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May 18, 2015

VIA E-MAIL

David Murillo, Mid-Pacific Regional Director  
U.S. Bureau of Reclamation  
2800 Cottage Way  
Sacramento CA 95825

Felicia Marcus, Chair  
State Water Resources Control Board  
1001 I Street  
Sacramento, CA 95814

**Re: Urgent Request for South of Delta Wildlife Refuges**

Dear Director Murillo and Chair Marcus,

Last week Grassland Water District (District) received an e-mail from the Bureau of Reclamation (Reclamation) asking south-of-delta CVP refuge contractors to provide hypothetical water delivery schedules for a 30% Level 2 refuge water allocation scenario. The refuges were also informed that their contractual water deliveries would be delayed until mid-September, and that a representative from Reclamation would be able to discuss CVP operations at a meeting scheduled two weeks later, on May 27th.

Based on the District's understanding of the forecasted hydrology and CVP operations, Reclamation's e-mail was bewildering. It also serves to highlight the extent to which Reclamation has failed to provide adequate information to refuge contractors despite numerous requests for consultation and data.

This letter reviews Reclamation's legal obligations to refuges, describes the condition of the refuges after last year's truncated water delivery period and reduced water allocation, and asks Reclamation to promptly consult with refuge contractors on water delivery timing and allocation, real-time adaptive management strategies, and operational assurances. The District also asks that the State Water Resources Control Board (SWRCB) impose these as conditions of the Temporary Urgency Change Permit and Sacramento River Temperature Management Plan, to provide basic protections for refuges and enhance the sharing of information regarding operational decisions that affect refuges.

These requested conditions are in the public interest. The District does not waive its right to seek legal enforcement in the future, but submits this letter in an attempt to resolve controversy and prevent an ecological emergency.

## **1. Reclamation's Water Supply Obligations to CVP Refuges**

The Central Valley Project Improvement Act (CVPIA) dedicates a firm supply of CVP water to 19 refuges as mitigation for significant habitat losses resulting from construction and operation of the CVP. Reclamation must adhere to "the quantity and delivery schedules of water" set forth in Reclamation's Refuge Water Supply Report. Level 2 water supplies represent two-thirds of the refuges' habitat needs. The schedule of water deliveries in the Refuge Water Supply Report calls for Level 2 deliveries to the District in 9 out of 12 months. Reclamation may temporarily reduce those deliveries up to 25 percent due to hydrologic circumstances. The CVPIA also requires Reclamation to acquire Incremental Level 4 supplies, which represent the additional one-third increment needed for proper refuge management.

Reclamation meets these obligations through long-term contracts with the refuges, in which Reclamation promised to deliver the required quantities of Level 2 and Incremental Level 4 water. Under the contracts, as under the statute, Reclamation may reduce Level 2 water deliveries by no more than 25 percent in a critically dry water year.

Only 14 of the 19 CVPIA refuges can receive water from the CVP, because Reclamation has not dedicated sufficient funding to build the required conveyance canals. Of the 14 refuges that can receive CVP water, 12 are located south of the Delta. Until last year, these refuges have not received less than 75% of Level 2 CVP supplies.

The contracts require Reclamation to provide a preliminary written forecast in February of "the extent to which Level 2 water supplies ... are to be shorted" in a critically dry year, and to update that forecast monthly and "make available to the Contractor the data on which [Reclamation] relied." The contracts provide that

Reclamation will “select the forecast to be used and will make the details of it available to the Contractor.”

## **2. Refuge Conditions Entering the Current Water Year**

Reclamation did not meet the required quantity and delivery schedules for Level 2 refuge water supplies at south-of-delta refuges last year. In February 2014 Reclamation announced a 40% allocation of Level 2 water, and in May 2014 it increased the allocation to 65% (10% of that allocation could not be delivered, because three south-of-delta refuges lack required conveyance facilities). Reclamation acquired only 13% of Incremental Level 4 refuge water supplies last year.

As a condition of the 65% Level 2 allocation, Reclamation delayed all Level 2 refuge water deliveries until October, which prevented the District from providing the habitat conditions required to germinate forage plants for water birds, and prevented all spring and summer irrigations, both of which are critical in meeting the metabolic requirements of the millions of migratory birds that arrive in the District as early as August each year. Diminished seed production in forage plants in 2014 will exacerbate this year’s reduced plant productivity, due to carryover effects on the District’s moist soil seed bank. Consecutive years of less than optimal germination and lack of habitat irrigation have been documented to result in crashes in wetland productivity, reducing seed production by over 50%.

Of even greater concern last year and again this year was the complete inability to provide any freshwater surface supplies to the landscape for protected terrestrial and aquatic species such as the giant garter snake. The delay in water deliveries that was imposed last year and is proposed again this fall also devastated local breeding birds, such as mallards and gadwall ducks and their ducklings, which require fresh drinking water throughout the day, every day, in order to survive. The lack of August and September habitat in south-of-delta refuges undoubtedly forced migratory birds to attempt to fly hundreds of additional miles in the opposite direction of their wintering destination in search of food and fresh water.

Heavy rainfall in December 2014 is now widely considered to be the key factor that helped struggling refuges avoid larger disease outbreaks among migratory waterfowl. Before the rains, hundreds of thousands of birds were crowded onto just 320 flooded acres at the Sutter National Wildlife Refuge. Avian cholera levels at Sacramento Valley refuges were the highest observed since the 1990’s. In addition to the rains, an unexpected infrastructure failure in Reclamation’s conveyance system for agricultural contractors resulted in an emergency water release to south-of-delta refuges. Refuge managers worked long hours to achieve maximum water reuse, “zero spill,” and other means of managing short supplies.

Nevertheless, the south-of-delta refuges experienced more than a 70% decline in spring and summer irrigated acreage and more than a 40% decline in winter habitat acreage, even with the December rains. Significant water delivery losses occurred because refuge delivery canals were left dry until October. Large refuges such as the San Luis National Wildlife Refuge saw increased water losses from dry canals of approximately 12%. Refuge water quality also decreased due to maximum reuse and little flow-through.

The Central Valley provides habitat for 20% of the migratory waterfowl in North America, and 60% of the Pacific Flyway population. From a historic low of 2.6 million waterfowl in the Central Valley in 1993 (pre-CVPIA), populations have rebounded to over 5 million in the past 20 years. Migratory bird populations are influenced by global factors and typically take several years to show measureable signs of population stress and decline. There are preliminary indications, however, of a sharp decrease in migratory bird populations in the Central Valley, which threatens to erode the progress made by the CVPIA refuge program. Waterfowl at two south-of-delta refuges decreased by 37% and 58% last year.

Local breeding populations are among the first to show signs of tremendous stress. The ring-necked pheasant harvest at the Mendota State Wildlife area was just 6 birds last year, compared to a 60-year average of 180 birds. Resident duck populations declined dramatically. At the Sacramento National Wildlife Refuge Complex, the usual breeding population of tens of thousands of nesting tri-colored blackbirds (which breed only in the Central Valley and have suffered a staggering population decline) were entirely absent.

Last year and again this year, the District took emergency measures to provide groundwater to the threatened giant garter snake during the snake's active period. Wildlife biologist Eric Hanson, who has monitored this last remaining breeding population of the giant garter snake in the San Joaquin Valley for almost a decade, reported to Reclamation and to the District that "conditions within the Grasslands Ecological Area in 2014 were the driest I have observed since I began intensive monitoring in the area in 2006. The likelihood that giant garter snakes can survive under these conditions is extremely low, highlighting the importance of the area for species persistence."

The lack of any Level 2 refuge water deliveries during the spring and summer last year had a significant and continuing impact on the food supply available to birds, the brood water available to local breeding populations, and the quantity and quality of water needed to sustain an imperiled population of the giant garter snake. Without swift action and attention in the coming months, these impacts will be magnified in the current water year. The significant decline in flooded rice and corn acreage in the Sacramento Valley and the Delta as a result of

land fallowing and water transfers has greatly exacerbated the lack of available wildlife habitat in the Central Valley.

### **3. Request for Consultation and Basic Conditions on Operations**

For the first time, this year Reclamation did not provide the District with a February forecast of the extent to which Level 2 water supplies will be shorted under its refuge contract, or an updated forecast in March or April. May is a critical month to provide water for the giant garter snake and local breeding birds and to grow refuge food supplies. Yet the District remains dry with the exception of minimal groundwater flows in an attempt to sustain the giant garter snake.

Reclamation has asked south-of-delta refuge managers to submit a hypothetical 30% Level 2 water delivery schedule. In addition to the direct adverse impacts that such a reduced allocation would have on the refuges, this request suggests that a 30% allocation might be made to the San Joaquin River Exchange Contractors, because Reclamation's stated policy is to keep the refuge and Exchange Contractor allocations in "lockstep." The Exchange Contractors convey 95% of south-of-delta Level 2 refuge water supplies through their conveyance canals from the Mendota Pool to the Grasslands. Due to the staggered water demands of agricultural water users and the refuges, a 30% allocation would mean that the Exchange Contractors' conveyance canals would dry up prior to the refuge water delivery period. In other words, at a 30% allocation the refuge water deliveries would be consumed in recharging the Exchange Contractors' conveyance canals.

Reclamation's request for a 30% delivery schedule suggests that hydrological planning, operational adjustments, and other available tools (such as borrowing from available water supplies in San Luis Reservoir) cannot provide enough water for the Exchange Contractors to keep their delivery canals sufficiently charged meet minimum protective measures in the District and other south-of-delta refuges. Since the refuges' water allocation is based on the volume of water deliveries that reaches the habitat, it is possible that Reclamation has already considered these extraneous losses.

In any case, the water supplies that can be delivered to the refuges will need to be delivered using real time operational adjustments that respond to biological indicators such as overcrowding, in order to minimize the spread of disease (botulism and cholera) and avoid a catastrophic die off. The refuge managers do not yet know the number of birds that will arrive at the refuges this fall, the timing of their arrival, or the effects of habitat conditions in Northern California. Therefore it is impossible to provide a meaningful hypothetical schedule to Reclamation that would assist in operational planning.

The District has unsuccessfully sought more information from Reclamation and has repeatedly requested to be included in ongoing discussions among Reclamation's operational staff and other CVP contractors, so that it can better understand forecasted CVP operations and potential outcomes for south-of-delta refuges. The District cannot wait until May 27th to learn more. In order to inform refuge managers of the operational assumptions and the expected timing and quantity of refuge water deliveries, the District requests that Reclamation comply with the following condition:

**Refuge Water Supply Condition No. 1:**  
**Reclamation shall promptly consult with CVP refuge contractors regarding forecasted operations and shall provide all requested information concerning forecasting, operational assumptions, and the proposed timing and quantity of refuge water deliveries.**

While it is certain that two years of delayed and reduced refuge water deliveries have greatly depleted the food supplies available for migratory birds, as well as the habitat for resident breeding wildlife, the severity of avian disease outbreaks this year will depend on the weather and timing of migratory bird arrivals. Adaptive water management will be crucial if massive disease outbreaks begin to occur.

Last week south-of-delta refuge contractors were informed that Reclamation proposes to delay all Level 2 refuge water deliveries until mid-September. If early bird migration or other circumstances develop, this proposal could cause a significant disease outbreak or similar emergency. The full picture regarding Reclamation's ability to deliver increased water supplies to refuges in the late fall and winter months is also unknown, and will depend in part on hydrological conditions. To address these uncertainties and best manage available refuge supplies, the District requests the following:

**Refuge Water Supply Condition No. 2:**  
**Reclamation shall maintain regular consultation with refuge contractors in the fall and winter months to share information regarding current hydrological and biological conditions, and shall work with refuge contractors to adaptively manage the delivery of refuge water supplies as needed.**

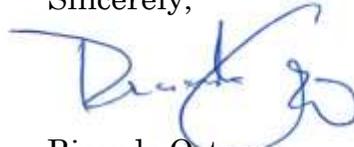
Finally, the draft Sacramento River Temperature Management Plan proposed by Reclamation and provisionally approved by the SWRCB would “re-operate transfer volumes to the fall.” Well over one hundred thousand acre-feet of water that would not otherwise be available for transfer would be pumped from the Delta and stored for later use by agricultural water users south of the Delta. The transferred block of water would be moved through the Delta at the same time that a large portion of the Level 2 refuge water supplies will be pumped and delivered to refuges.

Reclamation’s Fact Sheet for the proposed Temperature Management Plan states: “We all agree that we stand a better chance of managing limited water supplies with continued communication and cooperation.” However, the District has made numerous unsuccessful requests for more information about how the extended transfer window might utilize valuable pumping capacity or otherwise interfere with the timing and volume of refuge water deliveries. Refuge contractors must be assured that an extended transfer window will not further deplete refuge water supplies or interfere with refuge deliveries. Accordingly, the District requests as a final condition:

**Refuge Water Supply Condition No. 3:**  
**Water transfers resulting from the 2015 Framework of Actions for the Sacramento River and the Sacramento River Temperature Management Plan shall not impair or interfere with the availability or delivery of water supplies to south-of-delta refuge contractors.**

The District has been patient and understanding of the complex decisionmaking and multi-party coordination that Reclamation is undertaking. The above requested conditions will help ensure that refuge contractors are part of these coordinated efforts and that refuge resources are given due consideration in 2015.

Sincerely,



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General Manager

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