



2022 Indio Subbasin Alternative Plan Update

Tribal Workgroup #6 SUMMARY

August 26, 2021 at 10:00 am – 12:00 pm
Virtual Meeting

<p>Tribal Workgroup and Supporting Members</p> <ul style="list-style-type: none"> • Chuck Jachens, Bureau of Indian Affairs • Jennifer Ruiz, Cabazon • Guarav Rajen, Augustine Band • Nina Waszak, Agua Caliente Band • Marco Perez, Augustine Band • Dr. Patrick Taber, Bureau of Indian Affairs • Shawn Muir, Twenty-Nine Palms Band of Mission Indians 	<p>Groundwater Sustainability Agencies (GSAs)</p> <ul style="list-style-type: none"> • Ashley Metzger, DWA • Castulo Estrada, CWA • Jim Barret, CVWD • Katie Evans, CVWD • Mark Krause, DWA • Melanie Garcia, CVWD • Reymundo Trejo, IWA • Steve Bigley, CVWD • Zoe Rodriguez del Rey, CVWD <p>Consultant Team</p> <ul style="list-style-type: none"> • Iris Priestaf, Todd Groundwater • Daniel Crag, Todd Groundwater • Arthella Vallarta, Woodard & Curran • Rosalyn Prickett, Woodard & Curran
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Welcome and Introductions

Ms. Rosalyn Prickett, Woodard & Curran, welcomed everyone to the meeting, and introductions were made as participants joined the call. Ms. Prickett briefed everyone on how to use the virtual GoToMeeting platform. She then presented the meeting objectives and agenda. Ms. Prickett reviewed the meeting objectives and an overview of the Workgroup timeline over the two-year planning period.

Alternative Plan Status

Ms. Iris Priestaf, Todd Groundwater, presented an overview of the tasks and list of chapters for the Alternative Plan Update. Ms. Priestaf reviewed the *2010 CVWMP* goal that will be retained in the Alternative Plan Update, along with the new Sustainability goal: “to maintain a locally managed, economically viable, sustainable groundwater resource for existing and future beneficial uses in the Indio Subbasin by managing groundwater to avoid the occurrence of undesirable results.” She then reviewed the refined Plan objectives being included in and guiding development of the Update, including a new 7th objective: “Reduce vulnerability to climate change and drought impacts”.

Workgroup comments and questions included the following:

- You said we are “not” in overdraft and last year we were 10% over in demands. Why are you saying we are not in overdraft?
 - Overdraft is a long-term condition and sometimes the Subbasin balance will be slightly over or under. The goal is long-term positive storage. Although sometimes there is a negative water balance during drought, that storage will be replaced during wet conditions/years.
- Indio Subbasin had 30,000 AFY less coming in than going out last year. What if this happens year after year?
 - Negative balance uses storage and the Subbasin is being managed for this.

Groundwater Model

Mr. Daniel Craig, Todd Groundwater, presented an overview of the numerical model construction and model features. The model simulation period was extended through 2019 with updated recharge and pumping data, along with updated subsurface inflow boundary conditions. A calibration assessment was completed, which demonstrates that the model simulations are well matched with the measured levels. The model also compared simulated drain flows with measures flows, which were also well matched. Historical model accurately simulates shallow and deep groundwater levels and can be used to predict future water level and storage changes under different scenarios. The model also provides forecasts of future drain flows, Salton Sea interactions, and other water budget conditions.

Workgroup comments and questions included the following:

- What is definition of deep vs shallow (in terms of feet)?
 - I have my answer from the graphs. Thanks!
- Are the four layers of equal thickness?
 - No, they were based on geological analysis of well logs throughout the Subbasin. This will be described in the Alternative Plan Update, but the layers are all variable thickness based on geology.
- It is a 3-Dimensional grid of 1,000 ft by 1,000 of model cells. The model cannot really be used for locating one single cell well. Do we need more localized data?
 - For local projects and issues, you may want to have a smaller grid. If you are interested in looking at smaller models, some of the agencies do have smaller models for their local projects. The purpose of this model is to look at the overall regional groundwater trends. As a result, the model grid is adequate and sufficient for the Alternative Plan Update.
- Most hydrographs are showing drop over time, albeit they are leveling off lately.
 - Yes, that recovery is due to GSA management activities, including increased replenishment and source substitution.
- Is the rise in groundwater levels near the Salton Sea due to reduced pumping or recharge?
 - It was a combination of recharge at the Thomas E. Levy Groundwater Replenishment Facility, source substitution, and reduction in groundwater pumping.

Plan Scenarios & Projects and Management Actions

Ms. Prickett presented the five Plan scenarios and described how the model inputs were developed assuming implementation of differing suites of projects and management actions (PMAs). The GSAs established priorities in selection of PMAs, which are broken down into four categories:

1. Water Conservation
2. Water Supply Development
3. Source Substitution and Replenishment
4. Water Quality Protection

The complete list of PMAs will be available in the Alternative Plan Update.

Ms. Prickett also explained the groundwater model's climate change assumptions. The model assumes a 50-year period, and future scenarios incorporate recent (drier) patterns. For local inflow, the Baseline scenario uses a long-term hydrology and previously estimated annual recharge volumes. The climate change scenarios use repeated historical conditions only for the period 1995-2019 that include multiple droughts. Additionally, the availability of imported water for direct delivery and groundwater replenishment was reduced.

The five modeled scenarios include the following:

- *Baseline and Baseline with Climate Change* - The projects listed in these two scenarios are existing operational activities that are assumed to continue forward.
- *Five-Year Plan with Climate Change* - These are the projects the GSAs are planning to implement in their five-year Capital Improvement Plans (CIPs). Under this scenario, there are more Source Substitution and Replenishment projects compared to the Baseline and Baseline with Climate Change scenarios.
- *Future Projects with Climate Change* - This scenario includes a variety of additional supply acquisition, source substitution, and replenishment projects.
- *Expanded Agriculture with Climate Change* - This scenario assumes the same suite of future projects as Future Projects with Climate Change, along with a significant amount of new additional agriculture in the East Valley.

There were no Workgroup comments.

Simulation Results

Mr. Craig presented the simulation results from the five Plan scenarios that Ms. Prickett described. The results in these scenarios are not realistic because additional projects are already planned by the GSAs. However, the scenarios provide a comparison of future conditions with and without climate change/drought.

Baseline and Baseline with Climate Change

Total inflows for Baseline are higher than in Baseline with Climate Change, especially in peak recharge years. Note that the first 25 years assume addition of new supplies and demand, but the second 25 years do not assume new demands. Cumulative change in storage is much higher in Baseline. Baseline with Climate Change hovers right around zero and even ends negative. The groundwater model simulated forecasted supply and demand for 2020-2044 as required by SGMA, but kept assumptions at the year 2045 levels for 2045-2069. This operates as a stress test for ongoing management of the basin at 2045 levels but does not recognize that demands will continue increasing after 2045.

Future groundwater levels in Baseline with Climate Change in West Valley are about 30-40 feet lower than baseline conditions due to reduced replenishment supplies. In East Valley, the impacts of climate change are less (only 5 feet difference) because most of natural infiltration occurs in the West Valley. In Baseline, there are larger changes in groundwater levels in the East Valley, while in Baseline with Climate Change, declines are more substantial in the far West Valley near WWR-GRF.

There were no Workgroup comments.

Four Climate Change Scenarios

The groundwater model simulated additional scenarios with five-year CIP projects, future projects, and expanded agriculture. Water budgets show net positive inflows in all three of the project scenarios. Mr. Craig presented simulated pumping, inflows, groundwater levels, and cumulative storage for the four climate change scenarios. In Mid-Valley and East Valley areas, Baseline with Climate Change groundwater levels are declining, but they are increasing for the other three scenarios. All three scenarios show significant declines in far West Valley due to reductions in WWR-GRF replenishment under various future project implementation. Cumulative change in storage for Baseline with Climate Change is net negative after 50 years, while other three climate change scenarios show net positive.

Mr. Craig stated that the scenarios indicate that Five-Year PMAs are needed for supply-demand balance and that future PMAs are needed for reliability in face of climate change and uncertainties in demand past the 25-year planning horizon. He also concluded that for all scenarios (except Baseline with Climate Change) the Subbasin will be sustainable.

Workgroup comments and questions included the following:

- I am looking into the future, and Tribal groups have an interest in water quality. MODFLOW modeling is not right approach to address those issues.
 - The Alternative Plan Update includes discussion of historical and current groundwater conditions but defers to the Salt and Nutrient Management Plan process for establishment of water quality objectives. This groundwater model only deals with volume (levels and storage) and not quality.
- Streamflow and precipitation do not answer all our climate change questions. We need to look in detail at vegetation and ET changes due to climate changes.

Next Steps

Ms. Prickett presented the next steps for completion and submittal of the Alternative Plan Update to DWR. The Draft Plan will be circulated for review for 30 days in late September. Following receipt of comments, a Final Plan will be released for adoption by the GSA governing bodies in early December.

Workgroup comments and questions included the following:

- The Whitewater River Groundwater Replenishment Project Draft EIR is out for public comment. You can find the information and all the documents at <http://www.cvwd.org/502/Whitewater-River-Groundwater-Replenishme>

Other Planning Efforts

Ms. Zoe Rodriguez del Rey, CVWD, provided updates on the *Salt and Nutrient Management Plan* (SNMP). The Monitoring Program Workplan was approved by the Regional Board February 2021. The SNMP Development Workplan was submitted to the Regional Board in May 2021 and will be presented to the Regional Board on September 14, 2021. Implementation will likely begin in early 2022 and will include a stakeholder process.