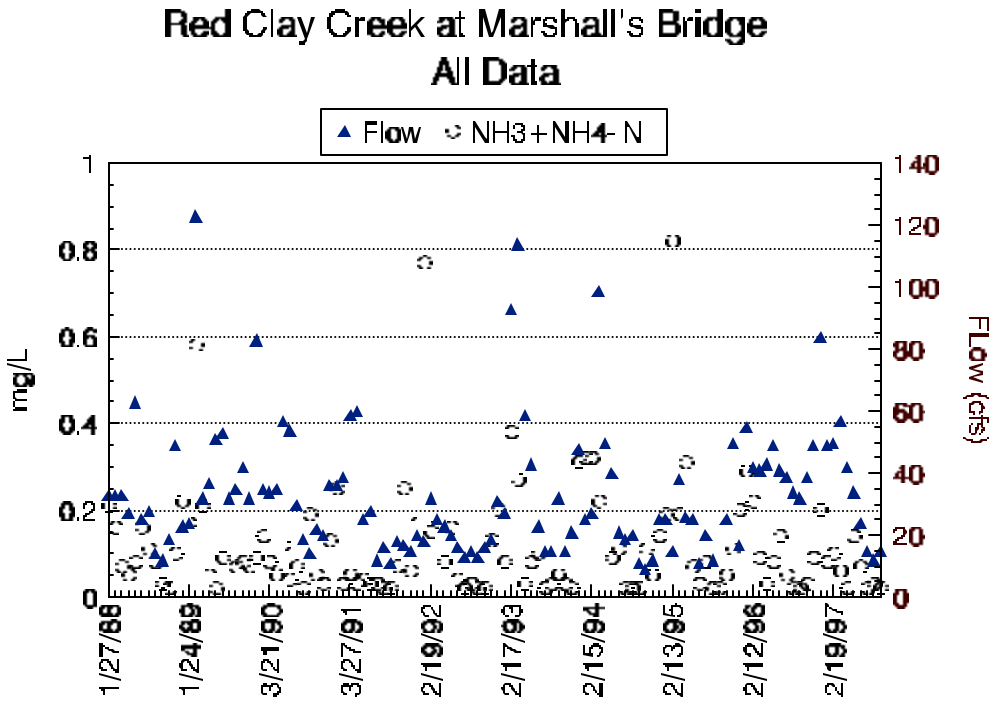
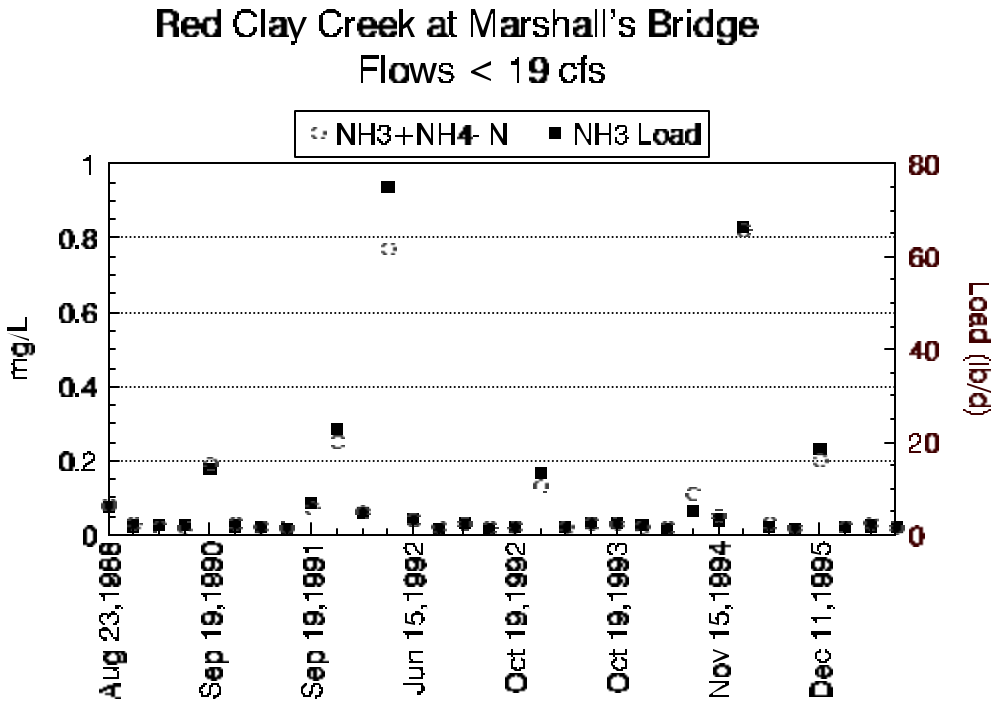
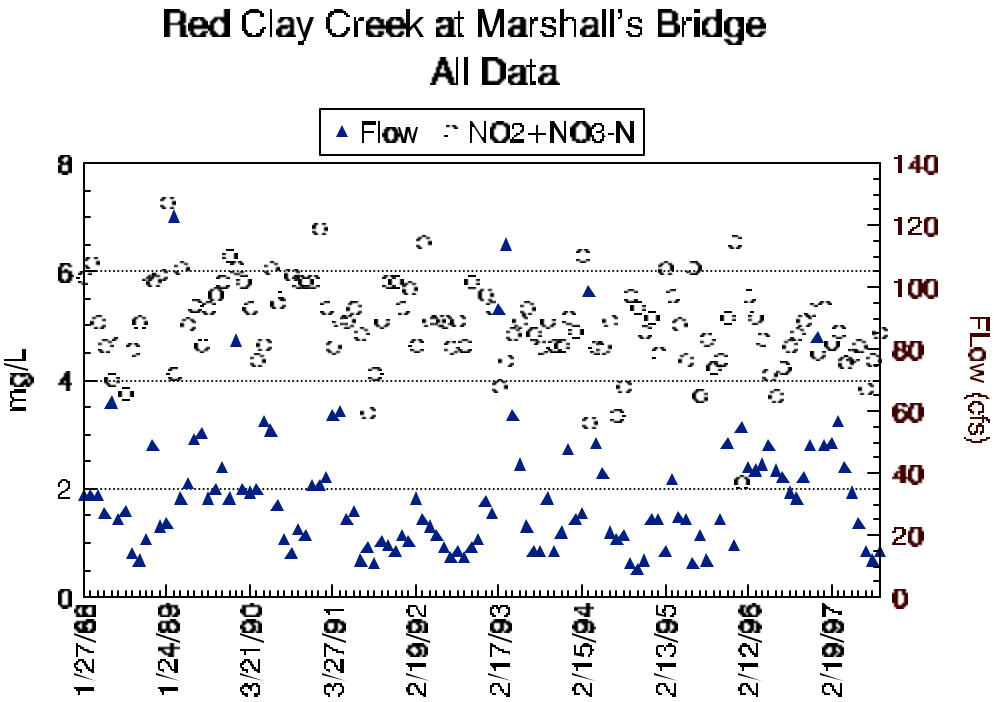
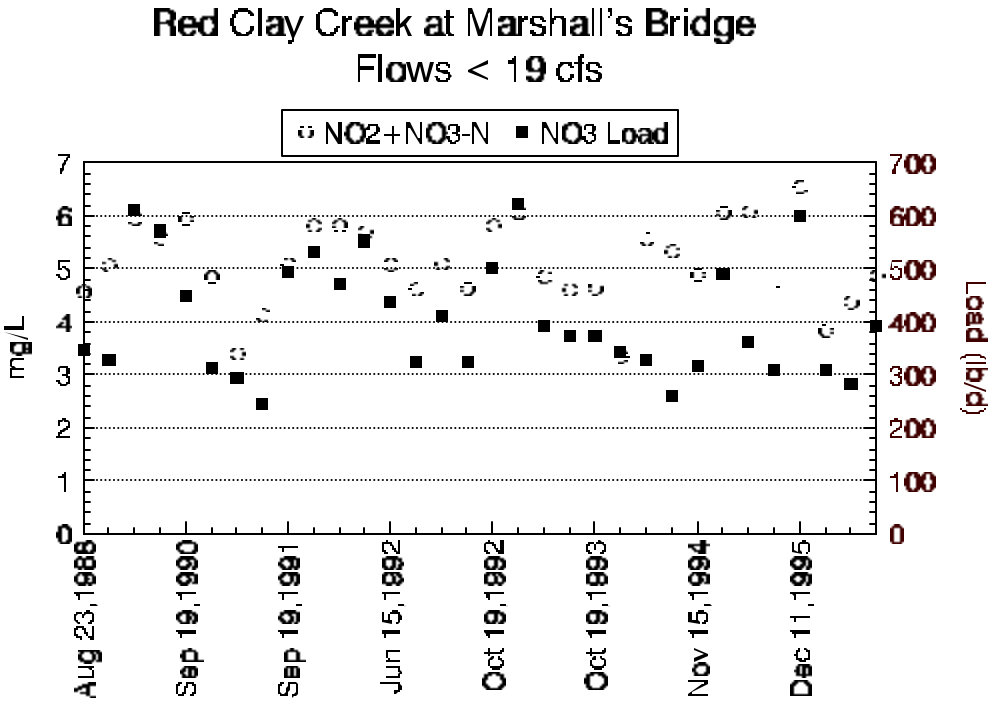
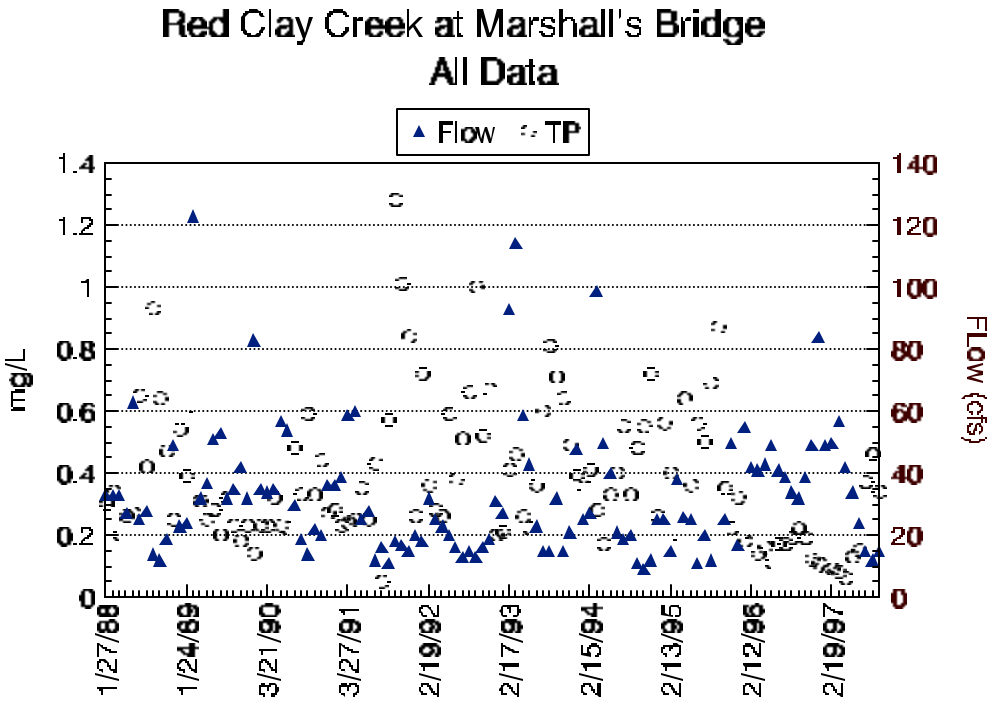
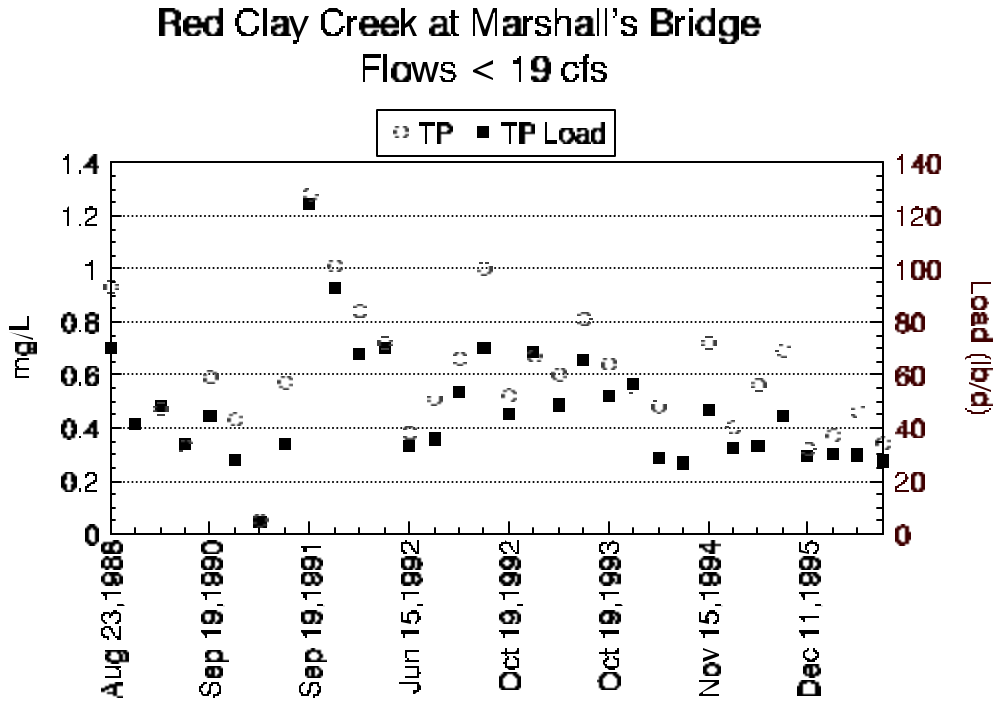

Red Clay Creek at Marshall's Bridge
All Data
Flow
NH3+NH4- N
mg/L
Flow (cfs)
1
0.8
0.6
0.4
0.2
0
140
120
100
80
60
40
20
0
1/27/88
1/24/89
3/21/90
3/27/91
2/19/92
2/17/93
2/15/94
2/13/95
2/12/96
2/19/97

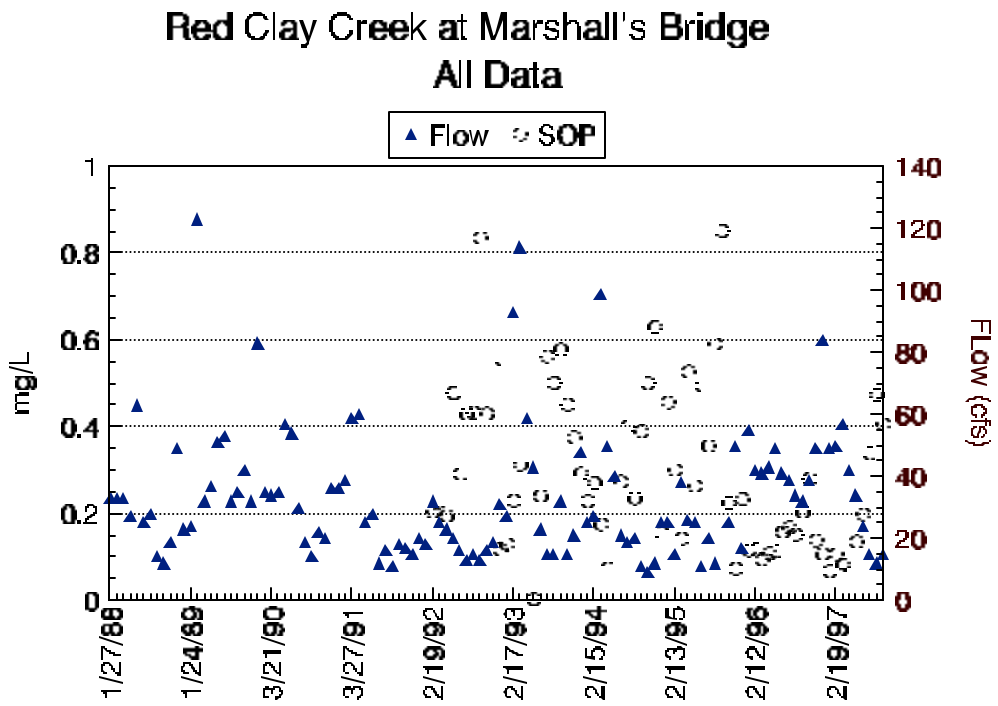

Red Clay Creek at Marshall's Bridge
Flows < 19 cfs
NH3+NH4- N
NH3 Load
mg/L
Load (lb/d)
1
0.8
0.6
0.4
0.2
0
80
60
40
20
0
Aug 23,1988
Sep 19,1990
Sep 19,1991
Jun 15,1992
Oct 19,1992
Oct 19,1993
Nov 15,1994
Dec 11,1995

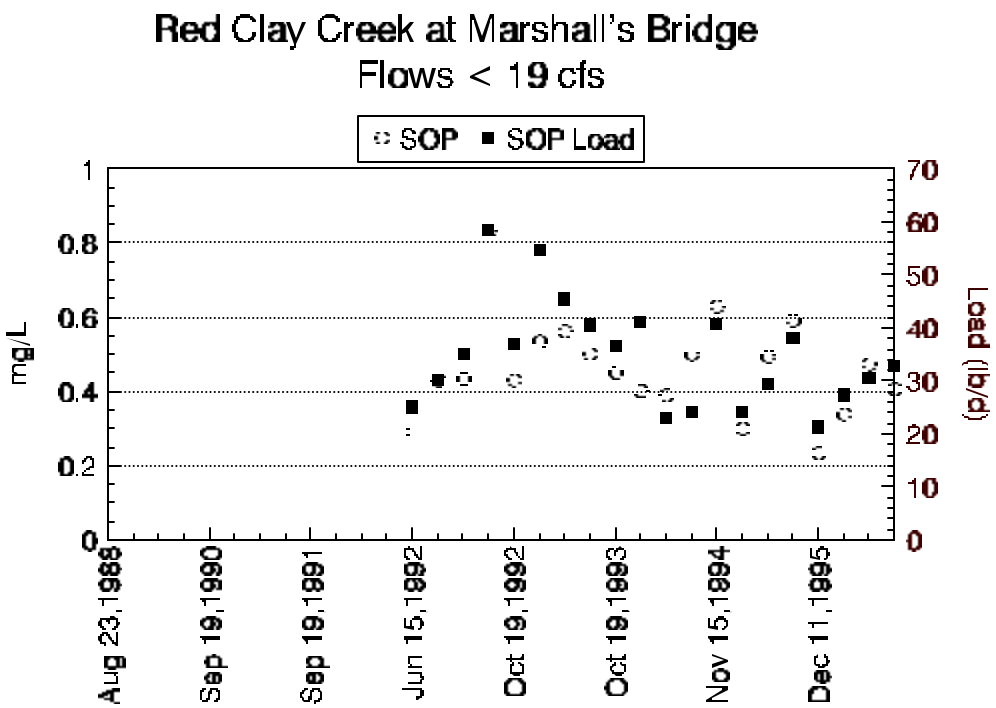

Red Clay Creek at Marshall's Bridge
All Data
Flow
NO2+NO3-N
mg/L
Flow (cfs)
0
2
4
6
8
0
20
40
60
80
100
120
140
1/27/88
1/24/89
3/21/90
3/27/91
2/19/92
2/17/93
2/15/94
2/13/95
2/12/96
2/19/97

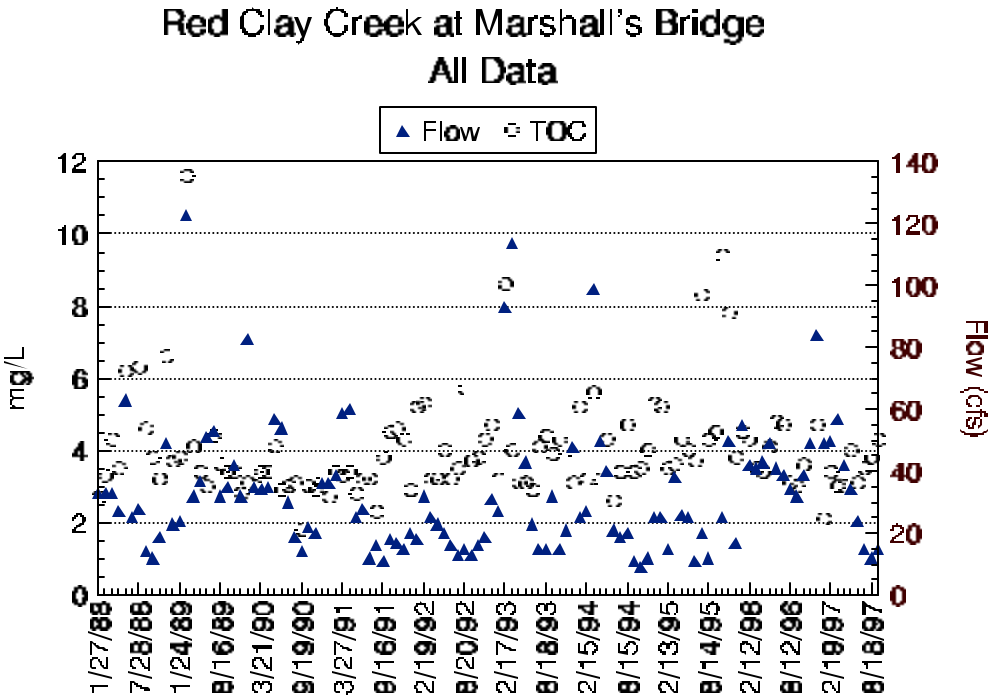

Red Clay Creek at Marshall's Bridge
Flows < 19 cfs
NO2+NO3-N
NO3 Load
mg/L
Load (lb/d)
0
1
2
3
4
5
6
7
0
100
200
300
400
500
600
700
Aug 23,1988
Sep 19,1990
Sep 19,1991
Jun 15,1992
Oct 19,1992
Oct 19,1993
Nov 15,1994
Dec 11,1995

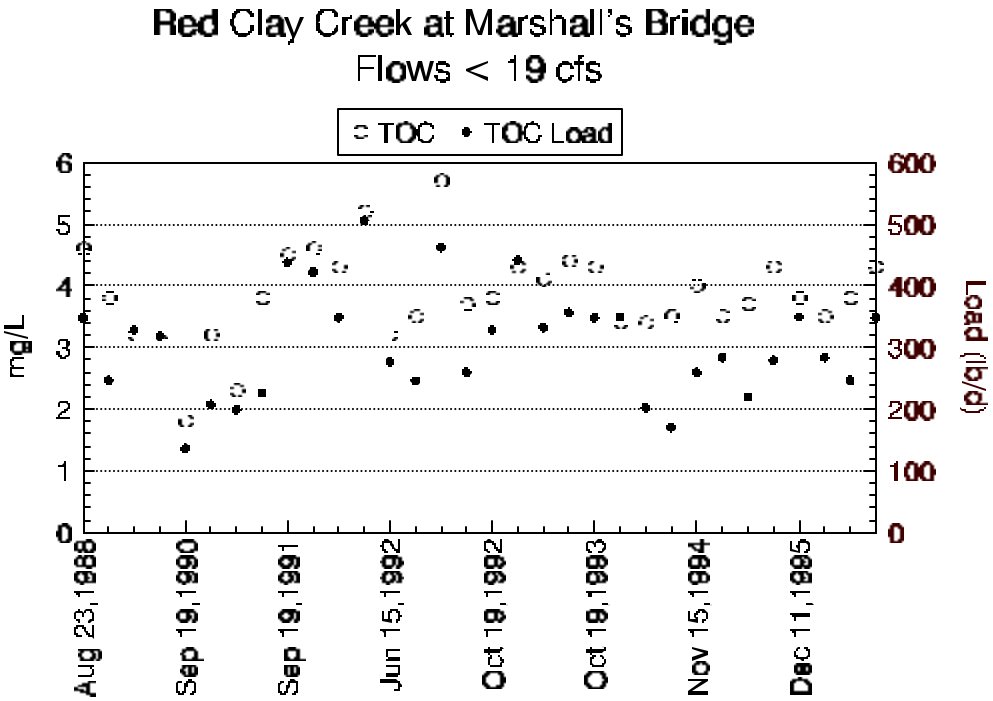

Red Clay Creek at Marshall's Bridge
All Data
Flow
TP
mg/L
Flow (cfs)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
140
120
100
80
60
40
20
0
1/27/88
1/24/89
3/21/90
3/27/91
2/19/92
2/17/93
2/15/94
2/13/95
2/12/96
2/19/97

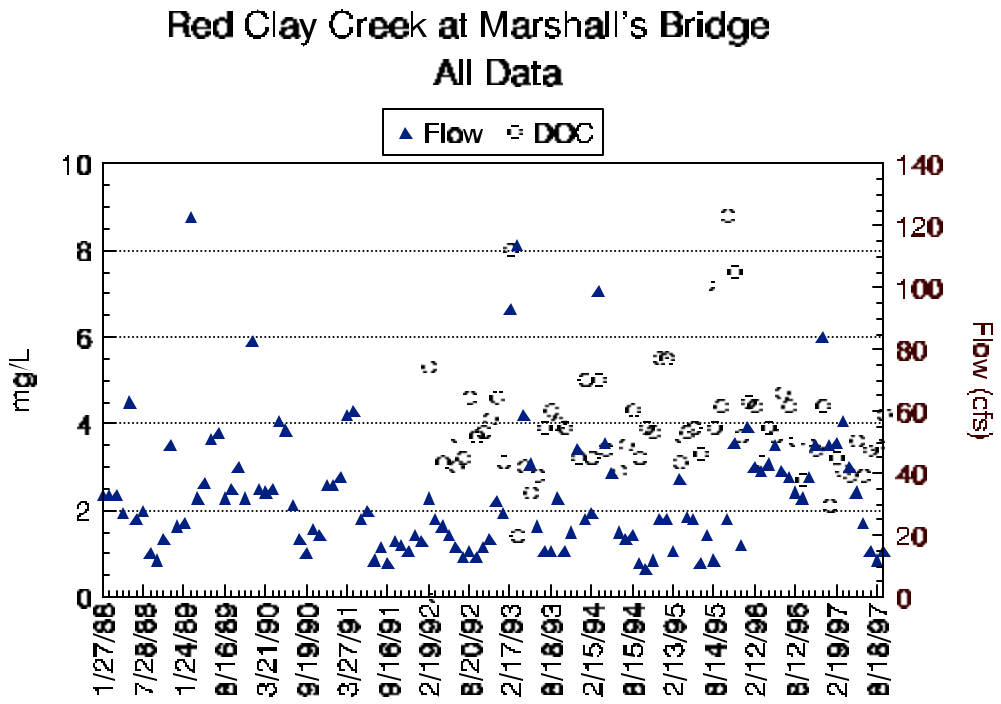

Red Clay Creek at Marshall's Bridge
Flows < 19 cfs
TP
TP Load
mg/L
Load (lb/d)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
140
120
100
80
60
40
20
0
Aug 23,1988
Sep 19,1990
Sep 19,1991
Jun 15,1992
Oct 19,1992
Oct 19,1993
Nov 15,1994
Dec 11,1995

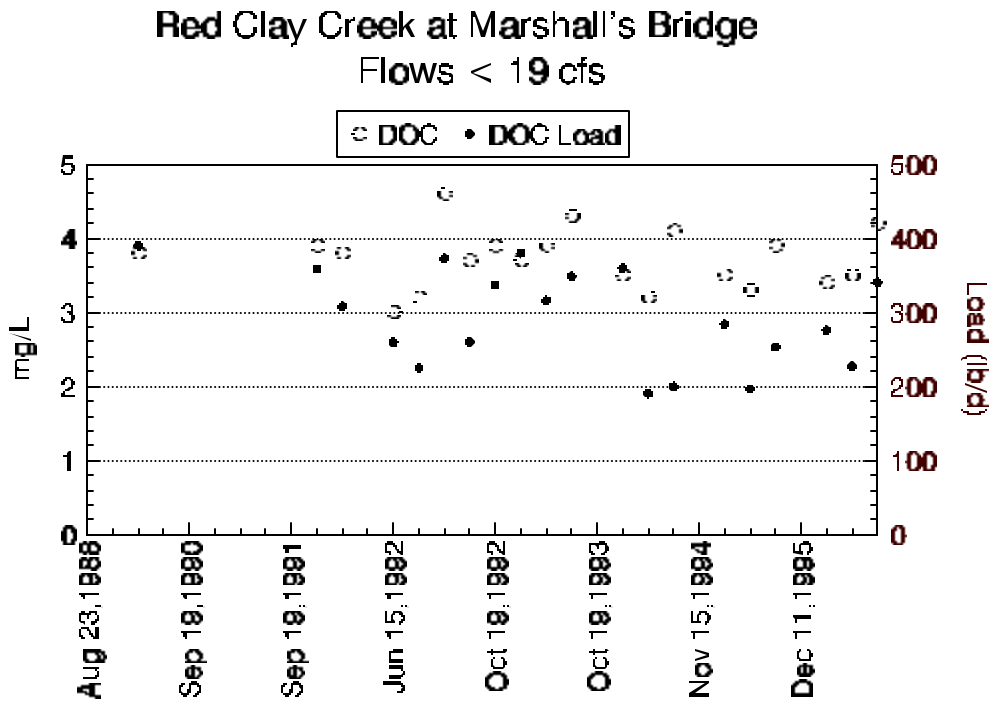

Red Clay Creek at Marshall's Bridge
All Data
Flow
SOP
mg/L
FLOW (cfs)
1
0.8
0.6
0.4
0.2
0
140
120
100
80
60
40
20
0
1/27/88
1/24/89
3/21/90
3/27/91
2/19/92
2/17/93
2/15/94
2/13/95
2/12/96
2/19/97

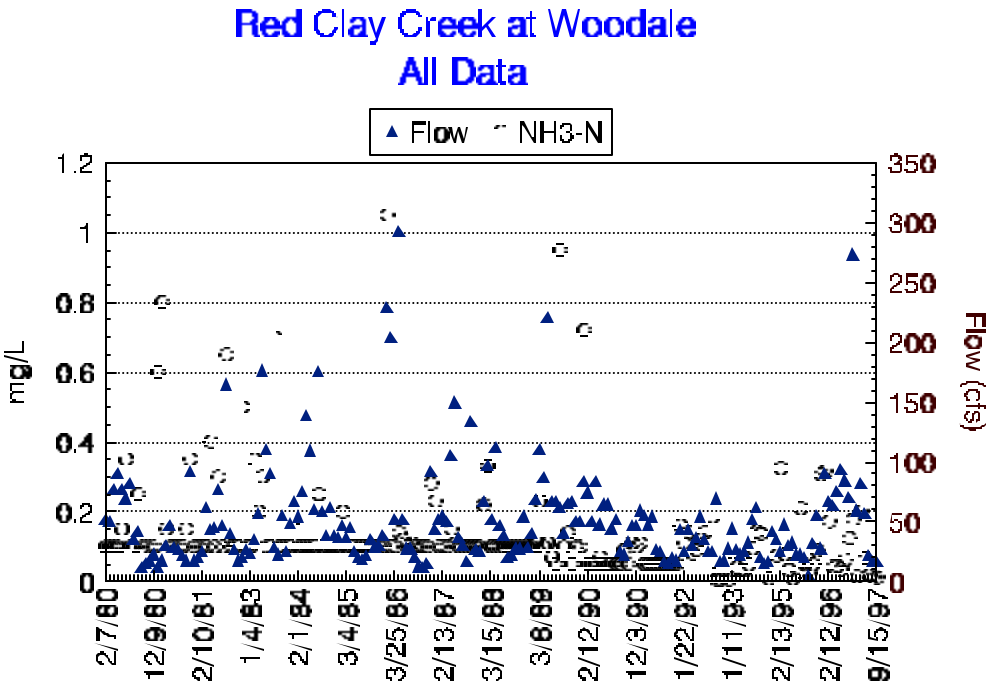

Red Clay Creek at Marshall's Bridge
Flows < 19 cfs
SOP
SOP Load
mg/L
Load (lb/d)
1
0.8
0.6
0.4
0.2
0
70
60
50
40
30
20
10
0
Aug 23,1988
Sep 19,1990
Sep 19,1991
Jun 15,1992
Oct 19,1992
Oct 19,1993
Nov 15,1994
Dec 11,1995

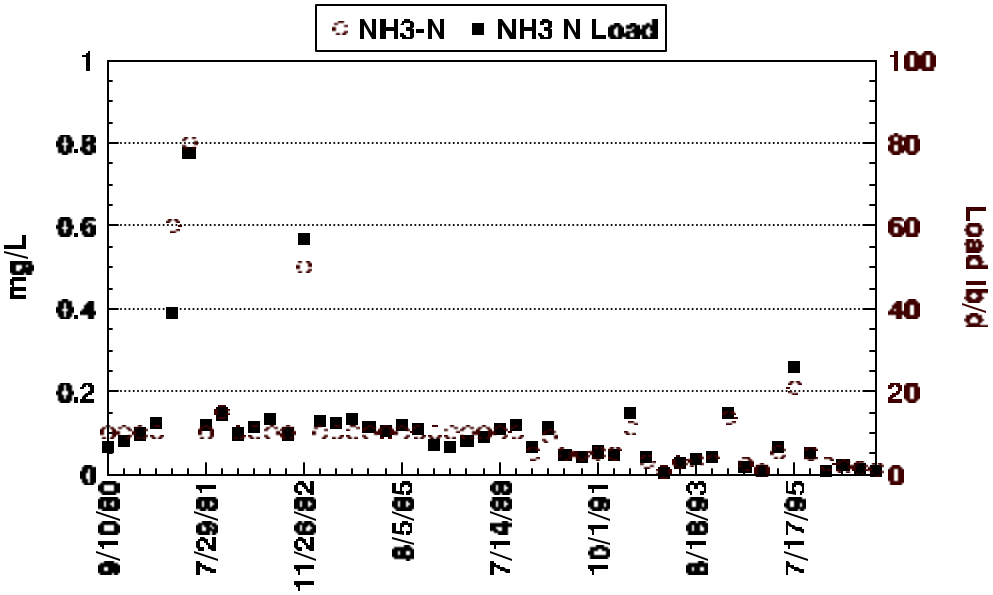

Red Clay Creek at Marshall's Bridge
All Data
Flow
TOC
mg/L
Flow (cfs)
0
2
4
6
8
10
12
0
20
40
60
80
100
120
140
1/27/88
7/28/88
1/24/89
8/16/89
3/21/90
9/19/90
3/27/91
8/16/91
2/19/92
8/20/92
2/17/93
8/18/93
2/15/94
8/15/94
2/13/95
8/14/95
2/12/96
8/12/96
2/10/97
8/18/97

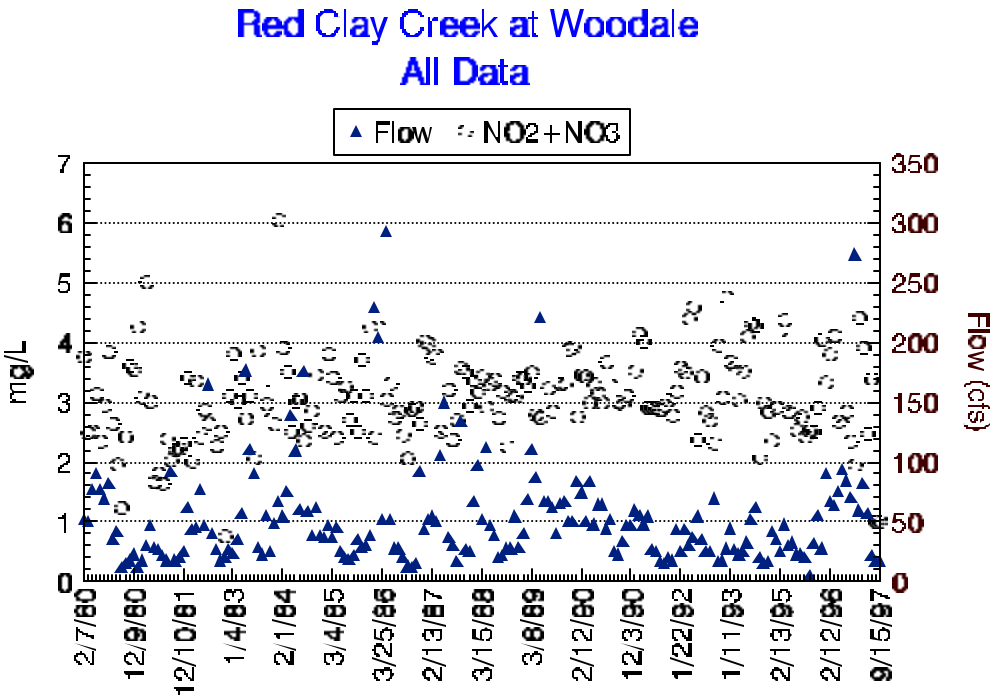

Red Clay Creek at Marshall's Bridge
Flows < 19 cfs
TOC
TOC Load
mg/L
Load (lb/d)
0
1
2
3
4
5
6
0
100
200
300
400
500
600
Aug 23,1988
Sep 19,1990
Sep 19,1991
Jun 15,1992
Oct 19,1992
Oct 19,1993
Nov 15,1994
Dec 11,1995

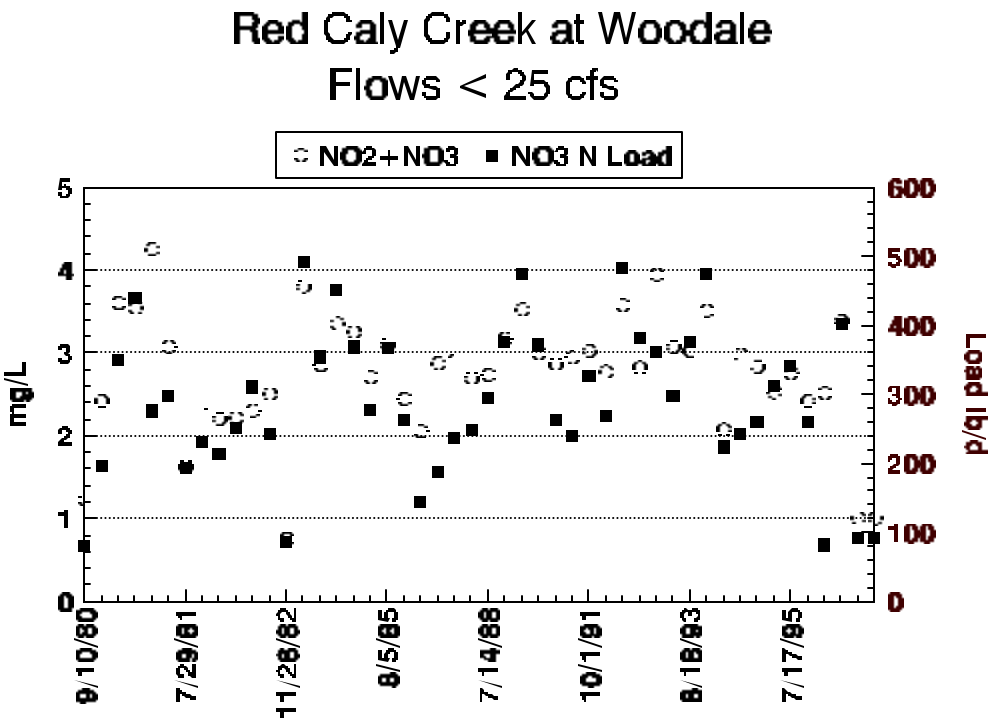

Red Clay Creek at Marshall's Bridge
All Data
Flow
DOC
mg/L
Flow (cfs)
0
2
4
6
8
10
0
20
40
60
80
100
120
140
1/27/88
7/28/88
1/24/89
8/16/89
3/21/90
9/19/90
3/27/91
9/16/91
2/19/92
8/20/92
2/17/93
8/18/93
2/15/94
8/15/94
2/13/95
8/14/95
2/12/96
8/12/96
2/19/97
8/18/97

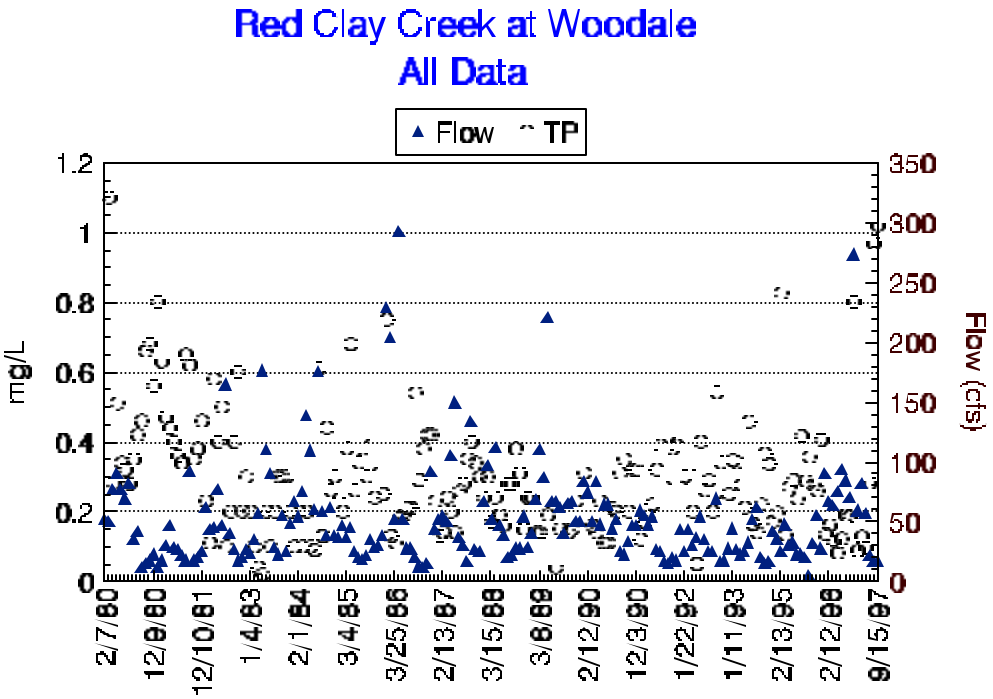

Red Clay Creek at Marshall's Bridge
Flows < 19 cfs
DOC
DOC Load
mg/L
Load (lb/d)
0
1
2
3
4
5
0
100
200
300
400
500
Aug 23,1988
Sep 18,1980
Sep 19,1981
Jun 15,1982
Oct 18,1982
Oct 19,1983
Nov 15,1984
Dec 11,1985

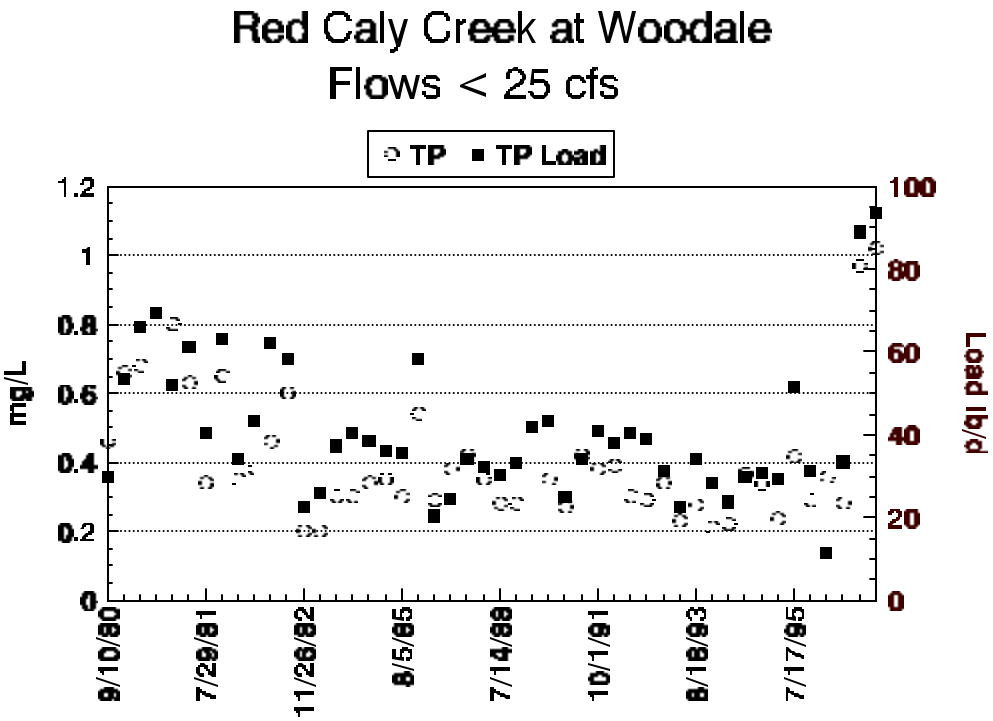

Red Clay Creek at Woodale
All Data
Flow
NH3-N
mg/L
Flow (cfs)
1.2
1
0.8
0.6
0.4
0.2
0
350
300
250
200
150
100
50
0
2/7/80
12/9/80
12/10/81
1/4/83
2/1/84
3/4/85
3/25/86
2/13/87
3/15/88
3/8/89
2/12/90
12/3/90
1/22/92
1/11/93
2/13/95
2/12/96
9/15/97

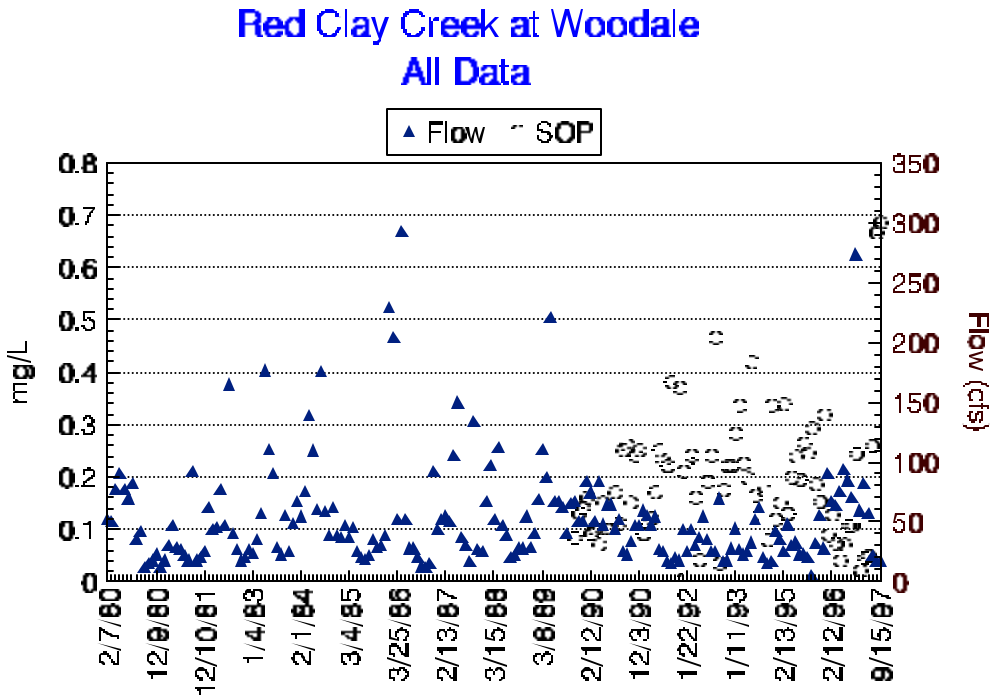

Red Caly Creek at Woodale
Flows < 25 cfs
NH3-N
NH3 N Load
mg/L
Load lb/d
1
0.8
0.6
0.4
0.2
0
100
80
60
40
20
0
9/10/80
7/29/81
11/26/82
8/5/85
7/14/88
10/1/91
8/18/93
7/17/95

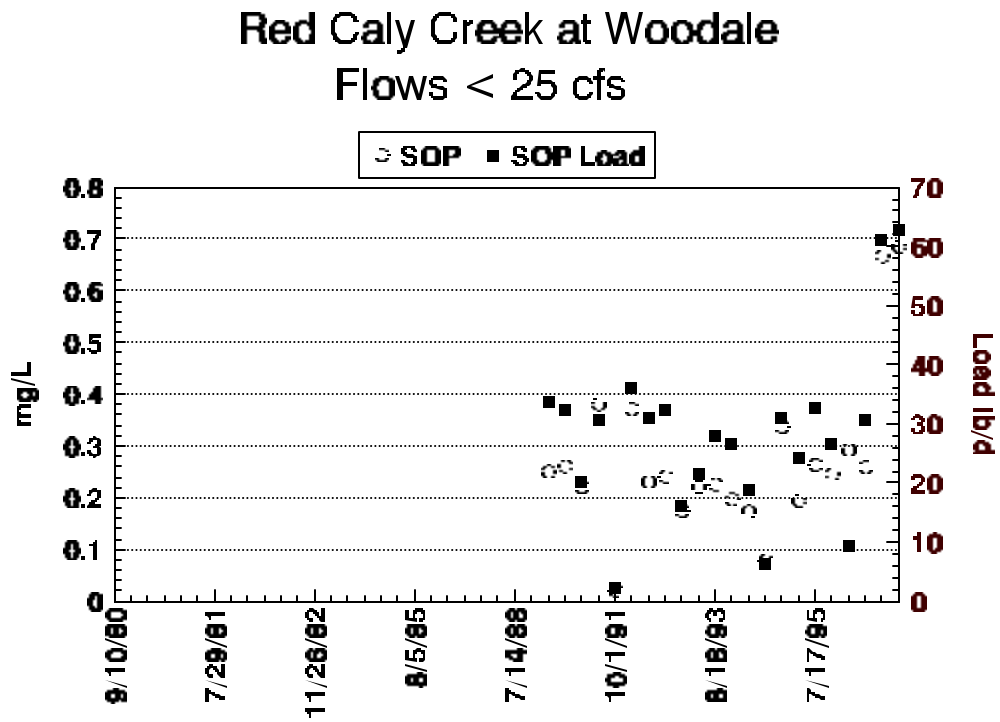

Red Clay Creek at Woodale
All Data
Flow
NO2+NO3
mg/L
Flow (cfs)
0
1
2
3
4
5
6
7
0
50
100
150
200
250
300
350
2/7/80
12/9/80
12/10/81
1/4/83
2/1/84
3/4/85
3/25/86
2/13/87
3/15/88
3/8/89
2/12/90
12/3/90
1/22/92
1/11/93
2/13/95
2/12/96
9/15/97

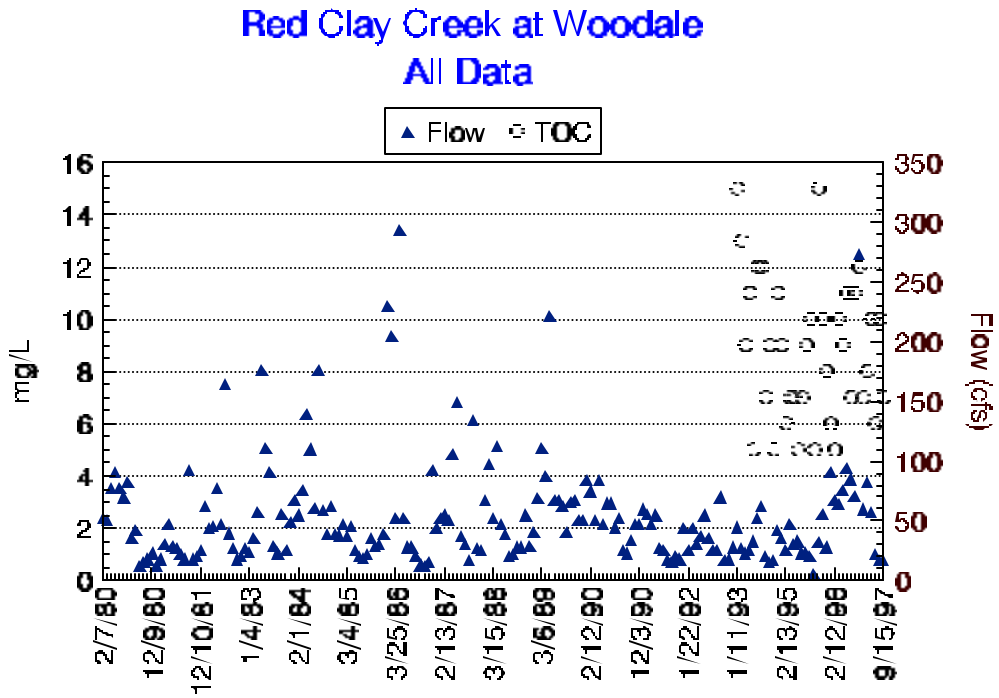

Red Caly Creek at Woodale
Flows < 25 cfs
NO2+NO3
NO3 N Load
mg/L
Load lb/d
0
1
2
3
4
5
0
100
200
300
400
500
600
9/10/80
7/29/81
11/28/82
8/5/85
7/14/88
10/1/91
8/18/93
7/17/95

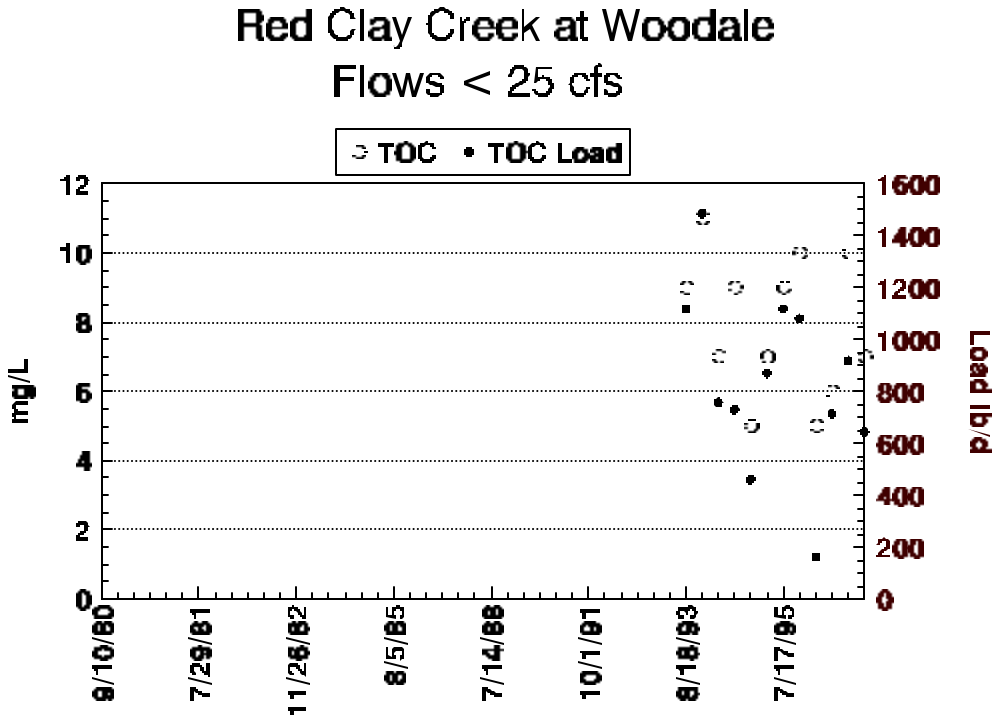

Red Clay Creek at Woodale
All Data
Flow
TP
mg/L
Flow (cfs)
1.2
1
0.8
0.6
0.4
0.2
0
350
300
250
200
150
100
50
0
2/7/80
12/9/80
12/10/81
1/4/83
2/1/84
3/4/85
3/25/86
2/13/87
3/15/88
3/8/89
2/12/90
12/3/90
1/22/92
1/11/93
2/13/95
2/12/96
9/15/97

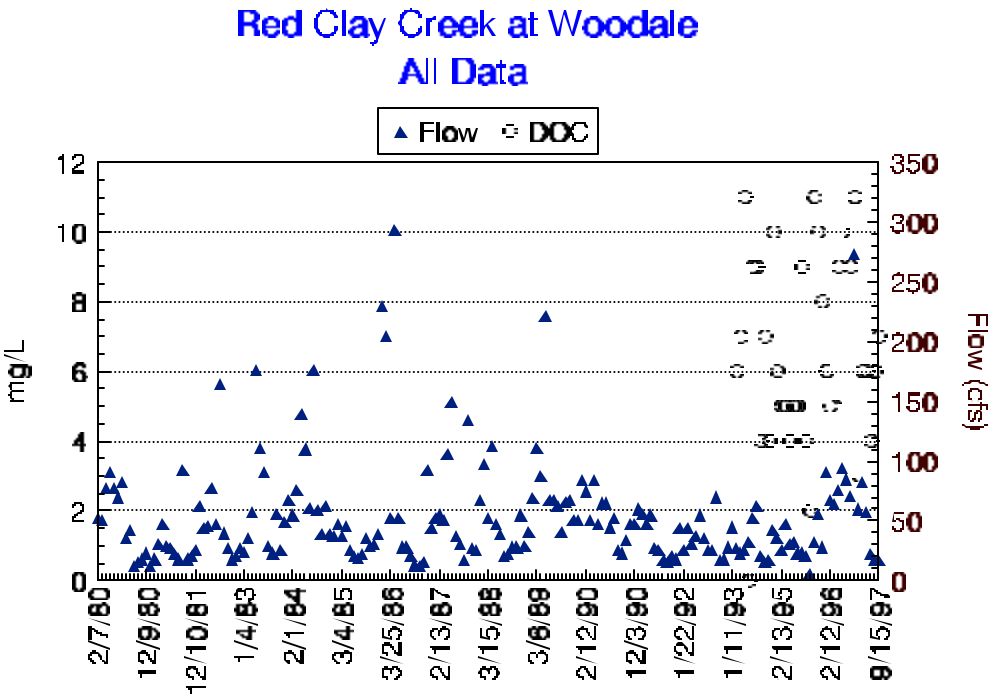

Red Caly Creek at Woodale
Flows < 25 cfs
TP
TP Load
mg/L
Load lb/d
1.2
1
0.8
0.6
0.4
0.2
0
100
80
60
40
20
0
9/10/80
7/29/81
11/26/82
8/5/85
7/14/89
10/1/91
8/18/93
7/17/95

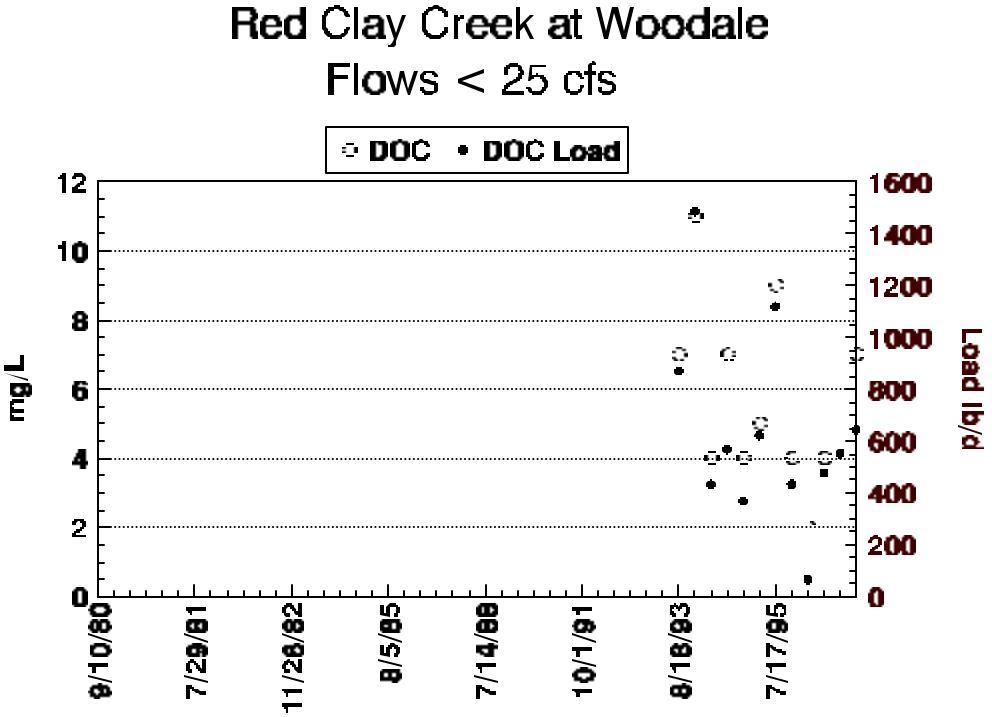

Red Clay Creek at Woodale
All Data
Flow
SOP
mg/L
Flow (cfs)
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
350
300
250
200
150
100
50
0
2/7/80
12/9/80
12/10/81
1/4/83
2/1/84
3/4/85
3/25/86
2/13/87
3/15/88
3/8/89
2/12/90
12/3/90
1/22/92
1/11/93
2/13/95
2/12/96
9/15/97

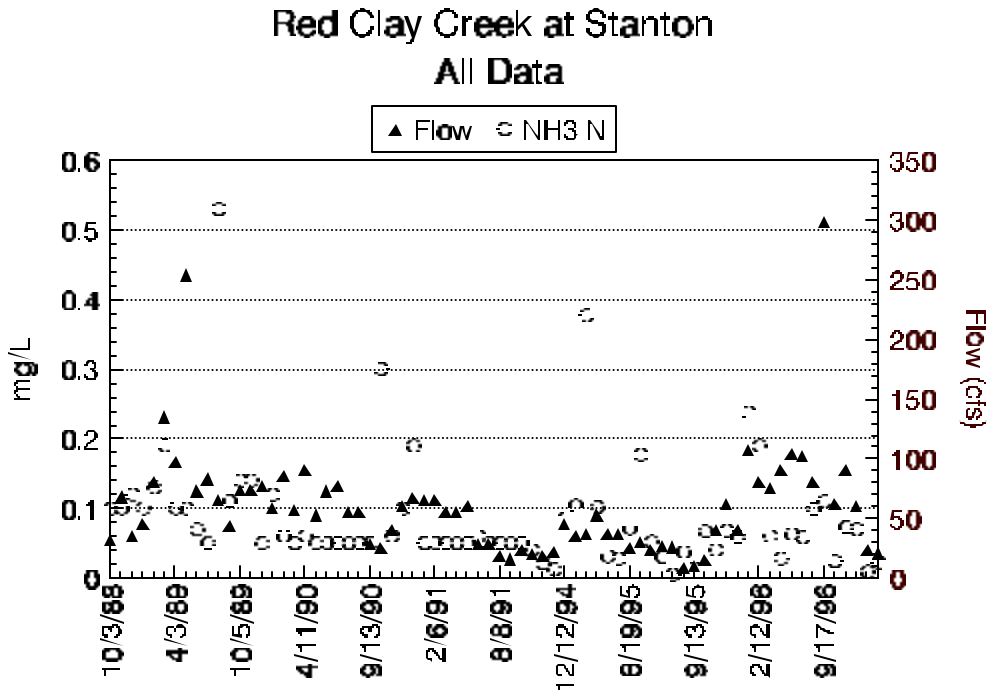

Red Caly Creek at Woodale
Flows < 25 cfs
SOP
SOP Load
mg/L
Load lb/d
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
70
60
50
40
30
20
10
0
9/10/80
7/29/81
11/26/82
8/5/85
7/14/88
10/1/91
8/18/93
7/17/95

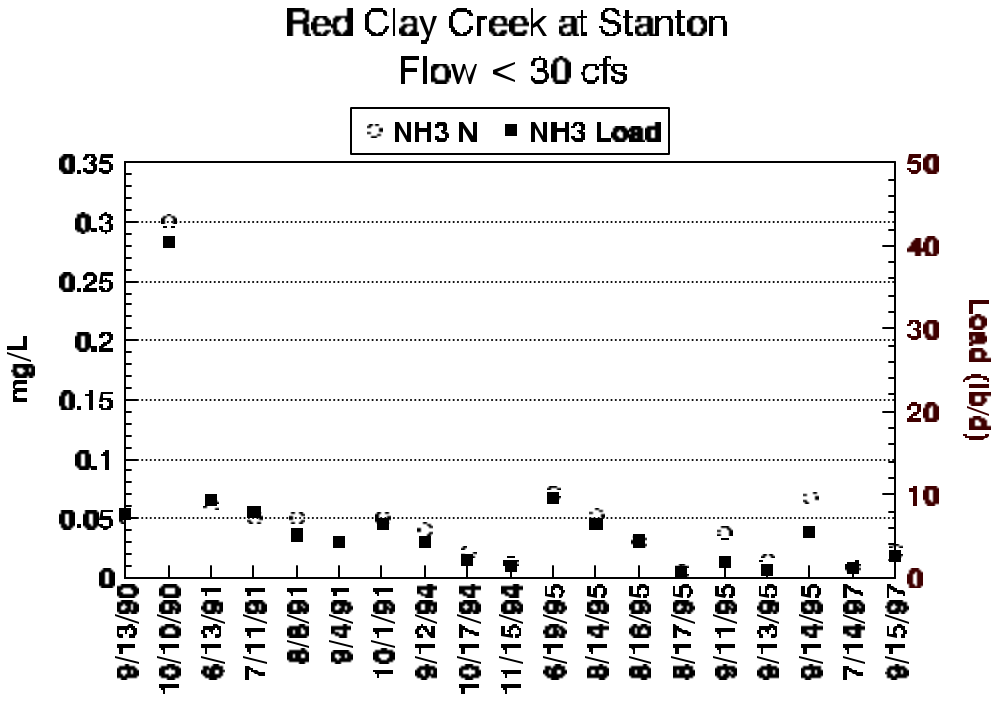

Red Clay Creek at Woodale
All Data
Flow
TOC
mg/L
Flow (cfs)
0
2
4
6
8
10
12
14
16
0
50
100
150
200
250
300
350
2/7/80
12/9/80
12/10/81
1/4/83
2/1/84
3/4/85
3/25/86
2/13/87
3/15/88
3/6/89
2/12/90
12/3/90
1/22/92
1/11/93
2/13/95
2/12/98
9/15/97

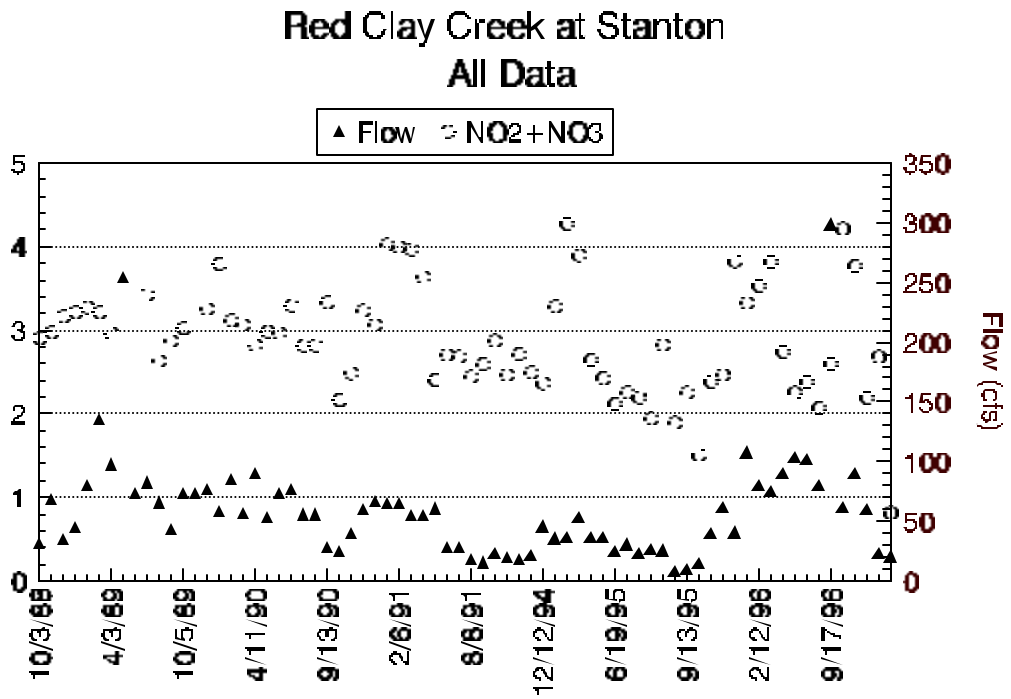

Red Clay Creek at Woodale
Flows < 25 cfs
TOC
TOC Load
mg/L
Load lb/d
0
2
4
6
8
10
12
0
200
400
600
800
1000
1200
1400
1600
9/10/80
7/29/81
11/26/82
8/5/85
7/14/88
10/1/91
8/18/93
7/17/95

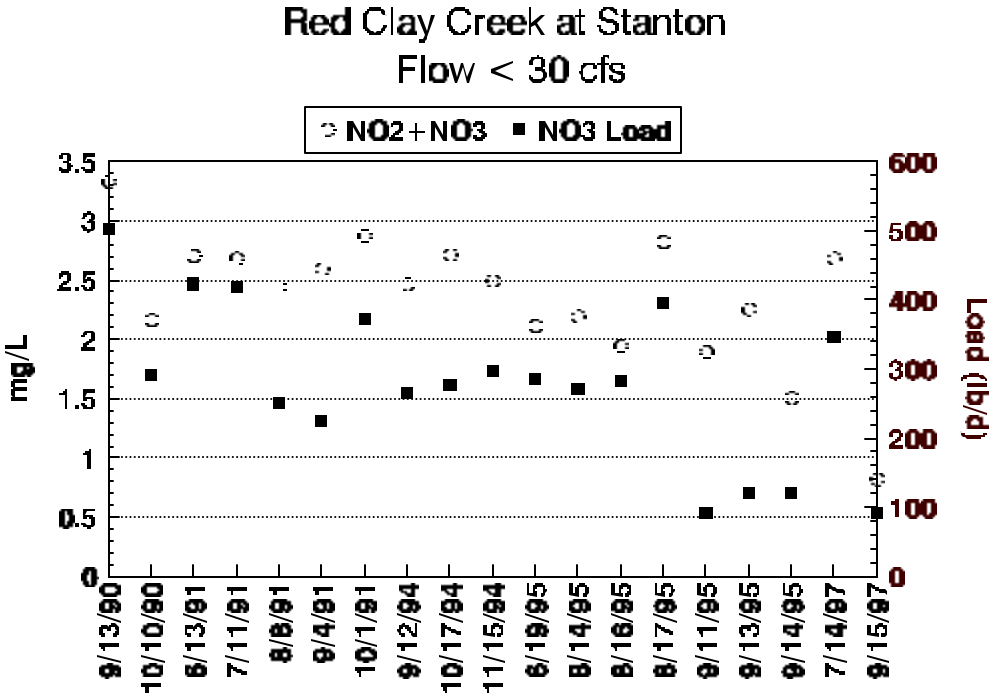

Red Clay Creek at Woodale
All Data
Flow
DOC
mg/L
Flow (cfs)
0
2
4
6
8
10
12
0
50
100
150
200
250
300
350
2/7/80
12/9/80
12/10/81
1/4/83
2/1/84
3/4/85
3/25/86
2/13/87
3/15/88
3/6/89
2/12/90
12/3/90
1/22/92
1/11/93
2/13/95
2/12/96
9/15/97

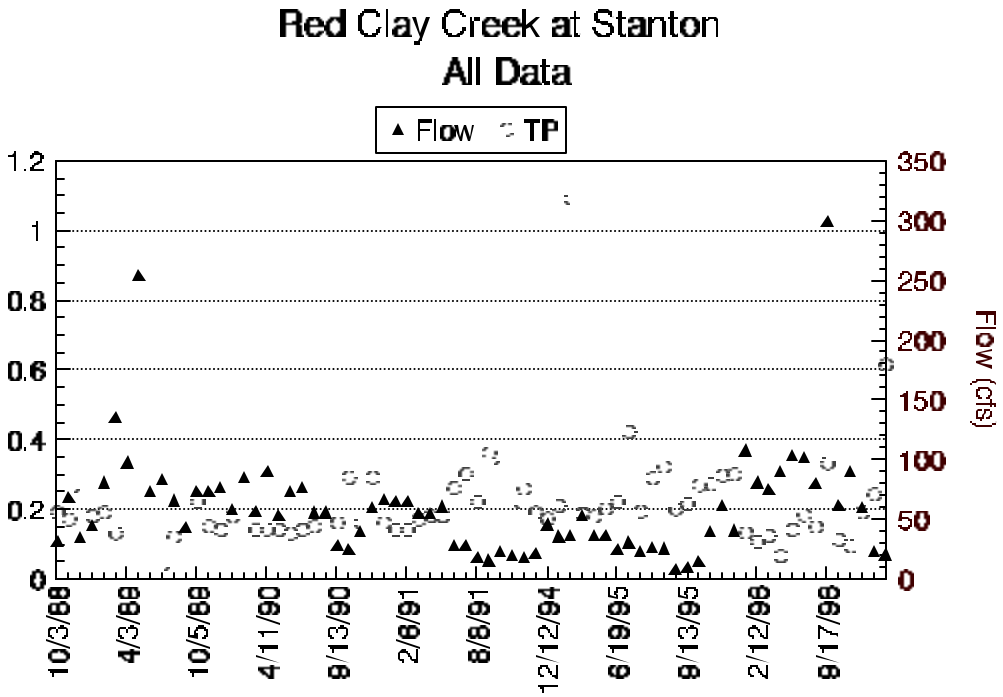

Red Clay Creek at Woodale
Flows < 25 cfs
DOC
DOC Load
mg/L
Load lb/d
0
2
4
6
8
10
12
0
200
400
600
800
1000
1200
1400
1600
9/10/80
7/29/81
11/28/82
8/5/85
7/14/88
10/1/91
8/18/93
7/17/95

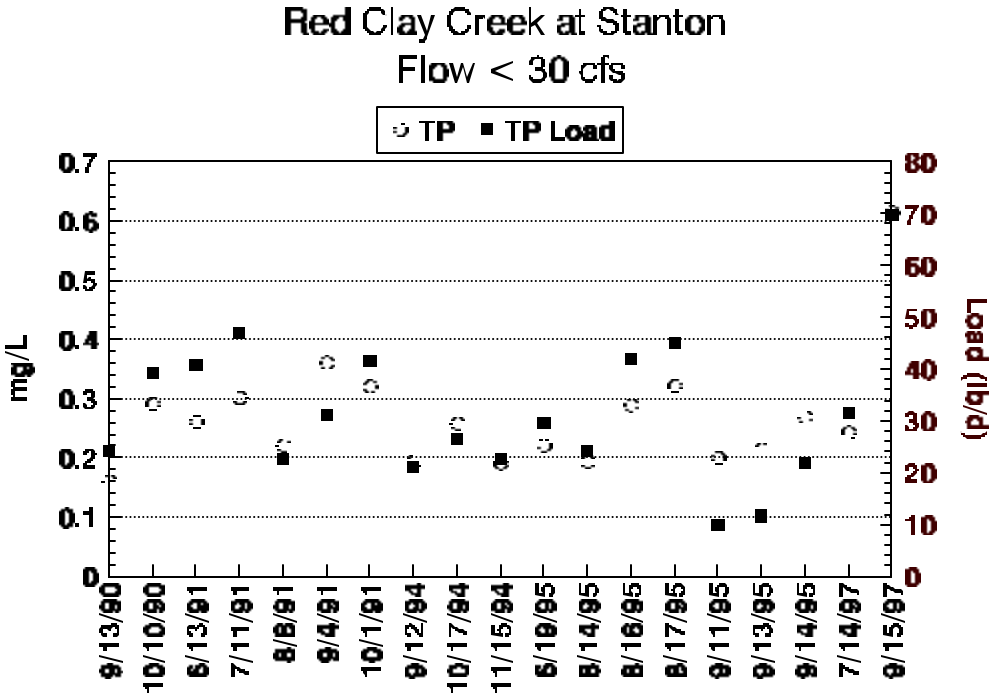

Red Clay Creek at Stanton
All Data
Flow
NH3 N
mg/L
Flow (cfs)
0.6
0.5
0.4
0.3
0.2
0.1
0
350
300
250
200
150
100
50
0
10/3/88
4/3/89
10/5/89
4/11/90
9/13/90
2/6/91
8/8/91
12/12/94
8/19/95
9/13/95
2/12/98
9/17/98

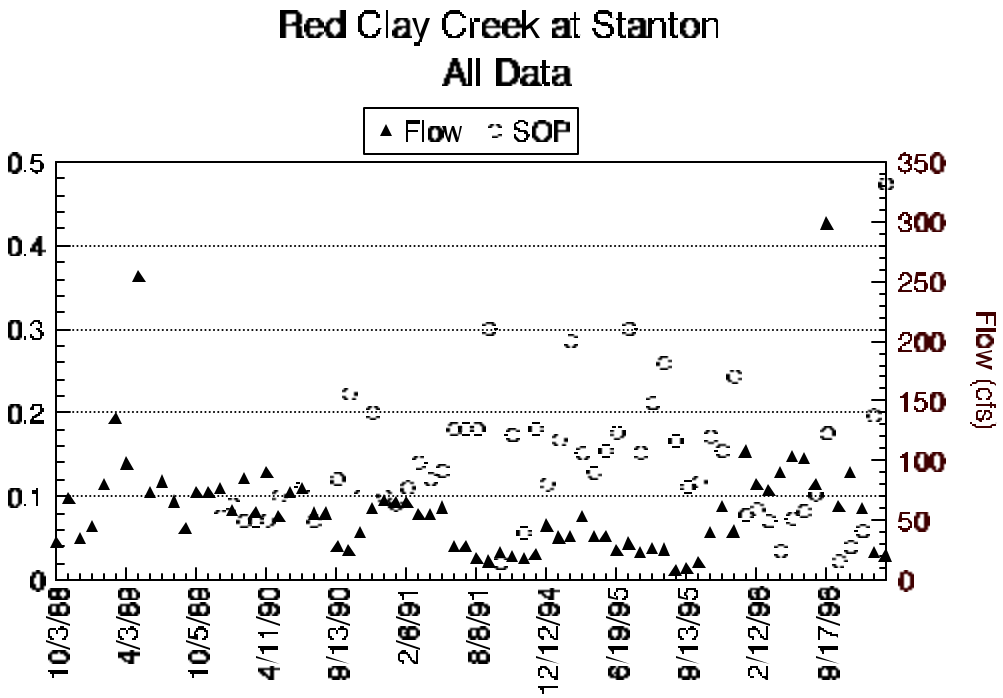

Red Clay Creek at Stanton
Flow < 30 cfs
NH3 N
NH3 Load
mg/L
Load (lb/d)
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
50
40
30
20
10
0
9/13/90
10/10/90
6/13/91
7/11/91
8/8/91
9/4/91
10/1/91
9/12/94
10/17/94
11/15/94
6/19/95
8/14/95
8/16/95
8/17/95
9/11/95
9/13/95
9/14/95
7/14/97
9/15/97

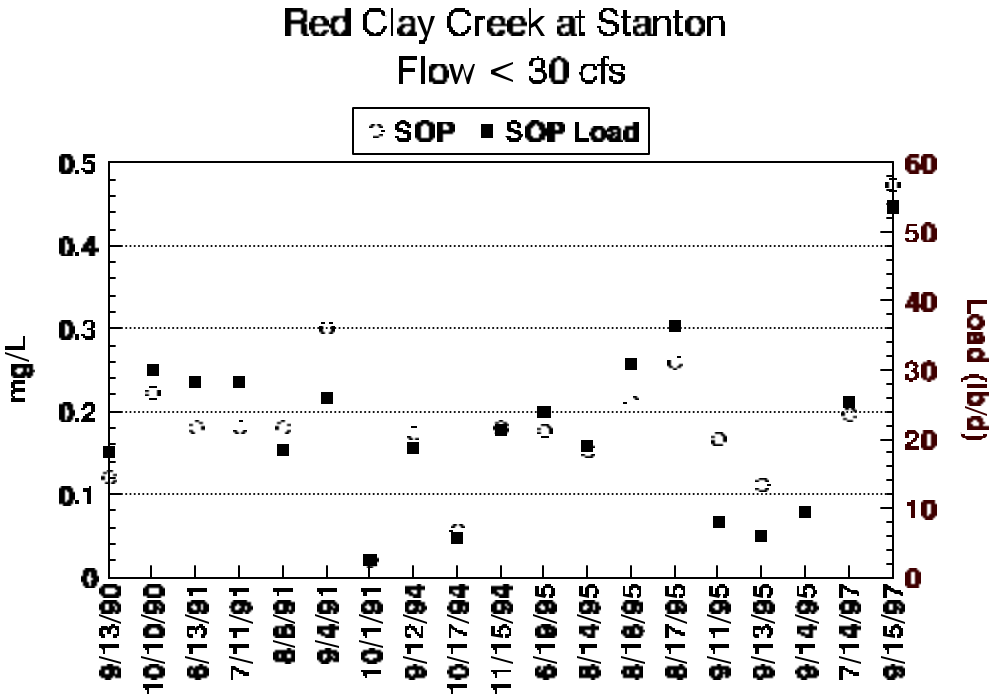

Red Clay Creek at Stanton
All Data
Flow
NO2+NO3
Flow (cfs)
0
1
2
3
4
5
0
50
100
150
200
250
300
350
10/3/88
4/3/89
10/5/89
4/11/90
9/13/90
2/6/91
8/6/91
12/12/94
6/19/95
9/13/95
2/12/96
9/17/96

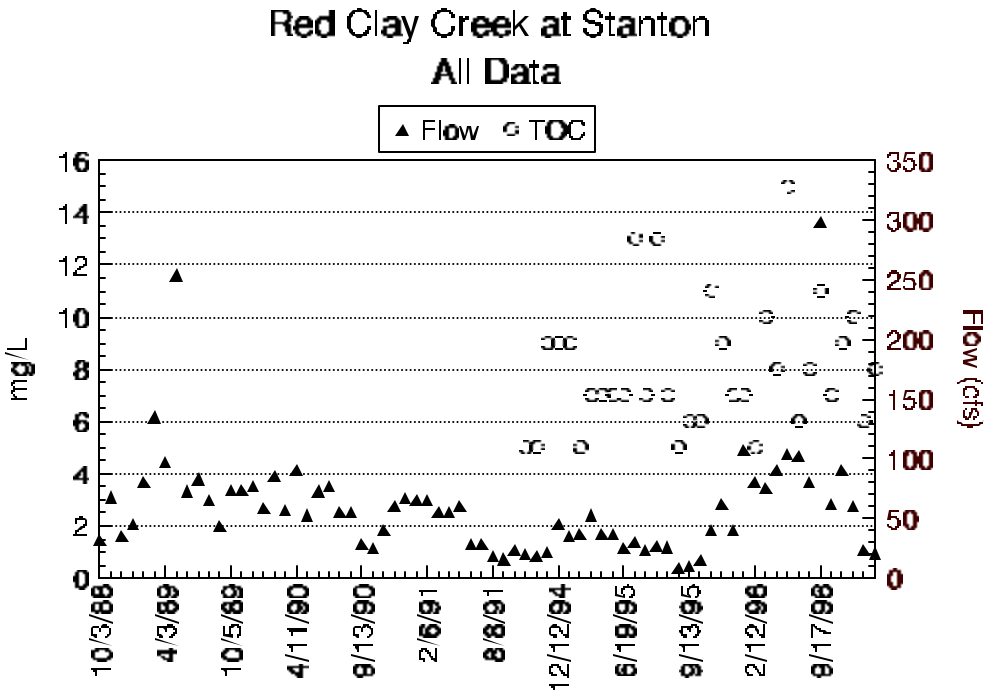

Red Clay Creek at Stanton
Flow < 30 cfs
NO2+NO3
NO3 Load
mg/L
Load (lb/d)
0
0.5
1
1.5
2
2.5
3
3.5
0
100
200
300
400
500
600
9/13/90
10/10/90
6/13/91
7/11/91
8/8/91
9/4/91
10/1/91
9/12/94
10/17/94
11/15/94
6/19/95
8/14/95
8/16/95
8/17/95
9/11/95
9/13/95
9/14/95
7/14/97
9/15/97

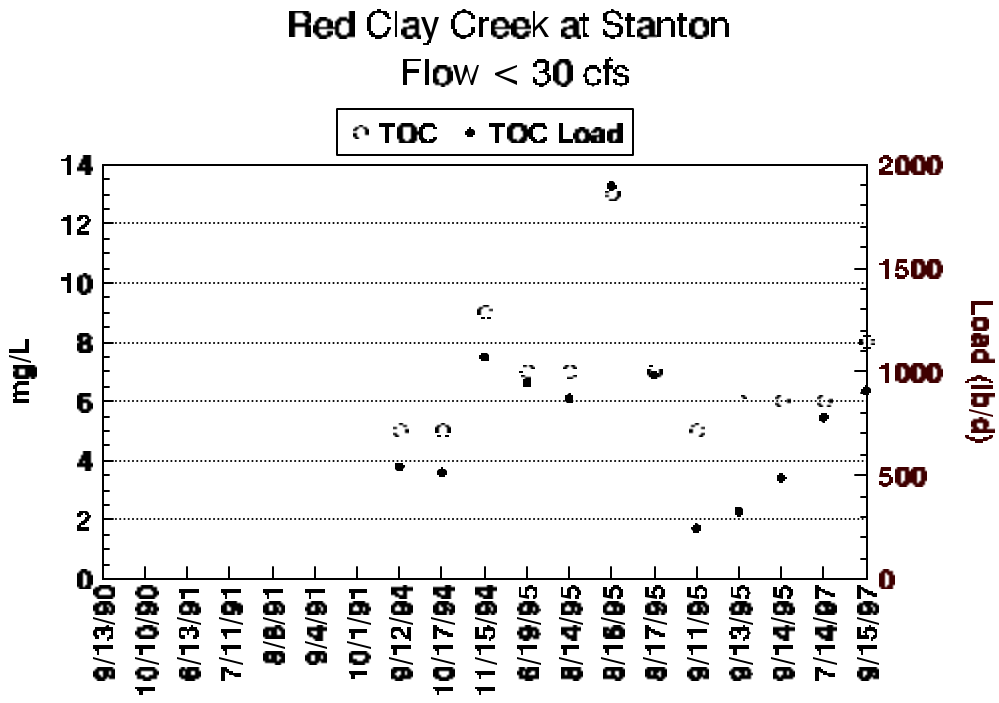

Red Clay Creek at Stanton
All Data
Flow
TP
1.2
1
0.8
0.6
0.4
0.2
0
350
300
250
200
150
100
50
0
Flow (cfs)
10/3/88
4/3/88
10/5/88
4/11/90
9/13/90
2/8/91
8/8/91
12/12/94
6/19/95
9/13/95
2/12/98
9/17/98


Red Clay Creek at Stanton
Flow < 30 cfs
TP
TP Load
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
mg/L
80
70
60
50
40
30
20
10
0
Load (lb/d)
9/13/90
10/10/90
6/13/91
7/11/91
8/8/91
9/4/91
10/1/91
9/12/94
10/17/94
11/15/94
5/18/95
8/14/95
8/16/95
8/17/95
9/11/95
9/13/95
9/14/95
7/14/97
9/15/97


Red Clay Creek at Stanton
All Data
Flow
SOP
0.5
0.4
0.3
0.2
0.1
0
350
300
250
200
150
100
50
0
Flow (cfs)
10/3/88
4/3/89
10/5/89
4/11/90
9/13/90
2/6/91
8/8/91
12/12/94
6/19/95
9/13/95
2/12/96
9/17/96


Red Clay Creek at Stanton
Flow < 30 cfs
SOP
SOP Load
mg/L
0.5
0.4
0.3
0.2
0.1
0
60
50
40
30
20
10
0
Load (lb/d)
9/13/90
10/10/90
6/13/91
7/11/91
8/6/91
9/4/91
10/1/91
9/12/94
10/17/94
11/15/94
6/19/95
8/14/95
8/16/95
8/17/95
9/11/95
9/13/95
9/14/95
7/14/97
9/15/97


Red Clay Creek at Stanton
All Data
Flow
TOC
mg/L
Flow (cfs)
0
2
4
6
8
10
12
14
16
0
50
100
150
200
250
300
350
10/3/88
4/3/89
10/5/89
4/11/90
9/13/90
2/6/91
8/8/91
12/12/94
6/18/95
9/13/95
2/12/96
9/17/98


Red Clay Creek at Stanton
Flow < 30 cfs
TOC
TOC Load
mg/L
Load (lb/d)
0
2
4
6
8
10
12
14
0
500
1000
1500
2000
9/13/90
10/10/90
6/13/91
7/11/91
8/8/91
9/4/91
10/1/91
9/12/94
10/17/94
11/15/94
6/19/95
8/14/95
8/16/95
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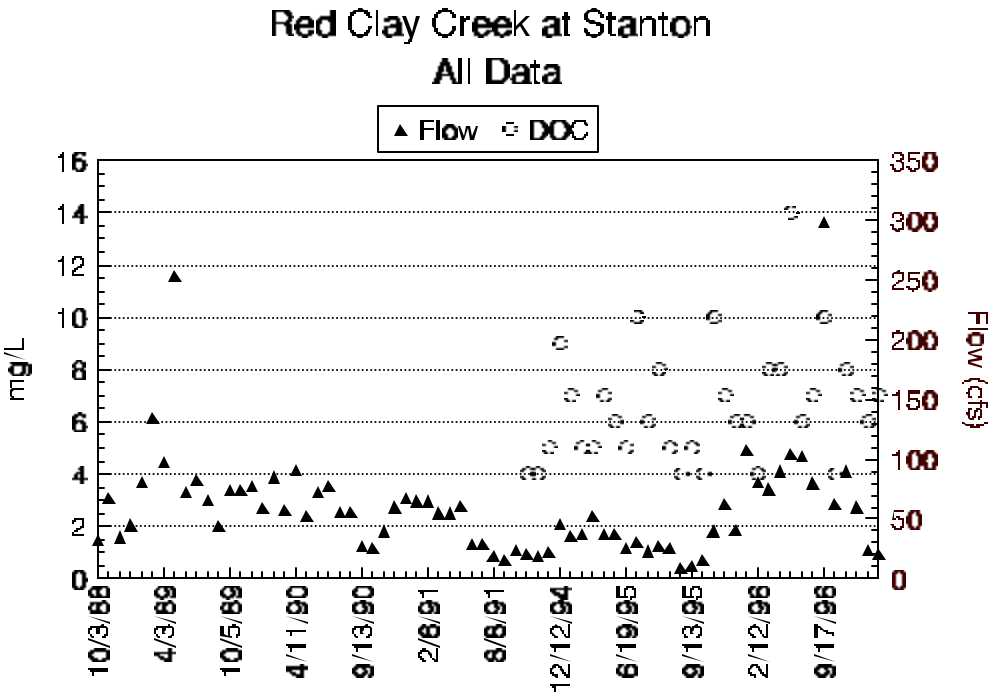
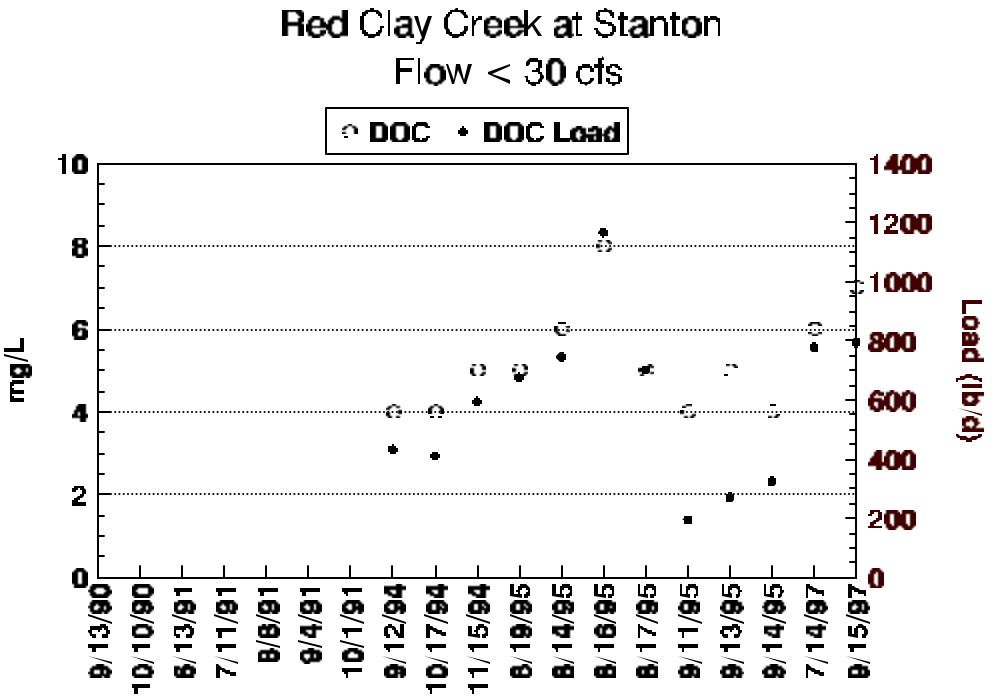
9/11/95
9/13/95
9/14/95
7/14/97
9/15/97


Red Clay Creek at Stanton
All Data
Flow
DOC
mg/L
Flow (cfs)
0
2
4
6
8
10
12
14
16
0
50
100
150
200
250
300
350
10/3/88
4/3/89
10/5/89
4/11/90
9/13/90
2/8/91
8/8/91
12/12/94
6/19/95
9/13/95
2/12/96
9/17/96


Red Clay Creek at Stanton
Flow < 30 cfs
DOC
DOC Load
mg/L
Load (lb/d)
0
2
4
6
8
10
0
200
400
600
800
1000
1200
1400
9/13/90
10/10/90
6/13/91
7/11/91
8/8/91
9/4/91
10/1/91
9/12/94
10/17/94
11/15/94
6/19/95
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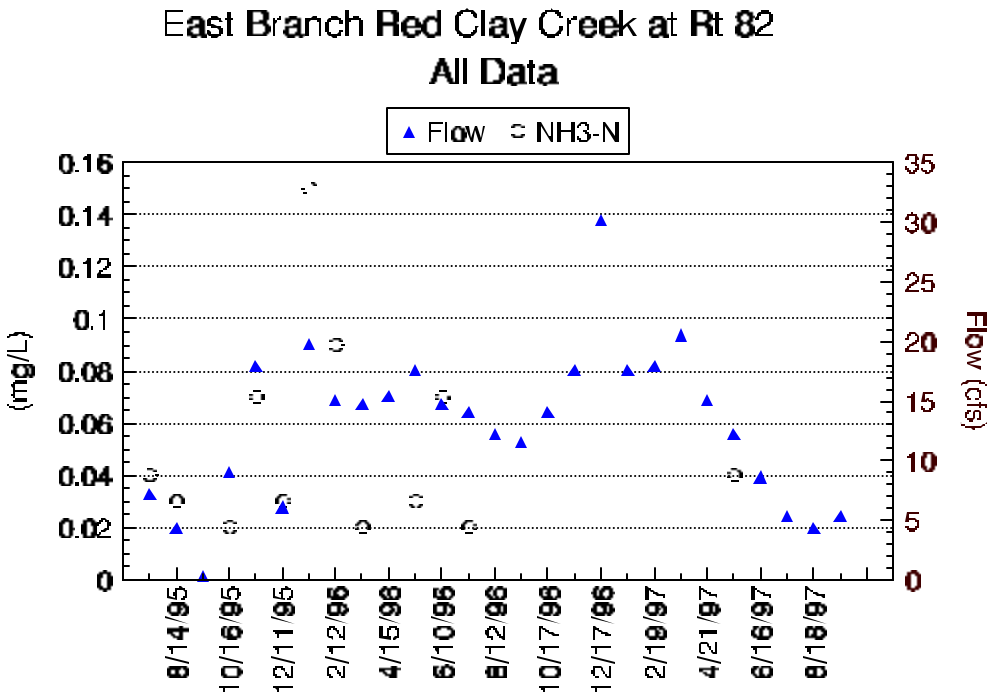
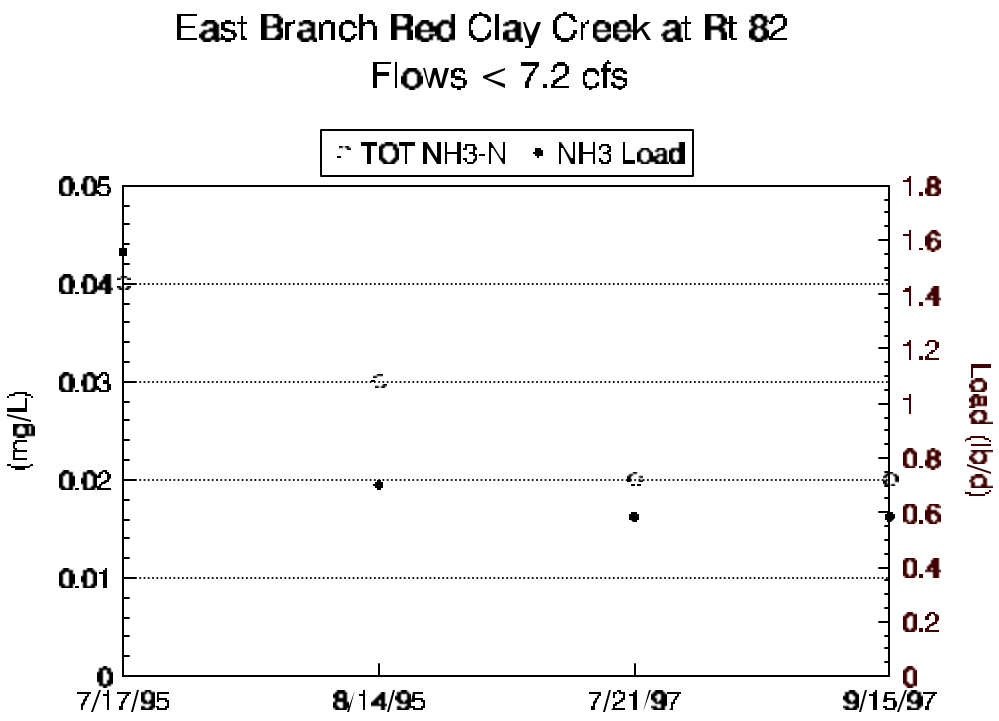
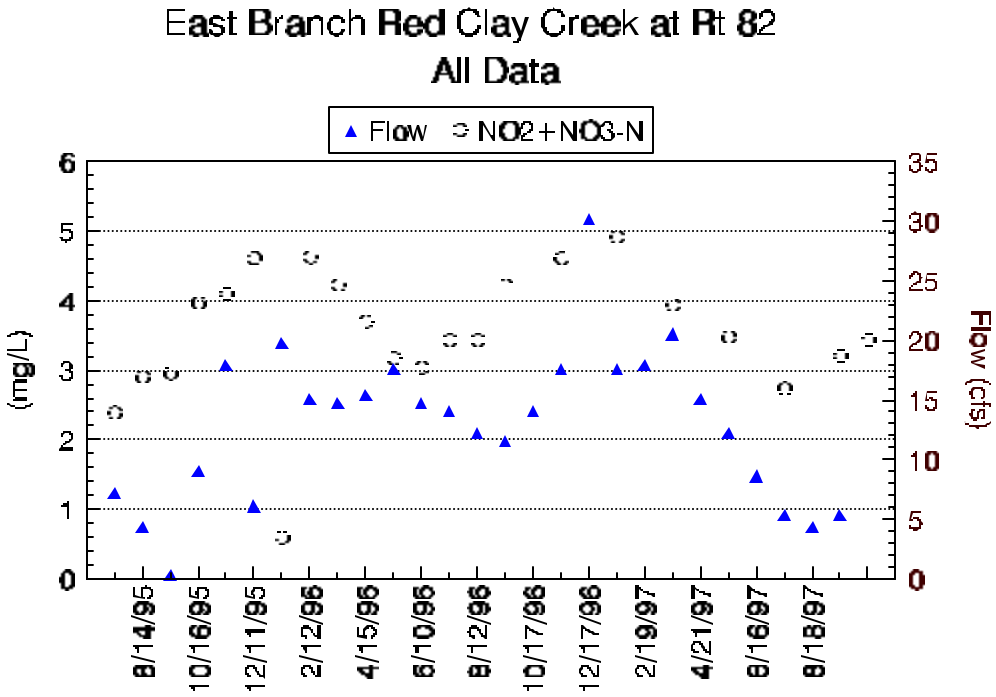
6/16/95
6/17/95
9/11/95
9/13/95
9/14/95
7/14/97
9/15/97

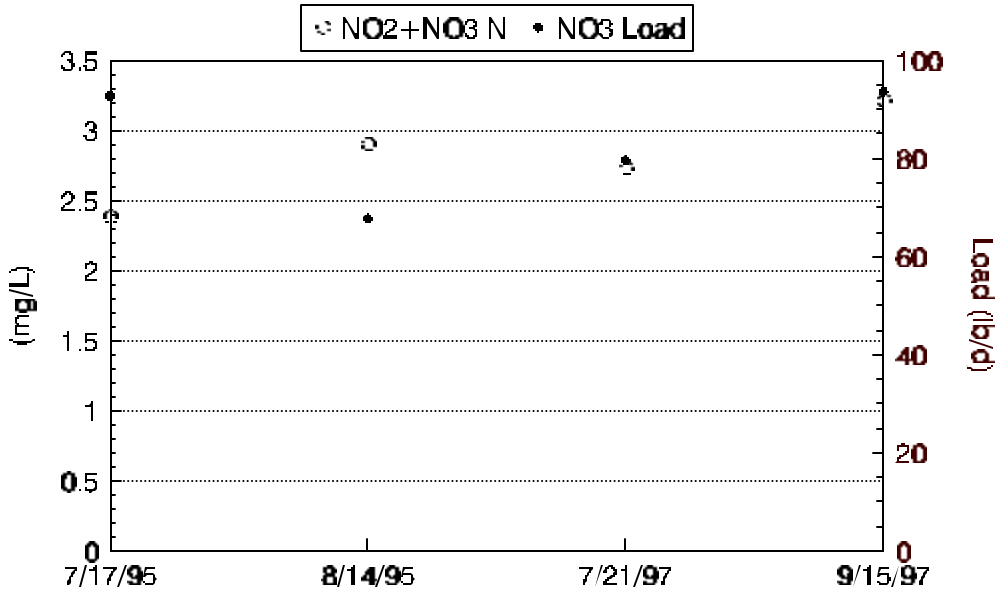


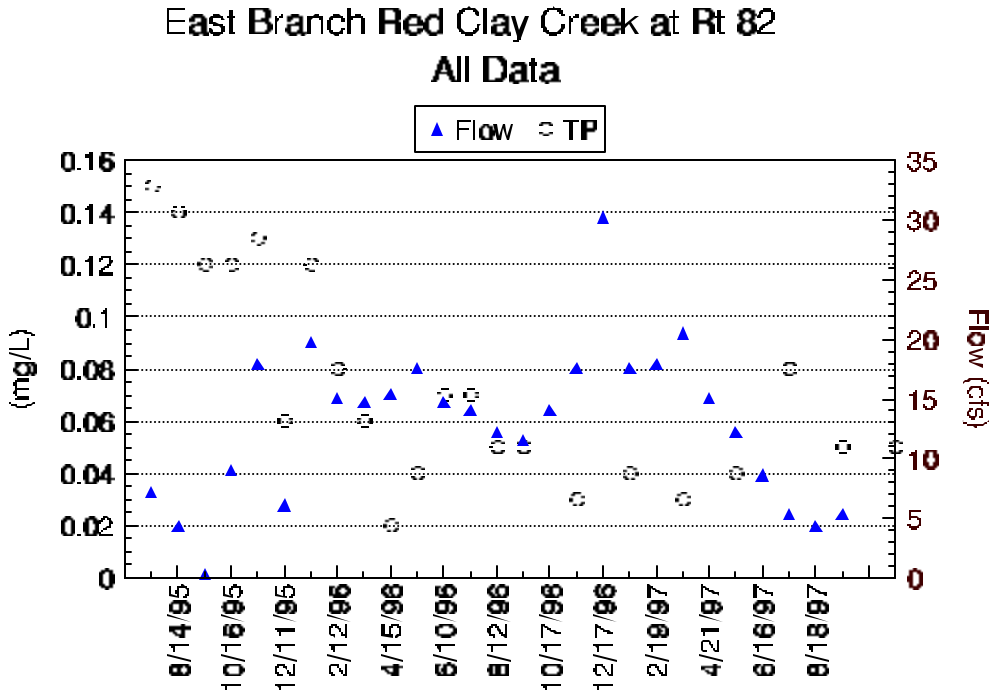
East Branch Flow estimated as 0.36*Q at Marshall's Bridge USGS gage



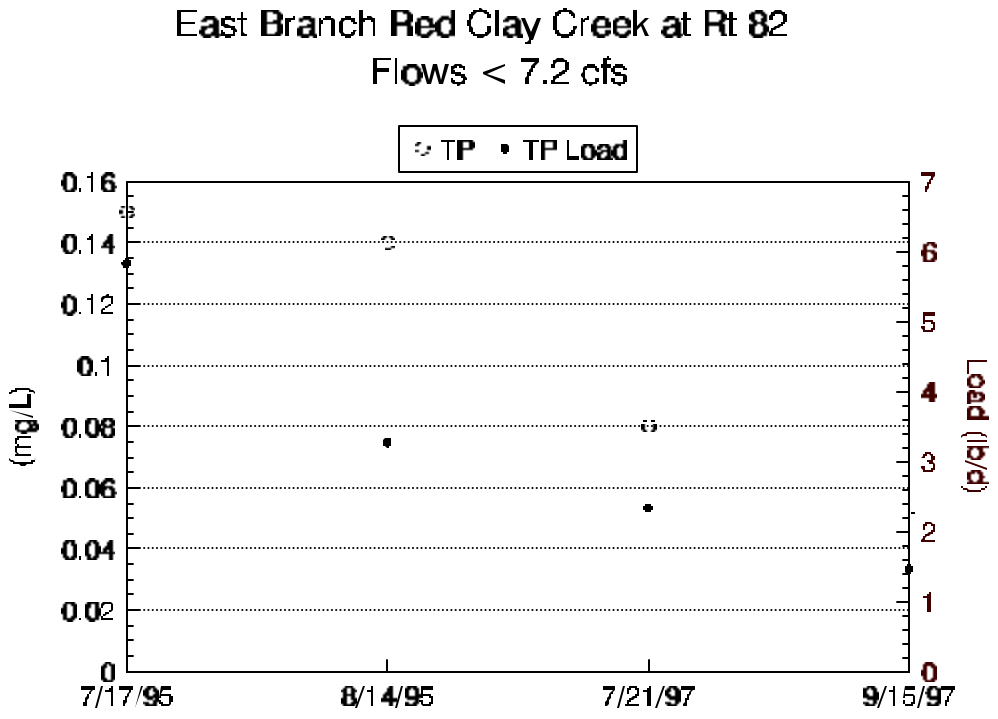


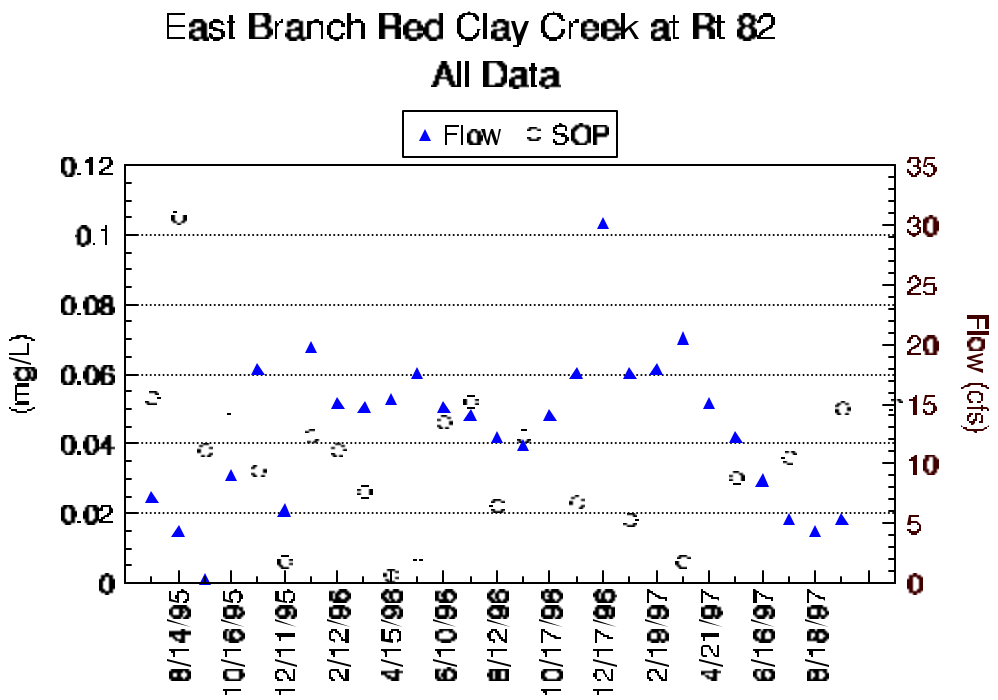
East Branch Flow estimated as 0.36*Q at Marshall's Bridge USGS gage



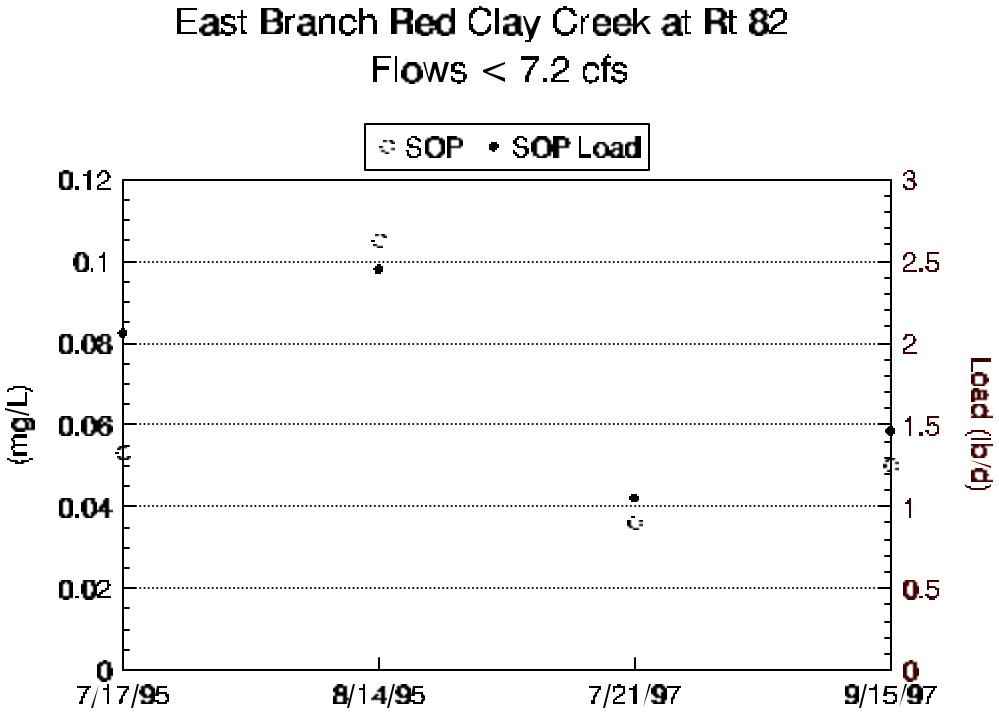


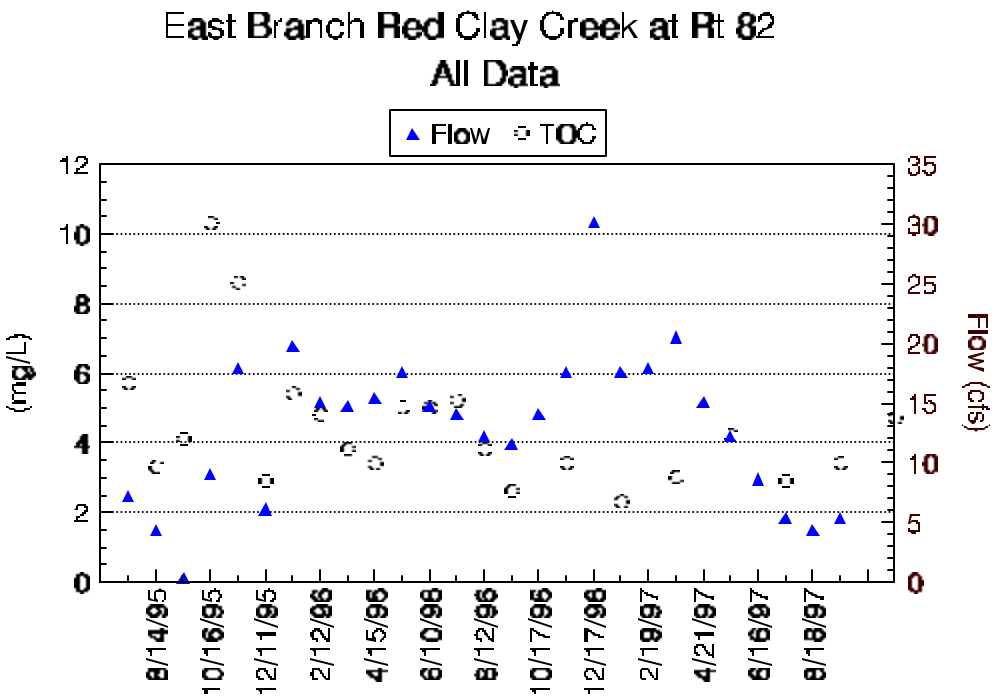
East Branch Flow estimated as 0.36*Q at Marshall's Bridge USGS gage



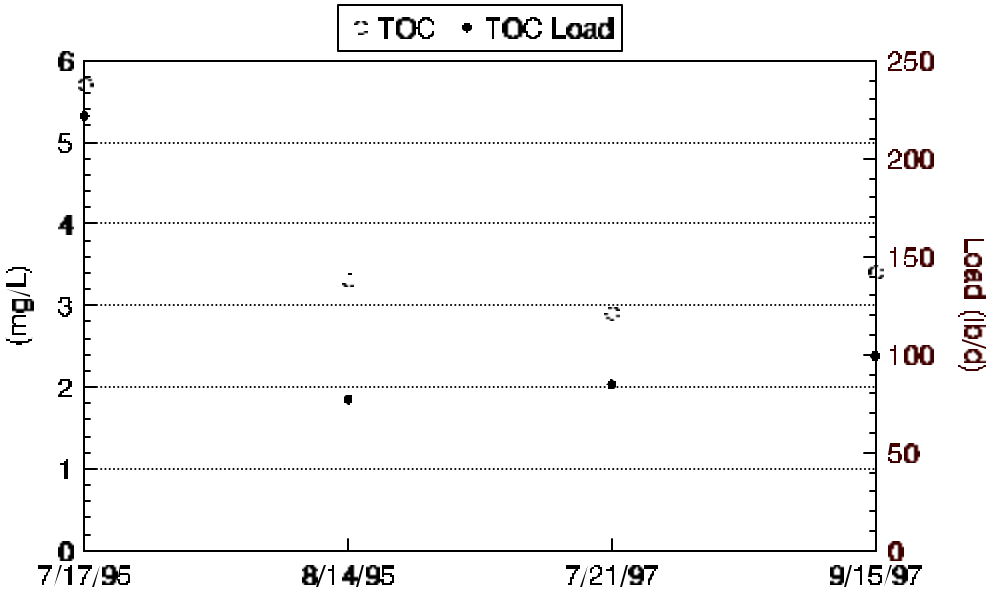


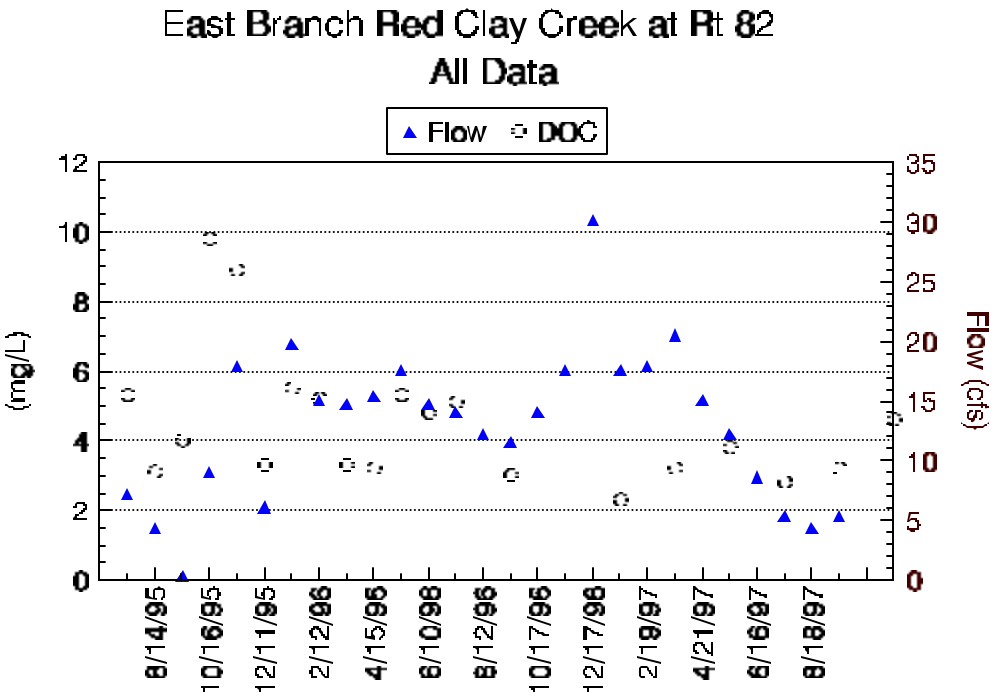
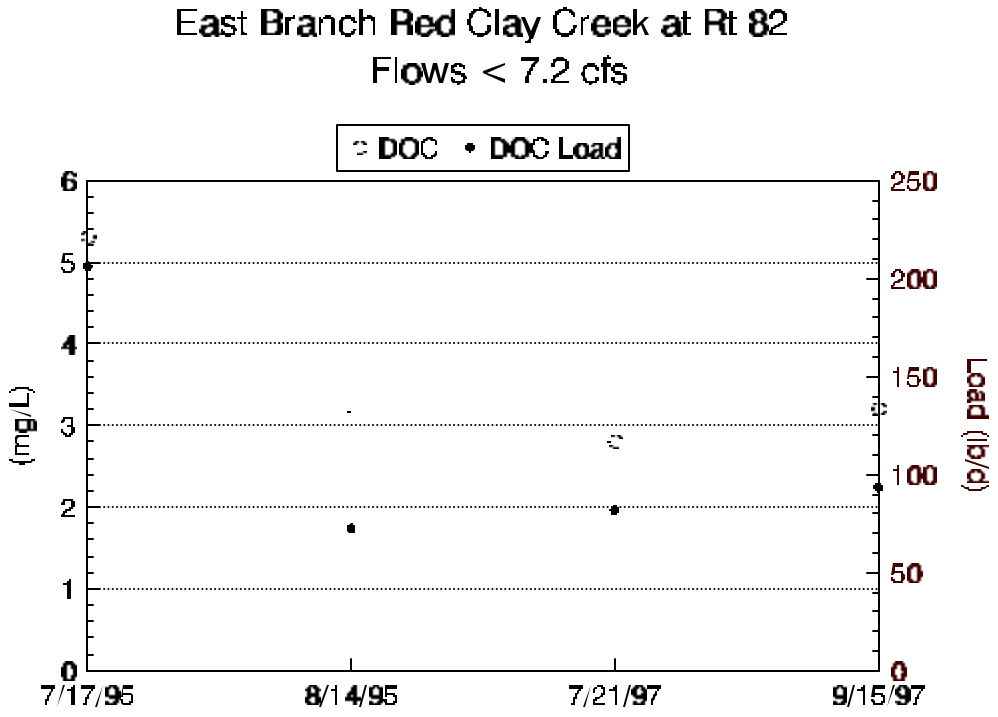
East Branch Flow estimated as 0.36*Q at Marshall's Bridge USGS gage





East Branch Flow estimated as 0.36*Q at Marshall's Bridge USGS gage





East Branch Flow estimated as 0.36*Q at Marshall's Bridge USGS gage