EXECUTIVE SUMMARY

The Borrego Valley Groundwater Sustainability Agency (GSA, Agency), which comprises the Borrego Water District (BWD) and the County of San Diego (County), developed this ~~Borrego Valley~~ Groundwater Sustainability Plan (GSP, Plan) to provide a structure to enable local government, groundwater users and the local community to work together to achieve sustainable use of groundwater resources in the Borrego Springs Groundwater Subbasin (Subbasin) (California Department of Water Resources (DWR) Basin No. 7.024.01) of the Borrego Valley Groundwater Basin.

ES 1.0 INTRODUCTION

The multi-agency Borrego Valley GSA consists of BWD, which has water supply and water management responsibilities within its Borrego Springs service area; and the County, which has land use responsibilities and ~~water management responsibilities (via~~implements the County's Groundwater Ordinance~~)~~ throughout the Subbasin.

Current groundwater use in the Subbasin, which is located in northeastern unincorporated San Diego County, greatly exceeds groundwater recharge (i.e., the basin is being overdrafted). The Subbasin has been designated as being in critical overdraft by the DWR. According to the Sustainable Groundwater Management Act (SGMA), "A basin is subject to critical overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts." The intent of this GSP is to achieve long-term groundwater sustainability by restoring balance to (i.e., reaching "sustainability" in) the Subbasin no later than 2040, as required by SGMA.

The overarching aim of SGMA is to establish and achieve the "sustainability goal" for the Subbasin through the development and implementation of a GSP. In enacting SGMA, the Legislature also set forward more specific purposes underlying the legislation, which include providing for sustainable management of groundwater, avoiding six designated "undesirable results" to groundwater resources that could occur without proper management, enhancing the ability of local agencies to take action to protect groundwater resources, and preserving the security of water rights to the greatest extent possible consistent with sustainable management of groundwater.

The intent of this GSP is to meet the requirements of SGMA. To this end, this Plan includes the scientific and other background information about the Subbasin required by SGMA and its implementing regulations. The Plan is also intended to provide a roadmap for how sustainability is to be reached in the Subbasin, including through projects and management actions (PMAs) to be taken, as well as the financial and other implications of implementing the Plan. At the same time, the GSP also recognizes that while some management actions can be taken early on in the GSP implementation process, other actions, including those requiring environmental evaluation, are to be implemented over time.

SGMA also mandates that steps be taken to ensure the broadest possible public participation in the GSP development process. From its inception, the GSA has been focused on soliciting and receiving input from a wide variety of stakeholders regarding Subbasin issues. As part of the GSA's effort to consider the interests of all beneficial uses and users of groundwater (as defined by California Water Code Section 10723.2), the GSA formed the Borrego Basin GSP Advisory Committee made up of key stakeholders from the Borrego Springs community. Beginning in March 2017, the Advisory Committee provided regular input to aid the GSA in the development of the planning and policy recommendations contained in this GSP.

ES 2.0 SUMMARY OF BASIN SETTING AND CONDITIONS

DWR has designated the 98-square-mile Subbasin as high priority and critically overdrafted. The majority of recharge that replenishes the Subbasin comes from streamflow exiting the mountains onto the desert alluvial fans that abut the mountain front. Land uses consist primarily of private land under County jurisdiction, and both the private land and the Subbasin itself are surrounded on nearly all sides by the Anza-Borrego Desert State Park. The developed land uses in the Subbasin include residential, agricultural, recreational, and commercial.

As represented in the "Hydrogeologic Conceptual Model" developed for this GSP, which is based in large part on work conducted by the U.S. Geological Survey, the unconsolidated sediments that fill the Subbasin are divided into three principal aquifers referred to as the upper, middle and lower aquifers, with the highest yielding wells located in the upper aquifer.

Prior to development in the Subbasin, the natural direction of groundwater flow was predominantly from the northwest near Coyote Creek to the southeast toward the Borrego Sink. The shallowest groundwater-level elevations occurred east of the Borrego Sink, an area of natural drainage in the middle of the valley that is dry most of the time. Groundwater levels and water quality in the Subbasin have been tracked by county, state, and federal agencies for over 50 years. The GSA monitors groundwater levels from a network consisting of 46 wells.

Over the past 65 years, groundwater levels have declined as much as 126 feet (average of nearly 2 feet per year) in the northern part of the Subbasin and about 87 feet (average of 1.3 feet per year) in the west–central part. In the southeastern part of the Subbasin where less groundwater has been pumped, groundwater levels have remained relatively ~~constant~~ stable along the perimeter of the Subbasin during the same time period. Recent pumping in the South Management Area has resulted in a localized groundwater level depression south of the Borrego Sink. Given the physical characteristics of the groundwater within the Subbasin, water quality, and other factors, this GSP establishes three management areas for the Subbasin: the North Management Area, the Central Management Area, and the South Management Area. These management areas will be utilized to monitor the status of groundwater quality and other SGMA parameters, and measure the progress towards achieving sustainability goals.

Defining the Subbasin setting also requires an examination of groundwater quality issues. In the Subbasin, the most critical aspect of water quality is ensuring that available supplies at municipal well sites are and remain in compliance with drinking water standards. Groundwater quality provided by BWD water supply wells ~~is currently good and~~ meets California drinking water maximum contaminant levels without treatment. Arsenic concentrations were increasing in multiple BWD water supply wells until 2014, but have since decreased. Historically, there have been nitrate-related water quality problems encountered in ~~District~~ BWD wells that led to well reconstruction, abandonment, and replacement.

Total dissolved solids and sulfate are presently the only water quality constituents that show increasing concentrations with simultaneous declines in groundwater levels. Overall, the long standing overdraft has resulted in changes ~~of~~ to water quality in the Subbasin over time. High salinity, poor quality connate water is thought to occur in deeper formational materials in select areas of the aquifer as well as shallow groundwater in the vicinity of the Borrego Sink in the southern portion of the Subbasin. BWD does not operate wells in the immediate vicinity of the Borrego Sink. The GSA monitors water quality from a groundwater quality network consisting of 30 wells.

The water budget for the Subbasin provides an accounting and assessment of the average annual volume of groundwater and surface water entering (i.e., inflow) and leaving (i.e., outflow) the basin and enables an accounting of the cumulative change in groundwater in storage over time. From 1945 to 2016, about 520,000 acre-feet of water was estimated to have been removed from storage. At present, the total baseline pumping allocation (BPA)[1] of ~~21,963~~ 22,600 acre-feet per year (AFY) greatly exceeds the Subbasin's estimated long-term sustainable yield of 5,700 AFY ~~determined by the U.S. Geological Survey and confirmed in this GSP~~. The BPA is defined as the amount of groundwater each pumper in the Subbasin is allocated prior to SGMA-mandated reductions, and serves as a cap from which annual pumping reductions to reach the sustainable yield by no later than 2040 will proceed.

ES 3.0 OVERVIEW OF SUSTAINABILITY INDICATORS, MINIMUM THRESHOLDS, AND MEASURABLE OBJECTIVES

To maintain a viable water supply for current and future beneficial uses and users of groundwater in the Subbasin, the GSA's sustainability goal is to ensure that by 2040, and thereafter within the planning and implementation horizon of this GSP (50 years), the Subbasin is operated within its sustainable yield and does not exhibit undesirable results as defined by California Water Code

[1] This ~~rate~~ total is determined by adding up the maximum amount of water ~~used~~produced by each pumper of groundwater in the Subbasin over the 5-year baseline period from January 1, 2010, to January 1, 2015. Because various users' pumping maximum could have occurred at any time during this period, ~~it~~the total BPA is higher than the total pumping in any one year.

Section 10721(x). The GSA has established minimum thresholds and measurable objectives for the following sustainability indicators determined to be a current and/or potential future undesirable result.

Groundwater in Storage

The sustainability goal is to halt the overdraft condition in the Subbasin by bringing the groundwater demand in line with sustainable yield by 2040. This will be monitored by estimating the change of groundwater volume in storage every year, based on the observed changes in groundwater levels.

Chronic Lowering of Groundwater Levels

The sustainability goal is for groundwater levels to stabilize or improve and to ensure groundwater is maintained at adequate levels for key municipal wells. Observed groundwater levels will be compared to the Borrego Valley Hydrologic Model projected levels for the GSP implementation period.

Water Quality

The sustainability goal is for California Title 22 drinking water standards to continue to be met for potable water sources, and that water quality in irrigation wells be suitable for agricultural and recreational irrigation use. Water quality monitoring will occur throughout GSP implementation.

ES 4.0 OVERVIEW OF PROJECTS AND MANAGEMENT ACTIONS

The primary management tool to eliminate the overdraft is to require aggressive pumping cut-backs to a level ~~at or below~~that does not exceed the Subbasin's estimated sustainable yield of 5,700 AFY before 2040. Reaching this goal requires an approximately 75~~4~~% reduction in pumping compared to the BPA. The purpose of the GSA's proposed PMAs are primarily to (1) ~~to~~ reduce water demand within the Subbasin by reducing the amount of water allocated to non-*de minimis* users and (2) ~~to~~ maintain water quality suitable for current and future beneficial uses. The selected PMAs are described, as follows:

PMA No. 1 – Water Trading Program

The Water Trading Program is intended to enable groundwater users to purchase needed groundwater resources to maintain economic activities in the Subbasin, encourage and incentivize water conservation, and facilitate adjustment of pumping allocations as water demands and Subbasin conditions fluctuate during the 20-year GSP implementation period.

PMA No. 2 – Water Conservation Program

The Water Conservation Program would consist of separate components for the three primary water use sectors: agricultural, municipal, and recreation. A water conservation program will be highly dependent upon securing funding such as through existing and future grants and low interest loan programs.

PMA No. 3 – Pumping Reduction Program

Each non-*de minimis* groundwater user within the Subbasin will be assigned an allocation based on its historical groundwater use. That allocation will be reduced incrementally as necessary over the GSP implementation period such that the total extraction from the Subbasin will be equal to the estimated sustainable yield (5,700 AFY) by 2040. Mandatory water metering for all non-*de minimis* groundwater users ~~is proposed to~~will take place following adoption of this GSP.

PMA No. 4 – Voluntary Fallowing of Agricultural Land

The voluntary Fallowing Program will create a process to convert high water use irrigated agriculture land to low water use open space, public land, or other development on a voluntary basis. Once implemented, the Fallowing Program would provide property owners with transferable BPAs in exchange for land fallowing.

PMA No. 5 – Water Quality Optimization

The Water Quality Optimization program is intended to identify as-needed direct and indirect treatment options for BWD and other pumpers to optimize groundwater quality and its use and minimize the need for expensive ~~BWD~~ water treatment to meet drinking water standards.

PMA No. 6 – Intra-Subbasin Water Transfers

The purpose of Intra-Subbasin Transfer Program is to mitigate existing and future reductions in groundwater storage and groundwater quality impairment by establishing conveyance of water from higher to lower production alternative areas in the Subbasin. This PMA will evaluate the feasibility and effectiveness of utilizing new or existing well sites in the Subbasin where groundwater conditions are more favorable for continued groundwater extraction. Construction of both potable and non-potable distribution pipelines will be evaluated.

ES 5.0 PLAN IMPLEMENTATION

The deadline for the Borrego Valley GSA to adopt this GSP is January 31, 2020. California Environmental Quality Act review would commence upon GSP adoption and be completed prior to implementation of many of the PMAs. California Environmental Quality Act review affords the

GSA an opportunity to refine specifics of the PMAs and develop implementing regulations. The Borrego Valley GSA is responsible for implementing the GSP over SGMA's planning and implementation horizon, with Subbasin sustainability required to be achieved by 2040. The GSA will submit annual and more detailed 5-year reports to DWR by April 1 of each year. The annual reports will document new data being collected to track groundwater conditions within the Subbasin, monitor progress on implementation of PMAs, and present an evaluation of measured data in comparison to interim milestones for each sustainability indicator. The 5-year reports provide the GSA an opportunity to evaluate the success and/or challenges in Plan implementation, including reporting on the effectiveness of PMAs. If knowledge of Subbasin conditions have changed based on updated data, if management criteria (e.g., sustainable yield, minimum thresholds, or interim milestones) need to be modified, or if PMAs need to be modified or added, revisions to the GSP may be proposed and the necessary steps taken by the GSA.

The GSA has performed substantial work toward estimating the cost of GSP implementation. Chapter 5, Plan Implementation, contains a breakdown of tasks and associated cost estimates. ~~for data collection, management, and evaluation; annual and periodic (i.e., five 5-year) reporting; data gap analysis and additional evaluation; PMA development costs, including Environmental Impact Report; management, administration and other costs; and a 10% contingency.~~ The total estimated GSP implementation cost for the anticipated 20-year implementation period is $20,352,000. This estimate includes (1) operations and monitoring costs; (2) management, administration, and other costs; (3) 5-year annual reviews; (4) 10% contingency; (5) PMAs development; and (6) California Environmental Quality Act review but does not include the implementation of all PMAs or final costs incurred by BWD for internal management and administration. Additional budget will be required to implement PMAs once they have been developed. In general, the GSA plans to fund GSP implementation using a combination of administrative pumping fees, assessments/parcel taxes, and/or grants.