



Audubon | CALIFORNIA

August 19, 2019

Hicham Eltal, Merced GSP Contact
Merced Irrigation District
744 W 20th Street
Merced, CA 95340

Sent via email to mercedsgma@woodardcurran.com

Re: Comments on Draft Groundwater Sustainability Plan for Merced Subbasin

Dear Mr. Eltal,

Audubon California appreciates the opportunity to provide public comment on the draft Groundwater Sustainability Plan for the Merced Groundwater Subbasin.

Audubon California is a statewide nonprofit organization with a mission to protect birds and the places they need. Our organization has a long history of solutions-focused work in the Central Valley in collaboration with state and federal agencies, water districts, non-profits, and industry. We are commenting on draft Groundwater Sustainability Plans (GSPs) to provide technical information that may be missing or misrepresented and to identify areas of opportunity to partner with landowners or Groundwater Sustainability Agencies to provide groundwater and wildlife habitat benefits.

Audubon California is reviewing GSPs as a stakeholder for the environment with a particular focus on wetlands. Over 95 percent of historic wetlands in the Central Valley have been replaced with agriculture or urban development. The remaining wetlands are a critical component of the Pacific Flyway, supporting millions of migratory waterfowl and hundreds of thousands of shorebirds. Wetlands in the Central Valley are highly managed, operating similar to agriculture in that they utilize delivered surface water or pumped groundwater to grow food resources and habitat for waterbirds.

Our comments on the Merced Subbasin draft GSP are detailed below. We welcome any follow up questions and look forward to seeing the issues raised below addressed in the final GSP submittal in January 2020.

P. 1-19: 1.2.1 Summary of Jurisdictional Areas and Other Features. Figure 1-6 and the accompanying text represent four land use categories in the Merced Subbasin, cropland, rangeland, undeveloped, and urban. This map classifies areas as either rangeland or undeveloped that are actually managed wetland habitat for migratory birds, which rely on applied water. Figure 1-7 shows US Fish and Wildlife Service (USFWS) Refuges in the Merced Subbasin, including Merced National Wildlife Refuge, Grasslands Wildlife Management Area, and San Luis National Wildlife Refuge, which are managed for migratory birds and other species through surface and groundwater use. Private landowners in this western portion of the Merced subbasin also apply surface or groundwater for managed wetlands. Additional land use categories should be added to accurately reflect the managed wetland habitat in the western portion of the Merced Subbasin and to distinguish this land use from rangeland in the eastern portion of the Subbasin.

P. 1-20: 1.2.1 Summary of Jurisdictional Areas and Other Features. Figure 1-7 is missing California Department of Fish and Wildlife fee and easement interests. Additionally, the introduction to this section reads, “Figure 1-7 shows a map with boundaries of federal and state parks within the Merced Subbasin.” The federal lands are not parks, but are wildlife refuges that use applied surface water and pumped groundwater to produce food resources and habitat for migratory birds.

P. 1-20: 1.2.1 Summary of Jurisdictional Areas and Other Features. Figure 1-7 does not accurately represent the USFWS properties in the Merced Subbasin, which could have consequences for water budget development later in the draft GSP and future allocations under the proposed framework. See the below map of the San Luis National Wildlife Refuge Complex for a representation of the USFWS fee and easement boundaries. The detailed map below labels each management unit within the Grasslands Ecological Area, which straddles both the Merced Subbasin and the Delta-Mendota Subbasin. Within the Merced Subbasin, the Merced, Lone Tree, Arena Plains, and Snobird units comprise Merced National Wildlife Refuge, which is owned in fee title by USFWS. The East Bear Creek unit is a part of San Luis National Wildlife Refuge, also owned in fee title by USFWS. The remaining units in the Merced Subbasin are USFWS easements (marked in blue), referenced in other maps as Grasslands Wildlife Management Area. As we detail below in reviewing the water budget in the draft GSP, Merced National Wildlife Refuge uses pumped groundwater and delivered surface water, East Bear Creek unit of San Luis National Wildlife Refuge receives delivered surface water, and private wetlands in the Grasslands Wildlife Management Area pump groundwater to produce habitat.

P. 1-40: 1.2.5.1 Beneficial Uses and Users in the Basin. This section inaccurately states 15,000 acre-feet per year (AFY) as the surface water use at Merced NWR. Annual surface water deliveries from Merced Irrigation District to Merced NWR have dropped from an average of approximately 11,000 AFY from 2009 to 2013 to 3,234 AF in 2017 (a flood year) and 4,502 AF in 2018 (a normal rain year). As surface water deliveries to Merced NWR have dropped, Merced NWR has been forced to rely on groundwater to provide the habitat needed by thousands of migratory birds, including listed species like the Tricolored Blackbird and Greater Sandhill Crane. In the non-drought years of 2017 and 2018, 11,475 AF and 11,219 AF, respectively, were pumped from wells to meet the water demands of important habitat. Additionally, under the 1992 Central Valley Project Improvement Act, Congress mandated that Merced NWR receive 16,000 AFY to meet necessary habitat benefits. Merced Irrigation District is required to deliver up to 15,000 AFY to Merced NWR as mitigation for the Merced River Hydroelectric Project.

P. 1-40: 1.2.5.1 Beneficial Uses and Users in the Basin. State interests should be included as additional interests in this section, including Great Valley Grasslands State Park and California Department of Fish and Wildlife.

P. 2-110: 2.2.7 Groundwater-Dependent Ecosystems. The section includes explanation of the areas not identified as Groundwater Dependent Ecosystems (GDEs) from the Natural Communities Commonly Associated with Groundwater (NCCAG) dataset. The second bullet describes that habitat areas that are supported by supplemental water were removed from GDE consideration, but it should be noted here that these managed wetlands heavily rely on pumped groundwater. Additionally, the amount of surface water referenced as delivered to Merced NWR does not match earlier references (p. 1-40) and does not include recent, non-drought years. The inaccurate reference to 15,000 AFY on p. 1-40 should be updated and p. 2-110 should reference the surface water deliveries in 2017 and 2018 (3,234 and 4,502 AF, respectively), which clearly indicate that the ongoing low surface water deliveries to Merced NWR are not a result of drought conditions. In order to meet water demands for wetland habitat needs, Merced NWR relies heavily on groundwater, pumping an average of 9,220 AFY from 2009-2018, 11,698 AFY from 2015-2018, and 11,347 AFY from 2017-2018, which were notably wet and normal rain years.

P. 2-109 and 2-111: 2.2.7 Groundwater-Dependent Ecosystems. The representation of the variance between Figures 2-85 and 2-86 is unclear and there should be more detailed representation of actual acreage suggested for removal from the NCCAG map. The spatial data input to generate Figure 2-86 appears to be inaccurate because it does not show known managed wetlands in the Merced Subbasin.

P. 2-117: 2.3.3.2 Current Water Budget. The land use information listed in the Current Conditions Baseline developed to apply current land and water use conditions to historical hydrology appears to be inadequate to classify managed wetlands and habitat areas. Please clarify the local ground truthing and refinement conducted to accurately represent habitat areas that are not included in 2013 United States Department of Agriculture's CropScape Cropland Data Layer.

P. 2-117: 2.3.3.2 Current Water Budget. It is unclear whether the water demand information used in the Current Conditions Baseline includes the water demands of managed wetlands. Please clarify whether this land use and water demand is included in the Current Conditions Baseline. Habitat water demands need to be recognized as an existing user, similar to other overlying groundwater users, particularly as the GSAs may move towards allocation systems that reflect current or past groundwater use.

P. 2-118: 2.3.3.3 Projected Water Budget. It is unclear whether land use and water demand information in the Projected Conditions Baseline reflects the managed wetlands land use type and associated water demands. See our above comments regarding the Current Water Budget.

P. 2-123: Table 2-15 Average Annual Water Budget – Land Surface System, Merced Subbasin. The water budget should add managed habitats, which use both delivered surface water and pumped groundwater, to the following components in Table 2-15: Inflows – surface water supply and groundwater supply; Outflows – deep percolation from surface water and deep percolation from groundwater. Table 2-15 currently includes a component for evapotranspiration of “Refuge, Native, and Riparian,” but it is unclear if this includes evapotranspiration of applied water to managed habitat (refuges) and if it includes the full acreage extent of managed habitats, including federal, state, and private, given the errors earlier in the document, detailed above.

P. 2-123: Table 2-16 Average Annual Water Budget – Groundwater System, Merced Subbasin. Similar to the previous comment above, Table 2-16 should include managed habitats in the following components: Inflows – deep percolation from surface water and deep percolation from groundwater; Outflows – groundwater production.

P. 2-130: Table 2-17 Average Annual Values for Key Components of Water Budget by Year Type. Managed habitats should be included in the water demand and water supply summary components of Table 2-17. These habitats are federal, state, and private and utilize delivered surface water and pumped groundwater and contribute to deep percolation.

P. 4-14. 4.5.6 Data Gaps. We encourage the quick resolution of data gap #2, which is an area of “virtually no known wells” on the western edge of the Subbasin. This represents critical habitat for migratory birds on the Pacific Flyway and other listed species.

P. 6-1. 6.2.1 Initial Groundwater Allocation Framework. This section should include managed habitats throughout the groundwater allocation framework. Specifically, deep percolation from managed habitats should be accounted for in the “Developed Supply” in step 2 because surface water is imported from outside the basin to manage wetlands. This surface water amount should be treated on par with surface water imported for agricultural lands under the proposed framework. East Bear Creek Unit, which is the portion of San Luis National Wildlife Refuge within the Merced Subbasin received 8,200 AF last year of

imported surface water. Merced National Wildlife Refuge is mandated 16,000 AFY by the Central Valley Project Improvement Act, receiving an average of 7,164 AFY of surface water between 2009 and 2018.

P. 6-2: 6.2.1 Initial Groundwater Allocation Framework. We recommend the allocation framework account for the benefits that seepage from unlined canals provides to important habitats in any future estimates of “Developed Supply” and “Sustainable Yield of Native Groundwater.” Also, because a portion of managed habitat water needs are met with developed supplies, any removal of such designated supply must remain with the managed habitat interests (ownership), along with any benefits from seepage or deep percolation that may be determined. Managed habitat lands that apply water need to be addressed in the same manner as agricultural lands.

P. 6-4: 6.2.1 Initial Groundwater Allocation Framework. This section outlines the next steps to begin implementation of allocations in the first five years of the GSP. Representatives of private, state, and federal wildlife areas should be included in the development of allocation methods to ensure accurate identification of land area, developed supply, and historical use. These habitat areas are vitally important to the Pacific Flyway and provide local recreational benefits.

P. 6-7: 6.3 Projects. Many priorities across a wide stakeholder group need to be addressed in order to effectively develop and implement projects. We are enthusiastic about the inclusion of the priority “*Project addresses and or prioritizes water for habitat,*” but suggest it be expanded to include the importance of maintaining and improving existing habitat in the Subbasin. We recommend that this priority include more general benefits to wildlife and habitat, and should be amended to read “*Project addresses and or prioritizes water for habitat and or creates new or sustains existing managed habitat benefits*”. Expanding priorities that have added benefit, such as habitat and wildlife value, can also lead to non-target benefits (e.g. water filtration or recreation opportunities). This may open the door to additional funding sources that otherwise would not have been there if these benefits were not part of a project.

P. 6-8: 6.4 Projects Shortlist. As specific projects become further developed, managed habitat areas may offer ideal opportunities for recharge or temporary storage of water during high flow events. Projects that utilize habitat lands may lessen negative impacts to cultivated lands from flooding or intentional recharge. We recommend that the GSAs investigate opportunities that can allow habitat areas to function both for habitat and to provide recharge or temporary storage. Knowing that water for recharge likely comes in large quantities over short timeframes, the existing configurations of managed habitat areas can make for useful retention areas, without risking the flooding on irrigated crops such as trees and vines. Audubon is interested in helping the GSAs investigate these potential opportunities.

P. 6-9: Table 6-3 – Projects Shortlist. Of the 12 projects on the short list only one has identified “water for habitat” as an expected benefit. However, recharge and temporary storage projects can also provide habitat benefits through low-effort design and management actions targeting wildlife needs. We recommend evaluating the opportunities for the following three projects to provide “water for habitat”:
Project 1: Planada Groundwater Recharge Basin Pilot Project, Project 4: Merquin County Water District Recharge Basin, and Project 10: Vander Woude Dairy Offstream Temporary Storage. We would like to continue bringing forward project ideas that can benefit groundwater and habitat, and work with you in the future to develop and identify funding for these multiple benefit projects.

Thank you for your consideration of Audubon California's comments. If you would like to discuss this matter further, please do not hesitate to contact me at (916) 737-5707 or via email at sarthur@audubon.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Sara Arthur", written in a cursive style.

Samantha Arthur
Working Lands Program Director
Audubon California

