2022 Indio Subbasin Alternative Plan Update

Public Workshop #5
SUMMARY

June 24, 2021 at 2:00 pm – 4:00 pm
Virtual Meeting

Members of the Public	Groundwater Sustainability Agencies (GSAs)
• Alena Callimanis, City of Indian Wells • Cathy Sanford, Regional Water Quality Control Board • Craig Kessler, Southern California Golf Association and CVWD Golf and Water Task Force • Dina Purvis, City of Indian Wells • Douglas Garcia, US Bureau of Indian Affairs • Gwen Atherton, Coachella Valley WaterKeeper • Jennifer Harkness, USGS • Kevin Fitzgerald, Southern California Golf Association • Kimberly Romich, California Department of Fish & Wildlife • Nina Waszak, Agua Caliente Band of Cahuilla Indians • Nataly Escobedo Garcia, Leadership Council • Ron Buchwald, Valley Sanitary District • Tarren Torres, Egoscue Law Group representing Agua Caliente Band of Cahuilla Indians	• Ashley Metzger, DWA • Elizabeth Campos, CVWD • Jamie Pricer, CVWD • Jim Barrett, CVWD • Ivory Reyburn, CVWD • Katie Evans, CVWD • Mark Krause, DWA • Robert Cheng, CVWD • Ryan Molhoek, DWA • Steve Bigley, CVWD • Zoe Rodriguez del Rey, CVWD
	Consultant Team • Iris Priestaf, Todd Groundwater • Maureen Reilly, Todd Groundwater • Nicole Poletto, Woodard & Curran • Rosalyn Prickett, Woodard & Curran • Vanessa De Anda, Woodard & Curran • William Medlin, Woodard & Curran

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 and notified attendees that the conference would be recorded. She then presented the meeting objectives and agenda and reintroduced the project team working on the Indio Subbasin Alternative Plan Update, including the Indio Subbasin Groundwater Sustainability Agencies (GSAs) and Consultant team.

Alternative Plan Status

Ms. Prickett presented an overview of the Alternative Plan Update tasks. Outreach is a key task throughout the Alternative Plan Update process. There are 12 chapters in the Plan and Ms. Priestaf walked attendees through the outline of the document, beginning with the information included in the Plan Area chapter. The public review period is anticipated in September or October 2021.

Groundwater Conditions: Water Quality

Ms. Priestaf, Todd Groundwater, presented the groundwater conditions for water quality in the Indio Subbasin. The water quality analysis involved compiling data from various databases and mapping the following eight constituents: salinity (TDS), nitrate, arsenic, hexavalent chromium (Cr-6), fluoride, perchlorate, uranium, and DBCP. The constituents were mapped from 1990 to 2019 to see geographic patterns, distribution, and trends. The cross-sections for TDS, nitrate, arsenic, Cr-6 show vertical variation, and the time concentration plots for TDS and nitrate show trends over time.

Ms. Priestaf presented a series of maps showing the range of contaminant concentrations overtime throughout the Subbasin.

The highest **TDS** concentrations are located near the Salton Sea and along the eastern edge potentially from seawater intrusion, and along the Subbasin margins potentially from return flows and subsurface inflow. The lower concentrations are found along the deeper center of the Subbasin. Shallow wells are more variable and have higher TDS concentrations because they are more influenced by recharge and other processes. Since 1990, TDS concentrations have increased in the deeper zones in the central and eastern Thermal subarea. Sources of TDS include natural sources, return flows from agricultural and landscape irrigation, imported water recharge, septic and wastewater disposal, subsurface inflow, and historical inflow from the Salton Sea.

Public comments and questions included the following:

- Groundwater sampled from 300 feet, is that below ground surface or mean sea level?
    - Ms. Priestaf responded that this is from the ground surface

Public comments and questions included the following:

- How was the depth of specific concentrations determined? Well perforations?
    - Yes, depth is an approximation of well screening.
- The samples came from water drawn from the whole length of the colored zones?
    - Yes, when the well is pumped, water is sampled from the whole screened area. Water was not sampled at discrete layers for this analysis.

The Maximum Contaminant Level (MCL) for **nitrate** is 45 mg/L, but the majority of the Subbasin is below 10 mg/L. Some particular areas with higher nitrate reflect multiple sources, including natural mesquite sources and loading from historical agriculture, landscaping, septic and wastewater disposal. In general, shallow wells have higher nitrate concentrations and are more variable.

The MCL for **arsenic** is 10 µg/L. Though the majority of the Subbasin is below 5 µg/L, there are areas with concentrations higher than 50 µg/L due to anoxic (low oxygen) conditions in the East Valley near the Salton Sea and geothermal factors. The higher concentrations tend to be found at greater depths.

The MCL for **total chromium** is currently 50 µg /L, and **Cr-6** is just one element of the total chromium standard for drinking water. The SWRCB had previously established an MCL for Cr-6 of 10 µg/L but has since rescinded this regulation. The drinking water standard for Cr-6 of 10 µg/L may be reinstated in the near term. The source of Cr-6 is likely natural, and higher concentrations are found at greater depths. Cr-6 levels are stable in most wells and decrease near groundwater replenishment facilities.

The MCL for **uranium** is 20 pCI/L, and the Subbasin primarily ranges from 5-10 pCI/L. Uranium in the Subbasin is likely from natural geologic sources such as granitic rocks in the northwestern portion of the Subbasin.

The MCL for **fluoride** in drinking water is 2 mg/L. Fluoride in the Subbasin is naturally occurring and is associated with faulting, such as the San Andreas Fault, and geothermal areas along the Salton Sea.

The MCL for **perchlorate** in drinking water is 6 µg/L. Perchlorate is largely undetected throughout the Subbasin, except for a few wells in the upper northwestern part of the Subbasin at levels below the MCL. Sources for perchlorate include industrial sources, fertilizer, and natural sources.

The MCL for **DBCP** is 0.2 µg/L. There have been DBCP detections in three private irrigation wells in the central portion of the Subbasin at levels below 0.1 µg/L. DBCP is associated with pesticides that were banned in 1979.

The GSAs are tracking water quality constituents of concern. The large water systems meet drinking water standards for the eight constituents presented. The domestic wells and small water systems may be affected by nitrate, Cr-6, and arsenic.

Public comments and questions included the following:

- Did you do any volume corrections?
    - The analyses are not dependent on volume, and the data comes from other monitoring programs collected by multiple agencies.
- Was any data included from State Small Water Systems and domestic wells?
    - Yes, the analysis included all available water quality data from State databases.

Groundwater Conditions: Groundwater Dependent Ecosystems (GDEs)

Mr. Will Medlin, Woodard & Curran, presented the groundwater dependent ecosystem (GDE) analysis required by the Sustainable Groundwater Management Act (SGMA). GDEs are ecological communities or species that depend on groundwater emerging from aquifers or groundwater occurring near the surface. The GDEs Assessment considered the U.S. Environmental Protection Agency (USEPA) Level III and IV ecoregions, the Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP) conservation areas, and special status (threatened and endangered) species. The MSHCP covers almost all of the Subbasin in Riverside County. The MSHCP was approved in 2008 and most recently amended in August 2016. The MSHCP is administered by the Coachella Valley Conservation Commission and is intended to conserve sensitive habitats and species through mitigation of impacts and issuance of take permits for species. CVWD, CWA, and IWA are permittees and signatories to the MSHCP.

The GDE assessment was limited to federal and state-listed "threatened and endangered species". There are 17 listed species in Subbasin, of which 6 have direct reliance on groundwater and 7 have indirect reliance.

The preliminary GDE Assessment started in 2020 with a desktop analysis based on the Natural Communities Commonly Associated with Groundwater (NCCAG) datasets. After completing the desktop GDE Assessment, the project team performed field surveys to verify the analysis in January 2021. The following was concluded from the field survey:

- Probable GDE: 1% (1 site)
    - I.e., water or other saturation or wetland vegetation or aquatic or semiaquatic
- Probable Non-GDE: 69% (9 sites)
    - I.e., uplands, developed areas, mis-mapped areas, human-made or otherwise modified features that would typically include water is present like golf courses, ponds, reservoirs, and fields
- Playa Wetlands: 23% (3 sites)
    - I.e., wetland vegetation where water has receded such as along the Salton Sea

Public comments and questions included the following:

- What water year is shown in the aerial photo of the Salton Sea shoreline boundary? Has the Salton Sea shoreline decreased with the receding of the Salton Sea water level?
    - Aerial imagery was from 2019/2020. Aerial photography of the Salton Sea shows recession, and vegetation has grown at the Grant Street and Johnson Street drains, as they drain out onto the exposed seabed.

Out of the 882 NCAG wetlands identified through the desktop analysis, 1,045 points were analyzed to assess whether GDEs were present. Out of those 1,045, 50 points were probable GDEs, 932 points were probable non-GDEs, and 63 points were playa wetlands. Probable GDEs exist in the mountain from canyons and may rely partially on surface water or snowmelt. Playa wetlands occur along the Salton Sea exposed seabed near the drain and surface water outlets.

Public comments and questions included the following:

- Are there any GDEs along the base of Coral Mountain near the La Quinta area?
    - Based on the NCAG polygons, these are most likely probable non-GDEs.
- Has the Clapper Rail habitat been diminished, and if so, by how much?
    - The playa wetlands and areas around the Salton Sea could potentially be habitat for Clapper Rail, but the team is unable to answer if they have been diminished or impacted.
- Where is the one probable GDE located that was visited in the field?
    - The probable GDE is located in the northern-most cluster of Probable-GDEs on the map, near the Tram.

Sustainable Management

Ms. Priestaf presented an overview of DWR recommendations on Sustainable Management Criteria (SMC), which included setting thresholds for groundwater levels and using those as a proxy for storage and subsidence. Minimum threshold (MT) for groundwater levels is set at the historical low as measured at 57 Key Wells. The historical low was selected because undesirable results (such as production wells drying) were not reported, meaning that the historical low is protective against undesirable results. An undesirable result will occur when the MT is exceeded in 5 consecutive low-season monitoring events in 25 percent of wells across the Subbasin. The GSAs will monitor and report groundwater levels in Annual Reports.

Public comments and questions included the following:

- What can be attributed to the increase in water levels on the hydrograph?
    - Groundwater level increases can be attributed to the GSAs' groundwater management activities such as source substitution, managed aquifer recharge, and water conservation.

Ms. Priestaf presented DWR recommendations to the GSAs for water quality, seawater intrusion, and GDEs. DWR also recommended GSAs: 1) continue to study the rate and level of increased salt contents in groundwater due to the importation of Colorado River Water, and 2) incorporate the Coachella Valley Salt and Nutrient Management Plan (CV-SNMP) into future iterations of the Alternative Plan. In response, the Alternative Plan includes maps, cross-sections, and time concentration plots, as well as a discussion of significance, sources, and distribution factors of salts and nitrates in the Subbasin. Development of Alternative Plan Update has also been coordinated with the CV-SNMP effort since 2020. The Subbasin has applied for funding from DWR to install additional monitoring wells.

Public comments and questions included the following:

- Were there any wells excluded from the analysis and why?
    - All available data were included in the analysis, though each constituent map only includes wells with relevant data.

DWR requested the GSAs to clarify if there is an MT associated with subsurface drain flow as referenced in the 2002 and 2010 Coachella Valley Water Management Plans (CVWMP). The 2010 CVWMP recognized the potential degradation of water quality as a result of downward migration of shallow return flows in the East Valley to deep zones. Projects have been able to raise groundwater levels in deep productive levels, which have resulted in upward gradients and flow. High groundwater levels are generally protecting deep zones. Although increasing drain flows are beneficial because they are correlated with groundwater levels, the Alternative Plan Update will not include an MT for drain flows.

Ms. Priestaf presented a map with simulated levels in the shallow aquifer as of 2020. The contour along the Salton Sea is at -220 feet below sea level (BSL), higher than the Salton Sea contour at -238 feet BSL. From 1997-2014, the modeling implies that there was inflow into the Subbasin from the Salton Sea. This has been reversed since 2015 through managed aquifer recharge, source substitution, and conservation. The modeling results match observed groundwater levels.

DWR also recommended that the GSAs identify the GDEs in the Subbasin. The Alternative Plan Update will include an appendix documenting the GDE study.

Public comments and questions included the following:

- Were there any artesian water locations found for this GDE survey?
    - Site 15 in the field assessment is a spring and could be considered artesian.

Groundwater Model Update

Ms. Priestaf presented the groundwater model update. The original historical simulation from 1936 to 1996 was first updated in 2010 and again recently to include the historical period from 2009 to 2017. The groundwater model is now being actively applied to model future scenarios.

Revised Plan Scenarios

Ms. Prickett presented an update on the revised plan scenarios. Three types of future scenarios will be analyzed, including:

- Baseline: additional demands but no new projects
- Near term projects: additional demands and capital improvement projects (CIP)/programs planned within 5 years
- Future projects: additional demands and all planned projects/programs in the CIP

These three scenarios will be modeled with and without climate change.

The baseline scenario assumes a 50-year hydrology mimicking hydrology between 1970 and 2019. Under climate change, the model assumes the recent 25-year hydrology with multiple dry cycles between 1994 and 2019. The recent 25 years have had 20 percent less mountain-front runoff compared to the 50-year year average.

The baseline scenario assumes SWP water reliability of 45 percent, the historical average since the Wanger decision in 2007. Some years, such as 2021, have experienced reliability as low as 5 percent. Future projects scenario includes participation in Delta Conveyance Facility (DCF) that may increase SWP reliability up to 58 percent. The climate change scenario will also assume a 1.5 percent factor as projected by DWR.

Public comments and questions included the following:

- Is 45 percent SWP allocation a conservative baseline? Is this a "worst-case scenario" planning estimate under climate change assessments?
    - 45 percent reliability is a reasonable estimate unless the DCF is constructed. For climate change, DWR has already applied the climate change factor in the projections.

The baseline scenario assumes the Quantification Settlement Agreement (QSA) entitlement minus conveyance losses. The future projects scenario includes additional nonpotable water such as Canal water and recycled water deliveries. Because of the current drought conditions in the Colorado River watershed, the climate change scenario assumes the QSA entitlement minutes conveyance losses, accounting for the Lower Basin Drought Contingency Plan (DCP) contribution in phases. CVWD's contribution is 7 percent (approximately 24,000 acre-feet [AF]) of the total for California; this volume will be contributed back to the lakes and storage.

Approximately 30 percent of water demand is assumed to return to sewer. The baseline scenario assumes only the current recycled water supplies will continue with no additional recycled water projects. The near term scenario assumes current supplies as well as projects planned for implementation within the next 5 years, and the long term scenario assumes all planned projects will be implemented. The amount of water available for recycled water is the same across all scenarios with or without climate change.

Next Steps

Ms. Prickett presented the next steps for July through September 2021. The consultant team will finalize Plan Scenarios in groundwater model and quantify water budgets, and results will be presented at the next public workgroup scheduled for August 26, 2021. Ms. Prickett invited participants to offer any additional comments or questions. For any additional information, please contact Rosalyn Prickett at indiosubbasinSGMA@woodardcurran.com.

Public comments and questions included the following:

- The 34-acre Crystal Lagoon required 62 gallons of water. The Wilderness Study Area (WSA) concluded that 34 million gallons will be required to refill the Crystal Lagoon over a year. However, the area has experienced 143 days over 100 degrees, resulting in the evaporation of 1-3 inches, or 1 million gallons, per day. Request to reassess this water feature.
    - The demand assessment was done with existing data, and the demands associated with Crystal Lagoon have been incorporated into the demand forecast. Evaporative loss is included in the analysis.
- Does the analysis project fewer acres of agriculture? What are the forecasted increases in water demand – domestic, commercial, and industrial?
    - The demand forecast relied on changes in land use projected by the Southern California Association of Governments (SCAG) through 2045. This data is a compilation of all general plans, municipal plans, and community plans to identify where growth will occur and how it will be distributed. The project teams coordinated with SCAG to verify the analysis. The analysis projects the conversion of agricultural lands to urban uses.
- Regarding the Colorado River, California does not start making voluntary contributions until the water elevation falls to 1,045 feet, and contributions are a sliding scale to 1,025 feet. CVWD's reductions start at 14,500 AF and are maxed at 24,500 AF, which is accounted for in the modeling.