

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

Report Month:

September

Water Year: 2019

	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.
2018 Oct	179	124	8,737	135	135	0	44	56	0	0	0	0	0	240	266	281	280	-13	0	0	17	0	862	848	84	65	15	22	961	936
Nov	384	230	8,436	0	125	0	44	58	0	0	0	0	0	240	276	68	126	-12	0	0	17	0	720	804	54	53	15	21	789	878
Dec	127	12	8,405	0	135	0	44	65	0	0	0	0	0	240	282	281	192	-11	0	0	17	0	675	675	37	25	15	27	728	727
2019 Jan	32	2	8,378	0	65	9	44	62	0	0	0	0	0	240	275	281	237	-17	0	0	17	0	581	633	19	17	15	27	615	677
Feb	79	0	8,359	0	8	66	44	81	0	0	0	0	0	240	229	254	185	-12	0	0	17	0	600	557	20	17	15	21	635	594
Mar	175	9	14,946	0	156	80	44	131	133	0	0	0	0	240	280	162	3	-9	0	0	17	0	737	650	19	25	15	30	771	706
Apr	259	47	14,870	0	328	24	44	139	133	0	0	0	0	240	273	143	15	-13	0	0	17	0	802	814	48	69	15	37	864	919
May	332	22	14,805	0	328	14	44	107	133	41	0	41	0	240	264	172	0	-10	0	0	17	0	904	766	76	88	15	36	995	890
Jun	319	0	14,635	0	444	0	44	100	133	100	0	100	0	240	217	174	0	-24	0	0	17	7	893	830	98	61	15	29	1,006	920
Jul	362	88	14,503	0	504	0	44	115	133	101	0	101	0	240	172	182	0	-10	0	0	17	27	944	943	119	94	15	29	1,077	1,066
Aug	411	341	14,189	0	353	0	44	88	133	76	0	76	0	240	206	182	0	-13	0	0	17	24	993	1,027	113	110	15	24	1,120	1,161
Sep	355	294	13,989	0	235	0	44	89	133	0	0	0	0	240	253	170	0	-10	0	0	17	0	925	861	114	104	15	22	1,054	987
Year to Date	3,014	1,171	13,989	135	2,817	193	533	1,091	931	318	0	318	0	2,880	2,993	2,347	1,039	-154	0	0	201	60	9,636	9,408	800	728	180	324	10,616	10,460
Annual Total	3,014			135			533		931					2,880		2,347				201		9,636		800		180		10,616		
Notes-			*3										*6								*5		*2			*4				

YTD Percent of Target:	97.6%	90.9%			98.5%
	Potable	Recycled			System

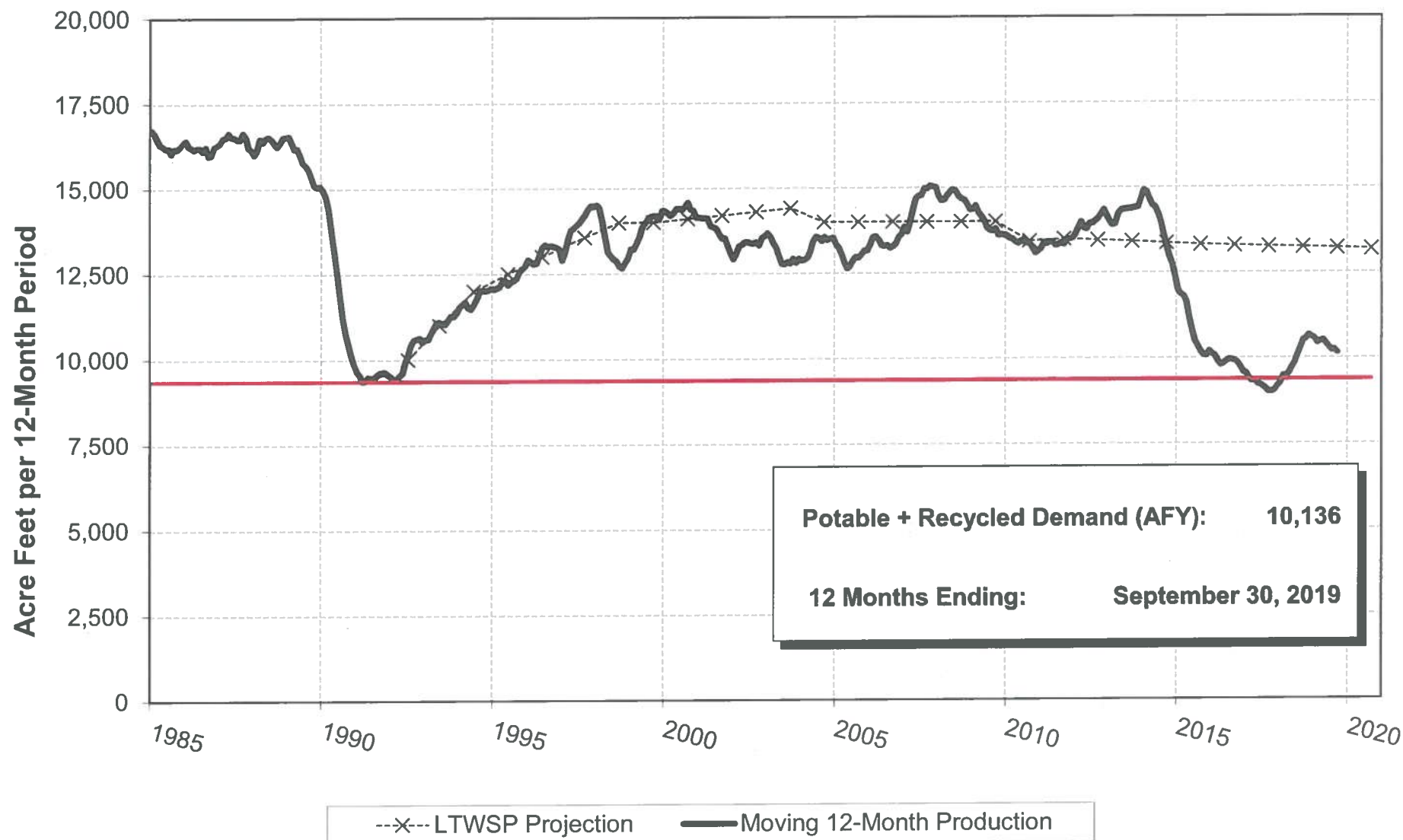
- *1 Groundwater recharge & Blend Water not part of potable system use.
- *2 Based on 2013 potable system production of 13,765 AF with 30% conservation.
- *3 Cachuma Balance: Net of entitlement, carryover, spills, & transfers, per COMB
- *4 Effective 2011 WY, Net Production to Distribution System (Meter Distr. Flow - EEWTP process water).
- *5 Planned blend water assumes additional downtime for recycled system repairs.
- *6 Groundwater from Storage Unit #3 is non-potable water serving recycled water demands.

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

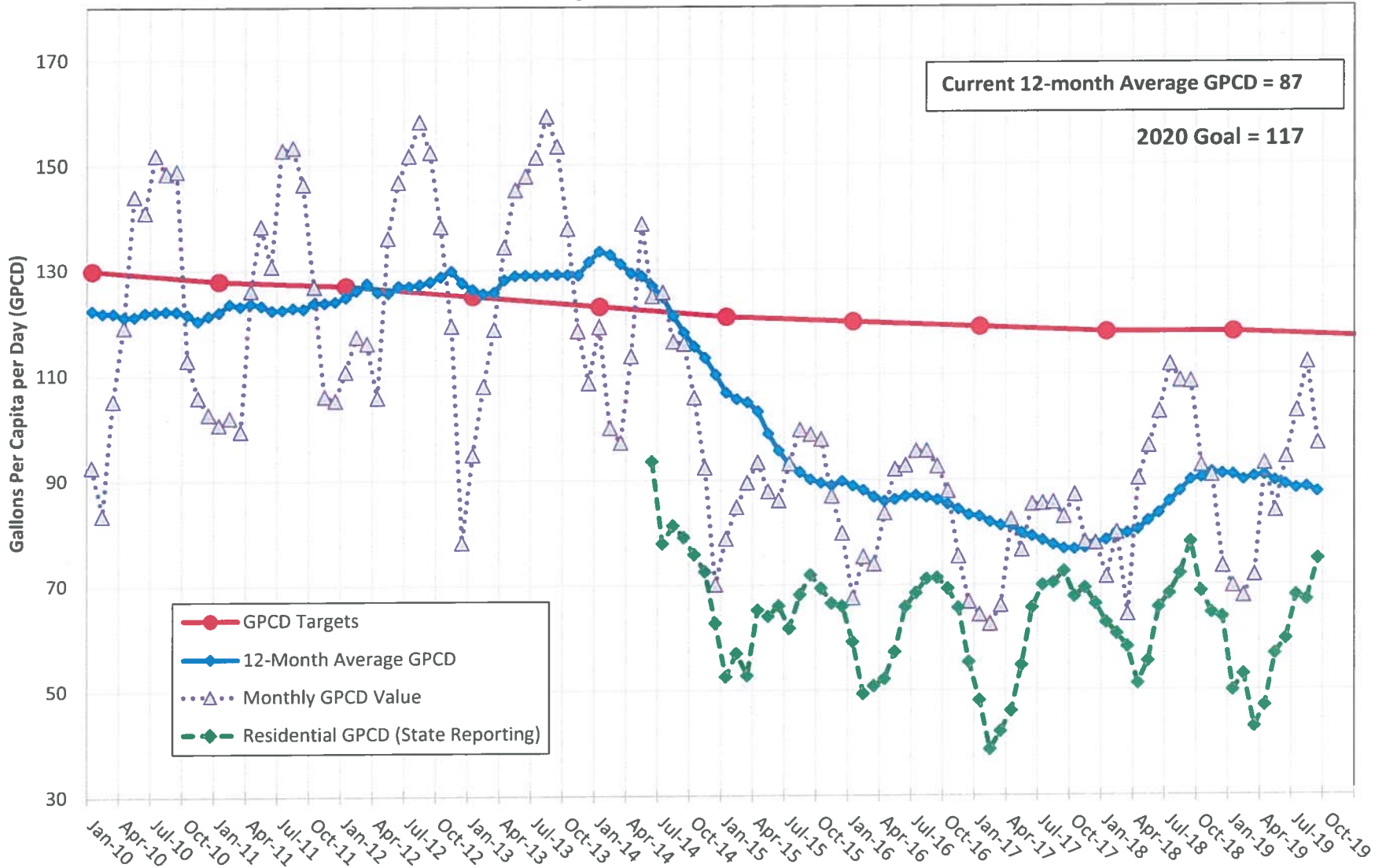
= Preliminary Data or Not Yet Available

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) September 30, 2019

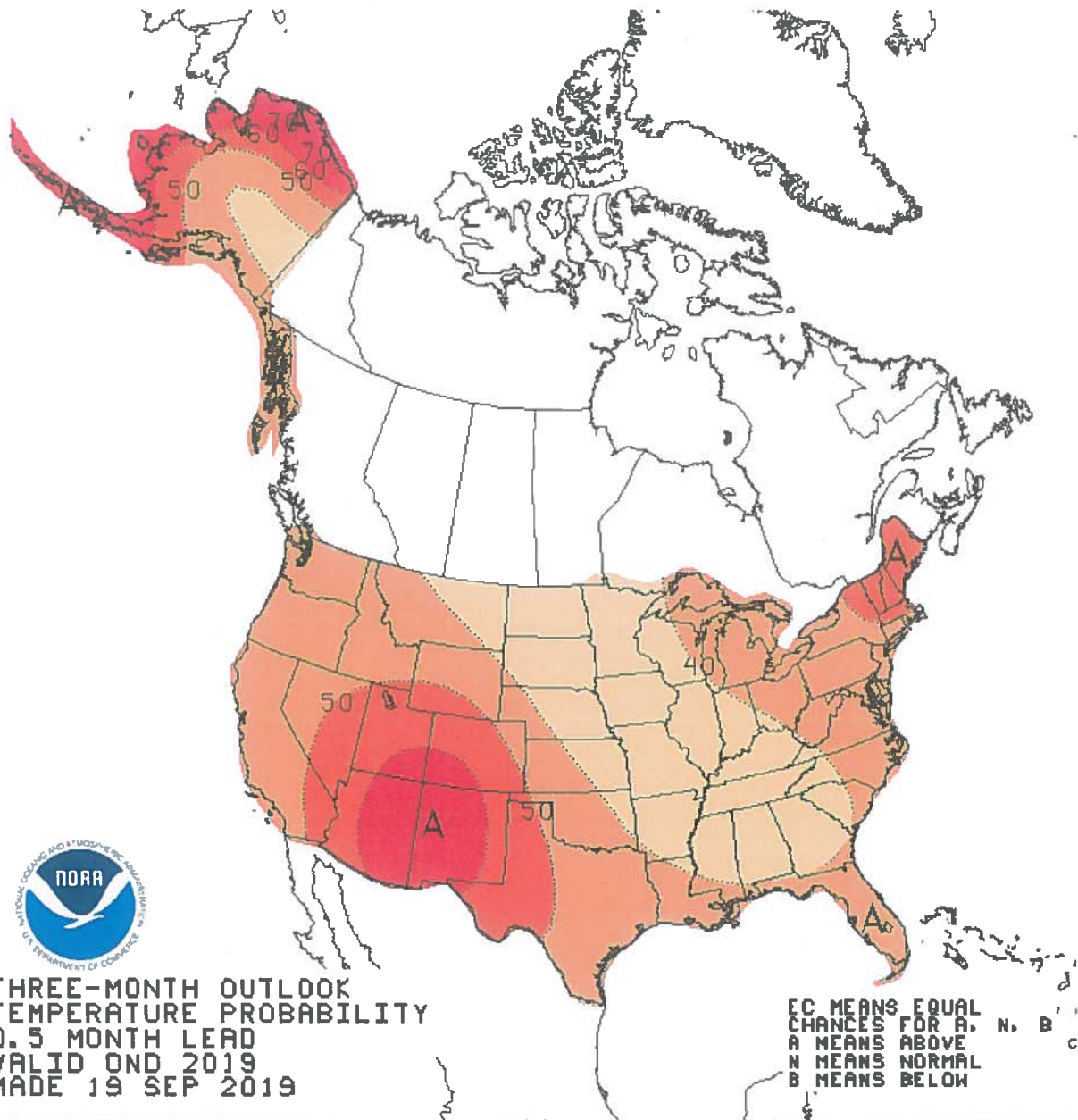


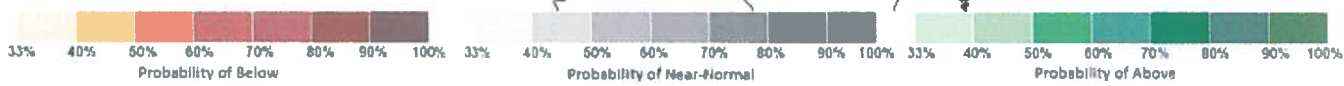
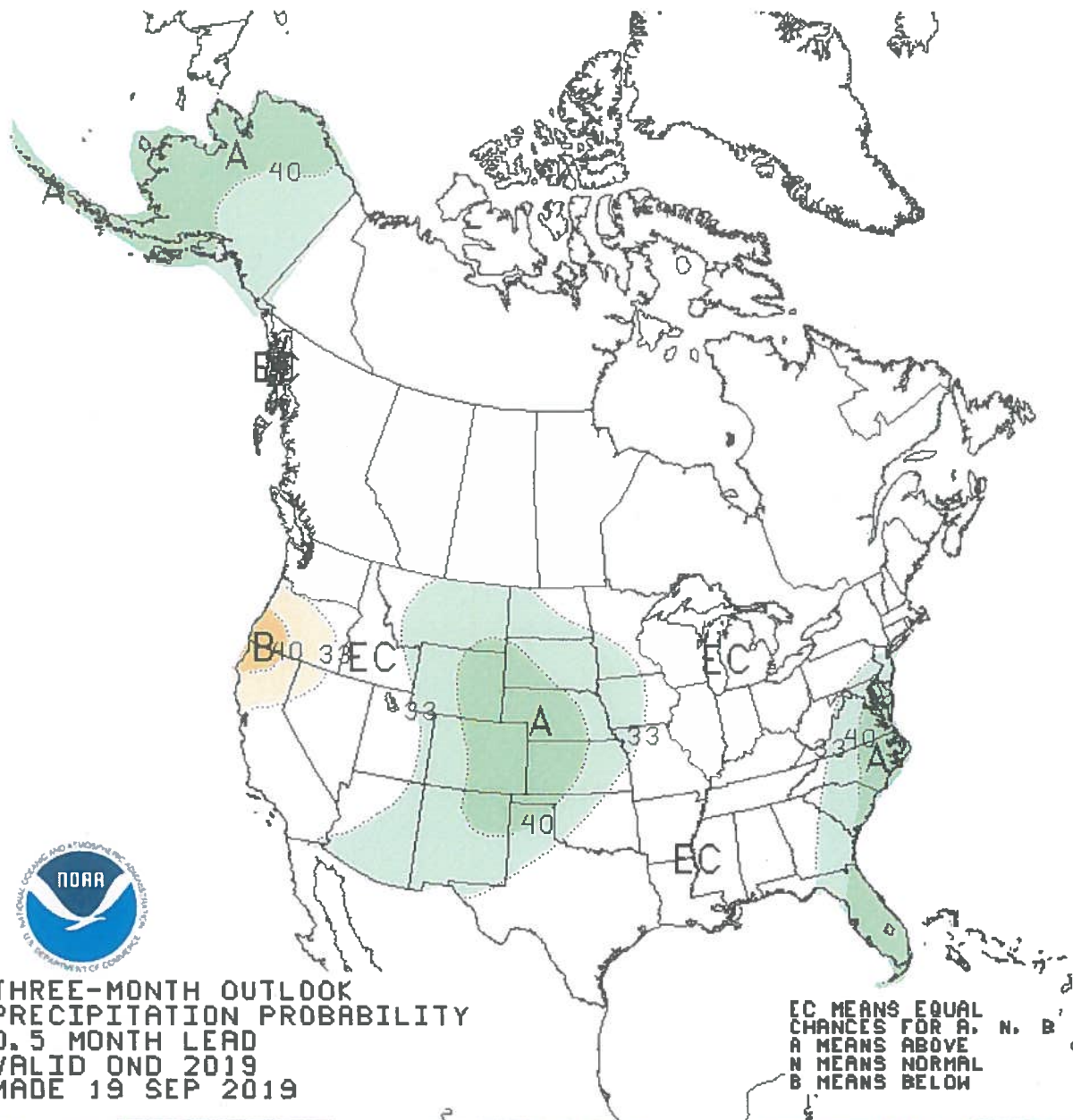
NOTE: The GPCD values above exclude blend water for recycled water production.

GIBRALTAR RAINFALL DATA

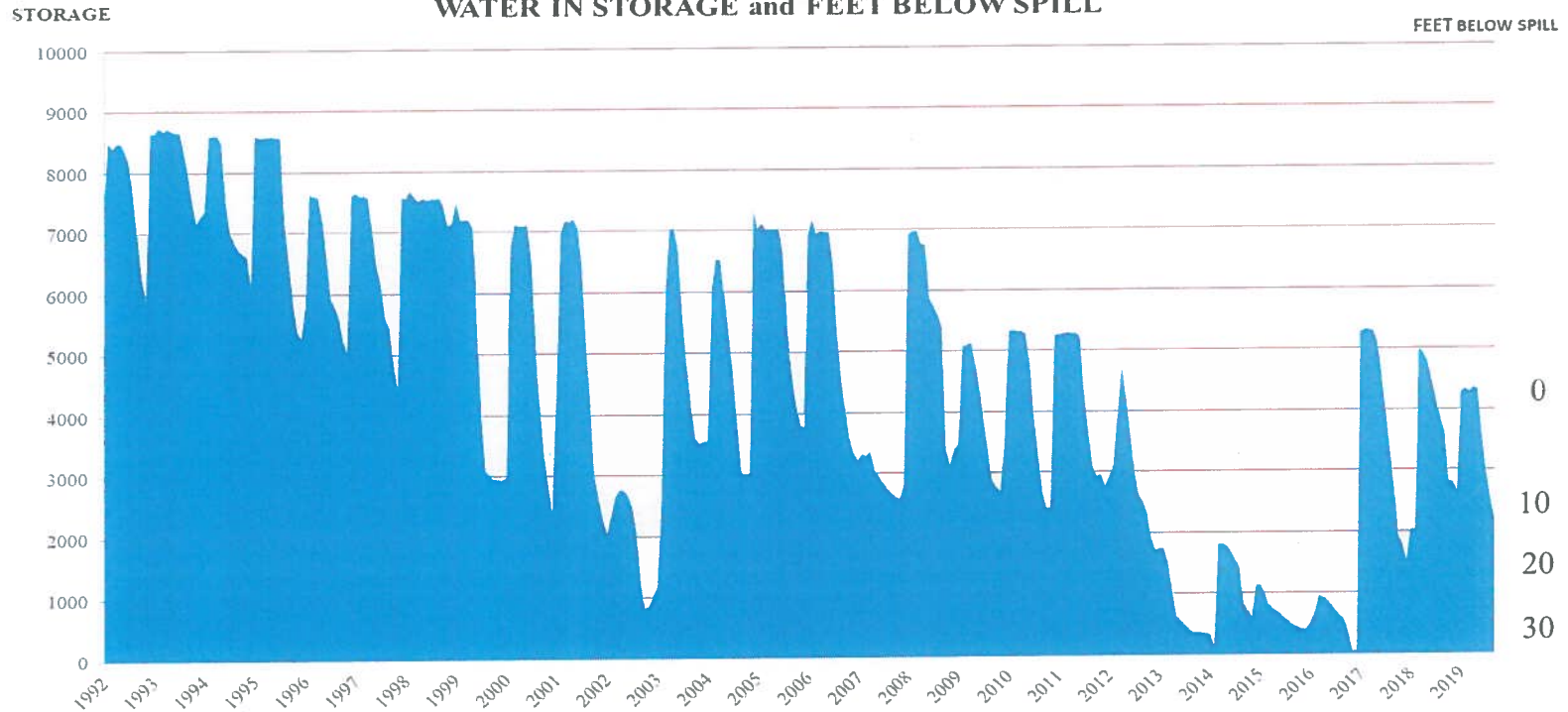
Gauge Location: Gibraltar Dam

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Total
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	0.00	0.00	0.02	0.23	33.45
2017-18	0.00	0.07	0.00	3.92	0.28	7.13	0.13	0.30	0.00	0.00	0.00	0.00	11.83
2018-19	0.18	4.82	0.94	11.65	11.79	4.97	0.12	1.91	0.00	0.00	0.00	0.00	36.38
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Total
50 yr avg	1.02	2.11	4.04	5.92	6.75	5.15	1.52	0.58	0.05	0.02	0.03	0.26	27.90
50 yr median	0.38	1.30	2.76	4.09	5.10	4.33	0.36	0.09	0.00	0.00	0.00	0.00	24.64
Average YTD:	1.02	3.14	7.18	13.10	19.85	25.01	26.53	27.10	27.16	27.17	27.20	27.46	
Actual YTD:	0.18	5.00	5.94	17.59	29.38	34.35	34.47	36.38	36.38	36.38	36.38	36.38	





GIBRALTAR RESERVOIR HYDROGRAPH WATER IN STORAGE and FEET BELOW SPILL



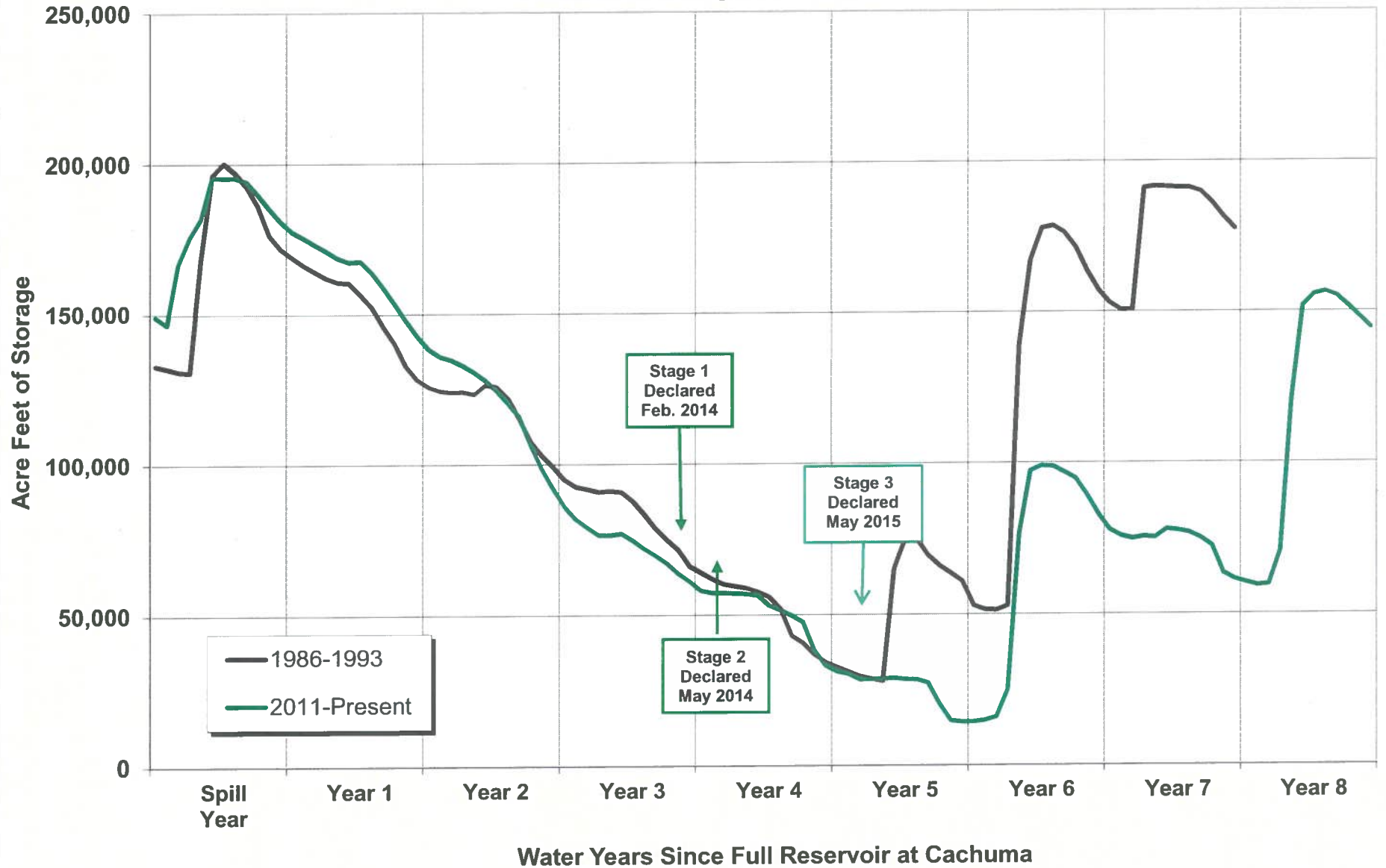
<u>ELEV.</u>	<u>STATUS</u>	<u>CAPACITY (AF)</u>
1,400.00	Reservoir is Full	5,246
1,376.48	First 16" Intake Valve	1,156
1,361.82	Second 16" Intake Valve	0
1,300.00	Reservoir is Empty	0

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 - September 2016... Reflects use of MN&S 2013 Gib. Area/Capacity Survey @ 5,246 AF
 October 2016 to September 2017... Reflects use of MNS 2016 Gib. Area/Capacity Survey @ 5,272 AF
 October 2017 to September 2018... Reflects use of MNS 2017 Gib. Area/Capacity Survey @ 4,968 AF
 October 2018 to present... Reflects use of MNS 2018 Gib. Area/Capacity Survey @ 4,314 AF

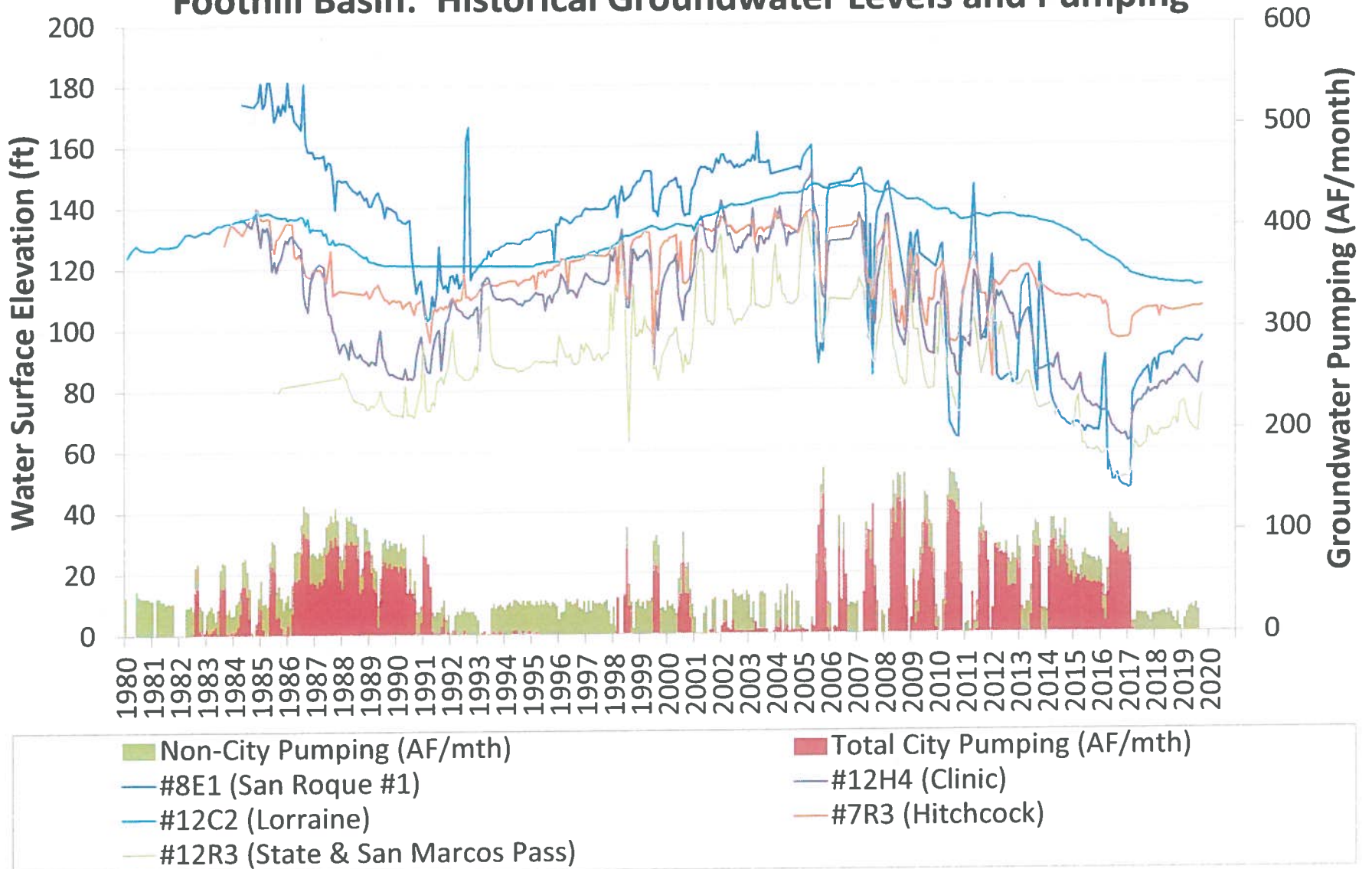
<u>TIME & DATE OF SPILL SINCE 1989</u>	
4:30 Am	March 19, 1991
9:09 Am	February 7, 1992
10:30 Am	January 7, 1993
6:45 Am	February 18, 1994
1:37 Pm	January 9, 1995
2:10 Pm	February 20, 1996
6:00 Am	December 22, 1996
3:00 Am	January 2, 1997
1:30 Pm	January 15, 1997
9:40 Am	December 6, 1997
4:30 Pm	February 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
01:00 Am	January 24, 2017
07:30 Am	March 29, 2018
09:30 Am	January 17, 2019

Cachuma Storage: Current Drought & 1986-93 Period

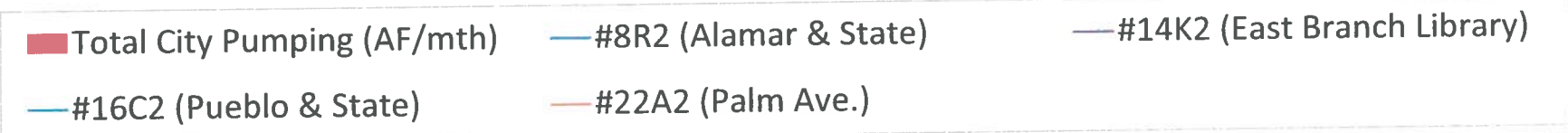
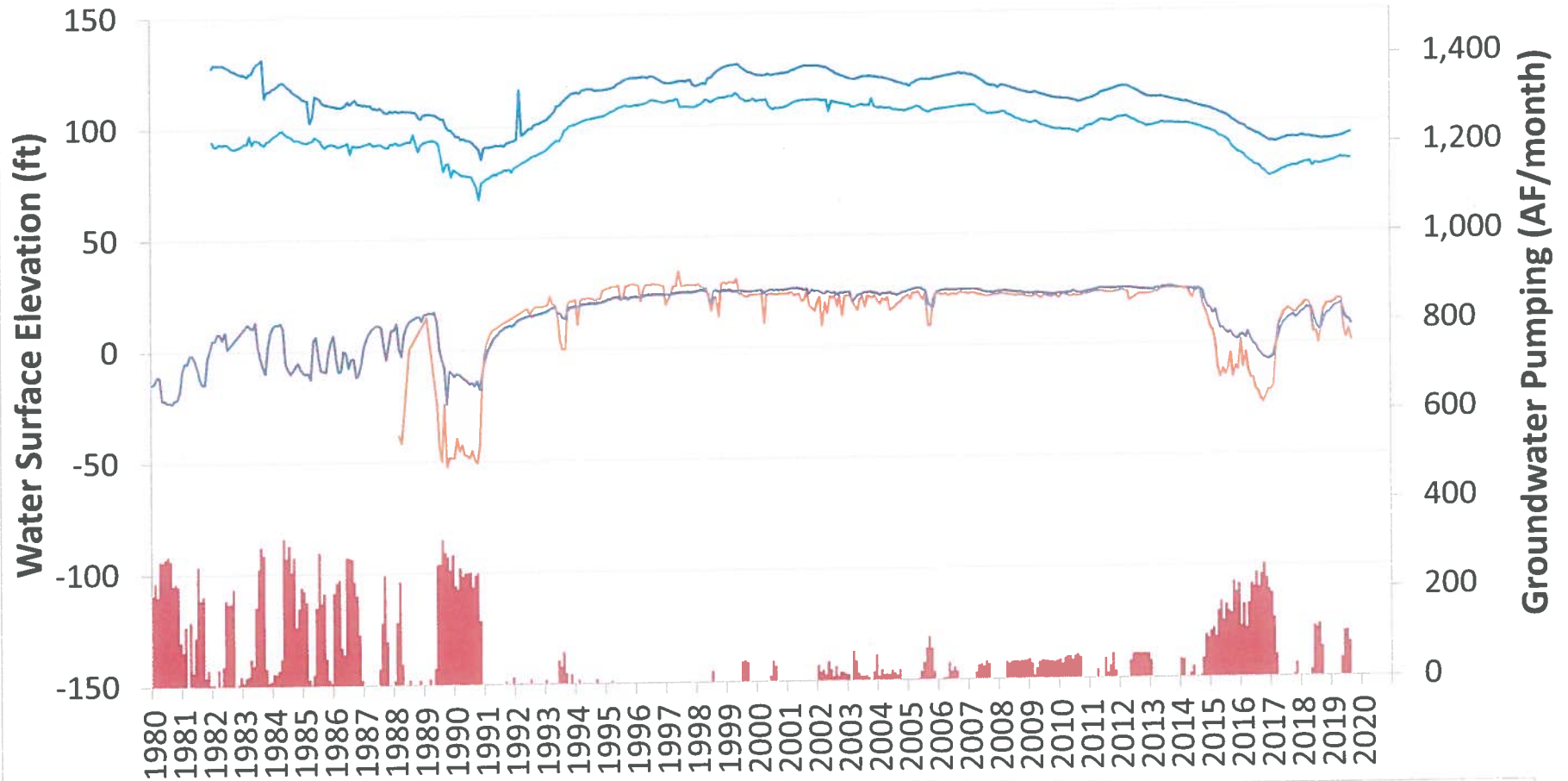
Data Shown Through September 30, 2019



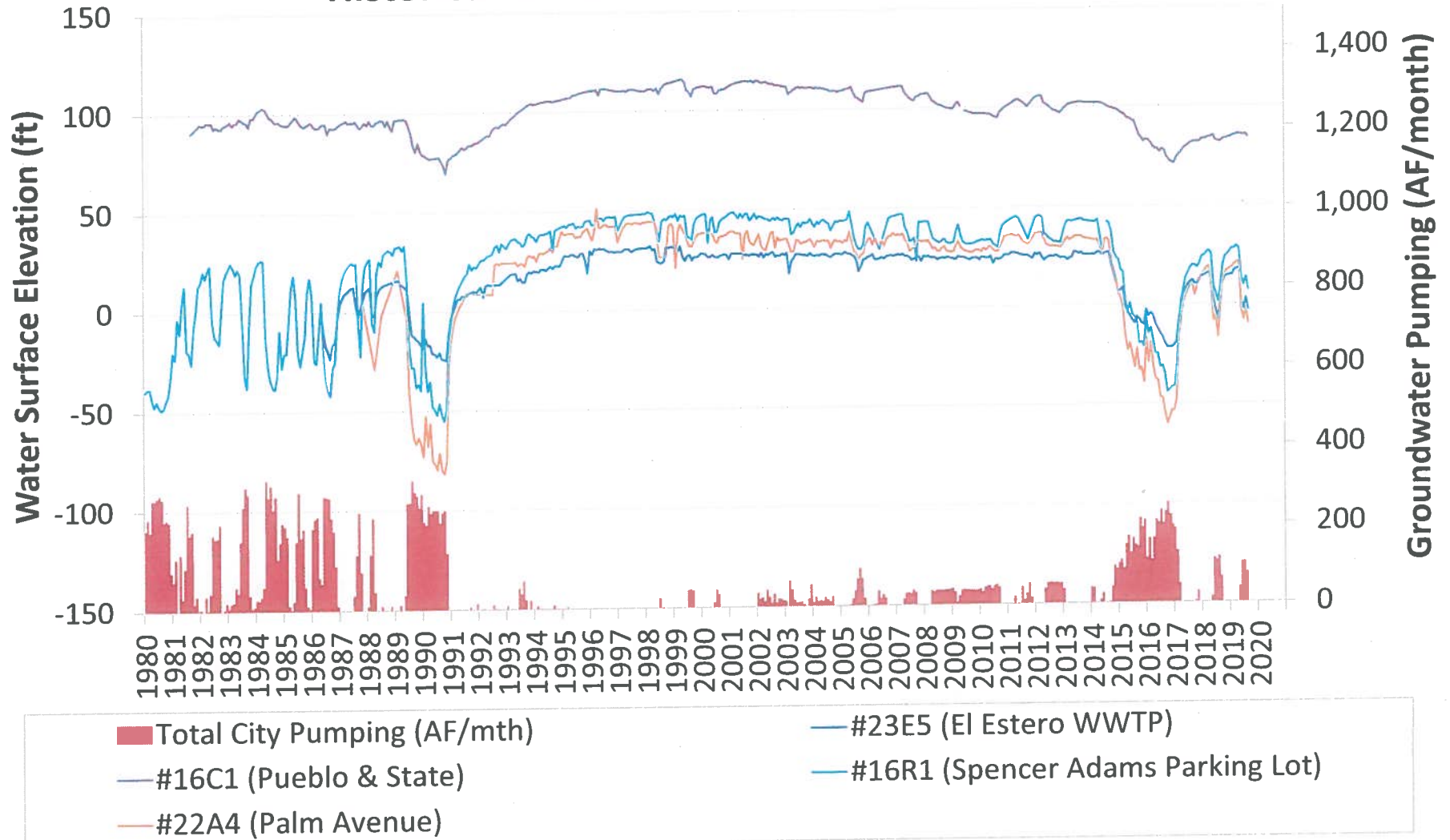
Foothill Basin: Historical Groundwater Levels and Pumping



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

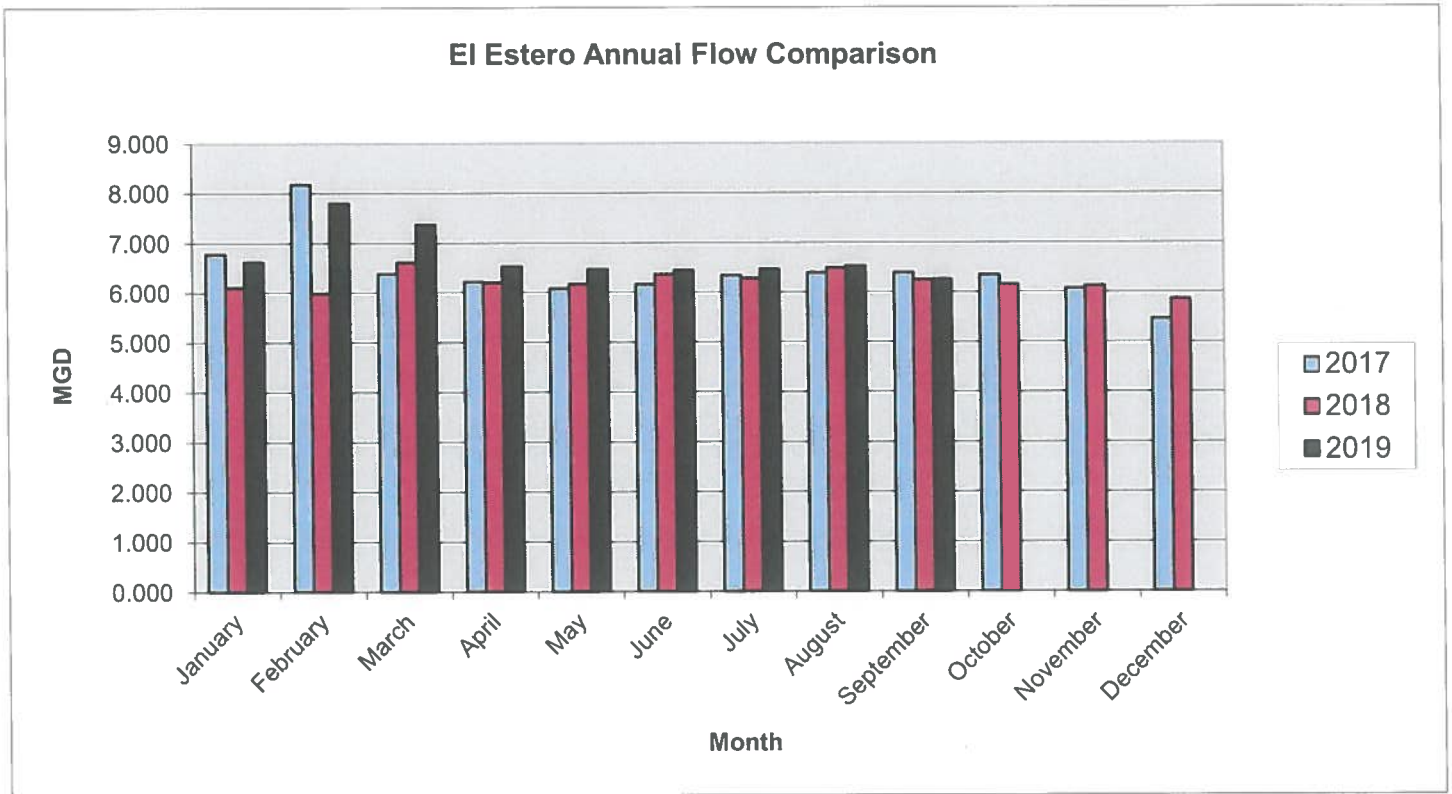


Storage Unit #1, Lower Producing Zone: Historical Groundwater Levels and Pumping



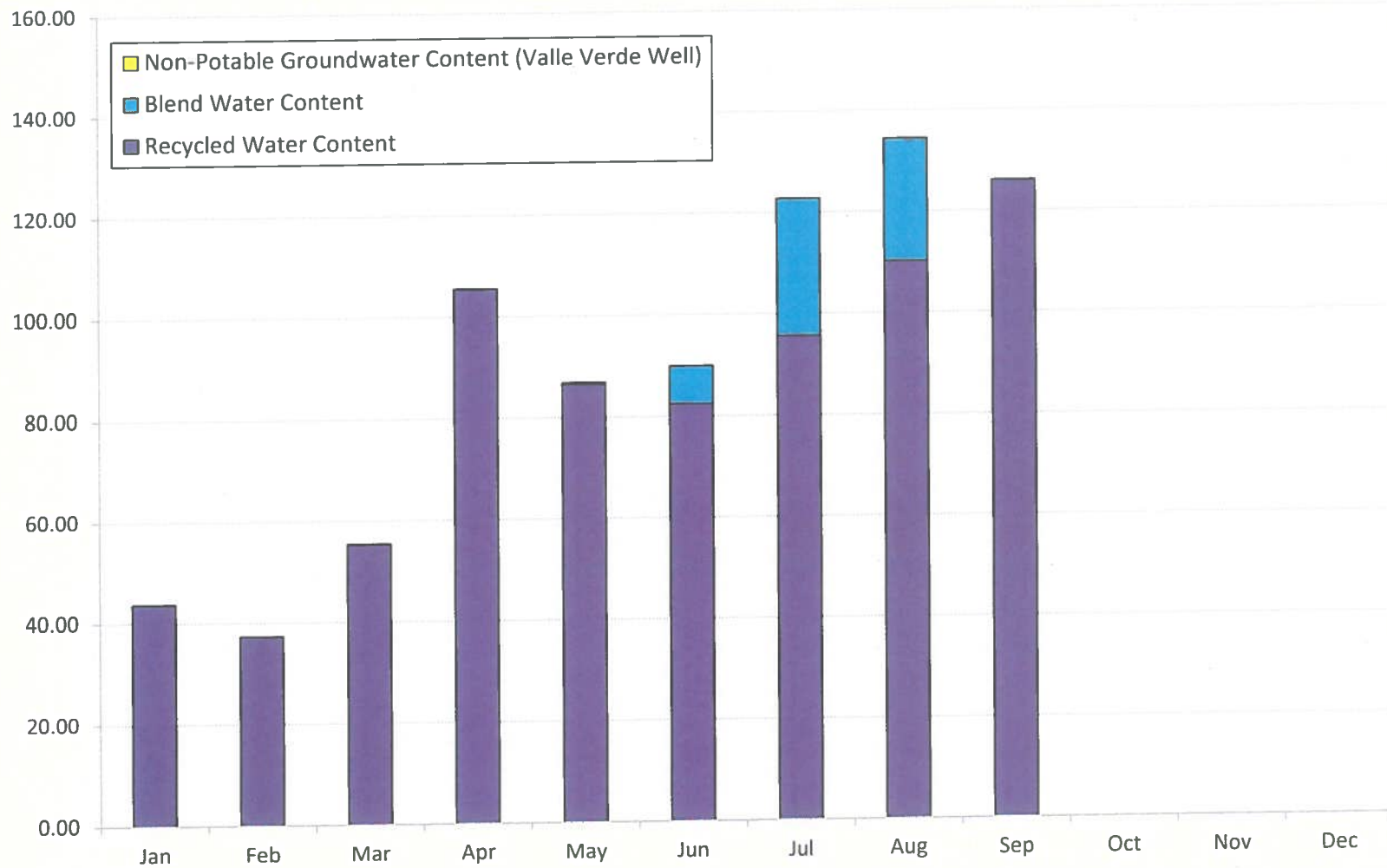
EL ESTERO INFLUENT FLOW COMPARISON

	2017	2018	2019
January	6.777	6.106	6.616
February	8.177	5.987	7.790
March	6.382	6.605	7.363
April	6.224	6.203	6.523
May	6.080	6.168	6.462
June	6.162	6.365	6.441
July	6.338	6.277	6.460
August	6.389	6.482	6.525
September	6.390	6.247	6.250
October	6.341	6.153	
November	6.071	6.123	
December	5.464	5.863	



Annual Flow is Calculated Adjusted Influent Flow

Recycled Production by Source of Supply for 2019 (Acre-Feet)





City of Santa Barbara
Public Works Department

Interoffice Memorandum

DATE: October 10, 2019
TO: Water Commission
FROM: Joshua Haggmark, Water Resources Manager
SUBJECT: Water Supply Update

Following is the status of implementation of Pass Through Operations under the 1989 Upper Santa Ynez River Operations Agreement ("Pass Through Agreement"). There have been no significant changes since the last update, which is provided below.

Reclamation's Environmental Assessment and Finding of No Significant Impact

City staff presented Reclamation with responses to their remaining technical questions. City staff continues to wait for a response from the Area Manager regarding remaining issues on Reclamation's EA.

Warren Act Contract

In parallel with the above, negotiations continue on suitable language for the Warren Act contract. Staff is working to ensure that Reclamation's standard template is modified as necessary to reflect the unique provisions of the Pass Through Agreement. The effort also includes consideration of Warren Act requirements associated with the conveyance of Gibraltar water through Cachuma Project facilities, specifically Lauro Reservoir. Staff met with Reclamation on June 6, 2018 to clarify the City's water rights as they relate to the draft contract. Staff met with Reclamation again on September 6, 2018 to further develop suitable Warren Act contract language and to further clarify the City's water rights.

cc: Cathy Taylor, Acting Water Supply Manager

DC/