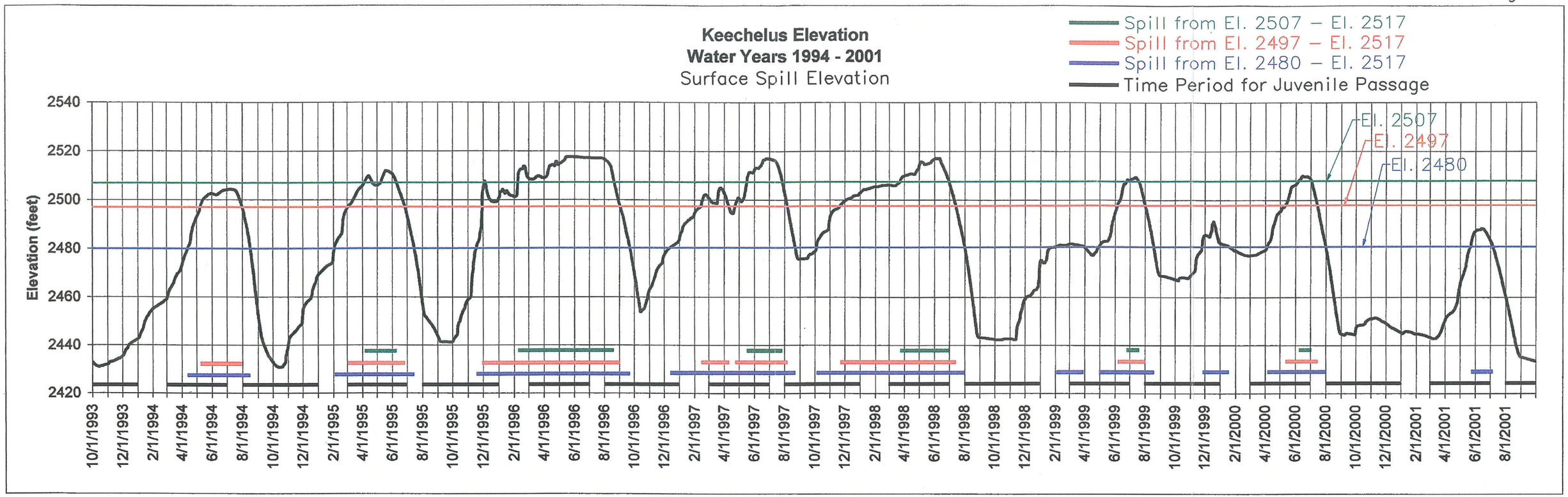
Figure 1



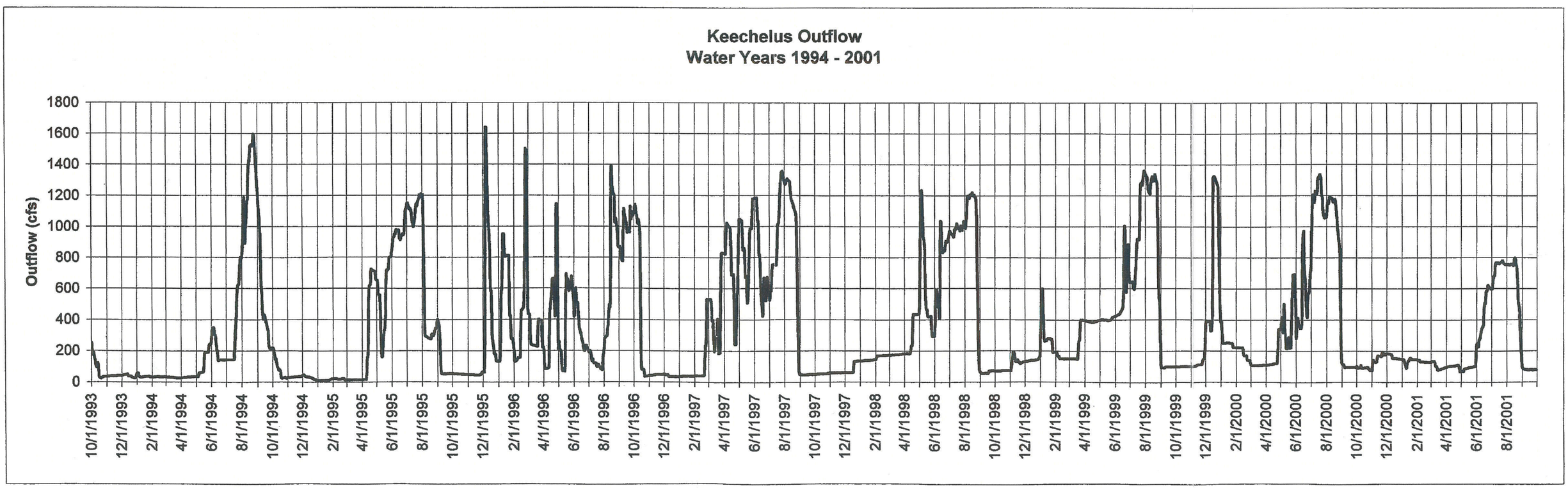
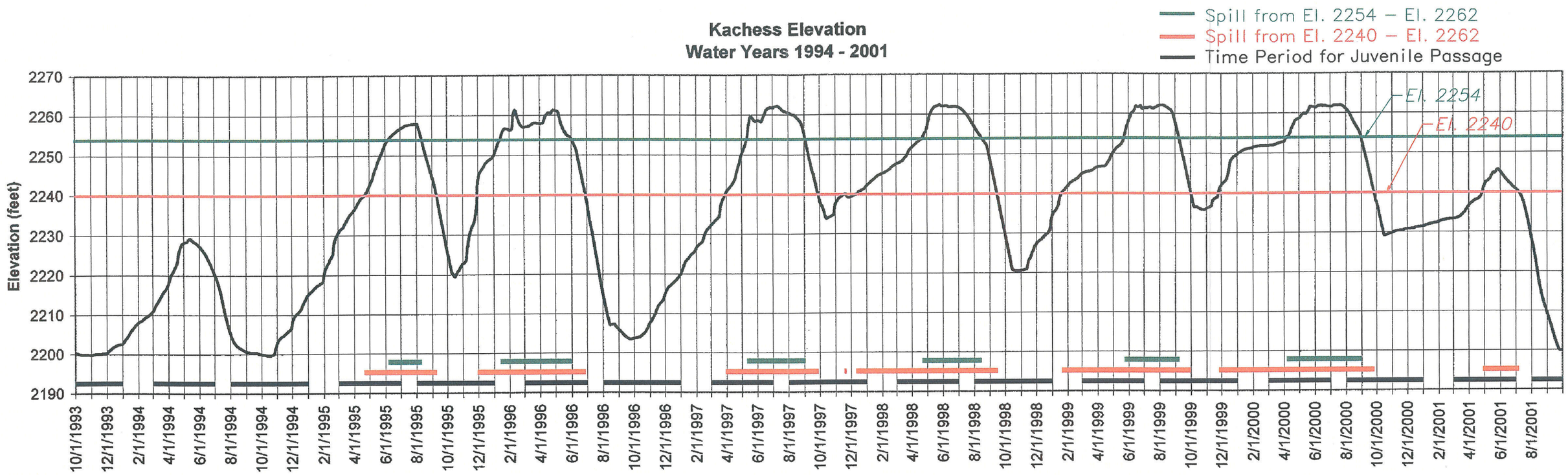


Figure 1


Kachess Elevation
Water Years 1994 - 2001
Spill from El. 2254 – El. 2262
Spill from El. 2240 – El. 2262
Time Period for Juvenile Passage
El. 2254
El. 2240
Elevation (feet)
2270
2260
2250
2240
2230
2220
2210
2200
2190
10/1/1993
12/1/1993
2/1/1994
4/1/1994
6/1/1994
8/1/1994
10/1/1994
12/1/1994
2/1/1995
4/1/1995
6/1/1995
8/1/1995
10/1/1995
12/1/1995
2/1/1996
4/1/1996
6/1/1996
8/1/1996
10/1/1996
12/1/1996
2/1/1997
4/1/1997
6/1/1997
8/1/1997
10/1/1997
12/1/1997
2/1/1998
4/1/1998
6/1/1998
8/1/1998
10/1/1998
12/1/1998
2/1/1999
4/1/1999
6/1/1999
8/1/1999
10/1/1999
12/1/1999
2/1/2000
4/1/2000
6/1/2000
8/1/2000
10/1/2000
12/1/2000
2/1/2001
4/1/2001
6/1/2001
8/1/2001

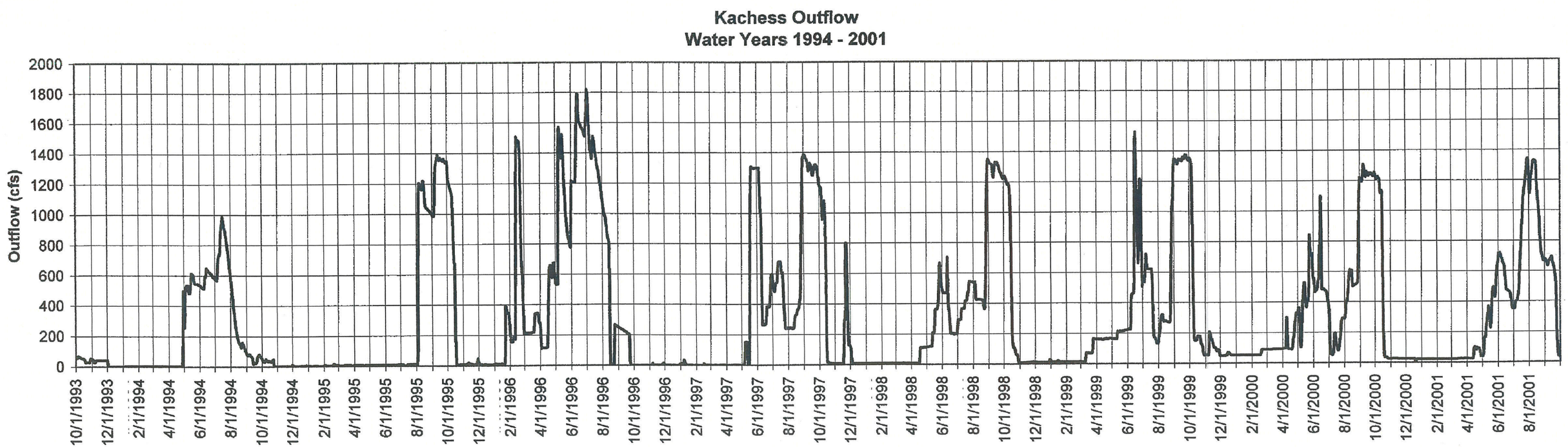
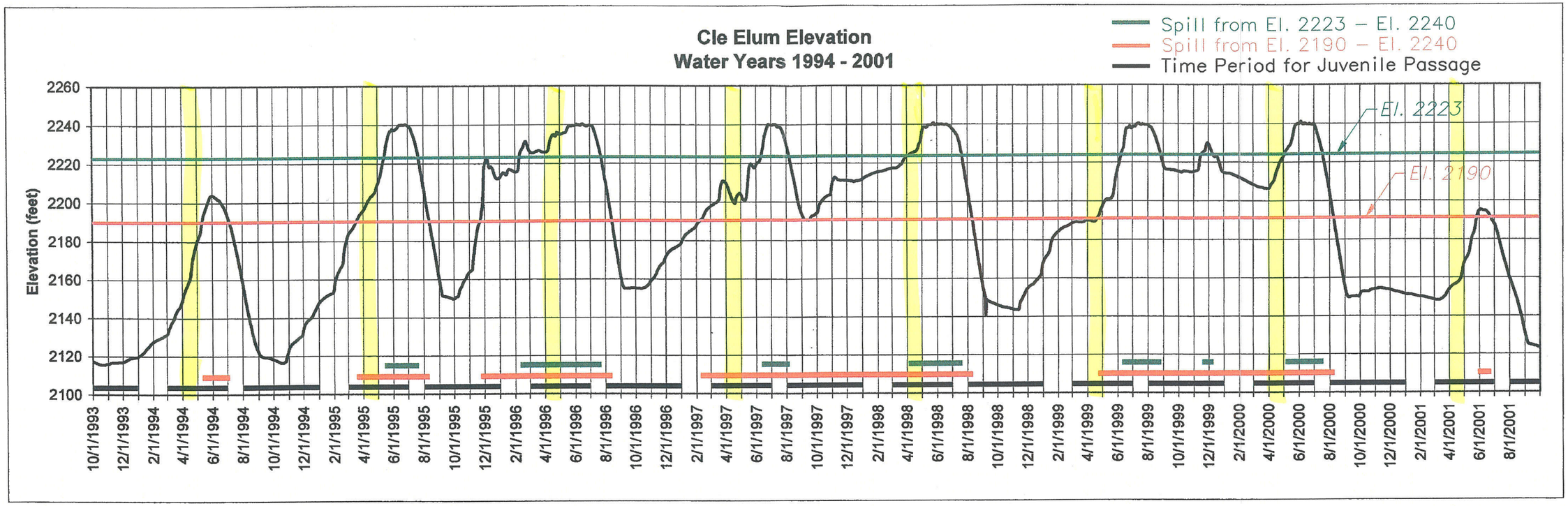

Kachess Outflow
Water Years 1994 - 2001
Outflow (cfs)
2000
1800
1600
1400
1200
1000
800
600
400
200
0
10/1/1993
12/1/1993
2/1/1994
4/1/1994
6/1/1994
8/1/1994
10/1/1994
12/1/1994
2/1/1995
4/1/1995
6/1/1995
8/1/1995
10/1/1995
12/1/1995
2/1/1996
4/1/1996
6/1/1996
8/1/1996
10/1/1996
12/1/1996
2/1/1997
4/1/1997
6/1/1997
8/1/1997
10/1/1997
12/1/1997
2/1/1998
4/1/1998
6/1/1998
8/1/1998
10/1/1998
12/1/1998
2/1/1999
4/1/1999
6/1/1999
8/1/1999
10/1/1999
12/1/1999
2/1/2000
4/1/2000
6/1/2000
8/1/2000
10/1/2000
12/1/2000
2/1/2001
4/1/2001
6/1/2001
8/1/2001

Figure 2

Figure 3



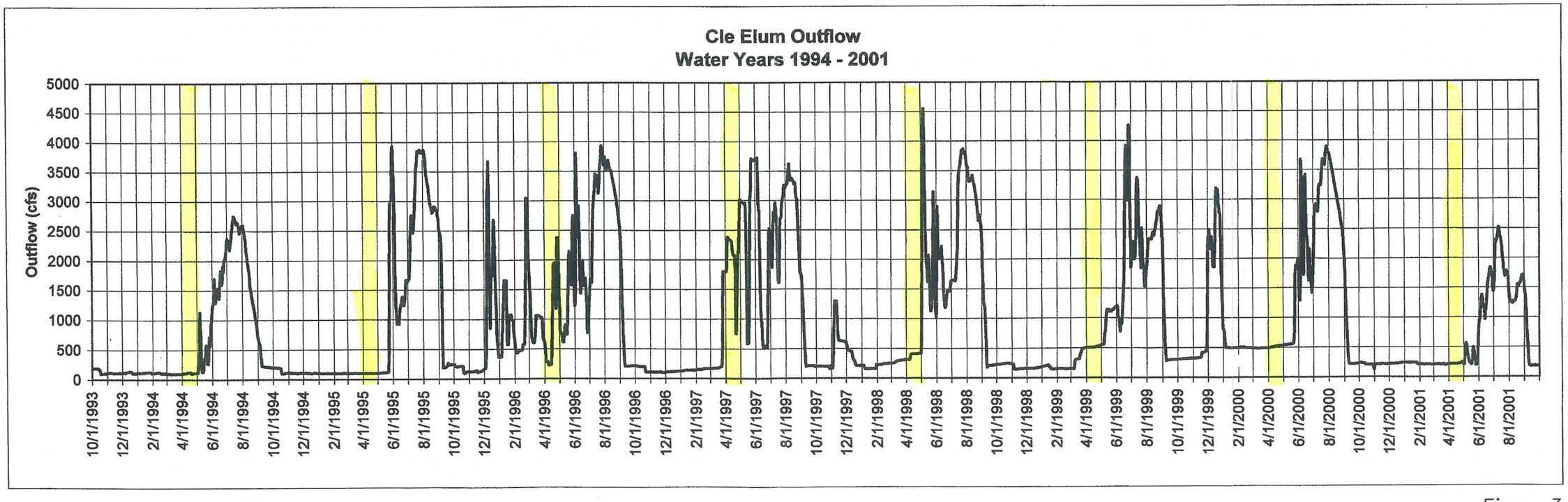
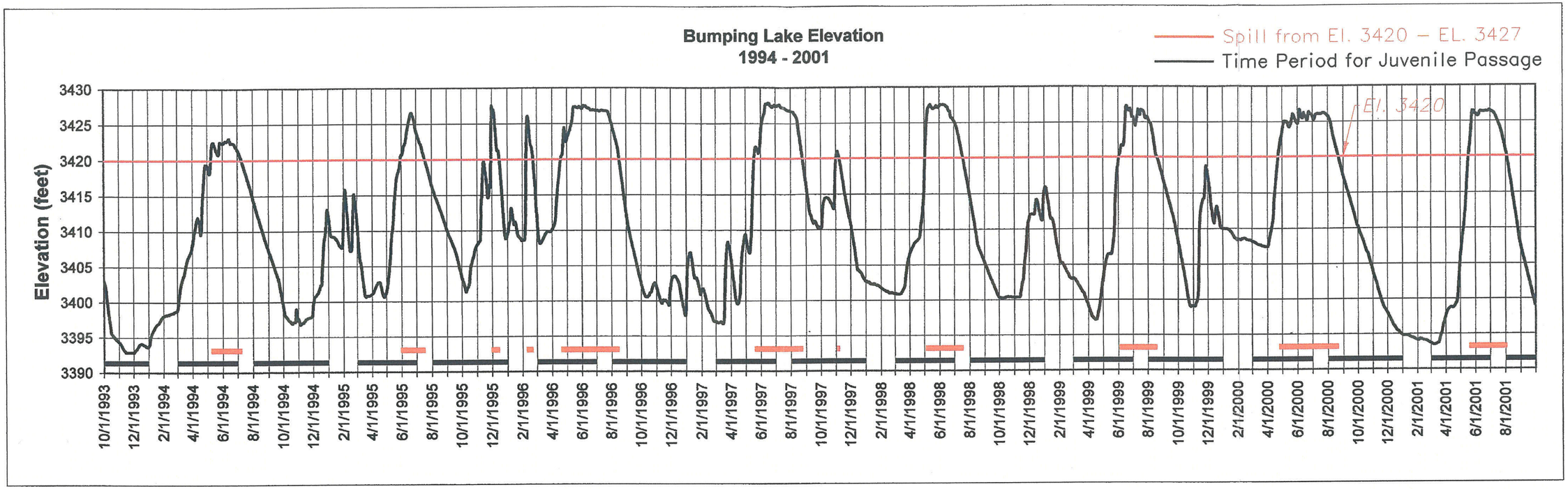
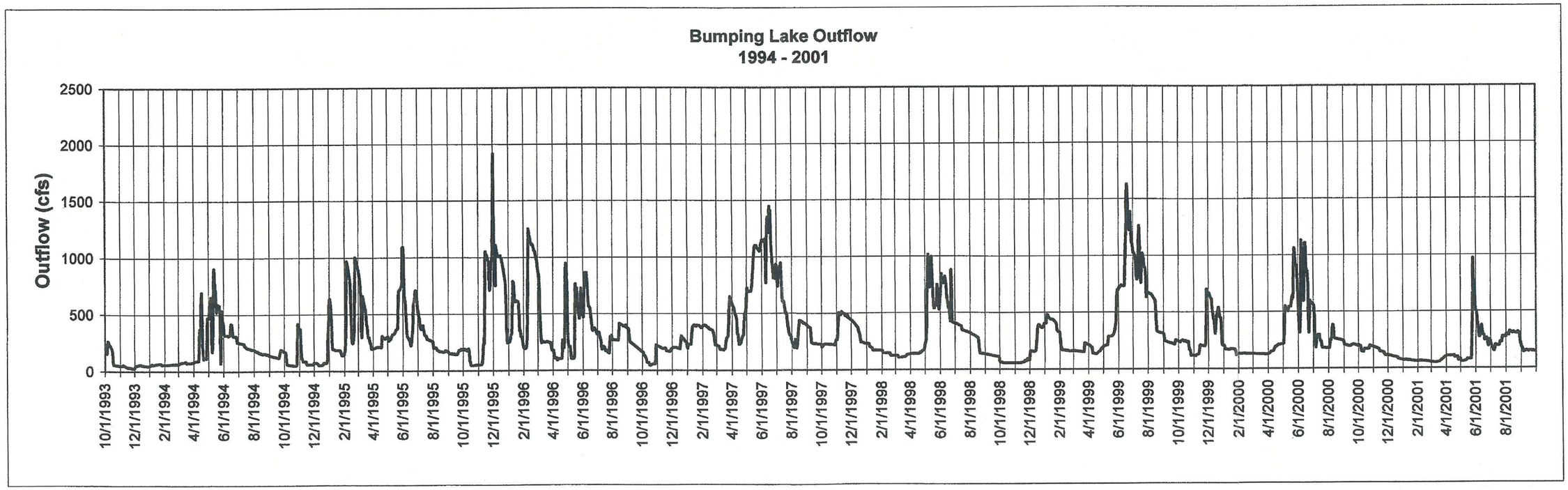
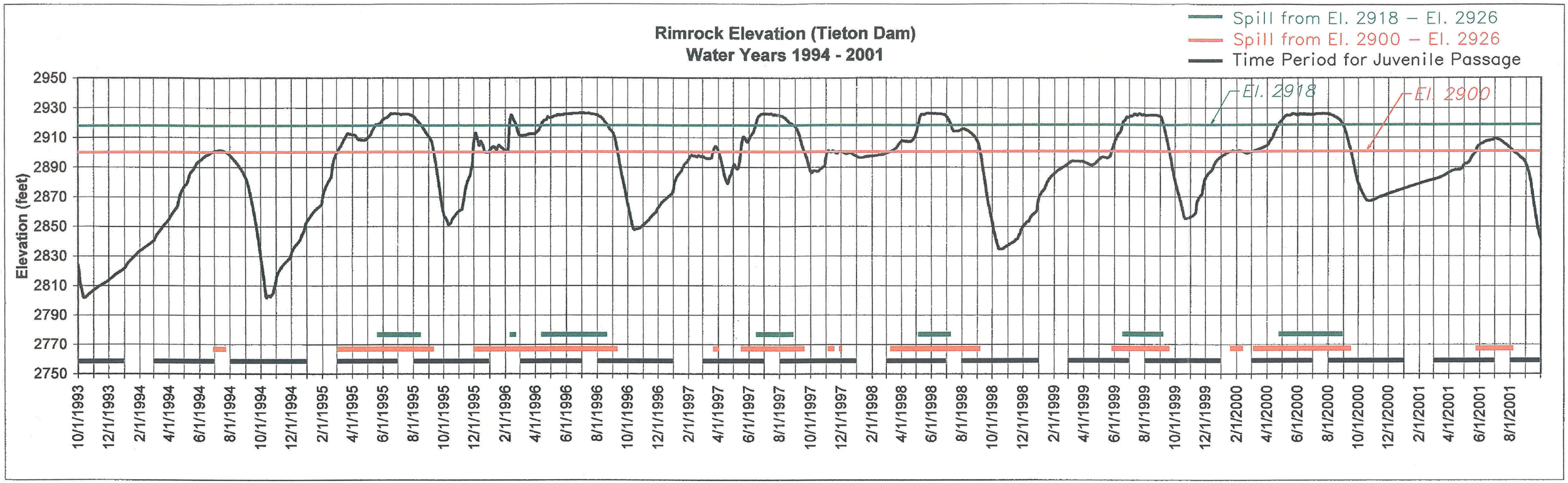


Figure 3


Bumping Lake Elevation
1994 - 2001
Spill from El. 3420 – EL. 3427
Time Period for Juvenile Passage
El. 3420
Elevation (feet)
3430
3425
3420
3415
3410
3405
3400
3395
3390
10/1/1993
12/1/1993
2/1/1994
4/1/1994
6/1/1994
8/1/1994
10/1/1994
12/1/1994
2/1/1995
4/1/1995
6/1/1995
8/1/1995
10/1/1995
12/1/1995
2/1/1996
4/1/1996
6/1/1996
8/1/1996
10/1/1996
12/1/1996
2/1/1997
4/1/1997
6/1/1997
8/1/1997
10/1/1997
12/1/1997
2/1/1998
4/1/1998
6/1/1998
8/1/1998
10/1/1998
12/1/1998
2/1/1999
4/1/1999
6/1/1999
8/1/1999
10/1/1999
12/1/1999
2/1/2000
4/1/2000
6/1/2000
8/1/2000
10/1/2000
12/1/2000
2/1/2001
4/1/2001
6/1/2001
8/1/2001


Bumping Lake Outflow
1994 - 2001
Outflow (cfs)
2500
2000
1500
1000
500
0
10/1/1993
12/1/1993
2/1/1994
4/1/1994
6/1/1994
8/1/1994
10/1/1994
12/1/1994
2/1/1995
4/1/1995
6/1/1995
8/1/1995
10/1/1995
12/1/1995
2/1/1996
4/1/1996
6/1/1996
8/1/1996
10/1/1996
12/1/1996
2/1/1997
4/1/1997
6/1/1997
8/1/1997
10/1/1997
12/1/1997
2/1/1998
4/1/1998
6/1/1998
8/1/1998
10/1/1998
12/1/1998
2/1/1999
4/1/1999
6/1/1999
8/1/1999
10/1/1999
12/1/1999
2/1/2000
4/1/2000
6/1/2000
8/1/2000
10/1/2000
12/1/2000
2/1/2001
4/1/2001
6/1/2001
8/1/2001


Rimrock Elevation (Tieton Dam)
Water Years 1994 - 2001
Spill from El. 2918 – El. 2926
Spill from El. 2900 – El. 2926
Time Period for Juvenile Passage
El. 2918
El. 2900
Elevation (feet)
2950
2930
2910
2890
2870
2850
2830
2810
2790
2770
2750
10/1/1993
12/1/1993
2/1/1994
4/1/1994
6/1/1994
8/1/1994
10/1/1994
12/1/1994
2/1/1995
4/1/1995
6/1/1995
8/1/1995
10/1/1995
12/1/1995
2/1/1996
4/1/1996
6/1/1996
8/1/1996
10/1/1996
12/1/1996
2/1/1997
4/1/1997
6/1/1997
8/1/1997
10/1/1997
12/1/1997
2/1/1998
4/1/1998
6/1/1998
8/1/1998
10/1/1998
12/1/1998
2/1/1999
4/1/1999
6/1/1999
8/1/1999
10/1/1999
12/1/1999
2/1/2000
4/1/2000
6/1/2000
8/1/2000
10/1/2000
12/1/2000
2/1/2001
4/1/2001
6/1/2001
8/1/2001

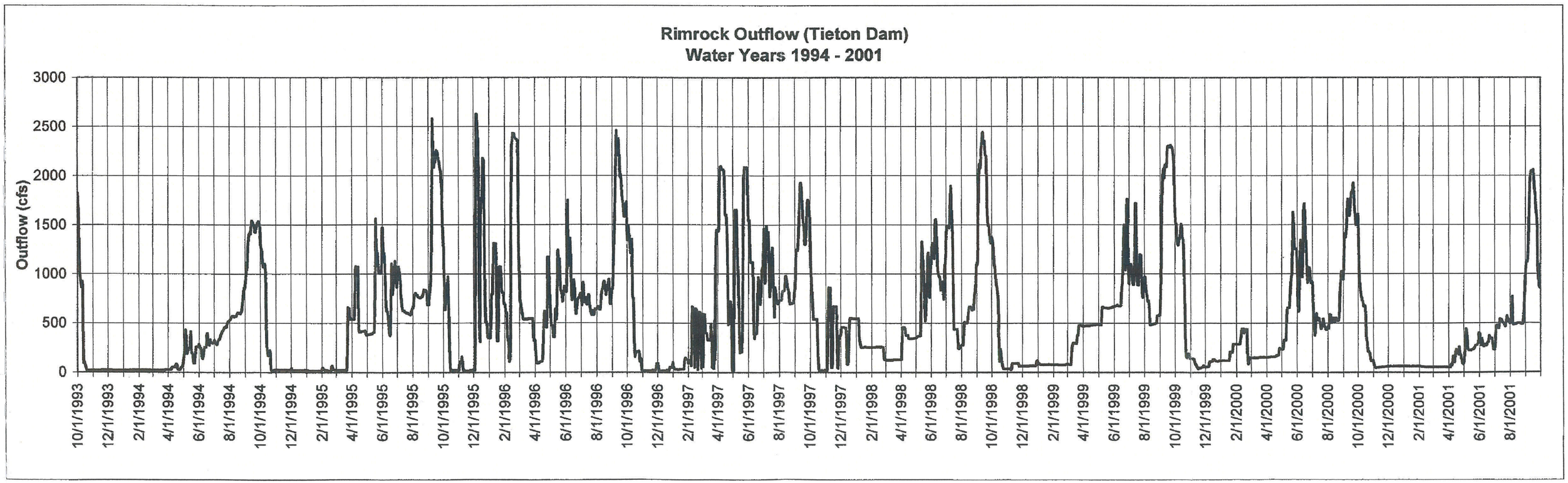

Rimrock Outflow (Tieton Dam)
Water Years 1994 - 2001
Outflow (cfs)
3000
2500
2000
1500
1000
500
0
10/1/1993
12/1/1993
2/1/1994
4/1/1994
6/1/1994
8/1/1994
10/1/1994
12/1/1994
2/1/1995
4/1/1995
6/1/1995
8/1/1995
10/1/1995
12/1/1995
2/1/1996
4/1/1996
6/1/1996
8/1/1996
10/1/1996
12/1/1996
2/1/1997
4/1/1997
6/1/1997
8/1/1997
10/1/1997
12/1/1997
2/1/1998
4/1/1998
6/1/1998
8/1/1998
10/1/1998
12/1/1998
2/1/1999
4/1/1999
6/1/1999
8/1/1999
10/1/1999
12/1/1999
2/1/2000
4/1/2000
6/1/2000
8/1/2000
10/1/2000
12/1/2000
2/1/2001
4/1/2001
6/1/2001
8/1/2001

Figure 5

RESERVOIR OUTFLOW DATA

Keechelus Dam - Exceedance Flows
Water Years 1950 - 2001

Reservoir Elevation Range	Reservoir Outflow (cfs)					
		Exceedance Percent				
	Max.	90%	75%	50%	25%	10%
El.2510 - El.2517	1940	81	286	509	747	957
El.2500 - El.2510	1950	8	61	344	716	936
El.2490 - El.2500	1730	2	13	240	674	953
El.2480 - El.2490	2092	2	13	143	519	922
El.2470 - El.2480	2370	1	8	101	444	824
El.2460 - El.2470	2205	1	6	68	374	804
El.2450 - El.2460	1651	1	5	71	370	900
El.2440 - El.2450	1550	1	6	66	184	707
El.2430 - El.2440	942	1	1	53	165	595

Cle Elum Dam - Exceedance Flows
Water Years 1950 - 2001

Reservoir Elevation Range	Reservoir Outflow (cfs)					
		Exceedance Percent				
	Max.	90%	75%	50%	25%	10%
El.2230 - El.2240	5980	308	1150	1850	2390	2951
El.2220 - El.2230	3880	78	222	932	2365	3020
El.2210 - El.2220	4084	39	114	540	1805	2840
El.2200 - El.2210	4180	34	60	380	1413	2700
El.2190 - El.2200	4060	27	51	156	1270	2650
El.2180 - El.2190	3750	19	44	128	1140	2690
El.2170 - El.2180	3461	1	44	132	1130	2576
El.2160 - El.2170	3139	2	35	125	974	2152
El.2150 - El.2160	2818	23	58	168	276	1887
El.2140 - El.2150	2417	1	19	105	271	1970

Bumping Lake Dam - Exceedance Flows
Water Years 1950 - 2001

Reservoir Elevation Range	Reservoir Outflow (cfs)					
		Exceedance Percent				
	Max.	90%	75%	50%	25%	10%
El.3420 - El.3427	2486	148	248	450	740	1066
El.3410 - El.3420	1200	80	157	251	410	650
El.3400 - El.3410	950	61	128	190	288	428
El.3390 - El.3400	562	56	80	118	174	238

Tieton Dam - Exceedance Flows
Water Years 1950 - 2001

Reservoir Elevation Range	Reservoir Outflow (cfs)					
		Exceedance Percent				
	Max.	90%	75%	50%	25%	10%
El.2920 - El.2927	3340	388	567	836	1169	1453
El.2910 - El.2920	2628	101	308	597	1030	1360
El.2900 - El.2910	2670	19	135	396	860	1350
El.2890 - El.2900	2613	8	86	265	644	1139
El.2880 - El.2890	2454	7	33	172	669	1246
El.2870 - El.2880	2513	3	39	114	681	1280
El.2860 - El.2870	2548	0	8	44	573	1389
El.2850 - El.2860	2439	0	7	19	191	1307
El.2840 - El.2850	2294	0	8	56	246	981
El.2830 - El.2840	2006	2	18	47	365	868

Kachess Dam - Exceedance Flows
Water Years 1950 - 2001

Reservoir Elevation Range	Reservoir Outflow (cfs)					
		Exceedance Percent				
	Max.	90%	75%	50%	25%	10%
El.2250 - El.2260	1764	5	14	274	607	881
El.2240 - El.2250	2060	2	4	15	436	850
El.2230 - El.2240	2083	2	3	9	382	880
El.2220 - El.2230	1880	1	2	6	343	1048
El.2210 - El.2220	1324	1	2	4	452	946
El.2200 - El.2210	907	1	2	21	189	539
El.2190 - El.2200	122	27	31	38	48	53