



NORTH MARIN WATER DISTRICT
AGENDA - REGULAR MEETING
 March 21, 2017 – 7:00 p.m.
 District Headquarters
 999 Rush Creek Place
 Novato, California

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Est. Time	Item	Subject
7:00 p.m.	CALL TO ORDER	
	1.	APPROVE MINUTES FROM REGULAR MEETING , March 7, 2017
	2.	GENERAL MANAGER'S REPORT
	3.	OPEN TIME: (Please observe a three-minute time limit) This section of the agenda is provided so that the public may express comments on any issues not listed on the agenda that are of interest to the public and within the jurisdiction of the North Marin Water District. When comments are made about matters not on the agenda, Board members can ask questions for clarification, respond to statements or questions from members of the public, refer a matter to staff, or direct staff to place a matter of business on a future agenda. The public may also express comments on agenda items at the time of Board consideration.
	4.	STAFF/DIRECTORS REPORTS
	5.	MONTHLY PROGRESS REPORT
		ACTION CALENDAR
	6.	Approve: Rate Increase Letter to Novato Customers
		INFORMATION ITEMS
	7.	Rate Increase Notice on Water Bill
	8.	NBWRA Update and Path Forward
	9.	Stafford Dam Safety Report
	10.	MISCELLANEOUS Disbursements Pipe Worker Assistant Promotion Potter Valley Project Relicensing Stakeholder Meeting Public Policy Facilitating Committee Meeting <u>News Articles:</u> Governor Brown Appoints Doduc, Esquivel to State Water Board Water District to test high-tech meters Marin's dams deemed safe
8:00 p.m.	11.	ADJOURNMENT

All times are approximate and for reference only.

The Board of Directors may consider an item at a different time than set forth herein.

1

DRAFT
NORTH MARIN WATER DISTRICT
MINUTES OF REGULAR MEETING
OF THE BOARD OF DIRECTORS
March 7, 2017

CALL TO ORDER

President Petterle called the regular meeting of the Board of Directors of North Marin Water District to order at 7:00 p.m. at the District headquarters and the agenda was accepted as presented. Present were Directors Jack Baker, Rick Fraites, Michael Joly, Stephen Petterle, and John Schoonover. Also present were General Manager Chris DeGabriele, District Secretary Katie Young, Assistant General Manager Drew McIntyre (joined the meeting at 7:50 p.m.), Chief Engineer Rocky Vogler and Auditor-Controller David Bentley.

District employees Robert Clark (Operations/Maintenance Superintendent) and Tony Arendell (Construction/Maintenance Superintendent) were in the audience.

MINUTES

On motion of Director Schoonover, seconded by Director Baker the Board approved the minutes from the previous meeting as presented by the following vote:

AYES: Director Baker, Fraites, Joly, Petterle, and Schoonover

NOES: None

GENERAL MANAGER'S REPORT

Mr. McIntyre absence

Mr. DeGabriele advised the Board that Mr. McIntyre will be arriving late to the meeting tonight as he is giving a presentation on the Recycled Water Central Project at the Novato Unified School District Board Meeting.

Potter Valley Project Relicensing Meeting

Mr. DeGabriele informed the Board that he and Mr. McIntyre will be attending PG&E's PVP Relicensing Kickoff meeting in Ukiah this Thursday. He stated that the meeting purpose is to acquaint interested parties with FERC's integrated licensing process including key milestones and opportunities for stakeholder participation.

Public Policy Facilitating Committee

Mr. DeGabriele advised the Board that the PPFC meeting is next Monday morning at the Sonoma County Board of Supervisors chambers. He noted that President Petterle is the District's Board liaison to attend this meeting.

1 Russian River Confluence

2 Mr. DeGabriele informed the Board that on March 24th the Russian River Confluence is
3 scheduled and suggested that it may be good for the WAC representative to attend this all day
4 meeting in Forestville to become more familiar with the Sonoma County Water Agency's elected
5 officials, James Gore and Lynda Hopkins.

6 OPEN TIME

7 President Petterle asked if anyone in the audience wished to bring up an item not on the
8 agenda and there was no response.

9 STAFF / DIRECTORS' REPORTS

10 President Petterle asked if staff or Directors wished to bring up an item not on the agenda
11 and the following item was discussed:

12 Mr. Bentley updated the Board on the AMI pilot project which is now underway. He advised
13 that the 26 collectors and antennas are now installed and communications programming is going on
14 now. He stated that they already replaced 52 meters and will retrofit 148 meters by the end of next
15 week. Director Joly's meter will be added to the pilot project scope.

16 CONSENT CALENDAR

17 On the motion of Director Schoonover, seconded by Director Fraites the Board approved the
18 following items on the consent calendar by the following vote:

19 AYES: Director Baker, Fraites, Joly, Petterle, and Schoonover

20 NOES: None

21 WATER SERVICE AGREEMENT- NOVATO VILLAGE

22 The Board approved the Novato Village Senior Apartments water service agreement which
23 involves building a two-story 48-unit apartment complex for senior aged residents on a 1.65 acre
24 parcel. The project is located at 801 State Access Road. In addition to providing potable water
25 service to new apartments and common use building spaces, recycled water will be provided for
26 common area landscaping.

27 New required Zone 1 water facilities include 100 feet of 6-inch PVC main, one new
28 commercial fire hydrant, one 6-inch fire service, one 1-inch domestic meter with a 2-inch lateral and
29 one 1-inch recycled water irrigation meter. The existing 1-inch meter with 1.5-inch lateral will
30 supplement domestic water for this project.

1 The project will receive Zone 1 normal pressure water service. Water demand is 25
2 equivalent dwelling units (48 apartments @ 0.39 EDU each, 2 EDUs for common spaces, plus 4
3 EDUs for irrigation). Total new water demand is 24 EDUs since one EDU will be credited to the
4 project for the existing service. Since this project includes housing units affordable to lower income
5 households, payment of initial charges for up to nine (9) units may be eligible to be deferred
6 pursuant to Regulation 1c (5).

7 The Board approved Resolution 17-2 entitled: "Authorization Of Execution Of Water Service
8 Facilities Construction Agreement With Novato Village L.P."

9 **WATER SERVICE AGREEMENT- 35 LEVERONI CT.**

10 The Board approved the water service agreement with BioMarin (35 Leveroni Court) which
11 consists of renovations of the existing building located at 35 Leveroni Court and installing new
12 production facilities. This work includes the installation of a 3-inch meter for commercial use.

13 New water facilities required include 10 feet of 4-inch PVC main and one 3-inch domestic
14 service. The existing 1-inch water service will be dedicated to irrigation use. These facilities will
15 receive normal pressure water from Zone 1.

16 The Board approved Resolution 17-3 entitled: "Authorization Of Execution Of Water Service
17 Facilities Construction Agreement With Biomarin Pharmaceutical Inc."

18 **ADVERTISEMENT FOR RW WEST – HWY 101 CROSSING**

19 The Board approved advertisement for the Recycled Water Central Expansion West – HWY
20 101 Crossing project which will install a 16-inch carrier pipeline within a 24-inch casing pipe under
21 Highway 101, and will tie-in to recycled water pipelines installed in streets on the east and west
22 sides of Highway 101.

23 The Highway 101 Crossing project includes installation of approximately 340 ft. of 16-inch
24 restrained joint PVC carrier pipe, within a 24-inch steel casing under Highway 101, installed by a
25 guided bore method. The Project connects recycled water pipelines from Vintage Way near In-N-Out
26 Burger on the east side to Redwood Blvd south of Scottsdale Pond on the west side.

27 The Highway 101 crossing was previously designed to be installed using the Horizontal
28 Directional Drill (HDD) methodology as part of the West pipeline project. During bid phase for the
29 Central West project, the Highway 101 crossing portion of the project was removed since bidders
30 raised concerns related to settlement and potential inability to control drilling fluids associated with
31 the HDD method. The HDD methodology has now been replaced with guided bore technology.
32 Guided boring is a multi-stage method of accurately installing the recycled water main and steel

1 casing to a precise line and grade by using a laser guidance system and augers. The current
2 Engineer's Estimate is \$850,000.

3 **ACTION CALENDAR**

4 **CONSIDER REQUEST FOR ADDITIONAL BILL ADJUSTMENT – LEE**

5 Mr. Bentley explained to the Board that Mr. Lee, on Hune Court (off Center Road), has
6 requested an additional adjustment for his December water bill. He stated that Mr. Lee received a
7 \$577 bill for use of 102,000 gallons, a significant increase from the 38,000 gallons used during the
8 same period in 2015. He further stated that he received a \$192 bill adjustment as calculated under
9 the District Board Policy. Mr. Bentley advised the Board that prior to mailing the December bill; staff
10 double-checked the meter reading, and checked it again in January at Mr. Lee's request. He noted
11 that staff believes the water was consumed, but notes that the two prior meter reads, on August 16
12 and October 21, showed one- third (1/3) less use than those same 2015 billing periods, and both
13 were read by the former meter reader who admitted to estimating reads. Mr. Bentley informed the
14 Board that staff suspects that water use shown on both the August and the October 2016 bills was
15 understated. He advised the Board that combining the mid- June through mid-December use in total
16 (6 months), the 2016 use was 153,000 gallons compared to 108,000 gallons for the same period in
17 2015. Mr. Bentley stated that after incorporating the \$192 bill adjustment already granted, Mr. Lee is
18 currently being charged for 117,000 gallons.

19 Mr. Bentley advised the Board that staff proposes three options to consider: 1) Let the bill
20 stand as adjusted under Board Policy; 2) Grant an additional \$48 credit based on the 9,000 gallon
21 difference between the 2016 use and 2015 use, (i.e., to pay for the same amount of water used in
22 2015); or 3) Split the difference between options 1 and 2, and grant an additional \$24 credit.

23 Director Schoonover stated that he believes \$24 is a fair amount and that staff has made
24 some compromise on the bill adjustment.

25 Director Baker opined that option 3 is a good effort to compromise and not a big amount.

26 On motion of Director Baker and seconded by Director Fraites, the Board approved staff's
27 recommendation, Option 3- to split the difference between options 1 and 2, and grant an additional
28 \$24 credit by the following vote:

29 AYES: Director Baker, Fraites, and Schoonover

30 NOES: Director Joly and Petterle

31 President Petterle advised that he preferred option 2 since it is not a lot of money and the
32 issue seems to have been related to the estimated meter read problem.

1 **CONSOLIDATION OF ELECTIONS**

2 Mr. DeGabriele reminded the Board that at the February 21st Board meeting, they received
3 information on Senate Bill No. 415 - The California Voter Participation Rights Act which was
4 designed with the intent to remedy low voter turnout during local "off-cycle" (odd year) elections. He
5 stated that at that meeting, the Board was informed that in conversations with legal counsel and with
6 the Marin County Elections Department, it was suggested not to rush to consolidate elections but
7 develop and submit a plan by January 1, 2018 to synchronize the elections of the District with the
8 statewide elections by the year 2022.

9 Mr. DeGabriele advised the Board that this past week the Marin County Elections
10 Department Registrar of Voters advised that many school districts and special districts are acting
11 quickly and moving from the November 2017 election to November 2018 and as a result the cost for
12 the November 2017 election is likely to increase by a factor of approximately two.

13 Mr. DeGabriele recommended to avoid such a cost increase that the Board consider
14 adopting a resolution to move District elections now planned in November 2017 to November 2018
15 and to move the 2019 elections to November 2020. He stated that the resolution requires approval
16 by the Marin County Board of Supervisors and it must be submitted no later than 240 days prior to
17 the date of the currently scheduled District election (no later than March 10, 2017). He noted that if
18 approved the District is responsible for reimbursing the County for the expense of mailing the Notice
19 of Approval of Change and Election Date as required by Election Code Section 10404.

20 Director Baker asked what the cost of an election would be. Mr. Bentley responded at least
21 six figures.

22 On motion of Director Baker, seconded by Director Schoonover, the Board approved
23 Resolution 17-4 entitled: "Resolution Requesting The Board Of Supervisors Of Marin County To
24 Authorize Consolidation Of Future North Marin Water District Board Member Elections With The
25 November Statewide General Elections During Even Numbered Years" by the following vote:

26 AYES: Director Baker, Fraites, Joly, Petterle, and Schoonover

27 NOES: None

28 **MARIN LAFCO – CALL FOR ELECTION FOR SPECIAL DISTRICT SEAT ON LAFCO**

29 Mr. DeGabriele reminded the Board that Marin LAFCO requested District consent to
30 receiving email notices of election and has provided the ballot forms to vote for the Local Agency
31 Formation Commission (LAFCO) Special District Representative regular member. He noted that

1 ballots require "ranked" voting (1st, 2nd and 3rd choices) to enable an instant run-off and must be
2 returned by April 24, 2017. He advised the Board that Craig Murray was up for re-election.

3 Director Baker opined that Craig Murray from Las Gallinas Valley Sanitary District was a
4 LAFCo commissioner and asks a lot of questions and is really sharp, active locally and attends
5 statewide functions.

6 On motion of Director Schoonover, seconded by Director Baker the Board voted for Marin
7 LAFCo Special District Regular Member in following ranking: 1. Craig Murray, Las Gallinas Valley
8 Sanitary District (incumbent regular member); 2. Lew Kious, Almonte Sanitary District (incumbent
9 alternate member) and 3. Todd Gates, Alto Sanitary District by the following vote:

10 AYES: Director Baker, Fraites, Joly, Petterle, and Schoonover

11 NOES: None

12 **COMMENTS TO MARIN LAFCo ON DRAFT AMENDMENTS TO POLICIES FOR OUTSIDE**
13 **SERVICE EXTENSIONS**

14 Mr. DeGabriele advised the Board that Marin LAFCo is proposing amendments to their
15 Policies Regarding Outside Service Extensions. He stated that Marin LAFCo proposes to add a new
16 implementation Definition, 10d) "Transfer" shall mean the wholesale delivery of non-potable or non-
17 treated water. He noted that if adopted, this definition would provide Marin LAFCo authority to make
18 new or extended outside retail recycled water service subject to their review. He advised the Board
19 that the legislative statute which Marin LAFCo references in triggering these policy amendments,
20 makes no such definition and explicitly exempts "the transfer of non-potable or non-treated water."

21 Mr. DeGabriele is requesting that the Board authorize the General Manager send a letter
22 opposing this proposed "transfer" definition letter.

23 On motion of Director Fraites, seconded by Director Baker, the Board authorized sending
24 the letter to Marin LAFCo opposing the proposed Policy Amendment by the following vote:

25 AYES: Director Baker, Fraites, Joly, Petterle, and Schoonover

26 NOES: None

27 **INFORMATION ITEMS**

28 **NOVATO POTABLE WATER SYSTEM FINANCIAL PLAN UPDATE**

29 Mr. Bentley provided the Board with the financial "dashboard" which summarizes the
30 District's financial plan for the next five years, through fiscal year 2022. He stated that given the
31 assumptions incorporated, the rate increase plan herein recommended will provide a cash reserve
32 balance of 89% of annual operating expense at the close of fiscal year 2022. He noted that this is

1 consistent with the District's goal of building a cash reserve balance equal to 90% of annual
2 operating expense. Mr. Bentley recommended a 5% rate increase to all customers structured as a
3 5% commodity rate increase and 5% bimonthly service charge increase.

4 Director Fraites stated that staff needs to try and explain rate increase as simple as possible
5 for customers and try to get the message across that SCWA is raising District rates and
6 development is not occurring in Novato.

7 President Petterle stated that no one likes a rate increase but 5%, equivalent to \$2.75 per
8 month for the typical Novato single family customer isn't that high of a rate increase.

9 Mr. Bentley advised that after receiving Board input staff would come back at the following
10 meeting with a draft letter to customers pertaining to the proposed 5% rate increase.

11 Mr. McIntyre arrived at the meeting. He stated that he provided a 20 minute presentation to
12 the Novato Unified School District Board regarding the Recycled Water Central Project.

13 **TAC MEETING – MARCH 6, 2017**

14 Mr. DeGabriele provided the Board with a summary of the March 6th TAC meeting. He stated
15 that Lake Sonoma currently holds 120% of its water supply pool (266,715AF) and Lake Mendocino
16 is at 121% of water supply pool (81,348AF). He informed the Board that the Russian River
17 Confluence is scheduled for March 24th at Shone Farm with a reception following. He noted that the
18 Confluence meeting is intended to fulfill Director Gore's "One Watershed, One Vision" perspective,
19 outlining what the Russian River watershed currently is and what it could be.

20 **NBWA MEETING – MARCH 3, 2017**

21 Director Fraites informed the Board that at the North Bay Water Association Meeting on
22 March 3rd there was much discussion about federal funding for the Bay Area Restoration Authority,
23 that the NBWA conference will be held in Petaluma next spring and the letter to the SWRCB
24 supporting additional Fresh Water Flows to San Francisco Bay was approved.

25 **GOVERNOR BROWN'S FOUR-POINT PLAN**

26 Mr. McIntyre advised the Board that since the Orville Dam Emergency the state's renewed
27 focus is on all state dams. He stated that the District had the foresight to approve preparation of an
28 Emergency Action Plan (EAP) and updated flood inundation map for Stafford Dam (prepared by
29 Michael Baker International at a cost of -\$97,000) and the EAP assists the District in determining
30 and communicating emergency response, provides technical information about the dam and
31 identifies mitigating actions to take during an emergency. He noted that the document was accepted
32 by the Board in October 2015 and subsequently submitted to the State Division of Safety of Dams.

1 Mr. McIntyre advised the Board that the District has annual dam inspections and spillway repairs
2 were made by one of the District's on-call construction contractors, Team Ghilotti during spring
3 2016.

4 Director Baker requested pictures of portions of the dam to refresh the Board's memory.

5 **GM RESIGNATION AND RETIREMENT FROM NMWD**

6 Mr. DeGabriele officially gave his retirement notice set for May 2, 2017 after the Board
7 meeting that night. He suggested there be an Open House along with retirement recognition in the
8 next couple months including demonstrations such as the hot tap and water conservation
9 demonstrations. He stated that food would be served and it would give him a chance to say
10 goodbye.

11 Director Schoonover stated that it has been a great 26 years with Mr. DeGabriele at the
12 District. All the Directors agreed.

13 **MISCELLANEOUS**

14 The Board received the following miscellaneous information: Disbursements and GFOA
15 Certificate of Achievement for Excellence in Financial Reporting.

16 The Board received the following news articles: Public Meeting on Local Fish Habitat
17 Restoration Projects, Russian River Confluence Slated to Develop Long-Term Action Plan, and
18 Sonoma County to spearhead plan to restore Laguna de Santa Rosa watershed.

19 **ADJOURNMENT**

20 President Petterle adjourned the meeting at 8:12 p.m.

21 Submitted by

22
23
24
25 Katie Young
26 District Secretary

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NORTH MARIN WATER DISTRICT
MONTHLY PROGRESS REPORT FOR *February 2017*
 March 21, 2017

1.

Novato Potable Water Prod - RR & STP Combined - in Million Gallons - FYTD

Month	FY16/17	FY15/16	FY14/15	FY13/14	FY12/13	17 vs 16 %
July	345	227	319	385	389	52%
August	330	235	301	360	396	40%
September	315	210	276	332	346	50%
October	222	299	221	313	283	-26%
November	156	145	173	229	166	7%
December	169	145	129	182	146	16%
January	139	130	137	168	151	7%
February	136	111	121	119	148	22%
FYTD Total	1,812	1,503	1,677	2,087	2,026	21%

West Marin Potable Water Production - in Million Gallons - FY to Date

Month	FY16/17	FY15/16	FY14/15	FY13/14	FY12/13	17 vs 16 %
July	7.9	6.6	8.6	9.3	9.8	20%
August	7.4	7.0	8.5	9.3	9.7	6%
September	6.4	6.4	7.8	8.5	8.3	-1%
October	5.2	6.5	5.4	8.0	7.4	-21%
November	4.2	4.7	4.6	6.8	5.2	-11%
December	3.7	3.9	4.7	6.4	4.5	-5%
January	3.6	3.7	4.4	5.9	5.0	-5%
February	3.3	3.8	3.9	4.4	4.4	-12%
FYTD Total	41.7	42.7	47.9	58.6	54.3	-2%

Stafford Treatment Plant Production - in Million Gallons - FY to Date

Month	FY16/17	FY15/16	FY14/15	FY13/14	FY12/13	17 vs 16 %
July	70	108	83	98	49	-35%
August	90	79	61	83	83	14%
September	97	38	26	56	72	153%
October	94	50	0	82	88	90%
November	64	58	8	5	64	10%
December	0	0	0	2	0	-
January	0	0	0	0	21	-
February	0	0	24	0	57	-
FYTD Total	415	333	202	326	433	25%

Recycled Water Production* - in Million Gallons - FY to Date

Month	FY16/17	FY15/16	FY14/15	FY13/14	FY12/13	16 vs 15 %
July	27.1	21.3	21.8	27.6	11.2	27%
August	26.0	26.2	26.0	26.2	10.5	-1%
September	23.5	15.7	19.2	18.6	8.5	50%
October	8.3	15.8	9.4	15.8	0.0	-47%
November	1.2	3.2	3.7	6.4	0.0	-62%
December	0.4	0.8	1.6	1.6	0.0	-54%
January	0.3	0.2	0.8	1.2	0.0	77%
February	0.0	0.6	0.8	1.8	0.0	-
FYTD Total*	86.8	83.8	83.2	99.1	30.2	4%

*Excludes potable water input to the RW system: FYTD17=0.6MG; FYTD16=7.4MG; FYTD15=6.9MG; FYTD14=8.7MG.

2. Stafford Lake Data

	February Average	February 2016	February 2017
Rainfall this month	5.1 Inches	0.9 Inches	10.2 Inches
Rainfall this FY to date	20.9 Inches	15.3 Inches	35.8 Inches
Lake elevation*	191.8 Feet	192.5 Feet	196.7 Feet
Lake storage**	1,097 MG	1,148 MG	1,450 MG

* Spillway elevation is 196.0 feet

** Lake storage less 390 MG = quantity available for delivery

Temperature (in degrees)

	Minimum	Maximum	Average
February 2016 (Novato)	42	88	60
February 2017 (Novato)	36	76	55

3. Number of Services

February 28	Novato Water			Recycled Water			West Marin Water			Oceana Marin Swr		
	FY17	FY16	Incr %	FY17	FY16	Incr %	FY17	FY16	Incr %	FY17	FY16	Incr %
Total meters installed	20,779	20,761	0.1%	49	48	2.1%	787	785	0.3%	-	-	-
Total meters active	20,538	20,524	0.1%	45	44	2.3%	781	778	0.4%	-	-	-
Active dwelling units	23,982	23,970	0.1%	0	0	-	830	825	0.6%	231	230	0.4%

4. Oceana Marin Monthly Status Report (February)

Description	February 2016	February 2017
Effluent Flow Volume (MG)	0.436	1.187
Irrigation Field Discharge (MG)	0.849	1.335
Treatment Pond Freeboard (ft)	3.5	1.4
Storage Pond Freeboard (ft)	3.9	1.5

5.

District Projects Status Report - Const Dept (February)

Job No.	Project	% Complete	% This month
1.7145.00	Zone A Pressure Improvements	100	2

Employee Hours to Date, FY 16/17

As of Pay Period Ending February 28, 2017

Percent of Fiscal Year Passed = 66%

Developer Projects	Actual	Budget	% YTD Budget	District Projects	Actual	Budget	% YTD Budget
Construction	960	1,400	69%	Construction	1,462	4,658	31%
Engineering	578	1,480	39%	Engineering	2,420	4,032	60%

6. Safety/Liability

	Industrial Injury with Lost Time			Liability Claims Paid	
	Lost Days	OH Cost of Lost Days (\$)	No. of Emp. Involved	No. of Incidents	Incurred (FYTD) Paid (FYTD) (\$)
FY 17 through February	43	\$22,304	2	2	4 \$2,765
FY 16 through February	4	\$2,304	1	1	3 \$47,966

Days without a lost time accident through February 28, 2017 = 208 days

7. Energy Cost

FYE	February			Fiscal Year-to-Date thru February		
	Kwh	¢/Kwh	Cost/Day	Kwh	¢/Kwh	Cost/Day
2017 Stafford TP	33,625	19.2¢	\$231	405,371	19.0¢	\$317
Pumping	56,684	20.6¢	\$377	831,427	20.4¢	\$691
Other*	36,623	21.0¢	\$241	334,795	24.0¢	\$328
	126,932	20.4¢	\$834	1,571,592	20.8¢	\$1,339
2016 Stafford TP	44,283	18.7¢	\$285	383,595	18.4¢	\$290
Pumping	58,035	19.8¢	\$383	771,167	17.8¢	\$561
Other*	35,887	19.3¢	\$230	310,950	22.7¢	\$291
	138,205	19.3¢	\$860	1,465,713	19.0¢	\$1,140
2015 Stafford TP	44,234	18.1¢	\$286	419,815	17.8¢	\$308
Pumping	62,719	15.8¢	\$330	888,627	16.5¢	\$598
Other*	36,151	18.3¢	\$220	318,774	21.1¢	\$275
	143,105	17.1¢	\$817	1,627,215	17.8¢	\$1,179

*Other includes West Marin Facilities

8. Water Conservation Update

	Month of February 2017	Fiscal Year to Date	Program Total to Date
High Efficiency Toilet (HET) Rebate (\$100 each)	7	142	3,679
Retrofit Certificates Filed	16	169	5,722
Cash for Grass Rebates Paid Out	2	48	874
Washing Machine Rebates	1	48	6,750
Water Smart Home Survey	19	291	2,811

9. Utility Performance Metric

SERVICE DISRUPTIONS (No. of Customers Impacted)	February 2017	February 2016	Fiscal Year to Date 2017	Fiscal Year to Date 2016
PLANNED				
Duration Between 0.5 and 4 hours	7	19	105	115
Duration Between 4 and 12 hours			3	6
Duration Greater than 12 hours		1		1
UNPLANNED				
Duration Between 0.5 and 4 hours	25	2	57	73
Duration Between 4 and 12 hours			16	107
Duration Greater than 12 hours			2	1
SERVICE LINES REPLACED				
Polybutylene	12	12	67	93
Copper (Replaced or Repaired)	1	6	14	15

NORTH MARIN WATER DISTRICT

Summary of Complaints & Service Orders February 2017

3/10/2017

Type	Feb-17	Feb-16	Action Taken February 2017
<u>Consumers' System Problem</u>			
Service Line Leaks	11	12	Notified Consumer
Meter Leak Consumer's Side	1	0	Notified Consumer
House Plumbing	0	0	~
Noisy Plumbing	0	0	~
Seepage or Other	0	0	~
House Valve / Meter Off	2	6	Notified Consumer
Nothing Found	6	9	Notified Consumer
Low Pressure	0	0	~
High Pressure	0		~
Water Waster Complaints	0	0	~
Total	20	27	
<u>Service Repair Reports</u>			
Register Replacements	0	0	~
Meter Replacement	2	3	Replaced
Meter Box Alignment	0	0	~
Meter Noise	0	0	~
Dual Service Noise	0	0	~
Box and Lids	0	2	~
Water Off/On Due To Repairs	3	5	Notified Consumer
Misc. Field Investigation	0	0	~
Total	5	10	
<u>Leak NMWD Facilities</u>			
Main-Leak	0	0	~
Mains-Nothing Found	0	0	~
Mains-Damage	0	0	~
Service- Leak	4	18	Repaired
Services-Nothing Found	3	6	Notified Consumer
Service-Damaged	0	0	~
Fire Hydrant-Leak	1	0	Repaired
Fire Hydrants-Nothing Found	0	1	~
Fire Hydrants-Damaged	0	0	~
Meter Replacement	0	0	~
Meter Leak	0	0	~
Meters-Nothing Found	0	0	~
Meters Damaged	0	0	~
Washer Leaks	0	4	~
Total	8	29	
<u>High Bill Complaints</u>			
Consumer Leaks	13	9	Notified Consumer
Meter Testing	0	0	~
Meter Misread	3	4	Notified Consumer
Nothing Found	24	12	Notified Consumer
Projected Consumption	0	0	~
Excessive Irrigation	0	0	~
Total	40	25	

NORTH MARIN WATER DISTRICT

Summary of Complaints & Service Orders February 2017

3/10/2017

Type	Feb-17	Feb-16	Action Taken February 2017
<u>Low Bill Reports</u>			
Meter Misread	0	0	~
Stuck Meter	0	0	~
Nothing Found	0	0	~
Projected Consumption	0	0	~
Minimum Charge Only	0	0	~
Total	0	0	
<u>Water Quality Complaints</u>			
Taste and Odor	1	3	Customer reported aftertaste in the water. (San Luis Way) New customer concerned about water at the residence. Results were normal for NMWD supply. Customer was notified of results.
Color	1	4	Customer reported brown water. (Lorraine Ave) The problem was likely caused by recent plumbing repair on consumer side that disturbed iron sediment in the line. Customer was advised to flush water line.
Turbidity	1	0	Customer reported cloudy water. (Pelican Ln) Cloudy water due to dissolved air in water. This is a common occurrence in late winter and spring.
Suspended Solids	0	0	~
Other	0	2	~
Total	3	9	
TOTAL FOR MONTH:	76	100	-24%
<u>Fiscal YTD Summary</u>			
Consumer's System Problems	242	276	-12%
Service Repair Report	86	72	19%
Leak NMWD Facilities	120	178	-33%
High Bill Complaints	535	205	161%
Low Bills	3	1	200%
Water Quality Complaints	34	32	6%
Total	1,020	764	34%
<u>Change Primarily Due To</u>			
			Decrease In House Valve/Meter Off
			Increase In Water Off/On For Repairs
			Decrease In Service Leaks
			Increase In Nothing Found
			Increase In Nothing Found
			Increase In Taste and Odor

NORTH MARIN WATER DISTRICT

Summary of Complaints & Service Orders February 2017

3/10/2017

Type	Feb-17	Feb-16	Action Taken February 2017
<u>"In House" Generated and Completed Work Orders</u>			
<u>Check Meter:</u> possible consumer/District leak, high bill, flooded, need read, etc.	295	251	
<u>Change Meter:</u> leaks, hard to read	5	2	
<u>Possible Stuck Meter</u>	0	0	
<u>Repair Meter:</u> registers, shut offs	0	0	
<u>Replace Boxes/Lids</u>	0	3	
<u>Hydrant Leaks</u>	0	0	
<u>Trims</u>	1	7	
<u>Dig Outs</u>	24	58	
<u>Letters to Consumer:</u> meter obstruction, trims, bees, gate access, etc. get meter number, kill service, etc.	0	0	
	<u>325</u>	<u>321</u>	

Bill Adjustments Under Board Policy:

February 17 vs. February 16

Feb-17	23	\$6,219
Feb-16	17	\$4,605

Fiscal Year to Date vs. Prior FYTD

16/17 FYTD	356	\$118,308
15/16 FYTD	162	\$58,757

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MEMORANDUM

To: Board of Directors

March 17, 2017

From: David L. Bentley, Auditor-Controller

Subj: Auditor-Controller's Monthly Report of Investments for February 2017

t:\aclword\invest\17\investment report 0217.doc

RECOMMENDED ACTION: Information

FINANCIAL IMPACT: None

At month end the District's Investment Portfolio had an amortized cost value (i.e., cash balance) of \$12,586,443 and a market value of \$12,571,300. During February the cash balance decreased by \$857,432 due primarily to payment of \$631,038 for the RW Central Project. The market value of securities held decreased \$15,143 during the month. The ratio of total cash to budgeted annual operating expense stood at 83%, down 6% from the prior month.

At February 28, 2017, 25% of the District's Portfolio was invested in California's Local Agency Investment Fund (LAIF), 30% in Time Certificate of Deposit, 16% in Federal Agency Securities, 16% in US Treasury Notes, 5% in Corporate Medium Term Notes, and 6% in the Marin County Treasury. The weighted average maturity of the portfolio was 295 days, compared to 296 days at the end of January. The LAIF interest rate for the month was 0.78%, compared to 0.75% the previous month. The weighted average Portfolio rate was 0.91%, compared to 0.89% the previous month. Including interest paid by The Bay Club on the StoneTree Golf Recycled Water Facilities Loan, the District earned \$16,489 in interest revenue during February, with 68% earned by Novato Water, 20% earned by Recycled Water (by virtue of the StoneTree Golf Loan) and the balance distributed to the two West Marin districts.

NORTH MARIN WATER DISTRICT
AUDITOR-CONTROLLER'S MONTHLY REPORT OF INVESTMENTS
February 28, 2017

Type	Description	S&P Rating	Purchase Date	Maturity Date	Cost Basis ¹	2/28/2017 Market Value	Yield ²	% of Portfolio
LAIF	State of CA Treasury	AA-	Various	Open	\$3,195,559	\$3,193,718	0.78% ³	25%
Time Certificate of Deposit								
TCD	First Niagara Bank	n/a	4/30/15	5/1/17	249,000	249,000	0.75%	2%
TCD	Discover Bank	n/a	5/6/15	5/8/17	248,000	248,000	0.85%	2%
TCD	Capital One Bank	n/a	6/10/15	6/12/17	248,000	248,000	0.90%	2%
TCD	American Express Bank	n/a	7/8/15	7/10/17	248,000	248,000	1.15%	2%
TCD	Capital One National Assoc	n/a	8/5/15	8/7/17	248,000	248,000	1.20%	2%
TCD	American Express Centurion	n/a	10/7/15	10/10/17	248,000	248,000	1.20%	2%
TCD	BMW Bank	n/a	12/14/15	12/11/17	248,000	248,000	1.20%	2%
TCD	Wells Fargo Bank	n/a	3/23/16	3/23/18	248,000	248,000	1.10%	2%
TCD	Mercantil Commerce Bank	n/a	6/17/16	6/15/18	248,000	248,000	1.00%	2%
TCD	Customers Bank	n/a	6/24/16	6/25/18	248,000	248,000	1.20%	2%
TCD	Merrick Bank	n/a	7/19/16	7/19/18	249,000	249,000	1.00%	2%
TCD	BMO Harris Bank	n/a	8/18/16	8/17/18	248,000	248,000	1.05%	2%
TCD	Ally Bank	n/a	10/4/16	9/28/18	248,000	248,000	1.15%	2%
TCD	Everbank	n/a	11/17/16	11/15/18	248,000	248,000	1.20%	2%
TCD	Investors Bank	n/a	12/16/16	12/17/18	248,000	248,000	1.35%	2%
					\$3,722,000	\$3,722,000	1.09%	30%
US Treasury Notes								
Treas	1,000 - 1.375%	n/a	11/17/16	12/31/18	1,005,960	1,003,594	1.05%	8%
Treas	1,000 - 1.50%	n/a	1/10/17	2/28/19	1,005,304	1,005,664	1.23%	8%
					\$2,011,264	\$2,009,258	1.14%	16%
Federal Agency Securities								
FICO	0.86% MTN	n/a	4/22/16	5/11/18	1,006,639	1,001,459	0.85%	8%
FNMA	0.875% MTN	n/a	7/19/16	7/19/18	999,092	993,156	0.97%	8%
					\$2,005,730	\$1,994,616	0.91%	16%
Corporate Medium Term Notes								
MTN	General Electric Capital	AA+	3/18/16	5/15/17	\$640,329	\$640,147	0.76%	5%
					\$640,329	\$640,147	0.75%	5%
Other								
Agency	Marin Co Treasury	AAA	Various	Open	\$790,626	\$790,627	0.32%	6%
Other	Various	n/a	Various	Open	220,934	220,935	0.50%	2%
TOTAL IN PORTFOLIO					\$12,586,443	\$12,571,300	0.91%	100%

Weighted Average Maturity = **295 Days**

LAIF: State of California Local Agency Investment Fund.

TCD: Time Certificate of Deposit, Treas: US Treasury Notes with maturity of 5 years or less.

FHLB: Federal Home Loan Bank, FICO: Financing Corporation, FNMA: Federal National Mortgage Association

Agency: STP State Revolving Fund Loan Reserve.

MTN: Medium Term Note - Maturity of 5 years or less.

Other: Comprised of 4 accounts used for operating purposes. US Bank Operating Account, US Bank STP SRF Loan Account, Bank of Marin AEEP Checking Account & NMWD Petty Cash Fund.

1 Original cost less repayment of principal and amortization of premium or discount.

2 Yield defined to be annualized interest earnings to maturity as a percentage of invested funds.


3 Earnings are calculated daily - this represents the average yield for the month ending February 28, 2017.

Interest Bearing Loans	Loan Date	Maturity Date	Original Loan Amount	Principal Outstanding	Interest Rate
StoneTree Golf Loan	6/30/06	2/28/24	\$3,612,640	\$1,589,835	2.40%
Employee Housing Loans (5)	Various	Various	934,200	934,200	Contingent
TOTAL INTEREST BEARING LOANS			\$4,546,840	\$2,524,035	

The District has the ability to meet the next six months of cash flow requirements.

6

MEMORANDUM

To: Board of Directors
From: David L. Bentley, Auditor-Controller 
Subj: Rate Increase Letter to Novato Customers
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March 17, 2017

RECOMMENDED ACTION: Approve Letter to Customers**FINANCIAL IMPACT:** \$10,300 Expense

California law requires that customers be notified of a water rate increase at least 45 days prior to the public hearing where the Board considers adoption of said increase. A public hearing is scheduled for Tuesday, May 16, 2017 at 7:00 PM at the District office. The May 16 date requires that the letters be mailed by April 1, 2017. Postage, stationary and copying cost for the 18,500 active customers is estimated at \$10,300.

The proposed commodity and bimonthly service charge rate increase for Novato customers is 5%. The median single-family residential customer will see a \$2.75 per month increase (\$5.50 bimonthly) on their typical bill. The Rate-Increase Model on the District's website allows each customer to see the impact of the proposed increase on their annual water cost based upon their water use over the past 12 months.

A draft of the proposed letter is attached for Board review and comment. Legal counsel has reviewed the letter to assure compliance with Prop 218.

RECOMMENDATION:

Approve mailing the rate increase letter to customers.

March 31, 2017

Re: Notice of Proposed Water Rate Increase

Dear Customer:

The North Marin Water District's mission is to provide an adequate supply of safe, reliable and high-quality water to our customers at reasonable cost consistent with good conservation practices and minimum environmental impact. To fulfill this mission, NMWD must generate revenue sufficient to cover its cost of operations.

Accordingly, the North Marin Water District is proposing an increase in the cost of water which averages \$2.75 per month (5%) for the typical Novato customer, effective June 1 of 2017.

This letter provides details on the need for the increase and information about the public hearing where public comment will be taken prior to a vote by the District Board of Directors on the proposed water rate increase.

You can determine the increase in your annual water cost based on your personal water use over the past year from our website. Insert your NMWD account number and the name on your account into the Rate-Increase Model on NMWD's website at https://www.nmwd.com/account_balance.php

REASON FOR THE PROPOSED INCREASE

Higher Water Cost: The Sonoma County Water Agency (SCWA), which provides 80% of Novato's water supply, is increasing the rate it charges NMWD for Russian River water by 6.8% effective July 1, 2017.

Water System Infrastructure Maintenance: The Novato water system includes 327 miles of pipeline, 38 million gallons of finished water storage distributed across 33 tanks, 26 pump stations, 13 pressure regulating stations, over 2,600 fire hydrants and a multitude of valves, all of which require ongoing maintenance. The District is now 69 years old, and much of the pipeline installed in the early years is nearing the end of its useful life requiring future replacement.

RATE COMPARISON

NMWD's rates remain reasonable. You can assess this for yourself by comparing NMWD's cost of water service to 16 counterpart Bay Area water agencies (see Urban Area Water Cost Comparison on page 4 of this letter). The comparison shows that the typical cost of service for a Novato single-family residence is just below the median of our counterpart agencies.

PROPOSED RATE INCREASE

A table showing the existing rates and charges, and the amounts proposed, is included on page 3 of this letter.

Residential Accounts: It is proposed that a 5% increase in the commodity rate and the bimonthly service charge be implemented effective June 1, 2017. For the typical Novato single-family residence, the proposed increase in the total cost of water (commodity charge plus bimonthly service charge) would add \$2.75 per month (\$5.50 per bimonthly bill) to the cost of water beginning June 2017.

Non-Residential Accounts (Commercial, Institutional & Irrigation): It is proposed that a 5% increase in the commodity rate and the bimonthly service charge be implemented effective June 1, 2017. The increase for non-residential customers will vary based upon water use. In Novato the median non-residential account uses more water than the median residential account, but would still see an increase in the total cost of water (commodity charge plus bimonthly service charge) of 5%. You can determine the increase in your annual water cost based on your consumption over the past year from our website. See the boxed area above for instructions.

WATER RATE PUBLIC HEARING

A public hearing will be held at the NMWD office (999 Rush Creek Place, Novato) at 7:00 p.m. on Tuesday, May 16, 2017, to consider enactment of a 5% increase effective June 1, 2017.

HOW TO PARTICIPATE

You are invited to present oral or written testimony on these proposals at the public hearing. You have the right to protest these proposed rate increases. If you do, you must submit your protest in writing, even if you plan to attend the public hearing. If written protests are submitted by a majority of the affected property owners or customers, the proposed increases will not be imposed.

Your written protest must be received prior to the close of the May 16, 2017 public hearing. Written protests must be signed by the property owner or customer of record and must include a description of the parcel (parcel number) or NMWD account number. Send or deliver written protests to:

District Secretary
North Marin Water District
PO Box 146
Novato, CA 94948

For more information visit NMWD's website at www.nmwd.com or call the District Secretary at (415) 897-4133.

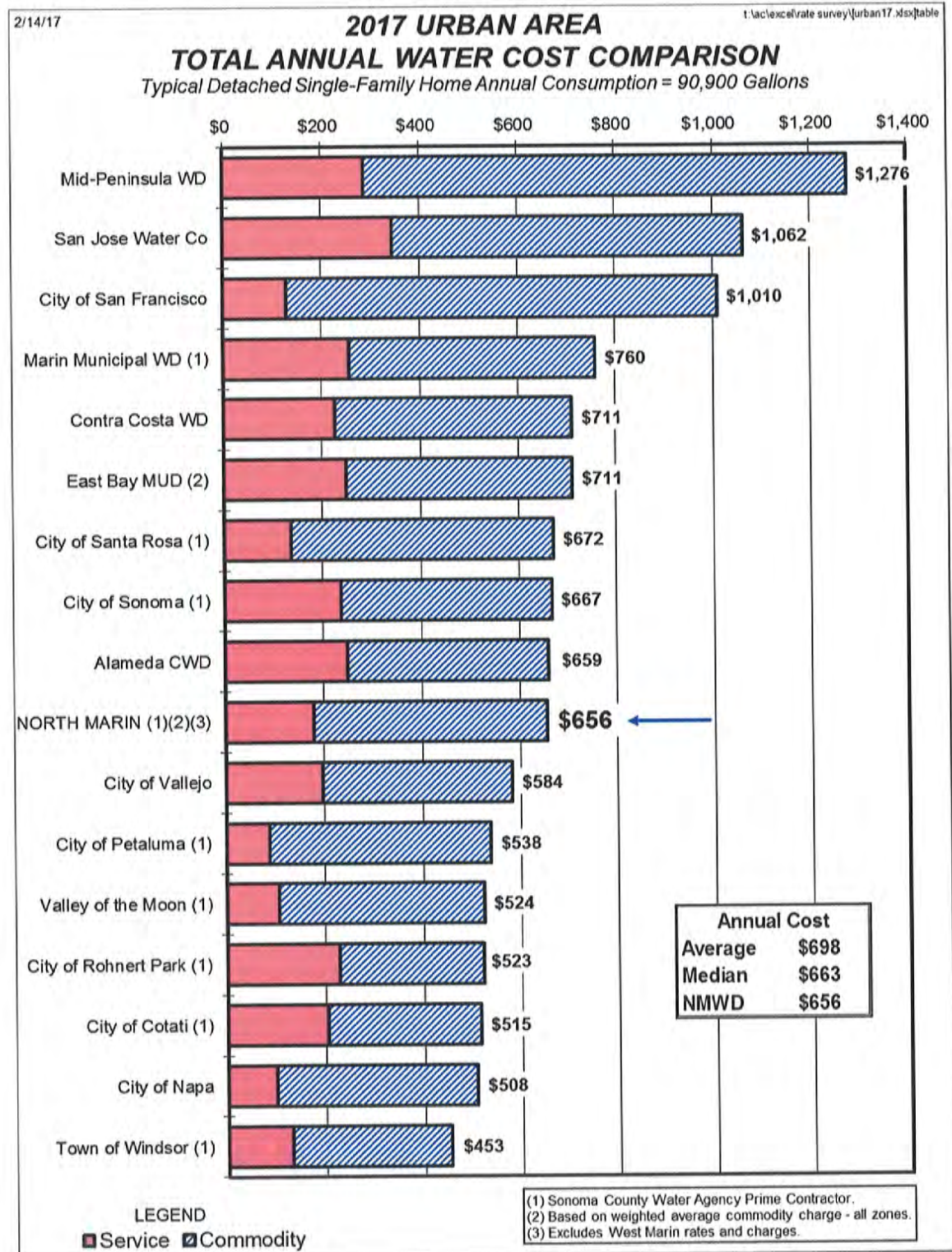
Sincerely,



Chris DeGabriele
General Manager

NOVATO WATER CHARGES

	Existing 6/1/16	Proposed 6/1/17	% Increase
A BI-MONTHLY SERVICE CHARGE OF:			
STANDARD 5/8-INCH METER	\$30.00	\$31.50	5%
1 -inch residential meter for fire sprinklers	\$34.00	\$35.70	5%
1 -inch meter	\$60.00	\$63.00	5%
1.5 -inch meter	\$73.00	\$77.00	5%
2 -inch meter	\$114.00	\$120.00	5%
3 -inch meter	\$227.00	\$238.00	5%
4 -inch meter	\$364.00	\$382.00	5%
6 -inch meter	\$761.00	\$799.00	5%
8 -inch meter	\$1,134.00	\$1,191.00	5%
PLUS A QUANTITY RATE OF:			
<u>Residential rate for each 1,000 gallons</u>	<u>Rate</u>	<u>Rate</u>	
First 615 gallons per day	\$4.77	\$5.01	5%
616 - 1,845 gallons per day	\$7.61	\$7.99	5%
Use in excess of 1,845 gallons per day.....	\$13.25	\$13.91	5%
<u>Rate for each 1,000 gallons for all other potable water accounts</u>			
Commercial, institutional & irrigation accounts - 11/1-5/31...	\$5.26	\$5.52	5%
Commercial, institutional & irrigation accounts - 6/1-10/31...	\$5.65	\$5.93	5%
<u>Rate for each 1,000 gallons for non-potable water</u>			
Recycled Water	\$5.26	\$5.52	5%
Raw (Untreated) Water	\$2.17	\$2.28	5%
PLUS AN ELEVATION ZONE RATE FOR EACH 1,000 GALLONS OF:			
<u>Zone Elevation</u>	<u>Rate</u>	<u>Rate</u>	
A 0 through 60 feet.....	\$0.00	\$0.00	-
B 60 feet - 200 feet.....	\$0.57	\$0.60	5%
C 200 feet +.....	\$1.83	\$1.92	5%
Hydrants or Temporary Service.....	\$7.48	\$7.85	5%



7

MEMORANDUM

To: Board of Directors
From: David L. Bentley, Auditor-Controller
Subj: Rate Increase Notice on Water Bill

March 17, 2017

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RECOMMENDED ACTION: Information Only**FINANCIAL IMPACT: No Cost**

In conjunction with the individually addressed letters to customers regarding the proposed rate increase, the District traditionally adds a message onto the water bill. The notice will read:

A public hearing will be held at NMWD's office on Tuesday, May 16, at 7pm, to consider a 5% rate increase effective June 1, equivalent to \$2.75 per month for the typical residence. The impact on your account can be viewed at nmwd.com/accountbalance.php or call us at 415-897-4133.

The proposed message is succinct (233 characters) as the message space on the water bill is limited to about 250 characters.

The Water Cost Calculator on the District's website calculates the cost and impact of the approved increases in dollars and percentages for every customer account based on each account's individual water use history. An example, using NMWD's typical single-family customer, who uses 90,900 gallons of water annually, is shown on the following page. A prominent link to the Water Cost Calculator has been placed on the District home page.

NMWD's customer base is divided into eight groups billed bimonthly. The message will be included on water bills mailed commencing March 16, thereby ensuring that all customers will receive the notice prior to the May 16 public hearing.

NMWD ANNUAL WATER COST CALCULATOR

Service Location: 123 Main Street
Zone: Wtd Avg

Account No: 123456
Meter Size: 0.625"

Basic Data	6/1/16	6/1/17
Water Use (Annual Gallons) *	90,900	90,900
Service Charge (Bimonthly)	\$30.00	\$31.50
Water Rate/1,000 Gallons **	\$5.24	\$5.50
Annual Cost		
Service Charge	\$180	\$189
Water Use Charge	\$476	\$500
Total Annual Cost	\$656	\$689
Annual Increase		\$33
Percentage Increase		5%
Monthly Increase:		\$3

* Water Use shown is based on your prior 12 months billed consumption.


** Water Rate shown is your annual average. The Water Rate and Water Use Charge assume your seasonal water use pattern remains consistent with your prior 12 months billed consumption.

*** Annual Water Use per dwelling unit divided by 365 days

This Annual Water Cost Calculator is for estimating purposes only and may not provide all of the information contained on your specific customer bill or be precisely accurate. Your future water cost will vary based upon your actual water use. If you have questions about this calculator please call the District at 415.897.4133 and ask for customer service.

8

MEMORANDUM

To: Board of Directors
 From: Drew McIntyre, Assistant General Manager 
 Subject: North Bay Water Reuse Authority Board Meeting – January 23, 2017
R:\Folders by Job No\7000 jobs\7127\Board Memos\7127 NBRWA Update 1_23_17.doc

March 17, 2017

RECOMMENDED ACTION: Approve Participation at the Basic + Limited Program Level (Alternative 2)
FINANCIAL IMPACT: ~\$22,000 per year (vs FY18 \$80,000 budget)

The January 23, 2017 NBWRA meeting agenda and draft minutes are provided as Attachment 1. A complete agenda packet is available via www.nbwra.org. Due to Highway 37 flooding, the meeting at the Novato City Hall was cancelled in lieu of a webinar presentation. Director's Schoonover and Baker joined Chris DeGabriele, Rocky Vogler and me at the District office to participate in the webinar.

The primary focus of the meeting was to review alternatives for continued participation in NBWRA now that Phase I activities are expected to be completed in 2018. For many months, NBWRA member agencies have discussed how to share the costs for administration, program development, federal/state advocacy and public outreach. This discussion has been complicated by the fact that some members only participate in Phase 1 (i.e., NMWD, Napa County and Las Gallinas Valley Sanitary District), others solely in Phase 2 (i.e., City of Petaluma, Marin Municipal Water District and City of American Canyon), with the remaining agencies participating in both phases (i.e., Novato Sanitary District, Napa Sanitation District, Sonoma County Water Agency and Sonoma Valley County Sanitation District).

At the January 23, 2017 NBWRA Board meeting, a proposal was made for two alternative levels of activity: Alternative 1: Basic Title XVI or Alternative 2: Basic + Limited Program.

Activity	Alternative 1: Basic Title XVI	Alternative 2: Basic + Limited Program
Closing out the Phase 1 US Bureau of Reclamation (USBR) agreements	Included	Included
Closing out the Phase 2 study, EIS/EIR USBR agreement		
Prepare Phase 2 USBR construction agreement and grant applications under the Title XVI program each year		
Sonoma County Water Agency administration for the NBWRA and grants		
Limited Board meetings		
Program development (Ginger Bryant)	Discontinued	Limited Services
Federal advocacy (Ferguson Group)		
State advocacy (Pilar Onate Group)		Only to Support Advocacy
Public outreach associated with advocacy		

These alternatives were developed based on discussions with member agencies and as a result of Phase 1 being almost complete. If costs were not adjusted, Phase 1 members will most likely drop out and Phase 2 members cannot carry the program costs without the support of Phase 1 members. Alternative 1 narrows the program to support the Basic Title XVI services which include administrative and technical functions associated with completing Phase 1 as well as implementing Phase 2 and meetings associated with these tasks. All other services for program development, federal and state advocacy are eliminated as well as public outreach. Alternative 2 includes the same tasks as Alternative 1 plus limited services for Title XVI program specific to Phase 2 projects, support of Title XVI funding in federal budgets, annual Washington DC visit in support of Title XVI funding, state advocacy to support funding of recycled water projects in California, the annual Sacramento visit to legislators, and public outreach limited to an annual brochure and website updates.

Since the District is not participating in Phase 2, the cost difference between Alternative 1 versus Alternative 2 is only attributed to state advocacy. All non-Phase 1 members would continue to support not only state advocacy, but also program development, federal advocacy and public outreach costs strictly limited to ongoing US Bureau of Reclamation Title XVI program support. A summary of the cost difference between the two alternatives of ~\$5,700 is as follows:

Activity	Cost	
	Alternative 1	Alternative 2
Program management (Weir)	\$ 4,167	\$4,167
State Advocacy (Onate Group)	0	4,000
SCWA administration	11,667	13,333
Total Proposed 2017-18	\$15,834	\$21,500

The NBWRA Board meeting on Monday, March 27, 2017 will agendize this item to decide which alternative will move forward for the 2017/18 year. Staff is recommending that the Board approve participation at the Alternative 2 level since: (1) costs are reasonable, (2) this alternative maintains a state advocacy element and (3) participation will help maintain the viability of the regional NBWRA program.

Beyond Phase 2

It is important to note that the meeting also included a discussion on the format of a new organization beyond NBWRA Phase 2. An outline for a New Water Management program has been discussed that would be developed to move beyond recycled water programs to encompass a “one water” approach with an expanded member base. More information will be presented at future meetings on this approach.

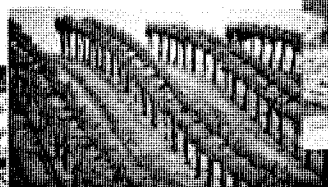
STAFF RECOMMENDATION:

Board to approve annual participation at the Alternative 2 level.



NORTH BAY WATER REUSE PROGRAM

Expanding Water Supplies with Regional Reuse



BOARD OF DIRECTORS MEETING

AGENDA

**Monday, January 23, 2017
9:30 AM**

**Novato City Hall Council Chambers
901 Sherman Avenue, Novato, CA 94945**

Members and Consultants unable to attend in person may call in: (602) 567-4030 (Local dial in), (888)227-0011 (Toll Free), Access code: 1980,
<https://conferencing.brwncaid.com/conference/1980>

- 1. Call to Order (1 minute)**
- 2. Roll Call (1 minute)**
- 3. Public Comment (3 minutes)**
(Any member of the public may address the Board at the commencement of the meeting on any matter within the jurisdiction of the Board. This should not relate to any item on the agenda. It is the policy of the Authority that each person addressing the Board limit their presentation to three minutes. Non-English speakers using a translator will have a time limit of six minutes. Any member of the public desiring to provide comments to the Board on an agenda item should do so at the time the item is considered. It is the policy of the Authority that oral comments be limited to three minutes per individual or ten minutes for an organization. Speaker's cards will be available in the Boardroom and are to be completed prior to speaking.)
- 4. Introductions (2 minutes)**
- 5. Board Meeting Minutes of December 19, 2016 (2 minutes)**
(The Board will consider approving the minutes from the December 19, 2016 Board meeting.)
- 6. Election of Officers**
(The Board will elect a Chair and Vice Chair for 2017)

**Action
Pages 5 – 7**

**Action
Pages 8 – 9**

**North Bay Water Reuse Authority • c/o Sonoma County Water Agency, 404 Aviation Boulevard, Santa Rosa, CA 95403
707-235-8965 • NBWRA.org**

Las Gallinas Valley Sanitary District • Napa County • Napa Sanitation District • North Marin Water District
City of Petaluma • Marin County • Novato Sanitary District • Sonoma County Water Agency
Sonoma Valley County Sanitation District • Marin Municipal Water District • City of American Canyon

- | | |
|---|--|
| Information and Discussion
Pages 11 – 14
Pages 15 – 24
Page 25 | 7. Report from the Chair (10 minutes)
(The Chair will report on the following items.)
7.a Consultant Progress Reports
7.b Financial Reports
7.c 2017 Meeting Dates |
| Information and Discussion
Pages 26 – 27 | 8. Board Information Requests (2 minutes)
(The Board will be provided with a brief update on their information requests.) |
| Action
Pages 28 – 31 | 9. FY2016/17 Budget – Amend to Include New Member Projects (10 minutes)
(The Board will consider the recommended FY 2016/17 Budget Amendment to include new member projects.) |
| Information
Pages 32 – 42 | 10. Program Development, Federal, and State Advocacy Update (15 minutes)
(The Board will be updated on Program Development, Federal and State Advocacy activities.) |
| Information
Pages 43 – 45 | 11. Engineering, Environmental, and Public Involvement Services Report (5 minutes)
(The Board will be updated on Engineering, environmental, and Public Involvement Services activities) |
| Information and Discussion
Pages 46 – 86 | 12. NBWRA Alternatives and Moving Forward (30 minutes)
(The Board will be updated on and discuss NBWRA alternatives and moving forward.) |
| Discussion
Pages 87 – 88 | 13. Items for Future Discussion and Action (5 minutes)
(The Board will consider items for future discussion and action.) |
| Information
Page 89 | 14. Comments from Chair and Board Members (5 minutes)
(The Chair and Board members may make brief announcements or reports on his or her own activities, pose questions for clarification, and/or request that items be placed on a future agenda. Except as authorized by law, no other discussion or action may be taken.) |
| Page 90 | 15. Adjournment (1 minute) |

Next Board Meeting
Monday, March 27, 2017, 9:30 A. M., Novato City Hall

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North Bay Water Reuse Authority • c/o Sonoma County Water Agency, 404 Aviation Boulevard, Santa Rosa, CA 95403
707-235-8965 • NBWRA.org

Las Gallinas Valley Sanitary District • Napa County • Napa Sanitation District • North Marin Water District
 City of Petaluma • Marin County • Novato Sanitary District • Sonoma County Water Agency
 Sonoma Valley County Sanitation District • Marin Municipal Water District • City of American Canyon

**North Bay Water Reuse Authority
Board of Directors Meeting
Minutes
January 23, 2017**

1. Call to Order

Note: Due to extreme weather conditions and road closures, this meeting was changed to a web meeting only. As a consequence, no action was taken on any items on the agenda. Items needing action will be continued to the March 27, 2017 meeting. Chair Rabbitt called the meeting to order at 9:35 a.m. on Monday, January 23, 2017. As noted previously, all attendees participated via telephone, 1 (602) 567-4030, access code 2231; and the internet at: <https://Conferencing.brwncaid.com/conference/2231>

2. Roll Call

PRESENT:	David Rabbitt, Chair	Sonoma County Water Agency
	Bill Long, Vice Chair	Novato Sanitary District
	Rabi Elias	Las Gallinas Valley Sanitary District
	Susan Gorin	Sonoma Valley County Sanitation District
	Tim Healy	Napa Sanitation District
	Jason Holley	City of American Canyon
	Belia Ramos	Napa County
	John Schoonover	North Marin Water District
	Paul Sellier	Marin Municipal Water District
	Robert Wilson	City of Petaluma

ABSENT: Marin County

OTHERS

PRESENT:	Chuck Weir, Program Manager	Weir Technical Services
	Jack Baker	North Marin Water District
	Kevin Booker	Sonoma County Water Agency
	Ginger Bryant	Bryant & Associates
	Anne Crealock	Sonoma County Water Agency
	Grant Davis	Sonoma County Water Agency
	Chris DeGabrielle	North Marin Water District
	Brad Elliott	Sonoma County Water Agency
	Pam Jeane	Sonoma Valley County Sanitation District
	Sandeep Karkal	Novato Sanitary District
	Susan McGuire	Las Gallinas Valley Sanitary District
	Drew McIntyre	North Marin Water District
	Mark Millan	Data Instincts
	Phil Miller	Napa County
	Pilar Oñate-Quintana	The Oñate Group
	Mike Savage	Brown and Caldwell
	Brad Sherwood	Sonoma County Water Agency
	Jake Spaulding	Sonoma County Water Agency

Dawn Taffler
Jeff Tucker
Rocky Vogler
Mark Williams

Kennedy Jenks Consultants
Napa Sanitation District
North Marin Water District
Las Gallinas Valley Sanitary District

3. Public Comments

There were no comments from the public

4. Introductions

Introductions were not made.

5. Board Meeting Minutes of December 19, 2016.

This item will be continued to the March 27, 2017 meeting.

6. Election of Officers

This item will be continued to the March 27, 2017 meeting

7. Report from the Chair

a. Consultant Progress Reports

The Board reviewed the consultant progress reports for December 2016.

b. Financial Reports

The Board reviewed the Financial Reports for the period ending December 31, 2016.

c. 2017 Meeting Dates

Meeting dates for 2017 include: January 23, March 27, May 22, August 28, October 23, and December 28. The last three dates are subject to approval of an FY2017/18 Budget. Outlook appointments will be sent for the March 27 and May 22 meetings.

8. Board Information Requests

Chair Rabbitt provided an update to the Membership Brochure development. The brochure will include: program information, costs on general membership and study and project funding. Its status is pending a resolution on Phase 2 participation and budget issues.

9. FY2016/17 – Amend to Include New Member Projects

This item will be continued to the March 27, 2017 meeting

10. Program Development, Federal, and State Advocacy Update

Ginger Bryant provided a summary of Program Development and Federal Advocacy, including Title XVI issues, new WaterSMART grant criteria, a summary of The Water Infrastructure Improvements for the Nation Act (WIIN). She also discussed the California Water Action Plan, which integrates innovations in conservation; storm water capture; recycling; desalination; and water transfers, diversions, conveyance, and storage. She also noted that next Washington D.C. trip is February 28 – March 2, 2017.

Pilar Oñate-Quintana provided a summary of State Advocacy activities. She noted that the State could face a \$1.6 billion budget deficit, although the Legislative Analyst's Office projected a \$2.8 billion surplus. She also noted that the Governor has warned of potential cuts in federal

funding. She highlighted the proposed 2017/18 State Budget as related to items of interest to NBWRA. The membership of key Senate and Assembly Committees was discussed. Key legislative issues for 2017 include: 2018 Water Bond or Water/Parks hybrid, WaterReuse efforts to modify statutory definitions for Direct Potable Reuse, State Board conservation plan efforts, and that Senator Herzberg will not pursue a bill on ocean discharge reduction. Instead, he plans on incentivizing recycled water development. Lastly she discussed plans for NBWRA Day at the State Capitol, currently scheduled for March 22, 2017.

11. Engineering, Environmental, and Public Involvement Services Report

Mike Savage reported that the Feasibility Study Report has been completed for current members and projects and the report has been uploaded to SharePoint. If new members opt to participate in Phase 2, the Feasibility Study Report will need to be updated and the scope of the EIR/EIS will need to be modified. Mark Millan discussed preparation of materials for the upcoming D.C. trip and the NBWRA brochure update.

12. NBWRA Alternatives and Moving Forward

Ginger Bryant, Mike Savage, and Jake Spaulding discussed alternatives and moving forward. Alternative 1 is a basic Title XVI program and would discontinue program development, federal and state advocacy, and public outreach associated with advocacy. Alternative 2 is similar to Alternative 1, but would maintain limited Title XVI services for program development, federal and state advocacy, and public outreach to support advocacy. Impacts on the FY2017/18 budget were discussed for each alternative. In each case, the September 2016 cost allocation method would be applied. Member agencies were asked to discuss this information with their boards and be prepared to select Alternative 1 or 2 at the March 27, 2017 meeting for final budget preparation. The FY2017/18 Budget will be considered for approval at the May 22, 2017 meeting.

In terms of moving forward, an outline for a New Water Management Program was discussed. This program would continue the regional approach, seek project funding, continue the current economies of scale, and would support agencies in implementing their own projects. The program would transition to a “one water” approach in state and federal policy and funding. Features of the new program would include: maximizing use of recycled water; surface, storage, and groundwater projects; stormwater capture management; drought and climate issues; watersheds basin studies; and drought contingency plans. A proposed budget for the Water Management Program was also discussed. Next steps would include: development of a membership outreach brochure, further development of budget information and outreach to new members, and working with SCWA on basin study and drought contingency plans. Additional information will be presented at the March 27, 2017 meeting.

Meeting participants were interested in the discussion, asked pertinent questions, and requested information that could be used in discussions with their Boards and Councils.

13. Items for Future Discussion and Action

All continued items from this meeting will be considered at the March 27, 2017 meeting. This will include a selection of the preferred Title XVI program for the FY2017/18 Budget. Discussion on the Water Management Program will continue.

14. Comments from Chair and Board Members

There were no additional comments.

15. Adjournment

Chair Rabbitt adjourned the meeting at 10:59 a.m. The next meeting will be Monday, March 27, 2017 at 9:30 a.m. at Novato City Hall Council Chambers.

Minutes approved by the Board _____.

Charles V. Weir
Program Manager

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9

MEMORANDUM

To: Board of Directors

Date: March 17, 2017

From: Drew McIntyre, Assistant General Manager



Subject: Stafford Dam Chronology Overview and Update on Recent Preventive Maintenance CIPs

R:\NON JOB No ISSUES\Stafford Dam\BOD Memos\Stafford Dam Chronology BOD Memo 3-17-17.doc

RECOMMENDATION: Information Only**FINANCIAL IMPACT:** None at this time

At the last Board meeting it was reported that one of the objectives of Governor Brown's recent Four-Point Plan is to bolster dam safety through mandated Emergency Action Plans and increased inspections by the State Division of Safety of Dams (DSOD). As was mentioned during the meeting, the District already has a current EAP for Stafford (Novato Creek) Dam (submitted to DSOD in October 2015). The objective of this memo is to summarize some of the recent Capital Improvement Projects that have been performed to ensure the safety and long term reliability of this facility. Information contained in this memo was be supplemented as part of an oral report to the Board at the meeting. The CIP discussion herein is above and beyond the routine surveillance monitoring (using water level and drainage reporting) performed by operations staff and routine vegetation/rodent control performed by maintenance staff.

Background Information

Stafford Dam was constructed in 1951 and has had numerous studies and physical improvements over the last 66 years. A chronology of key milestones since initial construction is provided in Figure 1. When constructed in 1951, the spillway crest had an overflow elevation of 181¹ feet and storage capacity of 1,720 acre-feet (AF). In 1954, the spillway crest was raised to an elevation of 195¹ feet to increase lake storage to its present maximum capacity of 4,450 AF. Over the years there have been various seismic studies including Lee and Praszker reports in 1978 and 1986 followed by a seismic stability report by Woodward Clyde in 1992 and a dam stability report by Richard Harlan in 2007. These reports have reaffirmed that the dam can safely handle expected earthquakes for this region. Major physical improvements to Stafford Dam occurred in 1984 when a new toe drain was installed, followed by a 1985 project to revise the spillway and increase the overall dam height by 8 feet to address new higher predicted inflows into Stafford Lake during peak storm conditions (probable maximum flood). The 1985 project also included a revised spillway crest that narrowed the total spillway crest length from 72 to 32 feet and provided a 3-foot high flood control slot as shown in Figure 2. The 1985 project was called the Stafford Flood Control and Spillway Project and, appropriately, was partially funded by the Marin County Flood Control District. A photo of the completed project is shown in Figure 3. It's noted that spalled concrete at the north abutment shown on Figure 3

¹ Pre-2009 survey correction of +0.8 feet

may be called out by DSOD in the future for cleanup and repair. In 2005, a major rehabilitation of the dam outlet structure was performed to address seismic stability issues and rehabilitate the outlet gates on the structure (see Figure 4).

Recent Capital Improvement Projects

Starting in 2010, the District has spent ~\$133,000 in miscellaneous concrete repairs on both the upstream concrete apron (see Figure 5) and downstream spillway (see Figure 6). The proposed 5-year CIP budget includes another ~\$150,000 in miscellaneous concrete repairs on an as-needed basis. In addition, a project to re-armour the entire upstream dam apron is budgeted in FY23 at a conceptual cost estimate of \$1.1M. This budget was developed from a 2016 study performed by Genterra (approved by the Board at the May 17, 2017 meeting) wherein Genterra was tasked to evaluate upstream dam slope protection options and also make recommendations for improving the surface conditions at each of the 16 water level (aka piezometer) monitoring wells. Photos for some of the upstream apron protection options are shown in Figure 7 and recent piezometer well improvements constructed in 2016 are shown in Figure 8.

STAFFORD DAM CHRONOLOGY

DATE	ACTION
1951	Stafford Dam Construction (1,720 ac-ft capacity)
1954	Raised Spillway Crest Elevation (4,450 ac-ft capacity)
1978	Stafford Dam Seismic Study (Lee & Praszker)
1981	DSOD Phs 1 Inspection Report for Novato Creek Dam
1982	Novato Creek Flooding in Jan 1982
1984, Jul-Oct	Toe Drain Rehabilitation Project Construction
1984, Nov	Voter Approval for MCFCD Novato Creek Flood Control (Included \$ for Stafford)
1985, Jun-Dec	Stafford Dam Flow Control and Spillway Construction
1986	Seismic Study of the Enlarged Stafford Dam (Lee & Praszker)
1989, Oct 17	Loma Prieta Earthquake (M=7.1)
1992, Apr	Stafford Dam Analysis of Recorded Earthquake Ground Motions and Evaluation of Seismic Stability (Woodward-Clyde)
2005	Stafford Dam Outlet Structure Rehabilitation
2007, Feb	Stafford Lake Dam Report on Review of Piezo Data and Analysis/Stability Evaluation (R.C.Harlan)
2010-14	Misc. Upstream Concrete Apron Repairs (NMWD Construction)
2015	Stafford Dam Emergency Action Plan (Michael Baker, Inc.)
2016	Spillway Repairs (Team Ghilotti)
2016	Evaluation of Existing Piezometers and Upstream Slope Protection (Genterra, Inc)
2016	Piezo Well Upgrades (Ghilotti Construction)

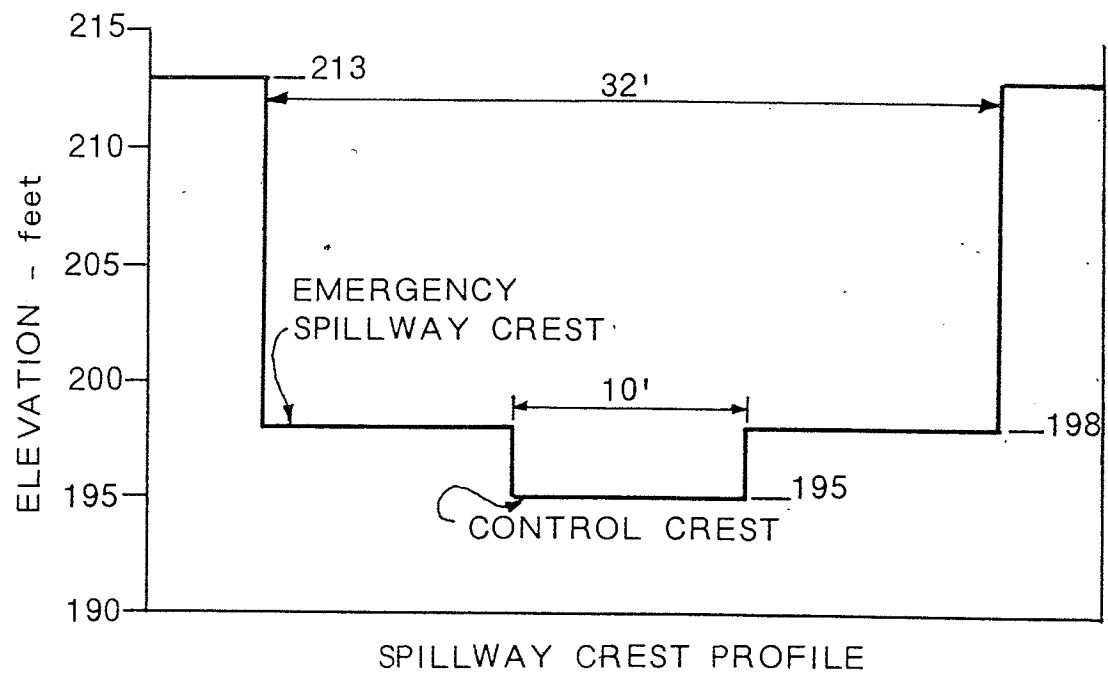


FIGURE 2

STAFFORD DAM

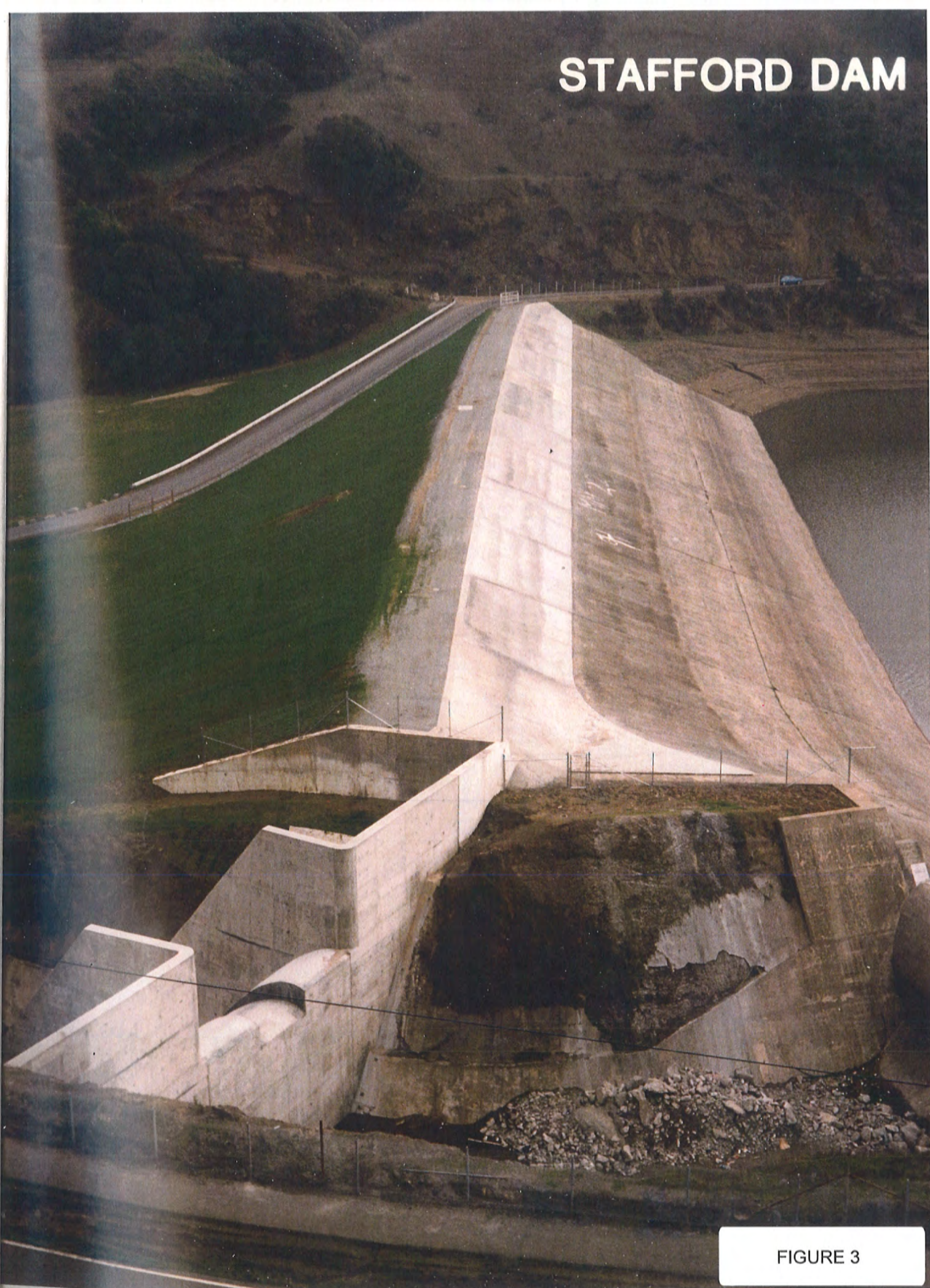
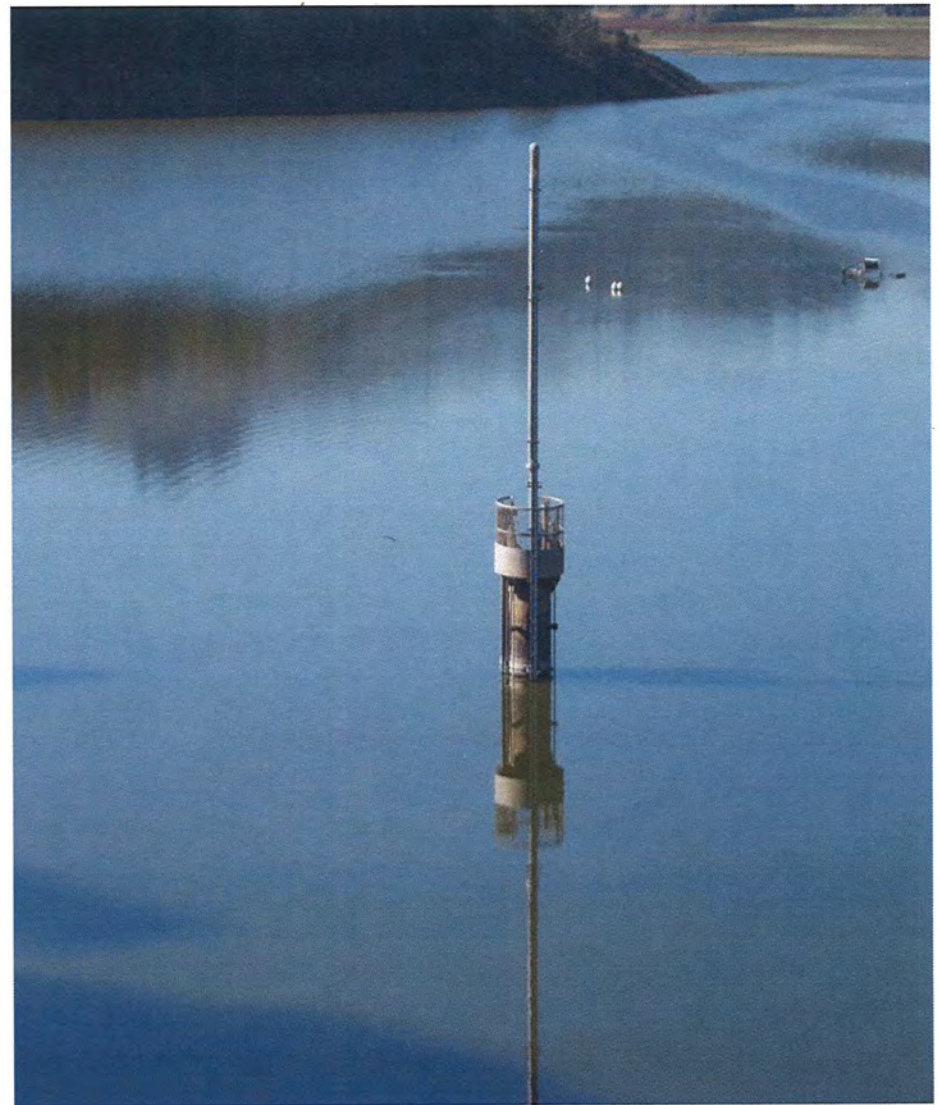


FIGURE 3



ORIGINAL OUTLET TOWER
(DURING 1985 LAKE DRAINING)



REHABILITATED OUTLET TOWER
(2009)

Stafford Dam Apron Repairs

(circa 2010-2014)



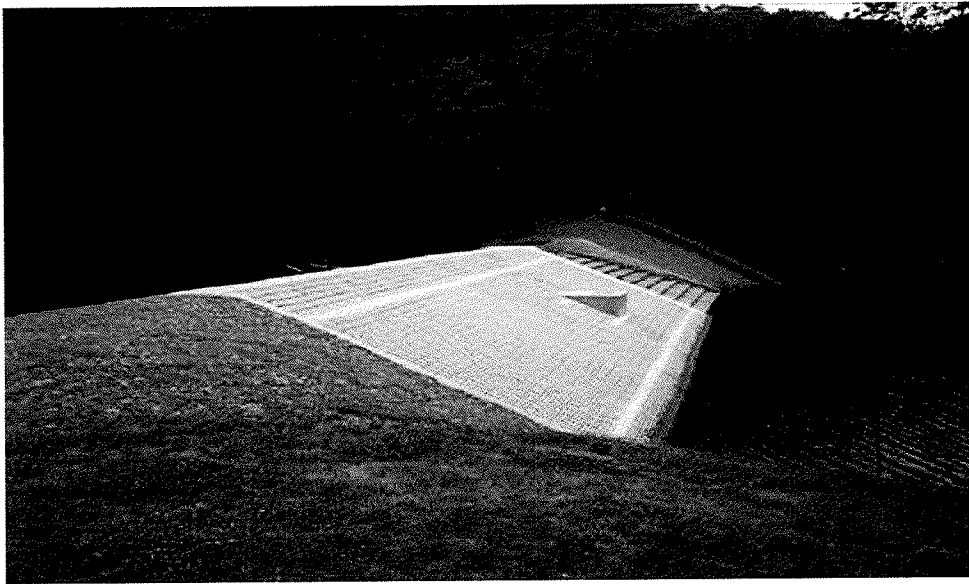
FIGURE 5

Stafford Dam Spillway Repairs (2016)

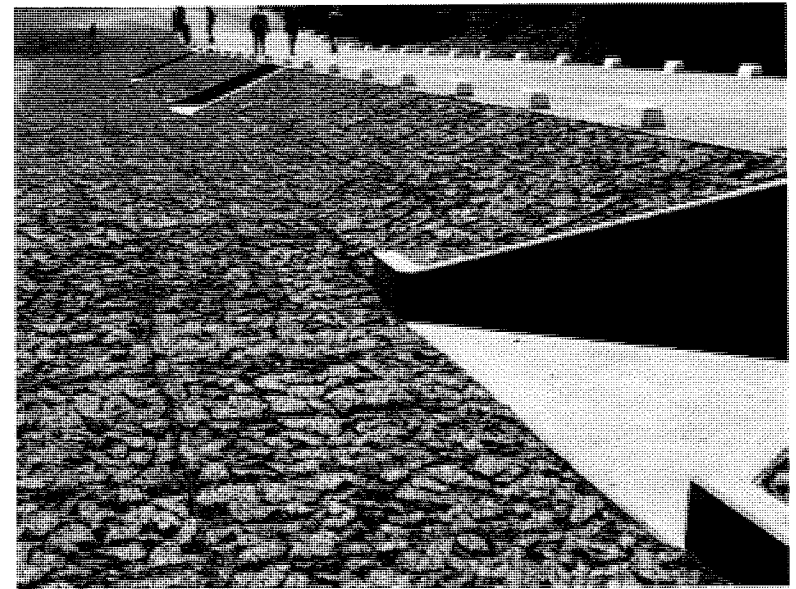


FIGURE 6

Stafford Dam Apron Repair Options



Option 2 – Concrete Mattress



Option 1 – Gabion Baskets

STAFFORD DAM PIEZOMETER WELL HEAD REHABILITATION (2016)



Old Piezo Well Housing



Rehabilitated Piezo Well Head

10

DISBURSEMENTS - DATED MARCH 16, 2017

Date Prepared 3/14/17

The following demands made against the District are listed for approval and authorization for payment in accordance with Section 31302 of the California Water Code, being a part of the California Water District Law:

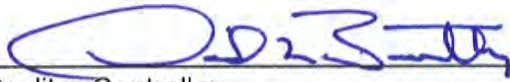
Seq	Payable To	For	Amount
1	Able Tire & Brake	Tires (3) ('07 Int'l Truck & '16 Nissan Frontier)	1,036.09
2	Allied Heating & Air Conditioning	Quarterly Maintenance on HVAC System (12/1/16-2/28/17)	416.20
3	Bank of Marin	Bank of Marin Loan Principal & Interest (Payment 65 of 240)	46,066.67
4	Bevis, Stephen	Novato Toilet Rebate Program	200.00
5	Brenk, Gregory	Novato Toilet Rebate Program	200.00
6	Caltest Analytical Laboratory	Lab Testing	35.00
7	Caudill, Edna	Novato Toilet Rebate Program	300.00
8	Chan, Samantha	Novato Toilet Rebate Program	200.00
9	Comcast	March Internet Connection	151.12
10		Cafeteria Plan: Uninsured Medical Reimbursement	295.13
11	Diggs, James	Retiree Exp Reimb (Monthly Health Ins)	356.39
12	Environmental Resource Assoc	Reference Sample (Lab)	228.43
13	Equarius Waterworks	AMI Pilot Project Installation (Balance Remaining on Contract \$488,400)	24,683.75
14	Ferguson Waterworks	Meter Boxes (40) (\$1,003), Box Lids (10) (\$545), Meter Boxes w/Lid (\$403) (14), Plugs (4), 6" Spools (2) (\$289) & Hydrant (5" x 2") (\$2,962)	5,207.61
15	Frontier Communications	Leased Lines	1,191.83
16	Ghilotti Construction	Prog Pymt#4: RW Expansion Central Service Area West (Balance Remaining on Contract \$3,907,724)	291,528.18
17	Golden Gate Petroleum	Gasoline (\$2.45/gal) & Diesel (\$2.43/gal)	2,440.64


Seq	Payable To	For	Amount
18	Gortul, Yelena	Novato Toilet Rebate UHET Program	450.00
19	Kaiser Foundation Health Plan	Pre-Employment Physical (Rodriquez)	65.00
20		Cafeteria Plan: Uninsured Medical Reimbursement	40.00
21	Kessler, Sue	Retiree Exp Reimb (Monthly Health Ins)	304.16
22	Leibert, Andrea	Novato Toilet Rebate Program & Refund Alternative Compliance REG 15 Deposit (\$315)	415.00
23	Lincoln Life	Deferred Compensation 3/15/17 PPE	14,750.58
24	Maltby Electric	Circuit Breakers (3) & Copper Wire (2,200') (\$1,118), Conduit (1,000') (\$524), Fittings & Plugs	1,835.93
25	Marin Landscape Materials	Mix All & Fill Sand (5 yds) (\$244)	266.92
26	Marin County Ford	Seat Belt Assembly ('05 Ford Ranger) (\$334), Differential Oil Seal, Tire Pressure Monitor Kit (\$73), Transmission Shift Cable, Oil Filters (2) & Motor Oil (7 qts)	516.33
27	McLellan, WK	Misc Paving (11 Locations) & Striping (2 Locations)	11,986.54
28	Drew McIntyre	Exp Reimb: December Through February 2017 Mileage	161.57
29	Moore, Doug	Retiree Exp Reimb (Monthly Health Ins)	927.54
30	Mountain Cascade	Prog Pymt#2: RW Expansion Central Service Area Phase B (Balance Remaining on Contract \$3,393,625)	11,875.00
31	MSC Industrial Supply	2" x 3" Nipples (3)	47.22
32	Murray, Raye	Novato Toilet Rebate Program	100.00
33	NACE	Membership Dues (4/17-4/18) (Budget \$130-Jackson) & Corrosion Journal (\$85)	215.00
34	Nadell, Mark & Terri	Novato Cash for Grass Rebate Program	400.00
35	Nationwide Retirement Solution	Deferred Compensation PPE 3/15/17	1,364.00

Seq	Payable To	For	Amount
36	North Marin Auto Parts	Cup Holder, Battery (\$99), Alternator (\$121), Oil Filter (2), Air Filters (2), Motor Oil (15 qts) (\$88), Wiper Blades, Tire Air Chuck, Brake Shoe Kit, Brake Drums (\$73) & Shop Rags (10 lbs)	548.18
37	North Bay Gas	Carbon Dioxide (Construction), Cutting Torch Hose Kit (\$60), Welding Goggles, Nitrogen (STP) (\$468) & February Cylinder Rental (\$83)	661.53
38	Novato Builders Supply	Concrete Bonding, Lumber (\$224), Hinges & Screws	272.83
39	Novato Disposal Service	February Trash Removal	442.76
40	Novato Sanitary District	January 2013 - July 2017 Recycled Water Electric Power (\$75,679); August & September 2017 RW Operating Expense (\$35,340)	111,019.25
41	Pace Supply	Gaskets (4), Check Valves (8) (\$85), Bolt Down Box (2) (\$60) & Traffic Lid Bolts (20)	196.72
42	Pini Hardware	GFCI Outlet, Circuit Breaker, Tape, Drop Cloth, Paint Remover (\$62), Hardware, Plumbing Supplies (\$68), Sprayer, Dish Detergent, Pool Repair Kit, Patch Kit, Fluorescent Bulbs, Vinyl Numbers, Sheet Metal Screws, Ball Valves (2), GFCI Outlet (STP), Outlet Cover Plates (STP), Padlock, Conduit, Junction Boxes (\$52), Hillman Hardware, Spray Paint (5 12oz Cans), Check Valves (2), Door Stop, Receptacle, Conduit Fittings & Circuit Breaker	402.10
43	Sebastopol Bearing & Hydraulic	Gasket Material (2' x 4')	18.01
44	Sequoia Safety Supply	Brief Relief Urine Bags (100)	259.32
45	Shoemaker Structural	Repair Hinge on Dump Truck ('02 Int'l 5 yd Dump Truck)	880.00
46	Stafford, Vernon	Retiree Exp Reimb (Monthly Health Ins)	304.16
47	United Parcel Service	Delivery Services: Sent RW Central Signed Installment Sale Agreement Amendment #1	7.72

Seq	Payable To	For	Amount
48	VWR International	Filters (200) (Lab & STP)	418.43
		TOTAL DISBURSEMENTS	<u>\$535,688.84</u>

The foregoing payroll and accounts payable vouchers totaling \$535,688.84 are hereby approved and authorized for payment.

 3/14/17
 Auditor-Controller Date

 3/14/2017
 General Manager Date

DISBURSEMENTS - DATED MARCH 9, 2017

Date Prepared 3/7/17

The following demands made against the District are listed for approval and authorization for payment in accordance with Section 31302 of the California Water Code, being a part of the California Water District Law:

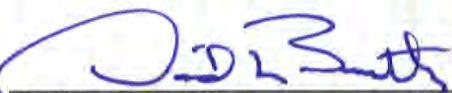
Seq	Payable To	For	Amount
P/R*	Employees	Net Payroll PPE 2/28/17 PPE	\$134,592.89
EFT*	US Bank	Federal & FICA Taxes 2/28/17 PPE	60,268.33
EFT*	State of California	State Taxes & SDI 2/28/17 PPE	10,852.32
EFT*	CalPERS	Pension Contribution 2/28/17 PPE	34,996.41
1	Athens Administrators	Replenish Checks Written (2/1-2/28/17) (\$4,499) & March Workers' Comp Admin Fee	5,499.17
2	AT&T	Leased Lines	671.99
3	AWWA CA-NV SEC	Spring Conference Registration in Anaheim 4/10-4/13 (McIntyre)	445.00
4	Bay Area Barricade Service	"High Pressure Water Line" Reflective Stickers (30-3' x 12")	128.57
5	Bold & Polisner	Board Vacancy (\$21), Election Dates (\$273), Consulting Agreement Language (\$105), Potter Valley Relicensing (\$210) & RW Exp Central ROW (\$147)	756.00
6	Bromberger, William	Refund Overpayment on Closed Account	143.44
7	Coast Counties Peterbilt	Turbo Charger Actuator Kit (\$951), Exhaust Manifold (\$494), Shock Absorber (\$108) & Coolant (\$60)	1,826.42
8	Covello Group	Prog Pymt#6: RW Expansion Project Central Service Area (Balance Remaining on Contract \$838,795)	69,049.31
9	CWEA	Certification Renewal Grade 1 (Bena) (Budget \$80) (4/17-3/18)	83.00
10		Cafeteria Plan: Uninsured Medical Reimbursement	31.53
11	DeGabriele, Chris	Exp Reimbursement: February Mileage	165.85

Seq	Payable To	For	Amount
12	Farwest Corrosion Control	Copper Solution for Reference Anode (Welding Shop)	11.40
13	Ferguson Waterworks	Service Saddles (10) (\$463), Couplings (2) (\$693), Nipples (3), Valves (6) (\$185) & Check Valves (2) (PRE P/S #1) (\$315)	1,668.30
14	Fisher Scientific	pH Electrode Storage Solution, Pipet (400) (\$83) & Pipet Tip Refill (Lab)	175.71
15	Grainger	Tie Down Strap, Ratchet (2-15'), Cordless Hammer Drill (\$348), Security Lights (4) (STP) (\$214), Kneeling Pad (16" x 28") (\$46), Screwdrivers (3), Hammer, Sheet Stock (24" x 48"), Wire Nuts (100), Cordless Vacuum (\$192), Battery Charger, Hose Bibbs (4), Electric Boot Dryer (2 Pair) (\$93) & Dead Blow Hammer	1,421.06
16	Hach	Sodium Persulfate Solution, Sulfuric Acid Solution & Reagent (STP)	478.95
17	InfoSend	January Processing Fee for Water Bills (\$450) & Postage w/Increase (\$1,190)	1,640.31
18		Cafeteria Plan: Uninsured Medical Reimbursement	65.74
19	Lincoln Life	Deferred Compensation PPE 2/28/17	15,076.08
20	Maltby Electric	Electrical Supplies (\$58), Wire Terminal (\$97), O.M. Pond Aerators & Transfer Pump Wire (4,500'), Pulling Tape (3/4" x 1,500') & Telemetry Splice Connectors & Electrical Pull Box (\$63)	1,426.60
21		Cafeteria Plan: Uninsured Medical Reimbursement	230.83
22	Marin Color Service	Paint (3 gal)	96.09
23	Marin County Recorder	Nov-Dec Official Record Copy (2)	32.00
24	Nationwide Retirement Solution	Deferred Compensation PPE 2/15/17	1,580.00
25	New Pig	Disposable Nitrile Gloves (40-4ml)	438.88
26	NMWD Employee Association	NMWD Association Dues 11/15/16 Through 2/28/17	965.00
27	Novato Toyota	Charge Starting Battery ('09 Toyota Prius)	72.00

Seq	Payable To	For	Amount
28	Novato Investments	Refund Excess Advance for Construction Over Actual Job Cost-Novato Chevrolet Improvements	9,001.61
29	NSI Solutions	QC Sample (Lab)	49.25
30	Pace Supply	Vault (3'x5'x3') (\$595), Flanges (10) (\$175), Hydrant Extensions (6) (\$313), Plugs (10), Meter Stops (15) (\$494), Tees (4) & Spools (4) (\$561)	2,162.54
31	Pape Machinery	Chassis Grease (124 lbs)	446.43
32	Pardini, Bill	Refund Security Deposit on Hydrant Meter Less Final Bill	561.68
33	PDM Steel Service Centers	Shop Steel for Various Projects Including Meter Keys, Tool Carriers & 1 1/2" x 1 1/2" Tubes (4) (\$273)	2,134.48
34	Peterson Trucks	Anti-Lock Braking System Modulating Valve (Less Credit of \$104 Received for Core Deposit)	164.83
35	NMWD Petty Cash	Bridge Toll (\$5) & Safety Snacks (\$67)	72.07
36	Schwaab	"OK to Pay" Stamp (Filippi)	50.18
37	Sebastopol Bearing & Hydraulic	Ratchet Load Binder (4)	425.71
38	Sequoia Safety Supply	Jackets (Breit & Reed) (\$128), Overalls (Breit), Safety Glasses (12) & Rain Pants (Rupp)	226.92
39	Shirrell Consulting Services	February Dental Expense	6,785.00
40	Shooshtarian, Ali	Refund Overpayment on Closed Account	372.32
41	Soiland	Asphalt (6 tons)	17.04
42	SPG Solar	January Energy Delivered Under Solar Services Agreement	6,548.77
43	State Water Resources Control	T2 Operating Certificate Renewal (Reischmann) (Budget \$60) (9/17-9/20)	60.00
44	Teeters & Schact	Recover Headliner ('03 Dodge Dakota)	305.10
45	United Parcel Service	Delivery Services: Sent Raw Water Charge Analyzer for Service	131.65
46	USA BlueBook	pH Buffers (2) (STP)	168.35

Seq	Payable To	For	Amount
47	Utiliworks Consulting	Prog Pymt#11: Automated Meter Information Project (Balance Remaining on Contract \$59,951)	11,371.71
48	Van Bebber Bros	Structural Material for Polymer Mixing Station (STP)	62.80
49	White & Prescott	Prog Pymt#13: Crest Pump Station Site Plan (Balance Remaining on Contract \$11,120)	600.00
50	Wiley Price & Radulovich	Temp Work Assignment (\$63), Accommodation (\$385) & FMLA (\$138)	585.50
		TOTAL DISBURSEMENTS	<u>\$387,193.12</u>

The foregoing payroll and accounts payable vouchers totaling \$387,193.12 are hereby approved and authorized for payment.



Auditor-Controller

3/6/17

Date




General Manager

3/6/2017

Date

MEMORANDUM

To: Board of Directors
From: Chris DeGabriele, General Manager 
Subject: Pipe Worker Assistant Promotion
T:\GM\STAFF\2017\Pipe Worker Assistant promotion.doc

March 17, 2017

RECOMMENDED ACTION: Employee Promotion to Pipe Worker Assistant Position

FINANCIAL IMPACT: \$600 in FY17 Budget and \$5,000 in FY18 Budget

The Construction/Maintenance Superintendent has recommended promotion for a Laborer to be elevated to the Pipe Worker Assistant position effective March 16, 2017. James Lemos has taken on responsibilities of the Pipe Worker Assistant position for one of the construction crews. Mr. Lemos was hired as a temporary laborer in June 2011 and became a regular employee laborer in June 2014. Mr. Lemos consistently performs well and is a valuable part of the NMWD Construction crew. He meets all the qualifications and skill requirements of the Pipe Worker Assistant position.

With this promotion, each NMWD Construction crew will be now staffed with either a journeyman Pipe Worker or Pipe Worker Assistant. I believe it is important to have needed skill sets on each crew and therefore have approved this promotion prior to the standard scheduling with fiscal year budget approvals.

MEMORANDUM

To: Board of Directors
From: Chris DeGabriele, General Manager 
Subj: Potter Valley Project Relicensing Stakeholder Meeting
t:\gmtscwa\potter valley\relicensing\stakeholder meeting 030917.docx

March 17, 2017

RECOMMENDED ACTION: Information Only

FINANCIAL IMPACT: None at this time

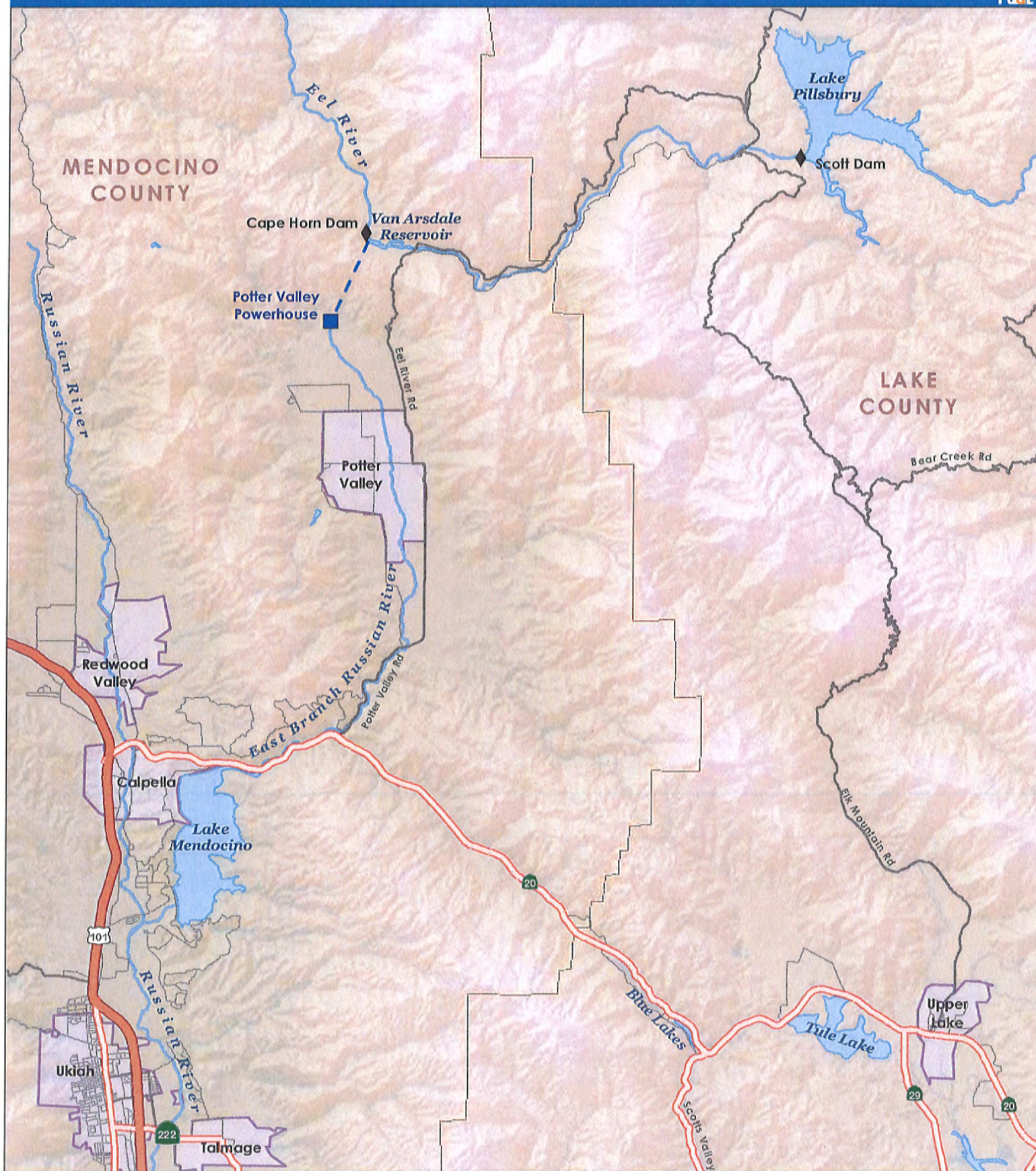
On March 9, Drew McIntyre and I traveled to Ukiah and attended the Potter Valley Project Relicensing Meeting held by Pacific Gas & Electric Company (PGE) to discuss the initial steps being taken in obtaining a new FERC license for the Potter Valley Project. The meeting held on a Thursday afternoon was well attended by about 65 people. PGE's relicensing project manager is Susan Kester who informed the group that the process is intended to identify new license conditions enabling a balance of beneficial uses and that it's anticipated to take five years to complete the licensing process. We were informed that the relicensing is about routine operation and maintenance of the project and that critical infrastructure information is held confidential. The balancing of issues includes power production, Eel River fisheries, Russian River irrigation and fisheries and recreation. We were informed that a lot of review has been undertaken to date, which is unique for FERC relicensing.

The current license expires on April 14, 2022 and the deadline to file a Notice of Intent and a Pre-Application Document (PAD) is April 14, 2017. Responses to interested parties comments which have already been solicited will be in an appendix to the PAD. A final relicense application must be made by April of 2020 at which time FERC will commence the NEPA Environmental Review process. 401 Water Quality Certification from the State Water Resources Control Board will typically take 6-10 years from the April 2022 deadline. Annual licenses with existing conditions are issued until the State Board issues the water quality certification.

Ms. Kester informed the group that a participation and outreach page will be added to PG&E's website, www.pge.com. In conversation with PG&E after the meeting, I was informed that an economic analysis will not be included in the public evaluation. National Marine Fisheries Service staff did indicate that the reasonable and prudent alternative for Eel River minimum flows and diversions to the Potter Valley Project would be looked at in the process.

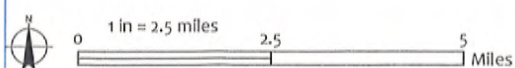
This is just the first step of a very long process, but one that is very important to Russian River interests.

Figure 1. Potter Valley Project Area Overview



Dam
 Conduit
 Powerhouse

9/23/2016



Potter Valley Hydroelectric Project FERC Project No. 77

Participation Opportunities and Next Steps

Stakeholder Meeting
March 9, 2017

Susan Kester
PG&E, Relicensing Project Manager

Next Steps (Near Term)

- PG&E files NOI/PAD (April 2017)
- FERC conducts Tribal consultation meeting (~April – May 2017)
- FERC issues Notice of Commencement of Proceeding, Scoping Document 1, and study requests (~May 2017)
- FERC conducts public scoping meeting and site visit (~June 2017)
- Public comments on the PAD, Scoping Document 1, and study requests are due (~July 2017)
- Formal study development process (~July 2017 to February 2018)

Participation Opportunities + Misc.

- Please sign the meeting attendance sheet
 - Indicate if you wish to be added to the Potter Valley Project relicensing distribution list
 - Public officials, if you partake in the snacks please mark the box on the far right. Acceptance of food and beverages by public officials constitutes a reportable gift.
- Register with FERC online to be notified via e-mail about new Potter Valley Project filings and issuances
 - <http://www.ferc.gov/docs-filing/esubscription.asp>
 - Go to e-subscription and click Add
 - Docket No. P-77

Participation Opportunities + Misc.

- Visit PG&E's relicensing website for documents and calendar of events (available April 2017)
- Attend future FERC/Licensee sponsored meetings
- Submit timely written comments on relicensing documents

Contacts

PG&E

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Email: julie.smith@cardno.com

MEMORANDUM

To: Board of Directors

March 17, 2017

From: Chris DeGabriele, General Manager 

Subj: March 13, 2017 – Public Policy Facilitating Committee Meeting
t:\gm\2017 misc\ppfc meeting 031317.docx

RECOMMENDED ACTION: Information Only

FINANCIAL IMPACT: None at this time

On Monday, March 13th Director Joly along with myself and Drew McIntyre attended the PPFC meeting in Santa Rosa. Much information on current status of Biological Opinion compliance was presented in the two-hour meeting window. Attachments are included. The Board may also want to view YouTube videos on the Russian River Fish Ladder and Viewing Gallery Construction (SCWA has its own YouTube channel, enabling an easy Google search).

Of note is that the North Coast Regional Water Quality Control Board along with SCWA made a presentation on water quality monitoring in the Russian River, especially related to harmful algae blooms. While outside the scope of the Biological Opinion, it is helpful to address concerns expressed by the Russian River community members about the proposed Fish Flow impacts on the lower Russian River. The Fish Flow Habitat and Water Rights Project EIR is now in the process of reviewing comments and developing responses. A Final EIR is anticipated to be considered for certification by the SCWA Board of Directors by the end of this calendar year.



Public Policy Facilitating Committee

Meeting Agenda

Monday, March 13, 2017
9 a.m. – 11:00 a.m.
Sonoma County Board of Supervisors Chambers

WELCOME & PPFC PANEL INTRODUCTIONS
PPFC Chairman James Gore

FISH FLOW HABITATS AND WATER RIGHTS PROJECT: What's Next?
Sonoma County Water Agency Environmental Coordinator Jessica Martini-Lamb

RUSSIAN RIVER ESTUARY
Flood Risk Feasibility Study
Jessica Martini-Lamb
NOAA Habitat Blueprint: Planning for Sea Level Rise
Restoration Program Manager Southwest Region, NOAA Fisheries Restoration Center,
Natalie Cosentino-Manning

RUSSIAN RIVER FISH LADDER AND VIEWING GALLERY
Sonoma County Water Agency Assistant General Manager Pam Jeane

MONITORING
Water Quality: Cooperative Monitoring Program
North Coast Regional Water Quality Control Board, Adaptive Watershed Management Unit,
Katharine Carter & Rich Fadness
Sonoma County Water Agency Environmental Principal Keenan Foster

DRY CREEK HABITAT ENHANCEMENT
Sonoma County Water Agency Environmental Coordinator David Manning

PUBLIC COMMENT

CLOSING REMARKS
PPFC Chairman James Gore

For more information please visit www.sonomacountywater.org/rrifr or contact Ann DuBay at (707) 524-8378.

Disabled Accommodation: If you have a disability which requires an accommodation, an alternative format, or requires another person to assist you while attending this meeting, please contact the Sonoma County Water Agency at (707) 547-1930, as soon as possible to ensure arrangements for accommodation.

Join us to learn about salmon and steelhead recovery efforts!

RECEIVED
MAR 03 2017
North Marin Water Dist.

When: Monday, March 13, 2017
9 a.m. - 11:00 p.m.
Where: Sonoma County Board of Supervisors Chambers
575 Administration Dr, Santa Rosa CA

The Public Policy Facilitating Committee (PPFC) is holding its annual meeting to discuss and take public comment on the Russian River Biological Opinion. The Biological Opinion was released by National Marine Fisheries Service in September 2008. This 15-year plan requires the Sonoma County Water Agency and the U.S. Army Corps of Engineers to modify Russian River water supply and flood control operations to prevent harm to endangered coho salmon and threatened Chinook salmon and steelhead trout.

Public Policy Facilitating Committee Members




- | | |
|--|---|
| ✓ James Gore, <i>Sonoma County Board of Supervisors</i> | ✓ Carre Brown, <i>Mendocino County Board of Supervisors</i> |
| ✓ Lynda Hopkins, <i>Sonoma County Board of Supervisors</i> | ✓ Lisa Van Atta, <i>National Marine Fisheries Service</i> |
| ✓ Shirlee Zane, <i>Sonoma County Board of Supervisors</i> | Eric Larson, <i>California Department of Fish and Wildlife</i> |
| Lieutenant Colonel John Morrow, <i>U.S. Army Corps of Engineers</i> | ✓ Paul Zellman, <i>Mendocino County Russian River Flood Control & Water Conservation Improvement District</i> |
| ✓ Matt St. John, <i>North Coast Regional Water Quality Control Board</i> | |
| ✓ Janet Pauli, <i>Potter Valley Irrigation District</i> | |

Russian River Biological Opinion Public Policy Facilitating Committee



Sonoma County Board of
Supervisors Chambers
March 13, 2017





www.sonomacountywater.org   

Fish Habitat Flows and Water Rights Project

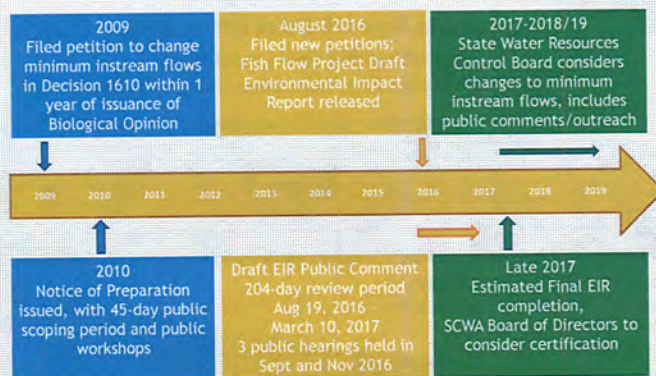


Jessica Martini-Lamb
Environmental Resources Manager
jessicam@scwa.ca.gov



www.sonomacountywater.org   

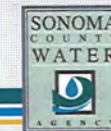
Where We are in the Process and Next Steps



Russian River Estuary Management Project



Jessica Martini-Lamb
Environmental Resources Manager
jessicam@scwa.ca.gov



www.sonomacountywater.org   

Estuary Management Project Status

- 4 closures during 2016 lagoon mgt. season
– 2 outlet channel attempts
- Continued biological and physical monitoring
- Jetty study



Next Step: Flood Risk Feasibility Study

- Determine if study is required
- Identify potential actions and determine feasibility
- Identify possible funding mechanisms
- Consider sea level rise and changes in storms



Jessica Martini-Lamb
Environmental Resources Manager
jessicam@scwa.ca.gov



www.sonomacountywater.org




NOAA Habitat Blueprint: Russian River Habitat Focus Area Planning for Sea Level Rise

Natalie Cosentino-Manning – NOAA Fisheries Restoration Center



Public Policy Facilitating Committee
Sonoma County Board of Supervisors
Santa Rosa, California
March 13, 2017

WHAT IS NOAA'S HABITAT BLUEPRINT?



- The **Habitat Blueprint** is NOAA's strategy to integrate habitat conservation throughout the agency, focus efforts in priority areas (**Habitat Focus Area - HFA**), and leverage internal and external collaborations to achieve measurable benefits within key habitats such as rivers, coral reefs, and wetlands. ***Improving the way we do business!***
- Russian River was designated first HFA in the Nation
- Ten HFAs nationally
<https://www.habitatblueprint.noaa.gov/>


www.noaa.gov/habitatblueprint

HABITAT FOCUS AREAS



www.noaa.gov/habitatblueprint





THE RUSSIAN RIVER



THE RUSSIAN RIVER

The Russian River National Monument is a 100,000-acre area in Sonoma County, California, that encompasses the Russian River watershed. The monument was established to protect the river's unique natural resources, including its diverse wildlife, riparian habitat, and scenic views. The monument is managed by the National Park Service and is a part of the National Monument System.

NOAA LINE OFFICES INVOLVED

Office of Atmospheric Research (OAR)  Climate Adaptation and Mitigation An informed society anticipating and responding to climate and its impacts	National Weather Service (NWS)  Weather Ready Nation Society is prepared for and responds to weather-related events	National Marine Fisheries Service (NMFS)  Healthy Habitats and Fisheries Marine fisheries, habitats, and biodiversity sustained within healthy and productive ecosystems	National Ocean Service (NOS)  Resilient Coastal Communities and Economies Coastal and Great Lakes communities that are environmentally and economically sustainable	Program Planning and Integration (PPI)  Social Science and Strategy Strategic planning, social and economic impacts, stakeholders and environmental policy
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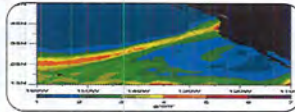
www.noaa.gov

OBJECTIVES: RUSSIAN RIVER HABITAT FOCUS AREA

- Rebuilding endangered coho salmon and threatened Chinook salmon and steelhead stocks to sustainable levels through habitat protection and restoration.
- Improving frost, rainfall, and river forecasts in the Russian River watershed through improved data collection and modeling.
- Increasing community and ecosystem resiliency to flooding and drought through improved planning and water management strategies.



CCC Coho Salmon



CC Chinook Salmon



CCC Steelhead Trout

www.noaa.gov/habitatblueprint

NOAA COLLABORATIVE PROJECTS: Russian River Estuary – Climate Change and Sea Level Rise

Collaborators: NOAA (NOS, NMFS, OAR), SCWA, USGS, Point Blue, Sonoma County Permit and Resource Management District

Objective: Develop a high resolution estuary model leverage existing data and models on sea level rise projections, future wave climatology, barrier beach and river mouth sedimentations regimes, and Russian River main stem and tributary flows into an integrated model to increase our understanding of the connection between coastal and watershed processes. This integrated model and associated data will be useful for management of estuary resources, guide habitat restoration and inform coastal planning.



www.noaa.gov

Coastal Storm Modeling System(CoSMoS) and Our Coast Our Future (OCOF)

Goal:

Provide science-based, decision support tools to help understand, visualize, and anticipate coastal climate change impacts to the Sonoma coast communities and ecosystems.



www.noaa.gov/habitatblueprint

Identifying Future Risk with CoSMoS

---CoSMoS Geographic extents and Versions --

Coastal Storm Modeling System



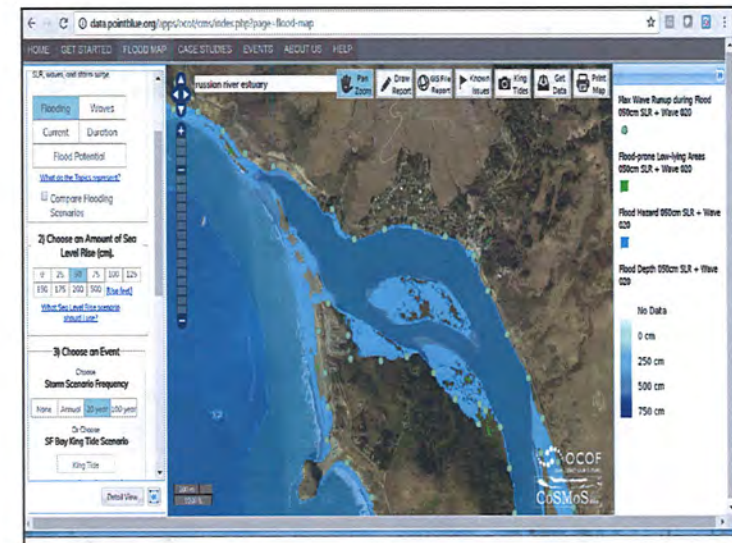
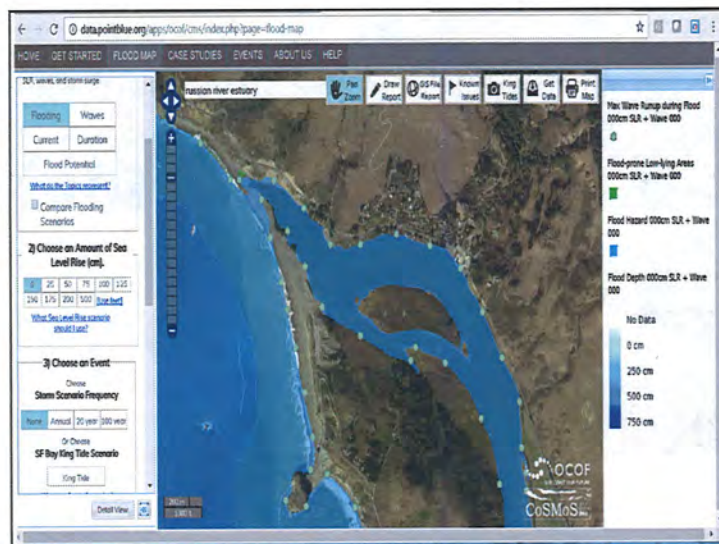
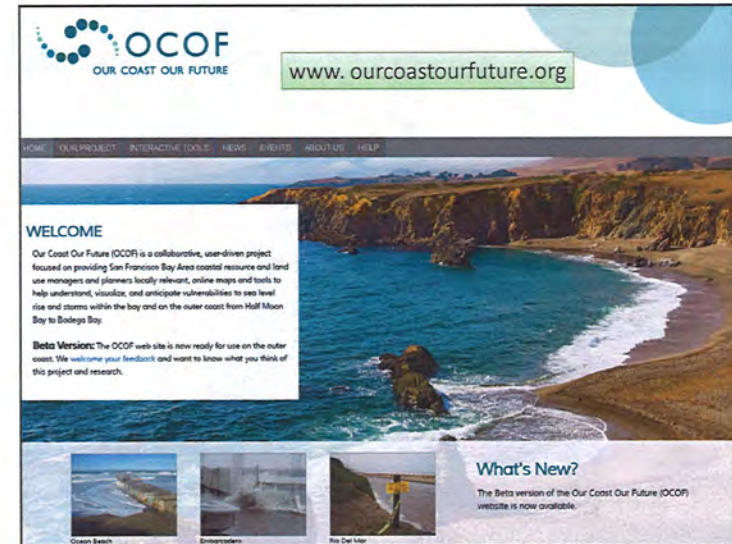
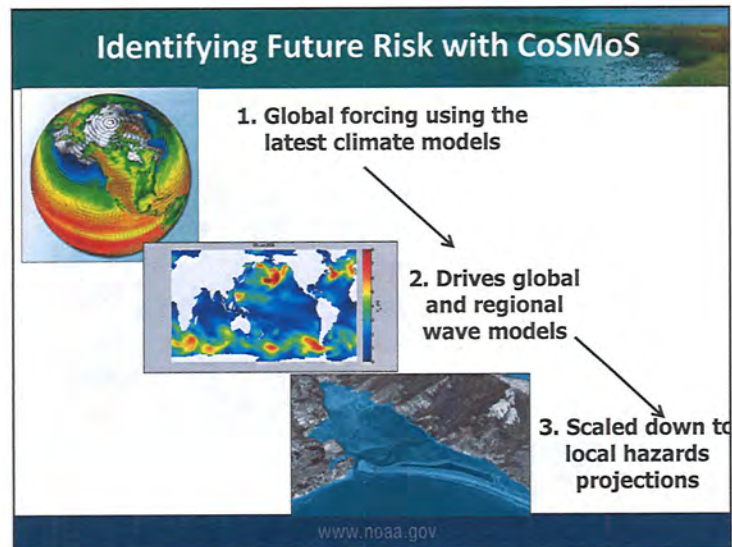
* Model vulnerabilities to climate change related coastal storms in combination with SLR *



OCOF = web tool
OUR COAST OUR FUTURE



www.noaa.gov








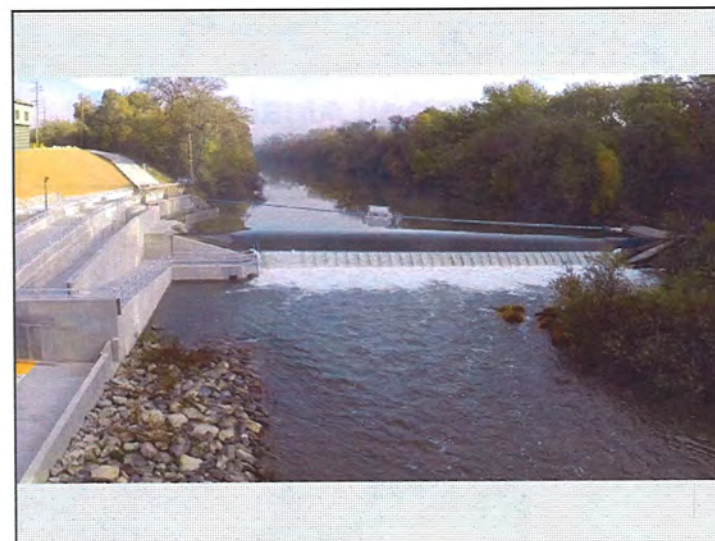
Russian River Fish Ladder and Viewing Gallery



Pam Jeane
Assistant General Manager
Pam.Jeane@scwa.ca.gov



www.sonomacountywater.org   



Russian River Cyanobacteria Harmful Algal Bloom Monitoring & Response Efforts

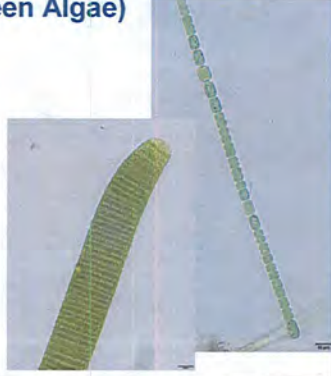



Public Policy Facilitation Committee
March 13, 2017

Presentation Topics

(Cyanobacteria = Blue-Green Algae)

- Cyanobacteria Harmful Algal Blooms (cyanoHABs) Overview
- Russian River Monitoring - partnership & data results
- River CyanoHABs & Healthy Habits



What are Harmful Algal Blooms? (HABs)








Photo Credit: Kara Tribe Photo Credit: Ricci Farness

CyanoHAB Toxins

- **Cyanotoxins**
 - ✓ Dermatoxins – affect the skin
 - ✓ Hepatotoxins – affect the liver
 - ✓ Cytotoxins – affect the kidneys
 - ✓ Neurotoxins – affect the nervous system
- **Pet and livestock health effects:**
 - ✓ Diarrhea
 - ✓ Vomiting
 - ✓ Convulsions
 - ✓ Death
- **Humans health effects:**
 - ✓ Skin rash
 - ✓ Eye irritation
 - ✓ Diarrhea
 - ✓ Vomiting
 - ✓ Seizures
 - ✓ Paralysis

- **Wildlife effects:**
 - ✓ Toxins found in fish organs and tissue
 - ✓ Bioaccumulation in shellfish
 - ✓ Acute poisoning of wildlife







Photo Credit: Miller et al. 2010, PLOS ONE

Common HAB Forming Cyanobacteria in the Russian River



Phormidium



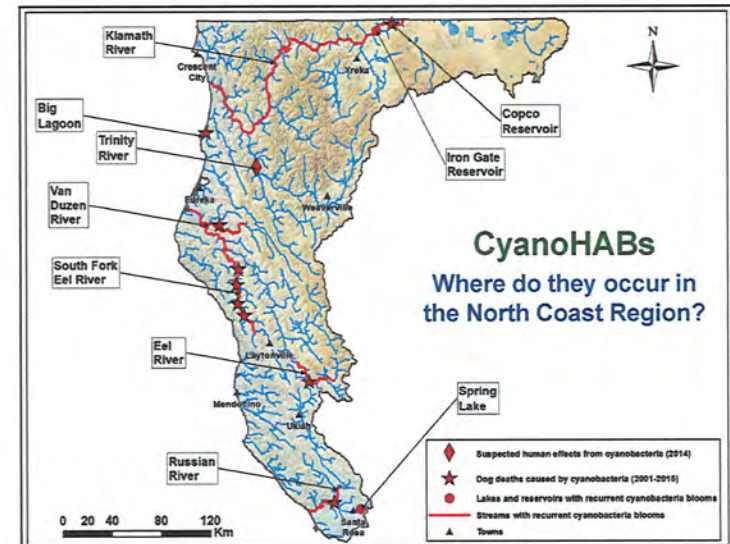
Anabaena

Photo Credits: Keith Bouma-Gregson

- ✓ Microcystin
- ✓ Anatoxin
- ✓ Saxitoxin

Toxins

- ✓ Microcystin
- ✓ Anatoxin
- ✓ Saxitoxin
- ✓ Cylindrospermopsin



Harmful Algal Bloom Water Quality Risk Factors

Risk Factors

(Modified from Paerl and Otten, 2013)

- Climate Change / changing precipitation patterns
- Warm temperatures
- Long residence time/low flow
- Persistent stratification
- Nutrient over-enrichment
- High light/solar radiation
- High dissolved organic matter

Co-Factors

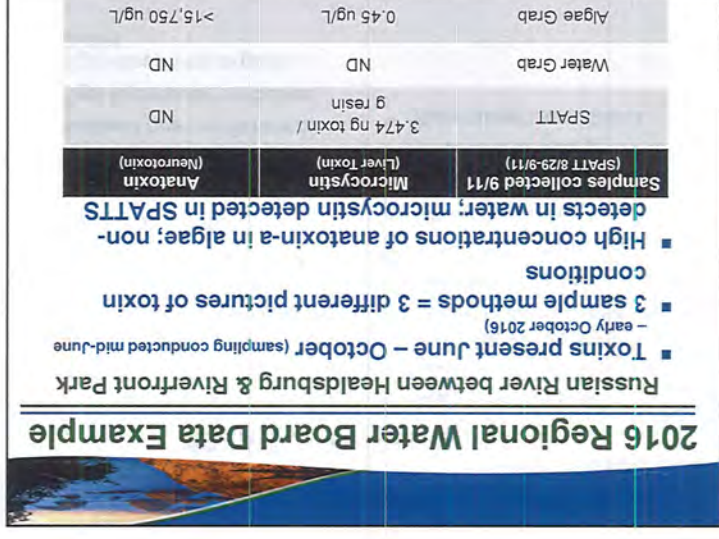
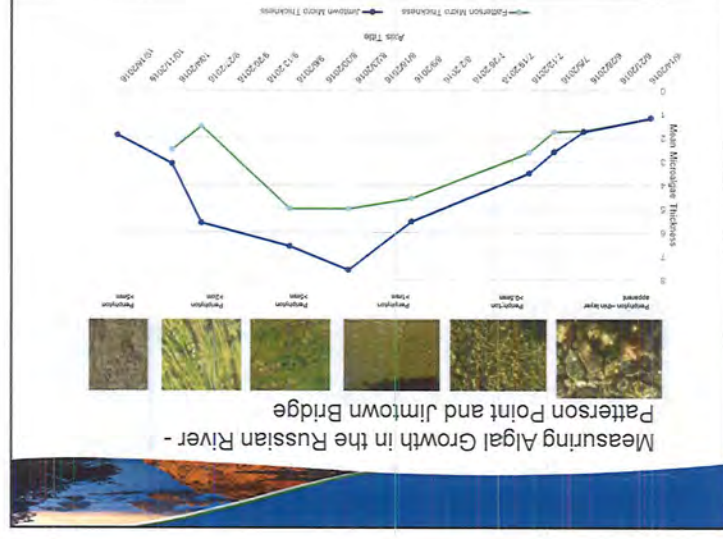
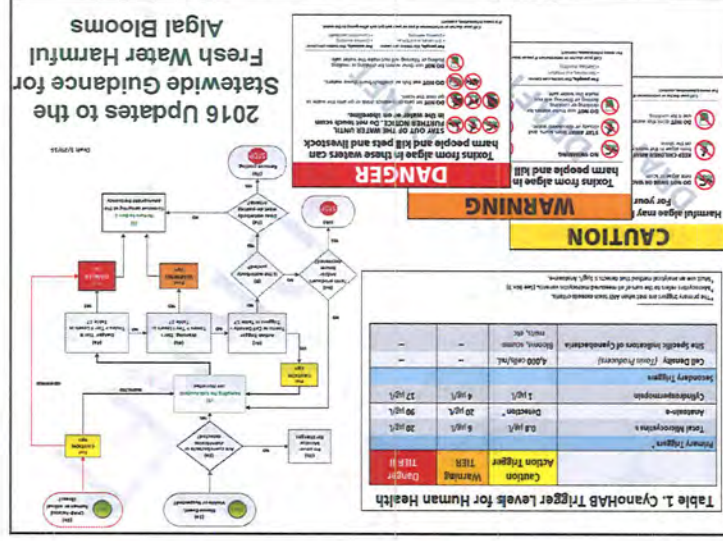
(Biostimulatory Conditions)

- Reduced Riparian Canopy
- Channel Morphology
- Impoundments
- Reduced Flows
- Pollutant Loading
- Watershed Conditions

California Strategy

California Water Quality Monitoring Council
 New My Water Quality Portal
<http://mywaterquality.ca.gov/habs/index.html>







2016 Regional Water Board Data Example

Russian River between Healdsburg & Riverfront Park

- **Toxins present June – October** (sampling conducted mid-June – early October 2016)
- **3 sample methods = 3 different pictures of toxin conditions**
- **High concentrations of anatoxin-a in algae; non-detects in water; microcystin detected in SPATTS**

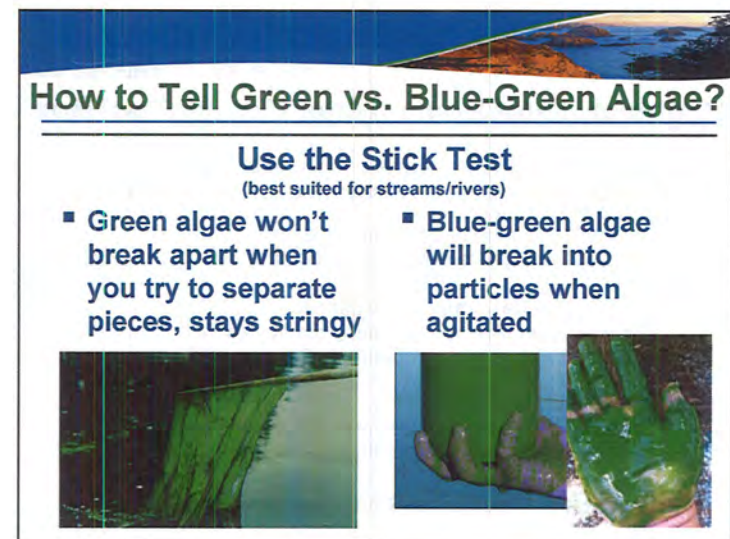
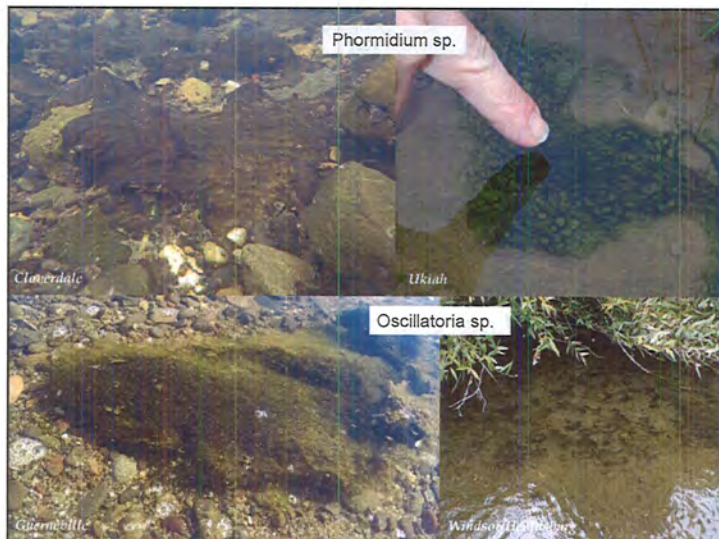
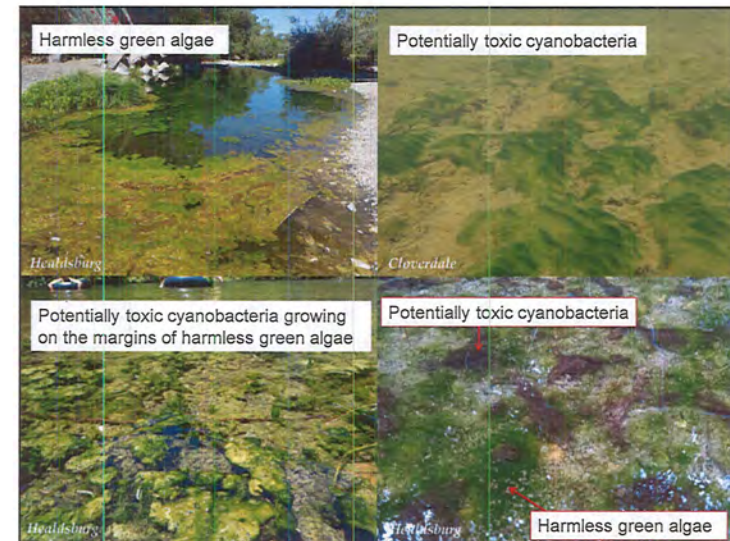
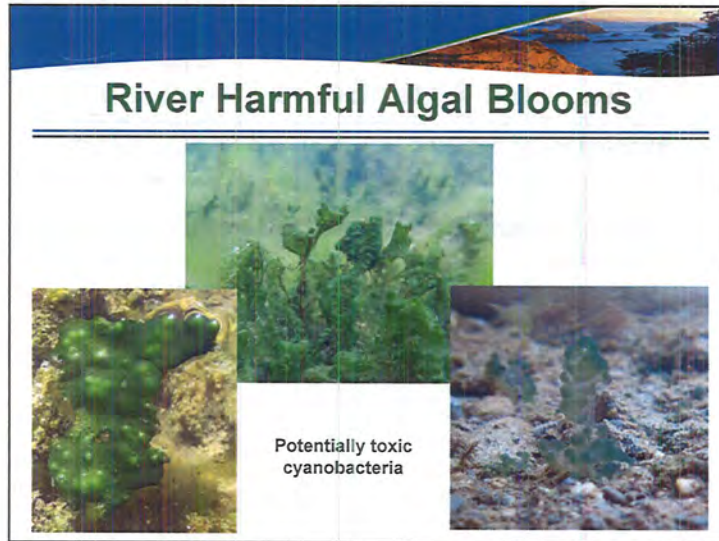
Samples collected 9/11 (SPATT 8/29-9/11)	Microcystin (Liver Toxin)	Anatoxin (Neurotoxin)
SPATT	3.474 ng toxin / g resin	ND
Water Grab	ND	ND
Algae Grab	0.45 ug/L	>15,750 ug/L

Regional Water Board Water Quality Tool Box

- **Implement Existing Programs and Permits**
 - ✓ TMDLs = comprehensive assessments and action plans to water quality impairments
 - ✓ Dredge & Fill permits – 401 certifications
 - ✓ Waste Discharge Requirement permits (e.g. dairies, cannabis)
- **Watershed Stewardship Partnerships**
 - ✓ Russian River Monitoring (county public health, SCWA, RWB)
 - ✓ Russian River Regional Monitoring Program (R3MP)
- **Work on Flow Issues**
 - ✓ Development of Flow Objectives – CA Water Action Plan
 - ✓ Work with Division of Water Rights – Water Rights Process
- **Water Quality Restoration Grants and Contracts**

Russian River Regional Monitoring Program (R3MP)

- **Coordinated platform for data-driven watershed management**
- **Governance development underway by SFEI, Regional Water Board and RRWA**
- **Initial focus on storm water monitoring**
- **CyanoHAB monitoring and assessment may be included in the future**



Always Use Healthy River Habits

- Heed all instructions on posted advisory signs
- Avoid body contact with algae & cyanobacteria
- Keep an eye on children and animals (dogs)
- Do not drink river water
- Do not cook or wash dishes with river water
- Wash yourself, your family, and your pets with CLEAN water after river play
- Consume fish only after removing the guts and liver and rinse filets



North Coast Regional Water Quality Control Board

Blue-Green Algae Harmful Algal Bloom Frequently Asked Questions

1. What are blue-green algae harmful algal blooms?

Blue-green algae (cyanobacteria) are a group of microscopic, photosynthetic bacteria that occur naturally in surface waters. Under certain water quality conditions blue-green algae can rapidly multiply, causing nuisance blooms. A small number of blue-green algae species are capable of producing toxins that can be harmful to animals and humans, and these blooms are termed "harmful algal blooms".

2. What is the difference between green algae and blue-green algae?

Green algae are common in lakes and rivers and do not pose health risks. Green algae often form green, stringy, often slimy-feeling masses attached to the bottom of lakes and rivers. Blue-green algae are single cells or groups of cells that cannot be picked up like filamentous green algae. Some blue-green algae can form mats on the bottom of rivers or shorelines, but when the mats are agitated they are easily broken up into single cells.

North Coast Regional Water
Quality Control Board

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Sonoma County Water Agency

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scwa.ca.gov
707-547-1941



Dry Creek Habitat Enhancement Project

David Manning

Environmental Resources Manager
David.Manning@scwa.ca.gov

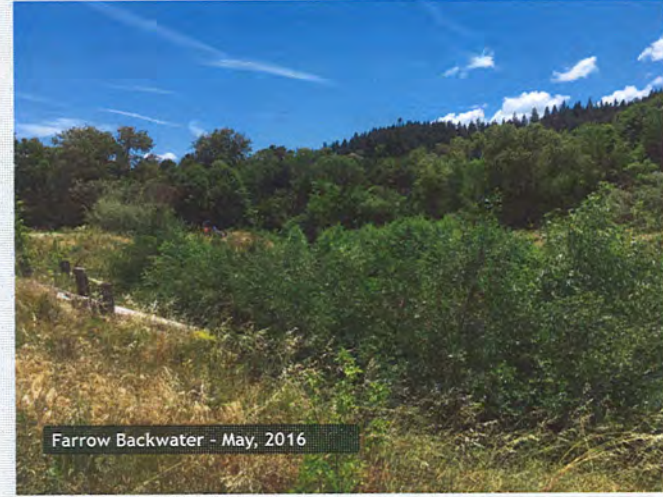


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Farrow Backwater - May, 2015



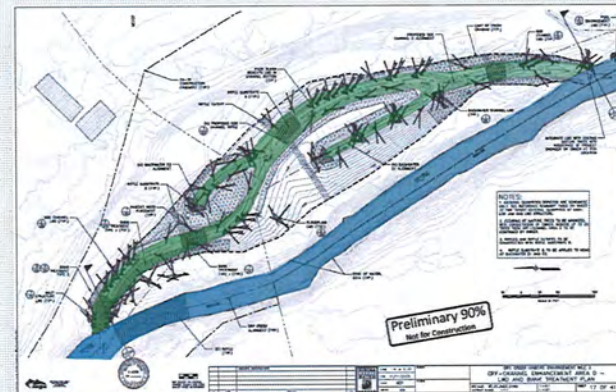
Farrow Backwater - May, 2016



Farrow Backwater - Summer, 2016

Phase 2 Design Concepts -Interfluve, Inc.

Truett-Hurst Winery, Meyer Family, Williamson Wines, Carlson Family



Phase 2 Completed Projects October 2016

- 0.62 miles
- Flow-through side channel
- Multiple alcoves
- Constructed riffles







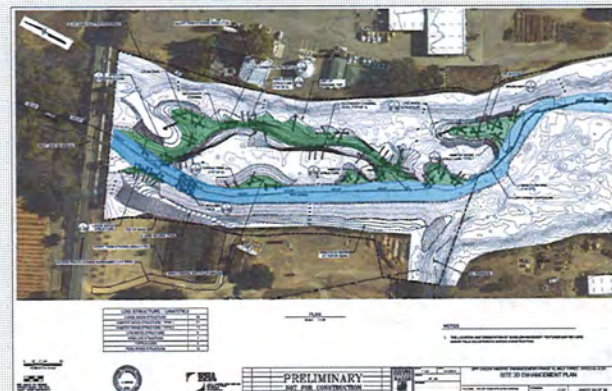


How the project weathered high water



Phase 3 Design Concepts - ESA, Inc.

DaVero Winery, City of Healdsburg, Orsi (Geyser Peak)



Phase 3 Completed Projects - October 2016

- 0.42 miles, two side channel complexes, alcoves



December High Water at Orsi property



Monitoring Methods

- Primary monitoring methods are snorkeling in the spring and summer, electrofishing in the summer and operation of PIT antennas in the fall, winter and spring.



Monitoring Results

- All off-channel features constructed by the Water Agency and USACE have been used by juvenile coho salmon and steelhead.
- We have also seen use of some backwaters by coho, Chinook and steelhead adults as well as newly hatched young Chinook.



Meyer Enhancement site-November 2016



Questions?



www.sonomacountywater.org

THE RUSSIAN RIVER BIOLOGICAL OPINION: FREQUENTLY ASKED QUESTIONS

SUMMER 2016

What is a “biological opinion”? A biological opinion is a determination made by a federal agency—in this case the National Marine Fisheries Service (NMFS)—to help restore and protect threatened or endangered species. Biological opinions are prepared when federal government agencies consult with other federal agencies in a process spelled out in Section 7 of the Endangered Species Act.

If the biological opinion finds that the species are likely to be harmed by the project, it includes “reasonable and prudent alternatives” that must be implemented. In this case the project is the ongoing water supply and flood control activities of the U.S. Army Corps of Engineers (Corps) on behalf of the Sonoma County Water Agency (Water Agency) and the Mendocino County Russian River Flood Control and Water Conservation Improvement District in the Russian River watershed.

What problem is the Russian River biological opinion trying to solve? The Russian River and its major tributaries are home to three species of fish that are threatened or endangered: steelhead, coho salmon and Chinook salmon. There are many reasons for the decline of these species, including historic overfishing, gravel mining, development near the river and its tributaries, increased sedimentation from logging and historic agricultural practices, and changing climate and ocean conditions. The reasons also include flood control and water supply projects in the river and in Dry Creek. The flood control and water supply projects are the sole focus of the biological opinion. Essentially, the biological opinion addresses the following questions:

1) Do the flood control projects operated by the Corps and the water supply and flood control projects operated by the Water Agency threaten to jeopardize the continued existence of steelhead, coho, and Chinook?



The Russian River

2) If the answer to question #1 is yes, how can these projects or operations be changed to enable the survival and the recovery of the species?

What does this biological opinion find? After more than 10 years of studies, NMFS found that some aspects of flood control and water supply operations threaten to jeopardize steelhead and coho but not Chinook. This jeopardy opinion means that the Water Agency and the Corps must change operations. There are three areas of particular concern:

- High summertime flows in the Russian River and Dry Creek: Contrary to what biologists believed in 1986, when the State Water Resources Control Board set minimum summertime Russian River flows in a ruling referred to as Decision 1610, biologists have concluded that fast-moving water in the river and Dry Creek makes it difficult for juvenile steelhead and coho to

grow and thrive.

- The high velocity of water in Dry Creek in the summer: Fourteen-mile-long Dry Creek is the means by which water from Lake Sonoma gets to the Russian River. The fast-moving water in the creek makes it difficult for young fish to thrive. The biological opinion requires that there be habitat enhancement and changes in the configuration of the channel to create slow-moving pools and fish refuge along six miles of the creek.

- The historic practice of “breaching” the sandbar at the estuary: Federal biologists believe that breaching negatively affects the estuary (the mouth of the river) by allowing more saltwater than is natural to flow into it and by keeping the amount of freshwater artificially low. The biological opinion requires the Water Agency to adopt “adaptive management” practices in the estuary, with the goal of installing an outlet



channel in the barrier beach in the summer months to create a freshwater lagoon in which young steelhead can grow.

Who is involved? The National Marine Fisheries Service, the Sonoma County Water Agency, the U.S. Army Corps of Engineers, the Mendocino County Russian River Flood Control and Water Conservation Improvement District, and the California Department of Fish and Wildlife are the agencies involved, with the Water Agency and the Corps responsible for implementing the reasonable and prudent alternatives.

How long will this biological opinion be in effect? The Russian River biological opinion is a 15-year plan that began in September, 2008.

What happens if the Water Agency fails to implement the biological opinion? The Water Agency is committed to carrying out the biological opinion, but many of the projects envisioned in later years could change as data becomes available from projects implemented earlier and from the extensive studies and monitoring involved. Think of the biological opinion as a blueprint that can be adjusted by agreement as the situation evolves and new information becomes available.

How much will it cost? While subject to change, it's estimated that the habitat enhancement, monitoring, and studies required of the Water Agency and the Corps will cost approximately \$150 million to \$165 million over 15 years.

Who is paying for it? Funding comes from a variety of sources, including ratepayers, state and federal grants and existing tax revenues that can be designated for this purpose.

Who is overseeing its implementation? The



Dry Creek Habitat Enhancement Project

environmental review process includes many opportunities for people to comment.

- Staff from the Water Agency and NMFS regularly conduct informational presentations to community and neighborhood groups. If you are interested in more information, visit www.sonomacountywater.org/rriifr.

What is an estuary? And why is it important to steelhead, coho, and Chinook? An estuary is where a river meets the sea. The convergence of freshwater from the river and saltwater from the sea creates a dynamic environment that supports a broad diversity of fish, wildlife and invertebrate and plant species. Estuaries play an important role in the life history of steelhead, coho and Chinook. Salmon use estuaries to adapt to saline conditions prior to entering the ocean and to adapt to freshwater before migrating upstream to the spawning grounds.

Some species, particularly steelhead, spend extended periods of time in estuaries.

I thought fish need lots of water, so why does the biological opinion require less water in the Russian River? Biologists have concluded that current flow releases into the river are much higher during the summer than under natural conditions and are too high for young steelhead and coho. Reducing summer flows in the Russian River



Young chinook salmon



The Russian River Estuary at Jenner

would provide better habitat by reducing velocity, would eliminate the need to artificially breach the sandbar at the estuary and may improve summer habitat in the estuary by allowing the formation of a freshwater lagoon. Reducing summer flows in the upper Russian River would also retain a greater amount of the cold-water pool in Lake Mendocino, which would be available to be released in the late summer and the early fall, benefiting Chinook returning to the river to spawn.

What is the process for changing the summertime flows in the Russian River? Summertime flows are controlled by Decision 1610, the ruling that requires minimum flow levels at specified areas of the Russian River and Dry Creek. The minimum flow levels vary, depending on whether the year is “normal,” “dry,” or “critical.” (Decision 1610 requires that the Water Agency release water from Lake Mendocino and Lake Sonoma to maintain these flows regardless of the amount of water that others take from the river and the creek.)

The biological opinion requires that summertime flows be permanently reduced to replicate river conditions in dry years (although the biological opinion does acknowledge the complexity of operating the system and allows flows to vary).

Since the biological opinion was released, the Water Agency

has submitted a petition to the State Water Resources Control Board (State Board) asking for changes to Decision 1610 and is preparing an Environmental Impact Report (EIR) required by the California Environmental Quality Act. The draft EIR will be released in Spring 2016 and will include public hearings and a public comment period.

This petition triggers a process, which could take several years. The State Board will weigh the information provided in the EIR with other factors when making the ultimate decision on summertime flows. In addition, because the biological opinion requires lower flows beginning in 2010, the Water Agency annually petitions the State Board for interim changes to Decision 1610.

Because Dry Creek is the conduit to get Lake Sonoma water to the Russian River, if there is less water in the creek, won't that mean less water for people? The reasonable and prudent alternatives provide for habitat enhancement in Dry Creek. The goal is to naturalize the creek in a way that allows water to continue to flow to meet the current demands of people while creating slow-moving pools and shady areas for young steelhead and coho to grow.

If less water is needed in the river, would the diversion of Eel River water end? Pacific Gas & Electric's diversion of Eel River water through the Potter Valley Project is regulated



Lake Sonoma

by the Federal Energy Regulatory Commission. These diversions from the Eel River are not controlled by the Water Agency and will not change as a result of the biological opinion.

Does the biological opinion require a pipeline to be built from Lake Sonoma to the Russian River? No. The biological opinion does not require the construction of a pipeline. It does require a pipeline feasibility study, which was finalized in 2011. If habitat enhancement projects in Dry Creek are determined to be unsuccessful, in year 10 (2018), the biological opinion requires a change in approach, which could result in additional pipeline studies.

How will less water in the river affect summertime recreation? Canoeists, kayakers, swimmers and people who just like to float down the river in inner tubes are an important part of the river culture. The EIR will include analyses of how lower flows might affect recreation on the river.

Why doesn't the biological opinion assess impacts on humans? Under the federal Endangered Species Act, biological opinions must assess the impacts of projects on threatened species, not on humans. The EIR that is required to change minimum summertime flows in the Russian River, however, will assess the impacts on humans, including

potential effects on recreation.

Shouldn't the biological opinion address all the problems in the watershed? The purpose of the biological opinion isn't to address all problems in the watershed but to address those problems related to specific Water Agency and Corps operations.

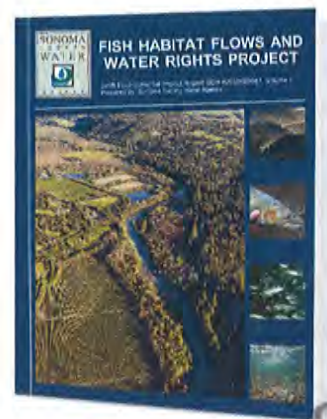
How does the biological opinion address likely impacts of climate change in our area? The biological opinion assumes that local impacts from global climate change will be limited and difficult to predict in the next 15 years. The effects of climate change as it relates to lowering the flows in the Russian River will be addressed in the environmental impact report.

What is an "incidental take statement"? The federal Endangered Species Act prohibits the "take" (in essence, the killing, harassment, or harm) of threatened species. Agencies can be exempted from take by the regulating agency (in this case NMFS) if species are harmed incidentally as an unintentional result of lawful operations. The biological opinion includes an incidental take statement that exempts the Water Agency and the Corps from take that could result from specified lawful operations and from changes in operations as a result of the biological opinion so long as the terms and conditions of the statement are met.

Fish Habitat Flows and Water Rights Draft Environmental Impact Report

PROJECT SUMMARY

The Sonoma County Water Agency (Water Agency) has prepared a Draft Environmental Impact Report (DEIR) for the Fish Habitat Flows and Water Rights Project (Fish Flow Project), which is part of a long-term effort to improve conditions for threatened steelhead and Chinook and endangered coho salmon in the Russian River watershed.



Purpose and Need for the Fish Flow Project

The federal National Marine Fisheries Service determined in its 2008 Russian River Biological Opinion that by lowering the minimum flows and reducing the velocity of flows in the Russian River and Dry Creek, the Water Agency can create better habitat for endangered fish.

The Fish Flow Project would change the minimum instream flow requirements in the Water Agency's water right permits in a manner that will improve rearing habitats for threatened and endangered salmon, as required by the Russian River Biological Opinion, add some additional authorized points of diversion, extend the deadlines for applying water to full beneficial use, and update the Water Agency's existing water rights to reflect current conditions.

To avoid jeopardizing these species, comply with the Endangered Species Act and continue to operate our water delivery system, the Water Agency must ask the State Water Resources Control Board to modify our existing water right permits to fulfill the requirements of the Russian River Biological Opinion.

Establishing Minimum Instream Flows

Currently, minimum instream flows are set depending on hydrologic conditions as measured at Lake Pillsbury, which is part of PG&E's Potter Valley Project. Lake Pillsbury is located in Lake County in Eel River Watershed. Since 2006, there has been a 60 percent reduction in the amount of water annually diverted from the Eel River via the Potter Valley Project into the Russian River Watershed. The Fish Flow Project proposes changing the hydrologic index to the Russian River Watershed to more accurately reflect conditions in Lake Mendocino and the Russian River.

Proposed Flows

After extensive modeling by Water Agency staff and consultants, and consultation with National Marine Fisheries Service and California Department of Fish and Wildlife, the Fish Flow Project proposes a five-step flow schedule, based on hydrologic conditions (explained below). The five-step schedule, with Schedule 1 being the wettest years and Schedule 5, the driest, results in five different schedules of flows:

- In the upper river (above the confluence of Dry Creek and the river): For the wettest years (Schedule 1), minimum proposed flows would be 105 cubic feet per second (cfs) year round. In the driest years (Schedule 5), minimum instream flows are proposed to be 25 cfs.



- In the lower river (below the confluence of Dry Creek and the river): For the wettest years (Schedule 1), minimum proposed flows would be 135 cfs October 16 through April and 70 cfs from May through October 15. In the driest years (Schedule 5), minimum instream flows are proposed to be 35 cfs year round.
- In Dry Creek: For the wettest years (Schedule 1), minimum proposed flows would be 75 cfs January through April, 50 cfs May through October 15 and between October 16 and December 31, 105 cfs. In the driest years (Schedule 5), minimum instream flows are proposed to be 75 cfs October 16 through March and between April and October 15, 50 cfs.

Modeling finds that 68 percent of the time, Schedule 1 would likely be used. In only 1 percent of the time -- during drought -- would Schedule 5 likely be used. Of the remaining years, Schedule 2 would likely be used 20 percent of the time; Schedule 3, 6 percent; and Schedule 4, 4 percent. While the Water Agency is requesting that the State Water Board lower minimum instream flow requirements, flows will rarely reach the minimums because Water Agency operators manage flows with a buffer of about 15 cfs to account for water loss along the river and in Dry Creek.

Timeline for the Fish Flow Project

- **July 19, 2016** – Water Agency staff went to its Board of Directors to authorize release of the Fish Flow Draft Environmental Impact Report (DEIR), establish the public comment period, and set a public hearing on the DEIR.
- **August 19, 2016** – The DEIR released; public comment period begins
- **August 22, 2016** – Public workshop, Cloverdale Veterans Hall, 205 West 1st Street, 4-8 p.m.*
- **August 24, 2016** – Public workshop, Monte Rio Community Center, 20488 Highway 116, 4-8 p.m.*
- **September 13, 2016** – Public Hearing, Sonoma County Board of Supervisors Chambers, 575 Administration Drive, Santa Rosa, no earlier than 3 p.m.
- **October 17, 2016** – Public comment period closes, 5 p.m.

*The two open houses provide an opportunity for people to learn from staff about the project and the DEIR. No verbal public comments will be recorded during the open houses, although comment cards will be available for people to provide written comments.

The public will have 60 days to comment on the DEIR. The Water Agency will respond to these comments in the final EIR (estimated completion of fall/winter 2016, but timing could vary depending on the extent of comments).

Where to find the Draft EIR

The Fish Flow Project DEIR describes the proposed project, the purpose of the project, why it is necessary and the potential environmental impacts of the project. For more details, please refer to the Fish Flow Project DEIR, which can be found at www.sonomacountywater.org/fish-flow. Copies of the document are also available for purchase on flash drive and in printed versions at the Sonoma County Water Agency, 404 Aviation Blvd., Santa Rosa, CA 95403.



RUSSIAN RIVER FISH LADDER AND VIEWING GALLERY

THE SETTING

The Sonoma County Water Agency's Russian River Diversion Structure (RDS) and Inflatable Dam is the heart of a drinking water system that serves 600,000 people in Sonoma and Marin counties. Located downstream of Wohler Bridge, in Forestville, the inflatable dam supports the six collector wells that pump water at a depth of about 100 feet after natural filtration through sand and gravel.

This naturally filtered water is delivered through large pipes (called aqueducts) to eight cities and water districts in the North Bay, who then distribute the water to their customers.

The success of this riverbank filtration system is dependent on the inflatable dam that is raised in late spring/early summer. The inflatable dam creates a large pool which provides the source of water to be pumped by the RDS into infiltration ponds. The infiltration ponds and the backwater created by the inflatable dam help recharge the well-field and allow the collector wells to operate more efficiently.

Permanent fish ladders were installed on both sides of the inflatable dam when it was installed in the early 1990s. These ladders allow fish to safely bypass the dam.

THE PROBLEM

Water that is diverted from the river and pumped into infiltration ponds is screened to prevent fish from getting

trapped in the pump. The Russian River Biological Opinion, issued in 2008 by National Marine Fisheries Service, found that the fish screen had the potential to trap young, endangered coho salmon and threatened steelhead. In 2009, the Water Agency began developing plans to replace the fish screen.

While the original fish ladders worked, they weren't ideal for young fish migrating downstream. As a result, the

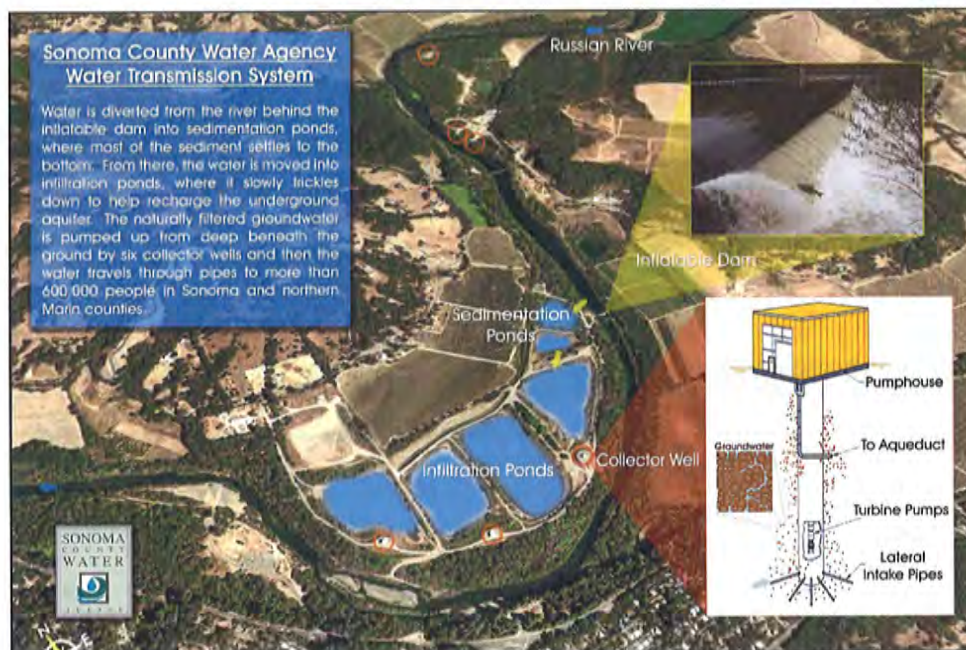
Water Agency operated the inflatable dam to create a "notch" that provided easier downstream passage for young salmonids during the late spring and early summer. This notch was created by adding air to the dam (which is inflated with water). Because the air expanded and contracted

depending on temperature, the notch was challenging to maintain and often resulted in fluctuations in downstream flows.

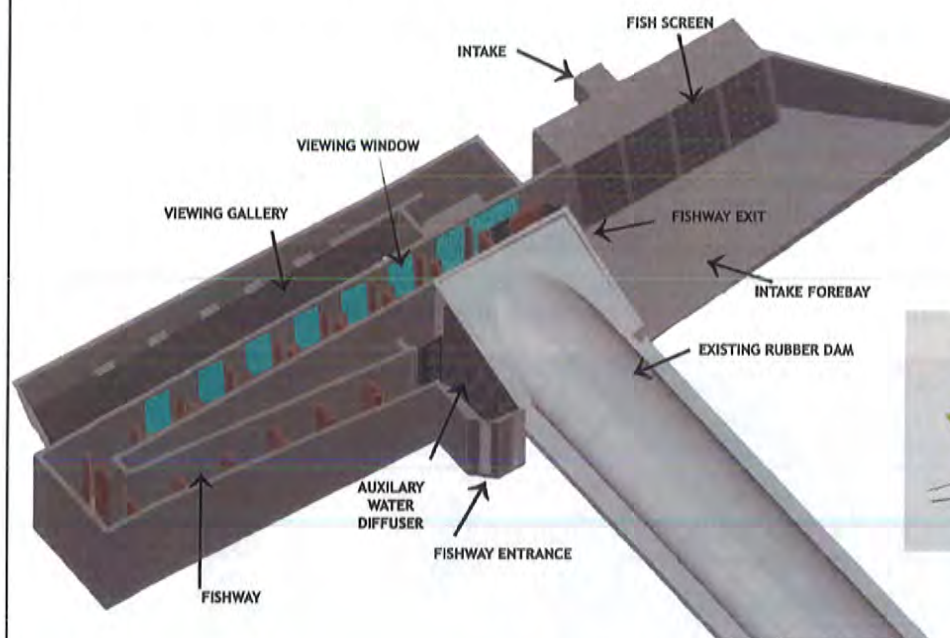
In addition, a seismic study found that the RDS was vulnerable during earthquakes. If a major quake damaged RDS, the drinking water supply for 600,000 people could be interrupted for days or weeks.

THE SOLUTION

Seismic Upgrade: Beginning in January 2014, the Water Agency constructed 326 stone columns in the river bank and embankment at the RDS, ranging from 30 feet to 90 feet deep. The columns were filled with rock,



The Mirabel Fish Ladder allows fish to safely swim past the Inflatable Dam. The ladder's the unique design allows fish to pass by the intake and fish screens safely and efficiently. The fish ladder is wider, longer and less steep than the old one. It is much easier for fish to swim through.



www.sonomacountywater.org



which densified the soil, reducing the risks of liquefaction and lateral spread during an earthquake.

Fish Screens: The original drum fish screens were replaced by six 12-foot tall by 6-foot wide panels, with a total area of 432 square feet. The new fish screens incorporate an electric motor-driven mechanical brush system that periodically moves back and forth to clean the intake screen structure.

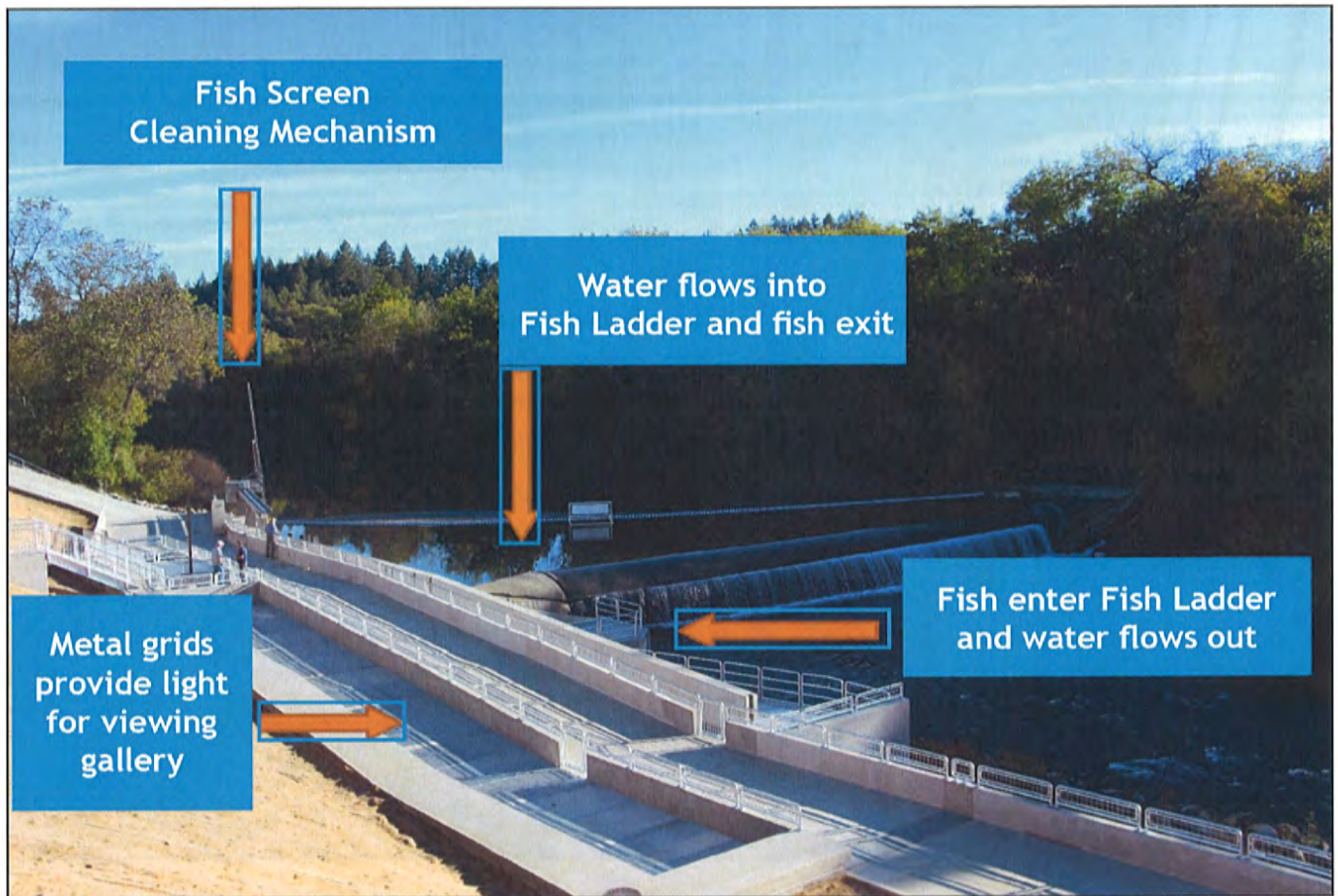
Fish Ladder: Replacing the fish screen offered an opportunity to upgrade the fish ladder on the north side of the inflatable dam. The new fish ladder is a vertical slot fish ladder. Vertical slot fish ladders are commonly used for salmon and steelhead (among other fish species) throughout the world. The vertical slot fish ladder consists of a sloped, reinforced concrete rectangular channel separated by vertical baffles with 15-inch wide slots that extend down the entire depth of the baffle. The baffles are located at even increments to create a step-like arrangement of resting pools. (See illustration above for concept)

Viewing Gallery: The construction of a new, modern fish ladder offered the opportunity to develop a viewing gallery

that would allow fisheries staff to more easily and safely count and identify fish. The viewing gallery also provides a window into the Russian River for the thousands of school children who annually visit the site as part of the Water Agency's award-winning Water Education Program. (See photo on first page)

WHAT YOU SEE

- From the levee, looking to the left (upstream of the rubber dam), there is a large metal "arm" with a brush. This automatically cleans the fish screens, which are located in the water directly below the brush.
- To the right of the fish screens is the upstream entrance/exit of the fish ladder. Water flows through this entrance, and this is where fish migrating upstream exit the ladder.
- Immediately below the inflatable dam is the downstream exit/entrance to the fish ladder. Fish migrating upstream enter the ladder here, as the water flows out.
- The large metal grids in the middle of the structure provide light to the viewing gallery.



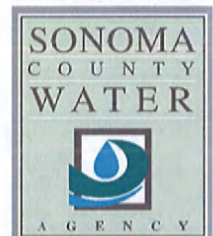
ADDITIONAL FACTS

- More than 2,800 cubic yards of concrete was used in constructing the Russian River Fish Ladder and Viewing Gallery.
- 70 piles (concrete-filled underground columns) go far below the river's surface to make sure the Fish Ladder and Viewing Gallery is secure.
- During the two winters of construction, the site was flooded six times. Each time, workers had to dig out tons of mud and use large pumps to dry the site.
- During most winters, the entire structure will be inundated by water. When the first big storm is predicted, Water Agency maintenance and fisheries crews will remove anything that isn't permanently attached to the structure and close it down for the winter. In the spring, when river flows go down, the entire structure will be cleaned and re-opened.
- Because the structure is located in the midst of the Water Agency's supply system, it is only open to the public during frequently scheduled tours. Go to Public Tours to sign up.



FUNDING

This project was paid for by the water ratepayers of the cities of Cotati, Petaluma, Rohnert Park, Santa Rosa and Sonoma, the Town of Windsor, and the North Marin and Valley of the Moon Water districts. Funds were also provided by the California Department of Fish and Wildlife, Fisheries Restoration Grant Program (through Pacific Coast Salmon Restoration Fund) and National Oceanic and Atmospheric Administration (NOAA) Fisheries.





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Governor Brown Appoints Doduc, Esquivel to State Water Board

Submitted by Pamela Martineau on Wed, 03/15/2017 - 2:23pm

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 [water-boards.jpg](#) [4]

Gov. Jerry Brown today announced the appointment of Tam Doduc and Joaquin Esquivel to the State Water Resources Control Board. Doduc is a reappointment and Esquivel is a new appointment to fill the seat of retiring Board Member Fran Spivey Weber.

Both appointments require Senate confirmation.

Doduc, 50, has served on the State Water Board since 2005, and in several positions at the California Environmental Protection Agency from 2000 to 2005. At Cal EPA, she served as deputy secretary for environmental quality, assistant secretary for air and chemical programs, assistant secretary for agriculture and chemical programs and assistant secretary for technology certification.

Doduc was an air resources engineer at the California Air Resources Board from 1997 to 2000 and served as special assistant to the secretary at Cal EPA from 1995 to 1997 and from 1993 to 1994. Doduc also was a water resources engineer at the State Water Board from 1994 to 1995 and from 1989 to 1992. She has been a registered professional civil engineer since 1995.

Doduc earned a Master of Business Administration degree from the University of California, Berkeley School of Business and a Master of Science degree in civil engineering from California State University, Sacramento. She is a Democrat.

Esquivel, 34, of La Quinta, has served as assistant secretary for federal water policy at the California Natural Resources Agency since 2015. He served in several positions in the Office of U.S. Senator Barbara Boxer from 2007 to 2015, including research assistant, legislative aide and legislative assistant for water and agriculture issues, and director of information and technology.

Esquivel was a center youth manager for Gay Associated Youth from 2002 to 2004. He is a Democrat.

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Water district to test high-tech meters

By Corey Pride
Marinscope contributor

In a few days, a selected amount of Marin residents will be part of a pilot program tracking their water usage through high-tech meters.

The North Marin Water District is expected to be done Friday installing meters and antennas to enable remote, more accurate meter readings for 200 of its 61,000 customers. The pilot program will test the district's Advance Meter Information System.

The new system is designed to digitally record water usage and transmit it to the water district. Customers will be able to track their water consumption hourly online if the system performs as expected.

"Since 1948 we've been walking the streets of Novato to get a manual reading, this will allow us to avoid that," said David Bentley, the water district's auditor-controller.

Bentley said 200 customers who live in 20 areas where it is difficult to get a signal were chosen for the pilot project.

"It'll be interesting to see if we can get a reading in those areas," he said, adding that the vendors of the new meters have assured him they will work in remote areas.

North Marin Water District wants to install the meters throughout its coverage area within two years, but wants to make

sure the new technology works.

"That's why we are doing a pilot program, to determine what the hiccups are," said Chris DeGabriele, general manager of the district.

The meters are also expected to determine if leaks exist. If so, customers will be notified via phone call, text or email.

District officials said currently

meters are read in two-month intervals, delaying the time it takes to discover a leak.

DeGabriele said there are no plans to lay off meter readers, but their job duties will change.

"I don't expect it will change staffing numbers, but there will be a heavier concentration on customer service," he said.

The pilot program will last at least six months, according to the North Marin Water District.

Corey Pride can be reached
at cpride@marinscope.com.

Novato
Advance
3/15/17

Marin's dams deemed safe

OROVILLE-LIKE THREAT WON'T OCCUR LOCALLY

By Chris Rooney
Marinscope contributor

"Our dams and spillways are in good condition," reported Marin Municipal Water District Communications & Outreach Manager Lon Peterson after local waterways were subjected to extensive inspections.

The MMWD manages seven reservoirs to capture and store 75 percent of the water supplied to customers and they are all involved within a comprehensive Dam Safety Program to ensure they are safe and functioning properly.

As part of this program, every year MMWD jointly inspects each dam with the Division of Safety of Dams under the California Department of Water Resources. The most recent field visit by DSOD took place in early February and the latest reports confirm that all of MMWD's dams and spillways are safe and reliable.

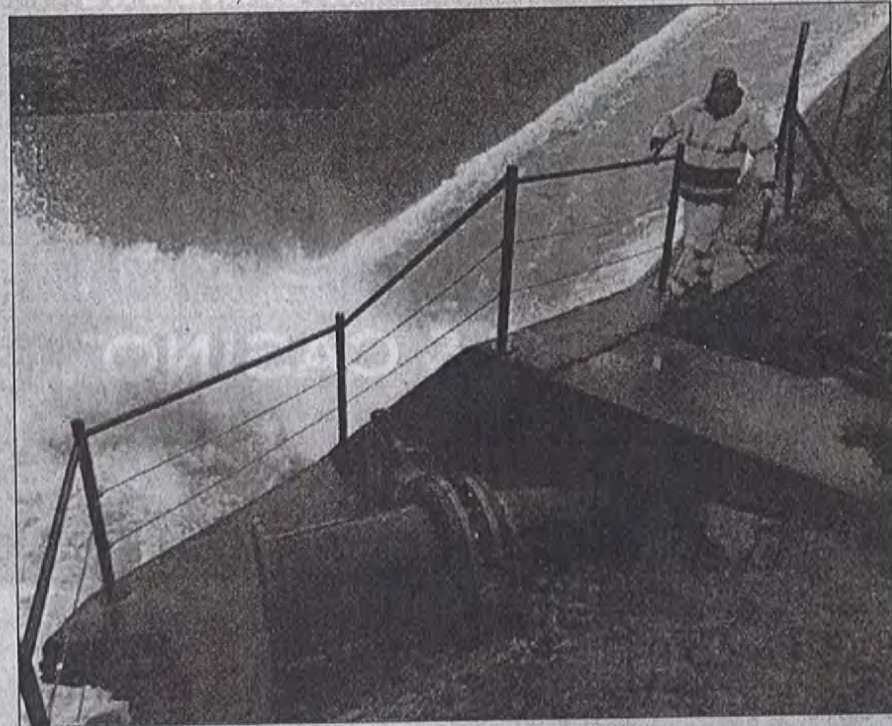
The reports from northern Marin were equally reassuring.

"The State Division of Safety of Dams inspector performed his annual inspection of NMWD's Stafford Lake — aka Novato Creek — Dam during his same trip to inspect MMWD facilities in early February," said North Marin Water District Assistant General Manager Drew McIntyre. "The conclusions from his NMWD inspection report state that the dam is

judged safe for continued use. NMWD continually budgets funds for preventive maintenance work and instrumentation upgrades to ensure the dam remains in good condition and is safe to operate."

Peterson said the MMWD employs vegetation control, exercising valves (turning on and off to ensure functionality) every six months and checking the piezometers once per month in order to keep an eye on — and thwart — any po-

► Dam | A2



Marin Municipal Water District's reservoirs hold about 30 billion gallons of water.

Novato
Advance
3/15/17

From A1

tential problems.

"In addition to the annual DSOD inspections, MMWD's Dam Safety Program includes monitoring, routine inspections and maintenance and emergency preparedness and response planning," Peterson said. "There are no upgrades needed or planned at this time."

MMWD's reservoirs are Phoenix, Lagunitas, Bon Tempe, Alpine and Kent on Mt. Tamalpais, and Nicasio and Soulajule in west Marin. Together, they hold 79,566 acre-feet of water, or about 30 billion gallons.

The 2017 reports are available at marinwater.org/DamSafety

While local dams are looking safe, the drama that unfolded at the Oroville Dam — a 770-foot structure holding back Lake Oroville about 75 miles northwest of Sacramento — hasn't gone unnoticed by state lawmakers.

The massive rainfall that severely damaged the tallest dam in the United States and forced the evacuation of nearly 200,000 Californians is sparking interest in fixing flood-protection infrastructure.

After years of drought, California has been drenched by rain this winter, and storm rains threatened to flow over the top of the massive dam.

The immense rainfall and the heavy flows of water it caused damaged the dam's main spillway, causing a 250-foot long, 170-foot wide and 50-foot deep hole to open up in the spillway. Operators then had to open an emergency spillway, the

first time it had to be used since the dam opened in 1968, but it eroded at such an alarming rate that authorities ordered three counties downstream to evacuate.

Obviously, there are no local comparisons in Marin to those in Oroville, but staying on top of dams and waterways is still an ongoing mission.

The MMWD dam safety website says the agency "continuously monitors conditions at the dams and spillways to ensure they are functioning as intended. Instruments placed on and in the dams track and record parameters such as water seepage, dam movement, and water pressure. MMWD engineering technicians also perform monthly visual inspections of each dam. In addition, MMWD rangers tour the dams frequently — often daily during rainstorms — and live onsite at Phoenix, Alpine and

Soulajule dams. Other routine visits are made by maintenance and water quality lab personnel."

Some assistance in maintaining the dams may be forthcoming.

Gov. Jerry Brown announced plans to invest millions of dollars in flood-control measures, improve dam inspections and require all state-regulated dam owners to have plans in place to deal with emergencies.

More than half of California's 1,585 dams were built before 1960, according to the Army Corps of Engineers' National Inventory of Dams.

The state plans to redirect \$50 million from the general fund for near-term flood-control efforts, Brown said. Pending approval from the Legislature, an additional \$387 million will be appropriated from funds generated by Proposition 1 — a water bond passed in 2014.