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SHR-108

BEFORE THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

HEARING IN THE MATTER OF CALIFORNIA DEPARTMENT OF WATER RESOURCES AND UNITED STATES BUREAU OF RECLAMATION REQUEST FOR A CHANGE IN POINT OF DIVERSION FOR CALIFORNIA WATER FIX

TESTIMONY OF NICOLE S. SUARD, ESQ.

I, Nicole S. Suard, do hereby declare:

## I. INTRODUCTION

I am an owner-attorney representing Snug Harbor Resorts, LLC, a waterfront ten acre marina and RV/MH park permitted under several and various county, state and federal agency permits, for recreation and residential uses. The resort relies on two public-use permitted drinking water wells and a water treatment system. For irrigation of landscape and fruit trees onsite, and in case of fire emergency, we utilize two to four small slough pumps, usually only during dry months. I have helped manage the resort water system for 18 years. Resort is located on the southern half of the peninsula located off Ryer Island, on Steamboat Slough, approximately 4.5 miles north of the confluence of Steamboat Slough with Cache Slough and the Sacramento River. The land was first recorded as a land grant in Solano County in 1876, after the 1875 survey of the adjacent islands. I have old maps and records showing property uses and descriptions dating from 1850. I have maps from the 1880s to 1910s showing locations of North Delta area parcels, structures, pumps and landings. I have photos from the 1930s showing use, and in the 1940s the RV Park was developed along with many residential parcels north of the park along Snug Harbor Drive. Snug Harbor Resort was named “Best Small Park of California” in 2001 by the California Travel Park Association, which is the first time a Delta-area park received the top honor for small parks. The Snug Harbor peninsula also contains 28 individually-owned residential parcels, and neither the resort attorney-representative nor myself as an individual and/or attorney represent the interests of the residential owners located along Snug Harbor Drive.

I am also a map collector and Delta historian, and have an extensive collection of original historic maps of the Delta and California. In particular, I own complete sets of the 1908 survey of the Sacramento River and San Joaquin River conducted at the request of the US House of Representatives. Over the years, I have had the more historic maps scanned and have submitted the maps to free online resources for viewing by others who wish to understand California’s mapped history. I have also collected over 40,000 documents related to California history, with a focus on water conveyance, and have most of those documents posted by year and by issue at an online archival and educational resource website. Many of those documents are in hard copy format and had to be scanned and converted to jpg or pdf for viewing online.

I am submitting this written testimony in support of Snug Harbor Resorts, LLC protest of the proposed diversion of Sacramento River water from the North Delta, under the current project name of California WaterFix. I believe the government organizations and individuals who represent Petitioners in this hearing have failed to adequately consider water quality impacts to surface waters and also drinking water aquifer of the thousands of legal water users within and nearby the Delta.

When given the opportunity to present my case, I will discuss and present evidence regarding the following important topics, all related to drinking water quality for humans and animals, landscape and irrigation water quality, and impacts from water flow quantity reduction. My testimony may be divided between serving as a witness on behalf of Protestant North Delta Cares, as well as on behalf of my own business and land ownership at Snug Harbor. I will present evidence based upon the following assertions:

1. DWR failed to use adequate available modeling tools to assess the impact. Computer Models presented by DWR own admission are course, and should not be used to predict outcomes. CALSIM II is outdated with its last update over 14 years ago, and is based on flow data developed over 16 years ago. Changes to the rate of flows into the Delta, the timing of flows, the quantity of flows and quality of water entering the Delta has changed substantially since the last update of CalSim II, rendering the model moot. This hearing process should be halted until such time as Petitioners can produce a set of models and the baseline data that has been scientifically reviewed and verified, and such data would be made available to all interested parties in a readily readable format. In addition, DSM2 is also outdated because substantial modifications to Delta waterways have occurred since 2010 which are not reflected in the bathymetry of DSM2. In fact, as will be shown by evidence presented, changes to the hydrodynamics in the Delta and North of the Delta in particular have already caused a decline in drinking water quality in the Delta, which will be exacerbated by the soil disturbance from drilling for tunnel assessment, tunnel and intake building and also diversion of more flows from the Sacramento River.
2. DWR computer modelers acknowledge assessment of specific areas of the delta, particularly Steamboat Slough, Sutter Slough and the Sacramento River downstream of proposed intakes, but failed to provide the basis for the "no harm" statement despite repeated requests over a number of years. One DWR witness said he had "looked at modeling", but DWR did not provide the data that was reviewed by the modeler, upon which the DWR witness made his assumption. In addition, DWR/USBR withheld pertinent data developed in BDCP process which indicates substantial negative impact to water quality in the North Delta and West Delta, at a minimum, which is in conflict with statement by modeler. In fact the BDCP modeling results, dated after the last update of DSM2, indicates substantial reduction in flow and water quality downstream of intakes, specifically impacting Steamboat and Sutter Sloughs, and on the Sacramento River below intakes. As to impacts to the North Delta waterways, comparing between BDCP and CWF there is no impact difference, as both projects call for diversion of Sacramento River water north of Steamboat and Sutter Sloughs. Therefore impact assessment provided by DWR-BDCP own staff is still applicable, but was not disclosed by CWF modelers. Evidence of BDCP modeling for 9000 cfs or more of diversion will be reviewed during my testimony.
3. Petitioners DWR and USBR fail to assess or recognize impacts to shallow drinking water aquifer, despite this issue being raised to the exact same DWR computer modeling staff several years ago in the CALFED-BDCP process. Petitioners do not even appear to be aware of the thousands of persons who rely on the drinking water aquifer of the Delta, and Petitioner's case recognized harm to a total of 18 drinking water wells with no evidence offered to support Petitioners assumption the rest of the drinking water wells will avoid the degradation from construction disturbance of the soils, and later the concentration of minerals likely due to reduced aquifer recharge if the project is operational. Maps and historic data shall be provided to establish the fact there are legal drinking water wells in and around the proposed project that were not considered by or in Petitioner documentation for this hearing. Pretending we do not exist is not a valid reason upon which to stake a claim of 'no impacts'. In fact, actions already approved by Waterboards, or ignored by Waterboards, has already caused substantial degradation of Delta drinking water aquifers, resulting in substantial increase in operations and maintenance costs for many of the

affected public and private drinking water wells in the Delta. CWF documentation recognizes impacts to a few drinking water wells in the direct physical path of intake construction, then ignores the impacts to drinking water wells along the physical pathway of the tunnels. CWF also ignores the impacts to drinking water aquifer from soil disturbance which is known to increase incidence of natural constituents such as arsenic, boron and manganese. Offered as proof are public drinking water well records and official drinking water aquifer studies by USGS which show that beginning during the CALFED period, but sometime after 2007, water flows and hydrology changed so much within the North Delta region such that public drinking water wells that were in compliance with MCL for Arsenic showed substantial increase of this constituent, therefore decrease of drinking water quality, which can only be attributed to changes of flow and physical construction actions in the area. This is a known issue in the state, which arose after the last recalibration of CALSIM II, and after the last recalibration of DSM2, and therefore renders use of CALSIM II and DSM2 moot for assessment of drinking water quality impacts from CWF. In addition, since DSM2 flow data is based upon CALSIM II, it is also therefore inadequate to fairly assess impacts to drinking water aquifer, even if DSM2 were updated to include accurate bathymetry and input of current toxic constituency data.

4. Hydrology above and below the Delta impacts or influences water quality within the Delta. DSM2 does not appear to analyze the changes to hydrology north of the Delta proposed intakes, which include new diversion from the Delta via the Folsom South Canal, new or expanded diversion from the Sacramento River from at least nine new intake facilities built since CALSIM II recalibration. In addition, other changes in bathymetry within the Delta appear to have resulted in a substantial increase in diversion into the Central Delta and the export pumps via modified Delta Cross Channel gate operations, modified Georgiana Slough operations, installation or operative creation of subsurface flow diversion structures, all designed to facilitate drawing additional Sacramento River flows towards the export pumps in the South Delta. Constituents of concern for both surface water quality and drinking water aquifer quality include salinity, mercury, arsenic, boron, and more. Based on a comment paraphrased by SWRCB writer, .imported water is considered to be a major source of salt. In water year 2010, 45 percent of the surface water used in the San Joaquin Valley was imported from the Sacramento-San Joaquin Delta through the Delta Mendota Canal, Folsom South Canal, and California Aqueduct (DWR). In an average year, more than 800,000 tons of salt are imported from the Sacramento-San Joaquin River Delta Estuary (Delta) into the northern portion of the San Joaquin Valley, and another two million tons of salt are imported into the Tulare Lake Basin. Southern California also imports significant water supplies from the Delta. I will present testimony which demonstrates that starting by or before 2010 there was a shift in volume of exports, or a decline in diversions into the Delta region, which has resulted in the current decline of drinking water aquifer, and which would be substantially exacerbated by construction and operation of any conveyance that diverts from the Sacramento River unless the diversion would be located at or near the confluence with Sacramento and San Joaquin Rivers.
5. Petitioners fail to recognize or assess the impact on the surface and groundwater quality as turbulent flows are flushed down the Sacramento River during the pulse flows. Pulse flows water quality appear to be substantially reduced compared to quality of water found on the Mokelumne River at the same time frame. Unusually high amounts of sediment appear to be inserted into Sacramento River flows above Steamboat Slough, that are not found in the Mokelumne River at the same time. This may be one factor in the increase of damaging mineral content that has been affecting the drinking water aquifer of the North Delta, and will continue to do so until SWRCB provides adequate fresh water flow from the Sacramento River into the Delta.

6. State water code requires that SWRCB report to the public how much fresh water flow is diverted from each river annually and how much is diverted for various purposes. However, since 2000 the state has failed to provide such data in a consistent manner. Evidence shows that DWR posted online water flow and export data based on CDEC and DayFlow data available to the public, that was posted online in 2014 as part of the CA 2013 Water Plan Update. When the data was questioned by the undersigned protestant, DWR changed the data online providing no errata statement or notice to others that previous data was not correct. Undersigned protestant saved screen prints of the first set of data, the first subsequent change to the data in 2014, a screen print of data changed yet again in August 10, 2016 and as of August 29, 2016 the link to the data provides yet another changed set of data. However, the graphics from the 2013 CWP update appear to reflect the data of the first screen print. In other words, DWR corrected a table but not the rest of the document and as of 8-26-2016, the last time protestant downloaded the full version of the 2013 WPU, the content graphics still reflected the incorrect data of the first screen print. All this is important because it shows a pattern of failure to comply with state code and a failure to provide the public with accurate flow and export data, within a reasonable timeframe. As of filing of this statement, I have not been provided an update of actual Delta inflows and exports, despite repeated requests for such data. The fact that DWR has repeatedly changed flow data is also important because it indicates any computer models that purports to estimate impacts from future changes in flow and water quality in the Delta, if any flow data was used for the period between 2000 to 2010, would be based either on the incorrect data posted by DWR, or else based on correct flow data withheld from the public by DWR. Regarding the question of how much fresh flow from the Sacramento River is currently being diverted through the Delta Cross Channel and Georgiana Slough, DWR witness response was never clear, and protestant was directed to download data from CDEC website. However, protestant showed examples of gaps in data discovered at the CDEC website, which would result in incorrect assumptions and computations of actual flow and exports from the Sacramento River. To date, the question has still not been adequately answered.
7. During this hearing process, on 8-19-16, SWRCB WaterFix hearing Chair, Ms. Dudoc, directed DWR attorney and modelers to provide specifically requested data, on a simple chart provided by myself during cross examination of operations panel. DWR attorney Mitzell and modeler Tera Smith provided a chart, but not actual flow data, which was provided less than 24 hours prior to protestant opportunity of cross-examine witnesses. Data provided by DWR representative did not answer what were simple questions regarding existing actual flows and projected split of remaining flows below proposed intakes. The inadequacy of the response by DWR of the directive by SWRCB Chair is best described as an example of DWR refusal to provide even basic and required readable data to the public. I do appreciate the effort made by DWR staff. However, the information provided was not what was asked, as shown from a comparison of the chart protestant provided to be completed, and the resulting graphic display that does not provided detailed numbers of flow splits between the waterways below the proposed intakes. Protestant had asked for flow and export data because that data is not available online line in a consistent and readable format, and in order for anyone to make an informed decision on the impact of a future project one must first understand the current flow and export patterns that have been causing so much damage to the Delta area in the last six years or more. DWR attorney and modelers did not provide current or recent flow and export data, and instead provided a pretty computer graphic based upon baseline flow data not defined in the graphic, based on a time frame not defined in the graphic. However, graphic is useful as a comparison tool, to compare the historical records which will be presented as testimony evidence.

8. Undersigned protestant has been attending Delta-related meetings since 2008. Protestant has observed the many name changes for the same plans, and observed a parade of false data published about Delta history by DWR and its consultants URS, ICF and others. Protestant has noticed a pattern whereby unnamed parties would provide to consultants specific data upon which to base a technical study, and the consultant only used that baseline data for the study. Outcome was predetermined by the baseline data used. The pattern observed has been continued to the CWF process, whereby an unnamed individual or business provided data to computer modelers who were not informed of hydraulic changes that may have an effect on outcomes. DWR/USBR choose to not allow the parties who developed the baseline data to be witnesses in the hearing, and therefore in effect are withholding the developers of the baseline data for the study. This has created added cost for each protestant who wishes to question the person(s) who developed and/or handed the baseline data to modelers, and appears to be an intent to withhold important data from SWRCB board members and Protestants alike. As one example, after it was proven to DWR staff that a flow barrier exists at the north end of Steamboat Slough, DWR staff provided protestant with a series of bathymetry study results which indicated a gradual buildup of what DWR witness termed a "sandbar". It may be shown that one factor in the decrease in water quality on Steamboat Slough is the subsurface flow barrier that blocks flow but not recreation navigation. The "sandbar" , made of revetment rock in part, has been blocking flow into Steamboat Slough, reducing a 19 foot deep entrance to a 10 foot deep entrance, at low tides, and this condition started perhaps sometime after 2008 with noticed impacts starting in 2010. Yet despite DWR acknowledgment of the flow barrier, its existence was not apparently modeled into DSM2 per modeler testimony, even though other waterways of the North Delta were updated for DSM2 in 2009 according to documentation. In fact, the existence of the subsurface flow barrier was not apparently disclosed to, or not recognized by, scientists conducting salmon migration and water quality impacts testing, thereby influencing outcomes of those tests inappropriately. Note that protestant has physical evidence the "sandbar" was at least partially created by use and placement of revetment rock, what appears to be poured-in-place cement, and sometime thereafter a narrow channel through the subsurface flow barrier was dug to allow a small trickle of additional cooler water flow into Steamboat Slough. During this same time period, flow from Sutter Slough that would naturally have arrived at the confluence with Steamboat Slough instead was diverted into Miner's Slough. Historical flow data from DCEC, DayFlow, shows a flow pattern change and indicates use of a flow diversion structure just downriver from the junction or confluence of Sutter Slough with Miner's Slough. This change in hydrologic pattern does not appear to have been included in the DSM2 update either.
9. Petitioners have failed to address the impact to water quality from the very substantial amount of water that has been contained in the Liberty Island area, which was at least partially updated in DSM2 and listed as a "reservoir". DWR modelers have stated that hydrologic pressure or flow changes related to the Liberty Island reservoir will help to reduce possible reverse flows on the Sacramento River from proposed intakes, yet fails to clearly describe the physical properties upon which to base that assessment. In addition, review of the elevations and water depth of that reservoir indicates DSM2 used incorrect physical properties for the modeling. Currently at low tides, the reservoir is at least ten feet deep and is between 4000 and 5000 acres of surface area, with more shallow water spreading up towards the north. This represents 50,000 acre feet of fresh water that has changed hydraulic patterns of the waterways of Steamboat Slough and lower Sacramento River between Isleton and Walnut Grove, impacting water quality, groundwater quality, and flood control at a minimum. While DSM2 recognizes the existence of the Liberty Island "reservoir", DSM2 needs to be recalibrated to reflect actual water

depth, actual surface water and quantity, and there needs to be an assessment of how the actions of CALFED-BDCP may have affected drinking water quality in the surrounding area. In other words, DSM2 modelers were not provided with enough current flow and hydrodynamic data to be able to asses with any reasonable certainty that proposed additional diversions from the Sacramento River won't impact either surface drinking water quality or groundwater drinking water quality in the entire North Delta region.

10. Finally, I will testify to the impacts of just one small recreation and residential area of Steamboat Slough, using resort well and water records, to demonstrate the real life impacts to others from construction and restoration actions that are ongoing under BDCP/WaterFix/EcoFix programs. We are in an area where sometimes there is too much water, sometimes not enough water, and any changes to hydraulic patterns upstream or downstream of us negatively impacts us, especially our drinking water quality. I testify to and show evidence of the costs and social impacts from changes associated with water quality, water rights, as well as flood impacts, low flow impacts, traffic hindrance affecting human safety, loss of business income, and more, all of which will be noted in future portions of this California WaterFix hearing process.

I declare, under penalty of perjury, that I will testify and provide proof of my testimony, to the best of my abilities.

Signed: *Nicole S. Suard, Esq.* 8-30-16