TESTIMONY OF DANTE JOHN NOMELLINI, SR.
BEFORE THE
STATE WATER RESOURCES CONTROL BOARD
MARK AND VALLA DUNKEL CDO HEARING
AUGUST 4, 2010

Excepting for the last two paragraphs herein (and the attachments it references), this testimony is the same as I gave in the Mussi et. al. and Pak and Young hearings. Therefore, as per the email from staff regarding this re-opened Dunkel hearing, I have not included copies of most of the attachments referenced herein, but they are identified on the updated List of Exhibits.

I reside on Middle Roberts Island (RD 524) at 6767 Wolfinger Road, Stockton, California, where my wife and I through our revocable trust own a home and the adjoining approximately 36 acres. We also have ownership interests in entities which own property on Lower Roberts Island (RD 684) and on Lower Jones Tract (RD 2038). For a number of years I owned an undivided one-third (1/3) interest in land at the westerly boundary of Honker Lake where I engaged in farming pasture and raising cattle. I am familiar with the subject parcels and the surrounding area. My professional work in the vicinity of the subject parcels includes serving as Secretary and Counsel to Reclamation District No. 684 (Lower Roberts), Reclamation District No. 2038 (Lower Jones Tract), and Reclamation District No. 17 (Mossdale); as Counsel for Reclamation District No. 2040 (Victoria Island) and as Special Counsel to Reclamation District No. 404 (Boggs Tract). I also work for numerous other reclamation districts in the Delta.

The subject parcels are all swamp and overflowed lands patented into private ownership by the State of California. Such lands were acquired by the State of California from the Federal Government by virtue of the Act of Congress of September 28, 1850 (9 U.S. Stats. at Large, p. 519), generally known as the Arkansas Act. In accepting the grant from the Federal Government the State is bound to carry out in good faith the objects for which the grant was made and thereby assumed an obligation to reclaim the lands.

> "The object of the federal Government in making this munificent donation to the general States was to promote the speedy reclamation of the lands and thus invite to them population and settlement, thereby opening new fields for industry and increasing the general prosperity." See Kimball v. Reclamation Fund Commissioners (1873) 45 Cal. 344, 360.

Critical to the economic viability of the subject parcels and economic support of the levees and drainage necessary to reclaim and sustain the reclamation is the ability to cultivate various crops including the timely application and utilization of water for surface and sub-irrigation. Consistent with its obligation to the Federal Government the State has encouraged the private investment in the reclamation of the Swamp and Overflowed Lands and enjoyed the benefit of the general prosperity resulting therefrom. The State has monitored the irrigation and

Exhibit 9

use of water on lands in the Delta and has for many years recognized the Delta lowlands including the subject parcels as enjoying riparian water rights. See Central Valley Project, Delta Lowlands Service Area Investigations Report Area DL-9, Stockton to Middle River and Vicinity, January 1964 (a copy of the report is Exhibit 9A). Included in said excerpts is "Table 8. Unit Consumptive Use of Water In Sacramento-San Joaquin Delta" (copy attached) which shows that for every use there is a net savings of water over "Tule and Swamp" which is the unreclaimed condition. It is generally accepted that on average the savings due to irrigated agriculture versus "Tule and Swamp" in the Delta is about 2 acre feet of water per acre per year. In addition to the general prosperity resulting from reclamation, the State has gained water supply.

Because the subject parcels are "Swamp and Overflowed Lands," their productive use was and is clearly dependent upon reclamation requiring construction, operation and maintenance of levees and drains. In order to fund such reclamation, economically viable agriculture was and is required. Clearly a Grantor of a parcel being separated from a waterway would receive no benefit from depriving the separated parcel of a riparian water supply. If the separated parcel could not economically bear the burden of its share of the cost of reclamation, then a greater burden would fall on the Grantor. Additionally, the water consumption resulting from unreclaimed land "Tule and Swamp" is clearly higher than that from irrigated cropland. Due to the high water table and/or inundation, the abandoned land would return to swamp or a waterbody. For swamp and overflowed lands the intent to convey riparian water rights with the land should be clear and only a clear expression to the contrary should be viewed as negating such intent.

The intent of the State and the Delta landowners was to reclaim the Swamp and Overflowed Lands for farming including the use of surface and sub-irrigation where required. Sluice-gates sometimes referred to as floodgates were used to both drain and irrigate the land. For drainage, the gate or gates would be closed to prevent the incoming or flood tide from raising water levels within the area and would be opened during portions of the ebb tide to lower the water level. For irrigation, the process was reversed and water levels within the interior sloughs, ditches and canals were raised to facilitate surface and sub-irrigation. See attached excerpts from History of San Joaquin County, California, Thompson & West (1879), page 43, first column. (A copy of said history is Exhibit 9B.)

The intent of both the United States and State of California in conveying Swamp and Overflowed Lands into private ownership was to facilitate reclamations and production of food. The Delta was ideally suited for this purpose because of its location at the confluence of numerous river systems. During the late spring and summer of the early years prior to major upstream water development, the Delta enjoyed exceptional availability of fresh water for growing crops. If one tributary watershed suffered dry conditions, others would have ample flow. Snow melt and accretions to the rivers from full groundwater basis provided additional water supply reliability. See attached excerpts from History of San Joaquin County, California, Thompson & West (1879), page 42. (Exhibit 9B)

Early reclamation essentially followed the natural features of the Delta. The serpentine alignment of exterior and now interior levees and various ditches and canals is the result of following the meanders and contours of the historic sloughs. Historic maps, soil surveys and the later aerial photographs show the location of the major channels and the hundreds of lesser meandering sloughs. As water overflowed, the channels heavier soil particles were deposited closest to the channels thereby creating elevated banks or natural levees. These elevated areas rimmed the swamps with a gradient falling away from the channels. The gradient has over time increased due to loss of elevation of the organic soils comprising the tule swamp. Oxidation, deflation due to drainage, compaction, burning and wind erosion all contributed to such loss of elevation. (See Exhibit 3J, The Settlement Georgraphy of the Sacramento-San Joaquin Delta, pages 290-294.)

Levee construction generally followed the meanderings of the elevated banks of the larger natural channels. Branching or intersecting channels were dammed and typically equipped with floodgates sometimes referred to as tidegates, sluicegates or culverts. These facilities were usually constructed of wood, brick, clay pipe and in some cases metal. Flap gates or other control mechanisms were used to manipulate the water levels in the slough by either trapping the high tide for irrigation or letting drainage escape on the low tide. As an example or confirmation of the extent of these culverts or floodgates, see Exhibit 9C which includes estimates for work to be done on Union Island and describes the filling of sloughs and installation of flood gates. For Roberts Island, we have the Report of the Commission of Public Works, California, 1895, which references the damming of "ten sloughs of various sizes" during reclamation work. (See Exhibit 9D.)

The use of floodgates, sloughs, ditches and canals for both irrigation and drainage was practiced extensively in the past and continues today.

> "Some irrigating had been done earlier, but the practice does not appear to have become a common part of delta farming until the 1870's. Flood irrigation had been tried on small grain by 1871, but was given up because of the excessive weed growth that resulted. For other crops land soaking before planting or flood irrigation were practices in use during the 1870's. Subirrigation prior to plowing and planting dates from the same decade; it was originally used for beans and potatoes or to encourage the growth of a volunteer hay crops. Since then subirrigation has been used on all growing crops.
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> Irrigation water was delivered to the backswamp land through tidal gates and drainage ditches in the 1870's. Filled mains backed water into field ditches of two- to four-foot depth; from these the water spread along the six-inch- to two-foot-deep laterals ("spud ditches") which were spaced at intervals of 65 to 85 feet. Seepage occurred in the peat soils. Water levels were controlled with dams across the ditches.

Water delivery systems independent of drainage ditches were in use by the latter 1870's. These systems were maintained by the farmer, only the drainage system being the responsibility of the reclamation districts. Water wheels, windmills, and low-head pumps were used on the higher alluvial banks where furrow and check irrigation were the rule. Gravity flow and siphons after the 1900's were used on the lower tracts. . . ." (Exhibit "3J," The Settlement Geography of the Sacramento-San Joaquin Delta, pgs. 310 - 312.)

In the late 1950's I worked during the summer as an irrigator on Venice Island. The Reclamation District drainage pumps were turned off to raise the water level in the main drainage canal to irrigate the field corn crop. The four-foot ditches which otherwise provided drainage were blocked with temporary wooden dams at higher locations to direct seepage and siphon flow into spud ditches which were spaced advantageously throughout the field about forty (40) feet apart. During this same period, I was responsible for the irrigation and weeding of an asparagus seed bed. Irrigation water was applied through quick connect lengths of aluminum pipe with fixed rainbird-type sprinklers. The water was pumped from a partially blocked four (4) foot ditch with water periodically recharged by way of siphon from the river.

On Victoria Island (RD 2040) irrigation was regularly accomplished by allowing drainage canals to fill and using ditch pumps to apply the water to the various fields.

In Reclamation District No. 684 (Lower Roberts) where I serve as Secretary and Counsel, the District has since 1898 owned the East Branch of Black Slough from the south line of Section 3 to the San Joaquin River and the West Branch from the south line of Section 34 to the San Joaquin River. See attached Exhibit 9J Indenture from John Ferris to Swampland Reclamation District Number 684 and recorded August 26, 1898.

The dam at the intersection of Black Slough and the RD 684 levee along the San Joaquin River contained a large floodgate which was operable for both irrigation and drainage. Although the floodgate was then equipped with a screw-type gate valve, water continued to flow along or around the structure and due to flood safety concerns was removed in 1980. Removal revealed that the floodgate was originally a box-type culvert constructed with wood which had deteriorated and was at some stage repaired and modified to accommodate a screw-type gate valve. After removal, siphons were installed for irrigation to replace the floodgate. The drainage feature was not restored. Due to flood safety concerns, Reclamation District No. 684 and the landowners therein have embarked upon the removal of all floodgates through the main levees and replacement with siphons or pumps where the conduits pass through the levees above the 100-year flood elevation. Attached hereto is a copy of a May 1927 map of Reclamation District No. 684 which shows the locations of thirty (30) floodgates. In my opinion, this is representative of the common use of floodgates during the early days of farming the Delta. Attached hereto are copies of photos which I recently took of currently operating floodgates in the vicinity of the subject parcels. Photo One shows the wooden box type floodgate at Holt in Whiskey Slough/Trapper Slough near the BNSF Railroad. The flap gate on the end closest to the railroad allows the farmers within the Honker Lake and some adjoining area to automatically trap the incoming tide water within what I will call a portion of Trapper Slough to provide a

stable and higher average level of water from which to distribute water for irrigation. This same portion of Trapper Slough receives the drainage from the area within Honker Lake being irrigated. During periods of irrigation, this portion of Trapper Slough is used for both irrigation and drainage with recycling. When not used for irrigation, the flap gate is raised and held in an open position to allow the water level to fluctuate more normally with the tide. Photo Two shows the other end of the same floodgate which no longer is equipped with a flap gate. This end used to be equipped with a flap gate which allowed for tidal pumping for drainage purposes. This floodgate controlled the water level in Trapper Slough along the property which I owned and farmed at the westerly edge of Honker Lake. Photos Three and Four show the tide gate at the southerly end of Trapper Slough. The tide gate currently consists of a corrugated metal pipe with a screw gate valve on the Middle River end. The screw gate is manually opened and closed to regulate the water level within Trapper Slough. This portion of Trapper Slough is sufficiently leveed on both sides to contain water elevations resulting from the normal tides. During flood periods, the gate is closed. I recently revisited the area where Duck Slough intersected Middle River. This location has two (2) irrigation pumping plants diverting water to the north. One provides water for the irrigation system following the alignment of what was formerly Duck Slough. At this location there are a number of old pilings which could have been part of an old flood gate controlling the water in Duck Slough.

Getting back to the early construction of levees, some of the larger sloughs were not dammed but were leveed for water transportation. The construction of levees or other embankments required borrow material which was at that time taken from areas along the levee or embankment.

The borrow areas particularly in the Delta lowland area resulted in an enlargement, extension or creation of a watercourse. In the case of Duck Slough, use of the floating steam shovel dredge Samson required enlargement of the watercourse to 30 feet wide by 7 feet deep just to float the steam shovel dredge. See Exhibit 3J, The Settlement Geography of the Sacramento-San Joaquin Delta by John Thompson, December 1957, pages 266 and 267. See also attached picture of a Samson Type Dredge taken from the publication The Tule Breakers by John Thompson and Edward A. Dutra.

The passage of time has tended to mask the existence of historic sloughs. Meandering roadways and property lines have been straightened, sloughs have been filled and replaced by ditches and pipelines and floodgates have been removed to reduce the threat of levee failure. Farmers have "squared up" and leveled their fields. In many cases, the upper portions of the slough sediments were removed and exported or mixed with adjoining soil to make farm field soils more uniform.

In addition to the subject parcels' continued riparian connection to the sloughs and rivers is the connection to the Delta pool. The Delta pool is like a lake. Even without river flow the lands within the tidal range are riparian to the pool. DWR and USBR defined Delta Lowlands to be those lands below five (5) feet above mean sea-level and in the 1956 Cooperative Study Program assumed the same to have riparian status. Tide elevations without river flow periodically exceed the five (5) feet above mean sea-level and what is of equal importance is the

connection of the lands to water in the channels because of the high water table. The interconnection of the water in the surrounding channels to the water table beneath the Delta lands is evidenced in Exhibits 3V, Reclamation District 544 Seepage Monitoring Study 2000-2001, Exhibit 9E Estimation of Delta Island Diversions and Return Flows, DWR, February 1995; Exhibit 9F DWR's January 30, 2009, letter to MWD, et al. re proposed Delta Wetlands water transfer; Exhibit 9G Excerpts from DWR's 2009 Webb Tract Transfer Pilot Study and Office Memos; and Exhibit 9H Investigation of the Sacramento-San Joaquin Delta Report No. 4, Quantity and Quality of Waters Applied to and Drained From the Delta Lowlands, Department of Water Resources, July 1956.

Additionally, I have attached Photos Five and Six which show seepage into Woodward and McDonald Island resulting from the June 2004 flooding of the Jones Tracts. This seepage was the result of Delta pool water elevations during a period of low river flow.

Even without a direct application of water, there is always some consumption of water from the channels due to capillary action transmitting water to the surface and/or natural vegetation. Without the operation and maintenance of drains and levees and constant suppression of vegetation, even the Delta lands above high tides will vegetate and consume water from the channels. An impervious encapsulation of the Swamp and Overflowed Lands of the Delta is not a real possibility.

The continued connection between the Delta lands and the water in the surrounding channels precludes there being any real severance of the land from the waters.

The inference that a parcel in the Delta no longer abutting a major channel is severed from the water in the channel is an artificial construct with no real benefit.

The evidence is clear that irrigation of the Delta lands consumes less water than "tule swamp", that irrigation of Delta lands removes and stores salt during the irrigation season and that continued productivity contributes to the operation and maintenance of reclamation works in furtherance of the obligation of the State to reclaim the Swamp and Overflowed Lands which it accepted from the United States.

Attached hereto as Exhibit 9I is a copy of my Declaration in Support of Motion to Re-Open this hearing, including attachments. I would like to note that the attachments thereto labeled Exhibit Dunkel DJN 13 are photos of the current Woods IC diversion works showing the old flood gates previously used to deliver irrigation water. Based on my knowledge of the history of the Woods IC, these old brick works are the same ones that were used in the early 1900's and late 1800's by the Woods brothers. I believe this confirms that the channel abutting the Dunkel property is the same old slough referenced in the historical record (as described by Mr. Blake in Dunkel Exhibit 4, page 5, paragraph 9 and Mr. Wee in MSS- R-14, pages 6-7, Exhibit 21 of the Woods IC CDO hearing), and thus has been used for irrigation purposes since at least 1898.

I believe the slough that abuts the Dunkel property was further confirmed in the rebuttal testimony provided by MID, et al., in the Mussi, et al., and Pak and Yong hearings. In those hearings, Mr. Jack Meyer presented rebuttal testimony indicating the existence of local sloughs due to soil types. On his Figure 2 of MSS R-9 he notes the Columbian soil along a portion of Duck Slough at its junction with Burns Cut Off. I note that this same soil type exists in two places near the current location of the Woods IC diversion point, one of which appears to correspond directly with the slough abutting the Dunkel property.