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5-26-16 via email to: [pat.rogers@deltacouncil.ca.gov](mailto:pat.rogers@deltacouncil.ca.gov) and [eric.alvarez@deltacouncil.ca.gov](mailto:eric.alvarez@deltacouncil.ca.gov)

To: Delta Stewardship Council

DSC Independent Science Board, Chair Jay Lund; Brian Atwater, USGS Surveyor

From: Nicole (Nicky) Suard, Esq. Managing Member, Snug Harbor Resorts, LLC located on a peninsula of Ryer Island, Solano County, California [sunshine@snugharbor.net](mailto:sunshine@snugharbor.net)

Re: Your continued use of incorrect data regarding both Ryer Islands located in Solano County, California

**This letter and attached screen prints are provided as comment to the DSC 5/26/16 meeting, Agenda Item #10, "Update on Delta Levees Investment Strategy"**

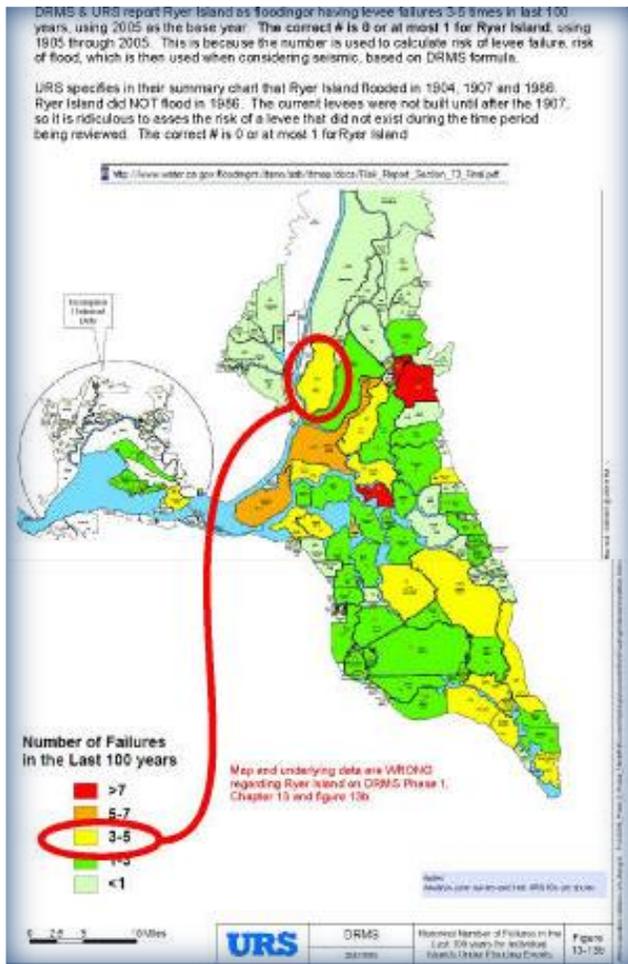
Dear DSC board members and DISB board members:

Please be advised that the Levee Investment Strategy document under review at the meeting today utilizes outdated technical baseline data as referenced on page 30, specifically referenced to DRMS Phase 1 technical data and 2011 DWR "Attributes of Levees" study. (screen print of page below). As you know, there are two islands named "Ryer" located in the county of Solano. One "Ryer" is located in the Suisun bay area and was/is the subject of restoration under the BCDC (not BDCP) with restoration planning and design by URS in approximately 2005. The other "Ryer" is located in the North Delta region and is bordered by Steamboat Slough, Sutter Slough, Cache Slough. I shall refer to this one as "Ryer-North".

DSC levee investment strategy refers to DRMS Phase 1 study dates that indicate use of baseline data *before* the corrections were made related to Ryer-North. More specifically, early versions of DRMS Phase 1 incorrectly state Ryer-North flooded "three to 5 times" in the last 100 years. In fact, Ryer-North has flooded *zero* times in the last 108 years. DRMS Phase 1 falsely listed Ryer-North as flooded in 1986, as an example. Correct flood history for Ryer-North was provided, along with a spreadsheet showing the flood totals for other Delta islands based on all past published studies by DWR, USBR or USACE. That spreadsheet based on the previous published Delta flood history established the fact DRMS Phase 1 study inflated or exaggerated not just Ryer-North flood history but also at least seven other listed major or target Delta islands. DWR representatives recognized at least part of the incorrect data and thereafter published a correction in December 2009. Your current document references an earlier date and therefore it must be assumed you are using the incorrect baseline data, once again. (I brought this to the attention of DSC/Delta Vision board members starting in 2009).

Island flood history, island seismic risk, island assets and infrastructure are all elements of the "risk" factor. Since DSC proposed to make determinations of expenditures based on individual island risk factors, shouldn't you first

determine if the factors you are using are correct? Other mistakes made by DRMS Phase 1 baseline data regarding the Ryer Islands: Ryer-Suisun is located in a high shake zone, while Ryer-North is not. DRMS incorrectly showed Ryer-North in a high seismic risk or shake zone.



Ryer-North is circled in red. Ryer-Suisun was erased from the URS map, yet at the same time URS was the consultant for Ryer-Suisun BCDC restoration planning. (I am sure Mr. Atwood could verify that Ryer-Suisun has undergone several name changes over the years, including “Long Point Island” and more recently per Delta Vision maps “River Island”).

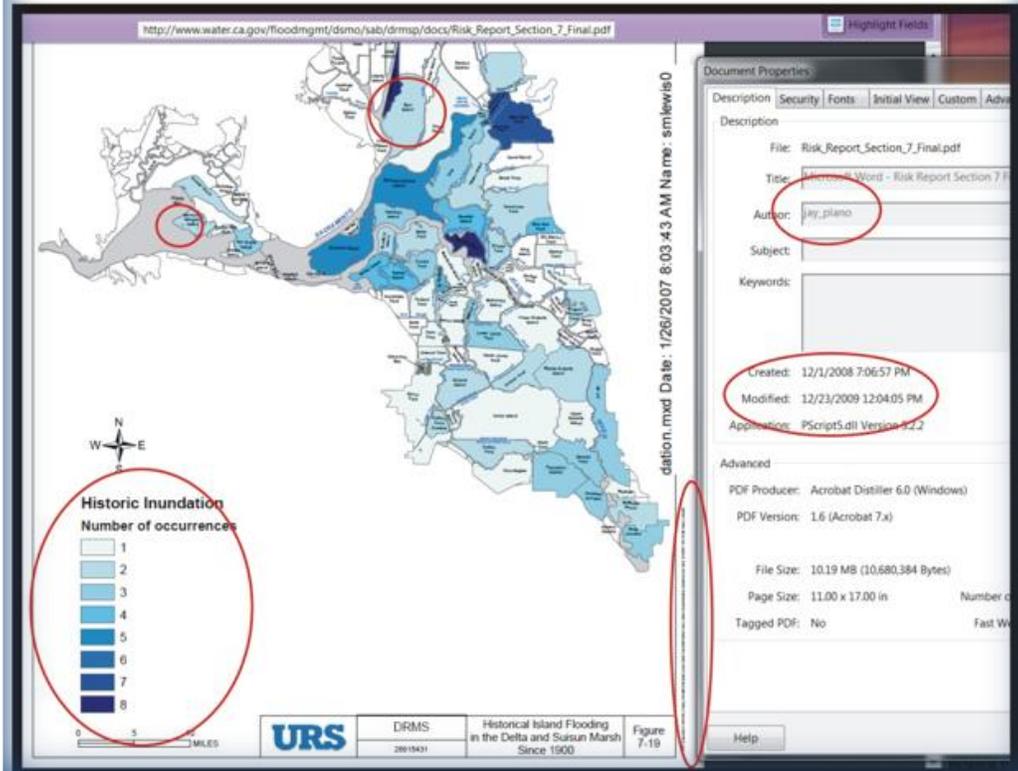
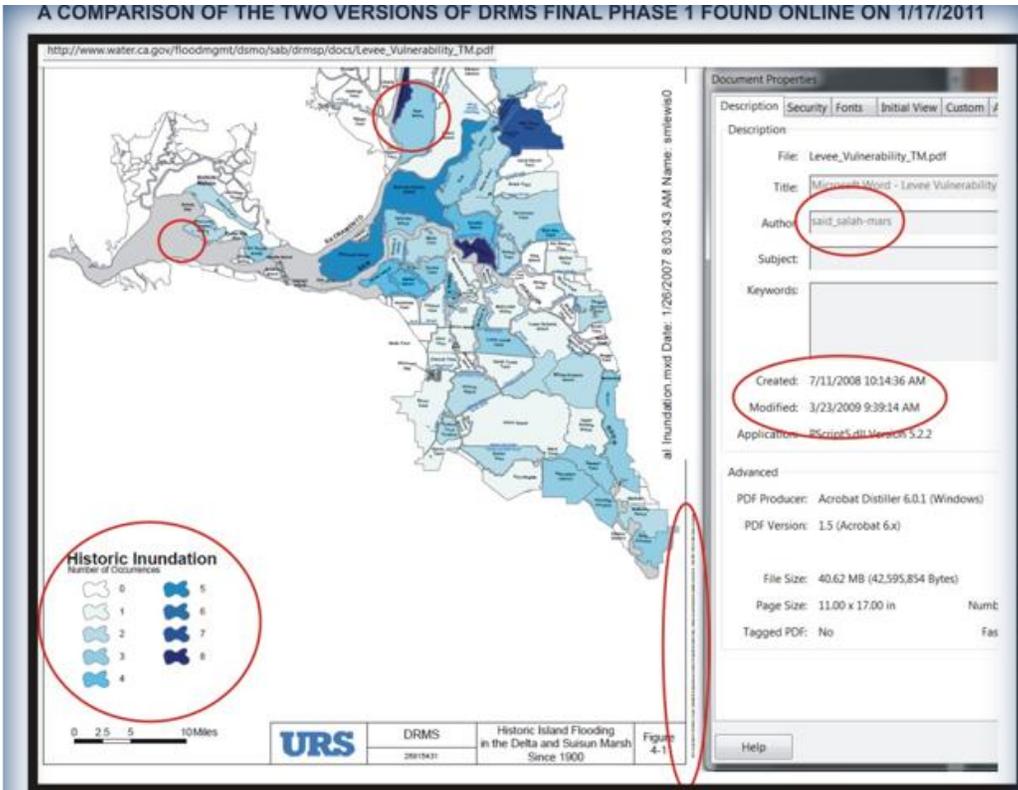
DSC is also using incomplete asset data, compiled around 2004-2005 originally most likely, which then keeps resurfacing without corrects. The incorrect asset data for many of the islands of the Delta results in undervaluation of the worth of the islands. For example, Ryer-North asset values omitted to list or value at least 30 residential home parcels valued between \$300,000 to \$1,000,000 each, not including the farm or ranch homes also ignored. Also not included in Ryer-North asset values are two marinas and an RV and mobile home park, with store and gas dock. Also not included was a major electrical line that crosses from Egbert Tract to Ryer Island, then from Ryer Island to Grand Island, to the Grand Island Electrical platform located mid-island. In other words, *it is estimated that Ryer-North assets are undervalued by at least \$35,000,000.* Note also that the number of residents of Ryer-North was also greatly understated, listing 75 residents instead of using the last census which indicates over

400 residents. Please see screen print below. Specifically related to Ryer-North, your delta levees investment strategy inflates flooding probability, does not account for all assets of the island and therefore under estimates consequence, to come up with an “annual risk” assumption that ignores the reality the value of Ryer-North. In fact, the delta levees investment strategy uses incorrect baseline data for many major islands of the Delta.

DSC board members often make the claim the “best available science” is being utilized. However, if you withhold available data from the scientists/consultants that are hired to do a particular report or study, clearly that is intentionally and knowingly failing to use “best available science”. Screen prints below relate to current documents under review by DSC, or the reports and studies used as baseline material for the Delta levee investment strategy. In addition, you can find more details regarding “Ryer-North” at <http://www.ryerisland.com> and specifically note the following DRMS summary at [http://www.ryerisland.com/images/floods/delta\\_floods\\_final.pdf](http://www.ryerisland.com/images/floods/delta_floods_final.pdf) and [http://www.ryerisland.com/DRMS\\_wrong\\_on\\_ryer\\_island.htm](http://www.ryerisland.com/DRMS_wrong_on_ryer_island.htm) and [http://www.ryerisland.com/images/floods/DRMSf1\\_wrong\\_on\\_Ryer.pdf](http://www.ryerisland.com/images/floods/DRMSf1_wrong_on_Ryer.pdf) Corrections by DWR: [http://www.ryerisland.com/ryer\\_flood\\_history\\_email.jpg](http://www.ryerisland.com/ryer_flood_history_email.jpg) compare the visual changes: [http://www.ryerisland.com/images/smalls/drms-using\\_maps\\_to\\_hide\\_mistakes.jpg](http://www.ryerisland.com/images/smalls/drms-using_maps_to_hide_mistakes.jpg) More maps related to incorrect Delta data: [http://deltarevision.com/more\\_wrong\\_maps\\_of\\_the\\_delta\\_3.html](http://deltarevision.com/more_wrong_maps_of_the_delta_3.html) compared to [http://deltarevision.com/Delta\\_maps/Floods-Islands-Levees.htm](http://deltarevision.com/Delta_maps/Floods-Islands-Levees.htm) .

Please review the screen prints below, the links as well, and consider requesting a full reevaluation of all physical assets of the islands of the Delta, utilizing a method that includes visual inspection of each island from the ground and the water, not from a computer screen. DSC should not be making important decisions regarding expenditures based on false, incorrect and misleading data.

Yours truly, an affected party, Nicky Suard, Esq. (via email)



## Visualizing Risk

The DLIS planning tool displays maps that **highlight areas of concern**, where flood probabilities or flood risks in the Delta are relatively high. The planning tool also summarizes the key resources in need of protection. Below is an example displaying the annual risk to prime agricultural land (as defined by the California Department of Conservation) assuming no additional levee improvements. The darker shaded islands indicate higher flood probability and larger prime agricultural acreage at risk. For example, a 1% annual probability of flooding means that flooding is likely once every 100 years.

**Annual Probability:**  
Flooding

X

**Consequence:**  
Prime Agricultural Land

=

**Annual Risk:**  
Loss of Prime Agricultural Land





## Delta Levees Investment Strategy

Draft: For Discussion Purposes

## RYER ISLAND

County:	SOLANO
Delta Zone:	Primary Delta
Population (2010):	320
Project Levees:	Yes
Non-project Levees:	No
RD Number:	501

ASSET CATEGORY	LANDSIDE ASSETS	Quantity
	<b>Flood Risk Assets</b>	
Infrastructure: Energy & Telecom	Cell towers	0
Infrastructure: Energy & Telecom	Communications facilities	0
Infrastructure: Energy & Telecom	Gas fields (sq miles)	0.6
Infrastructure: Energy & Telecom	Gas storage	0
Infrastructure: Energy & Telecom	Gas wells	2
Infrastructure: Energy & Telecom	Natural gas pipelines (miles)	0
Infrastructure: Energy & Telecom	Natural gas storages	0
Infrastructure: Energy & Telecom	Oil pipelines (miles)	0
Infrastructure: Energy & Telecom	Operational power plants	0
Infrastructure: Energy & Telecom	Substations	0
Infrastructure: Energy & Telecom	Transmission lines 2012	0
Infrastructure: Energy & Telecom	Transmission line towers	0
Infrastructure: Energy & Telecom	Transmission lines (miles)	0
Infrastructure: Transportation, Private Surface	Air strips	0
Infrastructure: Transportation, Private Surface	Railroads (miles)	0
Infrastructure: Transportation, Public Surface	County highways (miles)	0
Infrastructure: Transportation, Public Surface	Local roads (miles)	71.7
Infrastructure: Transportation, Public Surface	State & Federal highways (miles)	9.3
Infrastructure: Transportation, Water	Ports	0
Infrastructure: Water Supply	Mole line Agreement (miles)	0
Public Resources: Cultural Resources	Historic places	0
Public Resources: Cultural Resources	Legacy towns	0
Public Resources: Cultural Resources	National Historic Landmarks	0
Public Resources: Cultural Resources	State highways (miles)	0
Public Resources: Ecosystem	Natural lands (acres)	158
Public Resources: Public Lands/Recreation	County parks	0
Public Resources: Public Lands/Recreation	Regional parks	0
Public Resources: Public Lands/Recreation	State parks (acres)	0
Public Safety: Private Property	Agricultural lands (acres)	11634
Public Safety: Private Property	Commercial structures	60
Public Safety: Private Property	Confined animal facilities	0
Public Safety: Private Property	Mines	0
Public Safety: Private Property	Private schools	0
Public Safety: Private Property	Residential buildings	4 *
Public Safety: Private Property	Unimproved acres	14
Public Safety: Public Facilities	Fire stations	2
Public Safety: Public Facilities	Flood depots	0
Public Safety: Public Facilities	Hospitals	0
Public Safety: Public Facilities	Police	0
Public Safety: Public Facilities	Prisons	0
Public Safety: Public Facilities	Public schools	0
Public Safety: Public Facilities	Rock stockpiles	0
Public Safety: Public Facilities	Wastewater treatment plants	0

GEOMETRY	
Area (acres)	11792.3
Mean Elevation (ft)	-3.9
Agricultural lands (acres)	11634.5
Total Levees (miles)	20.3
PL 84-99 Levees (miles)	20.3
HMP Levees (miles)	0
Levees Below HMP or Unknown (miles)	0

ASSET CATEGORY	WATERSIDE ASSETS	Quantity
	<b>Flood Risk Assets</b>	
Infrastructure: Water Transportation *	Deep water shipping channels (miles)	4,422504806
Infrastructure: Water Supply	Water intakes	0
Public Safety: Private Property	Marinas *	0

Quantities shown are counts unless otherwise noted.

## INVENTORYING ASSETS AND IDENTIFYING BENEFICIARIES

Jessica Ludy 06/DLIS-Workshop-PDF.pdf  
Water Resources Planner, ARCADIS

Jessica Ludy then discussed the process of inventorying assets and identifying beneficiaries. *“Our charge was to use best available existing information to support our analysis, so what comes along with that is a responsibility to also identify the general data gaps and the uncertainties associated with the data, as well as the limitations that poses to our analysis or to our methodology,”* she said. *“So what is involved, in addition to collecting various data sets from our partner agencies, is making public our data inventory, and discussing and validating these data with our stakeholders and our technical experts. This enables us to get a sense from those folks with the expertise in the area whether or not it looks about right, or whether or not we’ve got some outliers that we could use to look into more detail.”*



**Data**

- Data varies in age and level of detail
- Supports assessing relative risks
  - Enables ready incorporation of new or updated data
  - Enables a wide range of sensitivity analyses
    - How might parcel data or evacuation routes data affect State levee investments?

Delta Stewardship Council

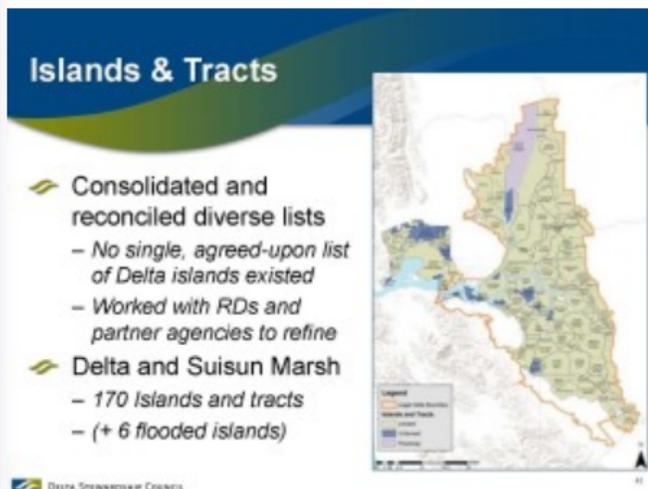
She noted that the picture on the slide is the result of a risk communication effort by a number of state and federal agencies that shows the high water mark from the 1986 flood. *“It is one of the great efforts going on by the state of California right now to communicate risk to people living behind levees,”* she said.

*“All of the data we’re using has been used in other state and Delta related studies, and what we are finding is that the quality varies with age and level of detail,”* she said. *“However, it does so far seem to support assessing relative risks*

*in the Delta, and our methodology does enable us to readily incorporate new and updated information. It also enables a wide range of sensitivity analyses, so for example, how might part of the quality or coarse level of detail of parcel data or evacuation data affect our outcomes, particularly on state level investments.”*

Ms. Ludy noted that they used parcel data to get the inventory of how many structures are on each island. *“If there are more structures on an island than our data set, this would likely increase the consequences of a flooding event, and if there are fewer, than this would decrease the consequences,”* she said. *“So what our methodology allows us to do is go a couple steps out and say, does an increase or decrease in the number of structures actually affect the investments that the state might make in the end, and if it does, then we know we need to go back and refine the data, get more detail, and perhaps validate it better. If it turns out that state investments in particular area are not that sensitive to a particular data set, then maybe we don’t need to go back and refine it.”*

The first charge was to define the geographic scope for the analysis and coming up with a single list for all the islands and tracts in the Delta. *“We decided partly as by mandate from the legislation that we were required to consider all areas within the legal Delta and Suisun Marsh, and then we included within that, every area that is subject to flooding from the .2% chance or 500 year flood as delineated by FEMA,”* she said.



Despite the vast number of studies that have been going on since the 1960s and 70s, there was no single agreed upon list of the Delta tracts and islands, so the process required consolidating and reconciling numerous lists, she said. *“We worked with partner agencies and solicited feedback from a number of the reclamation districts to ensure that we had our lists right, and ultimately we settled upon a list of 176 total islands and tracts that will be analyzed, 170 of which are dry and six of which are currently flooded.”*

The goal is to use existing data to compile an inventory of assets on each Delta island and to identify data gaps, limitations, and uncertainties, she said. *“This asset inventory is the basis for the flood exposure analysis; it feeds into the flood risk analysis and expected annual damages calculations.”*

Ms. Ludy said they followed standard protocols for the types of assets that are considered when doing a flood exposure analysis:

- **Lives and property:** Parcel data, population count, energy and utilities infrastructure, critical facilities, transportation and navigation, wastewater treatment plants, and public facilities, such as schools.
- **Delta as a place:** Agricultural land, crops, and crop value, public lands, cultural resources and recreational facilities such as marinas.

## DSC still using incorrect data

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Department of Water Resources. 2011a. *Delta Risk Management Strategy (DRMS) Phase 2*. June 2011

Department of Water Resources. 2011b. Locations and attributes of levees in California as maintained by the DWR California Levee Database.

Department of Water Resources. 2011c. *Delta Levees Maintenance Subventions Program Guidelines: Procedures and Criteria*. September 23, 2011.

Department of Water Resources. 2012. *2012 Central Valley Flood Protection Plan*. June 2012.

Department of Water Resources. 2013a. *California's Flood Future*. 2013.

Department of Water Resources. 2013b. *FloodSAFE A Framework for Department of Water Resources Integrated Flood Management Investments in the Delta and Suisun Marsh (Draft V9)*. September 2013.

Department of Water Resources. 2014. Delta Levees Special Flood Control Projects. *2014 Guidelines for Providing Funding to Local Public Agencies*. June 2014.

Legislative Analyst's Office. 2012. *Funding and Options for Near-Term Actions in The Delta*. October 15, 2012.

Len Marino, personal communication. December 2, 2014

Lobato, Andrea L. 2014. Delta Levees Special Flood Control Projects Program Letter. [http://www.water.ca.gov/floodsafe/fessro/docs/special\\_letter14\\_final.pdf](http://www.water.ca.gov/floodsafe/fessro/docs/special_letter14_final.pdf). June 13, 2014.

Lower Sacramento Delta North Region. 2014. Lower Sacramento River/Delta North Regional Flood Management Plan. July 2014

Natural Resources Agency. 2014a. *California Water Action Plan*. Sacramento, California.

Natural Resources Agency. 2014b. *Safeguarding California: Reducing Climate Risk*. Sacramento, California.

Public Policy Institute of California. 2008. *Levee Decisions and Sustainability for the Delta, including Technical Appendix B*.

Public Policy Institute of California. 2014. *Paying for Water in California*

San Francisco Estuary Institute-Aquatic Science Center (SFEI-ASC). 2014. *A Delta Transformed: Ecological Functions, Spatial Metrics, and Landscape Change in the Sacramento-San Joaquin Delta*. Publication #729, Richmond, CA. October 2014.

San Joaquin Area Flood Control Agency (SJAFCA). 2014. *Lower San Joaquin River and Delta South Regional Flood Management Plan*. November 2014.

32	Rec Dist 70-1660	rural	85	58.1	1.5
33	Meridian	small community	96	0.2	484.4
34	Rec Dist 1500 East	rural	63	50.3	1.3
35	Elkhorn	rural	17	20.6	0.8
36	Natomas	urban	43459	85.6	507.4
37	Rio Linda	urban	26495	9.2	2873.7
38	West Sacramento	urban	18127	10.1	1797.2
39	Rec Dist 900	urban	6451	11.8	548.4
40	Sacramento North	urban	75017	15.9	4711.0
41	Rec Dist 302	rural	21	9.6	2.2
42	Rec Dist 999	rural	84	45.2	1.9
43	X Clarksburg	small community	111	0.4	276.9
44	X Stone Lake	rural	*13929	52.1	267.5
45	Hood	small community	69	0.2	456.4
46	X Merritt Island	rural	28	8.2	3.4
47	Rec Dist 551	rural	42	15.1	2.8
48	X Courtland	small community	75	0.2	328.3
49	X Sutter Island	rural	7	4.4	1.6
50	Grand Island	rural	282	27.5	10.3

table continued on next page...

\* Really? Almost 14,000 residents at Stone Lake?

\*\* Snug Harbor, a part of Ryer Island, has at least 60 persons who live onsite so that means there are only 15 people for the rest of Ryer Island? Wrong!

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November 2015

x = populations that appear to be incorrect-where did USACE get this info???

## Attachment E

Impact Area	Impact Area Title	Land Use Type	Population	Area (sq mi)	Population Density (persons/sq mi)
continued from previous page...					
51	Locke	rural	31	1.2	25.8
52	X Walnut Grove	small community	126	0.8	160.4
53	X Tyler Island	rural	4	14.2	0.3
54	X Andrus Island	rural	421	24.4	17.2
55	X Ryer Island	rural	75	19.6	3.8
56	Prospect Island	rural	not available	3.2	not available
57	Twitchell Island	rural	2	5.9	0.3
58	X Sherman Island	rural	34	16.2	2.1
59	Moore	rural	48	18.4	2.6
60	Cache Slough	rural	48	15.7	3.1
61	Hastings	rural	8	7.6	1.1
62	X Lindsey Slough	rural	2378	17.8	133.4
63	Sacramento South	urban	316873	81.8	3874.0