Technical Advisory Committee Meeting 4 Meeting Summary

Wednesday, June 16, 2021 1:00 p.m. – 3:00 p.m. Location: Zoom Virtual Meeting

Attendees

Technical Advisory Committee Members

- Ava Moussavi, Riverside County Flood Control and Water Conservation District
- Eric Lindberg, California Regional Water Quality Control Board Santa Ana Region
- Jacque Casillas, Mayor, City of Corona
- Katie Hockett, City of Corona Department of Water and Power
- Roberta Reed, 3M Industrial Mineral Products Division
- Tom Moody, City of Corona Department of Water and Power

Additional City of Corona Department of Water and Power Staff

- Kristian Alfelor
- Melissa Estrada-Maravilla

Consultant Team

- Chad Taylor, Todd Groundwater
- Gus Yates, Todd Groundwater
- Phyllis Stanin, Todd Groundwater
- Elisa Garvey, Carollo Engineers
- Inge Wiersema, Carollo Engineers
- Madison Rasmus, Carollo Engineers
- Alyson Scurlock, Kearns & West
- Jack Hughes, Kearns & West
- Joan Isaacson, Kearns & West

Summary

1. Welcome and Introductions

Joan Isaacson, facilitator from Kearns & West, welcomed all to the fourth meeting of the Temescal Groundwater Sustainability Agency (Temescal GSA) Technical Advisory Committee (TAC). She led roundtable introductions for TAC members and the consultants assisting the Temescal GSA with meeting facilitation and preparation of the Temescal Groundwater Sustainability Plan (Temescal GSP).







2. Overview of Meeting Agenda

Isaacson reviewed the meeting agenda (see Appendix A). The focus of the meeting was providing an update on the status of the Temescal GSP and the water budget, presenting the draft projects and management actions and getting input from TAC members, and giving an overview of the third public workshop.

3. Temescal Groundwater Sustainability Plan Status

Chad Taylor, Principal Hydrogeologist at Todd Groundwater, provided a status update on the Temescal GSP. The Monitoring Network (Chapter 7), Projects and Management Actions (Chapter 8), Plan Implementation (Chapter 9), and Introduction (Chapter 1) chapters are currently in review by the Temescal GSA and will be distributed to the TAC for review in late June. The Water Budget (Chapter 5) and Sustainability Criteria (Chapter 6) chapters are in final review by the consultant team and will be distributed to the Temescal GSA in late June and to the TAC in early July. After receiving comments from the Temescal GSA and TAC on the remaining chapters, a draft of the Temescal GSP will be compiled and prepared for public release.

Taylor described the Temescal GSP review period and adoption process. The draft Temescal GSP will be posted in late July or early August and will have a 90-day public review period that will extend to October or November. The revised GSP is estimated to be ready for adoption by the Temescal GSA in November or December 2021 to meet the submittal deadline to the California Department of Water Resources (DWR) by January 31, 2022.

Taylor discussed the role of the TAC moving forward, which includes reviewing and providing comments on the draft chapters and inviting their constituents, communities, and any other interested parties to the upcoming third public workshop that will take place on July 8, 2021. He also asked the TAC to help spread the word when the draft of the Temescal GSP is posted for public review.

After the Temescal GSP is adopted, the TAC may be involved in the implementation phase; any future TAC meetings will be convened on an as-needed basis. The TAC will be informed of other Temescal GSP activities through routine notifications. For more information on the Temescal GSP Status, see pages 4 through 5 in Appendix B.

Discussion/O&A

There were no questions or comments from the TAC members for this agenda item.

4. Water Budget Presentation

Gus Yates, Senior Hydrogeologist at Todd Groundwater, presented on the water budget, what it is, and how it is being developed. The water budget quantifies the inflows and outflows of the Temescal Basin over time in addition to the change in groundwater storage. Both inflows and outflows vary from year to year depending on hydrology and management. Yates described the process for estimating items in the water budget. Items that can be measured or calculated directly and thus serve as model inputs include dispersed recharge, wastewater percolation, groundwater pumping, and surface water inflows at the model boundary. Other items that are derived from model outputs are stream percolation, groundwater discharge to streams and the Prado Wetlands, subsurface boundary flows, and changes in storage.





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Yates reviewed dispersed recharge using a rainfall-runoff-recharge model diagram. He detailed the different ways in which water percolates through land including rainfall recharge, irrigated recharge, and runoff from impervious surfaces that can flow into pipes, the Prado Wetlands, or to pervious surfaces to become focused recharge. He noted that all percolation goes to the shallow groundwater zone, some of which becomes baseflow in streams. In the main part of the Temescal Basin, most deep percolation enters the regional aquifer system. Yates also reviewed a map of the 286 recharge polygons under evaluation, which the consultant team identified based on locations where recharge occurs and specific land uses that contribute to recharge. The recharge polygons extend east and west of the Temescal Basin to cover surface tributaries that drain into the basin. The model extends into the southern Chino Basin to characterize the interaction between basins and the Prado Wetlands.

Yates next described stream recharge in the Temescal Basin. He displayed the natural stream channels where percolation occurs and the cement-lined stream channels or pipelines where no percolation occurs that are included in the model. Stream channels in the Temescal Basin are far above the water table and the depth to groundwater decreases moving towards the northwest portion of the basin. In the Prado Wetlands area, the land surface and water table are close enough together that vegetation roots can reach the groundwater. Overall, percolation is not affected by groundwater levels except in the Prado Wetlands area.

Yates described subsurface inflow and outflow, which includes mountain-front recharge and percolation through fractures in the bedrock. The Temescal Basin was separated into four different zones and water budgets were developed for each. These water budget zones include the channel aquifer in the middle of the basin where most groundwater pumping occurs, the alluvial fan aquifer which makes up the remainder of the basin, the tributary watersheds which contribute inflows to the Temescal Basin, and the Chino Basin. Yates noted that groundwater pumping is concentrated in the channel aquifer.

Yates next discussed the water budget analysis periods that were selected. The Sustainable Groundwater Management Act (SGMA) requires three time periods be analyzed: historical, current, and future. For the historical time period, 1993-2007 was chosen, and for the current time period, 2010-2013 was chosen; both time periods were chosen based on average climate conditions. The future time period is required to include 50 years, represented by historical hydrological conditions. The 25 year period of 1993-2017 has been repeated twice for this purpose. In addition, Yates discussed a graph showing the cumulative departure of rainfall, which is how the analysis periods were chosen, noting that there were much bigger wet and dry events in the 1993-2017 portion of graph.

Lastly, Yates presented the surface water and groundwater budgets. The surface water budget looks at inflows and outflows to surface waterways. Since creek channels are mostly concrete-lined and far above the water table in the Temescal Basin, there is little percolation, and the percolation rate is not affected by the groundwater level. The Prado Wetlands is the only area where groundwater and surface water interact. For the groundwater budget, Yates noted that quantitative results are still under review but that some general patterns are emerging. First, the largest sources of recharge in the Temescal Basin are reclaimed water percolation, followed by rain, irrigation, and pipe leaks, and stream percolation and subsurface inflow. The yield of the channel aquifer depends on the inflow from the alluvial fan aquifer area; groundwater pumping is 60-75% of basin outflows. Lastly, the channel aquifer yields approximately the same amount as current pumping. Increasing pumping will not increase yield. For more information on the Water Budget (Chapter 5), see pages 6 through 12 in Appendix B.







Discussion/Q&A

Isaacson opened the floor for questions and discussion. Discussion, comments, and questions are summarized below.

- The first question asked if the general patterns for recharge consider changes in land use over time. A consultant team member replied that the basin was mostly urbanized in the past as it is today.
- Another question asked if there was an estimate of how much of the area was developed and how much runoff increased with urbanization. A consultant team member explained that in the 1990s, about one-third to one-half of the basin was not urbanized and most development occurred in the 1990s and early 2000s. A TAC member added that there was a study conducted in the last few years that estimated a 6,000 acre-feet loss of recharge due to urbanization in the watershed.
- A TAC member asked about the relationship between cumulative deviation from the mean, production, and groundwater levels during the period where the Temescal Basin may be in overdraft. A consultant team member stated that the measured hydrographs are variable with some dating back to the 1990s where large declines in groundwater levels can be seen. In the last 10 years, the level of urban development has been steady but in 2012, wastewater management changed slightly along with continued drought conditions, so there might have been a slight decline in the groundwater levels in wells. The decline in storage in the water budget seen to date is approximately 4 percent of the total outflow, which is within the margin of error for most water budget analyses. The future baseline scenario in the model will provide more information to confirm or disprove that and answer this question.

5. Draft Projects and Management Actions Presentation and Discussion

Elisa Garvey, Engineer at Carollo Engineers, presented the draft projects and management actions for the Temescal GSP. She explained the three groupings of actions: baseline, planned, and potential future. Baseline refers to existing or established commitments to projects or actions. Planned actions are developed and evaluated projects or actions. Potential future actions describe projects or actions to be implemented later to achieve sustainability goals.

Garvey began by describing the baseline projects. The first is groundwater treatment at the Temescal Desalter to reduce nitrates, total suspended solids (TSS), total dissolved solids (TDS), and other contaminants of concern for the drinking water supply. The second project is water reclamation facility (WRF) percolation ponds that discharge from City of Corona-owned WRFs to percolation ponds that recharge the Temescal Basin. The third project includes water-level quality assurance and quality control activities that maintain the reliability of ongoing groundwater elevation data. The final project Garvey presented was the Western Riverside County Regional Authority (WRCRWA) plant that will soon supply recycled water for local irrigation use.

Garvey next reviewed the baseline management actions. These include Water Shortage Contingency Plans, which are plans that detail the stages of water shortage and conservation response based on a City's available supply and deficit, and Water Conservation Programs, which include response actions to reduce water use in the stages of a water shortage. Additional management actions include the







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Western Municipal Water District Integrated Regional Water Management Plan, which is a coordinated, long-range regional water quantity and quality management strategy, and the Temescal GSA's involvement in the Santa Ana Watershed Project, which is a coordinated management group formed to protect the Santa Ana River Basin and associated water resources.

Garvey then reviewed the three projects included in planned actions. First, the Potable Reuse Feasibility Study will look at the possible use of future reclaimed water supply. Second, the mountain runoff capture investigation would explore options for operational changes to allow for additional benefit of groundwater recharge using storm event runoff at the edges of the basin adjacent to the Santa Ana mountains that is collected in Riverside County Flood Control and Water Conservation District basins. Lastly, the interconnected surface water monitoring wells project would include three shallow monitoring wells drilled into the Prado Management Area to allow for groundwater elevation monitoring.

Madison Rasmus, Environmental Engineer at Carollo Engineers, provided more information on the interconnected surface water monitoring wells project since its implementation date is within the first year of Temescal GSP adoption. Wells will be sited in the southern area of the Prado Management Area. There is no active groundwater monitoring in this location so drilling wells will allow the Temescal GSA to better understand the relationship between the basin and interconnected water in the Prado Wetlands. The project will consist of three groundwater wells about 40-60 feet deep that will allow for continuous groundwater elevation data collection in the area. The data will be incorporated in the 5-year GSP update and monitoring wells will inform future management actions in the Santa Ana River Watershed.

Lastly, Garvey presented potential future actions. Data collected from the Prado Management Area monitoring wells will be used as part of monitoring for undesirable results to interconnected surface water in Prado. If this monitoring identifies potential undesirable results to interconnected surface water in the Prado Management Area, then coordination will be needed with upstream Santa Ana River partners as a management action. If groundwater levels in the Prado Management Area are falling, this approach will allow for coordinated solutions. There are two additional future management actions. One is for future groundwater treatment, which would entail implementing advanced treatment for previously detected per- and polyfluoroalkyl substances (PFAS), TDS, nitrate, and trichloropropane (TCP). The other future management actions is for urban stormwater treatment, capture, and recharge, which is an exploration of urban stormwater harvesting to offset water supply and/or provide for groundwater recharge. For more information on the Projects and Management Actions (Chapter 8), see pages 13 through 16 in Appendix B.

Discussion/Q&A

There were no questions or comments from the TAC members for this agenda item.

6. Public Outreach

Jack Hughes, Senior Associate from Kearns & West, provided an overview of upcoming outreach and engagement activities. The third public workshop will be held virtually on July 8, 2021 from 4:00-6:00 p.m. on the Zoom platform. It will be streamed on the City of Corona Facebook page, website, and on Corona TV. Spanish interpretation will be available for those in the Zoom meeting. The third public workshop will focus on the sustainability criteria and projects and management actions. The third fact sheet will accompany the emails sent to interested parties. The fact sheet will also be posted to the Temescal GSP website to provide the public an opportunity to learn about the topics prior to the







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workshop. Hughes invited TAC members to attend the third public workshop and to help spread the word to others who might be interested.

In addition, the consultant team is preparing for a community leader meeting that will take place prior to the third public workshop to ensure the team is reaching a variety of stakeholders and hearing diverse interests. The purpose of the community leader meeting is to provide information on local water supply and learn about needs and perspectives in vulnerable communities. See pages 17 through 18 in Appendix B for more information.

Discussion/Q&A

There were no questions or comments from the TAC members for this agenda item.

7. Public Comment

No members of the public provided comment.

8. Next Steps and Wrap Up

Isaacson summarized next steps for the consultant team and TAC members. The consultant team will revise Chapters 1, 5, 6, 7, 8, and 9 based on GSA and TAC comments prior to compiling the complete GSP for public release. Additional next steps include the upcoming third public workshop on July 8, 2021 and preparation, finalization, adoption, and submittal of the GSP to DWR.

Discussion/Q&A

The team opened the floor for questions and discussion. Discussion, comments, and questions are summarized below.

- A TAC member expressed excitement for upcoming community leader engagement.
- A TAC member thanked the TAC for providing valuable input throughout the GSP process.







Appendix A
 Meeting Agenda





Temescal GSP

Technical Advisory Committee Meeting 4

June 16, 2021

1:00 - 3:00 p.m.

Zoom Meeting: https://zoom.us/j/99711646541

Agenda

- 1) Welcome and Introductions
- 2) Overview of Meeting Agenda
- 3) Temescal GSP Status
 - Draft Chapters
 - GSP Review and Adoption
 - Technical Advisory Committee Look Ahead
 - Discussion/Q&A
- 4) Water Budget Presentation
 - Discussion/Q&A
- 5) Draft Projects and Management Actions Presentation and Discussion
 - Discussion/Q&A
 - Are there other potential groundwater related projects we should consider?
 - Do you have ideas for how the volume of groundwater in the Basin could be increased?
 - Do you have ideas for making groundwater more sustainable in the Basin?
- 6) Public Outreach
 - Virtual Workshop, July 8, 2021
 - Community Leader Meeting
 - Fact Sheet 3
 - Discussion/Q&A
- 7) Public Comment
- 8) Next Steps and Wrap Up







Appendix B **Presentation Slides**

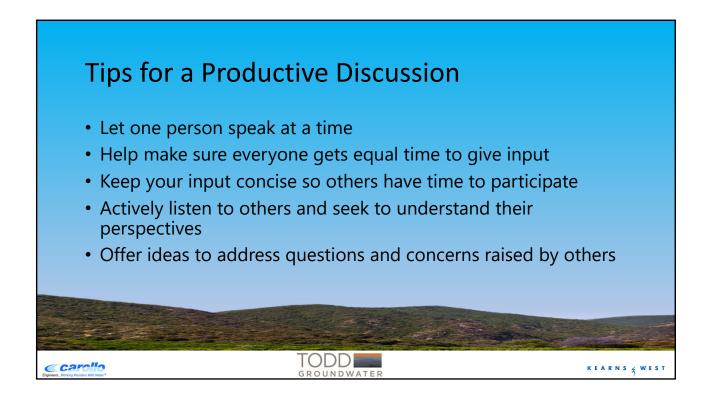






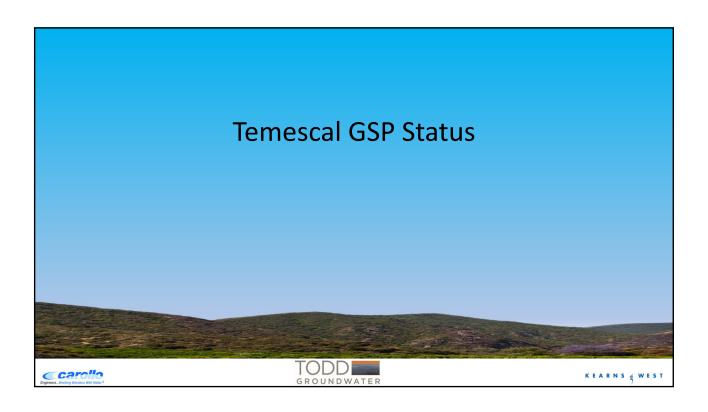












Where are we in the Temescal GSP process?

- Monitoring Network (7), Projects and Management Actions (8), Plan Implementation (9), and Introduction (1) chapters in review by GSA now and will be distributed to TAC for review in the next two weeks
- Water Budget (5) and Sustainability Criteria (6) chapters are in final review by the consultant team and will be distributed to the GSA later this week with TAC distribution in early July
- This represents all remaining chapters of the GSP
- After receiving comments from the GSA and TAC, the complete GSP will be compiled and prepared for public release





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GSP Review and Adoption Process

- The complete GSP will be posted for public review in late July/early August
- 90-day public review period through October/November
- Revised GSP slated to be ready for GSA adoption November/December 2021
- Submittal deadline to State Department of Water Resources January 31, 2022





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Technical Advisory Committee Look-Ahead

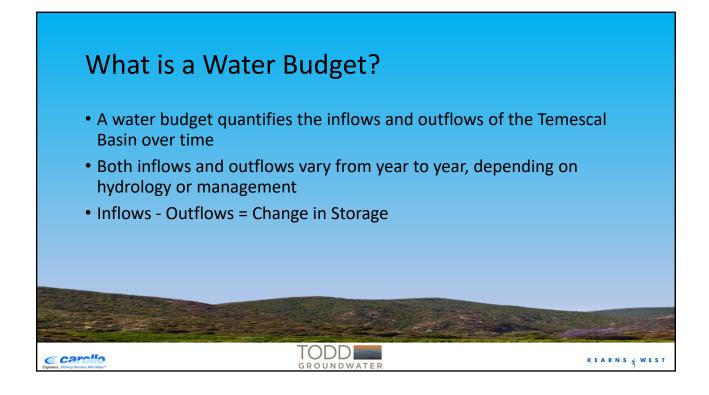
- Review chapters 1, 5, 6, 7, 8, and 9, deadline for comments will be transmitted with chapter distribution
- Spread the word about the upcoming GSP activities
 - 1. Public workshop July 8th
 - 2. Fact Sheet 3
 - 3. Release of the complete GSP
 - 4. Community leader meeting
- Future TAC meetings during GSP implementation

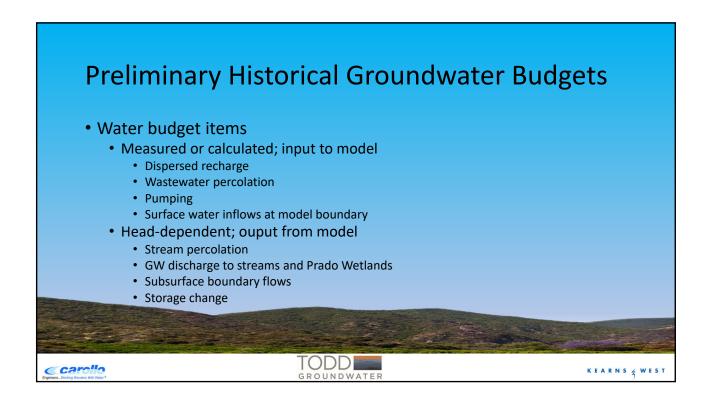


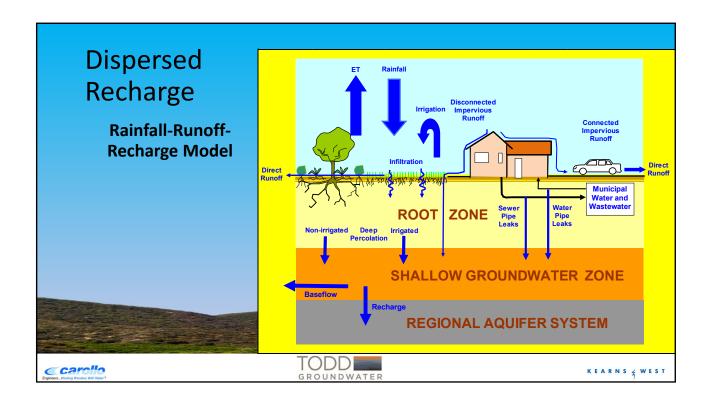


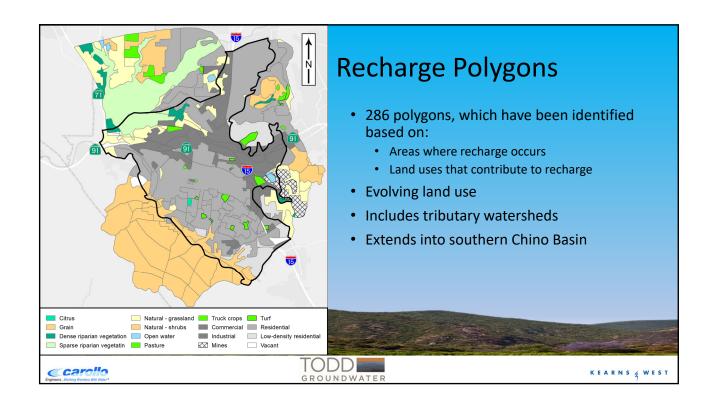
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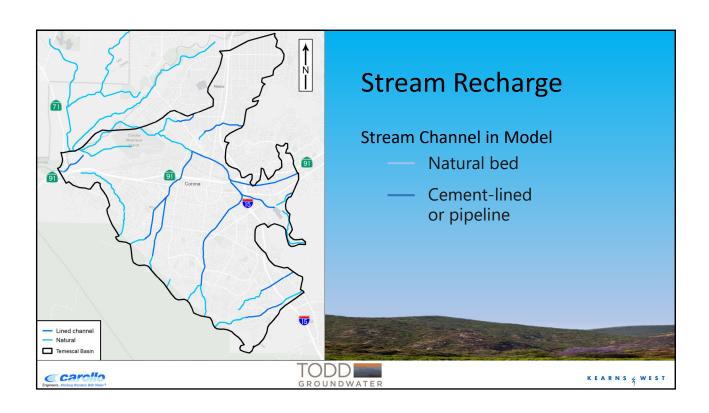


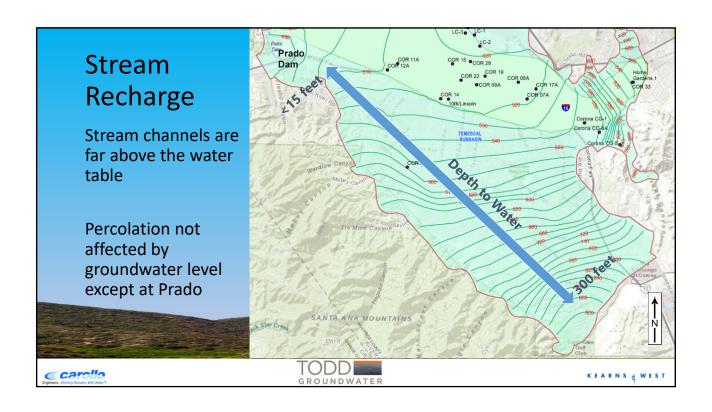


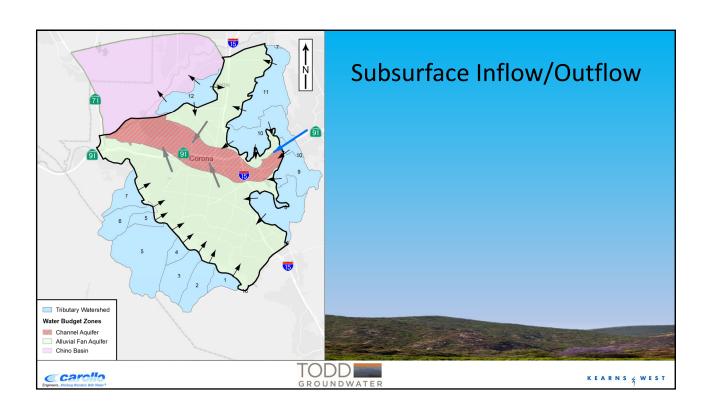


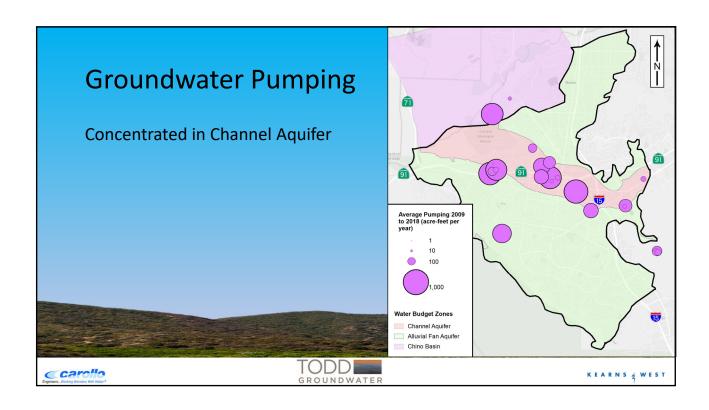


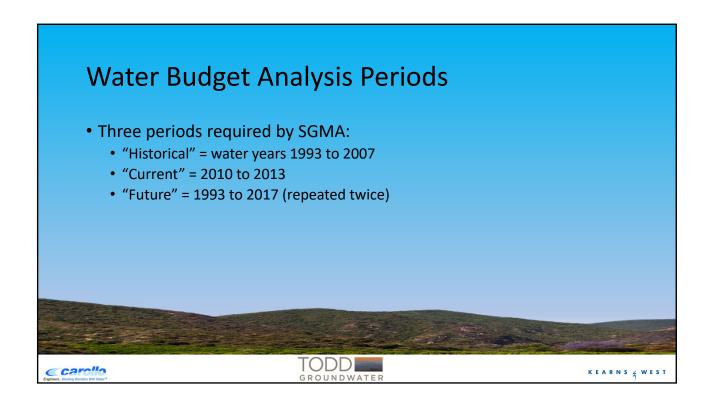


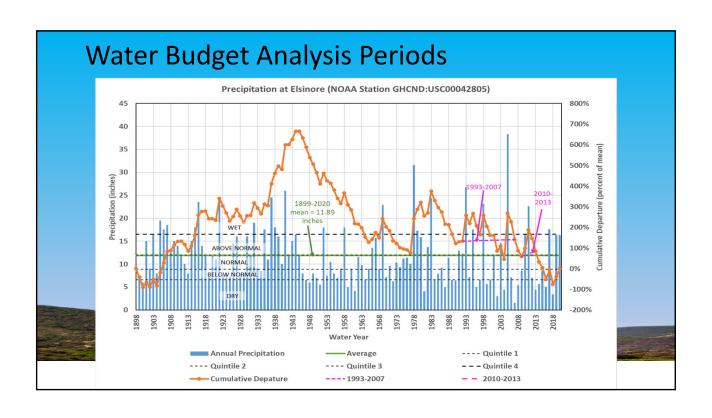


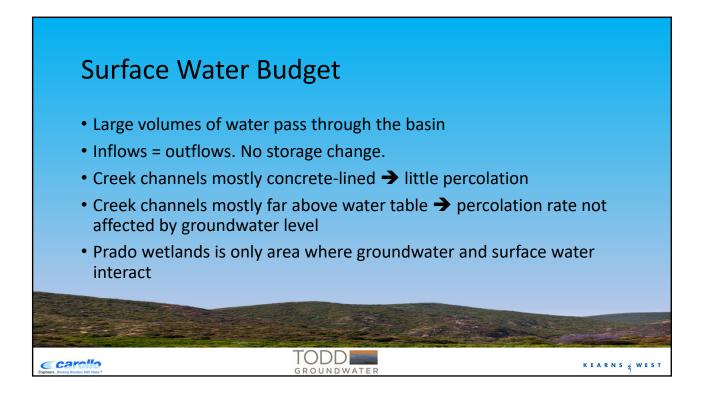


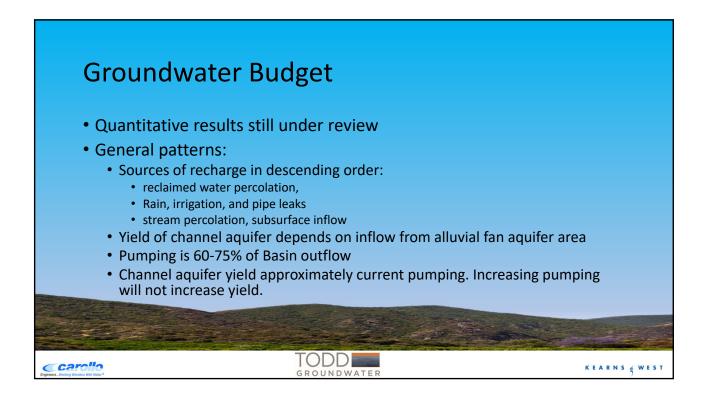


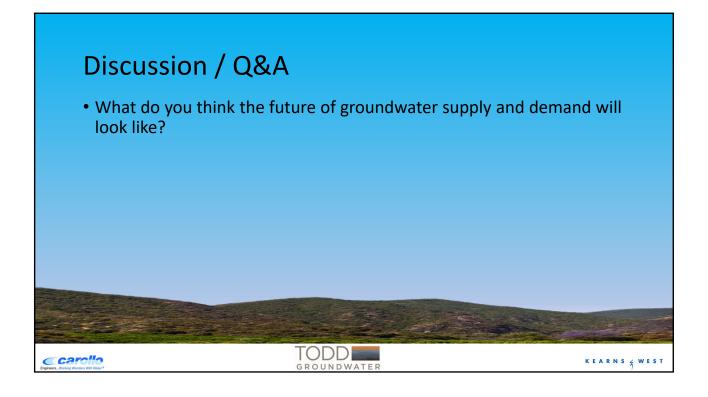




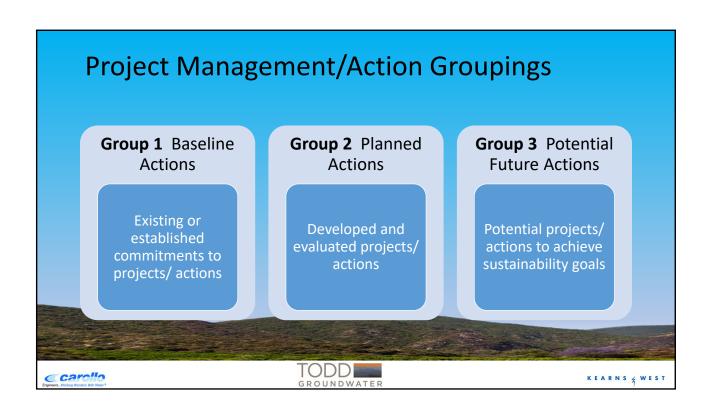












Description	Involved Agencies	Status
Groundwater Treatment: Treatment at the Temescal Desalter to reduce nitrates, TSS and TDS, and other contaminants of concern for the City's drinking water supply.	City of Corona	Ongoing
Water Reclamation Facility (WRF) Percolation Ponds: Discharge from Cityowned WRFs to percolation ponds that recharge the Basin.	City of Corona	Ongoing
Water Level QA/QC: Activities to maintain reliability of ongoing groundwater elevation data.	City of Corona	Ongoing
Western Riverside County Regional Wastewater Authority (WRCRWA): This plant will soon produce recycled water for local irrigation use.	GSA, Jurupa CSD, and WMWD	Pending coordination with WRCRWA and partner agencies
Water Shortage Contingency Plans: Stages of water shortage and conservation response based on a City's available supply/deficit.	Cities of Corona and Norco	Ongoing
Water Conservation Programs: Response actions to reduce water use in stages of water shortage.	Cities of Corona and Norco	Ongoing
Western Municipal Water District IRWMP: Coordinated, long-range regional water quantity and quality management strategy.	10 local cities/agencies including the GSA	Ongoing Key
Santa Ana Watershed Involvement: Coordinated management group to protect the Santa Ana River basin and associated water resources.	GSA and Santa Ana Watershed Project Authority (SAWPA) members	Ongoing Project Mgmt. Action

