

Written Testimony of
Tim Stroshane

Senior Research Associate
California Water Impact Network
to the State Water Resources Control Board
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My name is Tim Stroshane. I represent the California Water Impact Network (C-WIN) in these evidentiary hearing before the State Water Resources Control Board (State Water Board) concerning the petition to consolidate places of use of the State Water Project (SWP) and federal Central Valley Project (CVP) as specified in the license and permits of the US Bureau of Reclamation (USBR) and the California Department of Water Resources (DWR).

- **The State Water Board asks whether the petition to change the place of use under the specified license and permits of USBR and DWR (petition) be approved.**

There are several reasons why C-WIN believes the State Water Board should deny the petition.

1. *First, the basis for the Governor's drought emergency declaration is questionable at best, and therefore so is DWR and USBR's justification for the petition.*

DWR and USBR justify the petition "to accomplish the directives contained in Governor Schwarzenegger's February 27, 2009, proclamation of a state of emergency addressing California's drought water shortage." This is specious on its face for two reasons.

- First, California does not apply specific criteria for determining objectively when the state is in a drought. To do so would be rather daunting, since three major regions would have to be considered: the Colorado River Basin, the Central Valley watershed, and the North Coast. Is it a drought when just one of these regions is dry or critical? Two? Or should all three be dry or critical for the state to be in a drought? How long is a dry spell and when do we know it is a drought? Is it a drought when only the state and federal government's water projects are short supplies, and local and regional urban and agricultural water facilities are

not? **California is not in a drought by historical measures of precipitation, snowpack, runoff, and reservoir storage.** By the time the proclamation was issued, a series of wet storms brought considerable rainfall to California watersheds, including those important to the SWP and CVP. This has changed the water supply picture in California a great deal since the Governor's proclamation.

- i. Precipitation: We are closer to historical average rainfall for northern California than we are to rainfall records for drought years.** DWR's own report to the Governor, dated March 30, 2009, reports that northern Sierra precipitation (as measured by the 8-station Index on March 20, 2009) shows an index of 36.7, which is closer to the 1922-1998 average (50.0) for the index than it is to the indices for the 1923-24 (17.1) and 1976-77 (19.0) droughts. (Exhibit 1, Figure 1, p. 7.) Precipitation for the Sacramento River basin is 86 percent of historic averages for the October-March period while San Joaquin River basin reached 89 percent of normal, and Tulare Lake Basins was reported by DWR on its Data Exchange site online at 80 percent of normal for the October through March period. (Exhibit 2)
- ii. Snowpack:** The storms of February and March improved the state's snowpack picture as well. DWR informed the Governor that snowpack as of March 27, 2009, had reached 87 percent of average. (Exhibit 1, p. 7)
- iii. Runoff:** DWR's report to the governor backed away from classifying Water Year 2009 as "critical" and instead is projecting that both the Sacramento and San Joaquin River regions will end the water years classified as "dry." (Exhibit 1, p. 9) Runoff statewide in water year 2006 was 173 percent of average, 53 percent in WY 2007, 58 percent in WY 2008, and is projected to be 70 percent in WY 2009 (Exhibit 1, Figure 4, p. 11). This seems reasonable, when compared with the runoff map for the true drought years 1987 to 1991 for most regions of the state when runoff was ranged from 43 percent to 72 percent between 1987 and 1991. (Exhibit 4, Figure 4, p. 11.)

iv. Reservoir Storage: Pyramid and Castaic Lakes, two terminal SWP reservoirs in southern California, are at their average storage levels for this time of year. (Exhibit 3) It is common for reservoir operators to move water from the mountain reservoirs to their terminal reservoirs closer to urban centers to maintain a certain amount of flood storage capacity once snowpack begins to melt. Oroville (72 percent) and Shasta (77 percent) are currently both above 70 percent of average. Other CVP reservoirs such as Folsom and Millerton Lake are presently exceeding their historical average storage levels for this time of year. (Exhibit 3) We think the onus is on DWR and CVP to explain why this picture merits a drought emergency.

- **Second, DWR and USBR accomplish water transfers with regularity at present without benefit of consolidating their places of use.**

DWR operated drought water banks in 1991 and 1992 without needing to consolidate the SWP's place of use with that of USBR's CVP. Changes to places of use were granted by the SWB to a specific few water rights permits on a temporary basis. (Exhibits 5 and 6.) USBR operates transfers under the Central Valley Project Improvement Act with great regularity as well to provide its customers water, even through transfers that cross the Delta. Again, the onus must be on DWR and USBR to convince the State Water Board that consolidating their places of use is needed to address a situation that looks more like a dry to below normal year with each passing day. Past DWB experience shows that it is not needed to conduct a drought water bank.

Instead, C-WIN believes that the petition, taken in context with the state and federal government's push for a Peripheral Canal and new Central Valley storage reservoirs, is about expanding the size of the market for water transfers in California and establishing conveyance and storage facilities to increase water market activity throughout the state. We will return to this shortly.

2. *The petition as a whole was not subjected to adequate environmental review, and full disclosure to the public and decision-makers has been avoided as a result in violation of the spirit and letter of CEQA.*

The State Water Board should at a minimum delay a decision until an environmental impact statement and report are prepared on the petition. DWR attempted to justify only the Drought Water Bank in its exemption from environmental review, but with USBR (which had only processed an Environmental Assessment/Finding of No Significant Impact on the DWB) now brings to the State Water Board eight (8) other "projects" in the petition, none of which were disclosed or reviewed in the course of the environmental review period ending March 19, 2009. These additional projects represent not only actions beyond the scope of the environmental reviews but would greatly expand the use of the SWP and CVP for water transfers in a unified water market. C-WIN submitted extensive comments alleging numerous inadequacies these agency reviews.

3. *In failing to conduct adequate environmental reviews on the full content of the petition, it should be denied because there is insufficient information about amounts and scheduling of likely transfers, above and beyond amounts reported in the 2009 Drought Water Bank environmental documentation.*

The petition provides insufficient information for the State Water Board to make an informed and well-considered decision. Put another way, the scope of the petition greatly exceeds the scope of the environmental reviews conducted for the 2009 Drought Water Bank. For example, the petition includes reference to "Future Projects" without specifying what those would include and how its operations and accounting would actually continue somehow complying with the 2008 delta smelt biological opinion. Nor does the petition specify either how these proposed operations would comply with the upcoming June release of National Marine Fisheries Service's (NMFS) biological opinion on the impacts of SWP and CVP operations on anadromous fisheries in the Delta. This petition represents a categorically different mode for operating the SWP and CVP and should be seen as a substantial change to state water policy without authorization from either the US Congress or the California Legislature. Endangered Delta smelt (a keystone Delta fish species). Several salmon runs and the Sacramento Valley population of giant garter snakes could be directly harmed by rim reservoir, Delta export pumping operations, and idling of rice fields associated with approval of this petition. But the State Water Board will not have sufficient data on this problem to make an informed decision.

4. *Neither the petition nor the drought water bank environmental reviews provide assurance to the public and the State Water Board that the water supplied under the petition will not be wastefully or unreasonably used with respect to California Constitution, Article X, Section 2.*

The petition justifies proposed changes to consolidate places of use simply to enable DWR and USBR “to more effectively utilize the operational flexibility of the combined SWP and CVP facilities to facilitate water transfers and provide water to the combined SWP and CVP service areas to minimize the potential impacts of the current critical water shortage within California.” The petition provides no certainty those end uses for water provided through these transfers will be used as efficiently as possible. We will discuss this later in my testimony and that of Tom Stokely’s (also for C-WIN). The petition’s justification, apart from alleviating lost supplies due to normal operation of water contract and water right priorities, is more about DWR and USBR and the state and federal water contractors getting to operate the two projects so as to establish one unified water market to benefit water agencies of the San Joaquin Valley and southern California, at the expense of the groundwater resources, Sacramento Valley streams, and the Bay-Delta estuary. Much of the agricultural lands intended to receive water from the various petition projects were found by the State Water Board in D-1641 to contribute heavily to the salinity problems of both the San Joaquin River and channels of the southern Delta, and in Water Quality Order 85-01 these discharges were called by the SWB a “public nuisance.” (D-1641, pp. 81-86; Exhibit 7.)

5. *As a matter of state water policy, dry and drought conditions in California should no longer be seen as disastrous and the subject of emergency declarations.*

Californians have known almost since statehood that our state is subject to natural climatic extremes. Dry and drought periods should surprise no one, and consequently should never again be the subject of emergencies. Much the way America is now planning for a post-fossil fuel energy regime, and California takes action to reduce the state’s carbon footprint in planning for climate change, California should be leading the way toward retrofitting our cities, neighborhoods, and all sectors of our economy for greater regional water self-sufficiency as well.

Denying this petition won't cause these policy actions to be taken, but its denial would help educate the public that California can invest far more wisely in its water resources than it now does.

➤ **The State Water Board asks, if the subject petition is approved, what (if any) terms and conditions of approval should be imposed?**

If the petition is approved by the State Water Board, the California Water Impact Network recommends that the State Water Board condition the changes to place of use so that transfers are permitted only within basins, and do not involve exportation of water from the Delta by either SWP or CVP pumps.

In cases where extraction of stranded supplies from dead storage is warranted—such as the petition describes in the San Luis Reservoir as faced by the Santa Clara Valley Water District this year—the State Water Board should condition approval of the petition to require that DWR and USBR undertake drought and capital facilities planning that include investment by water agencies to obtain the physical means to pump, siphon, or otherwise extract supplies from dead storage that do not involve pumping water from the Delta.

Rim reservoir and pumping operations in support of the petition must demonstrate in semi-annual reports that fish populations above and below the dams at these reservoirs are being maintained in good condition, as called for under California Fish and Game Code Section 5937.

Because of the complexity of the increased number and volume of water transfers, the State Water Board should condition operation to no fewer than quarterly reports from DWR and USBR detailing water transfer activities indicating how the projects were operated to accomplish the purposes of the petition, including date and time of reservoir release supporting the transfer, sales price of the water, water quantity, whether the transaction relied on joint point of diversion, which project the participating contractors were contracted with, and which parties were the ultimate end user of the water provided by the transfer.

Under D-1641, the State Water Board assigned responsibility for the attainment of southern Delta salinity objectives at Vernalis to USBR. Vernalis Adaptive Management Program (VAMP) researchers have not generated the data originally hoped for by the State Water Board because of dry years and lack of high flows. These results are needed to correlate pulse releases

on the San Joaquin to see how and whether the pulse flows, in tandem with emplacement of the Head of Old River Barrier, drive salmon smolts beyond reach of the export pumps.

The State Water Board must condition any approval of the petition on USBR continuing to demonstrate in advance how USBR and the SJRA parties intend to conduct flows for the VAMP and implement market transfers at the same time, especially if the next two years are dry years. Which will be more important to the State Water Board: getting data from the VAMP, or approving a petition that establishes the largest water market ever?

- **The State Water Board asks, would approval of the subject petition (with any terms and conditions identified pursuant to Issue number 2) initiate a new right or injure other legal users of water?**

The California Water Impact Network believes that the petition would create a new right—a right for the SWP and CVP to operate as a unified market for water transfers. While not strictly defined as a “water right” the petition is essentially asking the State Water Board to do something unprecedented and without authorization from either the US Congress or the California Legislature. In our opinion, approval of the petition would represent an abuse of administrative and executive discretion by the State Water Board.

The petition would create a market for water in California unlike any the Earth has ever seen. Markets for any commodity are touted by their supporters for their supposed genius at allocating resources efficiently without conscious direction. In the wake of financial collapse that engulfed the US and the world’s financial industry recently, however, the world’s leaders and its peoples are far more skeptical of unregulated financial activity than they were just 12 months ago.

Markets require information to function, and if the State Water Board fails to collect essential information about market activities and take responsibility for regulating a market for water then causality behind the water problems we create with this market would have mysterious origins, and consequently their solutions would be unclear. Historians refer to this as a “recession of causation” – the causality of problems has no clear origin to the people who are immersed in the reality at the time.

Information collected about such a water market is useless unless it is analyzed, so the State Water Board must commit to analyzing the outcomes of the water market it creates. It must do so because of its two duties to protect public trust resources and uphold the constitutional prohibition on wasteful and unreasonable use of water.

Injury to legal users of water would likely spread with operation of this water market. Those most directly affected will be Sacramento Valley groundwater users. Some agricultural areas currently purchase surface water from the Central Valley Project and the State Water Project in the Valley to supplement either their riparian or pre-1914 water rights in the Valley, or to supplement their reliance on groundwater supplies. If they turn back their surface supplies to the CVP and SWP for later sale to willing buyers elsewhere, they may pump additional groundwater to bring their crops to harvest. If such pumping occurs, others who rely wholly or partially on groundwater to bring in their crops may face declining groundwater elevations or well failure at worst, which would be a disaster for them from artificial causes.

In comments limited to the environmental reviews of the 2009 Drought Water Bank, C-WIN and its fellow coalition members Butte Environmental Council and the California Sportfishing Protection Alliance provided evidence for the northeastern Sacramento Valley (Chico area) indicating that groundwater elevations had already been falling in the last few years. Increasing the potential for Sacramento Valley growers to pump more groundwater to irrigate crops over the next two years could place the Valley's aquifers at risk of further elevation declines and increased pumping costs to farmers and towns reliant on groundwater. These additional costs to access groundwater would represent direct injury to people reliant on groundwater.

DWR reported to the Governor in March that "some groundwater levels are comparable to previous drought periods (1976-77 and 1991-92). (Exhibit 1, p. 11, Figure 5.) This is troubling because, as noted earlier in my testimony it is questionable that we are in a drought period. The Department produced a map for its report to the Governor indicating that for the Sacramento Valley groundwater levels in selected wells are about the same as drought period water levels, and in the San Joaquin Valley, water levels in selected wells are below drought period water levels. This map in essence illustrates for the Sacramento Valley the geographic extent to which

groundwater substitution transfers would adversely affect groundwater elevations there, legally injuring potentially large numbers of groundwater-reliant farmers there.

➤ **The State Water Board asks, would approval of the subject petition unreasonably affect water quality, fish, wildlife, or other instream beneficial uses?**

The California Water Impact Network believes that approval of the petition would unreasonably affect water quality, fish, wildlife, and other instream beneficial uses. The petition requests State Water Board authorization of consolidation of places of use for the SWP and CVP for two years. This would amount to two annual cycles during which would occur Delta smelt spawning and rearing, and spawning and rearing by anadromous fish species in the Central Valley watershed. The petition is proposed at a time when the populations of both sets of fish species near extinction. No signal is given in the petition by DWR and USBR that they recognize that a more flexible water transfer market that more fully utilizes both project's pumping and conveyance capacities might increase pressure on these already stressed fish populations.

Another potential impact to fish species is likely to result from further depletion of groundwater levels in the Sacramento Valley in the areas of streams tributary to the Sacramento River. While USBR is mindful to maintain cold water storage for late-season releases to help migrating fall-run Chinook salmon, many Sacramento Valley tributary streams are known to be linked to flowing groundwater. (Exhibit 8) Depletion of groundwater levels could directly lower stream levels reducing critical spawning and rearing habitat for anadromous fish along these tributaries. Two annual cycles of intensive operation of the SWP and CVP under the petition's provisions could push both Delta smelt and anadromous fisheries into oblivion.

Despite what *is* known about the interconnections between groundwater flows, surface stream flows, and critical anadromous fishery habitat in the Sacramento Valley, our comments on the 2009 Drought Water Bank environmental reviews (Exhibit 3) also stressed extensive gaps in society's scientific knowledge about the degree and nature of interconnections of these natural resources. We argued that a more prudent, precautionary approach would avoid exploiting these aquifer resources while pressing on with critical scientific research—hopefully with involvement from the United States Geological Survey—to learn more about the resources to assess

accurately their safe yields, critical stream flow levels, and ecological role throughout the Sacramento Valley basin.

Giant garter snakes are endemic to Central Valley wetlands, irrigation and drainage ditches, and rice fields. They have adapted to a limited degree to the dominance of agricultural production in the Valley, but they rely on the habitat created by flood-irrigation rice production in the Sacramento Valley. The proposed 2009 Drought Water Bank would potentially idle over 55,000 acres of rice fields into which irrigation water would not be placed, crowding garter snakes into remaining fields and ditches as suitable habitat, reducing survival rates for young snakes, and increasing competitive pressures for prey species, which will also be reduced in abundance because of idled rice fields. The US Fish and Wildlife Service biological opinion on the 2009 Drought Water Bank acknowledges that the total population of giant garter snakes in the Sacramento Valley is not known, but that nonetheless impacts will be adverse and potentially significant:

The proposed fallowing or planting alternate crops on up to 55,571 acres under the DWB water transfer program is in addition to normal fallowing to accommodate farm activities being done in the rice lands not participating in the DWB. The fallowing that occurs because of this water transfer project is not the normal fallowing that farmers would do for a year. Therefore, the fallowing under the water transfer program is well above and beyond that done under normal crop rotation programs or water conservation programs in this drought year. (Exhibit 9, p. 32.)

...

We do not know and have no information with which to estimate the size or age-class structure of the resident snake population in the action area....If there is a population that has persisted in the DWB action area during this time, we would not anticipate the effects of the 2009 transfer program to impair the ability of that population to continue to persist. We anticipate that some individuals are likely to be displaced and will need to relocate elsewhere. (Exhibit 9, p. 36.)

...

Fallowing rice fields or planting crops that do not provide suitable habitat will not only temporarily remove suitable giant garter snake habitat, but will also have adverse effects on reproduction, recruitment, and survival of the snake that will continue to affect giant garter snake populations well beyond the one year project time frame. (Exhibit 9, p. 38.)

These are selections of a much larger universe of concerned comments in the biological opinion by the Fish and Wildlife Service (FWS), even though FWS still finds no jeopardy to survival of the giant garter snake from implementing the DWB. Moreover, the uncertainties of the FWS's petition are compounded by the fact that the petition adds 8 additional transfer projects beyond the scope of the 2009 Drought Water Bank. The State Water Board should be very concerned about the paucity of information the FWS relied on for its finding. As urged earlier in this testimony, the petition should be at a minimum delayed so that an environmental impact statement and report would be prepared to help inform SWB decision makers about the potential impacts of the petition.

➤ **The State Water Board asks, are the proposed changes in the public interest?**

The petition does not and will not serve the public interest.

First, even for those most affected by a third year of dry weather here in California, we are no longer in a drought approaching the conditions seen in the 1920s or the 1970s, as shown by DWR's own report to the Governor. (Exhibit 1.)

Second, while beneficiaries of the 2009 Drought Water Bank and other "projects" within the petition include urban water contractors with either the SWP or CVP, their needs can readily be met through more aggressive water conservation within the framework of existing supplies. There is no inherent need to ramp up a water market during an alleged drought, which lacks restrictions on efficient end use of water transferred. We Californians always live in a dry climate at least 6 to 8 months out of every year. Three straight dry years provoking "sky is falling" rhetoric from water officials represents more a failure of the State of California and the federal government to lead Californians to adapt better to our dry climate through aggressive application of a wide variety of "soft water path" technologies that will enable urban water users to apply far less water with minimal impact on their lifestyles.

Third, just one area of the Central Valley is most affected by dry conditions—the western San Joaquin Valley. Irrigation and water districts there have, collectively, the lowest priority water contracts within low priority water right holders (USBR and DWR). They also contribute much of the salts that make the San Joaquin River an impaired water body in the eyes of the SWB. (Exhibit 10.) Lands cultivated in these areas and also in the Tulare Lake Basin (Exhibit

11) pose a moral hazard remarkably similar to the moral hazard of bailing out banks holding large portfolios of toxic assets: many of these lands until the last 7 to 10 years were planted in annual field crops (including cotton) which could be readily fallowed if water was short, and growers could more flexibly adapt. DWR reports that one significant difference between the current drought and those of the past lies in the fact that agricultural lands were converted to higher value permanent crops such as orchards and vineyards in what has been historically an arid region of the San Joaquin Valley. This land conversion, says DWR, "eliminated the flexibility of changing crop patterns or fallowing lands in response to dry conditions." (Exhibit 1, p. 16.)

The State Water Board should demand answers from the petitioners and their contractors to such questions as: Why were such crops planted when it has long been known that the western San Joaquin Valley is a dry place? In 1951, the State Water Resources Board reported that average rainfall at Firebaugh was 7 to 8 inches annually, and at Coalinga was 6 to 7 inches. (Exhibit 12.) In 2005, DWR reported similar figures in the *2005 California Water Plan* regional reports (Chapters 7 and 8, under the "Climate" headings). The water contractors of the San Luis Unit have supplies that, under dry precipitation and runoff conditions, can be 100 percent interruptible.

These facts are a matter of public record, discoverable through due diligence by both growers and their providers of agricultural credit as they decide on crops and whether to acquire lands for purchase or rent. Planting of such crops in an arid location with low priority water contracts and water rights is the agricultural equivalent of subprime lending in the housing sector. These are the highest risk lands on which to plant perennial and costly orchard and vineyard crops. To bail out such questionable investments poses the moral hazard—should the growers learn from their mistake by being required to take losses? Or should water be provided to bail them out and risk that the same problem will occur again in the next dry year?

Apparently, remarkably, Westlands Water District believed that after a run of wet years in the late 1990s (including the notable El Nino water year 1997-98), District lands were suddenly suitable for permanent crops like vineyards and orchards. According to General Manager Thomas Birmingham in the summer of 2004:

'The trend to more and more permanent crops is very encouraging for farming in Westlands....One of the main reasons for this trend is that our water supply has become

more stable and dependable in recent years. Planting vineyards and orchards requires confidence that the water these crops require will be available well into the future.’ (Exhibit 13.)

The *Los Angeles Times* also reported in early 2004 that cotton farmers, who used to be abundant in the western San Joaquin Valley, had to adapt to “a world without subsidies,” in the wake of a World Trade Organization (WTO) ruling that challenged the US cotton price support program on behalf of Brazil. In response to the ruling, the *Times* reported that California farmers were switching to unsubsidized orchard crops like fruits and nuts, and vineyards. (Exhibit 14.)

The *Sacramento Bee*, reporting on almonds, also makes clear that low water supplies is not the only factor affecting orchard and vineyard growers. National and global commodity prices are very influential in the decisions growers make about whether to plant, retain, or plow under a crop, whether melons, nuts, or fruit. (Exhibit 15.) In deciding against the petition, the State Water Board would be affecting just one of several factors growers take into account when they make decisions affecting their crops.

The State Water Board is the chief regulator on this petition. DWR and USBR are advocating the water equivalent of a bailout—and a whole lot more. It is up to the State Water Board to provide the foresight and leadership that until only recently has been sorely lacking in both agriculture and financial sectors. The public interest was not served ultimately by the abuses of subprime lending and widespread securitization and sale of questionable assets.

The parallels of the financial crisis with the dangers of this petition are strong. Denial of the petition would be in the public interest. With it, The Board can put the parties to the petition on notice that waste and unreasonable use will not be tolerated, and that a water market shall not be approved when subject to adequate environmental review and legislative debate, and shall not be tolerated if it serves only to reinforce wasteful and unreasonable uses and diversions of water.

➤ **The State Water Board asks, what would be the effects or impacts (if any) to the State of California if the proposed changes are not approved?**

Not approving the petition would:

- Maintain clear responsibility by USBR for compliance with southern Delta salinity objectives and other requirements of the State Water Board’s D-1641.

Clarity of responsibility is also a matter of the State Water Board being able to determine compliance by USBR.

- Prevent Sacramento Valley groundwater elevations from declining further under pressure from groundwater substitution transfers encouraged by the petition.
- Protect critical habitat of endangered Delta smelt by limiting export pumping with its entrainment and predation impacts on this species.
- Protect critical habitat of endangered anadromous fish species reliant on Sacramento River tributaries at a time when abundances of these fish are dangerously low.
- Lessen salinity and selenium loads draining from the Grasslands Bypass Project into Mud Slough and the San Joaquin River.
- Reduce by one-half the agricultural employment and income effects that were predicted in January by UC Davis researchers.

After its release, public officials seized on the UC Davis study of the drought's impacts on the Central Valley agricultural sector presented to the California Board of Agriculture in January 2009. The study did not give much context, and we wish to provide more of that larger economic context for the benefit of the State Water Board's deliberations. In January, the researchers stated that 40,000 jobs in the Central Valley would be lost due to direct and indirect economic effects of the dry weather conditions and the greatly reduced SWP and CVP allocations contemplated at the time. DWR scaled this employment impact back to "between 16,200 and 23,700 full-time equivalent jobs" since the February and March storms came through California. (Exhibit 1, p. 19) In percentage terms, the employment impact of the supposed drought has been ratcheted back by 40 to 59 percent as storms have improved. According to data from the California Employment Development Department for February 2009, some 244,000 individuals in the seven-county area of the San Joaquin Valley were unemployed. DWR's employment impact would be between 7 and 10 percent of this figure regionwide. (Exhibit 16.)

UC Davis researchers anticipated in January that Central Valley farm and agricultural services income losses would reach \$1.15 billion, about 2.9 percent of 2007 total agricultural sector production in California (\$39.1 billion, Exhibit 17) according to the 2008 California. In

the March report to the Governor, DWR revised that estimate to range between \$440 and \$644 million, or about 1.1 to 1.6 percent of California's agricultural economy. (Exhibit 1.)

Anticipated acreage impacted by water shortages was estimated by members of Congress at the March 31st hearings before the House Subcommittee on Water and Power to be 400,000 acres this year. This acreage is less than one-tenth (less than 10 percent) of all cropland harvested in the San Joaquin Valley in 2002. Nearly all of this affected acreage is within water and irrigation districts with the least reliable contracted supplies and are located along the western side of the San Joaquin Valley. (Exhibit 1, p. 18; Exhibit 18.)

While we do not wish to minimize the direct and indirect dislocation of the absence of water for San Joaquin Valley growers and their communities, it is also true that California is experiencing the worst recession in nearly 70 years. California EDD reported there were 2,027,400 Californians unemployed in February 2009, so the unemployed from the San Joaquin Valley were just over 10 percent of the state's total. Proportionally to the size of California's economy, the economic impacts of our state's dry conditions are a small fraction of overall agricultural employment and income statewide.