

Planned & Actual Water Production By Source (Acre-Feet)

Report Month:

May

Water Year: 2017

	Cachuma Project			Gibraltar Reservoir		Devil's Canyon	Mission Tunnel		Groundwater Production					Desalination		State Water		Net Overlap Water	Groundwater Recharge		Blend Water		Potable System Total		Recycled System		El Estero Process Usage		Water System Total	
	Plan	Act.	Balance	Plan	Act.	Actual	Plan	Act.	Plan	SU #1	Foot-Hill Basin	Total Actual	SU#3 Actual	Plan	Act.	Plan	Act.	Act.	Injec.	Total Actual	Plan	Act.	Plan	Act.	Plan	Act.	Plan	Act.	Plan	Act.
2016 Oct	446	460	684	0	0	0	40	40	338	231	79	310	7	0	0	0	0	-13	0	0	0	0	824	797	84	73	15	17	923	886
Nov	380	400	253	0	0	0	44	26	268	207	75	282	5	0	0	0	0	-15	0	0	25	32	668	662	54	34	15	14	737	710
Dec	145	251	0	0	0	0	44	23	228	181	77	259	0	0	0	234	84	-10	0	0	25	4	627	602	37	29	15	13	680	644
2017 Jan	0	0	0	0	0	10	44	47	228	176	82	258	0	0	0	292	273	-10	0	0	25	0	540	578	19	12	15	16	573	606
Feb	0	0	0	0	0	69	44	69	228	121	66	187	0	0	0	267	197	-18	0	0	25	0	514	504	20	4	15	13	549	521
Mar	0	0	0	0	298	5	44	145	228	39	2	42	0	0	0	384	112	-10	0	0	25	0	632	590	19	27	15	18	666	635
Apr	0	0	3,311	0	412	0	44	102	186	0	0	0	0	260	0	221	210	-10	0	0	25	0	687	715	48	71	15	19	750	804
May	0	0	3,311	0	527	0	44	90	186	0	0	0	0	260	27	309	140	-12	0	0	25	1	775	771	76	94	15	19	866	884
Jun	0			0			44		186					260		300			0	0	25		766		98		15		879	
Jul	0			0			44		186					260		343			0	0	25		809		119		15		943	
Aug	0			0			44		186					260		385			0	0	25		851		113		15		979	
Sep	0			0			44		186					260		327			0	0	25		793		114		15		922	
Year to Date	972	1,111	3,311	0	1,237	83	351	542	1,890	956	382	1,338	12	548	27	1,708	1,017	-98	0	0	175	36	5,267	5,219	357	344	120	127	5,744	5,691
Annual Total	972			0			529		2,634					1,563		3,063					275		8,486		800		180		9,466	
Notes			*3										*6							*1	*5	*1	*2			*4				

\*1 Groundwater recharge & Blend Water not part of potable system use.

\*2 Based on 2013 total system production of 14,765 AF with 35% conservation through January and 40% through the remainder of the year.

\*3 Cachuma Balance: Net of entitlement, carryover, spills, & transfers, per COMB

\*4 Effective 2011 WY, Net Production to Distribution System ( Meter Distr. Flow - EEWTP process water).

\*5 Planned blend water based on expected filter production

\*6 Groundwater from Storage Unit #3 is non-potable water serving recycled water demands.

YTD Percent of Target:	99.1%	96.4%		99.1%
------------------------	-------	-------	--	-------

Potable Recycled System

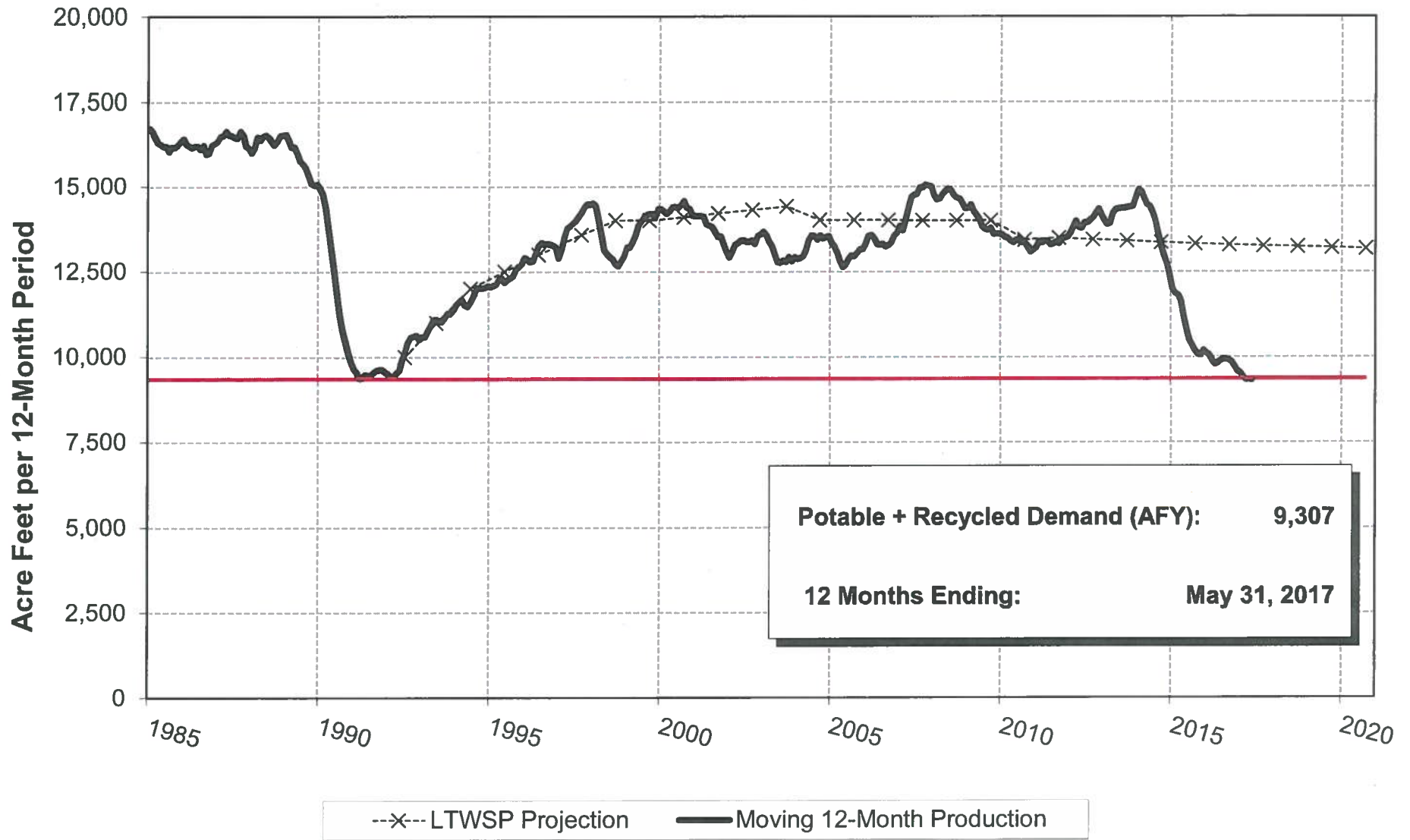
705

Potable System V = C+F+G+I+M+P+R+S-U-W

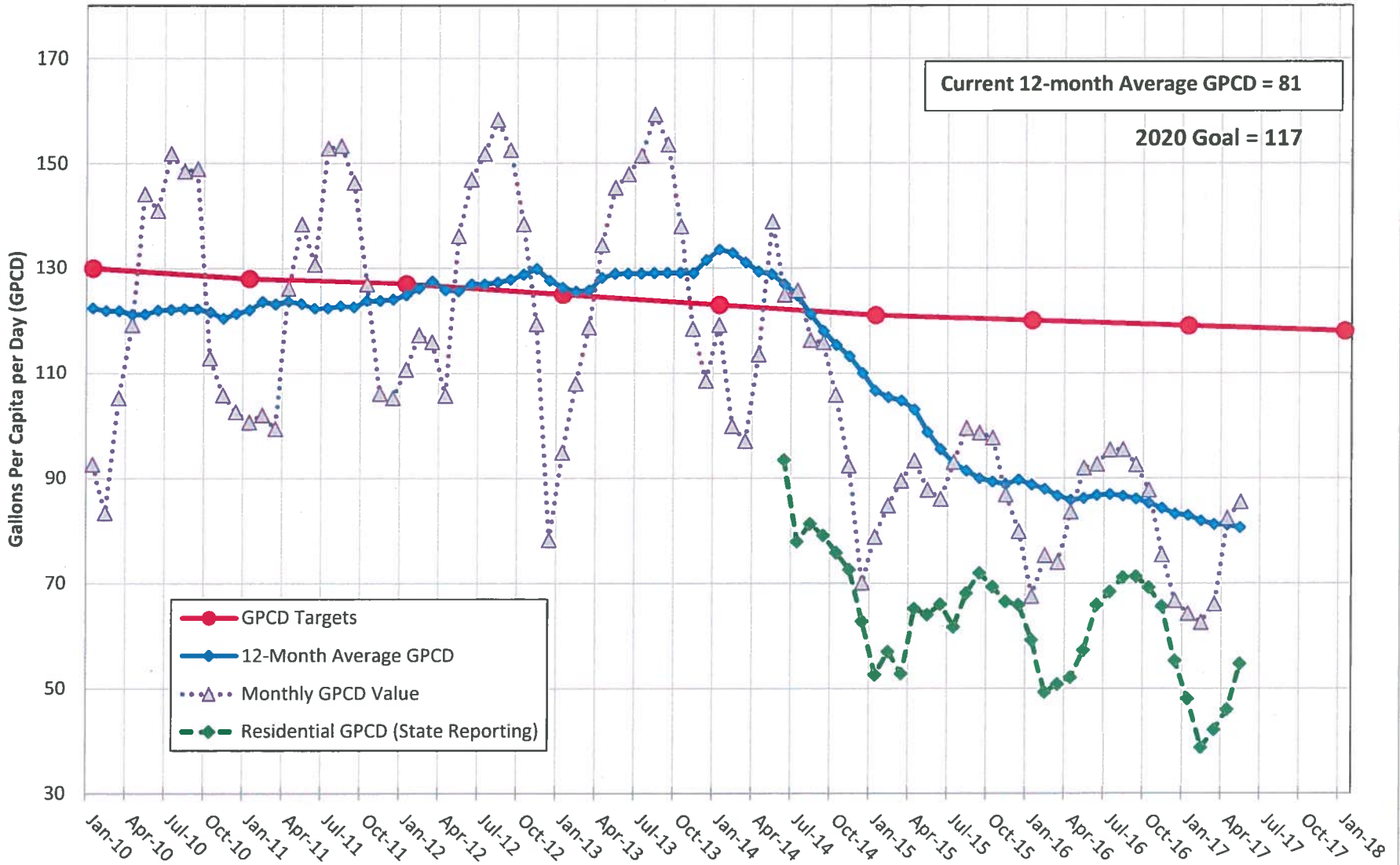
 = Preliminary Data or Not Yet Available

# City of Santa Barbara Water Demand

## Moving 12-Month Production to Serve Potable + Recycled Systems



## City of Santa Barbara Water Use in Gallons Per Capita per Day (GPCD) May 31, 2017

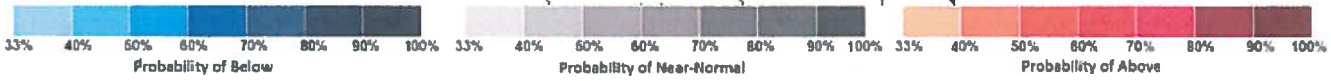
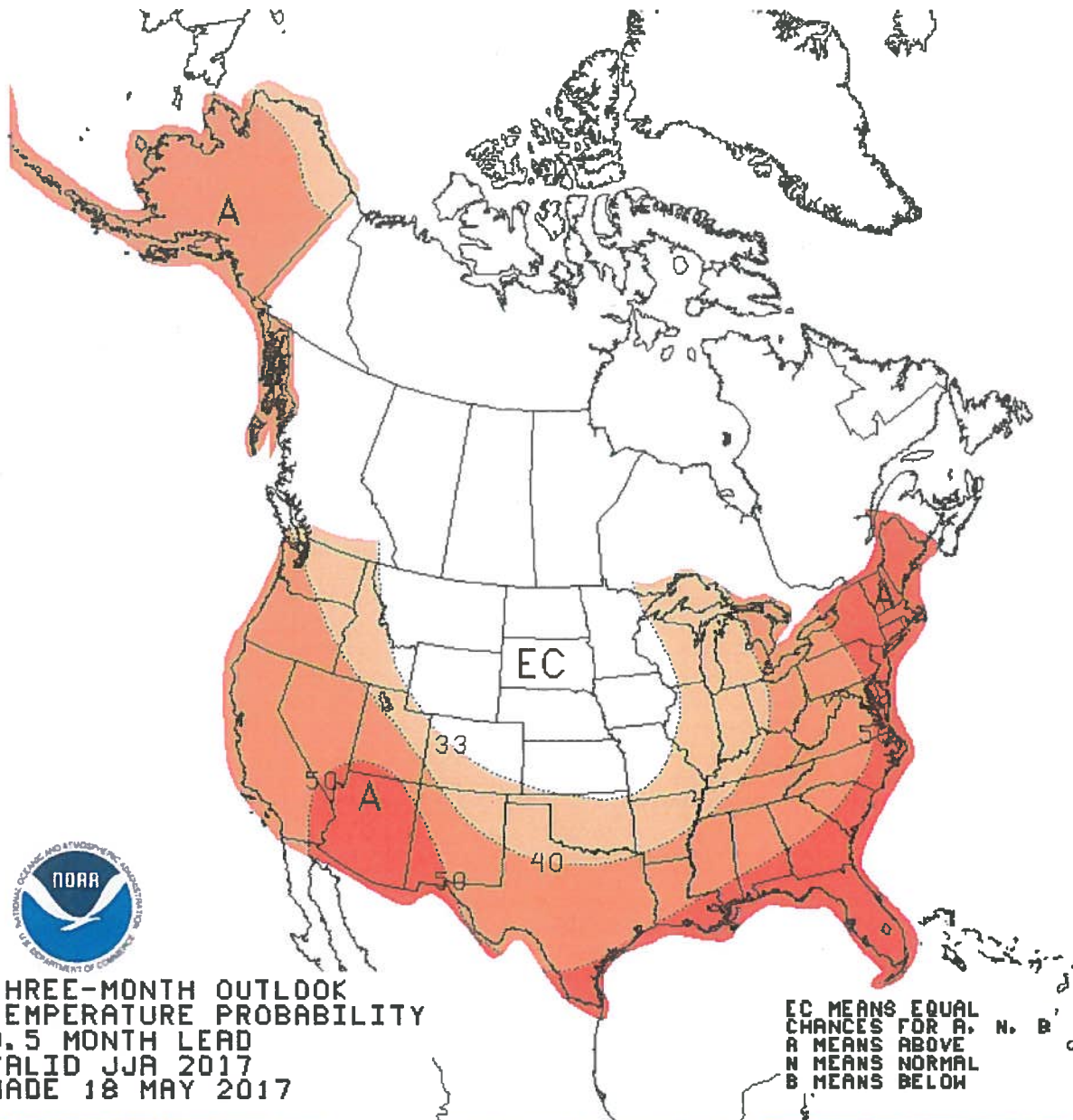


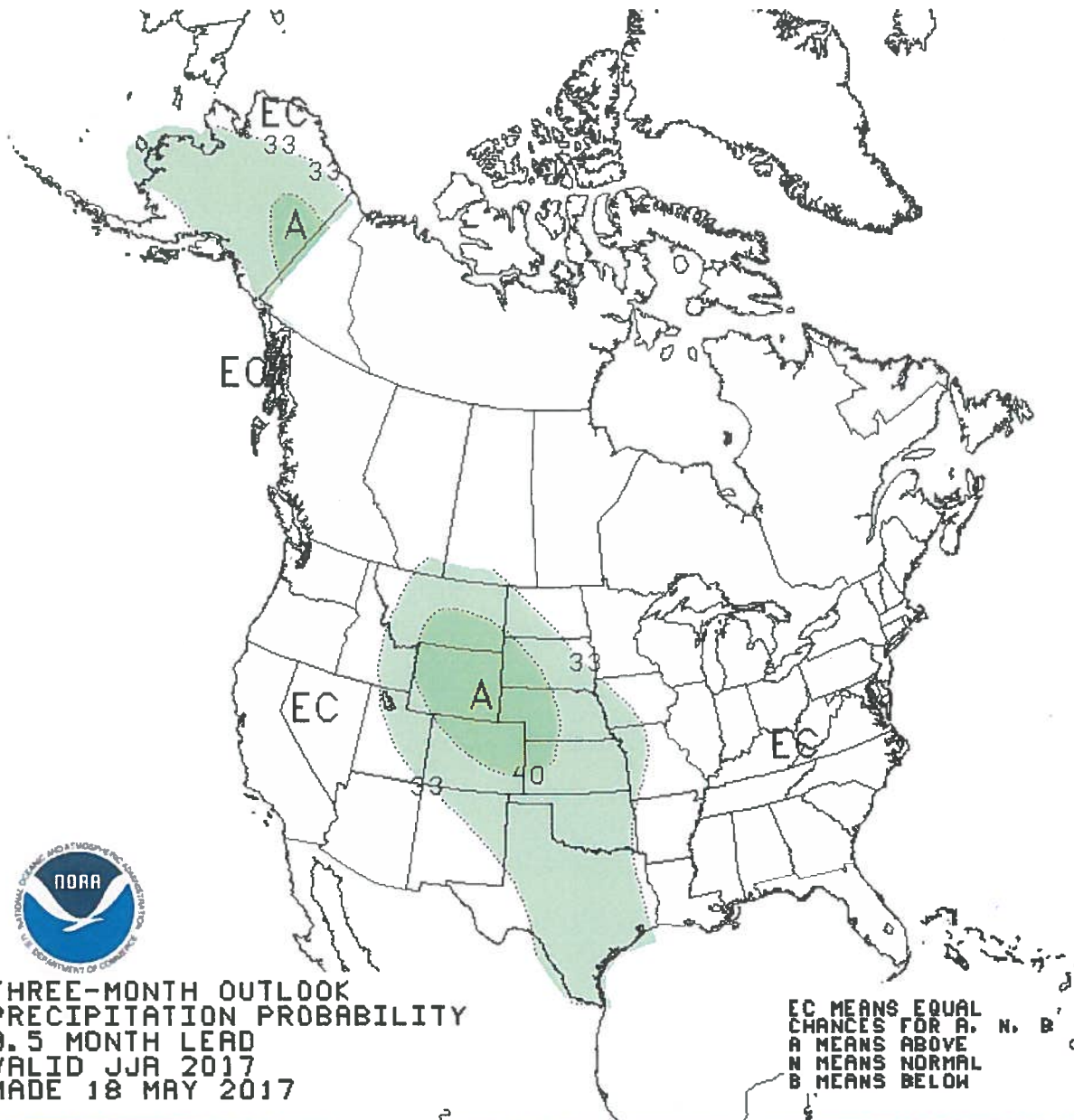
NOTE: The GPCD values above exclude blend water for recycled water production.

## GIBRALTAR RAINFALL DATA

Gauge Location: Gibraltar Dam

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Total
1965-66	0.00	17.00	9.36	2.24	0.86	0.24	0.00	0.00	0.00	0.00	0.00	0.00	29.70
1966-67	0.04	7.48	9.38	8.22	0.00	6.86	7.15	0.06	0.00	0.00	0.00	0.12	39.31
1967-68	0.00	5.11	1.51	1.84	1.30	3.50	1.67	0.00	0.00	0.00	0.00	0.00	14.93
1968-69	1.19	1.07	2.22	31.18	18.23	1.67	2.81	0.00	0.00	0.00	0.00	0.00	58.37
1969-70	0.00	2.59	0.31	4.34	3.57	6.58	0.00	0.00	0.00	0.00	0.00	0.00	17.39
1970-71	0.08	9.38	8.87	1.10	1.64	0.00	0.94	0.47	0.00	0.00	0.00	0.00	22.48
1971-72	0.47	1.09	13.20	0.19	0.32	0.00	0.24	0.11	0.00	0.00	0.00	0.00	15.62
1972-73	0.55	9.10	1.06	8.38	14.89	4.27	0.00	0.00	0.00	0.00	0.00	0.00	38.25
1973-74	0.70	3.19	2.83	12.26	0.05	5.35	0.85	0.02	0.00	0.00	0.00	0.00	25.25
1974-75	0.89	0.06	9.53	0.35	5.62	8.96	2.13	0.08	0.00	0.00	0.01	0.00	27.63
1975-76	0.40	0.44	0.22	0.00	10.93	2.02	1.08	0.00	0.00	0.00	0.05	4.28	19.42
1976-77	0.25	0.44	0.83	5.42	0.26	2.89	0.00	5.19	0.00	0.00	0.38	0.00	15.66
1977-78	0.00	0.14	9.23	1.91	14.42	18.28	4.27	0.00	0.00	0.00	0.00	1.63	49.88
1978-79	0.00	2.76	2.51	8.49	6.08	7.26	0.00	0.00	0.00	0.00	0.00	1.01	28.11
1979-80	0.58	0.96	2.02	8.13	17.69	4.39	1.10	0.24	0.00	0.00	0.00	0.00	35.11
1980-81	0.00	0.00	1.74	6.17	2.99	9.98	1.05	0.00	0.00	0.00	0.00	0.00	21.93
1981-82	0.38	2.57	0.47	6.14	0.65	7.55	5.30	0.05	0.00	0.00	0.00	1.70	24.81
1982-83	1.30	7.87	5.61	15.07	8.47	15.11	8.86	0.00	0.00	0.00	0.79	0.59	63.67
1983-84	5.57	4.18	6.75	0.25	0.08	0.95	0.24	0.00	0.00	0.00	0.07	0.28	18.37
1984-85	0.49	3.52	7.94	0.96	1.24	1.92	0.13	0.00	0.00	0.00	0.00	0.05	16.25
1985-86	0.42	7.14	1.11	3.24	10.61	6.77	1.51	0.00	0.00	0.00	0.00	0.84	31.64
1986-87	0.00	0.96	0.42	2.71	2.04	4.58	0.00	0.00	0.00	0.00	0.00	0.00	10.71
1987-88	1.60	1.52	4.67	5.19	4.12	2.60	5.14	0.06	0.05	0.00	0.00	0.00	24.95
1988-89	0.00	1.04	5.73	0.29	5.38	1.43	0.13	0.46	0.00	0.00	0.00	0.25	14.71
1989-90	0.79	0.58	0.00	5.61	3.33	0.27	0.24	0.78	0.00	0.00	0.00	0.20	11.80
1990-91	0.00	0.26	0.18	1.71	4.88	23.12	0.03	0.00	0.06	0.38	0.00	0.00	30.62
1991-92	0.33	0.13	7.54	4.72	18.82	7.28	0.04	0.16	0.00	0.07	0.00	0.00	39.09
1992-93	1.78	0.00	8.17	14.30	16.43	8.12	0.00	0.34	0.47	0.00	0.00	0.00	49.61
1993-94	0.19	1.51	2.42	1.74	9.76	2.72	0.65	0.51	0.00	0.00	0.00	0.09	19.59
1994-95	2.19	1.29	1.54	33.26	3.39	15.30	0.33	1.64	0.02	0.00	0.00	0.00	58.96
1995-96	0.00	0.18	2.85	2.93	10.30	2.21	1.00	0.39	0.00	0.00	0.00	0.00	19.86
1996-97	7.05	1.89	7.81	7.45	0.13	0.00	0.00	0.00	0.00	0.04	0.00	0.09	24.46
1997-98	0.00	5.48	10.17	6.64	34.63	4.47	4.43	6.62	0.03	0.00	0.00	0.55	73.02
1998-99	0.13	1.30	0.79	4.25	2.24	4.55	2.97	0.00	0.13	0.24	0.00	0.03	16.63
1999-00	0.00	1.65	0.00	2.25	16.70	3.73	5.36	0.03	0.19	0.00	0.00	0.00	29.91
2000-01	4.04	0.00	0.15	11.24	8.85	13.59	2.96	0.01	0.00	0.01	0.00	0.00	40.85
2001-02	0.65	4.48	2.89	1.03	0.33	0.84	0.08	0.09	0.00	0.00	0.00	0.06	10.45
2002-03	0.00	4.61	6.45	0.12	5.26	4.43	4.97	2.82	0.00	0.06	0.00	0.00	28.72
2003-04	0.00	2.29	3.10	0.42	8.50	0.43	0.00	0.00	0.00	0.00	0.00	0.00	14.74
2004-05	8.39	0.46	17.37	21.54	15.65	3.58	1.14	1.46	0.00	0.00	0.00	0.14	69.73
2005-06	0.60	1.43	0.68	9.67	5.41	5.22	8.15	1.29	0.00	0.00	0.10	0.00	32.55
2006-07	0.37	0.23	1.63	2.62	3.40	0.16	0.81	0.00	0.00	0.00	0.02	0.85	10.09
2007-08	0.38	0.10	4.09	23.84	3.11	0.00	0.15	0.27	0.00	0.00	0.10	0.00	32.04
2008-09	0.06	2.22	4.07	1.00	7.95	0.90	0.35	0.01	0.09	0.00	0.00	0.00	16.65
2009-10	5.81	0.00	5.19	11.89	6.90	0.69	4.44	0.08	0.00	0.00	0.00	0.00	35.00
2010-11	2.03	2.04	14.04	2.06	5.12	14.95	0.00	1.18	0.51	0.00	0.00	0.00	41.93
2011-12	0.74	3.00	0.36	1.22	0.47	5.89	3.08	0.00	0.00	0.00	0.00	0.04	14.80
2012-13	0.34	2.60	2.68	1.39	0.24	1.02	0.00	0.61	0.00	0.00	0.00	0.00	8.88
2013-14	0.08	1.21	0.29	0.00	5.07	5.16	0.66	0.57	0.00	0.00	0.00	0.00	13.04
2014-15	0.00	1.21	7.88	0.87	0.73	0.60	0.36	0.62	0.98	0.00	0.00	0.16	13.41
2015-16	0.23	0.36	0.71	4.66	2.66	4.22	0.27	0.13	0.00	0.00	0.00	0.00	13.24
2016-17	1.20	1.26	3.10	11.51	14.23	1.24	0.21	0.45					
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Total
50 yr avg	1.05	2.14	4.10	6.27	6.90	5.02	1.60	0.53	0.05	0.02	0.03	0.26	28.08
50 yr median	0.38	1.30	2.76	3.75	5.10	3.98	0.66	0.07	0.00	0.00	0.00	0.00	24.88
Average YTD:	1.20	1.23	1.85	4.27	6.26	5.42	4.68	4.15					
Actual YTD:	1.20	2.46	5.56	17.07	31.30	32.54	32.75	33.20					



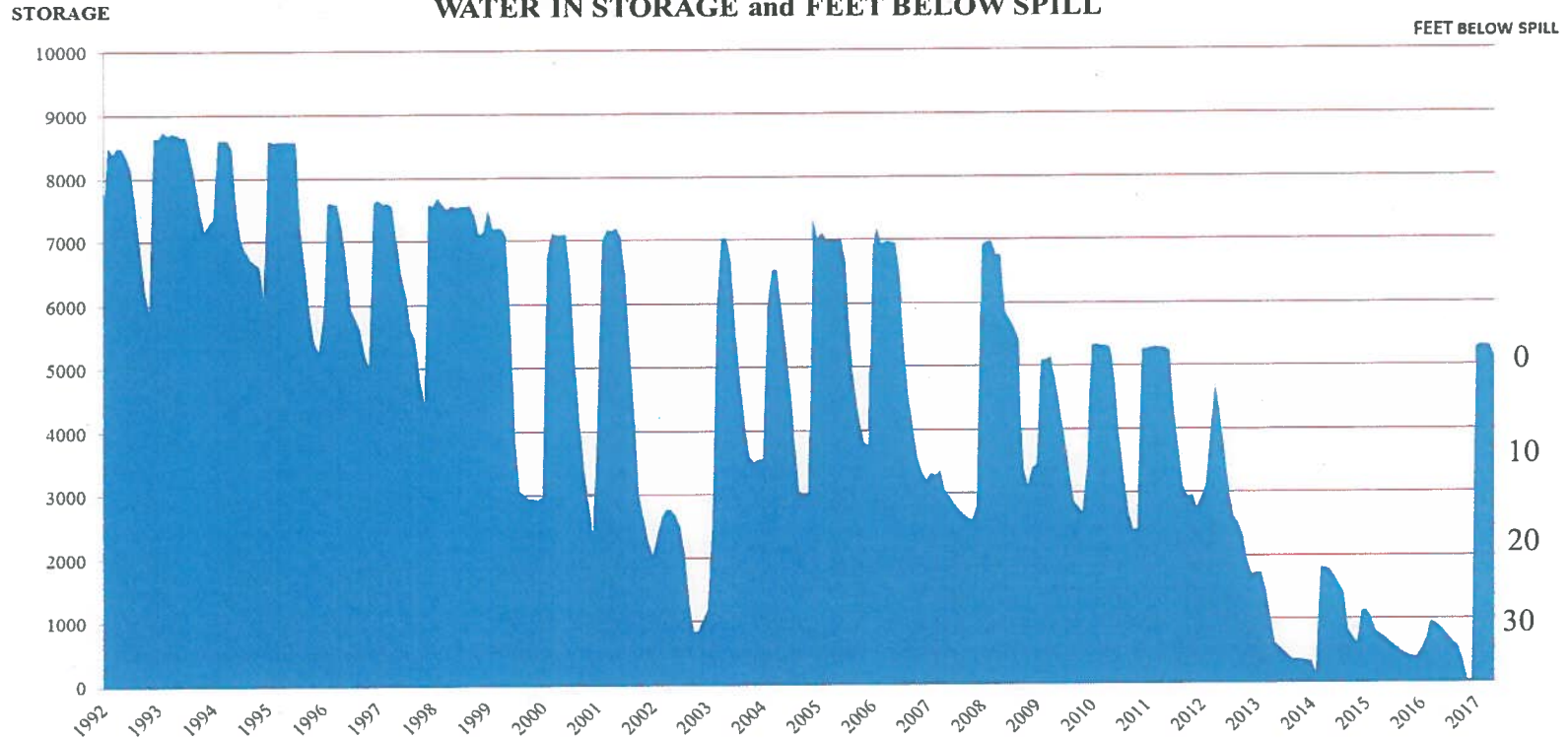


THREE-MONTH OUTLOOK  
PRECIPITATION PROBABILITY  
0.5 MONTH LEAD  
VALID JJA 2017  
MADE 18 MAY 2017

EC MEANS EQUAL  
CHANCES FOR A, N, B  
A MEANS ABOVE  
N MEANS NORMAL  
B MEANS BELOW



## GIBRALTAR RESERVOIR HYDROGRAPH WATER IN STORAGE and FEET BELOW SPILL



<u>ELEV.</u>	<u>STATUS</u>	<u>CAPACITY (AF)</u>
1,400.00	Reservoir is Full	5,246
1,376.48	First 16" Intake Valve	1,156
1,361.82	Second 16" Intake Valve	0
1,300.00	Reservoir is Empty	0

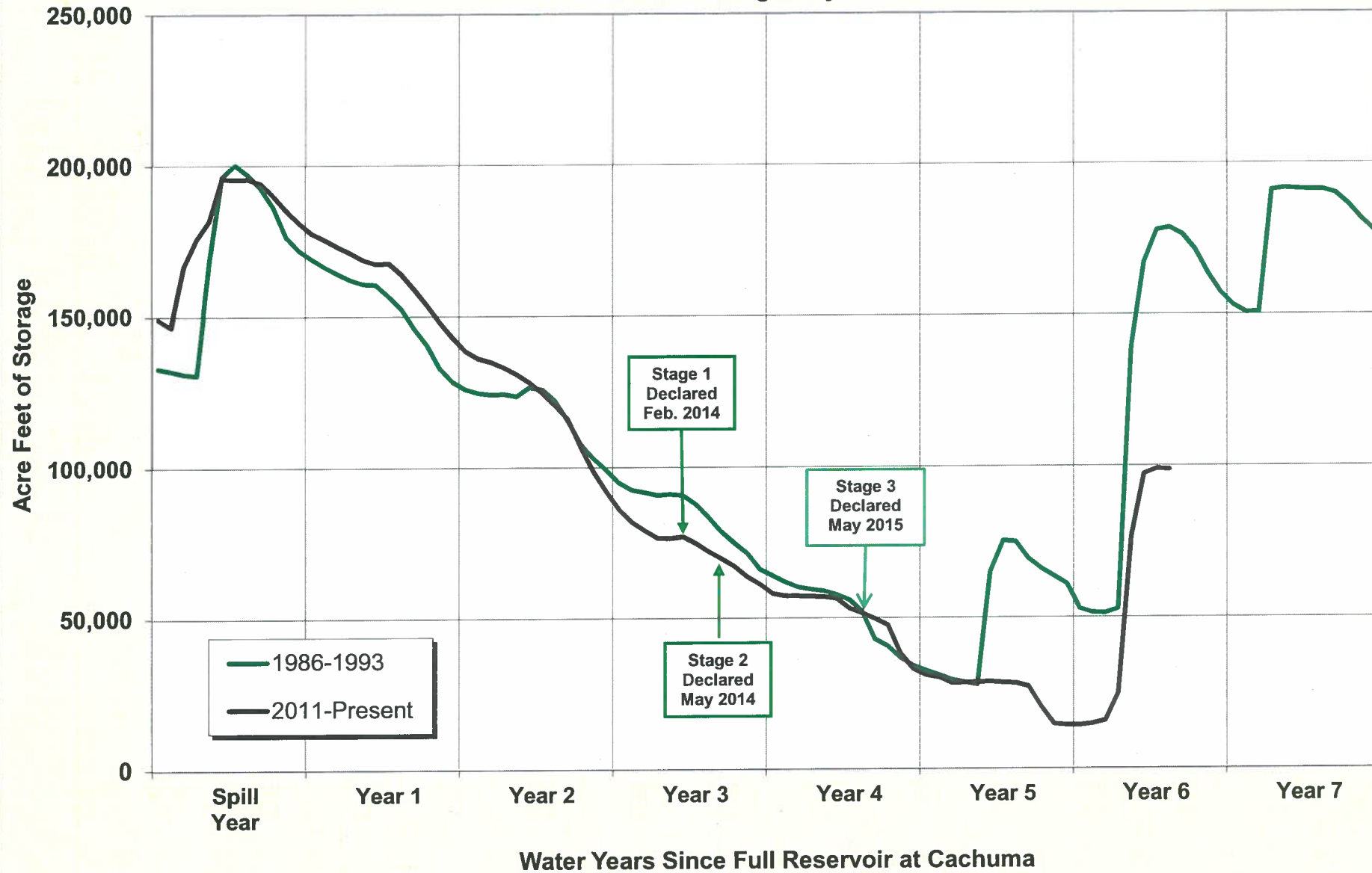
January 1993 - February 1996... Reflects use of M,N&S 1992 Gib. Area/Capacity Survey @ 8,618 AF  
 February 1996 - October 1998... Reflects use of M,N&S 1996 Gib. Area/Capacity Survey @ 7,631 AF  
 October 1998 - December 2001..Reflects use of M,N&S 1998 Gib. Area/Capacity Survey @ 7,261 AF  
 January 2002 - December 2004..Reflects use of M,N&S 2001 Gib. Area/Capacity Survey @ 7,096 AF  
 January 2005 - November 2007..Reflects use of M,N&S 2004 Gib. Area/Capacity Survey @ 7,085 AF  
 December 2007-July 2008..Reflects use of M,N&S 2007 Gib. Area/Capacity Survey @ 6,784 AF  
 August 2008 - May 2010...Reflects use of MN&S 2008 Gib. Area/Capacity Survey @ 5,303 AF  
 June 2010 - September 2013... Reflects use of MN&S 2010 Gib. Area/Capacity Survey @5,251 AF  
 October 2013 - Present....Reflects use of MN&S 2013 Gib. Area/Capacity Survey @5,246 AF

### TIME & DATE OF SPILL SINCE 1989

4:30 Am	March 19, 1991
9:09 Am	February 7, 1992
10:30 Am	January 7, 1993
6:45 Am	February 18, 1994
1:37 Pm	January 9, 1995
2:10 Pm	February 20, 1996
6:00 Am	December 22, 1996
3:00 Am	January 2, 1997
1:30 Pm	January 15, 1997
9:40 Am	December 6, 1997
4:30 Pm	February 6, 1999
8:00 Am	February 24, 2000
1:00 Am	February 15, 2001
1:30 Pm	April 14, 2003
5:00 Pm	December 29, 2004
8:30 Pm	January 2, 2006
1:00 Am	January 5, 2008
7:00 Pm	February 16, 2009
12:00 Noon	January 20, 2010
07:00 Am	December 20, 2010

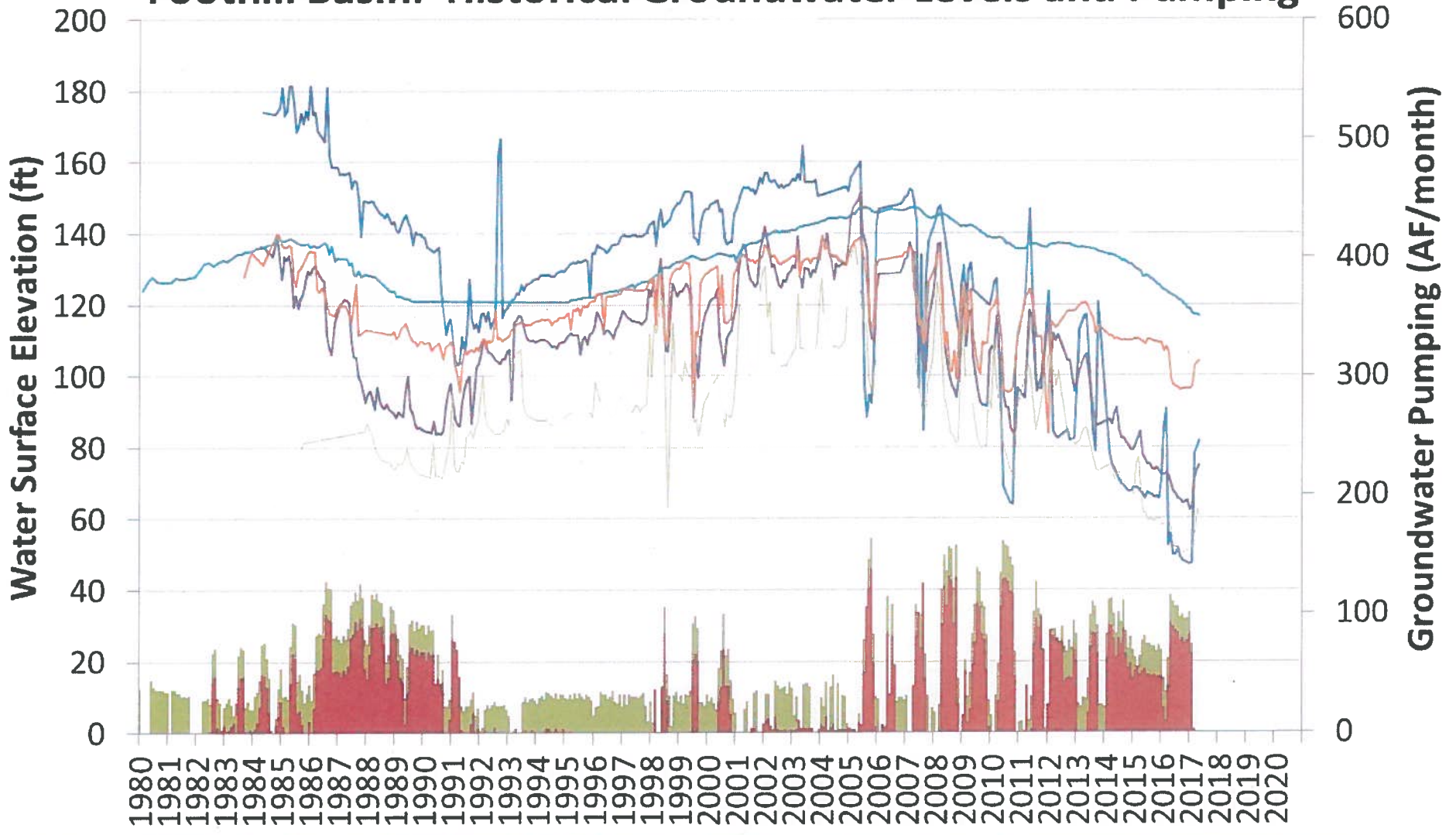
# Cachuma Storage: Current Drought & 1986-93 Period

Data Shown Through May 31, 2017



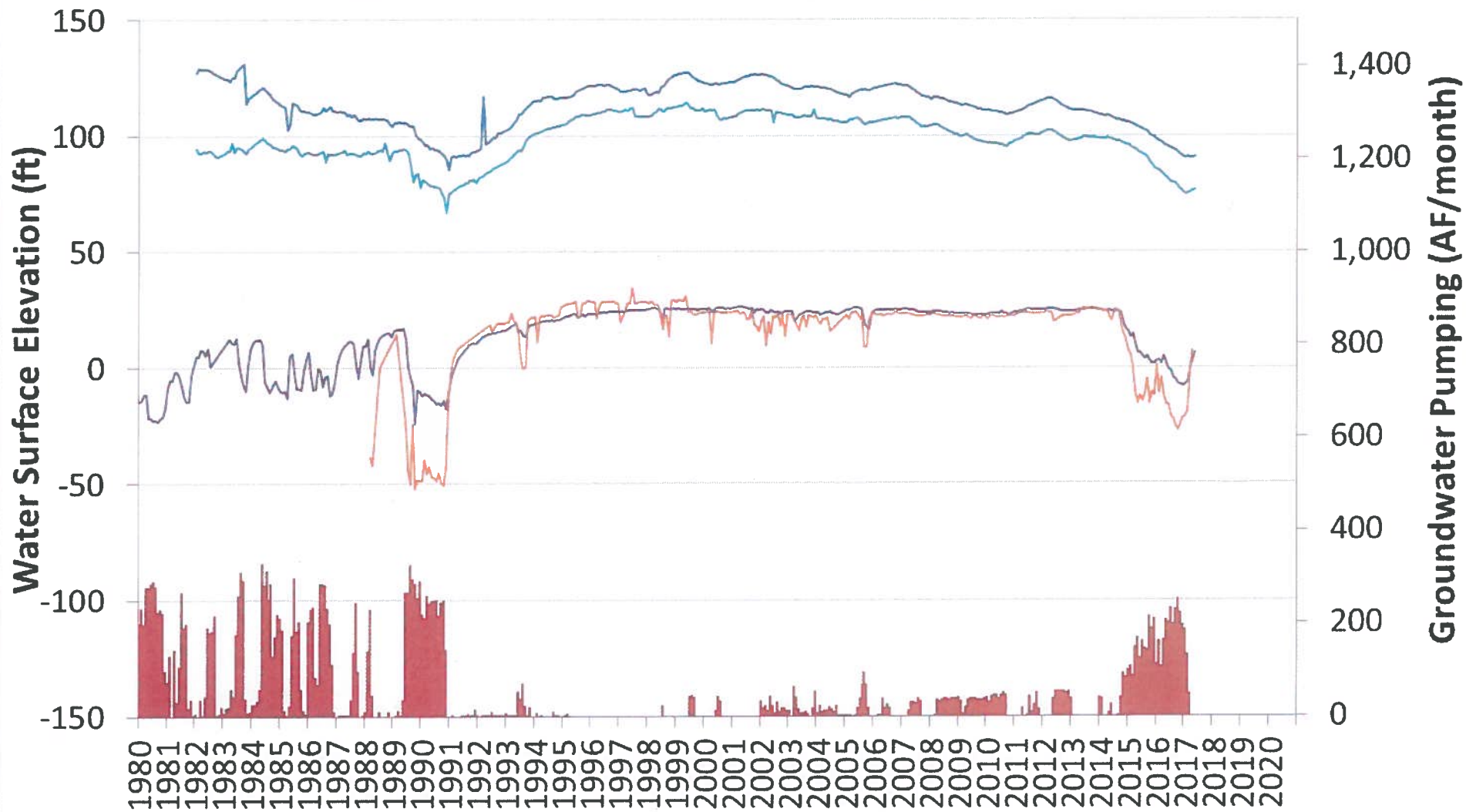


# Foothill Basin: Historical Groundwater Levels and Pumping



- Non-City Pumping (AF/mth)
- Total City Pumping (AF/mth)
- #8E1 (San Roque #1)
- #12C2 (Lorraine)
- #12R3 (State & San Marcos Pass)
- #12H4 (Clinic)
- #7R3 (Hitchcock)

## Storage Unit #1, Upper Producing Zone: Historical Groundwater Levels and Pumping



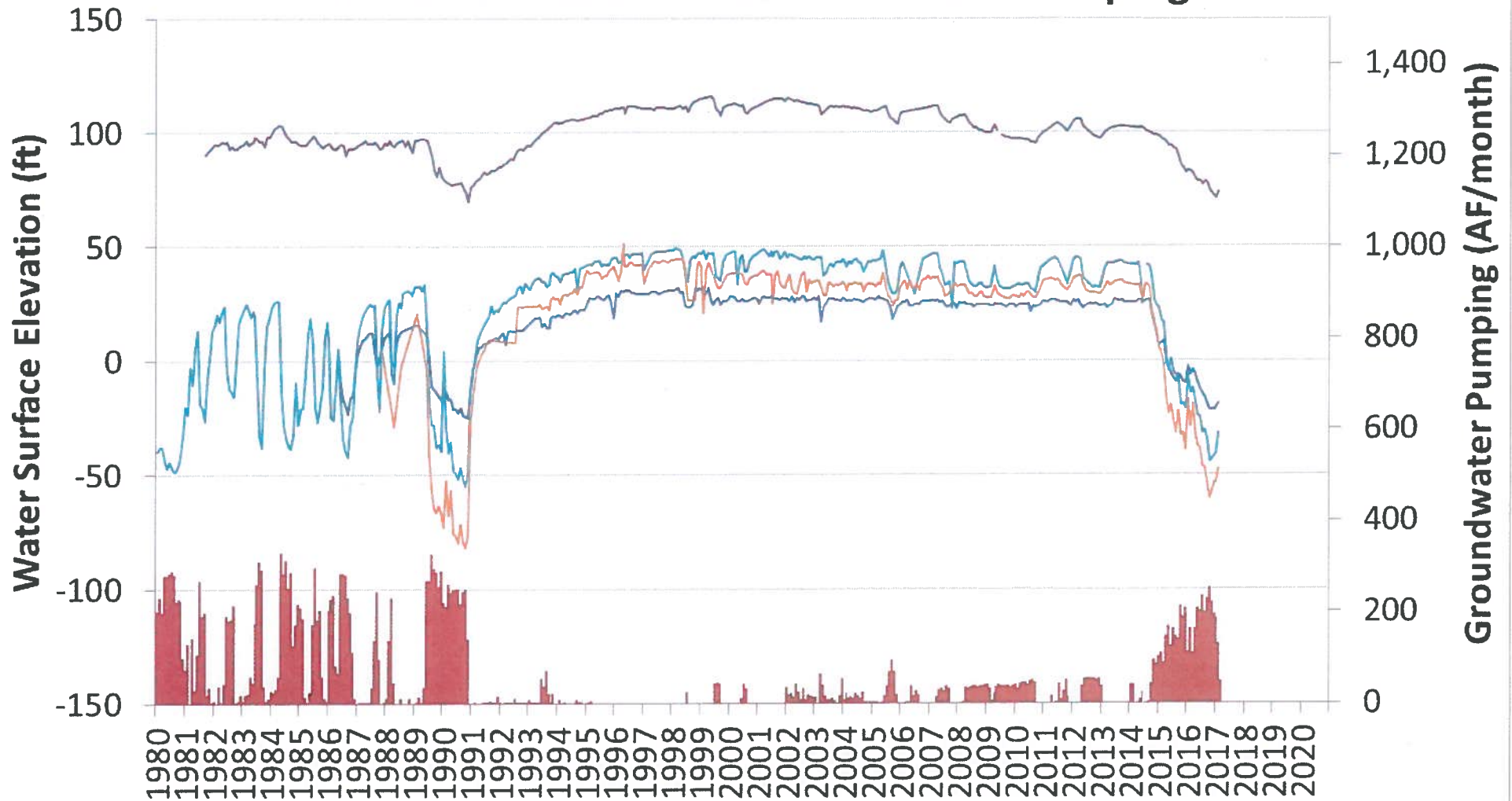
■ Total City Pumping (AF/mth)

— #14K2 (East Branch Library)

— #8R2 (Alamar & State)

— #16C2 (Pueblo & State)

## Storage Unit #1, Lower Producing Zone: Historical Groundwater Levels and Pumping



■ Total City Pumping (AF/mth)

— #16C1 (Pueblo & State)

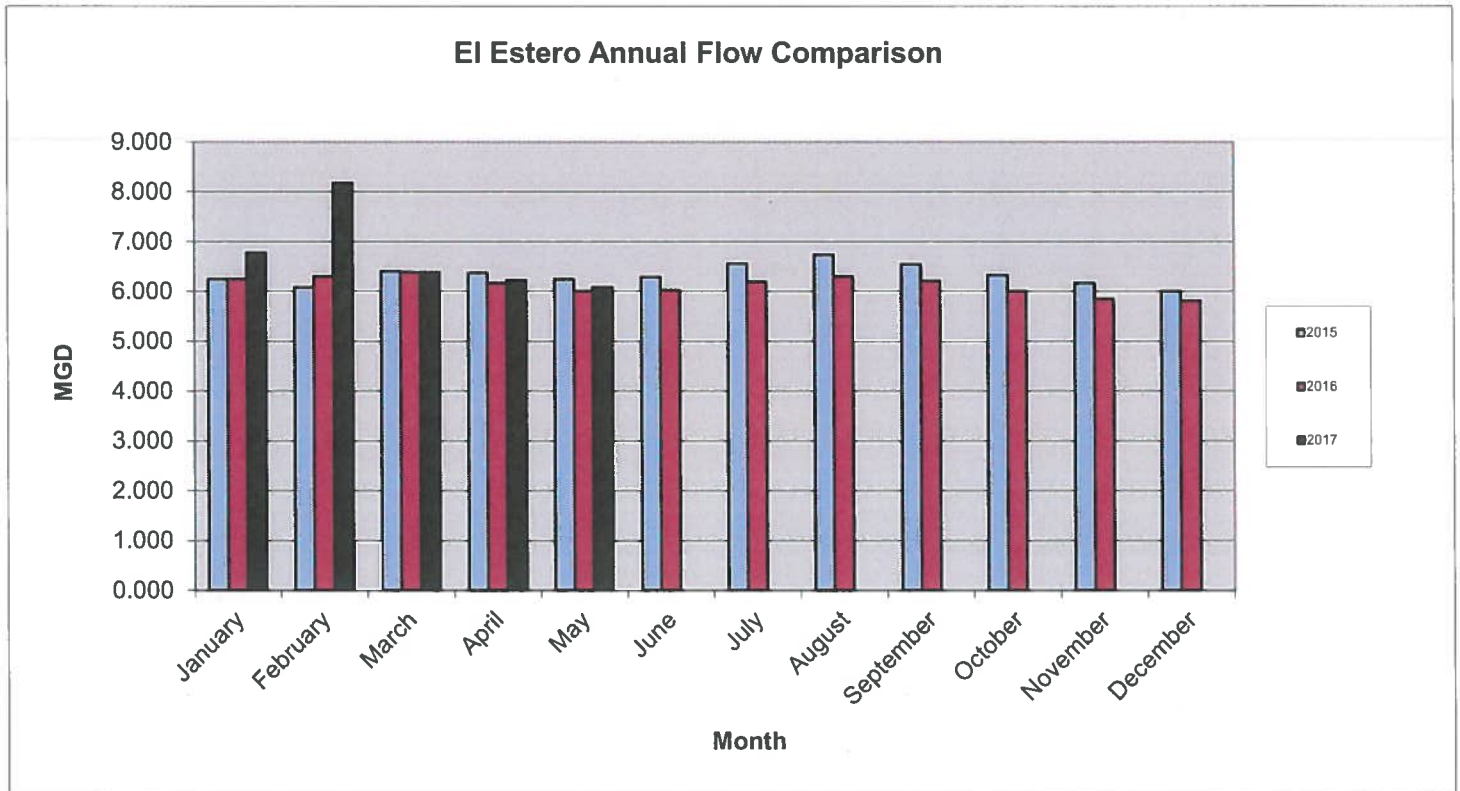
— #22A4 (Palm Avenue)

— #23E5 (El Estero WWTP)

— #16R1 (Spencer Adams Parking Lot)

# EL ESTERO INFLUENT FLOW COMPARISON

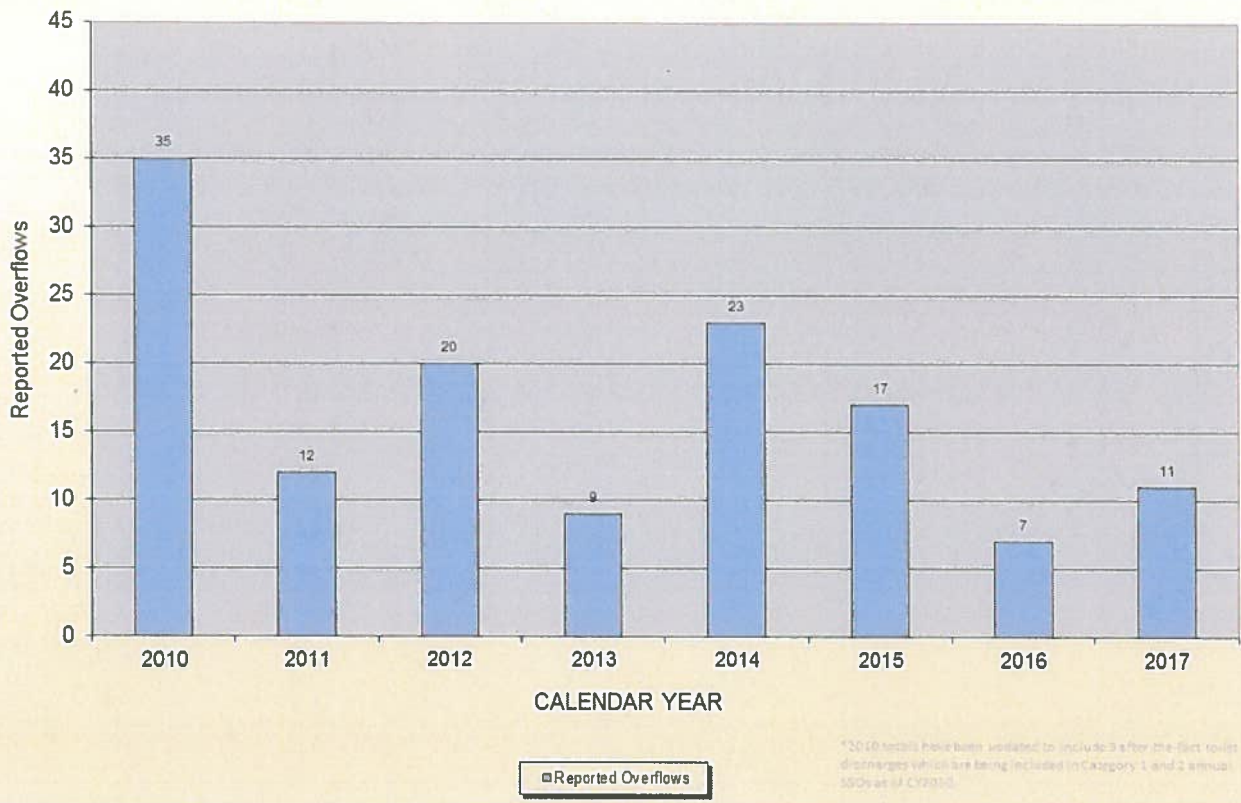
	2015	2016	2017
January	6.244	6.245	6.777
February	6.081	6.298	8.177
March	6.401	6.380	6.382
April	6.367	6.164	6.224
May	6.237	5.999	6.080
June	6.282	6.020	
July	6.556	6.189	
August	6.731	6.301	
September	6.541	6.205	
October	6.322	6.005	
November	6.162	5.843	
December	5.999	5.806	



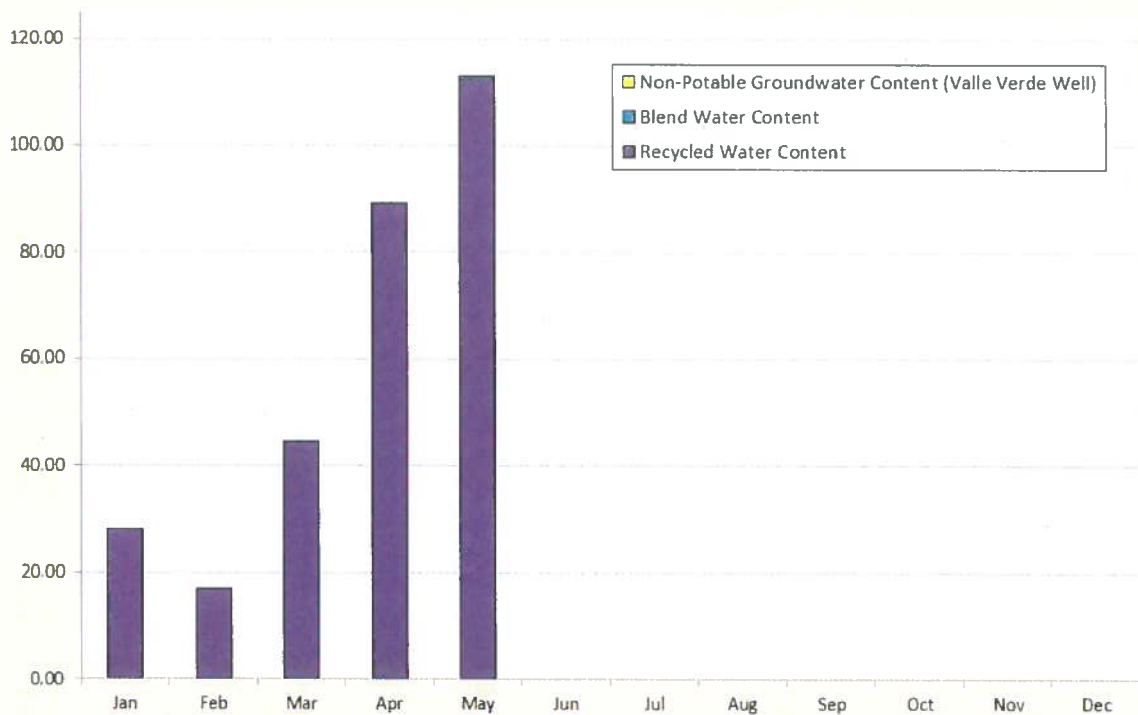
Annual Flow is Calculated Adjusted Influent Flow



**CITY OF SANTA BARBARA**  
**Graph of Annual SSO's (Category 1, 2, and 3) - Public Spills only**  
*(as of 5/31/17)*




**Recycled Production by Source of Supply for 2017 (Acre-Feet)**





City of Santa Barbara  
Public Works Department

## Interoffice Memorandum

**DATE:** June 6, 2017  
**TO:** Joshua Haggmark, Water Resources Manager  
**FROM:** Bill Ferguson, Project Manager   
**SUBJECT:** Warren Act Contract for USRYOA Pass Through Operations - Status

---

Following is the status of implementation of Pass Through Operations under the 1989 Upper Santa Ynez River Operations Agreement ("Pass Through Agreement"):

### ***Reclamation's Environmental Assessment and Finding of No Significant Impact***

On May 12<sup>th</sup>, a number of City staff travelled to Fresno to meet with USBR Area Manager Michael Jackson and his staff. It was a productive meeting, with a number of action items identified to resolve remaining issues on Reclamation's EA and on the proposed Warren Act contract. Staff has compiled the draft list of action items and forwarded to Reclamation for comment. In the interim, we are investigating available data that can be used to respond to Reclamation's requests for additional information.

cc: Kelley Dyer, Water Resources Supervisor  
Dakota Corey, Water Resources Specialist

BF/