

**The Suisun Resource Conservation District
Suisun Marsh Alternative Compliance Plan
For Water Diversion Measurement
In Compliance with the Requirements of SB-88**

Alternative Compliance Plan Description:

1. The Alternative Compliance Plan (the Plan) will include the name and contact information for all diverters covered by the Plan. An attached Excel spreadsheet (Exhibit 1) lists (1) the name of the owner of each water right enrolled in the Plan, (2) the name of a contact/agent for each enrolled water right; (3) a single mailing address for the contact/agent; (4) one or more telephone numbers for the contact/agent; (5) one or more email addresses for the contact/agent; (6) the basis of the water right claim (riparian, pre-1914, license, etc.); (7) the quantification of the claim, if applicable; and (8) all Assessor's Parcel Numbers (APN's) associated with the Point of Diversion (POD) and Place of Use (POU). The attached aerial map (Exhibit 2) shows all of the PODs and POU's covered by the plan.

The contact/agent for each enrolled water right claim has executed an "Opt-In Form" in the format attached (Exhibit 3). The Suisun Resource Conservation District (SRCD) will maintain a file of such Opt-In Forms which will be accessible for review and inspection by the Delta Watermaster, upon request, during normal business hours.

2. As individually verified on each Opt-in Form, SRCD will be designated as representative of all water right claimants enrolled in the Plan, as to any matter related to management of the Plan. The 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.). In carrying out these responsibilities SRCD works closely with the Department of Fish & Wildlife (DFW) and Department of Water Resources (DWR) in meeting these same habitat management objectives on the DFW Grizzly Island Wildlife Area complex, lands owned by DWR, and other local public and private entities. These water and habitat management practices are directly related to the diversion of brackish water from the tidal slough channels into the managed wetlands.

The Delta Watermaster is hereby requested to proceed through SRCD in all matters related to review, evaluation, modification or other administrative action with respect to the Plan. As

noted on the Opt-In Form, enrollment in the Plan complies with the measurement regulation, but **each water right claimant remains individually and independently responsible to report annually his/her/its water diversion and use**. SRCD will assist water right claimants, upon request, with measurement information that may be useful in completing such reports, but SRCD assumes no responsibility for the accuracy, completeness or timeliness of such reports which remain the responsibility of the individual water right claimants.

3. Identification of each individual water right claim and priority covered by the Plan, based upon the landowner's filing of Statement of Diversion and Use associated with each water right. See Item #1 above (Exhibit 1).
4. The assessor's parcel numbers and ownership within the area covered by the Plan, based upon the landowner's filing of Statement of Diversion and Use associated with each water right. See Item #1 above (Exhibit 1).

Basis for Alternative Compliance

5. Documentation establishing that strict compliance with Chapter 2.8 (Measuring and Monitoring) is not feasible, would be unreasonably expensive, would unreasonably affect public trust uses, or would result in the waste or unreasonable use of water.

The Suisun Marsh is a unique area consisting of both managed and tidal wetlands, uplands, sloughs, bays, and channels in a tidal zone of salt, fresh and brackish water. The brackish water makes the Suisun Marsh a corrosive environment.

- a. To meet Suisun Marsh water quality salinity objectives, the Department of Water Resources operates the Suisun Marsh Salinity Control Gates (SMSCG) on Montezuma Slough. This major water management infrastructure is operated pursuant to SWRCB Decision-1641 and other water quality requirements for the Suisun Marsh's managed wetland protections, as mitigation for the effects of the State Water Project, Central Valley Project, and other upstream diverters. When the SMSCG is operated, fresher water is directed into the interior Suisun Marsh channels and sloughs. Much of the water directed into Montezuma Slough is circulated throughout the interior Suisun Marsh slough and channels; most of the circulated water returns to Grizzly Bay without being consumed.
- b. The Suisun Marsh managed wetland diversions passively divert brackish water, by gravity, from adjacent tidal sloughs and channels to support wetland and wildlife habitat for resident and migratory wildlife.
- c. The amount of water applied to the wetlands can be determined volumetrically to avoid the need for measuring devices at each diversion structure or turnout.
- d. Measuring devices in Suisun Marsh would be subject to significant corrosion and fouling. Many of the water control structures are inundated for most of the year, so growth of

barnacles, biological debris, and siltation impedes the operation of even corrosive resistant measuring devices. Measurement at the tolerance of $\pm 10\%$ is not feasible in most of the Suisun Marsh.

- e. Many of the diversion sites are in remote locations with limited seasonal access and very limited or no power sources.
- f. Daily and hourly tidal changes (over 6 feet of vertical variation) at many points of diversion cause continually changing head pressures and flow rates at each diversion site.
- g. Diversion flows at many structures stop daily for extended periods of time. This occurs at the two daily low tide events, when water levels are higher in the managed wetlands than they are in the adjacent tidal sloughs.
- h. Most water diversion structures in the Suisun Marsh are dual purpose flood and drain structures. On high tide water may be diverted into the managed wetland, but at low tide water can also flow in the opposite direction out of the same water control structure.
- i. Exterior water control structures and bulkhead walls are permanently installed within the exterior levee profiles. The removal of these pipes and replacement to install measuring devices could range from \$15,000 to \$35,000 for each structure (or more). These types of construction projects would have significant environmental protection requirements, regulatory constraints, and seasonal permitting requirements.
- j. The installation of water reporting devices in the Suisun Marsh would be of limited value because the water used in the Suisun Marsh is brackish and used primarily during off-irrigation-season flood-up for managed wetlands to provide migratory waterfowl habitat. Additionally, the physical location of these diversions in the Suisun Marsh is below (downstream of) the Delta Watershed.

Area Description

6. A detailed description of the area served by the Plan.

The Suisun Marsh is defined in Section 29101 of the Public Resources Code:

“Suisun Marsh” or “marsh” means water-covered areas, tidal marsh, diked-off wetlands, seasonal marshes, lowland grasslands, upland grasslands, and cultivated lands specified on the map identified in Section 16 of that chapter of the Statutes of the 1977-78 Regular Session enacting this division. It includes both the primary and secondary management areas as shown on the Suisun Marsh Protection Plan Map and includes the entire right-of-way of any state highway that is designated as a portion of the boundary of the marsh.

The Suisun Marsh is located in southern Solano County, about 35 miles northeast of San Francisco. The Suisun Marsh is generally set between the Sacramento-San Joaquin Delta to the east and the San Francisco Bay to the west. The Marsh is further bounded by Honker, Grizzly

and Suisun Bays to the south; Interstate Highway 680 on the west; and State Highway 12 and the cities of Suisun and Fairfield on the north. See Exhibit 4 - Suisun Marsh Boundary Map.

The Suisun Marsh is the largest contiguous brackish marsh remaining on the west coast of North America. It encompasses 116,000 total acres: 52,000 acres of managed wetlands, 30,000 acres of bays and sloughs, 27,700 acres of uplands, and 6,300 acres of tidal wetlands. It is home to public waterfowl hunting areas and over 150 private waterfowl hunting clubs. The Suisun Marsh serves as the resting and feeding ground for tens of thousands of wintering and migrating waterfowl and provides habitat for more than 221 species of birds. The Suisun Marsh supports more than 40 species of fish and 80% of the state's commercial salmon fishery by providing important tidal rearing areas for juvenile fish allowing them to grow twice as fast as those reared in the upper watershed (improving their overall survival).

Because of the need to mitigate for water quality impacts (i.e. increased salinity) in the Suisun Marsh resulting from the Central Valley Project, State Water Project, and other upstream diversions, in March 1987, DWR, DWF, the U.S. Bureau of Reclamation (USBR), and SRCD signed the Suisun Marsh Preservation Agreement (SMPA). The objectives of the SMPA include:

- To assure that USBR and DWR maintain a dependable water supply of adequate quantity and quality for managed wetlands within the Marsh.
- To improve managed wetland habitat.
- To assure the USBR and DWR recognize that the water users within the Suisun Marsh have been diverting and will continue to divert water for wildlife habitat management within the Suisun Marsh.

To aid in improving water quality for managed wetlands, several water conveyance facilities have been constructed by DWR and USBR within the Suisun Marsh. These facilities include the Roaring River Distribution System, Morrow Island Distribution System, and Goodyear Slough Outfall. The Suisun Marsh Salinity Control Gates were installed and became operational in 1988. DWR also has 16 water quality monitoring stations spread throughout the Suisun Marsh. Suisun Marsh salinity standards have been established to protect water quality. The salinity standards were determined based on the need to provide high quality foraging habitat for wintering waterfowl using these managed wetlands and to protect beneficial uses of water.

In 2014, USBR and the U.S. Fish and Wildlife Service (USFWS), in partnership with SRCD, DFW and DWR, finalized the Suisun Marsh Habitat Management, Preservation, and Restoration Plan (Restoration Plan) EIS/EIR. The goal of the Restoration Plan is to achieve an acceptable multi-stakeholder approach to the restoration of tidal wetlands and the enhancement of managed wetlands. The Restoration Plan calls for 5,000 to 7,000 acres of tidal restoration and the enhancement of 40,000 to 50,000 acres of managed wetland to benefit wintering and breeding waterfowl over the next 30 years.

a. All points of diversion

Each POD for each water right claim enrolled in the Plan is listed in the Opt-In Form submitted by each Plan participant. The SRCD will cooperate with the Delta Watermaster to create a map showing all PODs enrolled in the Plan (Exhibit 2).

b. All methods of diversion

All PODs within the Suisun Marsh are gravity fed culverts through which water flows into the managed wetland by gravity at high tide from the adjacent tidal sloughs and channels. This diverted water is then circulated through the managed wetland and drained back into the tidal sloughs and channels at low tide. The water control structures that are utilized for diverting water into the managed wetlands range in size from 12" to 48" diameter pipes, with 30" to 36" pipes being the most common size. These diversion pipes are fitted with simple canal screw gate, screw flap gates, or fish screen facilities with a canal gate or butterfly valve. To divert water, these screw gates are opened a portion of their total diameter, which allows water to flow into the managed wetlands or water supply facility. On the interior managed wetland side of the water control structure, the pipes are typically fitted with a flap gate, a screw flap, or flashboard riser. These interior water control structures prevent some of the water from flowing out of the pipe and back into the tidal channels at low tide (unless desired during managed wetland circulation periods or when performing leach cycles). The fourteen diversion points in the Suisun Marsh which have conical fish screens installed have flow meters and digital volume totaling equipment. These flow meters were specially designed and manufactured as part of the original facilities installation from 1998 to 2002. These flow meters need a high level of maintenance and repairs to keep them operational in the corrosive brackish environment of the Suisun Marsh. Detailed information about specific individual PODs or water control structures can be referenced to the original Statement of Diversion and Use associated with each water right claim enrolled in the Plan.

c. Any conveyance systems

There are several joint use water distribution facilities in the Marsh. Where flow meters are available on fish screen facilities, total water diversion will be measured at the intake location. Once the water is diverted into a joint use water distribution facility, the water will be proportionally allocated to each water right claim served, based on floodable acreage of the parcels served or other written allocation formula. Where meters are not installed, the SRCD will coordinate monthly water use surveys relying on staff gauges and floodable acreage for each wetland unit served. Totalling the aggregate water use (intake measurements, where available, plus gauge-x-floodable acreage estimates) will be the closest estimate of water diverted into joint use distribution facilities within the Suisun Marsh. Each of the water right claims served by the joint POD will report its proportional use on its own Statement of Diversion and Use.

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d. All beneficial water uses

The primary use of water within the Suisun Marsh is for support of Estuarine Habitat, defined as:

Uses of water that support estuarine ecosystems, including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds), and the propagation, sustenance, and migration of estuarine organisms.

Estuarine habitat provides an essential and unique habitat that serves to acclimate anadromous fishes (e.g., salmon, striped bass) migrating into fresh or marine water conditions. The protection of estuarine habitat is contingent upon (1) the maintenance of adequate Delta outflow to provide mixing and salinity control; and (2) provisions to protect wildlife habitat associated with marshlands and the Bay periphery (i.e. prevention of fill activities). Estuarine habitat is generally associated with moderate seasonal fluctuations in dissolved oxygen, pH, and temperature and with a wide range in turbidity.¹

Additional beneficial uses of water within Suisun Marsh include:

- Wildlife habitat (*support of managed wetland habitats*)
- Rare, threatened, and endangered species habitat (*managed wetland habitats*)
- Spawning, reproduction, and/or early development (*food web support for native fishes from the managed wetland discharges*)
- Commercial and sport fishing (*food web support for native fishes from the managed wetland discharges*)
- Non-water contact recreation (*waterfowl hunting, fishing, nature study, wildlife viewing and photography*)
- Water contact recreation (boating, water skiing, kayaking, sailing)

Although some water is consumptively used by native vegetation within Suisun Marsh, most of the water diverted into the Marsh is returned to Suisun, Grizzly or Honker Bay.

e. All acreage served.

All POU's covered by the Plan are within the Suisun Marsh. The POU's for each of the water right claims enrolled in the Plan is more specifically identified in each claimant's Statement of Diversion and Use. Across Suisun Marsh there are instances where multiple points of diversion serve a unified place of use as well as instances where a single POD serves multiple POU's. In such instances, as with joint use distribution facilities, water will be allocated according to a rational, written methodology that will be approved and observed by the affected parties. The allocation methodology will be the basis for individual water right claimants to report on their

¹ San Francisco Bay Regional Water Quality Control Board, Water Quality Control Plan, Chapter 2: Beneficial Uses, §2.1.5 Estuarine Habitat (EST) available at: http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/planningtmdls/basinplan/web/bp_ch2.shtml

respective Statement of Diversion and Use. In most instances, allocation will be according to the gauge-x- flooded acreage methodology.

7. Topographic maps or aerial photographs of the area covered by the Plan showing the places and acreage served by claimed water rights. See Exhibits 2 and 4. Additional detailed information about specific individual PODs can be referenced to the original Statement of Diversion and Use associated with each water right claim enrolled in the Plan.

Measurement Frequency and Methodology

8. Identification of the proposed measurement frequency and methodology.

The Plan includes three separate elements, all measured monthly:

- i. Staff gauge and floodable acres;
- ii. Existing flow meters on fish screen facilities; and
- iii. Combinations of formula allocation of measured water diverted plus aggregate accounting of staff gauge and floodable acres.

Implementation Schedule:

9. An implementation plan including date-specific, objective milestones.
 - Presentation to the SWRCB describing the unique circumstances in the Marsh [November 9, 2015]
 - Meeting with staff of the office of the Delta Watermaster to discuss compliance [December 14, 2015]
 - SRCD comments to the SWRCB describing a possible Alternative Plan for Compliance for the Suisun Marsh Region [December 17, 2015]
 - Follow-up Plan design sessions with key stakeholders [March 14 and April 15, 2016]
 - Presentation at Annual Meeting of Landowners [April 20, 2016]
 - Exchange of successive draft of Plan [through November 16, 2016]
 - Publication of Proposed Plan to Landowners and Distribution of final Opt-In Form [December 6, 2016]
 - Response to questions and collection of subscriptions via Opt-In Forms [through December, 2016]
 - Submission of completed Plan to the Delta Watermaster [prior to December 31, 2016]
 - Commencement of measurements, monitoring, and reporting [January 1, 2017]

Financing

10. An implementation plan budget and financing source.

Because the SRCD budget, funded primarily through acreage assessments and the existing SMPA contractual agreement, already includes SRCD Water Manager personnel and landowner assistance activities, the incremental costs of Plan development and implementation will be absorbed within the existing budget with necessary adjustments during the annual budgeting process. Facility improvements required for Plan implementation (primarily the maintenance and replacement of meters at fish screens) will be included in the regular operation & maintenance process. Incremental administrative and capital costs are expected to offset regulatory compliance costs that would otherwise be borne on a less efficient basis by individual diverters. Therefore, implementation of the Plan is expected to provide net savings to diverters (DFW, DWR, and private landowners) with SRCD as the primary point of contact by consolidating reporting and file keeping when enrolling water right claimants that opt in to the Plan.

Permits

11. A list of permits required for plan implementation.

No special environmental permitting would be required to implement the Suisun Marsh Alternative Compliance Plan. Suisun Marsh wetlands are ecologically sensitive fish and wildlife habitats. If future physical modification and construction of existing water control structures is required to install a measuring device, then SRCD will work with diverters to complete such an activity under the U.S. Army Corps of Engineers Regional General Permit 3 (RGP 3). SRCD administers the RGP 3 on behalf of DFW, DWR, USBR and the private landowners represented by SRCD in the Suisun Marsh. The RGP 3 provides environmental permitting for a set of pre-defined activities. Each POD would have to be assessed to determine if it could comply with seasonal work windows to protect sensitive species, construction methods best management practices, special permit reporting requirements, and endangered species take authorization covered under the USFWS Biological Opinion (08ESMF00-2012-F-0602-2) and the National Marine Fisheries Service Biological Opinion (2012-02390) Reasonable and Prudent Measures and Terms and Conditions. If not, additional environmental permitting would be required.

Compliance

12. An affirmation, signed by all diverters covered by the Plan, that the Plan will be implemented in accordance with the schedule and that diversions will not be exercised outside the Plan scope. See Opt-In Form which includes the affirmation of each enrolling water right claim.

- 13. An explanation and substantiating documentation of how Sections 933 and 934 will be complied with. As described more fully in response to Item 5, above, strict compliance with Chapter 2.8 is not possible in the unique setting of Suisun Marsh. However, this Alternative Compliance Plan provides the highest level of water diversion measurement accuracy reasonably attainable in the unique circumstances in the Suisun Marsh.

- 14. Certification that the compliance with Chapter 2.8 has been met.
See Opt-In Form which includes the required certification by each water right claimant enrolled in the Plan. In addition, SRCD, as Plan administrator, hereby certifies that the Plan complies with Chapter 2.8, §935.

Attachments:

- Exhibit 1 – SWRCB Spreadsheet of Suisun Marsh Declared Diversions
- Exhibit 2 – GIS Map Point of Diversion Locations
- Exhibit 3 – Suisun Marsh Landowner Opt-in Form, blank
- Exhibit 4 - Suisun Marsh Boundary Map

