

Borrego Water District Board of Directors
Special Meeting
Groundwater Sustainability Plan: Borrego Sub Basin
January 16, 2018 @ 9:00 a.m.
806 Palm Canyon Drive
Borrego Springs, CA 92004

- I. OPENING PROCEDURES**
 - A. Call to Order
 - B. Pledge of Allegiance
 - C. Roll Call
 - D. Approval of Agenda
 - E. Public Comment & Requests for Future Agenda Items (may be limited to 3 min)
 - F. Correspondence from the Public (2-3)
 - 1. Borrego Springs Community Sponsor Group – R Falk
 - G. Comments from Directors

- II. ITEMS FOR BOARD DISCUSSION, CONSIDERATION AND POSSIBLE ACTION**
 - A. Sustainable Population of Borrego – Correspondence Received from R Falk & L Haddock (4-6)
 - B. Farmland Fallowing and Land Restoration Standards (7-27)
 - C. Create Budget Line Item: Le Sar and Dr. Jones Socioeconomic Evaluation and Modeling Proposals (28-40)
 - D. Economic Value and Potential of Outdoor Recreation and Sustainable Tourism as a component of GSP implementation (41-55)
 - E. Groundwater Sustainability Plan (GSP) policies that potentially affect District ratepayers and future water rates of the District. (56)
 - F. Air Quality Monitoring in Borrego Basin (57)

- III. INFORMATIONAL ITEMS**
 - A. GSP Advisory Committee – BWD Ratepayer Representative Update: Dave Duncan – Verbal D Duncan (58)

- IV. BOARD COMMITTEE REPORTS**

- V. STAFF REPORTS**

- VI. CLOSED SESSION: None**

- VI. CLOSING PROCEDURE**
 - A. Suggested Items for Next/Future Agenda
 - B. The next Meeting of the Board of Directors is scheduled for January 24, 2017 at the Borrego Water District

AGENDA: January 16, 2018: All Documents for public review on file with the District's secretary located at 806 Palm Canyon Drive, Borrego Springs CA 92004
Any public record provided to a majority of the Board of Directors less than 72 hours prior to the meeting, regarding any item on the open session portion of this agenda, is available for public inspection during normal business hours at the Office of the Board Secretary, located at 806 Palm Canyon Drive, Borrego Springs CA 92004.

The Borrego Springs Water District complies with the Americans with Disabilities Act. Persons with special needs should call Geoff Poole – Board Secretary at (760) 767 – 5806 at least 48 hours in advance of the start of this meeting, in order to enable the District to make reasonable arrangements to ensure accessibility.

If you challenge any action of the Board of Directors in court, you may be limited to raising only those issues you or someone else raised at the public hearing, or in written correspondence delivered to the Board of Directors (c/o the Board Secretary) at, or prior to, the public hearing.

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – JANUARY 16, 2018

CORRESPONDENCE RECEIVED

January 9, 2018

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Borrego Springs Community Sponsor Group Letter – R Falk

RECOMMENDED ACTION

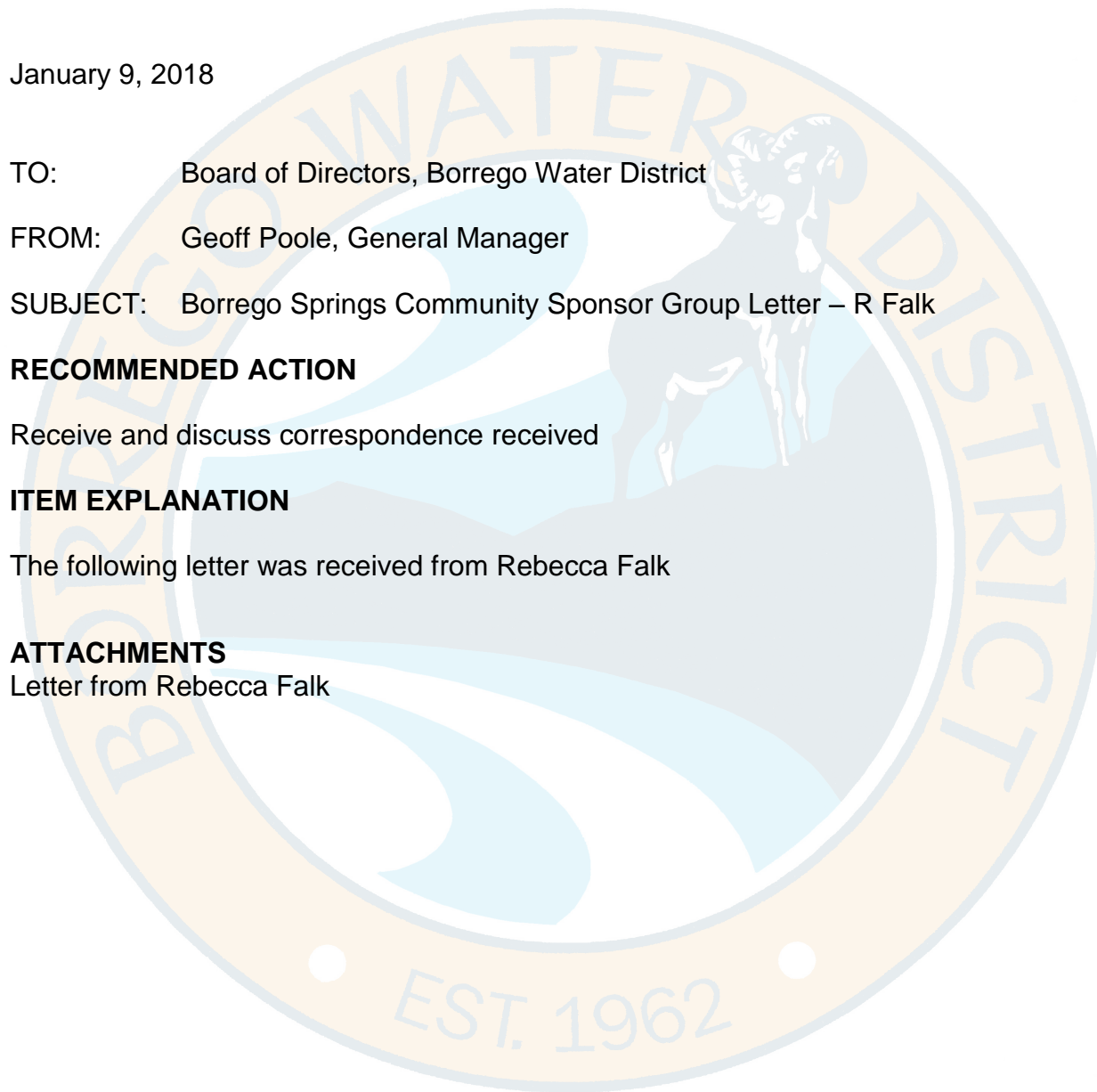
Receive and discuss correspondence received

ITEM EXPLANATION

The following letter was received from Rebecca Falk

ATTACHMENTS

Letter from Rebecca Falk



Borrego Springs Community Sponsor Group
P.O. Box 1371
Borrego Springs, CA 92004

December 31, 2017

Advisory Committee, Groundwater Sustainability Plan
Borrego Springs

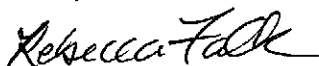
Dear Members & Core Team,

The Borrego Springs Community Sponsor Group would like the representatives for the Agricultural Sector to show good faith toward the town of Borrego Springs by agreeing at the January 25, 2018 meeting that the Municipal Sector of water users in the Borrego Valley will have no reductions made from the Municipal Baseline Water Allocation when reductions in water use are agreed to under the Groundwater Sustainability Plan. This would mean that the Municipal Sector's Baseline Pumping Allocation (estimated at 2461 acre ft/year as the highest year use in the five year period from January 1, 2010 through December 31, 2014 in Dudek's, "Working Draft Technical Memorandum", Table 1, p. 2, in the November 2017 AC-GSP agenda packet) would be both the assumed beginning allocation for the Municipal sector before scheduling of deductions in water use are made, and also that with zero deductions of water for Municipal pumping, that same number of acre feet per year (approximately 2461 af/yr) would be the amount of water allowed to be pumped by the Borrego Water District after all deductions are made by all sectors under the Groundwater Sustainability Plan in order to reach basin-wide sustainability. The water the town needs to survive would therefore be assured under the GSP as a step prior to reductions in water use that would be scheduled for the remaining sectors of agricultural and recreational pumpers.

As the representative from the Sponsor Group to the GSP Advisory Committee, I brought up for a vote at the December 7, 2017 Sponsor Group meeting the method for calculating the Baseline Pumping Allocation proposed at the November GSP meeting. The Sponsor Group refused to consider this without first mandating that I ask the Agricultural Sector to agree to the statements in the above paragraph to show the Agricultural Sector's good faith in wanting Borrego Springs to continue as a viable community with room for modest growth, since that community will be threatened by a reduced water allocation and costs of water should water have to be purchased from other sectors. The Borrego Springs Community Sponsor Group unanimously expressed its strongly held view that the Municipal Sector of residences and businesses who receive their water from the Borrego Water District cannot have any reductions, and should not have to bear the cost of fixing a water overdraft primarily caused by agricultural over-use of water.

As tasked by the Sponsor Group, I will be challenging the Agricultural Sector representatives at the next AC meeting to show their sector's goodwill and support for the continuance of the town of Borrego Springs by agreeing that zero Municipal pumping reductions from the Municipal Baseline Water Allocation will be made in the plans to bring our basin into sustainable use.

Sincerely,



Rebecca Falk
Representative to the GSP Advisory Committee for the Borrego Springs Community Sponsor Group

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – JANUARY 16, 2018

AGENDA BILL 2.A

January 9, 2018

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Sustainable Population of Borrego – Correspondence Received

RECOMMENDED ACTION:

Discuss and direct staff as deemed appropriate

ITEM EXPLANATION:

The attached letter was received from Rebecca Falk and Linda Haddock. Staff would like to discuss this issue with the Board.

ATTACHMENTS

1. Rebecca Falk and Linda Haddock Letter
2. Email regarding populations needed for health care

January 7, 2018

Borrego Water District Board Members,

At the January 4, 2018 Sponsor Group meeting, an important issue arose during the discussion of Borrego Country Club Estates (DS24) as part of a larger decision to submit a letter from the Sponsor Group to San Diego County during the comment period for the Supplemental EIR for Property Specific Requests for a General Plan Amendment.

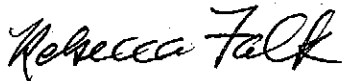
A Sponsor Group member brought to our attention that if Borrego Springs is to provide its residents and visitors with 24/7 walk-in medical care (somewhere between an urgent care and the emergency room) and a pharmacy open 24/7 that we need to have a full time population of 8000.

The Sponsor Group continues to express its concern about the overdrafted aquifer and implications for land use decisions as a result of limitations water use may place on the town. At the same time, we want Borrego Springs to prosper and it is well known that the lack of more comprehensive medical facilities is a problem for many residents.

We would like to see a study of how a goal of 8000 residents is possible given water use constraints under SGMA and what paths would make that possible. What is the sustainable population of Borrego under conceivable scenarios? At what costs? This is very important information for the Advisory Committee and the GSA to consider as soon as possible as decisions get made going forward.

It would be extremely helpful for the Sponsor Group to consider the results of a study about this matter as we move forward in making land use recommendations that will impact the future of Borrego Springs. We are bringing this to your attention as individuals now due to Borrego Water District and GSP Advisory Committee meeting timelines, and will be following up about this with the Sponsor Group at our next meeting.

Sincerely,



Rebecca Falk
Chair, Borrego Community Sponsor Group; and Member, Advisory Committee for the Groundwater Sustainability Plan



Linda Haddock
Executive Director, Borrego Springs Chamber of Commerce; Member, Borrego Springs Community Sponsor Group; and Board Member, Borrego Springs Fire Protection District



Lyle Brecht <lbrecht@gmail.com>

a little more info

1 message

Rebecca Falk <[REDACTED]>
To: Lyle Brecht <[REDACTED]>

Mon, Jan 8, 2018 at 8:35 AM

From Linda, re: the 8000 full time population figure referenced in the letter from us that I just sent over, in case anyone asks where that figure came from:

"FYI, the [Borrego Valley Endowment Fund](#) hired [The Camden Group](#) in 2014 (now [GE Healthcare Camden Group](#)) to tell them what it would take to get more comprehensive care here. BVEF shared the report with Borrego Health and others. Camden also partnered with the Chamber and BSUSD to conduct a health care survey for BVEF in 2015-16 to hear what the folks needed/wanted most. The info from the report and results from the survey prompted BVEF to contract with Mercy and Reach to keep costs more contained for those in need of emergency medical air transport out of here. "

Becky

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – JANUARY 16, 2018

AGENDA BILL 2.B

January 9, 2018

TO: Board of Directors, Borrego Water District
FROM: Geoff Poole, General Manager
SUBJECT: Farmland Fallowing and Land Restoration Standards

RECOMMENDED ACTION:

Discuss and direct staff as deemed appropriate

ITEM EXPLANATION:

Two proposals to develop fallowing and land restoration standards to prevent environmental and public health impacts from fallowing that would occur under SGMA-supply constraints and if the \$35MM earmark if The Water Supply and Water Quality Act of 2018 (<https://waterbond.org>) were to pass.

The two proposals are from: (1) DRI Desert Research Institute, an environmental research arm of the Nevada System of Higher Education. With more than 500 employees and two main campuses in Reno and Las Vegas, Nevada; and (2) Land IQ and the University of California, Irvine, with special expertise on dust mitigation and desert lands restoration from agricultural fallowing in California.

FISCAL IMPACT

This item is currently not included in the BWD Budget. Staff is not recommending funding of these Proposals at this time. This is an introduction into the topic and need for this type of work to be done in the future.

ATTACHMENTS

1. Desert Research Institute Proposal
2. University of California Irvine Proposal

Proposed Approach for Support to the Borrego Water District Groundwater Sustainability Program

Goal

To reduce groundwater pumping and evapotranspiration (ET) loss in the Borrego Groundwater Basin, fallowing of farmland is very likely to be one of the primary strategies to achieve groundwater sustainability. Development of effective desert habitat repurposing practices and procedures is essential to minimize environmental impacts in the areas of the Basin no longer being actively farmed.

Background

The community of Borrego Springs is located in an unincorporated area northeast of San Diego within the Borrego Basin. The Basin is comprised of Borrego Valley (about 110 square miles) and portions of the surrounding 600,000 acre Anza-Borrego Desert State Park (ABDSP). There is currently limited development within the community with approximately 3,400 residents documented in the 2010 census.

The US Geological Survey (USGS) has identified a Basin inflow of 5700 acre-feet per year (afy) and an outflow of 19,100 afy, which creates an approximate 70% deficit in terms of a sustainable groundwater resource. Due to this imbalance, the California Department of Water Resources has classified the Basin as being in Critical Overdraft and therefore a GSP must be developed and finalized by January 2020. The County of San Diego and BWD recently commenced this process.

The current estimated water use in the Basin is: agriculture 70%, recreation 20%, and municipal 10%. The BWD and all other water users in the Basin must reduce its water use by approximately 70% over the next 20 years to meet GSP requirements. One mechanism to meet this requirement is to fallow and repurpose high-water use agricultural properties and eliminate water use on the property.

Proposed DRI Scope

To provide technical expertise, analysis, and decision support for BWD to meet its need for reclamation of fallowed farmland while minimizing the environmental impacts.

DRI is familiar with the conditions in the Borrego Basin and the challenges being addressed by BWD and other stakeholders. We propose to support BWD in a 3-phase approach as delineated below.

Phase I: Problem Identification

Task 1. Project Management and Support to BWD for Fallowing and Repurposing of Irrigated Farmlands

DRI will provide technical advice and decision support on the development of land reclamation practices for properties that were formerly irrigated farmland. DRI will work with BWD and stakeholders including ABDSP and others to understand stakeholder desires and needs regarding land repurposing, including visions for how the repurposed land should appear and function. A kickoff meeting and site tour will be coordinated with BWD and other stakeholders wherein we will discuss the intent and goals for the project, extant data and data needs, site access, project timeline, and any constraints, and we will receive feedback regarding stakeholder needs and desires.

Task 2. Establish Initial Conditions

DRI will collect and synthesize existing data and information for the vicinity of Borrego Springs, as well as research literature and best practices regarding agricultural fallowing, desert restoration, and fugitive dust control. We will perform a field reconnaissance and collect data and information to determine the condition of the proposed site(s) for potential repurposing to natural conditions and/or low-water productive land uses. This examination will include ecological parameters of adjacent lands. We will examine adjacent parcels of developed and undeveloped land to place the repurposed lands in context and provide a basis for identifying and mitigating potential hydrologic and other consequences of repurposing activities. In preliminary discussion with BWD staff, it appears 240 acres of the Oasis Ranch may be the best candidate for reclamation and this parcel may be available in the near future. This parcel will be specifically evaluated as part of this task.

Task 3. Develop Mutual Desired End State for Fallowing and Repurposing of Irrigated Farmlands

DRI will work with BWD and stakeholders including ABDSP and others to develop a consensus-based vision for the desired end state for repurposing the land. Issues to be considered may include extent of land use repurposing, desired habitat values, aesthetics, overall timelines for fallowing, and whether to include low-water crops in the mix of solutions in order to preserve the local agricultural economy.

This will also include describing any regulatory, policy-based, or other constraints that must be considered. The intent is to develop a shared vision for the end state of this project, to understand institutional factors bearing upon the success and acceptance of the project, and to develop stakeholder “buy-in” for the project.

Task 4. Evaluation of Alternatives to Repurpose High-Water Use Agricultural Lands to Meet GSP Requirements

DRI will develop and evaluate the benefits and costs of alternatives for fallowing and repurposing of agricultural lands, returning them to natural conditions and/or a different lower-water productive

use. It is envisioned that some parcels are more amenable to restoration to desert conditions (for example: alluvial plain, low-gradient alluvial fan, active channel within a wash, and similar landforms), while other land forms may be desired for continued production of some form such as aloe, jojoba, or similar crops to be determined. Different reclamation practices with varying degrees of effort may need to be developed since not all parcels in the Borrego Basin are candidates for full desert habitat reclamation.

DRI will consider such techniques as sand fencing, furrowing, grading/contouring, cover plantings, lower-water use crops, and other methods to control re-vegetation, fugitive dust, and stormwater runoff, as well as disposition of wood and other debris from fallowed fields/orchards.

If the State Park system or another stakeholder possesses land reclamation standards that must be taken into account, then DRI will include consideration of these in alternatives development.

DRI will evaluate the alternatives and support the BWD decision-making process. The process will include prioritization of sites and proposed sequencing of fallowing progression. This process will be iterative with opportunities for BWD and stakeholder feedback. A Draft Report will be submitted for review and comment. Comments will be incorporated into the published Final Report.

We will also work with the BWD to determine whether this process requires CEQA documentation, and if so, whether this may be tiered off other existing CEQA analyses and/or covered within the GSP process.

Phase I Deliverables: Regular Progress Updates; Meeting attendance; Draft and Final Report for Phase I Evaluation of Alternatives to Repurpose High-Water Use Agricultural Lands; Draft Fallowing Reclamation Practices.

Desired End State: BWD selects alternative(s) for repurposing of high-water use agricultural lands and begin discussion of Draft Reclamation Practices with Stakeholders

Phase II: Solution Testing

In Phase 2 we will rigorously test proposed methods for fallowing and repurposing before scaling up so that stakeholders can be confident that resources allocated for full-field projects will not be wasted on methods that appear good in concept but do not pan out during implementation.

Task 1. Project Management and Support to BWD for GSP Development

DRI will continue to provide technical advice and decision support as BWD navigates the process of GSP development and initiates implementation. The focus for work during this phase will be testing and evaluation of methods for achieving the alternative(s) selected by BWD at the end of Phase I. DRI will keep the BWD, ADBSP, and other stakeholders informed and involved as the project progresses.

Task 2. Testing and Modeling Estimation of Key Site Parameters

DRI will perform testing and modeling to determine projected ET, water recharge, carbon/biomass production, mitigation of fugitive dust emissions, and other factors to achieve effective land repurposing and use of low-water crops. Laboratory facilities may include greenhouses and EcoPods at DRI or in the vicinity of, or in-situ at, the Borrego Basin. Modeling may address restoration of site hydrology, hydraulics, and sediment transport with consideration of stormwater management as required to protect adjacent and downstream land uses.

Task 3. Pilot Testing / Field Optimization in Borrego Basin

Information developed in Task 2 will be translated into action in the field during Task 3. DRI will perform pilot tests in the Basin to evaluate performance of selected methods and to provide an opportunity to capitalize on lessons learned prior to scaling up the repurposing activities. This work will include development of site safety, stormwater runoff, and QA/QC control plans for the test site. DRI will work with the BWD for regulatory permitting if necessary for the pilot test.

A Report regarding the laboratory testing, modeling, and pilot test will be developed to document methods and findings, recommend reclamation practices, and provide information useful for other land reclamation initiatives within the Borrego Basin and elsewhere. The Draft Report will be submitted for review and comment. Comments will be incorporated into the published Final Report.

Phase II Deliverables: Regular Progress Updates; Meeting attendance; Draft and Final Reports for Phase II Solution Testing to Fallow and Repurpose High-Water Use Agricultural Lands; Maps to support decision-making process; data; Revised Reclamation Practices.

Desired End State: Development of an implementation plan for repurposing the land and reducing water use and the knowledge necessary to successfully perform the repurposing and achieve the BWD's water savings goals without detrimental consequences and in keeping with stakeholder needs and desires.

Phase III: Scale-up and Implementation Support

Task 1. Project Management and Support to BWD for GSP Implementation

DRI will continue to provide technical advice and decision support as BWD implements the GSP. The focus for work during this phase will be performing land fallowing and repurposing. DRI will keep the BWD, ADBSP, and other stakeholders informed and involved as the project progresses.

Task 2. Scale-up Analysis and Design Repurposing

DRI will design and oversee performance of the land repurposing project(s). This work will include development of site safety, stormwater runoff, and QA/QC control plans. DRI will work with the BWD for regulatory permitting as necessary.

DRI will consider plant mix, dust control methods, and runoff issues relative to areas down-gradient that have yet to be fallowed or are developed.

Task 3. Assessment of Implementation Results

DRI will assess results of fallowing and repurposing projects in the field. A Draft Report regarding the implementation and assessment will be submitted for review and comment. Comments will be incorporated into the published Final Report.

Phase III Deliverables: Regular Progress Updates; Meeting attendance; Draft and Final Report for Phase III Fallowing and Repurposing of High-Water Use Agricultural Lands; Maps to support decision-making process; data; Final Reclamation Practices.

Desired End States: Successful land repurposing to natural conditions and/or low-water use production. Annual water savings necessary for the BWD to meet GSP obligations.

DRI Key Personnel

Scott Thomas, Ph.D. – Project Manager

Mr. Thomas is an experienced ecologist, natural resources specialist, and project manager with over 25 years of experience working in the arid regions of Southern California. His area of expertise is in advising agencies and watershed managers in developing sustainable solutions for land and water resource degradation. Recent relevant research includes groundwater management planning, fluvial geomorphological analyses, and stormwater capture and reuse/recharge in arid and semi-arid regions of San Diego, Riverside, and San Bernardino Counties.

Steve Bacon – M.S., C.E.G., P.G. – GeoHydrology and Geomorphology

Mr. Bacon is a geologist with over 15 years of experience specializing in field investigations associated with geomorphology, engineering geology related to terrain and geotechnical site characterizations, landscape evolution, and geologic hazards. He recently completed a characterization of the Borrego Basin's active and inactive alluvial fan areas within a 61 square mile area of the watershed per FEMA guidance (Figure 1 below). Historical aerial photographs, satellite imagery, and on-site analysis were employed to identify high- and low-gradient alluvial fans within an ArcGIS platform during geomorphic mapping. Recent relevant research also includes geomorphic-based predictive terrain modeling of mobility and dust emission hazards.

Mary E. Cablk, Ph.D. – Ecology and Scenario Evaluation

Dr. Cablk is a landscape ecologist, remote sensing specialist and has expertise in desert ecosystem assessment including scenario modeling and futures evaluation. She has worked with federal and state agencies to interface on large-scale desert programs including the statewide (NV) National Science Foundation Sponsored Solar Nexus Project and the DOD funded Mojave Desert Alternative Future Scenario Project. Additional recent relevant research includes developing methods for quantifying and modeling flood extent on desert playas, assessing ecological impacts and recovery from wildfire in desert ecosystems of the southwestern US, and contributing to groundwater assessments in desert ecosystems through vegetation mapping and modeling from high-resolution satellite imagery.

Brittany Kruger, Ph.D. – Ecology and Land Reclamation/Revegetation

Ms. Kruger is an ecologist who focuses on water policy issues and scientific evaluation of aqueous or water-impacted environments. Recent relevant experience includes assessment of soil recovery from wildfire disturbance in the Mojave Desert, focusing on microbiological re-colonization that can contribute to biological crust formation and soil stability.

Jayson Medema – Geographic Information Systems and Remote Sensing

Mr. Medema is a technical analyst with experience in geospatial science projects including: GIS based infrastructure analytical products, remote sensing, 3D modeling, and environmental monitoring.

Other DRI specialists in the fields of restoration ecology, hydrology, soils science, geomorphology, air quality and dust control, and related fields are available as needed to support this work.

Proposed Budget

- Phase I: \$77,200
- Phase II: \$121,900
- Phase III: TBD during Phase II based on alternatives developed and selected.

Preliminary Schedule

- Dec 2017 – Aug 2018 Phase I
- Aug 2018 – Apr 2020 Phase II
- 2020+ Phase III

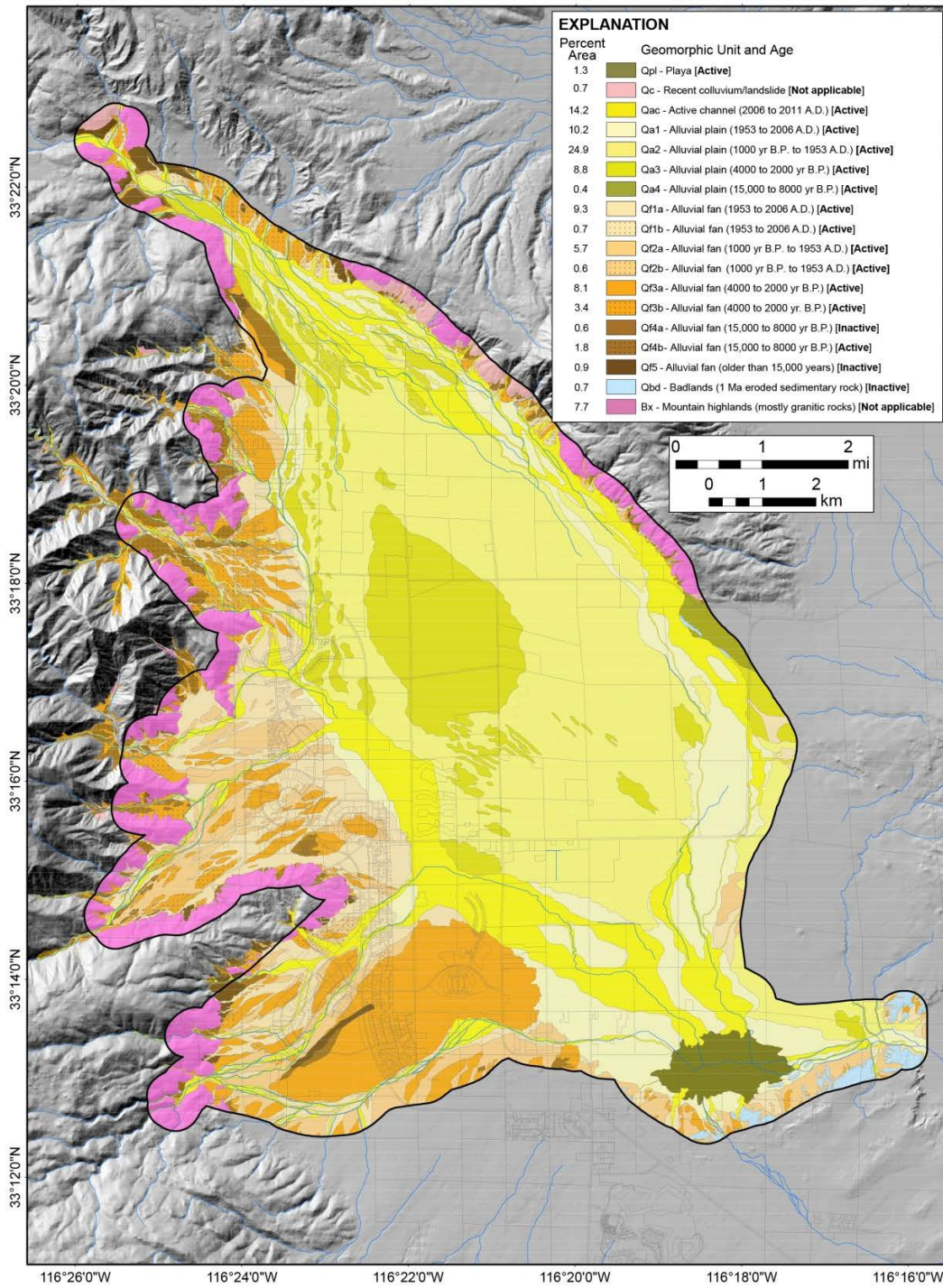


Figure 1. Geomorphologic map of the Borrego Valley watershed and study area showing unit descriptors, landform type, age, and percent area of each map unit. The geomorphologic and hydraulic activity level is noted in bold. Source: Bacon, S., J. Miller, and R. French. Borrego Springs Alluvial Fan Active and Inactive Area Mapping, County of San Diego, California. Prepared by the Desert Research Institute.



Technical & Cost Proposal

Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated
Agricultural Land in the Borrego Valley Groundwater Basin

Submitted to:

Lyle Brecht • Borrego Water District
806 Palm Canyon Drive • Borrego Springs, CA 92004

October 9, 2017

Submitted by:





October 9, 2017

Lyle Brecht
Borrego Water District
806 Palm Canyon Drive
Borrego Springs, CA 92004

RE: Letter of Transmittal for a Technical and Cost Proposal—Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated Agricultural Land in the Borrego Valley Groundwater Basin

Dear Mr. Brecht,

The Land IQ/UCI Team is pleased to submit our proposal to develop a Concept Feasibility Plan (Plan) to improve fallowing practices for the Borrego Valley Groundwater Basin. The cost for the Project is a not-to-exceed price of \$374,450.

The Land IQ/UCI Team is uniquely qualified to provide the full range of necessary services to meet the goals of the Plan to reduce water consumption, manage dust, and increase natural habitat value in a sustainable manner. Our areas of expertise include agricultural and natural systems, remote sensing, native plant and land systems management, and ecological restoration. This expertise along with technical skills in plant ecology and physiology, research study design, and data analysis, enables our Team to determine optimal solutions to complex problems in our environment.

Our Team has demonstrated experience planning and successfully developing innovative solutions to challenging environmental problems throughout California. Notable experience for this project includes Land IQ's work developing dust mitigation measures on Owens Lake for the Los Angeles Department of Water and Power, and most recently, our 2014 Statewide Crop Mapping product published to the State Department of Water Resources (DWR) Land Use Viewer, which is a resource for land use and water managers, including Groundwater Sustainability Agencies (GSAs). The new web map is viewable here: <https://gis.water.ca.gov/app/CADWRLandUseViewer/>. UCI staff brings experience working with land managers to identify optimum restoration techniques, as well as a vested interest in Borrego Springs through the University's Steele/Burnand Anza-Borrego Desert Research Center (within UCI-NATURE), the UCI Center for Environmental Biology (CEB), and their partnership with Anza Borrego State Park and the Anza Borrego Foundation. UCI-NATURE and CEB staff work to facilitate this partnership and connect scholars and researchers with Park staff and the community.

Land IQ staff and UCI have worked together on successful habitat restoration projects, such as the restoration of cactus scrub habitat for the cactus wren on the UCI Nature Reserve. And, we are actively integrating monitoring and habitat restoration planning efforts for the Orange County Central-Coastal Natural Community Conservation Plan & Habitat Conservation Plan (NCCP/HCP). We formulate our habitat restoration plans from careful consideration of landscape position, hydrology, and soils to determine the most appropriate habitat enhancement and restoration for each project site based on data analysis of existing information and comprehensive study design in highly complex environments. We generally bring fresh and efficient approaches to planning projects that can result in cost savings without sacrificing ecological function. For example, Land IQ pioneered direct seeding of saltgrass dominated meadows at Owens Lake that provide more efficient use of water to control dust on the lake while balancing open shorebird habitat.

Our Team has the experience to collectively address the scientific and practical challenges of rehabilitating farmland for the benefit of the community and the natural landscape and the professional capacity to carry such a project to completion. Our Team looks forward to working with Borrego Water District and its partners on this challenge.

Land IQ is a DGS Certified Small Business (Supplier No. 1748303).

Sincerely,



Mica Heilmann, CPSS
Land IQ
Owner | Soil & Agricultural
Scientist



Margot Griswold, PhD
Land IQ
Senior Restoration Ecologist



Travis E. Huxman, PhD
University of California, Irvine
Professor, Ecology and Evolutionary Biology
Director, Center for Environmental Biology
Faculty Rep, Steele/Burnand Anza-Borrego
Desert Research Center



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CONFIDENTIALITY: This proposal approach is considered confidential in nature, and is intended for review and consideration only by the Borrego Water District and It’s affiliates. No recreation or use of these proposal components is permitted without consent of Land IQ, LLC.

Scope of Work

Task 1

Project Management & QA/QC

Task 2

Review & Analysis of Existing Data

- 2.1 Kick-off Meeting
- 2.2 Literature Review
- 2.3 Interviews with Key Stakeholders and Experts
- 2.4 Project Geodatabase Creation
- 2.5 Farmland Water Consumption
- 2.6 Review of Historical Data

Task 3

Field Study

- 3.1 Field Observations of a Time Series of Existing Fallowed Farmland Physical and Biological Conditions
- 3.2 Field Sampling of Reference Natural Habitat to Guide Farmland Restoration Potential

Task 4

Brush Pile Wildlife Sand Fence Case Study

- 4.1 Identify Manipulative Sites for Sand Fences
- 4.2 Design and Construct Sample Sand Fences
- 4.3 Baseline Observations of Sand Fence Function and Wildlife Value

Task 5

Farmland Fallowing Rehabilitation Strategies

- 5.1 Develop Conceptual Models for Key Rehabilitation Processes
- 5.2 Design Rehabilitation Strategies
- 5.3 Farmland Fallowing Best Practice Recommendations

Task 6

Farmland Fallowing Prioritization

- 6.1 Prioritization Model for Fallowing Farmland Ranked by Benefits of Water Conservation and Rehabilitation Potential

Approach

Given the significant overdraft of the Borrego Valley Groundwater Basin (BVGB), the Borrego Water District (BWD) has instituted a 'Water Credit Policy' that encourages the voluntary reduction of water consumption. One of the most significant means of reducing water consumption will be permanently fallowing irrigated agricultural land in the BVGB. There are serious potential and realized risks to the natural desert landscape and the local community from standard fallowing practice, including dust, invasive plants, visual blight and barriers to the establishment of native habitat.

In order to manage those risks and to take advantage of opportunities for rehabilitation of the land, we will develop strategies for fallowing farmland in the BVGB, with the following goals:

- 1) Reduce water consumption
- 2) Manage dust
- 3) Increase natural biodiversity and habitat value
- 4) Maintain or enhance values pertinent to the Anza Borrego State Park mission and Borrego Springs residents (e.g. invasive species control and reducing visual blight)

Rehabilitation or restoration strategies will be the basis for writing best practices for agricultural land fallowing for incorporation into the draft Groundwater Sustainability Plan that is currently in development.

Drawing upon the collective experiences of Land IQ managing dust issues for the Los Angeles Department of Water and Power on Owens Lake, and the Imperial Irrigation District on the Salton Sea, and UCI research on ecological restoration and desert ecology, we have developed a scope of work that will produce spatially explicit strategies for fallowing retired citrus orchard lands based upon the potential for rehabilitation given known environmental constraints.

We will initiate work with gathering and synthesizing existing information resources: utilizing geospatial datasets, the literature, and interviewing industry experts and people knowledgeable in land use management and history in the vicinity of Borrego Springs. We will build upon this information with ground measurements stratified across major ecological units based on plant community type and physical properties of the landscape. Potential for rehabilitation and methodological approach across these units will be further informed by measurements of life history stages and microsite characteristics critical to plant recruitment and establishment among a series of successional stages or land use states (recently fallowed, fallowed 5-10 years, existing natural reference sites, and existing citrus).

A unique challenge presented by the fallowing of citrus orchards in the BVGB is how to manage dust, make use or dispose of dead trees, and facilitate physical and biological processes important to the development of a natural desert landscape. For this Proposal we have developed a citrus tree removal strategy that is conducive to both dust management and increasing natural habitat value, while minimizing visual blight in the short term. We will conduct a case study to inform the development of best practices and create sample "Brush Pile Wildlife Sand Fences" with cut citrus tree material placed strategically to manage wind/dust patterns. The Sand Fences will serve multiple functions including dust control by reducing soil particle velocity, safe sites for native plant recruitment through moisture retention and shading, and wildlife habitat by providing perches and cover. Furthermore, by not mulching the trees there will be a cost savings and avoidance of altered carbon cycles inconsistent with the native ecosystem, which can impact plant community succession.

The study area will be approximately 3,000 acres and encompass the extent of agriculture in the BVGB and any appropriate adjacent natural open space suitable for reference conditions for habitat restoration planning.

For the farmland that has potential for permanent fallowing, we will develop a prioritization model to assist the BWD in strategic planning to reduce water consumption and rehabilitate the natural landscape.

Task 1. Project Management and QA/QC

1.1 Project Management and QA/QC. The staffing structure and internal project control procedures will ensure clear lines of communication between the District and the technical and scientific staff at Land IQ and UCI. The Project Manager, Travis Brooks, will be the point of contact for District communications.

Land IQ has a strong commitment to producing high-quality work products on time and within budget. We accomplish this goal through strong working relationships with our clients, depth of experience, following QA/QC procedures, phased and prioritized project schedules and budget control through the use of up-to-date accounting tools and dedicated budget management staff.

Land IQ's technical document editors, cartographers and geospatial experts are well versed in biological resource management, monitoring and planning. Materials will be edited for clarity, grammar, punctuation and spelling before incorporation into final documentation. In addition to technical editorial review, deliverables will be reviewed at multiple stages of development by senior staff, including Margot Griswold, Joel Kimmelshue and Travis Huxman, in order to help safeguard that work is consistent with our legacy of excellent biological resource management and technical analysis.

Task 2. Review and Analysis of Existing Data

2.1 Kick-off Meeting. Kick-off meeting with attendance of key staff.

2.2 Literature Review. Literature review; data mining from existing reports; and written summary of relevant information for report.

2.3 Interviews with Key Stakeholders and Experts. Interview local and subject matter experts.

2.4 Project Geodatabase Creation. Creation of Project Geodatabase for relevant land use and environmental thematic layers, including, but not limited to: topography, flow accumulation, soil characteristics, and wind patterns.

2.5 Farmland Water Consumption. Collect water consumption data from BWD; update parcel level Geographic Information System (GIS) data, as necessary; calculate water consumption by parcel and, digitization of new data layers, as necessary.

2.6 Review of Historical Data. Review of historical maps, search of available historical records (e.g. herbarium records and historical accounts); georeference available historical maps and old place name references; synthesize information to describe site specific historical ecology; and include comparison of historical and current vegetation cover densities. Provide guidance on feasible restoration targets.

Task 3. Field Study

3.1 Field Observations of a Time Series of Existing Fallowed Farmland. Interviews with past and current BWD staff about experience with fallowed fields, field visits, and data collection of existing conditions.

3.2 Field Sampling of Reference Natural Habitat to Guide Farmland Restoration Potential. Use GIS layers to stratify landscape in the Valley, including the agricultural land into similar geomorphic features for sampling; sample cover data, analyze and interpret reference conditions to identify a range of reasonable habitat restoration targets for fallowed farmland.

Task 4. Brush Pile Wildlife Sand Fence Case Study

- 4.1 Identify Manipulative Sites for Sand Fences.** Working on BWD land, identify one or multiple sites, based on feasibility, for construction of Sand Fences.
- 4.2 Design and Construct Sample Sand Fences.** Working directly with crews in the field, identify the most economical method of construction, and build variations on the design, as appropriate.
- 4.3 Baseline Observations of Sand Fence Function and Wildlife Value.** Take baseline data for comparison to future datasets, and to characterize the habitat and dust control value of the Sand Fences.

Task 5. Farmland Following Rehabilitation Strategies

- 5.1 Develop Conceptual Models for Key Rehabilitation Processes.** Based on literature review, geodatabase indices and analysis, field study results, and expert interviews, develop conceptual models of key processes involved in dust, native recruitment and habitat restoration of fallowed farmland.
- 5.2 Design Rehabilitation Strategies.** Develop Rehabilitation Strategies for Fallowed Farmland based on conceptual models, the range of potential for rehabilitation based on site level measurements across the study area, and project goals.
- 5.3 Farmland Following Best Practice Recommendations.** Recommendations for Best Practice Language for Fallowing of Farmland to be incorporated into the GSP. Identify gaps in knowledge for future monitoring and study to improve best practice adaptively as land begins to be fallowed for water conservation.

Task 6. Farmland Fallowing Prioritization

- 6.1 Prioritization Model for Fallowing Farmland Ranked by Benefits of Water Conservation and Rehabilitation Potential.** Develop a model for prioritizing acquisition of farmland for fallowing based on the reduction of water consumption, and likelihood of success of the rehabilitation strategies.

Proposal Photo Credits:

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<https://www.flickr.com/photos/roebot/33368655616/in/photostream/>

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https://commons.wikimedia.org/wiki/File:Abronia_villosa-3.jpg



Project Schedule

Task	Approx. Time to Complete in Months	Anticipated End Date	Deliverables
Notice to Proceed (NTP)	---	Jan. 2, 2018	
Task 1. Project Management and QA/QC	18	June 28, 2019	Quarterly Status Updates
Task 2. Review and Analysis of Existing Data	4	May 1, 2018	Kick-Off Meeting (3-4 weeks after NTP) Existing Data Summary
Task 3. Field Study	8	Sep. 4, 2018	Summary of Data Collection and Analysis
Task 4. Brush Pile Wildlife Sand Fence Case Study	8	Sep. 4, 2018	Constructed Sample Sand Fences
Task 5. Farmland Fallowing Rehabilitation Strategies	18	June 28, 2019	Draft and Final Rehabilitation Strategies and Best Practice for Fallowing
Task 6. Farmland Fallowing Prioritization	18	June 28, 2019	Geodatabase and Maps for Prioritization of Farmland Fallowing

Project Team Organization

Travis Brooks | Project Manager

Ecological Restoration, Geospatial Analysis

University of California, Irvine



Ecology & Geosystems

Land IQ

Soil Science & Agriculture, Geospatial Analysis, Invasive Species Control, Ecological Restoration

Megan Lulow

UCI Project Manager, Experimental Design, Ecological Field Data & Analysis

Margot Griswold

Senior Ecological Restoration Oversight, Invasive Species Control

Joel Kimmelshue

Experimental Design, Ecological Field Data & Analysis

Zongwu Wang

Geospatial Analysis & Remote Sensing

Sarah Kimball

Data Manager, Experimental Design, Ecological Field Data & Analysis

Travis Huxman

Ecology & Geosystems, Science Oversight

Melissa Riedel-Lehrke

Ecological Restoration, Ecological Field Data, Invasive Species Control

UCI Technicians

Biological & Physical Sciences, Anza-Borrego Desert Research Center

Seth Mulder

Soil Science & Agriculture

Christopher Stall

Soil Science & Agriculture

FIRM INFORMATION

Land IQ is a specialized land-based (agricultural and natural systems) science and remote sensing firm that pairs scientific knowledge of agronomic, native plant and land systems management with advanced remote sensing technologies, custom modeling, and analytical methods to develop powerful and cost-effective client solutions. The Land IQ team has been operating for over 10 years and some of our firm's select certifications and achievements include:

- California Small Business Enterprise (Micro) #1748303
- Women Business Enterprise #13010130
- Sacramento Area Sustainable Business
- 2017 Professional Services Contractor of the Year – Los Angeles Department of Water and Power – Owens Lake Dust Mitigation Science & Regulatory Team

TECHNICAL EXPERTISE

Land IQ maintains a staff of soil scientists, agronomists, ecologists, and remote sensing and GIS specialists. Our staff average over 14 years professional experience and hold professional certifications including Certified Professional Soil Scientists and Agronomists, Registered Professional Soil Scientists, Biologists, Ecologists, and Certified Professionals in Erosion and Sediment Control Specialists.

The Land IQ Habitat Restoration Group offers a wide range of specialized services in natural resource planning, analysis, restoration, and management. Our achievements in revegetating and reclaiming drastically disturbed landscapes, monitoring for mitigation, and assessing and monitoring exotic species highlight our success in restoration ecology. Land IQ has assessed over 15,000 acres of land for habitat restoration potential and developed specific protocols for resource management plans.

Land IQ has existing working project relationships with a variety of technical experts and universities that may be resources for selected project efforts. We value and welcome cooperative efforts and our relationships include researchers and experts from CSUMB/NASA-Ames, Cal Poly ITRC, UC Davis, Fresno State, UC Irvine, UCLA, USC and UC Cooperative Extension.

PROJECT EXPERIENCE

- **Owens Lake Dust Mitigation Program** – Land IQ works with the Los Angeles Department of Water and Power to support the design of irrigation, grading and tillage plans, as well as the development of soil preparation and planting specifications specifically for the purpose of comprehensive dust control on the 100 square mile Owens Dry Lakebed. Land IQ specifically develops appropriate native seed mixes and manages the collection of local species to not only control dust but also enhance habitat value of the dust control areas.
- **Upper Chiquita Canyon Habitat Conservation Area Restoration & Management** - Land IQ is responsible for managing a 1,158-acre conservation easement in southern Orange County that supports important populations of California gnatcatchers and coastal cactus wrens. Land IQ staff has identified restoration opportunities on approximately 500 acres of land disturbed by historic dry-land farming and grazing, and developed efficient techniques for large-acreage restoration areas of cactus scrub, coastal sage scrub, native grassland, oak woodland habitats and rare plant species.
- **Stabilization of Exposed Salton Sea Floor** - Land IQ has consulted with the Imperial Irrigation District (IID) to identify strategies for stabilizing vast expanses of fragile, erodible exposed Sea floor by developing concepts for methods such as planting native cover, roughening surfaces to disrupt wind, or combinations of these approaches.

Center for Environmental Biology

The mission of UCI's Center for Environmental Biology (CEB) is to link academic research with ecosystem management and stewardship of natural resources, and to educate the next generation of environmental biologists and stewards. We carry out this mission by developing knowledge networks, which are opportunities for the academic community, local land managers, policy makers, and conservation organizations to share information with each other and to design research projects that provide innovative solutions to environmental problems – such community-engaged research is a hallmark of scholarship at the University of California, Irvine.

UCI-NATURE

UCI-NATURE oversees and promotes UC Irvine's reserves and field based assets to advance understanding of the natural environment and its relationship with human affairs. Staff work with University faculty and students to identify and facilitate opportunities for research, scholarship, education, and public service among these assets and the natural environments and human communities surrounding them. The Steele-Burnand Anza Borrego Desert Research Center serves as a nexus for interactions among researchers and scholars throughout the world with Anza Borrego State Park and the community of Borrego Springs.

Travis Huxman, Ph.D., Professor Ecology and Evolutionary Biology, Director, CEB

Travis is an ecologist who uses physiological and biogeochemical approaches to understand how plant species are combined in real communities in ways that lead to stability or degradation. His research addresses global change, biodiversity, species invasions, ecosystem services, restoration, and conservation. More and more Travis carries out community-engaged research, trying to advance basic understanding while also producing knowledge to improve decision-making. Travis has published over 150 peer-reviewed studies and has administered a number of research centers at the University of Arizona and University of California, Irvine over the last two decades.

Sarah Kimball, Ph.D., Project Scientist & Assistant Director, CEB

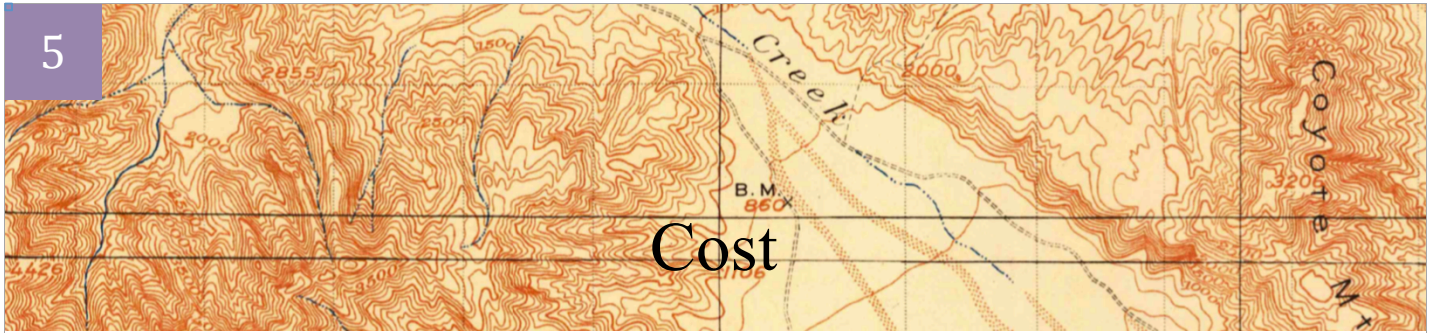
Sarah is an ecologist with broad interests, specializing in plants. She determines the research agenda for CEB, collaborating with local land managers to develop research projects that evaluate the effectiveness of conservation and restoration efforts. Sarah mentors students through the process of designing and carrying out ecological experiments. She has published over 25 studies in peer-reviewed journals, several of which focus on restoration ecology.

Megan Lulow, Ph.D., Administrative Director, UCI-NATURE

Megan works with UCI-NATURE staff and faculty, students and partners to implement the mission of UCI-NATURE. She has thirteen years of professional experience in natural lands management and has supervised several restoration projects over hundreds of acres. Throughout project planning and implementation Megan has collaborated with academics to ensure management practices are optimized for specific environments and goals. She has published several studies in peer-reviewed journals with a focus on restoration ecology.

Selected Citations

- Kimball, S., M. Lulow, Q. Sorenson, K. Balazs, Y. Fang, S. Davis, M. O'Connell, and Travis E. Huxman. 2015. Cost-effective ecological restoration. *Restoration Ecology*. 23(6):800-810.
- Adams HD, Luce CH, Breshears DD, Allen CD, Weiler M, Hale VC, Smith AMS, Huxman TE (2012) Ecohydrological consequences of drought- and infestation-triggered tree die-off: insights and hypotheses. *Ecohydrology* 5(1):145-159
- Wilson, K., M. Lulow, J. Burger, Y. Fang, C. Anderson, D. Olson, H. Possingham, M. O'Connell, and M.F. McBride. 2011. Optimal restoration: accounting for space, time, and uncertainty. *Journal of Applied Ecology*. 48(3):715-725.



Land IQ and UCI strive to provide cost-effective professional services to our clients. Based upon the agreed upon Scope of Work, we will make efficient use of staff to carry out tasks under the contract.

The total price for Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated Agricultural Land in the Borrego Valley Groundwater Basin Project is a not-to-exceed price of \$374,450. Cost by Task is provided in the following table.

Task	Cost by Task
Task 1. Project Management and QA/QC	\$67,500
Task 2. Review and Analysis of Existing Data	\$89,000
Task 3. Field Study	\$84,450
Task 4. Brush Pile Wildlife Sand Fence Case Study	\$31,000
Task 5. Farmland Fallowing Rehabilitation Strategies	\$75,500
Task 6. Farmland Fallowing Prioritization	\$27,000
TOTAL	\$374,450

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – JANUARY 16, 2018

AGENDA BILL 2.C

January 9, 2018

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Create Budget Line Item: Le Sar & Dr. Jones Socioeconomic Evaluation and Modeling Proposals

RECOMMENDED ACTION:

Discuss options and direct staff as deemed appropriate

ITEM EXPLANATION:

Recent delays were announced in the funding schedule for the upcoming GSP Proposition One and spring is the new estimated date. This change has created a situation where it may be necessary for BWD to start the work now to ensure the information can be completed in time to be of use in the current GSP development process. If the Prop One Grant is approved for BWD, the regulations allow for reimbursement of this cost. Staff would like to discuss the concept of adding a Budget line item to support the efforts. Staff would like to discuss the options with the Board at the meeting.

FISCAL IMPACT

This item is currently not specifically included in the BWD Budget. At this time, the planned funding source is a Prop One GSP Implementation Grant and the latest estimated funding date from DWR is February. In the event the funding date slips further staff would like to consider adding a line item to the BWD Budget for this expenditure.

ATTACHMENTS

1. Le Sar and Jones Proposal

PROJECT 1 TITLE: Borrego Valley SDAC Project

PROJECT SUMMARY:

The County of San Diego (County) and Borrego Water District (BWD) comprise the Borrego Valley Groundwater Sustainability Agency (GSA) for the Borrego Valley Groundwater Basin (BVGB). The County is the land use agency while BWD provides municipal water services to the community of Borrego Springs, which includes the Severely Disadvantaged Community (SDAC) located within the critically-overdrafted Borrego Springs Subbasin of the BVGB. To ensure cohesion and successful implementation of the Sustainable Groundwater Management Act (SGMA), the County and BWD have been working closely to engage stakeholders and collaboratively develop the Groundwater Sustainability Plan (GSP) for the BVGB. To aid in this effort, the GSA sought input from stakeholders to determine the best way to consider the interests of all beneficial uses and users of groundwater and subsequently established an advisory committee (AC) representing a broad and diverse range of groundwater users and stakeholders in the valley. The County and BWD will continue to work in concert to conduct the Borrego SDAC Project and involve the AC, as appropriate. The County will be the Project Sponsor for the Borrego SDAC Project while specific tasks, as indicated, will be the responsibility of BWD to contract for and implement.

The tasks proposed in this project support GSP planning and projects in the BVGB by identifying vulnerabilities and potential impacts from the GSP process on water supply, accessibility, and usage, as well as assessing environmental, economic, cost, governance, and infrastructure concerns. The work proposed in this project will provide support for the GSA effort specific to the SDAC and allow the GSA time to develop management strategies in the GSP to minimize impacts to the SDAC. Specifically, the deliverables produced through this project support the GSA's work by providing reference materials that will aid GSP planning and implementation outreach and decision-making efforts as well as ensure environmental compliance and the timely implementation of the GSP.

OVERALL IMPACT ON SDAC:

BWD serves nearly 2,200 customers, including residential customers as well as commercial, agricultural, golf course, and State Park customers that employ residents of the community. The community that BWD serves is considered a SDAC¹, as well as an Economically Distressed Area (EDA)², per the California Proposition 1 and State Water Code definitions. At the Census Tract level, the area's median household income (MHI) is only 59% of the state MHI (60% MHI or below is considered an SDAC). This, in combination with the density of Borrego Springs at 79.6 persons per square mile (20.4 less than the 100 persons per square mile low-density threshold), also makes Borrego an EDA.

The Borrego Springs community is entirely reliant on the groundwater obtained from the alluvial basin that is in a condition of critical overdraft and continues to be dewatered. A projected 70% reduction in groundwater usage within 20 years will be required to reach sustainability. Groundwater quality is deteriorating as groundwater levels drop and it is becoming more likely that water treatment will be necessary to provide potable water in some areas. Fallowing of agricultural operations may also create a significant financial burden upon the BWD if costs are incurred to transfer water and water rights from agricultural to municipal uses. The severe reductions in water production will dramatically affect local agriculture and other water-dependent commercial activities that provide local employment and support the tax base for the local government. The resultant combination of water rate increases, potential loss of employment, and structural changes to the community will strongly affect the SDAC community within Borrego Valley.

The SDAC will directly benefit from this project through the following:

- Outreach and GSP education activities targeting disadvantaged communities within the SDAC;

¹ http://www.water.ca.gov/irwm/grants/resources_dac.cfm

² http://www.water.ca.gov/irwm/grants/resources_eda.cfm

- Impact and decision management analyses modeling the complex interrelations among economic, environmental, governance, and infrastructure concerns that affect all members of the SDAC;
- Water meter installations and well location vulnerability assessments that will ensure availability in the SDAC of safe, clean water; and
- Environmental planning to ensure SGMA implementation in a timely manner to minimize impacts from a degraded water supply.

In addition to ensuring the successful implementation of SGMA, the Borrego Valley SDAC Project will provide BWD with the tools and decision-making information it needs to implement effective water use reduction strategies that maximize availability of potable drinking water for Borrego’s nearly 2,200 rate payers.

PUBLIC COMMUNICATION PLAN:

The GSA will inform groundwater users, stakeholders, the general public, and other interested parties about project progress and availability of relevant reports and data through:

1. BWD’s website, www.borregowd.org and the County’s SGMA website, www.sandiegocounty.gov/pds/SGMA.html
2. A continuously updated email list of interested parties, including those already identified in earlier Borrego Valley GSP-related outreach and those to be identified through the outreach process outlined in this scope of work.
3. Oral and written presentations to, or information workshops with, organizations and community groups as requested (e.g., the SGMA AC, the local planning group [Borrego Springs Community Sponsor Group] as well as business groups, educators, neighborhood councils, etc.).
4. Noticing activities, when applicable, posted in the biweekly Borrego Sun and the daily San Diego Union-Tribune newspapers, posted to BWD and County of San Diego PDS websites, and distributed via mail and to email lists.
5. Noticing activities will include a project overview statement that describes project activities and outlines how interested parties may participate in the outreach process or provide feedback related to other aspects of the project.

Project progress updates will be provided to the California Department of Water Resources (DWR) on a quarterly basis.

The Borrego SDAC Project will be run by BWD with contractors LeSar Development Consultants (LDC) and Environmental Services Navigation, Inc. (ENS) leading on tasks as specified below. The project will include the following tasks:

TASK 1 SDAC ENGAGEMENT (*Percent Complete 0%*) **[LDC Responsibility]**

SDAC Engagement will include establishing baseline data on SDAC rate payers and the economic structure of Borrego Valley. This is aimed at providing technical assistance to the SDAC community of Borrego Springs and encouraging participation in groundwater sustainability planning activities. Although SDAC Engagement for this project will build on outreach activities conducted as part of the Proposition 1 *Counties with Stressed Basins* funding from DWR, the following tasks are not duplicative and are scheduled to begin after prior DWR funding has been exhausted.

TASK 1.1 COMMUNITY CHARACTERISTICS BASELINE DATA GATHERING

This task involves the preparation of a comprehensive demographic report and an economic overview of the GSA management area that will integrate with information from ongoing GSP planning efforts and include the following research:

- a. Identify population and household information, including:
 - Median household income distribution
 - Retired versus working population; employment and employment types; immigration status

- Other SDAC indicators, e.g., distribution of low-income households and within sub-populations, high unemployment, low levels of homeownership, high rent burdens, public health issues, low educational attainment levels, literacy/linguistic barriers, and digital isolation
- b. Explore local and regional economic landscapes, including:
 - Industries, e.g., agriculture, recreation, education, small businesses
 - Workforce composition, i.e., full-time, part-time, and seasonal
 - Wage composition
 - Housing affordability, both homeownership and rental
 - Present land uses (e.g., county zoning, development permits)
- c. Drinking water assessment – public and private
 - Public – BWD municipal data, including household water consumption records
 - Private
 - Estimated number of private wells and their pumping records and water quality data, as available
 - Number of public wells (present and future), including well locations and configurations, water quality, and pumping records. Much of the well data will be obtained from ongoing work being done by the GSA to prepare the GSP.

The research will utilize census demographic and employment data; County demographic, industry, and employment data; U.S. Geological Survey data and report; current GSP data-gathering efforts (County, Dudek); DWR; GIS mapping, CalEnviroscreen; additional outreach within local economy to obtain needed data (e.g., wage and workforce structures) as needed.

Deliverable:

Summary Report: Community Characteristics

TASK 1.2 SDAC ENGAGEMENT FOR GSP PLANNING AND IMPLEMENTATION ACTIVITIES

This task will provide an overview of GSP planning activities to date and an educational module on groundwater sustainability management in accessible workshops and informal settings (e.g., door-to-door engagement). Engagement efforts will also provide updates and solicit feedback about GSP implementation and associated adaptive management strategies.

- As part of the SDAC outreach process, a consultant will engage members of the SDAC to assist with developing culturally appropriate engagement tools and effective strategies for information dissemination, education, needs assessment, and ongoing feedback.
- The consultant will solicit feedback from attendees through discussion and breakout groups to identify knowledge gaps, concerns related to GSP implementation, feedback on overall management efforts, assessment of needs, and what they would like to see in their community following implementation of the GSP.
- An additional online community feedback component in both English and Spanish may be employed to maximize the ability of diverse stakeholders to participate in the SDAC outreach process.

The GSA and consultant will utilize the Groundwater Sustainability Plan Stakeholder Communication and Guidance Document³, the Borrego Valley Groundwater Basin Stakeholder Engagement Plan⁴, SDAC impact/vulnerability analysis reference materials to complete this task.

Deliverables:

Summary Report: SDAC Engagement (includes identified needs and concerns)

³ http://www.water.ca.gov/groundwater/sgm/pdfs/GD_C&E_Final_2017-06-29.pdf

⁴ <http://www.sandiegocounty.gov/content/dam/sdc/pds/SGMA/StakeholderEngagement.pdf>

TASK 2 SDAC IMPACT/VULNERABILITY ANALYSIS (*Percent Complete 0%*) **[ENS Responsibility]**

The SDAC Impact/Vulnerability Analysis task is necessary to understand implications that the implementation of SGMA will have on the SDAC including impacts based on potential water reduction scenarios.

Task 2.1 Baseline Data Compilation on Water Use

This phase of work will draw from the information obtained in Task 1 and will be used to develop SDAC-specific metrics for subareas of the Borrego Valley. Costs for the BWD to supply subareas will be developed based on consultation with BWD specific to their overall water supply, water treatment, and distribution system. Areas outside of the BWD service area will also be evaluated. Limited field checks will be performed, as warranted.

- Drinking water (groundwater is the sole source of water)
 - Pumping records from all wells and records of water storage and demand (primarily information already being obtained for the GSP)
 - Water quality analyses and data – as related to drinking water standards
 - Water storage and infrastructure (reservoirs, tanks)
 - Water supply treatment (present and future)
 - SDAC accessibility
 - SDAC affordability and cost thresholds
 - Drinking water system issues, particularly related to projected declines in water quality related to the critical over-draft of the Borrego Basin
 - Assessment of potential need for intra-basin transfer of groundwater to meet municipal demands and related water transfer timing and costs
- Wastewater treatment
 - Type of systems in use
 - Insufficient wastewater system issues
 - Opportunities for wastewater reuse (gray water, local sewage treatment with reclamation, etc.)
- Storm water
 - Issues related to storm water, urban water runoff, flood management
 - Opportunities for storm water catchment (cistern to large-scale) and treatment or enhanced groundwater recharge
 - Community impacts related to enhanced storm water recharge for groundwater sustainability
- Other issues
 - Regulatory and compliance
 - Climate (climate change, drought, El Nino/La Nina cycle, etc.)
 - SDAC pollution burden – fugitive and potentially toxic airborne particulates associated with fallowed agricultural land. Analysis will include assessment of baseline air quality conditions resulting from agriculture, including pesticides, herbicides, nitrates and other chemicals.

This task will utilize BWD operational data and available reports, BWD cost projections for GSP implementation, ongoing GSP analyses specific to well locations, well use, water level and water quality projections. Local climate data models from Scripps Institute (La Jolla), as well as NOAA and NASA (and other satellite data). County of Diego Air Pollution Control District (APCD), County of San Diego GIS (SanGIS) database, San Diego Association of Governments (SANDAG), US Geological Survey water well records, and California SWRCB Well Completion Reports.

Deliverable:

Summary Report and Data: Baseline Water Use

TASK 2.2 WATER SUPPLY IMPACT/SDAC VULNERABILITY ANALYSIS/GSP IMPACTS ANALYSIS

This task will involve analyzing data obtained in Task 2.1 and identifying the primary vulnerabilities of the severely disadvantaged within each subarea. This task will also quantify the uncertainties associated with the BWD's water supply and related impacts. Excel spreadsheets will be utilized for tabulating and calculating metrics and statistics. Additional open source tools will be identified for data assessment.

Deliverable:

Summary Report: Water Supply Impact/SDAC Vulnerability Analysis/GSP Impacts Analysis.

TASK 3 DECISION MANAGEMENT ANALYSIS (Percent Complete 0%)

[ENS Responsibility]

This Decision Management Analysis task will allow the BWD to look at potential water supply situations that may directly impact groundwater users in Borrego Springs, assess the odds that the problems may occur, and make decisions accordingly.

TASK 3.1 WATER SUPPLY UNCERTAINTIES

The GSP will restrict groundwater extractions to ensure sustainability in the basin and include a hydrogeologic conceptual model to provide the context to develop a water budget and monitoring network in addition to providing a general understanding of the geology and hydrogeology of the basin. This task will include an assessment of the potential range of outcomes of the groundwater extraction restrictions using Monte Carlo simulation methods and alike. The analysis will allow the BWD to look at water supply situations, such as the potential need for water treatment, or loss of individual supply wells due to ongoing groundwater overdraft, and be able to assess its probability of occurring. These problems, in turn, are of direct consequence to the highly vulnerable SDAC since the problems can directly affect their livelihood or create untenable costs for water. Only by planning ahead and understanding uncertainties can the BWD and GSA manage and plan for disruptive impacts to the vulnerable SDAC, in particular.

Deliverables:

Summary Report: Water Supply Uncertainties

Monte Carlo simulation model. This can be run to assess various water supply and infrastructure scenarios including additional water treatment plants; water reuse; rainfall and runoff catchment and reuse. Each scenario would be associated with costs and benefits.

TASK 3.2 BWD COST AND RATE STRUCTURE UNCERTAINTY AND IMPACT ANALYSIS

The aforementioned water supply uncertainty task effectively tracks all of the water in the water supply system and is physically based on the infrastructure used to extract, treat, and deliver water to all of BWD's customers. Analyses will be performed of the potential impacts of various water reduction scenarios on the SDAC, rate payers, and BWD infrastructure. This work will also examine water system financing models, which will:

- Identify rate structure scenarios (i.e., block, tiered) and constraints (e.g., Prop 218)
- Describe system financing needs (i.e., operation and maintenance costs, both present and potential future)
- Describe SDAC-related constraints to BWD rates and financing
- Describe potential future cost impacts related to groundwater extraction, treatment, and distribution, as well as extended groundwater explorations, monitoring, and chemical (water quality) analyses
- Describe potential future BWD costs for obtaining water and/or water rights for areas (e.g., need to purchase fallowed agricultural land)

This task will utilize GoldSim model (or equivalent) that will simulate the complex system, enable many "what-if" scenarios, and include Monte Carlo simulations developed in the first phase of Task 3; and potentially, additional open source tools (to be identified)

Deliverable:

Summary Report: Cost and Rate Structure Uncertainty and Impact Analysis

TASK 3.3 SDAC-SPECIFIC IMPACT ANALYSIS

An initial analysis of SDAC impacts will be conducted using the criteria and metrics along with the model (and uncertainty analysis) developed in previous tasks. The GSA (BWD and the County) will work with the consultant to identify management options and solutions in light of the SDAC impact criteria determined throughout the SDAC engagement task. This task will utilize Modflow groundwater model (as used for the GSP), SDAC water system assessments done for Task 2, Excel summary spreadsheets, GoldSim Modeling Software, to simulate the complex water resources and supply system, including Monte Carlo Simulations; GoldSim model (or equivalent) that will simulate the complex system, and potentially, additional open source tools (to be identified); additional open source tools may be used as well (tools to be identified).

Deliverable:

Summary Report: SDAC-Specific Impact Analysis

TASK 3.4 SGMA/ENVIRONMENTAL/SOCIETAL/GOVERNMENT IMPACTS

A larger scale impact assessment will be developed that examines community-wide socioeconomic impacts and changes that will result from the GSP. The full scope of the assessment and determination of the metrics to be used (e.g. changes in MHI, employment opportunities per business sector, changes in property tax revenues) will be determined in collaboration with the GSA (BWD and the County) and local business and government representatives. This task may be used as a reference document for future County community plan updates. This task will utilize the Modflow groundwater model (as used for the GSP), SDAC water system assessments completed for Task 2, Excel summary spreadsheets, GoldSim Modeling Software (or equivalent) that will include Monte Carlo simulations; and potentially, additional open source tools (to be identified).

Deliverable:

Summary Report: SGMA/Environmental/Societal/Government Impacts

TASK 4 WELL METERING (Percent Complete 0%)

[BWD Responsibility]

The Well Metering task is aimed at refining groundwater usage amounts, particularly agricultural, that is being pumped within the BVGB.

TASK 4.1 WELL METERING

Well meters will be installed on non-de minimis production wells within the Borrego Springs Subbasin of the BVGB. The GSA intends to implement a voluntary well monitoring program to monitor groundwater usage and ensure compliance during GSP implementation. Participation in the voluntary program is anticipated to include 17 wells. Wireless remote well metering may be used as appropriate. Activities to achieve this will include:

- Well and well pipe assessment, photos, and GPS location mapping
- Written installation equipment such as connections, pipe size needed, power available
- Wireless remote meters, cloud transmitters with environmental enclosures for appropriate well site electrical source
- Site installation of water meter and electrical connection
- Setup BWD computer with software to receive meter signals and CAD map location of each meter
- Begin monitoring well pump times, days, length of service, and export water quantity reports using data

Deliverable:

Meter Installation and Calibration Report

TASK 5 WATER VULNERABILITY/NEW WELL SITE FEASIBILITY STUDY (Percent Complete 0%) [BWD Responsibility]

The Water Vulnerability/New Well Site Feasibility Study will include an assessment of water supply vulnerability and determination of a new well site to provide potable water to the SDAC in Borrego Springs via the BWD.

TASK 5.1 WELL RANKING SYSTEM

To provide a reliable and cost-effective water resource supply to customers, the BWD must evaluate locating replacement groundwater extraction wells. A consultant will be tasked with developing a well site ranking system in order to assist in decision making as it pertains to the addition of groundwater extraction wells.

The well site ranking system will consider but not be limited to the following criteria: aquifer properties, well interference, groundwater quality, existing BWD water supply infrastructure (pressure zones, wellhead distribution system pressures), longevity of existing wells (age and declining groundwater levels), district owned property, property acquisition and easement acquisition, other environmental constraints (flood zones, biological resources, etc.). The consultant will apply the ranking system to prioritize well locations for BWD. Each category will be assigned a ranking that ranges from 1 (“least favorable”) to 4 (“most favorable”). The ranking for each category will be totaled for each perspective well location, and the highest total represented by the most favorable locations will be recommended for consideration of installing test or production wells.

Deliverable:

Summary Report: Well Ranking System

TASK 5.2 WATER MODEL UPDATE AND CALIBRATION

To better assess the feasibility of additional groundwater extraction wells, it is necessary to identify system supply and demands by improvement zones. The consultant will use the existing WaterCAD Model to estimate average and maximum day demand for each improvement or major pressure zone and aid in the development of the alternatives.

There are currently two existing WaterCAD models for the District. One model covers Improvement Districts (IDs) 1 and 3 and another covers IDs 4 and 5. These two models will be combined into one, functional model. Once combined, the consultant will update the demands, well flow rates, controls and any improvements made to the distribution system infrastructure. Once updated, the model will be calibrated with SCADA and fire hydrant pressure data, resulting in a hydraulic model that accurately represents field conditions. This task will utilize WaterCAD, County of San Diego GIS (SanGis) database, and SCADA.

Deliverable:

Updated WaterCAD hydraulic modeling files

TASK 5.3 WELL TEST DRILLING

Once alternative well locations are identified and prioritized, a test well will be drilled to identify geologic and hydrogeologic conditions of the selected location including lithology and borehole geophysics. The test well will be drilled to the depth of optimal supply quantity expected (possibly up to 1,000 feet) and evaluated for production capacity, aquifer properties, and water quality parameters.

Deliverable:

Well Completion Report with hydrogeologic/geologic/geophysical/water quality data.

TASK 6 ENVIRONMENTAL PLANNING (*Percent Complete 0%*)

[County Responsibility]

The County of San Diego (County), as the land use agency with jurisdiction in Borrego Valley and as a member of the multi-agency GSA, will prepare the appropriate CEQA analysis and documentation, anticipated to be an EIR, for the projects identified in the GSP.

CEQA is not applicable to the preparation and adoption of a Groundwater Sustainability Plan (GSP) (Water Code Section 10728.6); however, the subsequent implementation of actions identified in an adopted GSP would be subject to CEQA review. Projects identified in the GSP and analyzed in the EIR will be able to rely on and tier from that analysis consistent with applicable CEQA guidelines. The County is a member of the multi-agency GSA for the basin and all activities associated with this project will be coordinated with both agencies that make up the Borrego Valley GSA – the County and Borrego Water District.

TASK 6.1 PROJECT DESCRIPTION, INITIAL STUDY, NOTICE OF PREPARATION, AND SCOPING

Utilizing preliminary measures identified in the Borrego Valley GSP, the County will prepare a project description, which forms the basis of analysis of potential impacts in the EIR. The NOP will be prepared consistent with the requirements of Section 15082 of the State CEQA Guidelines. The NOP will include a summary of the project description and identification of probable environmental effects. The identification of environmental effects will consist of a completed Initial Study checklist attached to the NOP to identify topics that may be scoped out of the EIR. The Initial Study will consist of the Environmental Checklist and explanations of the checklist answers. Where the potential for a significant effect is identified, the Initial Study will refer to more detailed analysis to be included in the EIR. The final Initial Study and NOP will be distributed to responsible agencies, the State Clearinghouse, and persons who have expressed interest in the project. The County will utilize the interested persons list developed during GSP preparation as the basins for stakeholder outreach.

County staff will review and summarize NOP comment letters received during the 30-day scoping period for presentation in the Draft EIR. Comment letters will be provided in an appendix to the EIR.

Deliverables:

EIR Project Description

Initial Study and NOP

TASK 6.2 DRAFT EIR, NOTICE OF AVAILABILITY, AND NOTICE OF COMPLETION

This task includes the preparation of a Draft EIR, Notice of Availability, and Notice of Completion. The EIR will focus on the issues that are identified to have potentially significant impacts in the Initial Study. The EIR will include all contents required by County requirements, the CEQA statute, and State CEQA Guidelines.

An environmental impact issue expected to be evaluated in the EIR consists of the physical environment effects of GSP implementation measures that may involve land use changes such as farmland fallowing. Additionally, CEQA provides specific requirements for the contents of an EIR. Other sections required by CEQA, include the following:

- Alternatives. The alternatives will be analyzed at a level of detail less than that of the proposed project and will include sufficient detail to allow a comparison of the impacts, consistent with CEQA requirements.
- Significant Environmental Effects Which Cannot Be Avoided. This section will summarize significant and unavoidable environmental effects of the proposed project and alternatives as evaluated in the EIR.
- Significant Irreversible Environmental Changes. This section will summarize significant irreversible environmental changes that would be involved in the proposed project should it be implemented, consistent with CEQA Guidelines Section 15126.2(c).
- Growth-Inducing Impacts of the Proposed Project. This section will qualitatively evaluate the project's potential to induce growth and any subsequent environmental impacts that would occur (pursuant to CEQA Guidelines Section 15126.2[d]).
- Cumulative Impacts. This section will evaluate the impacts of cumulative development on all of the resource issues evaluated in the EIR.
- Sections required by CEQA not mentioned above include table of contents, an introduction, an executive summary, and a list of individuals and agencies consulted. The EIR will include maps and other graphics to clearly present the environmental analysis to the decision makers, responsible agencies, and the public.

Deliverables:

Draft EIR

Notice of Availability

Notice of Completion

TASK 6.3 FINAL EIR

The level of effort required to prepare a Final EIR is directly related to the number and complexity of agency and public comments received on the Draft EIR. This task will include reviewing and responding to comments received on the Draft EIR. This task will also include preparation of CEQA Findings of Fact (Finding), Mitigation Monitoring and Reporting Program (MMRP), Notice of Determination (NOD) and, if necessary, a Statement of Overriding Considerations (SOC). The Findings will specify which mitigation measures have been incorporated into the project and those measures that have not, and will explain why certain measures have been found to be infeasible. If applicable, the Findings will also identify feasible project alternatives that could reduce adverse environmental effects but are not being implemented, with an explanation as to why they are considered to be infeasible. The MMRP will describe the implementation and monitoring approach for mitigation measures included in the EIR to address significant impacts. The SOC will describe any unavoidable environmental effects and the considerations that warrant approval of the GSP, despite the unavoidable impacts.

Deliverables:

Final EIR

CEQA Findings

Mitigation Monitoring and Reporting Program

Notice of Determination

Statement of Overriding Considerations (if necessary)

**San Diego County GSP Development
Project Schedule**

	FY17/18				FY18/19				FY19/20				FY20/21				FY21/22																																										
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q																																							
	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18	Apr-18	May-18	Jun-18	Jul-18	Aug-18	Sep-18	Oct-18	Nov-18	Dec-18	Jan-19	Feb-19	Mar-19	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20	Feb-20	Mar-20	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22
	GSP Deadline for Borrego basin												GSP Deadline for San Luis Rey basin																																														
	Proposal Schedule Dates (January 1, 2018 - June 30, 2021)																																																										
	Project Schedule Dates (January 1, 2018 - June 30, 2021)																																																										
PROJECT 1																																																											
Borrego Valley SDAC Project																																																											
1 - SDAC Engagement																																																											
2 - SDAC Impact/Vulnerability Analysis																																																											
3 - Decision Management Analysis																																																											
4 - Well Metering																																																											
5 - Water Vulnerability/New Well Site Feasibility Study																																																											
6 - Environmental Planning																																																											

Task			Short Description	Consultant Costs Lump Sum	Responsible Party*
1			SDAC ENGAGEMENT		
	1.1		Community Characteristics Baseline Data Gathering		
		i	Community Characteristics Baseline Data Gathering	\$25,000	LDC
	1.2		SDAC Engagement for GSP Planning and Implementation Activities		
		i	SDAC Engagement for GSP Planning Activities	\$100,000	LDC
			Task Subtotal Cost	\$125,000	
2			SDAC IMPACT/VULNERABILITY ANALYSIS		
	2.1		Baseline Data Compilation on Water Use		
		i	Baseline Data Compilation on Water Use	\$15,000	ENS
	2.2		Preliminary Water Supply Impact/SDAC Vulnerability Analysis/GSP Impact Analysis		
		i	Preliminary Water Supply Impact/SDAC Vulnerability Analysis/GSP Impact Analysis	\$45,000	ENS
			Task Subtotal Cost	\$60,000	
3			DECISION MANAGEMENT ANALYSIS		
	3.1		Water Supply Uncertainties		
		i	Water Supply Uncertainties	\$15,000	ENS
	3.2		BWD Cost and Rate Structure Uncertainty and Impact Analysis		
		i	BWD Cost and Rate Structure Uncertainty and Impact Analysis	\$25,000	ENS
	3.3		SDAC-Specific Impact Analysis		
		i	SDAC-Specific Impact Analysis	\$25,000	ENS
	3.4		SGMA/Environmental/Societal/Government Impacts		
		i	SGMA/Environmental/Societal/Government Impacts	\$10,000	ENS
			Task Subtotal Cost	\$75,000	
			TOTAL COST	\$260,000	

Overall SDAC Project Budget

Proposal Title: San Diego County GSP Development

Project Title: Borrego Valley SDAC Project

Project Services a need of a DAC?: YES

Cost Share Waiver request?: YES

Tasks ¹		(a)	(b)	(c)	(d)	(e)
		Requested Grant Amount	Cost Share: Non-State Fund Source	Other Cost Share	Total Cost	Responsible Party*
(a)	Task 1 – SDAC Engagement	\$ 125,000.00			\$ 125,000.00	LDC
(b)	Task 2 – SDAC Impact/Vulnerability Analysis	\$ 60,000.00			\$ 60,000.00	ENS
(c)	Task 3 – Decision Management Analysis	\$ 75,000.00			\$ 75,000.00	ENS
(d)	Task 4 - Well Metering	\$ 98,400.00			\$ 98,400.00	BWD
(e)	Task 5 - Water Vulnerability/New Well Site Feasibility Study	\$ 141,600.00	\$ 118,800.00		\$ 260,400.00	BWD
(f)	Task 6 - Environmental Planning	\$ 500,000.00	\$ 159,268.00		\$ 659,268.00	County
(g)	Grand Total (Sum rows (a) through (f) for each column)	\$ 1,000,000.00	\$ 278,068.00	\$ -	\$ 1,278,068.00	

¹ Refer to Scope of Work for description of tasks.

*County = County of San Diego (GSA Co-lead)

BWD = Borrego Water District (GSA Co-lead)

LDC = LeSar Development Consultants (Contractor)

ENS = Environmental Navigation Services, Inc. (Contractor)

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – JANUARY 16, 2018

AGENDA BILL 2.D

January 9, 2018

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT Economic Value and Potential of Outdoor Recreation and Sustainable Tourism as a component of GSP implementation

RECOMMENDED ACTION:

Discuss and direct staff as deemed appropriate

ITEM EXPLANATION:

BWD staff and Directors Brecht and Ehrlich have been participating in various events recently on the topic of the Sustainable Tourism. It is possible that Sustainable Tourism is part of what could be called a new economy for Borrego that is synergistic with the Groundwater Sustainability Plan (low to no water use).

Jim Dion, Vice President, Solimar International. Solimar has worked in over 40 countries around the world identifying tourism's promise to improve livelihoods, conserve biodiversity, and preserve cultural heritage. Jim has provided BWD with a proposal on issues that should be addressed in Borrego and although the project is currently unfunded, the issues included in the Proposal are worth sharing. The potential 2018 state wide water bond and future GSA fees are possible funding sources to consider in the future.

FISCAL IMPACT

This item is currently not included in the BWD Budget. Staff is not recommending funding of these Proposals at this time. This is an introduction into the topic and need for the work to be done in the future.

ATTACHMENTS

1. Jim Dion Proposal

INSIDE ANZA-BORREGO

Sustainable Destination Management Plan

PROPOSAL TO ASSESS THE ECONOMIC VALUE & POTENTIAL OF OUTDOOR RECREATION & SUSTAINABLE TOURISM



Submitted to:

Suzanne Lawrence
Borrego Valley Stewardship Council
suzanne@suzannelawrence.net

Submitted by:

Jim Dion, Vice President
Solimar International
j.dion@solimarininternational.com
202-518-6192





September 7th, 2017

Attn: Suzanne Lawrence
Borrego Valley Stewardship Council

Inside Anza-Borrego

Subject: Borrego Springs and Anza-Borrego Desert State Park Tourism Impact Study

Dear Suzanne Lawrence,

Solimar International, Inc., an experienced sustainable tourism consultant hereby presents our proposal to offer our services for the to assess the economic value & potential of outdoor recreation & sustainable tourism for Inside Anza Borrego. Inside Anza-Borrego is a coupling of Anza Borrego Desert State Park (ABDSP) and the town of Borrego Springs which is located wholly within the Park.

We hope our proposal sufficiently demonstrates that together we have the expertise required to assess the economic value and potential of recreation and sustainable tourism for Inside Anza-Borrego. This proposal presents evidence of the technical capabilities gained from the performance of similar work we have already done. Solimar has over ten years of experience providing strategy, development, marketing, and management services for the tourism industry.

Solimar's work in over 40 countries includes a rich blend of rural, niche, and developed destinations— each with careful attention for tourism's promise to improve livelihoods, conserve biodiversity, and preserve cultural heritage. Our approach understands that tourism is a diverse and complex industry with a variety of interlinking stakeholders, we will employ a collaborative approach that engages the public and private sector and encourages their participation and commitment to achieve a shared vision for the destination.

We appreciate your consideration of our proposal.

Sincerely,

Jim Dion, Vice President
Solimar International
j.dion@solimarinternational.com

3400 11th Street NW
Suite 200
Washington, DC 20010
T 202.518.6192
F 202.518.6194
solimarinternational.com

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Our Understanding

Inside Anza-Borrego: Program Purpose

Founded in 1932, the Anza-Borrego Desert State Park (ABDSP) has served as San Diego's playground for decades. With nearly one thousand acres of wilderness and elevations that range from sea level to over 6,000 feet, ABDSP is a globally recognized "biological hotspot" that occupies over one quarter of the County of San Diego. In 1984, ABDSP became certified as part of UNESCO's World Heritage Man and Biosphere (MAB) Program. In 2012, to complement ABDSP's legacy and commitment to science and exploration, the University of California invested over \$4M to establish a learning laboratory at the iconic, mid-century Desert Club, inviting researchers and scientists from around the world to come to ABDSP to study everything from paleontology to evolutionary biology to climate change.

The town of Borrego Springs, located directly in the heart of the magnificent Anza-Borrego Desert State Park, has rich historical ties to the founders and champions of San Diego. Local pioneers such as James Copley, Alfonse Burnand, Robert DiGorgio, and George (Bud) Kurtz dreamed of positioning Borrego Springs as San Diego's chic desert get away for sun and fun. In the 1950's it became a favorite hideaway for Hollywood stars who wanted to escape and relax, including Marilyn Monroe, Bing Crosby, Leo Carrillo, Burgess Meredith, Gale Gordan (Borrego's Honorary Mayor for many years), Will Rogers, John Wayne, James Arness, and Frank Morgan (the Wizard from the "Wizard of Oz").

Together, the Anza-Borrego Desert State Park and the town of Borrego Springs serve as a regional economic engine for world-class tourism that is only beginning to realize its potential as a world-class tourism destination. With over 500,000 visitors per year, generating more than \$40 million in annual revenue and providing over 650 full-time jobs, the present value of this gem in San Diego's backyard is estimated to be over \$1 billion. With an average per person expenditure of \$83.77, the economic potential of this world-class destination has yet to be realized.

This proposal is the first step to bridge the historic divide between ABDSP and the town of Borrego Springs that dates back to the 1950's vision of the Borrego Valley founders, who saw the Valley as a "donut hole" in the middle of the Park, ripe for developing a San Diego County version of Palm Springs. At the core of that vision was a water-intensive economy dependent on agriculture, real estate development, speculation, and land sales. The recent recognition that Borrego's water supply is limited and diminishing, and the requirements of the 2014 Sustainable Groundwater Management Act, make the 1950's vision of water-intensive development no longer feasible. The proposal outlined below represents the culmination of a four-year-long community visioning process needed to shift the focus for economic development in the Borrego Valley from water intensive land development and cultivation toward carefully crafted tourism promotion and sustainable destination management.

Our Understanding

Key goals of tourism for Inside Anza-Borrego include the following:

- Sensitizing the community to ABDSP goals and creating an advocate for park concerns
- Sensitizing ABDSP staff to community efforts to provide services for park visitors
- Providing for a more seamless and enhanced park visitor experience
- Attracting a younger and more diverse profile of visitors to the park
- Promoting Inside Anza-Borrego as an international destination
- Establishing an online presence to communicate with national and international tourism markets
- Improving overall communications and relations between the community and the park
- Building on the park's reputation as an international center for science and education
- Cultivating key regional supporters for marketing, planning and sustainability initiatives
- Increasing revenues to ABDSP and the community of Borrego Springs

The creation of the Borrego Valley Stewardship Council (BVSC) and the adoption of a Governing Charter based on National Geographic's principles for sustainable destination management were spurred by the recognition of water constraints in the Borrego Valley. The urgency of the issue is underscored by the fact that the only source of water for the Borrego Valley is a critically over drafted aquifer. The State of California has designated both the town and the Park to be at risk due to years of over drafting the aquifer to accommodate water-intensive agriculture and recreation. Hence, there is a growing desire to wean away from these water intensive activities by embracing the ABDSP as a world-class wilderness & discovery destination and the town of Borrego Springs as the "hospitality hub" located directly in "The Heart of the Park."

The proposal outlined in the following pages is the result of four years of work by the Borrego Valley's Stewardship Council to facilitate a community-wide dialogue to define how best to develop a "Heart of the Park" campaign, recognizing tourism as the primary source of future economic growth for the Valley.

The proposal is called "**Inside Anza-Borrego**" and aligns with Governor Brown's statewide Parks Forward! initiative, which envisions a reinvigoration of the California park experience through a new model calling for collaborative park management and broad engagement of citizens, partners, businesses, and communities. Parks Forward! envisions an interconnected network of California parks, cultural sites, and open spaces protecting the state's iconic landscapes, diverse natural resources, and rich cultural heritage, accessible to all Californians, and welcoming visitors from throughout the world. Ultimately, Parks Forward! places more of the responsibility for sustaining California's State Parks at the local level by encouraging autonomy in innovation and conscious connections with business, industry, not for profit organizations, and the public.

The **Inside Anza-Borrego** initiative positions the community and the Park in mutually beneficial ways that will enhance the visitor experience, increase revenues for the Park, and economically benefit local businesses and the community.

Scope of Work

TASK 1: BASELINE RESEARCH

Upon contract award, Solimar's project team will conduct research by reviewing existing relevant documents, background information and materials related to tourism in and around Anza-Borrego Desert State Park, the community of Borrego Springs and the adjacent destination region. Solimar will also conduct independent research of all available information online about tourism in the region, San Diego County, the state of California, the USA and North America. Data will be sought on the behavior, impacts and projections of international tourism, including trends and itineraries/packages that are currently being sold. This preliminary research will help inform understanding of the existing strategic approach and plans for tourism development and promotion in the region (including any current management and marketing plans) as well as the following:

- Priority conservation, water, land, and resource issues in the region
- Existing market analysis – identification of segments, demographics, number of current and potential arrivals, length of stay
- Analysis of existing tours and services that include travel, transportation, hospitality provisioning, tour components, duration and cost as well as the companies and individuals selling the tours and guide services
- Current status of infrastructure and communication networks – including roads, airlift, and internet access
- Existing nature, culture and heritage-based tourism attractions and their available information online or in other documents
- Any promotional materials of ABDSP and Borrego Springs (public or private sector)
- A preliminary list of organizations currently involved in tourism operations, development and conservation in the region.

Deliverable 1: Inception Report

The program mobilization and baseline research phase will culminate with an Inception Report delivered to the client including the following:

- Summary of findings from baseline research;
- Proposed workshop agendas and travel itineraries for the assessment trip

Scope of Work

TASK 2: TOURISM VISIONING

During a 3-day trip to the Borrego region, a three-person Solimar team will work to define a consensus vision of “where we want to be”. This is, in our view, the most critical step in the strategic planning process for tourism. The buy-in, consensus, and broad-based ownership of the strategy that emerges from this process will be achieved through three separate approaches aimed at defining detailed perspectives on the challenges and opportunities confronting the **Inside Anza Borrego** initiative, including:

- Desired outcomes from the strategy development and implementation process, in economic, social and environmental terms
- Specific recommendations for actions required to achieve those outcomes (e.g., marketing, product development, connectivity, work force development etc.)
- A shared vision that will be actively supported by a broad cross section of stakeholders

Step one in that process will be one-on-one interviews with government officials, industry leaders, civic and community leaders, leading to the Situation Analysis described earlier.

Step two will be an assessment of tourism activities, attractions, features in the region and experience the hospitality and service offerings of the community of Borrego Springs

Step three will be centered on the execution of a full-day, multi-stakholder tourism visioning workshop facilitated by the Solimar Team aimed at defining and building support for a shared vision for the future of tourism in Inside Anza-Borrego.

Deliverable 2: Tourism Visioning Report

The outcome of the visioning workshops will be a detailed report summarizing the outcomes of the workshops along with the obstacles and opportunities for accelerating the sustainable rate of growth of **Inside Anza-Borrego's** tourism industry. We will have also collected an array of specific ideas and recommendations for addressing them, and a variety of perspectives on the outcomes sought.

Project Timeline

		Months	
PHASE 1 - PROJECT MOBILIZATION and BASELINE RESEARCH		DEC	JAN
1.1	Mobilize project team and set up project management systems	X	
1.2	Review of prior plans, surveys, studies, policies and statistics that pertain to tourism and tourism development for Inside Anza-Borrego	X	
1.3	Identify strategic planning workshop location, dates, contacts, invitees; materials	X	
D-1	Inception Report	X	
PHASE 2: TOURISM VISIONING WORKSHOP			
2.1	Project team site visit and assessment		X
2.2	Individual meetings with key stakeholders		X
2.3	Facilitate one day strategic planning vision workshop		X
D-2	Visioning Report		X

Program Budget

Cost	Rate	/Unit	Total Units	Total Budget
Personnel + Overhead			3 people	\$16,400
Travel & Transportation				
Flight (DC to SND)	\$500	/flight	3	\$1,500
Per diem and Lodging	\$150	/day	12	\$1,800
Car Rental	\$300	/trip	1	\$300
Total				\$20,000

Solimar Background

Company Profile

[Solimar International](#) is a Washington, DC based sustainable tourism consulting and marketing firm with the mission to assist businesses, travelers, and destinations develop and connect to sustainable tourism experiences that support environmental conservation, celebrate local culture, and enhance the lives of local residents.

Solimar operates in destinations across the United States and around the world with a global network of professional staff dedicated to promoting the goals of sustainable tourism. Our team provides strategic planning, product development, marketing, and related consulting services to national tourism authorities, regional tourism associations, destination management organizations, and local governments. Solimar has a history of serving USAID, World Bank, IFC, IDB, UNWTO, UNDP, other US Government agencies, large conservation NGO's, foreign and state governments, private clients, and industry associations.

Solimar brings more than 16 years' consulting experience on tourism development and marketing projects in more than 500 rural communities in the US and 60 countries worldwide. Solimar delivers an integrated, market-oriented approach to produce meaningful and lasting results. Our capabilities range from assessments to training to sales. We have structured our organization around three core service areas—tourism development consulting, destination partnerships, and tourism marketing—to best address our clients' needs. We can provide individual services to meet specific project objectives, such as marketing, product or destination development, or investment promotion. However, what sets us apart is our ability to deliver a comprehensive end-to-end solution that ensures a project's initial goals are ultimately achieved—and sustained—over the long term.

We are not just a tourism development firm that does not understand the importance of connecting tourism destinations and businesses to the international market, nor are we simply a marketing firm that does not understand the unique challenges and opportunities of creating a tourism strategy. We are tourism specialists. We work in no other industry sector, thereby affording our clients with a laser-like focus on the needs of their industry.

Our staff qualifications include one PhD and 14 Masters level degrees as well as extensive practical experience in the fields of tourism and strategic planning. Our technical staff are supported by an experienced administrative and contract management team that oversees and supports all Solimar programs with a meticulous attention to detail. Our finance team is well versed in the intricacies of accounting for complex contracts.

Solimar's extensive network of partners creates a gateway to the global travel community through personal connections with the world's leading tourism players and access to the latest industry research. Some of our industry partners include National Geographic, Smithsonian Institution, Destination Marketing Association International, the Adventure Travel Trade Association, Tourism Cares, United Nations World Tourism Organization, the UNESCO World Heritage Centre, and The George Washington University Institute of Tourism Studies.

Over the past 16 years Solimar has:

- Introduced more than 600 emerging destinations to the international marketplace
- Inspired over 35 million travelers through innovative marketing campaigns
- Assisted over 5,000 small tourism enterprises in more than 500 US communities and 60 countries
- Supported biodiversity conservation in more than 200 parks and protected areas
- Created 25 Sustainable Destination Partnerships alongside National Geographic
- Trained more than 5,000 people in better tourism management, marketing, and environmental conservation

Solimar Background

Solimar Experience Relevance to the Program Objectives

Solimar International has extensive experience in strategic planning for tourism. We follow a well-established and thorough process that begins with a deep-dive discovery process where we work with the client to identify the key stakeholders who represent the different facets of the destination. Through in-depth research and extensive stakeholder interviews and consultations, our tourism planning process provides a comprehensive look at all of the destination's assets, where are the biggest opportunities for growth, what are the main roadblocks, and how they can be overcome. At the end of this process, destinations are left with a strategic vision, strategy, and action plan for implementing their goals in a sustainable manner for the benefit of local residents, investors, and tourism operators.

Solimar International and its principals have extensive experience in tourism development in destinations similar to Inside Anza-Borrego including strategic planning, technical assistance or capacity building in the following destinations. Specific case studies and references can be found at the end of this document.

US Destinations

- Tennessee River Valley
- US Gulf States
- Gee's Bend Alabama
- Mississippi River
- Lewis & Clark Historic Trail
- Sedona & Verde Valley, AZ
- Lakes to Locks Passage, NY
- Crown of the Continent
- Greater Yellowstone
- Sierra Nevada, CA
- Redwood Coast, CA
- Scenic Wild Delaware River
- Northeast Minnesota

International Destinations

- Albania
- Armenia
- Bahamas
- Benin
- Bhutan
- Bolivia
- Bosnia & Herzegovina
- Brazil
- Bulgaria
- Canada
- Cayman Islands
- Colombia
- Comoros
- Dominica
- Dominican Republic
- Ecuador
- Egypt
- Ethiopia
- Fiji
- Greenland
- Guatemala
- Haiti
- Honduras
- Jamaica
- Jordan
- Kenya
- Kosovo
- Lebanon
- Macedonia
- Madagascar
- Malawi
- Mali
- Mauritius
- Mexico
- Mongolia
- Montenegro
- Mozambique
- Myanmar
- Namibia
- Nepal
- Nicaragua
- Norway
- Pakistan
- Portugal
- Romania
- Rwanda
- Serbia
- Sri Lanka
- St. Kitts & Nevis
- St. Lucia
- Tanzania
- Uganda

Solimar Background

The Solimar Team



James Dion, Team Leader

James Dion leads Solimar's work with National Geographic and Smithsonian bringing tourism stakeholders together to create strong destination partnerships. Since 2005 he has led 23 sustainable tourism programs in 17 countries and 35 states within the USA. Prior to joining Solimar in 2010, James served as the Associate Director of the Center for Sustainable Destinations at the National Geographic Society. Previous to his work with NGS, James directed international ecotourism programs for conservation NGO's in Mexico, Central America, and Asia, and he has lectured at the Technical University of Graz in Austria. James' interest in linking tourism to conservation and community development is an outgrowth of his over 15 years of experience as a professional river and wilderness guide/outfitter. He has founded and developed locally run sustainable, tourism businesses in Europe and North, Central, and South America.



Chris Seek,

Chris Seek is a sustainable tourism and marketing specialist with more than 15 years of experience working in the tourism industry. Chris is an experienced public speaker and facilitator that leads many of Solimar's strategic planning projects. In addition to his work at Solimar, Chris is an executive in residence at The George Washington University and serves on the board of directors for Tourism Cares, the philanthropy arm of the US travel and tourism industry. In Washington DC, Chris helped establish and serves on the board of directors of the Columbia Heights Initiative a recently designated Main Streets program. Chris is also an owner of a 10 bedroom luxury Inn located in rural Virginia at the foothills of the Blue Ridge Mountains. Prior to working in tourism, Chris was as a marketing professional for Fortune 500 clients including Heineken, Perrier, Sony, General Electric, and others. Chris holds a Bachelor's degree in Communications from Wake Forest University and a Masters of Business Administration from American University with concentrations in Marketing and Sustainable Destination Management.



Natalie Sellier

Natalie Sellier has fifteen years of professional experience in finance, accounting, business planning and project management. Natalie originally joined Solimar in 2007 as a Project Manager, utilizing her business background and passion for travel to assist small tourism enterprises and destination management organizations achieve financial sustainability by way of strategic business planning, public-private partnerships, and market linkages. As Director of Finance and Operations, Natalie now leads the technical writing of tourism plans and manages Solimar's contracting, financial management and strategic budgeting and helping to guide the firm through new growth and development. Natalie has been involved in the development of over 20 tourism planning projects with Solimar. Natalie holds a Bachelor's in Business Administration from James Madison University and a Master's in Business Administration from The George Washington University with a degree focus in sustainable destination management.

Sedona Verde Valley Case Study

Background & Context

As one of Arizona's last perennial rivers, the Verde River is one of the state's most unique and threatened natural resources. Its watershed and riparian habitats are critical local ecology for human, animal, and plant life. To preserve and restore this valuable resource, Solimar International and the National Geographic Maps Division implemented a sustainable destination program in the Verde Valley region. As tourism is one of the largest industries in Arizona, it is imperative to grow the industry responsibly.

Major Activities

- Designated and provided support to a Verde Valley Stewardship Council which serves as the local counterpart and oversee a number of program components.
- Developed a Vision, Strategy, and Action Plans for Sustainable Tourism Development to be achieved through participatory planning and broad-based public engagement.
- Created a Destination Marketing and Branding Strategy. This strategy is centered on sustainable tourism, river conservation, and the unique culture, nature and history of the region, in close collaboration with the Sedona Verde Valley Tourism Council (SVVTC).
- Developed and help implement an SVVTC Organizational Strategy, Business Plan, and Funding Strategy for ongoing marketing and promotion.
- Developed a National Geographic Society (NGS) Co-Branded Online Interactive MapGuide. The process to develop the MapGuide will serve as a catalyst for public engagement for tourism development and river conservation, help generate awareness of and interest in visits to the region, and create powerful tools for the promotion of the Verde Valley as a premier sustainable tourism destination.
- Assisted 6 communities to co-invest in a regional marketing program focused on content marketing and storytelling

Reference

Jennifer Wesselhoff, President/CEO Sedona Chamber of Commerce
jwesselhoff@sedonachamber.com
(928) 204-1123 ext 111



Testimonials

Cardno Emerging Markets

"We rely confidently on Solimar's deep technical experience and professionalism as tourism consultants. You always are exceeding our expectations."

-Leila Calnan, Senior Manager, Tourism Services

Convention on Biological Diversity

"Solimar fills a strategic gap for really professional global consulting companies specialized in sustainable tourism. Their team includes world-renowned specialists with an extremely diversified experience, with a problem-solving attitude and flexibility that surpassed all our expectations."

-Oliver Hillel, Program Officer

Destination Arctic Circle (Greenland)

"Solimar's in-depth knowledge on global tourism perspectives has transformed our ability to stay focused on the issues that matters most in our continued development."

-Mads Pihl, Destination Manager

Crown of the Continent Geotourism Program (Montana U.S.A., Alberta and British Colombia, Canada)

"Solimar is an innovative and holistically oriented accelerator of sustainable tourism."

Shenna Pate, Director, Crown of the Continent Geotourism Stewardship Council

Chemonics International

"Solimar is one of Chemonics' most valued small businesses. They are flexible, responsive, and strategic."

- Adam Noyce, New Business Director, Latin America & the Caribbean

National Geotourism Stewardship Council

"Solimar has done an excellent work. Great expertise, sustainable tourism experience and permanent availability were aspects that we have retained from the work done by Solimar."

- Tim O'Donoghue, Chair of the National Geotourism Council;

Founding Member, Greater Yellowstone Geotourism Stewardship Council

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – JANUARY 16, 2018

AGENDA BILL 2.E

January 9, 2018

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Groundwater Sustainability Plan (GSP) Policies that Potentially Affect District Ratepayers and Future Water Rates of the District.

RECOMMENDED ACTION:

Discuss and direct staff as deemed appropriate

ITEM EXPLANATION:

Director Brecht requested this item be placed on the Agenda.

FISCAL IMPACT

TBD

ATTACHMENTS

None

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – JANUARY 16, 2018

AGENDA BILL 2.F

January 9, 2018

TO: Board of Directors, Borrego Water District

FROM: Geoff Poole, General Manager

SUBJECT: Air Quality Monitoring in Borrego Basin

RECOMMENDED ACTION:

Discuss ideas for addressing the lack of air quality enforcement for the District's ratepayers and direct staff as deemed appropriate

ITEM EXPLANATION:

BWD had been approached about participating in a program to look at data to be collected through a joint monitoring project with UCI Steele/Burnand Anza-Borrego Desert Research Center's contribution of a \$210,000 National Science Foundation grant for 7 monitoring stations in the Valley, UCI's contribution of ~\$80,000 for installation and maintenance of these stations, the District's \$30,000 grant for 5 air quality monitoring devices, and Borrego Endowment Fund \$60,000 grant to hire Charlie Zender, Ph.D. (<https://www.ess.uci.edu/people/zender>) for a 3 year project with UCI to gather baseline data in year 1 (done), create a model of dust movement in the region in year 2 (by February 2018), and in year 3 be able to identify point sources of air quality exceedances such as what occurred over this Thanksgiving and New Year's weekends (see <http://24.223.109.133/index.html>).

Director Brecht has requested a discussion of possible ideas from other Directors on this topic.

FISCAL IMPACT

TBD

ATTACHMENTS

None

BORREGO WATER DISTRICT

BOARD OF DIRECTORS MEETING – JANUARY 16, 2018

BWD GSP RATEPAYER REPRESENTATIVE UPDATE

January 9, 2018

TO: Board of Directors, Borrego Water District
FROM: Geoff Poole, General Manager
SUBJECT: GSP Advisory Committee - BWD Ratepayer Representative: Dave Duncan Update – Verbal D Duncan

RECOMMENDED ACTION

Receive update and discuss GSP related issues with Dave Duncan

ITEM EXPLANATION

Staff and BWD Ratepayer Representative Duncan typically meet on a weekly basis or more. In addition, staff and Dave have put together Public Meetings before each of the AC meetings to discuss the issues on the upcoming AC Agenda.

Dave recently expressed a desire to talk to the Board about the AC and the process. I agreed 100% with the request and therefore, this item was added and intended to be an open discussion between Dave and the Board on the AC issues and process.

ATTACHMENTS

None