

City of Calistoga

Staff Report

TO: Honorable Mayor and City Council

FROM: Michael Kirn, Public Works Director/City Engineer

DATE: June 7, 2016

SUBJECT: Water Supply for Calendar Year 2016

APPROVAL FOR FORWARDING:



Dylan Feik, City Manager

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2 **ISSUE:** Overview of water supply for 2016 calendar year and direction to staff
3 on modifications to the Stage II Water Emergency Declaration.

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5 **RECOMMENDATION:** Receive report and provide direction to staff.

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7 **EXECUTIVE SUMMARY:** Attachment 1 provides a running tally of potable water
8 delivered to all customers since 2012. During 2015 the City reduced its water
9 consumption by 18% compared to 2013 usage, just under the 20% conservation
10 goal set by the Governor.

11
12 At the end of 2017 the City is projected to have 1,250 acre feet of North Bay
13 Aqueduct water available as “carry-over” water. Assuming slightly below average
14 precipitation in 2016/17 and 2017/18 we anticipate that Kimball will capture at least
15 400 acre feet of water for municipal consumption, and our NBA allocations will
16 provide 600 acre feet. The combination of these sources would meet our water
17 demands for approximately three years.

18
19 **BACKGROUND:** Since February 4, 2014 the City has been under a Stage II water
20 emergency declaration and has required mandatory water conservation through best
21 management practices (BMP) as shown on Attachment 2. The declaration has been
22 modified twice to adjust for state mandated stricter conservation measures, including
23 specific conservation targets for individual urban water system (3,000 connections or
24 more).

25

26 Because Calistoga does not meet the criteria for an urban water system we were not
27 subject to a specific conservation target, but instead were asked to meet a
28 conservation goal of 20% from 2013 usage. During 2015 the City reduced its water
29 consumption by 18% compared to 2013 usage, just under the 20% conservation
30 goal set by the Governor.

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32 **DISCUSSION:** During the 2015/16 winter northern California received above
33 average precipitation, and on May 18, 2016 in response to improved water
34 conditions the State Water Resources Control Board adopted a statewide water
35 conservation approach replacing percentage reduction-based water conservation
36 standards with a localized “stress test” approach. These standards require local
37 water agencies to ensure a three-year supply assuming three more dry years like
38 the ones the state experienced from 2012 to 2015.

39

40 Calistoga derives its water from three sources: The State Water Project (SWP)
41 delivered through the North Bay Aqueduct (NBA); Kimball Reservoir; and recycled
42 water from the Dunaweal Wastewater Treatment Plant.

43

44 The accounting of SWP water is complicated and there are many designations of the
45 water. Our basic allocation is called “Table A” water and at 100% declaration our
46 annual entitlement is 1,925 acre feet. For 2016, the declaration for North of Delta
47 SWP contractors is 75% - and equates to 1,443 acre feet for the 2016 calendar year.

48

49 Article 21 Water is water that is available when there are significant flows in the
50 Delta that are “in excess” of the flows needed for riparian requirements and other
51 south of Delta SWP Contractors. For 2016, the Delta was “in excess” from January
52 through early May and we were able to get approximately 140 acre feet of water that
53 does not count against our Table A allocation.

54

55 Similarly, the formulas specifying how much water that can be “carried over” from
56 any given year are complicated. Our current “carry-over” amount is 599 acre feet.
57 For 2016 the maximum amount of water that we can put in our “carry over bank” is
58 653 acre feet, for a projected year end “carry over” total of 1,250 acre feet.

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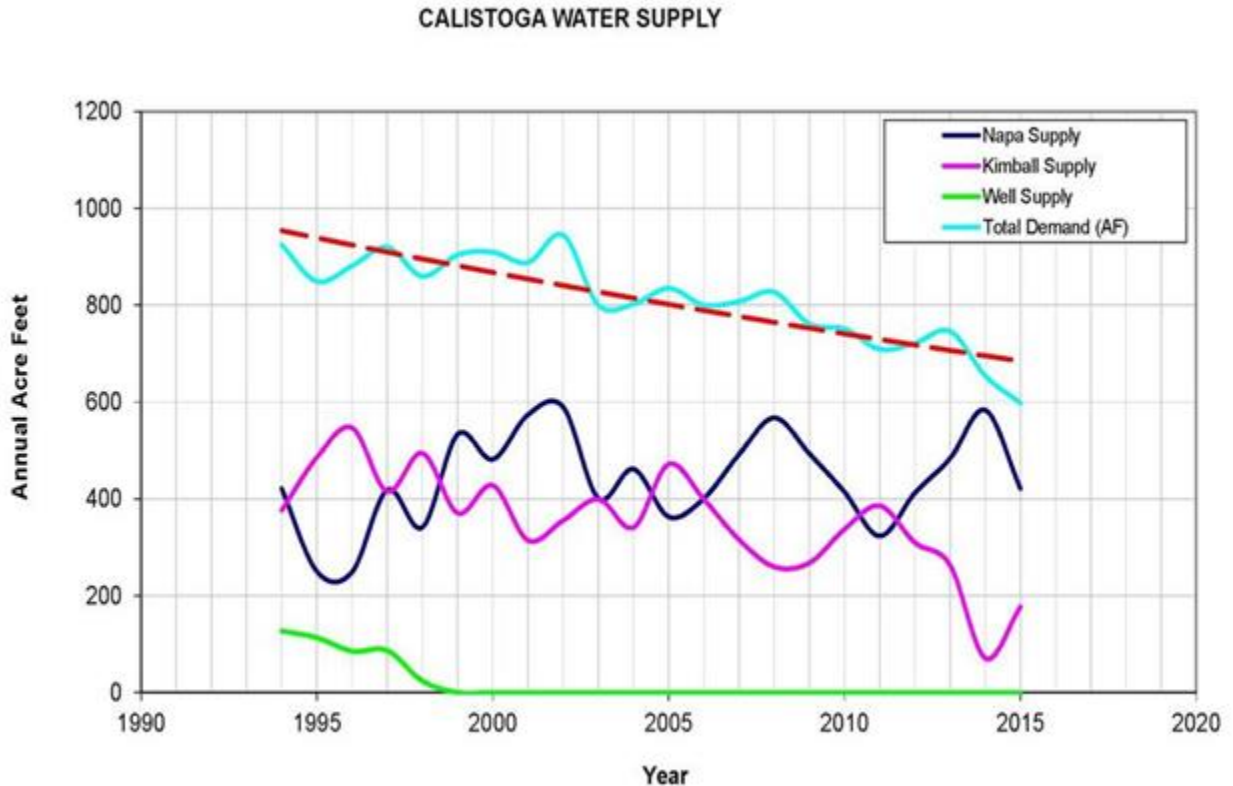
60 This leaves Calistoga with approximately 790 acre feet of Table A Water (1,443 –
61 653) we have to use or lose during the 2016 calendar year. Assuming demand will
62 be 50 acre feet per month for the remainder of the year (8 months) we will use
63 approximately 400 acre feet of our 2016 Table A allocation. This results in
64 approximately 390 acre feet of our Table A Water being “turned-back” to the system.

65

66 On March 22, 2016 Kimball Reservoir reached full capacity of 330 acre feet with all
67 four flash boards installed. As of June 1, 2016 Kimball Reservoir had 278 acre feet
68 in storage. Our plan is to use Kimball as a supplement to our NBA supply for the

69 balance of this year to address peak demand and to maintain storage levels for fire
70 suppression purposes.

71 The graph below reflects our annual water consumption over the past 20 years and
72 reflects a reduction in water consumption of 35% over this time period.



73 In addition, we typically produce and deliver 300 acre feet of recycled water annually
74 to our recycled water customers.
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76
77 **FISCAL IMPACT:** The effectiveness of the water conservation efforts has had a
78 fairly significant impact to the water enterprise revenues over the past three years.
79 This reduction in revenue has made it difficult for the City to adequately fund capital
80 projects, meet debt coverage ratios, and build up prudent reserves.

81
82 Given the likely hood of “returning” a portion of our NBA water “back to the system”
83 staff is seeking direction on whether we should scaling back some of the water
84 conservation best management practices.

85
86 **Attachments:**

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88 1. 2013 vs. 2015 Water Consumption
89 2. Current Stage II Mandatory Water Conservation BMP's

Attachment 1

Total Water Sold (Hundred Cubic Feet)

Year

Month	2012	2013	2014	2015	2016
August	58237	53364	44798	36552	0
September	11818	11442	11042	11839	0
October	44319	48774	37951	36599	0
November	7130	8492	6689	7671	0
December	25863	33939	25861	25511	0
January	7703	7686	8230	6917	6568
February	26647	25338	27366	24890	24162
March	7566	7676	7252	9331	8502
April	27427	29815	27363	30270	24249
May	12220	11711	9802	9168	8231
June	45118	45827	37564	34039	0
July	12384	13119	12364	11195	0
Totals	286432	297183	256282	243982	71712

Conservation Efforts 2015 vs 2013: 18%

Conservation Efforts 2014 vs 2013: 14%

Attachment 2

City of Calistoga, 2015 Best Management Practices (“BMP”) for Water Conservation

All Water Customers:

1. Outdoor irrigation with potable water only during the early morning hours to reduce evaporation loss with an odd/even address watering schedule (odd addresses water Tuesday and Friday and even water Monday and Thursday). No outdoor irrigation on Wednesday, Saturday or Sunday with potable water.
2. Irrigation is not permitted during or 48 hours after measurable rainfall.
3. Irrigation may not spray onto paved areas and sidewalks. Measurable rainfall is ¼” in a calendar day (mid-night to mid-night).
4. No initial filling or draining of swimming pools with potable water. Pools can be topped off to prevent damage to pumps and equipment.
5. All newly permitted pools and spas will be required to have a pool cover installed prior to final inspection.
6. No washing sidewalks, buildings, driveways, patios, or other paved areas with potable water.
7. No noncommercial washing of privately owned motor vehicles, trailers and boats except from a bucket and hose equipped with an automatic shut-off nozzle.
8. Prohibiting any use of water from a fire hydrant, except for fighting fires and line flushing required by regulatory agencies.
9. No use of potable water for dust control or compaction at construction sites.
10. Newly constructed homes and buildings using potable water for outside irrigation shall install drip or micro-spray systems.
11. The use of portable water in a fountain or other decorative water feature is not permitted, except where the water is part of a recirculating system.
12. Inspect all irrigation systems, repair leaks, and adjust spray heads to provide optimum coverage and eliminate avoidable over-spray.
13. Run full loads through dishwasher.
14. Wash full loads of laundry.

Restaurants

1. Tap water can only be provided to customers only upon request.
2. Scrape all dishes prior to rinsing.
3. Run full loads through dishwasher.
4. Wash full loads of linens.

Hotels and Spas

1. Hotels and motels must clearly and prominently display notice of option to reuse towels.
2. Bed linens and towels changed only upon guest request.
3. Wash full loads of linens/laundry.
4. Inspect all irrigation systems, repair leaks, and adjust spray heads to provide optimum coverage and eliminate avoidable over-spray.

5. No washing sidewalks, driveways, patios, or other paved areas with potable water.
6. Prohibit any use of water from a fire hydrant, except for fighting fires and line flushing required by regulatory agencies.
7. No initial filling or draining of swimming pools using potable water. Pools can be topped off to prevent damage to pumps and equipment.
8. No noncommercial washing of privately owned motor vehicles, trailers and boats except from a bucket and hose equipped with an automatic shut-off nozzle.