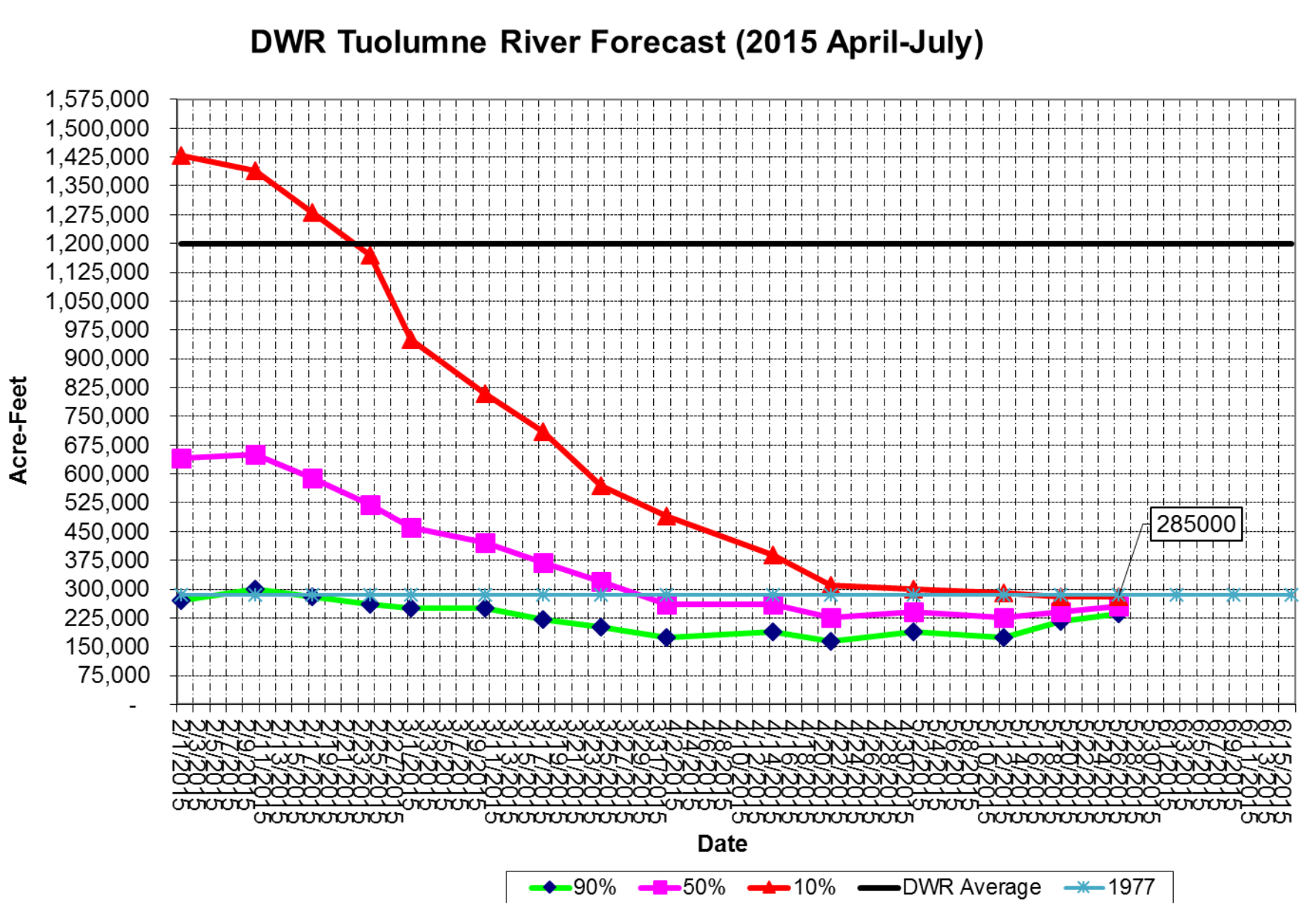
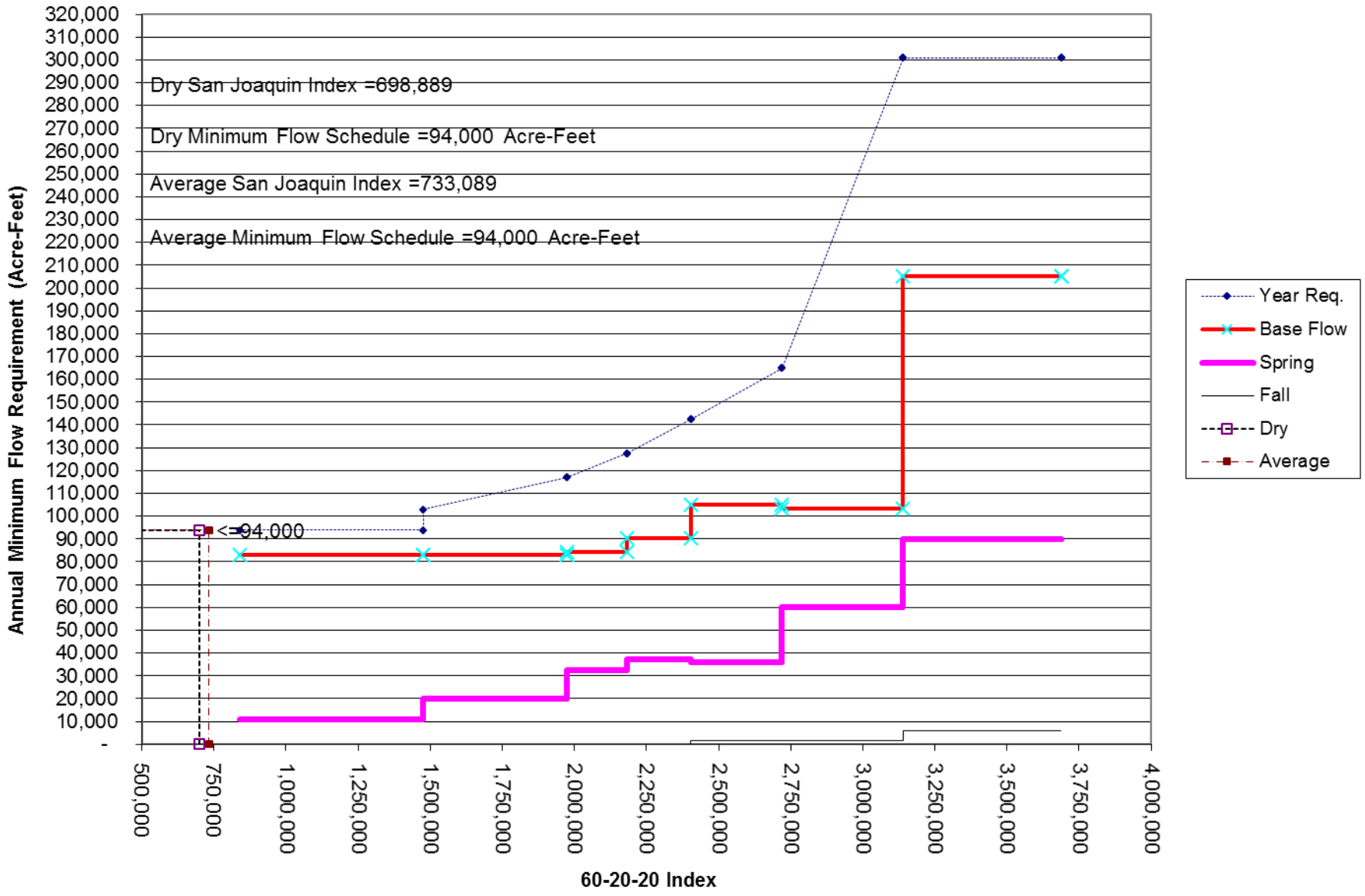

DWR Tuolumne River Forecast (2015 April-July)
Acre-Feet
1,575,000
1,500,000
1,425,000
1,350,000
1,275,000
1,200,000
1,125,000
1,050,000
975,000
900,000
825,000
750,000
675,000
600,000
525,000
450,000
375,000
300,000
225,000
150,000
75,000
-
285000
Date
90%
50%
10%
DWR Average
1977

SAN JOAQUIN VALLEY WATER YEAR HYDROLOGIC CLASSIFICATION

602020 INDEX

	APRIL-JULY RUNOFF (AF)					OCTOBER-MARCH RUNOFF (AF)							San Joaquin Index (not the FERC Index)
YEAR	STANISLAUS	TUOLUMNE	MERCED	FRIANT	TOTAL	STANISLAUS	TUOLUMNE	MERCED	FRIANT	TOTAL	602020 INDEX	TUOLUMNE RIVER MINIMUM FLOW REQUIREMENT	
15	110,000	255,000	90,000	160,000	615,000	193,000	277,000	66,000	124,000	660,000	733,089	94,000	Critical
Feb 1 Forecast													
Dry	100,000	270,000	105,000	270,000	745,000	97,000	189,000	52,000	108,000	446,000	768,289	94,000	Critical
Average	350,000	640,000	270,000	550,000	1,810,000	207,000	329,000	122,000	198,000	856,000	1,489,289	103,370	Critical
Wet	810,000	1,430,000	780,000	1,370,000	4,390,000	327,000	519,000	267,000	358,000	1,471,000	3,160,289	300,923	Above Normal
Feb 10 Update													
Dry	120,000	300,000	110,000	280,000	810,000	97,000	189,000	52,000	108,000	446,000	807,289	94,000	Critical
Average	360,000	650,000	270,000	530,000	1,810,000	207,000	329,000	122,000	198,000	856,000	1,489,289	103,370	Critical
Wet	800,000	1,390,000	730,000	1,280,000	4,200,000	327,000	519,000	267,000	358,000	1,471,000	3,046,289	270,816	Below Normal
Feb 17 Update													
Dry	105,000	280,000	110,000	240,000	735,000	97,000	189,000	52,000	108,000	446,000	762,289	94,000	Critical
Average	330,000	590,000	240,000	440,000	1,600,000	207,000	329,000	122,000	198,000	856,000	1,363,289	94,000	Critical
Wet	750,000	1,280,000	660,000	1,130,000	3,820,000	327,000	519,000	267,000	358,000	1,471,000	2,818,289	196,834	Below Normal
Feb 24 Update													
Dry	100,000	260,000	100,000	230,000	690,000	97,000	189,000	52,000	108,000	446,000	735,289	94,000	Critical
Average	300,000	520,000	200,000	370,000	1,390,000	207,000	329,000	122,000	198,000	856,000	1,237,289	94,000	Critical
Wet	700,000	1,170,000	580,000	1,000,000	3,450,000	327,000	519,000	267,000	358,000	1,471,000	2,596,289	156,207	Below Normal
Mar 1 Forecast													
Dry	95,000	250,000	95,000	220,000	660,000	182,000	285,000	75,000	134,000	676,000	763,289	94,000	Critical
Average	260,000	460,000	155,000	320,000	1,195,000	237,000	350,000	100,000	169,000	856,000	1,120,289	94,000	Critical
Wet	590,000	950,000	480,000	850,000	2,870,000	307,000	435,000	170,000	234,000	1,146,000	2,183,289	127,524	Dry
Mar 10 Update													
Dry	90,000	250,000	90,000	210,000	640,000	182,000	285,000	75,000	134,000	676,000	751,289	94,000	Critical
Average	240,000	420,000	135,000	280,000	1,075,000	237,000	350,000	100,000	169,000	856,000	1,048,289	94,000	Critical
Wet	520,000	810,000	420,000	740,000	2,490,000	307,000	435,000	170,000	234,000	1,146,000	1,955,289	116,518	Critical
Mar 17 Update													
Dry	85,000	220,000	85,000	180,000	570,000	182,000	285,000	75,000	134,000	676,000	709,289	94,000	Critical
Average	220,000	370,000	130,000	240,000	960,000	237,000	350,000	100,000	169,000	856,000	979,289	94,000	Critical
Wet	470,000	710,000	390,000	640,000	2,210,000	307,000	435,000	170,000	234,000	1,146,000	1,787,289	111,778	Critical
Mar 24 Update													
Dry	80,000	200,000	75,000	160,000	515,000	182,000	285,000	75,000	134,000	676,000	676,289	94,000	Critical
Average	180,000	320,000	105,000	190,000	795,000	237,000	350,000	100,000	169,000	856,000	880,289	94,000	Critical
Wet	400,000	570,000	310,000	500,000	1,780,000	307,000	435,000	170,000	234,000	1,146,000	1,529,289	104,499	Critical
Apr 1 Forecast													
Dry	170,000	380,000	130,000	280,000	960,000	123,000	166,000	56,000	114,000	459,000	899,889	94,000	Critical
Average	290,000	550,000	185,000	400,000	1,425,000	123,000	166,000	56,000	114,000	459,000	1,178,889	94,000	Critical
Wet	530,000	920,000	420,000	740,000	2,610,000	123,000	166,000	56,000	114,000	459,000	1,889,889	114,673	Critical
Apr 14 Update													
Dry	85,000	190,000	65,000	130,000	470,000	123,000	166,000	56,000	114,000	459,000	605,889	94,000	Critical
Average	155,000	260,000	90,000	155,000	660,000	123,000	166,000	56,000	114,000	459,000	719,889	94,000	Critical
Wet	300,000	390,000	210,000	330,000	1,230,000	123,000	166,000	56,000	114,000	459,000	1,061,889	94,000	Critical
Apr 21 Update													
Dry	75,000	165,000	55,000	105,000	400,000	123,000	166,000	56,000	114,000	459,000	563,889	94,000	Critical
Average	130,000	225,000	74,000	125,000	554,000	123,000	166,000	56,000	114,000	459,000	656,289	94,000	Critical
Wet	240,000	310,000	170,000	260,000	980,000	123,000	166,000	56,000	114,000	459,000	911,889	94,000	Critical
May 1 Forecast													
Dry	70,000	190,000	65,000	105,000	430,000	193,000	277,000	66,000	124,000	660,000	622,089	94,000	Critical
Average	95,000	240,000	85,000	130,000	550,000	193,000	277,000	66,000	124,000	660,000	694,089	94,000	Critical
Wet	160,000	300,000	140,000	210,000	810,000	193,000	277,000	66,000	124,000	660,000	850,089	94,000	Critical
May 12 Update													
Dry	69,000	175,000	65,000	100,000	409,000	193,000	277,000	66,000	124,000	660,000	609,489	94,000	Critical
Average	95,000	227,000	80,000	139,000	541,000	193,000	277,000	66,000	124,000	660,000	688,689	94,000	Critical
Wet	140,000	290,000	110,000	185,000	725,000	193,000	277,000	66,000	124,000	660,000	799,089	94,000	Critical
May 19 Update													
Dry	88,000	215,000	73,000	115,000	491,000	193,000	277,000	66,000	124,000	660,000	658,689	94,000	Critical
Average	100,000	240,000	85,000	143,000	568,000	193,000	277,000	66,000	124,000	660,000	704,889	94,000	Critical
Wet	135,000	280,000	105,000	180,000	700,000	193,000	277,000	66,000	124,000	660,000	784,089	94,000	Critical
May 26 Update													
Dry	100,000	235,000	83,000	140,000	558,000	193,000	277,000	66,000	124,000	660,000	698,889	94,000	Critical
Average	110,000	255,000	90,000	160,000	615,000	193,000	277,000	66,000	124,000	660,000	733,089	94,000	Critical
Wet	135,000	280,000	100,000	185,000	700,000	193,000	277,000	66,000	124,000	660,000	784,089	94,000	Critical


TUOLUMNE RIVER MINIMUM FLOW REQUIREMENT (Figure 1)
Annual Flow Requirement
Dry San Joaquin Index =698,889
Dry Minimum Flow Schedule =94,000 Acre-Feet
Average San Joaquin Index =733,089
Average Minimum Flow Schedule =94,000 Acre-Feet
<=94,000
Annual Minimum Flow Requirement (Acre-Feet)
320,000
310,000
300,000
290,000
280,000
270,000
260,000
250,000
240,000
230,000
220,000
210,000
200,000
190,000
180,000
170,000
160,000
150,000
140,000
130,000
120,000
110,000
100,000
90,000
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
-
500,000
750,000
1,000,000
1,250,000
1,500,000
1,750,000
2,000,000
2,250,000
2,500,000
2,750,000
3,000,000
3,250,000
3,500,000
3,750,000
4,000,000
60-20-20 Index
Year Req.
Base Flow
Spring
Fall
Dry
Average

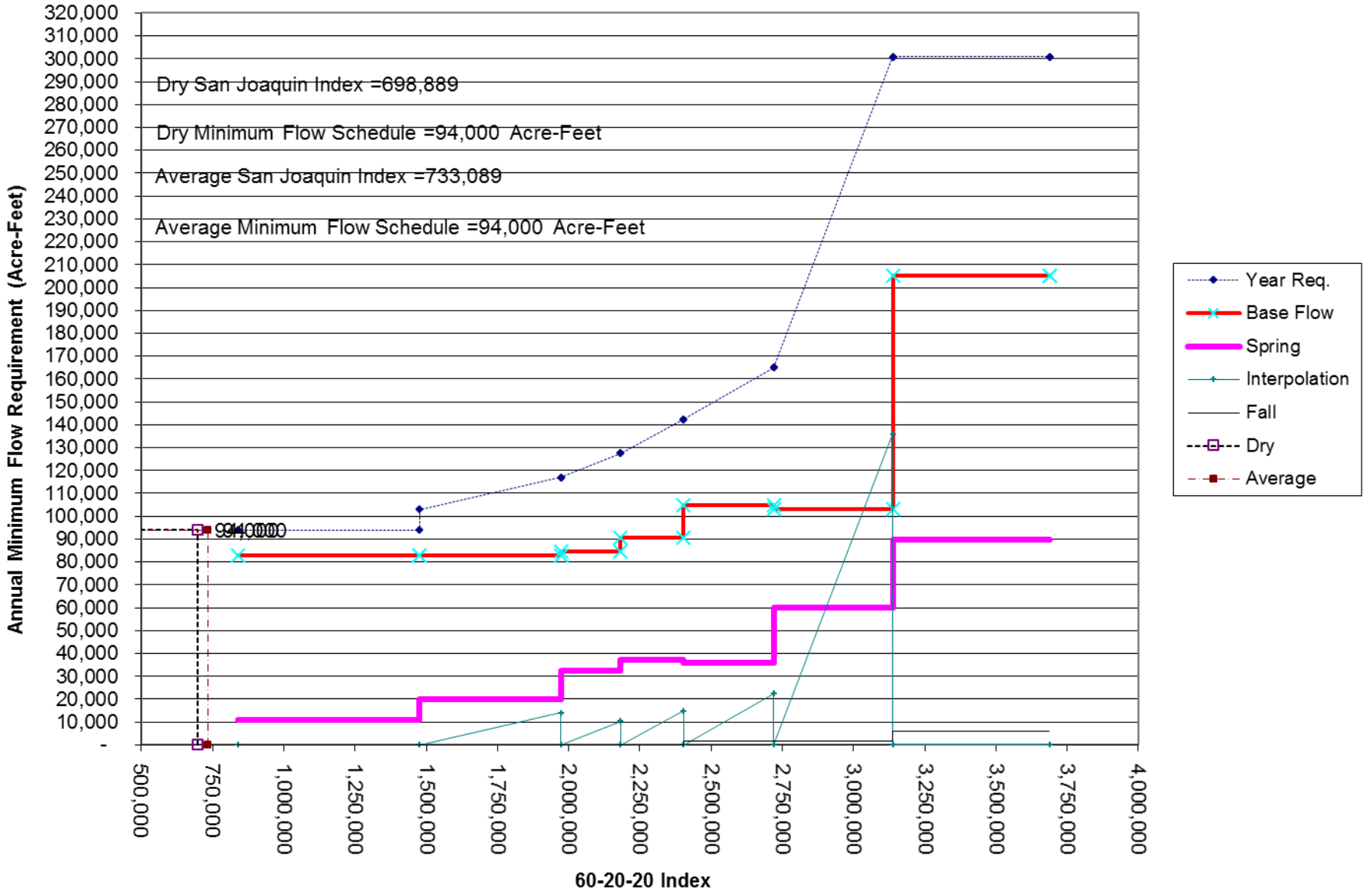

TUOLUMNE RIVER MINIMUM FLOW REQUIREMENT (Figure 4)
Interpolation Volume
Dry San Joaquin Index =698,889
Dry Minimum Flow Schedule =94,000 Acre-Feet
Average San Joaquin Index =733,089
Average Minimum Flow Schedule =94,000 Acre-Feet
Annual Minimum Flow Requirement (Acre-Feet)
60-20-20 Index
Year Req.
Base Flow
Spring
Interpolation
Fall
Dry
Average

Table 1

Tuolumne River Flow Schedule

Based on DWR Forecast Update, 60-20-20 Index for 2015, Hydrologic Conditions

Schedule For 2015-2016 Fish Flow Year

DATE		Number of	BASE FLOW [1]			PULSE FLOW [2]			INTERPOLATION FLOW			Other Adjusted Flow			TOTAL FERC FLOW	
					ACCUM.			ACCUM.			ACCUM.			ACCUM.		ACCUM.[1]
From:	To:	DAYS	CFS	AF	A.F.	CFS	AF	A.F.	CFS	AF	A.F.	CFS	AF	A.F.	CFS	A.F.
01-Apr-2015	01-Apr-2015	1	150	298		0	0	0	0	0	0	0	0	0	150	0
02-Apr-2015	02-Apr-2015	1	150	298		0	0	0	0	0	0	0	0	0	150	0
03-Apr-2015	03-Apr-2015	1	150	298		284	564	564	0	0	0	0	0	0	434	564
04-Apr-2015	04-Apr-2015	1	150	298		719	1,427	1,991	0	0	0	0	0	0	869	1,991
05-Apr-2015	05-Apr-2015	1	150	298		1,222	2,423	4,413	0	0	0	0	0	0	1,372	4,413
06-Apr-2015	06-Apr-2015	1	150	298		624	1,237	5,651	0	0	0	0	0	0	774	5,651
07-Apr-2015	07-Apr-2015	1	150	298		452	897	6,547	0	0	0	0	0	0	602	6,547
08-Apr-2015	08-Apr-2015	1	150	298		452	897	7,444	0	0	0	0	0	0	602	7,444
09-Apr-2015	09-Apr-2015	1	150	298		452	897	8,340	0	0	0	0	0	0	602	8,340
10-Apr-2015	10-Apr-2015	1	150	298		452	897	9,237	0	0	0	0	0	0	602	9,237
11-Apr-2015	11-Apr-2015	1	150	298		641	1,271	10,508	0	0	0	0	0	0	791	10,508
12-Apr-2015	12-Apr-2015	1	150	298		201	398	10,906	0	0	0	0	0	0	351	10,906
13-Apr-2015	13-Apr-2015	1	150	298		93	185	11,091	0	0	0	0	0	0	243	11,091
14-Apr-2015	14-Apr-2015	1	150	298		0	0	11,091	0	0	0	0	0	0	150	11,091
15-Apr-2015	15-Apr-2015	1	150	298	298	0	0	11,091	0	0	0	0	0	0	150	11,389
16-Apr-2015	30-Apr-2015	15	150	4,463	4,760	0	0	11,091	0	0	0	0	0	0	150	15,851
01-May-2015	01-May-2015	1	150	298	5,058	0	0	11,091	0	0	0	0	0	0	150	16,149
02-May-2015	02-May-2015	1	150	298	5,355	0	0	11,091	0	0	0	0	0	0	150	16,447
03-May-2015	03-May-2015	1	150	298	5,653	0	0	11,091	0	0	0	0	0	0	150	16,744
04-May-2015	04-May-2015	1	150	298	5,950	0	0	11,091	0	0	0	0	0	0	150	17,042
05-May-2015	05-May-2015	1	150	298	6,248	0	0	11,091	0	0	0	0	0	0	150	17,339
06-May-2015	06-May-2015	1	150	298	6,545	0	0	11,091	0	0	0	0	0	0	150	17,637
07-May-2015	07-May-2015	1	150	298	6,843	0	0	11,091	0	0	0	0	0	0	150	17,934
08-May-2015	08-May-2015	1	150	298	7,140	0	0	11,091	0	0	0	0	0	0	150	18,232
09-May-2015	09-May-2015	1	150	298	7,438	0	0	11,091	0	0	0	0	0	0	150	18,529
10-May-2015	10-May-2015	1	150	298	7,736	0	0	11,091	0	0	0	0	0	0	150	18,827
11-May-2015	11-May-2015	1	150	298	8,033	0	0	11,091	0	0	0	0	0	0	150	19,124
12-May-2015	12-May-2015	1	150	298	8,331	0	0	11,091	0	0	0	0	0	0	150	19,422
13-May-2015	13-May-2015	1	150	298	8,628	0	0	11,091	0	0	0	0	0	0	150	19,719
14-May-2015	14-May-2015	1	150	298	8,926	0	0	11,091	0	0	0	0	0	0	150	20,017
15-May-2015	15-May-2015	1	150	298	9,223	0	0	11,091	0	0	0	0	0	0	150	20,314
16-May-2015	16-May-2015	1	150	298	9,521	0	0	11,091	0	0	0	0	0	0	150	20,612
17-May-2015	17-May-2015	1	150	298	9,818	0	0	11,091	0	0	0	0	0	0	150	20,909
18-May-2015	18-May-2015	1	150	298	10,116	0	0	11,091	0	0	0	0	0	0	150	21,207
19-May-2015	19-May-2015	1	150	298	10,413	0	0	11,091	0	0	0	0	0	0	150	21,504
20-May-2015	20-May-2015	1	150	298	10,711	0	0	11,091	0	0	0	0	0	0	150	21,802
21-May-2015	21-May-2015	1	150	298	11,008	0	0	11,091	0	0	0	0	0	0	150	22,099
22-May-2015	22-May-2015	1	150	298	11,306	0	0	11,091	0	0	0	0	0	0	150	22,397
23-May-2015	23-May-2015	1	150	298	11,603	0	0	11,091	0	0	0	0	0	0	150	22,694
24-May-2015	24-May-2015	1	150	298	11,901	0	0	11,091	0	0	0	0	0	0	150	22,992
25-May-2015	25-May-2015	1	150	298	12,198	0	0	11,091	0	0	0	0	0	0	150	23,289
26-May-2015	26-May-2015	1	150	298	12,496	0	0	11,091	0	0	0	0	0	0	150	23,587
27-May-2015	27-May-2015	1	150	298	12,793	0	0	11,091	0	0	0	0	0	0	150	23,885
28-May-2015	28-May-2015	1	150	298	13,091	0	0	11,091	0	0	0	0	0	0	150	24,182
29-May-2015	29-May-2015	1	150	298	13,388	0	0	11,091	0	0	0	0	0	0	150	24,480
30-May-2015	30-May-2015	1	150	298	13,686	0	0	11,091	0	0	0	0	0	0	150	24,777
31-May-2015	31-May-2015	1	150	298	13,983	0	0	11,091	0	0	0	0	0	0	150	25,075
01-Jun-2015	01-Jun-2015	1	50	99	14,083	0	0	11,091	0	0	0	0	0	0	50	25,174
02-Jun-2015	02-Jun-2015	1	50	99	14,182	0	0	11,091	0	0	0	0	0	0	50	25,273
03-Jun-2015	03-Jun-2015	1	50	99	14,281	0	0	11,091	0	0	0	0	0	0	50	25,372
04-Jun-2015	04-Jun-2015	1	50	99	14,380	0	0	11,091	0	0	0	0	0	0	50	25,471
05-Jun-2015	05-Jun-2015	1	50	99	14,479	0	0	11,091	0	0	0	0	0	0	50	25,570
06-Jun-2015	06-Jun-2015	1	50	99	14,579	0	0	11,091	0	0	0	0	0	0	50	25,670
07-Jun-2015	30-Jun-2015	24	50	2,380	16,959	0	0	11,091	0	0	0	0	0	0	50	28,050
01-Jul-2015	31-Jul-2015	31	50	3,074	20,033	0	0	11,091	0	0	0	0	0	0	50	31,124
01-Aug-2015	31-Aug-2015	31	50	3,074	23,107	0	0	11,091	0	0	0	0	0	0	50	34,199
01-Sep-2015	30-Sep-2015	30	50	2,975	26,083	0	0	11,091	0	0	0	0	0	0	50	37,174
01-Oct-2015	01-Oct-2015	1	100	198	26,281	0	0	11,091	0	0	0	0	0	0	100	37,372
02-Oct-2015	07-Oct-2015	6	100	1,190	27,471	0	0	11,091	0	0	0	0	0	0	100	38,562
08-Oct-2015	15-Oct-2015	8	100	1,587	29,058	0	0	11,091	0	0	0	0	0	0	100	40,149
16-Oct-2015	17-Oct-2015	2	150	595	29,653	0	0	11,091	0	0	0	0	0	0	150	40,744
18-Oct-2015	19-Oct-2015	2	150	595	30,248	0	0	11,091	0	0	0	0	0	0	150	41,339
20-Oct-2015	31-Oct-2015	12	150	3,570	33,818	0	0	11,091	0	0	0	0	0	0	150	44,909
01-Nov-2015	30-Nov-2015	30	150	8,926	42,744	0	0	11,091	0	0	0	0	0	0	150	53,835
01-Dec-2015	31-Dec-2015	31	150	9,223	51,967	0	0	11,091	0	0	0	0	0	0	150	63,058
01-Jan-2016	31-Jan-2016	31	150	9,223	61,190	0	0	11,091	0	0	0	0	0	0	150	72,281
01-Feb-2016	29-Feb-2016	29	150	8,628	69,818	0	0	11,091	0	0	0	0	0	0	150	80,909
01-Mar-2016	31-Mar-2016	31	150	9,223	79,041	0	0	11,091	0	0	0	0	0	0	150	90,132
01-Apr-2016	14-Apr-2016	14	150	4,165	83,207	0	0	11,091	0	0	0	0	0	0	150	94,298
No. of days		380	(April 1 through April 14)													

1 cfs day = 1.983471 acre-feet (af)

1. Total accumulation amount pertains to 2015-2016 Fish Year only.
2. The pulse flows are a target that represents a daily average.

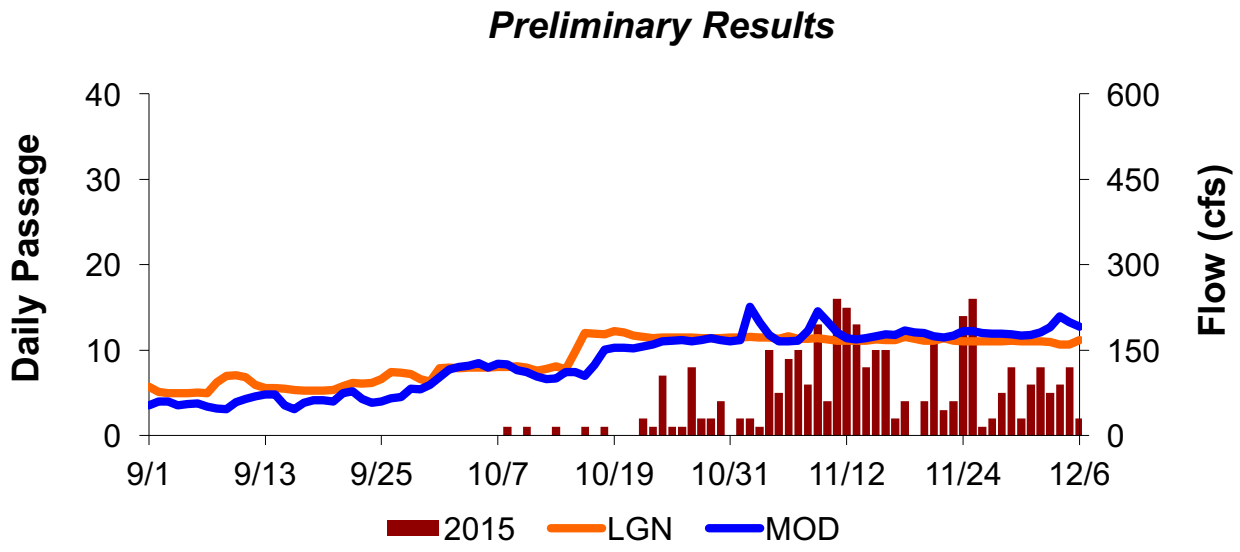


Figure 1. 2015 Lower Tuoumne River Chinook Passage. Total passage = 278 as of December 6, 2015.

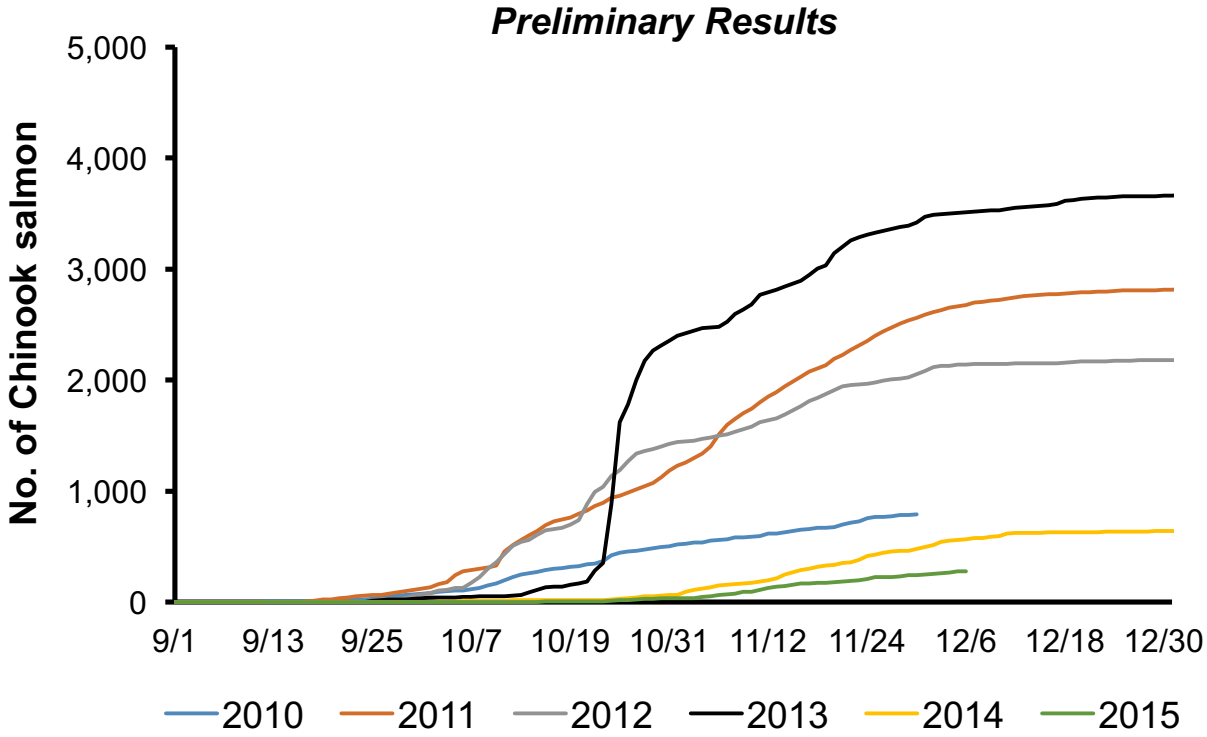


Figure 2. 2010-2015 Lower Tuolumne River Fish Passage.

Source: FISHBIO preliminary data.

Preliminary Data

Week	Date	# Live	# Redds	# Skeletons	# Tagged	# AdClipped	# Scale Samples	# Recovered	Average Flow (cfs)	Comments
0	9/28/15	0	1	0	0	0	0	0	211	
1	10/5/15	0	1	0	0	0	0	0	254	
2	10/12/15	8	2	0	0	0	0	0	245	
3	10/19/15	3	1	0	0	0	0	0	307	
4	10/26/15	12	1	0	0	0	0	0	1078	Partial Suvey due to High Flows
5	11/2/15	42	5	0	0	0	0	0	1030	Partial Suvey due to High Flows
6	11/9/15	1085	392	12	7	2	7	0	280	
7	11/16/15	993	618	38	62	14	62	0	204	
8	11/23/15	1192	988	187	186	32	186	12	209	
9	11/30/15	1127	1032	349	186	27	186	35	209	
10										
11										
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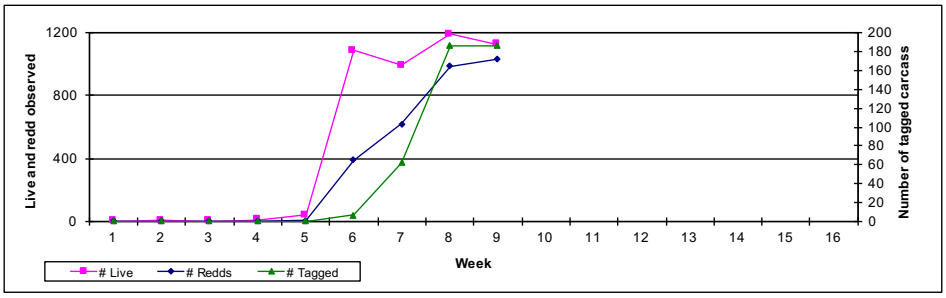
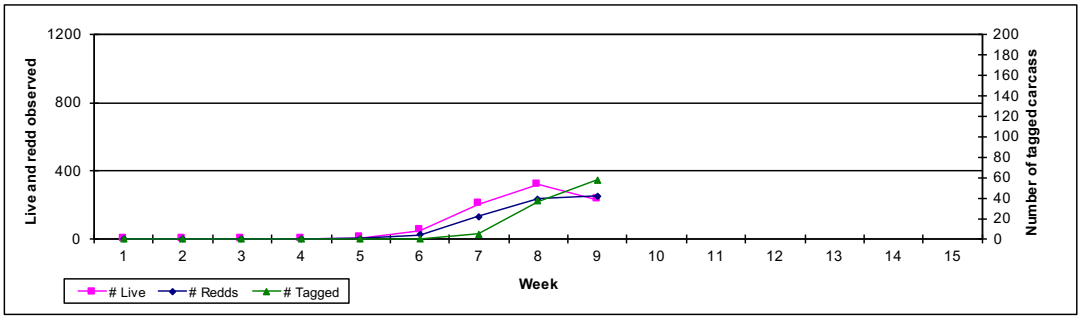


Preliminary Data

Week	Date	# Live	# Redds	# Skeletons	# Tagged	# AdClipped	# Scale Samples	# Recovered	Average Flow (cfs)	# Females spawned @ MRFF	Comments
1	10/5/15	0	0	0	0	0	0	0	94		
2	10/12/15	0	0	0	0	0	0	0	100		
3	10/19/15	0	0	0	0	0	0	0	550		
4	10/26/15	0	0	0	0	0	0	0	600		
5	11/2/15	7	1	0	0	0	0	0	220	15	
6	11/9/15	51	24	0	0	0	0	0	200	41	
7	11/16/15	205	132	2	5	1	5	0	186	64	
8	11/23/15	320	233	14	37	7	37	0	225	146	
9	11/30/15	229	253	21	58	13	28	9	270	34	
10											
11											
12											
13											
14											
15											



Preliminary Data

Week	Date	# Live	# Redds	# Skeletons	# Tagged	# AdClipped	# Scale Samples	# Recovered	Average Flow (cfs)	Comments
1	10/5/15	0	1	0	0	0	0	0	119	
2	10/12/15	0	0	0	0	0	0	0	118	
3	10/19/15	0	0	0	0	0	0	0	180	
4	10/26/15	1	0	0	0	0	0	0	175	
5	11/2/15	13	11	0	0	0	0	0	175	
6	11/9/15	27	17	0	0	0	0	0	173	
7	11/16/15	22	29	2	0	0	0	0	169	
8	11/23/15	44	52	2	2	0	2	0	167	
9	11/30/15	32	42	3	0	0	0	0	165	
10										
11										
12										
13										
14										
15										
16