



Legislation Details (With Text)

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On agenda: 12/2/2019 **Final action:** 12/2/2019
Title: SUBJECT: Merced Subbasin Groundwater Sustainability Plan (GSP) Report Overview and Adoption of a Resolution Authorizing the Execution of the Groundwater Sustainability Plan for the Merced Groundwater Basin

REPORT IN BRIEF

Report on the Merced Groundwater Sustainability Plan and consideration of adopting a Resolution authorizing the execution of the Groundwater Sustainability Plan for the Merced Groundwater Basin.

RECOMMENDATION

City Council - Adopt a motion adopting Resolution 2019-81, a Resolution of the City Council of the City of Merced, California, authorizing execution of the Groundwater Sustainability Plan for the Merced Groundwater Basin.

Sponsors:

Indexes:

Code sections:

Attachments: 1. Resolution, 2. GSP Overview Presentation, 3. MOU for Formation of MIUGSA (Partially-Executed), 4. NOI to Adopt the Groundwater Sustainability Plan for Merced Subbasin, 5. Map of Critically Overdrafted Basins in California

Date	Ver.	Action By	Action	Result
12/2/2019	1	City Council/Public Finance and Economic Development Authority/Parking Authority	approved	Pass

Report Prepared by: Ken Elwin, Director of Public Works

SUBJECT: Merced Subbasin Groundwater Sustainability Plan (GSP) Report Overview and Adoption of a Resolution Authorizing the Execution of the Groundwater Sustainability Plan for the Merced Groundwater Basin

REPORT IN BRIEF

Report on the Merced Groundwater Sustainability Plan and consideration of adopting a Resolution authorizing the execution of the Groundwater Sustainability Plan for the Merced Groundwater Basin.

RECOMMENDATION

City Council - Adopt a motion adopting **Resolution 2019-81**, a Resolution of the City Council of the City of Merced, California, authorizing execution of the Groundwater Sustainability Plan for the Merced Groundwater Basin.

ALTERNATIVES

1. Approving **Resolution 2019-81**, as recommended by staff; or,
2. Modify the action (specify in motion); or,
3. Deny; or,
4. Continue item to a future City Council meeting (date and time to be specified in the City Council motion).

AUTHORITY

Charter of the City of Merced, Article II, Section 200 and California Water Code Section 10720-10737.8.

CITY COUNCIL PRIORITIES

As provided for in the 2019-20 Adopted Budget.

DISCUSSION

In September 2014, Governor Edmund G. Brown Jr. signed a three-bill package known as the Sustainable Groundwater Management Act (SGMA).

The Sustainable Groundwater Management Act:

- Provides for sustainable management of groundwater basins;
- Enhances local management of groundwater consistent with rights to use or store groundwater;
- Establishes minimum standards for effective, continuous management of groundwater;
- Provides local groundwater agencies with the authority, technical, and financial assistance needed to maintain groundwater supplies;
- Avoids or minimizes impacts for land subsidence;
- Improves data collection and understanding of groundwater resources and management;
- Increases groundwater storage and removes impediments to recharge;
- Empowers local agencies to manage groundwater basins, while minimizing state intervention.

SGMA requires GSPs be adopted for the high priority, critically-overdrafted groundwater basins in California (including the Merced Subbasin) by January 31, 2020. The plans must detail how basins will become sustainable over a 20-year timeframe and must be submitted to the California Department of Water Resources (DWR) for approval. In accordance with SGMA, water management and land management agencies in the Merced Subbasin formed three Groundwater Sustainability Agencies (GSAs):

- Merced Irrigation-Urban Groundwater Sustainability Agency (MIUGSA),
- Merced Subbasin Groundwater Sustainability Agency (MSGSA), and
- Turner Island Water District Groundwater Sustainability Agency #1 (TIWD GSA-1).

The three GSAs in the region collaborated on the creation of one GSP for the entire Merced Subbasin. The GSAs applied for and were awarded a \$1.5M grant from DWR to support the costs of developing the GSP. The GSAs hired the consultant team of Woodard & Curran to begin GSP development in late 2017.

The consultant team's scope included the activities necessary to complete and submit a SGMA-compliant GSP including groundwater modeling, working with GSAs to develop a sustainability goal for the Subbasin, and evaluating options and alternatives to support the development of sustainability criteria. The GSP process sets minimum thresholds and measurable objectives for sustainability indicators in avoiding undesirable results identified in SGMA. Through the GSP development, stakeholder and public meetings were held to provide information, report progress, and gather feedback.

In early 2018, the three GSAs formed a Coordinating Committee of senior staff and governing board members to coordinate day-to-day planning activities and public outreach. The three GSAs also approved the formation of a Stakeholder Committee of community representatives to provide input. Both committees met monthly during GSP development.

The GSAs held a 30-day public comment period on the Draft GSP ending on August 19, 2019, and held a joint GSA Boards meeting on September 18, 2019, to discuss the response to comments. The draft GSP was revised in response to comments based on direction from the GSAs' Coordinating Committee and GSA staff. The final GSP is now ready for adoption by the GSA Boards. State intervention would be triggered after February 1, 2020 if there is no adopted Merced GSP or DWR fails the GSP.

Sustainability Goal

With the adoption of this GSP, the GSAs will adopt the following sustainability goal for the Merced Subbasin:

“Achieve sustainable groundwater management on a long-term average basis by increasing recharge and/or reducing groundwater pumping, while avoiding undesirable results.”

Basin Setting

The foundational sections of the GSP are the Plan Area and Basin Setting, which contains the Hydrogeological Conceptual Model and Current and Historical Groundwater Conditions. These sections were written based on the best available information in the basin and were reviewed by the Coordinating Committee during GSP development.

Water Budgets

Water budgets provide quantitative accounting of water entering and leaving the Merced Subbasin and can be used to help estimate the extent of overdraft occurring now and in the future. Consistent with SGMA requirements, water budgets for historical, current, projected, and sustainable conditions were developed for the Merced Subbasin. A future (2070) climate change water budget was also developed. These water budgets were developed using the Merced Water Resources Model (MercedWRM), a fully integrated surface and groundwater flow model developed and calibrated

specifically for the Subbasin.

Sustainable Yield

For the Merced Subbasin, sustainable yield was estimated by modifying conditions in the groundwater model to balance out the change in stored water over time. In order to achieve a net-zero change in groundwater storage over a long-term average condition, current agricultural and urban groundwater demand in the Merced Subbasin would need to be reduced by approximately 10 percent, absent implementation of any new supply-side or recharge projects.

Sustainable Management Criteria

SGMA requires consideration of six sustainability indicators. For each indicator, the GSP must define undesirable results for the basin ("significant and unreasonable" negative impacts) and determine if they could occur. For indicators with the potential for undesirable results, the GSP must establish sustainable management criteria that are intended to prevent undesirable results from occurring and establish a monitoring network. Sustainable management criteria were developed to be protective of beneficial uses in the Merced Subbasin and to support the Subbasin's sustainability goal. Demonstration by 2040 of stable groundwater elevations on a long-term average basis, combined with the absence of undesirable results, will support a determination that the basin is operating within its sustainable yield, and thus that the sustainability goal has been achieved.

The table below summarizes the sustainability indicators for the Subbasin.

Sustainability Indicator	Minimum Threshold (MT)	Measurable Objective	Undesirable Result
Groundwater Levels	Depth of shallowest well in a 2-mile radius of each representative well or minimum pre-January 1, 2015, elevation	Projected average future groundwater level under sustainable yield modeling simulation	Greater than 25% of representative wells fall below MT in 2 consecutive wet, above normal, or below normal years
Groundwater Storage	N/A - not present and not expected to occur in the Subbasin due to the significant volumes of freshwater in storage		
 Sea Water Intrusion	N/A - not present and not expected to occur due to the distance between the Subbasin and the Pacific Ocean (and Sacramento-San Joaquin Delta)		
 Degraded Water Quality	1,000 mg/L TDS	500 mg/L TDS	At least 25% representative wells exceed MT for 2 consecutive years
Land Subsidence	-0.75 ft/year	-0.25 ft/year	Exceedance of MT at 3 or more representative sites for 2 consecutive years
 Depletions of Interconnected Surface Waters	Groundwater levels used as a proxy for this sustainability indicator		

Monitoring Networks

Consistent with SGMA requirements, the GSP establishes monitoring networks for each sustainability indicator to monitor trends in the Subbasin and evaluate GSP implementation against sustainable management criteria. While the monitoring networks reflect a robust history of monitoring Subbasin conditions, significant data gaps still exist and plans to fill these data gaps for each sustainability indicator are also described in the GSP. Funding to address data gaps and enhance monitoring networks by bringing in additional wells was included in the recently submitted Proposition 68 Sustainable Groundwater Management Implementation Grant Program application.

Projects and Management Actions

SGMA requires that GSPs describe the projects and management actions to be implemented as part of bringing the Subbasin into sustainability. The primary means for achieving sustainability in the basin will be implementation of an allocation framework to allocate the sustainable yield of the basin to the GSAs. A water allocation framework has been the subject of much discussion during GSP development. The GSAs have agreed that they intend to allocate water to each GSA but have not yet reached agreement on allocations or how they will be implemented. The GSP identifies a shortlist of 12 priority projects that met a series of screening criteria for implementation as well as a longer list of possible future projects that were identified during GSP development. Projects and management actions will either increase surface water supplies to augment the sustainable groundwater yield or will increase groundwater recharge, which will in turn increase the amount of groundwater that may be sustainably used.

Plan Implementation

Implementation of the GSP will be a substantial undertaking that will include implementation of the projects and management actions as well as GSAs' administration, public outreach, implementation of the monitoring programs and filling data gaps, development of annual reports, and development of a 5-year update and report. The GSP includes an implementation schedule and estimated costs for all activities, as well as potential funding mechanism options. Implementation of the GSP is projected to run between \$1.2M and \$1.6M per year. Costs for projects and management actions are estimated to be an additional \$22.9M in total, with costs for individual projects or management actions ranging between \$75K to \$8M in total.

Next Steps in GSP adoption

After all three GSAs adopt the Merced GSP, it will be submitted to DWR by the January 31, 2020 deadline. Within 20 days, DWR will initiate a minimum 60-day public review period. DWR will evaluate the GSP within two years of its submittal date. If the GSP is not approved, DWR may determine a plan is "incomplete" which generally means that revisions can be incorporated and the GSP can be resubmitted. In consultation with the State Water Resources Control Board, DWR can also determine a plan is "inadequate" if it does not satisfy regulatory requirements or deficiencies of an incomplete plan are not corrected, which triggers the State intervention process.

First Year Priority Items for GSP Implementation

The following have been identified as priorities for the first year of GSP Implementation:

- Pursue funding opportunities;
- Create a Data Gaps Plan;
- Address Data Gaps;
- Finalize allocation framework and implementation plan;
- Establish groundwater pumping monitoring and reporting program;
- Preparation of First Annual Report - due April 1, 2020;
- GSP Program Management (Coordinating Committee / Stakeholder Committee coordination, outreach);
- Collect and analyze water level, water quality, and subsidence data;
- Develop methodology for establishing groundwater level minimum threshold at new wells.

Past Actions

In May 2016, Council approved a Memorandum of Understanding (MOU) with various water agencies in the Merced Groundwater Subbasin in accordance with SGMA. The MOU set forth items of agreement among agencies within the Merced Groundwater Subbasin following the SGMA. The agencies involved include Black Rascal Water Company, Chowchilla Water District, City of Atwater, City of Livingston, City of Merced, County of Merced, East Merced Resource Conservation District, Le Grand Community Service District, Le Grand-Athlone Water District, Lone Tree Mutual Water Company, Lower San Joaquin Levee District, Meadowbrook Water Company, Merced Irrigation District, Merquin Water District, Planada Community Service District, San Luis Resource Conservation District, Stevenson Water District, Turner Island Water District, and Winton Water and Sanitation District. The MOU was an agreement to meet and cooperate to find the best management practices to continue to provide groundwater in a sustainable manner.

The City of Merced continued working diligently over the next year to develop the Merced Irrigation Urban Groundwater Sustainability Agency (MIUGSA), formed in May 2017. The public agencies included in the MIUGSA are:

City of Merced	Merced Irrigation District
City of Atwater	City of Livingston
Winton Water and Sanitary District	Planada Community Services District
Le Grand Community Services District	

It is recommended that the City Council approve a motion to Adopt a Resolution Authorizing the Execution of the Groundwater Sustainability Plan for the Merced Groundwater Basin.

IMPACT ON CITY RESOURCES

See the partially executed attached Memorandum of Understanding for the percentage of cost share.

ATTACHMENTS

1. Resolution 2019-81
2. GSP Overview Presentation
3. Memorandum of Understanding for the formation of the Merced Irrigation Urban Groundwater Sustainable Agency
4. Notice of Intent to Adopt the Groundwater Sustainability Plan for Merced Subbasin

5. Map of Critically Overdrafted Basins in California