

1 **S. DEAN RUIZ, ESQ., SBN 213515**

**HARRIS, PERISHO & RUIZ**

2 Brookside Corporate Center

3439 Brookside Rd. Ste. 210

3 Stockton, CA 95219

4 Telephone: (209) 957-4254

5 Facsimile: (209) 957-5338

Email: dean@hprlaw.net

6 **JOHN HERRICK, ESQ., SBN 139125**

7 **Law Office of John Herrick**

8 4255 Pacific Avenue, Suite 2

9 Stockton, California 95207

10 Telephone: (209) 956-0150

11 Facsimile : (209) 956-0154

12 Email: jherrlaw@aol.com

13 **Attorneys for Central Delta Water Agency,**

14 **South Delta Water Agency (Delta Agencies),**

15 **Lafayette Ranch, Heritage Lands, Inc.,**

16 **Mark Bacchetti Farms and Rudy Mussi Investments L.P.**

17 **BEFORE THE**

18 **STATE WATER RESOURCES CONTROL BOARD**

19 **HEARING REGARDING PETITION REQUESTING**  
20 **CHANGES IN WATER RIGHTS OF THE**  
21 **DEPARTMENT OF WATER RESOURCES AND U.S.**  
22 **BUREAU OF RECLAMATION FOR THE**  
23 **CALIFORNIA WATERFIX PROJECT**

24 **TESTIMONY OF RUDY MUSSI**

25 I, Rudy Mussi, do hereby declare:

26 My name is Rudy Mussi and I'm 63 years old. I have a Bachelor of Arts degree in  
27 Government with a minor in Business Administration and I am a farmer. I am also a Protestant in  
28 these hearing as Rudy Mussi Investments L.P. I have been farming for over 40 years in the  
Delta. With family members, I have farmed on Victoria Island, Lower Jones Tract, Union Island

1.

1 and Roberts Island. My brother and I currently farm approximately 2600 acres on Union Island  
2 and 1400 acres on Roberts Island. Most of the land is irrigated from water diverted from Middle  
3 River and also with a small portion irrigated from the San Joaquin River.  
4

5 We have a diversified farming operation. We currently grow grapes, almonds, walnuts,  
6 tomatoes, cucumbers, beans, alfalfa and various grains. Exhibit SDWA 101 shows the locations  
7 of the grape and almonds lands mentioned above. These two crops are irrigated with water  
8 under the following rights: the grapes on Roberts Island under the Woods Irrigation Company's  
9 pre-1914 rights (and riparian rights claimed by the landowners) recently resolved via settlement  
10 during the SWRCB's CDO proceeding involving Woods IC; and the Union Island almonds  
11 under the riparian rights claimed to Middle River and the Delta in general.  
12

13 In order to simplify my testimony, I will limit it to two crops; grapes and in less detail,  
14 almonds. The grapes on Roberts Island are flood irrigated and the almonds are irrigated with  
15 micro sprinklers. Even though I chose to highlight 2 crops, all the crops that we farm have their  
16 challenges because of the poor water quality and sodium buildup. We have 225 acres of  
17 chardonnay grapes which were planted in 1994. The field is flood irrigated with water provided  
18 by Woods IC. Woods, with the use of canals which in prior years were sloughs, provides water  
19 to this parcel from Middle River. The grapes, which have a relatively high water table, generally  
20 receive only 3 irrigations a year; June, August and October. But during the last 5 years of  
21 drought, we have added a flushing irrigation in February to saturate the soil profile as to facilitate  
22 the leaching of sodium beyond the root zone with the help of winter rains. This is later than we  
23 would have liked but because of poor water quality at Wood's pumps, we have been unable to  
24 irrigate earlier than February. In some years, we have had to delay the irrigations into late March  
25 when a window of better water quality opened up.  
26  
27  
28

1           The management of sodium left behind by poor water quality has been an ongoing  
2 challenge for us. We have employed Brent Foster specifically for the past twenty years, to help  
3 us manage the challenge. Brent Foster is a Certified Crop Advisor and an owner in Total Soils  
4 Solution. Brent does annual soil and leaf sampling. This soil and leaf sampling indicates the  
5 grapes are being stressed by salts. In addition, Brent has done VERIS soils mapping for us  
6 which highlights the problem areas. He has helped us institute a program where we chemically  
7 treat the irrigation water with N. Phuric. N. Phuric reduces the PH of the irrigation water which  
8 facilitates the leaching of sodium. We apply 15% more potash than required by the grapes as to  
9 prevent them from up-taking sodium which the plant has difficulty distinguishing. We also apply  
10 various forms of soil amendments; lime, sulfur and gypsum, as needed. As problem areas have  
11 surfaced and chemical remediation hasn't sufficed, we have added tile drain lines in those areas.

12           We estimate the cost of the program mentioned above to be about \$250.00 an acre in  
13 additional costs per year because to the poorer water quality. The \$250.00 an acre expense does  
14 not take into account the reduced crop harvested from this parcel. In areas we see a reduction of  
15 crop greater than 30%. The VERIS soils mapping confirms what is visually apparent to us. In  
16 these areas, the wood on the grape vine is smaller and costlier to prune. The vegetative cover is  
17 lighter, many of the leaves have dried, resulting in sunburnt and shriveled grape bunches.

18           Our 80-acre almond parcels on Union Island are also irrigated from water diverted from  
19 Middle River. The water quality and issues are similar to those of Woods Irrigation Company  
20 and the water that it diverts for its members. In addition to these water quality problems, the lack  
21 of water elevation in the River presents a problem by adversely affecting our ability to pump  
22 water just as it does also for the members of Woods Irrigation Company. The lack of water  
23 elevation has impacted the timeliness and efficiency of water deliveries to the crops. These

1 water level problems have occurred during times when the rock barriers are in and when they are  
2 out. It is my understanding that the operation of the barriers is controlled by fishery issues and  
3 not just the need to protect us from water level problems caused by the state and federal export  
4 pumps. Whether we get adequate irrigation water when needed, any water not consumed by the  
5 crop is returned to the Delta via drainage canals and pumps.  
6

7         The almonds were planted in 2011 and 2012 with a micro sprinkler irrigation system.  
8 We rely on moisture sensors and crop consumptive use (ETo) to gauge our irrigations. We took  
9 a proactive stance because of prior experiences and began treating the soil even before the crop  
10 was planted. Experience has taught us, by being proactive we can better manage the sodium  
11 issues. We applied 2 tons of lime, worked the soil, flood irrigated the soil and deepened the  
12 drain. Again we employed Total Soils Solution and also had Veris soils mapping done to map  
13 our problem areas. The fertilizers we use are sulfate based; potassium sulfate, zinc sulfate,  
14 ammonium sulfate and etc. and we avoid muriate based products. We have used with the micro  
15 sprinklers, liquid soil conditioners and wetting agents to help avoid the buildup of sodium and  
16 enhance leaching beyond the root zone. We have put in place the ability to treat the irrigation  
17 water as needed. We have kept our flood irrigation system in place should we need to do a  
18 winter flushing irrigation. We also have a tile drain system installed with the capability of  
19 expanding it as needed. We do annual soil and leaf sampling.  
20  
21  
22

23         In both cases, with the remedial or proactive approach, costs are significantly higher. If  
24 the salinity levels increase further, the costs of both approaches will be prohibitive. Not only  
25 with these crops, but with all the crops that we grow, salinity in the irrigation water in Middle  
26 River greatly affects our ability to profitably farm. As the salinity of the water increases, the  
27 ability to remediate the detrimental effects on the crops, greatly decreases. If the impacts of  
28

1 saline irrigation water and decreased water levels continue, 150 plus years of farming in the  
2 Central and South Delta will have been lost. Gone also will be the habitats for fish and wildlife.

3 As the State Water Resources Control Board is well aware, the salinity standards in the  
4 southern Delta are regularly violated with no consequence to those responsible for compliance  
5 (DWR and USBR). The consequences of those regular violations are the increased expenses and  
6 costs as well as decreased profits experienced by in-Delta farmers. Any increases in salinity in  
7 our area resulting from the Petition (the proposed twin tunnel project) will undeniably harm us.  
8 Any further lowering of water levels resulting from the Petition will also undeniably harm us.  
9

10 Executed on this 30th day of August, 2016, in Stockton, California  
11

12   
13 Rudy Mussi  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28