Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
P.O. Box 100
Sacramento, California 95814-0100
Re: Comments on Bay-Delta Water Quality Control Plan Amendment Phase 1 and SED

Dear Ms. Townsend:

My name is Brenna Sumaya and I am an undergraduate student at University of California, Santa Cruz. I am highly appreciative of the opportunity to review the State Water Resource Control Board's (The Board's) *Public Draft Substitute Environmental Document in Support of Potential Changes to the Water Quality Control Plan for the San Francisco Bay/ Sacramento- San Joaquin Delta Estuary: San Joaquin River Flows and Southern Delta Water Quality*.

Thank you for this opportunity to submit comments on the proposed changes to the Water Quality Control Plan for the Board's consideration.

1. The State Board's proposed flows are insufficient and will not result in the doubling of the Chinook salmon population.

The Sacramento-San Joaquin Delta is remarkably important for the species that inhabit it. Unfortunately, the Bay-Delta has been in an environmental crisis for several years. In the hopes of addressing the ecological and water supply crises, the 1995 Bay-Delta Plan was adopted. The 1995 Bay-Delta Plan included a salmon protection objective which states water quality conditions must be "sufficient to achieve a doubling of natural production of Chinook salmon from the average production of 1967-1991" (1995 Bay-Delta Plan, p. 18). Despite the adoption of this plan decades ago, the ecosystem and wildlife of the Bay-Delta estuary is still facing constant deterioration. "Fish species have not shown signs of recovery since adoption of the 1995 Bay-Delta Plan objectives intended to protect fish and wildlife" (San Joaquin River Flows and Southern Delta Water Quality, Recirculated Draft, September 2016, p. ES-8).

In a previous version of this update, 35% of unimpaired flow (UF) had been proposed by the Board; however, "the proposed 35% UF is inconsistent with the protection of the existing migratory fish in the basin" (Letter from Tim Vendlinski to Jeanine Townsend, March 28, 2013, at p. 7). The Board is now favoring required unimpaired flows as a range from 30-50%; however, in order to protect public trust resources, the San Joaquin River at Vernalis should have "60%

of 14-day average unimpaired flow from February through June" (Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem, 2009, p. 119).

The Chinook salmon are a crucially important species. According to the National Wildlife Federation, the Chinook salmon "is a vital food source for a diversity of wildlife." Unfortunately, Chinook salmon are listed on the Endangered Species List. The State Board should exercise all of its power to protect the Chinook salmon in accordance with the Endangered Species Act of 1973. "It is further declared to be the policy of Congress that Federal agencies shall cooperate with State and local agencies to resolve water resource issues in concert with conservation of endangered species" (Endangered Species Act 1973, p. 2). I understand that federal agencies may set criteria for the recovery of salmon under the ESA, as reasonable and prudent alternatives, separate and apart from the Board's action here. However, the Board should take the lead and get out in front of other agencies, exercising its unique authority to adopt more precise protections than federal agencies have the capacity to adopt.

Furthermore, "in the Delta, the conflict between the way we move water and the health of the native species must be resolved… without adequate water flow, we cannot expect fisheries to recover" (Delta Plan 2013, p. 16). In order to protect public trust resources and requirements of the Endangered Species Act, the State Board should adopt 80% UF for habitat restoration, especially for the endangered Chinook salmon.

"The 25-45% UF range… is too restrictive to achieve protections for aquatic life in all water year types. In critical years, FWS recommended 76%, 86%, and 97% UF for the Tuolumne, Merced and Stanislaus Rivers to achieve the existing Bay-Delta WQCP salmon doubling objective" (Letter from Tim Vendlinski to Jeanine Townsend, March 28, 2013, at p. 10). I urge the Board to adopt 80% UF in order to improve all wildlife populations in the precious wetlands of the Sacramento-San Joaquin Delta. According to the Natural Resources Defense Council, there should be a, "reduction of water withdrawals from the Bay-Delta ecosystem … to meet the habitat needs of salmon and to restore environmental health" (How Water Management in the Bay-Delta Threatens the Future of California's Salmon Fishery, p.8).

Water diversions from the Bay-Delta jeopardize fish and wildlife by disrupting salmon migration and increasing salinity concentrations. The Legislature declared that we must, "manage the Delta's water and environmental resources and the water resources of the State over the long term" (California Water Code, section 85020). If adopted, the proposed 30%-50% UF will prove to be insufficient in the long run because the Delta will deteriorate as a significant habitat that serves various species. The Board's (and all resource agencies') history with salmon in the Delta has been too little too late. It is time to take the long view

and err on the side of caution in favor of recovering the species. This is what the legislature had in mind when it required all state agencies to look to the long term when making management decisions affecting the Delta.

2. The Public Trust Doctrine and California Constitution, Article X, Section 2, demonstrate that is in public interest to protect the fish and environment of the Bay-Delta.

At my university, fighting for sustainability and the preservation of the environment is ubiquitous. In fact, my college has the goal to reach zero waste by the year 2020 by installing water efficient toilets, utilizing compostable plates and other utensils, and encouraging the use of disposable bottles. Thus, I am a firm believer that the State Board should always act in favor of public trust values. Protecting and preserving the environment will always be my number one priority.

The Public Trust Doctrine provides that state agencies and courts are, "obliged to consider and protect public trust resources when allocating water" (The Mono Lake Case, the Public Trust Doctrine, p. 1101). The Sacramento-San Joaquin Delta Reform Act of 2009 also declares that "the constitutional principle of reasonable use and the Public Trust Doctrine … are particularly applicable to the Delta watershed" (Water Code section 85023).

Using the Public Trust Doctrine is an integral component in weighing out the different percentages of unimpaired flow that may be adopted. It is in the public trust's interests and feasible for the Board to adopt 80% UF because California Constitution, Article X, section 2, states that the use of water, "shall be limited to such water as shall be reasonably required for the beneficial use." If the Board were to adopt 80% UF, all of the water that would be going to the fish is beneficial for the environment and our state as a whole, whereas growing almonds and other water intensive crops is inefficient and unproductive. Growing these cash crops discourages ecological preservation.

3. The State Board has the authority and responsibility to adopt 80% UF because harvesting water intensive crops is simply market driven.

Protecting the public trust and choosing 80% UF is feasible because the current focus is on the harvesting of expensive orchard crops, instead of field crops such as onions and potatoes. In California Agricultural Production and Irrigated Water Use, Table 3 shows Harvested Acreage and Production of Selected California Crops, 2004-2013 which reveals an upward trend of an increase of water intensive crops, such as almonds, pistachios, and walnuts and a decrease in the production of other fruits and vegetables. "The shift to growing more permanent

orchard crops appears to be largely market-driven" (California Agricultural Production and Irrigated Water Use, p. 9).

These water intensive crops are unnecessary luxury items. Water should not be diverted from the Delta to produce such water intensive crops with very little yield. The water used to produce almonds, pistachios, and walnuts can be put to better use by helping the environment with 80% UF. Table 5 Net Water Use, Selected California Crops shows the extremely high amounts of water used to grow almonds and pistachios (California Agricultural Production and Irrigated Water Use, p. 18). It is feasible for the farmers to switch to growing less water intensive crops. Complete diversion of water away from agriculture is not an option for California's economy; however, we must consider the crops grown and how much water they require.

Table 11-2 on page 11-42 shows that 115,054 acres that would "lose" water if unimpaired flow requirements on the Stanislaus, Merced, Tuolumne, and lower San Joaquin Rivers are implemented are planted in almonds and pistachios. A wide variety of less-water intensive crops, such as potatoes, tomatoes, beans, sugar beets, safflowers, and garlic and onions (which are very profitable) could be grown on these acres. Switching to any one of these crops would use approximately 96% less water than growing almonds. It is irrational to consider any unimpaired flow objectives less than what would result if diversions were reduced by 96% to these 115,00 acres. No water right gives anyone the ability to use water unreasonably. Growing almonds under these conditions is an unreasonable use of water in violation of Cal. Const. Art. X, § 2. Due consideration of the Public Trust Doctrine requires the feasible step of reducing diversions. There is no public interest in growing almonds in place of other crops reasonably grown in an arid climate. At a minimum, a reduction in diversions (and concomitant increase in unimpaired flow) to the level that will sustain reasonably grown crops, which require only 4% of the water currently diverted for almonds, is required by the Public Trust Doctrine.

4. The 2009 Delta Reform Act and the 2010 Flow Criteria Report express the urgent need for a higher flow percentage of unimpaired flow to remain in the rivers.

The 2009 Delta Reform Act established "coequal goals" for the Delta: "providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem" (Wat. Code, § 85054). "Nearly every feature of habitat that affects native fish and wildlife is, to some extent, determined by flow" (San Joaquin River Flows and Southern Delta Water Quality, Recirculated Draft, September 2016, p. ES-9). The proposed 30-50% flow objective is far too

low for something that practically affects the entire ecosystem. Furthermore, the proposed 30%-50% flow objective does not follow the "coequal goals" as suggested by the 2009 Delta Act. 80% UF should be adopted for the protection of the Delta ecosystem and prolonged sustainability.

Although this contemplated regulatory action by the Board is not a "covered action" within the meaning of the Delta Reform Act, and is therefore not subject to consistency certification with the Delta Plan, the Board does have an independent duty to implement the requirements of the Delta Reform Act in all of its regulatory and adjudicatory acts. Increasing unimpaired flow on the Stanislaus, Merced, Tuolumne, and lower San Joaquin Rivers is a transfer of water through the Delta for the benefit of salmon, including providing cues to salmon present within the statutory Delta. This action, therefore, does occur in whole or in part within the legal Delta within the meaning of the Delta Reform Act.

This phase 1 amendment to the Bay-Delta Water Quality Control Plan must comply with the provisions of the Delta Reform Act.

5. The Porter Cologne Water Quality Control Act requires the balance of beneficial and detrimental values. Implementing new irrigation techniques will benefit our economy and environment.

The Porter Cologne Water Quality Control Act provides that, "the state must be prepared to exercise its full power and jurisdiction to protect the quality of waters in the state from degradation," and the state must, "have a primary interest in the conservation… of the water resources… and the quality of all the waters of the state shall be protected" (California Water Code Section 1300). The state must exercise its absolute authority to provide the highest water quality while also taking into account all demands on the waters, including "beneficial and detrimental values" (California Water Code Section 1300). In this case, we must address the economic growth generated from crops and the environmental values that are at stake.

Although almonds require colossal amounts of water, they are still a valuable commercial crop. It is claimed that, "the almond industry as a whole… generates about 104,000 jobs statewide" (The Economic Impacts of the California Almond Industry). It is unreasonable to completely ban the growth of water intensive crops because they stimulate California's economy and provide for various families. However, farmers are given far too much water because it gives them no incentive to consider less water intensive crops. Thus, if 80% UF is adopted, farmers will be incented to use water more practically.

Perhaps the 80% of almonds that are exported, many to China, will go up in price. Almonds are a luxury item with a relatively inelastic demand curve. Perhaps

farmers can grow far fewer acres of almonds, at a very high price, with the majority of their land planted in more water reasonable crops. As it is, the enormous cost to the environment of inadequate unimpaired flow is not reflected in the price of almonds and this results in market failure. Restoring market conditions is a further reason why increasing unimpaired flow is in the public interest.

Cutting back on the amount of water given to the agricultural industry does not mean that farmers will not be able to grow any crops. 80% UF should be adopted because it will entail innovations in irrigation techniques. Irrigation is an integral part of the agricultural industry because it allows the continuation of crop production while using water in the most efficient way possible. If farmers are allocated 20% of the water, they will be able to familiarize themselves with how to use water in a cost-effective manner that also ensures the wellbeing of the Bay-Delta environment. “With smart irrigation scheduling, growers are able to use their water more efficiently… while maintaining or improving yields” (Pacific Institute Farm Water Success Stories: Smart Irrigation Scheduling, p.1). Smart irrigation scheduling will not only profit the farming industry, but also the environment.

In closing, I urge the Board to adopt 80% of unimpaired flow as the flow objective for the LSJR and its tributaries. Thank you for the opportunity to comment on the proposed amendment to the Water Quality Control Plan and the SED for San Joaquin River Flows.

Sincerely,
/s/ Brenna Sumaya

Internet sources cited:

http://lawreview.law.ucdavis.edu/issues/45/3/topic/45-3_owen.pdf
http://www.almonds.com/pdfs/economic-impacts-california-almond-industry.pdf
http://pacinst.org/app/uploads/2013/02/smart_irrigation_scheduling3.pdf

https://fas.org/sgp/crs/misc/R44093.pdf