APPENDIX A

Maps

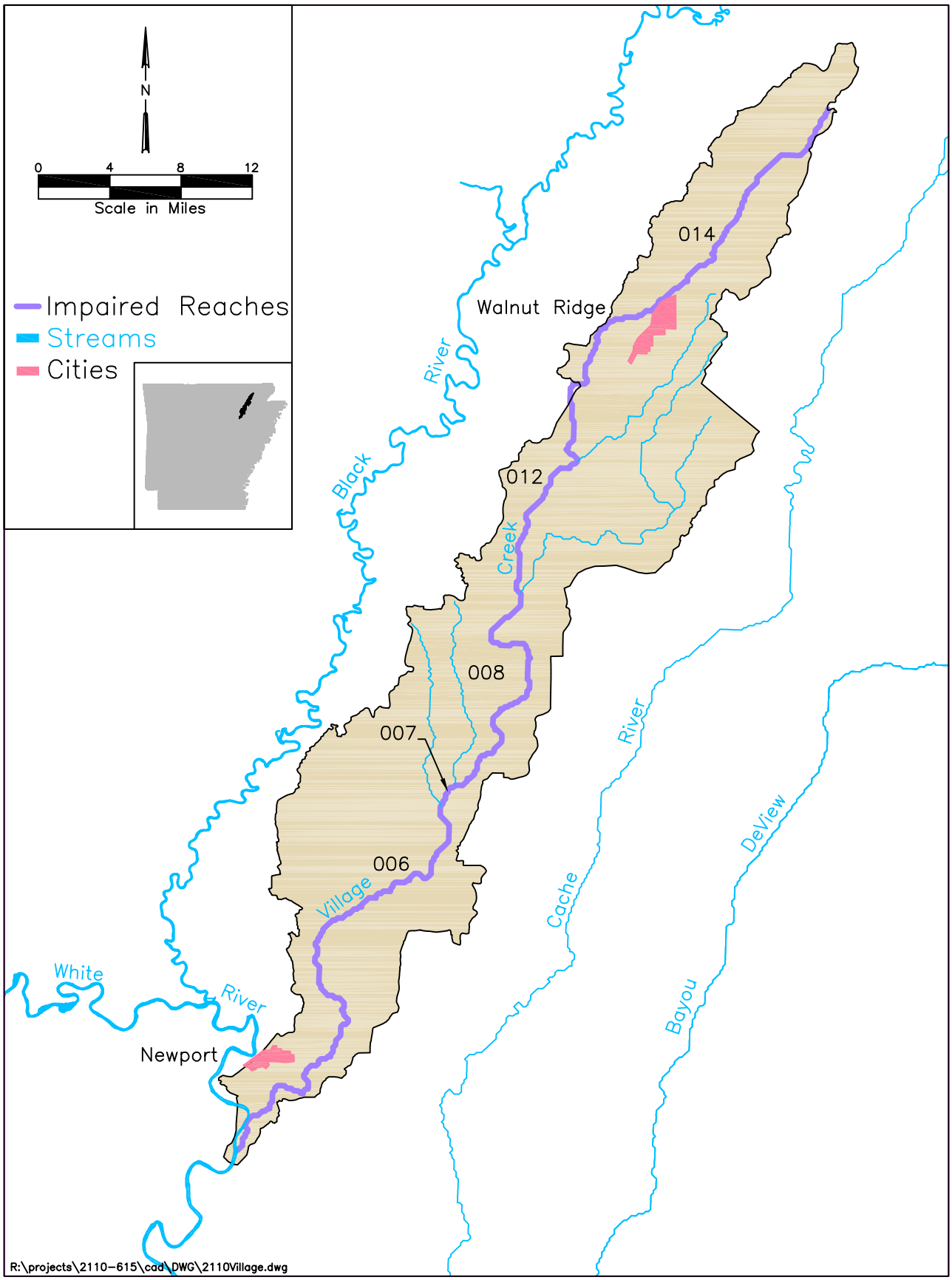


Figure A.1. Map of the study area

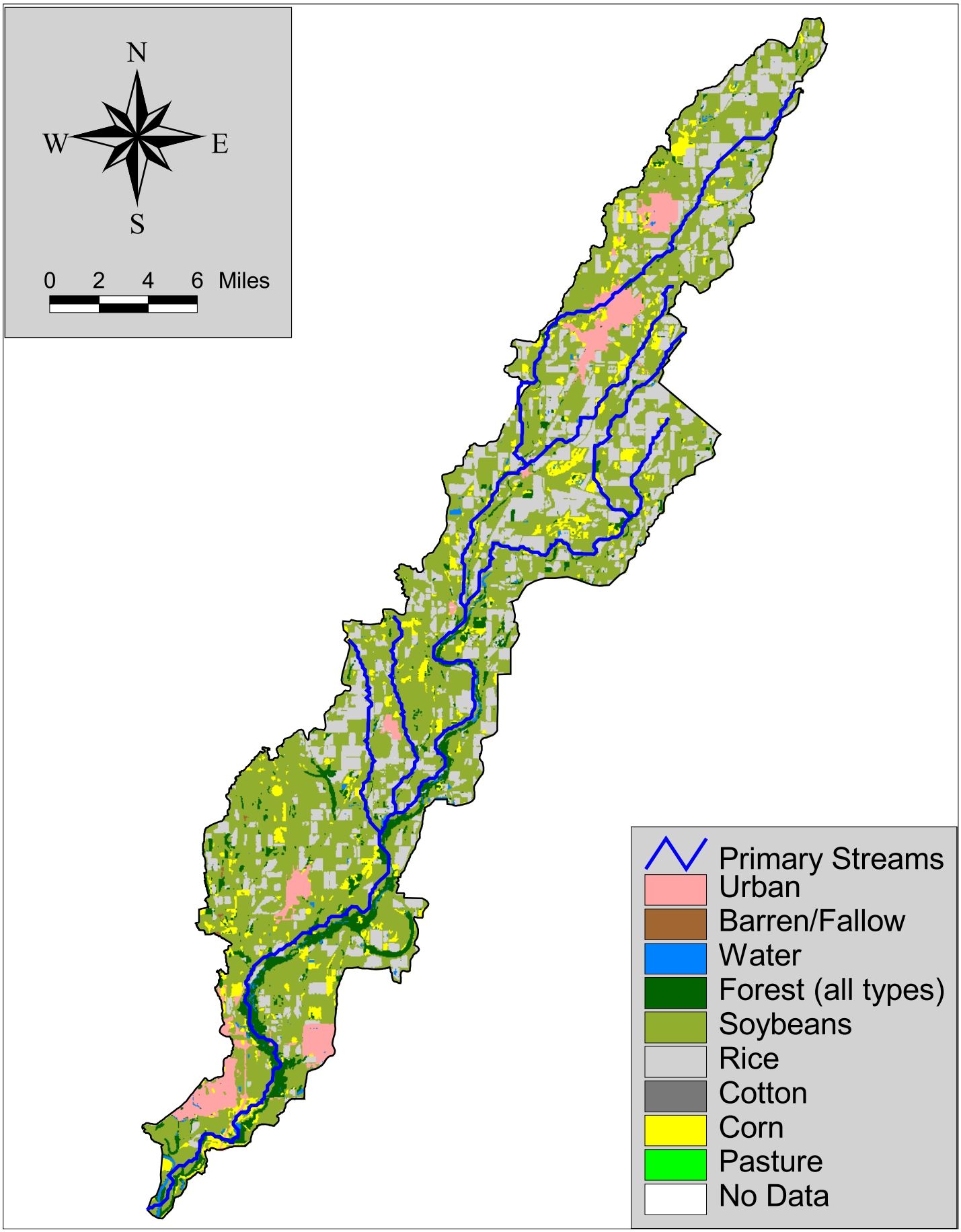


Figure A.2 Land use for Village Creek study area.

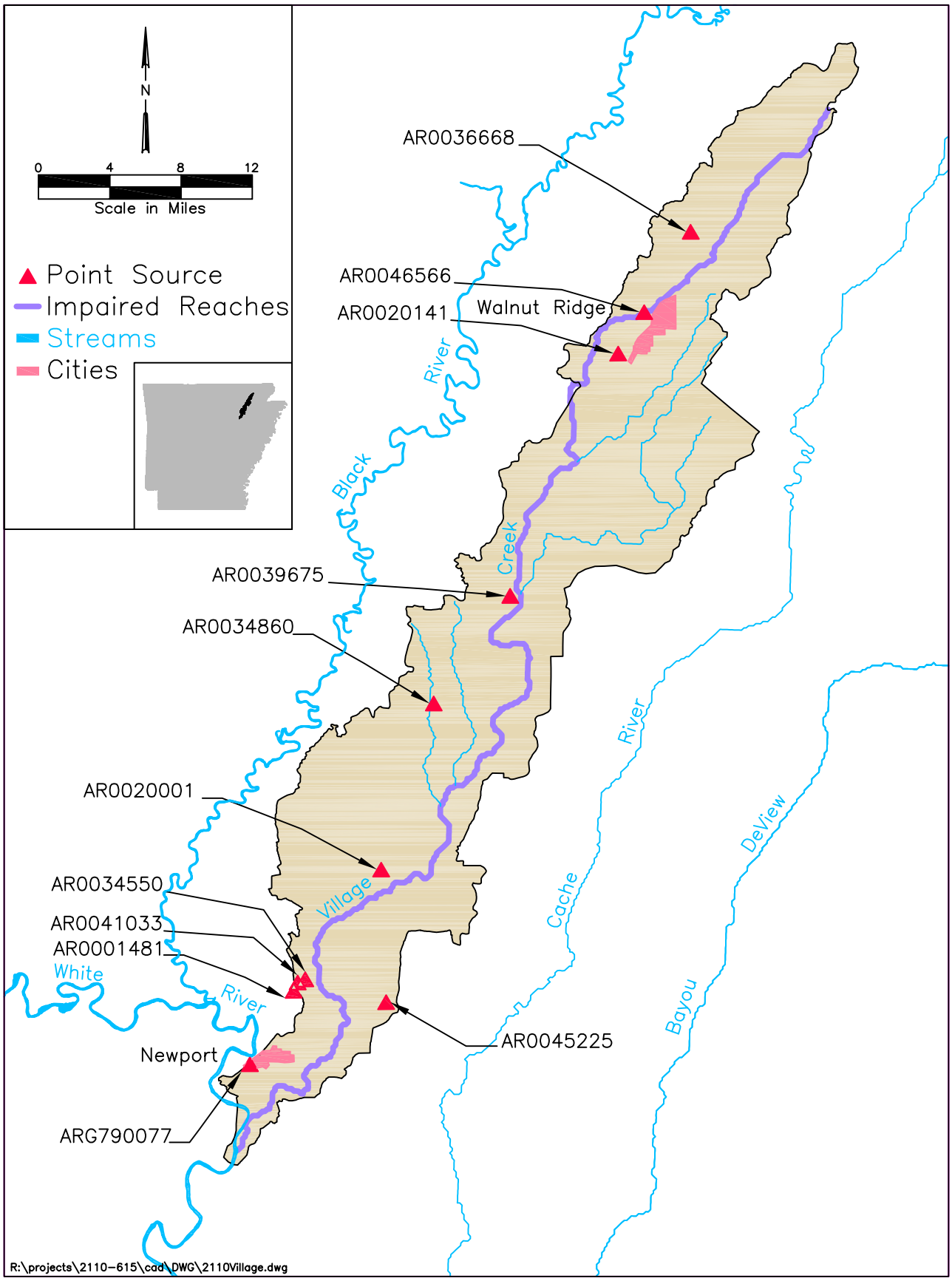


Figure A.3. Map of point sources in the study area

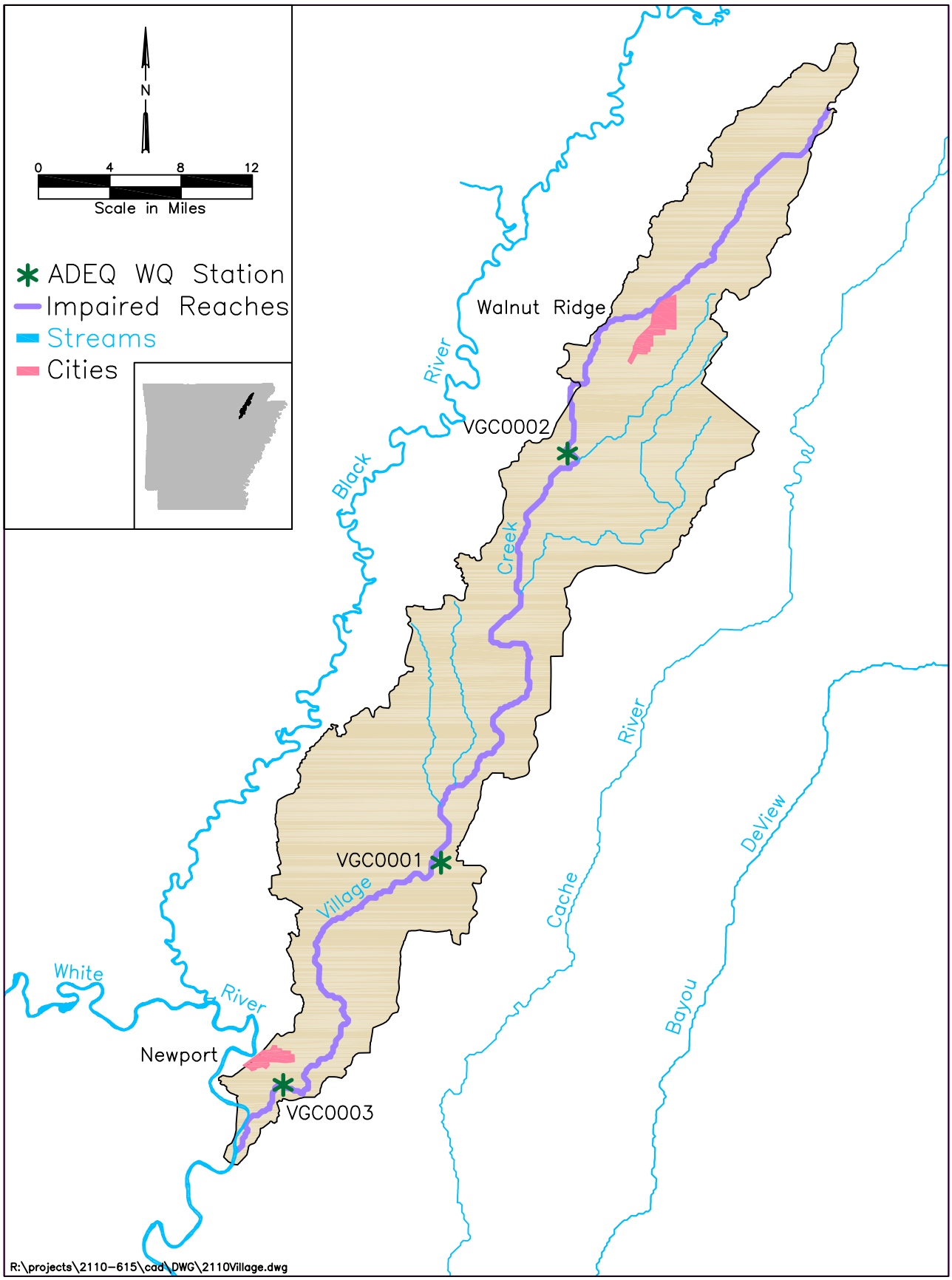


Figure A.4. Map of water quality stations in the study area

APPENDIX B

Long Term Plots of Turbidity and TSS

Table B.1. Observed Turbidity and TSS Data for Village Creek at VGC0001.

Date	Observed turbidity (NTU)	Observed TSS (mg/L)	Flow at USGS gage (cfs)	Flow per unit area (cfs/mi2)	Load per unit area (lbs/day/mi2)	Percent of days flow exceeded	Applicable category	Applicable water quality standard (NTU)	Turbidity meeting base flow standard?	Turbidity meeting storm-flow standard?
4/10/1995	105	51	14	0.02	5.49E+00	96.79	Base flow	75	No	
10/3/1995	47	59	23	0.03	1.04E+01	93.93	Base flow	75	Yes	
10/7/1996	23	11.5	25	0.04	2.21E+00	93.06	Base flow	75	Yes	
11/4/2002	35.1	15	25	0.04	2.88E+00	92.99	Base flow	75	Yes	
5/6/1996	110	36	72	0.10	1.99E+01	81.19	Base flow	75	No	
6/23/2003	44.3	40	79	0.11	2.43E+01	79.33	Base flow	75	Yes	
9/12/1994	19	13	117	0.17	1.17E+01	71.00	Base flow	75	Yes	
2/19/1996	85		120	0.17		70.49	Base flow	75	No	
10/22/2001	10	11	180	0.26	1.52E+01	61.13	Base flow	75	Yes	
7/29/2002	17	21.5	180	0.26	2.98E+01	61.13	Base flow	75	Yes	
6/13/1994	54	11.5	225	0.32	1.99E+01	55.95	Storm-flow	250		Yes
3/10/2003	109	17.5	292	0.42	3.93E+01	50.47	Storm-flow	250		Yes
1/16/1995	69	42.5	335	0.48	1.10E+02	47.46	Storm-flow	250		Yes
8/25/2003	18.3	10.5	799	1.14	6.45E+01	31.34	Storm-flow	250		Yes
4/28/2003	141	34.2	2290	3.27	6.03E+02	13.63	Storm-flow	250		Yes
1/28/2002	250	68.5	2920	4.17	1.54E+03	8.89	Storm-flow	250		Yes
5/21/2002	120	44.5	3170	4.52	1.09E+03	7.15	Storm-flow	250		Yes
3/25/2002		12	3210	4.58	2.96E+02	6.86	Storm-flow	250		
9/23/2002	17	9.1	3320	4.74	2.32E+02	6.05	Storm-flow	250		Yes
1/7/2003	178	32	3450	4.92	8.49E+02	5.15	Storm-flow	250		Yes

Number exceeding applicable water quality standard for turbidity =	3	0
Total number of observations in each category =	10	9
Percent exceeding applicable water quality standard for turbidity =	30%	0%

FILE: R:\PROJECTS\2110-615\TECH\TMDL\VILLAGE\VILLAGE CREEK TMDL - STN1-DEC 2005.XLS

Table B.2. Observed Turbidity and TSS Data for Village Creek at VGC0002.

Date	Observed turbidity (NTU)	Observed TSS (mg/L)	Flow at USGS gage (cfs)	Flow per unit area (cfs/mi2)	Load per unit area (lbs/day/mi2)	Percent of days flow exceeded	Applicable category	Applicable water quality standard (NTU)	Turbidity meeting base flow standard?	Turbidity meeting storm-flow standard?
4/10/1995	115	162.5	14	0.02	1.75E+01	96.79%	Base flow	75	No	
10/3/1995	61	79	23	0.03	1.40E+01	93.93%	Base flow	75	Yes	
10/7/1996	74	79.5	25	0.04	1.53E+01	93.06%	Base flow	75	Yes	
11/4/2002	18.2	9.3	25	0.04	1.79E+00	92.99%	Base flow	75	Yes	
5/6/1996	280	124	72	0.10		81.19%	Base flow	75	No	
6/23/2003	61.8	61.2	79	0.11	3.72E+01	79.33%	Base flow	75	Yes	
9/12/1994	86	122	117	0.17	1.10E+02	71.00%	Base flow	75	No	
2/19/1996	33		120	0.17	0.00E+00	70.49%	Base flow	75	Yes	
10/22/2001	13	14	180	0.26	1.94E+01	61.13%	Base flow	75	Yes	
7/29/2002	54	83	180	0.26	1.15E+02	61.13%	Base flow	75	Yes	
6/13/1994	68	100	225	0.32	1.73E+02	55.95%	Storm-flow	250		Yes
3/10/2003	85.8	18.5	292	0.42	4.16E+01	50.47%	Storm-flow	250		Yes
7/17/1995	81	136.5	297	0.42	3.12E+02	50.13%	Storm-flow	250		Yes
1/16/1995	160	72.5	335	0.48	1.87E+02	47.46%	Storm-flow	250		Yes
8/25/2003	42.7	41.8	799	1.14	2.57E+02	31.34%	Storm-flow	250		Yes
4/28/2003	271	84	2290	3.27	1.48E+03	13.63%	Storm-flow	250		No
1/28/2002	170	73	2920	4.17	1.64E+03	8.89%	Storm-flow	250		Yes
5/21/2002	140	80	3170	4.52	1.95E+03	7.15%	Storm-flow	250		Yes
3/25/2002		33	3210	4.58	8.15E+02	6.86%	Storm-flow	250		
9/23/2002	11	15.5	3320	4.74	3.96E+02	6.05%	Storm-flow	250		Yes
1/7/2003	205	45.8	3450	4.92	1.22E+03	5.15%	Storm-flow	250		Yes
							Number exceeding applicable water quality standard for turbidity =		3	1
							Total number of observations in each category =		10	10
							Percent exceeding applicable water quality standard for turbidity =		30%	10%

FILE: R:\PROJECTS\2110-615\TECH\TMDL\VILLAGE\VILLAGE CREEK TMDL - STN2-DEC 2005.XLS

Table B.3. Observed Turbidity and TSS Data for Village Creek at VGC0003.

Date	Observed turbidity (NTU)	Observed TSS (mg/L)	Flow at USGS gage (cfs)	Flow per unit area (cfs/mi2)	Load per unit area (lbs/day/mi2)	Percent of days flow exceeded	Applicable category	Applicable water quality standard (NTU)	Turbidity meeting base flow standard?	Turbidity meeting storm-flow standard?
10/4/1995	16	6.5	17	0.024	8.50E-01	96.17	Base flow	75	Yes	
10/9/1996	11	7	19	0.027	1.02E+00	95.63	Base flow	75	Yes	
4/12/1995	44	65	25	0.036	1.25E+01	93.08	Base flow	75	Yes	
11/4/2002	9.26	3	25	0.036	5.77E-01	92.99	Base flow	75	Yes	
6/23/2003	48	32.5	79	0.113	1.98E+01	79.33	Base flow	75	Yes	
5/7/1996	104	84.5	90	0.128	5.85E+01	76.85	Base flow	75	No	
9/13/1994	8.7	11.5	98	0.140	8.67E+00	75.04	Base flow	75	Yes	
2/21/1996	105	67.5	100	0.143	5.19E+01	74.49	Base flow	75	No	
6/14/1994	46	25.5	156	0.223	3.06E+01	64.60	Base flow	75	Yes	
10/22/2001	4.3	8.8	180	0.257	1.22E+01	61.13	Base flow	75	Yes	
7/29/2002	6.2	9.7	180	0.257	1.34E+01	61.13	Base flow	75	Yes	
3/10/2003	113	29.2	292	0.417	6.56E+01	50.47	Storm-flow	250		Yes
7/18/1995	17	15	444	0.633	5.12E+01	41.53	Storm-flow	250		Yes
8/25/2003	26.2	21.8	799	1.140	1.34E+02	31.34	Storm-flow	250		Yes
4/28/2003	109	33.2	2290	3.267	5.85E+02	13.63	Storm-flow	250		Yes
1/28/2002	93	25	2920	4.165	5.62E+02	8.89	Storm-flow	250		Yes
1/18/1995	59	10.5	2930	4.180	2.37E+02	8.85	Storm-flow	250		Yes
5/21/2002	75	19	3170	4.522	4.63E+02	7.15	Storm-flow	250		Yes
3/25/2002		10.3	3210	4.579	2.54E+02	6.86	Storm-flow	250		

Number exceeding applicable water quality standard for turbidity =	2	0
Total number of observations in each category =	11	7
Percent exceeding applicable water quality standard for turbidity =	18%	0%

FILE: R:\PROJECTS\2110-615\TECH\TMDL\VILLAGE\VILLAGE CREEK TMDL - STN3-DEC 2005.XLS

Figure B.1. Long Term Observed Turbidity for Village Creek at Hwy 37 (VGC0001)

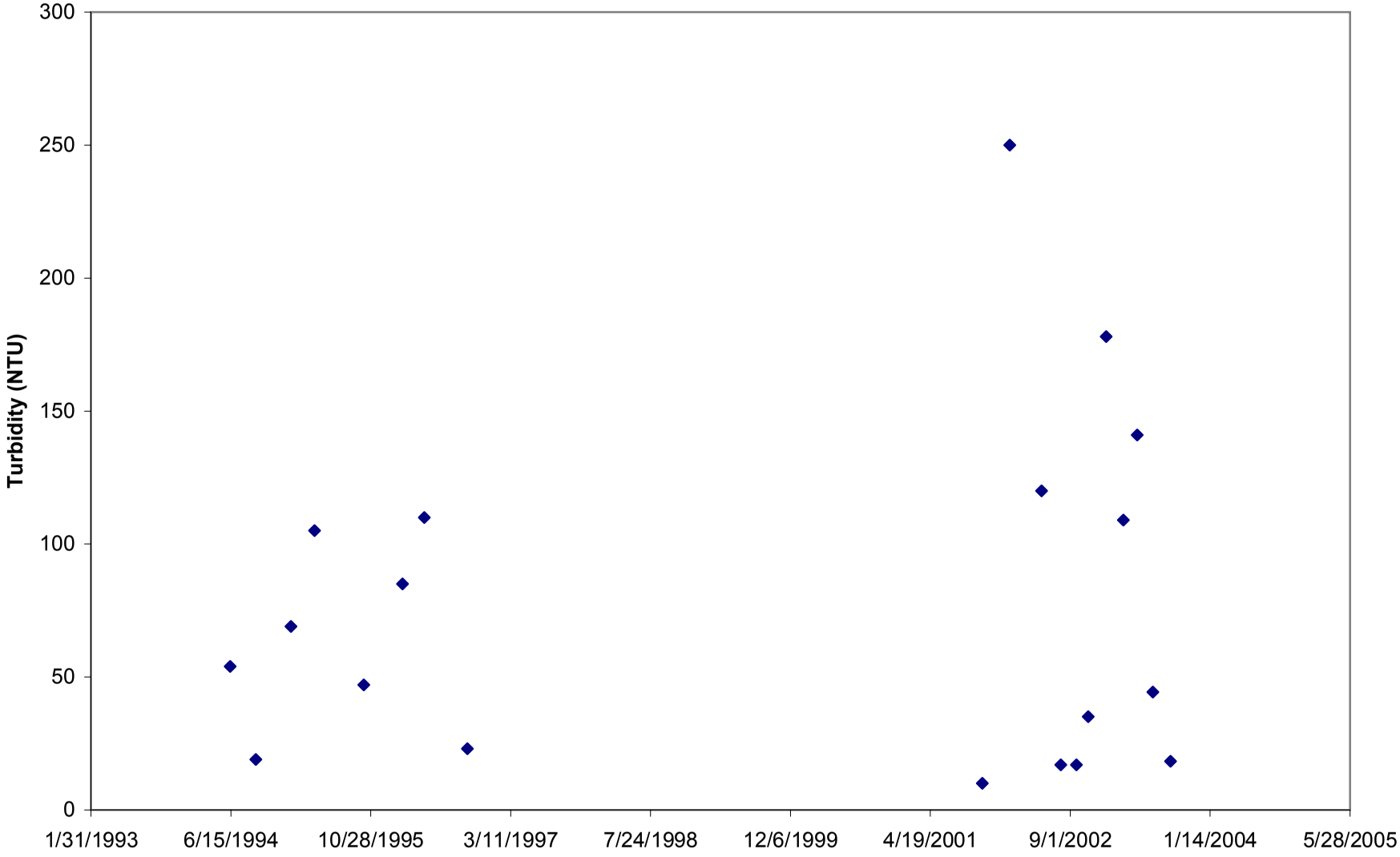


Figure B.2. Long Term Observed TSS for Village Creek at Hwy 37 (VGC0001)

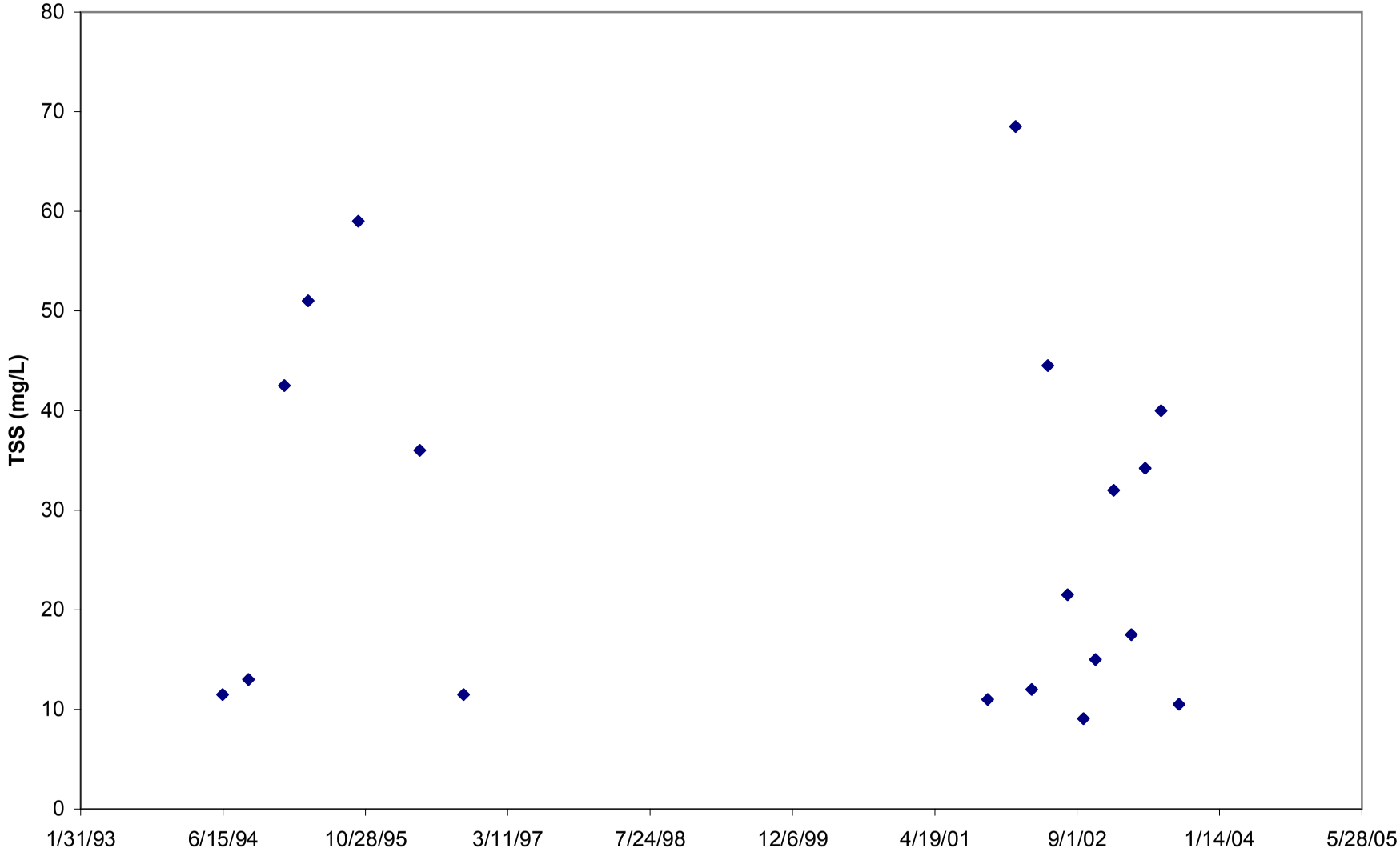


Figure B.3. Long Term Observed TSS for Village Creek at Hwy 228 (VGC0002)

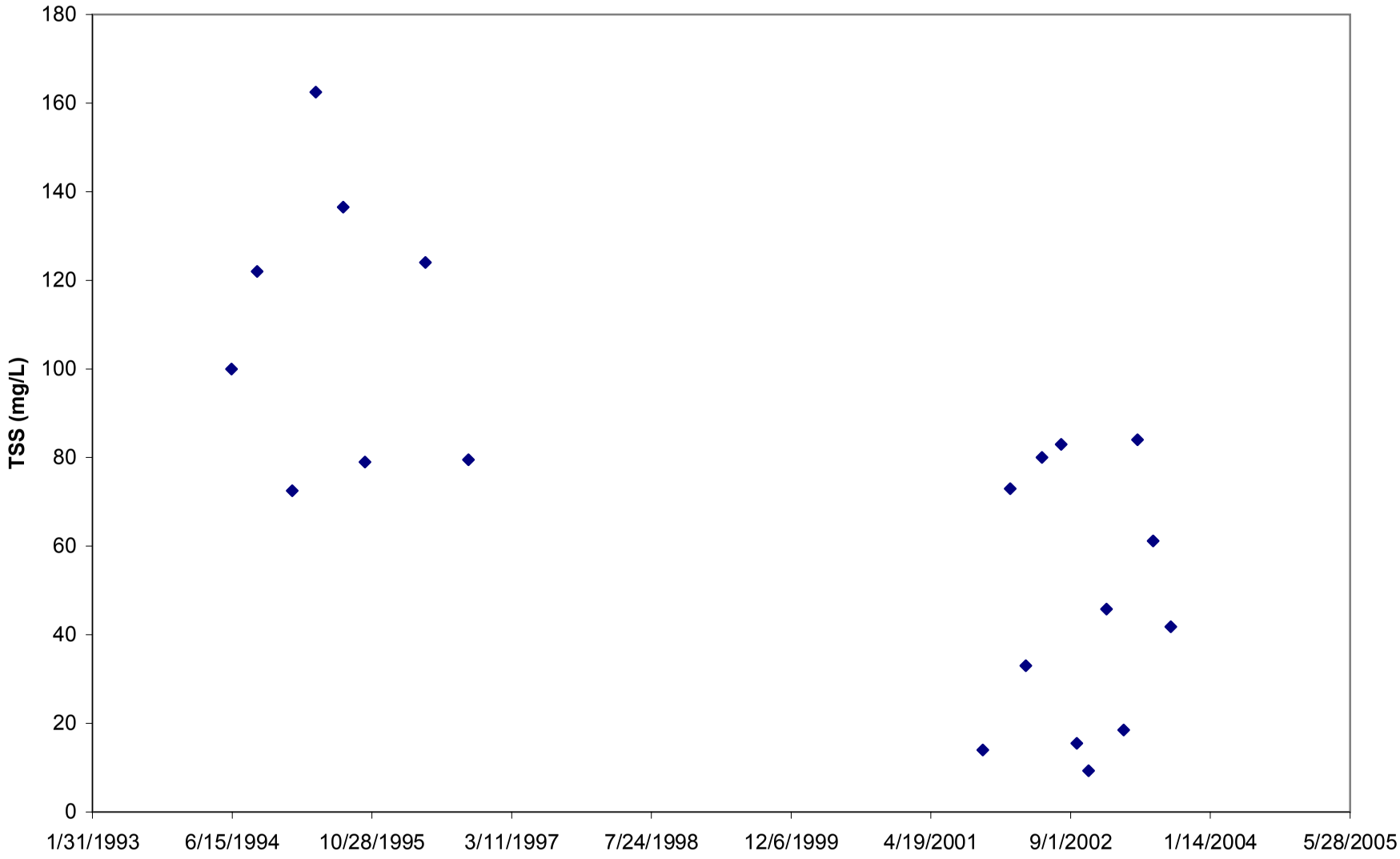


Figure B.4. Long Term Observed Turbidity for Village Creek at Hwy 228 (VGC0002)

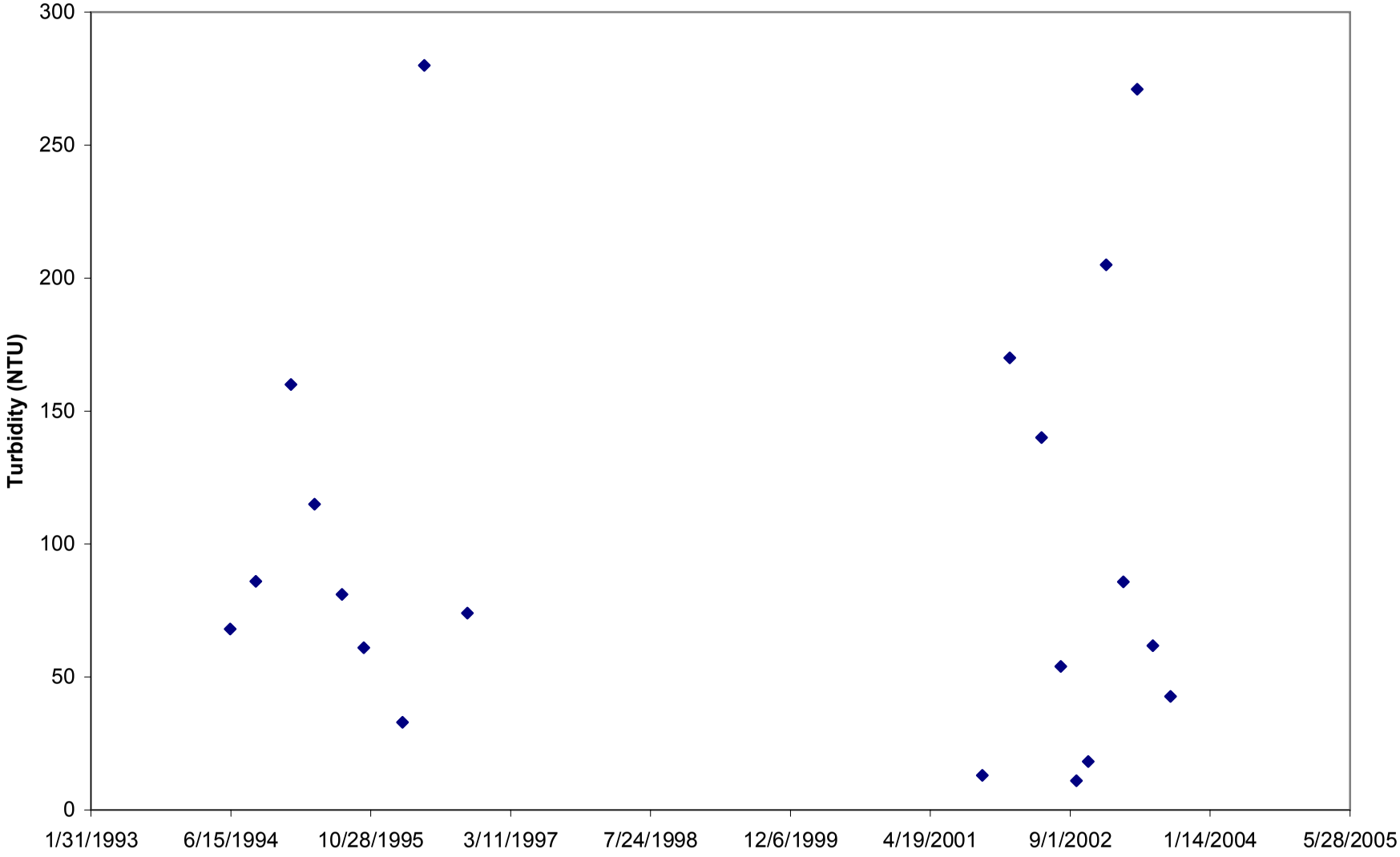


Figure B.5. Observed Long Term Turbidity for Village Creek at Hwy 224 (VGC0003)

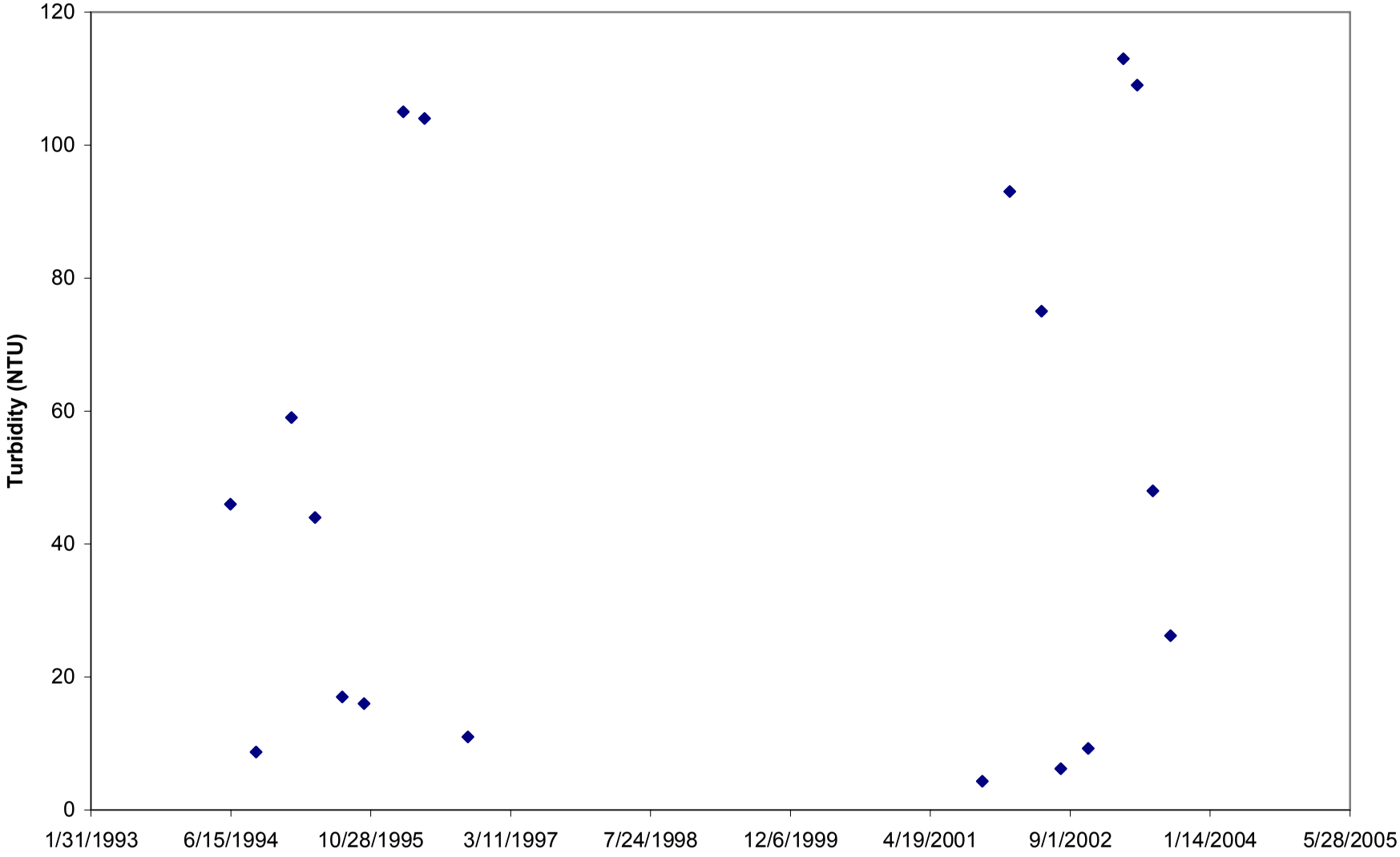
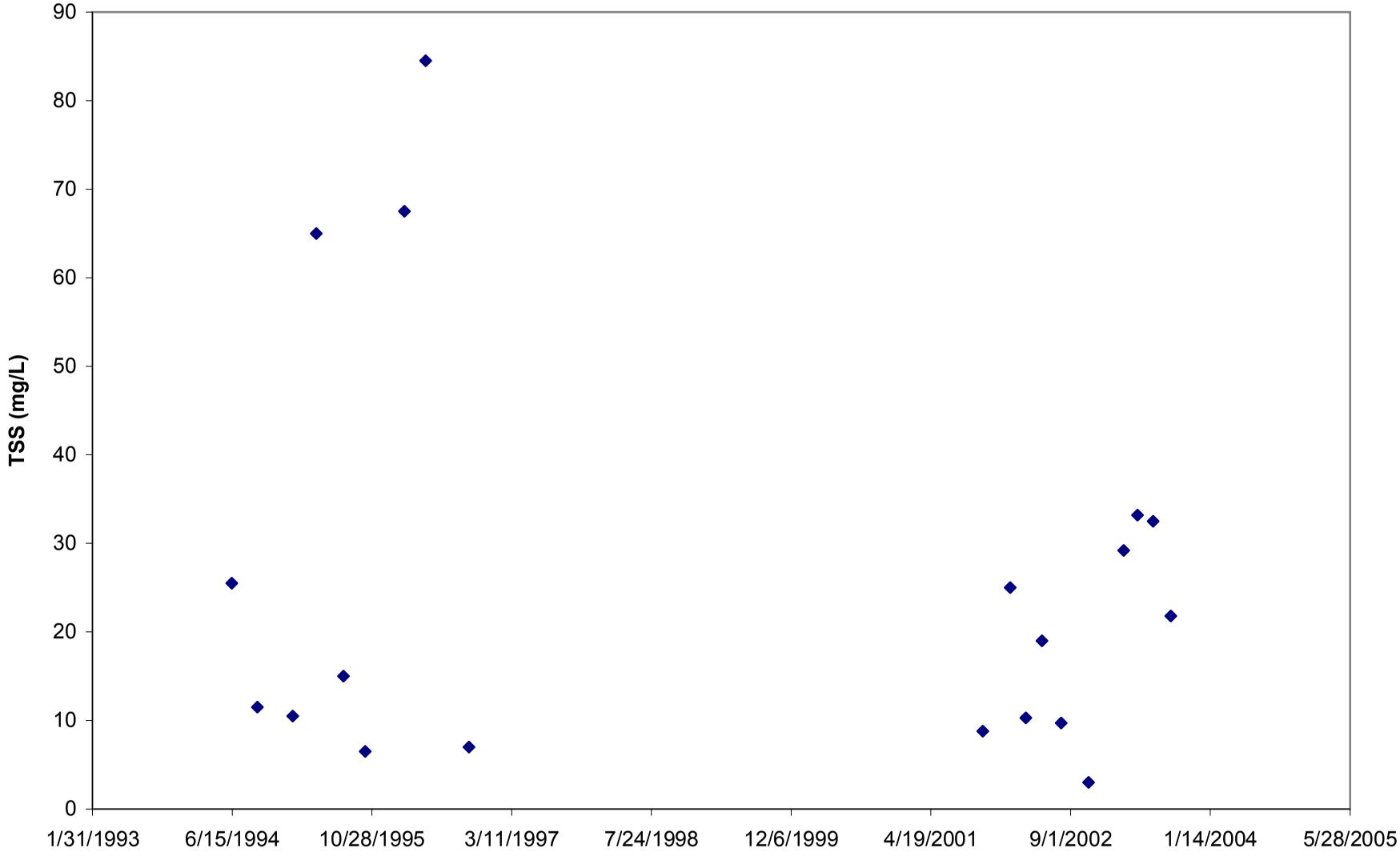


Figure B.6. Observed Long Term TSS for Village Creek at Hwy 224 (VGC0003)



APPENDIX C

Seasonal Plots of Turbidity and TSS

Figure C.1. Observed Seasonal Turbidity for Village Creek at Hwy 37 (VGC0001)

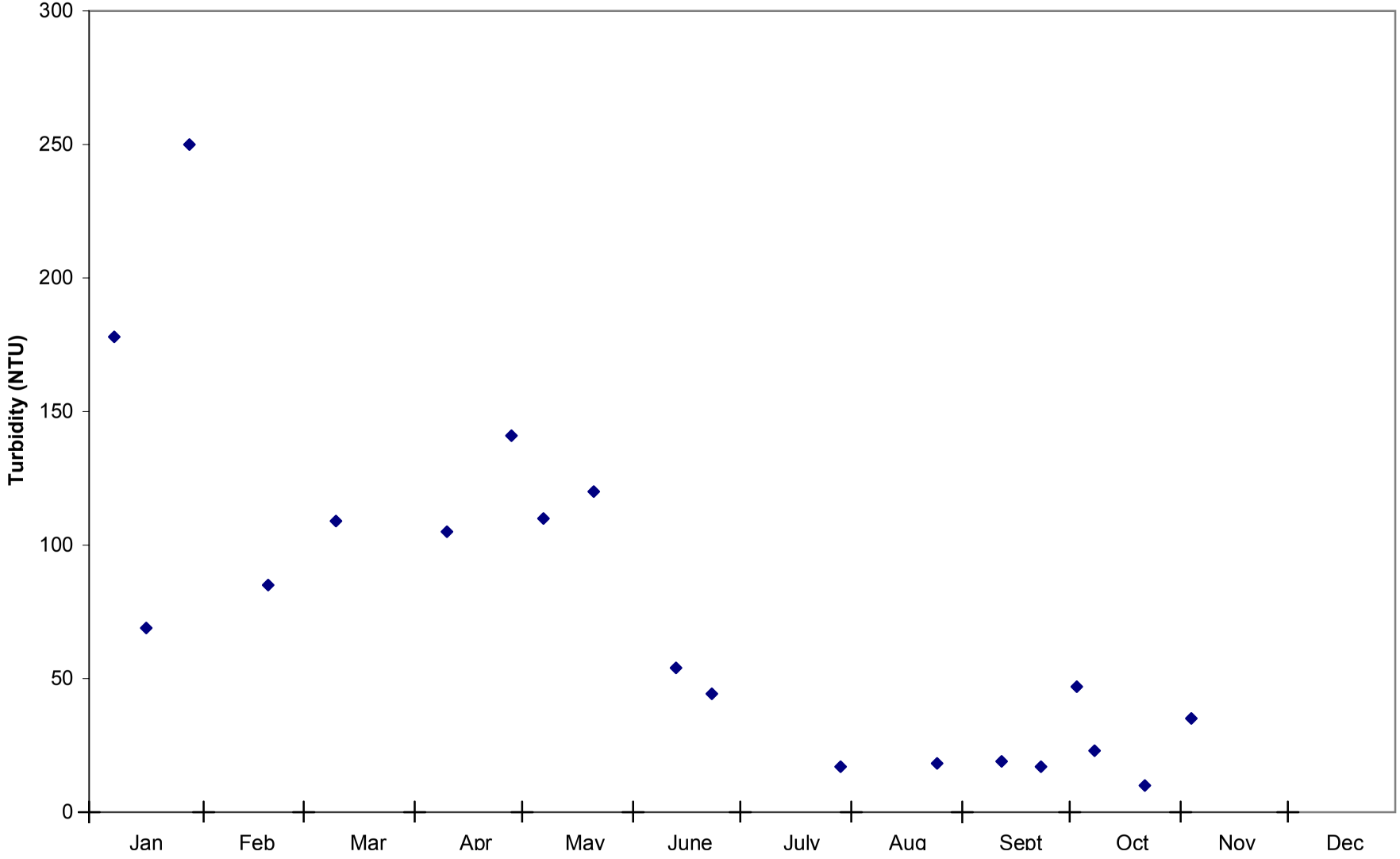


Figure C.2. Observed Seasonal TSS for Village Creek at Hwy 37 (VGC0001)

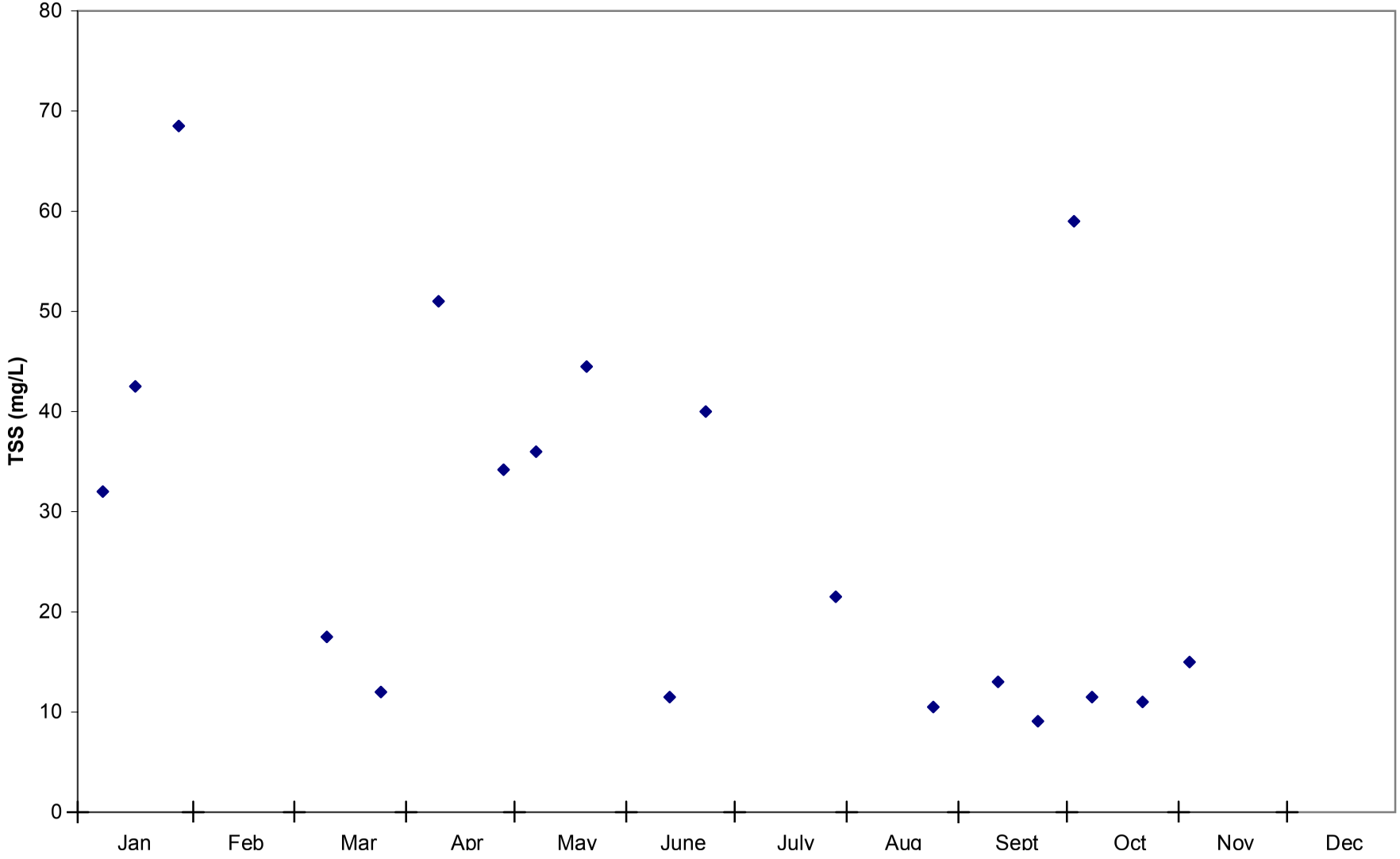


Figure C.3. Seasonal TSS for Village Creek at Hwy 228 (VCG0002)

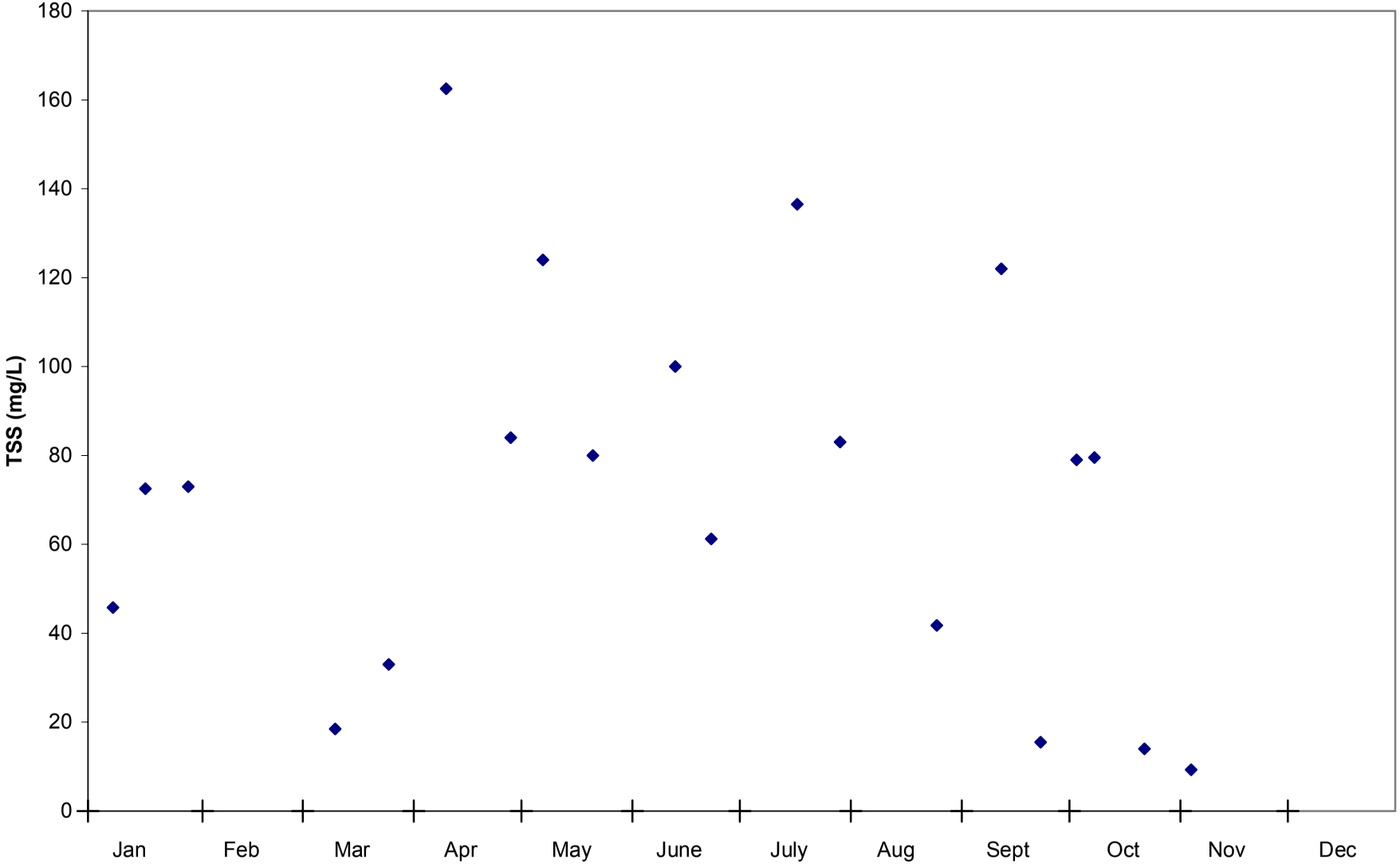


Figure C.4. Seasonal Turbidity for Village Creek at Hwy 228 (VCG0002)

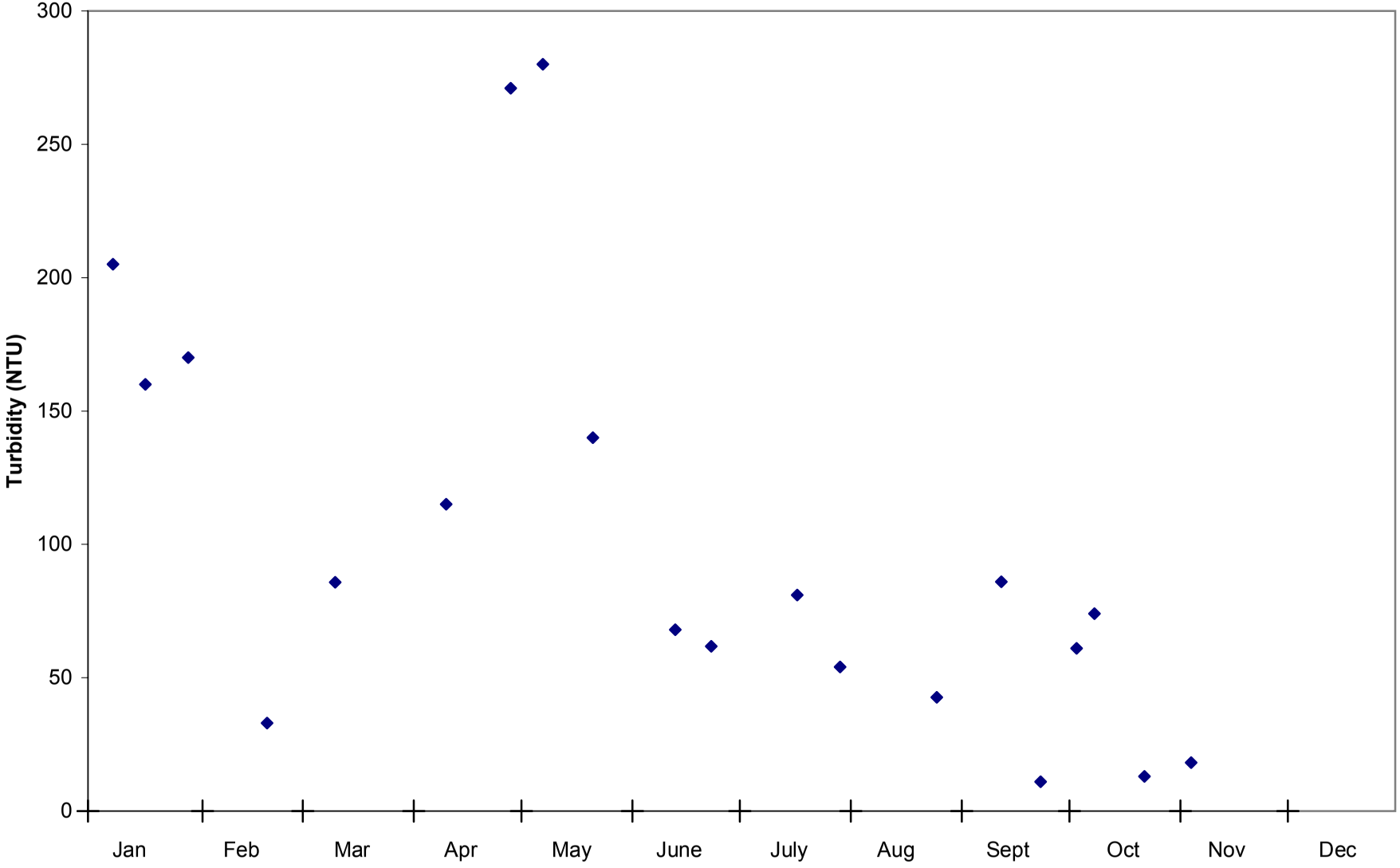


Figure C.5. Seasonal TSS for Village Creek at Hwy 224 (VGC0003)

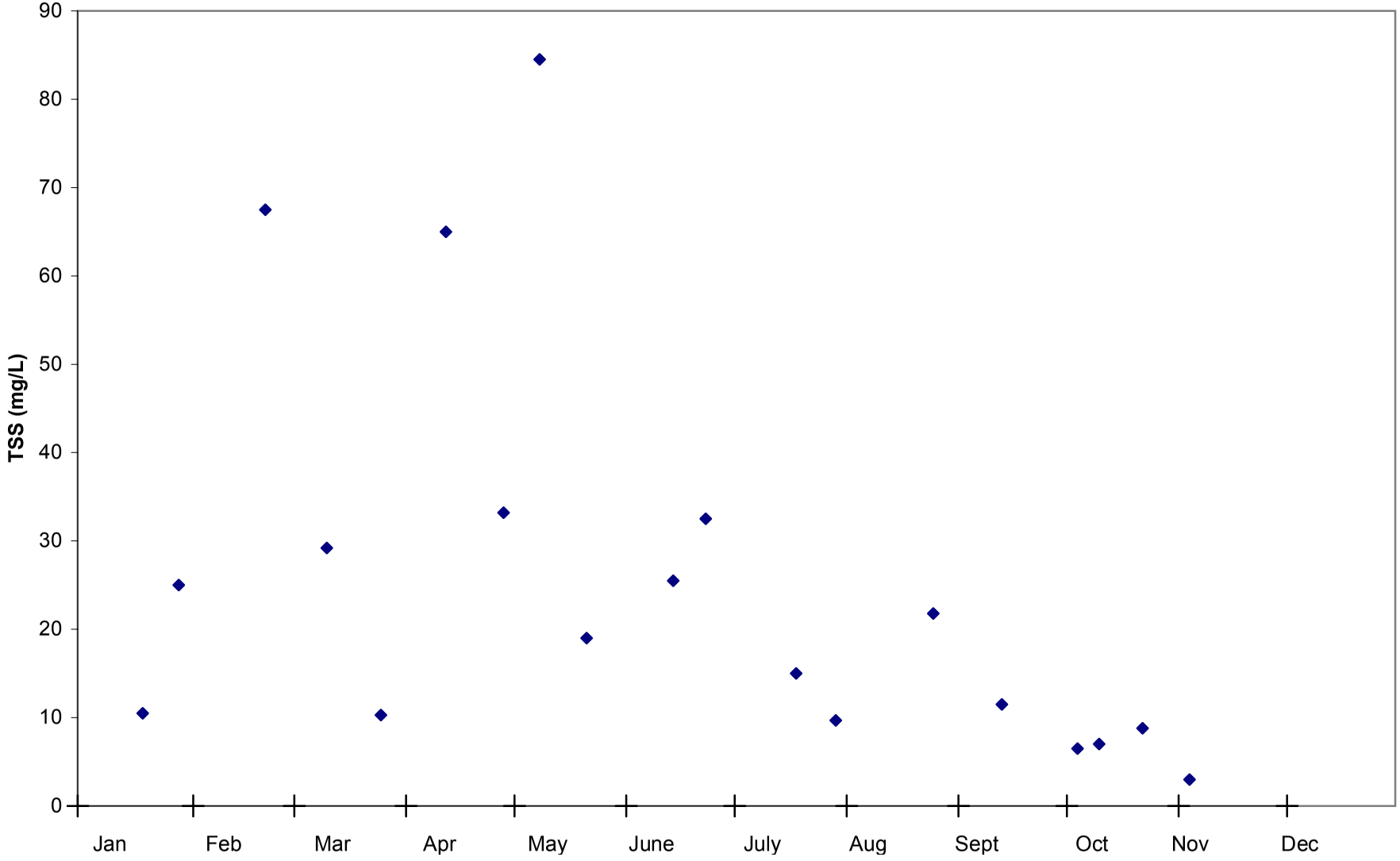
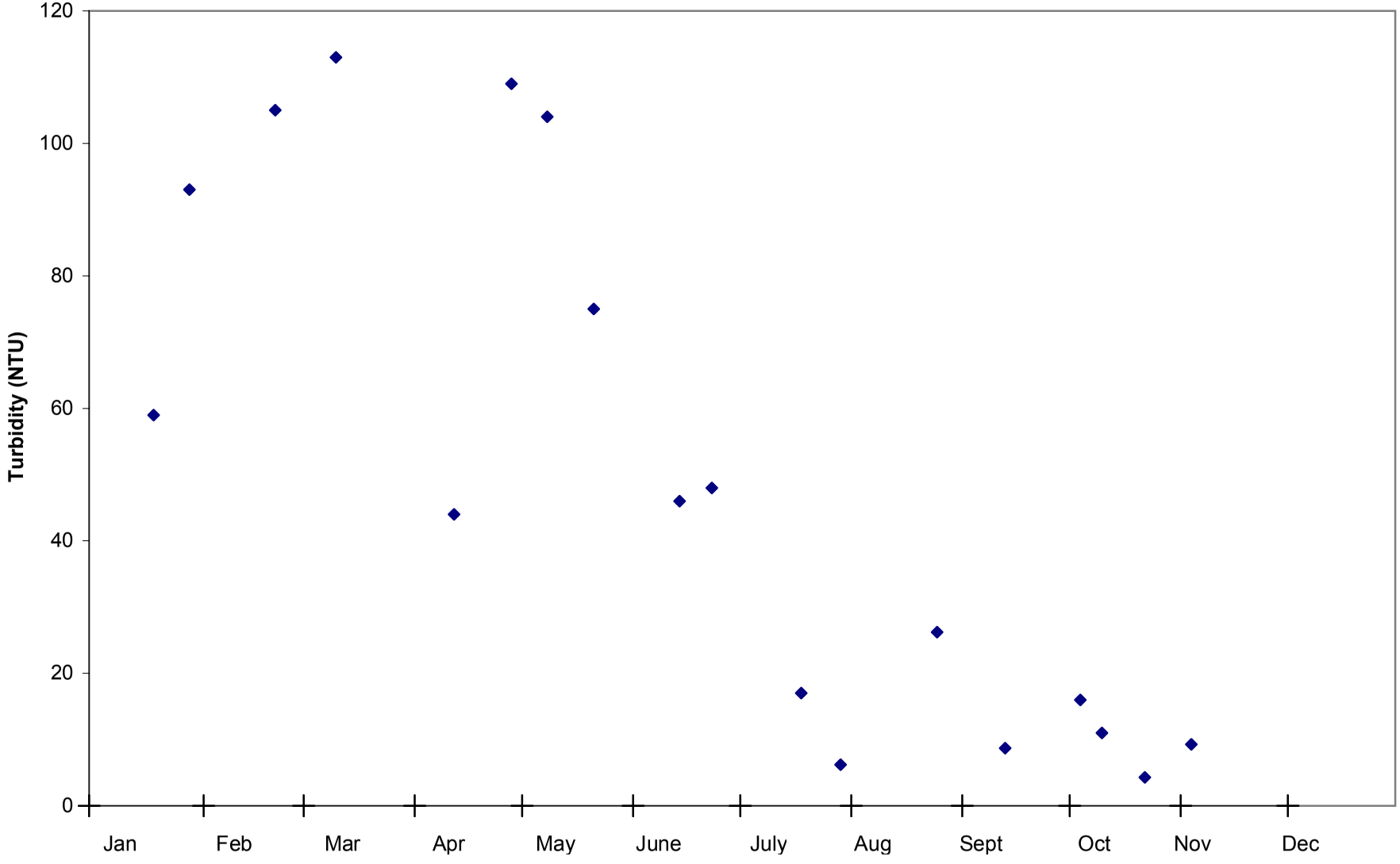


Figure C.6. Seasonal Turbidity for Village Creek at Hwy 224 (VGC0003)



APPENDIX D

Plots of Turbidity and TSS vs Flow

Figure D.1. Turbidity vs flow for Village Creek at Hwy 37 (VGC0001)

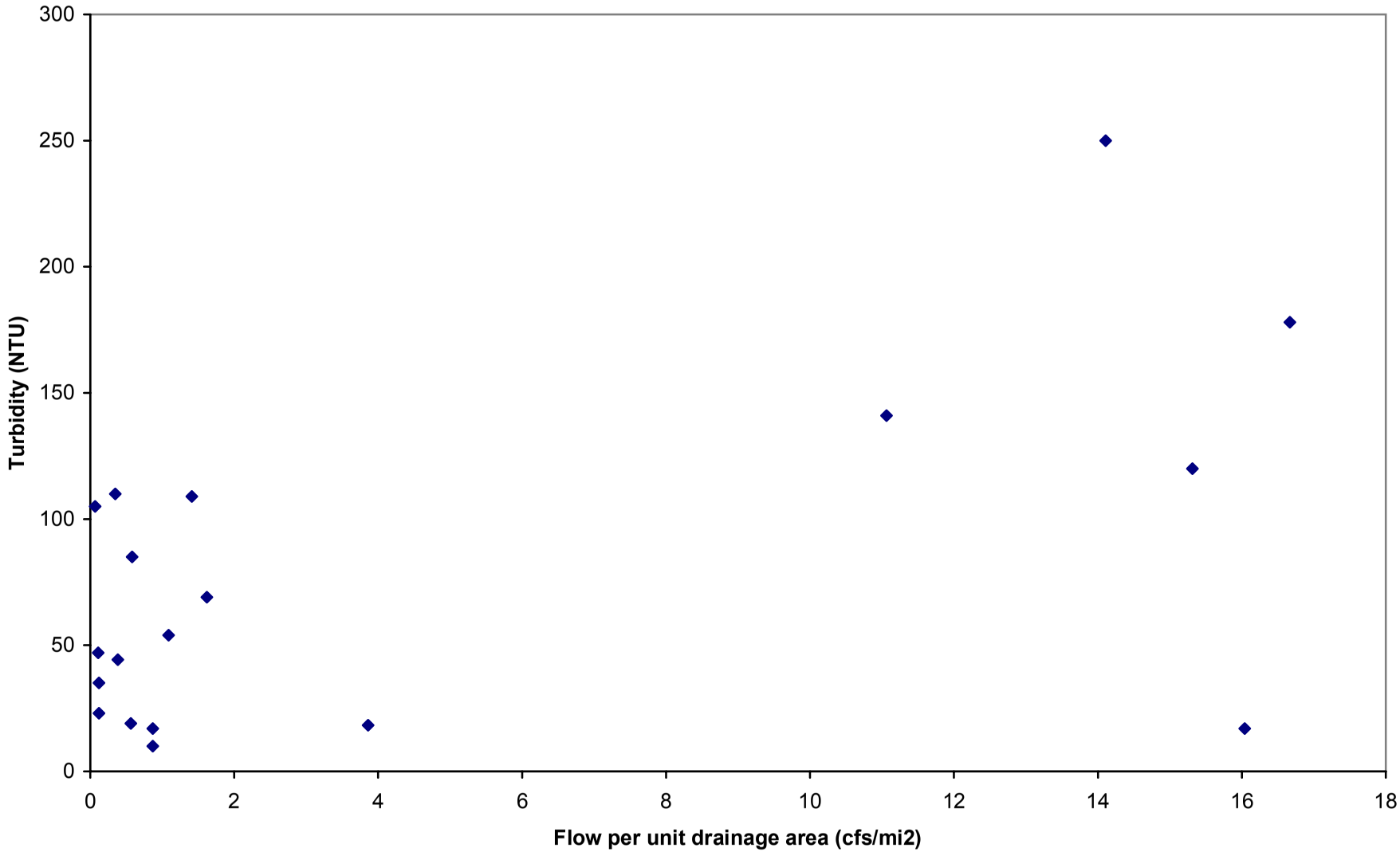


Figure D.2. TSS vs flow for Village Creek at Hwy 37 (VGC0001)

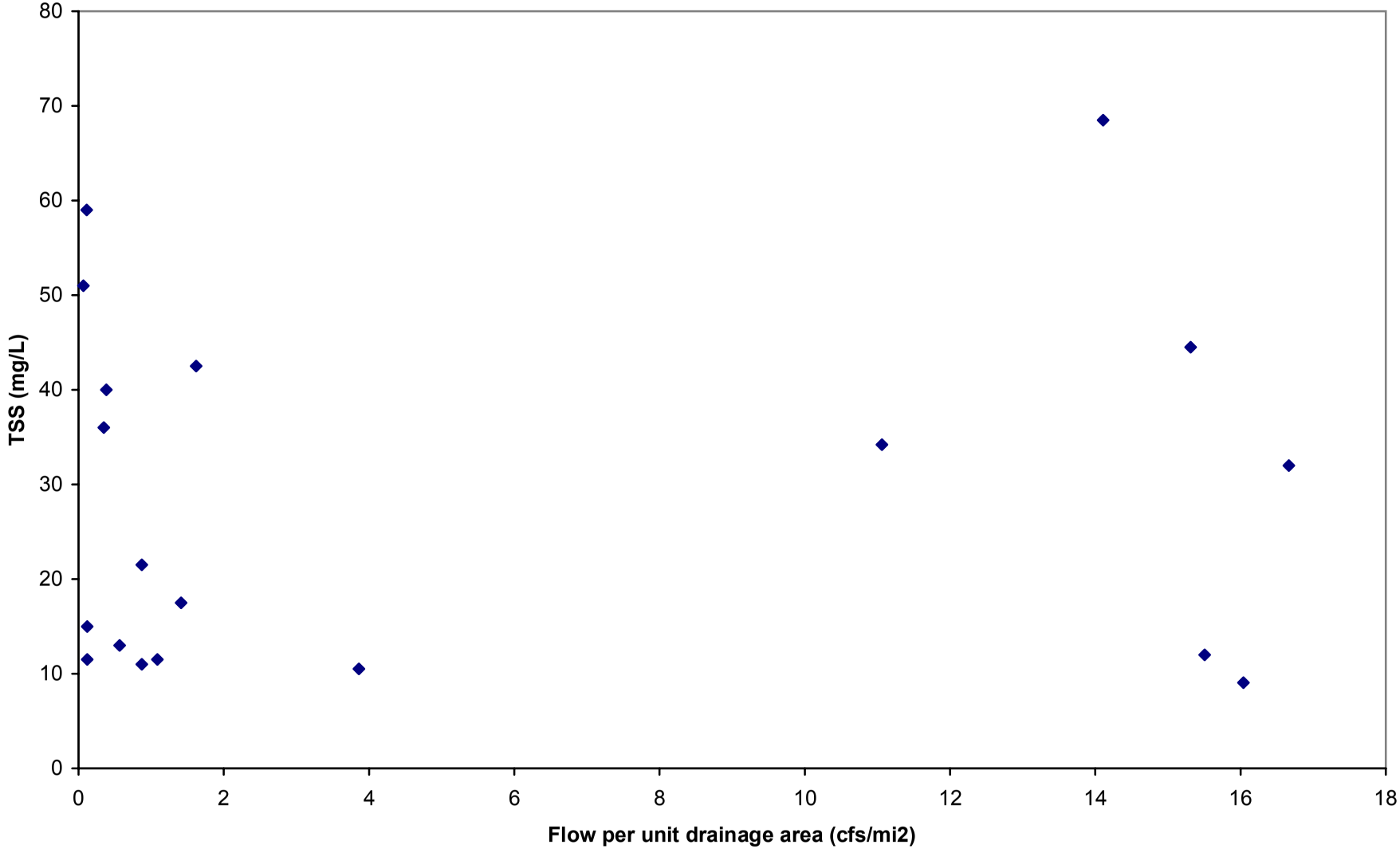


Figure D.3. TSS vs flow for VIllage Creek at Hwy 228 (VGC0002)

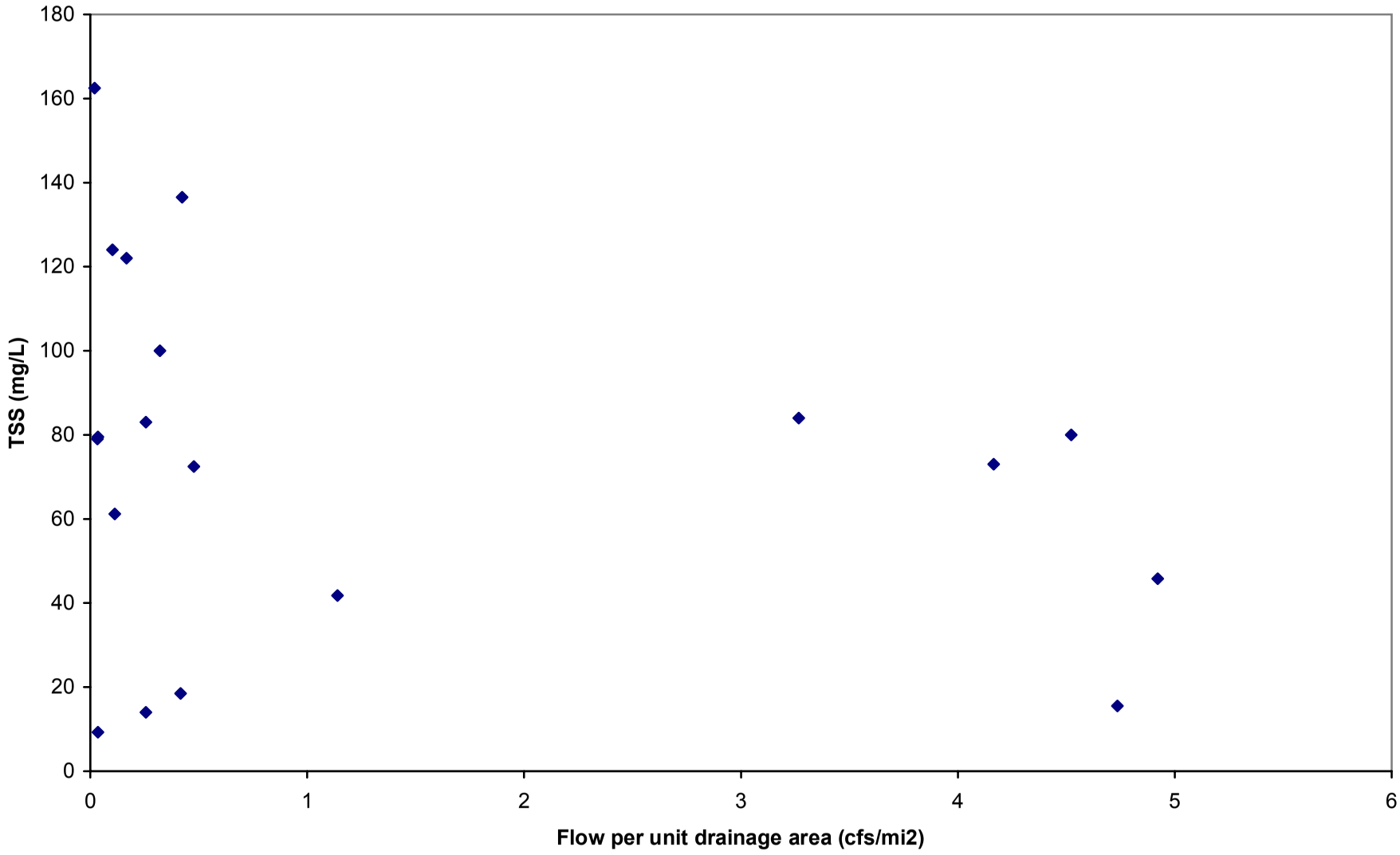


Figure D.4. Turbidity vs flow for VIllage Creek at Hwy 228 (VGC0002)

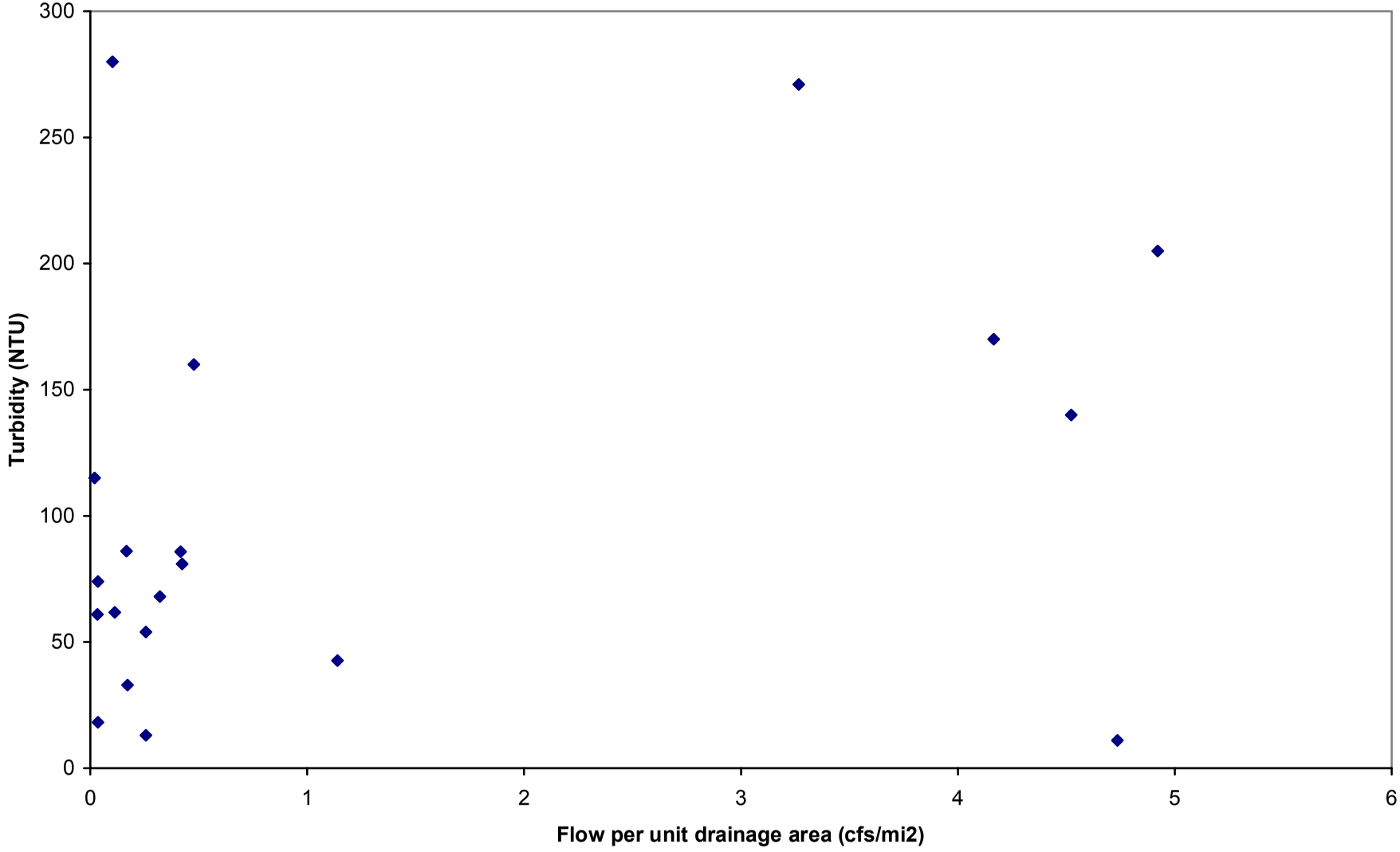


Figure D.5. Turbidity vs flow for Village Creek at Hwy 224 (VGC0003)

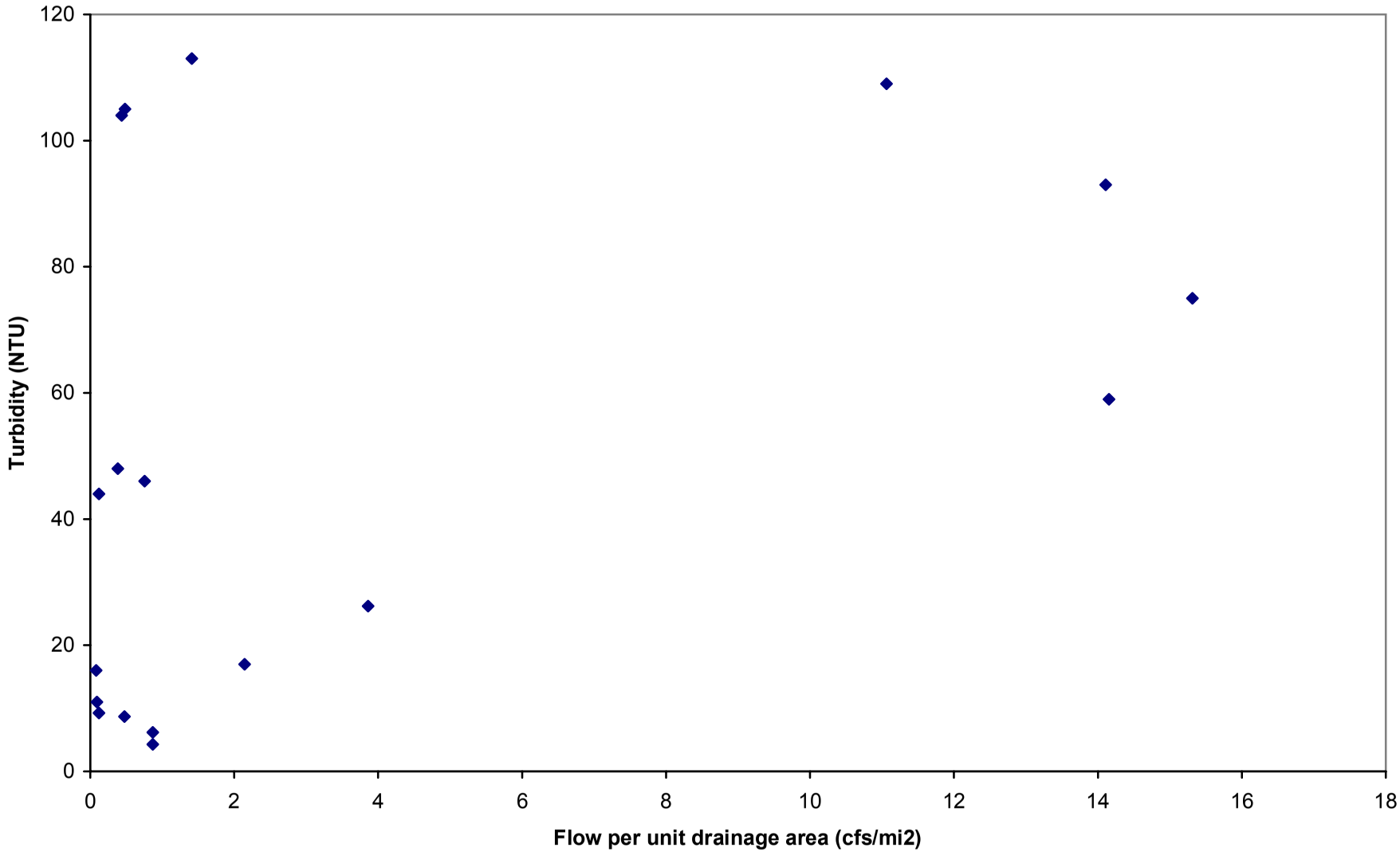
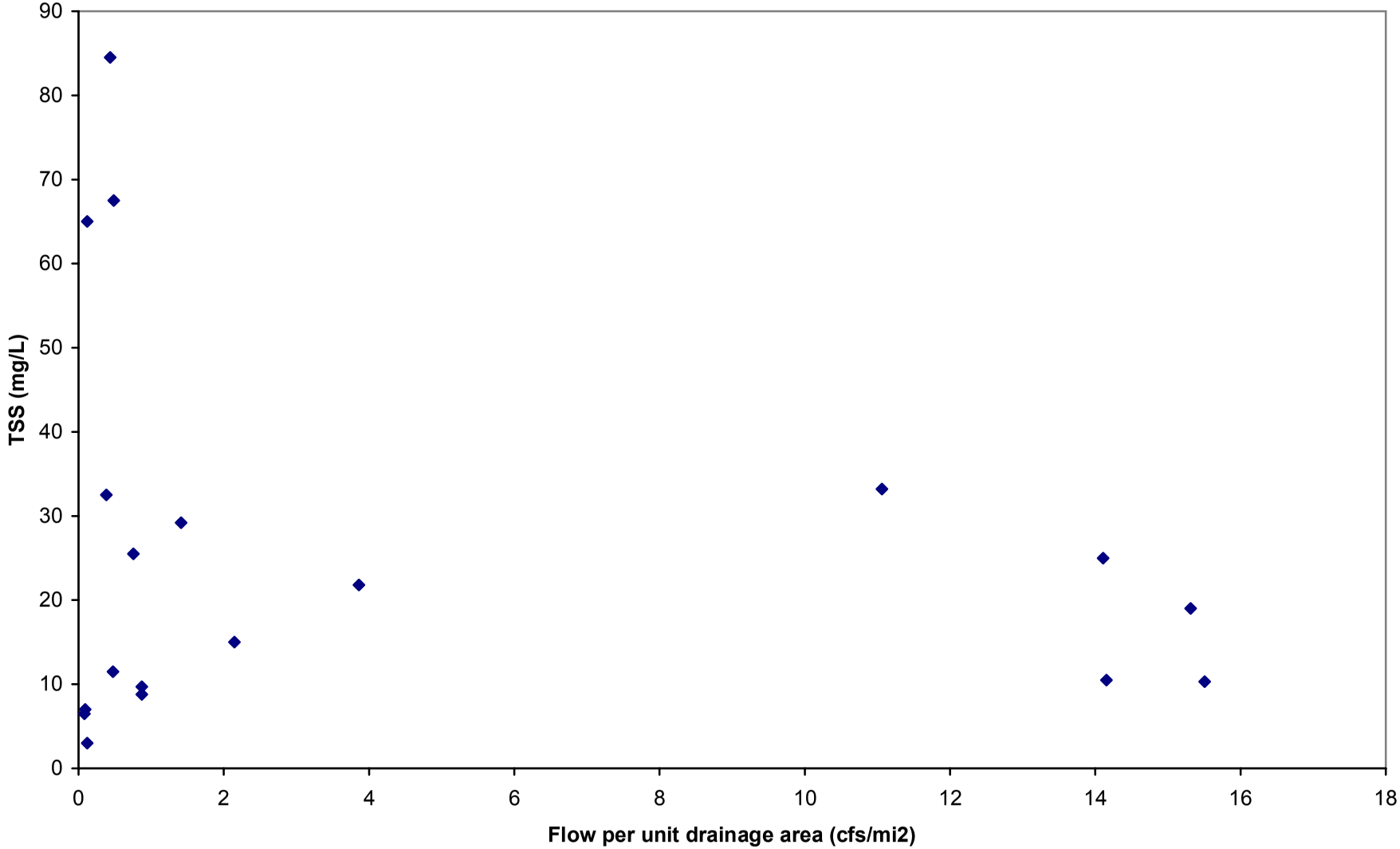


Figure D.6. TSS vs flow for Village Creek at Hwy 224 (VGC0003)



APPENDIX E

Plots of TSS vs Turbidity

Figure E.1. Base Flow regression for TSS vs Turbidity for Village Creek at Hwy 37 (VGC0001)

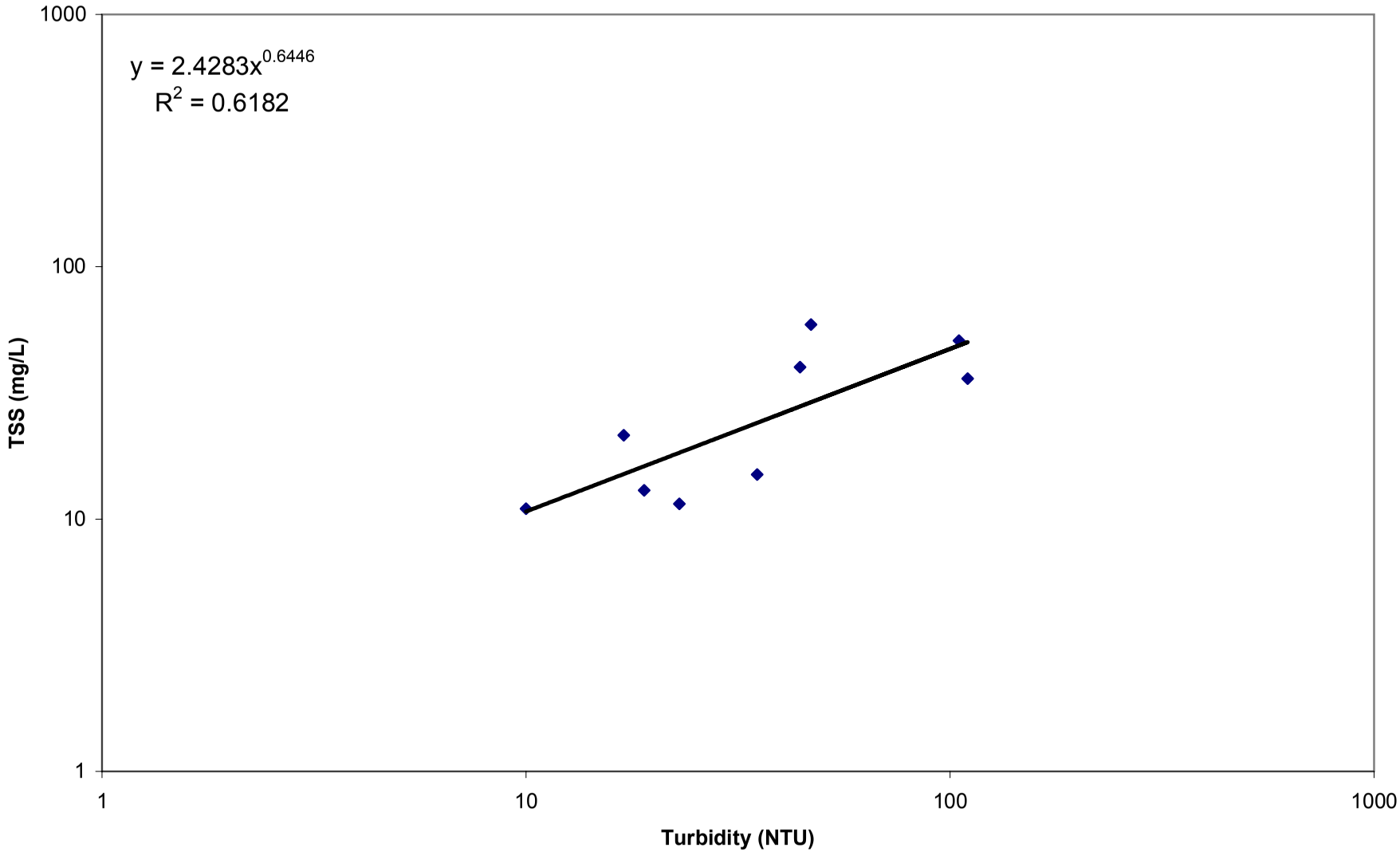


Figure E.2. Stormflow regression for TSS vs Turbidity for Village Creek at Hwy 37 (VGC0001)

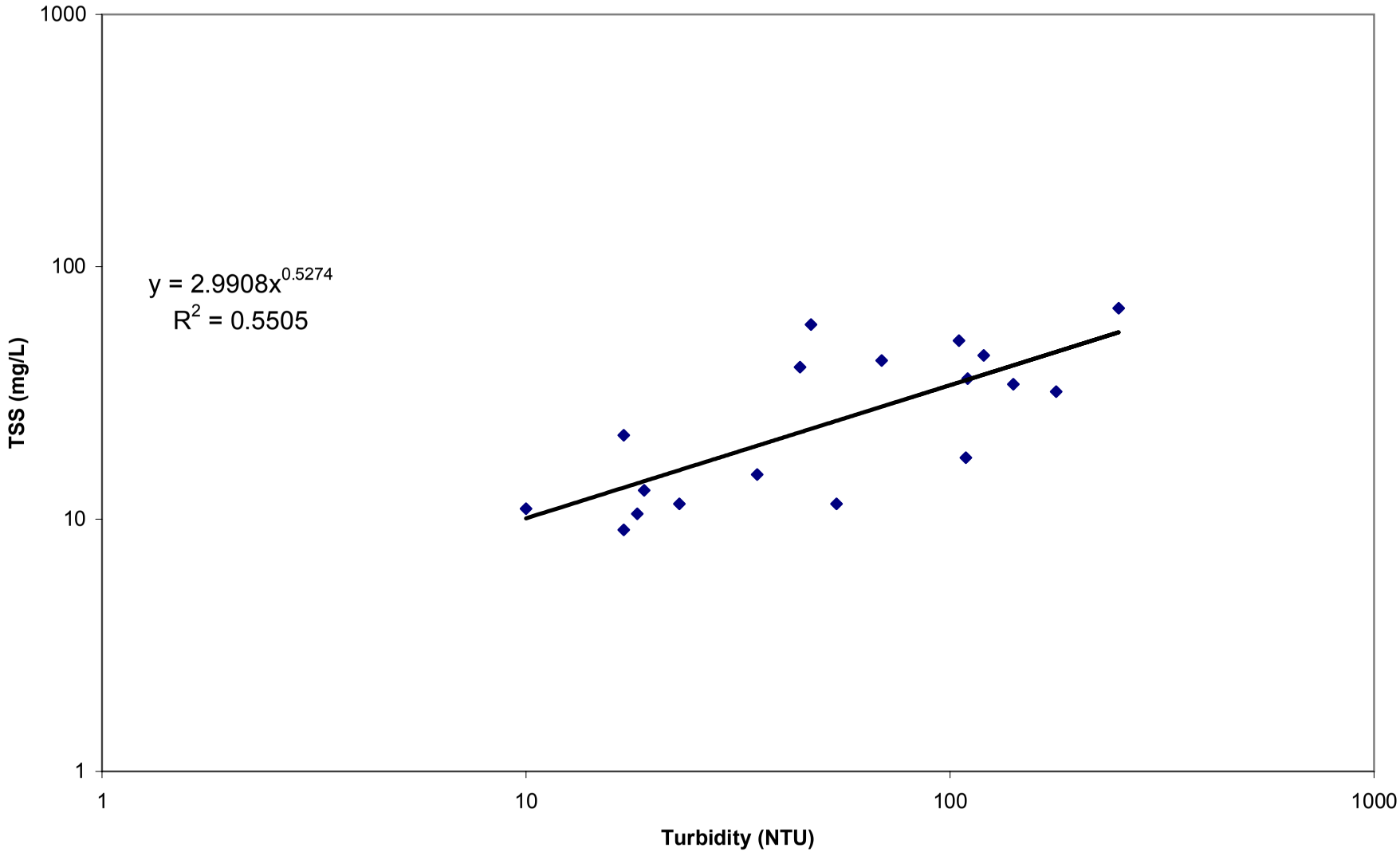


Figure E.3. Base Flow regression for TSS verse Turbidity for Village Creek at Hwy 228 (VGC0002)

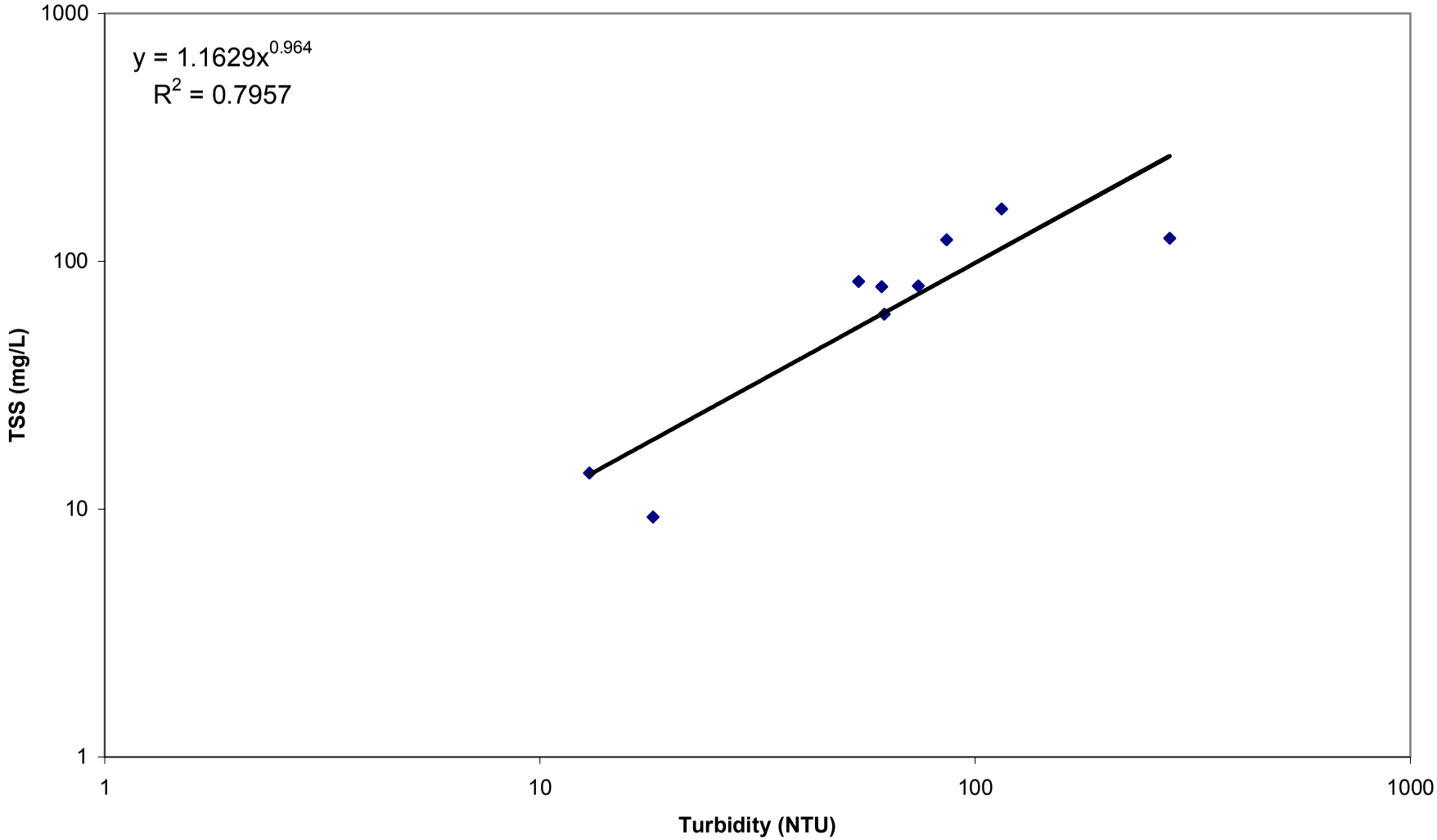


Figure E.4. Storm flow regression for TSS verse Turbidity for Village Creek at Hwy 228 (VGC0002)

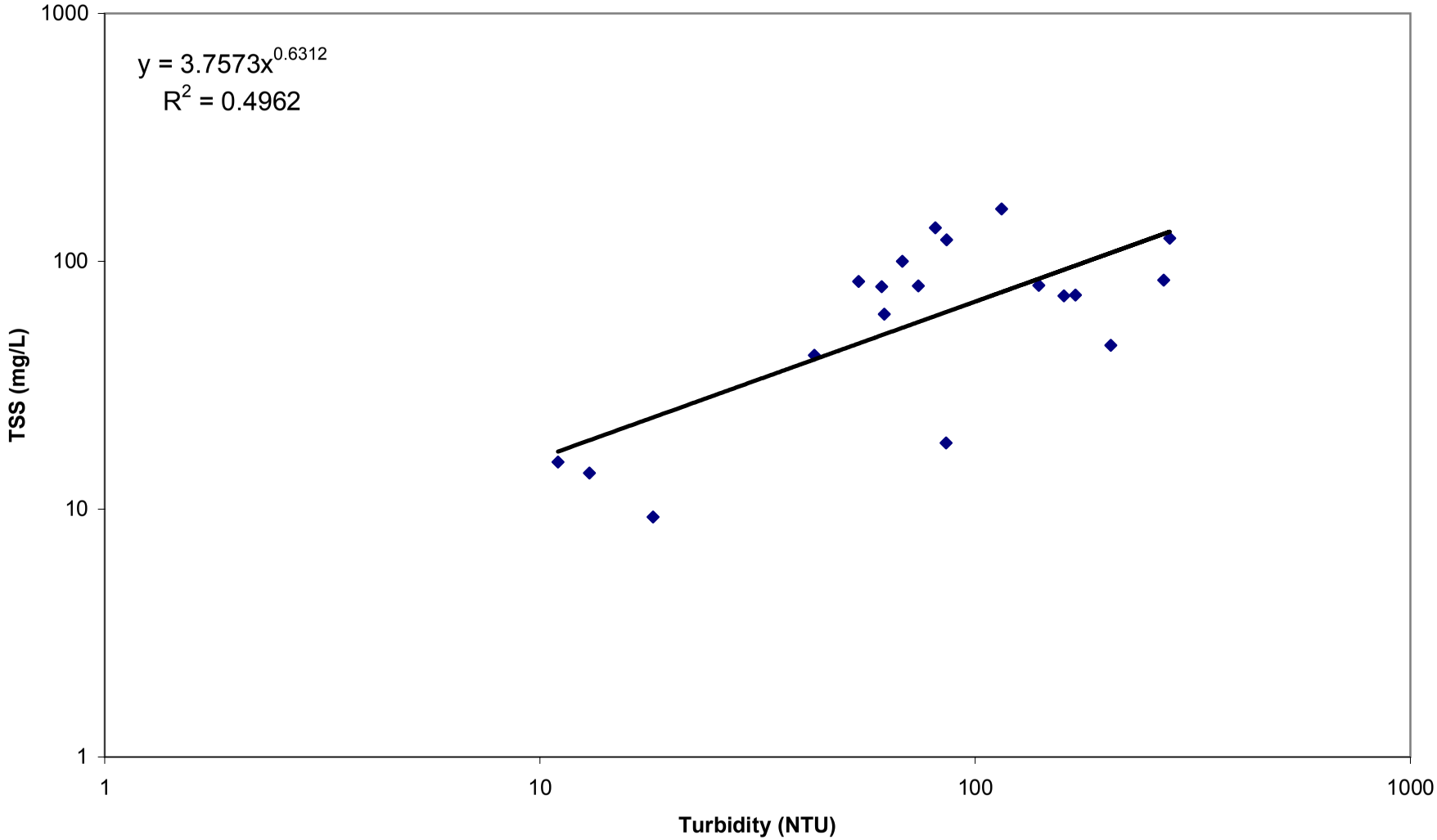


Figure E.5. Base flow regression Turbidity vs TSS for Village Creek at Hwy 224 (VCG0003)

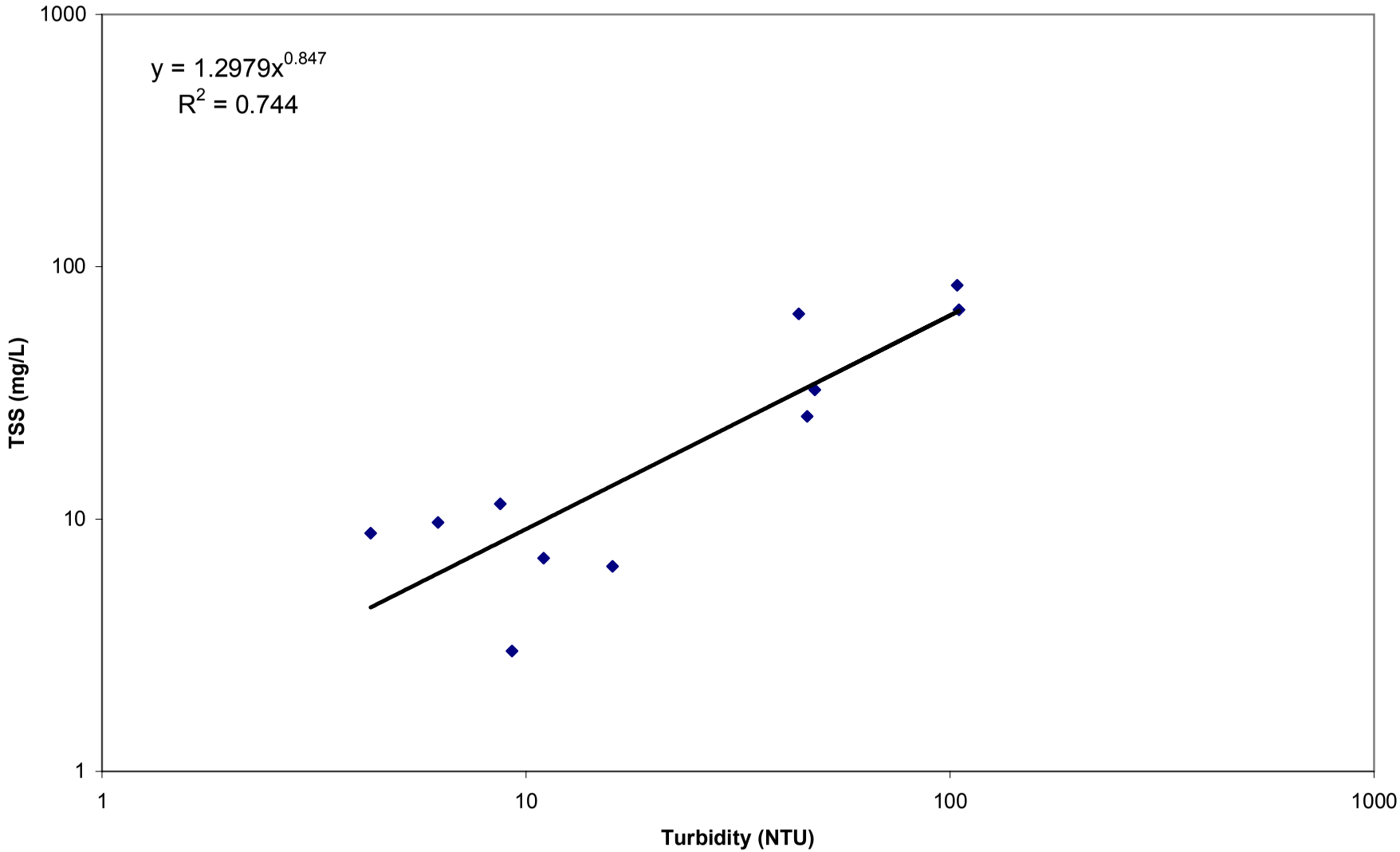
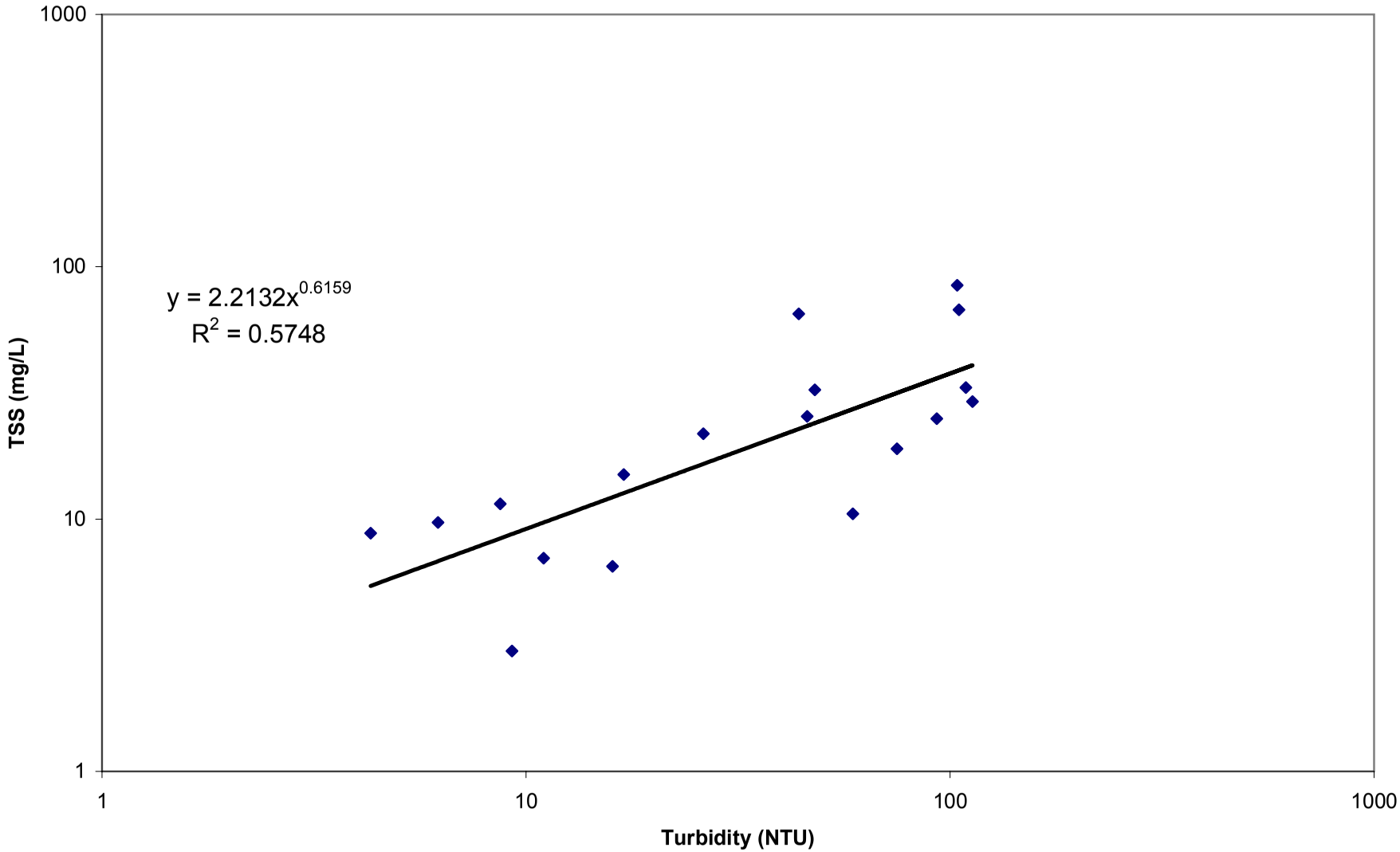


Figure E.6. Storm flow regession Turbidity vs TSS for Village Creek at Hwy 224 (VCG0003)



APPENDIX F

Load Duration Curves and TMDL Calculations

Figure F.1. Flow Duration Curve Cache River near Egypt (USGS 07077380)

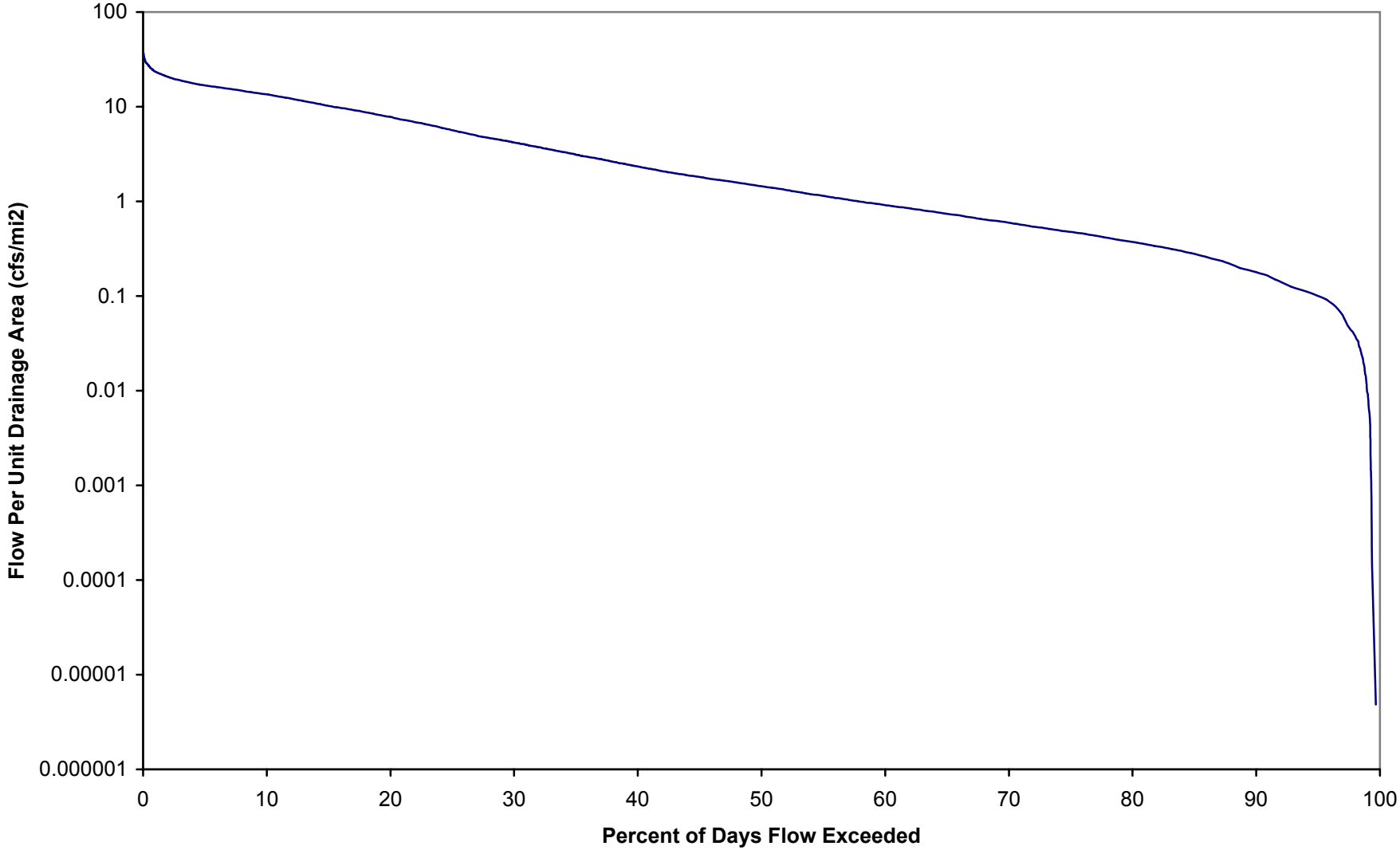


Figure F.2. Storm-flow Load Duration Curve for Village Creek (VGC0001)

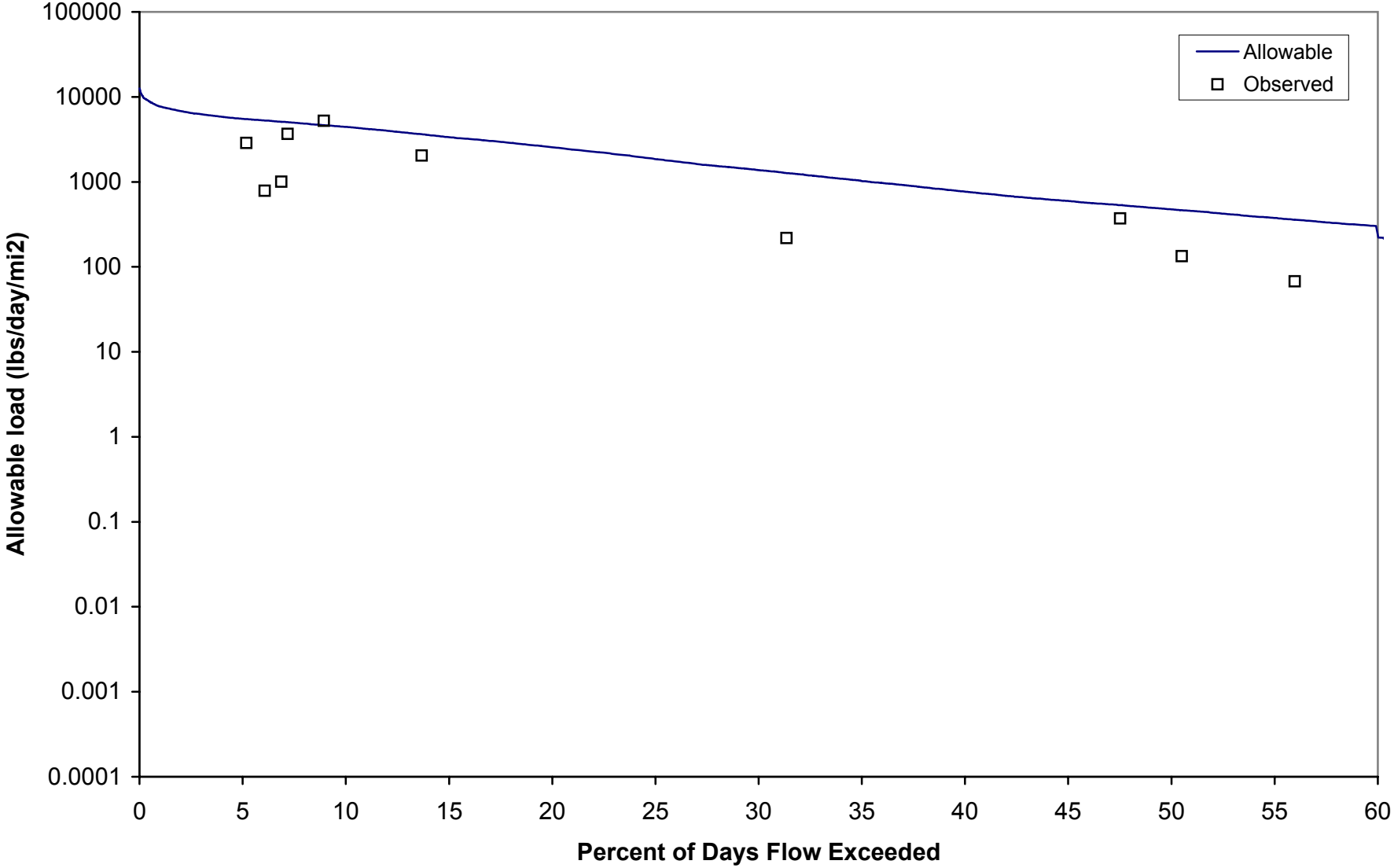


Figure F.3. Base Flow Load Duration Curve for Village Creek (VGC0001)

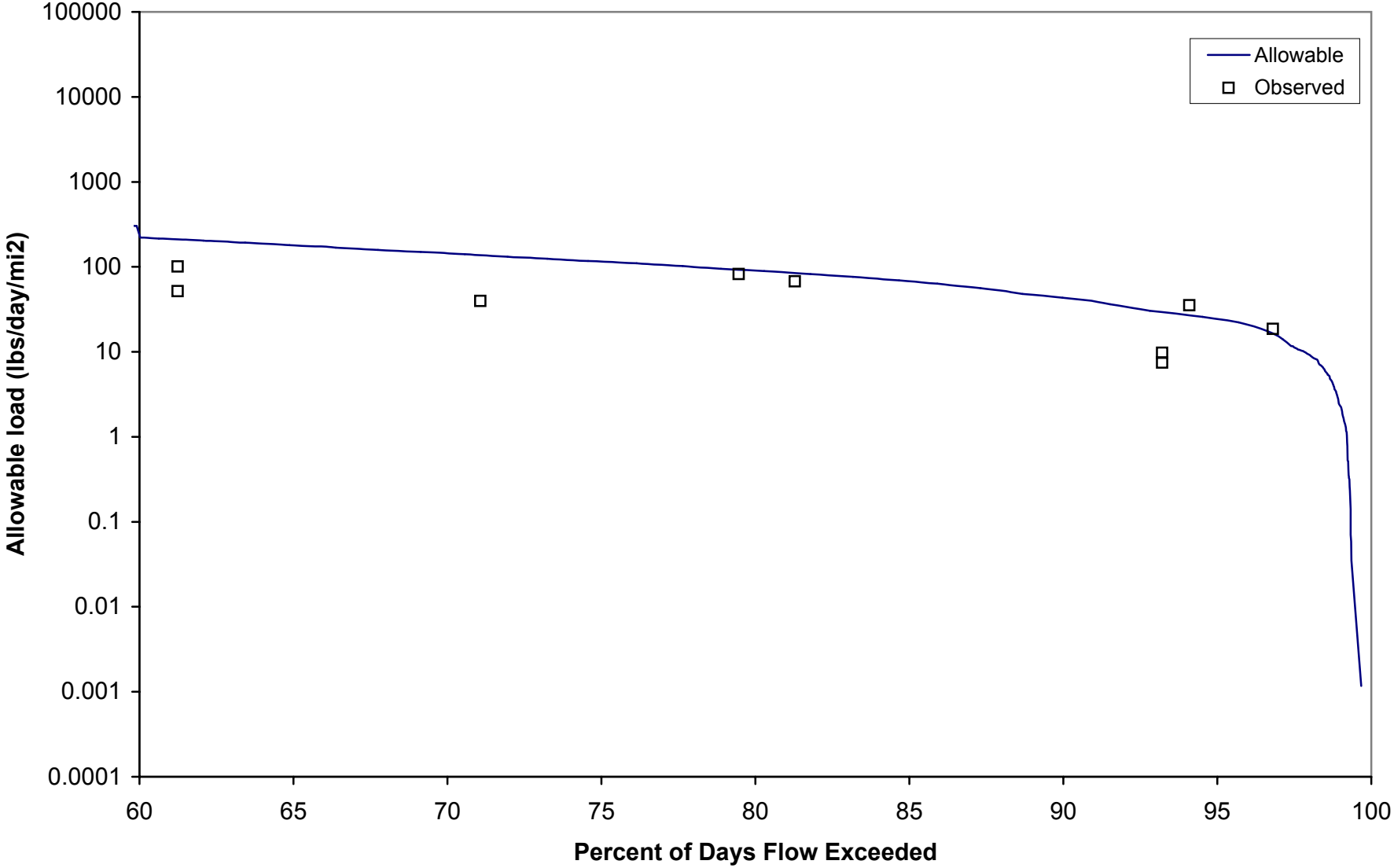


Figure F.4. Storm-Flow Load Duration Curve for Village Creek (VGC0002)

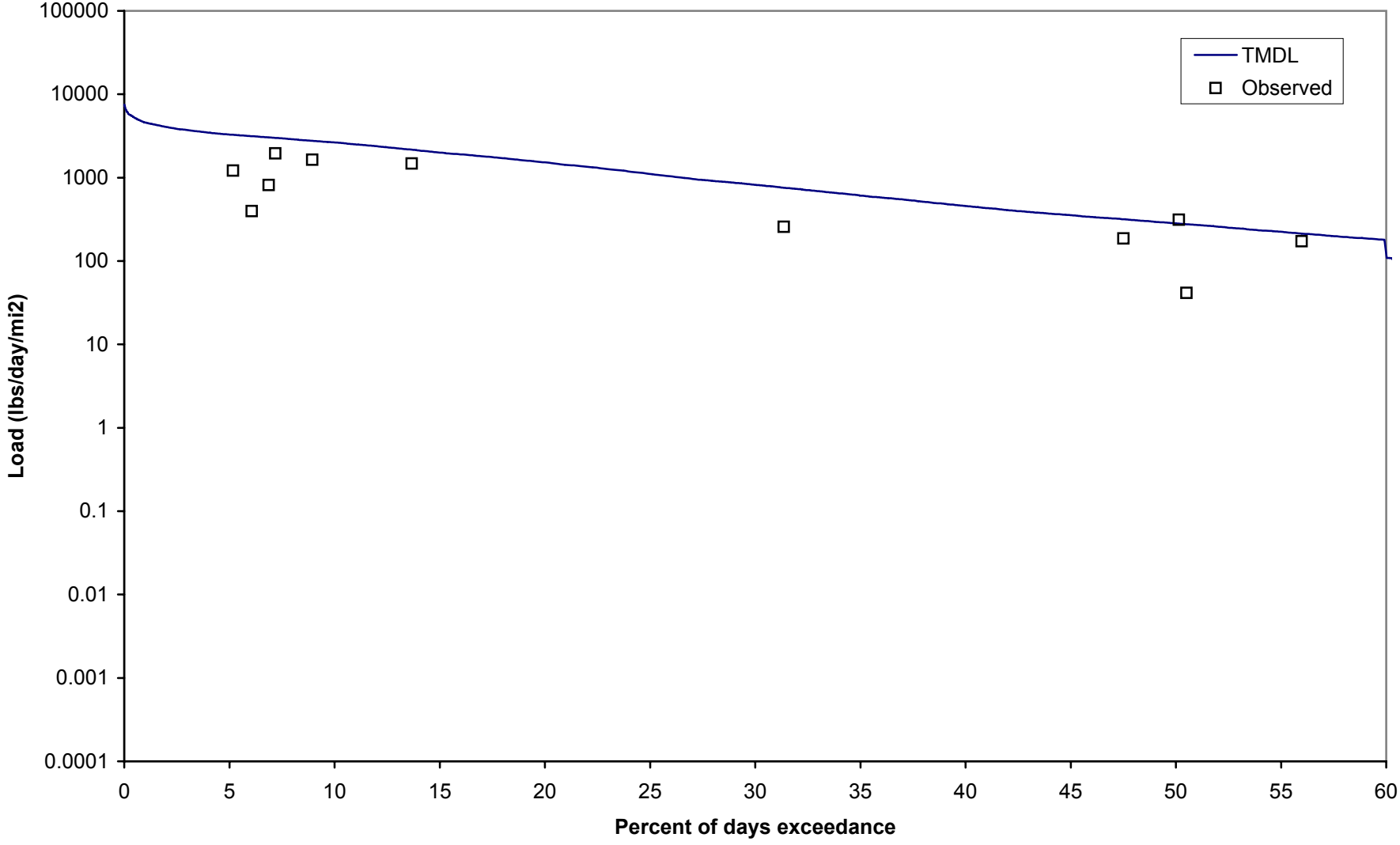


Figure F.5. Base Flow Load Duration Curve for Village Creek (VGC0002)

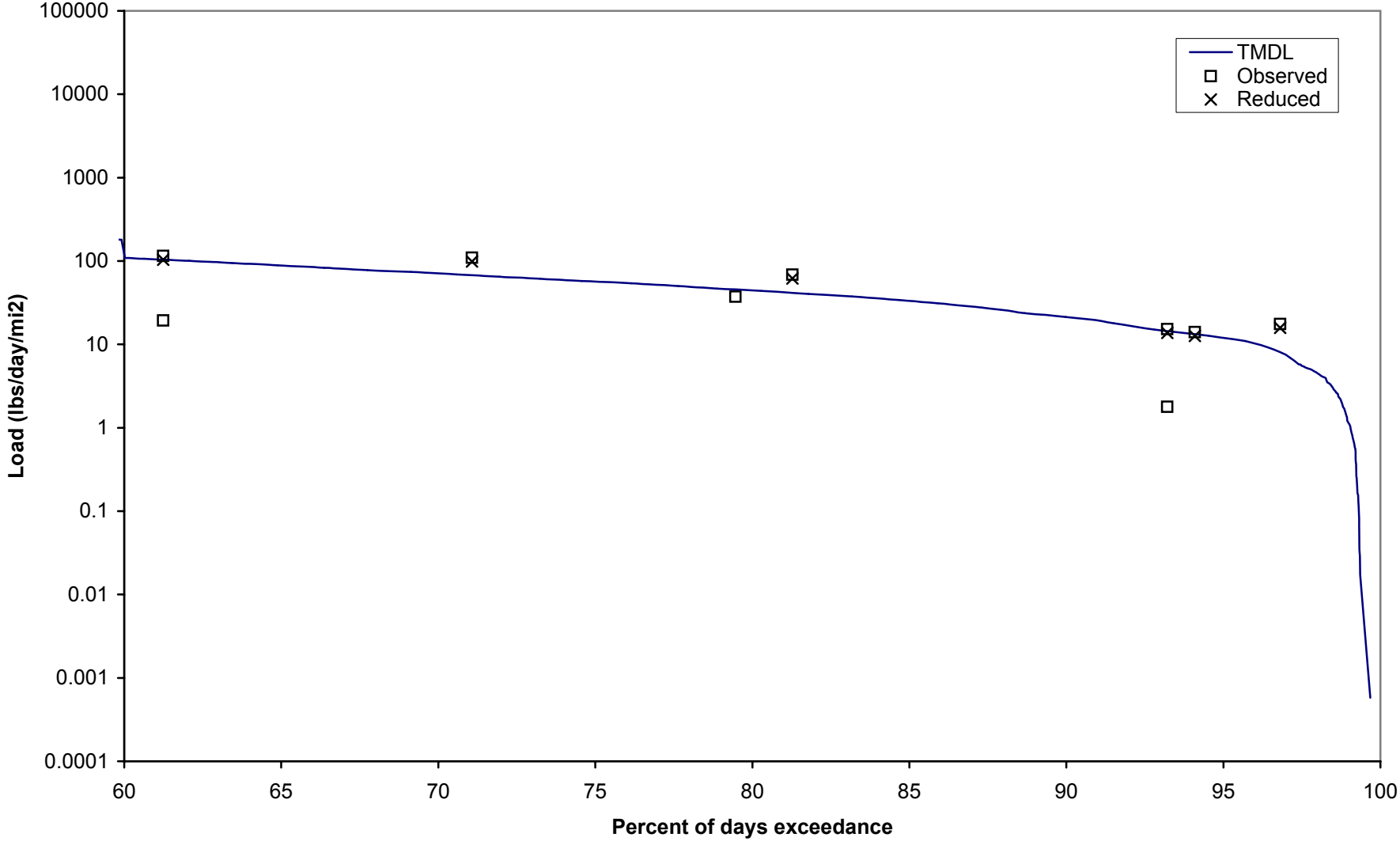


Figure F.6. Storm-Flow Load Duration Curve for Village Creek (VGC0003)

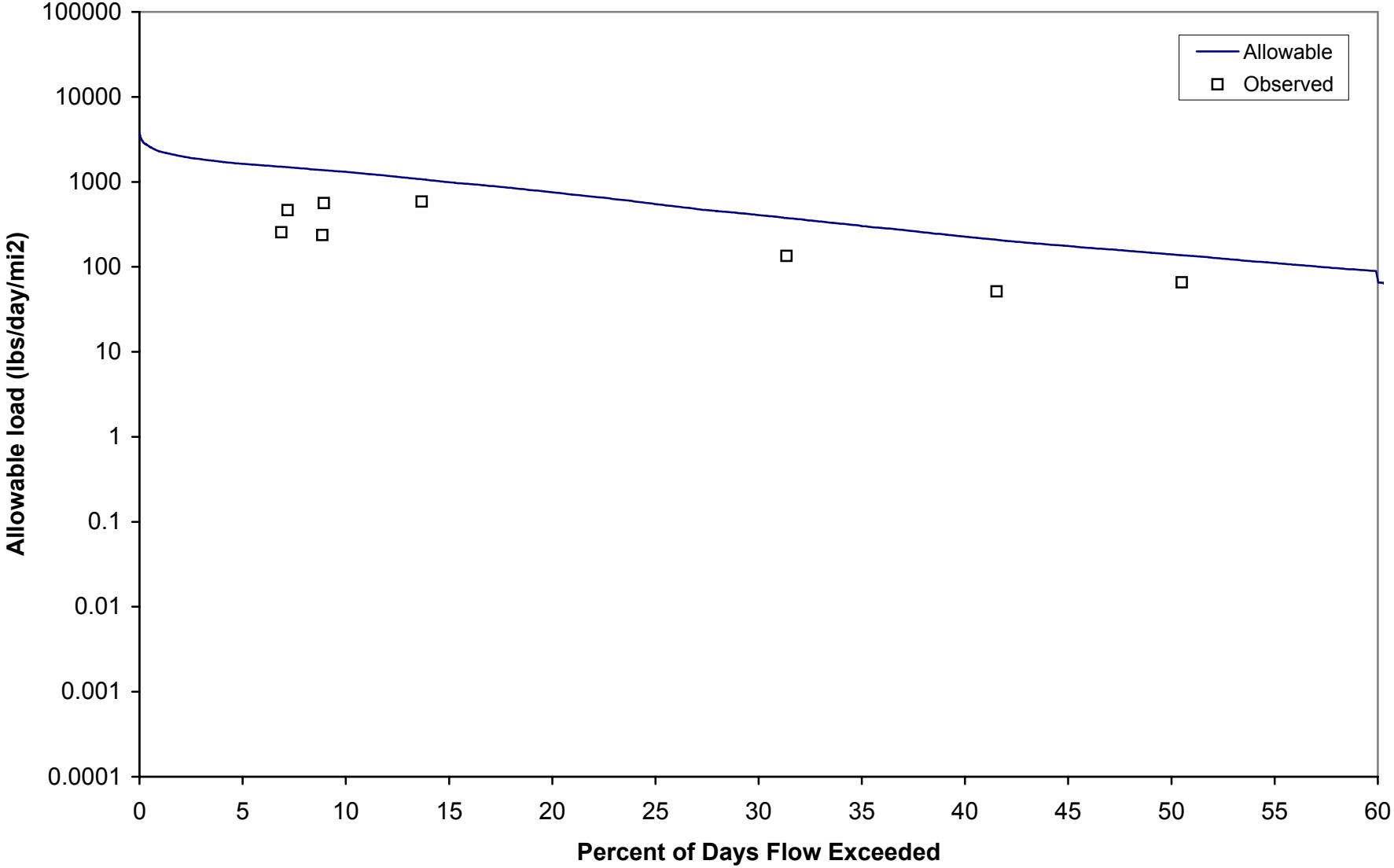


Figure F.7. Base Flow Load Duration Curve for Village Creek (VGC0003)

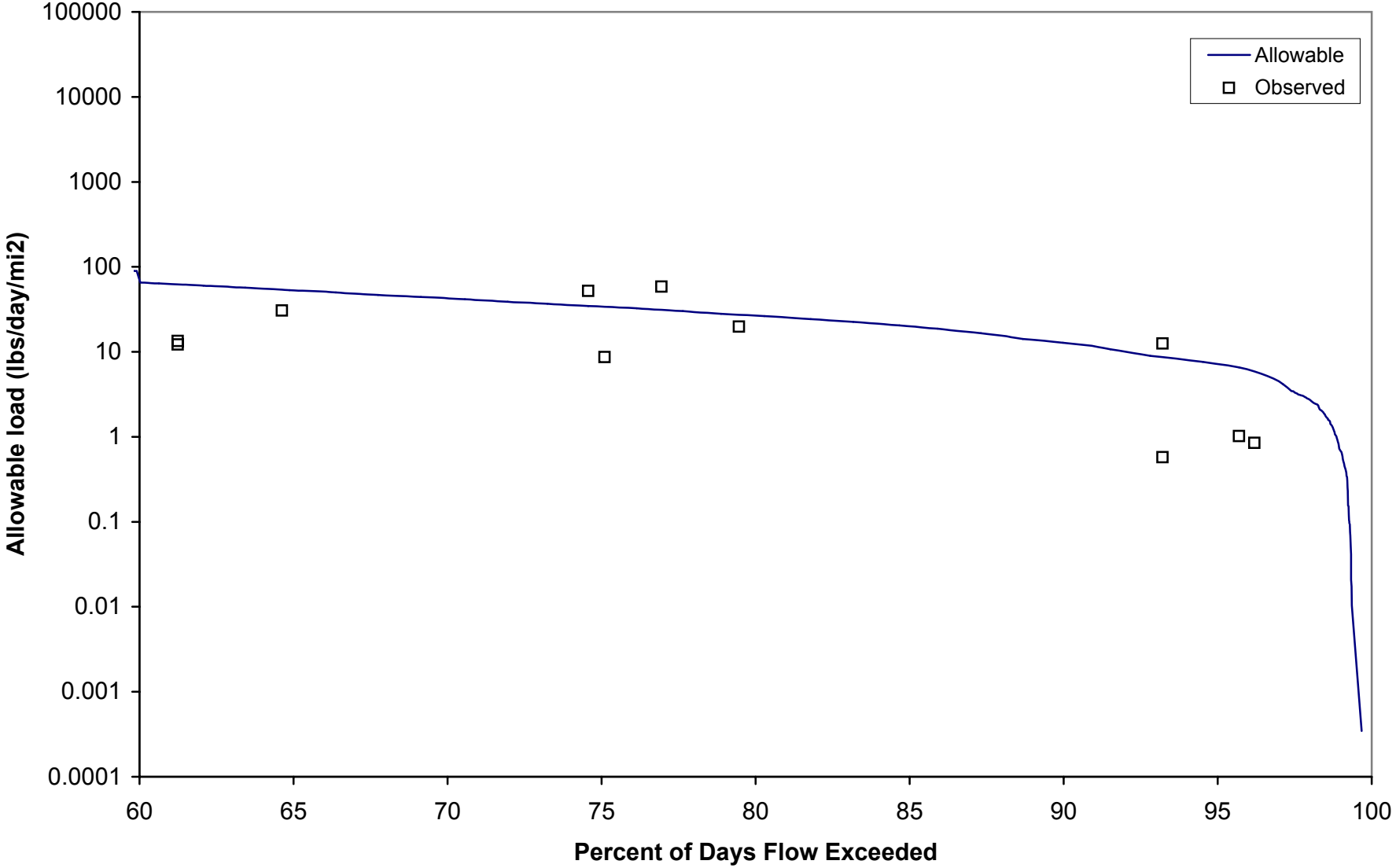


Table F.1. Calculations for allowable loads for Village Creek at VGC0001/VGC0003.
drainage area at USGS flow gage = 701 mi2, (Cache River at Egypt)

Date	Flow at gage (cfs)	Flow (cfs/mi2)	Percent of days flow exceeded	WQ Standard type	WQ Standard (NTU)	Target TSS (mg/L)	Allowable TSS load (lbs/day/mi2)
1982-11-06	0.001	1.43E-06	99.68%	Base flow	75	45	3.46E-04
1982-11-07	0.001	1.43E-06	99.68%	Base flow	75	45	3.46E-04
1982-11-08	0.001	1.43E-06	99.68%	Base flow	75	45	3.46E-04
The rows between 99.68 and 80.00 percent flow exceedances are not shown for the sake of brevity.							
1980-05-04	77	1.10E-01	80.00%	Base flow	75	45	2.67E+01
1980-05-30	77	1.10E-01	80.00%	Base flow	75	45	2.67E+01
1986-02-02	77	1.10E-01	80.00%	Base flow	75	45	2.67E+01
The rows between 80.00 and 60.03 percent flow exceedances are not shown for the sake of brevity.							
1995-11-04	189	2.70E-01	60.03%	Base flow	75	45	6.54E+01
1997-07-10	189	2.70E-01	60.03%	Base flow	75	45	6.54E+01
2003-03-13	189	2.70E-01	60.03%	Base flow	75	45	6.54E+01
1971-08-02	190	2.71E-01	59.91%	Storm-flow	250	61	8.92E+01
1974-09-19	190	2.71E-01	59.91%	Storm-flow	250	61	8.92E+01
1975-01-28	190	2.71E-01	59.91%	Storm-flow	250	61	8.92E+01
The rows between 59.91 and 30.00 percent flow exceedances are not shown for the sake of brevity.							
1975-01-09	866	1.24E+00	30.00%	Storm-flow	250	61	4.06E+02
1977-04-13	866	1.24E+00	30.00%	Storm-flow	250	61	4.06E+02
1982-05-10	866	1.24E+00	30.00%	Storm-flow	250	61	4.06E+02
The rows between 30.00 and 0.01 percent flow exceedances are not shown for the sake of brevity.							
1973-04-24	7700	1.10E+01	0.01%	Storm-flow	250	61	3.61E+03
1973-04-26	7910	1.13E+01	0.01%	Storm-flow	250	61	3.71E+03
1973-04-25	7940	1.13E+01	0.00%	Storm-flow	250	61	3.73E+03

Flow per unit area in middle of base flow range (80% exceedance) =	0.110	cfs/mi2
Cumulative drainage area at downstream end of reach 006 =	294	mi2
Flow at downstream end of reach 006 for base flow conditions =	32	cfs
Target TSS for base flow conditions for reach 006 =	45	mg/L
Allowable TSS load for base flow conditions for reach 006 =	3.88	tons/day
Flow per unit area in middle of stormwater range (30% exceedance) =	1.24	cfs/mi2
Cumulative drainage area at downstream end of reach 006 =	294	mi2
Flow at downstream end of reach 006 for stormwater conditions =	365	cfs
Target TSS for stormwater conditions for reach 006 =	61	mg/L
Allowable TSS load for stormwater conditions for reach 006 =	60.0	tons/day
Flow per unit area in middle of base flow range (80% exceedance) =	0.110	cfs/mi2
Cumulative drainage area at downstream end of reach 007 =	203	mi2
Flow at downstream end of reach 007 for base flow conditions =	22	cfs
Target TSS for base flow conditions for reach 007 =	45	mg/L
Allowable TSS load for base flow conditions for reach 007 =	2.67	tons/day
Flow per unit area in middle of stormwater range (30% exceedance) =	1.24	cfs/mi2
Cumulative drainage area at downstream end of reach 007 =	203	mi2

Flow at downstream end of reach 007 for stormwater conditions =	252	cfs
Target TSS for stormwater conditions for reach 007 =	61	mg/L
Allowable TSS load for stormwater conditions for reach 007 =	41.4	tons/day
Flow per unit area in middle of base flow range (80% exceedance) =	0.110	cfs/mi2
Cumulative drainage area at downstream end of reach 008 =	180	mi2
Flow at downstream end of reach 008 for base flow conditions =	20	cfs
Target TSS for base flow conditions for reach 008 =	45	mg/L
Allowable TSS load for base flow conditions for reach 008 =	2.43	tons/day
Flow per unit area in middle of stormwater range (30% exceedance) =	1.24	cfs/mi2
Cumulative drainage area at downstream end of reach 008 =	180	mi2
Flow at downstream end of reach 008 for stormwater conditions =	223	cfs
Target TSS for stormwater conditions for reach 008 =	61	mg/L
Allowable TSS load for stormwater conditions for reach 008 =	36.7	tons/day

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Table F.2. Calculations for allowable loads for Village Creek at VGC0002.
drainage area at USGS flow gage = 701 mi2, (Cache River at Egypt)

Date	Flow at gage (cfs)	Flow (cfs/mi2)	Percent of days flow exceeded	WQ Standard type	WQ Standard (NTU)	WQ Target TSS (mg/L)	Allowable TSS load (lbs/day/mi2)
1982-11-06	0.001	1.43E-06	99.68%	Base flow	75	75	5.77E-04
1982-11-07	0.001	1.43E-06	99.68%	Base flow	75	75	5.77E-04
1982-11-08	0.001	1.43E-06	99.68%	Base flow	75	75	5.77E-04
The rows between 99.68 and 80.00 percent flow exceedances are not shown for the sake of brevity.							
1998-09-12	77	1.10E-01	80.00%	Base flow	75	75	4.44E+01
2000-12-29	77	1.10E-01	80.00%	Base flow	75	75	4.44E+01
2001-03-25	77	1.10E-01	80.00%	Base flow	75	75	4.44E+01
The rows between 80.00 and 60.03 percent flow exceedances are not shown for the sake of brevity.							
1995-11-04	189	2.70E-01	60.03%	Base flow	75	75	1.09E+02
1997-07-10	189	2.70E-01	60.03%	Base flow	75	75	1.09E+02
2003-03-13	189	2.70E-01	60.03%	Base flow	75	75	1.09E+02
1971-08-02	190	2.71E-01	59.91%	Storm-flow	250	123	1.80E+02
1974-09-19	190	2.71E-01	59.91%	Storm-flow	250	123	1.80E+02
1975-01-28	190	2.71E-01	59.91%	Storm-flow	250	123	1.80E+02
The rows between 59.91 and 30.00 percent flow exceedances are not shown for the sake of brevity.							
1977-04-13	866	1.24E+00	30.00%	Storm-flow	250	123	8.19E+02
1982-05-10	866	1.24E+00	30.00%	Storm-flow	250	123	8.19E+02
1985-12-08	866	1.24E+00	30.00%	Storm-flow	250	123	8.19E+02
The rows between 30.00 and 0.01 percent flow exceedances are not shown for the sake of brevity.							
1973-04-24	7700	1.10E+01	0.01%	Storm-flow	250	123	7.29E+03
1973-04-26	7910	1.13E+01	0.01%	Storm-flow	250	123	7.48E+03
1973-04-25	7940	1.13E+01	0.00%	Storm-flow	250	123	7.51E+03

Flow per unit area in middle of base flow range (80% exceedance) =	0.110	cfs/mi2
Cumulative drainage area at downstream end of reach 012 =	140	mi2
Flow at downstream end of reach 012 for base flow conditions =	15	cfs
Target TSS for base flow conditions for reach 012 =	75	mg/L
Allowable TSS load for base flow conditions for reach 012 =	3.03	tons/day
Flow per unit area in middle of stormwater range (30% exceedance) =	1.24	cfs/mi2
Cumulative drainage area at downstream end of reach 012 =	140	mi2
Flow at downstream end of reach 012 for stormwater conditions =	174	cfs
Target TSS for stormwater conditions for reach 012 =	123	mg/L
Allowable TSS load for stormwater conditions for reach 012 =	57.7	tons/day
Flow per unit area in middle of base flow range (80% exceedance) =	0.110	cfs/mi2
Cumulative drainage area at downstream end of reach 014 =	78	mi2
Flow at downstream end of reach 014 for base flow conditions =	9	cfs
Target TSS for base flow conditions for reach 014 =	75	mg/L

Allowable TSS load for base flow conditions for reach 014 =	1.82	tons/day
Flow per unit area in middle of stormwater range (30% exceedance) =	1.24	cfs/mi2
Cumulative drainage area at downstream end of reach 014 =	78	mi2
Flow at downstream end of reach 014 for stormwater conditions =	97	cfs
Target TSS for stormwater conditions for reach 014 =	123	mg/L
Allowable TSS load for stormwater conditions for reach 014 =	32.2	tons/day

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TABLE F.3. CALCULATIONS FOR PERCENT REDUCTION FOR STORM-FLOW CONDITIONS
FOR VILLAGE CREEK (STATION VGC0001)

Storm-flow target TSS conc. = 61 mg/L
Percent reduction needed = 0%

Error check for reduction is / is not needed: ok
Error check for less or more reduction needed: ok

Category	Date	Observed TSS at VGC0001 (mg/L)	Flow per unit area on sampling day (cfs/mi2)	Percent exceedance for flow on sampling day	Current TSS load (lbs/day)/mi2	Reduced TSS load (lbs/day)/mi2	Allowable TSS load (lbs/day)/mi2	Reduced load less than or equal to allow. load?
Storm-flow	6/13/1994	11.5	3.21E-01	55.98%	19.9	19.9	105.6	Yes
Storm-flow	3/10/2003	17.5	4.17E-01	50.51%	39.3	39.3	137.0	Yes
Storm-flow	1/16/1995	42.5	4.78E-01	47.51%	109.5	109.5	157.2	Yes
Storm-flow	8/25/2003	10.5	1.14E+00	31.36%	64.5	64.5	375.0	Yes
Storm-flow	4/28/2003	34.2	3.27E+00	13.67%	602.5	602.5	1074.7	Yes
Storm-flow	1/28/2002	68.5	4.17E+00	8.94%	1538.8	1538.8	1370.3	No
Storm-flow	5/21/2002	44.5	4.52E+00	7.18%	1085.2	1085.2	1487.6	Yes
Storm-flow	3/25/2002	12	4.58E+00	6.88%	296.3	296.3	1506.4	Yes
Storm-flow	9/23/2002	9.1	4.74E+00	6.07%	231.7	231.7	1558.0	Yes
Storm-flow	1/7/2003	32	4.92E+00	5.18%	849.3	849.3	1619.0	Yes

Total number of values = 10
Allowable % of exceedances = 20%
Allowable no. of exceedances = 2
No. of exceedances before reductions = 1
No. of exceedances after reductions = 1

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TABLE F.4. CALCULATIONS FOR PERCENT REDUCTION FOR BASE FLOW CONDITIONS
FOR VILLAGE CREEK (STATION VGC0001)

Base flow target TSS conc. = 45 mg/L
Percent reduction needed = 0%

Error check for reduction is / is not needed: ok
Error check for less or more reduction needed: ok

Category	Date	Observed TSS at VGC0001 (mg/L)	Flow per unit area on sampling day (cfs/mi2)	Percent exceedance for flow on sampling day	Current TSS load (lbs/day)/mi2	Reduced TSS load (lbs/day)/mi2	Allowable TSS load (lbs/day)/mi2	Reduced load less than or equal to allow. load?
Base flow	4/10/1995	51	2.00E-02	96.81%	5.5	5.5	4.8	No
Base flow	10/3/1995	59	3.28E-02	94.10%	10.4	10.4	8.0	No
Base flow	10/7/1996	11.5	3.57E-02	93.21%	2.2	2.2	8.7	Yes
Base flow	11/4/2002	15	3.57E-02	93.21%	2.9	2.9	8.7	Yes
Base flow	5/6/1996	36	1.03E-01	81.28%	19.9	19.9	24.9	Yes
Base flow	6/23/2003	40	1.13E-01	79.46%	24.3	24.3	27.3	Yes
Base flow	9/12/1994	13	1.67E-01	71.07%	11.7	11.7	40.5	Yes
Base flow	10/22/2001	11	2.57E-01	61.24%	15.2	15.2	62.3	Yes
Base flow	7/29/2002	21.5	2.57E-01	61.24%	29.8	29.8	62.3	Yes

Total number of values =	9
Allowable % of exceedances =	25%
Allowable no. of exceedances =	3
No. of exceedances before reductions =	2
No. of exceedances after reductions =	2

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TABLE F.5. CALCULATIONS FOR PERCENT REDUCTION FOR STORM-FLOW CONDITIONS
FOR VILLAGE CREEK (STATION VGC0002)

Storm-flow target TSS conc. = 123 mg/L
Percent reduction needed = 0%

Error check for reduction is / is not needed: ok
Error check for less or more reduction needed: ok

Category	Date	Observed TSS at VGC0002 (mg/L)	Flow per unit area on sampling day (cfs/mi2)	Percent exceedance for flow on sampling day	Current TSS load (lbs/day)/mi2	Reduced TSS load (lbs/day)/mi2	Allowable TSS load (lbs/day)/mi2	Reduced load less than or equal to allow. load?
Storm-flow	6/13/1994	100	3.21E-01	55.98%	173.1	173.1	212.9	Yes
Storm-flow	3/10/2003	18.5	4.17E-01	50.51%	41.6	41.6	276.3	Yes
Storm-flow	7/17/1995	136.5	4.24E-01	50.15%	311.9	311.9	281.0	No
Storm-flow	1/16/1995	72.5	4.78E-01	47.51%	186.8	186.8	317.0	Yes
Storm-flow	8/25/2003	41.8	1.14E+00	31.36%	256.9	256.9	756.1	Yes
Storm-flow	4/28/2003	84	3.27E+00	13.67%	1479.9	1479.9	2166.9	Yes
Storm-flow	1/28/2002	73	4.17E+00	8.94%	1639.9	1639.9	2763.1	Yes
Storm-flow	5/21/2002	80	4.52E+00	7.18%	1951.0	1951.0	2999.6	Yes
Storm-flow	3/25/2002	33	4.58E+00	6.88%	814.9	814.9	3037.5	Yes
Storm-flow	9/23/2002	15.5	4.74E+00	6.07%	395.9	395.9	3141.6	Yes
Storm-flow	1/7/2003	45.8	4.92E+00	5.18%	1215.6	1215.6	3264.6	Yes

Total number of values = 11
Allowable % of exceedances = 20%
Allowable no. of exceedances = 3
No. of exceedances before reductions = 1
No. of exceedances after reductions = 1

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TABLE F.6. CALCULATIONS FOR PERCENT REDUCTION FOR BASE FLOW CONDITIONS
FOR VILLAGE CREEK (STATION VGC0002)

Base flow target TSS conc. = 75 mg/L
Percent reduction needed = 10%

Error check for reduction is / is not needed: ok
Error check for less or more reduction needed: ok

Category	Date	Observed TSS at VCG0002 (mg/L)	Flow per unit area on sampling day (cfs/mi2)	Percent exceedance for flow on sampling day	Current TSS load (lbs/day)/mi2	Reduced TSS load (lbs/day)/mi2	Allowable TSS load (lbs/day)/mi2	Reduced load less than or equal to allow. load?
Base flow	4/10/1995	162.5	2.00E-02	96.81%	17.5	15.8	8.1	No
Base flow	10/3/1995	79	3.28E-02	94.10%	14.0	12.6	13.3	Yes
Base flow	10/7/1996	79.5	3.57E-02	93.21%	15.3	13.8	14.4	Yes
Base flow	11/4/2002	9.3	3.57E-02	93.21%	1.8	1.6	14.4	Yes
Base flow	5/6/1996	124	1.03E-01	81.28%	68.7	61.8	41.5	No
Base flow	6/23/2003	61.2	1.13E-01	79.46%	37.2	33.5	45.6	Yes
Base flow	9/12/1994	122	1.67E-01	71.07%	109.8	98.8	67.5	No
Base flow	10/22/2001	14	2.57E-01	61.24%	19.4	17.4	103.9	Yes
Base flow	7/29/2002	83	2.57E-01	61.24%	114.9	103.4	103.9	Yes

Total number of values = 9
Allowable % of exceedances = 25%
Allowable no. of exceedances = 3
No. of exceedances before reductions = 6
No. of exceedances after reductions = 3

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TABLE F.7. CALCULATIONS FOR PERCENT REDUCTION FOR STORM-FLOW CONDITIONS
FOR VILLAGE CREEK (STATION VGC0003)

Storm-flow target TSS conc. = 61 mg/L
Percent reduction needed = 0%

Error check for reduction is / is not needed: ok
Error check for less or more reduction needed: ok

Category	Date	Observed TSS at VGC0003 (mg/L)	Flow per unit area on sampling day (cfs/mi2)	Percent exceedance for flow on sampling day	Current TSS load (lbs/day)/mi2	Reduced TSS load (lbs/day)/mi2	Allowable TSS load (lbs/day)/mi2	Reduced load less than or equal to allow. load?
Storm-flow	3/10/2003	29.2	0.417	50.51%	65.6	65.6	137.0	Yes
Storm-flow	7/18/1995	15	0.633	41.54%	51.2	51.2	208.4	Yes
Storm-flow	8/25/2003	21.8	1.140	31.36%	134.0	134.0	375.0	Yes
Storm-flow	4/28/2003	33.2	3.267	13.67%	584.9	584.9	1074.7	Yes
Storm-flow	1/28/2002	25	4.165	8.94%	561.6	561.6	1370.3	Yes
Storm-flow	1/18/1995	10.5	4.180	8.86%	236.7	236.7	1375.0	Yes
Storm-flow	5/21/2002	19	4.522	7.18%	463.4	463.4	1487.6	Yes
Storm-flow	3/25/2002	10.3	4.579	6.88%	254.4	254.4	1506.4	Yes

Total number of values =	8
Allowable % of exceedances =	20%
Allowable no. of exceedances =	2
No. of exceedances before reductions =	0
No. of exceedances after reductions =	0

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TABLE F.8. CALCULATIONS FOR PERCENT REDUCTION FOR BASE FLOW CONDITIONS
FOR VILLAGE CREEK (STATION VGC0003)

Base flow target TSS conc. = 45 mg/L
Percent reduction needed = 0%

Error check for reduction is / is not needed: ok
Error check for less or more reduction needed: ok

Category	Date	Observed TSS at VGC0003 (mg/L)	Flow per unit area on sampling day (cfs/mi2)	Percent exceedance for flow on sampling day	Current TSS load (lbs/day)/mi2	Reduced TSS load (lbs/day)/mi2	Allowable TSS load (lbs/day)/mi2	Reduced load less than or equal to allow. load?
Base flow	10/4/1995	6.5	0.024	96.19%	0.9	0.9	5.9	Yes
Base flow	10/9/1996	7	0.027	95.69%	1.0	1.0	6.6	Yes
Base flow	4/12/1995	65	0.036	93.21%	12.5	12.5	8.7	No
Base flow	11/4/2002	3	0.036	93.21%	0.6	0.6	8.7	Yes
Base flow	6/23/2003	32.5	0.113	79.46%	19.8	19.8	27.3	Yes
Base flow	5/7/1996	84.5	0.128	76.95%	58.5	58.5	31.2	No
Base flow	9/13/1994	11.5	0.140	75.10%	8.7	8.7	33.9	Yes
Base flow	2/21/1996	67.5	0.143	74.56%	51.9	51.9	34.6	No
Base flow	6/14/1994	25.5	0.223	64.62%	30.6	30.6	54.0	Yes
Base flow	10/22/2001	8.8	0.257	61.24%	12.2	12.2	62.3	Yes
Base flow	7/29/2002	9.7	0.257	61.24%	13.4	13.4	62.3	Yes

Total number of values = 11
Allowable % of exceedances = 25%
Allowable no. of exceedances = 3
No. of exceedances before reductions = 3
No. of exceedances after reductions = 3

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