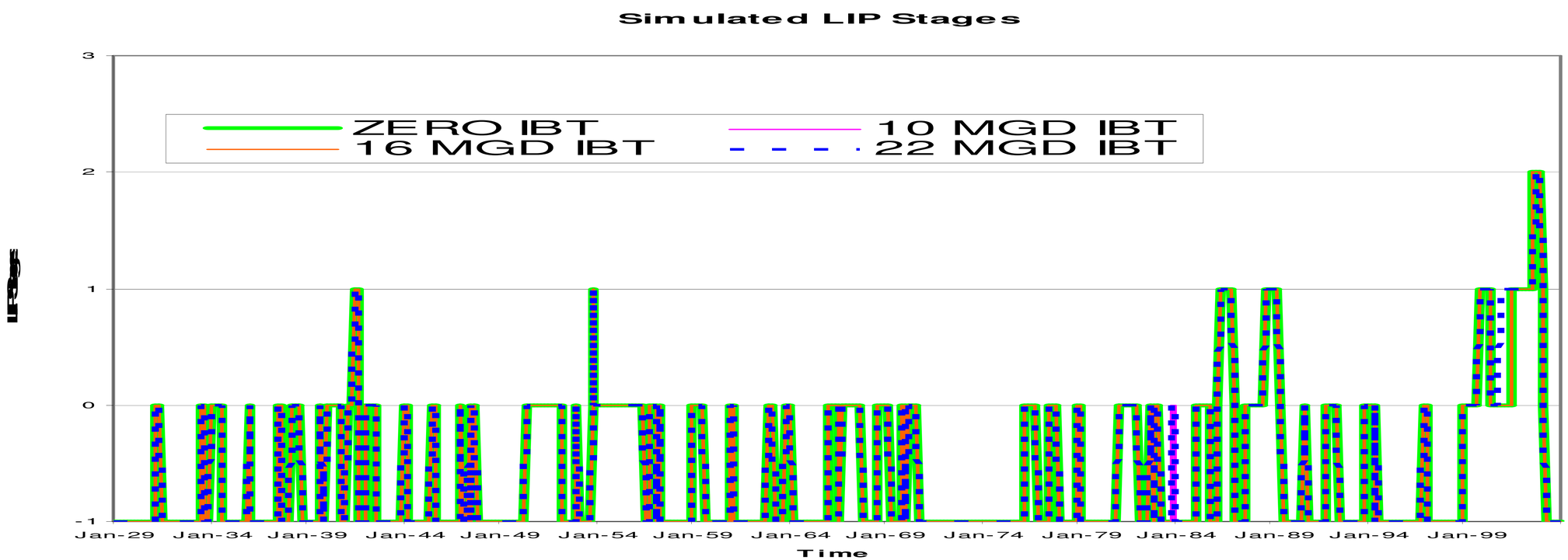


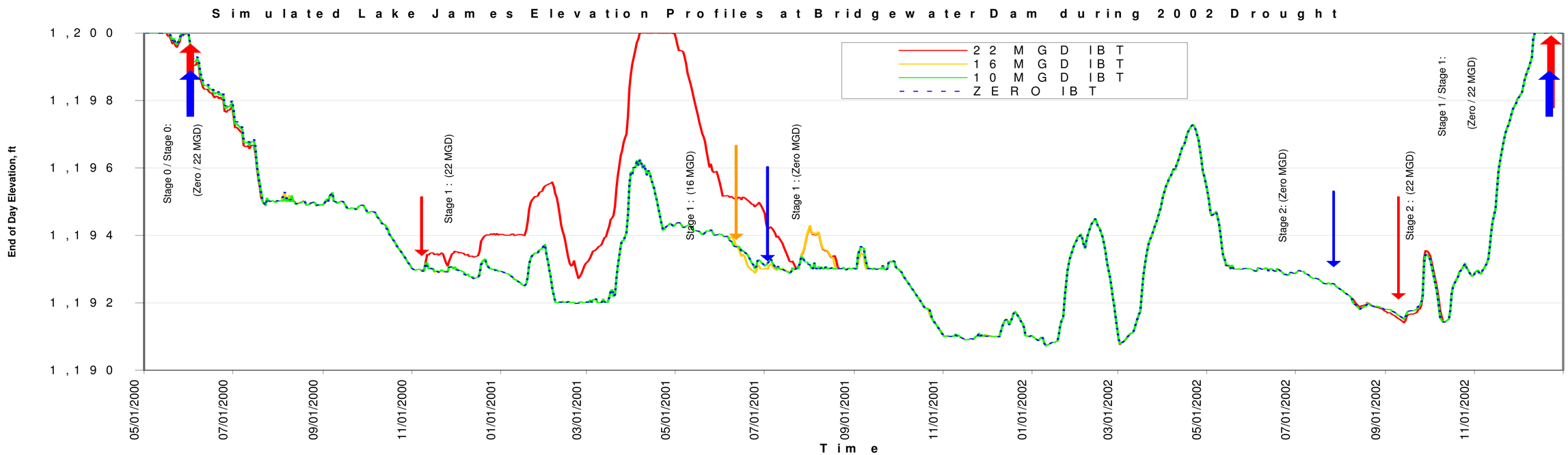
LIP Summary by Stage for a Lake Norman Withdrawal

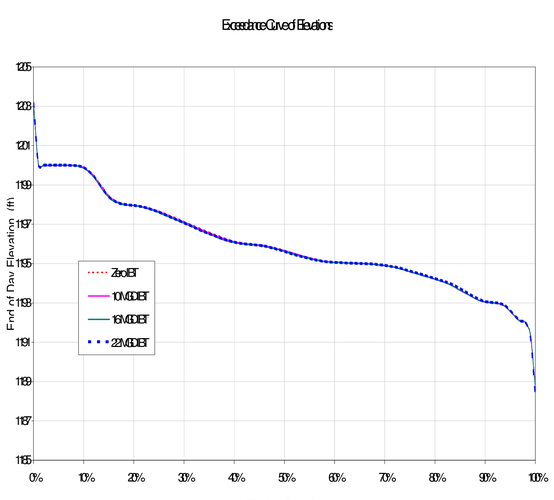
Model Scenario	Zero MGD IBT		10 MGD IBT		16 MGD IBT		22 MGD IBT	
LIP Stage	Number of Months	Percent of Time	Number of Months	Percent of Time	Number of Months	Percent of Time	Number of Months	Percent of Time
Monthly Summary								
-1	576	64.0%	574	63.8%	576	64.0%	574	63.8%
0	276	30.7%	278	30.9%	275	30.6%	270	30.0%
1	**43**	**4.8%**	**43**	**4.8%**	**44**	**4.9%**	**52**	**5.8%**
2	**5**	**0.6%**	**5**	**0.6%**	**5**	**0.6%**	**4**	**0.4%**
3	0	0.0%	0	0.0%	0	0.0%	0	0.0%
4	0	0.0%	0	0.0%	0	0.0%	0	0.0%
LIP Stage	Number of Years	Percent of Years	Number of Years	Percent of Years	Number of Years	Percent of Years	Number of Years	Percent of Years
Annual Summary - Number of years with least 1 month occurrence.								
-1	66	88.0%	66	88.0%	66	88.0%	66	88.0%
0	56	74.7%	56	5600.0%	56	74.7%	55	73.3%
1	**10**	13.3%	**10**	13.3%	**10**	13.3%	**10**	13.3%
2	**1**	1.3%	**1**	1.3%	**1**	1.3%	**4**	5.3%
3	0	0.0%	0	0.0%	0	0.0%	0	0.0%
4	0	0.0%	0	0.0%	0	0.0%	0	0.0%

LIP Summary for a Lake Norman Withdrawal for LIP Stages Greater Than or Equal to 1

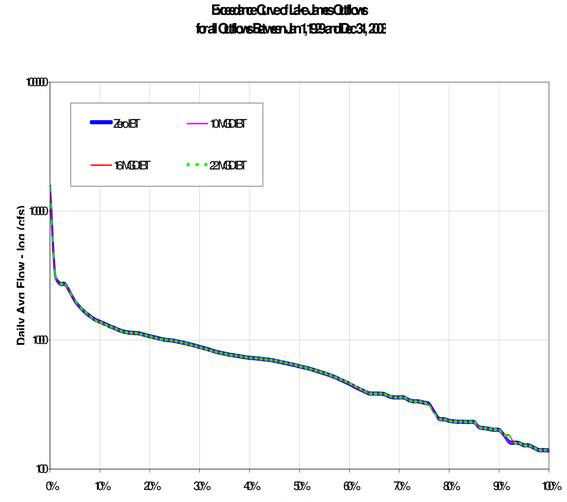
Model Scenario	Zero MGD IBT					10 MGD IBT					16 MGD IBT					22 MGD IBT				
	LIP Stage					LIP Stage					LIP Stage					LIP Stage				
Month	1	2	3	4	*Total*	1	2	3	4	*Total*	1	2	3	4	*Total*	1	2	3	4	*Total*
	Number of Months					Number of Months					Number of Months					Number of Months				
Month																				
1	4	0	0	0	*4*	4	0	0	0	*4*	4	0	0	0	*4*	5	0	0	0	*5*
2	3	0	0	0	*3*	3	0	0	0	*3*	3	0	0	0	*3*	4	0	0	0	*4*
3	3	0	0	0	*3*	3	0	0	0	*3*	3	0	0	0	*3*	4	0	0	0	*4*
4	3	0	0	0	*3*	3	0	0	0	*3*	3	0	0	0	*3*	4	0	0	0	*4*
5	4	0	0	0	*4*	4	0	0	0	*4*	4	0	0	0	*4*	5	0	0	0	*5*
6	3	0	0	0	*3*	3	0	0	0	*3*	4	0	0	0	*4*	4	0	0	0	*4*
7	4	0	0	0	*4*	4	0	0	0	*4*	4	0	0	0	*4*	4	0	0	0	*4*
8	3	1	0	0	*4*	3	1	0	0	*4*	3	1	0	0	*4*	4	0	0	0	*4*
9	3	1	0	0	*4*	3	1	0	0	*4*	3	1	0	0	*4*	3	1	0	0	*4*
10	4	1	0	0	*5*	4	1	0	0	*5*	4	1	0	0	*5*	4	1	0	0	*5*
11	5	1	0	0	*6*	5	1	0	0	*6*	5	1	0	0	*6*	6	1	0	0	*7*
12	4	1	0	0	*5*	4	1	0	0	*5*	4	1	0	0	*5*	5	1	0	0	*6*
Year																				
1941	3	0	0	0	*3*	3	0	0	0	*3*	3	0	0	0	*3*	3	0	0	0	*3*
1953	1	0	0	0	*1*	1	0	0	0	*1*	1	0	0	0	*1*	1	0	0	0	*1*
1986	8	0	0	0	*8*	8	0	0	0	*8*	8	0	0	0	*8*	8	0	0	0	*8*
1988	4	0	0	0	*4*	4	0	0	0	*4*	4	0	0	0	*4*	4	0	0	0	*4*
1989	5	0	0	0	*5*	5	0	0	0	*5*	5	0	0	0	*5*	5	0	0	0	*5*
1999	3	0	0	0	*3*	3	0	0	0	*3*	3	0	0	0	*3*	3	0	0	0	*3*
2000	5	0	0	0	*5*	5	0	0	0	*5*	5	0	0	0	*5*	7	0	0	0	*7*
2001	6	0	0	0	*6*	6	0	0	0	*6*	7	0	0	0	*7*	12	0	0	0	*12*
2002	7	5	0	0	*12*	7	5	0	0	*12*	7	5	0	0	*12*	8	4	0	0	*12*
2003	1	0	0	0	*1*	1	0	0	0	*1*	1	0	0	0	*1*	1	0	0	0	*1*
Total	*43*	*5*	*0*	*0*	*48*	*43*	*5*	*0*	*0*	*48*	*44*	*5*	*0*	*0*	*49*	*52*	*4*	*0*	*0*	*56*

Simulated Lake James Elevations and Outflows



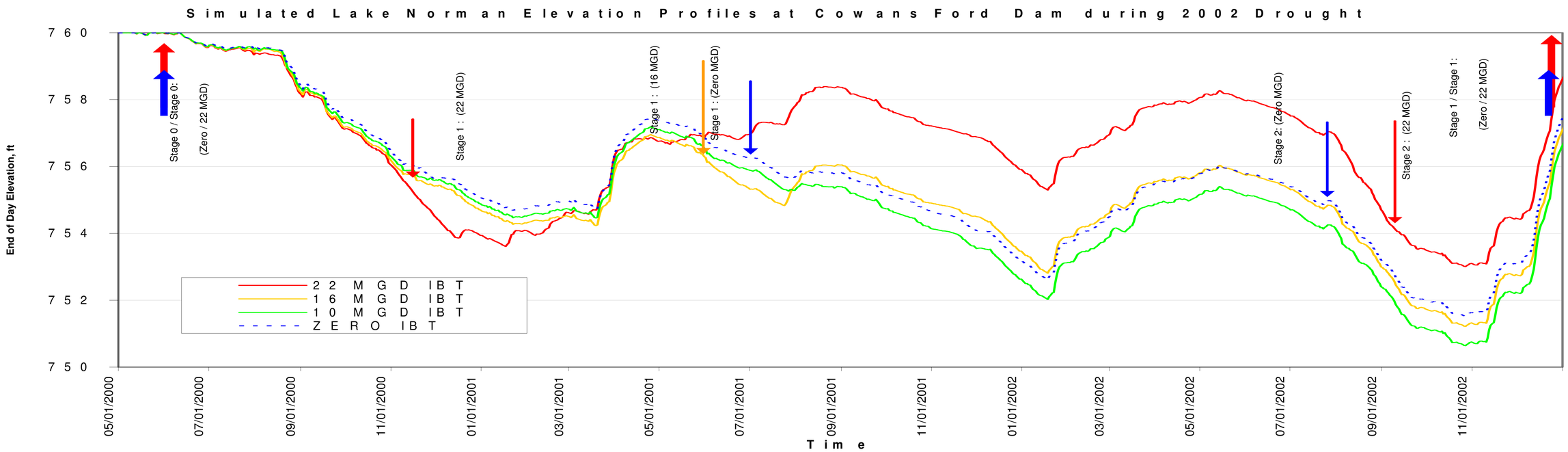


Exceedance, Percent Time	Lake James Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	1203.2	1203.2	1203.2	1203.2
10%	1199.88	1199.88	1199.86	1199.88
25%	1197.65	1197.64	1197.59	1197.62
50%	1195.67	1195.66	1195.62	1195.62
75%	1194.59	1194.59	1194.59	1194.62
90%	1193.05	1193.05	1193.05	1193.07
95%	1192.57	1192.57	1192.58	1192.61
99%	1192.01	1192.01	1192.01	1192.01
100%	1188.88	1188.77	1188.68	1188.34

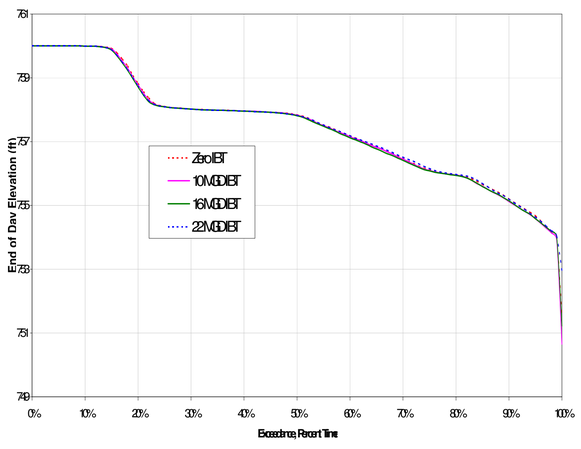


Exceedance, Percent Time	Lake James Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	15,491	15,491	15,491	15,491
10%	1,384	1,382	1,381	1,379
25%	986	985	985	985
50%	627	627	628	627
75%	327	327	327	327
90%	202	202	202	203
95%	159	159	159	159
99%	140	140	140	140
100%	139	139	139	139

Simulated Lake Norman Elevations and Outflows

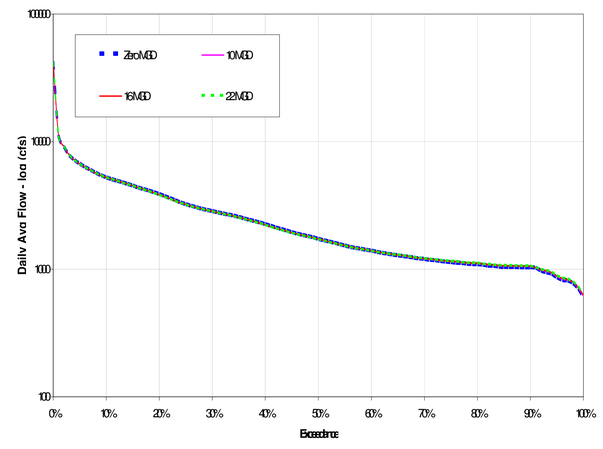


Exceedance Curve of Lake Norman Elevations
for all Elevations Between Jan 1, 1929 and Dec 31, 2003



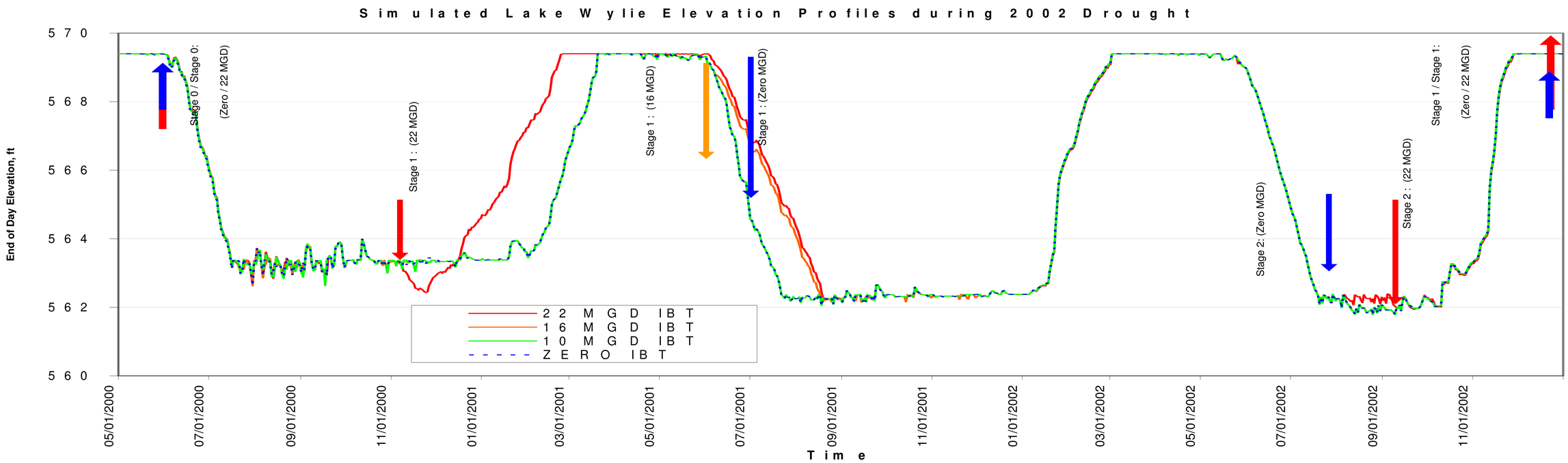
Exceedance, Percent Time	Lake Norman Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
10%	759.99	759.99	759.99	759.99
25%	758.1	758.09	758.09	758.09
50%	757.84	757.83	757.81	757.82
75%	756.11	756.09	756.08	756.15
90%	755.31	755.23	755.24	755.3
95%	754.78	754.71	754.72	754.74
99%	754.19	754.14	754.18	754.2
100%	751.53	750.65	751.22	752.95

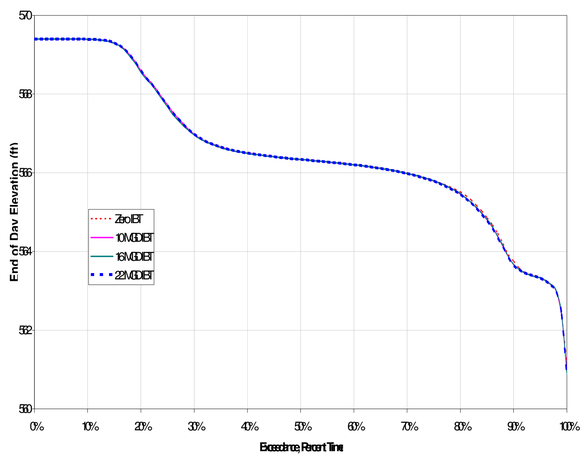
Exceedance Curve of Lake Norman Outflows
for all Outflows Between Jan 1, 1929 and Dec 31, 2003



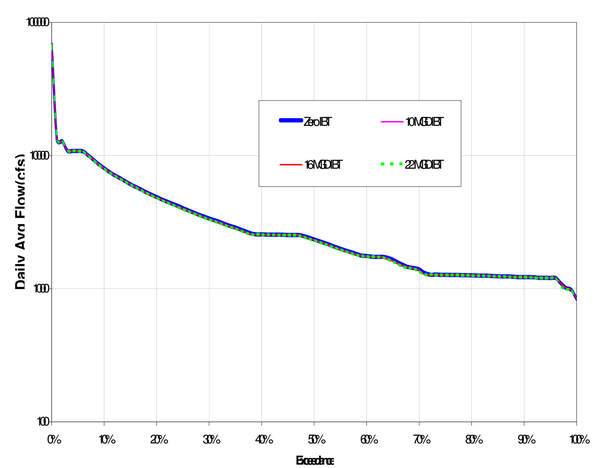
Exceedance, Percent Time	Lake Norman Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	42,479	42,477	42,471	42,469
10%	5,246	5,246	5,243	5,242
25%	3,241	3,235	3,220	3,218
50%	1,729	1,721	1,727	1,718
75%	1,139	1,147	1,151	1,161
90%	1,036	1,049	1,057	1,065
95%	916	932	937	949
99%	778	789	791	801
100%	602	614	628	637

Simulated Lake Wylie Elevations and Outflows



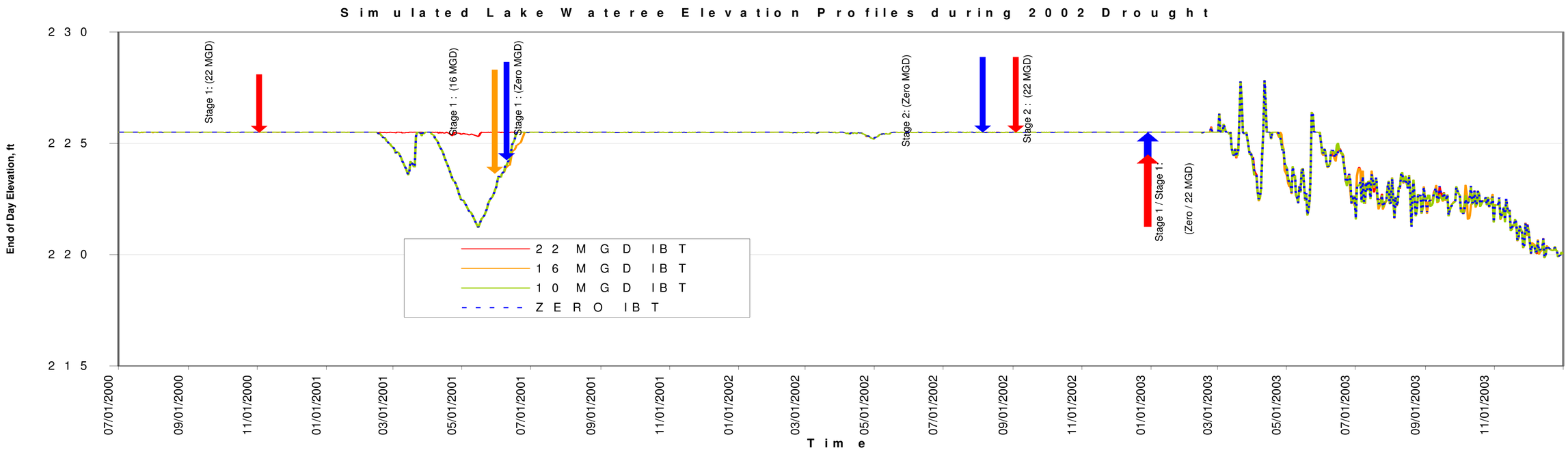


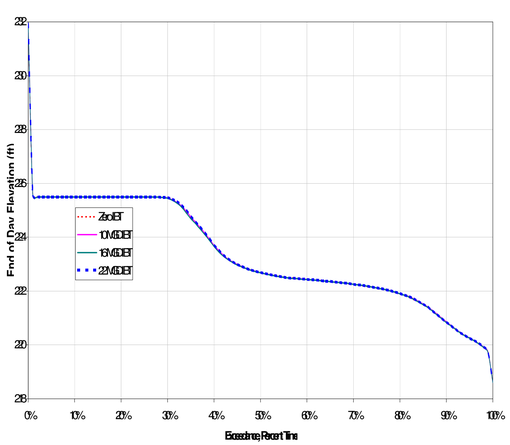
Exceedance, Percent Time	Lake Wylie Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	569.4	569.4	569.4	569.4
10%	569.39	569.39	569.39	569.39
25%	567.72	567.72	567.67	567.71
50%	566.34	566.34	566.34	566.34
75%	565.8	565.79	565.8	565.79
90%	563.92	563.87	563.87	563.85
95%	563.37	563.36	563.36	563.37
99%	562.99	562.99	563.01	562.98
100%	561.21	561.03	560.89	560.83



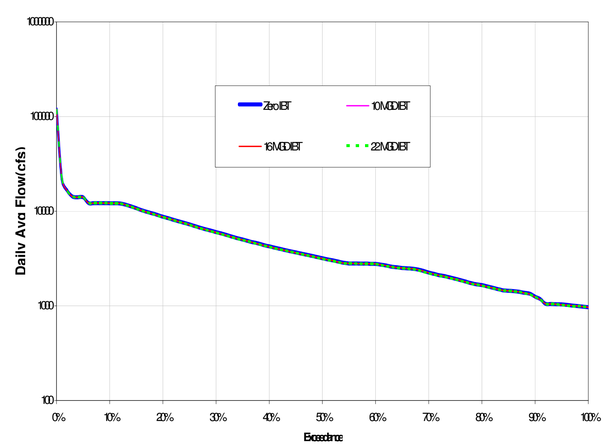
Exceedance, Percent Time	Lake Wylie Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	68,400	68,399	68,392	68,404
10%	8,047	7,997	7,965	7,946
25%	4,027	3,981	3,980	3,953
50%	2,345	2,321	2,314	2,303
75%	1,271	1,270	1,270	1,269
90%	1,221	1,221	1,221	1,221
95%	1,205	1,205	1,205	1,204
99%	1,011	1,011	1,011	995
100%	838	838	838	838

Simulated Lake Wateree Elevations and Outflows



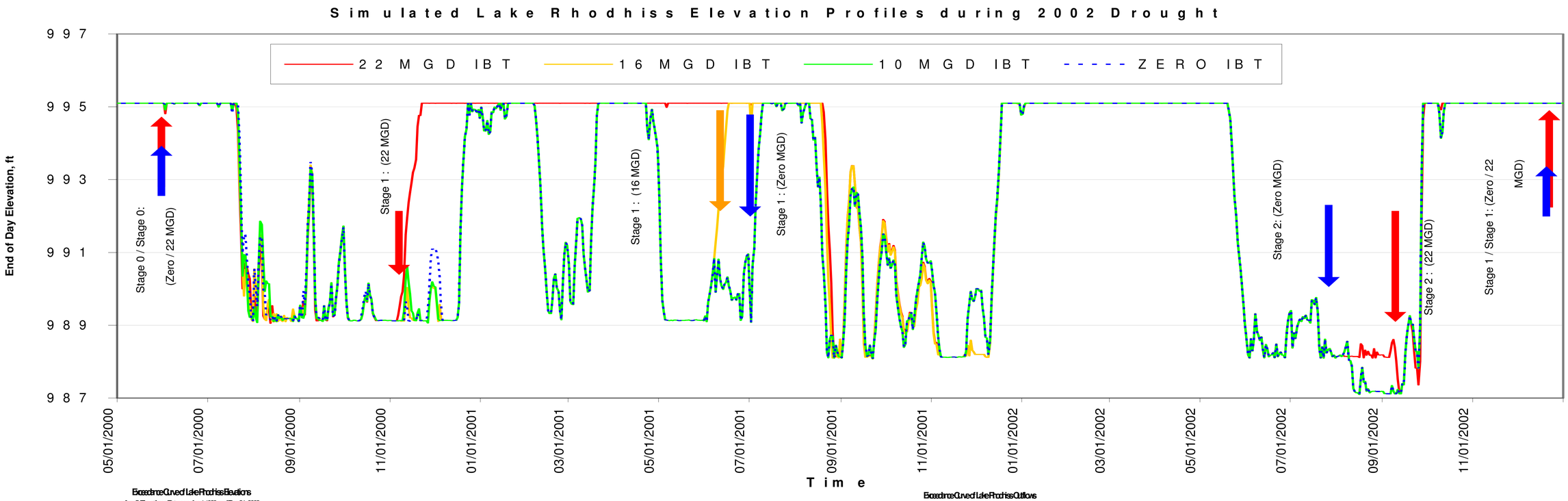


Exceedance, Percent Time	Lake Wateree Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	231.95	231.94	231.95	231.96
10%	225.5	225.5	225.5	225.5
50%	222.68	222.68	222.68	222.69
75%	222.12	222.12	222.12	222.12
90%	220.99	221	220.97	220.98
95%	220.35	220.35	220.34	220.35
99%	219.91	219.92	219.91	219.92
100%	218.61	218.61	218.61	218.61

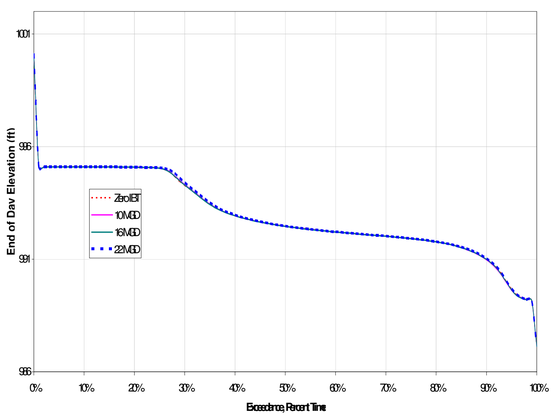


Exceedance, Percent Time	Lake Wateree Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	119,380	119,332	119,379	119,578
10%	12,112	12,113	12,110	12,110
25%	7,246	7,211	7,204	7,171
50%	3,177	3,164	3,157	3,135
75%	1,932	1,915	1,915	1,904
90%	1,343	1,327	1,333	1,318
95%	1,038	1,037	1,037	1,037
99%	991	991	991	991
100%	963	963	963	963

Simulated Lake Rhodhiss Elevations and Outflows

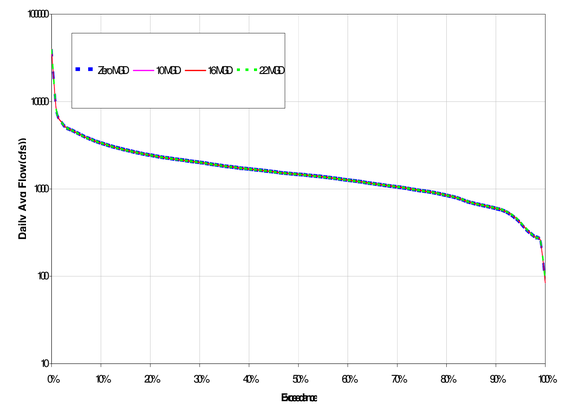


Exceedance Curve of Lake Rhodhiss Elevations
for all Elevations Between Jan 1, 1929 and Dec 31, 2003



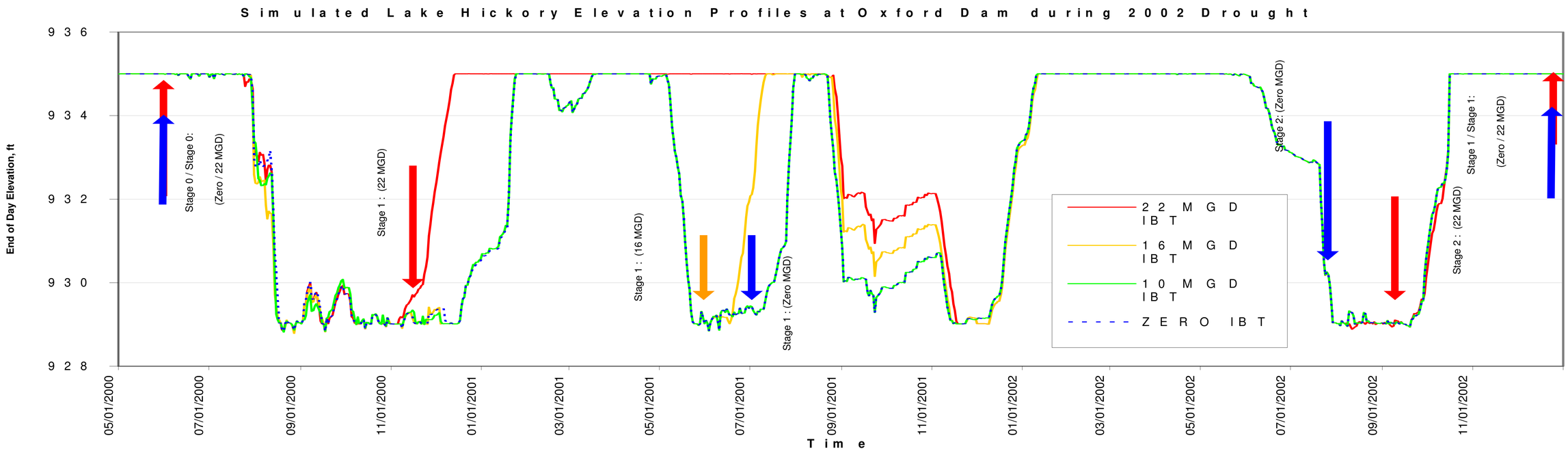
Exceedance, Percent Time	Lake Rhodhiss Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	1000.13	1000.13	1000.13	1000.13
10%	995.1	995.1	995.1	995.1
25%	995.04	995.04	995.04	995.06
50%	992.46	992.46	992.46	992.47
75%	991.91	991.92	991.91	991.92
90%	990.98	990.97	990.99	991.02
95%	989.67	989.62	989.63	989.69
99%	989.21	989.21	989.2	989.22
100%	987.13	987.13	987.13	987.13

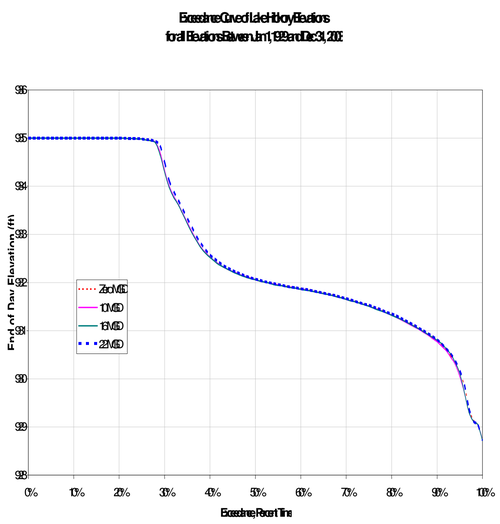
Exceedance Curve of Lake Rhodhiss Outflows
for all Outflows Between Jan 1, 1929 and Dec 31, 2003



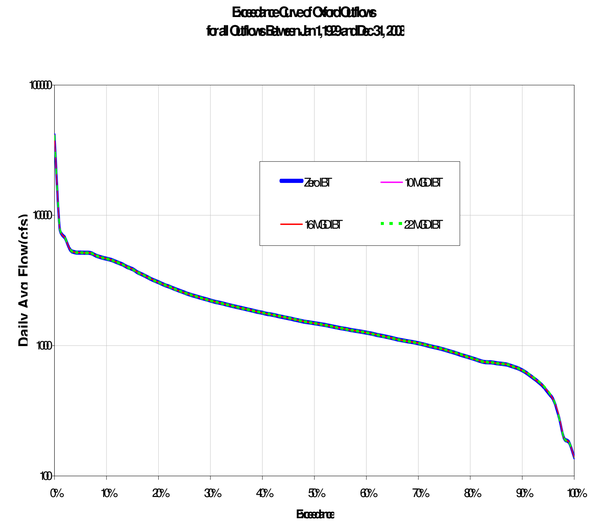
Exceedance, Percent Time	Lake Rhodhiss Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	39,834	39,834	39,834	39,834
10%	3,353	3,347	3,351	3,354
25%	2,194	2,191	2,190	2,190
50%	1,470	1,470	1,471	1,469
75%	951	953	953	952
90%	618	618	618	620
95%	457	463	464	469
99%	279	279	279	279
100%	84	84	84	89

Simulated Lake Hickory Elevations and Outflows



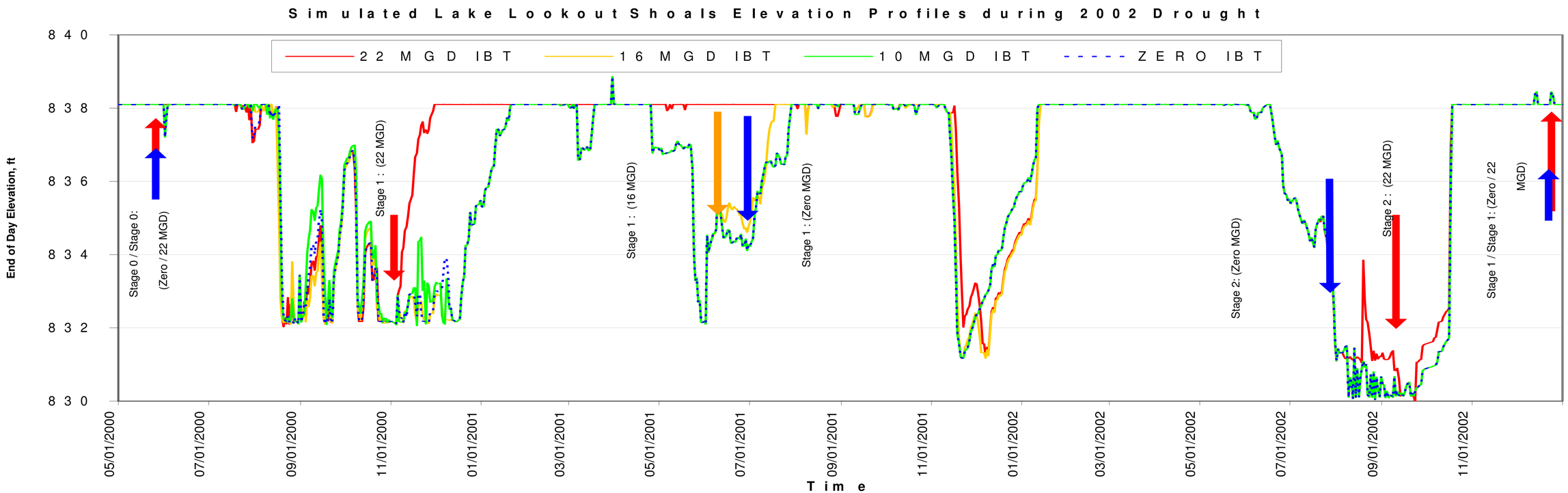


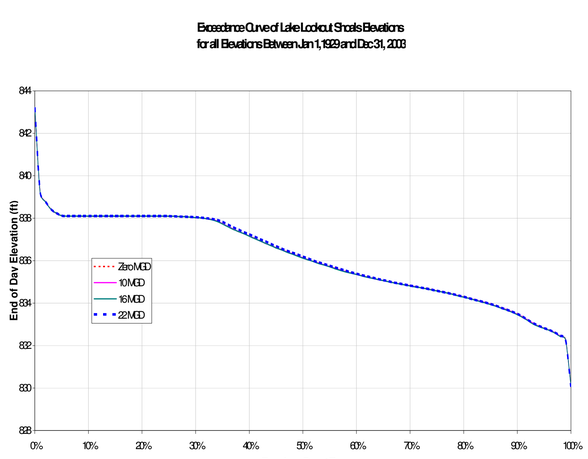
Exceedance, Percent Time	Lake Hickory Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	935	935	935	935
10%	935	935	935	935
25%	934.98	934.98	934.98	934.98
50%	932.06	932.06	932.06	932.07
75%	931.52	931.51	931.51	931.53
90%	930.79	930.77	930.8	930.81
95%	930.11	930.05	930.11	930.17
99%	929.14	929.12	929.12	929.12
100%	928.72	928.73	928.72	928.72



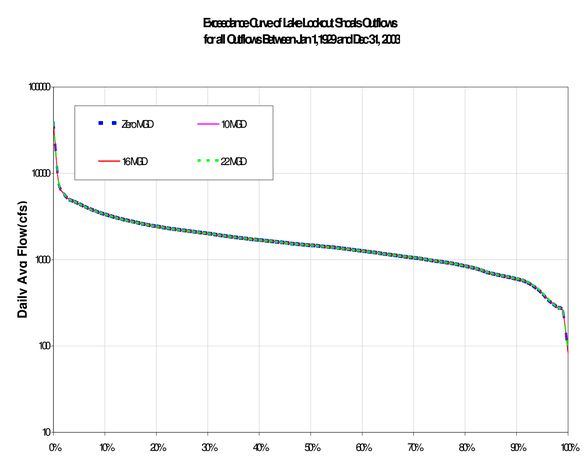
Exceedance, Percent Time	Lake Hockory [Oxford] Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	41,257	41,257	41,257	41,257
10%	4,655	4,653	4,649	4,646
20%	3,067	3,061	3,068	3,063
30%	2,218	2,220	2,219	2,215
40%	1,785	1,785	1,786	1,787
50%	1,485	1,485	1,484	1,485
60%	1,261	1,259	1,261	1,258
70%	1,045	1,043	1,047	1,042
80%	810	807	807	810
90%	645	646	644	646
95%	435	442	438	445
98%	196	196	196	196
99%	181	181	181	181
100%	139	139	139	139

Simulated Lake Lookout Shoals Elevations and Outflows



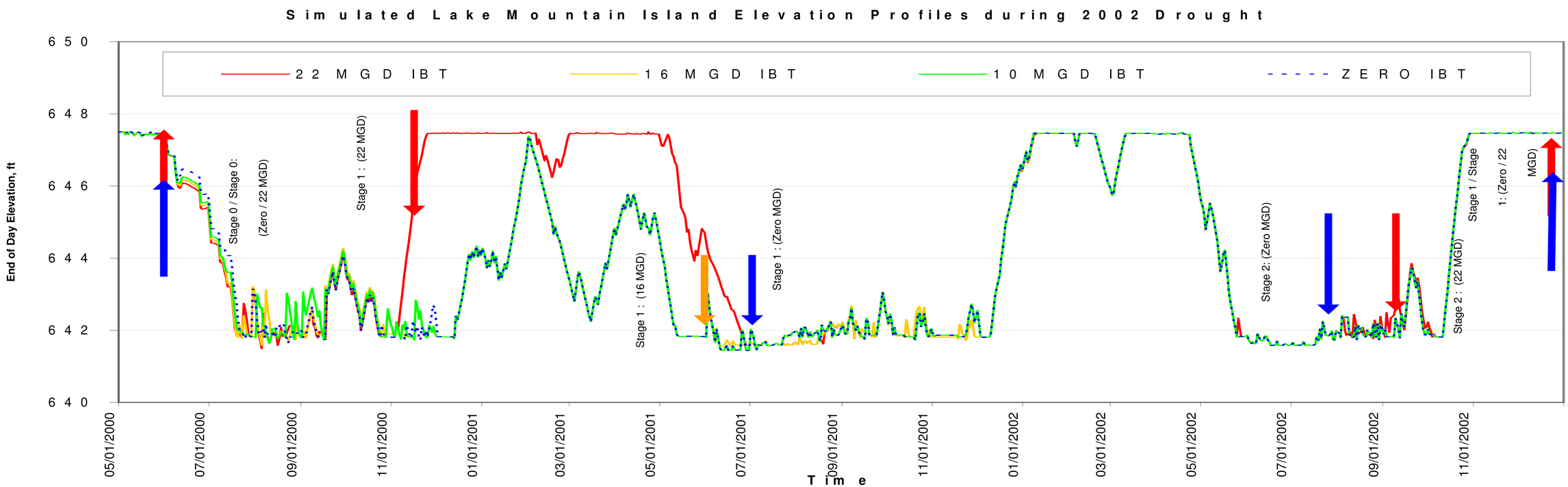


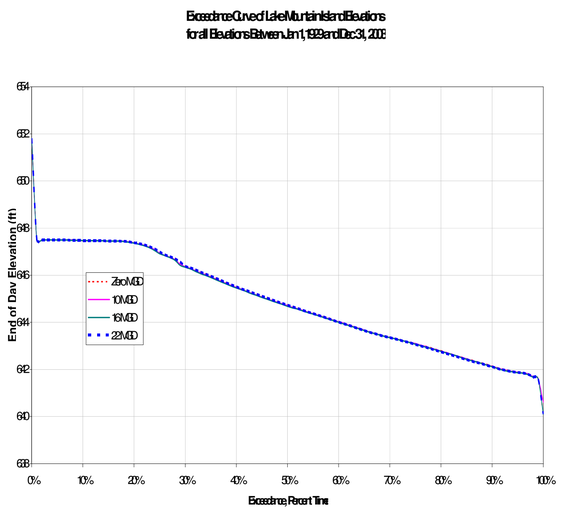
Exceedance, Percent Time	Lake Lookout Shoals Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	843.22	843.22	843.22	843.22
10%	838.1	838.1	838.1	838.1
25%	838.1	838.1	838.09	838.1
50%	836.14	836.13	836.12	836.19
75%	834.59	834.58	834.57	834.58
90%	833.49	833.48	833.46	833.49
95%	832.82	832.82	832.81	832.82
99%	832.45	832.45	832.43	832.46
100%	830.13	830.13	830.13	830.05



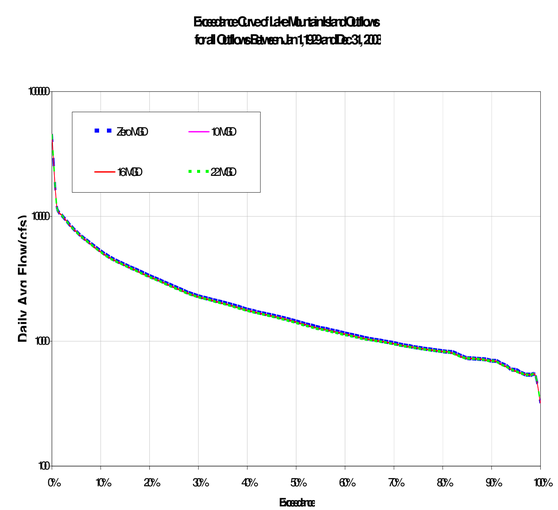
Exceedance, Percent Time	Lake Lookout Shoals Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	39,834	39,834	39,834	39,834
10%	3,353	3,347	3,351	3,354
25%	2,194	2,191	2,190	2,190
50%	1,470	1,470	1,471	1,469
75%	951	953	953	952
90%	618	618	618	620
95%	457	463	464	469
99%	279	279	279	279
100%	84	84	84	89

Simulated Lake Mountain Island Elevations and Outflows



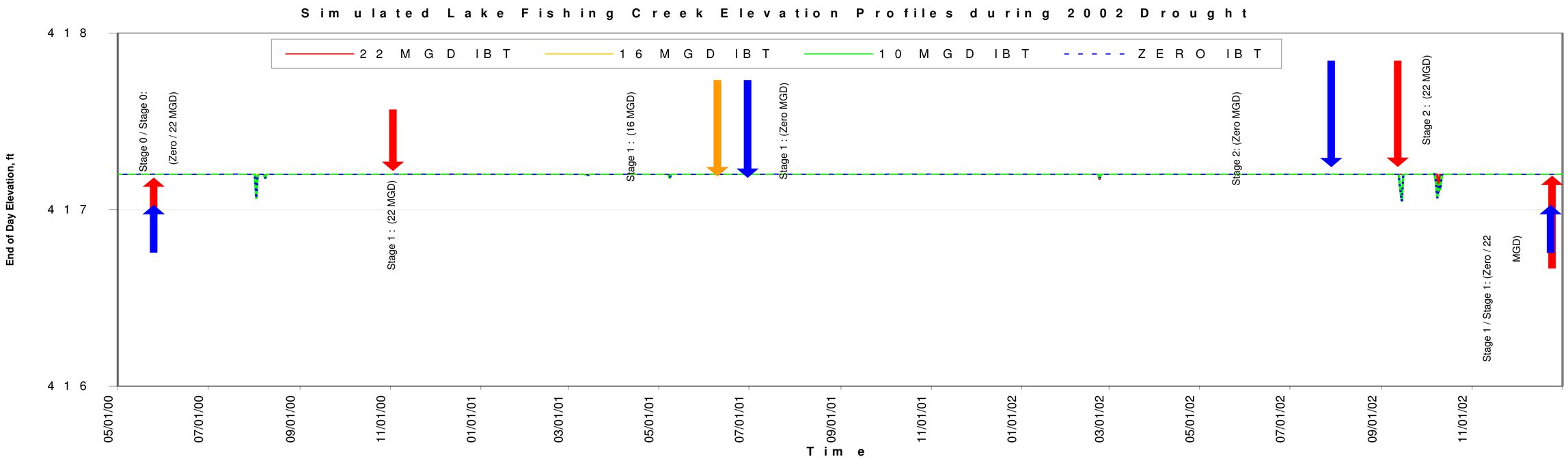


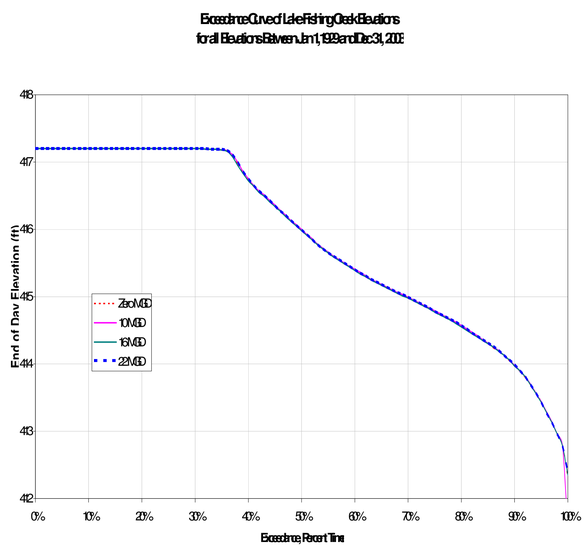
Exceedance, Percent Time	Lake Mountain Island Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	651.81	651.81	651.81	651.81
10%	647.47	647.47	647.47	647.47
25%	646.94	646.93	646.91	646.98
50%	644.72	644.71	644.68	644.73
75%	643.09	643.09	643.07	643.06
90%	642.14	642.13	642.11	642.11
95%	641.88	641.88	641.86	641.87
99%	641.7	641.69	641.67	641.68
100%	640.1	640.61	640.1	640.1



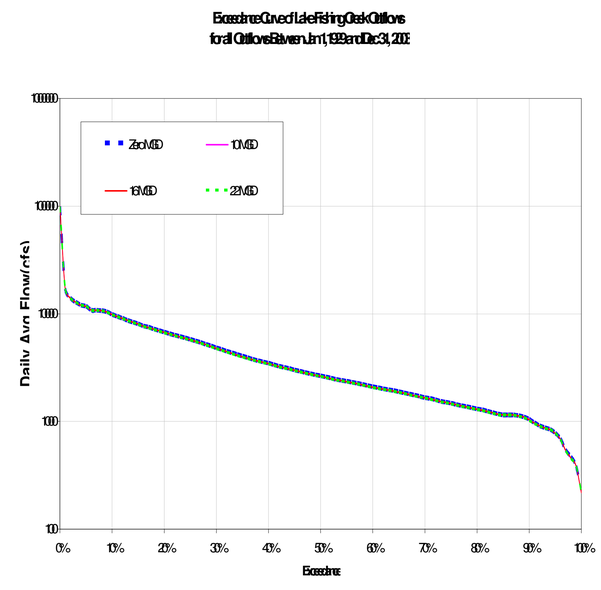
Exceedance, Percent Time	Lake Mountain Island Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	45,600	45,581	45,571	45,562
10%	5,272	5,231	5,198	5,192
25%	2,744	2,704	2,698	2,682
50%	1,441	1,424	1,424	1,405
75%	887	883	882	876
90%	712	709	702	701
95%	594	594	594	594
99%	538	538	538	538
100%	321	321	321	321

Simulated Lake Fishing Creek Elevations and Outflows



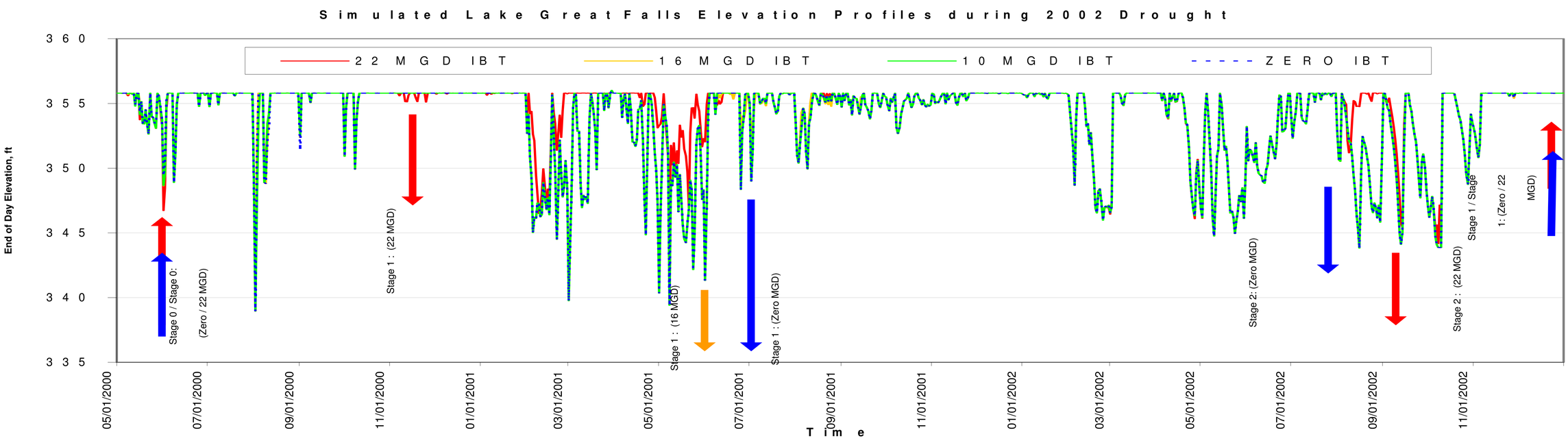


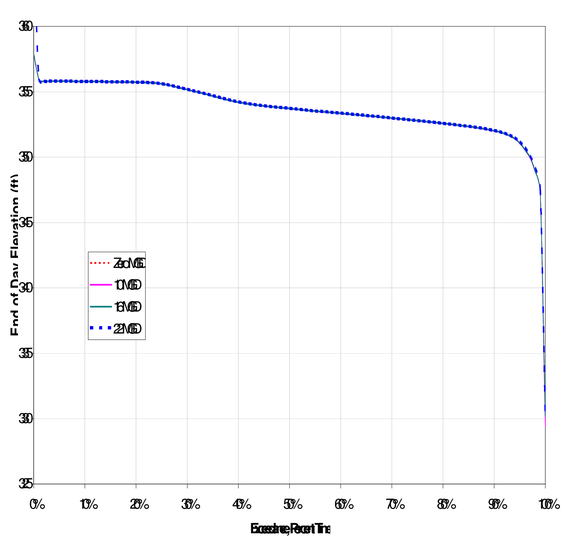
Exceedance, Percent Time	Lake Fishing Creek Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	417.2	417.2	417.2	417.2
10%	417.2	417.2	417.2	417.2
25%	417.2	417.2	417.2	417.2
50%	415.99	416	415.98	415.99
75%	414.78	414.79	414.77	414.78
90%	413.97	413.98	413.97	413.99
95%	413.44	413.44	413.43	413.43
99%	412.96	412.96	412.96	412.96
100%	412.31	411.56	412.35	412.38



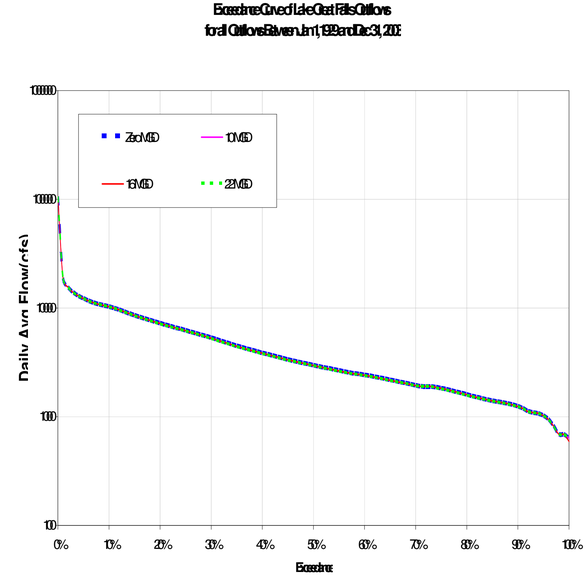
Exceedance, Percent Time	Lake Fishing Creek Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	99,474	99,444	99,349	99,472
10%	9,876	9,906	9,812	9,810
25%	5,786	5,740	5,728	5,714
50%	2,652	2,633	2,632	2,618
75%	1,477	1,472	1,464	1,456
90%	1,100	1,100	1,099	1,086
95%	842	837	838	841
99%	468	455	460	452
100%	218	218	218	218

Simulated Lake Great Falls Elevations and Outflows



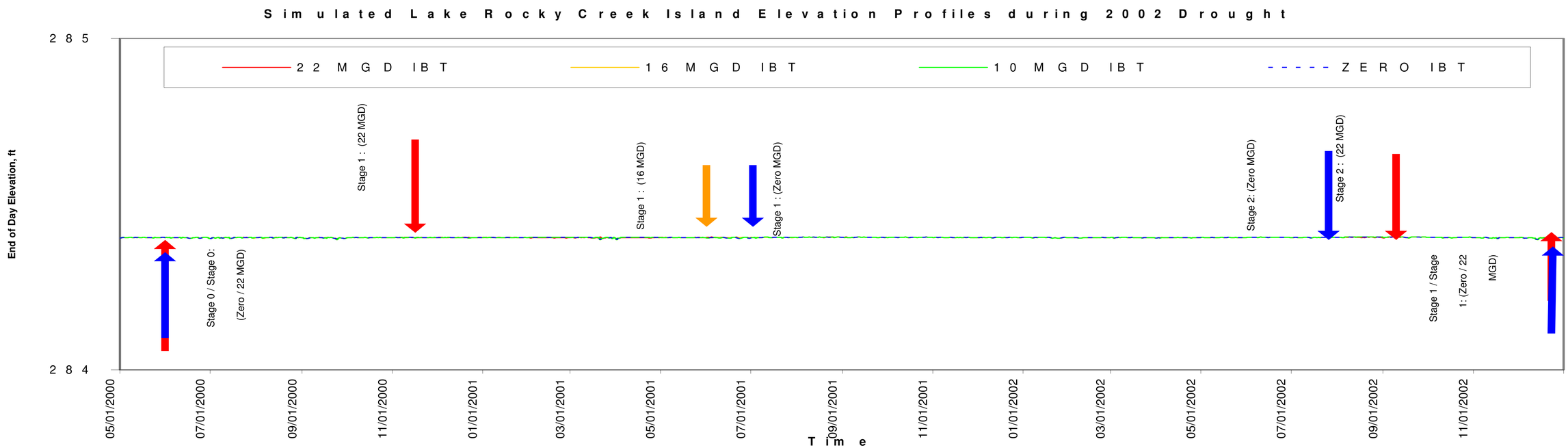


Exceedance, Percent Time	Lake Great Falls Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	357.87	357.87	357.87	366.05
10%	355.79	355.79	355.79	355.79
25%	355.6	355.61	355.6	355.61
50%	353.71	353.72	353.72	353.73
75%	352.79	352.78	352.79	352.79
90%	352.02	352.01	352.02	352.03
95%	351.05	351.06	351.08	351.16
99%	348.96	348.91	348.92	349.2
100%	330.18	329.45	330.17	330.16

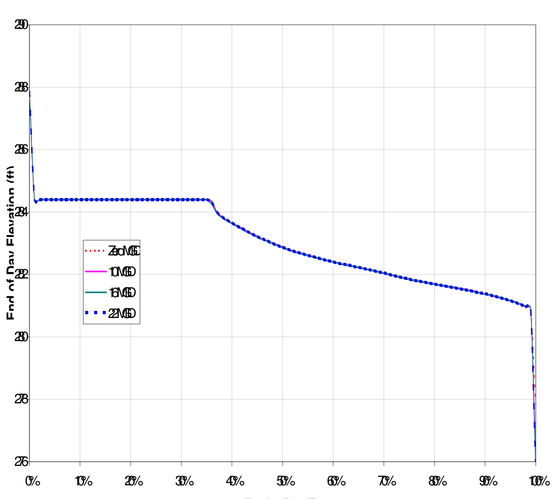


Exceedance, Percent Time	Lake Great Falls Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	106,395	106,366	106,290	106,407
10%	10,318	10,313	10,278	10,278
25%	6,218	6,186	6,174	6,159
50%	2,978	2,962	2,956	2,948
75%	1,832	1,828	1,825	1,806
90%	1,289	1,287	1,281	1,276
95%	1,075	1,074	1,073	1,073
99%	690	690	690	690
100%	636	636	592	636

Simulated Lake Rocky Creek Elevations and Outflows

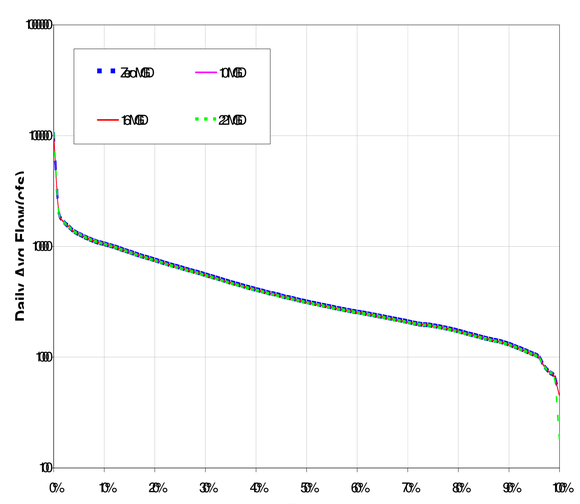


Exceedance Curve of Lake Rocky Creek Elevations
for all Elevations Between Jan 1, 1992 and Dec 31, 2002



Exceedance, Percent Time	Lake Rocky Creek Levels Remain above Elevation, FT			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	287.88	287.88	287.87	287.88
10%	284.4	284.4	284.4	284.4
25%	284.4	284.4	284.4	284.4
50%	282.85	282.87	282.86	282.87
75%	281.84	281.85	281.84	281.85
90%	281.37	281.37	281.37	281.38
95%	281.16	281.15	281.16	281.16
99%	280.97	280.97	280.98	280.97
100%	277.81	276.28	275.7	275.77

Exceedance Curve of Lake Rocky Creek Outflows
for all Outflows Between Jan 1, 1992 and Dec 31, 2002



Exceedance, Percent Time	Lake Rocky Creek Flow Remain above, cfs			
	Zero IBT	10 MGD IBT	16 MGD IBT	22 MGD IBT
0%	107,185	107,160	107,120	107,224
10%	10,552	10,569	10,517	10,529
25%	6,453	6,419	6,403	6,388
50%	3,164	3,136	3,133	3,120
75%	1,922	1,916	1,914	1,908
90%	1,354	1,350	1,344	1,341
95%	1,106	1,105	1,097	1,097
99%	731	732	730	729
100%	444	444	444	179