



July 25<sup>th</sup>, 2014

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

Subject: Suisun Resource Conservation District Comments on the Draft Bay Delta Conservation Plan (BDCP) and associated Draft Environmental Impact Report and Environmental Impact Statement (DEIR/EIS)

Dear Mr. Wulff:

The Suisun Resource Conservation District (SRCD) is a special district created by the California Legislature as a legal subdivision of the State of California (Public Resources Code, §§ 9003, 9960 et seq.). SRCD has the primary local responsibility for promoting wetland conservation of the Suisun Marsh through improvements in water management practices on private lands within the primary management area of the Suisun Marsh (*Id.* at § 9962.). As a resource conservation district, SRCD is empowered to coordinate resource management efforts for purposes of watershed restoration and enhancement (*Id.* at §§ 9001(b)(1) and (3)).

Historically, SRCD has taken the leadership role to ensure adequate water quality in the Suisun Marsh – a condition necessary to promote a diversity of productive waterfowl habitat, enhance the wetland resource values through appropriate management practices, and ensure the wetland and wildlife values of the Suisun Marsh are sustained and protected. This fact makes SRCD and its staff of professional wildlife biologists uniquely qualified to evaluate the adequacy of the BDCP and DEIR/EIS effects analysis and Project impacts on Suisun Marsh managed wetlands from increased salinity and direct habitat conversion.

The Suisun Marsh landowners and SRCD have been stewards of these wetland and wildlife resources for over a century. They advocated for passage of the 1977 Suisun Marsh Preservation Act to protect these wetland resources from development and degradation associated with salinity intrusion from reduced upstream freshwater flows. Additionally, SRCD is a signatory to the 1987 Suisun Marsh Preservation Agreement (a contractual framework for implementing the 1984 Plan of Protection – see SWRCB D-1641, p. 50) and the subsequent Revised Suisun Marsh Preservation Monitoring, and Mitigation Agreements (RSMMPA). The primary objective of the RSMMPA is, “to assure that Department of Water Resources (DWR) and the United States Bureau of Reclamation (USBR) maintain a dependable water supply of adequate quantity and quality within the Marsh

**Directors**

Tony Vaccarella, President  
Terry Connolly  
Arnold Lenk  
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Dennis Becker  
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Operations Manager  
Kelli Perez  
Office Supervisor  
Tim Edmunds  
Water Manager/Biologist  
Jeff Taylor  
Water Manager/Biologist  
Mark Abraham  
Water Manager/Biologist  
Steve Witherspoon  
LJI Resident Caretaker

**SUISUN RESOURCE  
CONSERVATION DISTRICT**

2544 Grizzly Island Road  
Suisun, CA 94585-9539  
(707) 425-9302  
(707) 425-4402 FAX  
srcd@suisunrcd.org  
www.suisunrcd.org

to mitigate the adverse effects on the Suisun Marsh of the Central Valley Project (CVP) and State Water Project (SWP) and a portion of adverse effects of other upstream diversions". To achieve this objective, DWR and USBR implemented the 1981 Plan of Protection for the Suisun Marsh and continue to operate and maintain DWR's initial facilities, the Suisun Marsh Salinity Control Structure, and water quality monitoring and compliance stations throughout the Suisun Marsh.

SRCD has reviewed the BDCP, DEIR/EIS, and has evaluated the proposed Project's future significant and unavoidable negative impacts to the wetland and wildlife resources of the Suisun Marsh from habitat conversion and further degradation of water quality conditions in the Suisun Marsh. The SRCD Board of Directors, which represents the private landowners of Suisun Marsh, cannot support and strongly opposes the proposed BDCP project. The Project proposes extensive future "mitigation" in the Suisun Marsh, which will result in the direct conversion and loss of existing managed wetland values and functions, and the degradation of the water quality conditions for the management of tens of thousands of acres of waterfowl and wildlife habitat on publicly and privately owned managed wetlands in the Suisun Marsh. The Project's "mitigation" will highly alter and increase the Suisun Marsh salinity regime, dampen the tidal stage, redirect tidal energy, and modify the existing ecological characteristics of over 58,000 acres of tidal and managed wetlands in the Suisun Marsh. It hardly seems accurate to describe the BDCP actions in the Suisun Marsh as "mitigation" – a term that connotes beneficial action.

The implementation of the BDCP Project and required mitigation measures are inconsistent with the 1977 Suisun Marsh Preservation Act's provision, "to preserve the integrity and assure continued wildlife use of the Suisun Marsh, including the preservation of its waterfowl-carrying capacity and retention of the diversity of its flora and fauna". To achieve the objectives of the 1977 Suisun Marsh Preservation Act, the Bay Conservation and Development Commission (BCDC) established policies and regulations in the Suisun Marsh Protection Plan, and the Department of Water Resources (DWR) also developed the 1981 Plan of Protection for the Suisun Marsh to mitigate the effects of the Federal Central Valley Project (CVP) and the State Water Project (SWP) on the Suisun Marsh. To protect Fish and Wildlife Beneficial Uses in the Eastern and Western Suisun Marsh, the State Water Resources Control Board established and has maintained numeric salinity standards for the Suisun Marsh in Water Rights Decision 1485, Order 95-6, and Decision 1641 (D1641). These salinity standards were further reinforced with execution of the Suisun Marsh Preservation Agreement (SMPA) and RSMMPA by and between DWR, USBR, Department of Fish and Wildlife (DFW) and SRCD. Any action of BDCP that reduces existing Delta outflow, increases tidal mixing of salts into the Suisun Marsh, or causes an exceedance of the D1641 or RSMMPA salinity standards would be detrimental to the existing ecological values of the Marsh and a violation of D1641 and the RSMMPA salinity standards.

With this in mind, SRCD submits the following specific comments.

**A. BDCP Will Result in Unacceptable Increases in Western Delta and Suisun Marsh Salinities, and Neither the BDCP Nor Supporting Environmental Documentation Accurately Reflect Nor Mitigate for Those Increases.**

The BDCP and supporting DEIR/EIS don't define future Project operations and impacts on existing Delta outflows. Instead a potential range of operational scenarios with a "decision tree" is presented, but the analysis does not quantify the duration and extent of the degradation of Suisun Marsh water quality and long term impacts to existing tidal and managed wetland habitats. The effects analysis repeatedly acknowledges increases in Suisun Marsh salinities from existing baseline conditions. This will result in a direct violation of the RSMFA Agreement and D1641 Suisun Marsh salinity standards.

The BDCP DEIR/EIS is inadequate because it fails to disclose the impacts of the proposed Project on the salinity of water diverted into Suisun Marsh managed wetlands. In brackish and freshwater tidal marshes, changes in salinity of a few parts per thousand will have considerable effects because the growth, productivity, and survival of most species are highly sensitive to any salinity (Parker 2011). Small changes in salinity could significantly affect the diversity and composition of these wetlands. Increases in soil salinity and inundation will differentially affect germination and the physiological limits of species (Parker 2011). A primary effect of salinity is that it delays germination and seedling development. Plant loss during this seedling stage can reduce the plant population density to suboptimal levels and significantly reduce yields (Mass 1993). The BDCP modeling presents salinity as the average monthly salinities (as represented by electrical conductivity [EC]). This provides a very coarse level of evaluation, which is inadequate to assess daily, monthly and seasonal impacts of the proposed Project operations on the Suisun Marsh salinities and water users. Fall flooding and seasonal irrigations of Suisun Marsh managed wetlands occur during high tide. At high tide, water flows by gravity into the managed wetland through water control structures from the adjacent tidal slough channels. (Water Rights D1641 - Table 3.) Water Quality Objectives For Fish and Wildlife Beneficial Uses measures Suisun Marsh salinity objectives compliance as the, "maximum monthly average of both daily high tide EC values." The reason D1641 requires measuring salinity compliance at high tide is because this is the period when channel water salinities are the highest and when managed wetlands are diverting water (by gravity) for habitat management and performing leaching cycles to reduce soil salinities during the spring growing season. In most regions of the Suisun Marsh the channel water salinity is lowest at low tide, with highest salinities at high tide. Therefore, impact analysis using daily average salinity (EC) under represents impacts of the proposed BDCP Project on Suisun Marsh water users and habitat management capabilities.

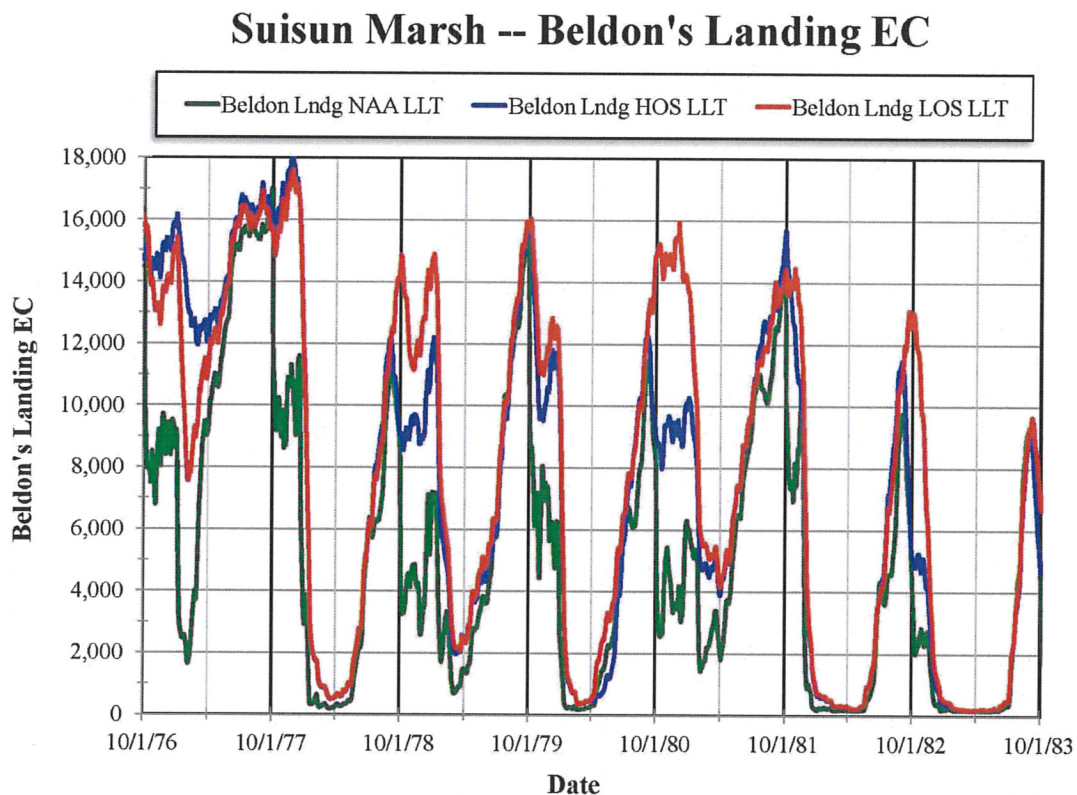
Note that the BDCP DEIR/EIS only simulated Delta water quality for the period 1976-1991 and only used data for a single drought period, water years 1987-1991, when disclosing drought year impacts. (DEIR/EIS page 8-135, line 23) The DEIR/EIS fails to disclose the impacts on water quality during other drought periods such as 1928-1934 and 1976-1977. The drought that started in 1987 did not end until 1993 (which was an above normal year) and 1993 was followed by another critical water year. The modeled period



of 1987-1991 doesn't represent the full extent of the 1987-1992 or 1987-1994 drought conditions or potential impact on Suisun Marsh salinities.

Figure 1 presents daily EC data for Montezuma Slough at Beldon's Landing for the period October 1976 through October 1983. The data are from four computer model simulations performed for the BDCP using DWR's DSM2 water quality model. The four simulations are:

- No Action Alternative at Late Long Term
- Proposed Project Alternative 4, Low Outflow Scenario (H1) at Early Long Term
- Proposed Project Alternative 4, High Outflow Scenario (H4) at Late Long Term
- Proposed Project Alternative 4, Low Outflow Scenario (H1) at Late Long Term



*Figure 1: Variation in daily EC data for the Montezuma Slough at Beldon's Landing from October 1976 to October 1983 from the BDCP water quality modeling. Three simulations are shown; No Action at late long term, proposed project Low Outflow Scenario at LLT, and proposed project High Outflow Scenario at LLT. This plot was prepared by Richard Denton, consultant to Solano County, from BDCP modeling data supplied by DWR.*

The DEIR/EIS is inadequate because it only assesses Suisun Marsh EC qualitatively, using average EC for the entire period modeled (1976–1991) – see Chapter 8 at page 8-157. Even so, the 16-year averages suggest that the BDCP proposed project would substantially increase salinities in Montezuma Slough at Beldon's Landing - i.e.,



more than doubling of salinity concentration in December through February. (Appendix 8G, Figure C1-8.) This will seriously impair the ability of Suisun Marsh landowners to effectively manage wetland habitats, will adversely impact fish and wildlife beneficial uses, and reduce wetland diversity and habitat conditions. Small changes in salinity could significantly affect the diversity and composition of these wetlands (Parker 2011). The quality of water plants are exposed to has a direct impact on their survival, growth, and overall health. This is particularly true in regard to salinity. (Warrance and Bauder.)

However, the 16-year averages used in the DEIR/EIS do not disclose sufficient detail about the timing and magnitude of the salinity changes for individual months of different years and water year types.

These BDCP simulations also show that there are significant adverse impacts to salinity from the proposed Project for both the Low Outflow and High Outflow scenarios. The largest increases in salinity occur primarily in the fall. The impacts are greatest for the Low Outflow scenario which assumes there will not be any Fall X2 requirements.

Figure 2. based upon DWR's BDCP DEIR/EIS modeling data shows the corresponding Beldon's Landing salinity data (EC) for the period October 1984 through October 1991.

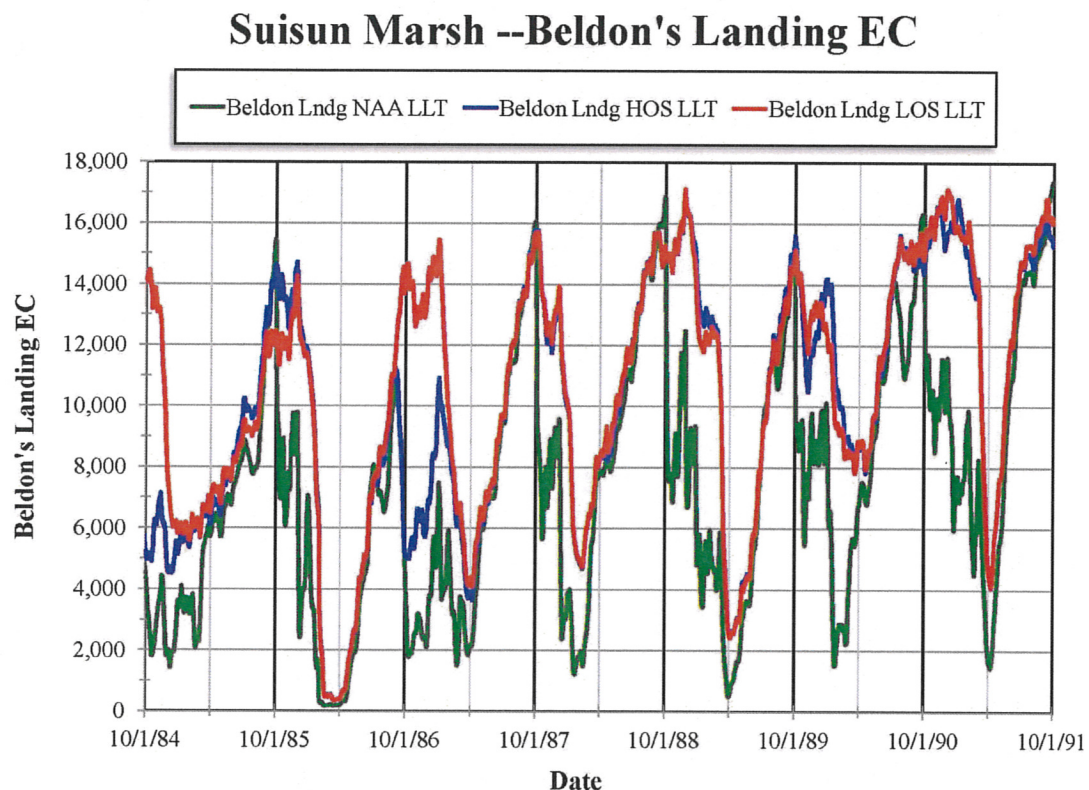


Figure 2: Variation in daily EC data for the Montezuma Slough at Beldon's Landing from October 1984 to October 1991 from the BDCP water quality modeling. Three simulations are shown; No Action at late long term, proposed project Low Outflow Scenario at LLT, and proposed project High Outflow Scenario at LLT. This plot was prepared by Richard Denton, consultant to Solano County, from BDCP modeling data supplied by DWR.

The increased EC levels in Suisun Marsh (shown in Figure 2) are substantial, especially during October through March, and will have adverse impacts on Marsh beneficial uses and wetland habitat conditions. The most likely effects of salinity on plants is a general stunting of growth. (Mass 1993) Increased salinity requires plants to expend more energy to obtain water from the soil, thereby reducing the amount of energy available for growth. (Mass 1993) At high levels, salinity can cause physical damage and mortality. (Mass 1993) Plant loss during this seedling stage can reduce the plant population density to suboptimal levels and significantly reduce yields. (Mass 1993) These impacts must be disclosed and mitigated. Any increase in salinity or modification of Delta outflow that increases Suisun Marsh channel water salinity would be detrimental and result in unmitigated impacts to existing beneficial uses and Suisun Marsh wetland habitats.

A new DEIR/EIS must be prepared that fully discloses the significant adverse impacts on salinity in the Suisun Marsh channels. Averaging over the meager 16-year record masks and fails to disclose significant salinity increases in individual months and on individual days. Large salinity increases in a given year cannot be offset by possible reductions in salinity many years later. These salinity increases must be avoided or fully mitigated by the Project proponents. The DEIR/EIS must be revised and released again for public review and comment.

**B. BDCP Will Result In Unacceptable Losses of Suisun Marsh Managed Wetlands, In Conflict With the Suisun Marsh Plan and SMPA**

The BDCP implementation of the Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP) goal of 65,000 acres of restoration of tidal natural communities will result in significant and unavoidable impacts to Suisun Marsh from the direct loss and conversion of existing managed wetland habitats, loss of existing wildlife resources, degradation of water quality (increased salinity), and unmitigated impacts to the remaining managed wetlands management capabilities and habitat conditions rendering them unable to support existing wintering waterfowl populations.

The BDCP and supporting DEIR/EIS do not identify the significant and unavoidable impacts to the wetland and wildlife resources of the Suisun Marsh or future degradation of water quality conditions in the Suisun Marsh from implementing a significant portion of the BDCP (NCCP/HCP) Goal of 65,000 acres of restoration of tidal natural communities within the Suisun Marsh.

BDCP Chapter 3, Part 2, Conservation Measure 1 (CM1) *Water Facilities and Operations* states that CM1 will implement changes to flow management in the Suisun Marsh by modifying the operation of the Suisun Marsh Salinity Control Structure (SMSCS) via adaptive management or “discontinuing the operation or elimination of the SMSCS” as part of Conservation Measure 4 (CM4) *Tidal Natural Communities Restoration*. Implementation of this action would result in a direct violation of Water Rights D1641 Water Quality Objectives For Fish and Wildlife Beneficial Uses - Suisun Marsh numeric salinity standards, the Suisun Marsh Preservation Act, the 1981 Plan of Protection for the Suisun Marsh, and the RSMMPA. The BDCP description of the SMSCS



purpose and the operational constraints to fish passage is factually inaccurate and fundamentally flawed. In this regard, SRCD has the following comments on specific sections of the BDCP and DEIR/EIS:

**BDCP Section 3.4.1.2.2.** The statement that “The Suisun Marsh is currently managed largely to provide seasonal freshwater wetlands, primarily to support waterfowl habitat and recreation” is a factually inaccurate depiction of the brackish nature of the Suisun Marsh tidal and managed wetlands. The Suisun Marsh is a brackish wetland complex, geographically located in the estuary where the fresh water flows of the Delta mix with the salt water of the San Francisco Bay. Brackish wetlands are floristically distinctive and *contain a greater diversity of plant species* than either the salt marshes of San Francisco Bay or the freshwater wetlands of the Sacramento–San Joaquin Delta (Byrne 2001). This location provides significant seasonal salinity variability and precludes fresh water wetlands from persisting in the Suisun Marsh. This fact makes the Suisun Marsh ecologically rich, diverse, and currently provides significant habitat for many of the targeted native species in the BDCP conservation strategies. Since 1978, the SWRCB has maintained Suisun Marsh salinity objectives to “provide water of sufficient quality to the managed wetlands to achieve soil water salinities capable of supporting the plants characteristic of a brackish marsh.” (SWRCB D1641 Section 7, p. 40). It has been shown that, at all sampling scales, the more saline San Pablo Bay sites contained significantly fewer species than the Suisun–Delta sites. San Pablo Bay sites contained approximately half the number of species as Suisun–Delta sites. While the greatest contrast in species richness occurs between San Pablo Bay and the Suisun–Delta (Vasey 2012). Additionally, the RSMPA contractual agreements were signed to protect the brackish characteristics of the Suisun Marsh from increased salinities from the CVP and SWP and other upstream diverters.

This section of the BDCP also skillfully omits the fact that the SMSCS was constructed by DWR as part of the 1984 Plan of Protection for the Suisun Marsh and is operated to mitigate for the adverse effects of increased salinities caused by the existing CVP and SWP operations and a portion of adverse effects of other upstream diversions. The operation of this facility is necessary to mitigate for the current and ongoing impacts of the SWP and CVP operations and is needed to meet RSMPA Salinity Standards and SWRCB D-1614 Water Quality Objective for Fish and Wildlife Beneficial Uses for Suisun Marsh numeric narrative salinity standards.

**BDCP Section 3.4.1.3.4.** This section of the BDCP claims that the SMSCS, “can impede the migration and passage of various fish species when operated (Fujimura et al 2000)” This statement and conclusion are inaccurate. Subsequent studies completed by Department of Fish and Wildlife (DFW) in 2001, 2002, 2003, and 2004 ([www.water.ca.gov/suisun/dataReports/](http://www.water.ca.gov/suisun/dataReports/), Vincik, R.F. 2002. and Vincik, R.F. et al. 2003) evaluated the use of the existing SMSCS boat locks to improve fish passage. The results of these studies indicate that leaving the boat lock open during the control season when the flashboards are in place at the SMSCS and the radial gates are tidally operated, provided a nearly equivalent fish passage to the non-control season configuration when the flashboards are out and the radial gates are open. The SMSCS has been operated in this configuration since 2005 to provide fish passage for Chinook salmon, steelhead, and

green sturgeon. In the future, the SMSCS will need to be operated more frequently to partially address the significant impacts of increased salinity for the BDCP operations and implementation of the NCCP/ HCP restoration of tidal natural communities' objectives.

This section's Delta Outflow/X2 states Delta Outflow criterion allows provision of sufficient outflow to maintain a desirable salinity regime downstream of Collinsville during the spring and fall. Any operations of the BDCP facilities, diversions (new and existing), and delta outflows upstream of the Suisun Marsh must consider and provide adequate outflow to meet the requirements of the Suisun Marsh salinity standards and required additional SMSCS operations.

**BDCP Section 3.4.1.4.3.** This section, entitled *Flow Constraints*, describes the seasonal flow constraints that have been used to estimate the biological effects of diversion operations. Operational flow constraints would be subject to real-time operations adjustments (Section 3.4.1.4.5), but would closely resemble the modeled constraints. All future BDCP facility operations must consider and comply with Water Rights D1641 Water Quality Objectives for Fish and Wildlife Beneficial Uses - Suisun Marsh numeric salinity standards and the RSMMPA numeric salinity standards (October through May of each water year).

**BDCP Section 3.4.1.4.4.** This section, entitled *Decision Trees*, describes the decision trees that would be used to set flow constraints with regard to two critical variables, spring outflow and fall outflow, and how they will be implemented. Fish and wildlife agencies will determine these outflow requirements at the time of the initial operations of a new facility, so the impacts of this proposed operation cannot currently be predicted. All future BDCP facility operations must consider and comply with Water Rights D1641 Water Quality Objectives for Fish and Wildlife Beneficial Uses - Suisun Marsh numeric salinity standards and the RSMMPA numeric salinity standards (October through May of each water year).

**BDCP Chapter 3, Part 2, Conservation Measure 3 (CM3) *Natural Communities Protection and Restoration*.** This section states "the Implementation Office will establish a system of protected lands in the Plan Area, called a reserve system, by acquiring lands for protection and, in some cases, restoration. The Implementation Office will secure reserve system lands through a variety of mechanisms that will include, but will not be limited to, the: purchase in fee-title, purchase or application of permanent conservation easements (on public or private lands), change of federal- or state-owned lands to more protective land use designation, and permanent agreements with state, federal, and local agencies (e.g., flood control agencies) that commit the parties to the restoration, enhancement, and management of public lands in the reserve system in a manner supporting the biological goals and objectives.... These commitments represent the extent of land that will be acquired to meet preservation requirements; the actual extent that will be acquired will likely be greater, because acquired parcels will include excess amounts of target and no target natural communities."



Table 3.4.3-1. Natural Community Siting and Reserve Design Requirements calls for:

- At least 7,000 acres of Tidal Natural Communities in Suisun ROA
- At least 8,100 acres of managed wetlands (1,500 SMHM) habitat in Suisun ROA
- At least 2,000 acres of grasslands in Suisun ROA
- A portion of 750 acres of vernal pool and alkali seasonal wetland.

At a minimum, CM3 will acquire or modify existing land use of 17,000 acres of existing private and public owned managed wetlands and upland areas in the Suisun Marsh (Conservation Zone 11). Today, the entire Suisun Marsh wetland and upland areas are protected by the 1977 Suisun Marsh Preservation Act and the policies and regulation of the BCDC Suisun Marsh Protection Plan. This proposed BDCP “protection” designation will not provide any new level of protection, but instead will result in the fragmentation and direct loss of a significant undisclosed amount of existing managed wetlands. This “Conservation Measure” focuses on the systematic removal of significant private ownership in the Marsh and promotes the conversion of existing diked managed waterfowl habitat into tidal wetland or ecological reserves for listed species. This proposed action will result in a significant portion of the existing private landowner constituents of SRCD being removed from ownership of waterfowl hunting clubs. Discussions also recommend focusing on publicly owned land first for habitat conversion. DFW - Grizzly Island Wildlife Area lands have predominantly been purchased with sportsman dollars and managed for waterfowl wintering habitat, hunting, fishing and public recreation. Many of these lands are dedicated as waterfowl sanctuaries.

CM3 describes neither protection nor restoration for the Suisun Marsh. The Suisun Marsh is already protected under existing Legislation and Suisun Marsh Protection Plan policies. Instead, the proposed actions under CM3 and CM4 will result in fundamental and negative changes in the existing land use, and result in the systematic elimination of the Suisun Marsh wetland conservation community that has conserved and protected these wetland resources for the past century.

The BDCP proposal, from a simple land use perspective, will yield the conversion/direct loss of thousands of acres of existing managed wetlands and result in the reduction of waterfowl carrying capacity in the Suisun Marsh. These actions will reach a tipping point when the remaining managed wetland habitats can no longer support adequate waterfowl populations nor maintain suitable habitat conditions due to impacts of the Project. Once waterfowl hunting is no longer sustainable because of the impacts of the Proposed Project, the remaining landowners will cease investment in managed wetland operations and maintenance. The loss in critical mass of quality managed wetland habitat from land use change and existing habitat fragmentation will significantly reduce wintering waterfowl populations and effectively eliminate SRCD and the private duck clubs. These effects of BDCP habitat conservation strategy, future location, and acreage are not disclosed nor mitigated for in the BDCP or the DEIR/EIS.

**BDCP Plan Chapter 3, Part 2, Conservation Measure 4 (CM4) *Tidal Natural Communities Restoration*, Section 3.4.1.3.4.** This section claims, “As levees are breached for tidal restoration under CM4, salinity levels may increase through much of Suisun Marsh.” BDCP’s tidal restoration objectives in Conservation Measure 4 (CM4) Tidal Natural Communities Restoration will have significant and unavoidable negative impacts on the existing Suisun Marsh wetlands and wildlife resources and habitat conditions. SRCD has grave concerns with the extent of the acreage objectives, without identifying where or when most of this activity will occur in the Suisun Marsh. The proposed habitat restoration objectives are identified at a general level over the next 40 years in BDCP and the HCP/NCCP documents. Without defining the site specific locations and acreages of proposed habitat restoration projects in Conservation Zone 11 (Suisun Marsh), it is impossible to identify and evaluate the site specific, regional and cumulative impacts of proposed actions.

BDCP is calling for at least 7,000 acres (14% of existing managed wetlands) to be restored to tidal wetland in Suisun Marsh. This objective is consistent with the high end of the Suisun Marsh Habitat Management, Preservation and Restoration Plan (SMP) restoration targets of 5,000 to 7,000 acres over the next 30 years. Any tidal restoration acreage over that 7,000 target should be completed in years 31 to 50 of the BDCP program. The Suisun Marsh Plan also requires that tidal restoration projects must be regionally distributed (See Table 2-4 SMP 2011 page 2-17) with strict assurances, detailed environmental commitments, avoidance and minimization measures to be implemented, and salinity modeling to be completed as part of the project development and post construction verification. BDCP makes no commitment to complete post restoration water quality monitoring to verify if the pre-project modeling results are accurate and if appropriate mitigation to address these unanticipated impacts has been adequately addressed on adjacent lands. If BDCP moves forward, SRCD requests a commitment from BDCP to comply with the SMP objectives, procedures, guidelines, regional distribution of tidal restoration and agreement to the SMP management structure, including the SMP Principals Management Group and Adaptive Management Advisory Team.

BDCP significantly diverges from the SMP in its enhancement objectives. The SMP’s objective is also to enhance 44,000 to 46,000 acres of managed wetlands concurrently with the tidal restoration activities. This approach allows phased implementation and balances existing resource protection and management needs with future tidal restoration. Instead, BDCP omits the fact that tidal restoration will directly impact existing wetlands and wildlife resources, and has provided no commitment to offset these losses or enhance the remained managed wetland habitats in the Suisun Marsh. CM3 lists an objective to establish a reserve of at least 8,100 acres of managed wetlands (1,500 for salt marsh harvest mouse) habitat in the Suisun Restoration Opportunity Area, but fails to describe the habitat management objective of this acreage and future long-term commitment to maintain it. BDCP must commit to invest in all the remaining managed wetlands, not just a hand full. In this regard, all Suisun Marsh managed wetlands are dependent on exterior levee integrity. The existing managed wetlands are islands, protected by exterior levees. If an exterior levee fails, then all of the adjacent managed wetlands on that island will be lost, including any of the 8,100 acres of



the BDCP managed wetlands “conservation areas”. Additionally, exterior levee failure in the Suisun Marsh would result in unplanned tidal restoration, likely in a poor location, causing detrimental ecological conditions for targeted fish species.

Tidal restoration projects will have significant and undisclosed impacts to adjacent managed wetlands operations and habitat conditions. These impacts may include increased salinity of applied water for habitat management, decreased life expectancy of adjacent managed wetland water management infrastructure, and attenuated tidal stage reducing existing gravity drainage capacity of adjacent managed wetlands. Tidal restoration projects will cause increased channel velocities (causing scour of channel depths), thereby undermining and destabilizing existing managed wetlands exterior levee foundations, and increasing exterior levee maintenance costs. Managed wetlands in the vicinity of a tidal restoration project could be subjected to all of the impacts on facilities and management capabilities listed above. BDCP should establish a significant long term funding source to facilitate needed future intensive wetland management activities as a result of any increase in salinity from existing baseline conditions. Wetland management objectives should be focused on completion of multiple spring leach cycles, preventing elevation of soil salinities, optimizing water management infrastructure, and offsetting increased pumping costs from dampened tidal stage. None of these impacts are adequately addressed in the BDCP DEIR/EIS, nor is there adequate mitigation proposed to address these site specific or regional impacts on managed wetlands. Any BDCP restoration objective that exceeds the SMP tidal restoration objectives will have significant incremental and cumulative impacts on decreasing the managed wetlands acres in the Marsh. This will further reduce waterfowl carrying capacity, managed wetland management capabilities, and fragmentation of existing waterfowl habitat. Local and regional salinity impacts from tidal restoration projects can be significantly influenced by breach location, size, depth, and salinity gradient in the adjacent slough at the breach location. The programmatic nature of the DEIR/EIS fails to disclose these impacts and the cumulative impacts from other habitat restorations action occurring concurrently in other Delta Restoration Opportunity Areas.

BDCP CM4 has a long-term tidal restoration target of 11,500 acres or more (22% of existing managed wetlands) of Suisun Marsh managed wetlands. CM4 also calls for the conservation of an additional 8,100 acres of existing managed wetlands protected habitats for covered species like the salt marsh harvest mouse. This could effectively reduce private ownership in the Marsh by up to 50%, and modify or eliminate existing waterfowl management activities on the remaining Suisun Marsh managed wetlands.

BDCP currently has no metric nor method of evaluating the existing wetland resource values and offsetting these direct and indirect losses from tidal restoration of managed wetlands and waterfowl habitats in Suisun Marsh. To address this deficiency during BDCP development, Ducks Unlimited, in partnership with the Central Valley Joint Venture, U.C. Davis, Oregon State University, U.S. Geological Service, and SRCDC proposed to BDCP management the following scientific study: *“Restoring Tidal Flow to Managed Wetlands in Suisun Marsh: Implications for Wintering Waterfowl and Non-Tidal Wetland Management”*. This study would provide detailed information on waterfowl food production in tidal and managed wetland habitats and is needed to

address the following critical uncertainties in meeting BDCP goals, but was never considered by BDCP managers for implementation:

- (1) What is the carrying capacity of the Suisun Marsh for waterfowl during winter, based on current habitat conditions?
- (2) How may future tidal restoration activities influence waterfowl carrying capacity?
- (3) How do management activities influence food production in diked wetlands, and consequently how can they be enhanced to increase carrying capacity?

In conclusion, SRCD requests that DWR not pursue the BDCP Project, but at a minimum revise and recirculate the DEIR/EIS to address the issues and inadequacies that SRCD has identified in this comment letter. Throughout the BDCP DEIR/EIS review period and at public informational meetings over the past few months, it has been repeatedly stated that BDCP implementation (the construction of a new point of diversion, required mitigation, and habitat conservation actions) would continue to comply with existing D-1641 water quality standards. As SRCD has identified in the detailed comments listed above, the BDCP DEIR/EIS modeling results and effects analysis states that, "salinity levels in the Suisun Marsh will increase", which is in direct contradiction with the claim that water quality objectives will continue to be met under D1641 or the Revised Suisun Marsh Preservation Agreement. Implementing a project that systematically degrades and reduces the existing Suisun Marsh managed wetland habitats, functions, values and water quality is unthinkable and unsupportable by SRCD.

Sincerely,

Tony Vaccarella,  
President, SRCD Board of Directors



**Reference:**

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