July 29, 2014

Mr. Ryan Wulff
National Marine Fisheries Service
650 Capitol Mall, Suite 5-100
Sacramento, CA 95814

Re: California Waterfowl Association Comments on the Draft Bay Delta Conservation Plan (BDCP)

Dear Mr. Wulff:

Thank you for the opportunity to comment on the draft BDCP and associated EIR/EIS. The California Waterfowl Association is a statewide nonprofit organization whose principal objective is the conservation of the state's waterfowl, wetlands, and hunting heritage. California Waterfowl believes hunters have been the most important force in conserving waterfowl and wetlands. California Waterfowl biologists are leading experts on designing, operating, and maintaining managed wetlands and associated upland habitat throughout California, including the Sacramento/San Joaquin River Delta and the Suisun Marsh.

In the Delta, Yolo Bypass, and Suisun Marsh, California Waterfowl has restored approximately 8,500 acres of wetlands and enhanced approximately 80,000 acres. California Waterfowl has invested $5.5 million in restoration and $10.2 million on enhancement. The state and federal governments and private landowners such as farmers and duck clubs have also invested millions of dollars in managed wetlands for the primary benefit of migratory waterfowl. These managed wetlands also benefit a variety of other bird species, as well as reptiles, fish, and mammals. They use natural and artificial water flows to flood wetlands, and then use developed infrastructure to hold and drain floodwaters as appropriate to provide food resources and suitable seasonal habitat.

Since 1945, California Waterfowl has been active in creating and maintaining managed wetlands habitats for migratory waterfowl, including ducks and geese. Because of the loss of 95 percent of the historical wetlands in California, the remaining wetlands, two-thirds of which are in private ownership, have to be intensively managed to provide the optimum habitat value for migratory waterfowl. While not listed under the state or federal endangered species acts, migratory waterfowl are protected by legislation or treaty, including the North American Waterfowl Management Plan (NAWMP) and the international Migratory Bird Treaty Act.

California Waterfowl has reviewed the BDCP Plan and the Draft EIR/EIS. As proposed in the current drafts, the BDCP will have significant and unavoidable impacts on wetland and waterfowl resources in the Suisun Marsh, Delta, and Yolo Bypass. The BDCP would also have significant impacts on water quality in the Suisun Marsh. California Waterfowl cannot support a project that will destroy tens of thousands of acres of publicly and privately owned managed wetlands, which provide habitat for migratory waterfowl and other wetlands-dependent species, including many species covered by the BDCP. California Waterfowl will provide comments below that express our concern that the conversion


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of up to 23 percent of the managed wetlands in the Suisun Marsh to tidal wetland habitat will disadvantage waterfowl without providing greater benefit to species covered by the BDCP.

Landowners and government agencies in the Yolo Bypass, Delta and in the Suisun Marsh have entered into long-term plans and agreements to achieve ecological goals that are beneficial to migratory birds and other species of concern. These include the Central Valley Joint Venture Implementation Plan, federal and state funded and held conservation easements, the Suisun Marsh Plan, the Yolo Bypass Wildlife Area Land Management Plan, and plans relating to the Stone Lakes National Wildlife Refuge and the Cosumnes River Preserve. To the extent possible, BDCP habitat projects should further the goals and objectives of these plans and agreements or, at the very least, not conflict with them.

California Waterfowl is primarily concerned with the effects of Conservation Measures 2, 3, and 4, as they relate to managed wetlands. California Waterfowl recommends the following changes to these conservation measures.

**Conservation Measure 2**

Conservation Measure 2 – Yolo Bypass Fisheries Enhancement – calls for increasing the frequency and duration of flooding in the Yolo Bypass for fish habitat. BDCP Chapter 5 – Effects Analysis – at Section 5.4.9.1.2, describes the effects of increased inundation on managed wetlands. Increased inundation, depending on timing, depth of flooding, and seasonality, can have adverse impacts on managed wetlands and food resources for wintering waterfowl.

Conservation Measure 2 would include adding operable gates to the Fremont Weir that would allow water to be diverted from the Sacramento River at an elevation of 17.5 feet, rather than at the current elevation of 32.8 feet. This water could be diverted into the Yolo Bypass at rates of from 3,000 cubic feet per second (cfs) to 6,000 cfs. The operable gates would allow inundation of the Yolo Bypass at times and during years when there is not sufficient water in the Sacramento River for the river to naturally overtop the Fremont Weir and inundate the Bypass.

According to Chapter 5, adverse impacts will range from flooding managed wetlands to depths that are incompatible with dabbling ducks to lessening the germination of seeds that provide feed for over-wintering ducks. California Waterfowl, the State of California, and local landowners have made significant investments in creating managed wetlands for the benefit of migratory waterfowl. California Waterfowl is concerned that not only will these investments be lost, but that waterfowl will suffer yet another diminution of their habitat, after having already lost 95 percent of the historical wetlands that they once enjoyed.

California Waterfowl believes that managed wetlands can be compatible with improvements in habitat for fish and other covered species. The 57,000 acre Yolo Bypass is an example of a multi-benefit approach to water management. First, and foremost, the Yolo Bypass is a flood protection structure for the Sacramento region. Yolo Bypass is also a significant agricultural area. Agriculture is beneficial for waterfowl, as well as other species. Yolo Bypass provides recreational opportunities, including waterfowl hunting. Managed wetlands on state and private lands in the Bypass provide important

habitat for migrating waterfowl in the winter. Current water flows and channels provide habitat for fish, including BDCP covered species.

Landowners and wetlands managers have adapted to the natural flooding that occurs in most years when the Sacramento River overtops the Fremont Weir or when tributary creeks on the west side of the Bypass empty their storm flows into the Bypass. Increased flooding for fish habitat could upset this adaptation and cause significant difficulties for farmers trying to plant their crops and for wetlands managers trying to provide seasonal waterfowl habitat. Plant species that are valuable to waterfowl, such as watergrass and smartweed, could be adversely affected by increased flooding at the wrong times.

Conservation Measure 2 could have broader support and lower cost if adverse effects that are identified in Chapter 5 are minimized. Use of the operable gates to increase inundation of the Yolo Bypass must be timed to avoid adverse effects on agriculture and migratory waterfowl, as well as to benefit the fish.

California Waterfowl recommends that Conservation Measure 2 include an adaptive management component that funds monitoring and research into the most minimally invasive means of using the operable gates at Fremont Weir to avoid impacts on agriculture and on waterfowl habitat, while providing the best possible habitat for fish, as well. If this monitoring and research includes cooperation with farmers, duck clubs, and other wetland managers, the multiple benefits already served by the Yolo Bypass could expand to provide fish habitat.

**Conservation Measure 3**

California Waterfowl generally supports the actions identified in Conservation Measure 3, particularly as they relate to managed wetlands. California Waterfowl has interests in Conservation Zones 1-5, 7, and 11. California Waterfowl owns managed wetlands in Conservation Zone 11 that could be considered for inclusion as components of the reserve system contemplated by Conservation Measure 3.

These properties have been used as study areas by researchers from UC Davis and the studies are being used to develop a theory of reconciliation ecology. The UC Davis researchers have been studying the benefits that wetlands managed for waterfowl habitat can provide to fish species, including species covered by the BDCP.

Conservation Measure 3 involves creating a natural communities preserve through acquisition of land in fee title and through conservation easements. The purpose of Conservation Measure 3 is to create linkages and connectivity among natural communities within and adjacent to the overall plan area, as well as protection and restoration of natural communities. This is generally consistent with California Waterfowl's mission of conserving waterfowl habitat and wetlands.

California Waterfowl has considerable expertise and experience in the protection and restoration of natural communities. The organization should be a primary candidate to assist in carrying out the projects and programs associated with Conservation Measure 3.

**Conservation Measure 4**

The Suisun Marsh is identified in the BDCP as Conservation Zone 11. Managed wetlands in the Suisun Marsh, mainly private duck clubs and state wildlife areas, constitute approximately 50,000 acres. These properties are primarily managed for the benefit of migratory waterfowl, but provide benefits to other wetland-dependent species as well, including species covered by the BDCP. The Suisun Marsh comprises approximately 10 percent of the remaining wetland waterfowl habitat in California. New research currently being conducted by UC Davis (on property owned and managed by California Waterfowl) suggests that covered fish may also be benefitting from managed wetlands. The current value of managed wetlands to fish hasn't been fully evaluated or quantified, but it isn't correct to assume that managed wetlands have no positive benefits to fish.

The BDCP discusses managed wetlands in Section 3.3.6.9. The section correctly identifies managed wetlands as a natural community. The section identifies stressors to managed wetlands as invasive plants and aging floodgate structures. The main threat is identified as flooding from breaching of levees. However, Conservation Measure 4 proposes to restore 13,746 acres to tidal natural communities. To do so will require the flooding of thousands of acres of currently managed wetlands through the breaching of levees.

In Chapter 5, Effects Analysis (BDCP Section 5.4.9), the conversion of these acres is identified as an adverse effect of the BDCP on managed wetlands. Migratory and resident breeding waterfowl, including ducks and geese, as well as other wetlands-dependent species, will suffer an absolute loss of habitat in these restored natural communities. Furthermore, the conversion of portions of the Suisun Marsh to tidal natural communities will have adverse impacts on the surrounding managed wetlands and associated uplands, through alterations to the physical infrastructure of water management levees and conveyance systems, and through degradation of water quality. Also, many of the existing tidal wetlands in Suisun Marsh have become completely invaded by non-native and noxious weeds that are now unmanageable.

Tidal conversions will have local effects on the tidal prism. Increased tidal inundation will mute the total tidal stage, decreasing the height of high tides and increasing the height of low tides. This will decrease drainage capacity of neighboring lands which could increase soil salinity (and therefore decrease waterfowl food plant production) and/or increase pumping costs. This will likely be a larger problem once several projects have been implemented and begin to have multiple cumulative effects. Tidal conversion will have effects on neighboring properties and land-use types beyond the expected effects on converted lands.

Although they are not yet candidates for protected status under the state and federal endangered species acts, waterfowl populations have been affected by the loss of 95 percent of their wetland habitat in California. Remaining wetland habitats have been managed over the past hundred years or so, to provide optimum habitat conditions on the remaining wetlands to make up, as best as possible, for the loss of so much habitat. Waterfowl and their wetland habitat are protected by the Migratory Bird Treaty Act, the North American Waterfowl Management Plan, the Tripartite Agreement between Canada, the United States, and Mexico, and the North American Wetlands Conservation Act. The

destruction of 13,746 acres of managed wetlands would violate the spirit, if not the letter, of these international obligations and existing conservation agreements and easements. For the BDCP to utilize the full benefits of managed wetlands, while restoring tidal wetlands in a way that does not threaten waterfowl habitat will require a system of cooperation with existing stakeholders in the Suisun Marsh and a rigorous system of adaptive management and mitigation.

California Waterfowl recommends that the covered parties under the BDCP continue to investigate and pursue a managed wetlands system that takes fish into account. UC Davis research indicates that the habitat needs of covered fish species and waterfowl are really not that different. A project of this nature and magnitude should not proceed in the absence of science, but instead should invest in new science to ensure that the effects of tidal marsh conversion will provide greater benefits to covered species than managed wetlands, before irreversible damage will be done to the existing waterfowl habitat.

At this time, there is no research or published data that "proves" or otherwise supports the assumption that tidal restoration will be substantially beneficial to fish, salt-marsh harvest mouse, or any of the other BDCP covered species. UC Davis is currently conducting a study that is beginning to document that managed wetlands are or can be beneficial to BDCP covered species. Basically, there isn't enough data that accurately quantifies the value of tidal marsh restoration to fish in Suisun Marsh in relation to the value of managed wetland. There is no way to substantiate the assumption that tidal restoration will meet the biological goals of the BDCP. Additional research ***MUST*** be conducted before any major changes are made to the landscape.

Managed wetlands in the Suisun Marsh can be, and are being, managed in ways that avoid the loss of habitat for waterfowl, while providing benefits to species covered by the BDCP. An array of stakeholders in the Suisun Marsh, including the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NOAA Fisheries), U.S. Bureau of Reclamation (BOR), California Department of Fish and Wildlife (CDFW), California Department of Water Resources (DWR), Delta Stewardship Council (DSC) and the Suisun Resource Conservation District, adopted a Record of Decision on April 24, 2014, for a Suisun Marsh Management Plan. The Management Plan proposes a 30-year process that would include tidal restoration of from 5,000 to 7,000 acres and the enhancement of 40,000 acres of managed wetlands. The Management Plan is carefully balanced to protect private ownership and stewardship of the Suisun Marsh's wetland and wildlife resources.

The California Waterfowl Association requests that Conservation Measure 4 be amended to include the following provisions:

1. The conservation measure for restoration of tidal natural communities is conducted according to the Suisun Marsh Management Plan over the life of that plan.
2. The conservation measure is conducted in accordance with a rigorous adaptive management process that restores tidal natural communities only as needed under actual conditions, such as sea-level rise or levee failure, in order to meet biological objectives.
3. Under the adaptive management process, the use and enhancement of existing managed wetlands to achieve BDCP biological objectives shall be the preferred method over restoration of tidal natural communities in a way that reduces or damages waterfowl habitat.

4. The adaptive management process will include funding for research to develop and formalize a sound project model that minimizes habitat loss to waterfowl before any lands are restored to tidal flows.
5. The conservation measure include investments in improving infrastructure for managed wetlands, such as exterior levee improvements, management of invasive plants, replacement of aging floodgates, and provision of pumps to facilitate seasonal draining of managed wetlands.
6. The conservation measure must require protection of existing water quality (low salinity) standards for continued management of managed wetlands.

There is a potential for achieving the BDCP's biological objectives for its covered species, but it should not come at the expense of California's waterfowl and other wetland-dependent species. Conforming the restoration of tidal natural communities to the Suisun Marsh Management Plan will help to achieve the BDCP's biological objectives, without unduly disrupting this extremely important remnant of California's historic waterfowl habitat.

Thank you for your consideration of California Waterfowl's comments on the draft Bay Delta Conservation Plan.

Sincerely,

Jeffrey A. Volberg
Director of Water Law & Policy
California Waterfowl Association