



DRAFT WORK PRODUCT



Borrego Valley Groundwater Basin
Borrego Springs Subbasin
Draft Groundwater Sustainability Plan (GSP)
Response to Public Comments

Advisory Committee Meeting

July 25, 2019

Geosyntec 
consultants

DUDEK

DRAFT GSP RESPONSE TO COMMENTS

Public Comment Topics

- 1. Baseline Pumping Allocation (BPA)**
- 2. Groundwater Reduction Program (Ramp down)**
- 3. Water Trading Program**
- 4. Estimate of Sustainable Yield**
- 5. Groundwater Dependent Ecosystems**
- 6. Well Metering and Well Monitoring**
- 7. Severely Disadvantaged Community (SDAC)**
- 8. Implementation Costs**

DRAFT GSP RESPONSE TO COMMENTS

1. Baseline Pumping Allocation (BPA)

Issue Summary:

- GSP places unreasonable burden on municipal and small water system beneficial users
- GSP does not acknowledge water conservation achieved by beneficial users
- Use of the 5-year BPA baseline period between 2010 and 2015 questioned
- Request that municipal sector and small water systems not be subject to same percentage reduction as agricultural users
- Sentiment that “across the board” reductions are unfair when agricultural pumping has been the primary contributor to groundwater overdraft in the Subbasin
- Several comments on individual determination of BPA

DRAFT GSP RESPONSE TO COMMENTS

1. Baseline Pumping Allocation (BPA)

Response:

- ❑ The GSP establishes BPA for each sector, and sets a Subbasin-wide pumping reduction target
- ❑ The level of pumping reduction and distribution by sectors are to be developed after GSP adoption through Project and Management Action No. 3 Pumping Reduction Program
- ❑ The GSA will prepare California Environmental Quality Act (CEQA) documentation (after GSP adoption) in advance of considering formal adoption and implementation of any groundwater use reductions and a specific ramp down schedule
- ❑ The GSP also indicates an agreement among the pumpers is a possible scenario where groundwater use reductions and a specific ramp down schedule could be developed

DRAFT GSP RESPONSE TO COMMENTS

1. Baseline Pumping Allocation

Proposed Draft GSP Revisions:

| Beneficial Users | RWQCB Basin Plan Beneficial Use | Areas of the Subbasin | Estimated Water Use | | | Difference Revised GSP BPA from Draft GSP BPA (AFY) |
|------------------|---------------------------------|-----------------------|--|--|----------------------------|---|
| | | | <i>Draft GSP Baseline Pumping Allocation (AFY)</i> | <i>Revised GSP Baseline Pumping Allocation (AFY)</i> | <i>2018 Estimate (AFY)</i> | |
| Agriculture | AGR | NMA, CMA | 15,729 | 15,749 | 14,788 | +20 |
| Municipal | MUN | NMA, CMA, SMA | 2,122 | 2,731 | 1,600 | +609 |
| Recreation | N/A | NMA, CMA, SMA | 4,050 | 4,050 | 3,245 | 0 |
| Other Users | MUN | NMA, CMA, SMA | 62 | 71 | 58 | +9 |
| TOTAL | | | 21,963 | 22,601 | 19,691 | +638 |
| De Minimis Users | MUN and IND | NMA, CMA, SMA | | | 34 | |

2. Groundwater Reduction Program (Ramp down)

Issue Summary:

- Concerns that Pumping Reduction Program will jeopardize health and safety, unreasonably raise water rates and result in depreciation of property values
- Concerns that Severely Disadvantaged Community (SDAC) already cannot afford water and that implementation of the rampdown will affect affordability of water

2. Groundwater Reduction Program (Ramp down)

Response:

- The program is designed to work in conjunction with other PMAs, including the Water Trading Program, the Water Conservation Program, and the Voluntary Fallowing of Agricultural Land to optimize beneficial uses of groundwater while recognizing the need to bring the Subbasin into balance
- A sustainable Subbasin ensures reliable water supply for beneficial users including for health and safety and will maintain property values as it will provide certainty regarding water availability
- A majority of the SDAC community is served by the BWD. The BWD has tiered water rates that insulate low water users from price increases (i.e., indoor water use for SDAC community) and has access to State grants (e.g., new BWD well is being partially funded by SDAC grant)

3. Water Trading Program

Issue Summary:

- Request to add additional stakeholders for development of the Water Trading Program
- Concern regarding unintended consequences of the Water Trading Program (e.g., hoarding, speculation, price fixing, collusion, etc.)
- Cost of development of the water trading program

DRAFT GSP RESPONSE TO COMMENTS

3. Water Trading Program

Response:

- Preparation of a Water Trading and Policy document is intended to begin upon adoption of the GSP. The timetable for implementation of the Water Trading Program is dependent upon whether implementation of the program requires CEQA review
- The Water Trading Program will identify stakeholders/participants and conduct interviews and meetings to receive input and identify concerns to be addressed in program development
- Potential unintended consequences of the Water Trading Program to be addressed in development of governing documents (e.g., hoarding, speculation, price fixing, collusion, etc.)
- The cost of developing a Water Trading Program is an estimate and actual costs could be less considering multiple available water trading accounting options to be vetted further

4. Estimate of Sustainable Yield

Issue Summary:

- Numerous comments were received that raised concerns over how the sustainable yield estimate was determined, specifically regarding the accuracy and/or absence of specific water budget components, and/or general sentiments that the budget is too restrictive

4. Estimate of Sustainable Yield

Response:

- The GSA has reviewed comments related to the sustainable yield for the Subbasin and determined that the initial estimate proposed in the Draft GSP remains appropriate and based on the best available science as defined by SGMA

DRAFT GSP RESPONSE TO COMMENTS

4. Estimate of Sustainable Yield

Response:

| Water Budget Components (Units in Acre-feet per Year) | Acre-feet/Year |
|---|----------------|
| INFLOWS (Model Update 1945-2016) | |
| <i>Stream Recharge</i> | 3,905 |
| <i>Unsaturated Zone Recharge</i> | 1,497 |
| <i>Underflow (Inflow from Adjacent Basins)</i> | 1,367 |
| Total Inflows | 6,770 |
| OUTFLOWS BESIDES PUMPING (Most Recent 10 Years, 2007-2016) | |
| <i>Evapotranspiration</i> | 498 |
| <i>Underflow (Flow out of Southern End)</i> | 523 |
| Total Outflows | 1,021 |
| Surplus of Inflows over Outflows | |
| | 5,749 |

5. Groundwater Dependent Ecosystems (GDEs)

Issue Summary:

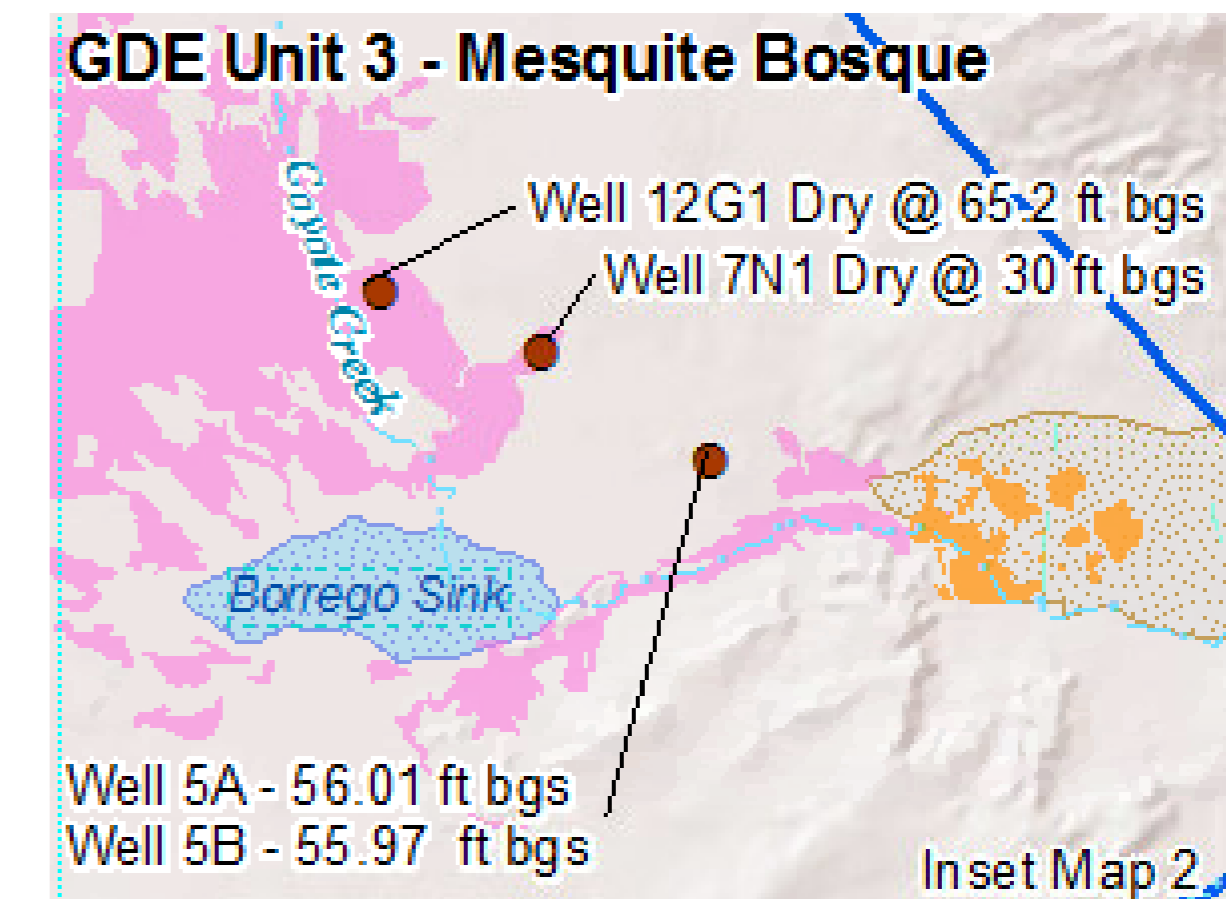
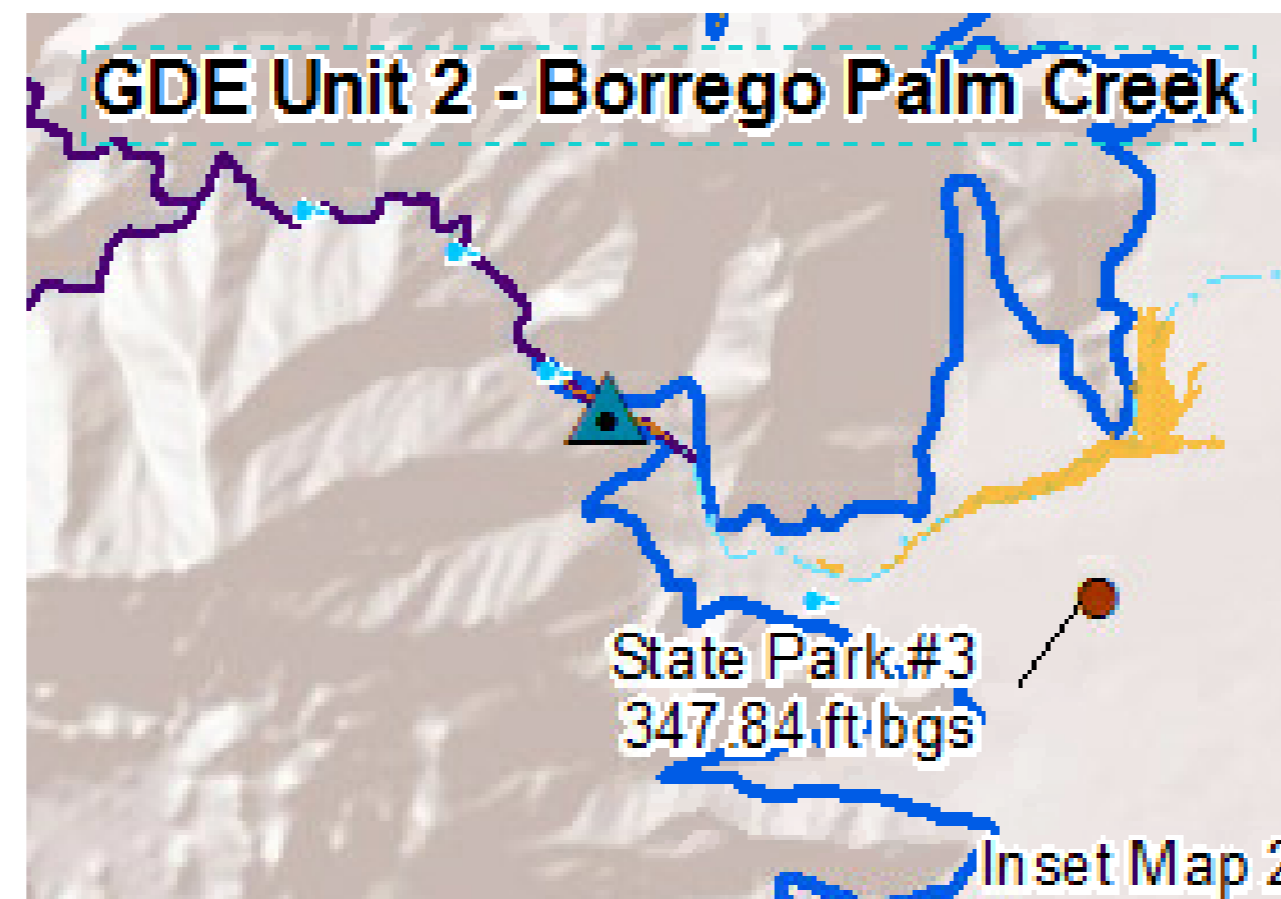
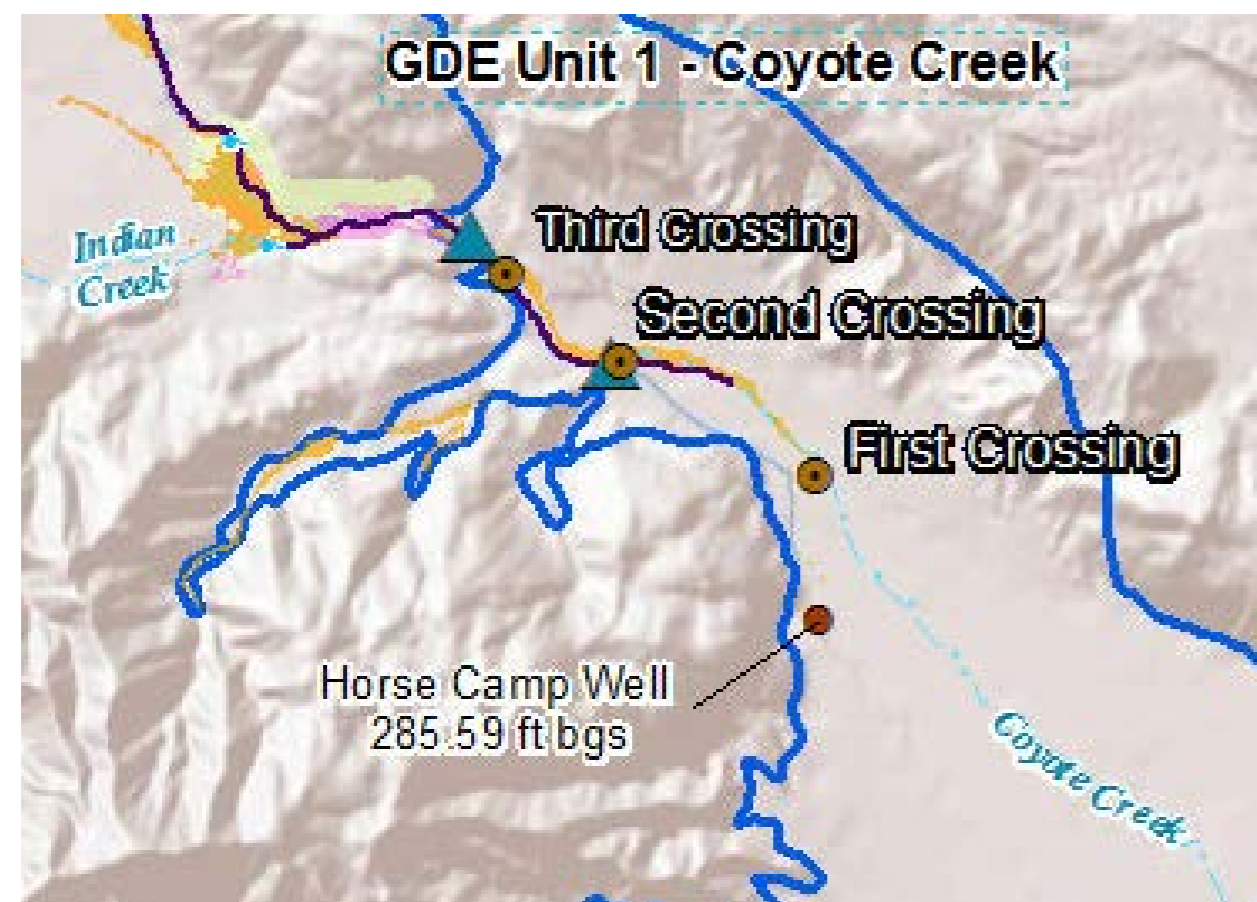
- Comments assert that the GSP has not adequately identified, evaluated and/or considered undesirable effects associated with interconnected surface water and GDEs
- Comments express concern that environmental uses of water have not been included in the Baseline Pumping Allocation as a beneficial use of groundwater
- Commenters disagree with the GSP's determination that undesirable results on interconnected surface water are a pre-2015 impact, and that no sustainable management criteria are required
- Commenters believe that the GSP's conclusion is not adequately supported by the data presented in the GSP

DRAFT GSP RESPONSE TO COMMENTS

5. Groundwater Dependent Ecosystems (GDEs)

Definition of a GDE

- ❑ SGMA: "Ecological communities or species that depend on groundwater *emerging from aquifers* or on groundwater occurring near the ground surface."
 - ❑ **Groundwater does not emerge from the Subbasin's aquifer.**
 - ❑ **Shallowest groundwater level measured is 26 feet bgs (Ram's Hill WWTF)**
- ❑ Groundwater conditions within the Subbasin are no longer causing undesirable results



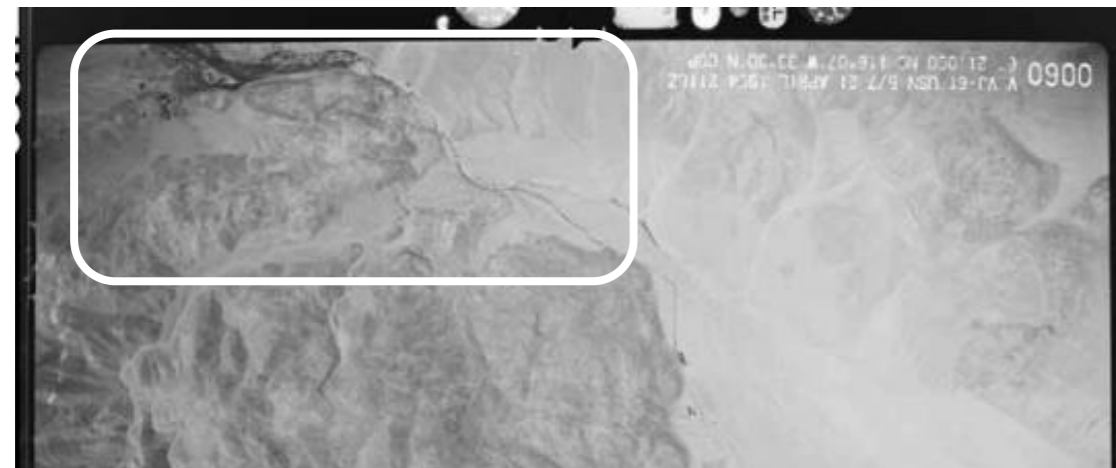
5. Groundwater Dependent Ecosystems (GDEs)

Subbasin Fringe GDEs (GDE Units 1, Unit 2, and Other)

- Close comparison of 1957 and 2017 aerial photographs show **little difference in GDEs extent** near Coyote Creek, Hellhole Canyon and Palm Canyon.

Coyote Canyon

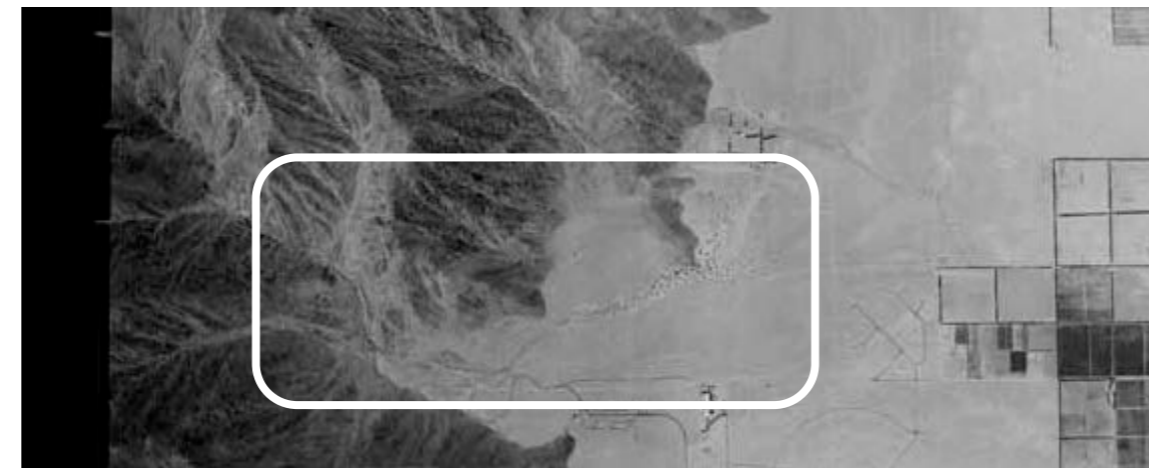
1954



2017



Hellhole Canyon



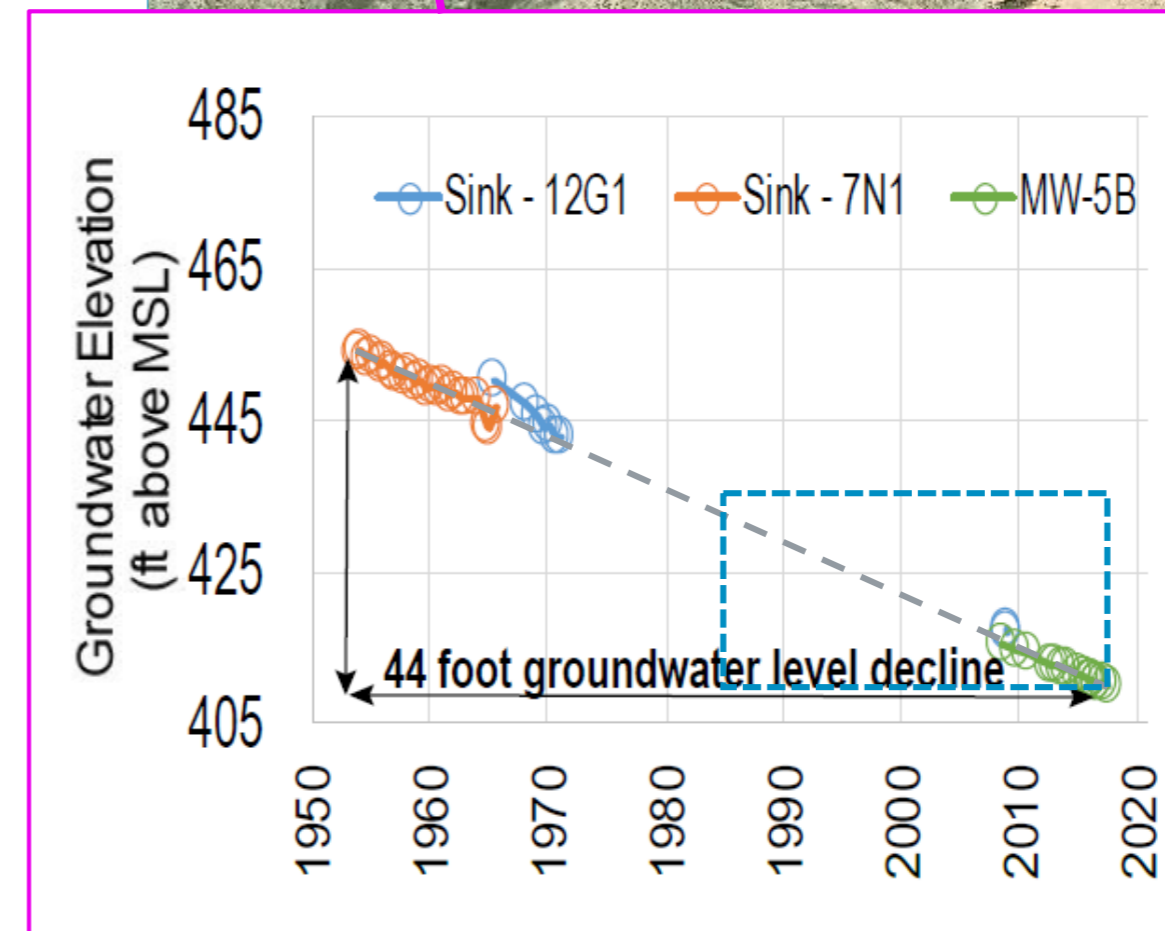
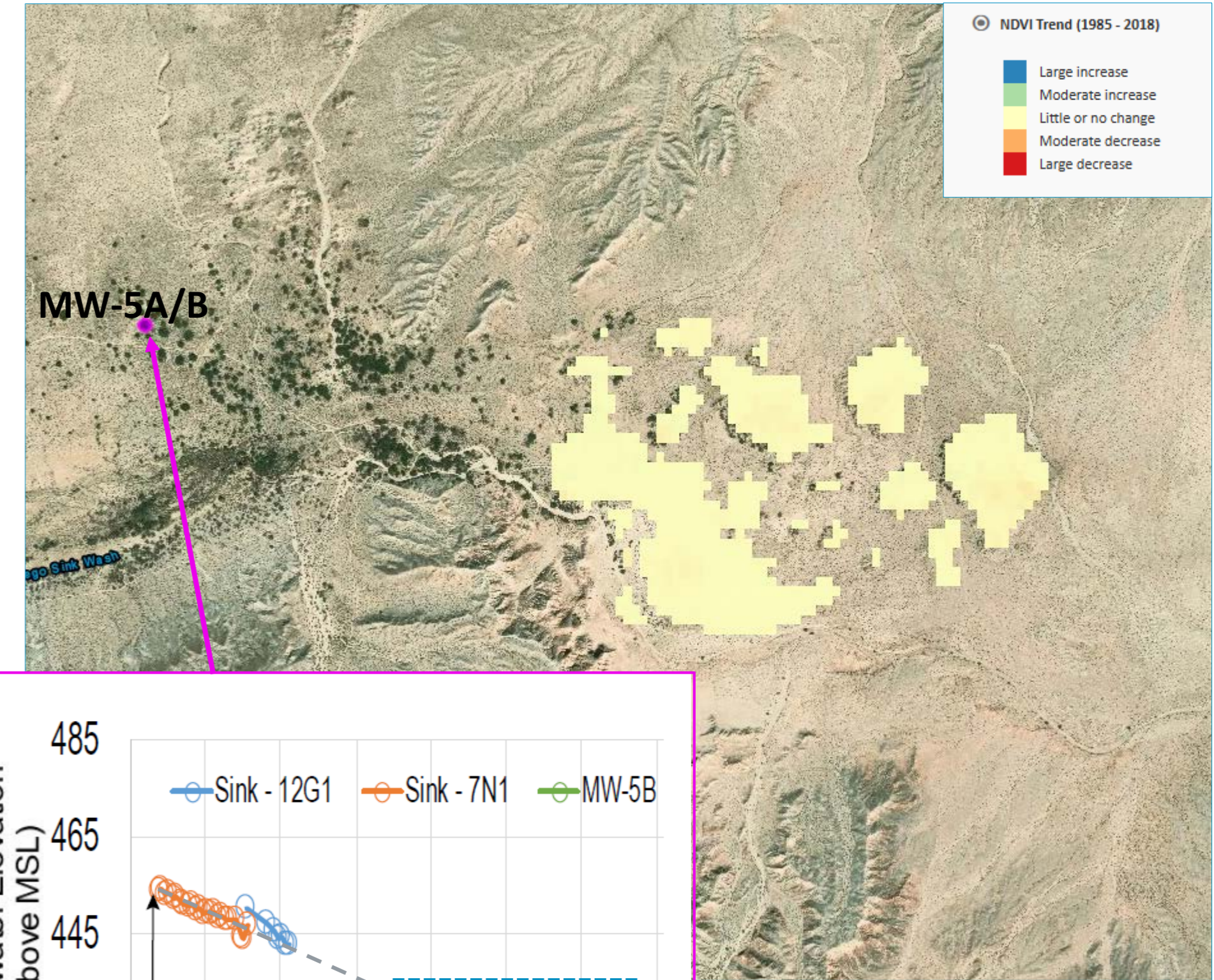
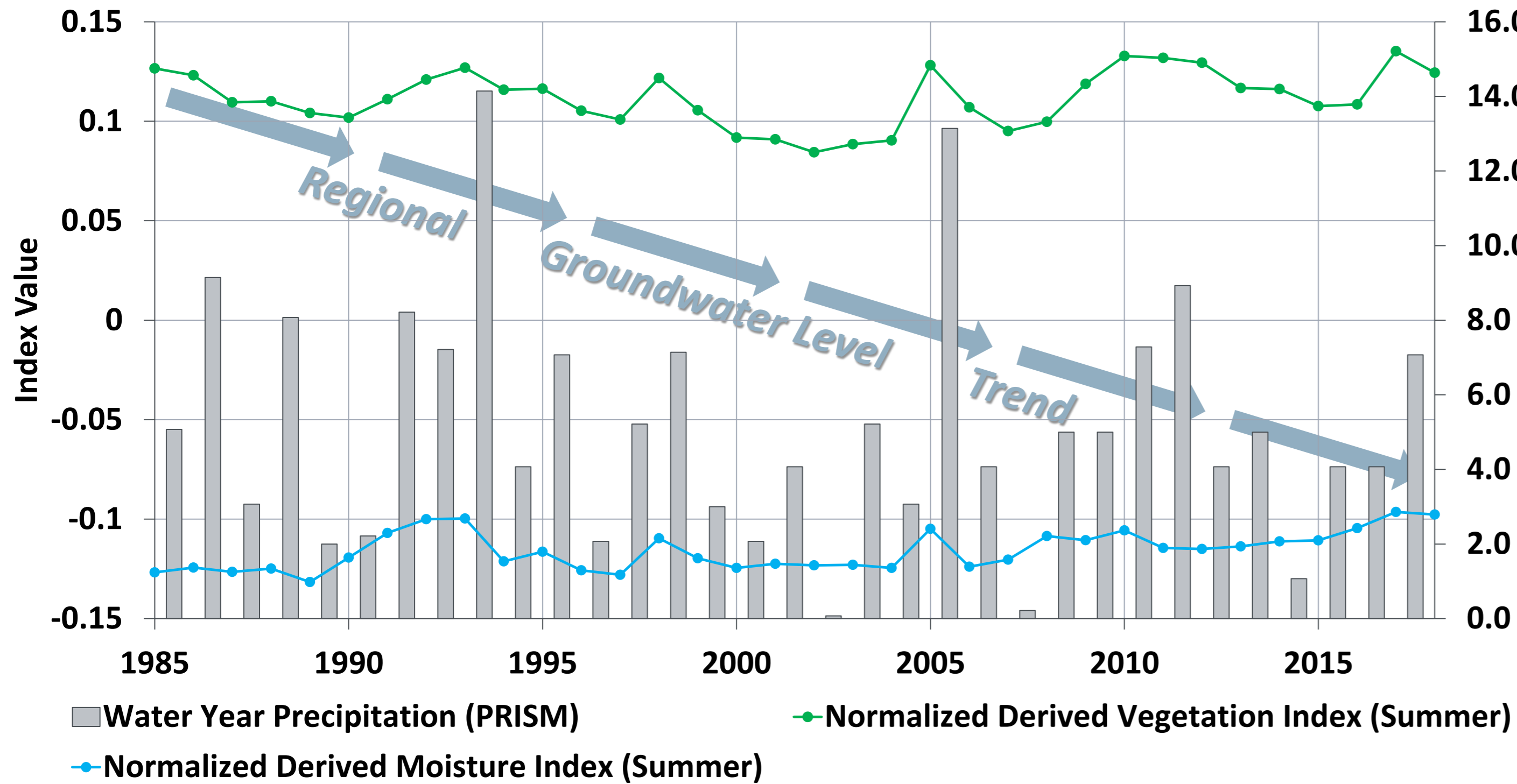
Palm Canyon



DRAFT GSP RESPONSE TO COMMENTS

5. Groundwater Dependent Ecosystems (GDEs)

Relationship between GDE Health Indicators and Precipitation



5. Groundwater Dependent Ecosystems (GDEs)

Evaluation of GDE Pulse Dataset

- ❑ A statistical correlation analysis between the satellite-derived vegetation metrics, groundwater levels and precipitation found the following:
- ❑ There is **no correlation** between the NDVI index (greenness of vegetation) and **groundwater levels** between 1985 and 2018.
- ❑ There is a **moderately positive correlation** between the NDVI index (greenness of vegetation) and **precipitation**.
- ❑ Changes in NCCAG plant health indices after 1985—throughout the Subbasin, and regardless of the time interval chosen—are on average flat, slightly increasing, or slightly decreasing indicating (i.e. lack of nexus between groundwater level decline and vegetation health).

DRAFT GSP RESPONSE TO COMMENTS

5. Groundwater Dependent Ecosystems (GDEs)

Plant Root Depth Database

- Root depth database provides worldwide maximum depths
- Local estimates of Honey Mesquite Root Depths are:
 - USGS (2015): **15.3 feet**
 - Nilsen et al. (1983): **13.12 - 19.69** feet at Harper's Well, California
- Borrego Honey Mesquite Community
 - Honey Mesquite has a dimorphic root system adapted to arid environments.
 - Groundwater conditions (i.e. groundwater levels in excess of 55 feet bgs) no longer supports seedling recruitment (Honey Mesquite require access to shallow groundwater to become a tree and will remain shrubs if sufficient water is unavailable).
 - Transect data and vegetation metrics show the community in Borrego Springs has been distressed since before 1985.
 - Health significantly lower than adjacent basins.
- Mesquite community has transitioned to being surface water supported

5. Groundwater Dependent Ecosystems (GDEs)

GDE Unit 3 - Borrego Sink (Mesquite Bosque) is dependent on surface water

- There is clear and quantifiable disconnect between groundwater level trends within the Subbasin and the extent and the health of phreatophyte communities
- The Honey Mesquite lost access to shallow groundwater prior to 1985, and that the existing community as a whole is not sensitive to changes in groundwater level.
- There are no feasible management tools available to the GSA to restore the Honey Mesquite community

5. Groundwater Dependent Ecosystems (GDEs)

Changes made to GSP and Appendix D4 (GDE Memorandum)

- Clarified the GSP's definition of undesirable result to GDEs.
- Incorporated new data that further supports the analysis in the GSP.
 - Aerial photograph comparisons
 - Satellite-derived health indices
 - Additional plant root data
 - Honey Mesquite transect comparison between Borrego Sink and Clark Valley
- Revised certain figures to better show depth to groundwater near streams.

Undesirable results to GDEs are a pre-2015 impact.

No sustainable management criteria or Baseline Pumping Allocation (BPA) is established for GDEs.

6. Well Metering and Well Monitoring

Issue Summary:

- Comments suggest that the language within the body of the draft GSP regarding Mandatory Water Metering should be strengthened to ensure that the provisions specified are in fact mandatory.
- Comments request the GSP to impose mandatory water quality monitoring on any wells in the Subbasin.

6. Well Metering and Well Monitoring

Response:

- Revisions have been made to the GSP to clarify that the details within Appendix E are mandatory requirements. The Executive Summary has also been clarified that mandatory metering “will” take place following adoption of the GSP.
- The GSA will continue to use the existing water quality monitoring network to assess Subbasin conditions, and further develop the groundwater quality network over the GSP’s planning and implementation horizon, in accordance with adaptive management needs and as necessary to meet the GSP’s sustainability goal.

7. Severely Disadvantaged Community (SDAC)

Issue Summary:

- Comments suggest that the GSP failed to consider SDAC interests or provide sufficient information regarding the characteristics of the SDAC population.
- Comments express concern over whether minimum thresholds are protective of SDAC and de minimis well owners (e.g., small domestic pumpers)

DRAFT GSP RESPONSE TO COMMENTS

7. Severely Disadvantaged Community (SDAC)

Response:

- The GSA conducted extensive SDAC outreach funded by a Proposition 1 grant
- The GSP has been edited to incorporate the SDAC Impact/Vulnerability Analysis prepared by Environmental Navigation Services, Inc., dated April 15, 2019.
- The GSP describes main concerns expressed, including the potential for:
 - Loss of seasonal jobs in the agricultural and recreational sectors,
 - Reduced funding and access to public schools, and
 - Water rate impacts to the lowest income portion of the community.
- Analysis provides the following mitigation strategies:
 - The 20-year SGMA compliance period provides time for the community to adapt
 - Opportunity to offset agricultural job losses, given recreation/tourism is not as water-dependent
 - BWD's tiered rate structure will limit water rate impacts
 - The GSA commits to seeking state funding to support projects that benefit the SDAC

7. Severely Disadvantaged Community (SDAC)

Response:

- ❑ The SDAC population is primarily supplied water by the BWD, and de minimis well users will benefit from goal to stabilize water level declines by 2040.
- ❑ Water quality problem areas discussed in GSP are not areas accessed by BWD wells
- ❑ The Draft GSP adequately describes the location of de-minimis well users, and establishes thresholds protective of those uses.
 - ❑ GSP Chapter 3 includes Figure 3.2-4 which shows the approximate location of de-minimis users along with BWD's distribution systems.
 - ❑ Chapter 3 addresses how the GSP establishes thresholds that are protective of de-minimis users (Section 3.2.1 and Section 3.3.1).

8. Implementation Costs

Issue Summary:

- Comments suggest that the estimated costs to implement the GSP exceed what is contemplated by SGMA for a small basin.
- Commenters also suggested that the estimated cost for Projects and Management Actions were not sufficiently detailed, excessive and potentially unwarranted.

8. Implementation Costs

Reponse:

- The GSP indicates that the estimate of implementation costs, including development of Projects and Management Actions (PMAs), is a planning level estimate required as per SGMA. Cost estimates will be further refined as part of design and development of PMAs.
- PMAs such as the Water Quality Optimization Program and Intra-Subbasin Water Transfers Program are contemplated as mitigation strategies should monitoring data indicate water quality degradation and need to proactively address suitability of water quality for designated beneficial use. As such the implementations cost for these PMAs may not be required should water quality impairment not be identified.



Borrego Valley Groundwater Basin Borrego Springs Subbasin

Groundwater Sustainability Plan (GSP)

QUESTIONS?

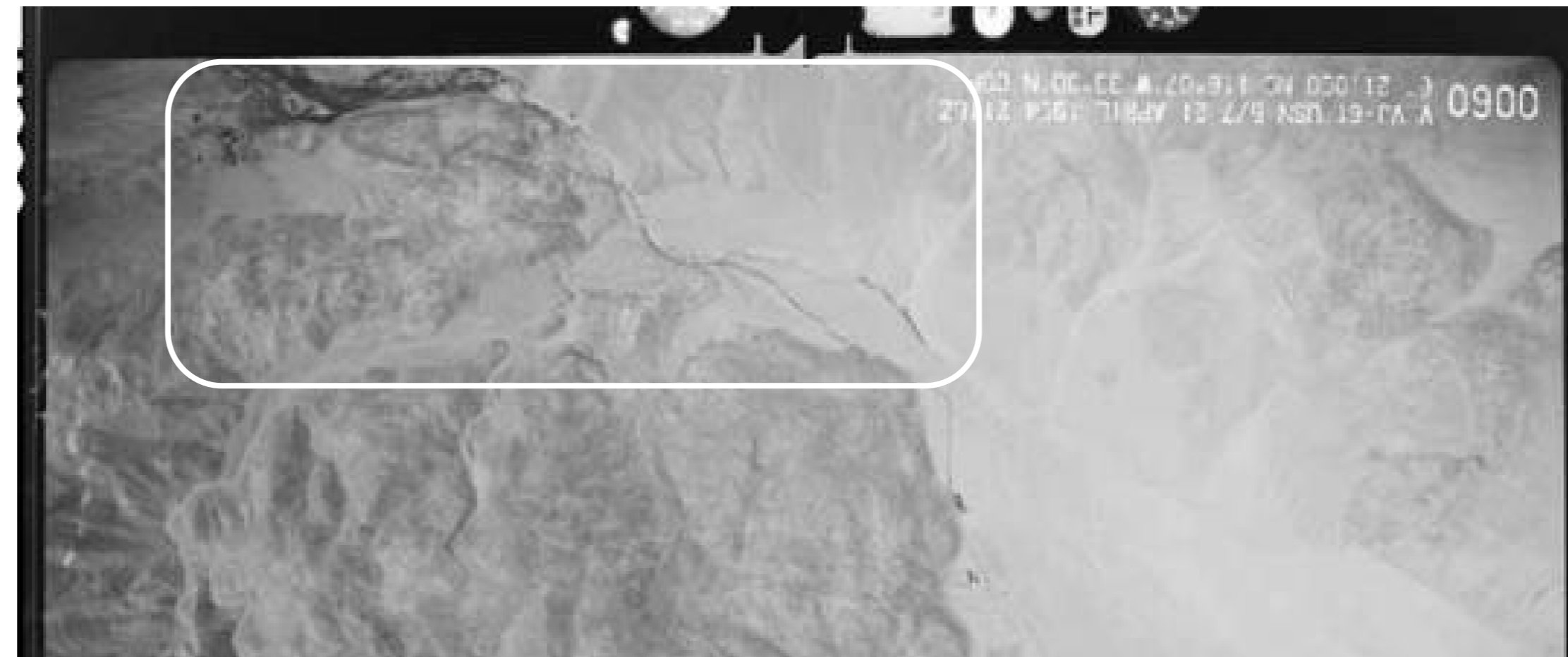


DRAFT GSP RESPONSE TO COMMENTS

5. Groundwater Dependent Ecosystems (GDEs)

Coyote Canyon

1954



2017

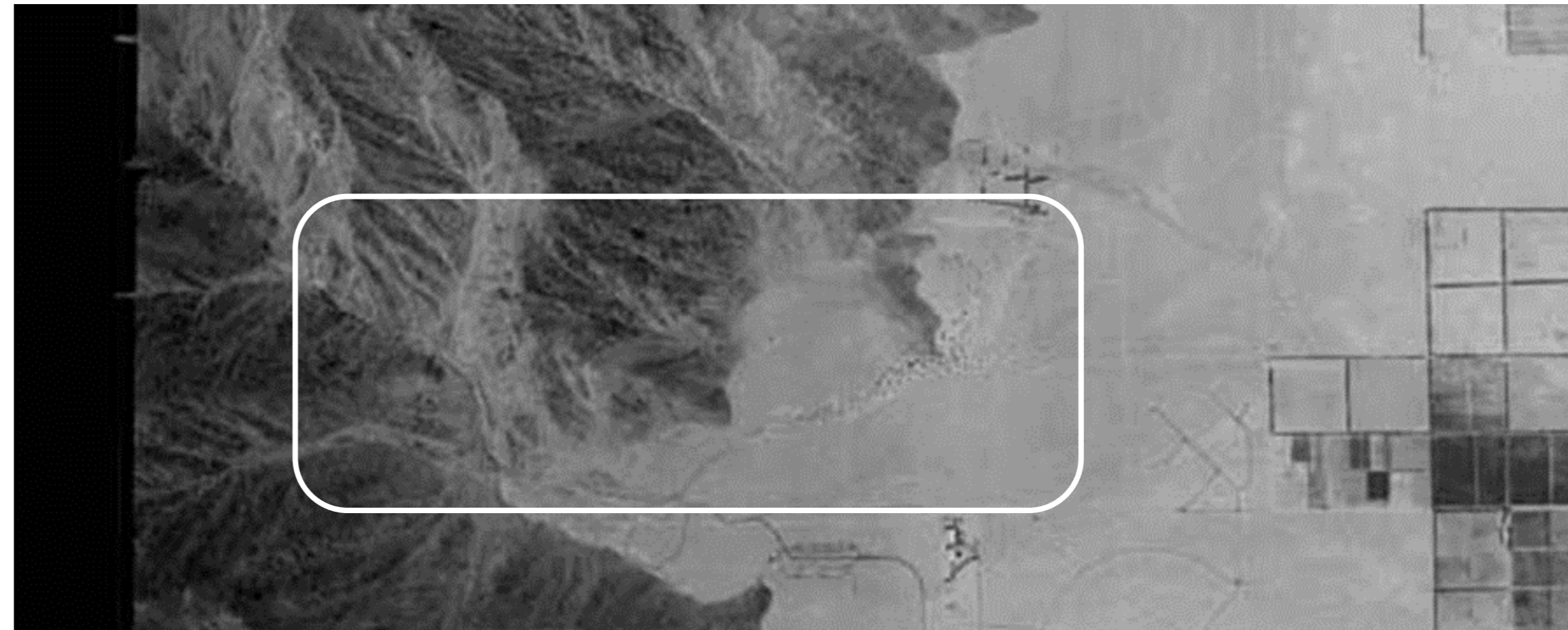


DRAFT GSP RESPONSE TO COMMENTS

5. Groundwater Dependent Ecosystems (GDEs)

Hellhole Canyon

1954



2017



DRAFT GSP RESPONSE TO COMMENTS

5. Groundwater Dependent Ecosystems (GDEs)

Palm Canyon

1954



2017

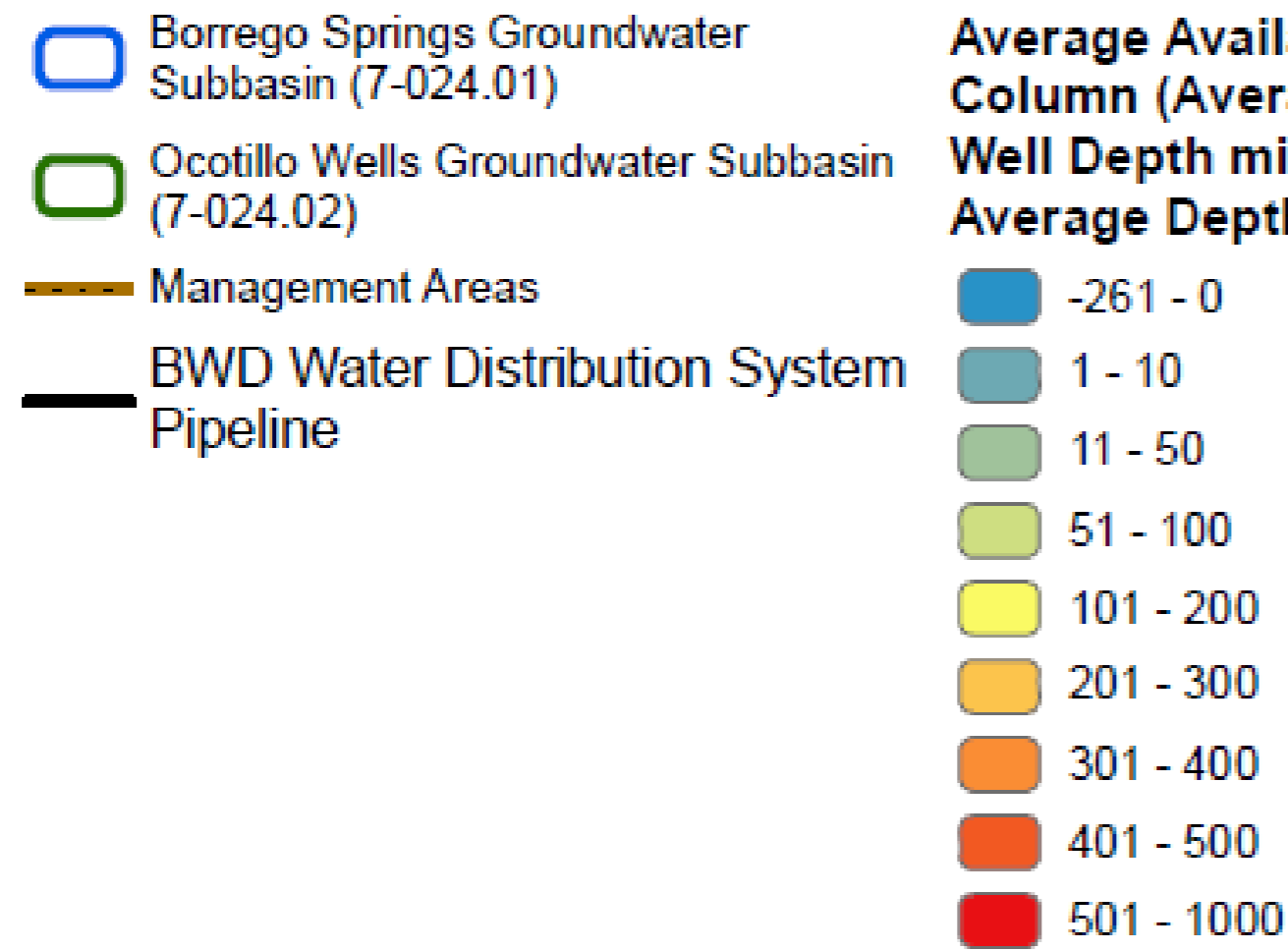


DRAFT WORK PRODUCT

DRAFT GSP RESPONSE TO COMMENTS

7. SDAC

Chapter 3 Figure 3.2-4 BWD Distribution System and De Minimis Users



Township and range sections are labeled with the number of domestic wells they contain.

