

Overview of Projects and Management Actions

DRAFT

Technical Memorandum

To: Glenn and Colusa County Groundwater Authorities
From: Davids Engineering
Date: July 12, 2021
Subject: **Overview of Projects and Management Actions**

Introduction

A total of 33 projects and management actions (PMAs) are included in the Colusa GSP to achieve and maintain sustainable groundwater management. Five projects are on track for implementation, which are all groundwater recharge projects that use surface water for direct and/or in-lieu recharge; these are classified as “Planned” projects. The other 28 projects or management actions are classified as either “Ongoing” PMAs if they are currently ongoing or “Potential” PMAs if they may be potentially implemented in the future. The currently available information on each of these 33 PMAs is available in Tables 1 through 6 below. The fields in these tables have been designed to meet the requirements for PMAs as described in the California Code of Regulations (CCR); when applicable, a reference to a specific CCR location is provided as the first row of each table. Each of the PMAs are designed to support the long-term sustainability of groundwater resources of the Colusa Subbasin.

Colusa Subbasin Groundwater Sustainability Plan

Table 1. Brief Description of all Projects and Management Actions.

CCR § 354.44	CCR §354.44(a)
Project/Management Action Name	Brief Project Description
Colusa County Water District In-Lieu Groundwater Recharge	Colusa County Water District (CCWD) will utilize up to an additional 30 thousand acre-feet (taf) of surface water for irrigation in all years but Shasta Critical years for in-lieu recharge (an average of 27 taf per year). The additional surface water will be made available through full use of the district's existing CVP contract and annual and multi-year water purchase and transfer agreements. The additional water will be conveyed through the existing Tehama-Colusa Canal (TCC) and CCWD facilities. It is expected to be used on existing district lands, though as an optional component of this project CCWD is considering relatively small annexations of lands adjoining the district and supplying surface water to these lands (currently dependent on groundwater, requiring additional infrastructure for surface water delivery), resulting in in-lieu groundwater recharge through reduction of groundwater pumping.
Colusa Drain MWC In-Lieu Groundwater Recharge	The Colusa Drain Mutual Water Company (CDMWC) encompasses approximately 46,000 acres of agricultural land and environmental habitat adjacent to the Colusa Basin Drain (Drain). Shareholders in CDMWC divert water for summer irrigation from the drain under a combination of appropriative water rights held individually by the shareholders, a long-term service supply agreement with USBR and annual and multi-year transfer agreements with neighboring USBR settlement contractors. Historically, many CDMWC diverters use both groundwater and surface water for summer irrigation because physical supplies of water in the Colusa Drain are often unreliable and insufficient to satisfy those irrigation requirements. This project would provide additional surface supplies averaging approximately 28 taf per year, allowing CDMWC diverters to increase their diversions of surface water from the Drain to provide in-lieu groundwater recharge and decrease groundwater pumping by an equal amount.
Colusa Subbasin Multi-Benefit Groundwater Recharge (TNC)	The Nature Conservancy (TNC) is partnering with growers and the Colusa and Glenn Groundwater Authorities for an on-farm, multi-benefit groundwater recharge incentive program. Program objectives are to benefit disadvantaged communities by replenishing critical domestic and agricultural water supplies, growers economically through incentive payments, and migratory shorebirds through the creation of critical winter habitat on farms. Surface water from the Sacramento River, subject to availability, is conveyed to and applied to flood and maintain ponds on selected fields using existing diversion, conveyance, and on-farm infrastructure. The pilot program was initiated in Colusa County in 2018 and concluded in the spring of 2020, with plans to expand and continue into the future.
Orland-Artois Water District Land Annexation and Groundwater Recharge	Orland-Artois WD (OAWD) is working with a group of neighboring non-district landowners to annex approximately 12,000 acres of groundwater-dependent agriculture into the district. Surface water for the annexed lands would be secured through multi-year purchase or transfer agreements with willing sellers, conveyed through the existing TCC, and distributed to the annexed lands through new distribution facilities. It is estimated that a long-term average of approximately 23 taf per year of surface water would be available, reducing groundwater pumping by 23 taf per year. Additionally, certain annexed lands with high infiltration characteristics would be configured for direct recharge by surface spreading, primarily using Section 215 water. The direct recharge capacity has not yet been estimated. This project will address an area within the Colusa Subbasin where groundwater levels have been in decline in recent years due to drought and increasing water demands being met through increasing groundwater pumping.

CCR § 354.44	CCR §354.44(a)
Project/Management Action Name	Brief Project Description
Sycamore Slough Groundwater Recharge Pilot Project	Proctor and Gamble (P&G) and Davis Ranches have entered into a cooperative agreement to implement a 10-year groundwater recharge pilot project. The project will apply surface water diverted from the Sacramento River to a 66 acre field on Davis Ranches for groundwater recharge and to provide habitat for migrating shorebirds for 30-45 days in the early fall each year. Sacramento River water is available to Davis Ranches under riparian rights, a Sacramento River settlement contract with Reclamation, and Section 215 water (flood flows). The goal is to recharge 500 acre-feet per year over the 10-year study period and to revegetate a portion of Sycamore Slough. Monitoring of groundwater conditions will be done in eight existing groundwater wells, including dedicated monitoring wells and production wells. If the project is successful and cost effective it could be continued in perpetuity to sustain long-term groundwater recharge and environmental benefits. Subject to acquisition of funding, an expansion of the project is planned for recharge and revegetation in the neighboring Sycamore and Dry Sloughs.
Colusa County Public Water System Water Treatment Plant	Construct a water treatment plant on the Sacramento River between Colusa and Grimes to provide fresh drinking water to public water supply systems in Colusa and possibly Sutter and Yolo Counties.
Delevan Pipeline Colusa Basin Drain Intertie	Construct an intertie between the proposed Delevan Pipeline component of the Sites Reservoir Project and the Colusa Basin Drain. Currently, the only proposed intertie is the Dunnigan intertie. This intertie will provide a connection to downstream water users to utilize surface water storage from Sites Reservoir, improve conjunctive use, and potentially decrease groundwater pumping. This intertie will also provide protection for the ecosystems upstream of the proposed Dunnigan intertie and redundancy in case the TCC becomes inoperable due to subsidence or earthquake damage.
Sycamore Slough Colusa Basin Drain Multi-Benefit Recharge Project	Restoration of portions of Sycamore Slough through voluntary landowner participation as part of a newly formed water storage district. Excess flows in winter could be diverted from the Colusa Basin Drain for recharge and restoration could include a multi-benefit focus with environmental benefits such as habitat restoration for monarch butterfly or other pollinator species.
Tehama-Colusa Canal Trickle Flow to Ephemeral Streams	The TCC has existing gates that are used to dewater sections of the canal. The gates discharge into ephemeral streams that intersect the canal. Water could be discharged from the TCC into these streams at a rate where they do not flow out of the subbasin, but recharge the groundwater system. Flow measurement devices would need to be added to the gates. Surface water for recharge would be Sacramento River available water under existing Bureau of Reclamation water supply contracts held by TCC contractors, existing water rights settlement contracts, and annual Section 215 contracts.
Westside Streams Diversion for Direct or In-lieu Groundwater Recharge	There are a number of ephemeral streams that originate in the Coastal Range to the west of the Colusa Subbasin and flow eastward into the Colusa Subbasin. During periods of flow in the winter and spring, a portion of these flows could be diverted for either (1) off-stream storage and subsequent use for irrigation or (2) direct groundwater recharge through Flood-MAR, dedicated recharge basins, or modified stream beds.
Reduce Non-beneficial Evapotranspiration/Invasive Species Eradication (Arundo, Eucalyptus, Tamarisk, etc.)	Removal of invasive, non-native plant species (i.e. arundo donax, eucalyptus, tamarisk, etc.) from riparian corridors and other areas they may be present will provide both a reduction in evapotranspiration from shallow groundwater and native ecosystem restoration.

CCR § 354.44	CCR §354.44(a)
Project/Management Action Name	Brief Project Description
Enhanced Infiltration of Precipitation on Agricultural Lands	Current cultural practices, particularly in almond orchards, tend to reduce infiltration and increase runoff of precipitation. Development and adoption of on-farm cultural practices to reduce precipitation runoff and increase infiltration would result in increased storage of precipitation in the crop root zone, thereby reducing irrigation water requirements. Additionally, to the extent that infiltrated precipitation percolates through the root zone, this would result in direct groundwater recharge. This project is proposed as a potential research management action; for example, a collaborative initiative between the GSAs and other interested organizations.
Colusa Subbasin Flood-MAR	The CGA and GGA, in coordination with landowners and other agencies, would investigate, develop, and implement a program to divert flood waters within the subbasin, when available, for spreading across agricultural lands or other working landscapes for direct groundwater recharge.
Glenn Colusa Irrigation District In-lieu Groundwater Recharge	Despite GCID having highly reliable surface water supplies, a small percentage of district lands rely primarily on groundwater for irrigation supply. GCID will investigate, develop, and implement measures to incentivize associated growers to utilize surface water supplied by GCID, which will provide in-lieu recharge through reduced groundwater pumping.
Glenn Colusa Irrigation District Strategic Winter Water Use for Groundwater Recharge and Multiple Benefits	GCID holds a 1999 water right permit to divert Sacramento River water for irrigation and rice straw decomposition between November 1 and March 31; water used under the permit is referred to as “winter water.” The potential exists to increase the groundwater recharge and habitat enhancement benefits of winter water use by increasing winter use for rice straw decomposition, winter irrigation, and frost control provided that certain constraints can be alleviated. Under this project, working in collaboration with partners within the subbasin and with environmental advocacy groups, GCID will investigate opportunities to increase winter water use by alleviating these constraints.
Glenn Colusa Irrigation District Expansion of In-Basin Program for In-lieu Groundwater Recharge	In cooperation with Reclamation, GCID has developed temporary arrangements to supply district surface water to neighboring non-district agricultural lands that primarily use groundwater. These temporary arrangements were implemented under agreements that recently expired in 2020. There is interest in continuing and expanding this in-basin surface water use. GCID is currently working in cooperation with Reclamation to renew these agreements and expand this program for the purpose of reducing groundwater pumping and in-lieu groundwater recharge.
Glenn Colusa Irrigation District Water Transfers to TCCA CVP Contractors	GCID is exploring the possibility of transferring surface water to Central Valley Project (CVP) contractors served by the Tehama Colusa Canal to provide in-lieu groundwater recharge and reduce groundwater pumping. Transferred water would be diverted into the TCC at the Red Bluff Pumping Plant and Fish Screen facility rather than at the GCID pumping plant and fish screen facility north of Hamilton City.
Orland-Artois Water District Direct Groundwater Recharge	OAWD would directly recharge groundwater through Managed Aquifer Recharge (MAR) on agricultural land to improve aquifer conditions, especially in the groundwater cone of depression to the west of Artois. A pilot project for MAR was conducted in 2017 on the VanTol site using water from a Section 215 Temporary Water Contract from USBR. Section 215 water is low-cost, but is only available during high flow conditions in rivers and streams.
Orland Unit Water Users Association Flood Water Conveyance	During periods of high flow and reservoir release on Stony Creek, divert water at OUWUA's south diversion and convey it to various locations for direct recharge within the OUWUA service area.

CCR § 354.44	CCR §354.44(a)
Project/Management Action Name	Brief Project Description
Orland Unit Water Users Association Irrigation Modernization for Increased Surface Water Delivery and Reduced Groundwater Pumping	Continue the modernization of the association's southside irrigation conveyance and distribution system; these improvements are expected to result in more reliable and flexible farm deliveries that will provide incentive for growers to use more surface water and less groundwater.
Reclamation District 108 and Colusa County Water District Agreement for Five-Year In-Lieu Groundwater Recharge Project	CCWD (and DWD located in the Yolo Groundwater Subbasin) purchase surface water from RD108 for distribution within their service areas under a five-year agreement, expiring after 2022. Under the five-year agreement, 10,000 acre-feet is purchased by and transferred to CCWD and DWD, with 80 percent to CCWD and 20 percent to DWD. This project supplies additional surface water to CCWD and DWD that provides in-lieu recharge to meet water demands that otherwise would be met through groundwater pumping.
Sites Reservoir	The Sites Project would utilize existing infrastructure to divert unregulated and unappropriated flow from the Sacramento River at Red Bluff and Hamilton City and convey water to a new off stream reservoir west of the town of Maxwell. New and existing facilities would move water into and out of the reservoir. Depending on project operation and yield, there is potential for groundwater benefits to accrue to the Colusa Subbasin using water from Sites Reservoir.
Colusa Subbasin In-lieu Recharge & Banking Program	Incentivize landowners to take surplus contract surface water in-lieu of pumping groundwater. A predetermined portion of the additional water brought into the districts would be dedicated to contributing to local groundwater sustainability and some portion of the remaining quantities would be available for delivery, directly or by exchange, to South Valley members in the San Joaquin Valley.
Sycamore Marsh Farm Direct Recharge Project	Sycamore Marsh Farm has been in process of developing a groundwater recharge plan to store water in our aquifer by several different methods. The plan provides for 205 acres of year-round recharge basins and 163 additional acres of winter recharge areas.
Sycamore Marsh Farm In-lieu Recharge Project	Sycamore Marsh Farm is in the process of developing an in-lieu groundwater recharge plan. Sycamore Marsh Farm encompasses approximately 420 acres in the Colusa Drain Mutual Water Company (CDMWC) and has an additional 449 acres that could potentially be annexed into the CDMWC, allowing for diversion of surface water from CDMWC.
Westside Offstream Reservoir and In-Lieu Groundwater Recharge	TCCA Contractors would construct offstream surface reservoirs along the western edge of the Colusa Subbasin and up-slope from the TCC and divert surplus Sacramento River flows (e.g., Section 215 water) into these storage reservoirs. Stored water would be released into the TCC for irrigation supply to enable reduction of groundwater pumping (i.e. in-lieu groundwater recharge). New facilities on the TCC and new storage impoundments would need to be planned, designed and constructed subject to a determination of economic and environmental feasibility.
Urban Water Conservation in Willows	The California Water Service - Willows District is implementing urban water conservation measures through water waste prevention ordinances, metering, conservation pricing, public education and outreach, programs to assess and manage distribution system real loss, water conservation program coordination and staffing support, and other demand management measures. These are described in greater detail in Chapter 9 of the 2020 UWMP for the California Water Service - Willows District.

CCR § 354.44	CCR §354.44(a)
Project/Management Action Name	Brief Project Description
Domestic Well Mitigation Program	Groundwater level measurable objectives (MOs) adopted for sustainable management of the Colusa Subbasin operation should be highly protective of domestic water supply wells. However, it is possible that in certain portions of the subbasin groundwater levels will fall. Projects and management actions will be implemented for recovery of groundwater levels, but some domestic wells may go dry. To mitigate the effects of domestic well stranding due to groundwater level decline, the CGA and GGA will investigate implementing domestic well mitigation programs in their respective portions of the subbasin.
Strategic Short-Term Demand Management	The program would be focused in specific local areas with sustainability challenges and would provide GSAs with a voluntary, flexible, short-run response to alleviate impacts of drought. It would be voluntary and provide financial incentives (payments) to encourage participation. Payment terms and other conditions would be specified as part of program design. Two potential structures for the program are idling lands in drought-affected areas of the subbasin with groundwater sustainability challenges or idling lands in participating surface water-using portions of the subbasin and conveying the saved surface water to the drought-affected areas with groundwater sustainability challenges.
Long-Term Demand Management Action	Demand management broadly refers to any water management activity that reduces the consumptive use of irrigation water. A demand management action is one that incentivizes, enables, or possibly requires water users to reduce their consumptive use.
Well Abandonment Outreach and Funding Program	The CGA and GGA will coordinate with Colusa and Glenn counties, respectively, to create a program providing outreach and education to landowners regarding the proper procedures for well decommissioning and abandonment, as well as a funding source to assist landowners with these procedures. This program is anticipated to improve the subbasin well inventory and potentially have water quality benefits, as improperly abandoned wells are a potential point source for water quality contaminant transport from the ground surface to the underlying groundwater system.
Preservation of Lands Favorable for Recharge	The CGA and GGA will coordinate with those agencies having authority over land use planning in Colusa and Glenn counties, respectively, to investigate, design, and implement a program providing incentives to landowners with lands favorable to groundwater recharge to preserve them as agricultural or undeveloped lands on which groundwater recharge will be possible in perpetuity.
Drought Contingency Planning for Urban Areas	The CGA and GGA will coordinate with cities, towns and other municipal and industrial water suppliers, which are all fully dependent on groundwater in the Colusa Subbasin, to encourage drought contingency planning and drought preparedness in a manner consistent with sustainable groundwater management according the GSP.

Table 2. Project Type, Category, Proponent, and Location for all Projects and Management Actions.

CCR § 354.44				
Project/Management Action Name	Project Type	Project GSP Category (Planned, Ongoing, or Potential)	Project Proponent	Project Location
Colusa County Water District In-Lieu Groundwater Recharge	In-lieu Groundwater Recharge	Planned	CCWD	CCWD
Colusa Drain MWC In-Lieu Groundwater Recharge	In-lieu Groundwater Recharge	Planned	CDMWC	CDMWC
Colusa Subbasin Multi-Benefit Groundwater Recharge (TNC)	Direct Groundwater Recharge	Planned	CGA, GGA and TNC	Colusa County
Orland-Artois Water District Land Annexation and Groundwater Recharge	Direct and In-lieu Groundwater Recharge	Planned	OAWD	OAWD
Sycamore Slough Groundwater Recharge Pilot Project	Direct Groundwater Recharge	Planned	Davis Ranches	Sycamore Slough
Colusa County Public Water System Water Treatment Plant	In-lieu Groundwater Recharge	Potential	Ben King (stakeholder)	Colusa County
Delevan Pipeline Colusa Basin Drain Intertie	Direct and In-lieu Groundwater Recharge	Potential	Ben King (stakeholder)	Intersection of Colusa Basin Drain and Proposed Delevan Pipeline
Sycamore Slough Colusa Basin Drain Multi-Benefit Recharge Project	Direct Groundwater Recharge	Potential	Ben King (stakeholder)	Sycamore Slough
Tehama-Colusa Canal Trickle Flow to Ephemeral Streams	Direct Groundwater Recharge	Potential	Bill Vanderwaal (RD108)	At TCC and ephemeral stream crossings
Westside Streams Diversion for Direct or In-lieu Groundwater Recharge	Direct and In-lieu Groundwater Recharge	Potential	CGA and GGA	Colusa and Glenn Counties
Reduce Non-beneficial Evapotranspiration/Invasive Species Eradication (Arundo, Eucalyptus, Tamarisk, etc.)	Reduce Groundwater Demand	Potential	CGA and GGA	Subbasin-wide

CCR § 354.44				
Project/Management Action Name	Project Type	Project GSP Category (Planned, Ongoing, or Potential)	Project Proponent	Project Location
Enhanced Infiltration of Precipitation on Agricultural Lands	Direct Groundwater Recharge	Potential	CGA and GGA	Subbasin-wide
Colusa Subbasin Flood-MAR	Direct Groundwater Recharge	Potential	CGA and GGA	Subbasin-wide
Glenn Colusa Irrigation District In-lieu Groundwater Recharge	In-lieu Groundwater Recharge	Potential	GCID	GCID
Glenn Colusa Irrigation District Strategic Winter Water Use for Groundwater Recharge and Multiple Benefits	Direct and In-lieu Groundwater Recharge	Ongoing	GCID	GCID
Glenn Colusa Irrigation District Expansion of In-Basin Program for In-lieu Groundwater Recharge	In-lieu Groundwater Recharge	Ongoing	GCID	GCID and Neighboring Areas
Glenn Colusa Irrigation District Water Transfers to TCCA CVP Contractors	In-lieu Groundwater Recharge	Potential	GCID	Participating TCCA CVP Contractors
Orland-Artois Water District Direct Groundwater Recharge	Direct Groundwater Recharge	Potential	OAWD	OAWD
Orland Unit Water Users Association Flood Water Conveyance	Direct Groundwater Recharge	Potential	OuwUA	OuwUA
Orland Unit Water Users Association Irrigation Modernization for Increased Surface Water Delivery and Reduced Groundwater Pumping	In-lieu Groundwater Recharge	Ongoing	OuwUA	OuwUA
Reclamation District 108 and Colusa County Water District Agreement for Five-Year In-Lieu Groundwater Recharge Project	In-lieu Groundwater Recharge	Ongoing	RD108 and CCWD	CCWD
Sites Reservoir	Direct and In-lieu Groundwater Recharge	Potential	Sites Project Authority	Antelope Valley (to west of Colusa Subbasin)

CCR § 354.44				
Project/Management Action Name	Project Type	Project GSP Category (Planned, Ongoing, or Potential)	Project Proponent	Project Location
Colusa Subbasin In-lieu Recharge & Banking Program	In-lieu Groundwater Recharge	Potential	South Valley Water Resources Authority	Within any districts willing to participate
Sycamore Marsh Farm Direct Recharge Project	Direct Groundwater Recharge	Ongoing	Sycamore Marsh Farm	Sycamore Marsh Farm
Sycamore Marsh Farm In-lieu Recharge Project	In-lieu Groundwater Recharge	Potential	Sycamore Marsh Farm	Sycamore Marsh Farm
Westside Offstream Reservoir and In-Lieu Groundwater Recharge	In-lieu Groundwater Recharge	Potential	TCCA Contractors	Participating TCCA CVP Contractors
Urban Water Conservation in Willows	Management Action	Ongoing	California Water Service - Willows District	Willows
Domestic Well Mitigation Program	Management Action	Potential	CGA and GGA	Subbasin-wide
Strategic Short-Term Demand Management	Management Action	Potential	CGA and GGA	Subbasin-wide
Long-Term Demand Management Action	Management Action	Potential	CGA and GGA	Subbasin-wide
Well Abandonment Outreach and Funding Program	Management Action	Potential	CGA and GGA	Subbasin-wide
Preservation of Lands Favorable for Recharge	Management Action	Potential	CGA and GGA	Subbasin-wide
Drought Contingency Planning for Urban Areas	Management Action	Potential	CGA, GGA, and cities (GSA member agencies)	Subbasin-wide

Table 3. Implementation Criteria, Notice Process, Permitting and Regulatory Process, and Timeline for all Projects and Management Actions.

CCR § 354.44	CCR §354.44(b)(1)(A)	CCR §354.44(b)(1)(B)	CCR §354.44(b)(3)	CCR §354.44(b)(4)		
Project/Management Action Name	Implementation and Termination Timing/Criteria for Implementation	Public and/or Inter-Agency Notice Process	Required Permitting and Regulatory Process or Status of Permitting	Current Status (Ongoing, Planned, Potential or Concept)	Anticipated Start Date (Year)	Anticipated Completion Date (Year)
Colusa County Water District In-Lieu Groundwater Recharge	Planning currently ongoing; no construction of new facilities needed.	See Note 2 below	See Note 4 below	Planned	2022	See note 6 below
Colusa Drain MWC In-Lieu Groundwater Recharge	Planning currently ongoing	See Note 3 below	See Note 5 below	Potential	See Note 6 below	See Note 6 below
Colusa Subbasin Multi-Benefit Groundwater Recharge (TNC)	Planning currently ongoing	See Note 2 below	See Note 4 below	Planned (pilot project complete)	2020	See Note 6 below
Orland-Artois Water District Land Annexation and Groundwater Recharge	Planning currently ongoing; intent is to proceed expeditiously to design and construction of new facilities	See Note 2 below	See Note 4 below	Planned	2020	2025
Sycamore Slough Groundwater Recharge Pilot Project	See Note 1 below	See Note 3 below	See Note L2 below	Planned	See Note 6 below	See Note 6 below
Colusa County Public Water System Water Treatment Plant	See Note 1 below	See Note 3 below	See Note 5 below	Potential	See Note 6 below	See Note 6 below
Delevan Pipeline Colusa Basin Drain Intertie		See Note 3 below	See Note 5 below	Concept	See Note 6 below	See Note 6 below
Sycamore Slough Colusa Basin Drain Multi-Benefit Recharge Project		See Note 3 below	See Note 5 below	Concept	See Note 6 below	See Note 6 below
Tehama-Colusa Canal Trickle Flow to Ephemeral Streams		See Note 3 below	See Note 5 below	Concept	See Note 6 below	See Note 6 below
Westside Streams Diversion for Direct or In-lieu Groundwater Recharge	See Note 1 below	See Note 3 below	See Note 5 below	Potential	See Note 6 below	See Note 6 below

CCR § 354.44	CCR §354.44(b)(1)(A)	CCR §354.44(b)(1)(B)	CCR §354.44(b)(3)	CCR §354.44(b)(4)		
Project/Management Action Name	Implementation and Termination Timing/Criteria for Implementation	Public and/or Inter-Agency Notice Process	Required Permitting and Regulatory Process or Status of Permitting	Current Status (Ongoing, Planned, Potential or Concept)	Anticipated Start Date (Year)	Anticipated Completion Date (Year)
Reduce Non-beneficial Evapotranspiration/Invasive Species Eradication (Arundo, Eucalyptus, Tamarisk, etc.)	See Note 1 below	See Note 3 below	See Note 5 below	Concept	See Note 6 below	See Note 6 below
Enhanced Infiltration of Precipitation on Agricultural Lands	See Note 1 below	See Note 3 below	See Note 5 below	Concept	See Note 6 below	See Note 6 below
Colusa Subbasin Flood-MAR	See Note 1 below	See Note 3 below	See Note 5 below	Concept	See Note 6 below	See Note 6 below
Glenn Colusa Irrigation District In-lieu Groundwater Recharge	See Note 1 below	See Note 3 below	See Note 5 below	Planned	See Note 6 below	See Note 6 below
Glenn Colusa Irrigation District Strategic Winter Water Use for Groundwater Recharge and Multiple Benefits	Currently ongoing	See Note 2 below	See Note 4 below	Ongoing	2021	See Note 6 below
Glenn Colusa Irrigation District Expansion of In-Basin Program for In-lieu Groundwater Recharge	Currently ongoing	See Note 2 below	See Note 4 below	Ongoing	2021	See Note 6 below
Glenn Colusa Irrigation District Water Transfers to TCCA CVP Contractors	See Note 1 below	See Note 3 below	See Note 5 below	Potential	See Note 6 below	See Note 6 below
Orland-Artois Water District Direct Groundwater Recharge	See Note 1 below	See Note 2 below	See Note 4 below	Concept (pilot project complete)	See Note 6 below	See Note 6 below
Orland Unit Water Users Association Flood Water Conveyance	See Note 1 below	See Note 3 below	See Note 5 below	Potential	See Note 6 below	See Note 6 below

CCR § 354.44	CCR §354.44(b)(1)(A)	CCR §354.44(b)(1)(B)	CCR §354.44(b)(3)	CCR §354.44(b)(4)		
Project/Management Action Name	Implementation and Termination Timing/Criteria for Implementation	Public and/or Inter-Agency Notice Process	Required Permitting and Regulatory Process or Status of Permitting	Current Status (Ongoing, Planned, Potential or Concept)	Anticipated Start Date (Year)	Anticipated Completion Date (Year)
Orland Unit Water Users Association Irrigation Modernization for Increased Surface Water Delivery and Reduced Groundwater Pumping	See Note 1 below	See Note 3 below	See Note 5 below	Ongoing	See Note 6 below	See Note 6 below
Reclamation District 108 and Colusa County Water District Agreement for Five-Year In-Lieu Groundwater Recharge Project	See Note 1 below	See Note 3 below	See Note 5 below	Ongoing and Planned	See Note 6 below	See Note 6 below
Sites Reservoir	See Note 1 below	See Note 3 below	See Note 5 below	Concept, developing funding	See Note 6 below	See Note 6 below
Colusa Subbasin In-lieu Recharge & Banking Program	See Note 1 below	See Note 3 below	See Note 5 below	Concept	See Note 6 below	See Note 6 below
Sycamore Marsh Farm Direct Recharge Project	Currently ongoing	See Note 2 below	See Note 4 below	Ongoing	2020	See Note 6 below
Sycamore Marsh Farm In-lieu Recharge Project	See Note 1 below	See Note 2 below	See Note 4 below	Concept	See Note 6 below	See Note 6 below
Westside Offstream Reservoir and In-Lieu Groundwater Recharge	See Note 1 below	See Note 3 below	See Note 5 below	Concept	See Note 6 below	See Note 6 below
Urban Water Conservation in Willows	Currently ongoing	See Note 2 below	See Note 4 below	Ongoing	2016	See Note 6 below
Domestic Well Mitigation Program	See Note 1 below	See Note 3 below	See Note 5 below	Potential	See Note 6 below	See Note 6 below
Strategic Short-Term Demand Management	See Note 1 below	See Note 3 below	See Note 5 below	Concept	See Note 6 below	See Note 6 below
Long-Term Demand Management Action		See Note 3 below	See Note 5 below	Concept	See Note 6 below	See Note 6 below
Well Abandonment Outreach and Funding Program	See Note 1 below	See Note 3 below	See Note 5 below	Concept	See Note 6 below	See Note 6 below

CCR § 354.44	CCR §354.44(b)(1)(A)	CCR §354.44(b)(1)(B)	CCR §354.44(b)(3)	CCR §354.44(b)(4)		
Project/Management Action Name	Implementation and Termination Timing/Criteria for Implementation	Public and/or Inter-Agency Notice Process	Required Permitting and Regulatory Process or Status of Permitting	Current Status (Ongoing, Planned, Potential or Concept)	Anticipated Start Date (Year)	Anticipated Completion Date (Year)
Preservation of Lands Favorable for Recharge	See Note 1 below	See Note 3 below	See Note 5 below	Concept	See Note 6 below	See Note 6 below
Drought Contingency Planning for Urban Areas	See Note 1 below	See Note 3 below	See Note 5 below	Potential	See Note 6 below	See Note 6 below

Notes:

1. This project is currently in the early conceptual stage. Thus the implementation and termination dates have yet to be determined. Criteria for implementation may, among other factors, be linked to the measurable objectives and provided in annual reports.
2. Public and/or Inter-Agency Noticing is being facilitated through GSA board meetings, GSA and/or cooperating agency website(s), GSA newsletter, member agency newsletter, inter-basin coordination meetings, member agency governing body public meetings, GSP annual report(s), public scoping meetings and environmental/regulatory permitting notification.
3. Public and/or Inter-Agency Noticing will be facilitated through GSA board meetings, GSA and/or cooperating agency website(s), GSA newsletter, member agency newsletter, inter-basin coordination meetings, member agency governing body public meetings, GSP annual report(s), public scoping meetings and environmental/regulatory permitting notification.
4. Required permitting and regulatory review is being initiated through consultation with applicable governing agencies. Governing agencies for which consultation is being initiated may include, but is not limited to: the California Department of Water Resources (DWR), the California State Water Resources Control Board (SWRCB), the California Department of Fish and Wildlife (CDFW), the Central Valley Flood Protection Board (Flood Board), Regional Water Boards, the United States Bureau of Reclamation (Reclamation or USBR), the United States Army Corps of Engineers (USACE), the United States Fish and Wildlife Service (USFWS), the National Marine Fisheries Service (NMFS), Local Agency Formation Commissions (LAFCO), the Counties of Colusa and/or Glenn, and the California Air Resources Board (CARB).
5. Required permitting and regulatory review will be project specific and initiated through consultation with applicable governing agencies. Governing agencies for which consultation is being initiated may include, but is not limited to: DWR, SWRCB, CDFW, Flood Board, Regional Water Boards, USBR, USACE, USFWS, NMFS, LAFCO, Counties of Colusa and/or Glenn, and CARB.
6. This project is currently in the early conceptual stage. Thus the start and completion dates for this project have yet to be determined and will be provided in annual reports when known.

Table 4. Anticipated Benefits of all Projects and Management Actions.

CCR § 354.44	CCR §354.44(b)(5)			
Project/Management Action Name	Measurable Objectives Expected to Benefit	Multi-Benefits Expected	Serves Disadvantaged Community (If so, which one?)	Expected Yield
Colusa County Water District In-Lieu Groundwater Recharge	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	27,000 af/year
Colusa Drain MWC In-Lieu Groundwater Recharge	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	28,000 AF/year
Colusa Subbasin Multi-Benefit Groundwater Recharge (TNC)	Groundwater levels, groundwater storage, and depletions of interconnected surface water	Migratory waterfowl ponded habitat	See Note 1 below	5,200 af/year
Orland-Artois Water District Land Annexation and Groundwater Recharge	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	23,000 af/year
Sycamore Slough Groundwater Recharge Pilot Project	Groundwater levels, groundwater storage, and depletions of interconnected surface water	Ponded habitat for migratory waterfowl	See Note 1 below	500 af/year
Colusa County Public Water System Water Treatment Plant	Groundwater levels, groundwater storage, and depletions of interconnected surface water	Improved drinking water quality. Arbuckle and Dunnigan face loss of well supply; Grimes and Princeton have drinking well arsenic contamination; Williams has elevated salinity (TDS) levels.	See Note 1 below	See Note 2 below
Delevan Pipeline Colusa Basin Drain Intertie	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	See Note 2 below
Sycamore Slough Colusa Basin Drain Multi-Benefit Recharge Project	Groundwater levels, groundwater storage, and depletions of interconnected surface water	Ponded habitat for migratory waterfowl, along with other environmental benefits	See Note 1 below	See Note 2 below
Tehama-Colusa Canal Trickle Flow to Ephemeral Streams	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	See Note 2 below

CCR § 354.44	CCR §354.44(b)(5)			
Project/Management Action Name	Measurable Objectives Expected to Benefit	Multi-Benefits Expected	Serves Disadvantaged Community (If so, which one?)	Expected Yield
Westside Streams Diversion for Direct or In-lieu Groundwater Recharge	Groundwater levels, groundwater storage, and depletions of interconnected surface water	Reduced flood impacts to the extent that diversions reduce the severity of downstream flooding	See Note 1 below	Dependent on scale of implementation; between roughly 1,000 to 16,000 af/year
Reduce Non-beneficial Evapotranspiration/Invasive Species Eradication (Arundo, Eucalyptus, Tamarisk, etc.)	Groundwater levels, groundwater storage, and depletions of interconnected surface water	Decreased ET; increased native vegetation / habitat; decreased sediment trapping	See Note 1 below	See Note 2 below
Enhanced Infiltration of Precipitation on Agricultural Lands	Groundwater levels, groundwater storage, and depletions of interconnected surface water	Increased groundwater recharge	See Note 1 below	See Note 2 below
Colusa Subbasin Flood-MAR	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	See Note 2 below
Glenn Colusa Irrigation District In-lieu Groundwater Recharge	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	See Note 2 below
Glenn Colusa Irrigation District Strategic Winter Water Use for Groundwater Recharge and Multiple Benefits	Groundwater levels, groundwater storage, and depletions of interconnected surface water	Increased ponded habitat for migrating waterfowl and improved air quality through reduced rice straw burning.	See Note 1 below	See Note 2 below
Glenn Colusa Irrigation District Expansion of In-Basin Program for In-lieu Groundwater Recharge	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	See Note 2 below
Glenn Colusa Irrigation District Water Transfers to TCCA CVP Contractors	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	See Note 2 below
Orland-Artois Water District Direct Groundwater Recharge	Groundwater levels, groundwater storage, and depletions of interconnected surface water	Possible ponded habitat for migratory waterfowl depending on timing of flooding	See Note 1 below	See Note 2 below

CCR § 354.44	CCR §354.44(b)(5)			
Project/Management Action Name	Measurable Objectives Expected to Benefit	Multi-Benefits Expected	Serves Disadvantaged Community (If so, which one?)	Expected Yield
Orland Unit Water Users Association Flood Water Conveyance	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	See Note 2 below
Orland Unit Water Users Association Irrigation Modernization for Increased Surface Water Delivery and Reduced Groundwater Pumping	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	See Note 2 below
Reclamation District 108 and Colusa County Water District Agreement for Five-Year In-Lieu Groundwater Recharge Project	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	8,000 af/year
Sites Reservoir	Groundwater levels, groundwater storage, and depletions of interconnected surface water (to the extent that project yield is dedicated to recharge projects).	Increased local, regional, and statewide water supply reliability, climate change resiliency, recreation, increased cold water pool for endangered salmon.	See Note 1 below	See Note 2 below
Colusa Subbasin In-lieu Recharge & Banking Program	Groundwater levels, groundwater storage, depletions of interconnected surface water, land subsidence, and potentially groundwater quality		See Note 1 below	See Note 2 below
Sycamore Marsh Farm Direct Recharge Project	Groundwater levels, groundwater storage, depletions of interconnected surface water, land subsidence, and potentially groundwater quality	Ponded habitat for migratory waterfowl	See Note 1 below	See Note 2 below
Sycamore Marsh Farm In-lieu Recharge Project	Groundwater levels, groundwater storage, depletions of interconnected surface water, land subsidence, and potentially groundwater quality		See Note 1 below	See Note 2 below

CCR § 354.44	CCR §354.44(b)(5)			
Project/Management Action Name	Measurable Objectives Expected to Benefit	Multi-Benefits Expected	Serves Disadvantaged Community (If so, which one?)	Expected Yield
Westside Offstream Reservoir and In-Lieu Groundwater Recharge	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	See Note 2 below
Urban Water Conservation in Willows	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	2 af/year
Domestic Well Mitigation Program	None		See Note 1 below	None
Strategic Short-Term Demand Management	Groundwater levels, groundwater storage, and depletions of interconnected surface water in areas with potential sustainability challenges	Yes, potential for multi-benefits on temporarily idled lands, depending on program design	See Note 1 below	See Note 2 below
Long-Term Demand Management Action	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	See Note 2 below
Well Abandonment Outreach and Funding Program	Water quality		See Note 1 below	None
Preservation of Lands Favorable for Recharge	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	See Note 2 below
Drought Contingency Planning for Urban Areas	Groundwater levels, groundwater storage, and depletions of interconnected surface water		See Note 1 below	See Note 2 below

Notes:

1. The majority of the areas within the Colusa Subbasin are classified as either Severely Disadvantaged Communities, Disadvantaged Communities, or Economically Distressed Areas.
2. This project is currently in the early conceptual stage. Thus the expected yield of this project has yet to be determined and will be reported in annual reports when known.

Table 5. Benefit Evaluation and Water Source for all Projects and Management Actions.

CCR § 354.44	CCR §354.44(b)(5)	CCR §354.44(b)(6)	
Project/Management Action Name	Benefit Evaluation Methodology	Water Source	Water Source Reliability
Colusa County Water District In-Lieu Groundwater Recharge	See Note 1 below	Sacramento River through CCWD's existing CVP contract and annual and multi-year water purchases and transfer agreements	Water purchases and transfers in all but Critical years
Colusa Drain MWC In-Lieu Groundwater Recharge	See Note 2 below	Sacramento River through CDMWC contractual rights with USBR together with annual and multi-year transfer agreements with USBR settlement contractors utilizing the Colusa Basin Drain.	To be determined
Colusa Subbasin Multi-Benefit Groundwater Recharge (TNC)	See Note 1 below	Sacramento River under a variety of water rights, contracts, and water purchase and transfer agreements	Uncertain at this time
Orland-Artois Water District Land Annexation and Groundwater Recharge	See Note 1 below	Sacramento River through annual and multi-year water purchases and transfer agreements for in-lieu recharge, and Section 215 water for direct recharge	Water purchases and transfers in all but Critical years; Section 215 water subject to hydrology and river system conditions
Sycamore Slough Groundwater Recharge Pilot Project	See Note 2 below	Sacramento River	Uncertain at this time
Colusa County Public Water System Water Treatment Plant	See Note 2 below	Sacramento River under new appropriative water rights	Uncertain at this time
Delevan Pipeline Colusa Basin Drain Intertie	See Note 2 below	Sacramento River under new appropriative water rights (conveyed to Sites Reservoir and through Delevan Pipeline)	Uncertain at this time
Sycamore Slough Colusa Basin Drain Multi-Benefit Recharge Project	See Note 2 below	Colusa Basin Drain	Uncertain at this time
Tehama-Colusa Canal Trickle Flow to Ephemeral Streams	See Note 2 below	Sacramento River (conveyed through TCC)	Uncertain at this time

CCR § 354.44	CCR §354.44(b)(5)	CCR §354.44(b)(6)	
Project/Management Action Name	Benefit Evaluation Methodology	Water Source	Water Source Reliability
Westside Streams Diversion for Direct or In-lieu Groundwater Recharge	See Note 2 below	Westside Streams: Willow Creek, Logan Creek, Hunters Creek, Funks Creek, Stone Corral Creek, Salt Creek, and potentially smaller streams	Only available during periods of runoff occurring during heavy precipitation events or wet years
Reduce Non-beneficial Evapotranspiration/Invasive Species Eradication (Arundo, Eucalyptus, Tamarisk, etc.)	See Note 2 below	N/A	N/A
Enhanced Infiltration of Precipitation on Agricultural Lands	See Note 2 below	Precipitation	Variable
Colusa Subbasin Flood-MAR	See Note 2 below	To be determined	To be determined
Glenn Colusa Irrigation District In-lieu Groundwater Recharge	See Note 2 below	Sacramento River under GCID's contractual rights according to its Sacramento River Water Right Settlement contract and under an appropriative water right for diversion and use of "winter water" from November 1 through March 31 each year.	Settlement contract water supplies subject to 25% reductions in Shasta critical years; appropriative winter water subject to availability and curtailments according to water right Term 91
Glenn Colusa Irrigation District Strategic Winter Water Use for Groundwater Recharge and Multiple Benefits	See Note 1 below	Appropriative water right for diversion and use of "winter water" from November 1 through March 31 each year	Appropriative winter water supplies subject to availability and curtailments according to water right Term 91
Glenn Colusa Irrigation District Expansion of In-Basin Program for In-lieu Groundwater Recharge	See Note 1 below	Sacramento River under GCID's contractual and appropriative rights	Reliable
Glenn Colusa Irrigation District Water Transfers to TCCA CVP Contractors	See Note 2 below	Sacramento River under GCID's contractual rights according to its Sacramento River Water Right Settlement contract	Settlement contract water supply subject to 25% reductions in Shasta critical years
Orland-Artois Water District Direct Groundwater Recharge	See Note 1 below	Sacramento River Section 215 water	Highly variable; available only during periods of high flow in Sacramento River and tributaries

CCR § 354.44	CCR §354.44(b)(5)	CCR §354.44(b)(6)	
Project/Management Action Name	Benefit Evaluation Methodology	Water Source	Water Source Reliability
Orland Unit Water Users Association Flood Water Conveyance	See Note 2 below	Stony Creek flood releases that cannot be held in Stony Creek reservoirs	Highly variable year to year depending on hydrology
Orland Unit Water Users Association Irrigation Modernization for Increased Surface Water Delivery and Reduced Groundwater Pumping	See Note 2 below	Stony Creek water available to the OUWUA under the Angle Decree	Highly reliable with significant shortages historically occurring once every 10 to 20 years on average
Reclamation District 108 and Colusa County Water District Agreement for Five-Year In-Lieu Groundwater Recharge Project	See Note 2 below	Sacramento River water available to RD108 through contractual rights under Sacramento River Settlement Contract 14-06-200-876A between RD108 and the Bureau of Reclamation	Settlement contract water supply subject to 25% reductions in Shasta critical years
Sites Reservoir	See Note 2 below	Sacramento River under new appropriative water rights	New water rights would have junior priority and therefore would be subject to senior rights and water right Term 91
Colusa Subbasin In-lieu Recharge & Banking Program	See Note 2 below	To be determined	To be determined
Sycamore Marsh Farm Direct Recharge Project	See Note 1 below	Colusa Basin Drain	To be determined
Sycamore Marsh Farm In-lieu Recharge Project	See Note 1 below	Colusa Basin Drain	To be determined
Westside Offstream Reservoir and In-Lieu Groundwater Recharge	See Note 2 below	Sacramento River Section 215 water	Highly variable; available only during periods of high flow in Sacramento River and tributaries
Urban Water Conservation in Willows	See Note 1 below	N/A	N/A
Domestic Well Mitigation Program	See Note 2 below	N/A	N/A
Strategic Short-Term Demand Management	See Note 2 below	N/A	N/A
Long-Term Demand Management Action	See Note 2 below	N/A	N/A

CCR § 354.44	CCR §354.44(b)(5)	CCR §354.44(b)(6)	
Project/Management Action Name	Benefit Evaluation Methodology	Water Source	Water Source Reliability
Well Abandonment Outreach and Funding Program	See Note 2 below	N/A	N/A
Preservation of Lands Favorable for Recharge	See Note 2 below	N/A	N/A
Drought Contingency Planning for Urban Areas	See Note 2 below	N/A	N/A

Notes:

1. Evaluation of benefits will be based on analysis of pre- and post-project measurements supported by modeling. These analyses may include: flow measurement consistent with SBx7-7 (23 CCR §931-938), ET analysis, reductions in GW use, well monitoring, determination of infiltration rates, water balance analysis, as-built drawings and stream gaging. Modeling will be done with the C2VSimFG-Colusa model used for GSP development.
2. Evaluation of benefits is based on analysis of pre- and post-project measurements supported by modeling. These analyses may include: flow measurement consistent with SBx7-7 (23 CCR §931-938), ET analysis, reductions in GW use, well monitoring, determination of infiltration rates, water balance analysis, as-built drawings and stream gaging. Modeling will be done with the C2VSimFG-Colusa model used for GSP development.

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Table 6. Legal Authority Requirements, Estimated Cost, and Potential Funding Sources for all Projects and Management Actions.

CCR § 354.44	CCR §354.44(b)(7)	CCR §354.44(b)(8)	
Project/Management Action Name	Legal Authority Required	Estimated Cost	Potential Funding Sources
Colusa County Water District In-Lieu Groundwater Recharge	As a water district formed under state law, CCWD has the legal authority to annex land into the district and provide water service to annexed lands.	Under development; 10% design and capital cost estimate expected August 2021.	See Note 2 below
Colusa Drain MWC In-Lieu Groundwater Recharge	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	\$1,725,000	See Note 2 below
Colusa Subbasin Multi-Benefit Groundwater Recharge (TNC)	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	Under development	See Note 2 below
Orland-Artois Water District Land Annexation and Groundwater Recharge	As a water district formed under state law, OAWD has the legal authority to annex land into the district and provide water service to annexed lands.	Under development	See Note 2 below
Sycamore Slough Groundwater Recharge Pilot Project	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Colusa County Public Water System Water Treatment Plant	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Delevan Pipeline Colusa Basin Drain Intertie	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Sycamore Slough Colusa Basin Drain Multi-Benefit Recharge Project	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Tehama-Colusa Canal Trickle Flow to Ephemeral Streams	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Westside Streams Diversion for Direct or In-lieu Groundwater Recharge	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Reduce Non-beneficial Evapotranspiration/Invasive Species Eradication (Arundo, Eucalyptus, Tamarisk, etc.)	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Enhanced Infiltration of Precipitation on Agricultural Lands	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below

CCR § 354.44	CCR §354.44(b)(7)	CCR §354.44(b)(8)	
Project/Management Action Name	Legal Authority Required	Estimated Cost	Potential Funding Sources
Colusa Subbasin Flood-MAR	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Glenn Colusa Irrigation District In-lieu Groundwater Recharge	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Glenn Colusa Irrigation District Strategic Winter Water Use for Groundwater Recharge and Multiple Benefits	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Glenn Colusa Irrigation District Expansion of In-Basin Program for In-lieu Groundwater Recharge	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Glenn Colusa Irrigation District Water Transfers to TCCA CVP Contractors	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Orland-Artois Water District Direct Groundwater Recharge	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Orland Unit Water Users Association Flood Water Conveyance	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Orland Unit Water Users Association Irrigation Modernization for Increased Surface Water Delivery and Reduced Groundwater Pumping	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Reclamation District 108 and Colusa County Water District Agreement for Five-Year In-Lieu Groundwater Recharge Project	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Sites Reservoir	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	\$5.2 billion	See Note 2 below
Colusa Subbasin In-lieu Recharge & Banking Program	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Sycamore Marsh Farm Direct Recharge Project	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below

CCR § 354.44	CCR §354.44(b)(7)	CCR §354.44(b)(8)	
Project/Management Action Name	Legal Authority Required	Estimated Cost	Potential Funding Sources
Sycamore Marsh Farm In-lieu Recharge Project	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Westside Offstream Reservoir and In-Lieu Groundwater Recharge	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Urban Water Conservation in Willows	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	Cost covered by rate structure of Cal Water - Willows Division	See Note 2 below
Domestic Well Mitigation Program	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Strategic Short-Term Demand Management	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Long-Term Demand Management Action	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Well Abandonment Outreach and Funding Program	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Preservation of Lands Favorable for Recharge	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below
Drought Contingency Planning for Urban Areas	GSAs, Districts and individual project proponents have the authority to plan and implement projects.	See Note 1 below	See Note 2 below

Notes:

1. This project is currently in the early conceptual stage. Thus the anticipated costs of this project have yet to be determined and will be reported in GSP annual reports and five-year updates when known.
2. Potential funding sources are being evaluated as project planning continues; they include, but are not limited to, the following: grants, loans, bonds, assessment fees, and cost-sharing programs. Potential funding sources will be reported in GSP annual reports and five-year updates when known.