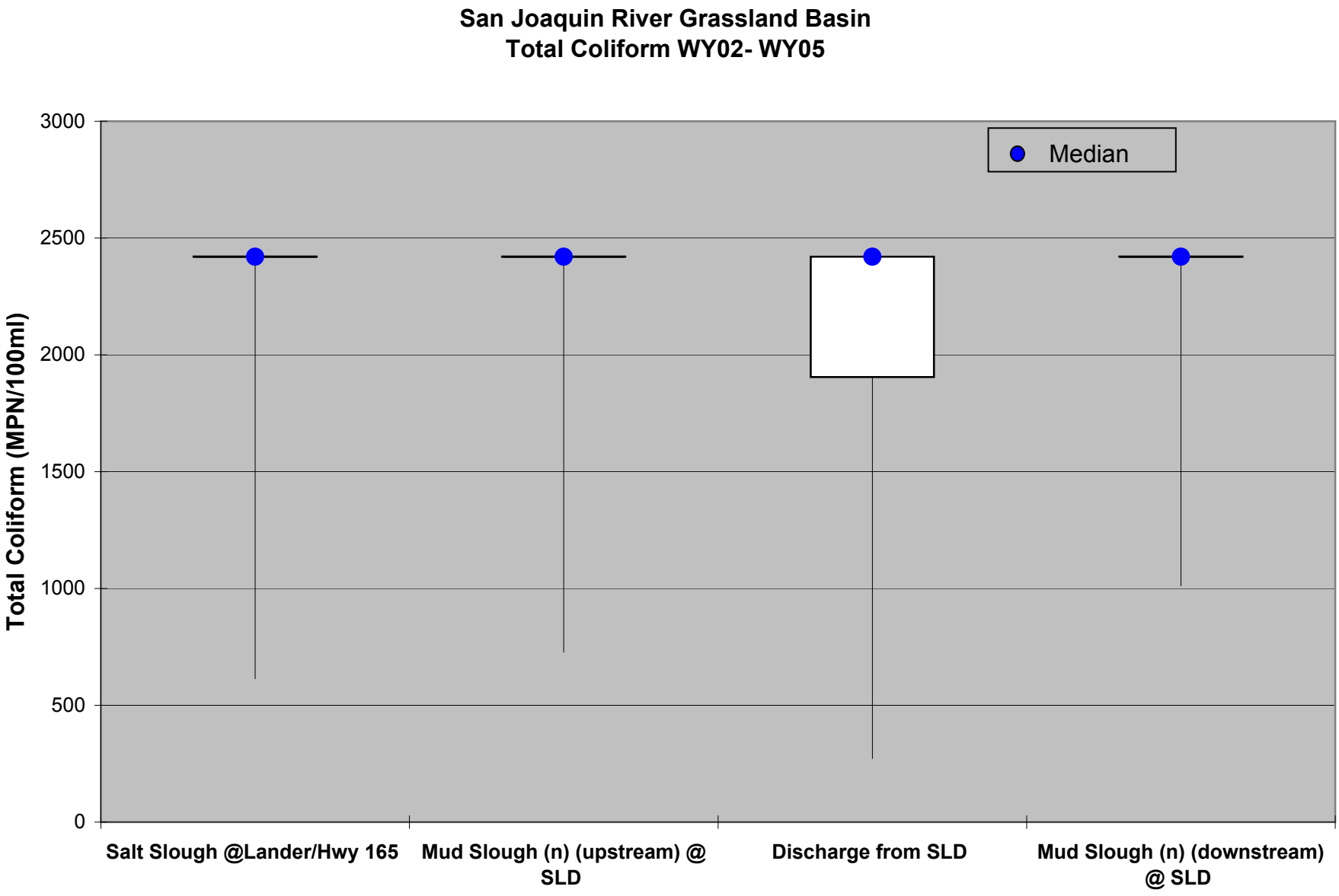

San Joaquin River Grassland Basin
Total Suspended Solids WY01-WY05
TSS (mg/L)
180
160
140
120
100
80
60
40
20
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain


San Joaquin River Grassland Basin
Total Suspended Solids WY01- WY05
Median
Total Suspended Solids (mg/L)
180
160
140
120
100
80
60
40
20
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

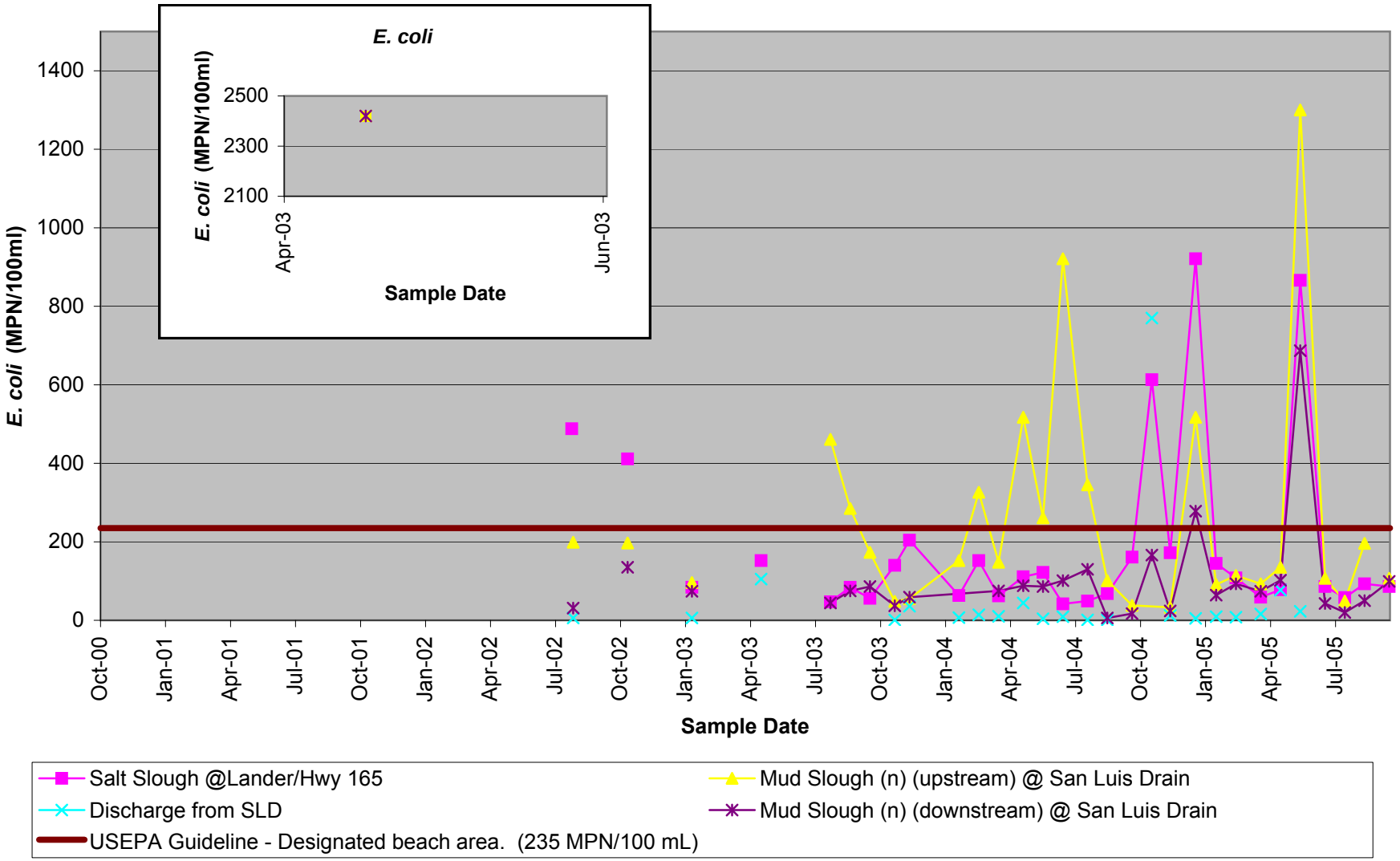

San Joaquin River Grassland Basin
Total Organic Carbon WY01-WY05
TOC (mg/L)
35
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Mud Slough (n) (upstream) @ San Luis Drain
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain
Bay-Delta Authority Target (3 mg/L)


San Joaquin River Grassland Basin
Total Organic Carbon WY01- WY05
Total Organic Carbon (mg/L)
35
30
25
20
15
10
5
0
Median
Bay-Delta Authority Target (3 mg/L)
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

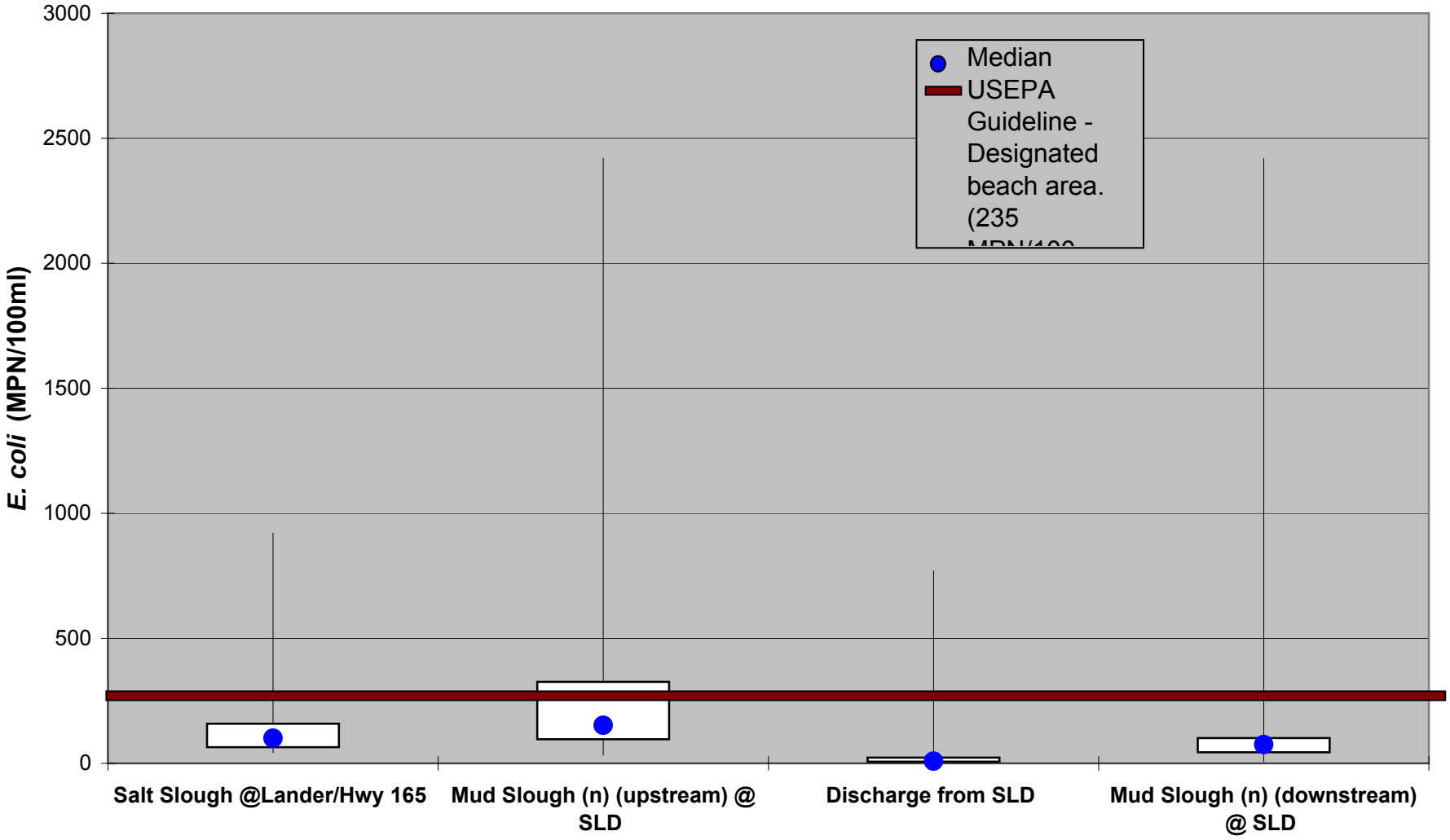

San Joaquin River Grassland Basin
Total Coliform WY02-WY05
Total Coliform (MPN/100ml)
2500
2000
1500
1000
500
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain

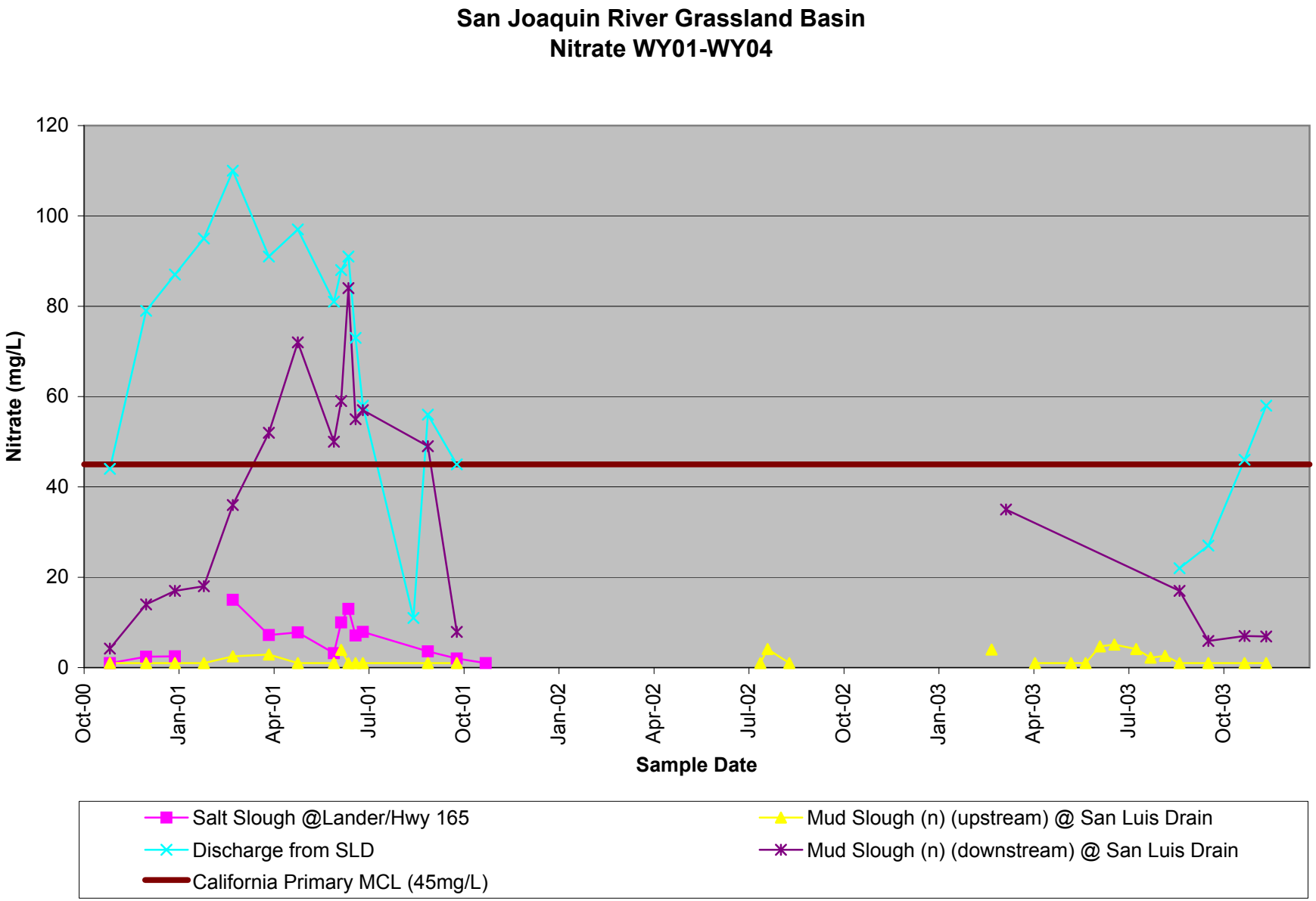

San Joaquin River Grassland Basin
Total Coliform WY02- WY05
Median
Total Coliform (MPN/100ml)
3000
2500
2000
1500
1000
500
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

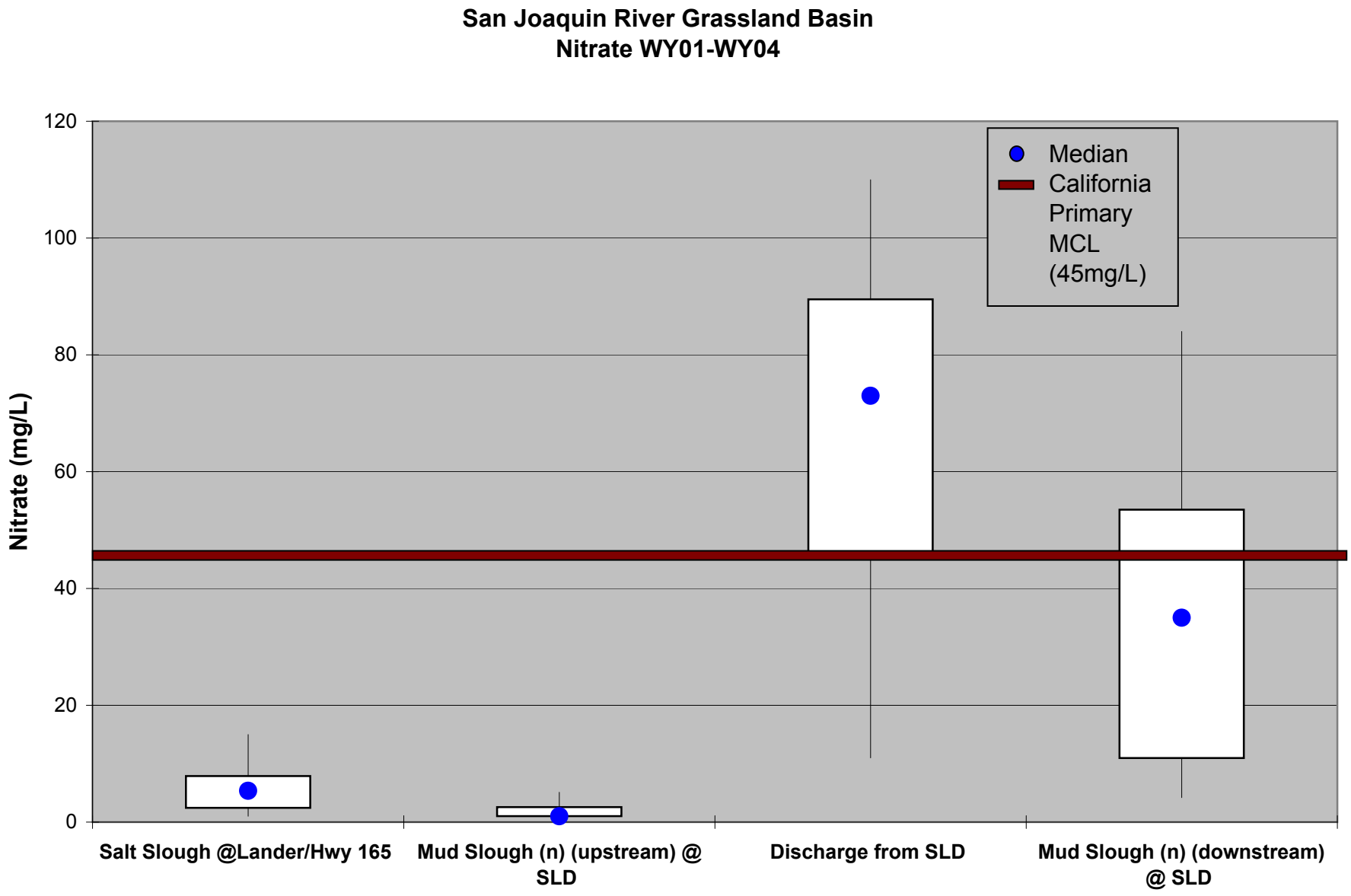
San Joaquin River Grassland Basin
Echerichia coli WY02-WY05

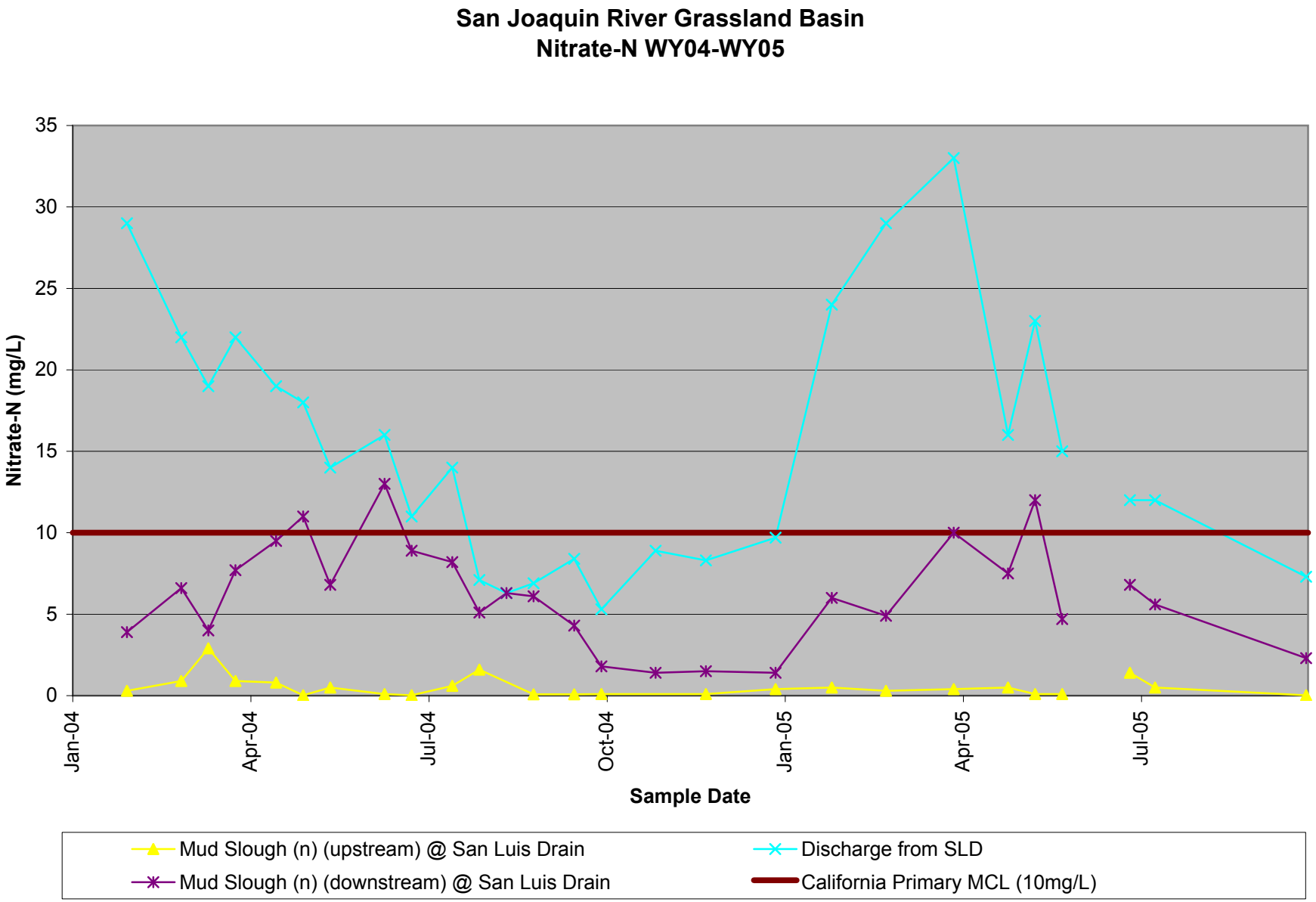


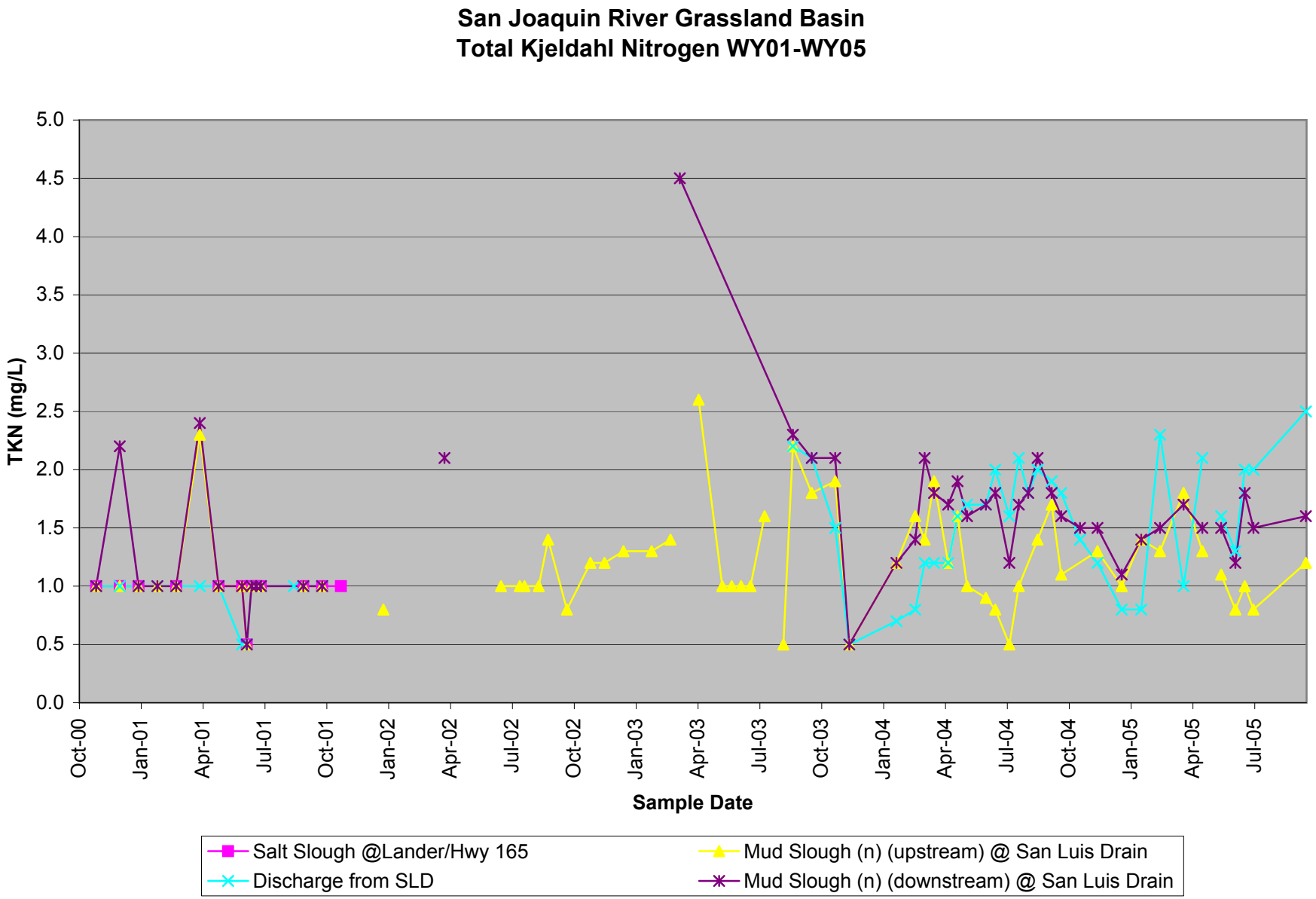
San Joaquin River Grassland Basin
***Escherichia coli* WY02-WY05**

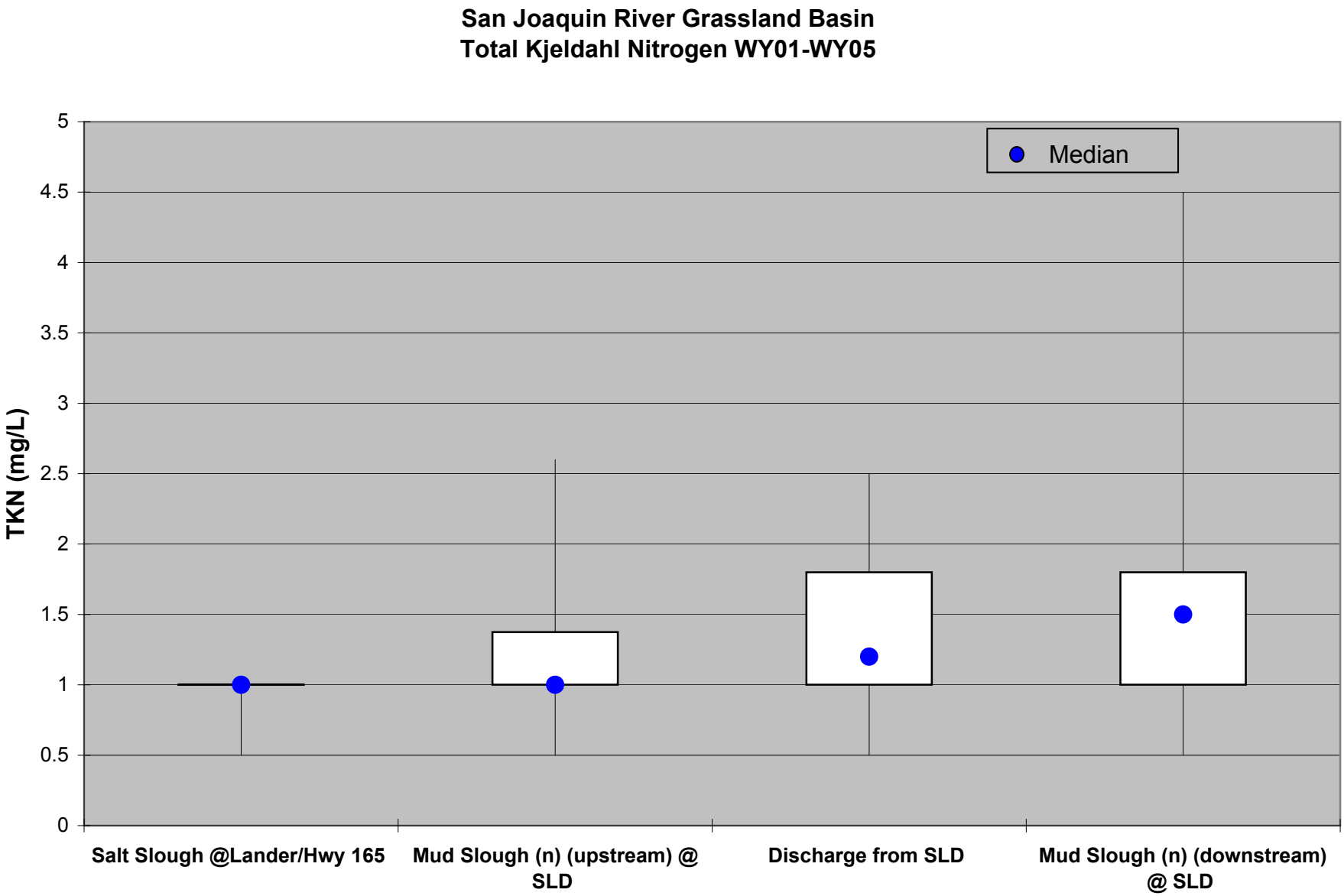


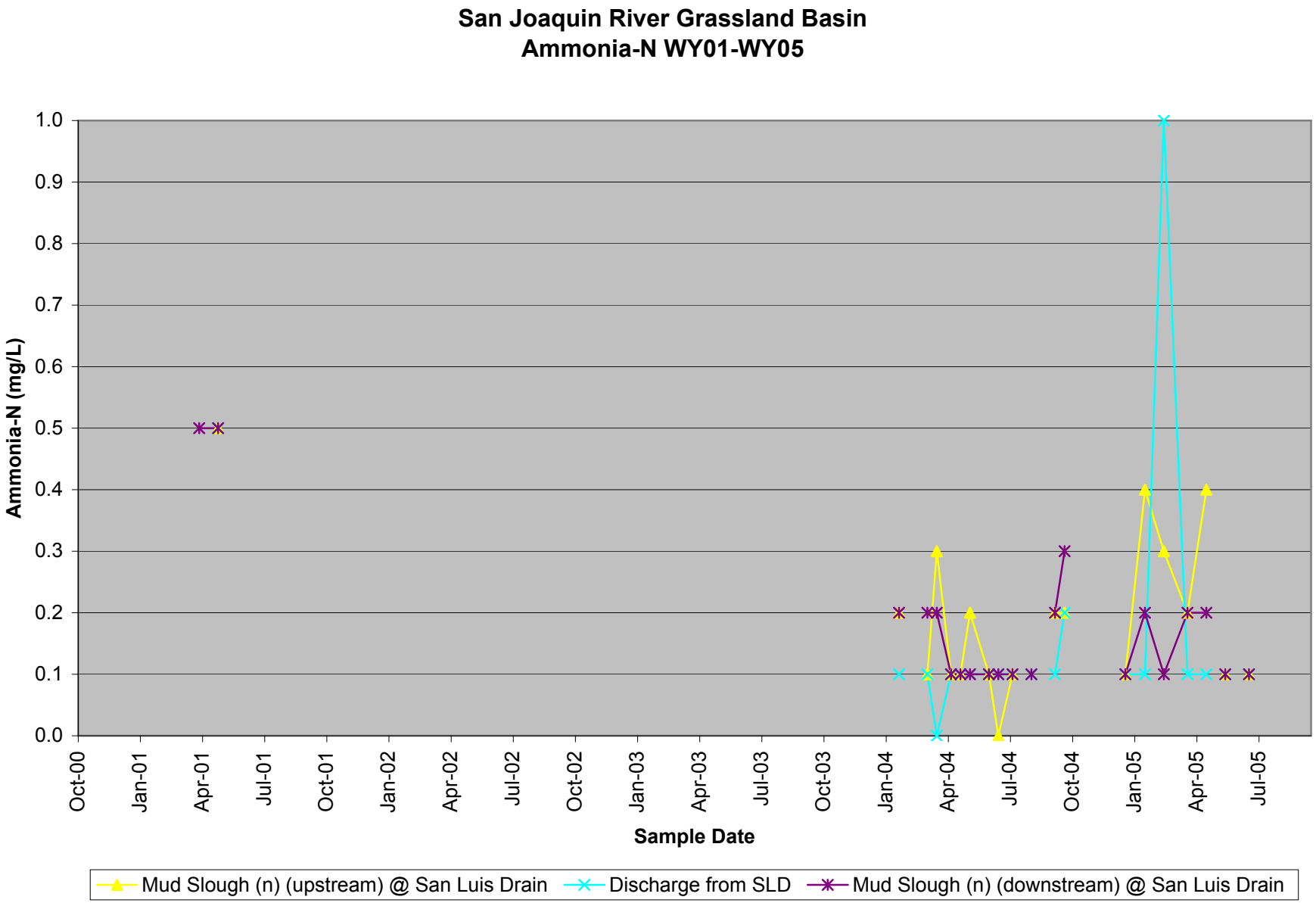

San Joaquin River Grassland Basin
Nitrate WY01-WY04
Nitrate (mg/L)
120
100
80
60
40
20
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Sample Date
Salt Slough @Lander/Hwy 165
Discharge from SLD
California Primary MCL (45mg/L)
Mud Slough (n) (upstream) @ San Luis Drain
Mud Slough (n) (downstream) @ San Luis Drain

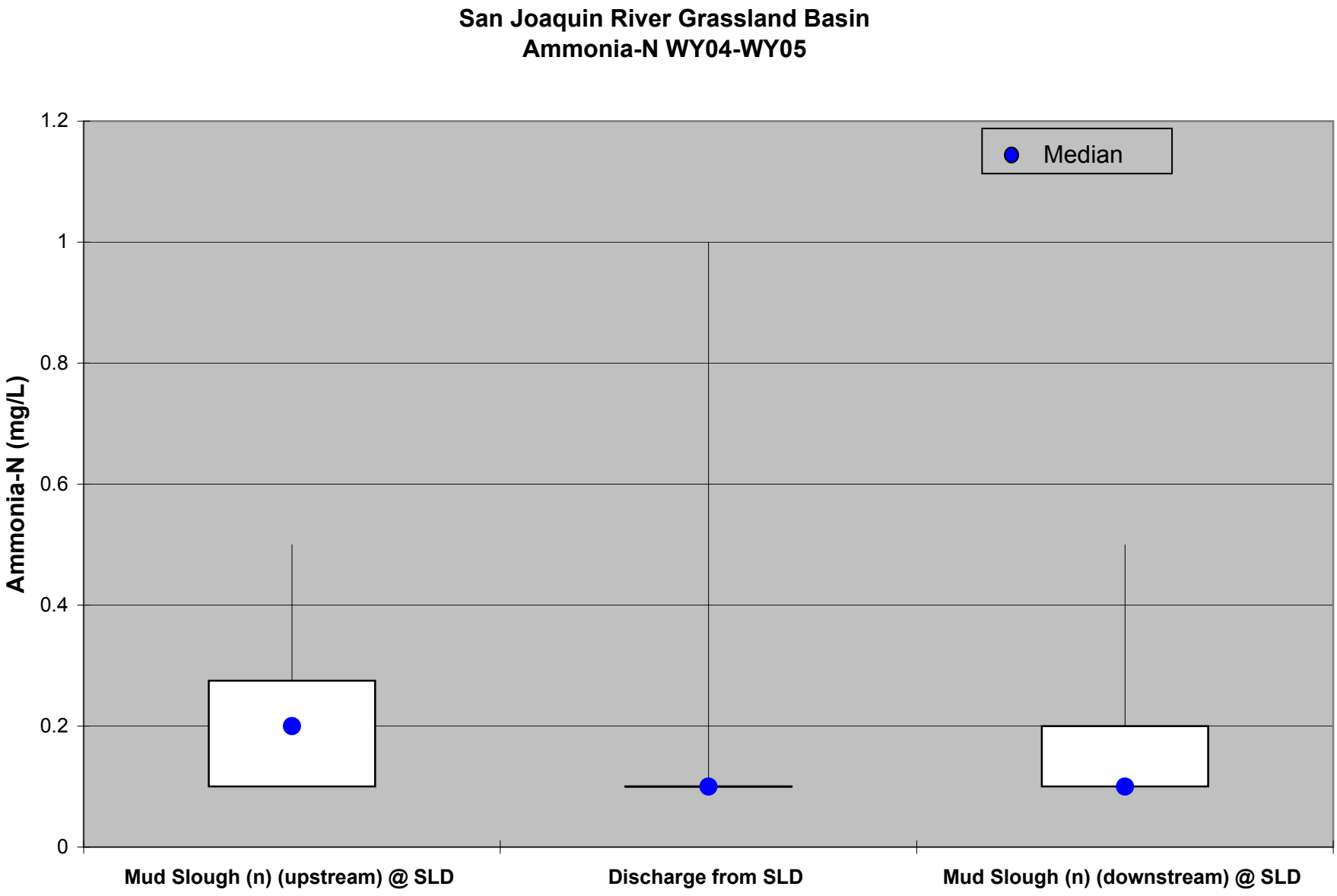

San Joaquin River Grassland Basin
Nitrate WY01-WY04
Nitrate (mg/L)
120
100
80
60
40
20
0
Median
California Primary MCL (45mg/L)
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

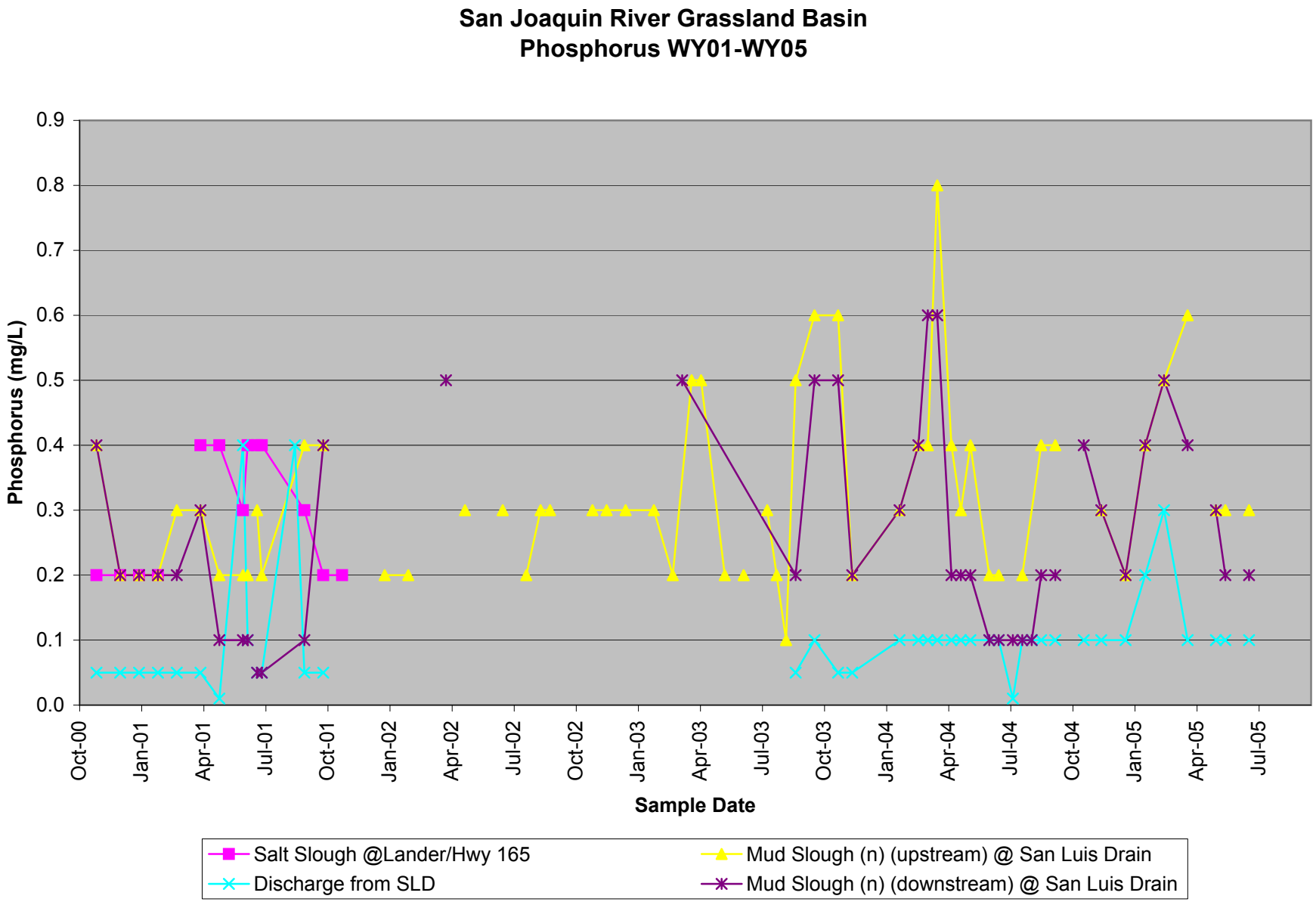

San Joaquin River Grassland Basin
Nitrate-N WY04-WY05
Nitrate-N (mg/L)
35
30
25
20
15
10
5
0
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain
California Primary MCL (10mg/L)

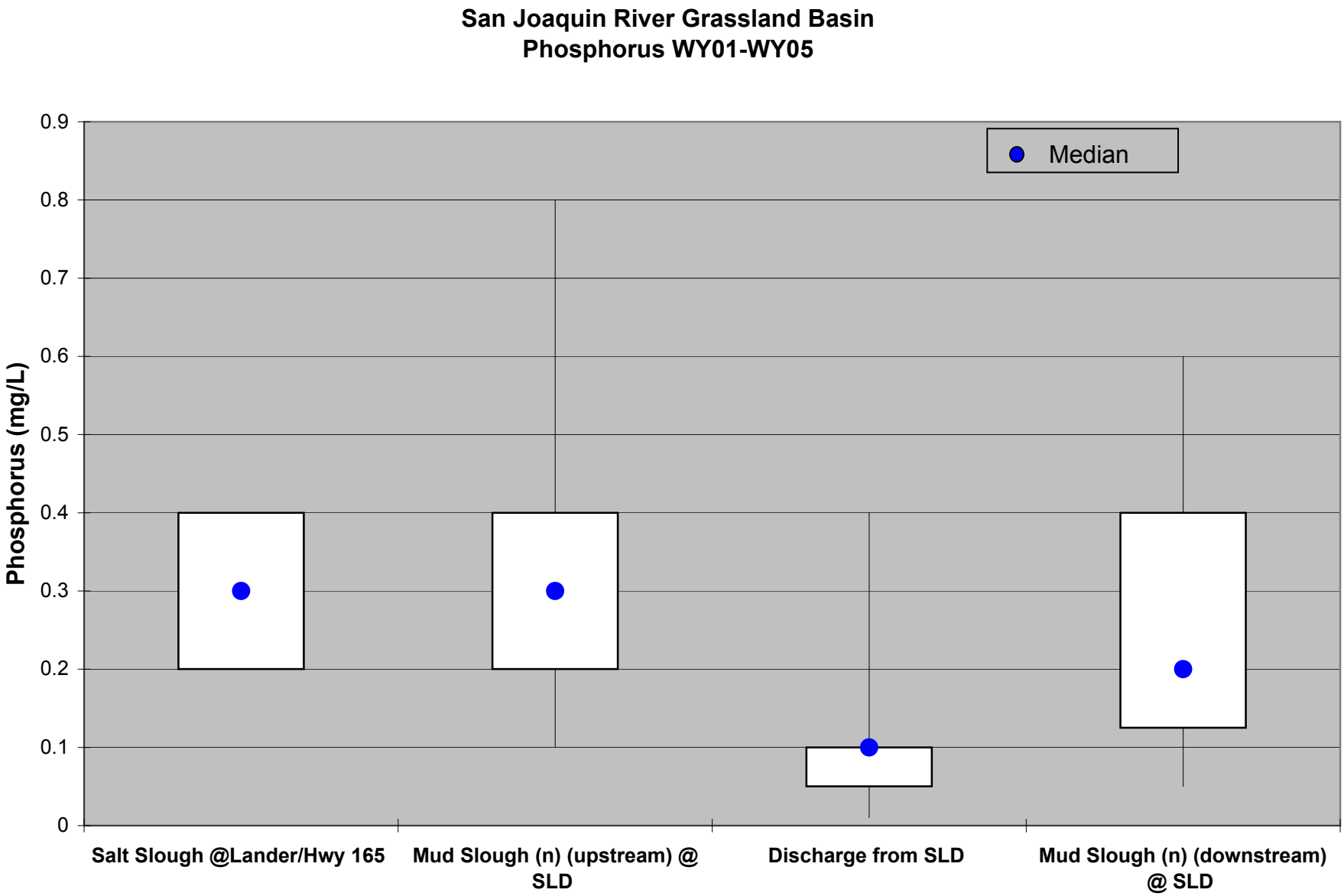

San Joaquin River Grassland Basin
Total Kjeldahl Nitrogen WY01-WY05
TKN (mg/L)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain

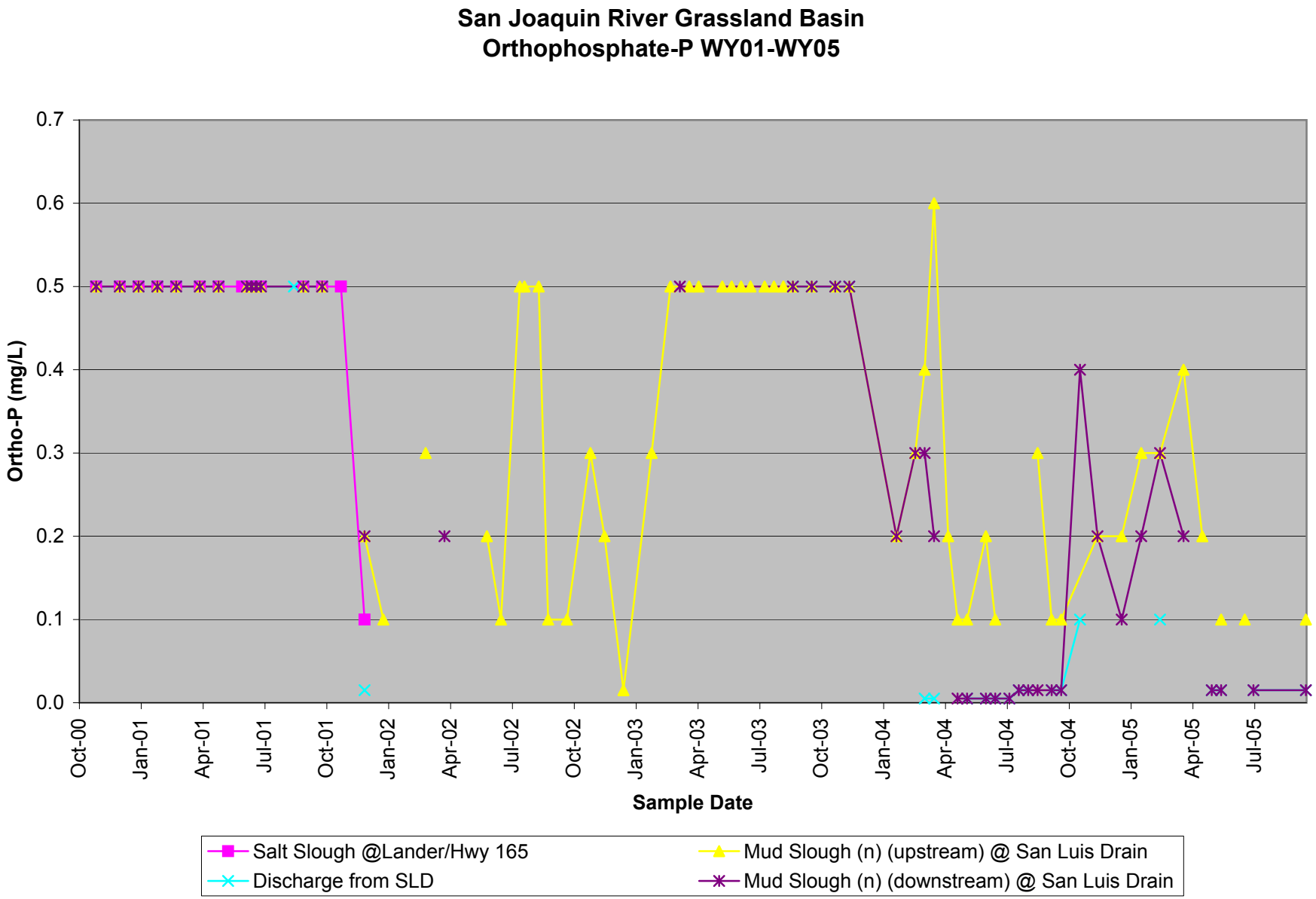

San Joaquin River Grassland Basin
Total Kjeldahl Nitrogen WY01-WY05
Median
TKN (mg/L)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

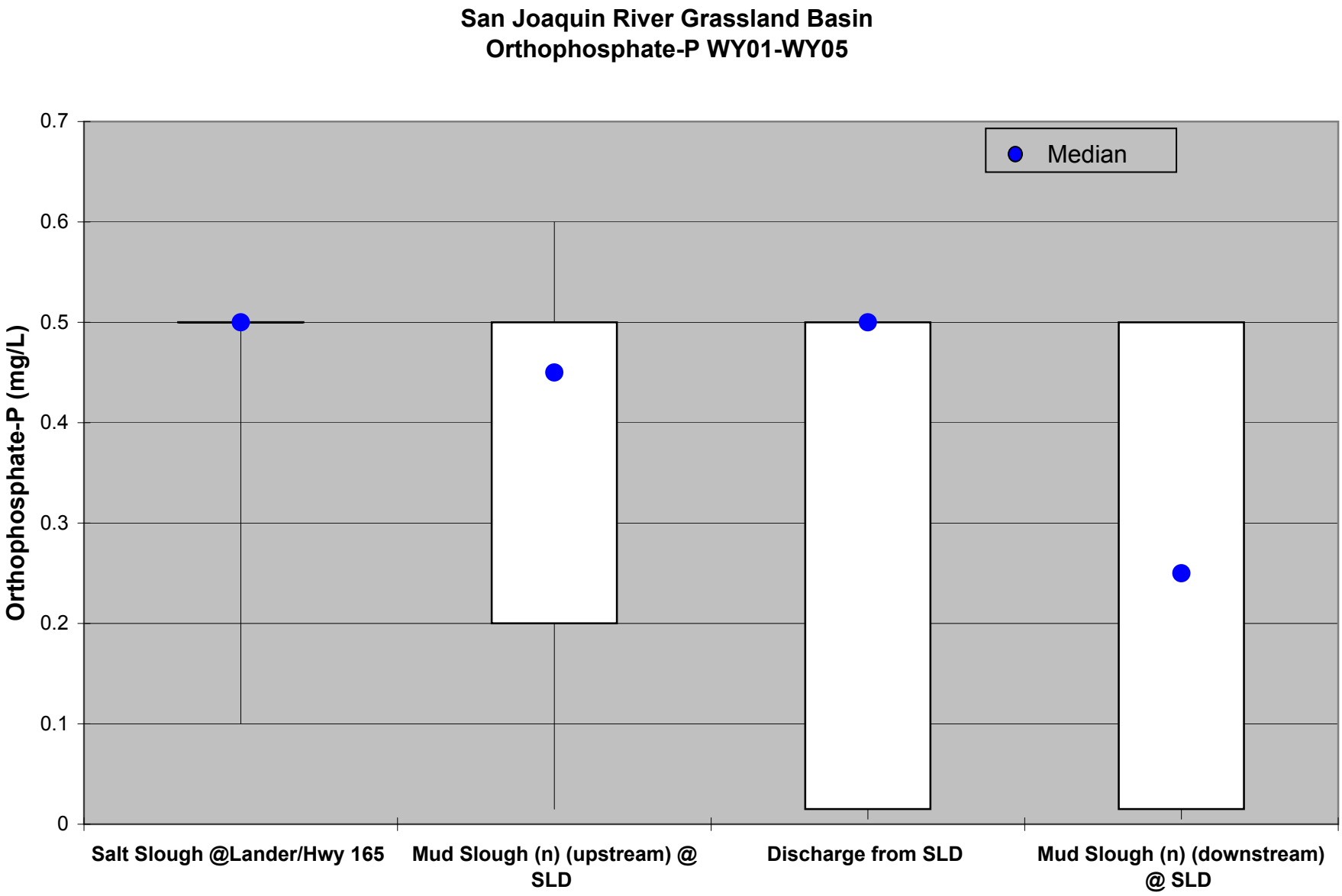

San Joaquin River Grassland Basin
Ammonia-N WY01-WY05
Ammonia-N (mg/L)
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain

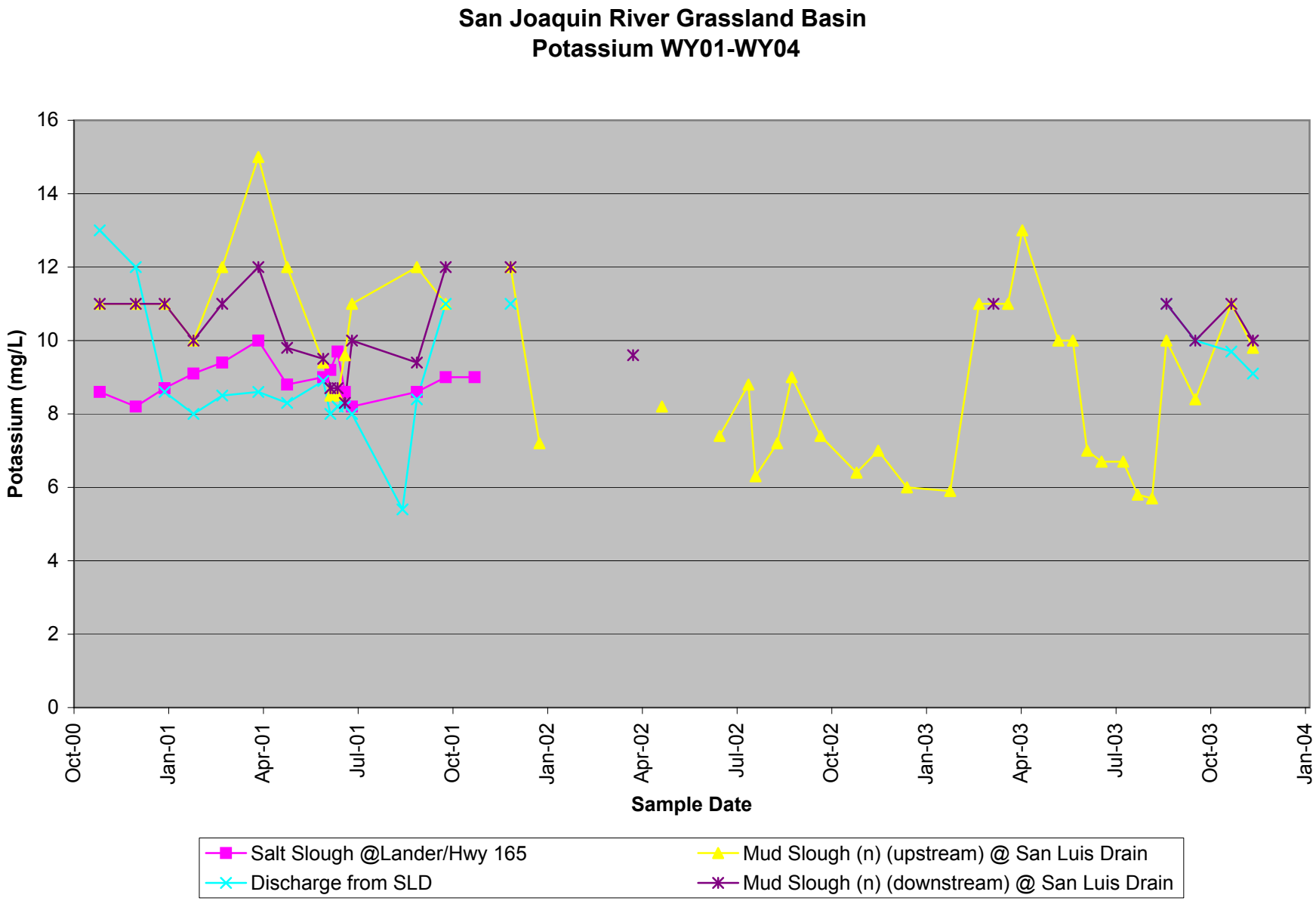

San Joaquin River Grassland Basin
Ammonia-N WY04-WY05
Median
Ammonia-N (mg/L)
1.2
1
0.8
0.6
0.4
0.2
0
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

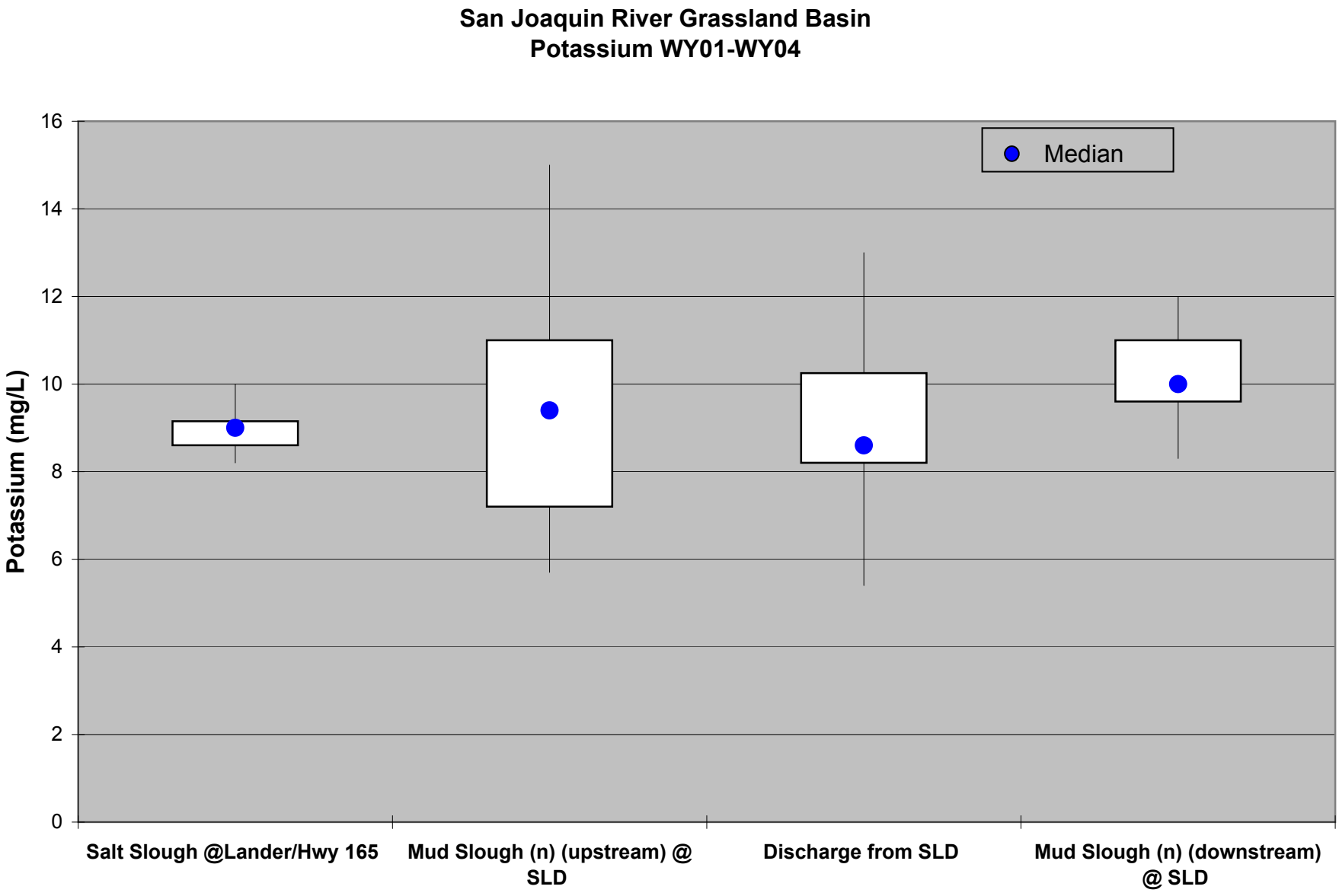

San Joaquin River Grassland Basin
Phosphorus WY01-WY05
Phosphorus (mg/L)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain

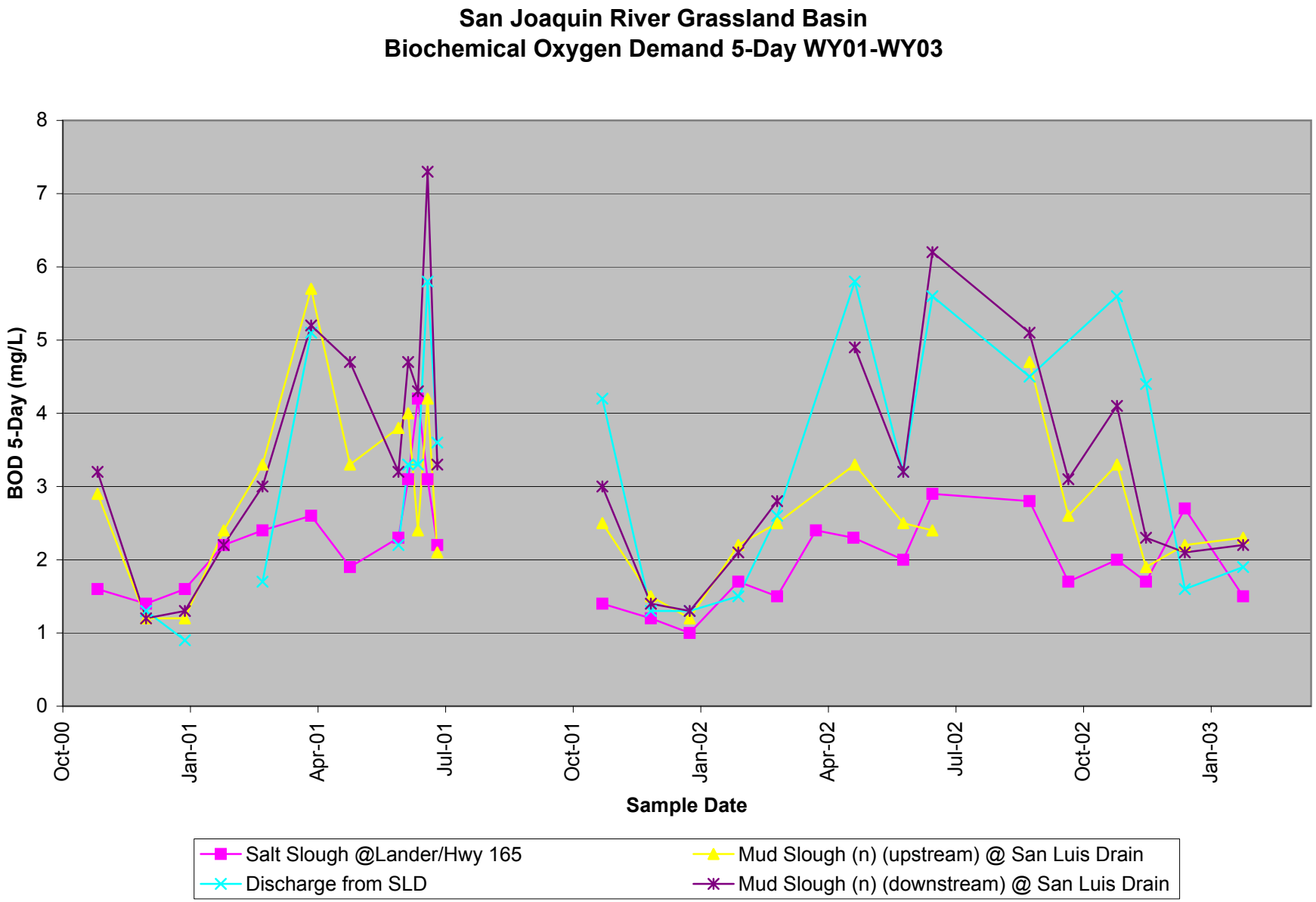

San Joaquin River Grassland Basin
Phosphorus WY01-WY05
Median
Phosphorus (mg/L)
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

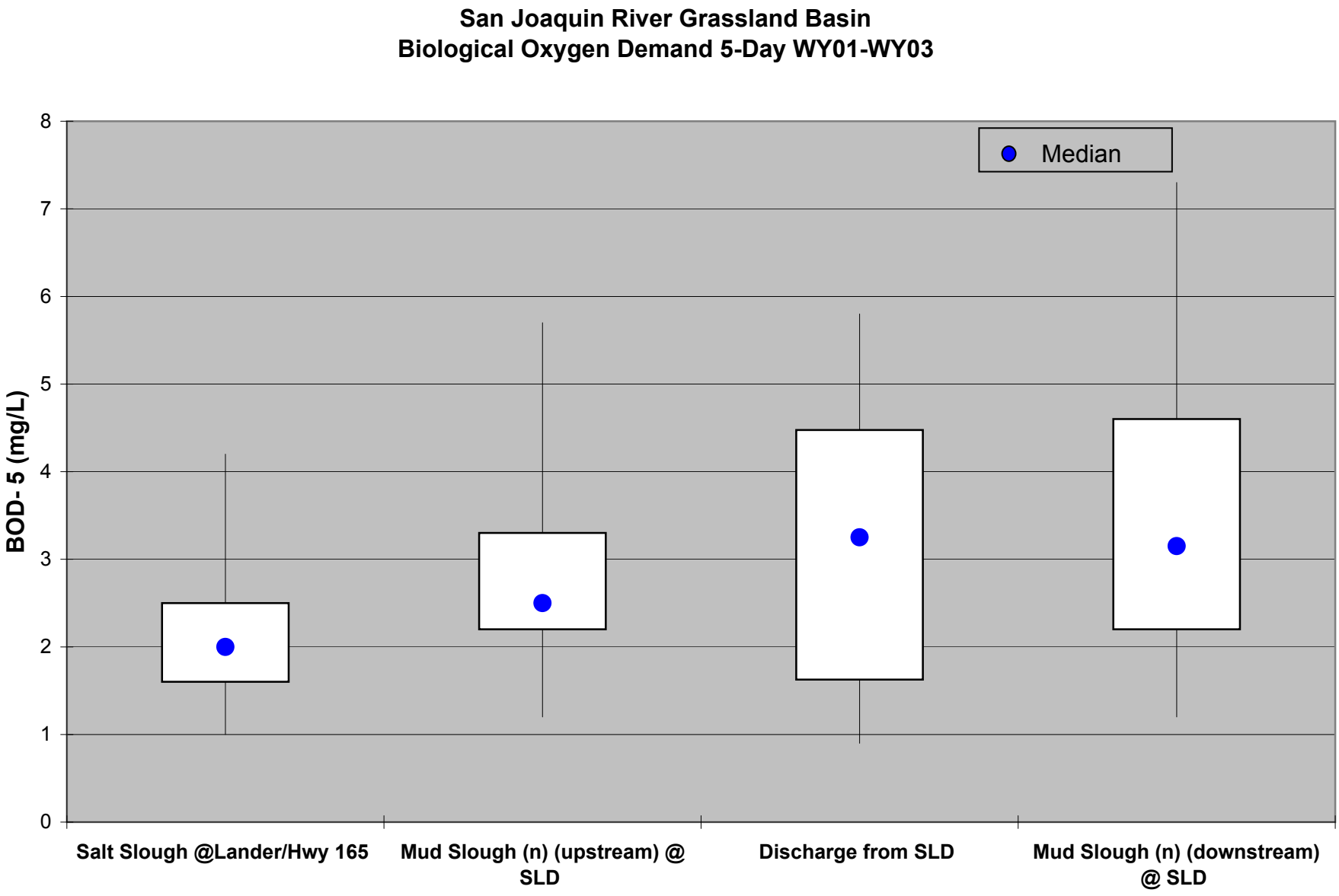

San Joaquin River Grassland Basin
Orthophosphate-P WY01-WY05
Ortho-P (mg/L)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Salt Slough @Lander/Hwy 165
Discharge from SLD
Mud Slough (n) (upstream) @ San Luis Drain
Mud Slough (n) (downstream) @ San Luis Drain

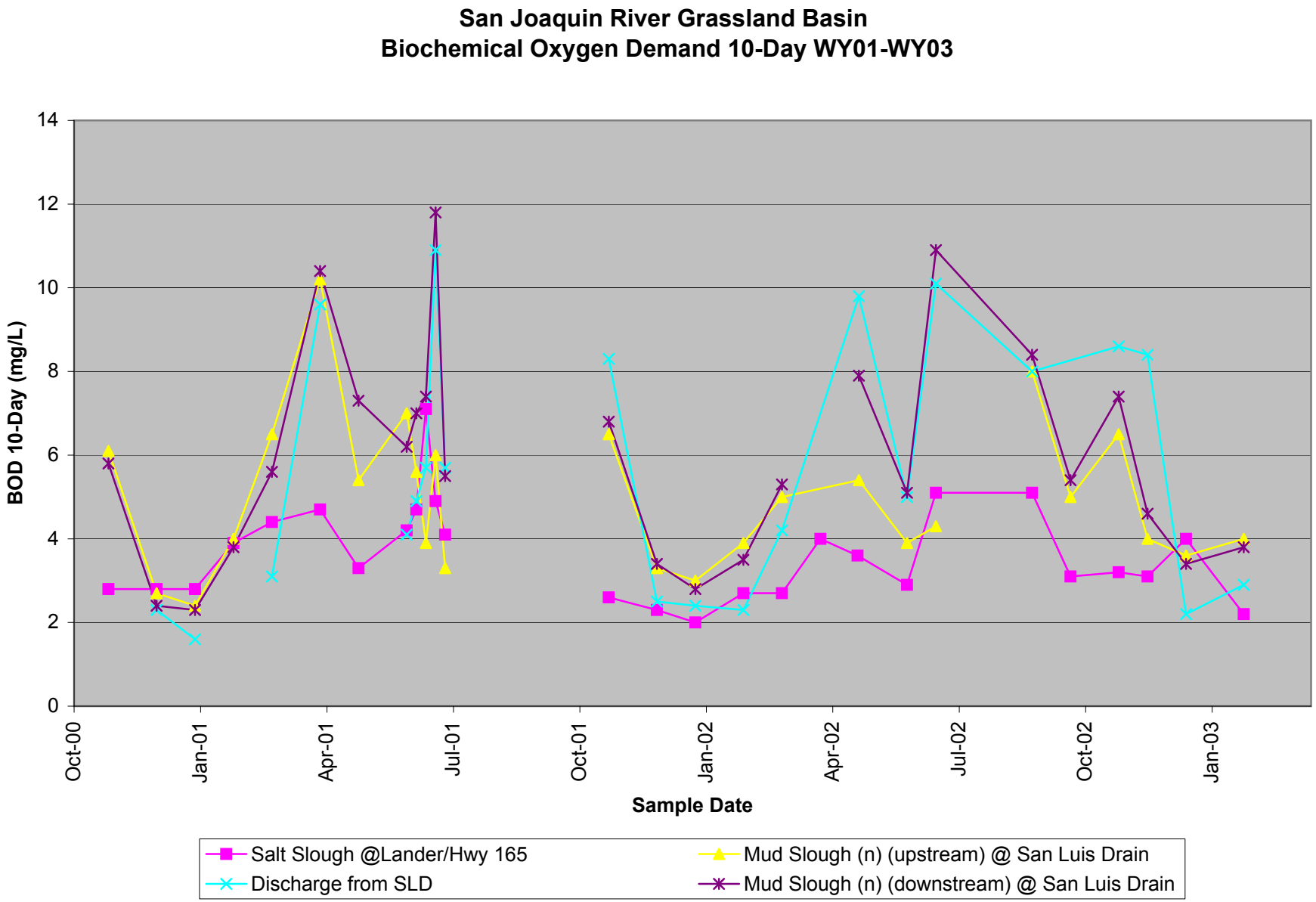

San Joaquin River Grassland Basin
Orthophosphate-P WY01-WY05
Median
Orthophosphate-P (mg/L)
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

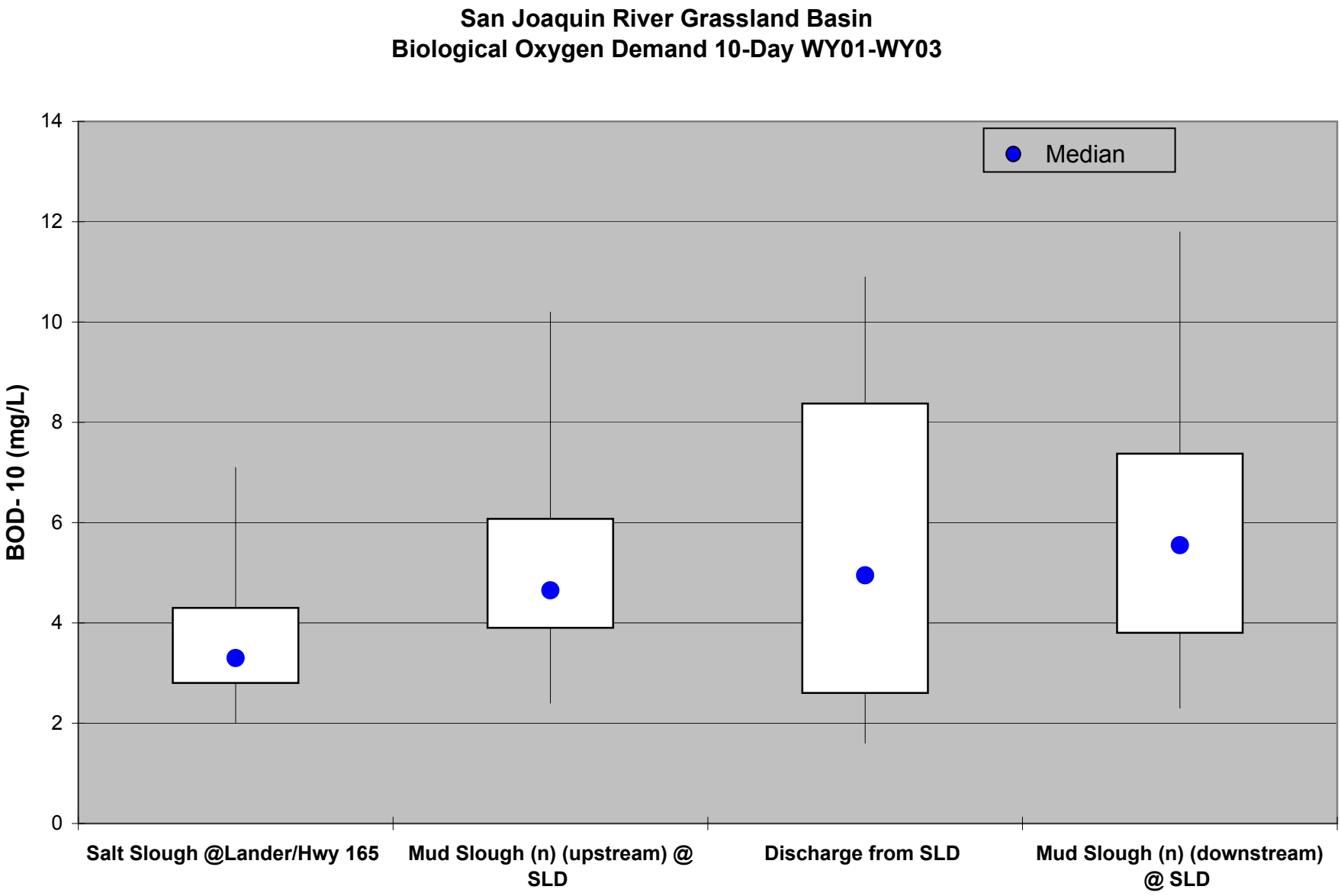

San Joaquin River Grassland Basin
Potassium WY01-WY04
Potassium (mg/L)
16
14
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Sample Date
Salt Slough @Lander/Hwy 165
Discharge from SLD
Mud Slough (n) (upstream) @ San Luis Drain
Mud Slough (n) (downstream) @ San Luis Drain

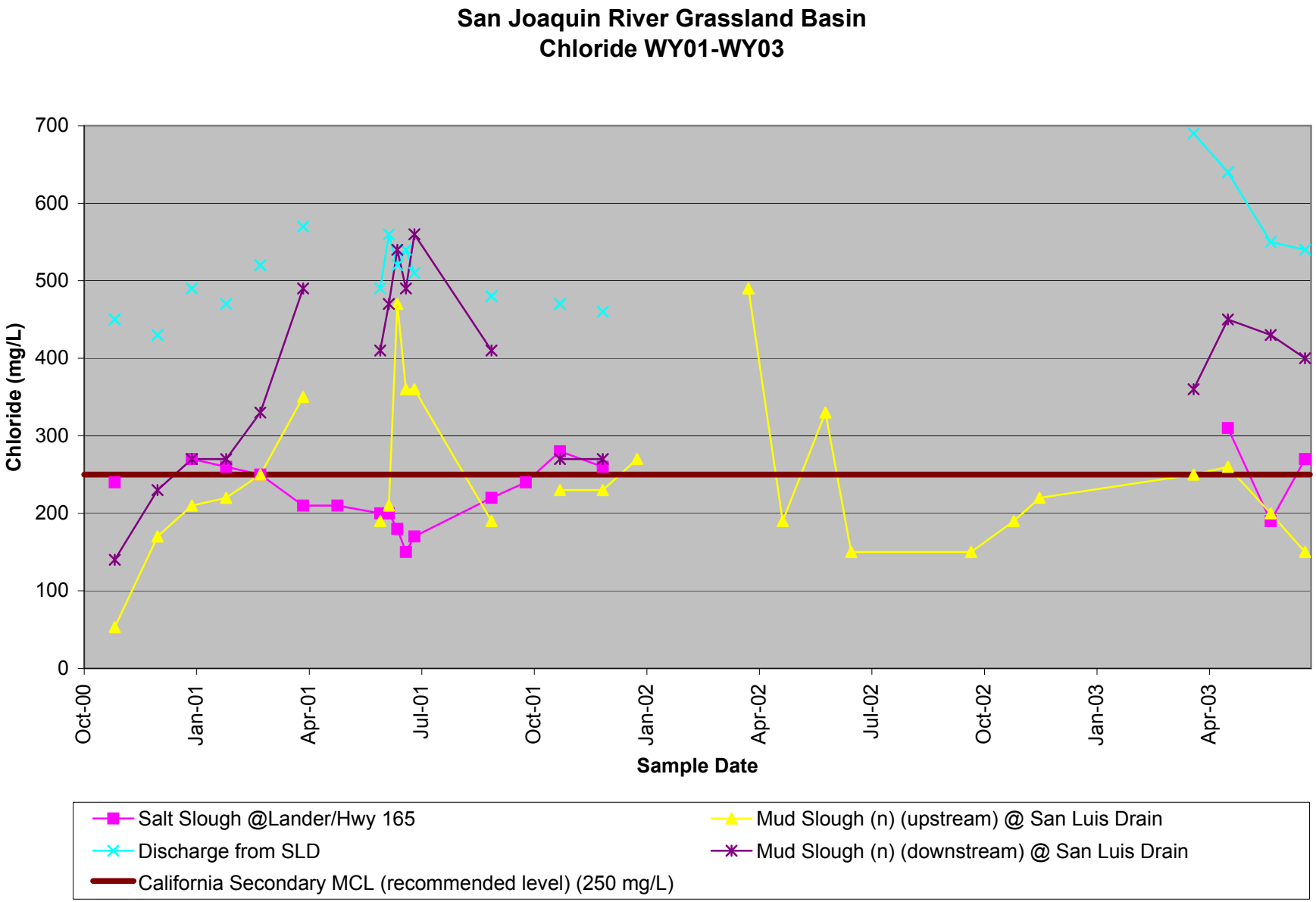

San Joaquin River Grassland Basin
Potassium WY01-WY04
Median
Potassium (mg/L)
16
14
12
10
8
6
4
2
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

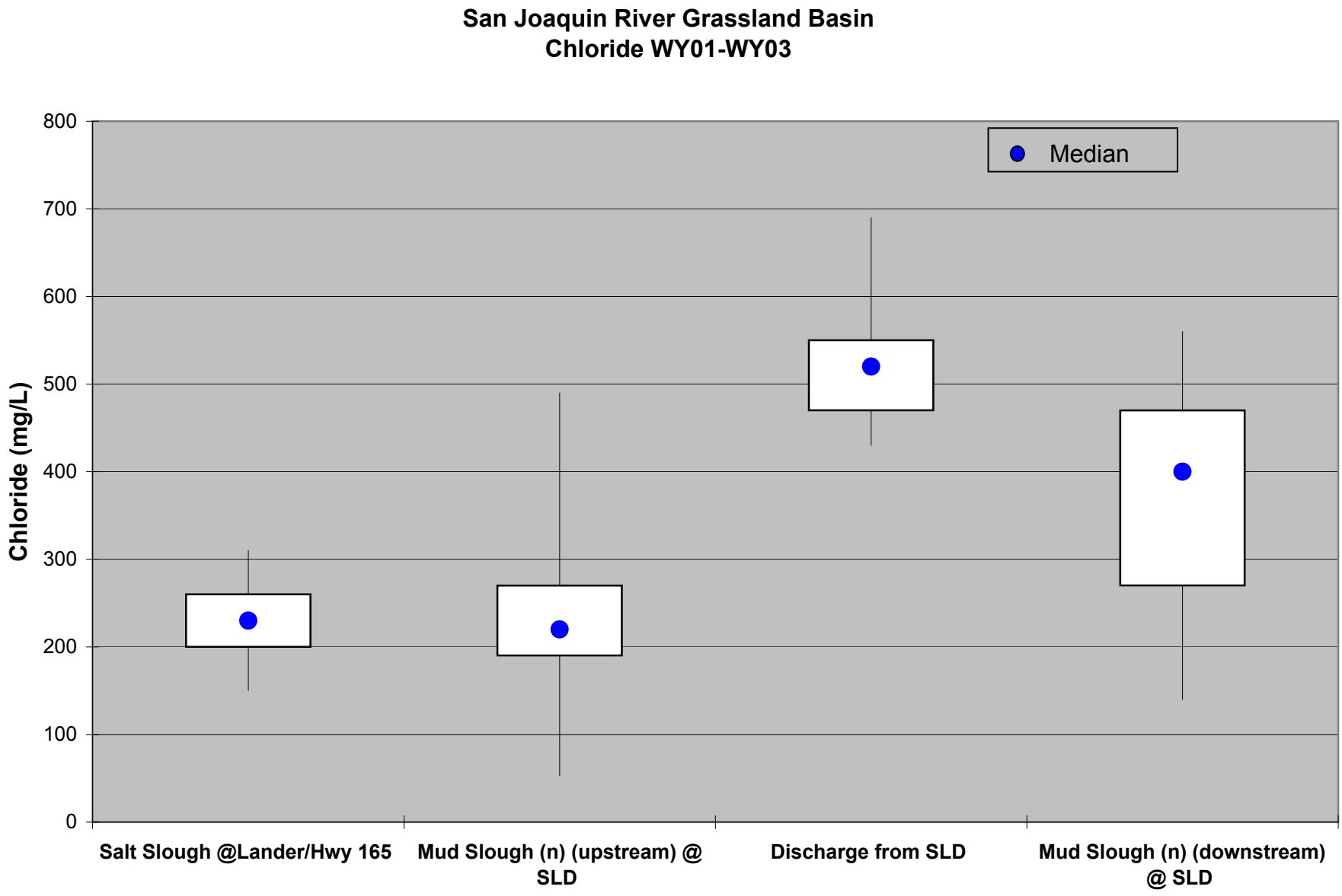

San Joaquin River Grassland Basin
Biochemical Oxygen Demand 5-Day WY01-WY03
BOD 5-Day (mg/L)
0
1
2
3
4
5
6
7
8
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain

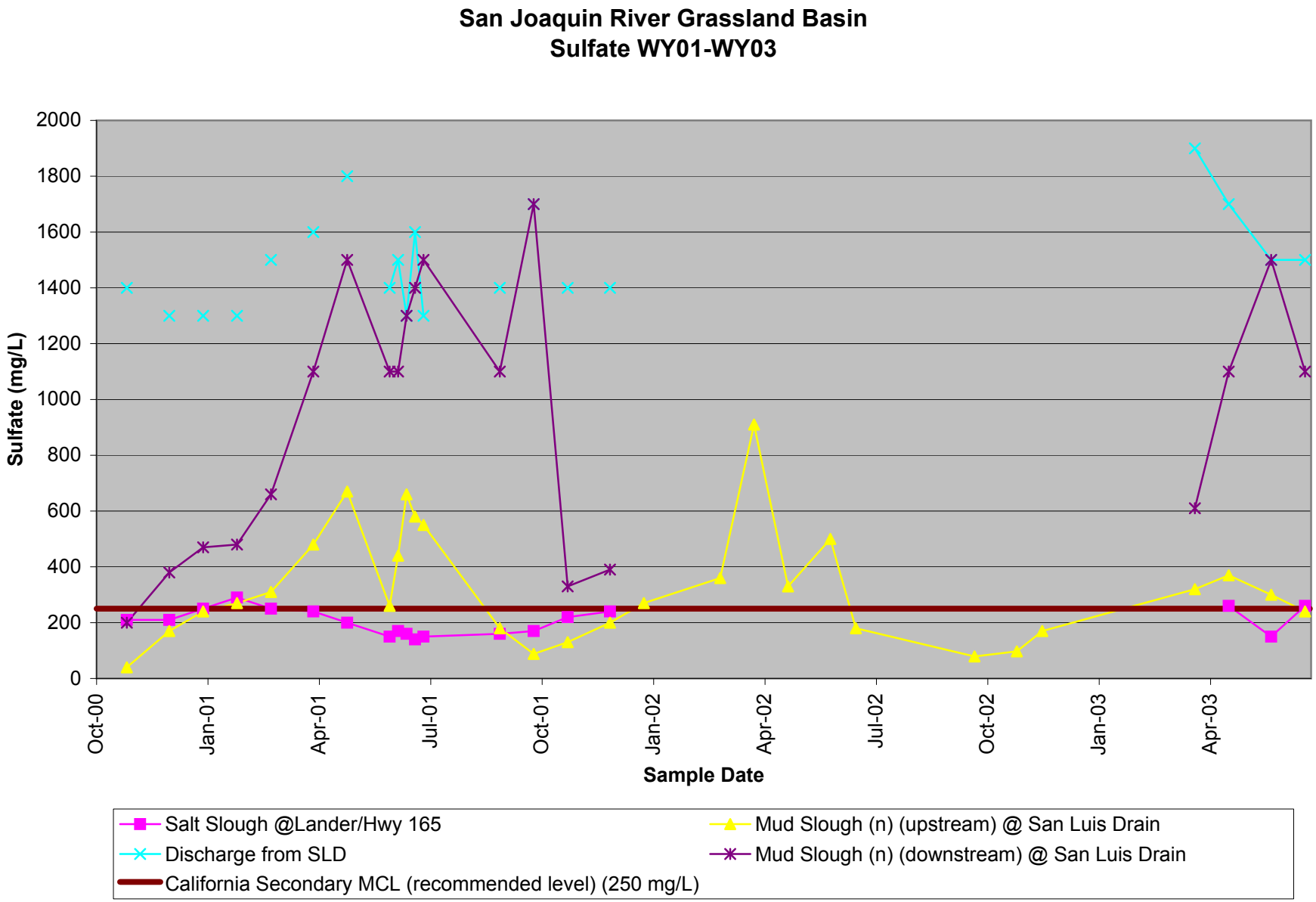

San Joaquin River Grassland Basin
Biological Oxygen Demand 5-Day WY01-WY03
Median
BOD- 5 (mg/L)
0
1
2
3
4
5
6
7
8
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

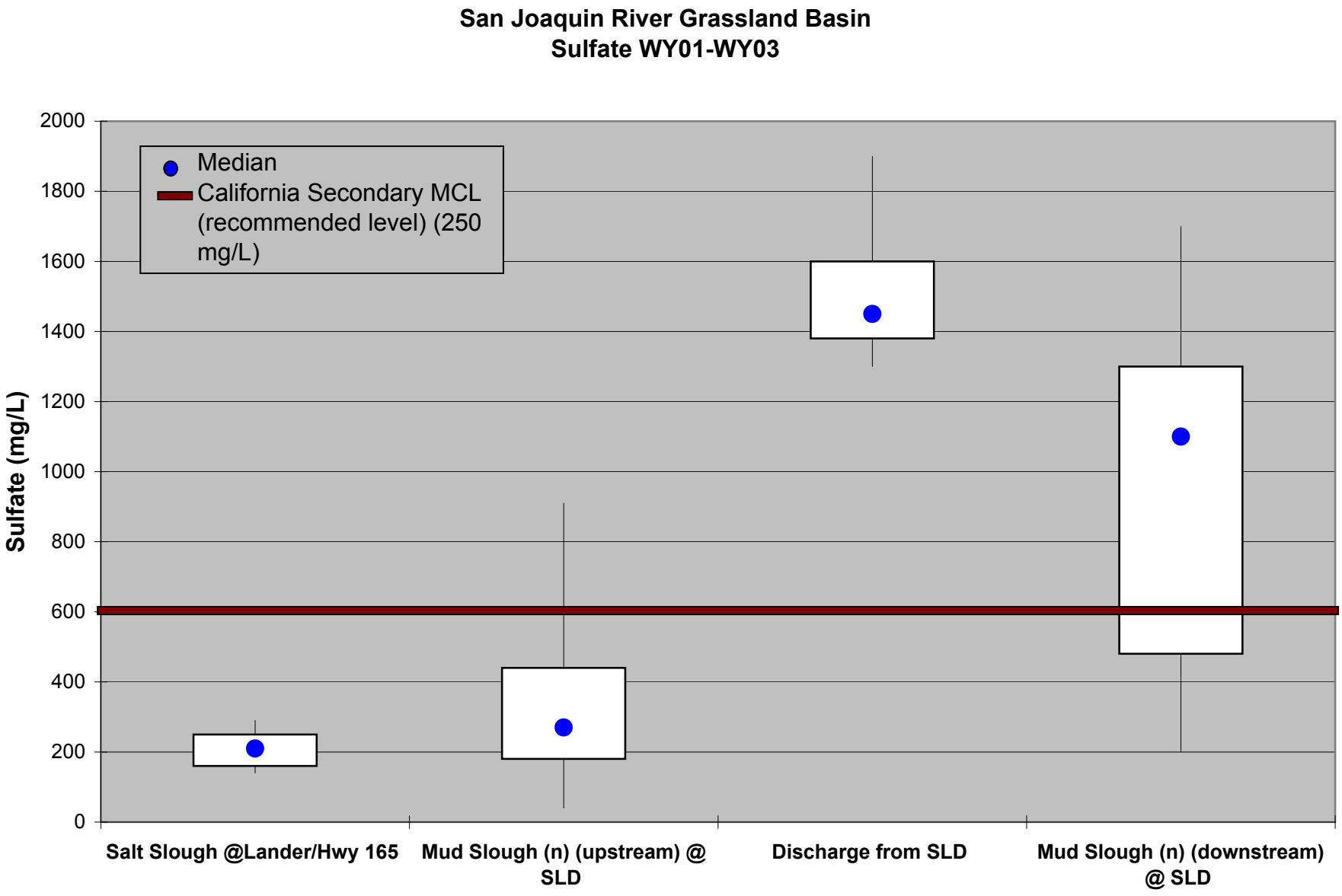

San Joaquin River Grassland Basin
Biochemical Oxygen Demand 10-Day WY01-WY03
BOD 10-Day (mg/L)
14
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain

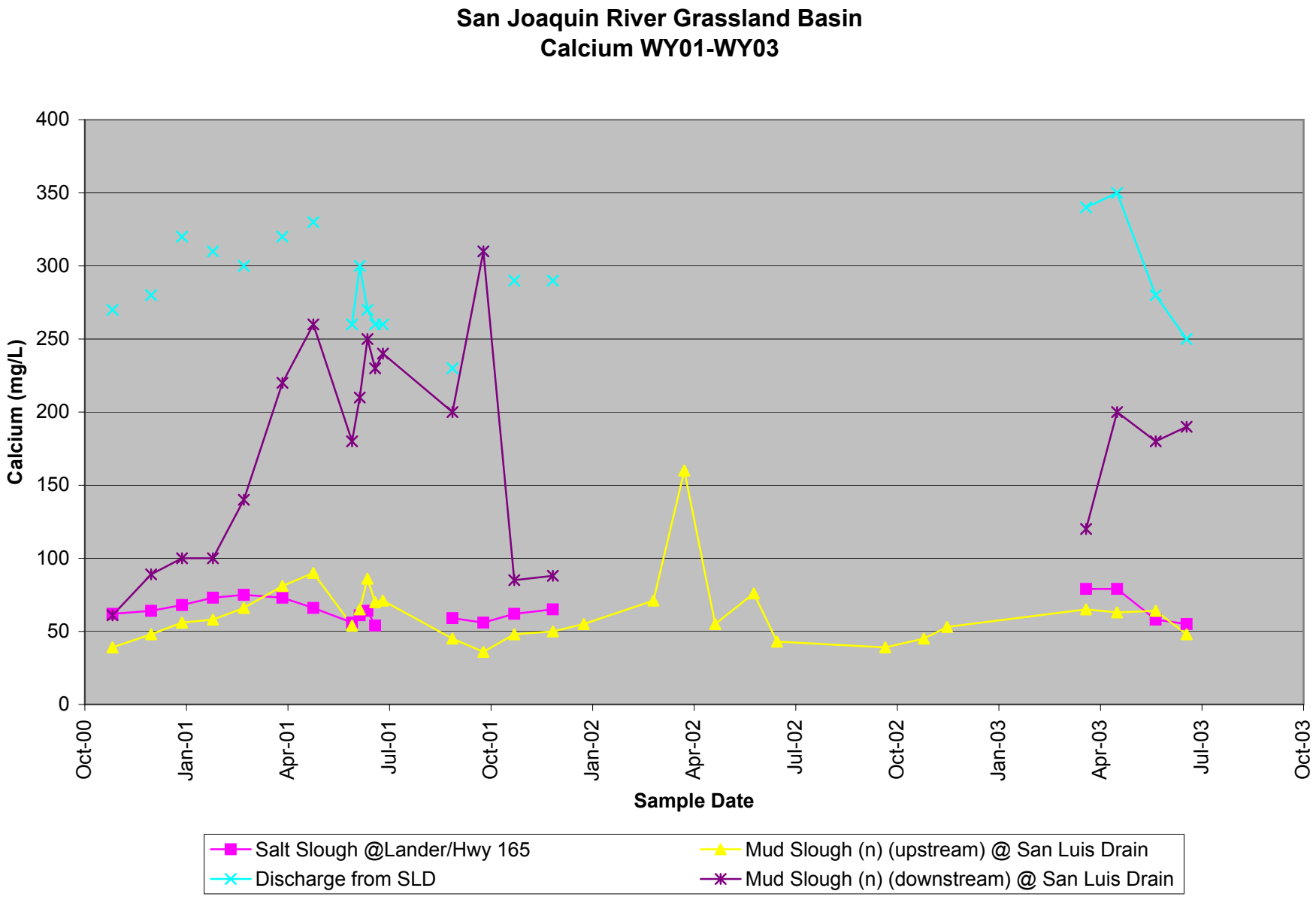

San Joaquin River Grassland Basin
Biological Oxygen Demand 10-Day WY01-WY03
Median
BOD- 10 (mg/L)
14
12
10
8
6
4
2
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

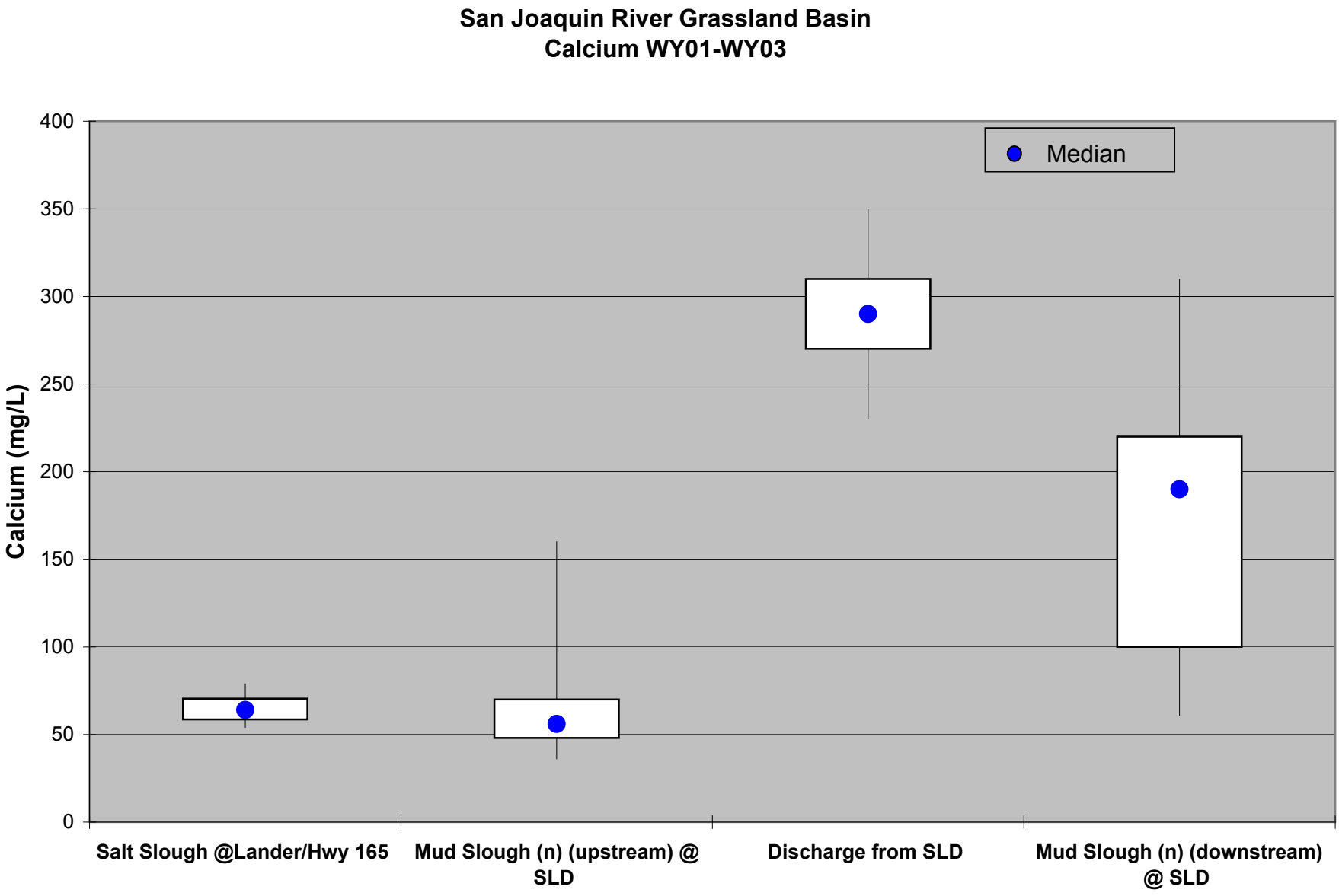

San Joaquin River Grassland Basin
Chloride WY01-WY03
Chloride (mg/L)
700
600
500
400
300
200
100
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain
California Secondary MCL (recommended level) (250 mg/L)

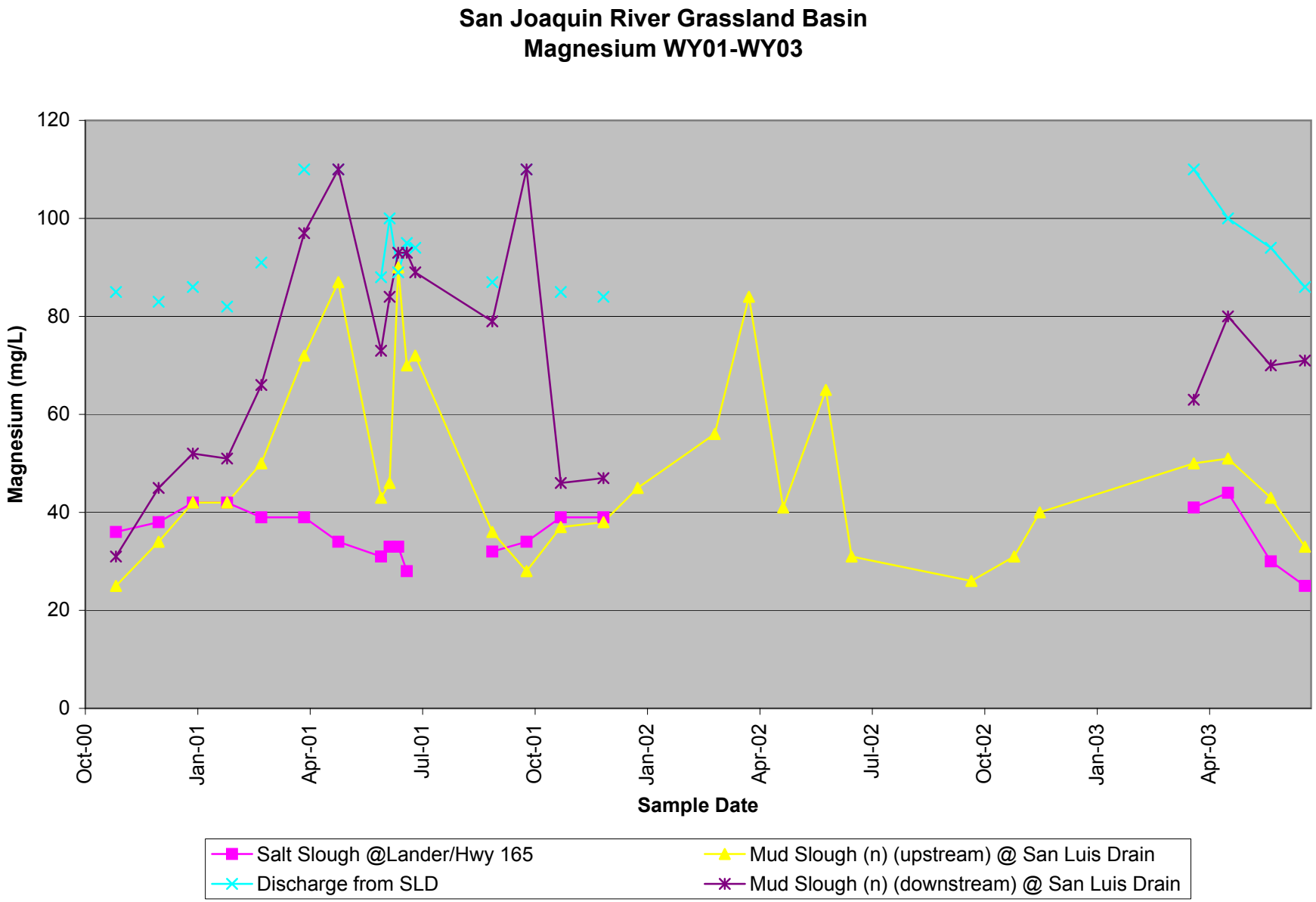

San Joaquin River Grassland Basin
Chloride WY01-WY03
Median
Chloride (mg/L)
800
700
600
500
400
300
200
100
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

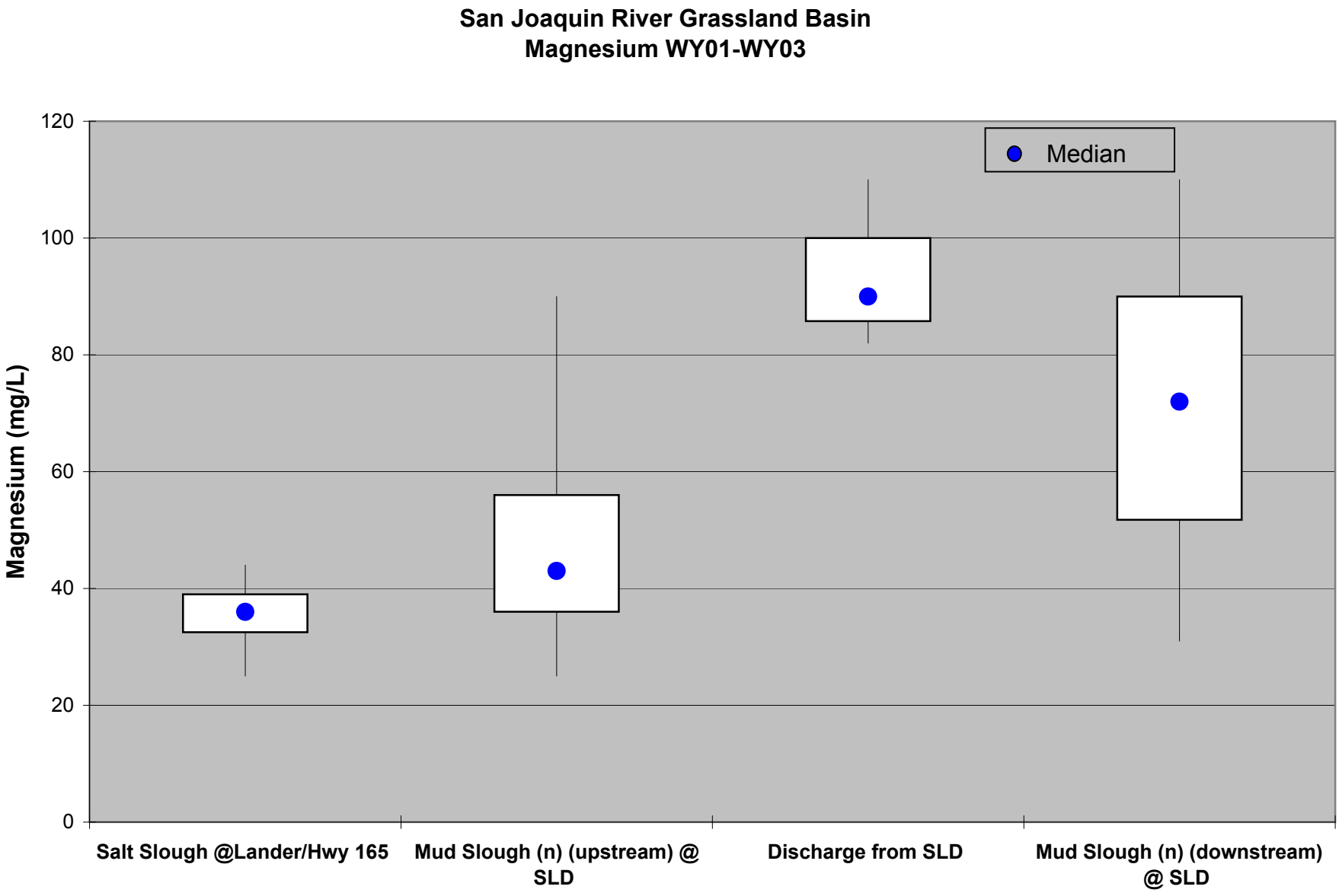

San Joaquin River Grassland Basin
Sulfate WY01-WY03
Sulfate (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain
California Secondary MCL (recommended level) (250 mg/L)

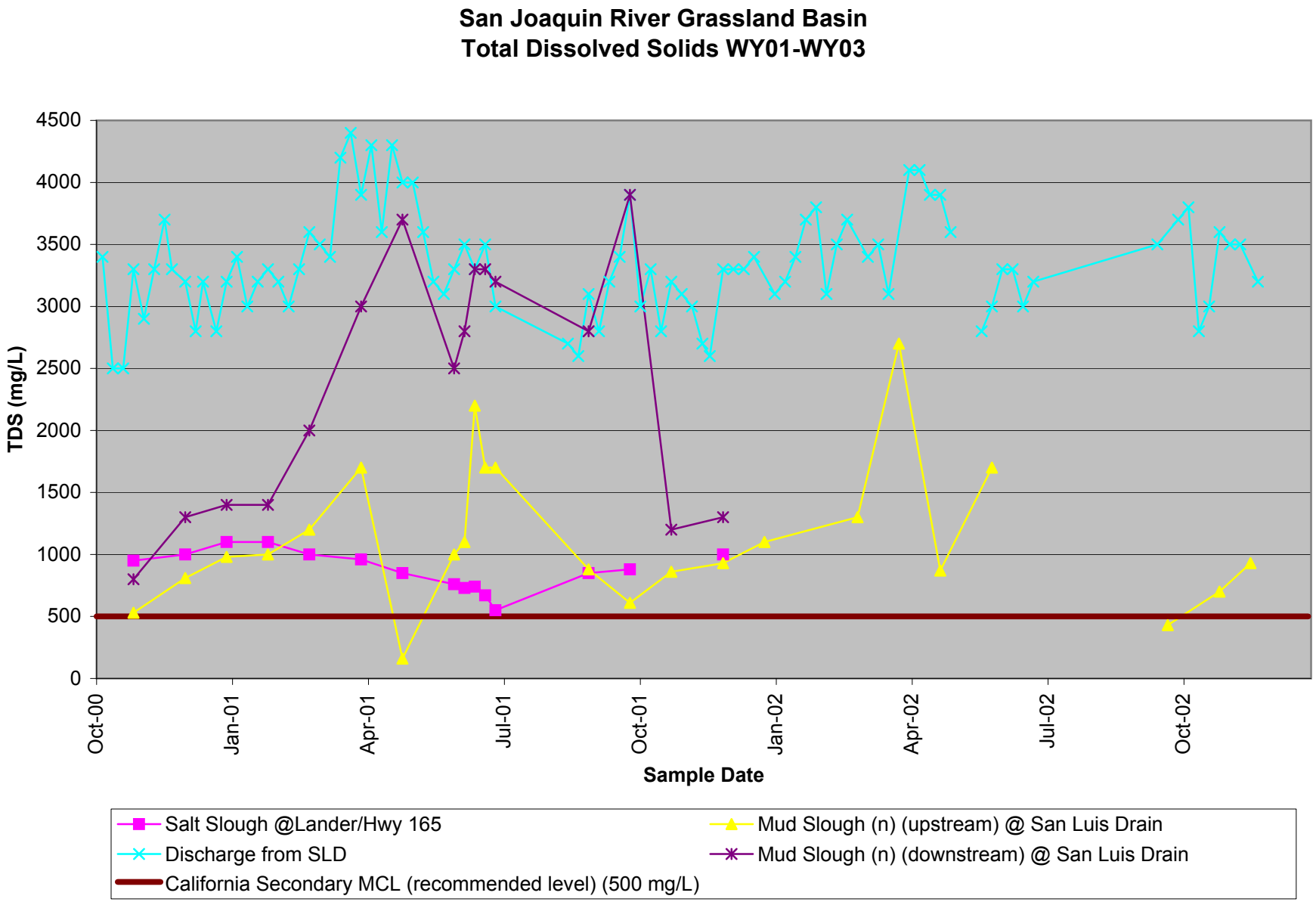

San Joaquin River Grassland Basin
Sulfate WY01-WY03
Median
California Secondary MCL (recommended level) (250 mg/L)
Sulfate (mg/L)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

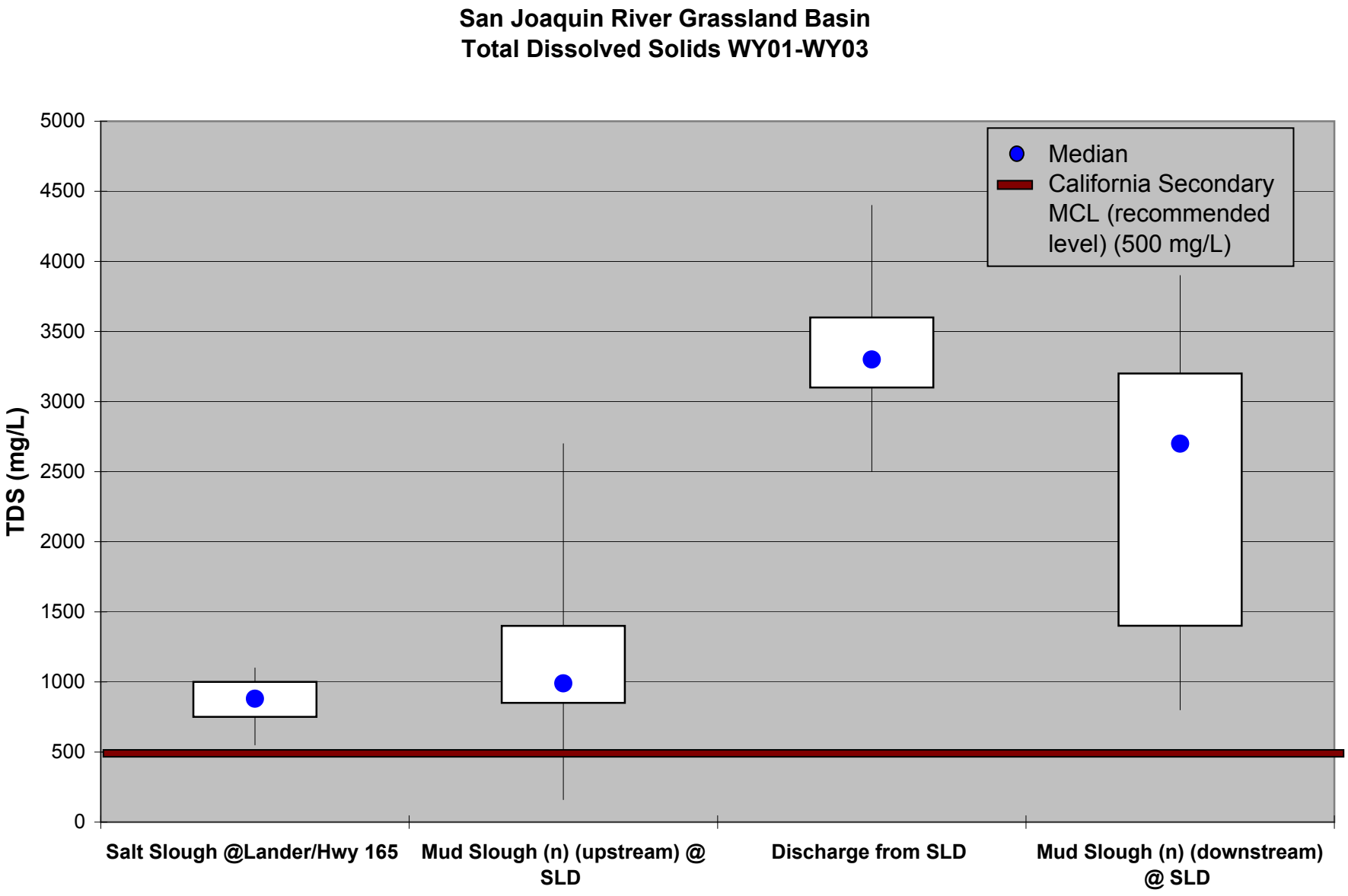

San Joaquin River Grassland Basin
Calcium WY01-WY03
Calcium (mg/L)
400
350
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain

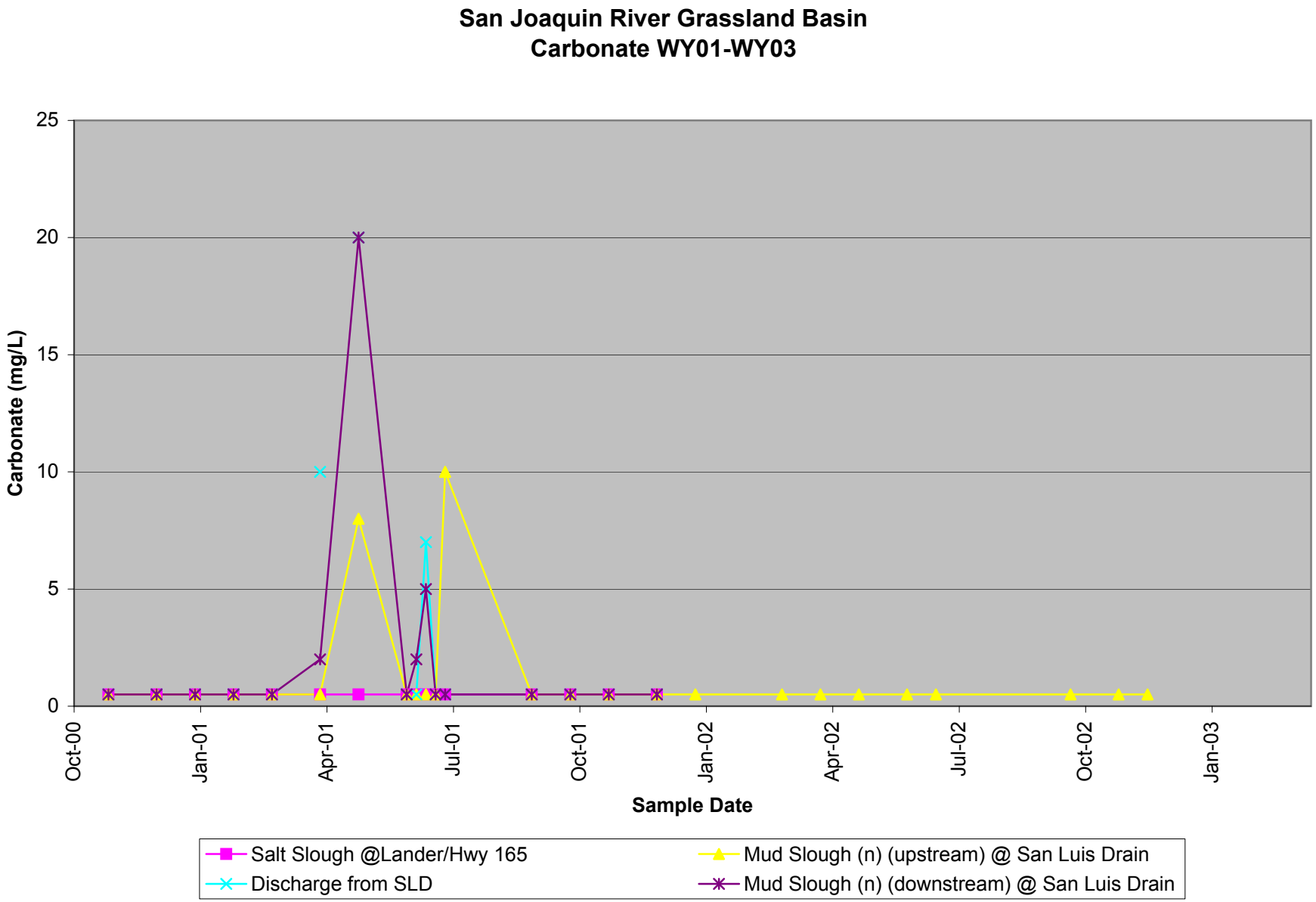

San Joaquin River Grassland Basin
Calcium WY01-WY03
Median
Calcium (mg/L)
400
350
300
250
200
150
100
50
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

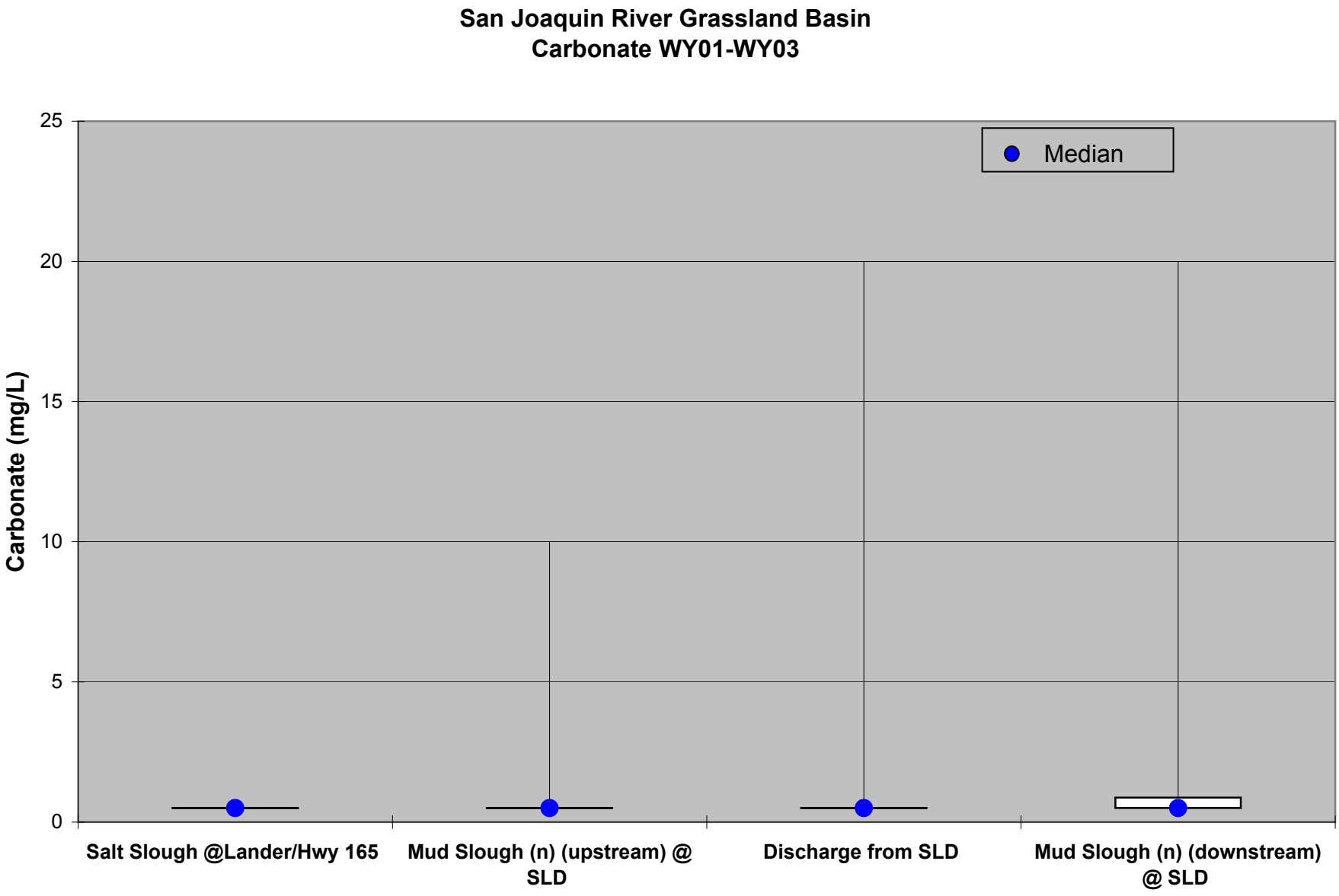

San Joaquin River Grassland Basin
Magnesium WY01-WY03
Magnesium (mg/L)
120
100
80
60
40
20
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Salt Slough @Lander/Hwy 165
Discharge from SLD
Mud Slough (n) (upstream) @ San Luis Drain
Mud Slough (n) (downstream) @ San Luis Drain

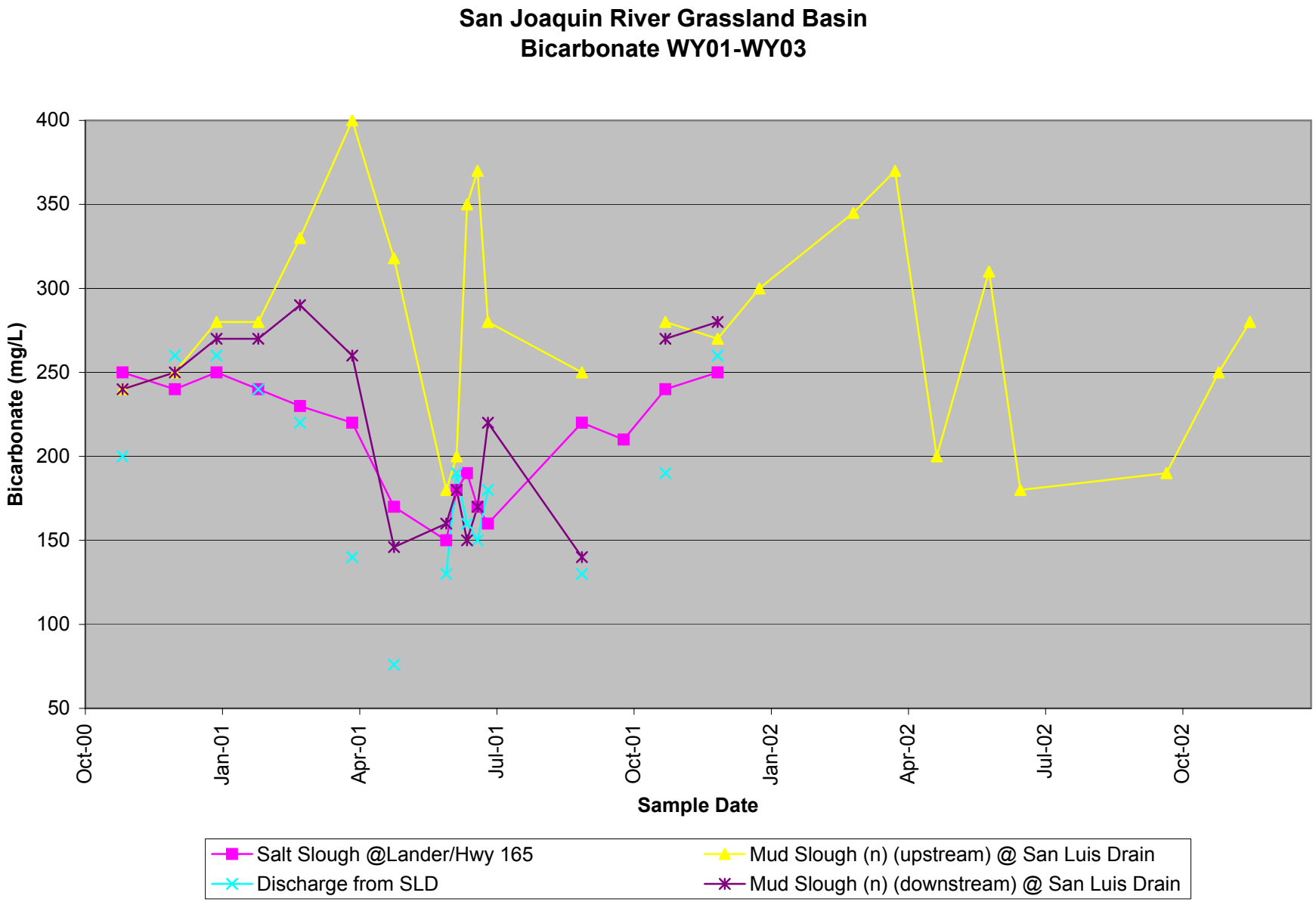

San Joaquin River Grassland Basin
Magnesium WY01-WY03
Median
Magnesium (mg/L)
120
100
80
60
40
20
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

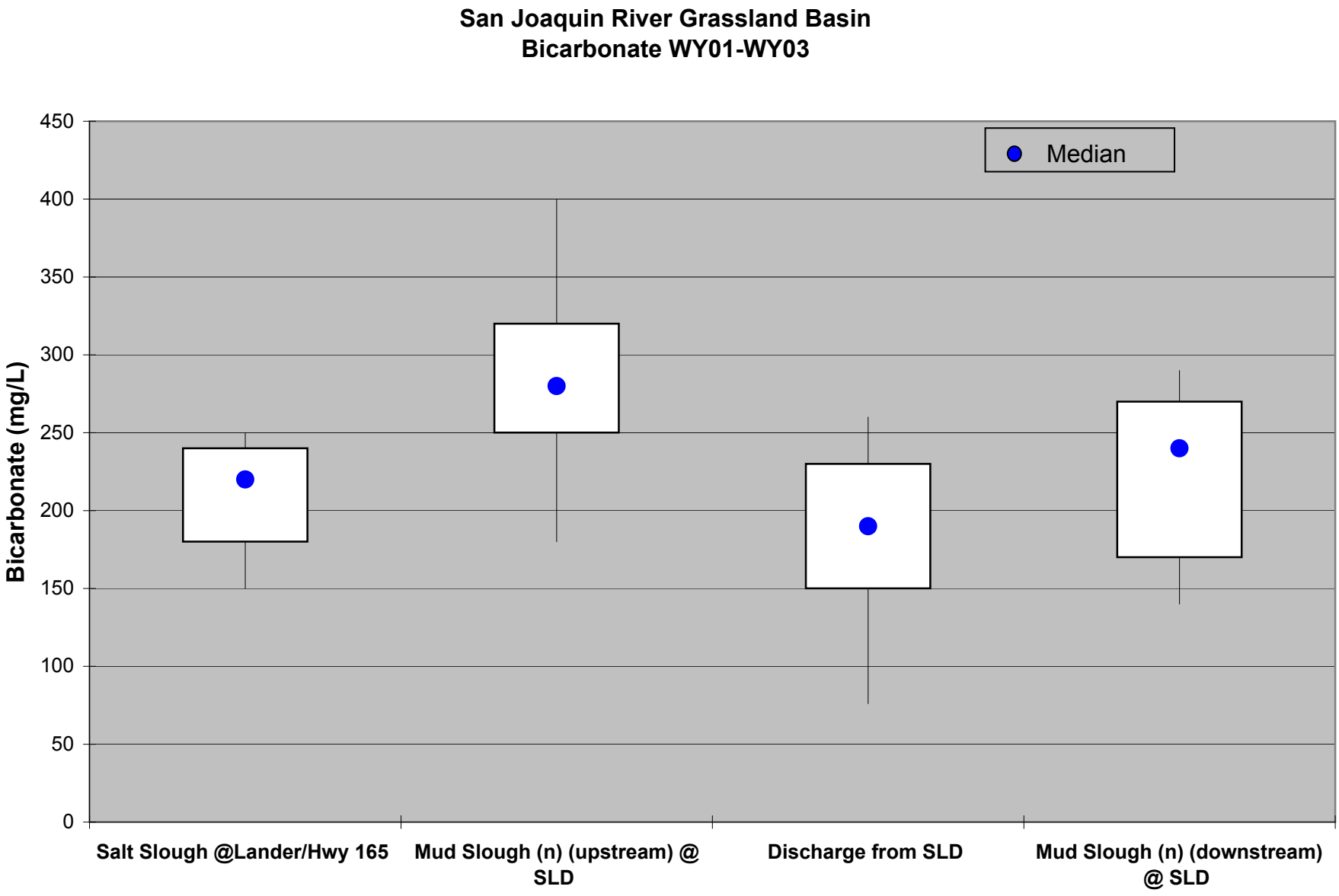

San Joaquin River Grassland Basin
Total Dissolved Solids WY01-WY03
TDS (mg/L)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain
California Secondary MCL (recommended level) (500 mg/L)

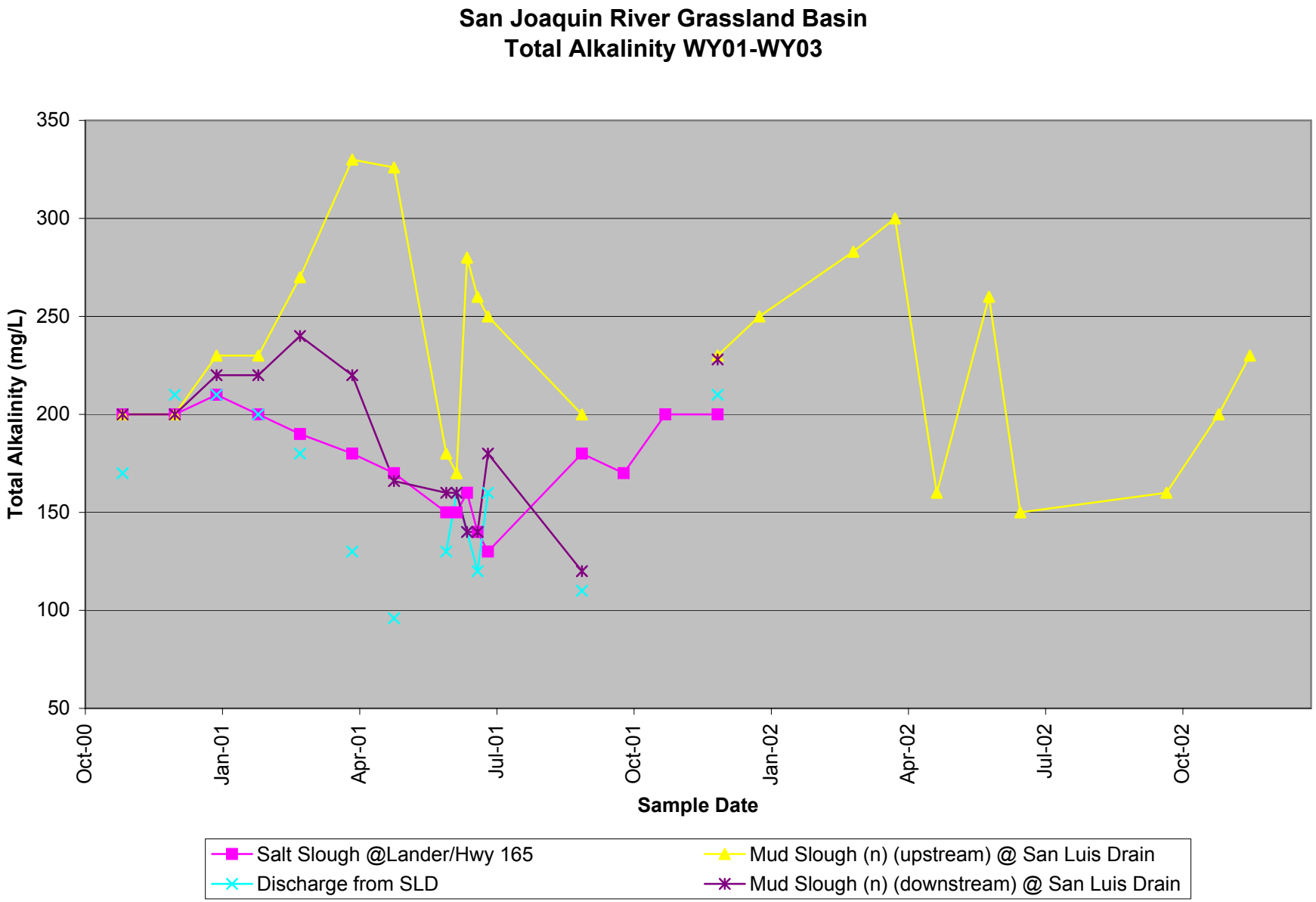

San Joaquin River Grassland Basin
Total Dissolved Solids WY01-WY03
TDS (mg/L)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Median
California Secondary MCL (recommended level) (500 mg/L)
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

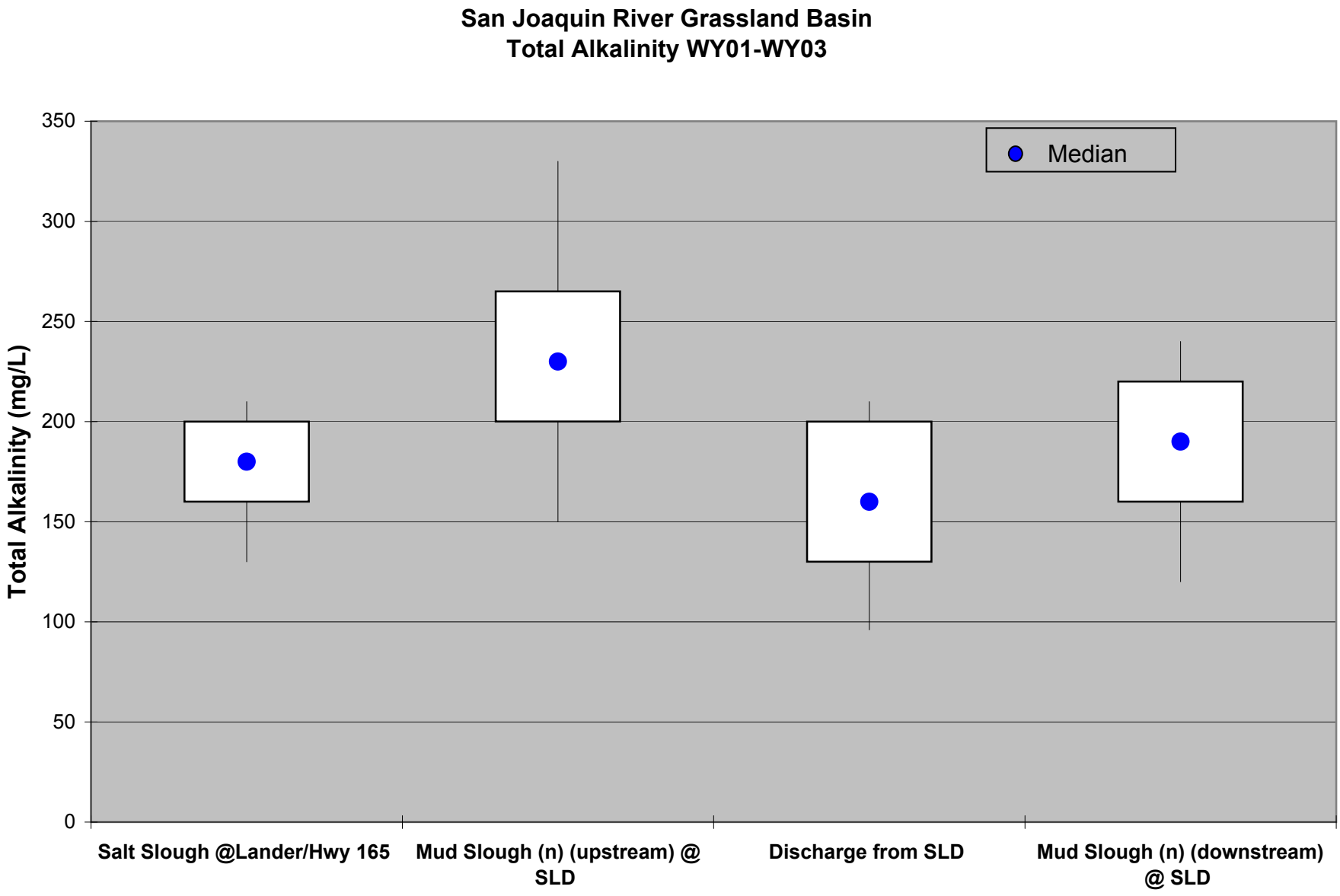

San Joaquin River Grassland Basin
Carbonate WY01-WY03
Carbonate (mg/L)
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Sample Date
Salt Slough @Lander/Hwy 165
Discharge from SLD
Mud Slough (n) (upstream) @ San Luis Drain
Mud Slough (n) (downstream) @ San Luis Drain

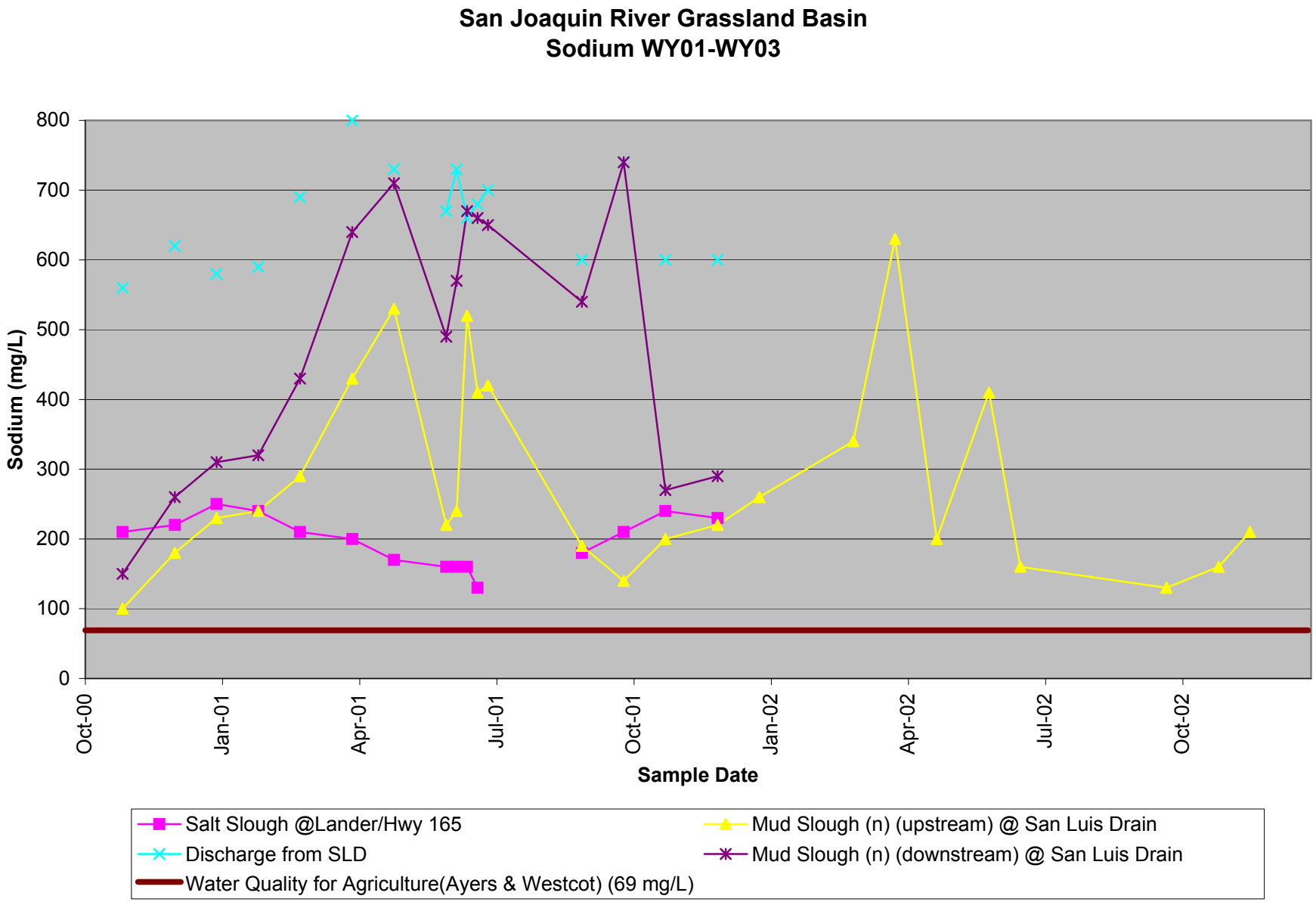

San Joaquin River Grassland Basin
Carbonate WY01-WY03
Median
Carbonate (mg/L)
25
20
15
10
5
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

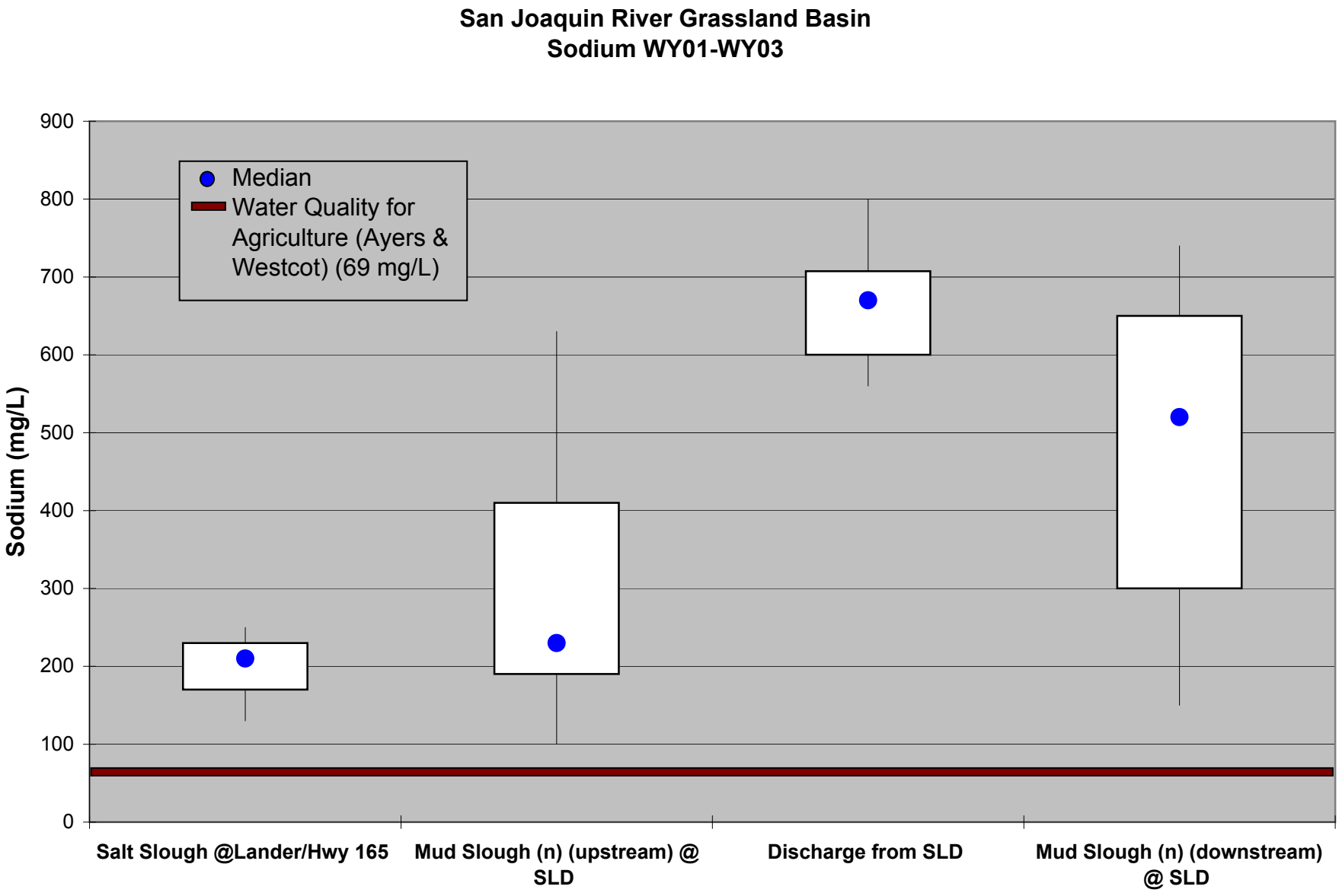

San Joaquin River Grassland Basin
Bicarbonate WY01-WY03
Bicarbonate (mg/L)
400
350
300
250
200
150
100
50
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Salt Slough @Lander/Hwy 165
Discharge from SLD
Mud Slough (n) (upstream) @ San Luis Drain
Mud Slough (n) (downstream) @ San Luis Drain

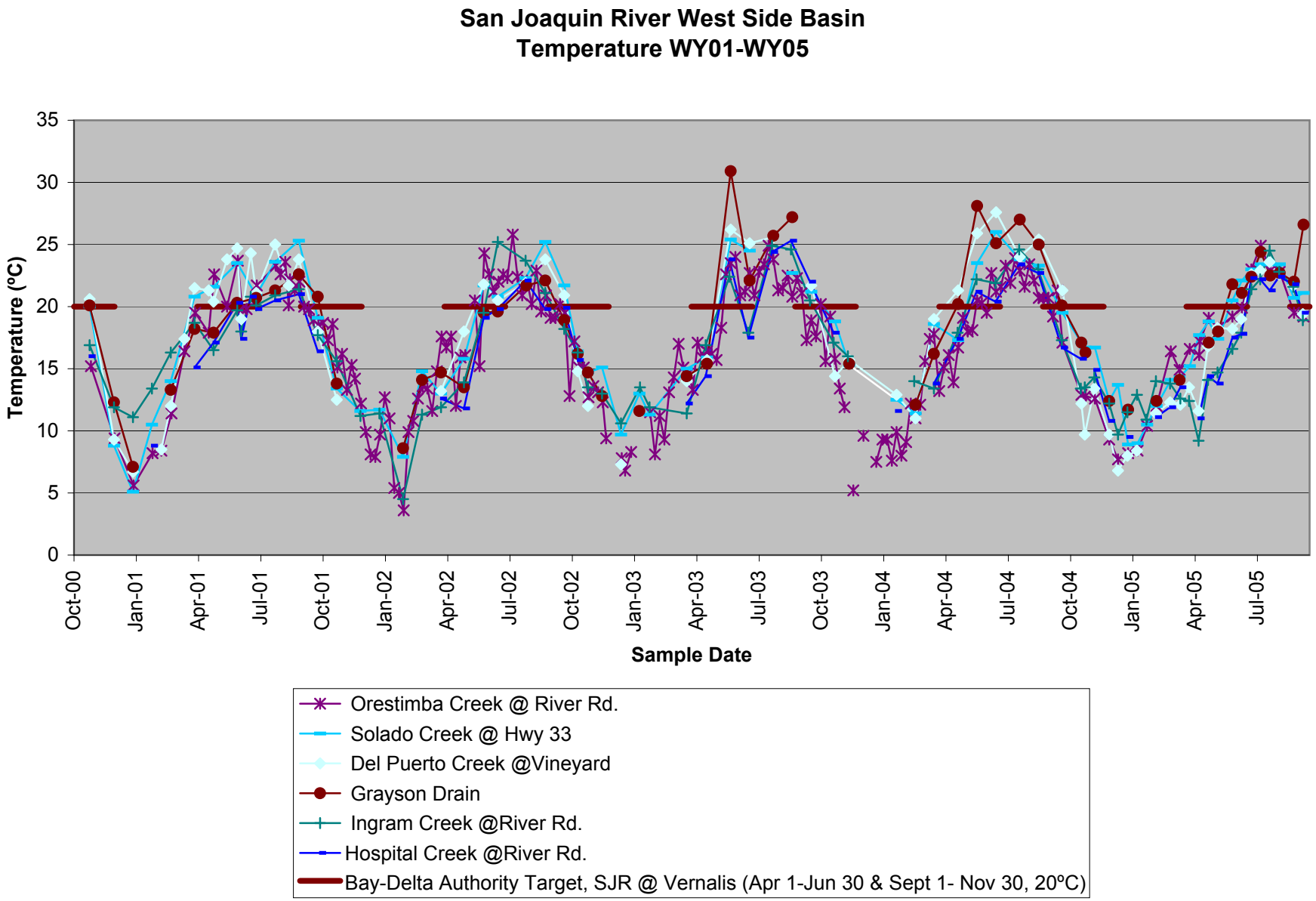

San Joaquin River Grassland Basin
Bicarbonate WY01-WY03
Median
Bicarbonate (mg/L)
450
400
350
300
250
200
150
100
50
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

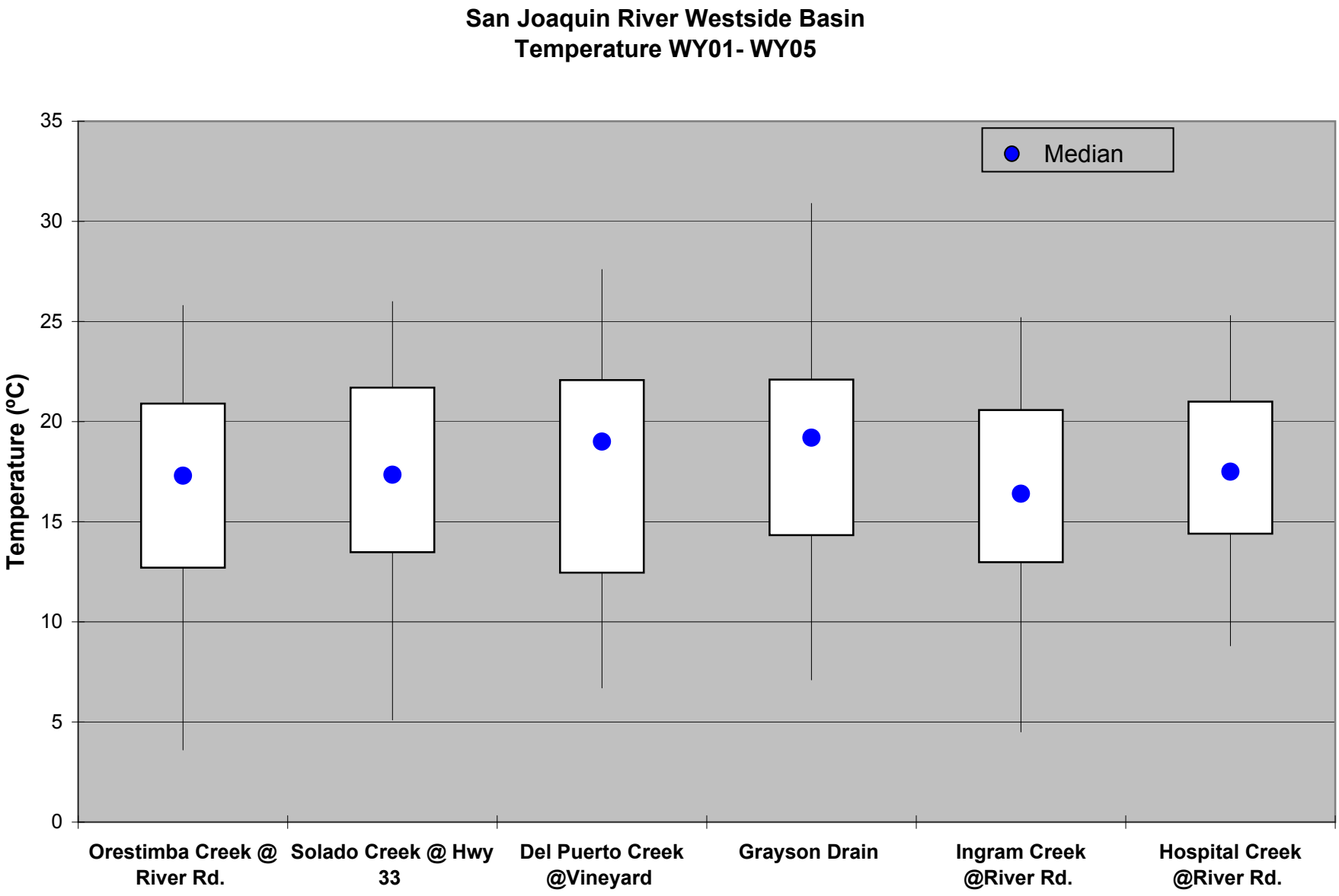

San Joaquin River Grassland Basin
Total Alkalinity WY01-WY03
Total Alkalinity (mg/L)
350
300
250
200
150
100
50
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Salt Slough @Lander/Hwy 165
Discharge from SLD
Mud Slough (n) (upstream) @ San Luis Drain
Mud Slough (n) (downstream) @ San Luis Drain

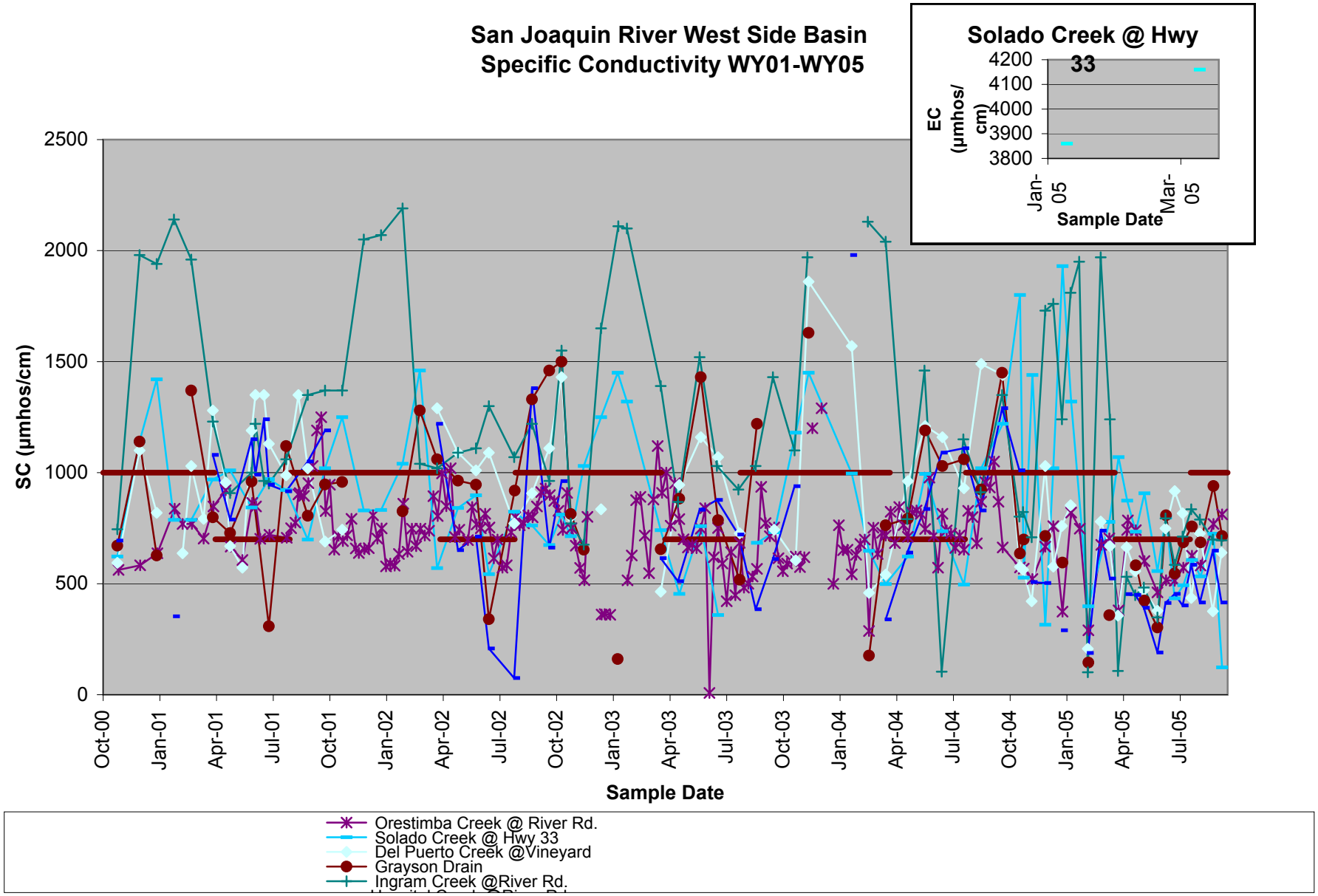

San Joaquin River Grassland Basin
Total Alkalinity WY01-WY03
Median
Total Alkalinity (mg/L)
350
300
250
200
150
100
50
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

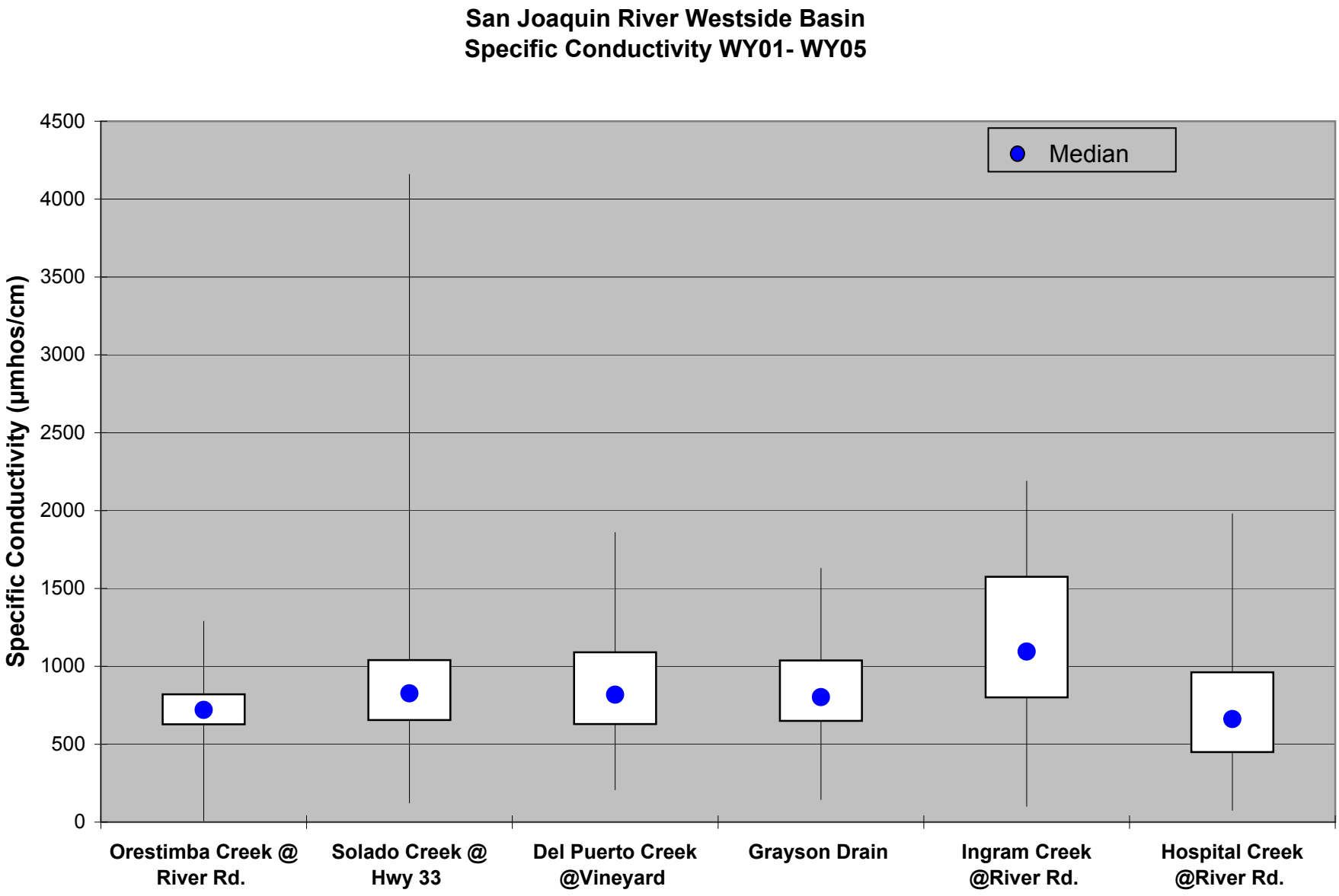

San Joaquin River Grassland Basin
Sodium WY01-WY03
Sodium (mg/L)
800
700
600
500
400
300
200
100
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ San Luis Drain
Discharge from SLD
Mud Slough (n) (downstream) @ San Luis Drain
Water Quality for Agriculture(Ayers & Westcot) (69 mg/L)

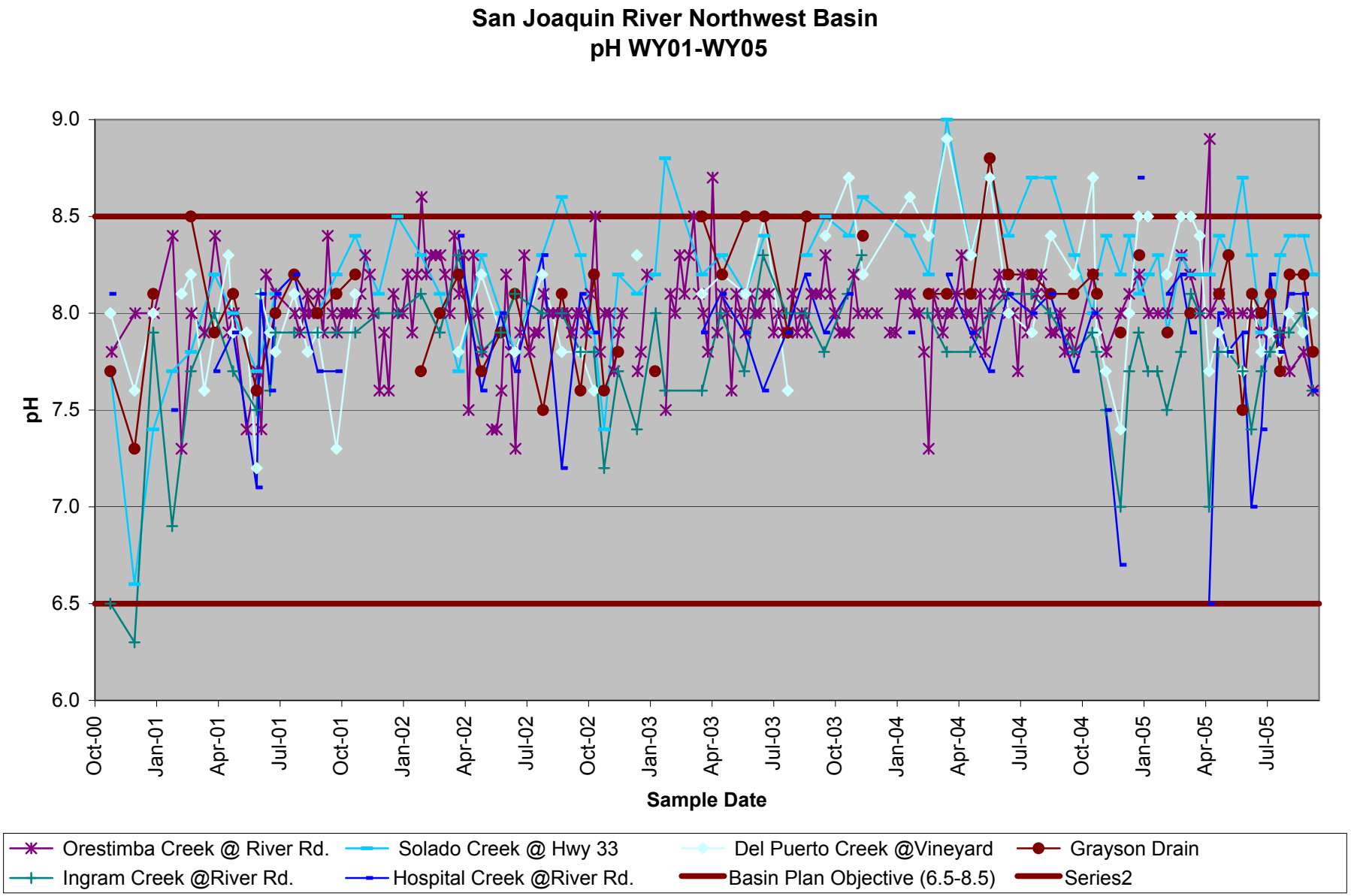

San Joaquin River Grassland Basin
Sodium WY01-WY03
Median
Water Quality for Agriculture (Ayers & Westcot) (69 mg/L)
Sodium (mg/L)
900
800
700
600
500
400
300
200
100
0
Salt Slough @Lander/Hwy 165
Mud Slough (n) (upstream) @ SLD
Discharge from SLD
Mud Slough (n) (downstream) @ SLD

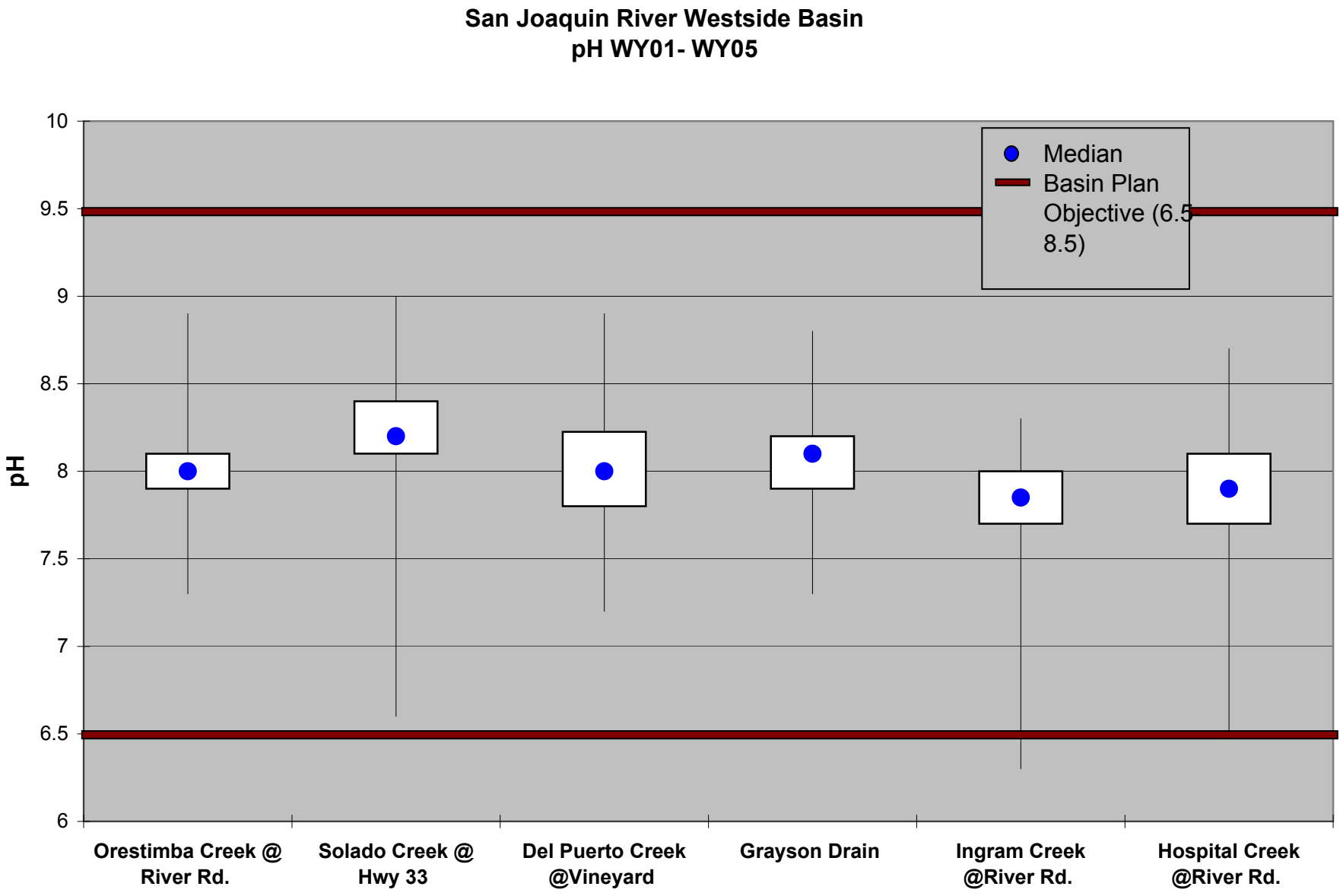

San Joaquin River West Side Basin
Temperature WY01-WY05
Temperature (ºC)
35
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.
Bay-Delta Authority Target, SJR @ Vernalis (Apr 1-Jun 30 & Sept 1- Nov 30, 20ºC)

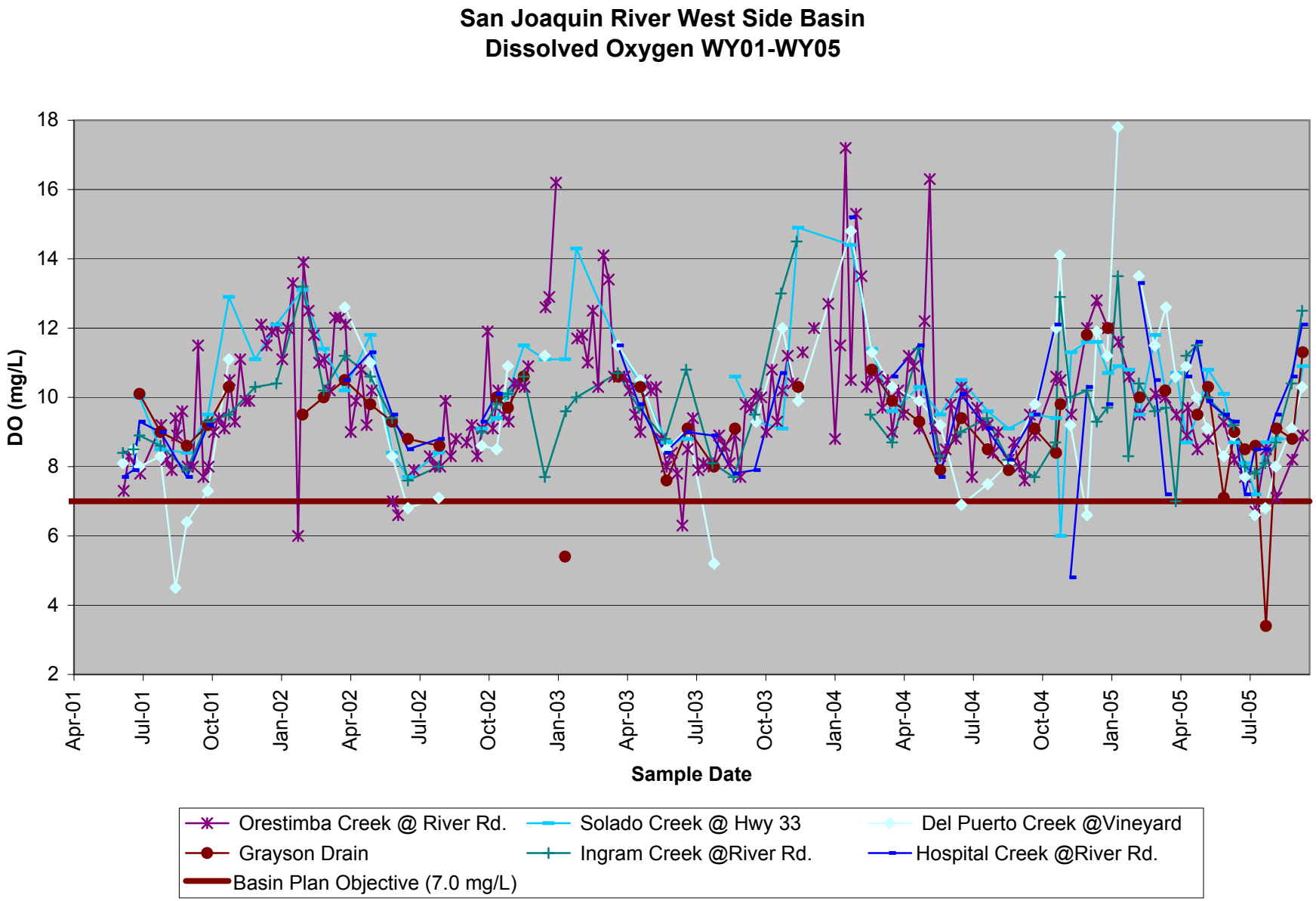

San Joaquin River Westside Basin
Temperature WY01- WY05
Median
Temperature (ºC)
35
30
25
20
15
10
5
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

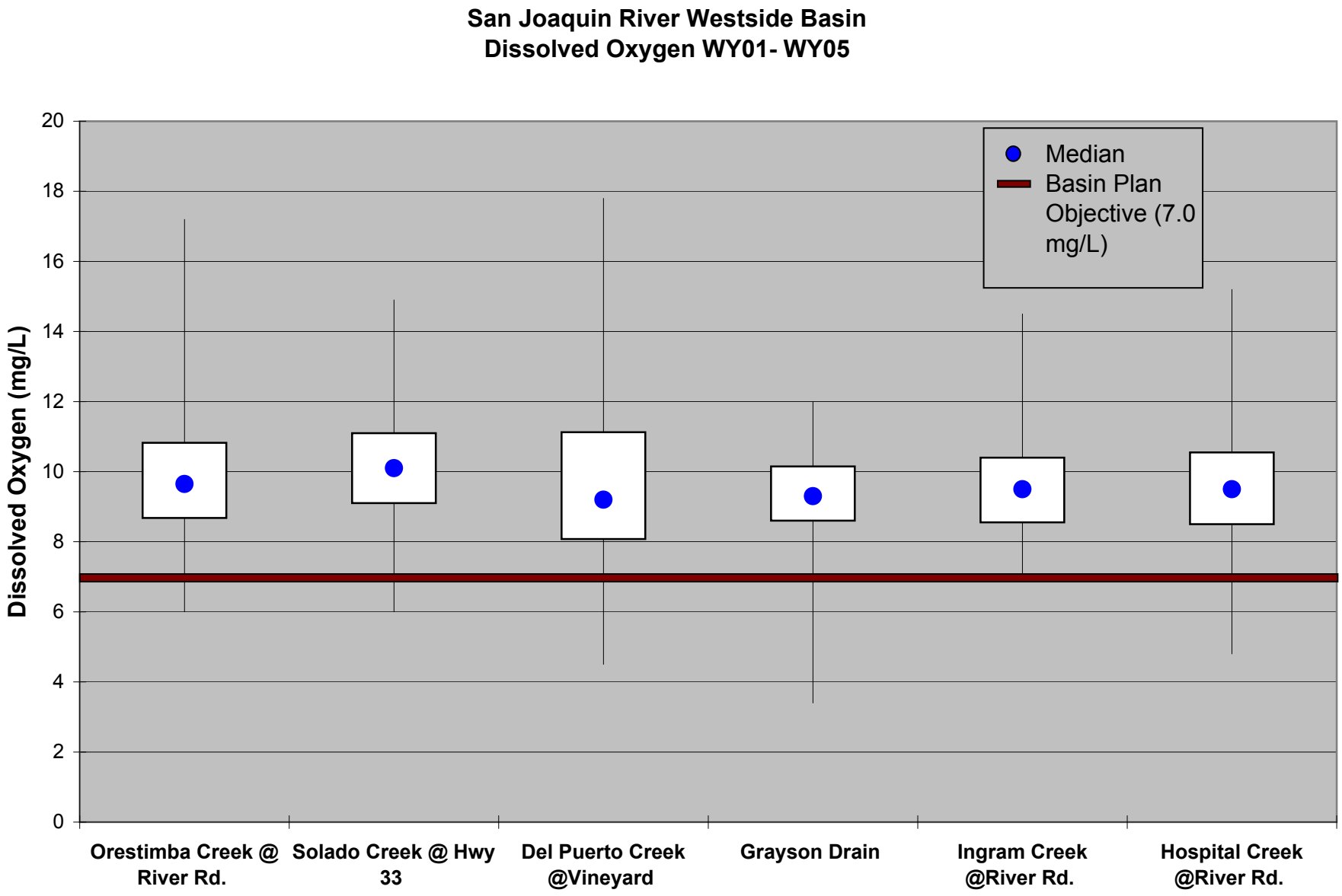

San Joaquin River West Side Basin
Specific Conductivity WY01-WY05
Solado Creek @ Hwy 33
EC (µmhos/cm)
4200
4100
4000
3900
3800
Jan-05
Mar-05
Sample Date
SC (µmhos/cm)
2500
2000
1500
1000
500
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.

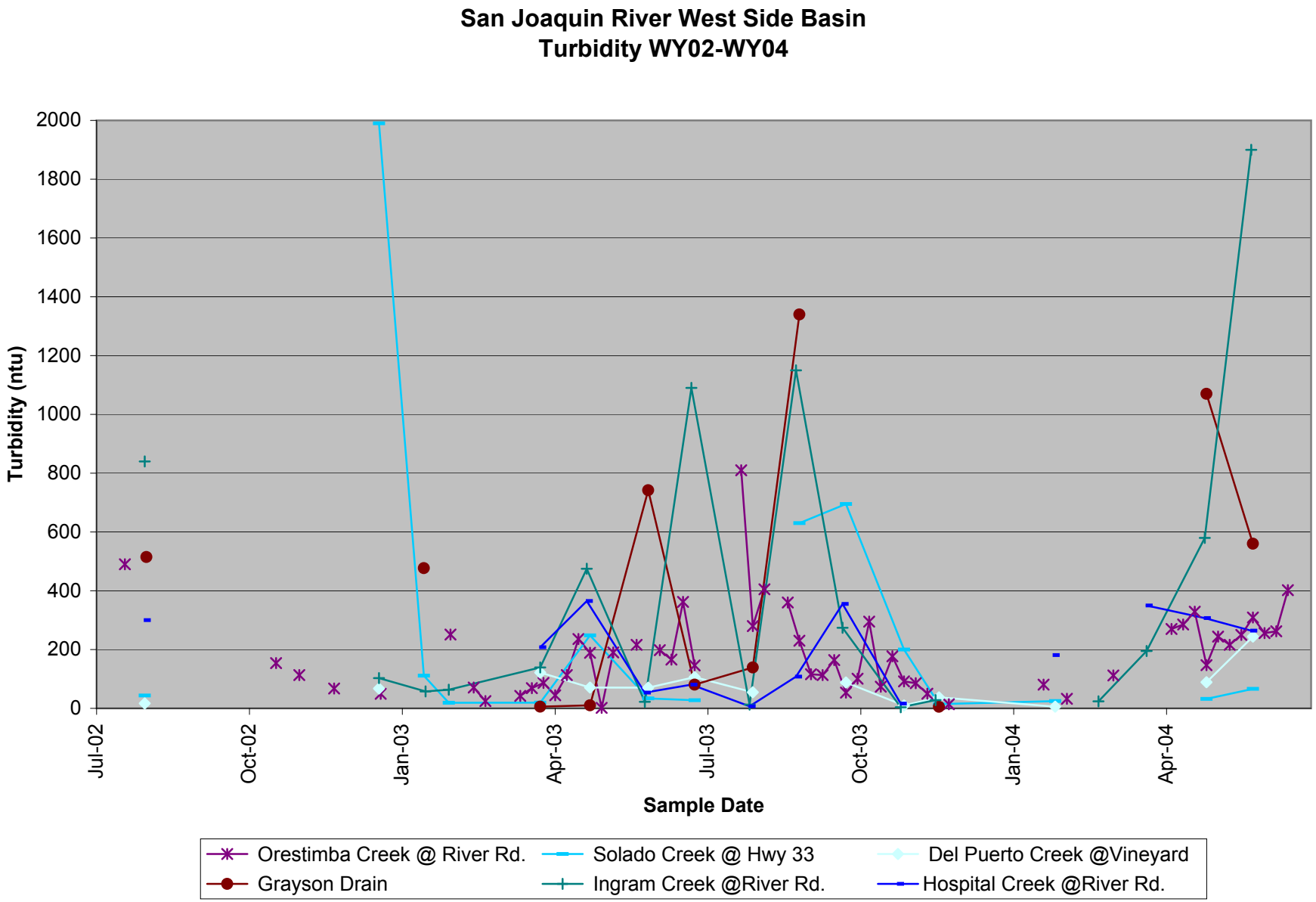

San Joaquin River Westside Basin
Specific Conductivity WY01- WY05
Median
Specific Conductivity (µmhos/cm)
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

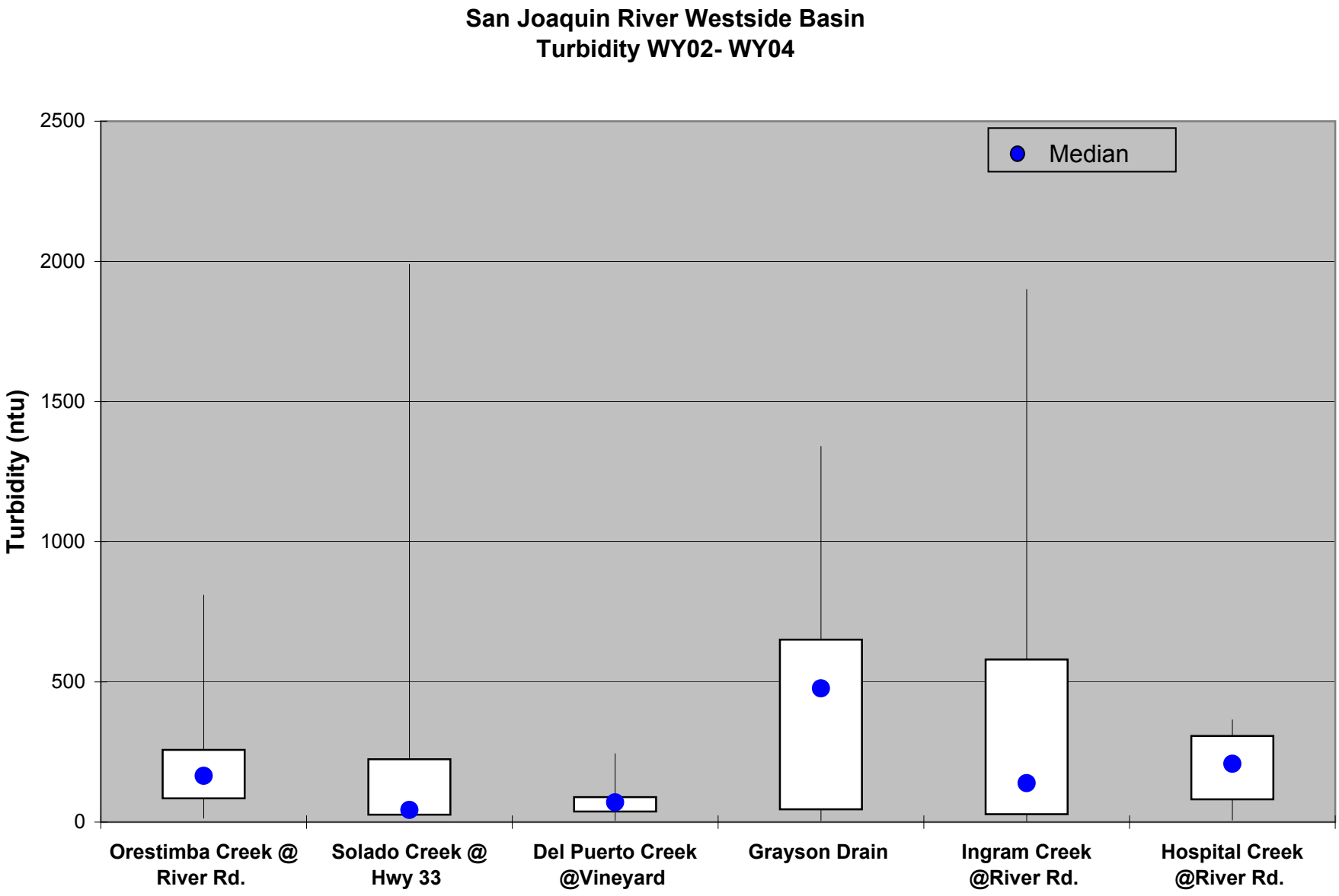

San Joaquin River Northwest Basin
pH WY01-WY05
9.0
8.5
8.0
7.5
7.0
6.5
6.0
pH
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.
Basin Plan Objective (6.5-8.5)
Series2


San Joaquin River Westside Basin
pH WY01- WY05
pH
10
9.5
9
8.5
8
7.5
7
6.5
6
Median
Basin Plan Objective (6.5 8.5)
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

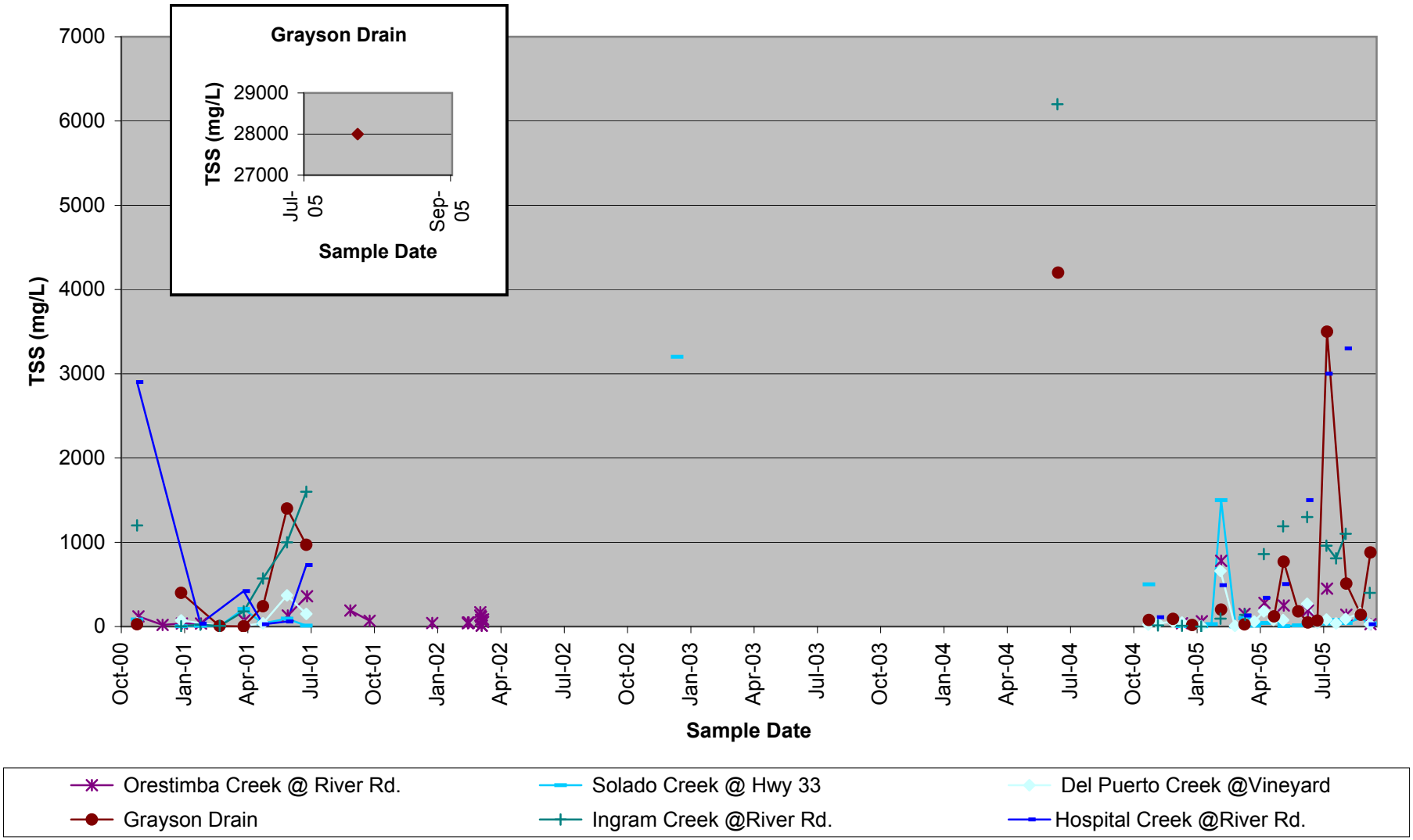

San Joaquin River West Side Basin
Dissolved Oxygen WY01-WY05
DO (mg/L)
18
16
14
12
10
8
6
4
2
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.
Basin Plan Objective (7.0 mg/L)

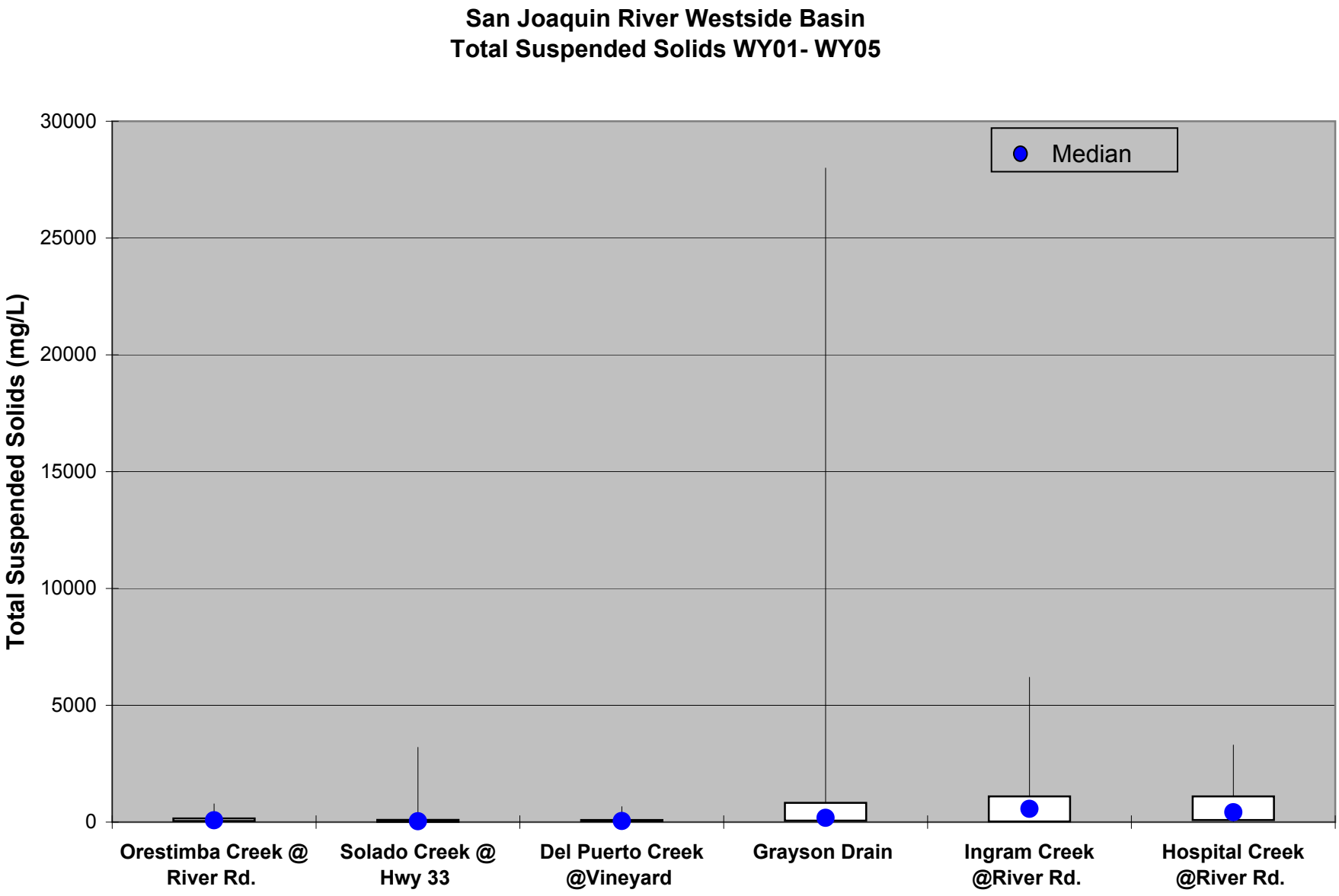

San Joaquin River Westside Basin
Dissolved Oxygen WY01- WY05
Dissolved Oxygen (mg/L)
20
18
16
14
12
10
8
6
4
2
0
Median
Basin Plan Objective (7.0 mg/L)
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

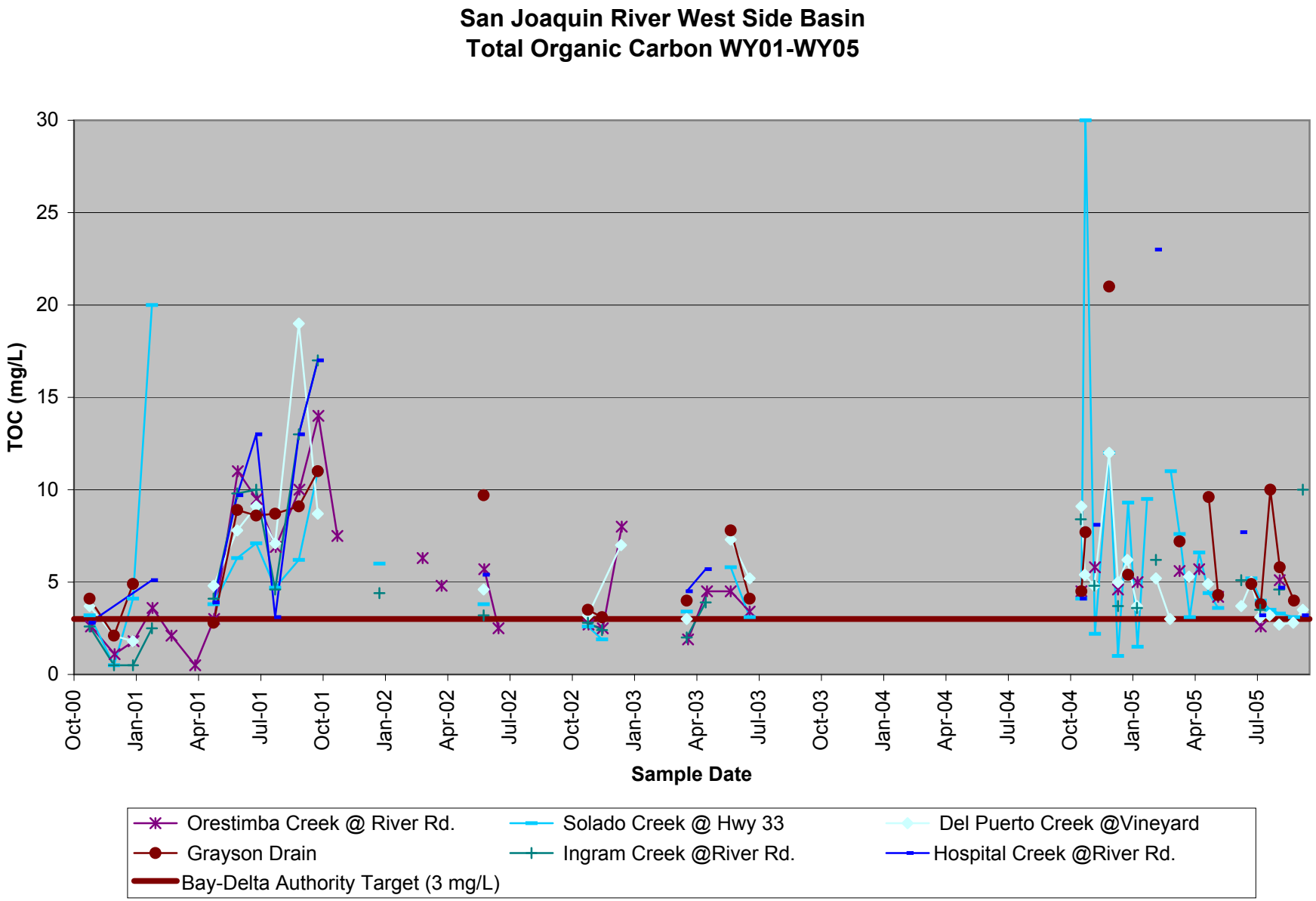

San Joaquin River West Side Basin
Turbidity WY02-WY04
Turbidity (ntu)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

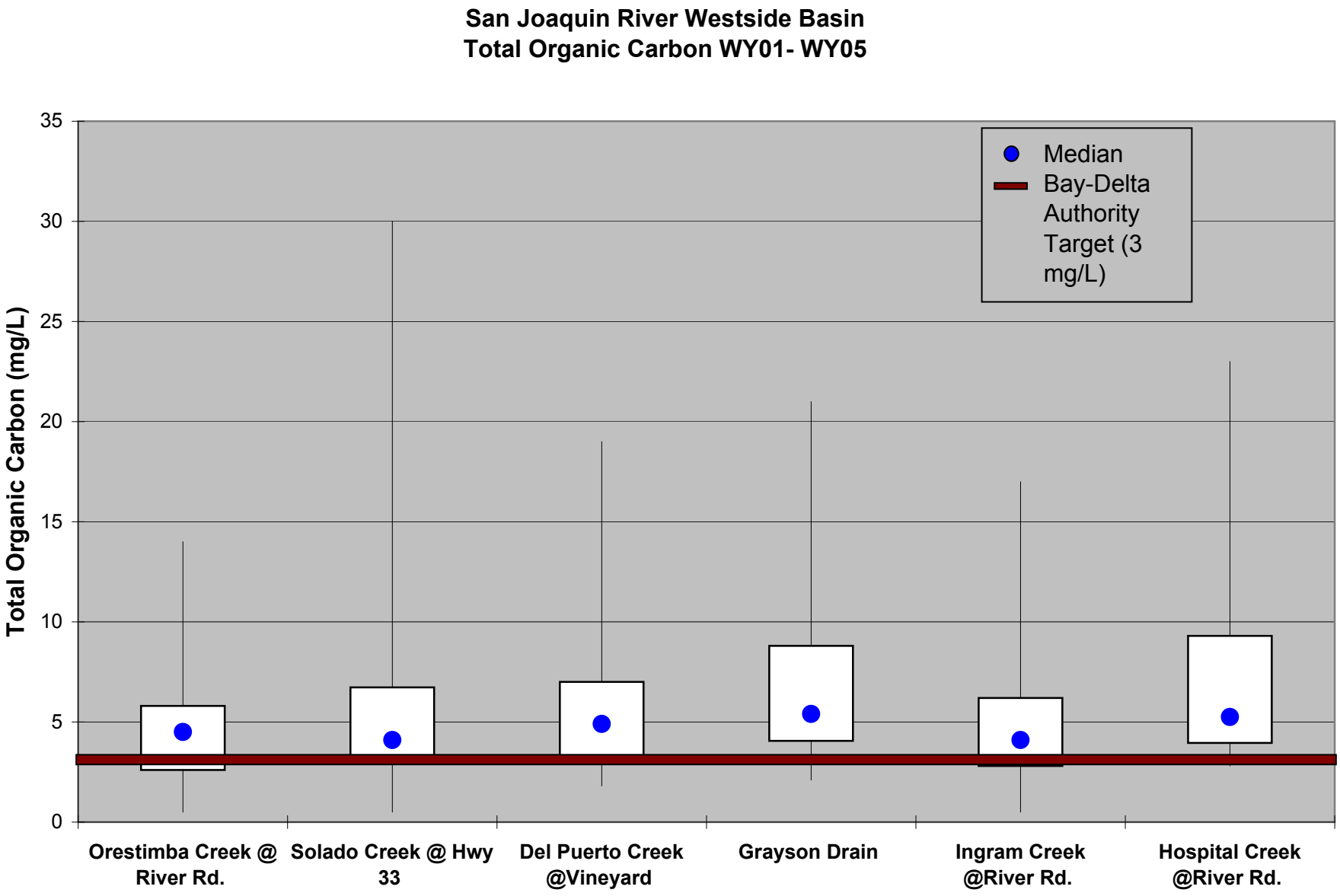

San Joaquin River Westside Basin
Turbidity WY02- WY04
Median
Turbidity (ntu)
2500
2000
1500
1000
500
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

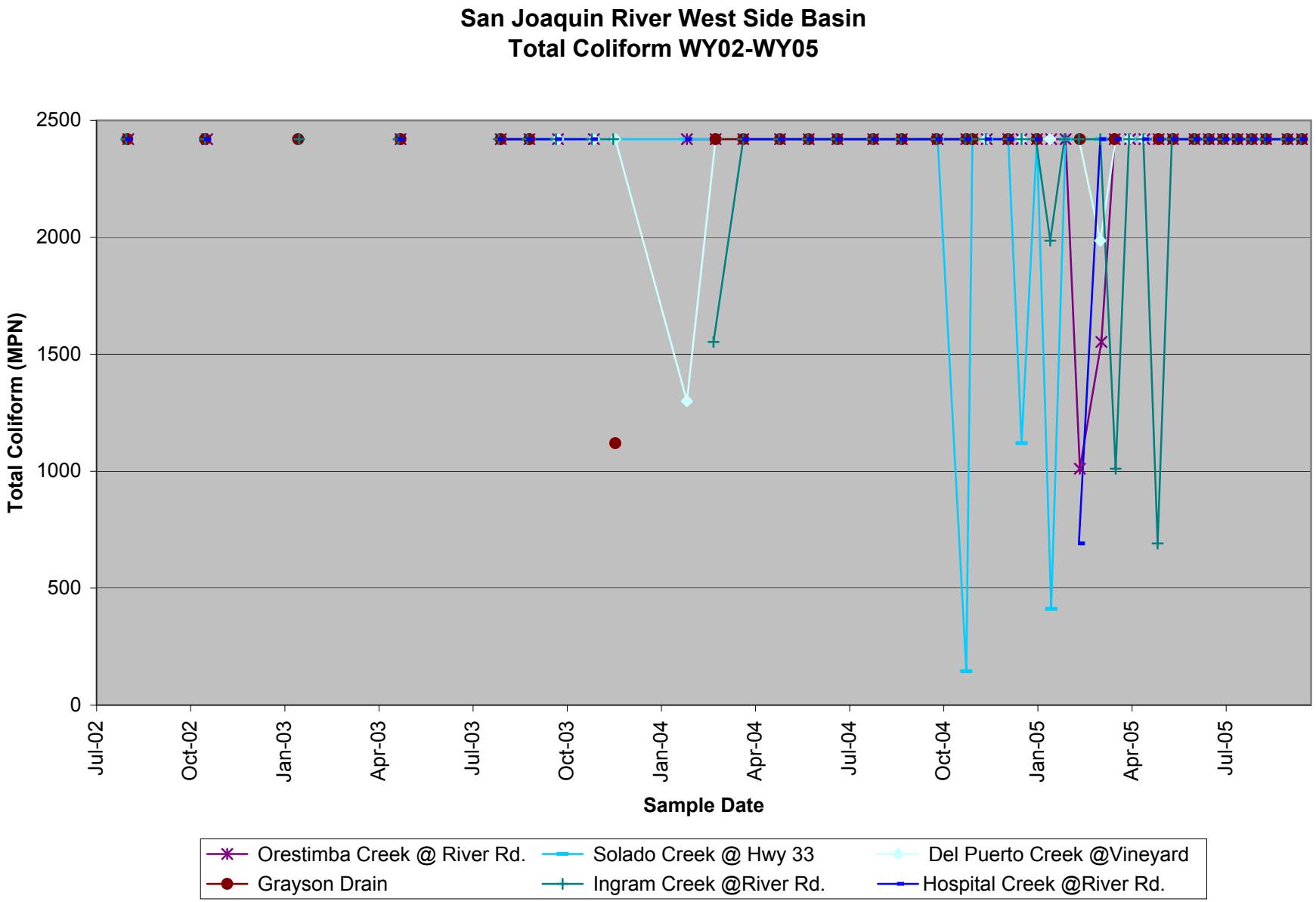
San Joaquin River West Side Basin
Total Suspended Solids WY01-WY05

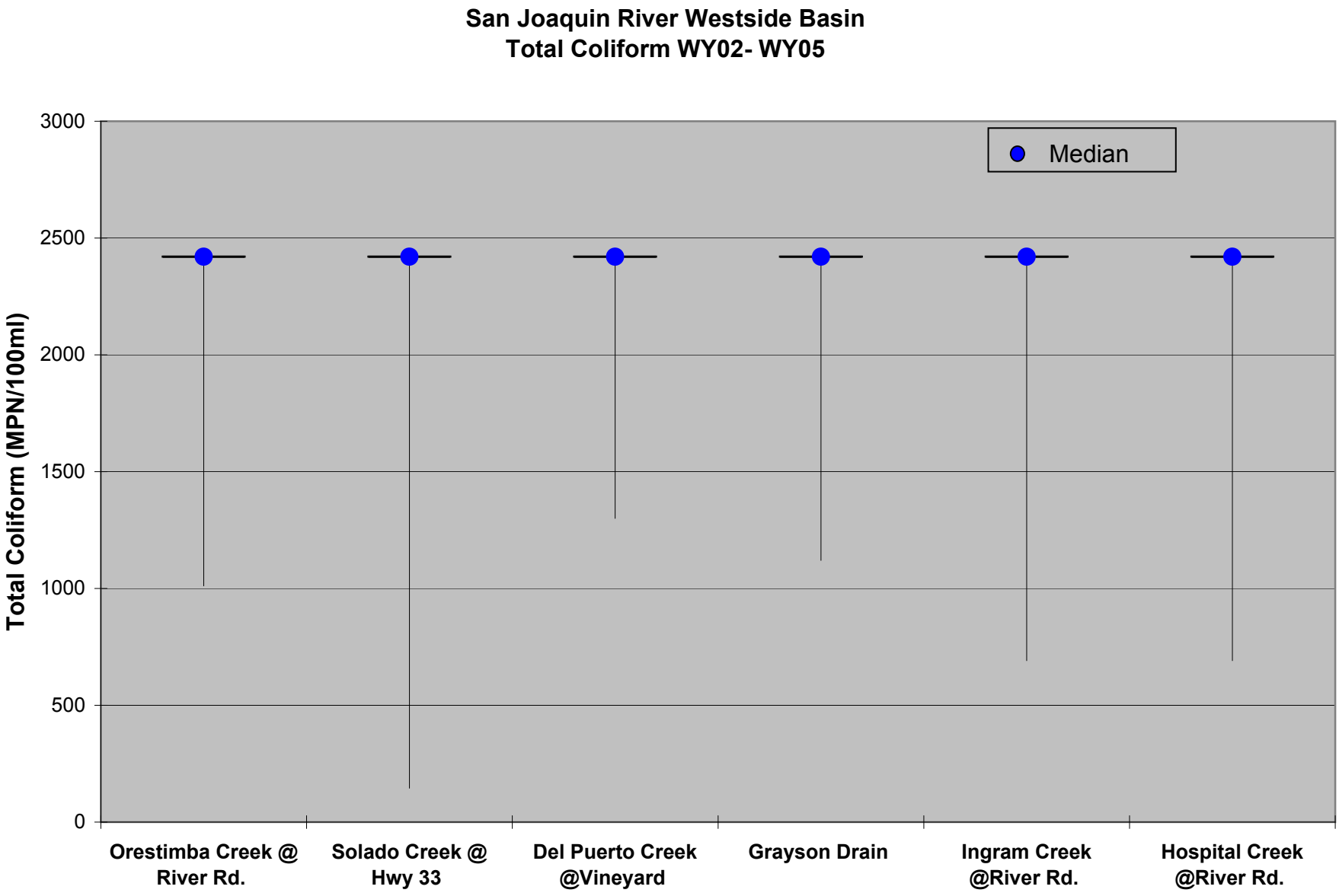



San Joaquin River Westside Basin
Total Suspended Solids WY01- WY05
Median
Total Suspended Solids (mg/L)
30000
25000
20000
15000
10000
5000
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

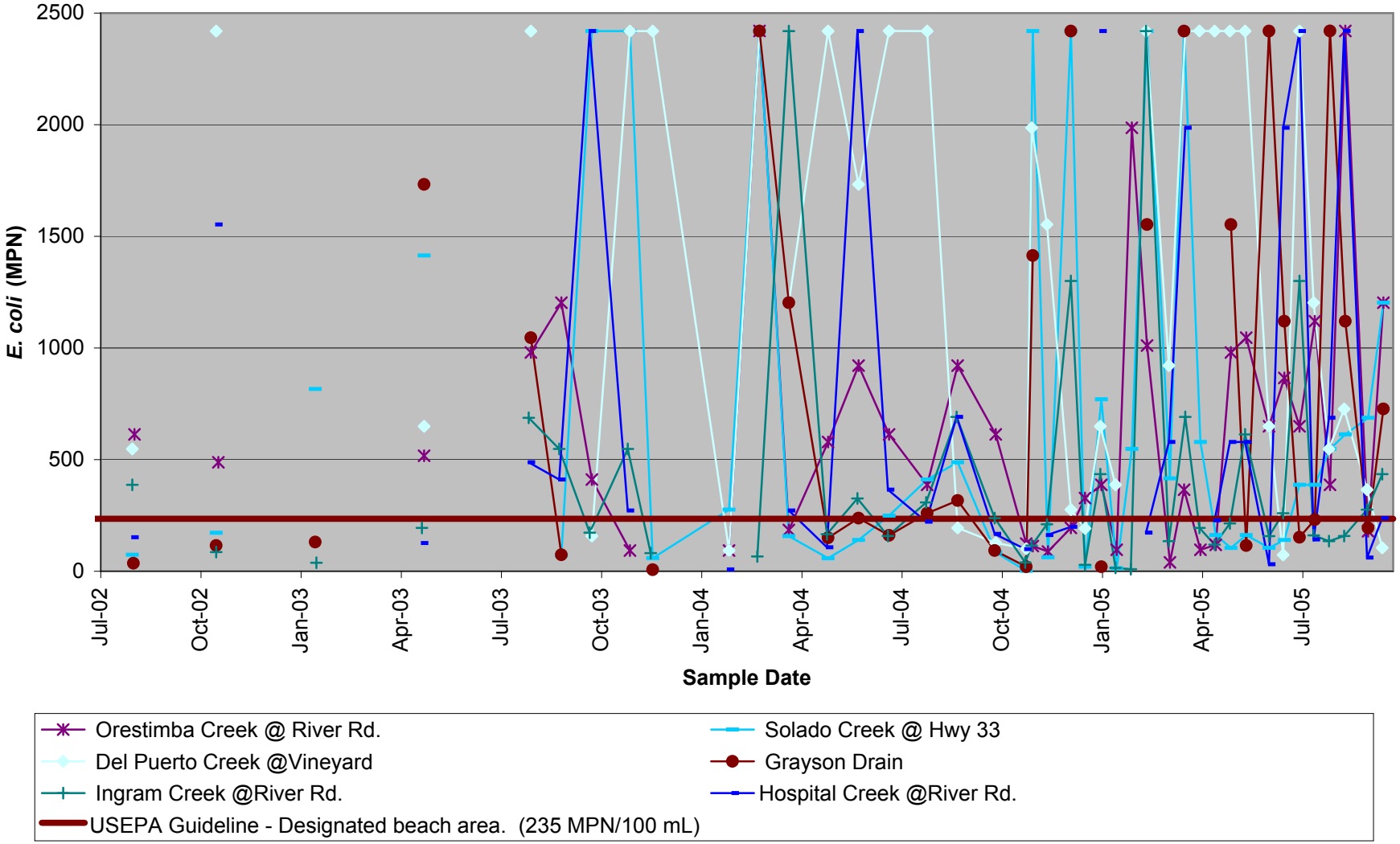

San Joaquin River West Side Basin
Total Organic Carbon WY01-WY05
TOC (mg/L)
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.
Bay-Delta Authority Target (3 mg/L)


San Joaquin River Westside Basin
Total Organic Carbon WY01- WY05
Total Organic Carbon (mg/L)
35
30
25
20
15
10
5
0
Median
Bay-Delta Authority Target (3 mg/L)
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

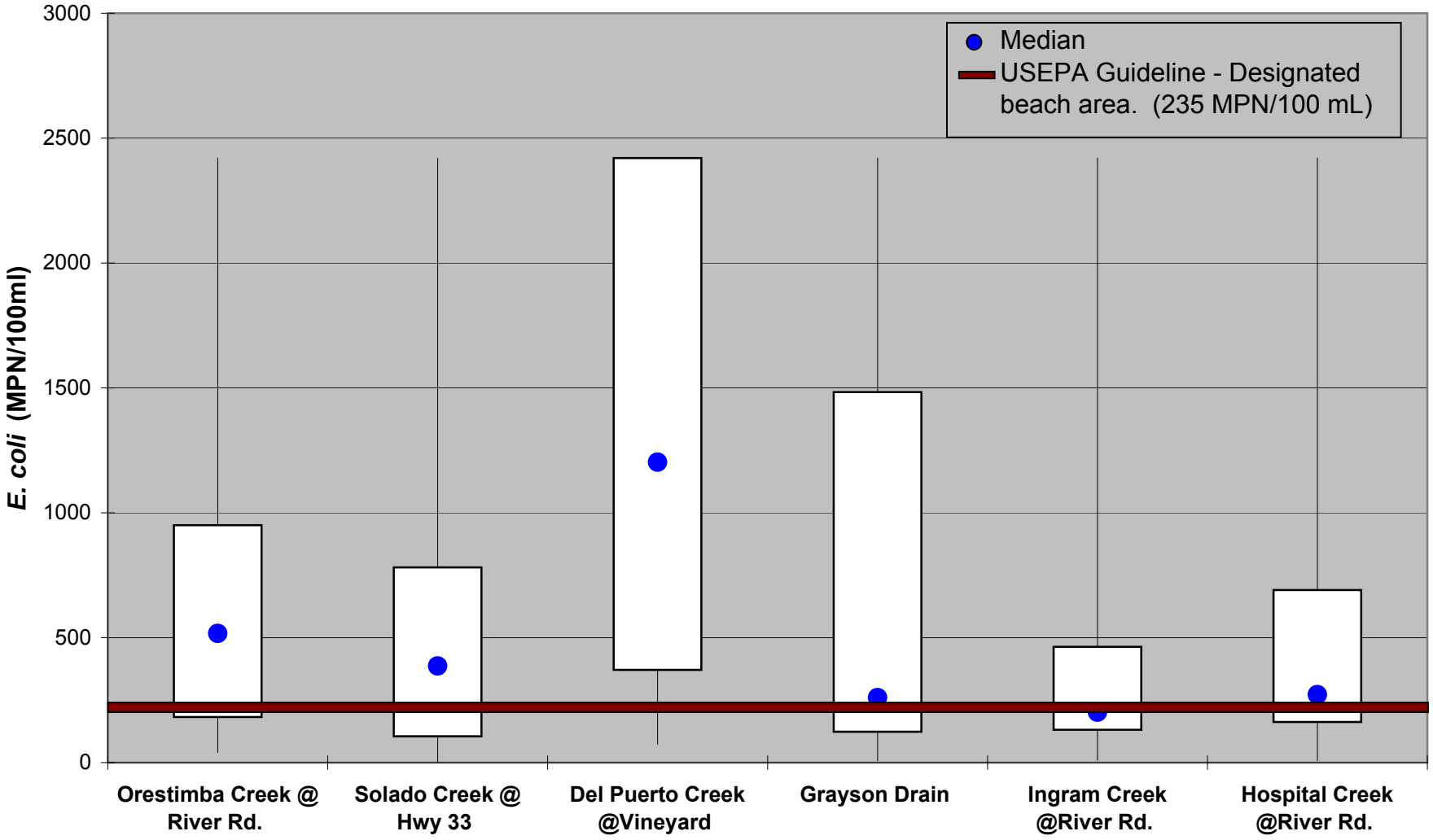

San Joaquin River West Side Basin
Total Coliform WY02-WY05
Total Coliform (MPN)
2500
2000
1500
1000
500
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

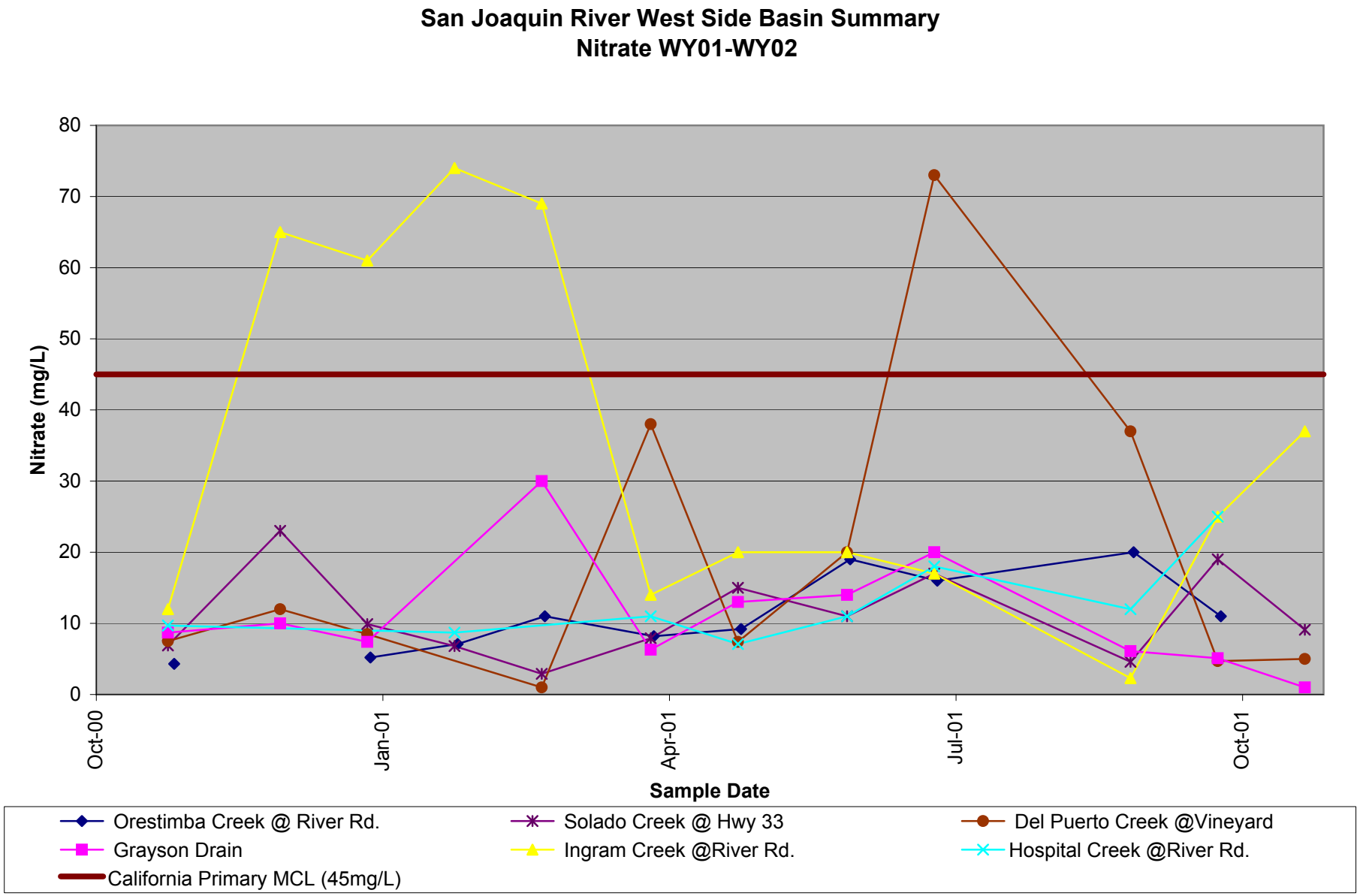

San Joaquin River Westside Basin
Total Coliform WY02- WY05
Median
Total Coliform (MPN/100ml)
3000
2500
2000
1500
1000
500
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

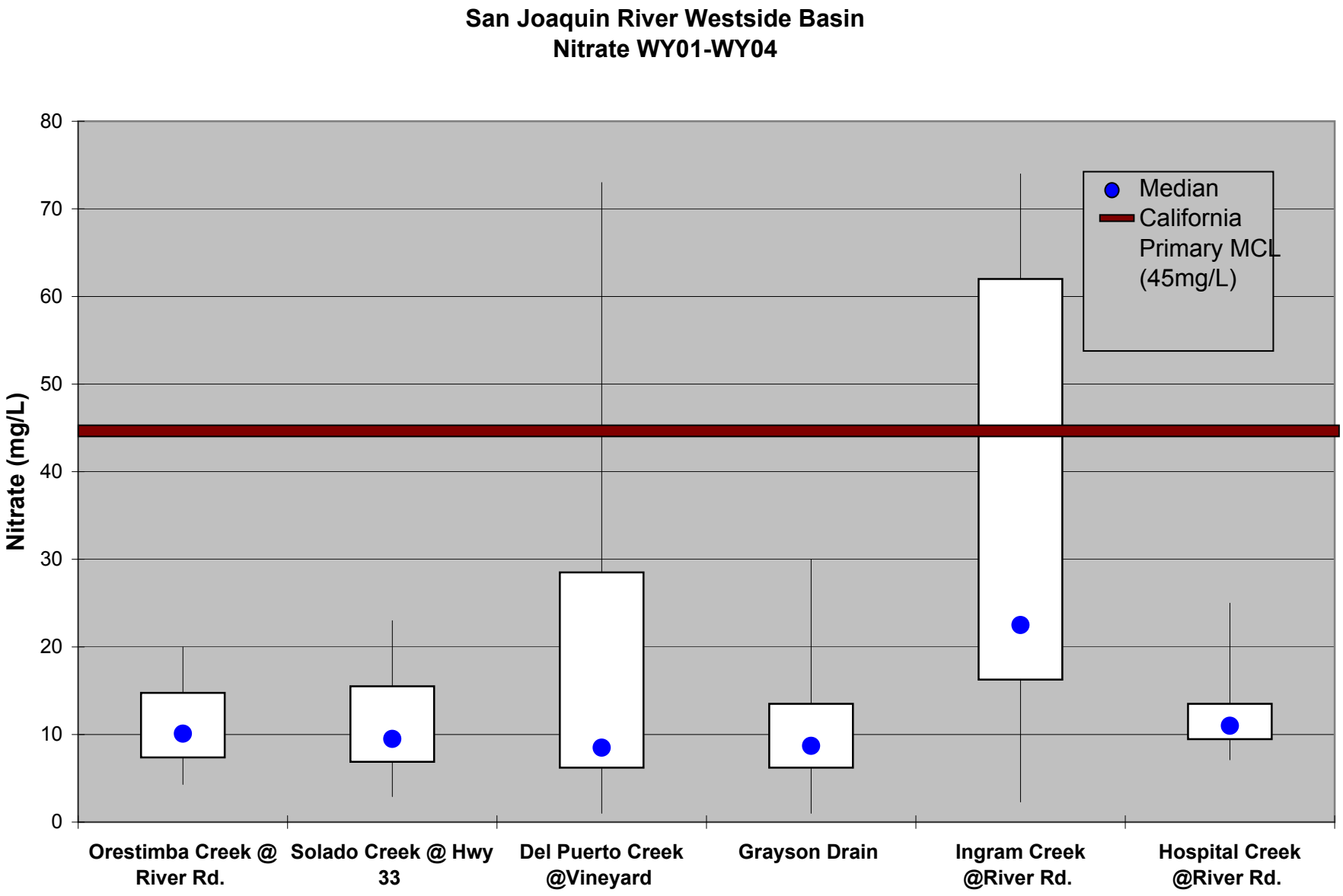
San Joaquin River West Side Basin
Escherichia coli WY02-WY05

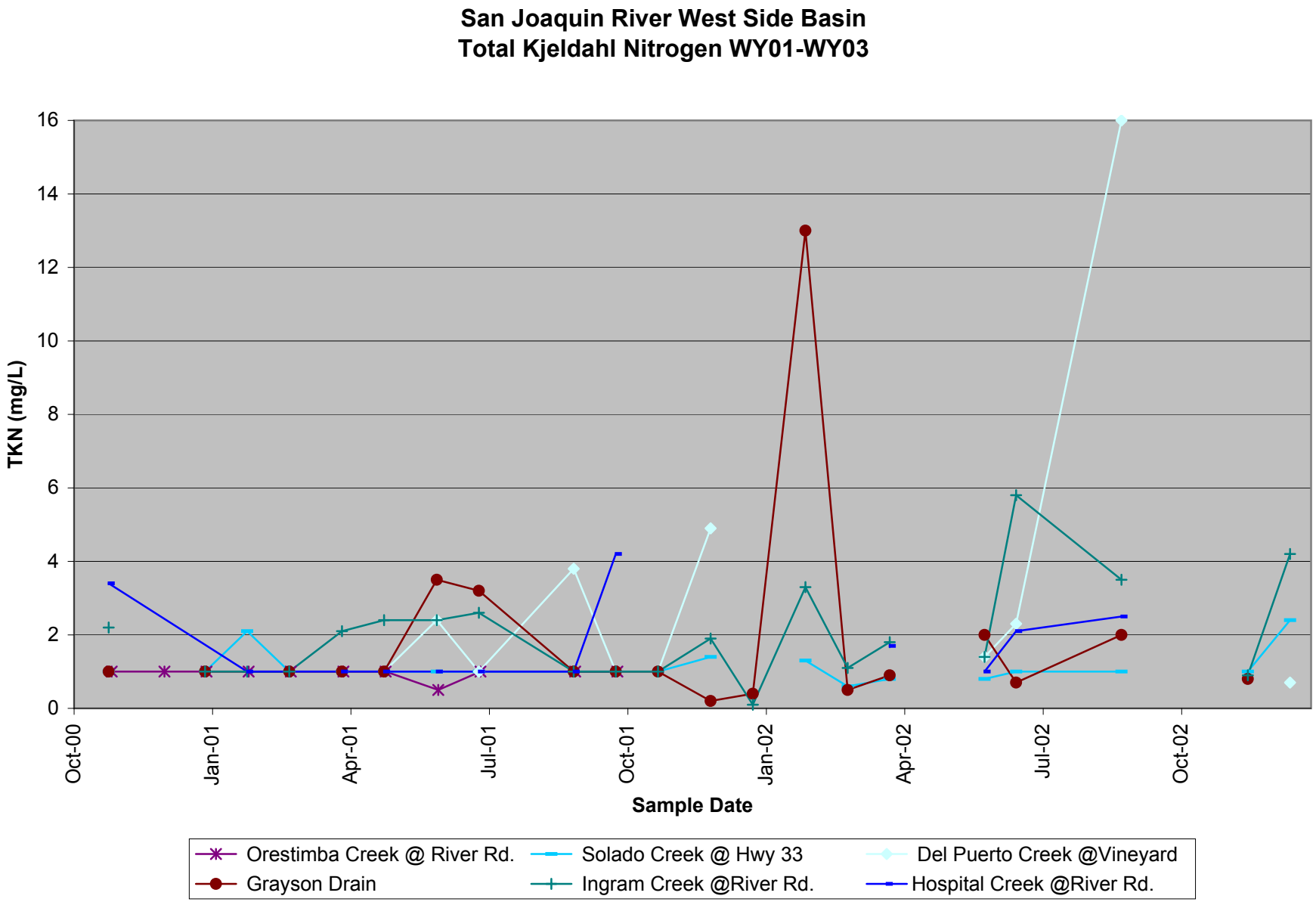


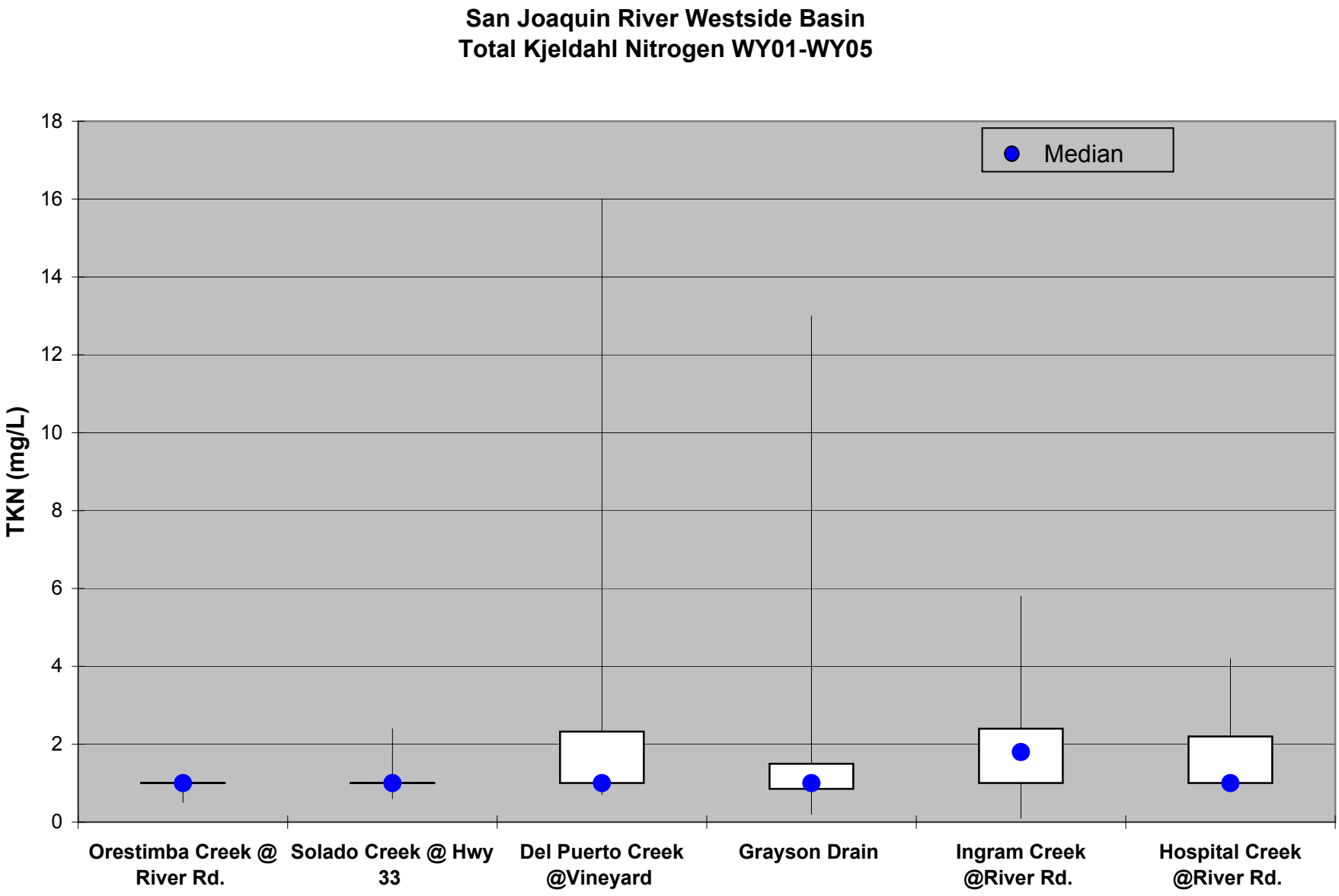
San Joaquin River Westside Basin
***Escherichia coli* WY02-WY05**

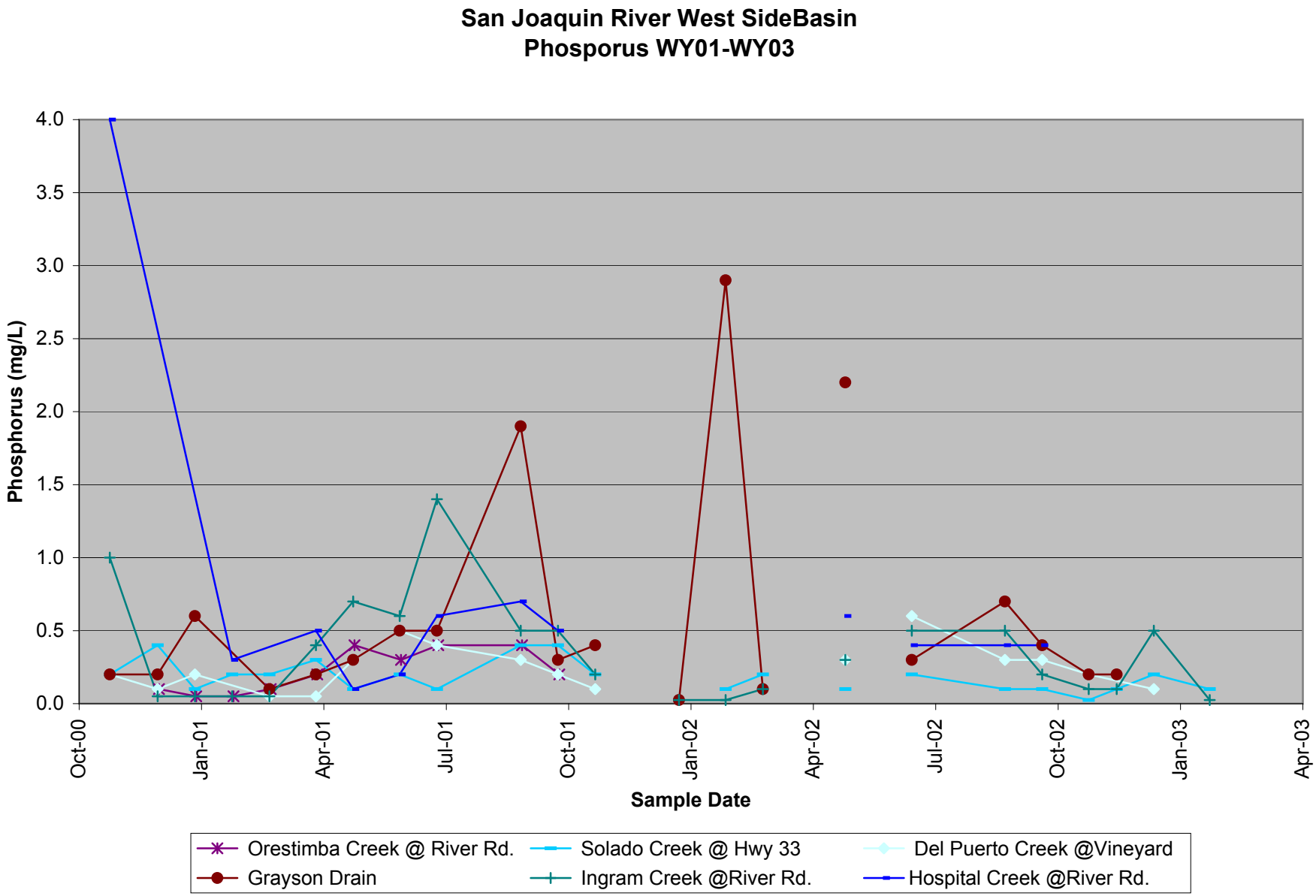


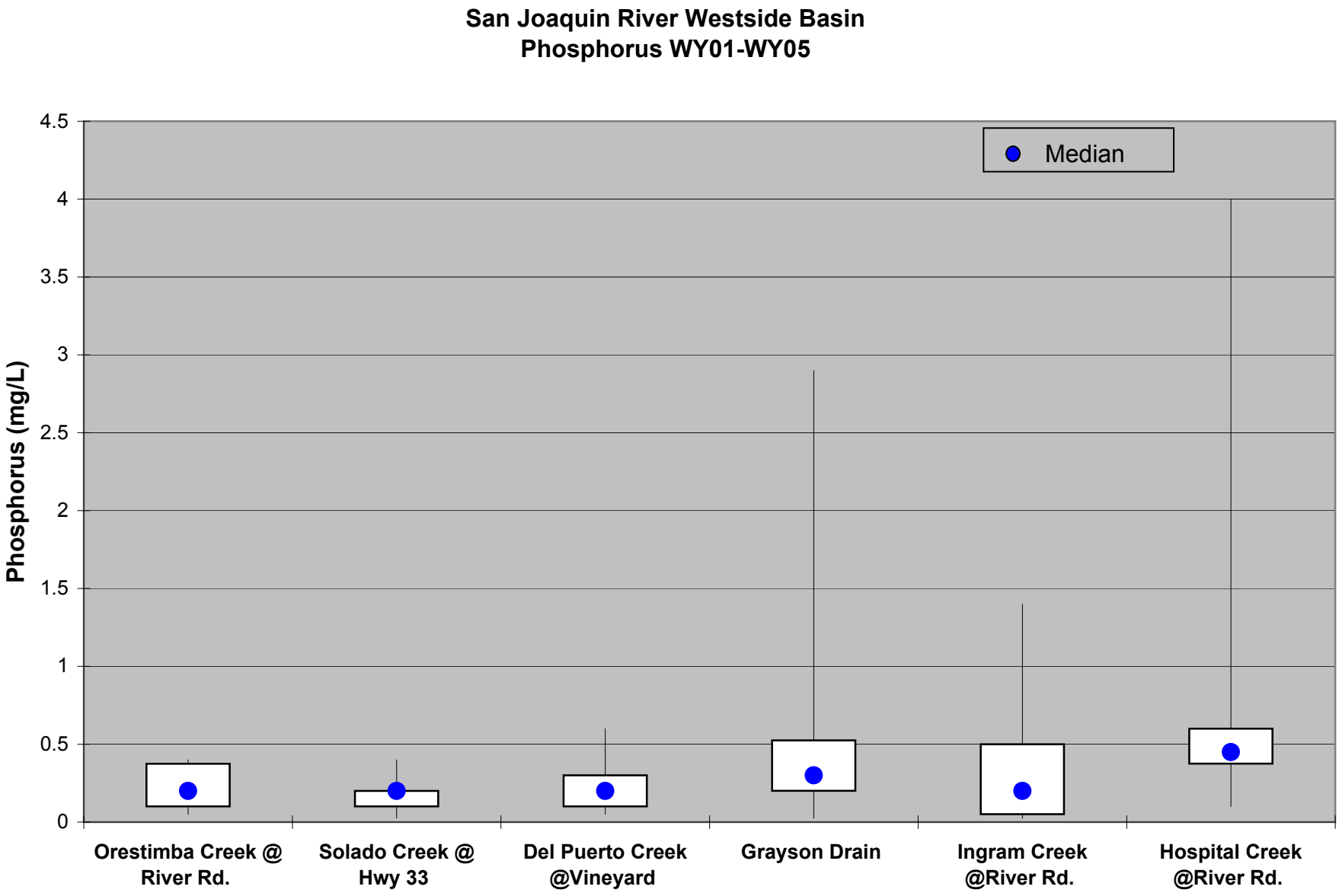

San Joaquin River West Side Basin Summary
Nitrate WY01-WY02
Nitrate (mg/L)
80
70
60
50
40
30
20
10
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.
California Primary MCL (45mg/L)

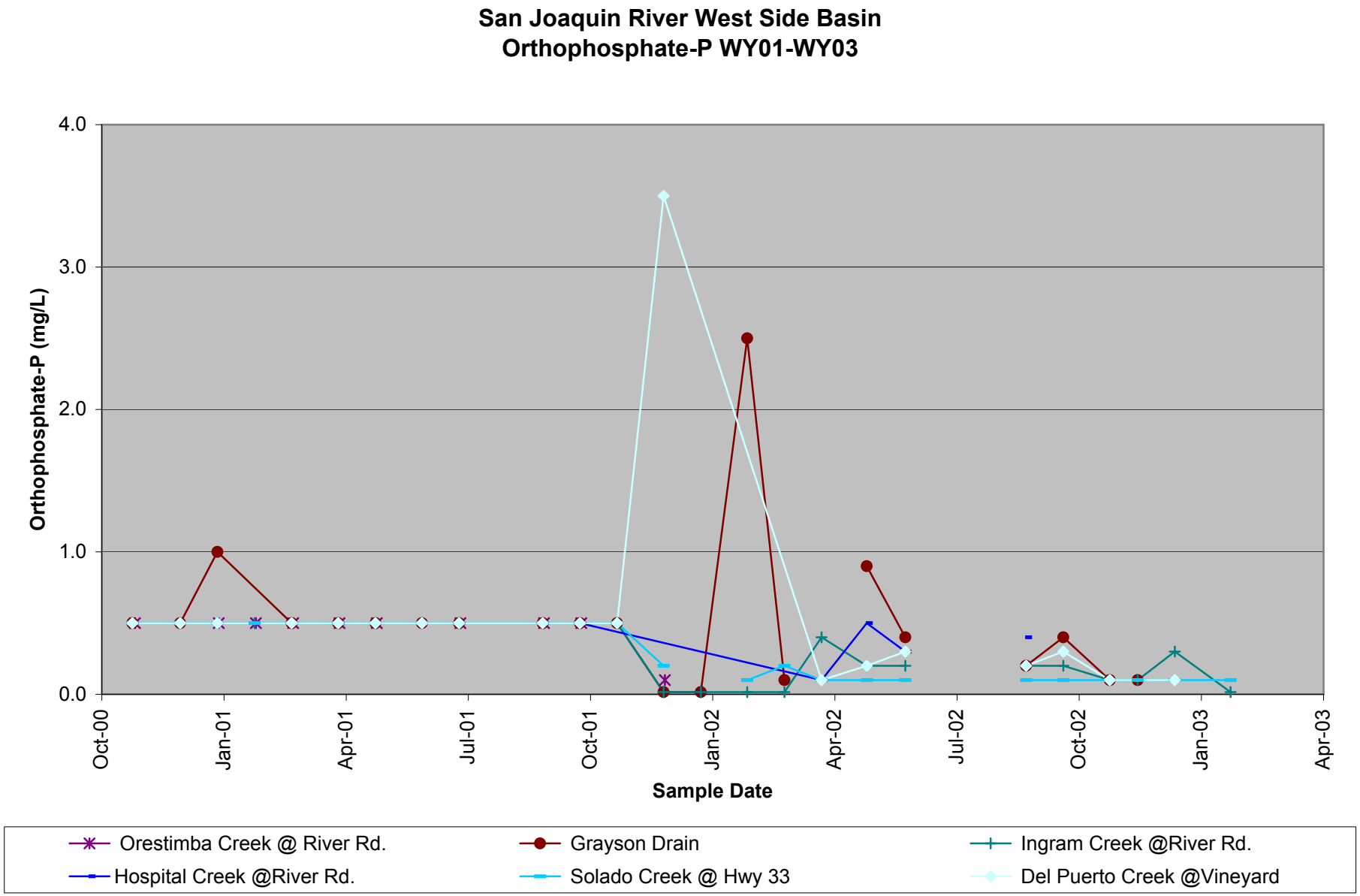

San Joaquin River Westside Basin
Nitrate WY01-WY04
Nitrate (mg/L)
80
70
60
50
40
30
20
10
0
Median
California Primary MCL (45mg/L)
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

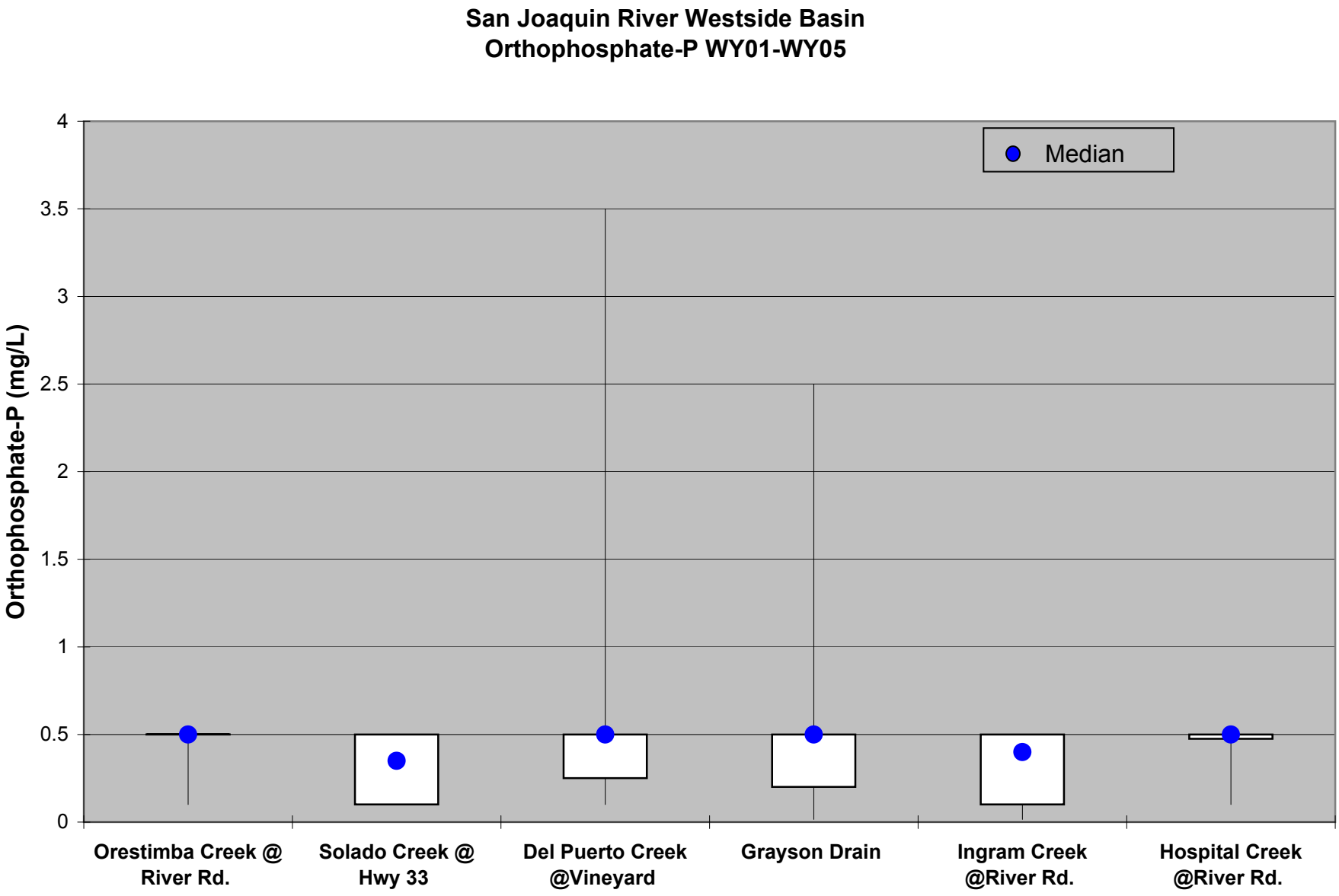

San Joaquin River West Side Basin
Total Kjeldahl Nitrogen WY01-WY03
TKN (mg/L)
16
14
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

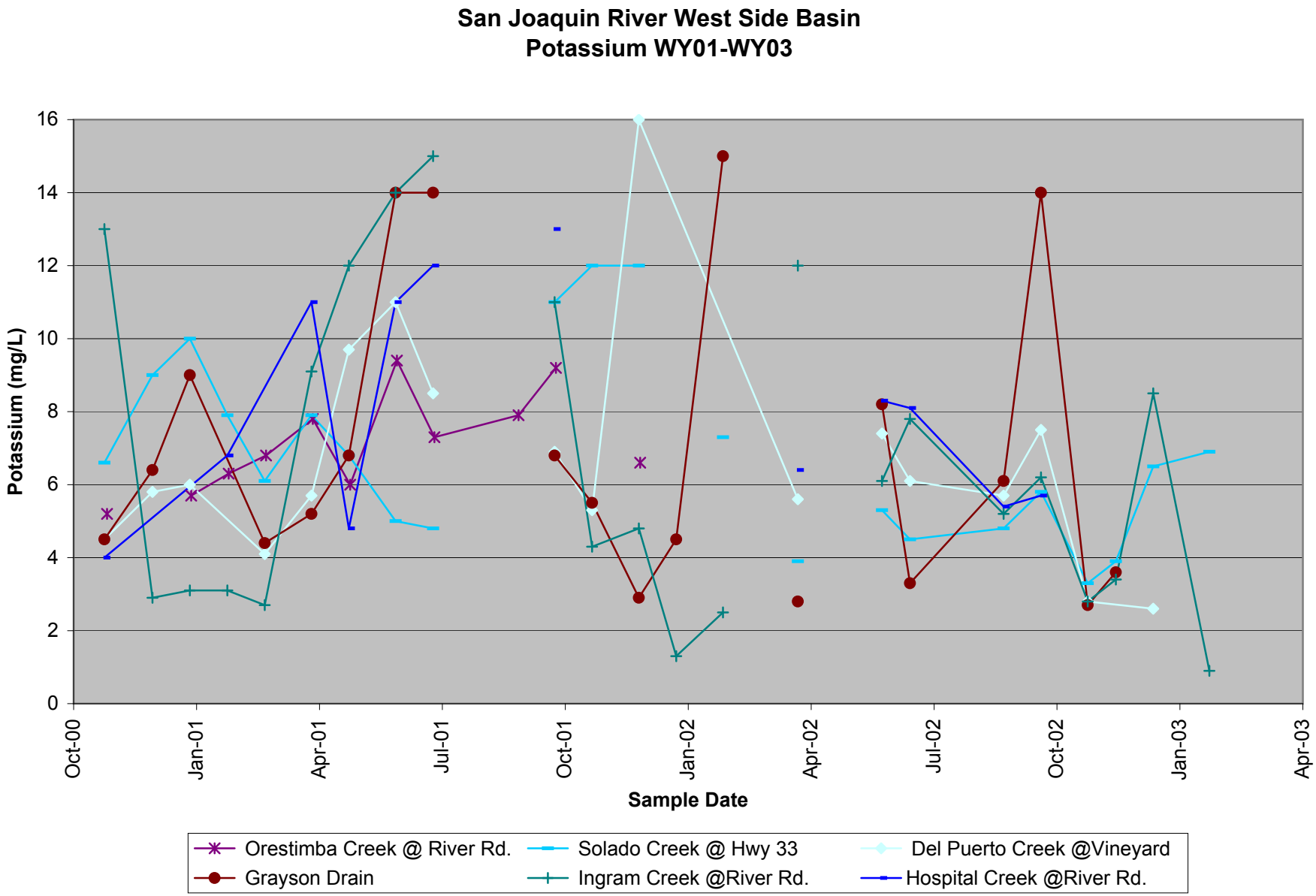

San Joaquin River Westside Basin
Total Kjeldahl Nitrogen WY01-WY05
Median
TKN (mg/L)
18
16
14
12
10
8
6
4
2
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

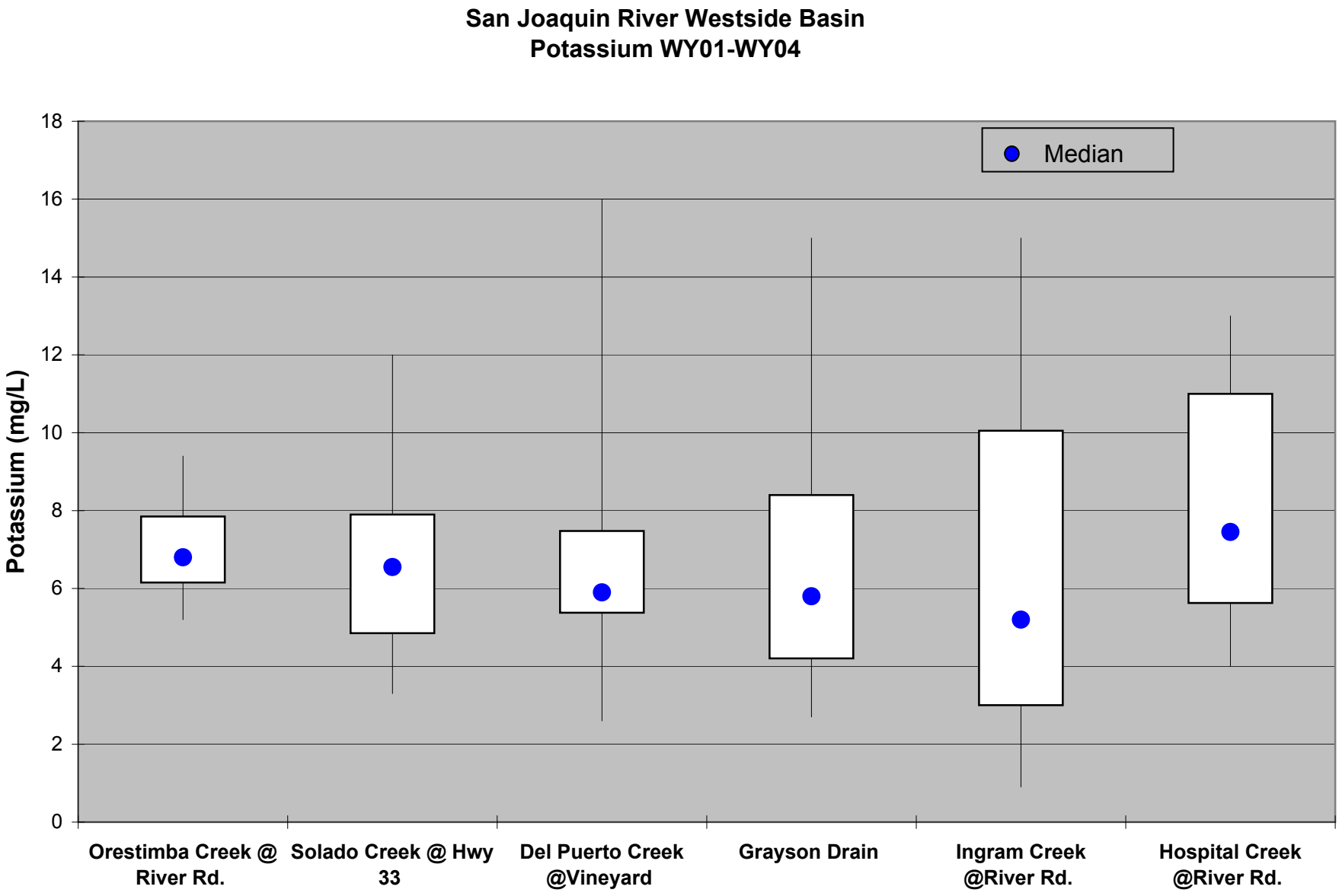

San Joaquin River West SideBasin
Phosporus WY01-WY03
Phosphorus (mg/L)
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

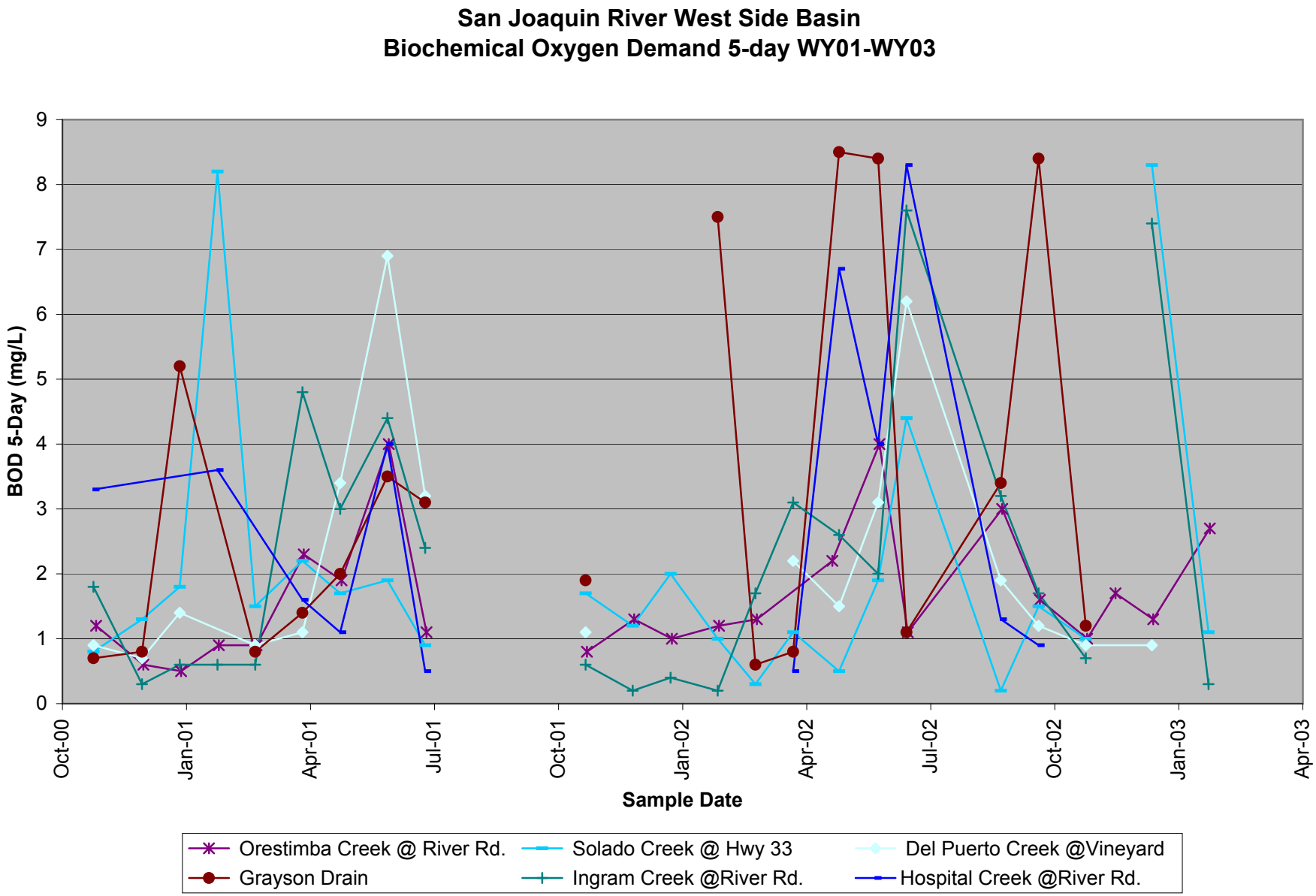

San Joaquin River Westside Basin
Phosphorus WY01-WY05
Median
Phosphorus (mg/L)
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.


San Joaquin River West Side Basin
Orthophosphate-P WY01-WY03
Orthophosphate-P (mg/L)
4.0
3.0
2.0
1.0
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Orestimba Creek @ River Rd.
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard

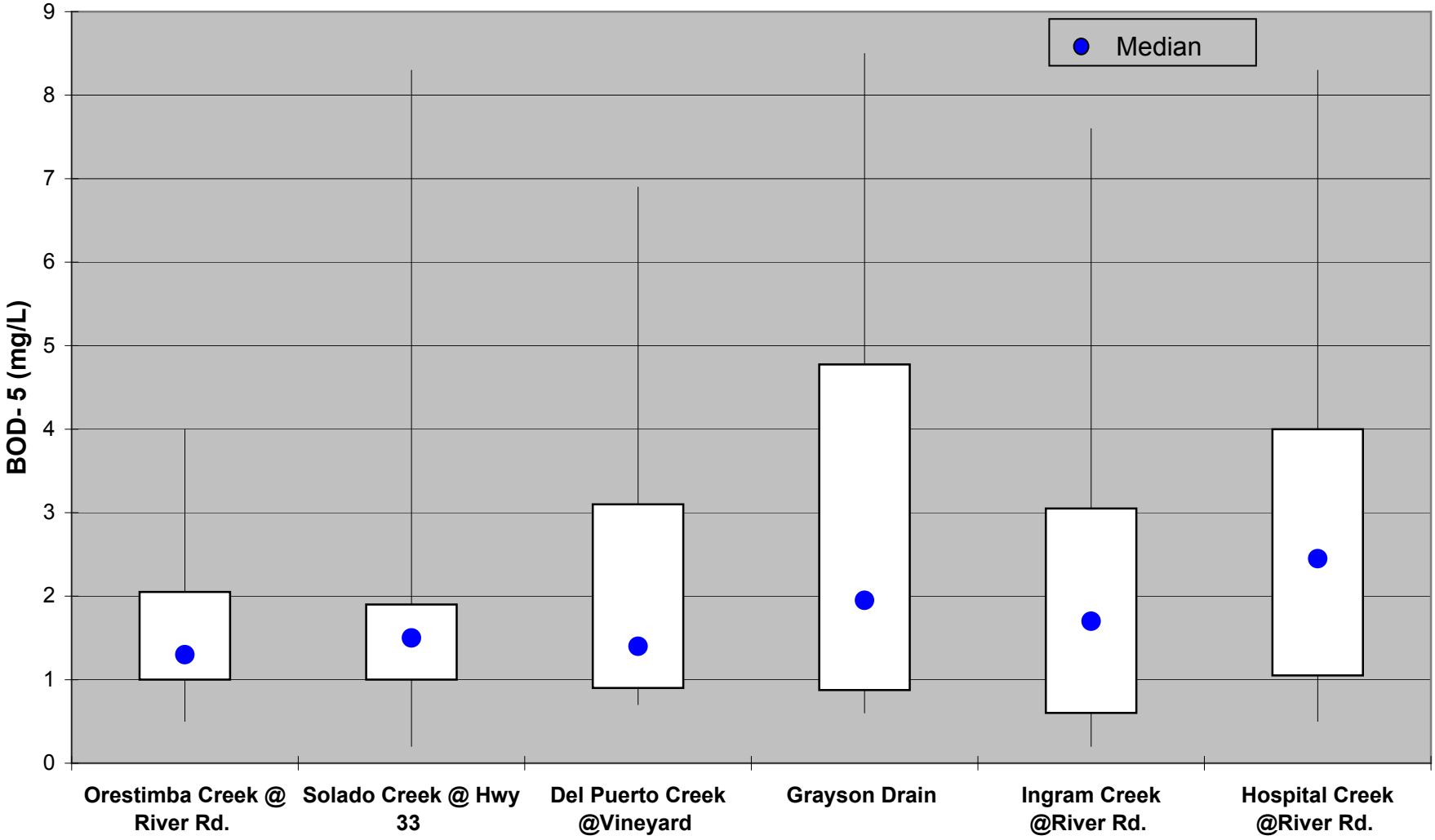

San Joaquin River Westside Basin
Orthophosphate-P WY01-WY05
Median
Orthophosphate-P (mg/L)
4
3.5
3
2.5
2
1.5
1
0.5
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

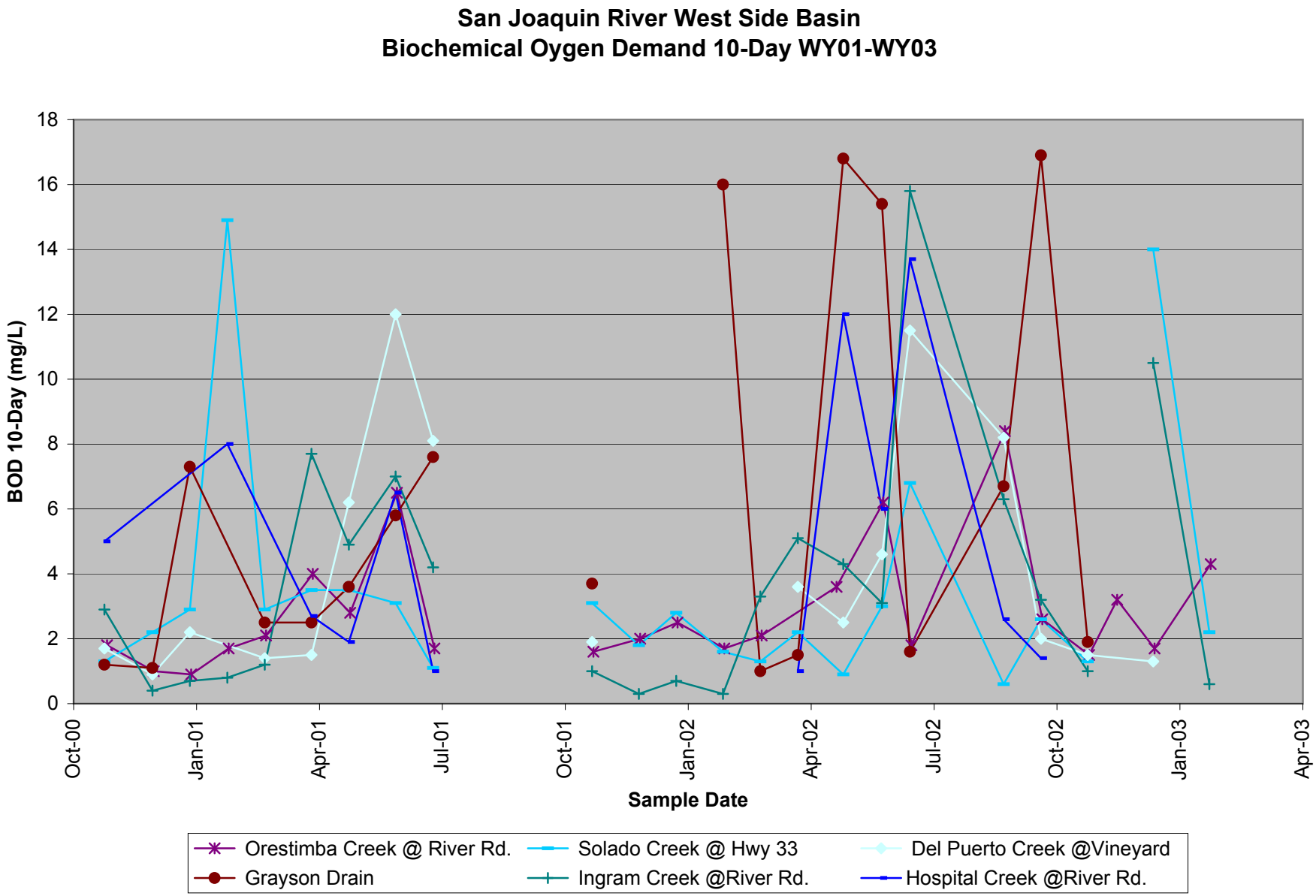

San Joaquin River West Side Basin
Potassium WY01-WY03
Potassium (mg/L)
16
14
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.


San Joaquin River Westside Basin
Potassium WY01-WY04
Median
Potassium (mg/L)
18
16
14
12
10
8
6
4
2
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

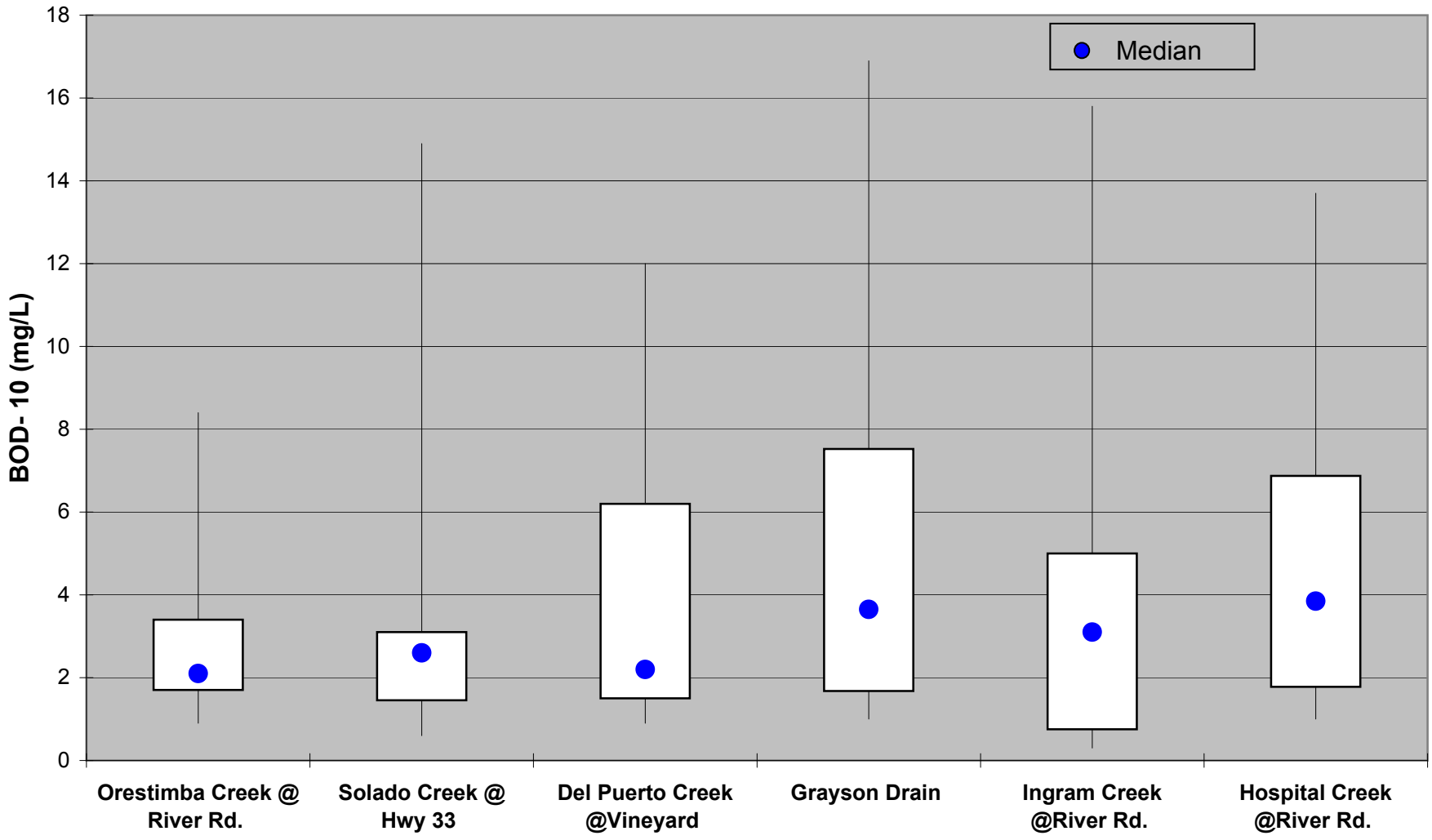

San Joaquin River West Side Basin
Biochemical Oxygen Demand 5-day WY01-WY03
BOD 5-Day (mg/L)
0
1
2
3
4
5
6
7
8
9
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

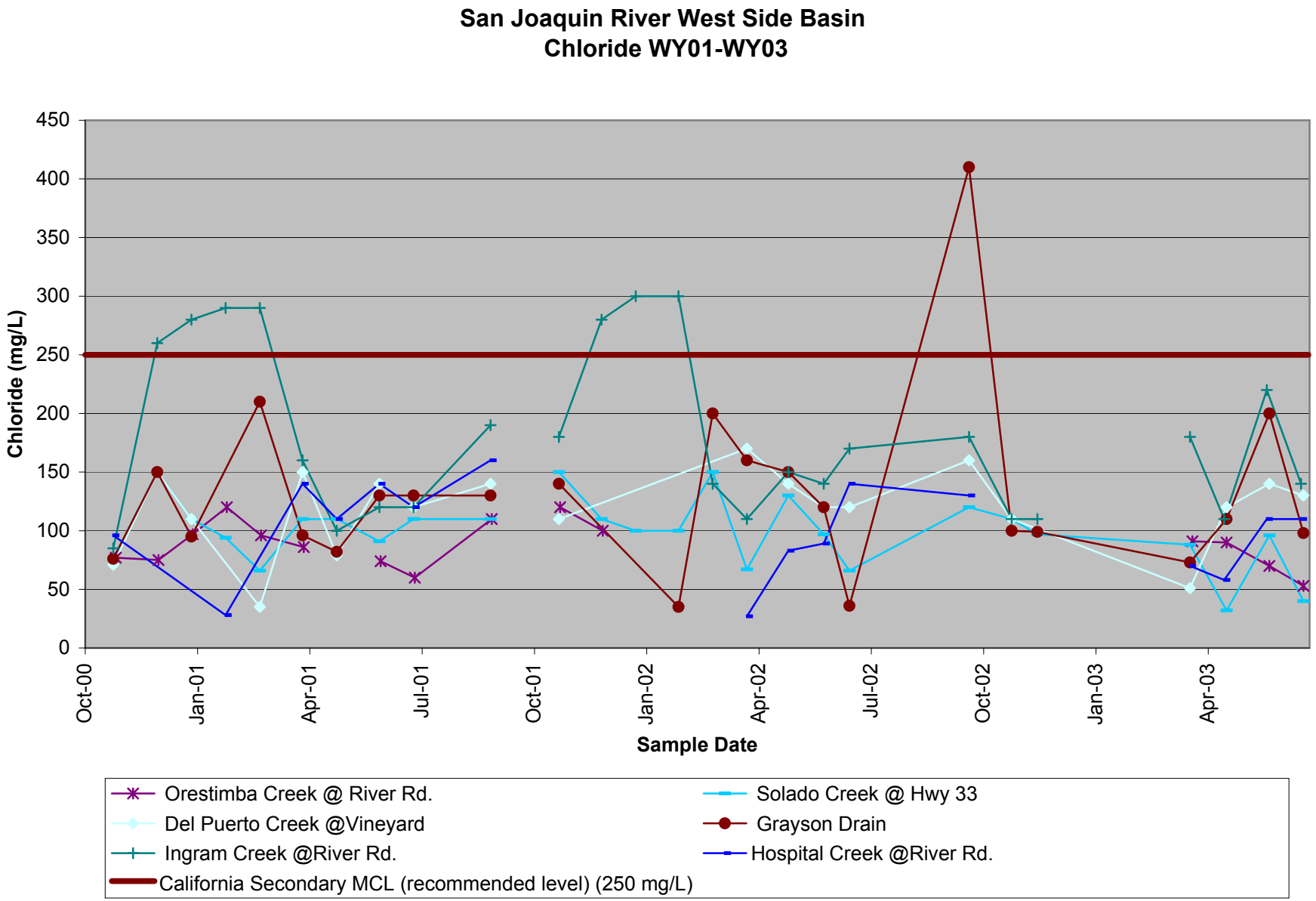
San Joaquin River Westside Basin
Biological Oxygen Demand 5-Day WY01-WY03

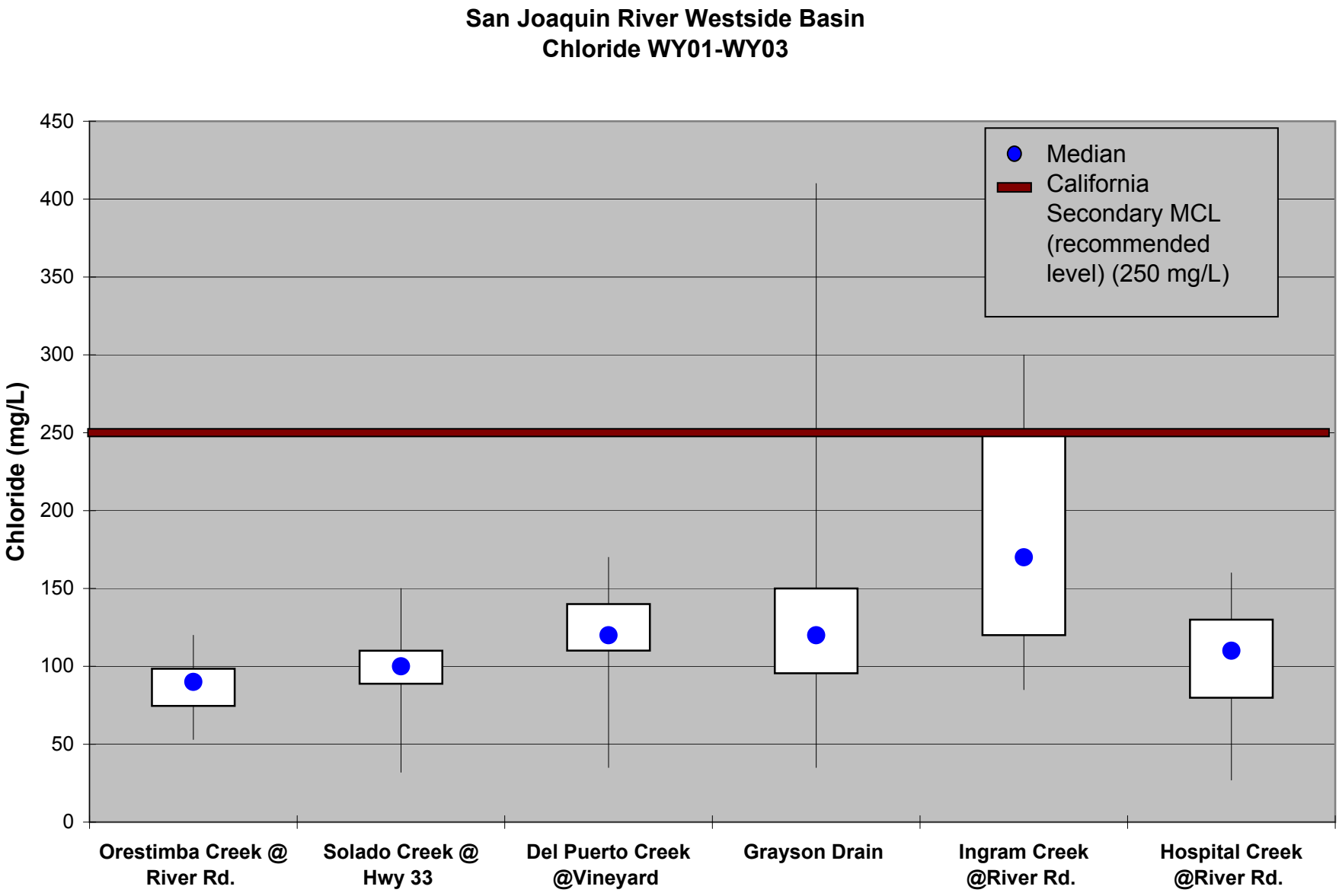


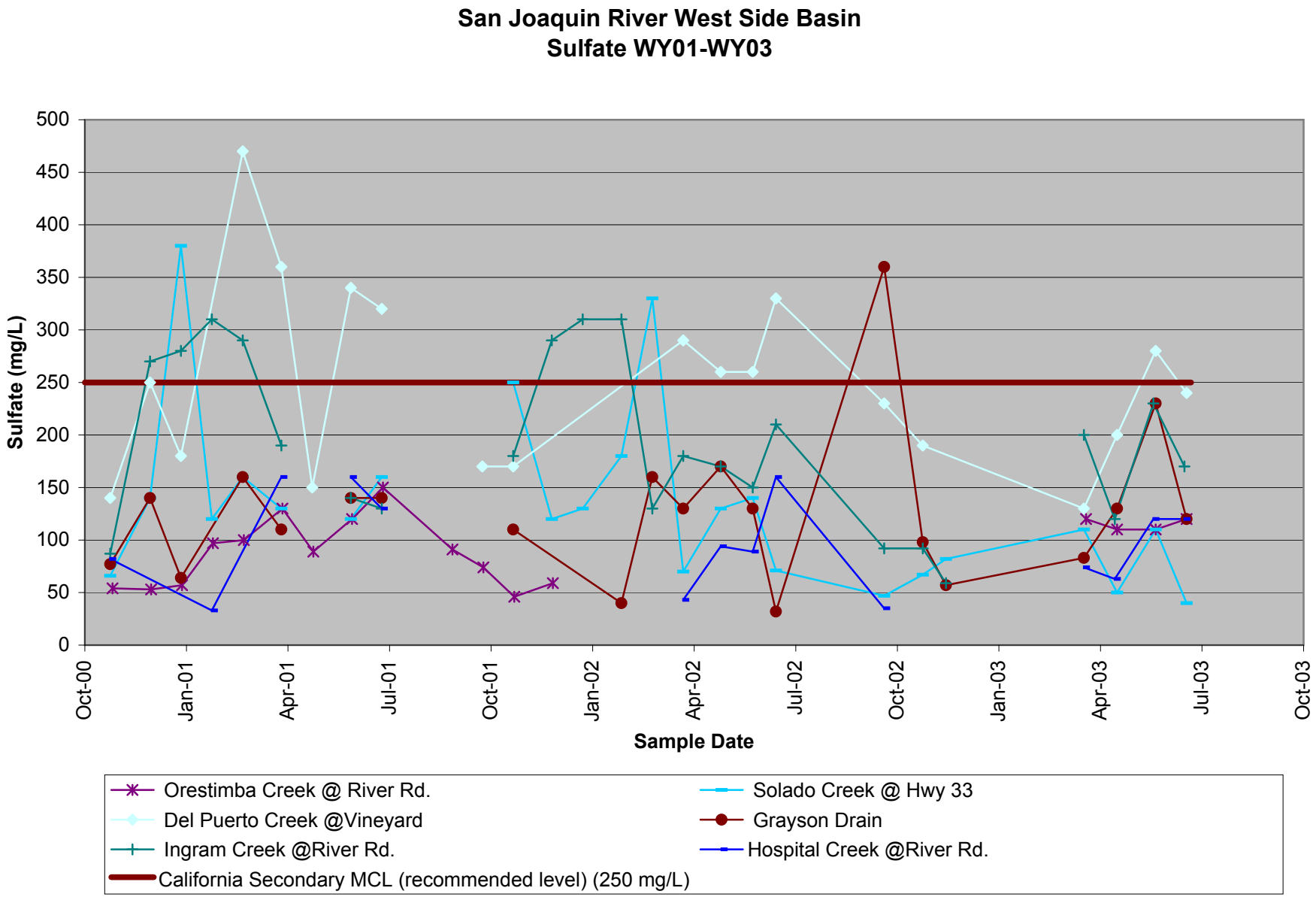

San Joaquin River West Side Basin
Biochemical Oygen Demand 10-Day WY01-WY03
BOD 10-Day (mg/L)
18
16
14
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

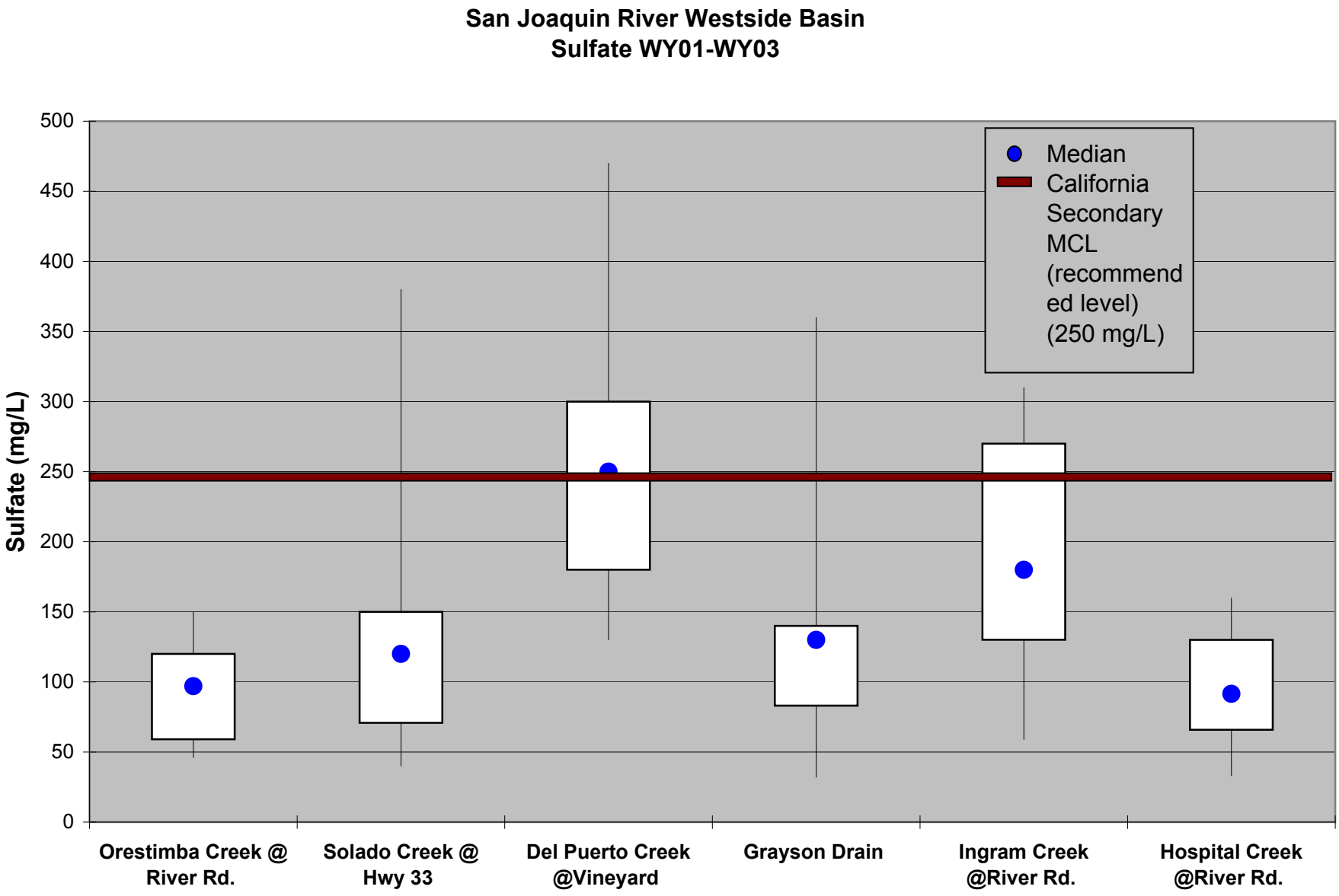
San Joaquin River Westside Basin
Biological Oxygen Demand 10-Day WY01-WY03

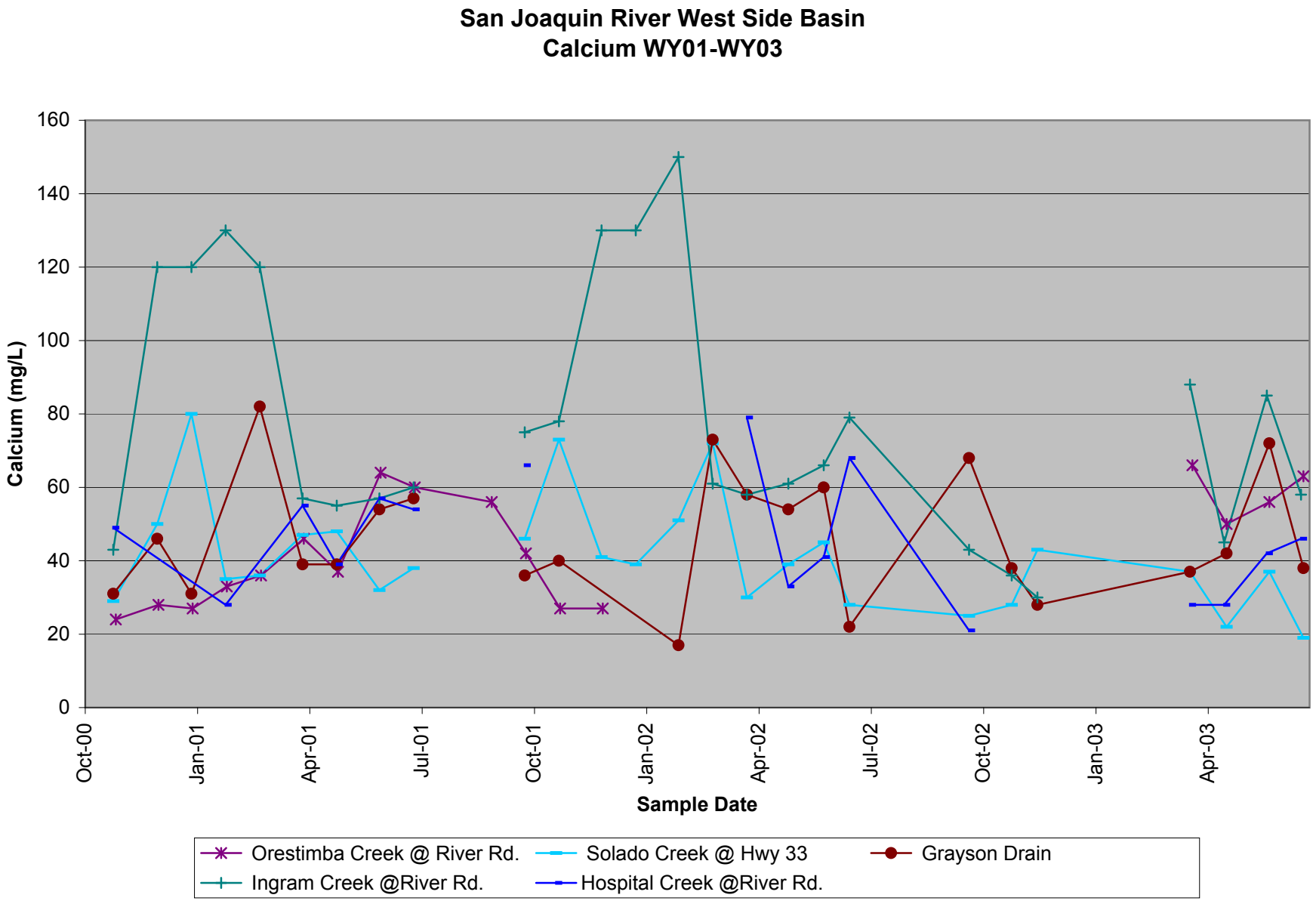


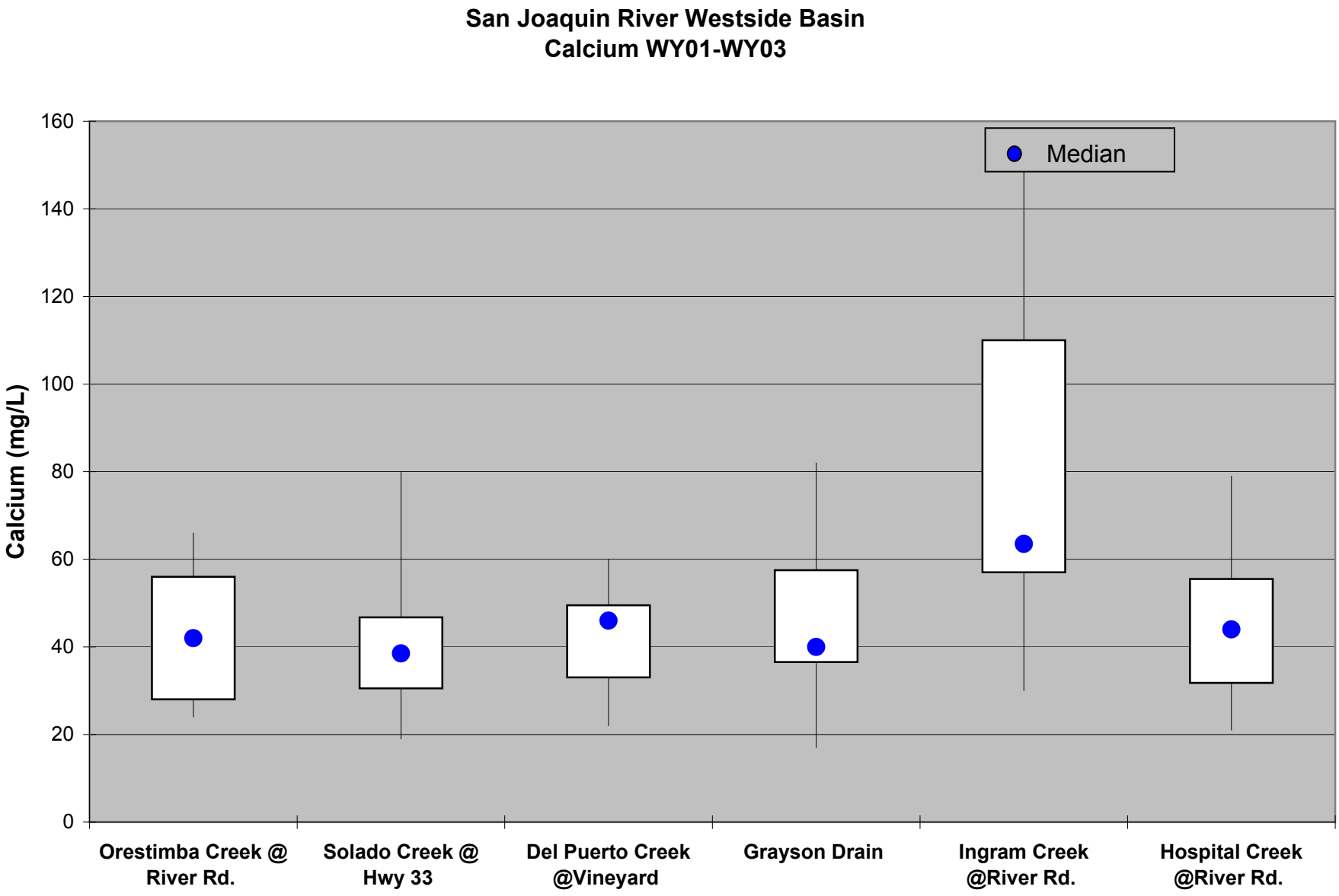

San Joaquin River West Side Basin
Chloride WY01-WY03
Chloride (mg/L)
450
400
350
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.
California Secondary MCL (recommended level) (250 mg/L)


San Joaquin River Westside Basin
Chloride WY01-WY03
Chloride (mg/L)
450
400
350
300
250
200
150
100
50
0
Median
California Secondary MCL (recommended level) (250 mg/L)
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

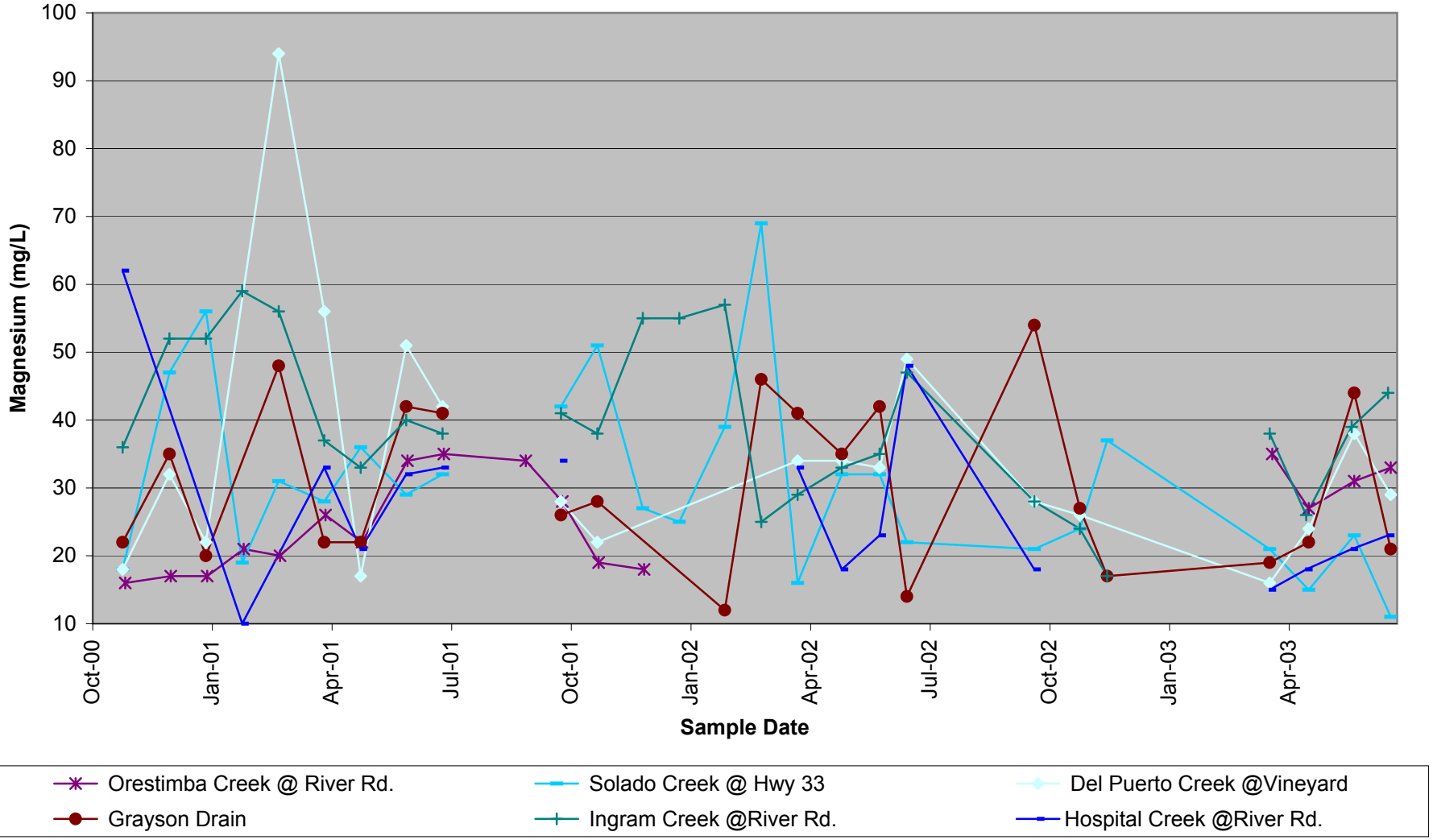

San Joaquin River West Side Basin
Sulfate WY01-WY03
Sulfate (mg/L)
500
450
400
350
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.
California Secondary MCL (recommended level) (250 mg/L)

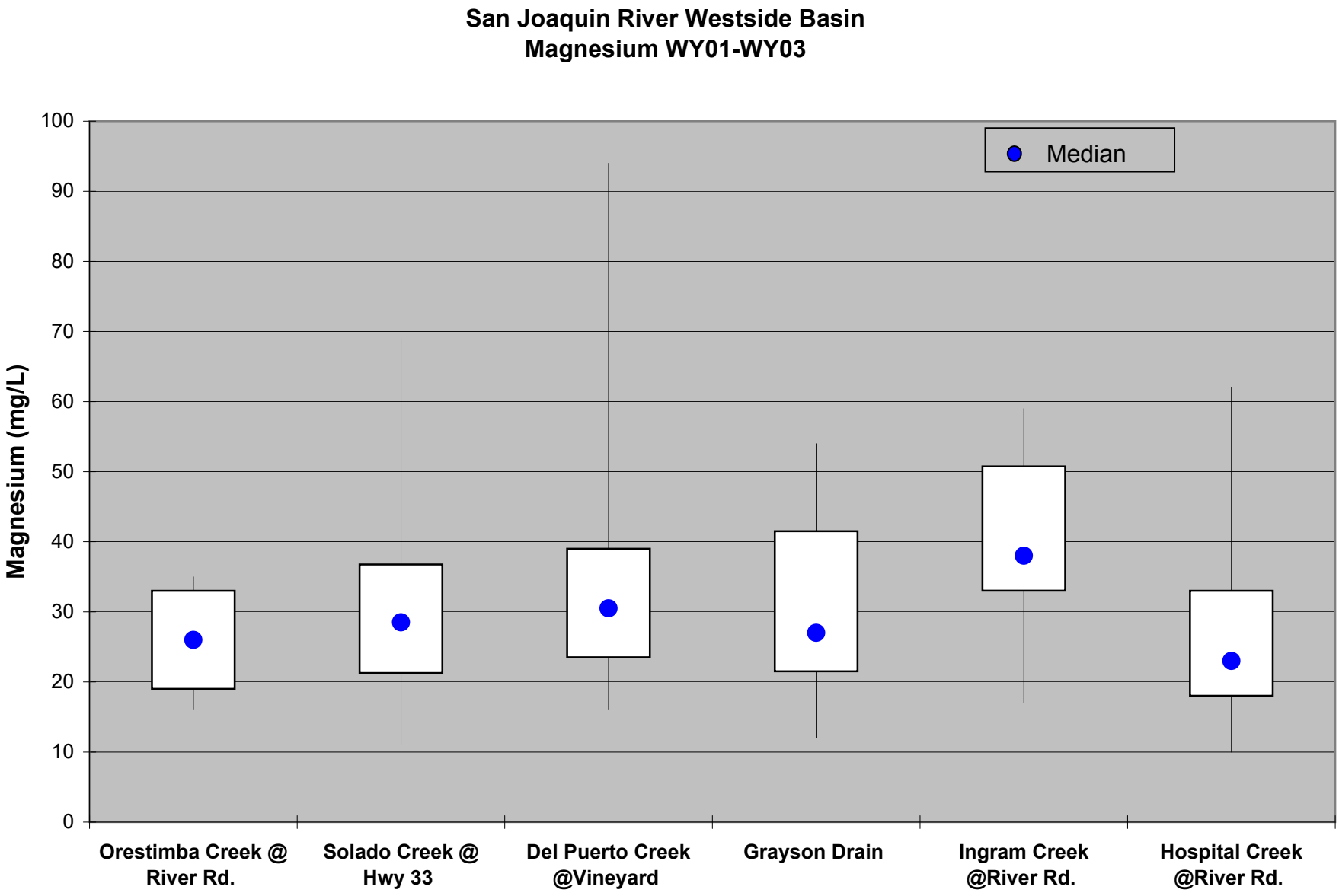

San Joaquin River Westside Basin
Sulfate WY01-WY03
Sulfate (mg/L)
500
450
400
350
300
250
200
150
100
50
0
Median
California Secondary MCL (recommended level) (250 mg/L)
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.


San Joaquin River West Side Basin
Calcium WY01-WY03
Calcium (mg/L)
160
140
120
100
80
60
40
20
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

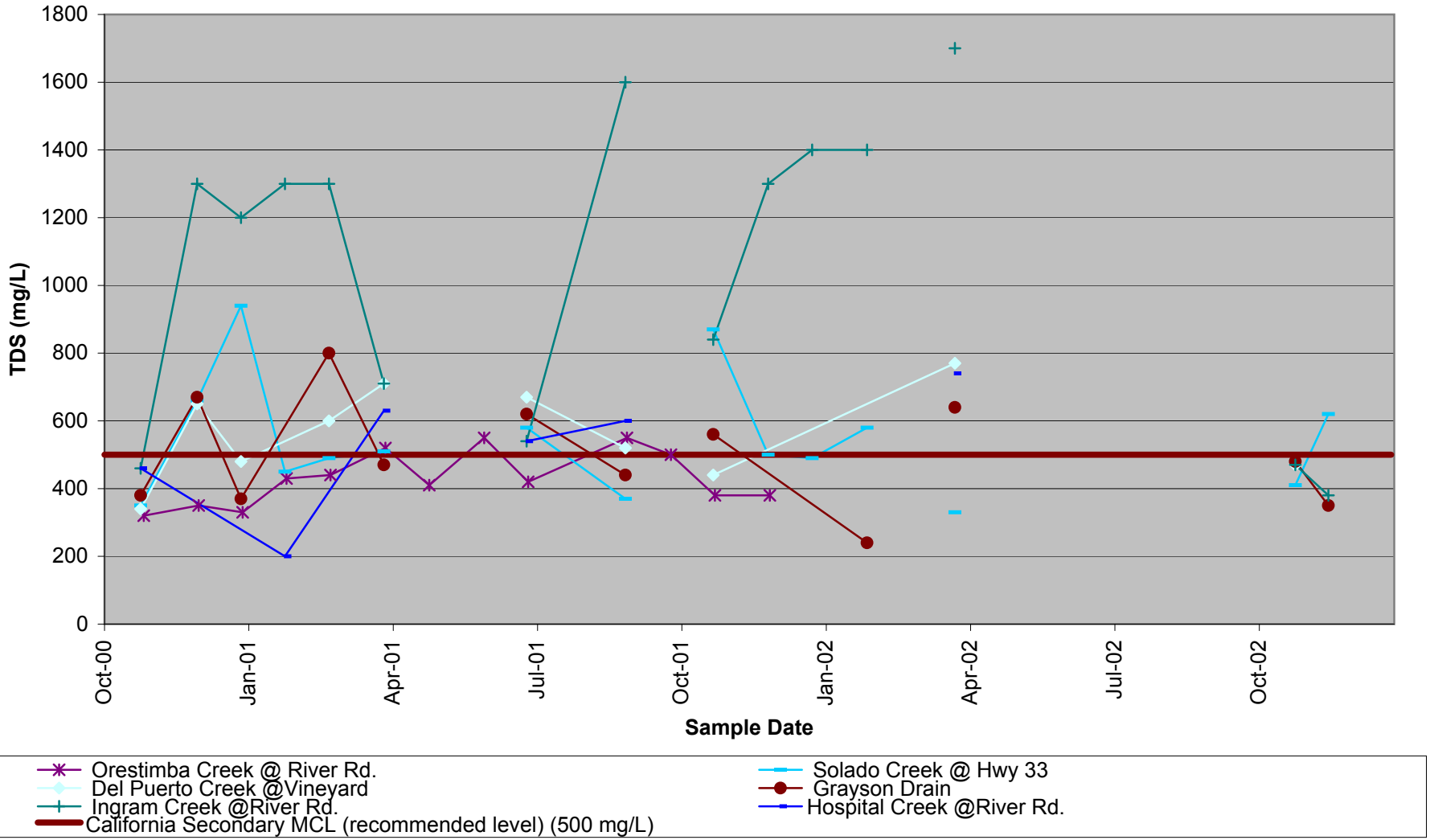

San Joaquin River Westside Basin
Calcium WY01-WY03
Median
Calcium (mg/L)
160
140
120
100
80
60
40
20
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

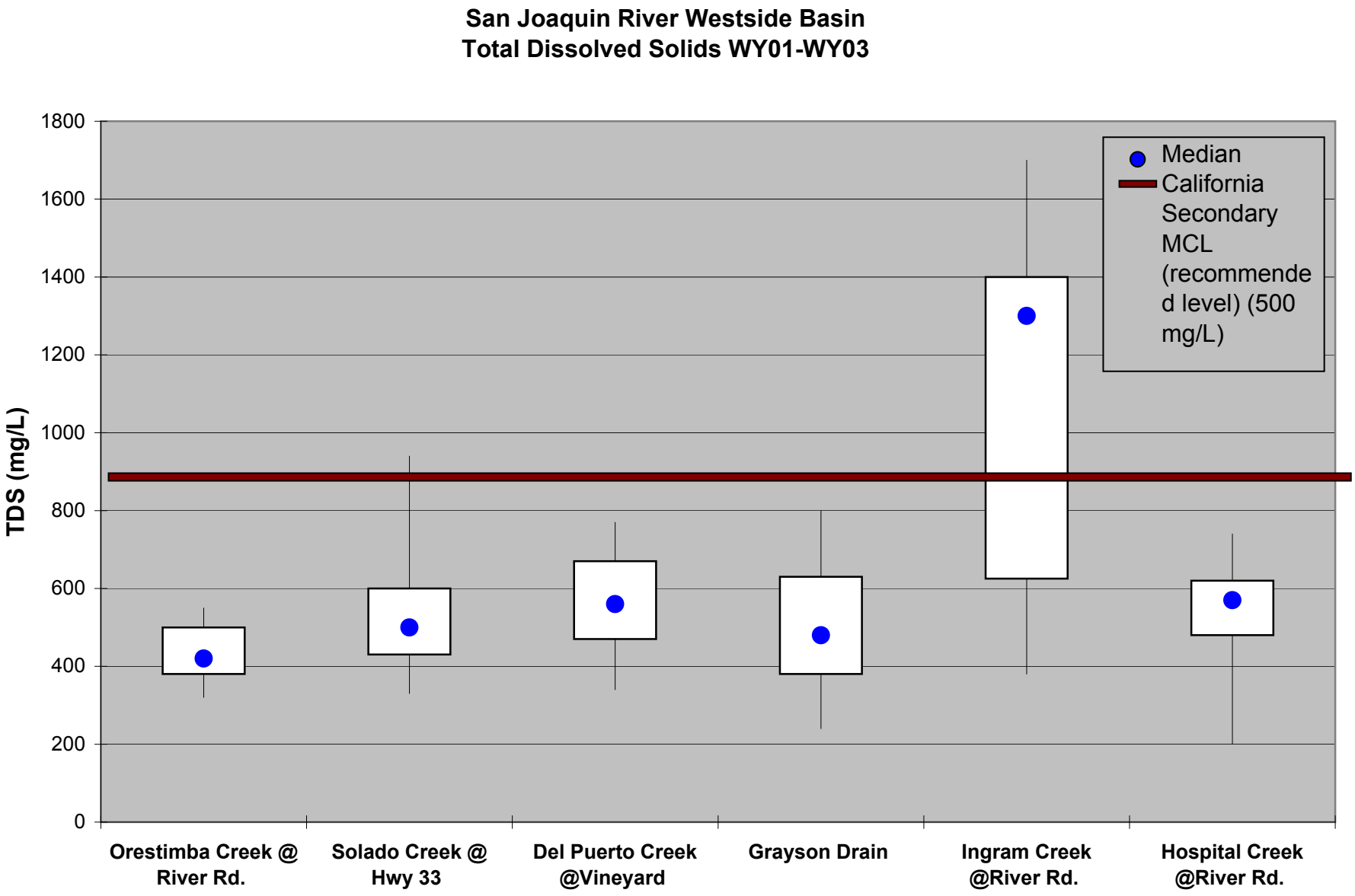
San Joaquin River West Side Basin
Magnesium WY01- WY03

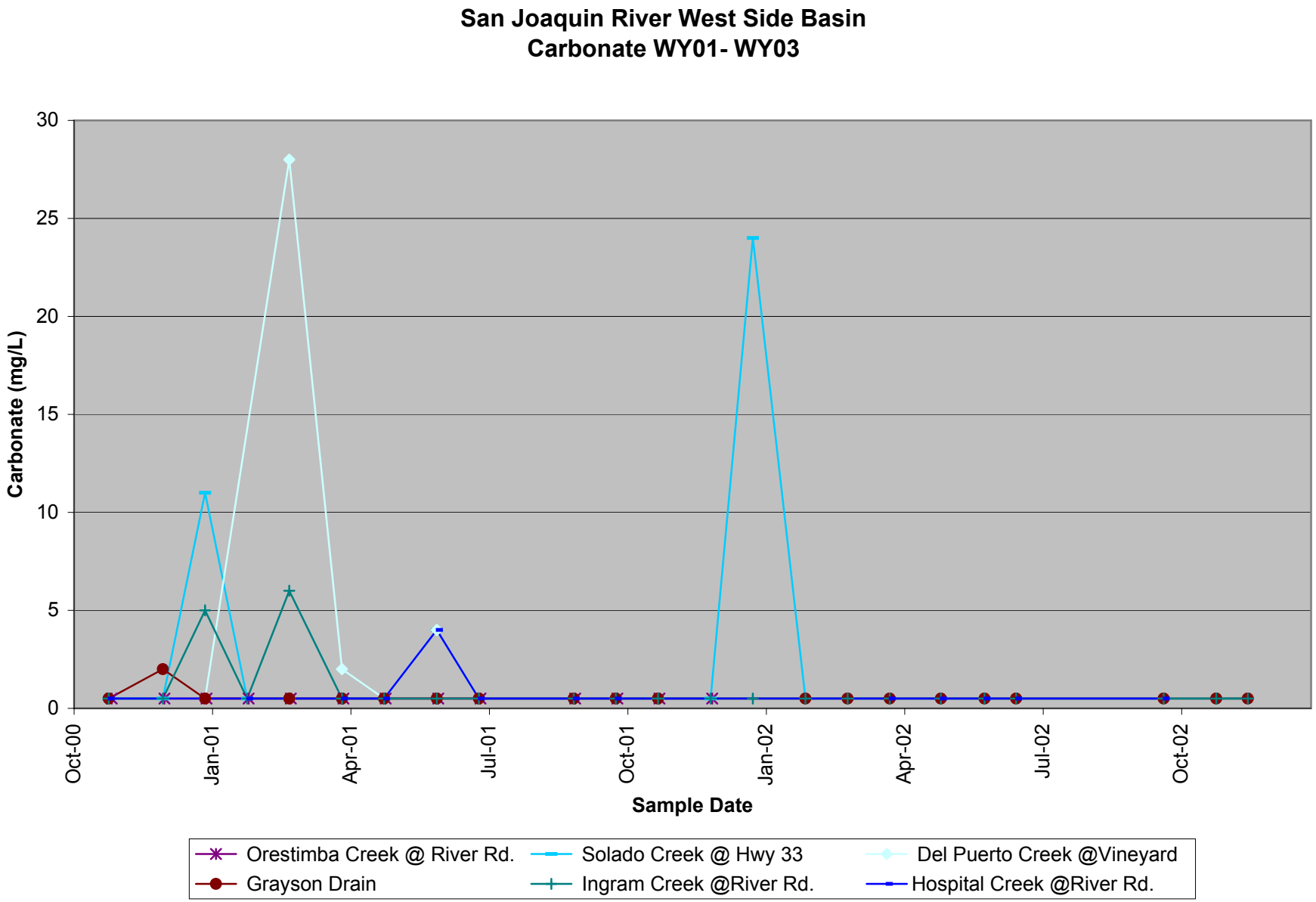


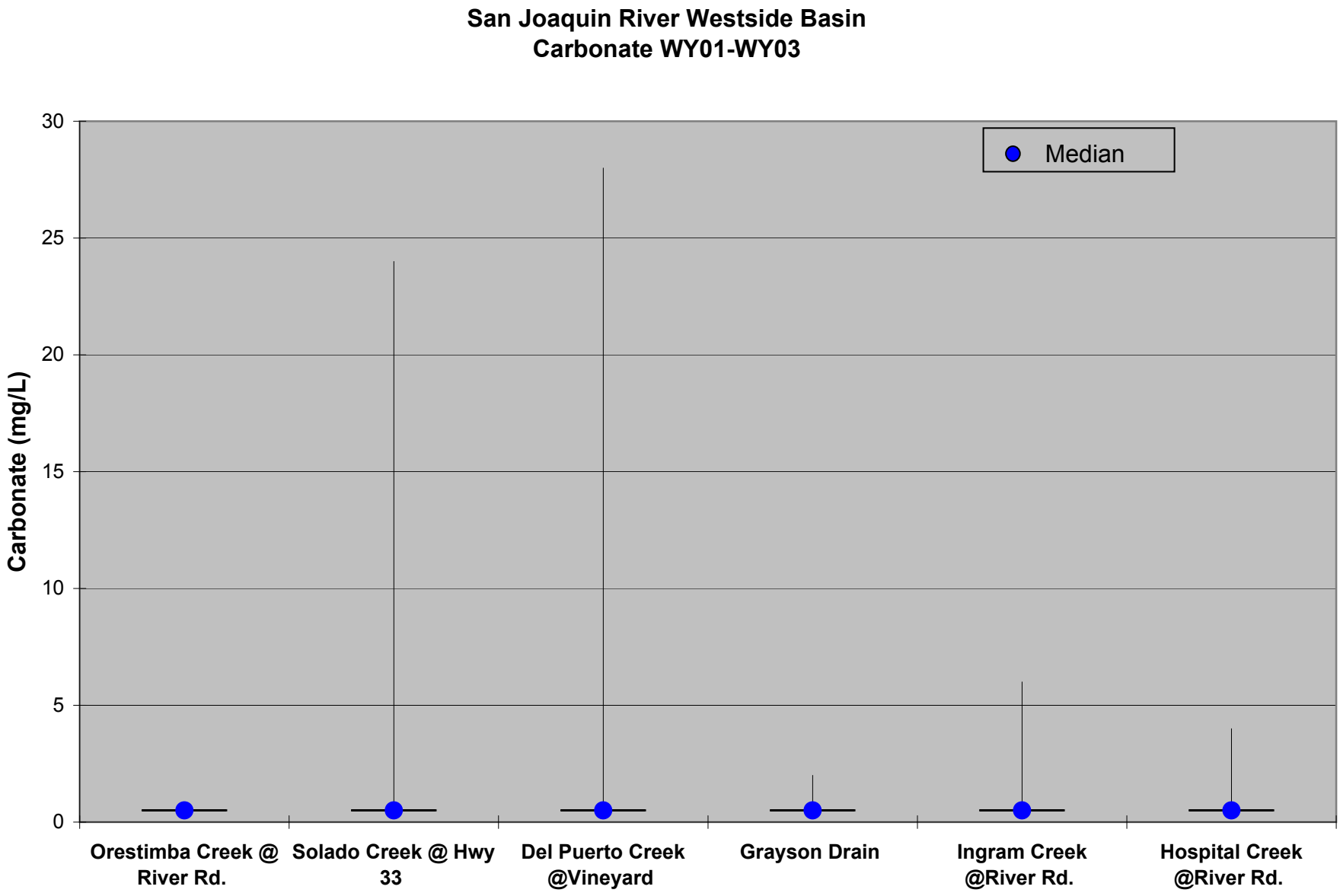

San Joaquin River Westside Basin
Magnesium WY01-WY03
Median
Magnesium (mg/L)
100
90
80
70
60
50
40
30
20
10
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

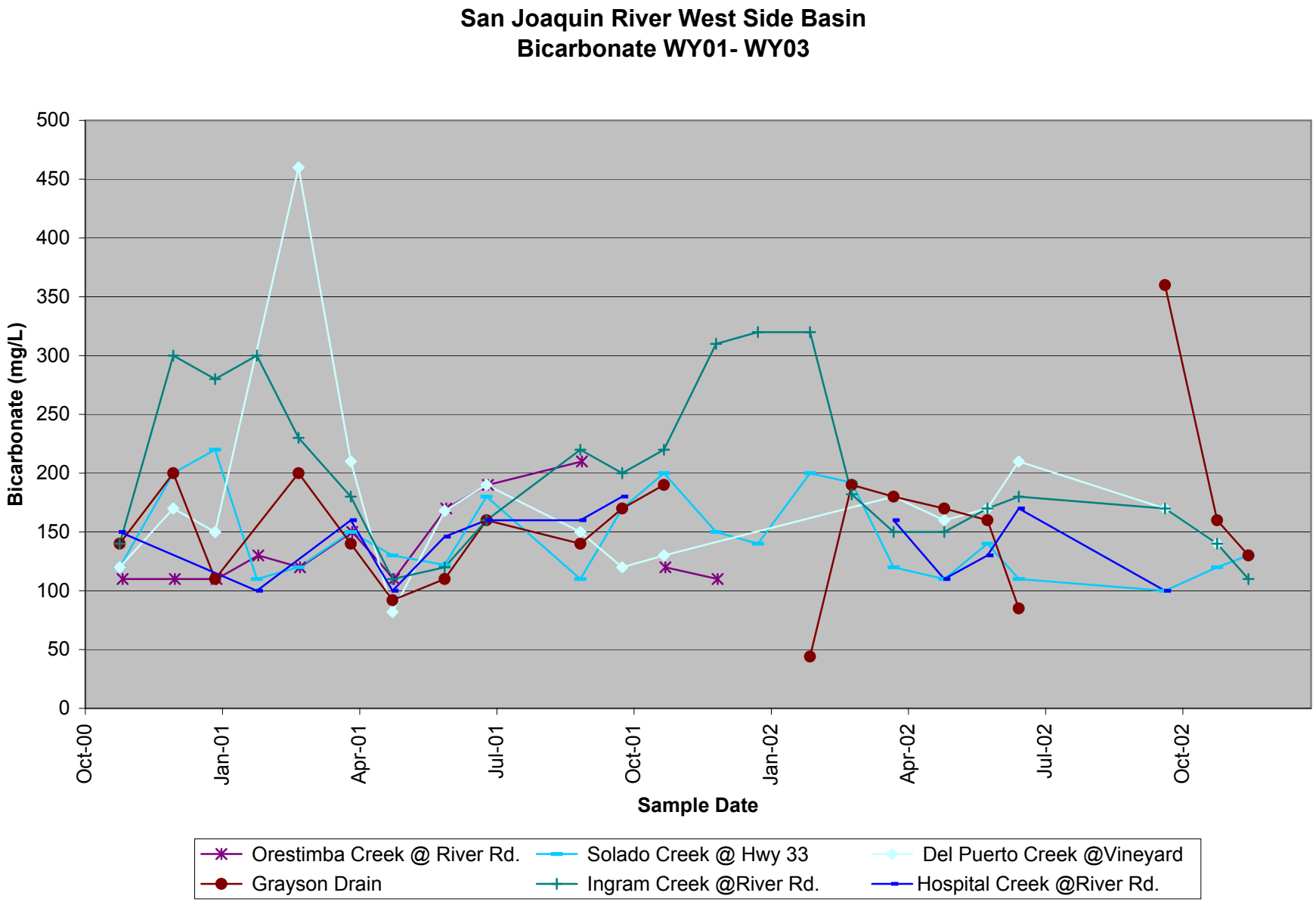
San Joaquin River West Side Basin
Total Dissolved Solids WY01-W03

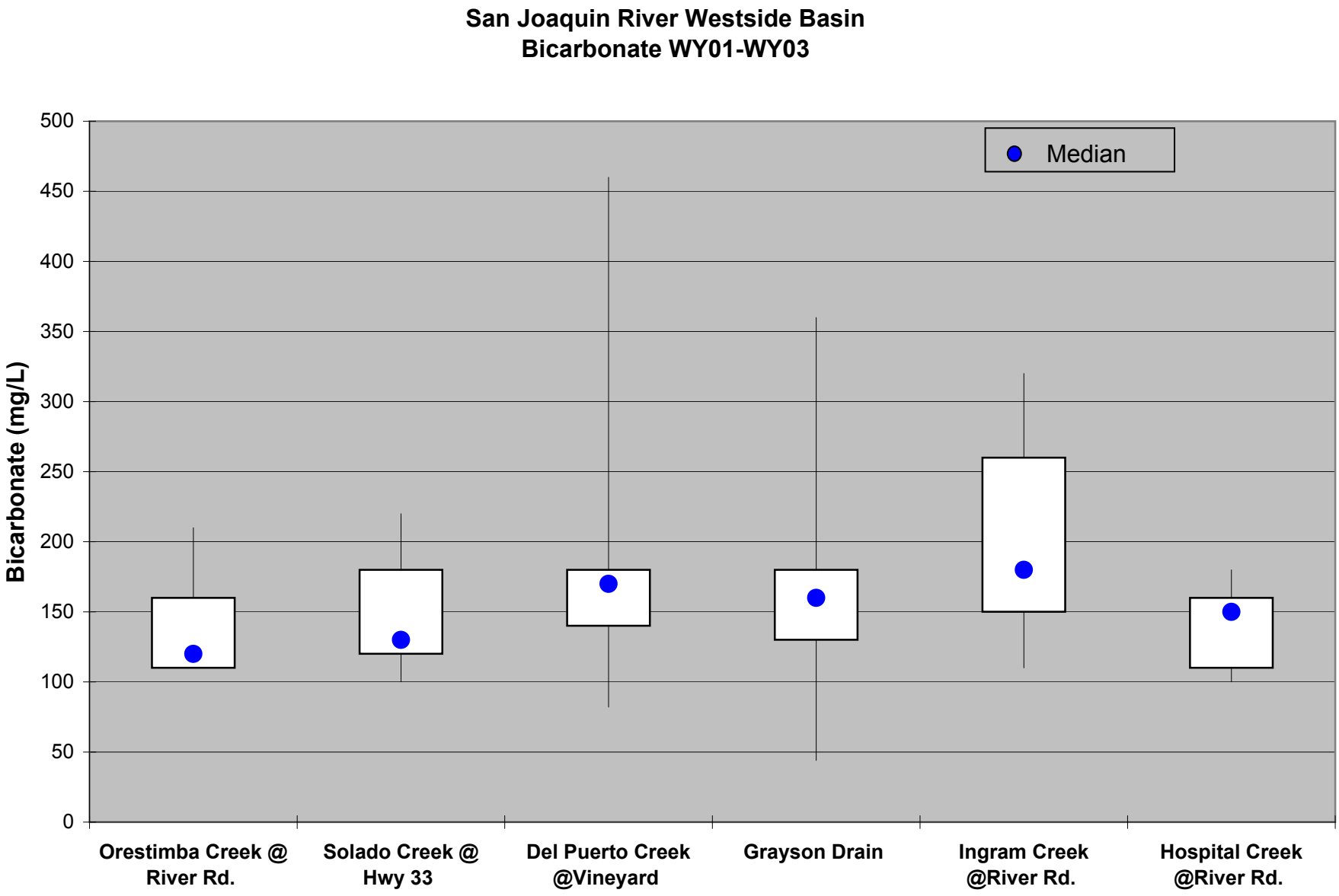


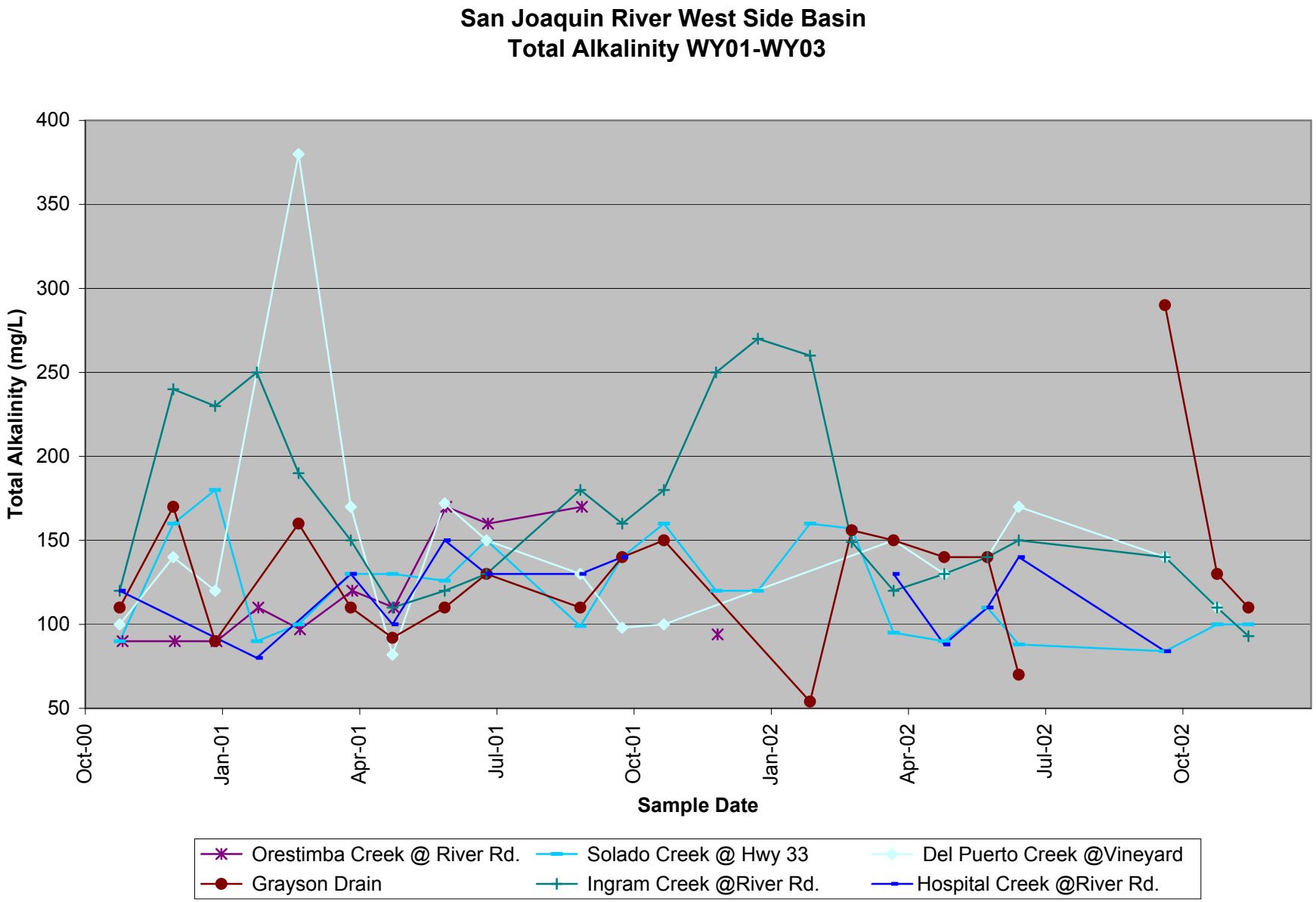

San Joaquin River Westside Basin
Total Dissolved Solids WY01-WY03
TDS (mg/L)
1800
1600
1400
1200
1000
800
600
400
200
0
Median
California Secondary MCL (recommended level) (500 mg/L)
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

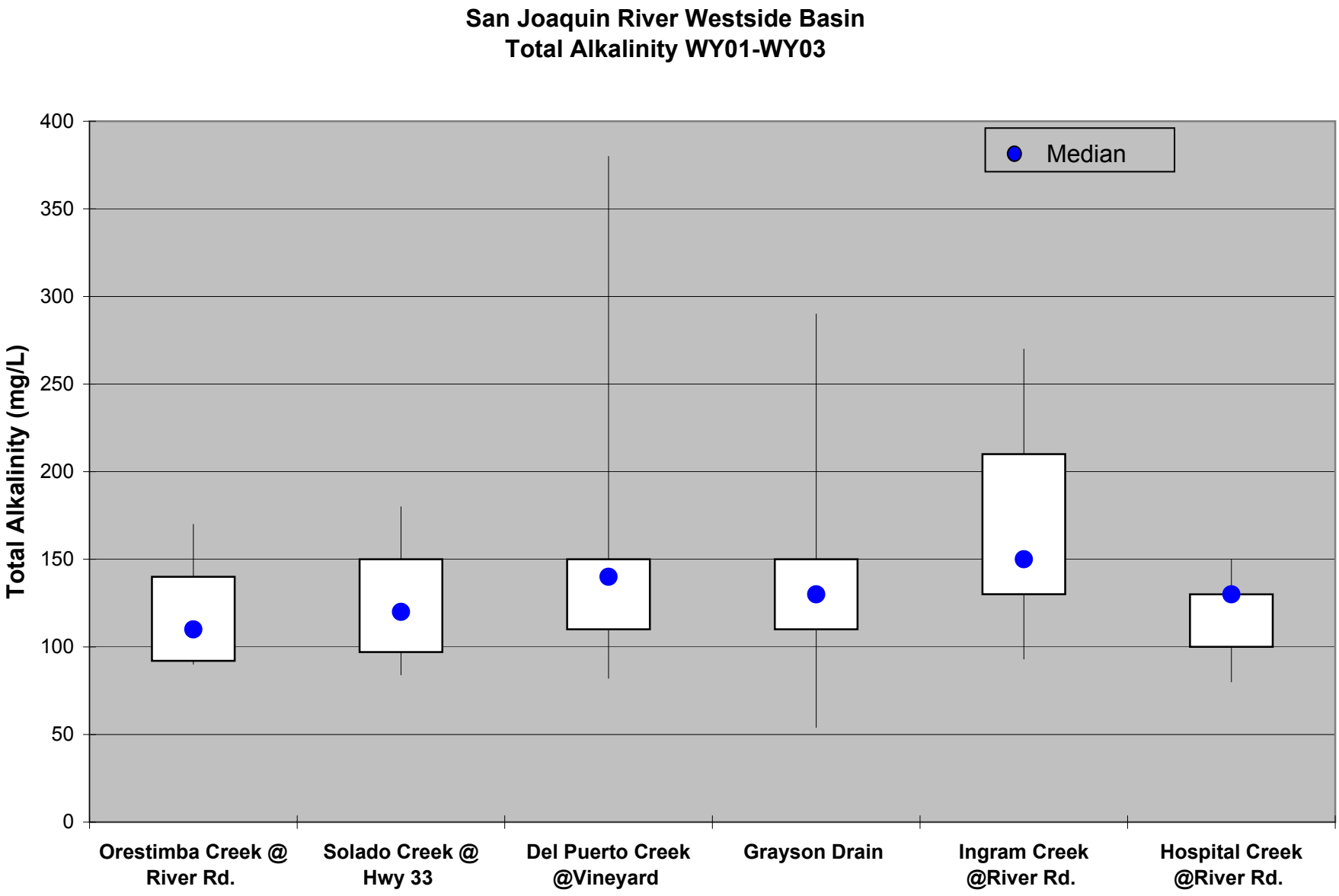

San Joaquin River West Side Basin
Carbonate WY01- WY03
Carbonate (mg/L)
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

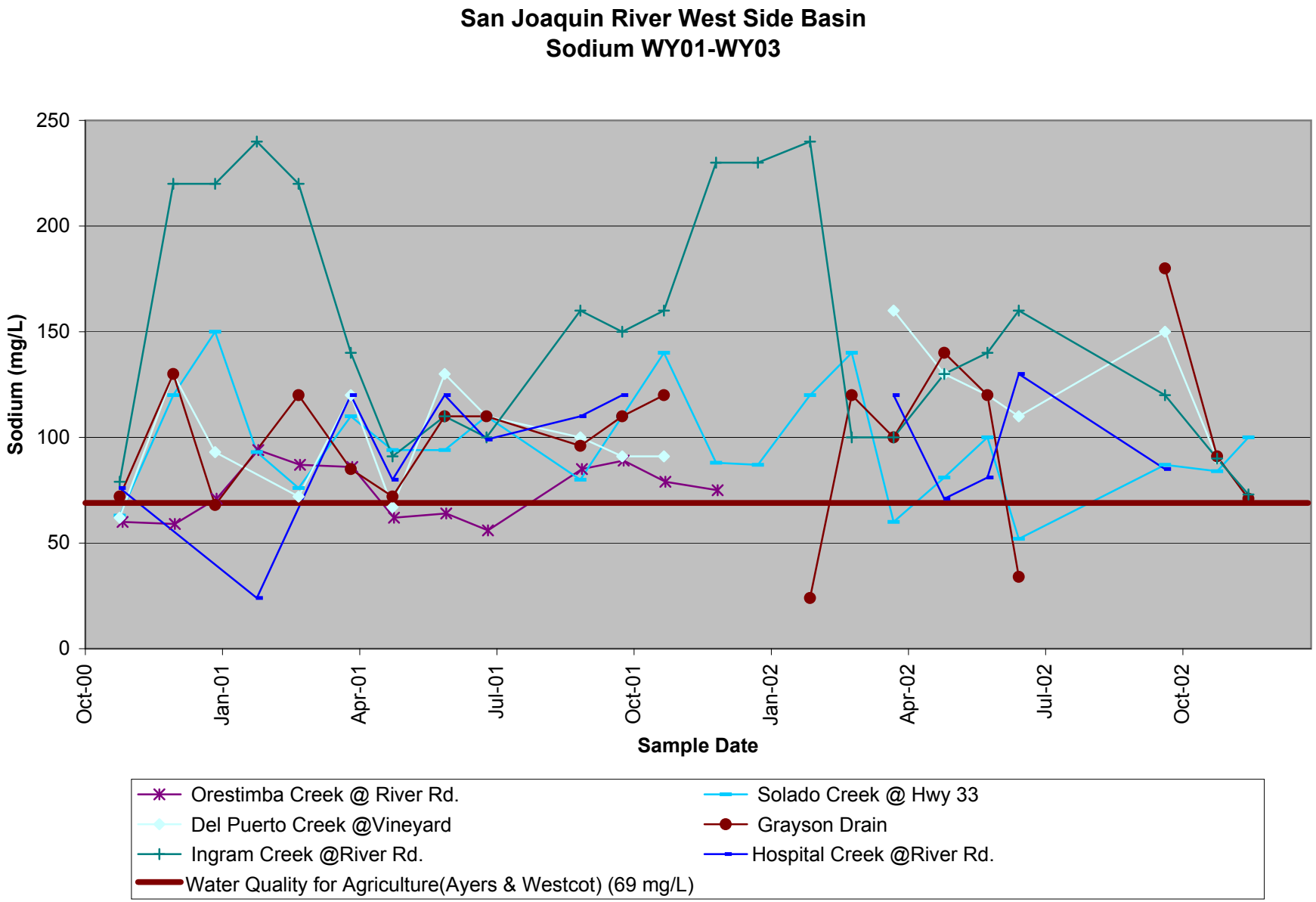

San Joaquin River Westside Basin
Carbonate WY01-WY03
Median
Carbonate (mg/L)
30
25
20
15
10
5
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

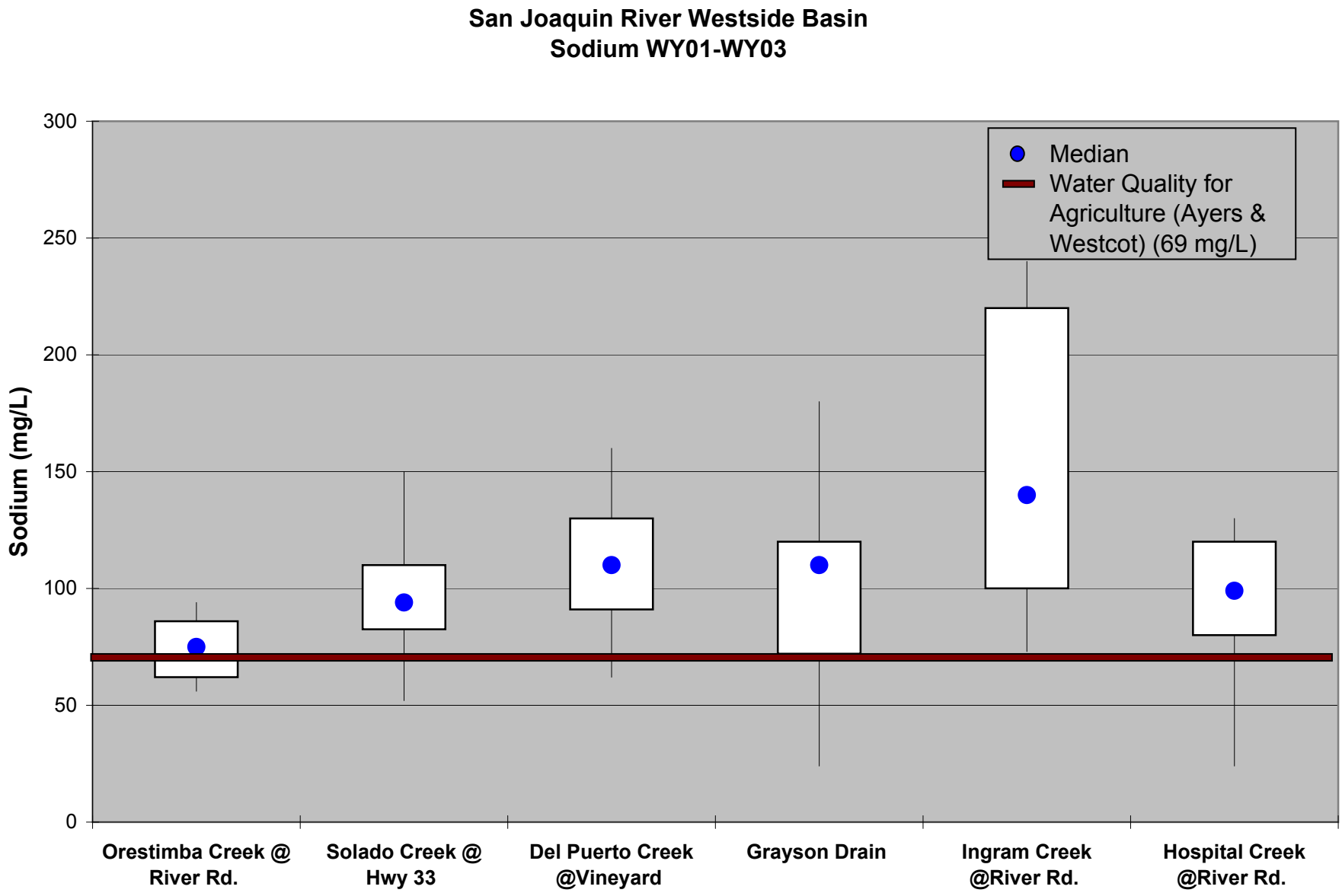

San Joaquin River West Side Basin
Bicarbonate WY01- WY03
Bicarbonate (mg/L)
500
450
400
350
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

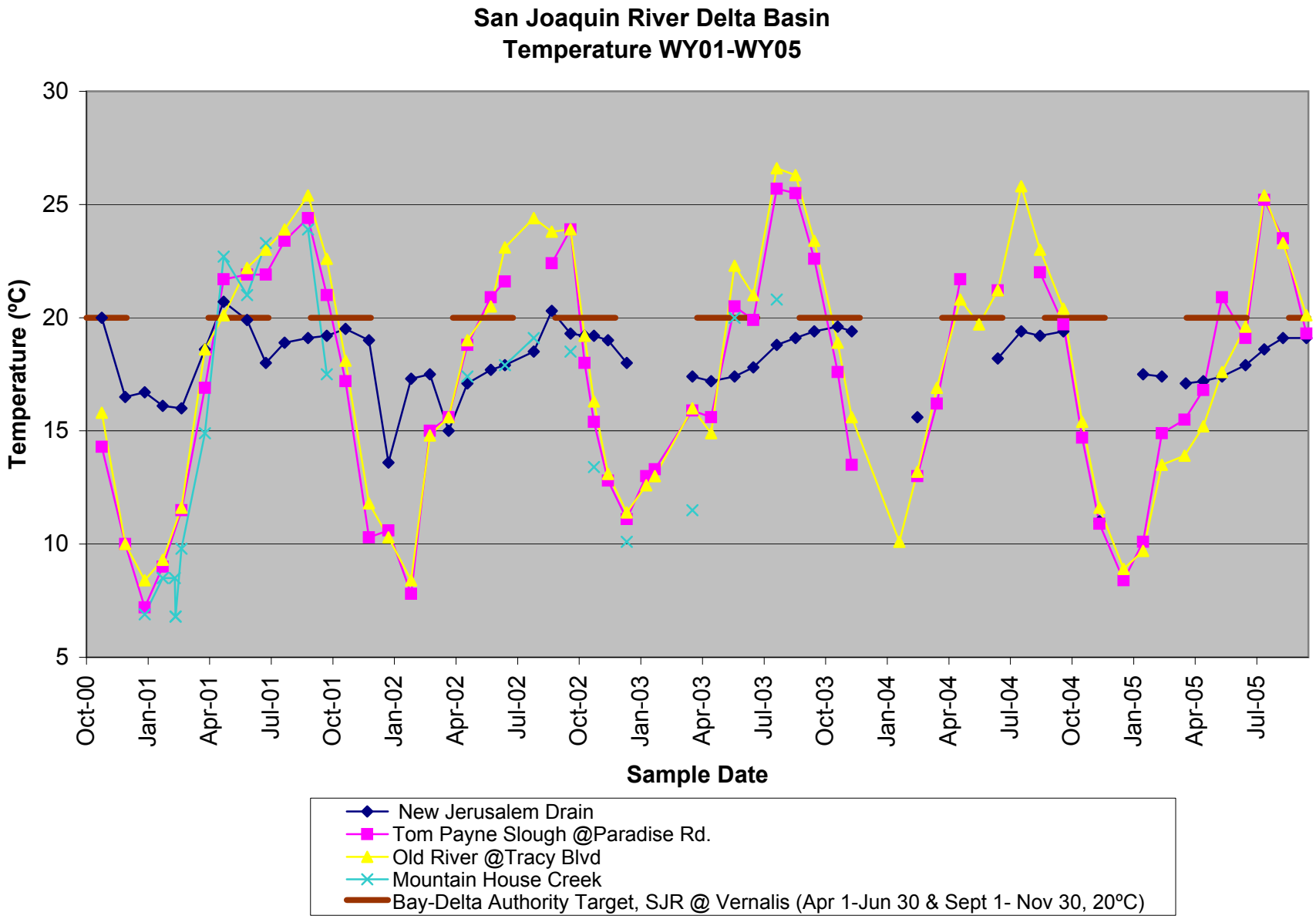

San Joaquin River Westside Basin
Bicarbonate WY01-WY03
Median
Bicarbonate (mg/L)
500
450
400
350
300
250
200
150
100
50
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

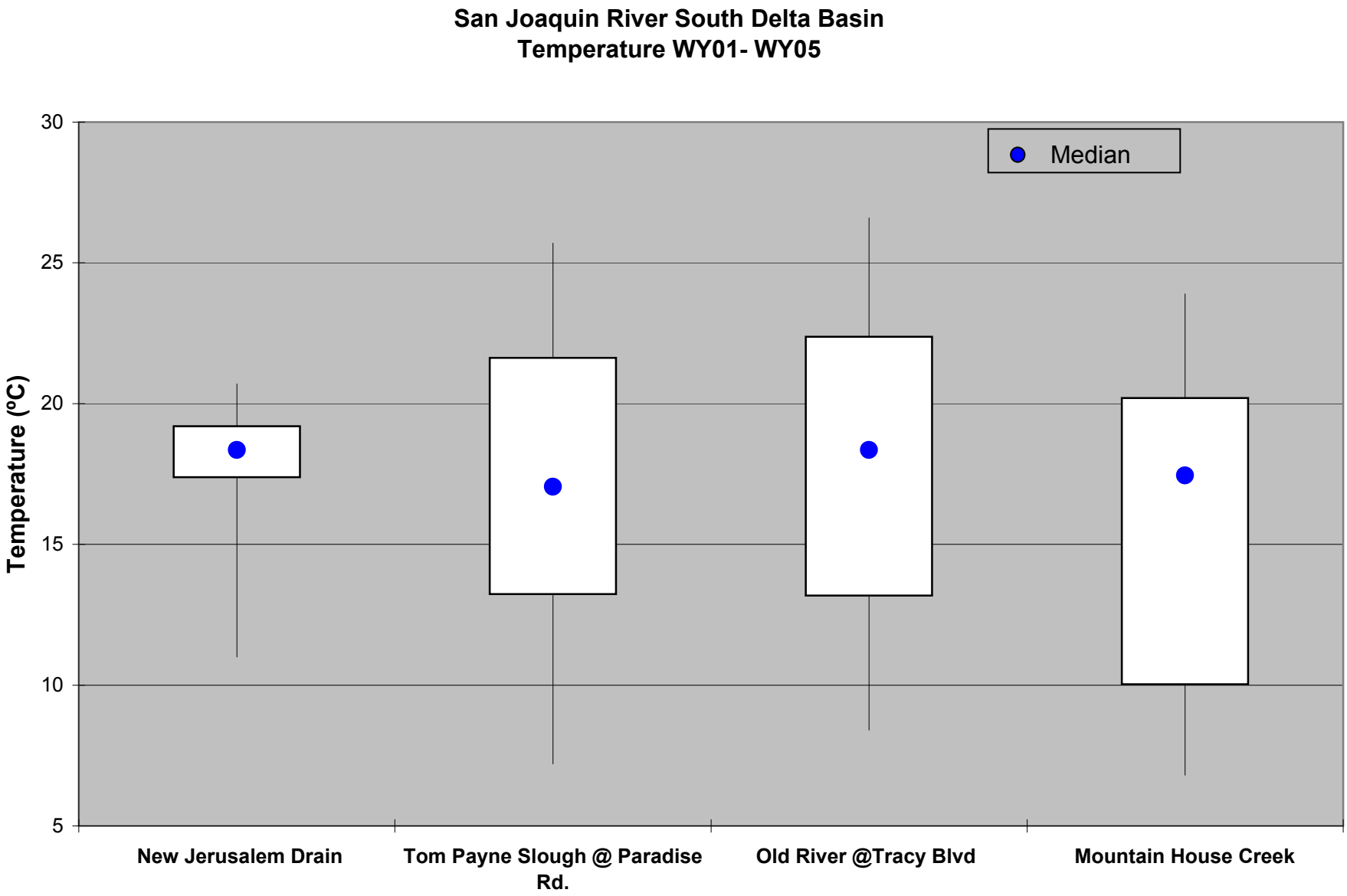

San Joaquin River West Side Basin
Total Alkalinity WY01-WY03
Total Alkalinity (mg/L)
400
350
300
250
200
150
100
50
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

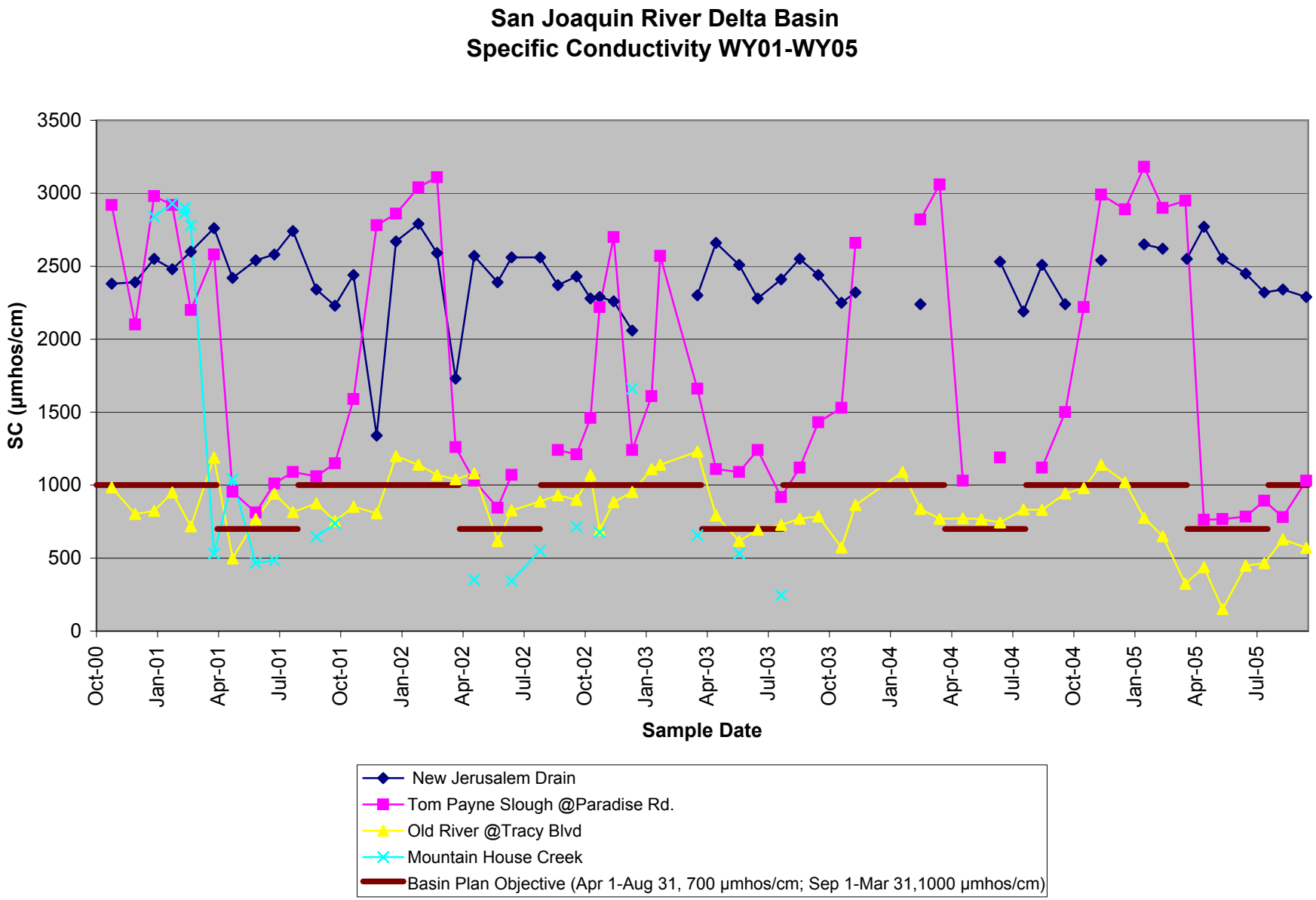

San Joaquin River Westside Basin
Total Alkalinity WY01-WY03
Median
Total Alkalinity (mg/L)
400
350
300
250
200
150
100
50
0
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

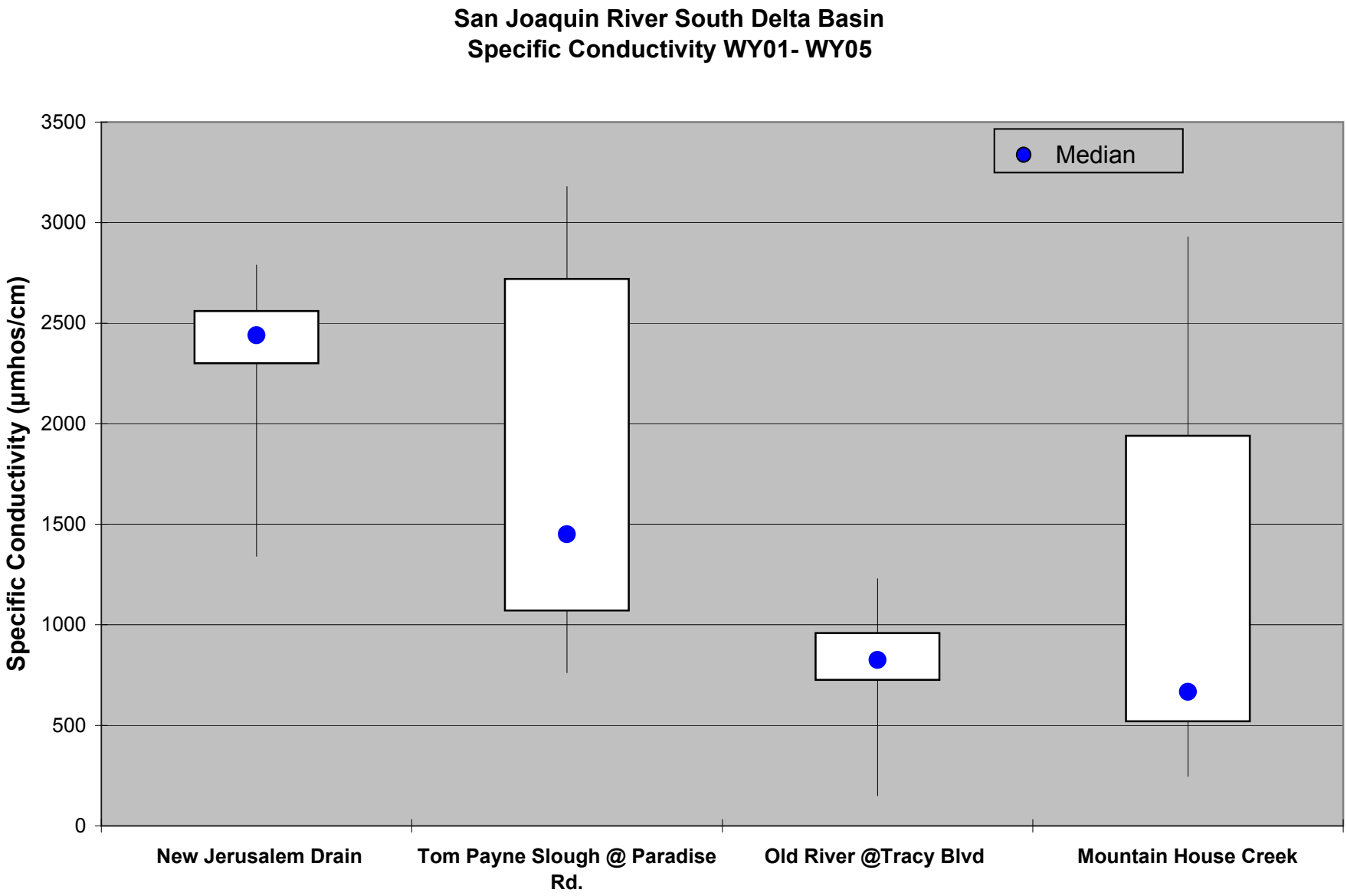

San Joaquin River West Side Basin
Sodium WY01-WY03
Sodium (mg/L)
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.
Water Quality for Agriculture(Ayers & Westcot) (69 mg/L)

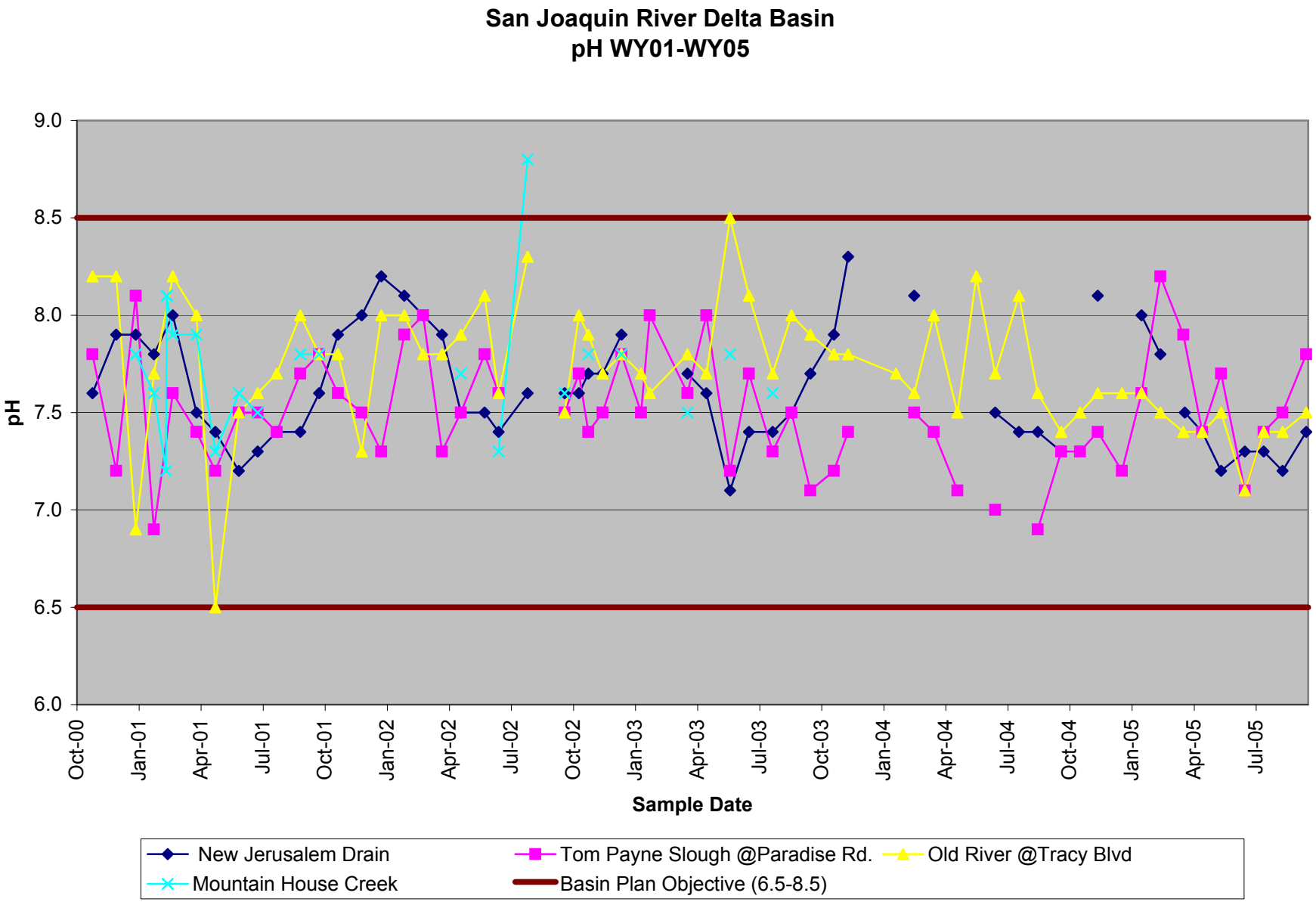

San Joaquin River Westside Basin
Sodium WY01-WY03
Sodium (mg/L)
300
250
200
150
100
50
0
Median
Water Quality for Agriculture (Ayers & Westcot) (69 mg/L)
Orestimba Creek @ River Rd.
Solado Creek @ Hwy 33
Del Puerto Creek @Vineyard
Grayson Drain
Ingram Creek @River Rd.
Hospital Creek @River Rd.

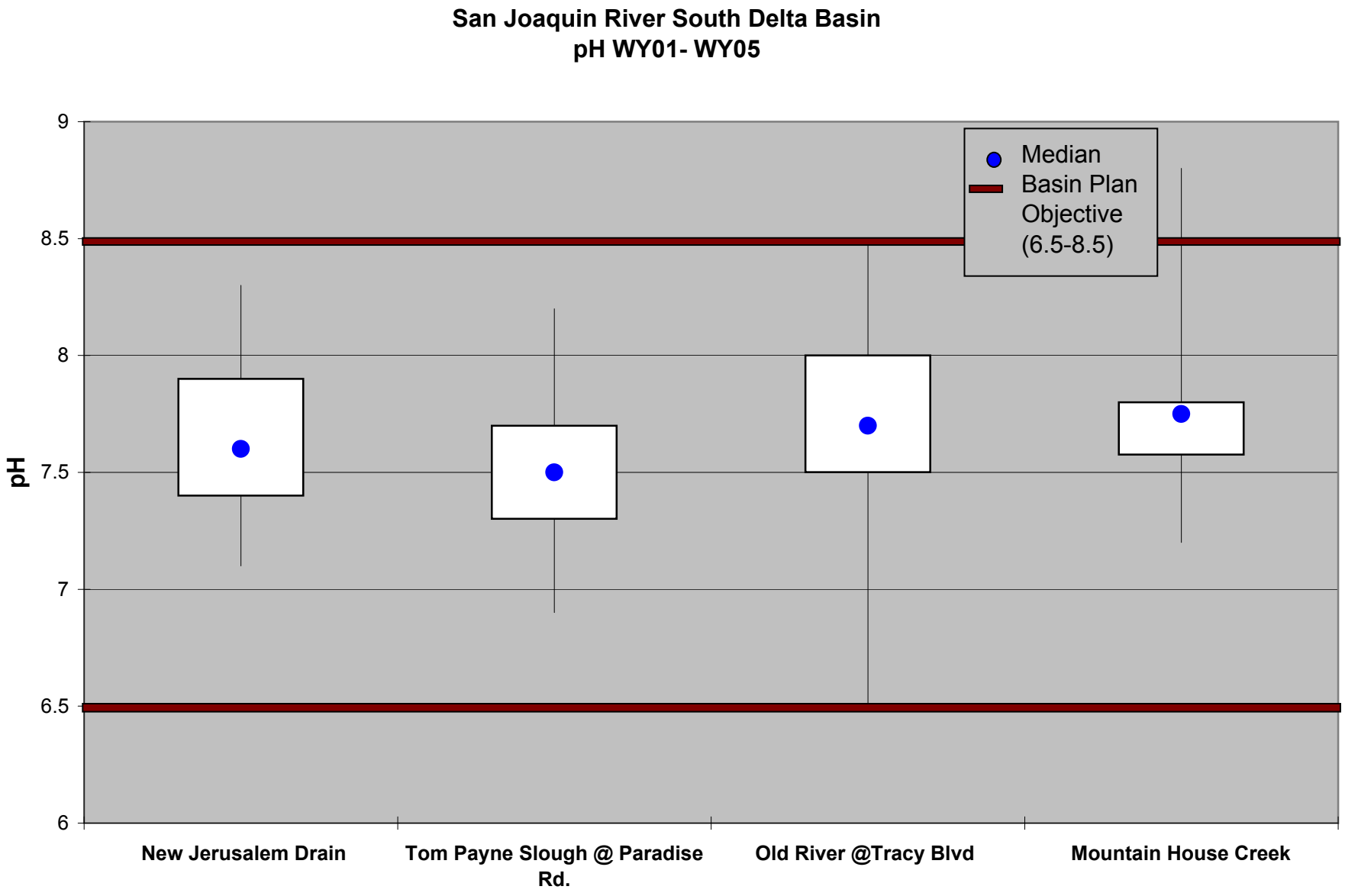

San Joaquin River Delta Basin
Temperature WY01-WY05
Temperature (ºC)
30
25
20
15
10
5
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek
Bay-Delta Authority Target, SJR @ Vernalis (Apr 1-Jun 30 & Sept 1- Nov 30, 20ºC)

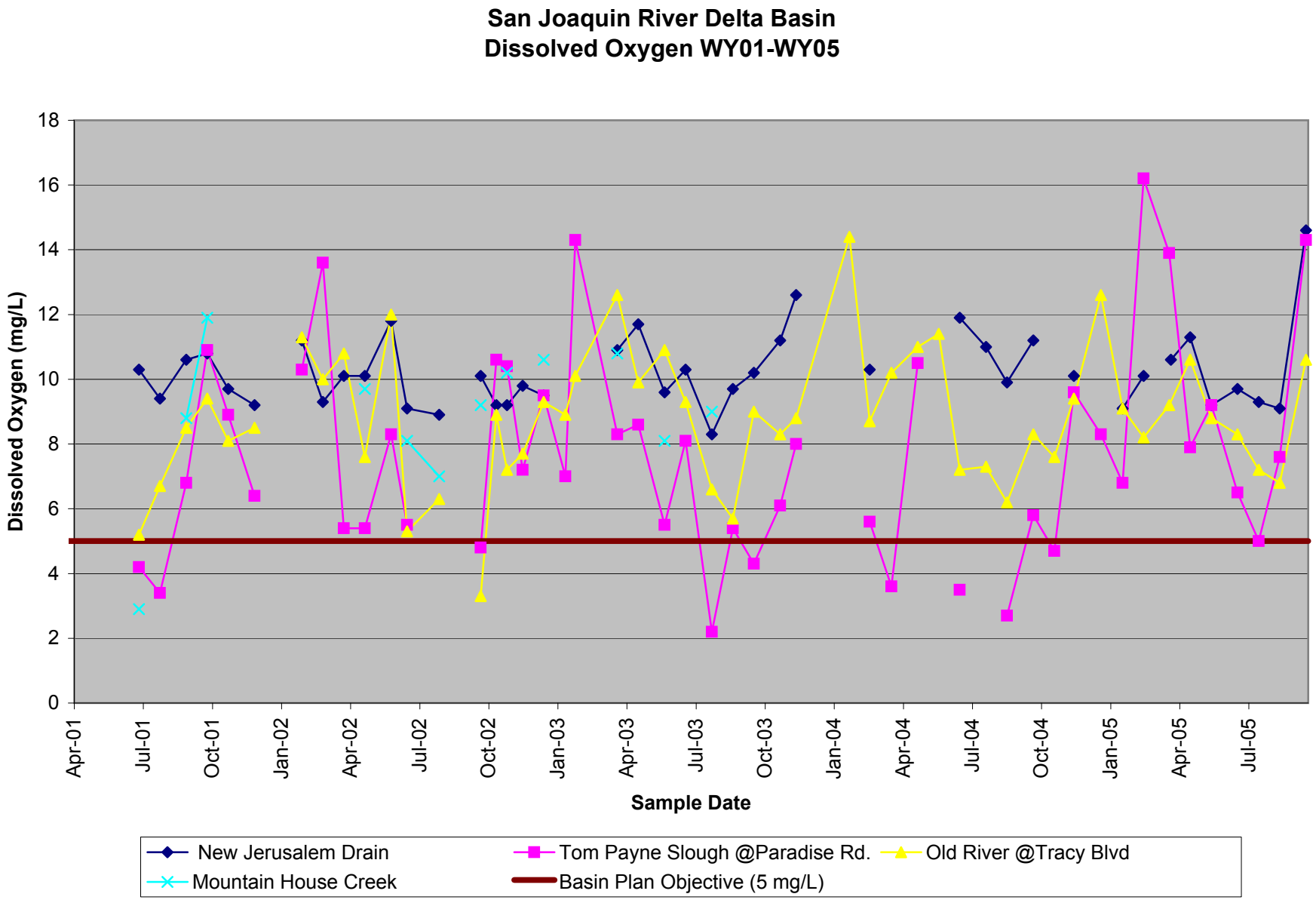

San Joaquin River South Delta Basin
Temperature WY01- WY05
Median
Temperature (ºC)
30
25
20
15
10
5
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

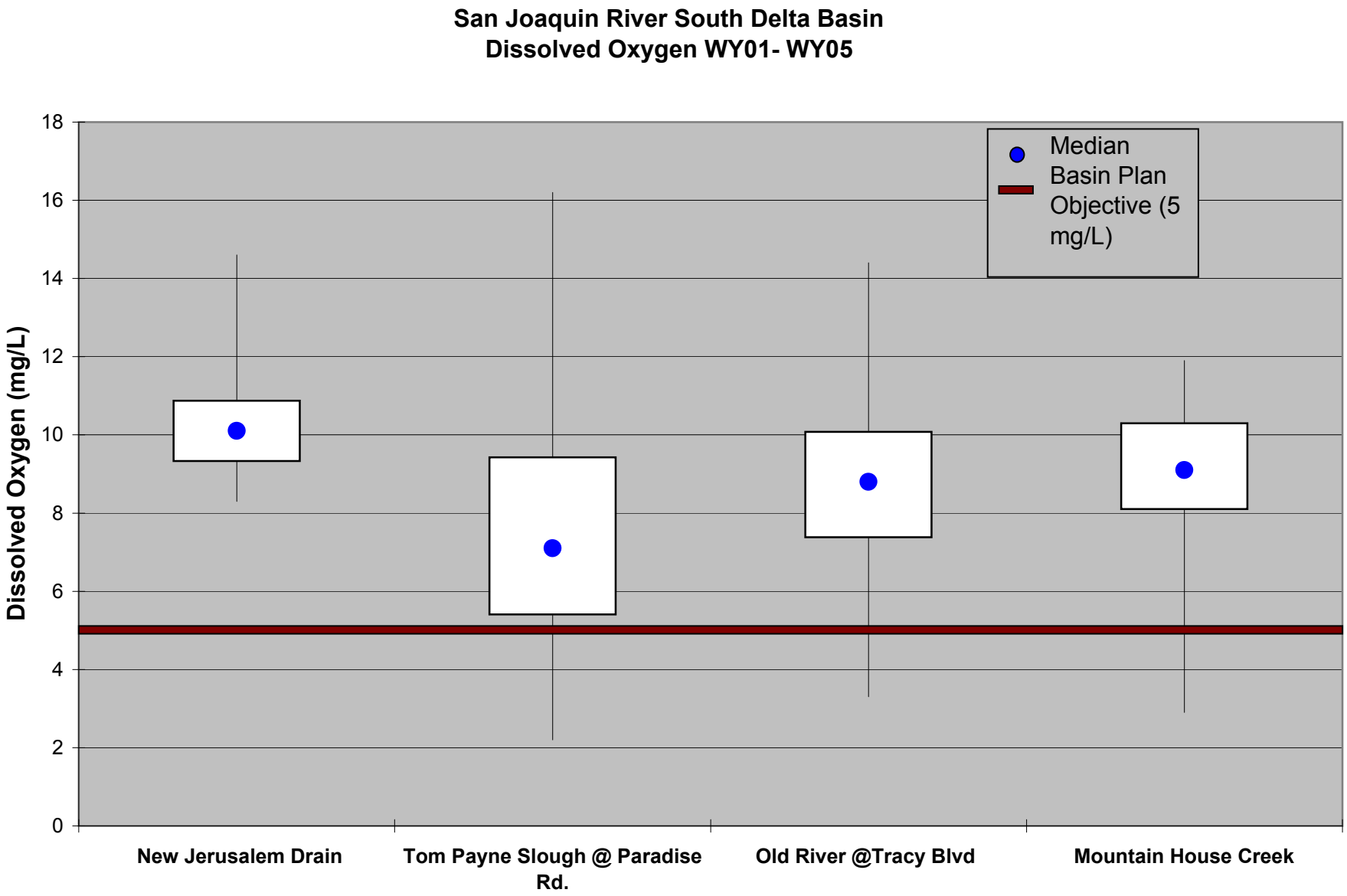

San Joaquin River Delta Basin
Specific Conductivity WY01-WY05
SC (µmhos/cm)
3500
3000
2500
2000
1500
1000
500
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek
Basin Plan Objective (Apr 1-Aug 31, 700 µmhos/cm; Sep 1-Mar 31,1000 µmhos/cm)

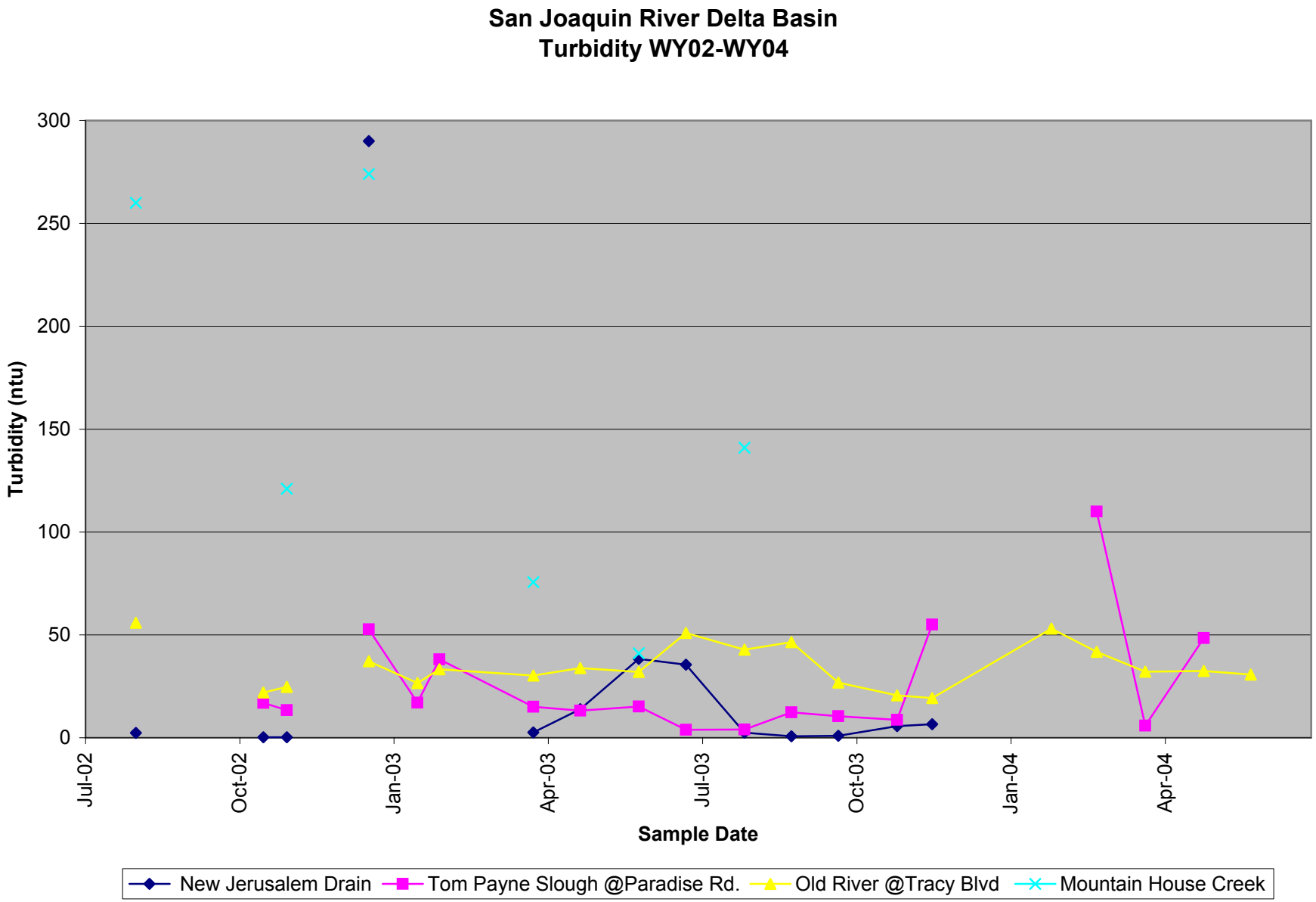

San Joaquin River South Delta Basin
Specific Conductivity WY01- WY05
Median
Specific Conductivity (µmhos/cm)
3500
3000
2500
2000
1500
1000
500
0
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

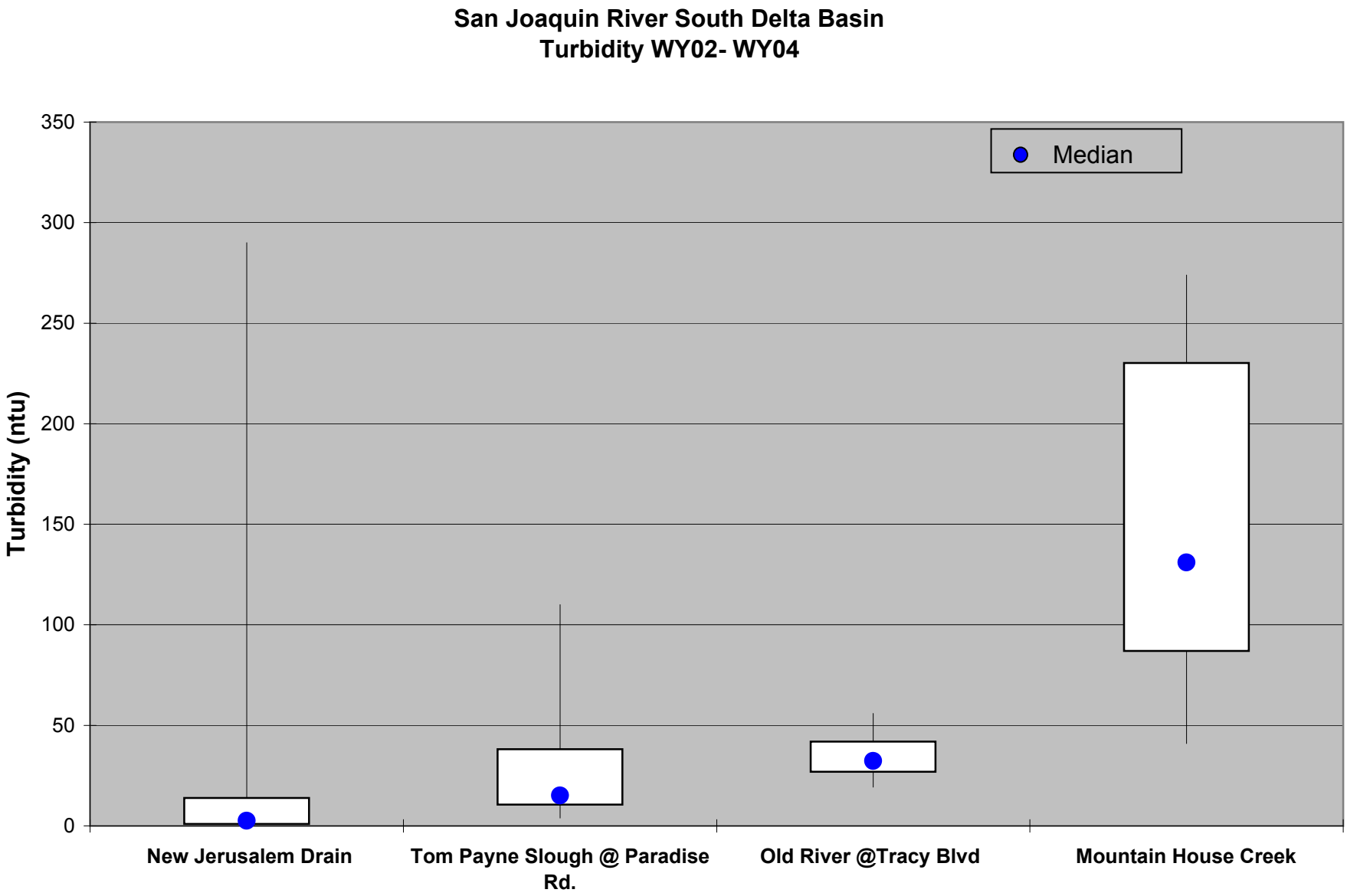

San Joaquin River Delta Basin
pH WY01-WY05
9.0
8.5
8.0
7.5
7.0
6.5
6.0
pH
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek
Basin Plan Objective (6.5-8.5)

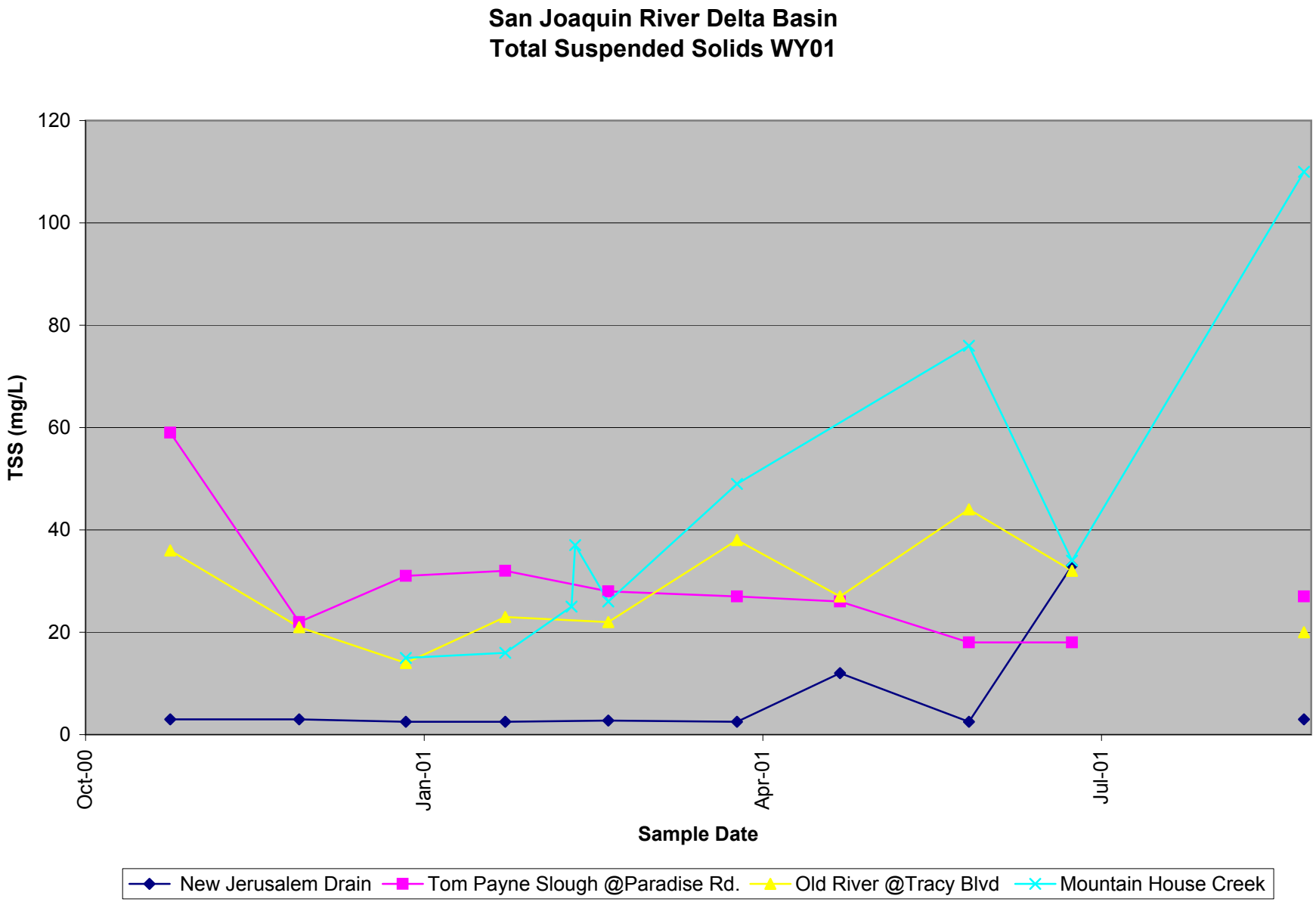

San Joaquin River South Delta Basin
pH WY01- WY05
9
8.5
8
7.5
7
6.5
6
pH
Median
Basin Plan Objective (6.5-8.5)
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

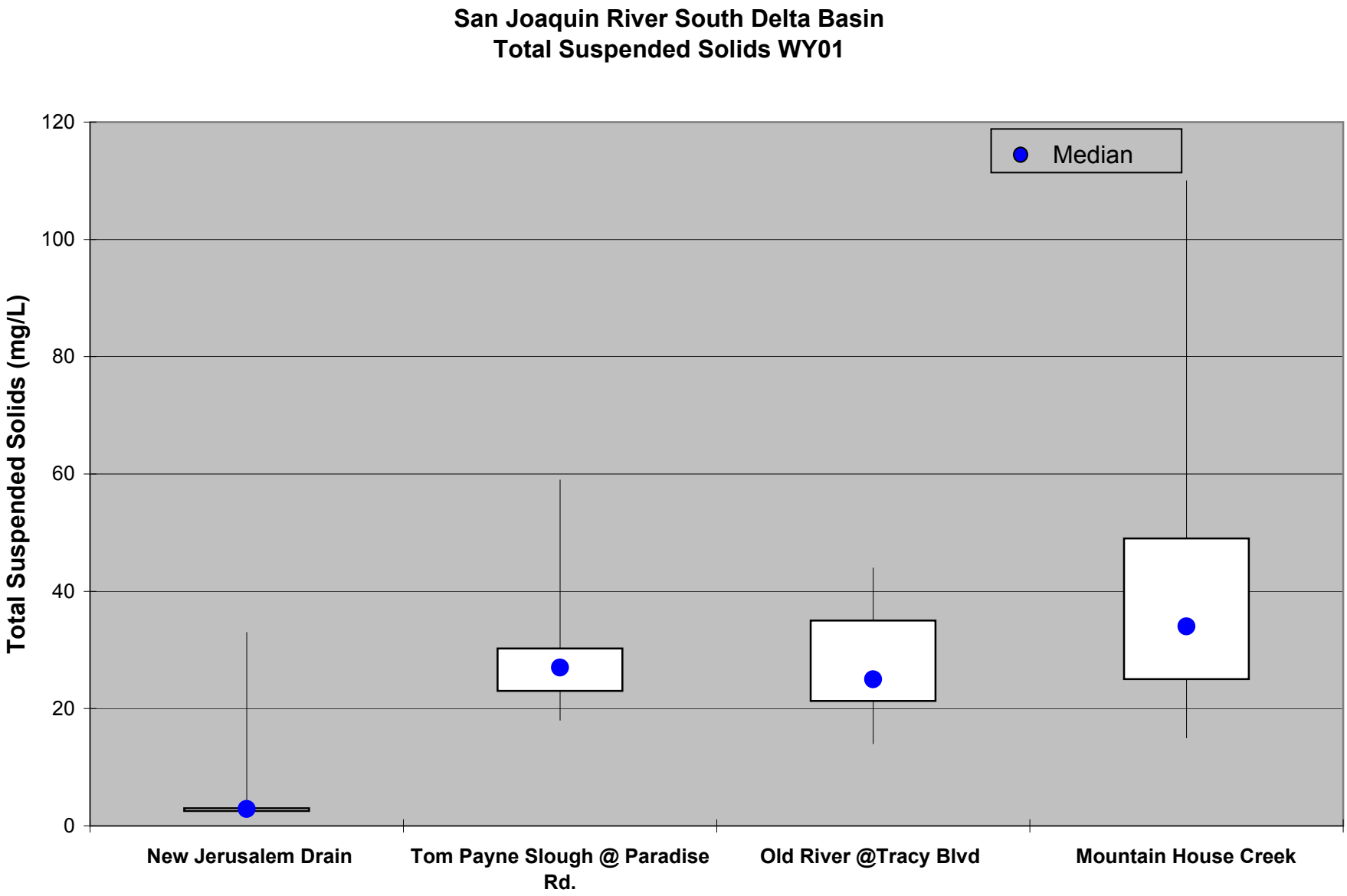

San Joaquin River Delta Basin
Dissolved Oxygen WY01-WY05
Dissolved Oxygen (mg/L)
18
16
14
12
10
8
6
4
2
0
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek
Basin Plan Objective (5 mg/L)

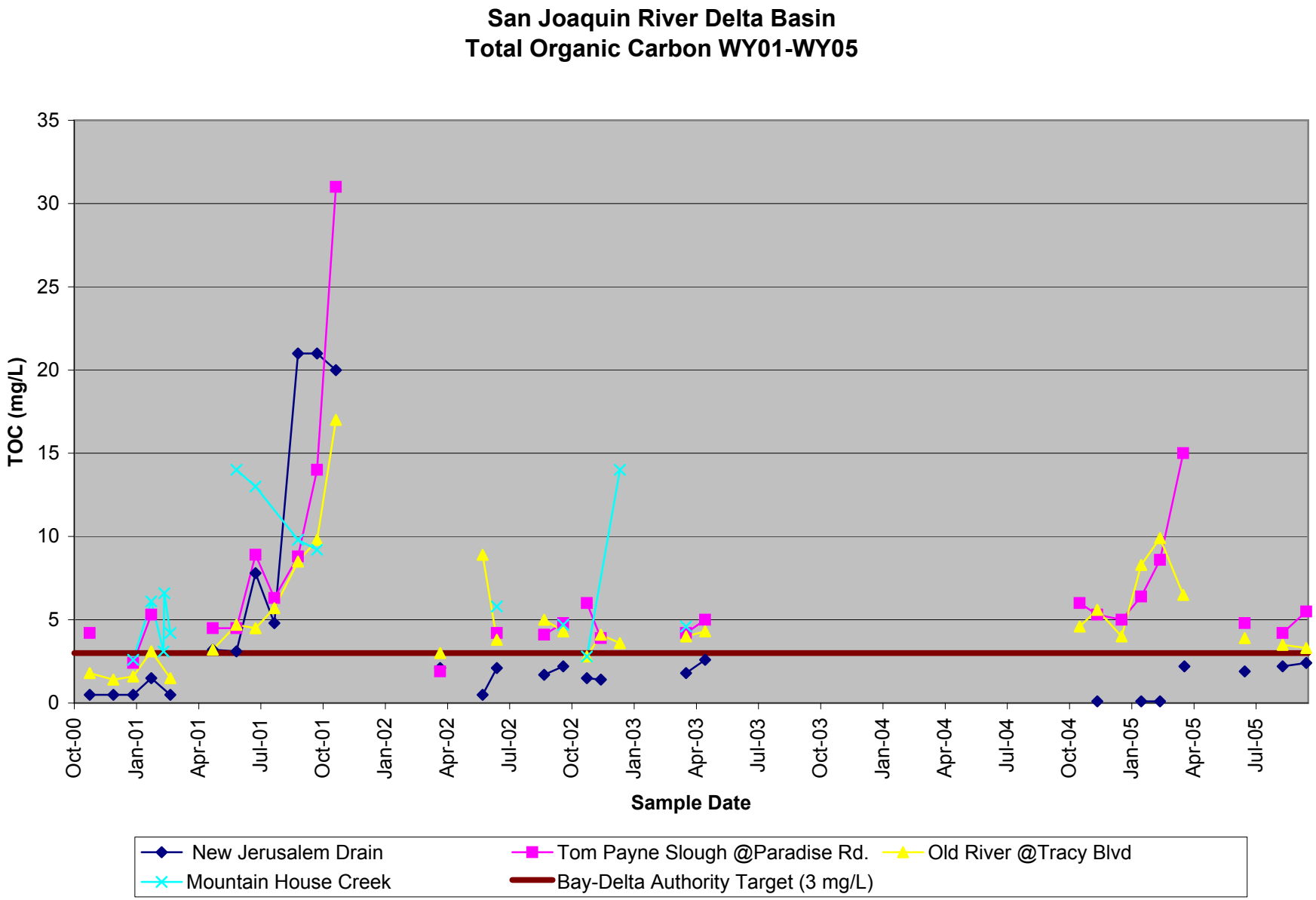

San Joaquin River South Delta Basin
Dissolved Oxygen WY01- WY05
Dissolved Oxygen (mg/L)
18
16
14
12
10
8
6
4
2
0
Median
Basin Plan Objective (5 mg/L)
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

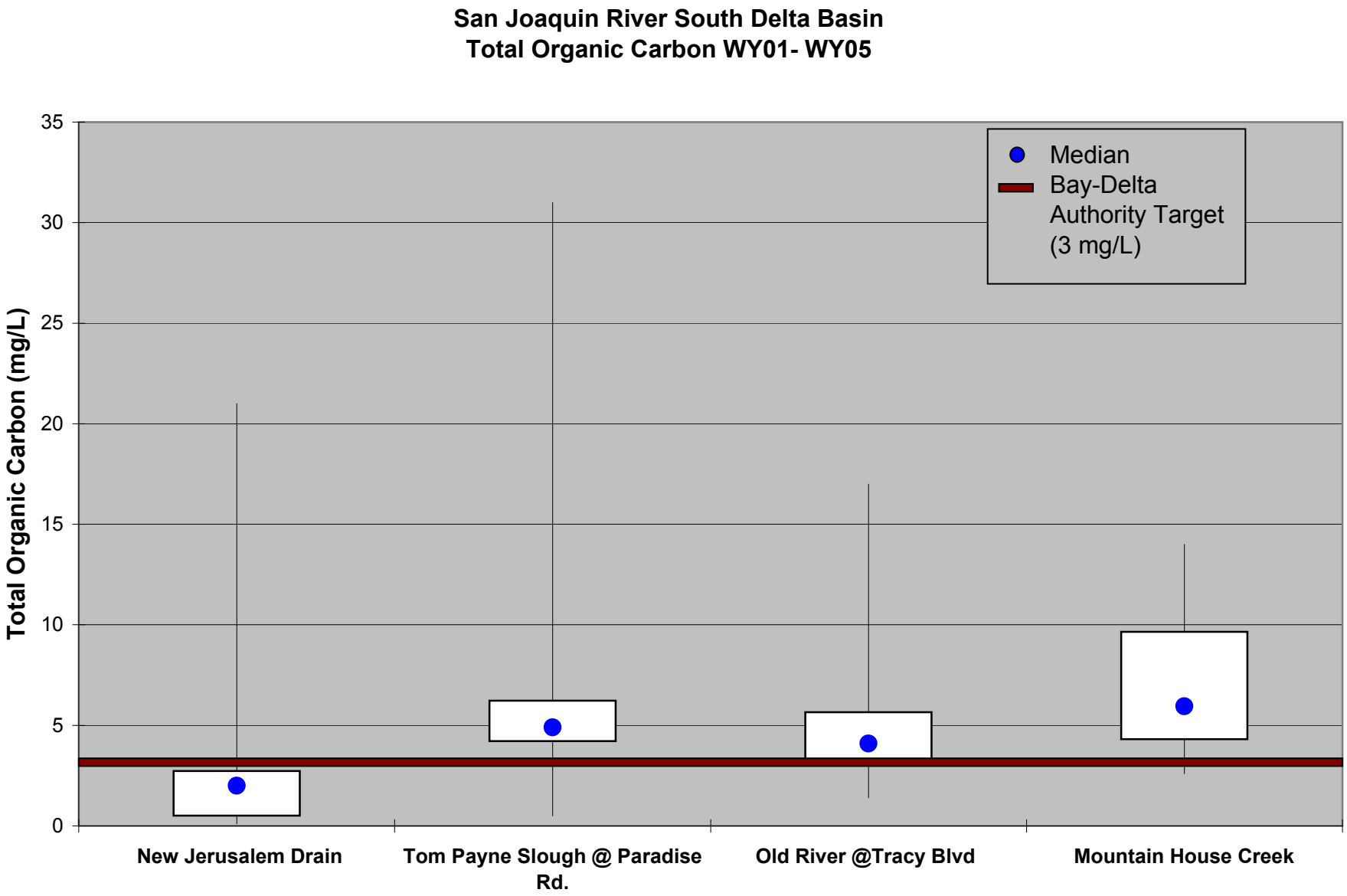

San Joaquin River Delta Basin
Turbidity WY02-WY04
Turbidity (ntu)
300
250
200
150
100
50
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

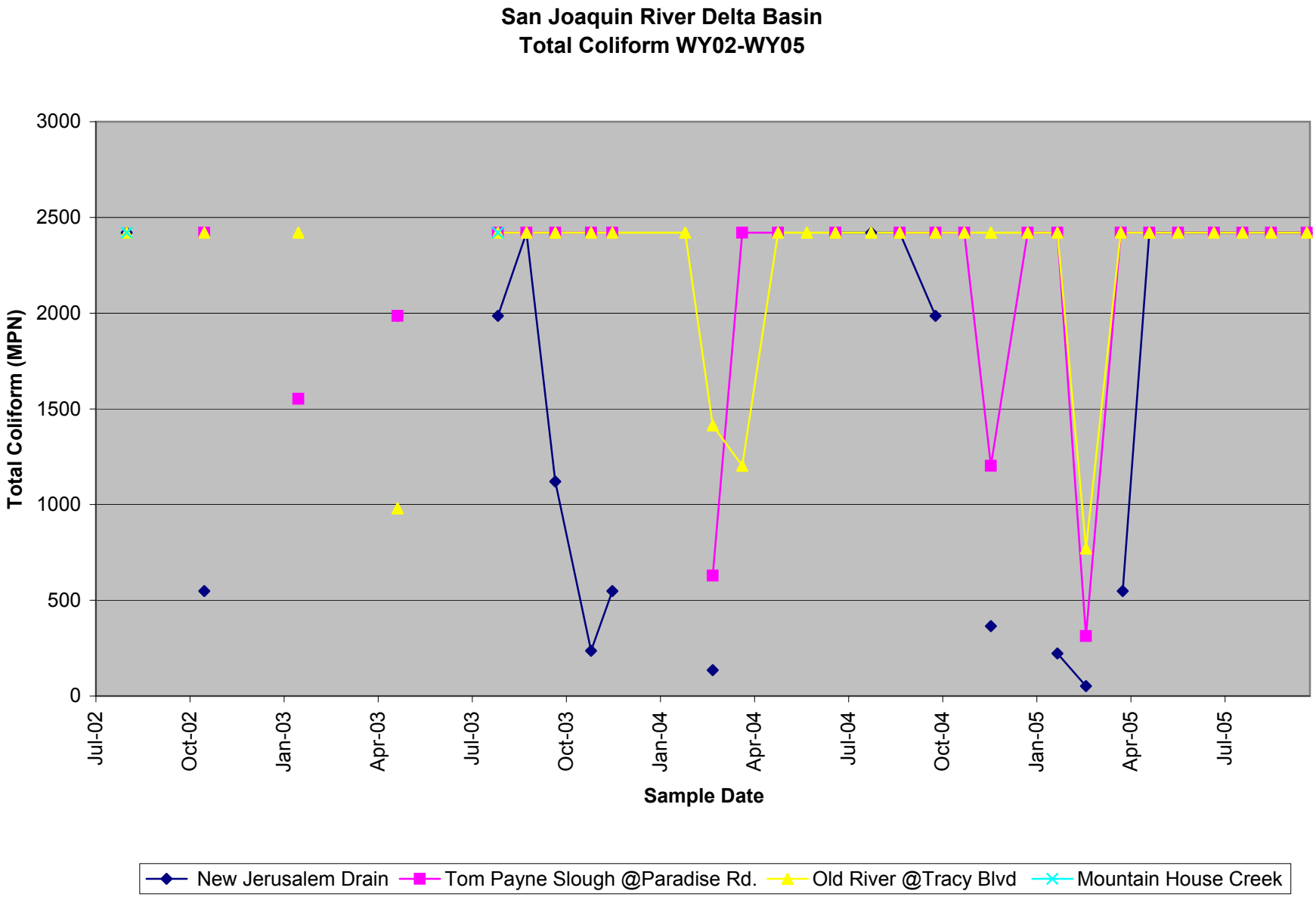

San Joaquin River South Delta Basin
Turbidity WY02- WY04
Median
Turbidity (ntu)
350
300
250
200
150
100
50
0
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

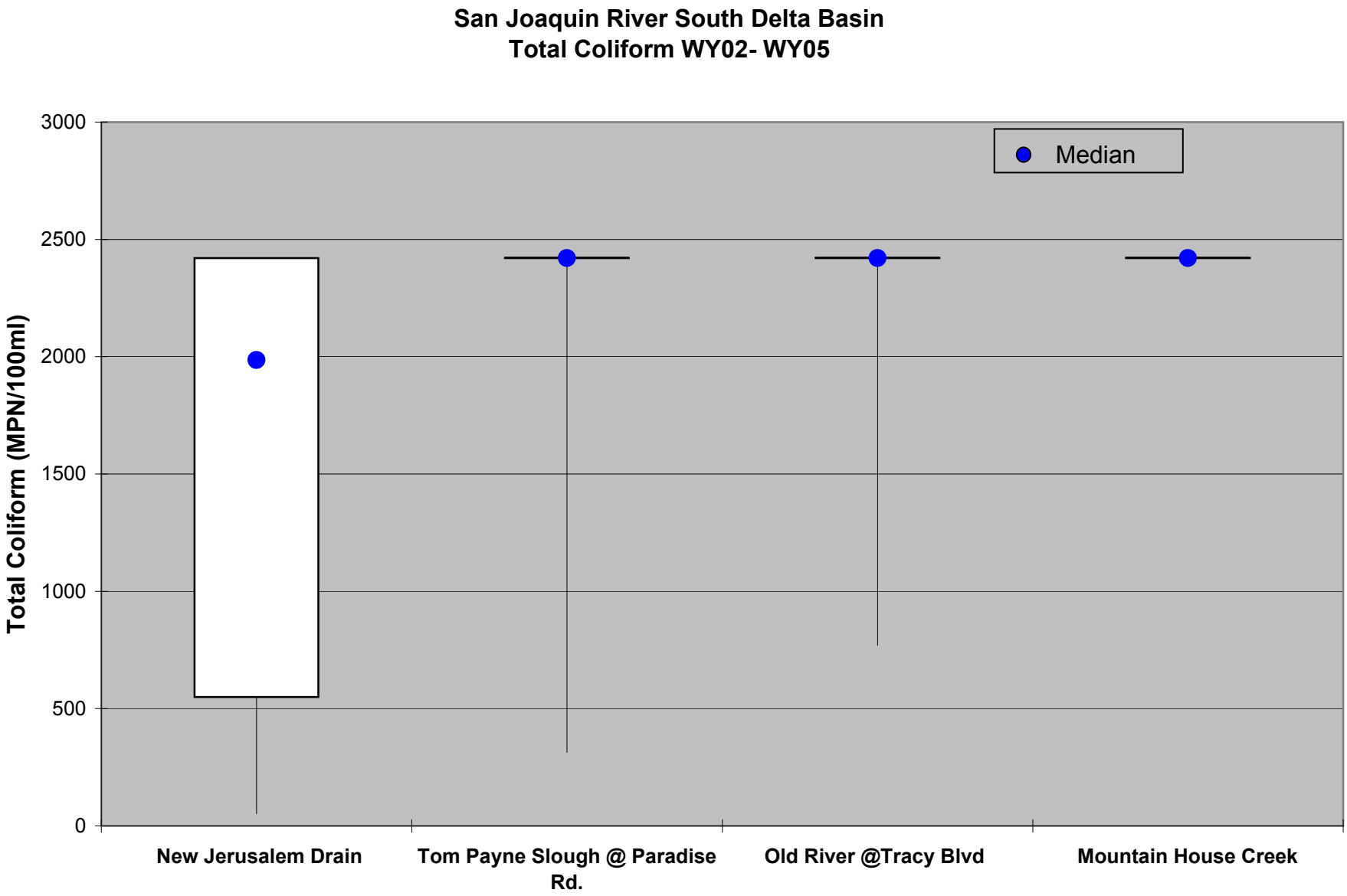

San Joaquin River Delta Basin
Total Suspended Solids WY01
120
100
80
60
40
20
0
TSS (mg/L)
Oct-00
Jan-01
Apr-01
Jul-01
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

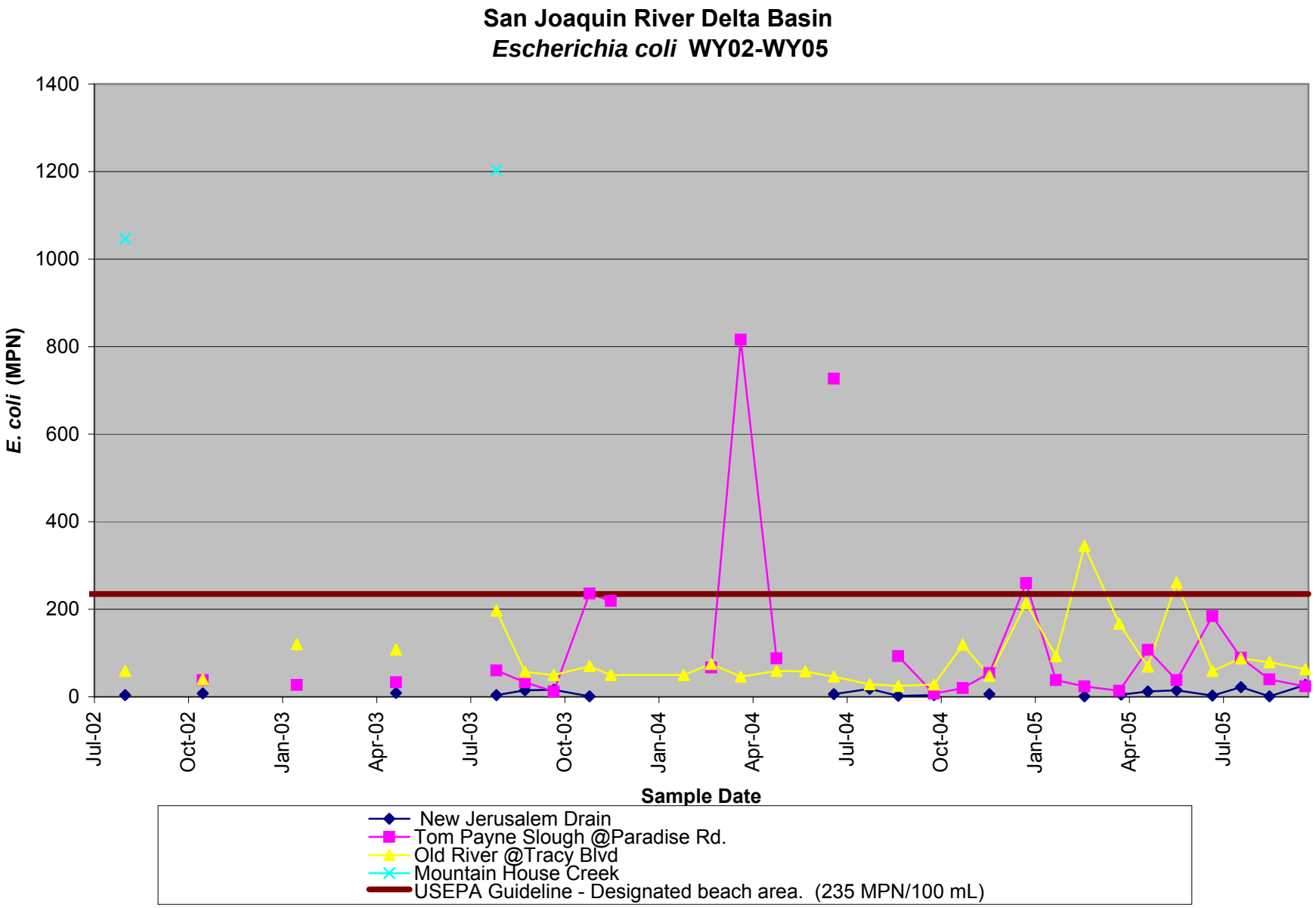

San Joaquin River South Delta Basin
Total Suspended Solids WY01
Median
Total Suspended Solids (mg/L)
120
100
80
60
40
20
0
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek


San Joaquin River Delta Basin
Total Organic Carbon WY01-WY05
TOC (mg/L)
35
30
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek
Bay-Delta Authority Target (3 mg/L)

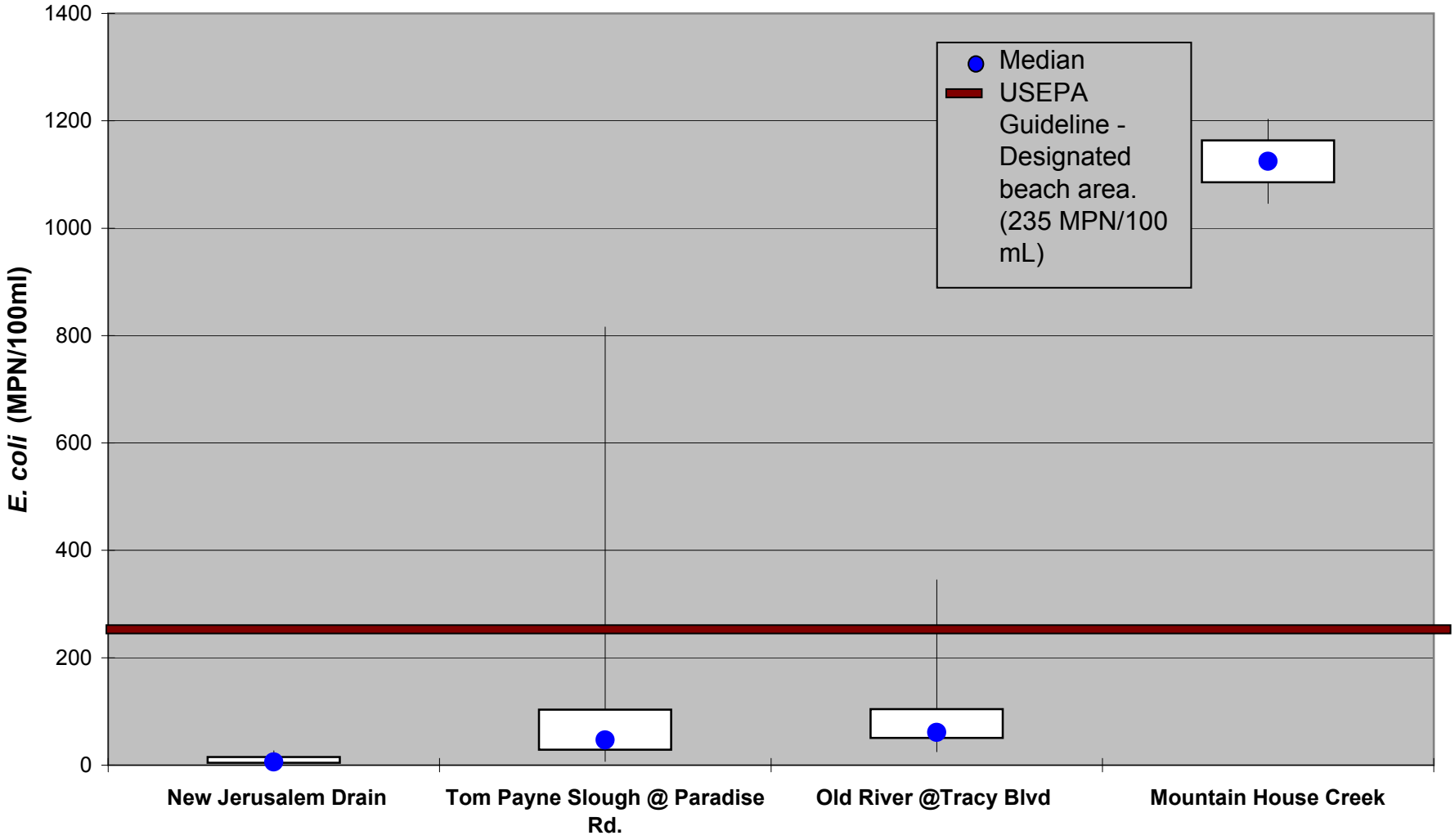

San Joaquin River South Delta Basin
Total Organic Carbon WY01- WY05
Total Organic Carbon (mg/L)
35
30
25
20
15
10
5
0
Median
Bay-Delta Authority Target (3 mg/L)
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

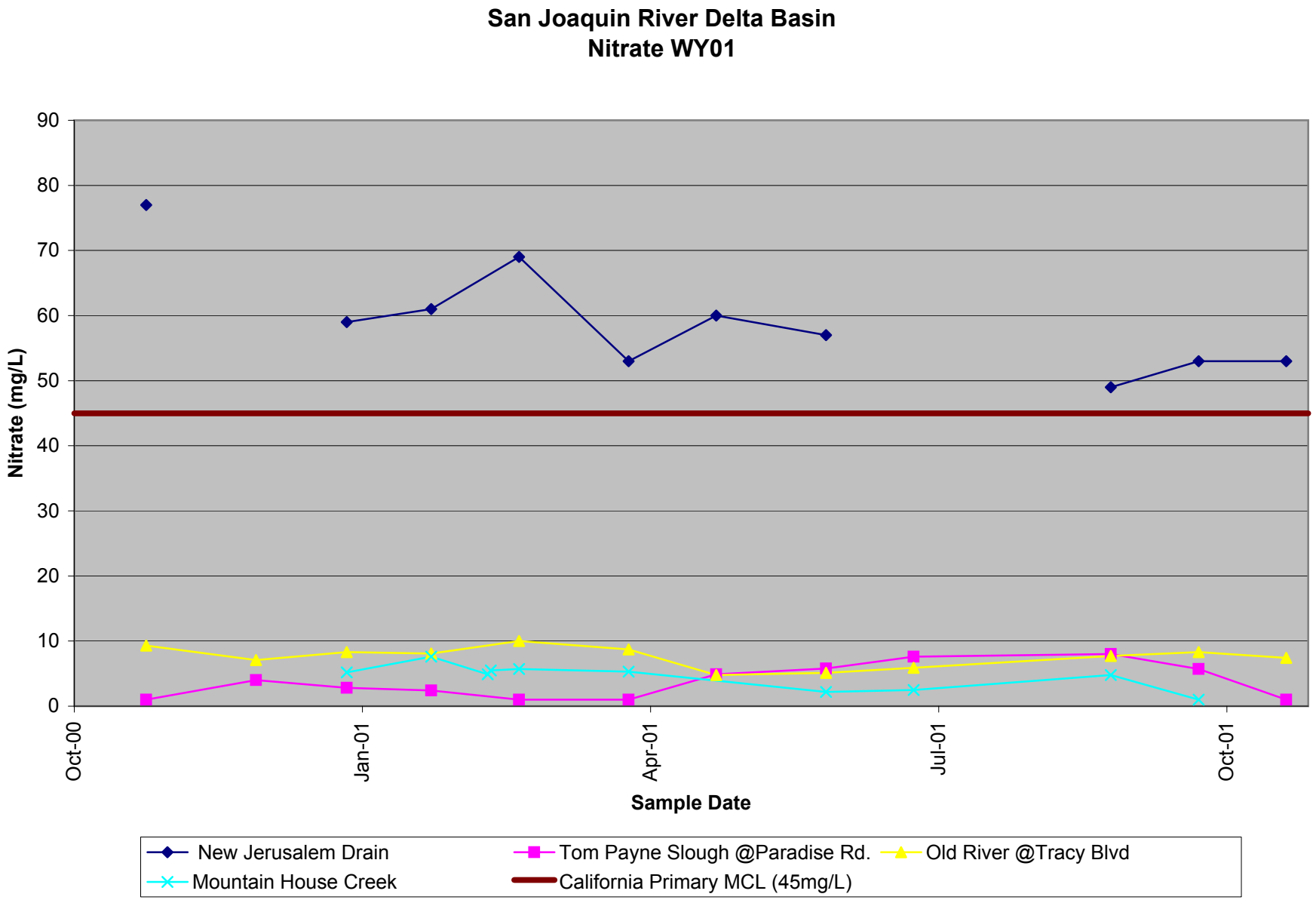

San Joaquin River Delta Basin
Total Coliform WY02-WY05
Total Coliform (MPN)
3000
2500
2000
1500
1000
500
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

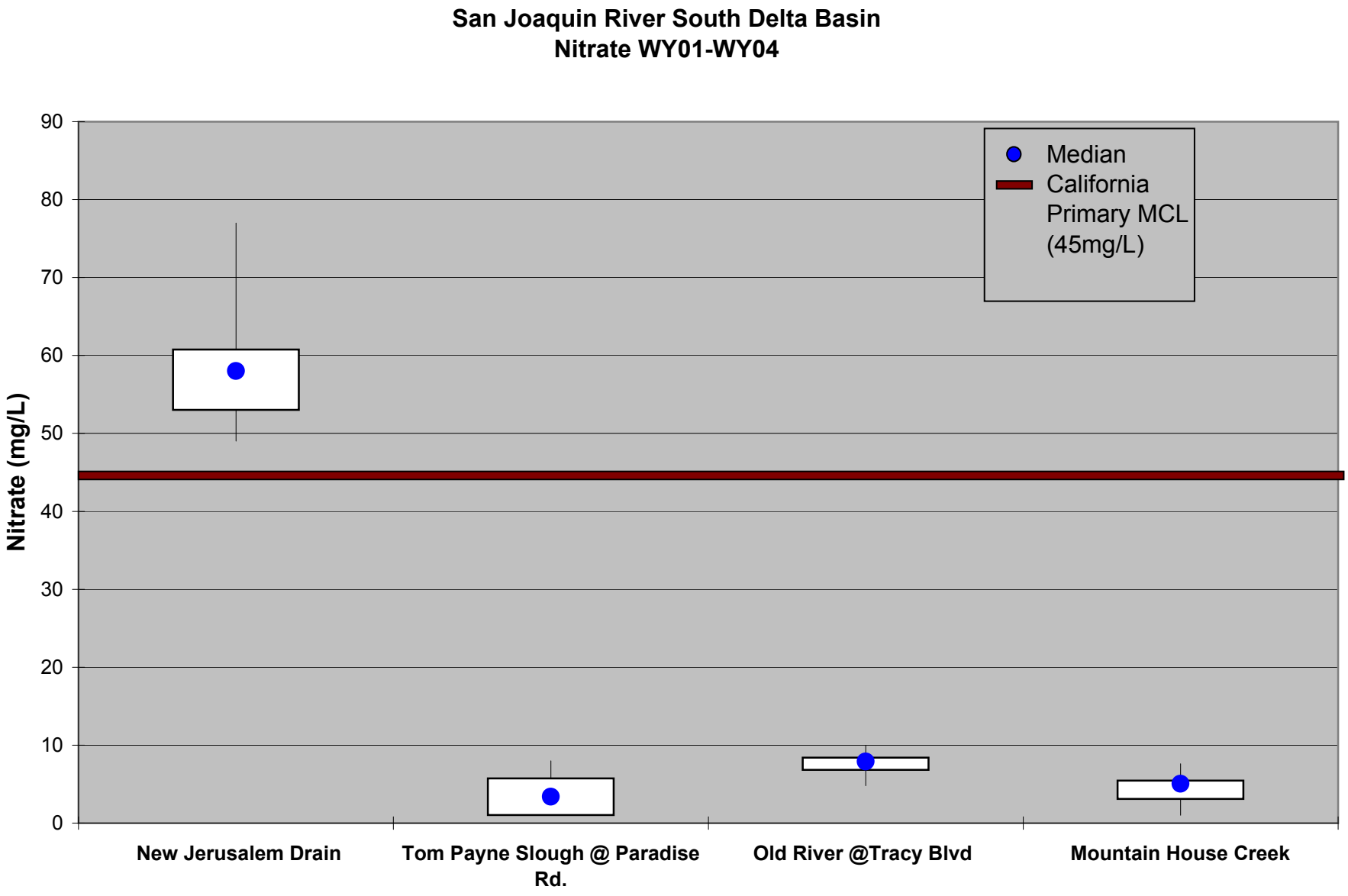

San Joaquin River South Delta Basin
Total Coliform WY02- WY05
Median
Total Coliform (MPN/100ml)
3000
2500
2000
1500
1000
500
0
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

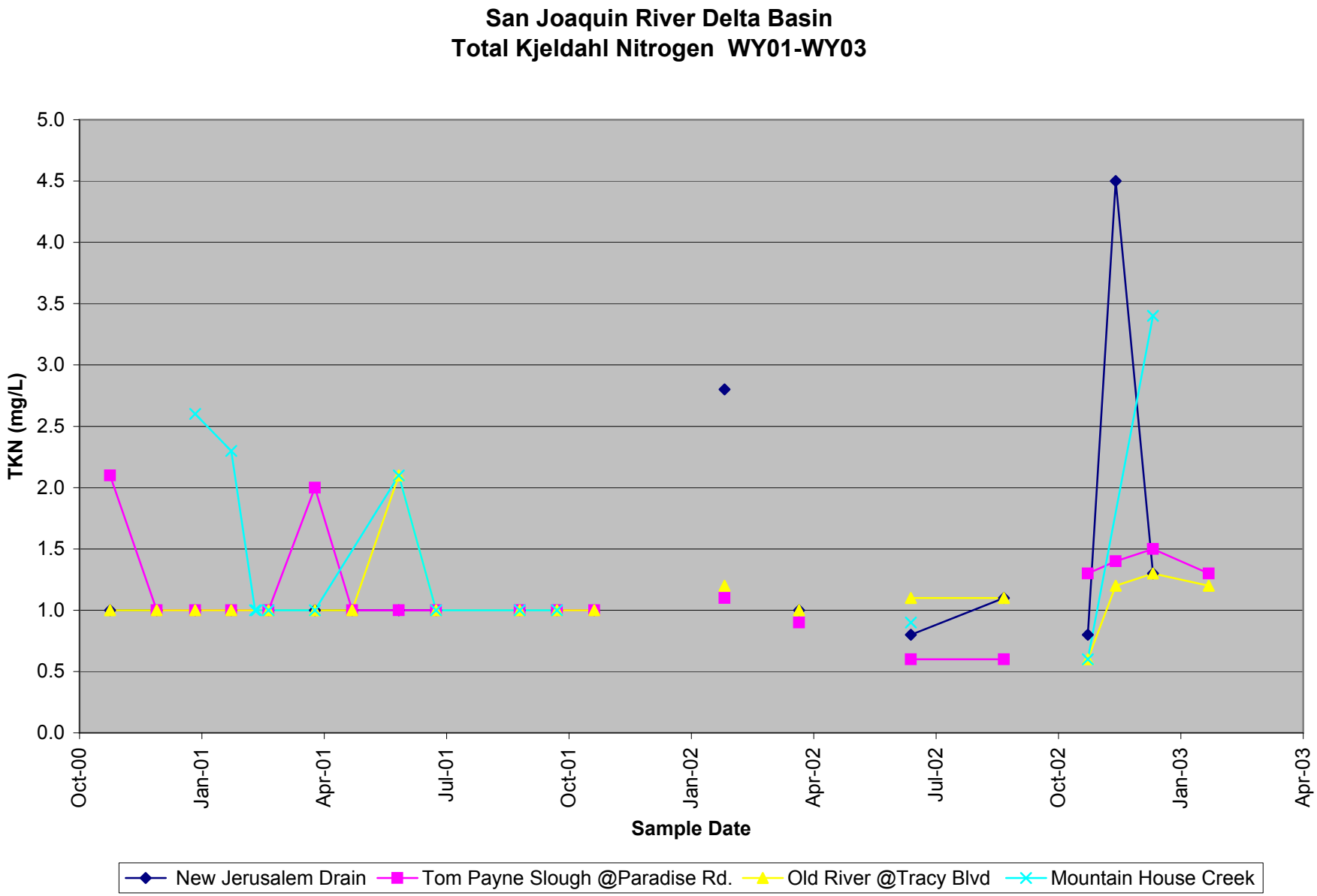

San Joaquin River Delta Basin
Escherichia coli WY02-WY05
E. coli (MPN)
1400
1200
1000
800
600
400
200
0
Jul-02
Oct-02
Jan-03
Apr-03
Jul-03
Oct-03
Jan-04
Apr-04
Jul-04
Oct-04
Jan-05
Apr-05
Jul-05
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek
USEPA Guideline - Designated beach area. (235 MPN/100 mL)

San Joaquin River South Delta Basin
***Escherichia coli* WY02-WY05**

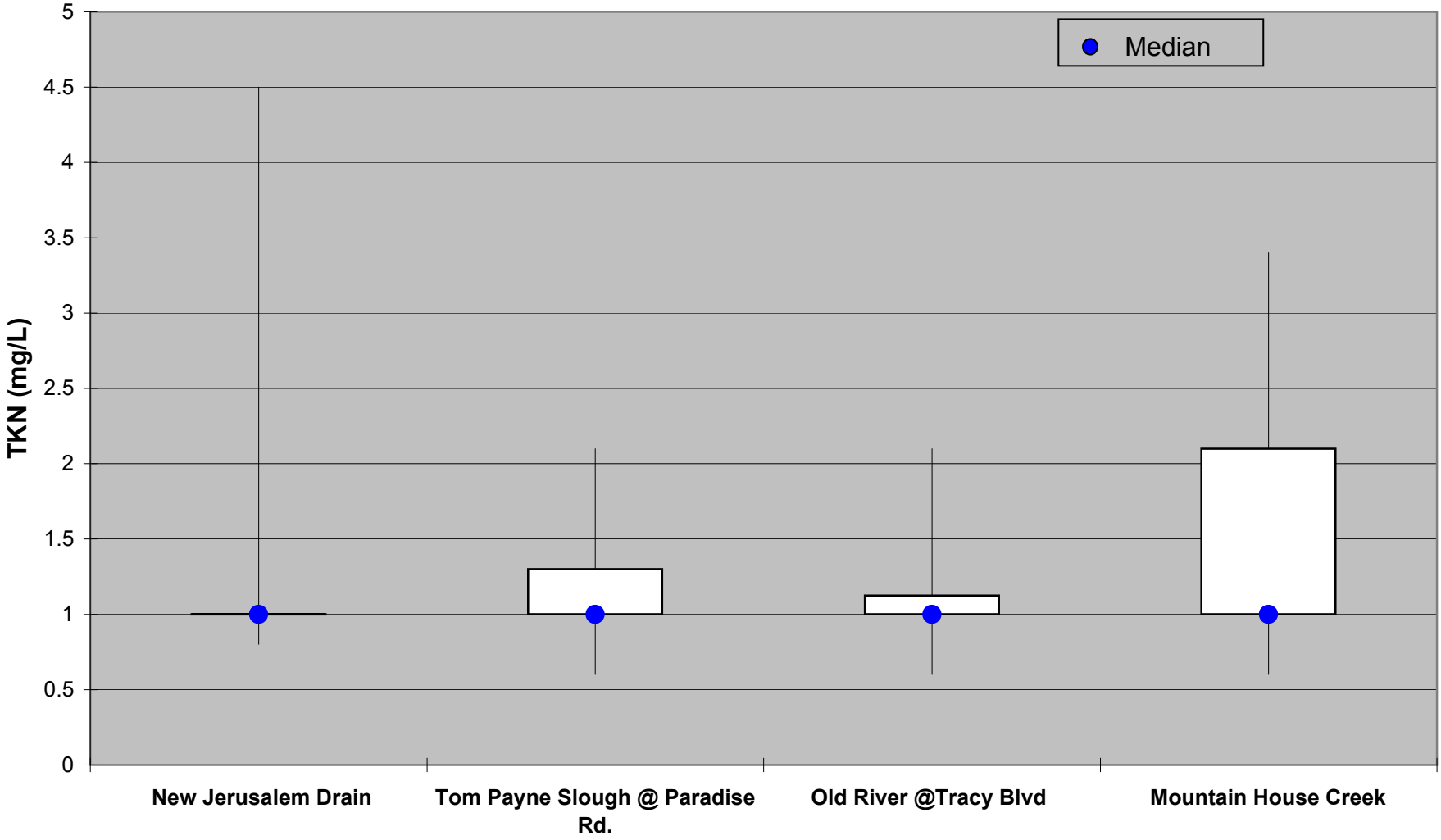


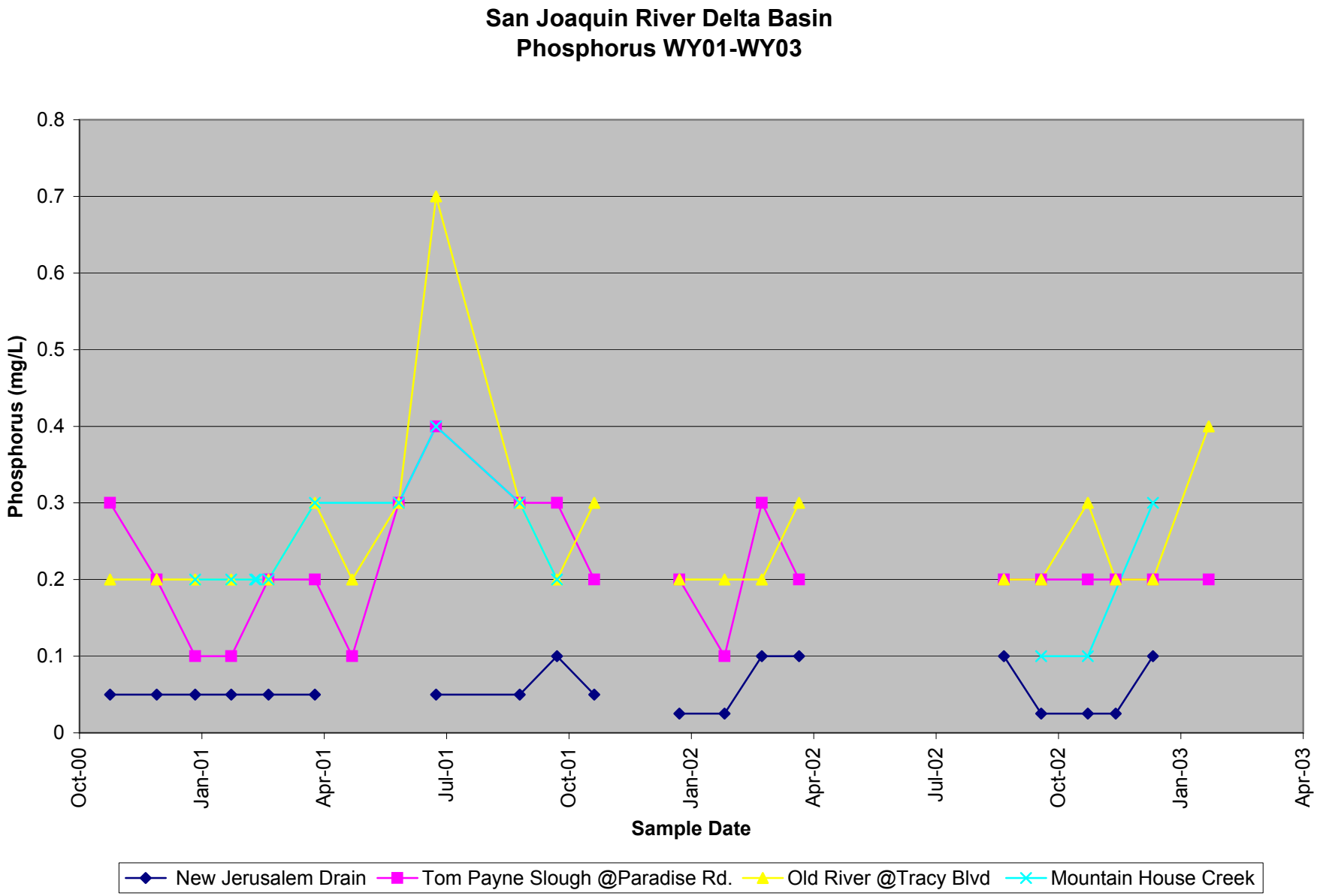

San Joaquin River Delta Basin
Nitrate WY01
Nitrate (mg/L)
90
80
70
60
50
40
30
20
10
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek
California Primary MCL (45mg/L)

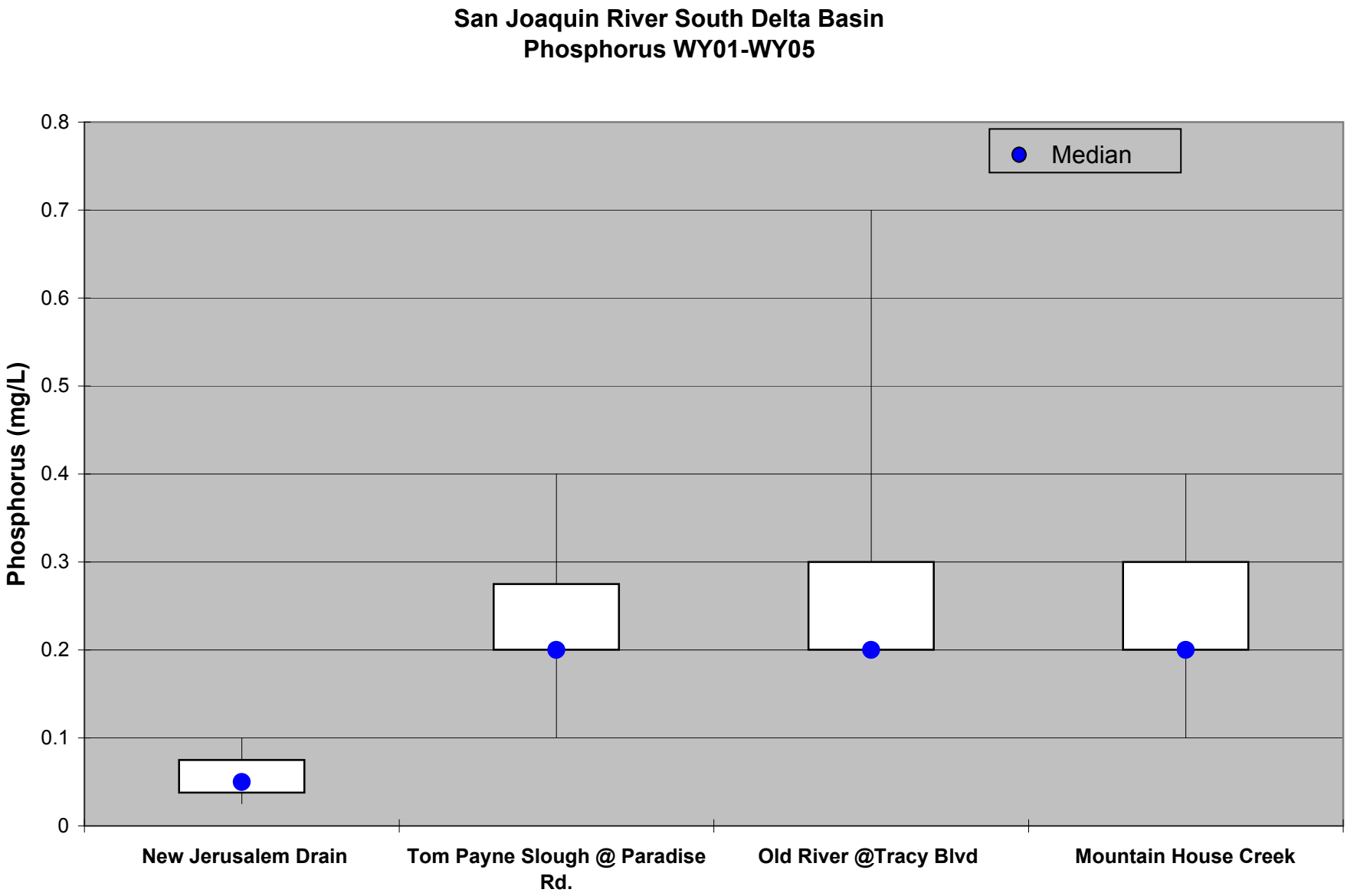

San Joaquin River South Delta Basin
Nitrate WY01-WY04
Nitrate (mg/L)
90
80
70
60
50
40
30
20
10
0
Median
California Primary MCL (45mg/L)
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

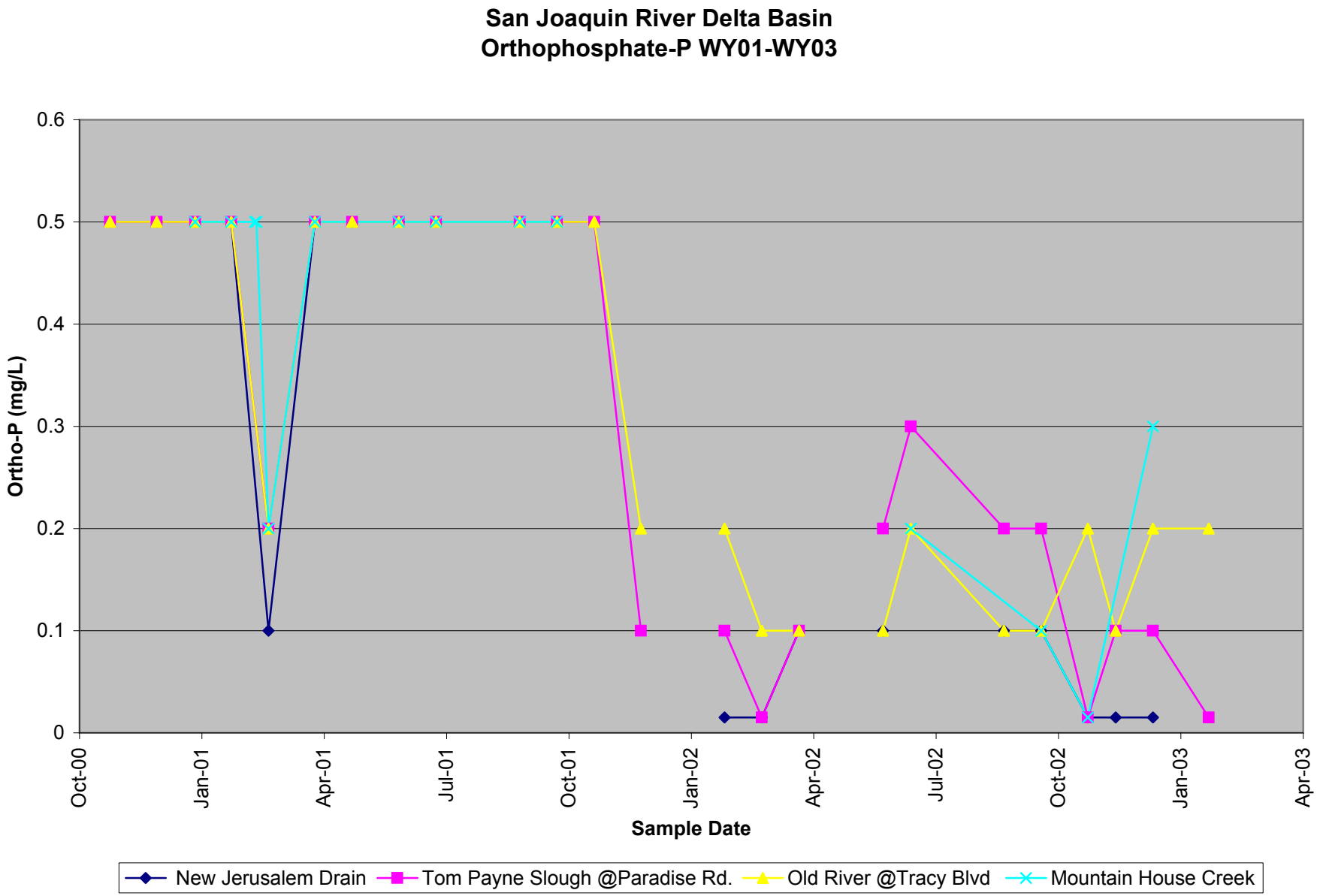

San Joaquin River Delta Basin
Total Kjeldahl Nitrogen WY01-WY03
TKN (mg/L)
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

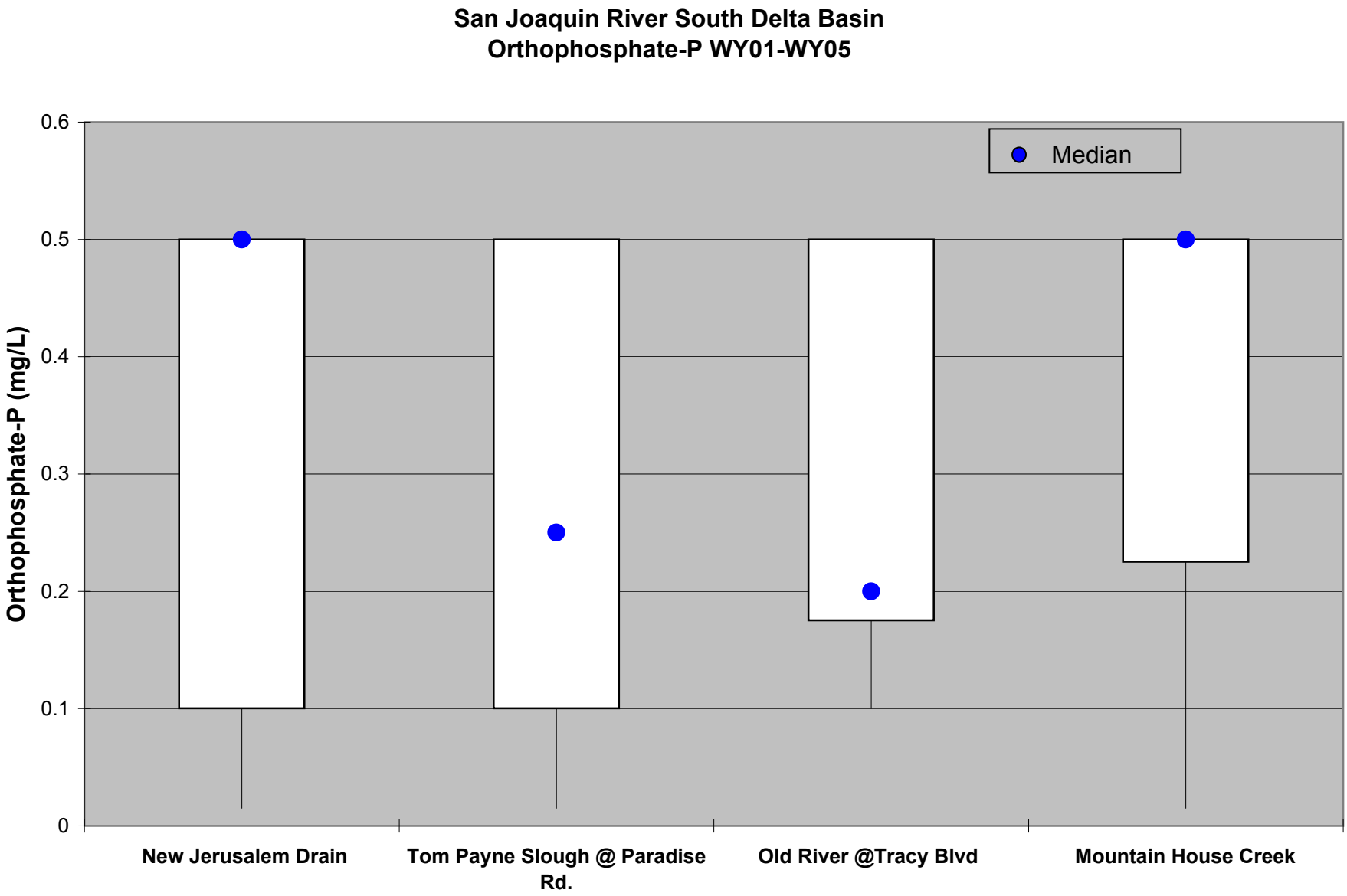
San Joaquin River South Delta Basin
Total Kjeldahl Nitrogen WY01-WY05

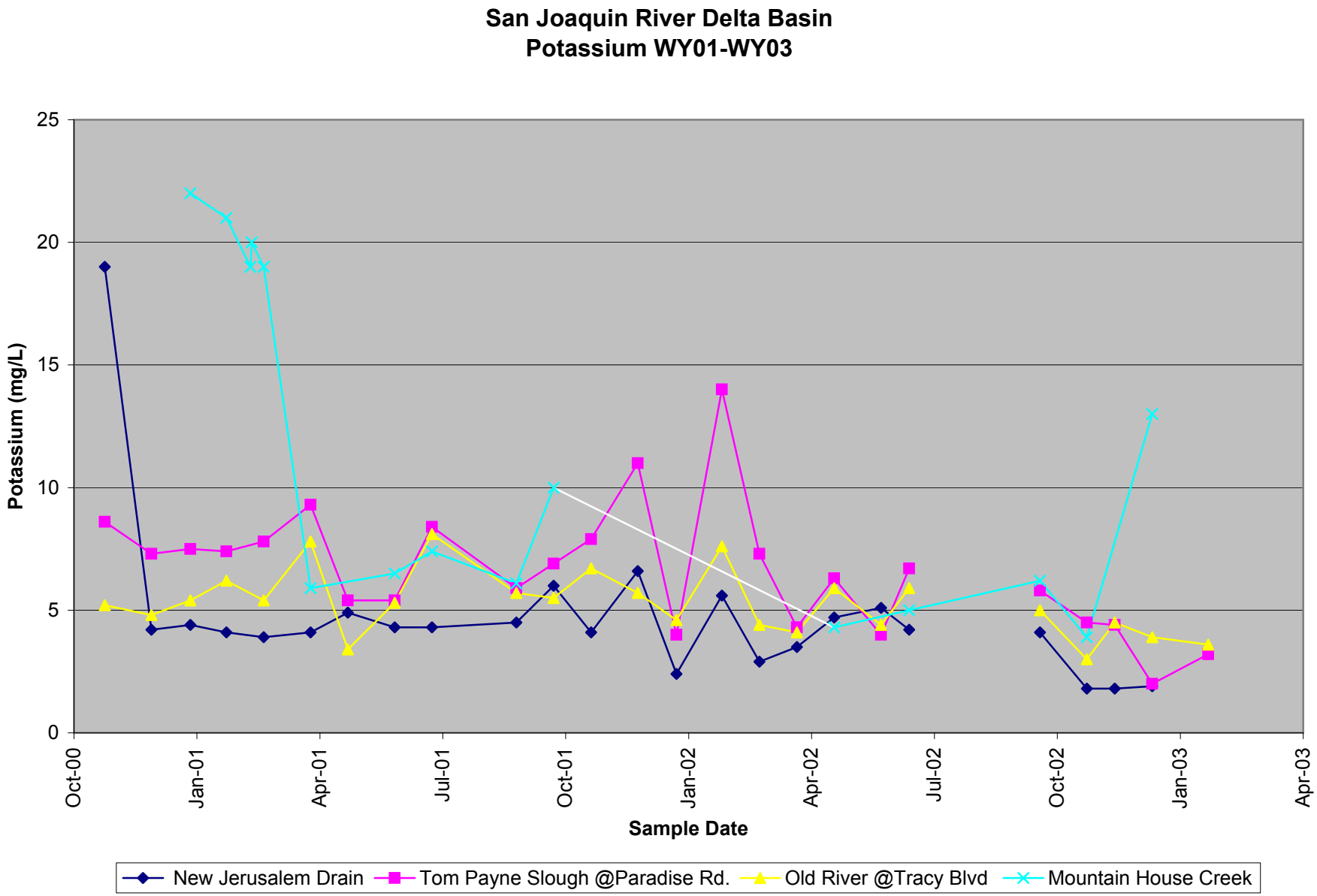


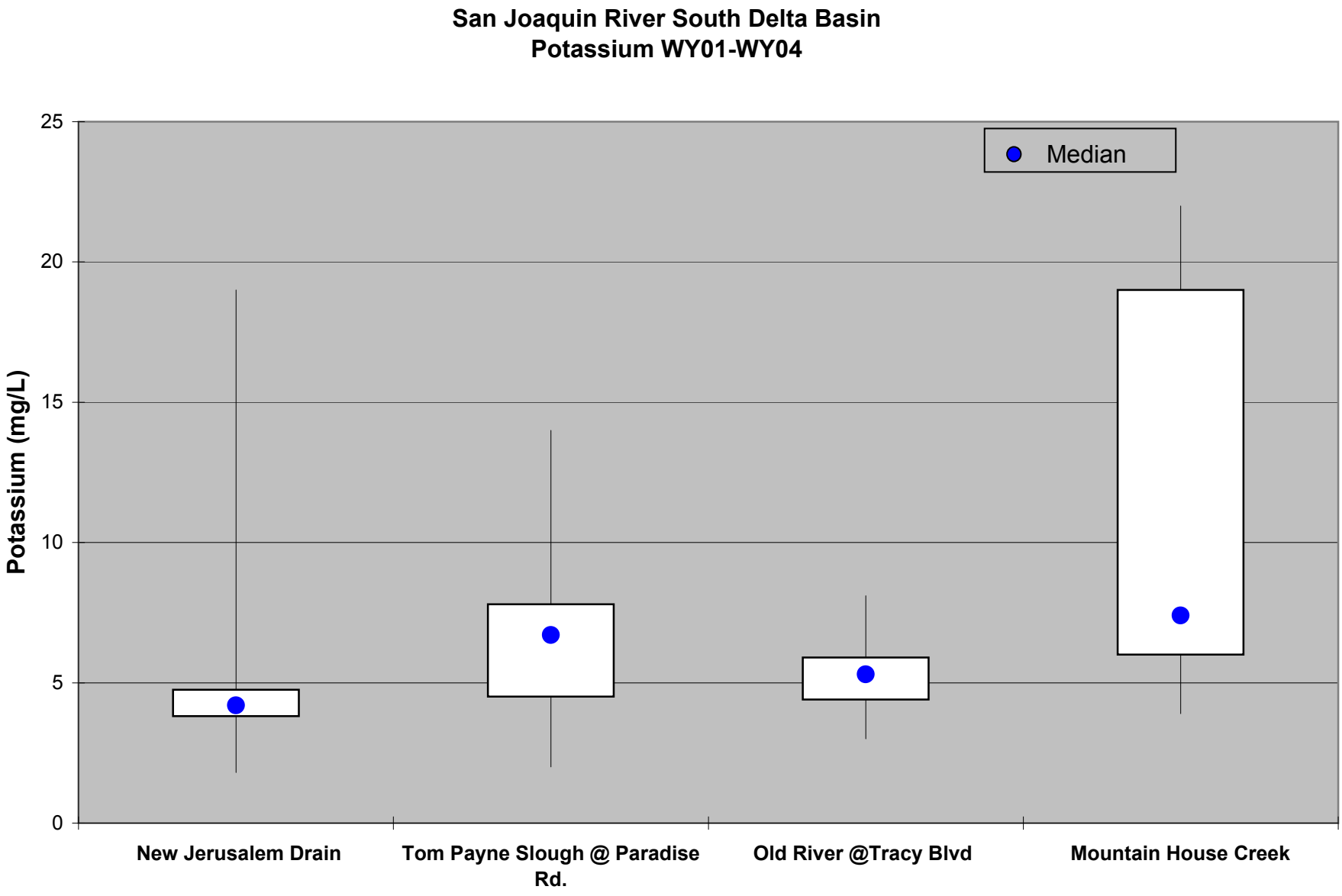

San Joaquin River Delta Basin
Phosphorus WY01-WY03
Phosphorus (mg/L)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek


San Joaquin River South Delta Basin
Phosphorus WY01-WY05
Median
Phosphorus (mg/L)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

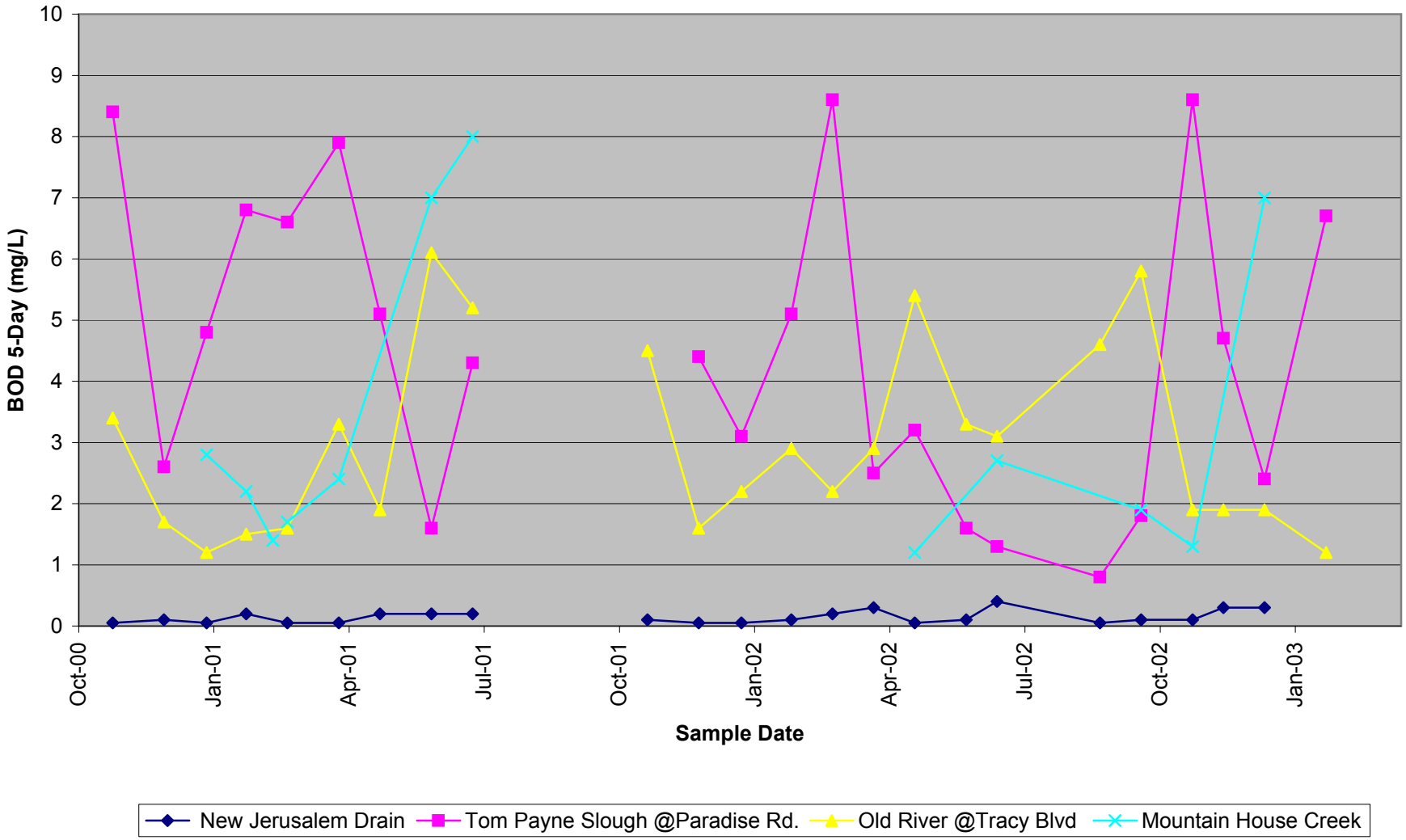

San Joaquin River Delta Basin
Orthophosphate-P WY01-WY03
Ortho-P (mg/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek


San Joaquin River South Delta Basin
Orthophosphate-P WY01-WY05
Median
Orthophosphate-P (mg/L)
0.6
0.5
0.4
0.3
0.2
0.1
0
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

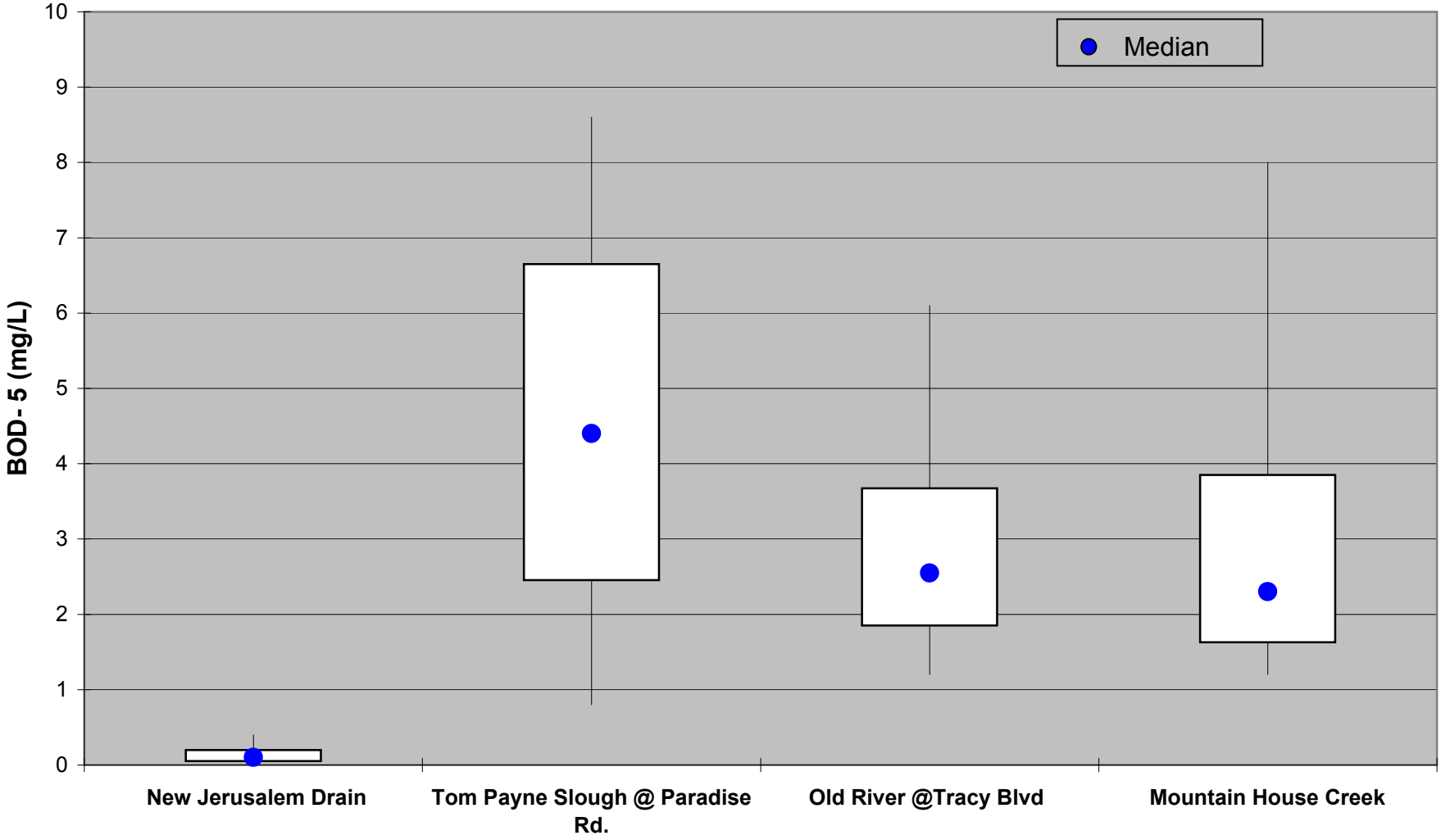

San Joaquin River Delta Basin
Potassium WY01-WY03
Potassium (mg/L)
25
20
15
10
5
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

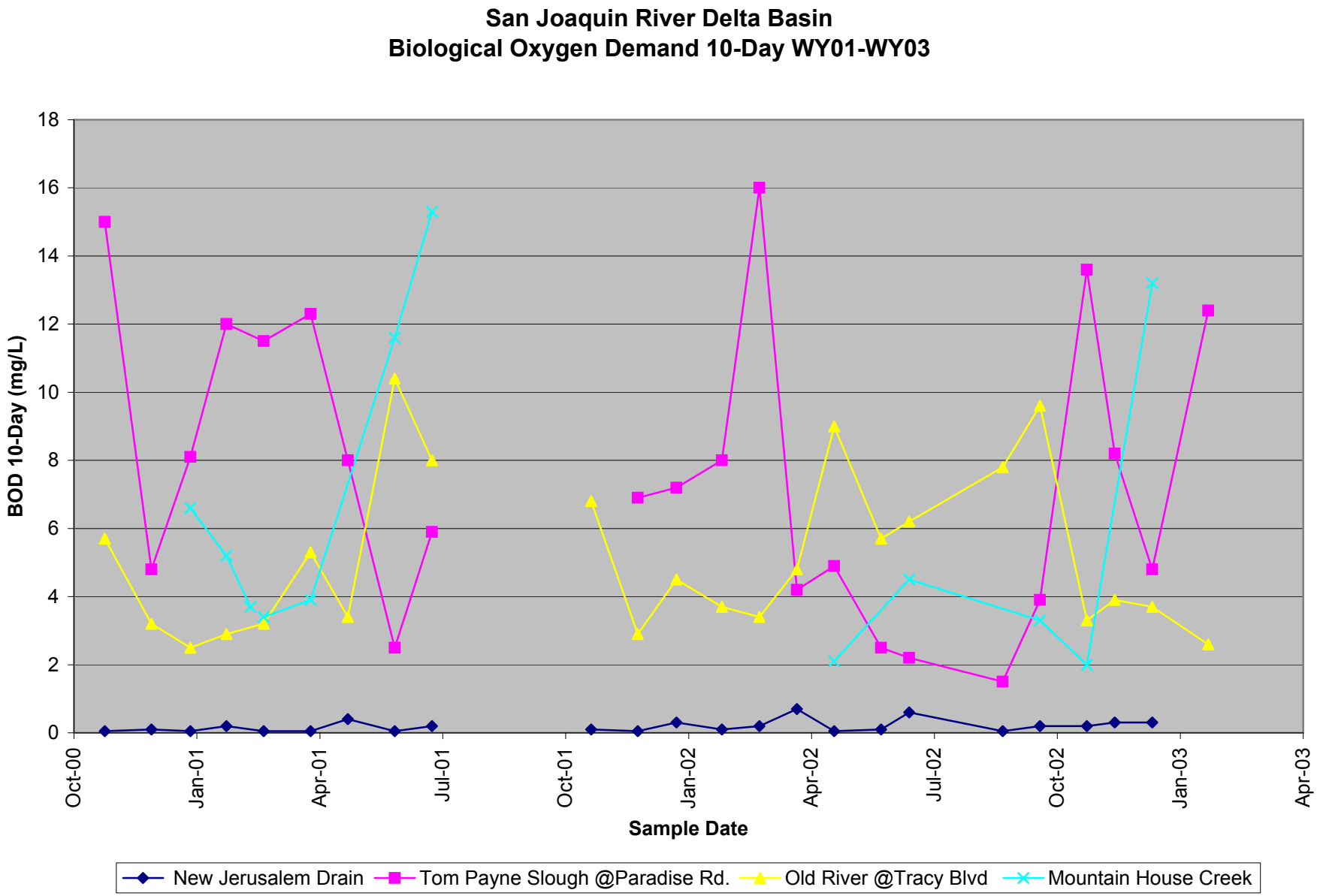

San Joaquin River South Delta Basin
Potassium WY01-WY04
Median
Potassium (mg/L)
25
20
15
10
5
0
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

San Joaquin River Delta Basin
Biological Oxygen Demand 5-Day WY01-WY03

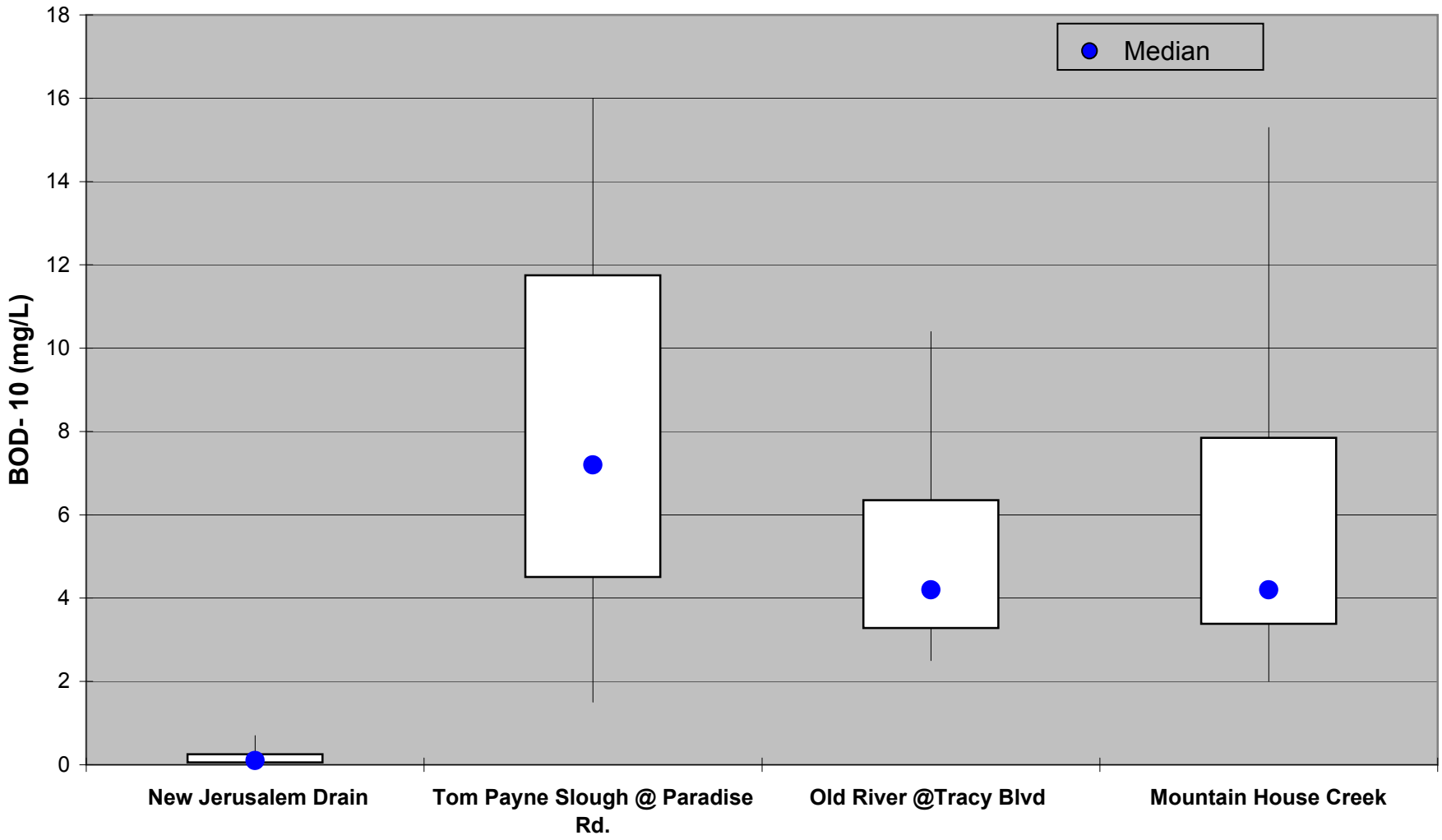


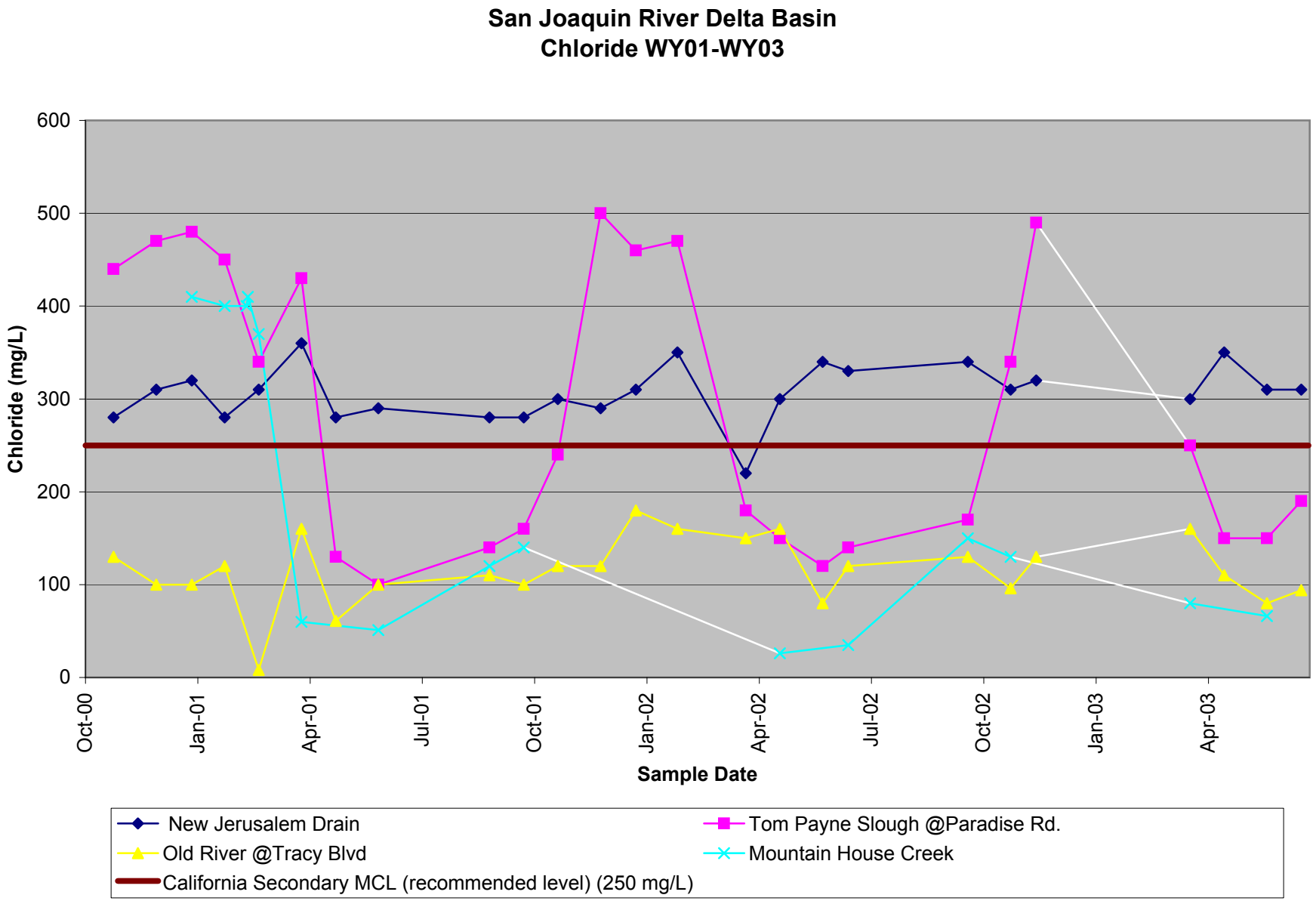
San Joaquin River South Delta Basin
Biological Oxygen Demand 5-Day WY01-WY03

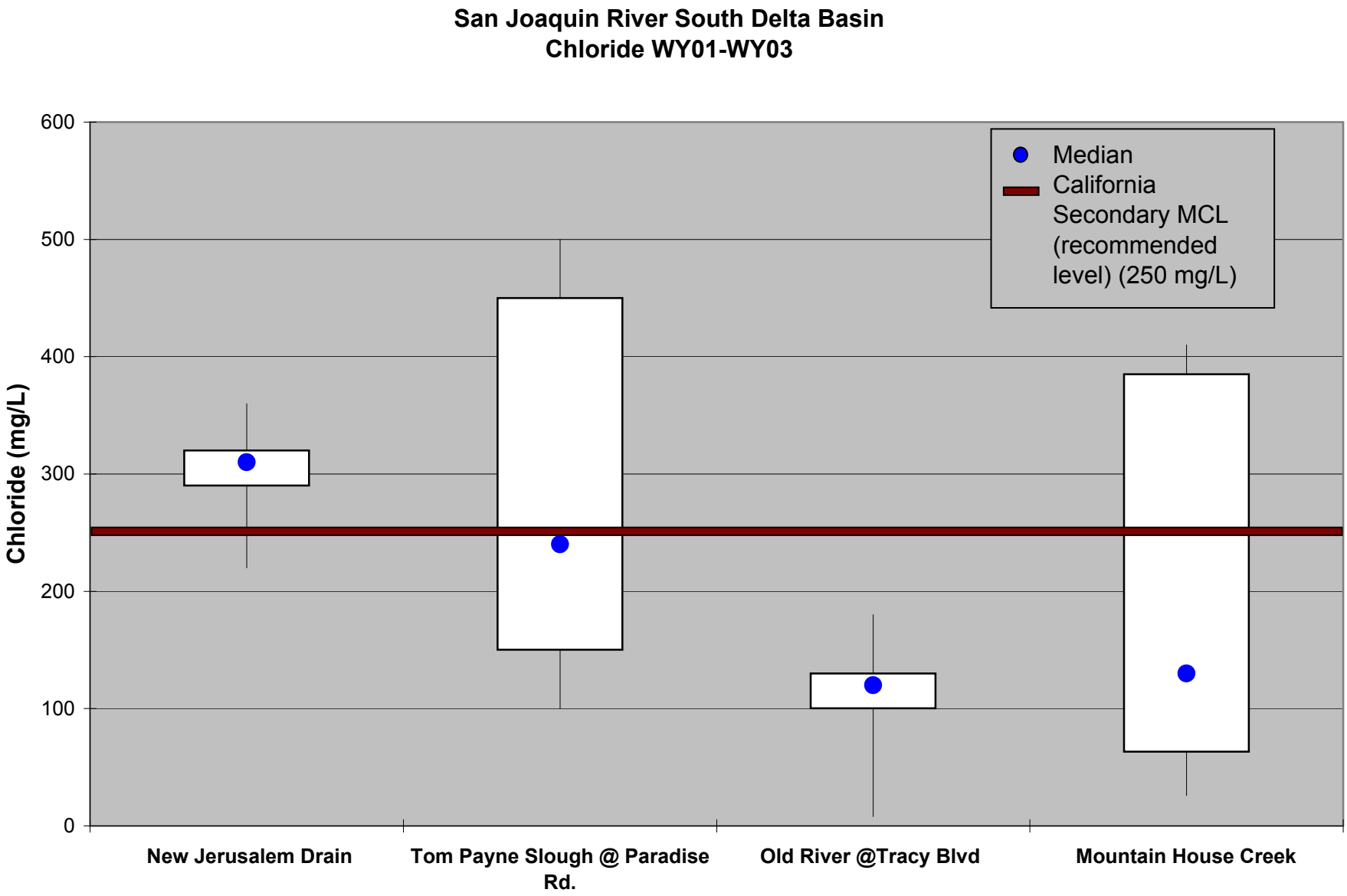


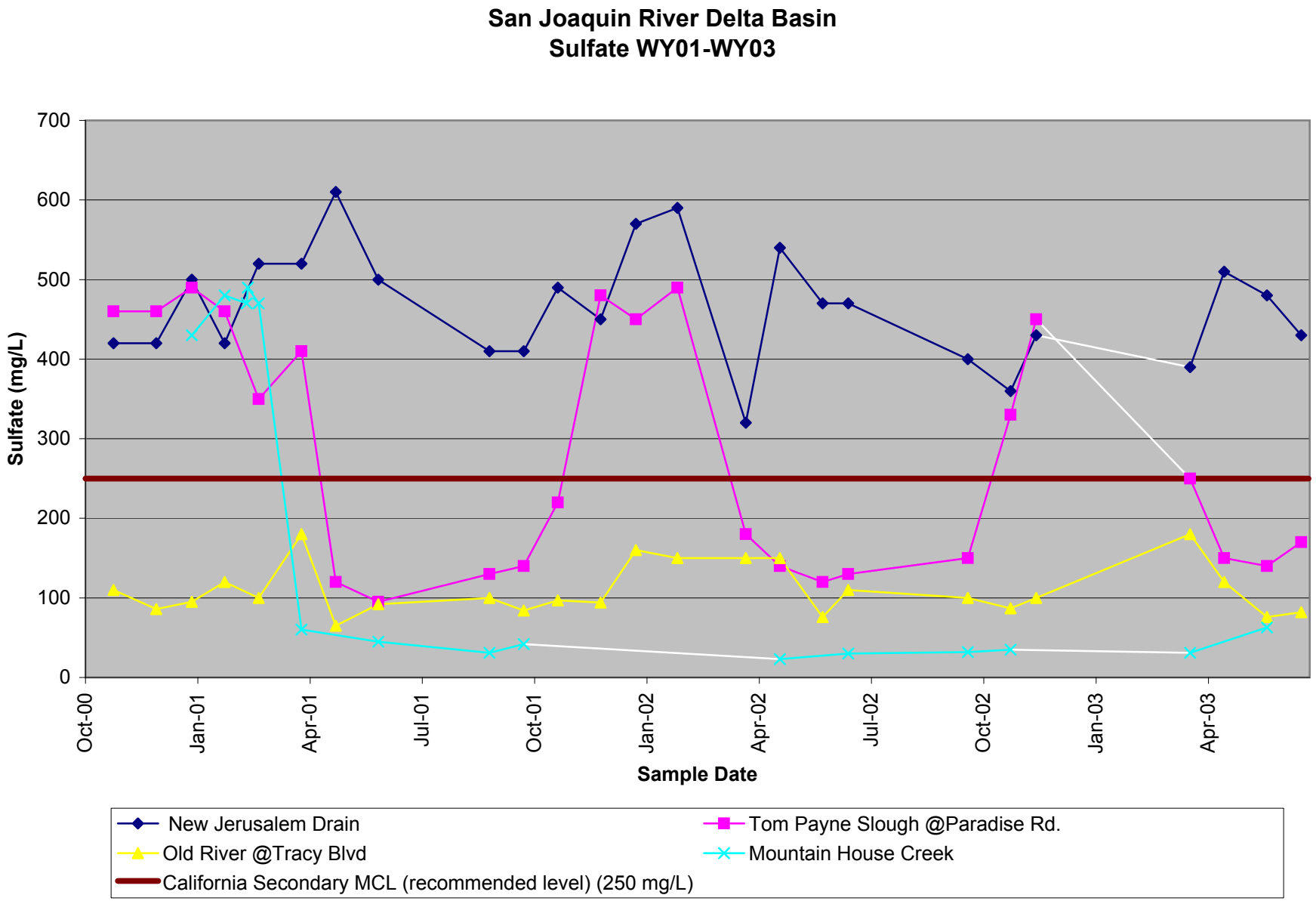

San Joaquin River Delta Basin
Biological Oxygen Demand 10-Day WY01-WY03
BOD 10-Day (mg/L)
18
16
14
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

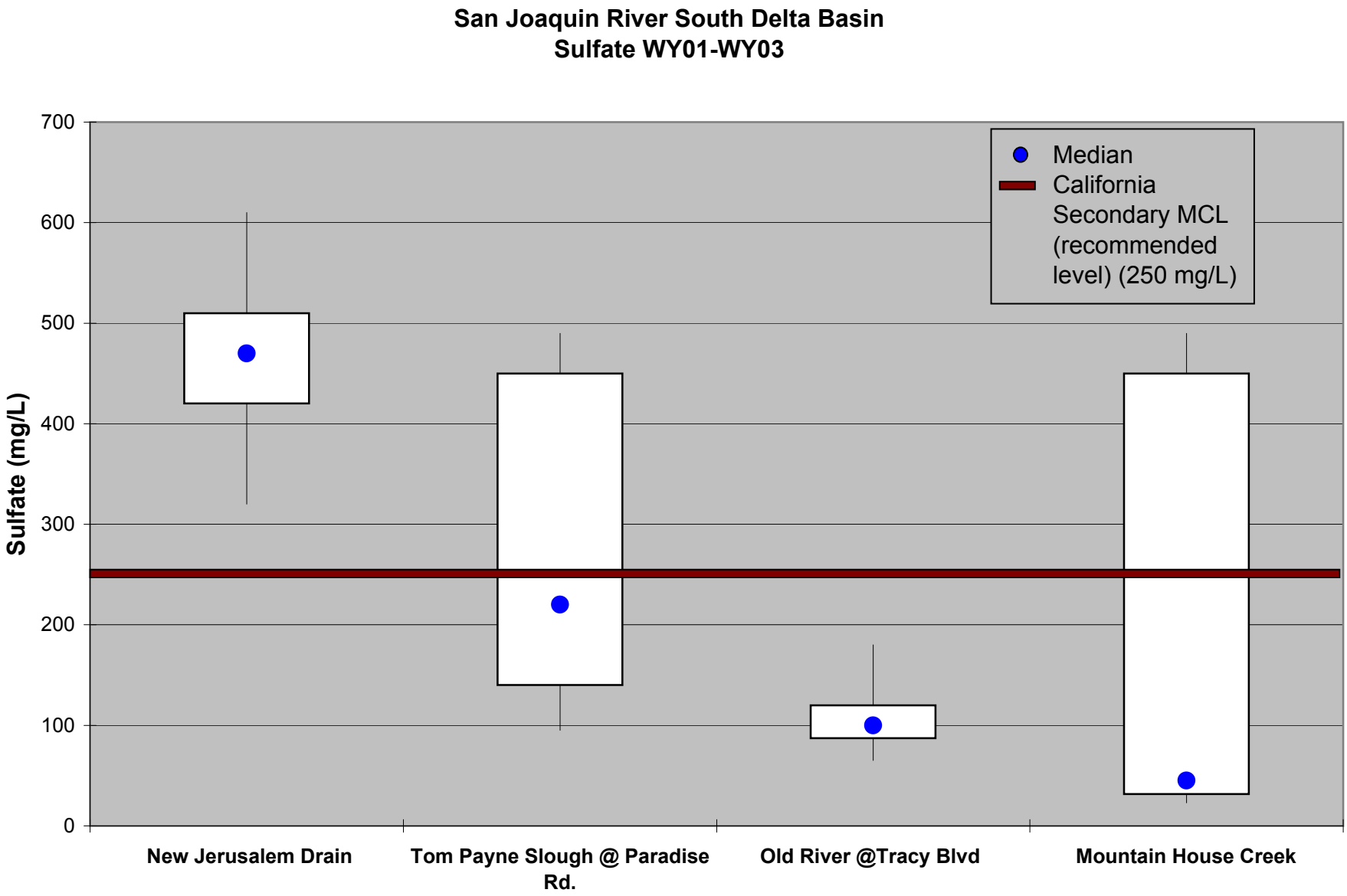
San Joaquin River South Delta Basin
Biological Oxygen Demand 10-Day WY01-WY03

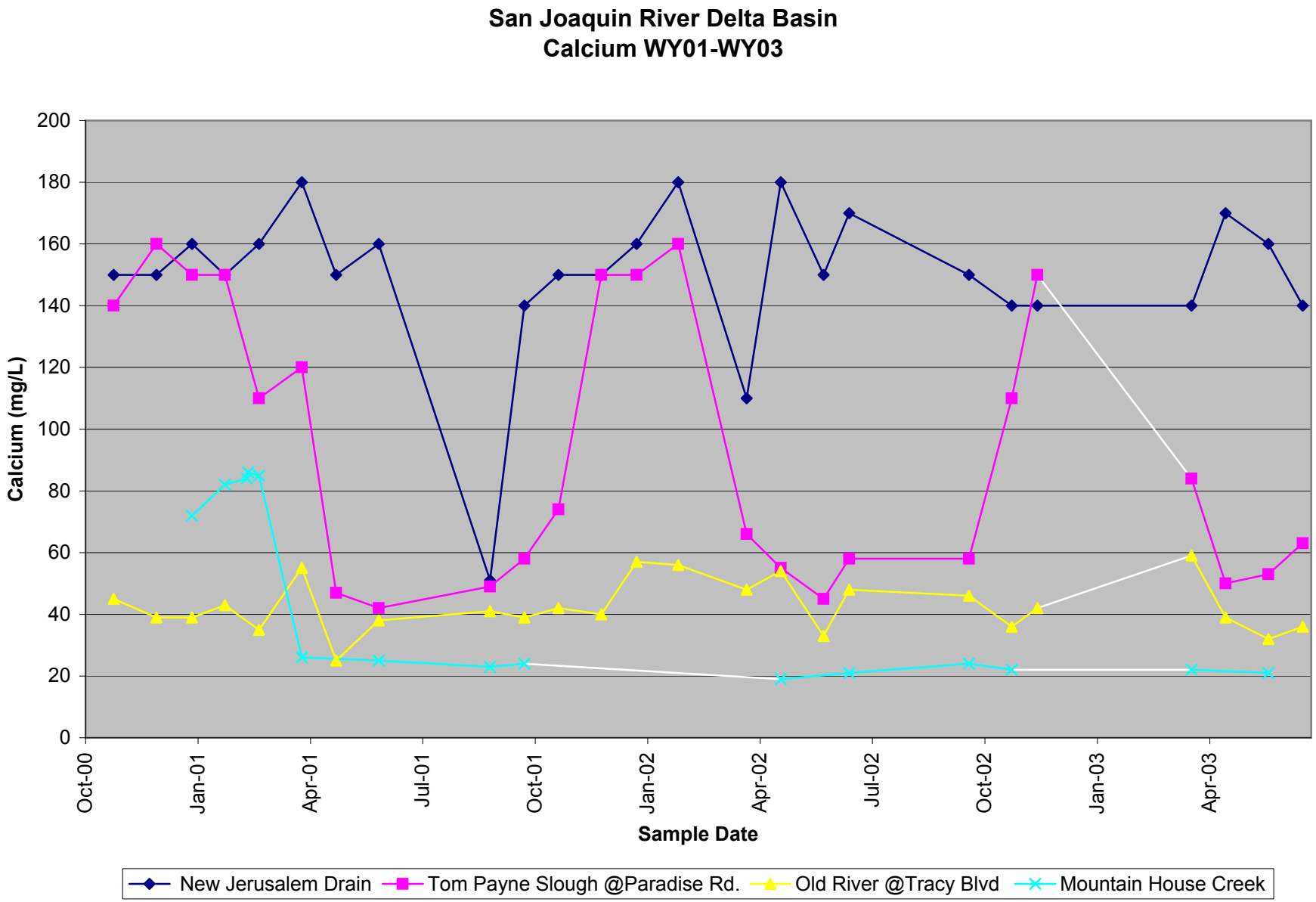


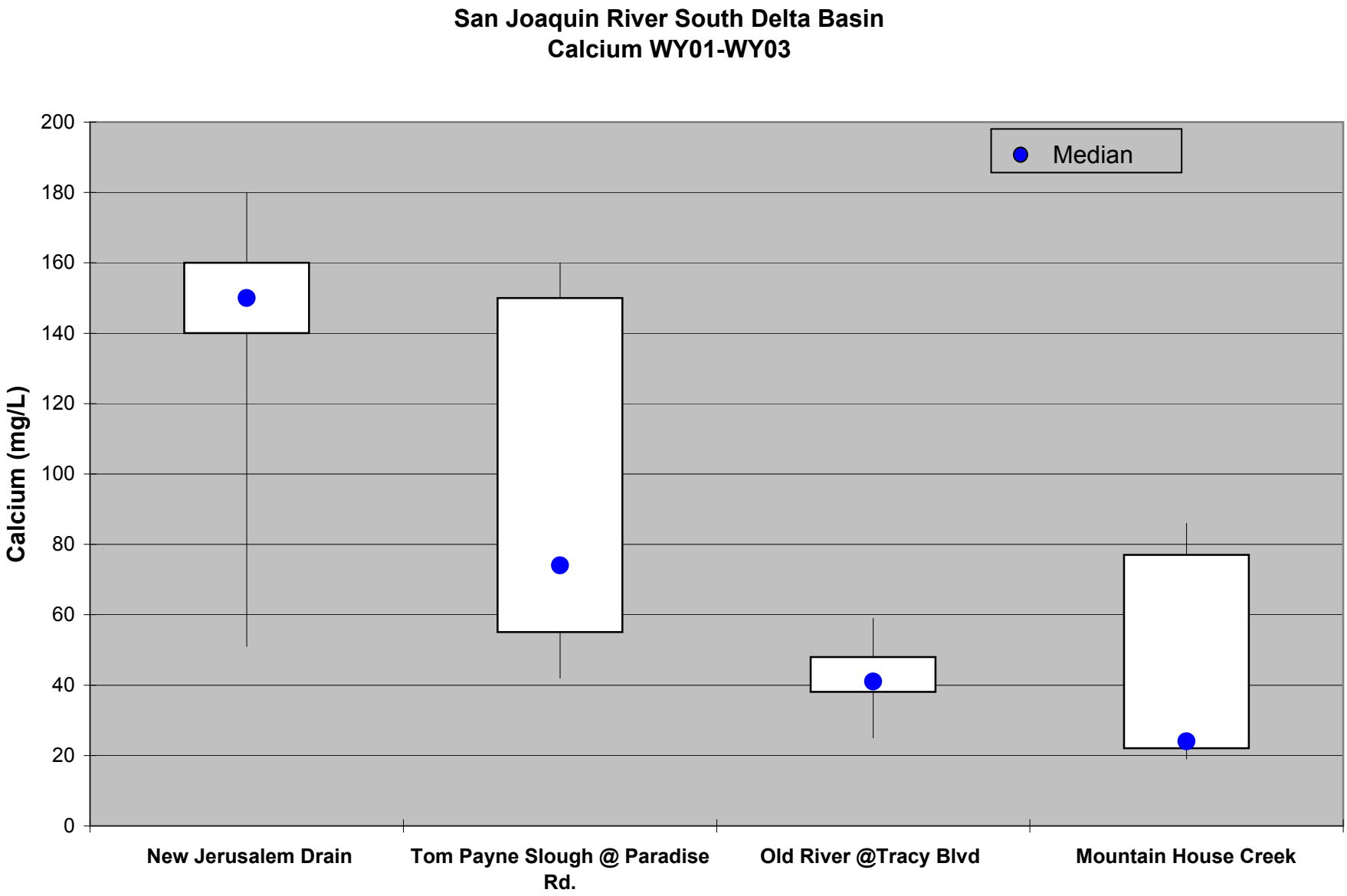

San Joaquin River Delta Basin
Chloride WY01-WY03
Chloride (mg/L)
600
500
400
300
200
100
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek
California Secondary MCL (recommended level) (250 mg/L)

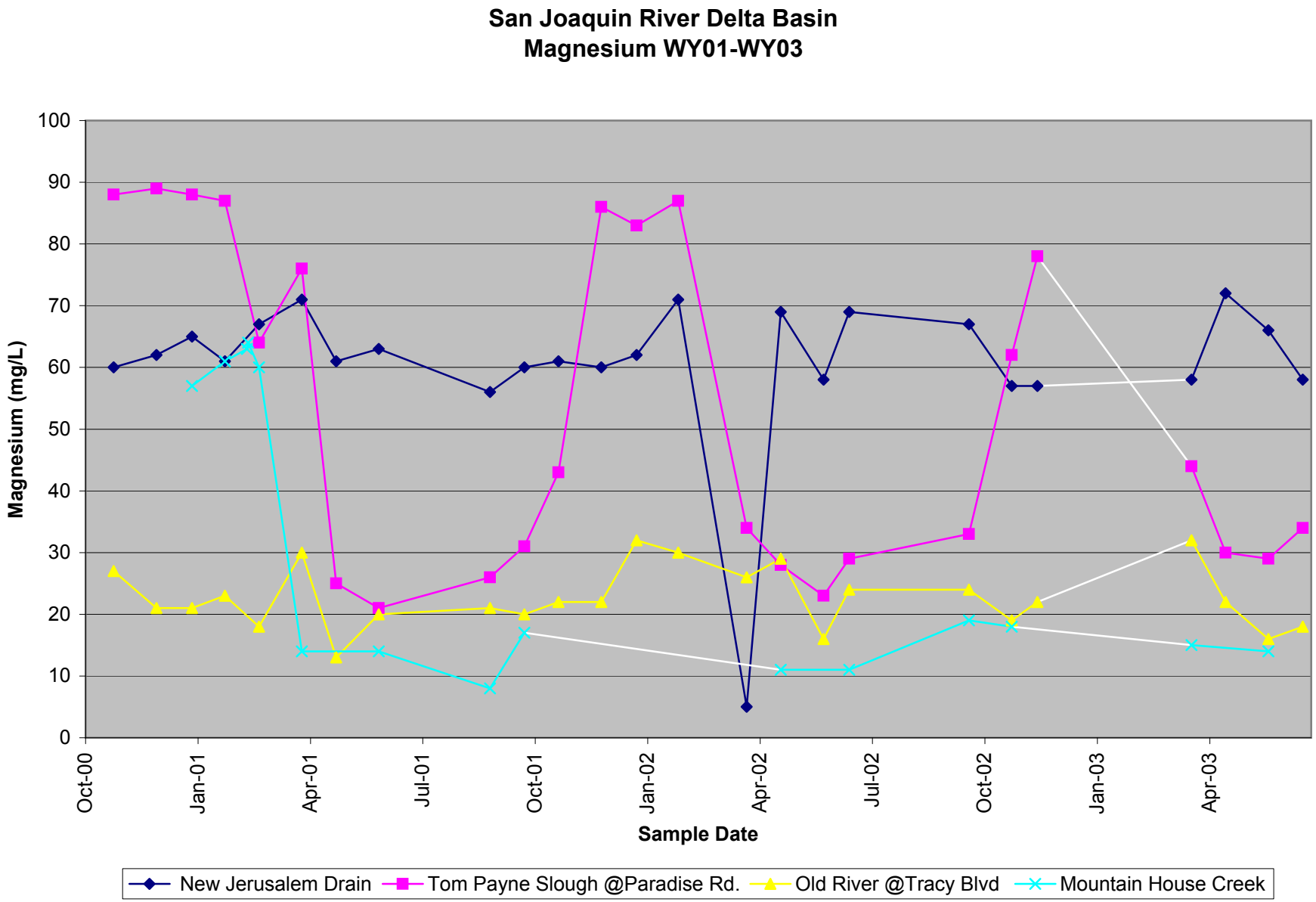

San Joaquin River South Delta Basin
Chloride WY01-WY03
Chloride (mg/L)
600
500
400
300
200
100
0
Median
California Secondary MCL (recommended level) (250 mg/L)
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

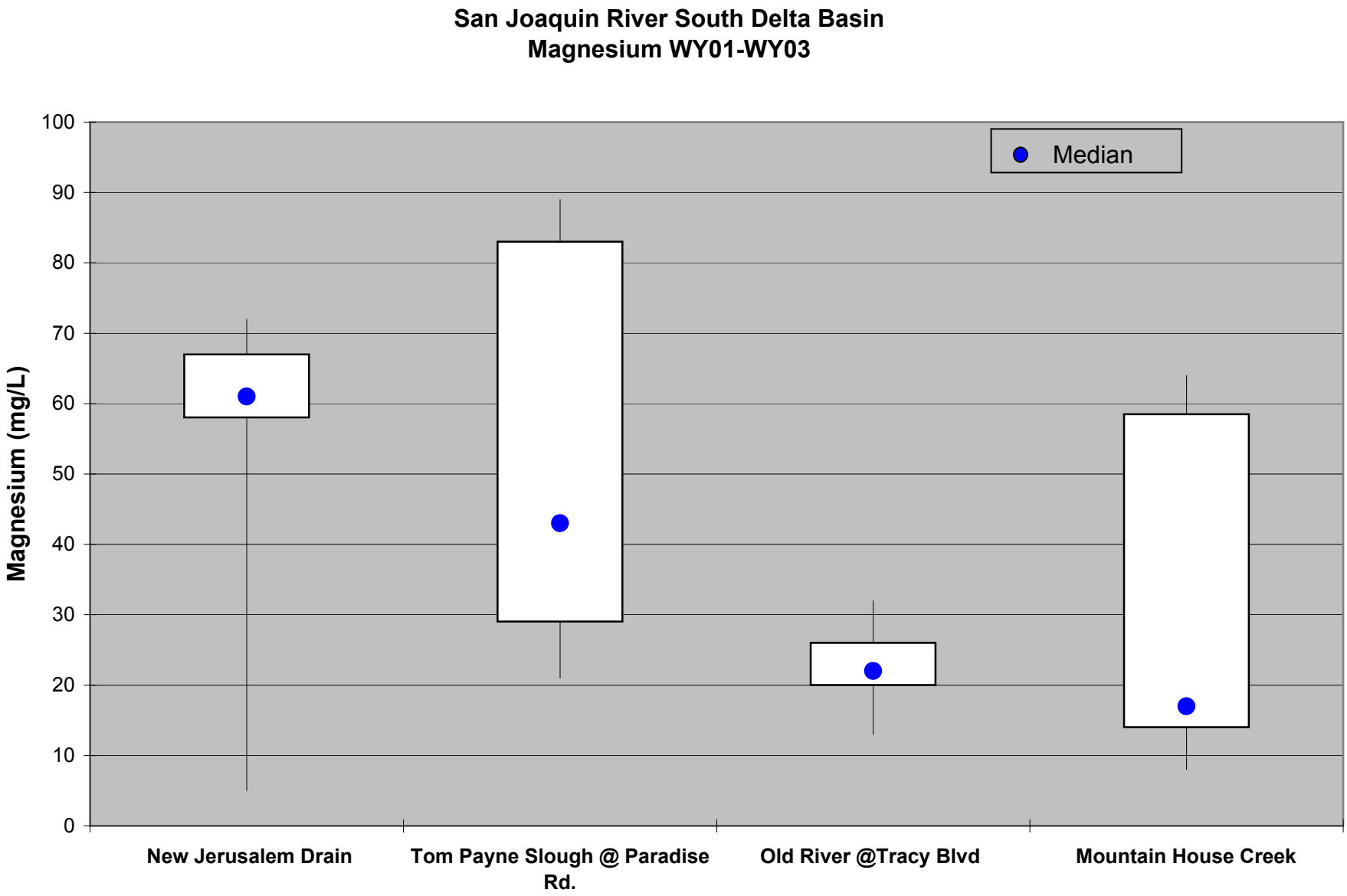

San Joaquin River Delta Basin
Sulfate WY01-WY03
Sulfate (mg/L)
700
600
500
400
300
200
100
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek
California Secondary MCL (recommended level) (250 mg/L)

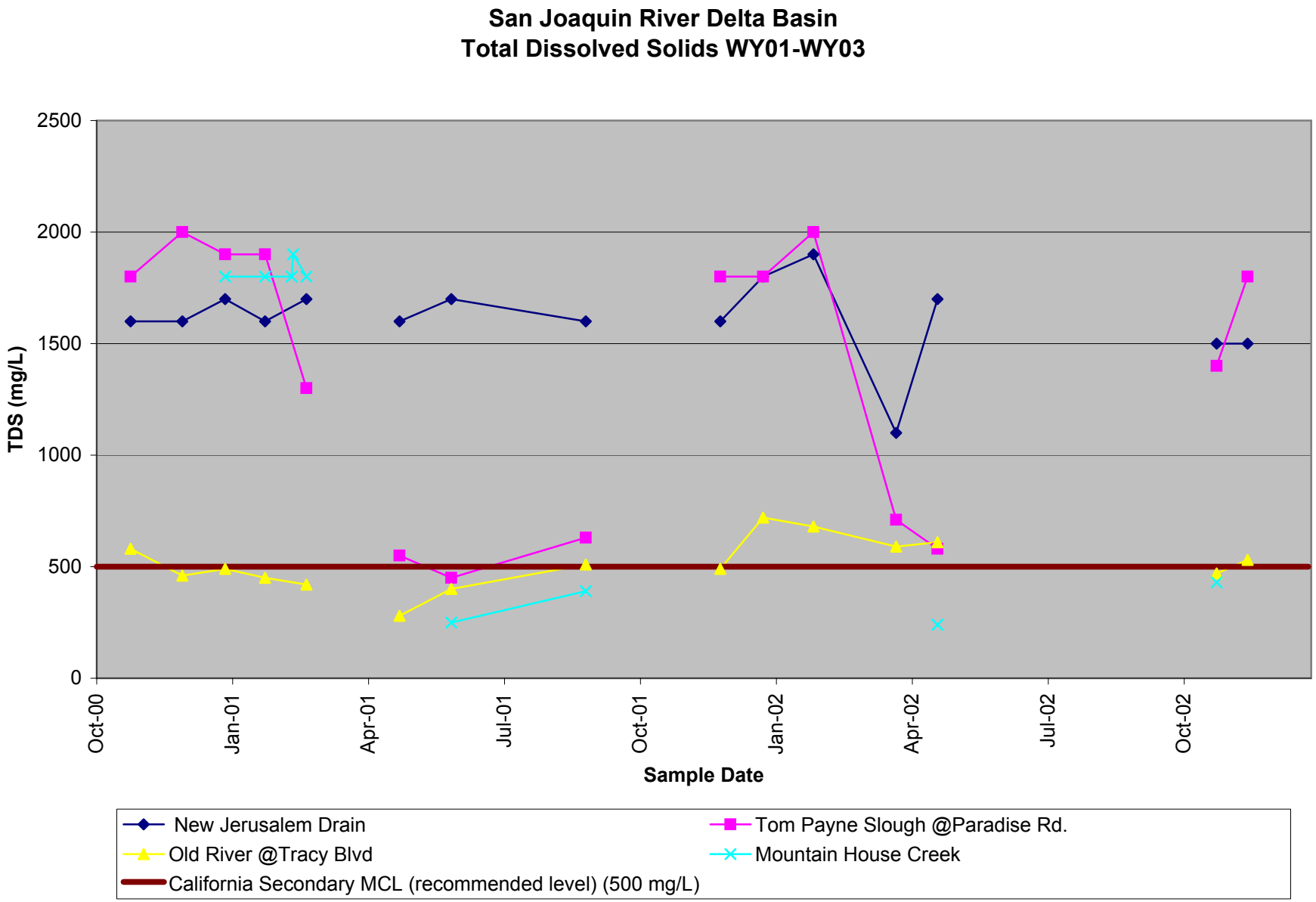

San Joaquin River South Delta Basin
Sulfate WY01-WY03
Sulfate (mg/L)
700
600
500
400
300
200
100
0
Median
California Secondary MCL (recommended level) (250 mg/L)
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

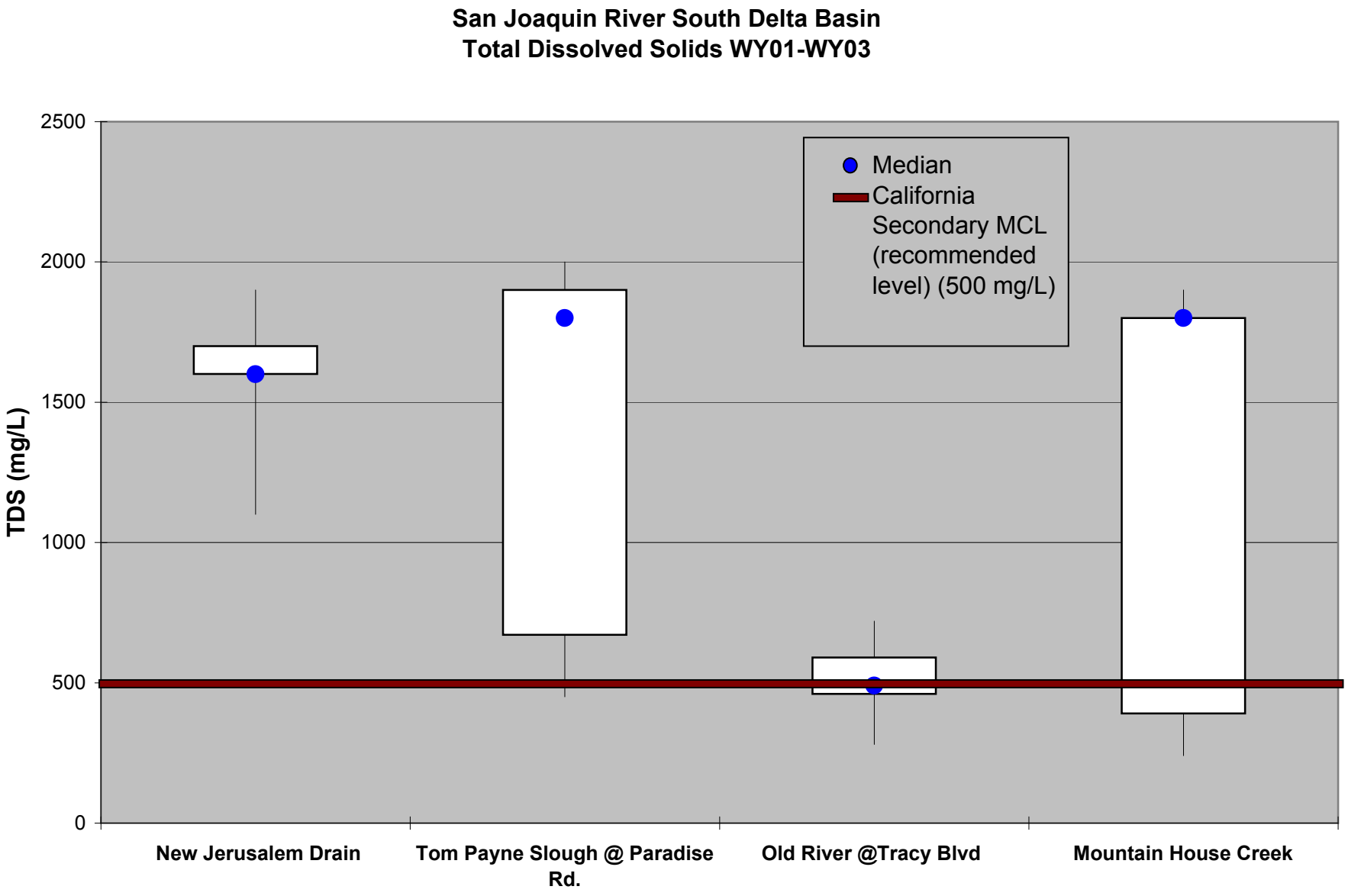

San Joaquin River Delta Basin
Calcium WY01-WY03
Calcium (mg/L)
200
180
160
140
120
100
80
60
40
20
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

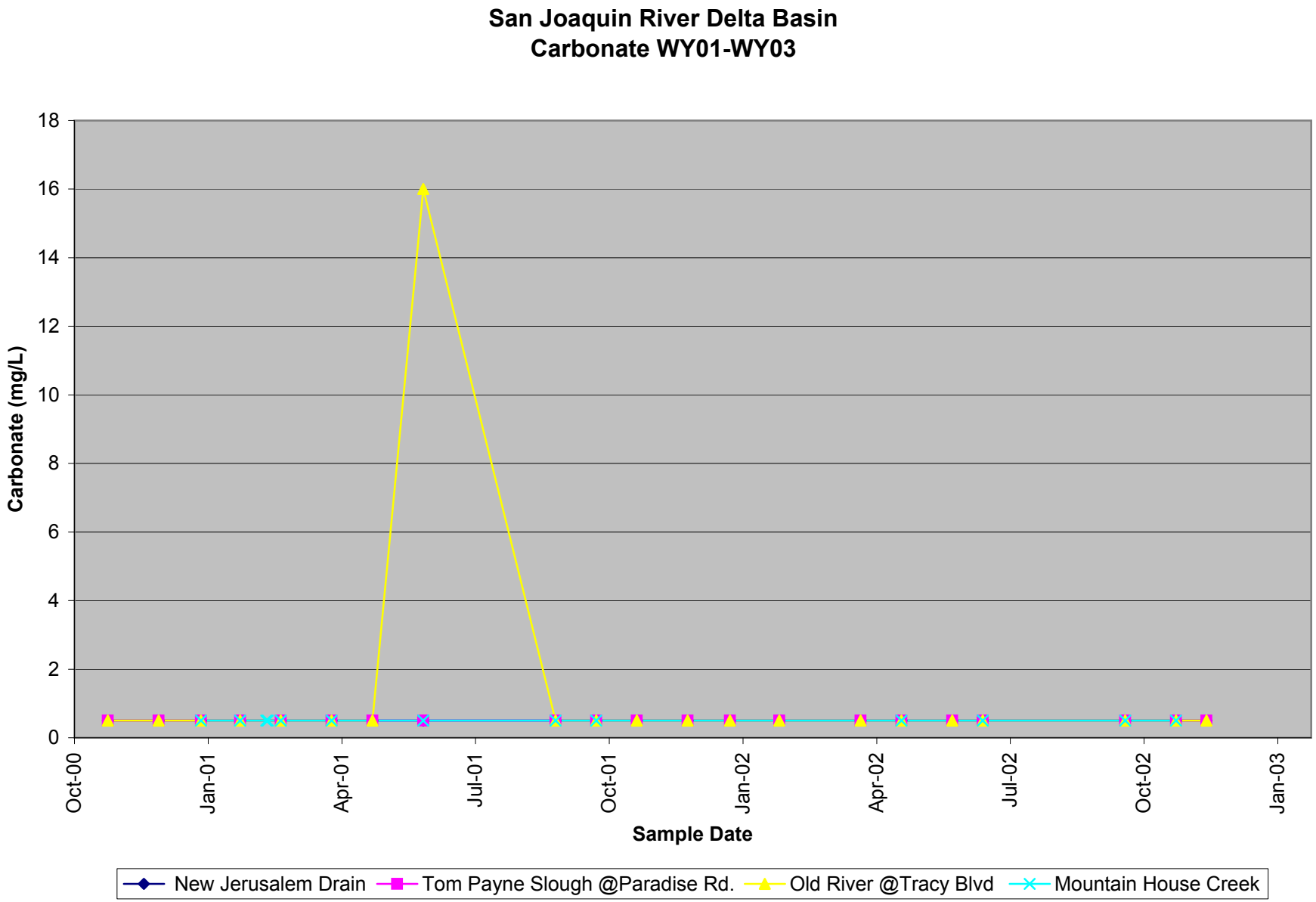

San Joaquin River South Delta Basin
Calcium WY01-WY03
Median
Calcium (mg/L)
200
180
160
140
120
100
80
60
40
20
0
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

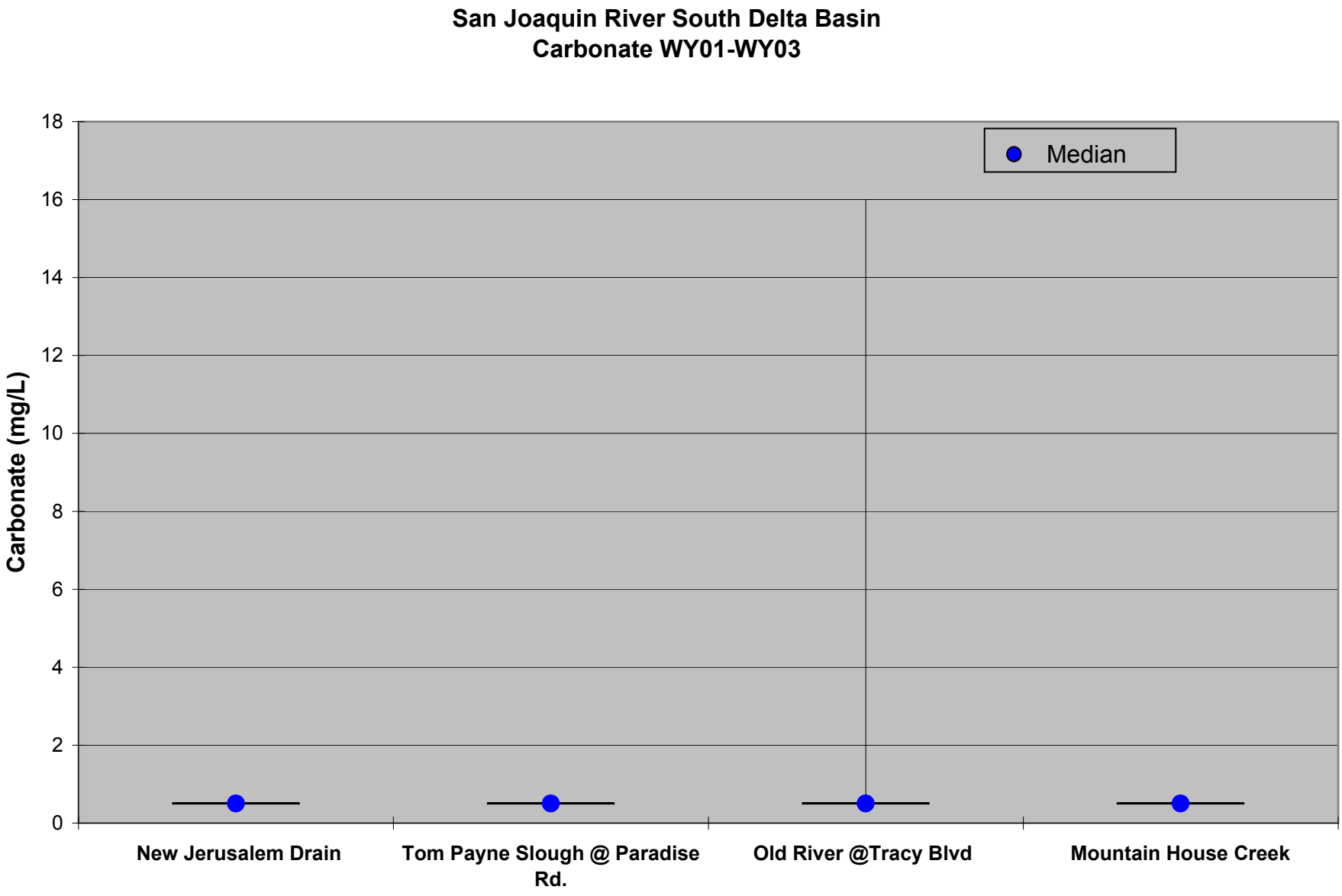

San Joaquin River Delta Basin
Magnesium WY01-WY03
Magnesium (mg/L)
100
90
80
70
60
50
40
30
20
10
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Apr-03
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

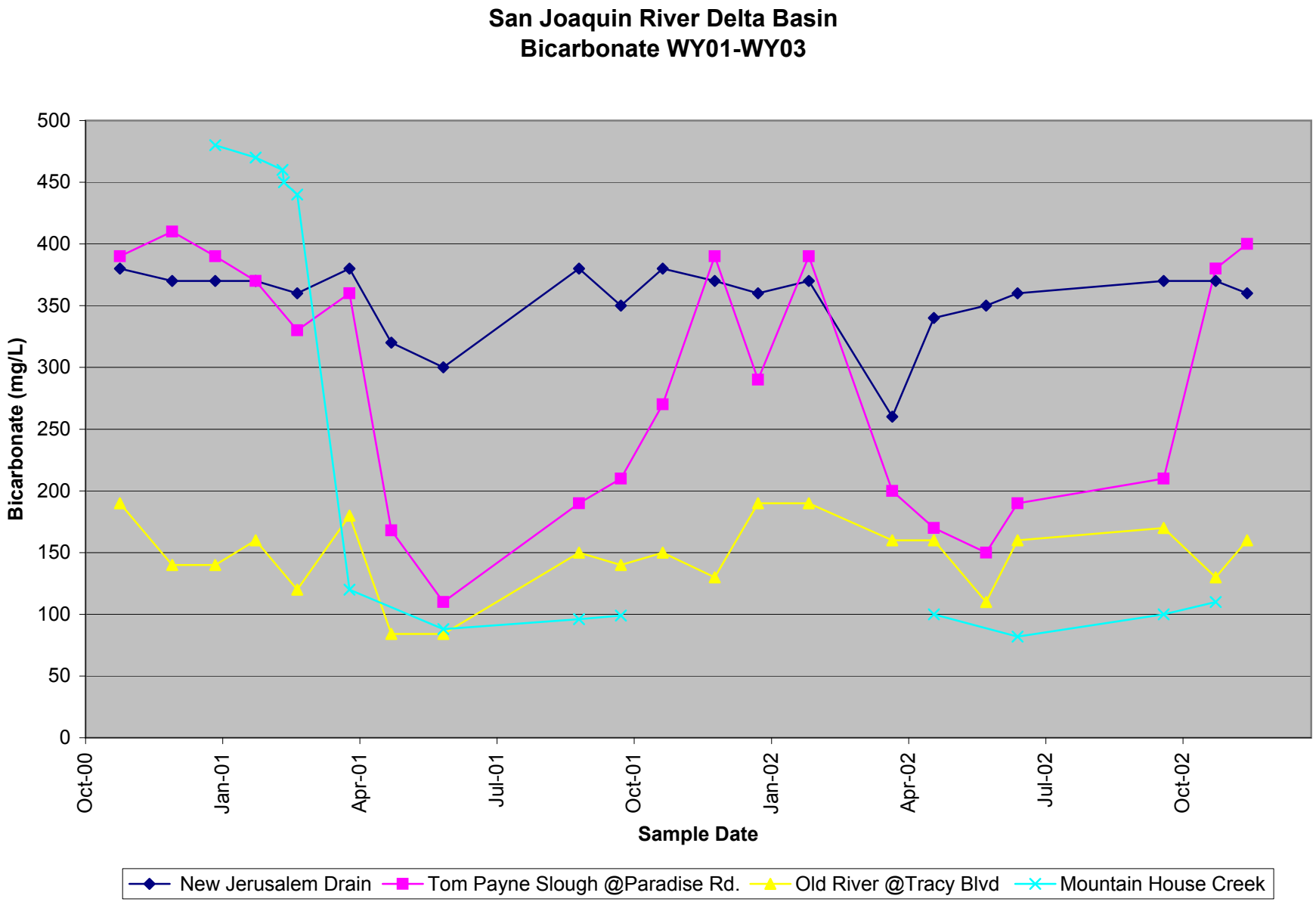

San Joaquin River South Delta Basin
Magnesium WY01-WY03
Median
Magnesium (mg/L)
100
90
80
70
60
50
40
30
20
10
0
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

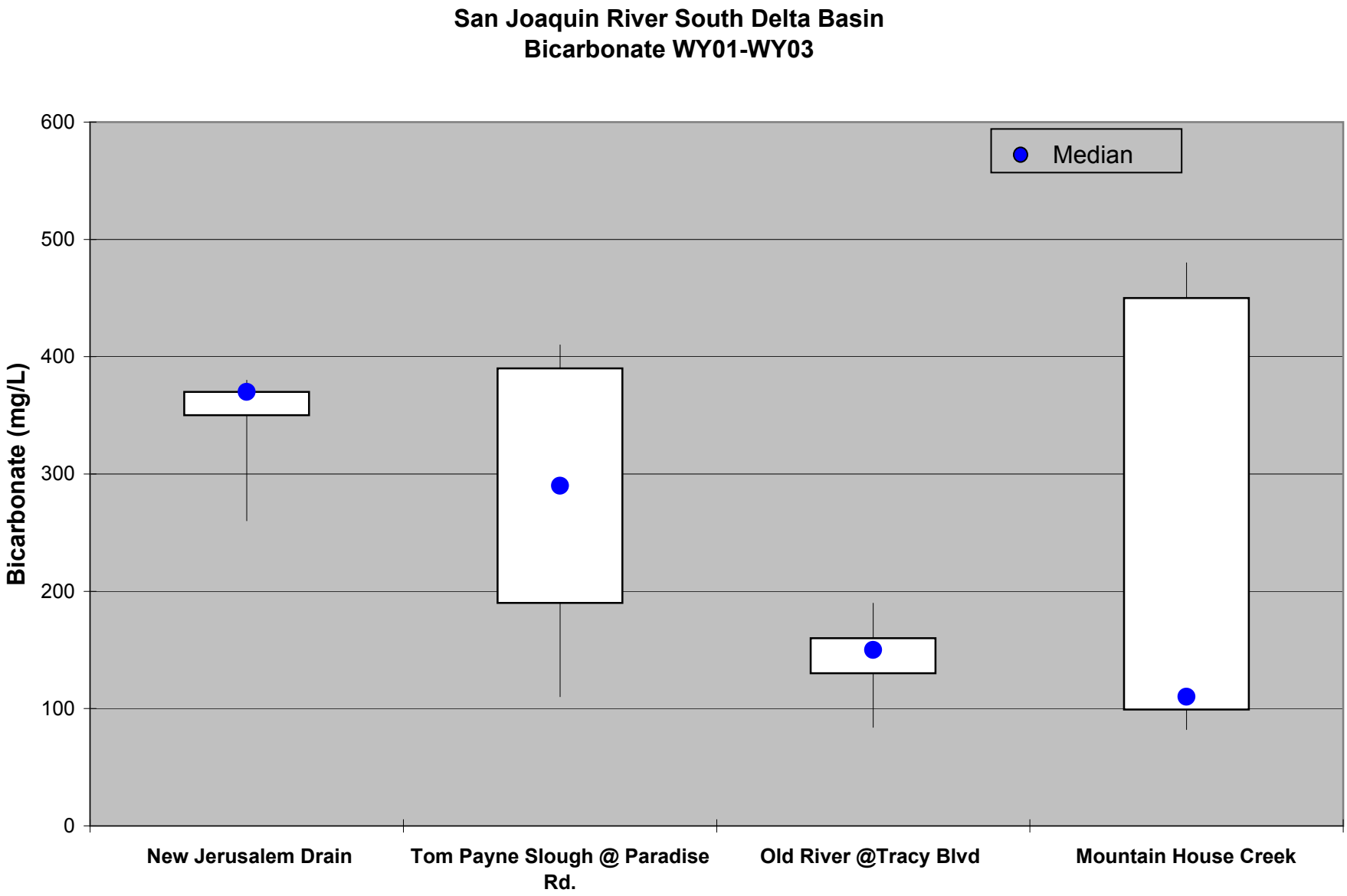

San Joaquin River Delta Basin
Total Dissolved Solids WY01-WY03
TDS (mg/L)
2500
2000
1500
1000
500
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek
California Secondary MCL (recommended level) (500 mg/L)

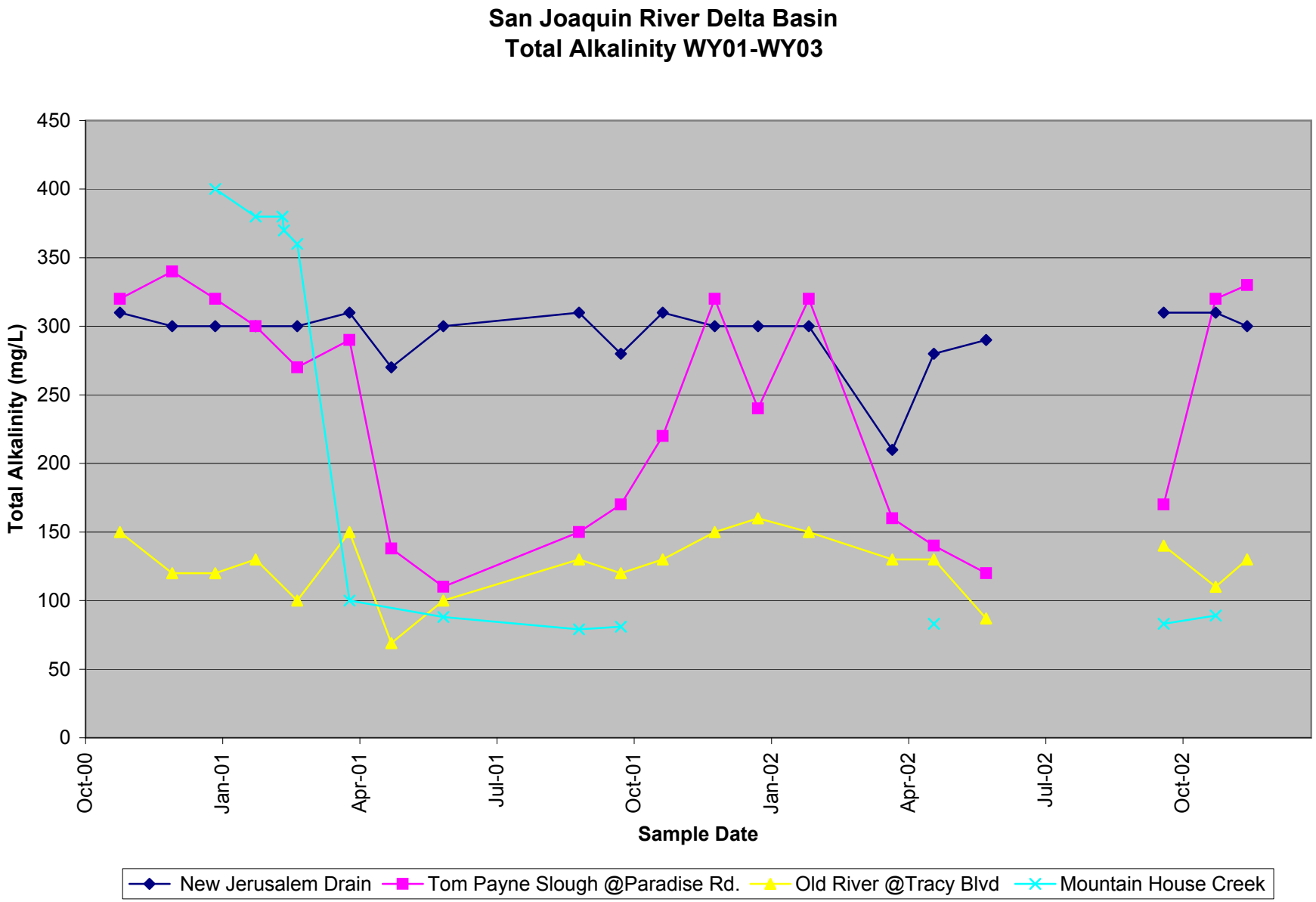

San Joaquin River South Delta Basin
Total Dissolved Solids WY01-WY03
TDS (mg/L)
2500
2000
1500
1000
500
0
Median
California Secondary MCL (recommended level) (500 mg/L)
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

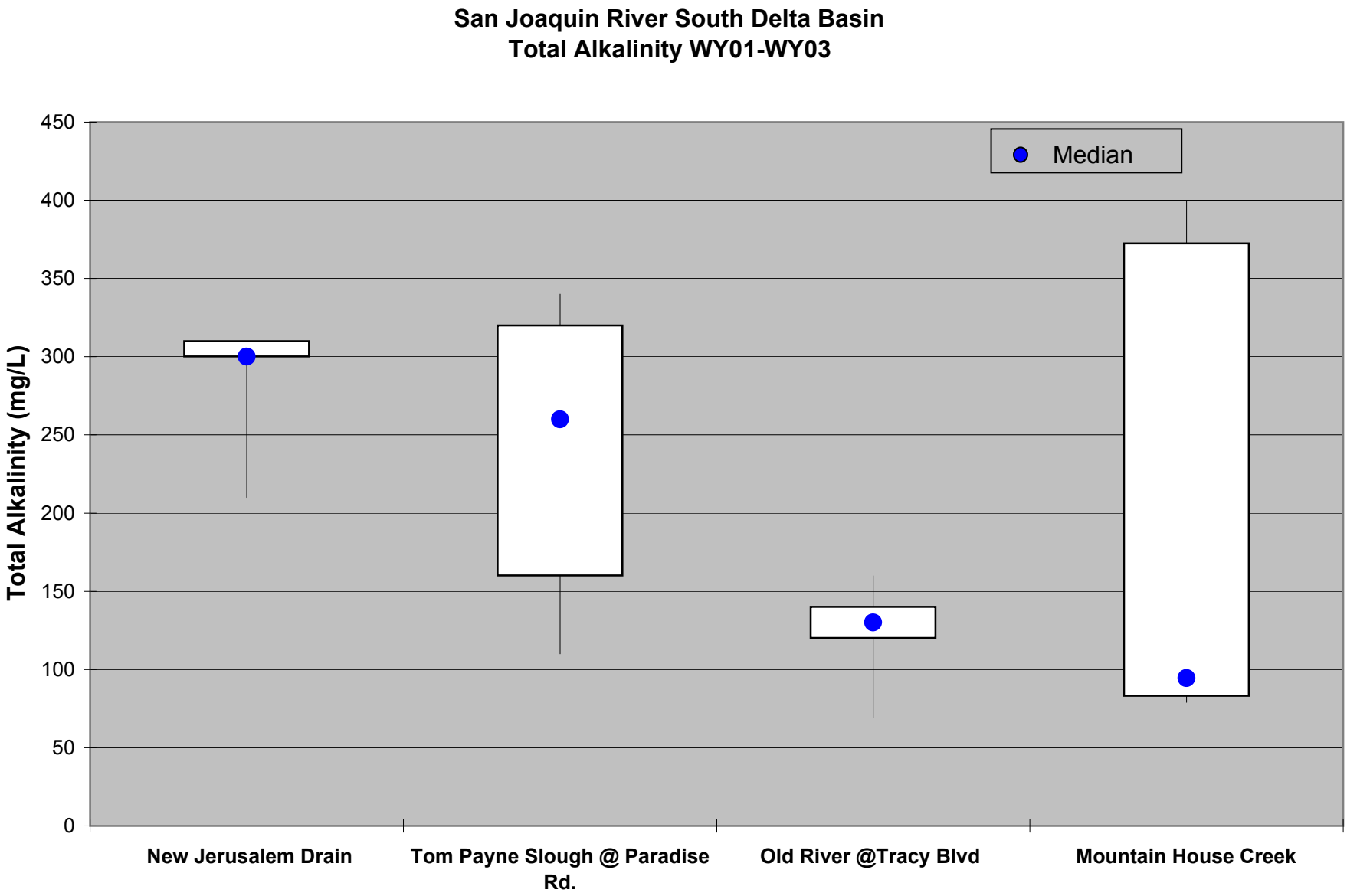

San Joaquin River Delta Basin
Carbonate WY01-WY03
Carbonate (mg/L)
18
16
14
12
10
8
6
4
2
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Jan-03
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

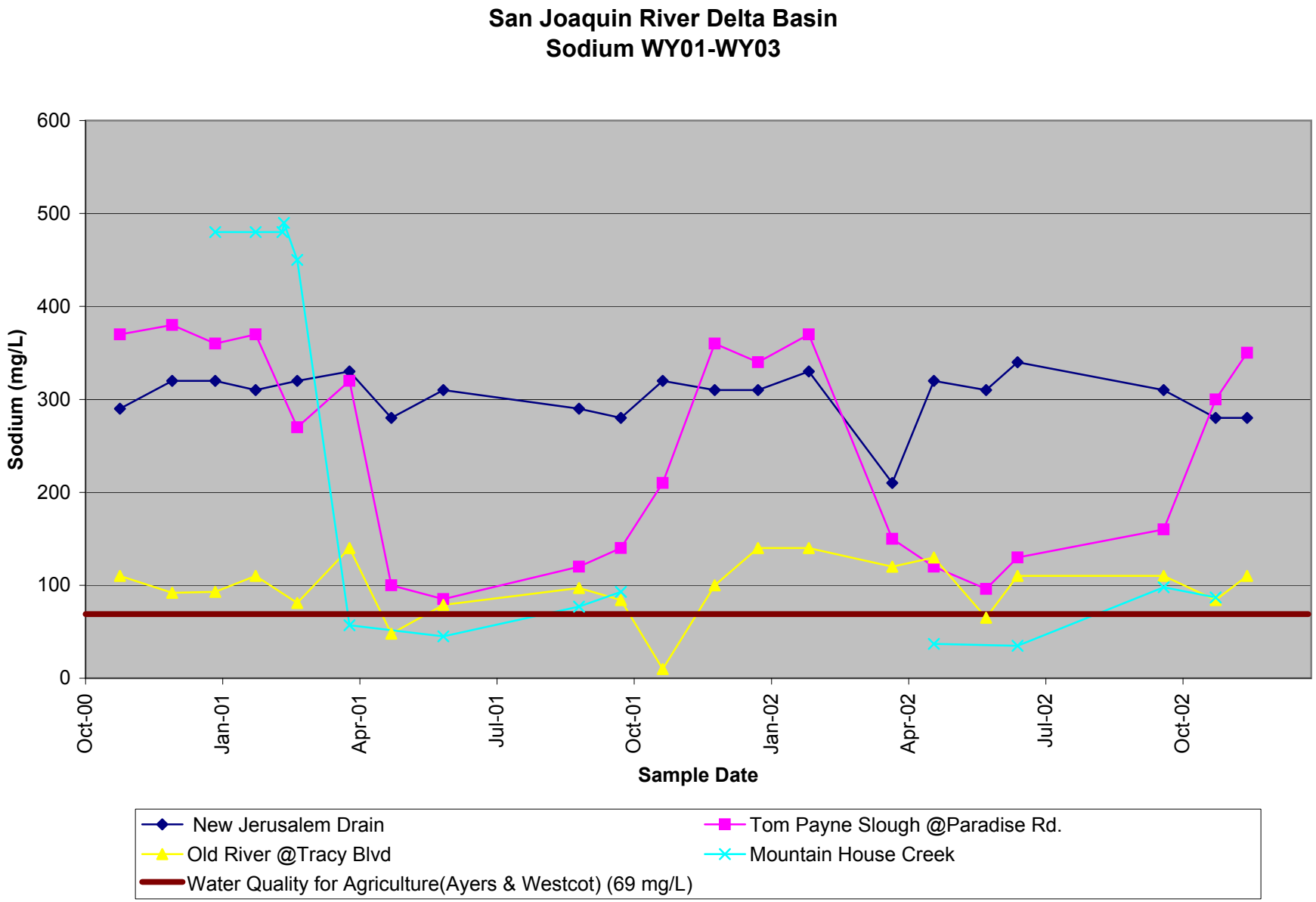

San Joaquin River South Delta Basin
Carbonate WY01-WY03
Median
Carbonate (mg/L)
18
16
14
12
10
8
6
4
2
0
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek

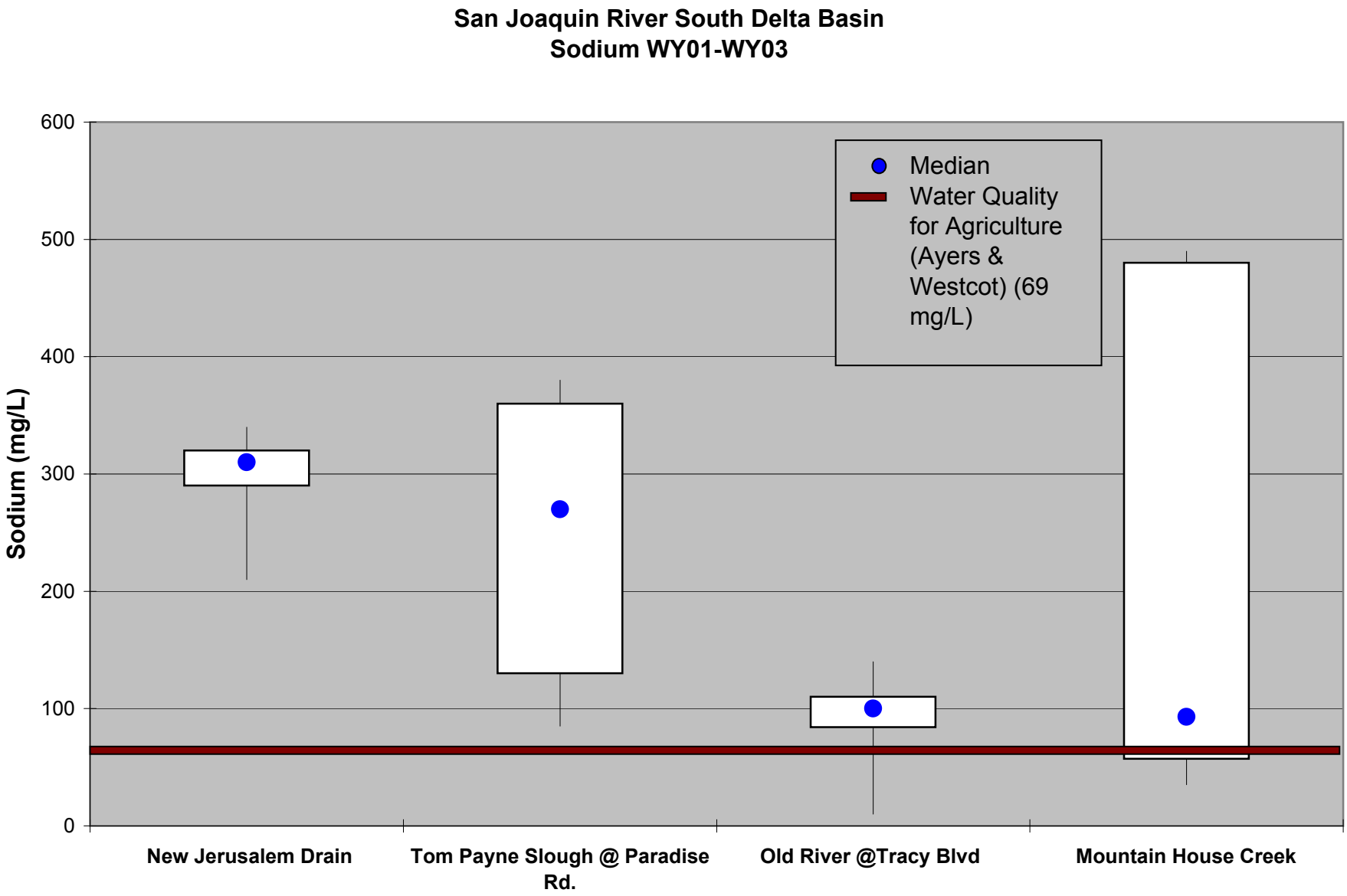

San Joaquin River Delta Basin
Bicarbonate WY01-WY03
Bicarbonate (mg/L)
500
450
400
350
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek


San Joaquin River South Delta Basin
Bicarbonate WY01-WY03
Median
Bicarbonate (mg/L)
600
500
400
300
200
100
0
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek


San Joaquin River Delta Basin
Total Alkalinity WY01-WY03
Total Alkalinity (mg/L)
450
400
350
300
250
200
150
100
50
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek


San Joaquin River South Delta Basin
Total Alkalinity WY01-WY03
Median
Total Alkalinity (mg/L)
450
400
350
300
250
200
150
100
50
0
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek


San Joaquin River Delta Basin
Sodium WY01-WY03
Sodium (mg/L)
600
500
400
300
200
100
0
Oct-00
Jan-01
Apr-01
Jul-01
Oct-01
Jan-02
Apr-02
Jul-02
Oct-02
Sample Date
New Jerusalem Drain
Tom Payne Slough @Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek
Water Quality for Agriculture(Ayers & Westcot) (69 mg/L)


San Joaquin River South Delta Basin
Sodium WY01-WY03
Sodium (mg/L)
600
500
400
300
200
100
0
Median
Water Quality for Agriculture (Ayers & Westcot) (69 mg/L)
New Jerusalem Drain
Tom Payne Slough @ Paradise Rd.
Old River @Tracy Blvd
Mountain House Creek