

1 Mr. Oscar Biondi, Water Quality Certification Program
2 Division of Water Rights
3 State Water Resources Control Board
4 PO Box 2000
5 Sacramento, CA 95812-2000

April 15, 2014

6 Public Comments regarding proposed Emergency Drought Barriers Project on Steamboat and Sutter Sloughs
7 Submitted by Nicole S. Suard, Esq., Managing Member, Snug Harbor Resorts, LLC
8 3356 Snug Harbor Drive, (on Snug Harbor peninsula located on Steamboat Slough)
9 Walnut Grove, CA 95690 (916) 775-1455 sunshine@snugharbor.net

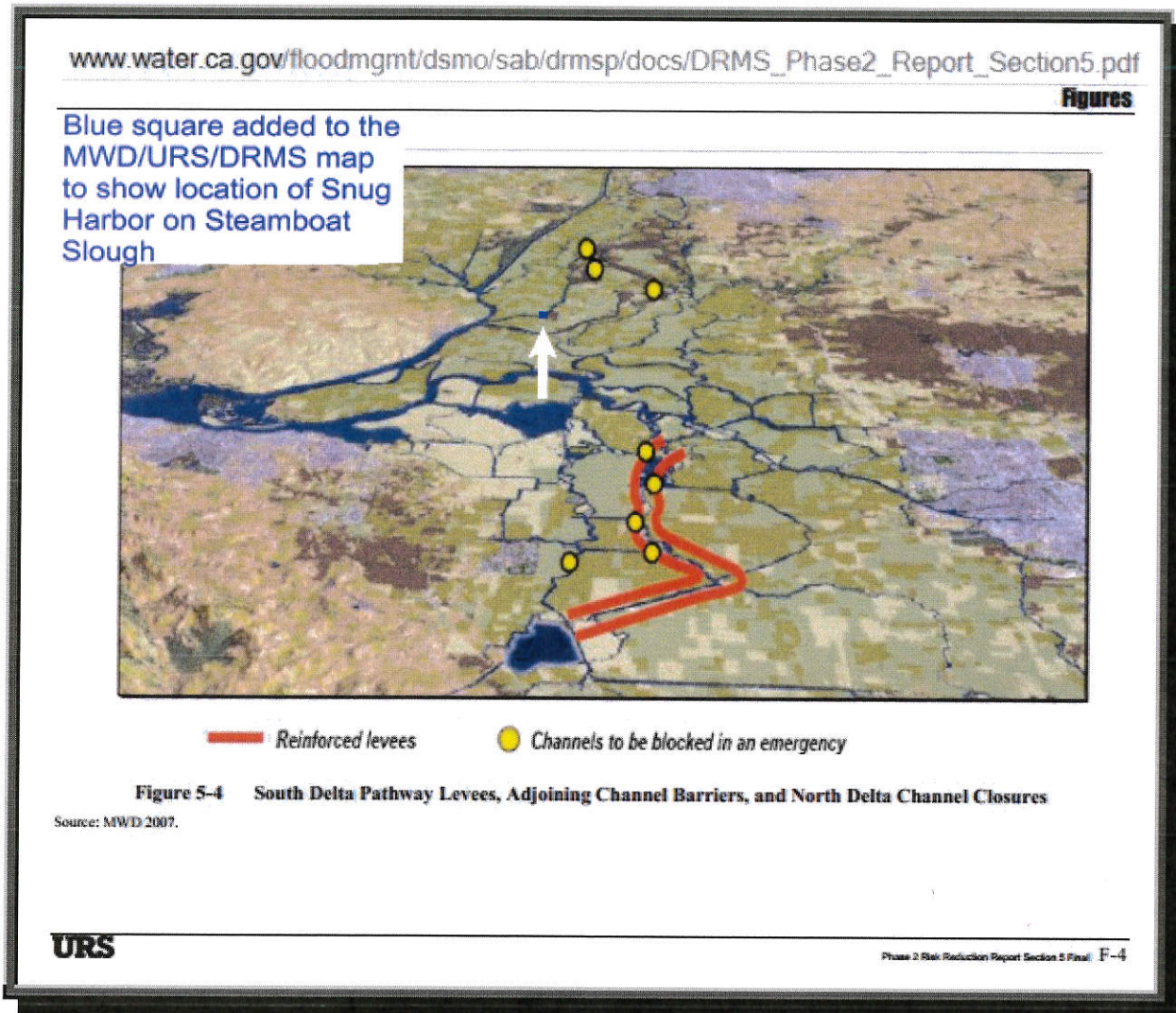
0 Dear Mr. Biondi,

1 This letter is written to state my objections to the proposed barriers for Steamboat and Sutter Sloughs,
2 based on the limited information that has been provided to date on the possible effects to drinking water
3 quality for landowners, businesses and persons located along the lower end of Steamboat Slough, as well as
4 the potential impacts to irrigation water quality for the farmers that irrigate from the subject waterways.

5 My land and business are located water-side, off Ryer Island on Steamboat Slough on the peninsula called
6 Snug Harbor, along the roadway officially named "Snug Harbor Drive" in 1985. However, your map or
7 locations records may call the peninsula "Martin's Island". The Snug Harbor peninsula is located
8 approximately 4.5 miles north of the confluence of Steamboat Slough with Cache Slough/Sacramento Deep
9 Ship Channel. Historically, Steamboat Slough has been referenced as one of the tributaries of the Sacramento
0 River and was considered the primary route for steamboat navigation between San Francisco and Sacramento
1 during California's gold rush period. The Snug Harbor peninsula is located in Solano County and has 28
2 private home parcels and the resort property. Resort property encompasses roughly the southern half of the
3 peninsula and is one of the popular waterfront Delta recreation locations for boating and fishing families since
4 the early 1940s when the first home parcels were sold and the "trailer park" was first permitted. There have
5 been substantial permitted improvements to the resort over the years, such that in 2001 the resort was
6 named the "Best Small Park of California" by the CTPA, the state association at the time for all privately-
7 owned RV parks and campgrounds. Besides the RV camping facilities, there are covered and open berths,
8 boat launch, gas dock, seasonal store, modular homes and lots and some of the RV sites utilize park model RV
9 cottages a vacation rentals. Park operations are permitted through various agencies including HCD, USACE,
0 SLC, AQM, and the many agencies of Solano County. ***This comment is written on behalf of the resort
1 property/business only, although it is safe to say impacts listed herein will affect the residential neighboring
2 homes and families in similar ways.***

3 Below is a screen print map which should help you to locate my property along Steamboat Slough. I added
4 a small blue square to the barriers map created by MWD in 2007. I used a map found online which also
5 references URS and DRMS Phase 2, as the MWD plan seems to be what is being proposed at this time.
6 (Online location of the map was found at the link indicated at the top of map). I believe it helps with
7 understanding of the issues when one considers the location of the property and the actual direct negative

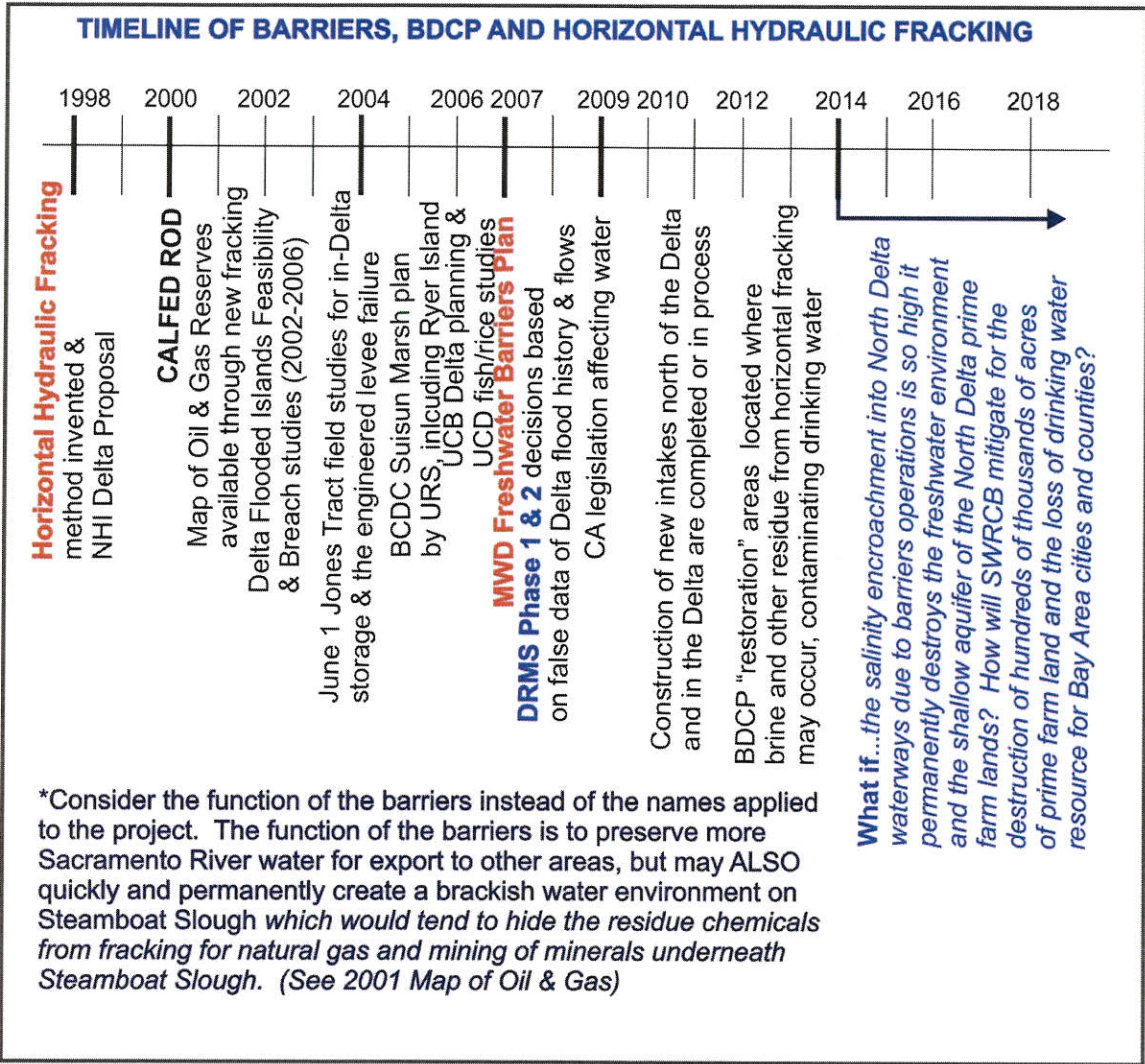
- 1 impacts that are likely to occur as a result of installation and operation as proposed for the barriers on both
- 2 Steamboat and Sutter Sloughs:



3

4 To make sure there is a clear understanding of the timeline of different barrier proposals over the last 10
5 years, I created the following graphic which correlates other plans or actions related to water use and rights
6 statewide. For a more complete timeline with hotlinks to verify the documents or actions noted in the
7 timeline, you can go to <http://deltarevision.com/timeline.htm> I believe it is important to note that increase of
8 salinity in the North Delta may be caused by several sources, not just low freshwater outflow. For example,
9 horizontal hydraulic fracturing or “fracking”, a new method to mine for natural gas and oil since 1998, is
0 reported to be happening in the Delta. Past articles about the impacts to surface and groundwater from oil
1 and gas exploration indicate large quantities of connate, saline water can be produced which may be left
2 behind to disseminate among the tules and “restoration” sites conveniently planned or located on the major
3 reserves of natural gas and geothermal resources found in Steamboat Slough, Grand Island, Yolo Bypass area,
4 Ryer Island and other areas of the Delta. 2001 Map of Oil & Gas reserves noted in timeline graphic below is
5 found online at http://deltarevision.com/2001_docs/2001-oil-gas.pdf and for more detailed information on

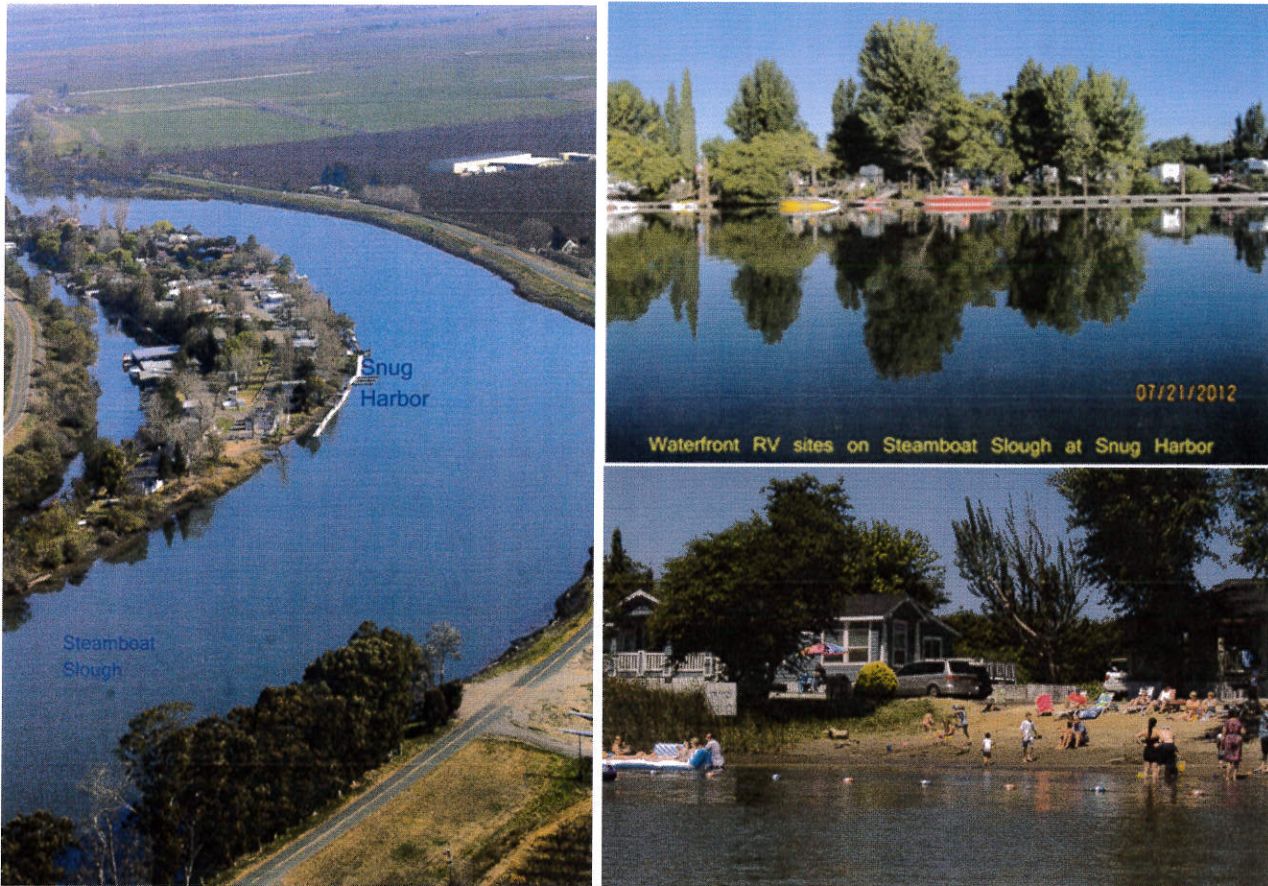
1 the location of new gas wells in the North Delta go to <http://deltarevision.com/maps-surveys/2000-to->
2 [now/naturalgasMap610.pdf](http://deltarevision.com/maps-surveys/2000-to-now/naturalgasMap610.pdf)



3
4 I wanted to point out the fact that the issues regarding land use and water rights in the Delta, and impacts
5 to those water rights, is not affected by the proposed barriers impact on fresh water alone. Any computer
6 modeling leading to decisions that affect the water rights of the North Delta should include the very possible
7 impacts from added salinity due to the fracking process and residue wells. See study by David C. Mitchell,
8 "The effects of Oilfield Operations On Underground Sources Of Drinking Water In Kern County" 1989,
9 Department of Conservation, Division of Oil and Gas, Sacramento.

0 The photos (next page) are provided as a reference so the persons reviewing this comment may understand
1 the location and uses of the resort property, along with the residential parcels along the northern part of the
2 peninsula. Historically, during the main season in the Delta for fishing and boating recreation, from March
3 through November, there are from 20 to over 250 people onsite at the resort property, depending on the time
4 of year and if it is a holiday week end. Besides the resident staff families, there are also leaseholders that are
5 onsite year round and at times we've had liveaboard berthers in the covered berths of the marina. Of the 28
6 residential homes north of resort property on the peninsula, at least 11 of the homes appear to be occupied as

1 primary residents by the owners or their renters. Residential homes and the resort property all are serviced
2 by drinking water wells that could be impacted by encroachment of higher salinity water if the aquifer is
3 affected.



4

5 Please note that my comments will be focused on impact from modification of fresh water flows during the
6 dry time of year, but will also address some of the safety issues should the barriers remain in place during a
7 large late spring storm or early fall storm. I will also address some of the gaps in flow data I found while simply
8 trying to analyze assumed flow splits per another concurrent proposal, the BDCP and its associated
9 documents. You will see that I have many unanswered questions as well as comments based on actual,
0 verifiable “on the ground” experience in the potential impact area:

- 1 Issue: Impact to drinking water well. DWR has provided no assessment or documentation that
2 shows what the impact to shallow and deep drinking water wells will be for the properties along
3 Steamboat Slough. Resort has a newer well installed in 2000 and it is very deep so may not be
4 impacted by surface water with higher salinity content. However, I am aware of neighbors with
5 shallow wells or irrigation systems that could be impacted. Yet this issue is ignored in the DWR
6 documents and the presentations by DWR staff regarding the barriers only talks about water
7 quality in other areas of the Delta, not the impacted area. The barrier project is supposed to
8 “protect Delta Water quality” when actually it could greatly reduce water quality for the lands and
9 waterways west of the barriers. Therefore even the description of the barriers proposal is
0 misleading and should be corrected. Loss of use of drinking water well would make it very hard to
1 operate the business unless DWR provided alternate drinking water source for the business until

1 such time as the barriers were removed and the brackish water was flushed out of the waterway
2 and aquifer at drinking water well levels. Since potential impact to drinking water wells has not
3 been disclosed to the public or apparently to the SWRCB, the board should not approve the barrier
4 proposal on the grounds they could potentially very negatively impact both residents and
5 businesses below the barriers. If accurate computer modeling and flow assessments are available
6 that indicate the installation of barriers will not have a negative impact on our drinking water
7 wells, that data should be provided to us and the rest of the interested public for review prior to
8 SWRCB moving forward with consideration of the barriers proposal for Steamboat and/or Sutter
9 Sloughs. If the barriers across both Steamboat and Sutter Sloughs are installed, and the resulting
0 stifled freshwater outflow impacts our drinking water well, DWR should be required to
1 immediately and consistently bring in drinking water which could be pumped into our 5000
2 gallon storage tanks. During our busy summer season, I believe the drinking water storage tanks
3 would need to be filled several times per day. Another mitigation alternative may be for DWR to
4 purchase and install atmospheric water generators to provide drinking water. AWGs with
5 sufficient daily production capacity would need to be installed for resort use, and residents along
6 Steamboat Slough would most likely also need AWGs for their drinking water needs. For
7 reference, online research indicates residential AWGs might cost as high as \$50,000 per each
8 residence. Resort property would probably require several AWGs to provide capacity, which
9 could cost in excess of \$300,000.
0

- 1 2. Issue: Impact on landscape and trees. Resort property uses irrigation pumps and piping or hoses
2 throughout the property to maintain the landscape, including fruit trees, shade trees, laws, flowers
3 and a vegetable garden. Landscape irrigation system is completely separate from the drinking
4 water system, per state law. Our water rights to use water from Steamboat Slough are well
5 established and date back to before the developed any water conveyance projects. Common sense
6 says if there is no freshwater outflow on Steamboat and Sutter Slough, then eventually saltwater
7 will invade these natural waterways of the Delta causing long term damage as these waterways
8 have naturally always been freshwater aquatic environments. Even if we do not use our irrigation
9 pumps, due to our location waterfront on Steamboat Slough, if brackish water encroaches into
0 lower Steamboat Slough, our landscape vegetation could be destroyed. Most important, the roots
1 of the tall trees along the levees and at places like Snug Harbor may be damaged by salinity
2 encroachment. According to a plant specialist contacted for advise on landscape impacts, I was
3 informed that even if I did not use the irrigation pumps and instead used well water for the trees,
4 salinity in the root water level could have the effect of drawing the fresh water out of the trees
5 onsite, one by one, and the salt-sensitive trees would be more likely to die and fall, within as short
6 a time frame as 4 to 6 weeks. Pine trees, redwoods and oaks would be the first to show signs of
7 salinity damage, which accounts for at least 25% of our larger trees onsite. Based on the proposed
8 barriers schedule, this could mean that saltwater intrusion into Steamboat Slough could cause the
9 death of very large trees right at the time when my business is usually in full season with
0 hundreds of vacation families onsite in addition to the families and staff who also live onsite. My
1 only recourse would be to have the trees cut down as soon as each shows signs of salt-drain or
2 poisoning, so that the trees would not pose a risk to my customer or their personal belongings.
3 The noise and risk of cutting down large trees in the middle of season would result in substantial
4 negative public opinion for my park and also the agencies causing the damage. The costs to cut
5 down the very large trees before they fall would be in excess of \$75,000 to \$150,000 depending on
6 the contractor and timing of work, and then new trees would have to be planted once the brackish

1 water is flushed out of Steamboat Slough after barriers are removed. New tree planting would
2 cost an unknown additional amount and there would be substantial negative PR issues as
3 vacationing families like to have shade in summer months. DWR should be required to cover all
4 costs of tree death management and also loss of income which would be a certainty as we have to
5 block off sites or areas that have tree work done so that the customers and staff will not be in the
6 area of the tree cutting. Even if the salinity levels do not increase so drastically that it kills the
7 larger sensitive trees, DWR has provided no indication of what the impact will be if resort
8 continues our normal practice of using slough pumps to irrigate our grass and fruit trees. Visiting
9 vacationers expect a nicely landscaped facility and dry or dead grass, while perhaps
0 understandable in a drought year, creates a negative impression, especially for the tent campers.
1 Would DWR be willing to provide a daily watering truck to maintain the resort landscape if the
2 salinity levels get to high for irrigation on Steamboat Slough?
3

4 3. Issue: Impact to septic systems. Since no computer modeling or description of expected potential
5 impacts to properties on lower Steamboat Slough has been provided by DWR, I can only use
6 experience from years of being in the Delta and here at Snug Harbor in both high flow and low
7 water level times. DWR does say that the barriers may create a situation where high tides would
8 be higher, which experience indicates could have a negative impact on the septic systems of the
9 resort, right when we are usually at full capacity many days of the summer. The seven septic
0 systems at the resort are all fully permitted and operational. Just a few years ago, during the time
1 when DWR or one of its partner agencies was conducting "pulse flow" tests related to the salmon
2 migration studies, late spring pulse flows caused higher than normal tide events which inundated
3 our septic systems causing failure to operate correctly while we were full for a holiday week end.
4 The cost to get septic specialists to respond and assist during holiday week ends is very expensive.
5 In addition, to avoid future similar incidents, we had to modify two of the septic systems to
6 engineered surface systems costing over \$120,000 and loss of income as we were not able to
7 utilize some of the rental sites until system could be repaired. I bring up the septic systems
8 because I am concerned the added water level at high tides could have an impact on us in summer
9 months. In addition, all seven septic systems are designed to function in fresh water environment
0 and there is a concern that the natural processes of tank decomposition may not function as
1 efficiently if the system is exposed to repeated brackish water infiltration. The resort property
2 and the neighboring homes would be useable without functioning septic systems. I know of no
3 alternate system currently permitted in California that DWR could install as a substitute for the
4 septic systems if the barriers on both Steamboat and Sutter Sloughs allow brackish water to
5 invade Steamboat Slough. (Note that Snug Harbor is much closer to water level than parks like
6 Brannen Island so high water levels can affect us more).
7

8 4. Issue: Potential for barriers to cause flood or high water at Snug Harbor. No computer modeling
9 or other data has been provided to show how the barriers will impact land owners both above and
0 below the barriers in case of a late spring heavy rain or flood. Based on common sense and local
1 experience, the barriers would create unnecessary and artificial flood hazard downstream of the
2 proposed barriers by blocking inflow up Steamboat Slough, and creating a backwash of extra flow
3 from the Yolo Bypass, which has been known to raise water levels on Steamboat Slough during
4 extremely high rainflow times. I recall a Memorial Day week end in early 1990's where there were
5 several days of torrential rains in the Delta and a late September storm a different year where
6 there was lots of extra rain water on the rivers. With the barriers installed, either of those types of
7 sudden rain events could create the higher tide levels above the 6 inches described by DWR, which
8 could result in flooding of the peninsula with many vacationers onsite. DWR is fully aware of the
9 impacts of these high water events here, as one event was well photographed before, during and

1 after a high water event in January 2006 when resort had at least 100 people onsite for the New
2 Year holiday week end.

- 3
4 5. Issue: Negative impact on navigation, and dock access particularly at low tides. Proposed barriers
5 on Steamboat and Sutter Sloughs will create unreasonable hindrance to navigation and possible
6 hazards to navigation. Steamboat Slough in particular is an important and popular recreation
7 thoroughfare between San Francisco bay and Sacramento, and hindrance of traffic caused by the
8 barrier proposed, could hinder on-water emergency response to boating accidents or fires.
9 Recreation tourism provides and important economic benefit for the Delta and state. Below is a
0 screen print from a 2007 study of the value of Delta recreation provided to the Delta Vision group:

19 15 / 29 2007Recreation_Memo_Interation1.pdf -
20 For the state as a whole Delta recreation contributed just over one billion dollars
21 (2006 dollars) to the California economy and supported approximately 14,000 jobs.
Recreation 14 *Written by: David Mitchell*

Context Memorandum: Recreation

Iteration 1: June 12, 2007

1 Because the surveys upon which the impact estimates were based only counted boaters
2 and anglers, and only if they were registered and licensed, the authors of this report
3 consider the impact estimates to be lower bounds of actual economic impacts resulting
4 from Delta recreation. Other popular Delta recreation activities, such as hunting, wildlife
5 viewing, sightseeing, windsurfing, biking and camping also produce economic benefits to
6 the region and state.
7
8

1 In addition, Steamboat Slough is traditionally utilized by boating groups to visit Sacramento for
2 musical festivals or other events, and those boats will not be able to utilize either Steamboat or
3 Sutter Sloughs for transport to Sacramento from Bay area marinas. DWR proposes to install boat
4 launch and an operator to pull only smaller boats out of the water and deposit the boat on the
5 other side. That proposal only helps maybe 50% of the normal navigation traffic of Steamboat
6 Slough. Even more important, if the water level on Steamboat Slough is lowered by 18 inches as
7 described by DWR, the lower water level could create hazards to navigation as some of the
8 sediment-insertion locations have shows substantial silting in the last few years. In addition, I
9 believe the computer modeling used by DWR for the barriers proposal does not take into account
0 the differences of the depths of each of the waterways. Comparison to impacts from the 1977
1 installation of a rock barrier across Sutter Slough are not valid as both Sutter and Steamboat
2 Sloughs have become more shallow since 1977, which logically affects navigation impacts more
3 drastically the more shallow the river bed. DWR should be required to provide to the public
4 current computer analysis utilizing current and correct waterway depth for each slough, with
5 reasonable analysis of the impact based on the current data, before any permits would be issued
6

1 to install barriers on either Steamboat or Sutter Slough. If water levels are 18 inches lower than
2 ever experienced before at Snug Harbor, specifically, the ramps to our docks may not be long
3 enough to function correctly, the docks may end up setting partially in the bank mud and would
4 not be useable by my customers during those very low tides due to instability of the docks
5 partially on the mud and the steepness of the ramps probably causing a hazard. I would have
6 many unhappy customers who count on the use of those docks during their vacation here. In
7 addition, my leaseholders in waterfront sites with docks would not be able to utilize their leased
8 sites as intended, creating contractual issues for the resort. DWR should be required to provide a
9 clear analysis of the impact to all the properties along Steamboat Slough, not just the resort. There
0 are over 40 residential homes, many of which have docks, that could be impacted in the same way.
1 As a mitigation for even one summer of temporary barriers on Steamboat Slough, DWR should be
2 required to provide and install temporary dock ramps of extended length and design to allow
3 normal use of the docks for the properties along Steamboat Slough and the ramps should be
4 required to be installed prior to the barriers installation.
5

- 6 6. Issue: The reason DWR claims barriers are needed is due to low water flow availability on the
7 Sacramento River but DWR has apparently not disclosed to SWRCB actual waterflow, or may be
8 withholding flow data from the public regarding the subject waterways. (In other words, the
9 reason for barrier installation is based on under-reported flow data.) Specifically, DWR has not
0 disclosed full correct flow data for North Delta waterways, at least for the two week period I
1 reviewed. It appears actual flow on the Sacramento River and at Georgiana Slough, and at the
2 gages of Steamboat and Sutter Sloughs are all under-reported flows, or there is a pattern of gaps in
3 flow data reporting. Based on a review of the flow data from select gages linked at the CDEC
4 website, it appears DWR has not been reporting accurate flow data for 2014 as accessed in March
5 2014 at the CDEC website for the flow stations reviewed. I believe SWRCB should question the
6 wisdom of approving projects that affect water flow and water quality on Steamboat and Sutter
7 Sloughs when the flow data as reported online has gaps that would indicate that fresh water flows
8 have been under-reported in 2014 on the Sacramento River at the Freeport, Sutter, Steamboat and
9 Georgiana gages, at least for the period reviewed and documented from March 15, 2014 to March
0 30, 2014. Detailed excel spread sheet, also copied in pdf are to large to print herein, so please
1 refer to the following page to view the detailed flow study:

2 http://www.snugharbor.net/delta_barriers_planned_by_mwd.html

3 Review of the flow data shows there has been a discernible pattern of unexplained flow data
4 gaps which common sense indicates has resulted in under-reporting of actual fresh water flow on
5 the waterways reviewed. If the same pattern of data gaps has been occurring at other gages of the
6 Delta, it is an indication that the data used for the computer modeling to validate the installation of
7 the barriers is based on false or incomplete flow data. If the pattern of data gaps was accidental,
8 shouldn't the data gaps be acknowledged by DWR so others downloading the data to try to assess
9 impacts will use accurate information? For example, during just the two week period reviewed,
0 over eight (8) hours of flow on Steamboat Slough was unreported. The pattern or timing of the
1 data gaps indicates a manipulation of the flow of the waterways, but that should be a conclusion
2 for the SWRCB to determine after fact review. Please see the attachment labeled "CDEC
3 datagaps.pdf" for a series of screen prints and the excel spreadsheet summaries that verify the
4 existence of unexplained flow data gaps. Also attached is the excel spread sheet summary of the
5 flow review. As an example, below is a section of the spreadsheet which shows the flow data gaps
6 of the Freeport and Steamboat Slough flow gages for just one 3 hour period on March 26, 2014.
7

Example: Data gap on 3/26/14 for Freeport and Steamboat Slough

From 10:45 to 12 noon Sacramento River flow drops over 6000 cfs, from 8210 to 2180. Flows continue to drop to -1760 in just a 3 hour time. This indicates all flow on the Sacramento River at Freeport had been cut off

Impact to Steamboat Slough from flow cut-off is hidden due to gap in data reporting. What does show is that Steamboat Slough was already not receiving freshwater inflow, and the cutoff of flow created a more drastic low tide at this time. Impact to Sutter Slough shows less drastic low water impact.

Section of review of flow data from CDEC which exposed missing data and experimental flow timing:

	A	B	C	FREEPORT	F	SUTTER	H	I	STEAMBOAT	K	L	GEORGIANA	O
1100		3/26/2014 9:45		3/26/2014 9:45	11300	3/26/2014 9:45	2190		3/26/2014 9:45	1200		3/26/2014 9:45	3370
1101		3/26/2014 10:00		3/26/2014 10:00	10500	3/26/2014 10:00	1910		3/26/2014 10:00	510		3/26/2014 10:00	3180
1102		3/26/2014 10:15		3/26/2014 10:15	10100	3/26/2014 10:15	1610		3/26/2014 10:15	-129		3/26/2014 10:15	2990
1103		3/26/2014 10:30		3/26/2014 10:30	9260	3/26/2014 10:30	1420		3/26/2014 10:30	-842		3/26/2014 10:30	2830
1104		3/26/2014 10:45		3/26/2014 10:45	8210	3/26/2014 10:45	1200		3/26/2014 10:45	-1770		3/26/2014 10:45	3050
1105	11:00 AM	3/26/2014 11:00		MISSING DATA		3/26/2014 11:00	1180		3/26/2014 11:00	-2030		3/26/2014 11:00	2960
1106		3/26/2014 11:15		MISSING DATA		3/26/2014 11:15	966		MISSING DATA			3/26/2014 11:15	3100
1107		3/26/2014 11:30		MISSING DATA		3/26/2014 11:30	714		MISSING DATA			3/26/2014 11:30	3010
1108		3/26/2014 11:45		MISSING DATA		3/26/2014 11:45	240		MISSING DATA			3/26/2014 11:45	2640
1109	NOON	3/26/2014 12:00		3/26/2014 12:00	2180	3/26/2014 12:00	-7		MISSING DATA			3/26/2014 12:00	2760
1110		3/26/2014 12:15		3/26/2014 12:15	1140	3/26/2014 12:15	-242		3/26/2014 12:15	-3000		3/26/2014 12:15	2620
1111		3/26/2014 12:30		3/26/2014 12:30	613	3/26/2014 12:30	408		3/26/2014 12:30	-3130		3/26/2014 12:30	2480
1112		3/26/2014 12:45		3/26/2014 12:45	-188	3/26/2014 12:45	-658		3/26/2014 12:45	-3040		3/26/2014 12:45	2410
1113	1:00 PM	3/26/2014 13:00		MISSING DATA		3/26/2014 13:00	-931		3/26/2014 13:00	-3050		3/26/2014 13:00	2320
1114		3/26/2014 13:15		MISSING DATA		3/26/2014 13:15	-1040		MISSING DATA			3/26/2014 13:15	2220
1115		3/26/2014 13:30		MISSING DATA		3/26/2014 13:30	-1230		MISSING DATA			3/26/2014 13:30	2110
1116		3/26/2014 13:45		MISSING DATA		3/26/2014 13:45	-1260		MISSING DATA			3/26/2014 13:45	1890
1117	2:00 PM	3/26/2014 14:00		3/26/2014 14:00	-1760	3/26/2014 14:00	-1310		MISSING DATA			3/26/2014 14:00	1830
1118		3/26/2014 14:15		3/26/2014 14:15	-1950	3/26/2014 14:15	-1260		3/26/2014 14:15	-2070		3/26/2014 14:15	1620
1119		3/26/2014 14:30		3/26/2014 14:30	-2240	3/26/2014 14:30	-1120		3/26/2014 14:30	-1390		3/26/2014 14:30	1390
1120		3/26/2014 14:45		3/26/2014 14:45	-1880	3/26/2014 14:45	-959		3/26/2014 14:45	-588		3/26/2014 14:45	1130
1121	3:00 PM	3/26/2014 15:00		3/26/2014 15:00	-1320	3/26/2014 15:00	-635		3/26/2014 15:00	302		3/26/2014 15:00	732
1122		3/26/2014 15:15		3/26/2014 15:15	-856	3/26/2014 15:15	-194		3/26/2014 15:15	1260		3/26/2014 15:15	731

The summary pdf showing how the data gaps were discovered is at the above reference webpage and also attached as a reference to this public comment.

I would not be surprised to find out that either DWR or USBR may have been conducting flow experiments during the "data gap" timeframes, like the one shown above. I believe it is likely the data gaps on Steamboat Slough in particular, if the data was disclosed, would indicate the low tides were being tested to see how low the water flow might go and how those barrier-created artificial low tides might impact lands like Snug Harbor. I happened to be on the docks in March during the lowest water level any of the locals had ever seen, and I do believe if that is the water level DWR/USBR plans to reduce Steamboat Slough to, it will very negatively impact normal use of boat docks at my property. If DWR or USBR was conducting flow experiments to view or assess the impacts on lower Steamboat Slough, shouldn't the results of the study be disclosed to the public and SWRCB prior to SWRCB making a decision to allow the barriers.

Issue: What are the impacts to the millions of dollars of bench test sites along Steamboat Slough? DWR has not provided any data that validates the destruction of the terrestrial and aquatic plants of the "bench test" sites along Steamboat Slough which have been conducted under CALFED by DWR and its partners/consultants over the last seven or more years. Specifically, the lower water levels that DWR indicates will be the impact of barrier across Steamboat Slough may be too low to sustain the plants that are being monitored as part of the millions of dollars spent on "restoration" test sites on this waterway. Water levels may be too low with the barriers installed to sustain even the tules and other aquatic plants as currently seen along the restoration sites located approximately a mile below Snug Harbor. In fact, if one tours the bench test sites, it is clear the

1 low-water events that have already happened on Steamboat Slough, coupled with the dry winter
2 and the longer-than-normal very cold spell appears to have damaged or killed some of the plants
3 DWR/USBR or their consultants spent over \$1.5 million just a few years ago to plant. In addition,
4 loss of 18 inches of water level on low tides would tend to encourage the growth of egeria densa, a
5 non-native aquatic plant which tends to grow in more shallow and warmer waters. Just last year
6 DBW treated our marina area and all of the area called "Snug Cove" to get rid of the egeria densa.
7 Egeria densa is a serious hindrance to navigation, and when it captures sediment from runoff, it
8 raises the bed of the waterway. Egeria densa is also considered a negative environment for native
9 fish, which is why the state has been investing in removing the aquatic nuisance. Allowing low
0 freshwater flow on Steamboat Slough will tend to raise the water temperature during summer,
1 which will cause more rapid growth of egeria densa and other non-native plants.
2

- 3 8 Issue: Recognition of results of only one of many years of salmon migration pathway studies is
4 misleading the public. DWR refers to the migration pathway of salmon in the 2010 study without
5 recognition that previous study years indicated Steamboat and Sutter Sloughs have historically
6 been important natural salmon migration pathways. In addition, DWR fails to acknowledge that
7 the salmon migration studies manipulate the study outcomes at different times and different years
8 by reducing flows on some rivers during migration time, thereby increasing water temperature to
9 discourage salmon survival in the higher temperature waterways. Another way to discourage
0 salmon migration into Steamboat Slough is the sediment insertion actions, and the low-flow warm
1 water timed for migration studies. DWR also fails to recognize that the salmon migration studies
2 have been the impetus for the "pulse flows" at various times of each year of study, but due to
3 lower reservoir levels in 2014 as a result of DWR/USBR excess export decisions made in 2013 and
4 early 2014, any salmon migration studies planned for this spring are not prudent. Yet there is a
5 partial barrier already installed at the confluence of Georgiana Slough with the Sacramento River



Angler reported striped bass caught
spring 2013 in Yolo Bypass/Sac
Ship Channel area near marker 56.
Male 45 pounds, 42 inches

an indication of another series of salmon migration studies in progress. DWR also continues to send freshwater flow into the Yolo Bypass area for the rice/fish studies, another of the studies that have been happening for several years. While it seems off topic, I would like to point out that those salmon migration studies fail to acknowledge other impacts from the pulse flows and the flushing of salmonids quickly out of the Delta. Besides the fact the pulse flows utilize fresh water that could be preserved for use later in the summer to keep all Delta water fresh, the studies also fail to acknowledge the effect of the pulse flows on other aquatic species. Look at the timing of the pulse flows and salmon flushing when the mother and baby whale were drawn into the Delta and then baby was accidentally hit by perhaps the keel of a sailboat or a power boater. Like the sea lions and seals that come to the Delta, were the whales venturing into the Delta to feast on the salmon? Consider also the repercussions from raising small salmon in the Yolo Bypass and the fact the striper are also grazing the runoff from those same modified rice stock. For example, here is a photo of a 45 pound striper caught in the Cache Slough area near the "56" marker last spring. I bring impacts to fish up only to show that for every action there is a reaction or consequence that it seems those who

1 are just studying the Delta and not *living* the Delta do not acknowledge! Please carefully consider
2 not just the barrier design or action but the reaction of the whole water system on the native
3 aquatic species that currently thrive in Steamboat and Sutter Sloughs.
4 (Striper photo: Angler reported this as a 45 pound and 48 inches long male striper caught spring
5 2013 Cache Slough, marker 56, shallow water area. Photo has been cropped to provide privacy for
6 the persons in the photo)
7

- 8 9 Since DWR has been very inconsistent in disclosing actual North Delta inflow and outflow, as
9 shown from the 2013 water balance chart found online at the published 2013 update to the
0 California Water Plan, one would surmise it is not wise for either DWR or USACE to move forward
1 with any water flow revision projects that impact North Delta waterways because any computer
2 modeling done must have used the incorrect flow data as still showing online, complete with data
3 gaps and unaccounted for water flows. (See large Attachment linked at :
4 <http://www.snugharbor.net/images-2014/news/unaccountedwater-update.pdf> This is a study
5 that shows unaccounted for water and DWR's response was to revise the chart. The question is,
6 WHY does it takes non-water engineers to get DWR to post consistent correct water flow data and
7 is it prudent for the SWRCB to approve the revised water rights and quality request before the
8 board, given the data gaps and inconsistency in reporting of Delta water inflows and outflows? As
9 a reminder, we were guaranteed in the 1960s that only "surplus" water would be exported to
0 other areas of the state, leaving sufficient freshwater flow to preserve the Delta prime farmlands
1 and navigation and recreational benefits. During years there is no "surplus", it is those locations
2 south of the Delta with lesser water rights that should go without, not the landowners of prime
3 farm lands of the Delta. For a whole series of documents showing the inconsistent reporting of
4 Delta flows and exports, go to <http://www.SaveTheDelta.org> and look for the "Delta Maps" pages
5 which link to the "flow" document series.
6

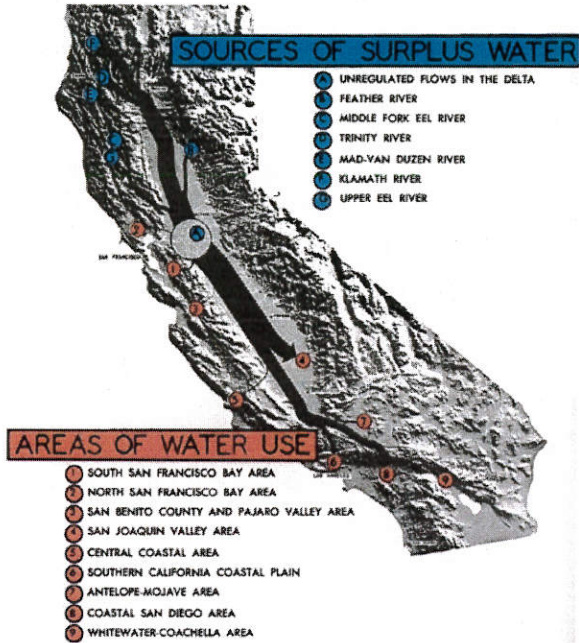
7 See below the screen print of a section of the 1960 Delta plan which was used to promote the
8 eventual legislation still in effect today. Note the Surplus screen print next page says "Surplus
9 water from the northern part of the Central Valley and North Coast will be conveyed ... " The key
0 word is "surplus". MWD and other water contractors are asking SWRCB to allow far beyond
1 "surplus" water to be available for export at the detriment to the Delta, even if a temporary
2 measure:

The Delta — its role in California's water development

In 1959, the State Legislature enacted the California Water Resources Development Bond Act to finance construction of the State Water Resources Development System. The bond act was approved by the California electorate in November 1960. The State Water Facilities, the initial features of this system, will complement continuing local and federal water development programs and include the very necessary works in the Delta.

One of the principal objectives of the State Water Resources Development System is to conserve water in areas of surplus in the north and to transport water to areas of deficiency to the south and west. The Delta is important in achieving this objective, since it receives all of the surplus flows of Central Valley rivers draining to the ocean during winter and spring months and is the last location where water not needed in the Delta or upstream therefrom can conveniently be controlled and diverted to beneficial use. Surplus water from the northern portion of the Central Valley and north coastal rivers will be conveyed by the natural river system to the Delta, where it must be transferred through Delta channels to export pumping plants without undue loss or deterioration in quality. Aqueducts will convey the water from the Delta to off-stream storage and use in areas of deficiency to the south and west.

In addition to being an important link in the interbasin transfer of water, the Delta is a significant segment of California's economy, and its agricultural, municipal, and industrial water supply problems, and flood control and related problems, must be remedied. A multipurpose system of Delta water facilities, which will comprise one portion of the State Water Resources Development System, is the most economical means of transferring water and solving Delta problems.



10 DWR has not considered other alternative locations for the barriers, as proposed by landowners at the meeting in Walnut Grove. For example, one landowner suggested that if barriers became necessary, that they be placed down by Hidden Harbor so that the freshwater would remain within Steamboat and Sutter Sloughs and the farmers would have access to their pumps without having to borrow portable pumps. DWR has given no clear explanation of why this suggestion would not be a preferable alternative. In the 1960's a barrier located around the area of "Chips Island" was proposed as a way to protect the whole Delta from saltwater encroachment. Why hasn't DWR considered that barrier which would protect the western Delta from saltwater intrusion? The fact is, the original reason for the proposal of the barriers on Steamboat Slough was made by Metropolitan Water District in 2003-2005 for the Flooded Island Feasibilities Studies and the MWD 2007 "Emergency Freshwater Pathway" which was envisioned in case of levee failures due to earthquakes or flood. The barriers were also apparently a focus of FloodSAFE according to 2012 documentation however the assumption of the FloodSafe plan was action in case of FLOOD, not water shortage created by the mismanagement of Northern California reservoirs. Placement of barriers on Steamboat and Sutter Sloughs has the effect of splitting the North Delta east and west. The west side will have brackish water eventually and the east side will continue to have fresh water from the Sacramento River until it is diverted into whatever tunnel/canal conveyance system the state managers push through. In the meantime, DWR has failed to disclose accurate water flow data for the North Delta for several years, bringing into serious question the flow data as shown online and in California Water Plan reports. SWRCB should not permit the even the temporary degradation of North Delta water rights based on flow data that even non-engineers can challenge as incorrect.

1 I respectfully request that the SWRCB decline to approve water rights or modification to water
2 quality rights of the North Delta as related to the DWR proposal to install either temporary of
3 permanent barriers across Steamboat or Sutter Sloughs. If barriers are approved for either or
4 both Steamboat and Sutter Sloughs, I request that a flow and water quality gage be installed at the
5 western end of Steamboat Slough, more likely Grand Island side, with the monitor placed in the
6 waterway at the point saltwater is most likely to first intrude the waterway, at which time DWR
7 would be required to open the barrier culverts to assure sufficient fresh water flow is directed
8 into Steamboat and Sutter Sloughs to assure compliance with North Delta water quality rights per
9 all applicable laws and contracts. Salinity intrusion into lower Steamboat Slough coupled with the
0 impacts to safe navigation from lower water levels, and the risk of impact to property
1 infrastructure could result in damages of above \$48, 000,000 as of rough estimate of damage
2 repairs or other mitigation of landowner losses along lower Steamboat Slough, not including
3 damages to the farmers and their lands on the other side of the levees. If SWRCB does approve the
4 barriers project, I request that included in that approval is the stipulation that DWR will fully
5 mitigate for all negative impacts to landowners along Steamboat and Sutter Sloughs, including the
6 farmers, commercial businesses (Snug Harbor Resorts, LLC included) and all the residents.

7
8 Submitted by:


9
0 *Nicole S. Suard, Esq.*

1 Nicole S. Suard, Esq. Managing Member, Snug Harbor Resorts, LLC <http://www.snugharbor.net>

2
3 Attachments: Comments on the Barriers proposal submitted to USACE and DWR; Flow data gap summary

4
5 Cc: Melinda Terry, NDWA; DWR; USACE
6
7