DRAFT WORK PRODUCT

Borrego Valley Groundwater Basin
Borrego Springs Subbasin
Projects & Management Actions Introduction

Borrego Valley Groundwater Basin Sustainability Plan

January 25th, 2018

Geosyntec consultants

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Projects & Management Actions

Prospective Project #1 – Water Trading Program

Objective: Facilitate transfer of pumping allowance among groundwater users within the Borrego Springs Subbasin.

- **Optimizes use of allocated water for maximal economic efficiency of groundwater use**
- **Encourages and rewards water conservation**
- **Facilitates continuous adjustment as conditions change (e.g., demand fluctuation)**
- **Maintains local control, and enables shareholders freedom to choose whether or not to use, save, or transfer (sell) allocations from their water account**

Projects & Management Actions

Prospective Project #1 – Water Trading Program

Components of the Prospective Project Evaluation:

- Stakeholder collaboration
- Identification of goals, guidelines, and tools
- Consolidation and re-issue of existing groundwater restrictive easements
- Scoping and development of a governing document
- Scoping and development of an accounting system to track pumping allocations and water transfers

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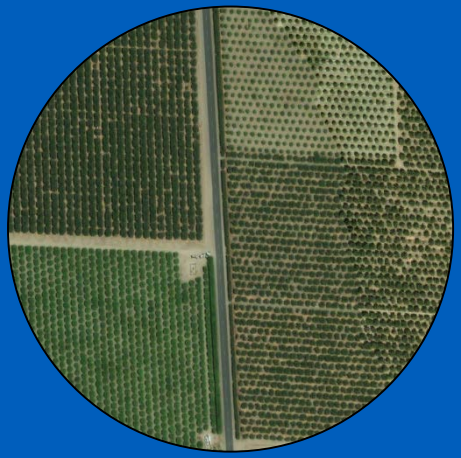
Prospective Project #2 – Water Conservation & Efficiency Programs

Objective: Assess prospective opportunities for water conservation and efficiency for each of the three primary water use sectors in the subbasin. Analyses will each consider ability to implement and cost-benefit relationships.

Agricultural Sector



Municipal Sector

BORREGO WATER DISTRICT
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Recreational Sector

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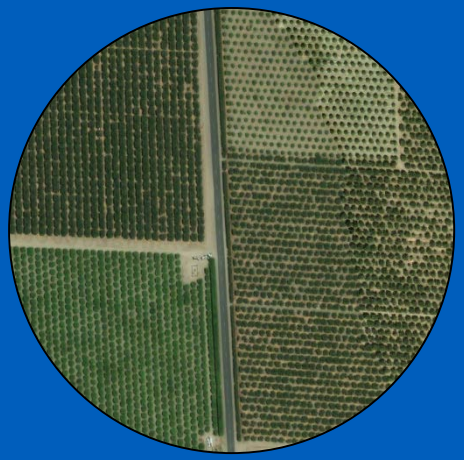
Prospective Project #2 – Water Conservation & Efficiency Programs

Agricultural Sector



Agricultural Sector Conservation Program Components:

- Evaluation of the potential effects to water demand from changes in crop types, irrigation practices, etc.
- Evaluation of existing agricultural facilities to identify those where changes in irrigation efficiency practices could be most cost effective
- Preparation of agriculture-specific water conservation and efficiency plan and irrigation best management practices

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Prospective Project #2 – Water Conservation & Efficiency Programs

Recreational Sector

Recreational Sector Conservation Program Components:

- **Evaluation of each golf course's irrigation practices to identify opportunities for optimization, associated costs, and anticipated benefit**
- **Preparation of recreation-specific water conservation and efficiency plan and irrigation best management practices**

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Prospective Project #2 – Water Conservation & Efficiency Programs

Municipal Sector

Municipal Conservation Program Components:

- Conservation and efficiency analysis to identify best management practices for water conservation
- Development of potential landscape restrictive requirements for existing and new development
- Preparation of municipal-specific water conservation and efficiency plan

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Prospective Project #2 – Water Conservation & Efficiency Programs

Example Conservation Approach City of Tucson, Arizona:

- Separate Residential and Commercial Conservation Programs
- Incentive Programs
- Resources and Tools
- Water Waste Ordinance and Enforcement Program
- Annual Reporting

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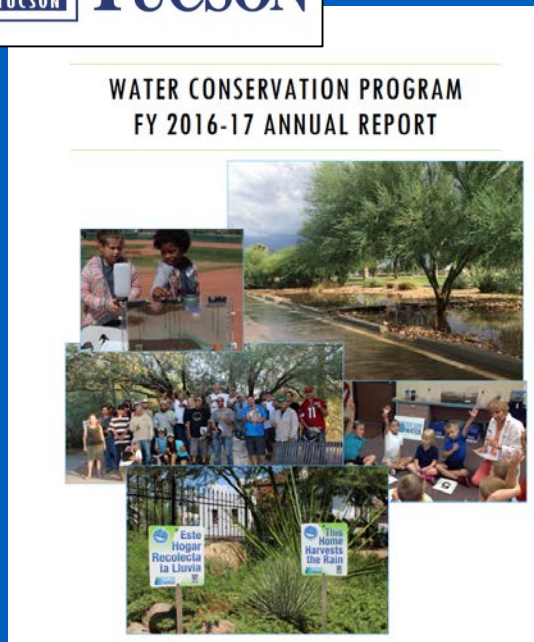

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Prospective Project #3 – Modification of Land Use Designations

Purpose: Assess the potential opportunities for water use reductions by changes in land use designations in the Subbasin

- **Inventory of existing land use designations with growth potential**
- **Estimate appropriate scale of potential land use changes**
- **Evaluate potential relationship between a prospective Water Trading Program and changes in land use designations**

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Prospective Project #4 – Agricultural Land Fallowing Program

Purpose: Address the unsustainable water demand associated with the existing scale of irrigation in the Subbasin

A comprehensive regulatory document will be developed with stakeholder input to outline regulations for land fallowing, which could be incorporated into the GSP or adopted as an independent ordinance by the GSA.

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Prospective Project #4 – Agricultural Land Fallowing Program

Components of the Prospective Project Evaluation:

- Identification and relationship of existing jurisdictional regulations in place for vacant land.
- Stakeholder buy-in.
- Potential land inspection procedures.
- Future land use alternatives determination process.
- Identification and establishment of easements.
- Land restoration requirements.
- Technical considerations for long-term fallowed land management to avoid adverse environmental and public health impacts.

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Prospective Project #5 – Groundwater Quality Mitigation Program

Purpose: Optimize the long-term use of groundwater near existing wells

Components of the Prospective Project Evaluation:

- **Identification of existing and anticipated future water quality impairment sources**
- **Preparation of water quality degradation mitigation alternatives for each potential impairment source.**
- **Scoping of a regulatory document outlining the procedures for characterizing and mitigating degraded groundwater quality**

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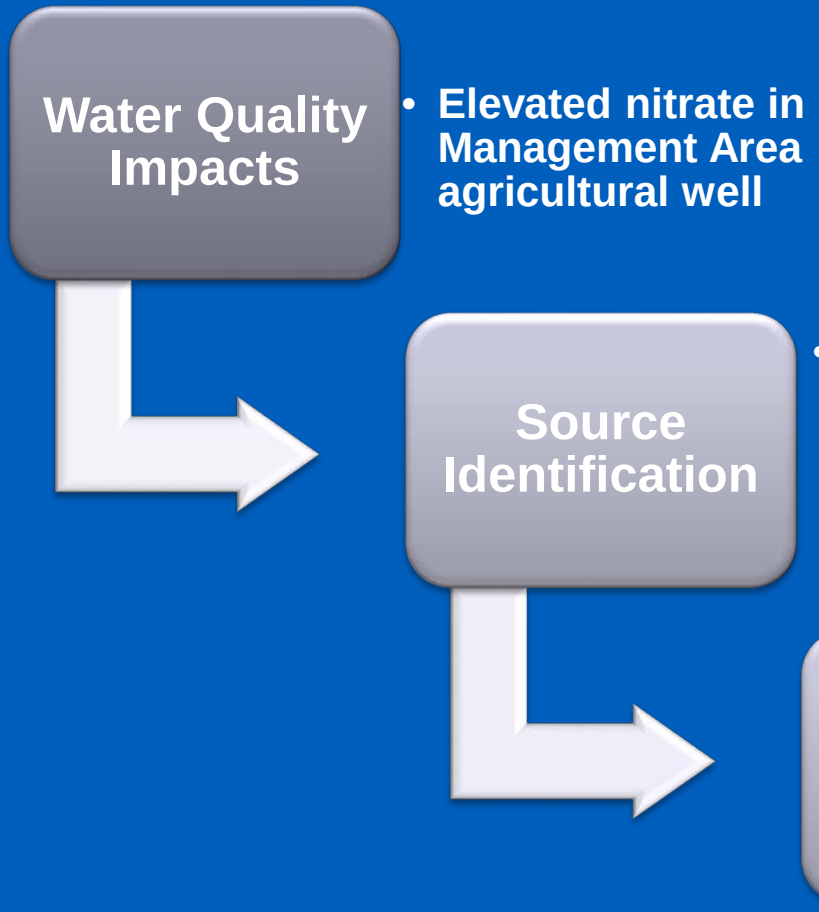
Prospective Project #5 – Groundwater Quality Mitigation Program

Hypothetical Example:



- Elevated nitrate in North Management Area agricultural well
- Surficial application of fertilizer that has leached with return flows or migrated down preferential flow paths along poorly-sealed well casing or abandoned wells
- Improve sanitary seal of groundwater wells, properly abandon old wells and/or improve efficiency of irrigation practices

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Prospective Project #6 – Intra-basin Water Transfer

Purpose: Assess feasibility of a prospective water conveyance program to address groundwater quality impacts and localized reductions in groundwater storage

Components of the Prospective Project Evaluation:

- **Identification of prospective transfer relationships**
- **Evaluating feasibility and costs of transferring groundwater resources to various areas of the Subbasin**

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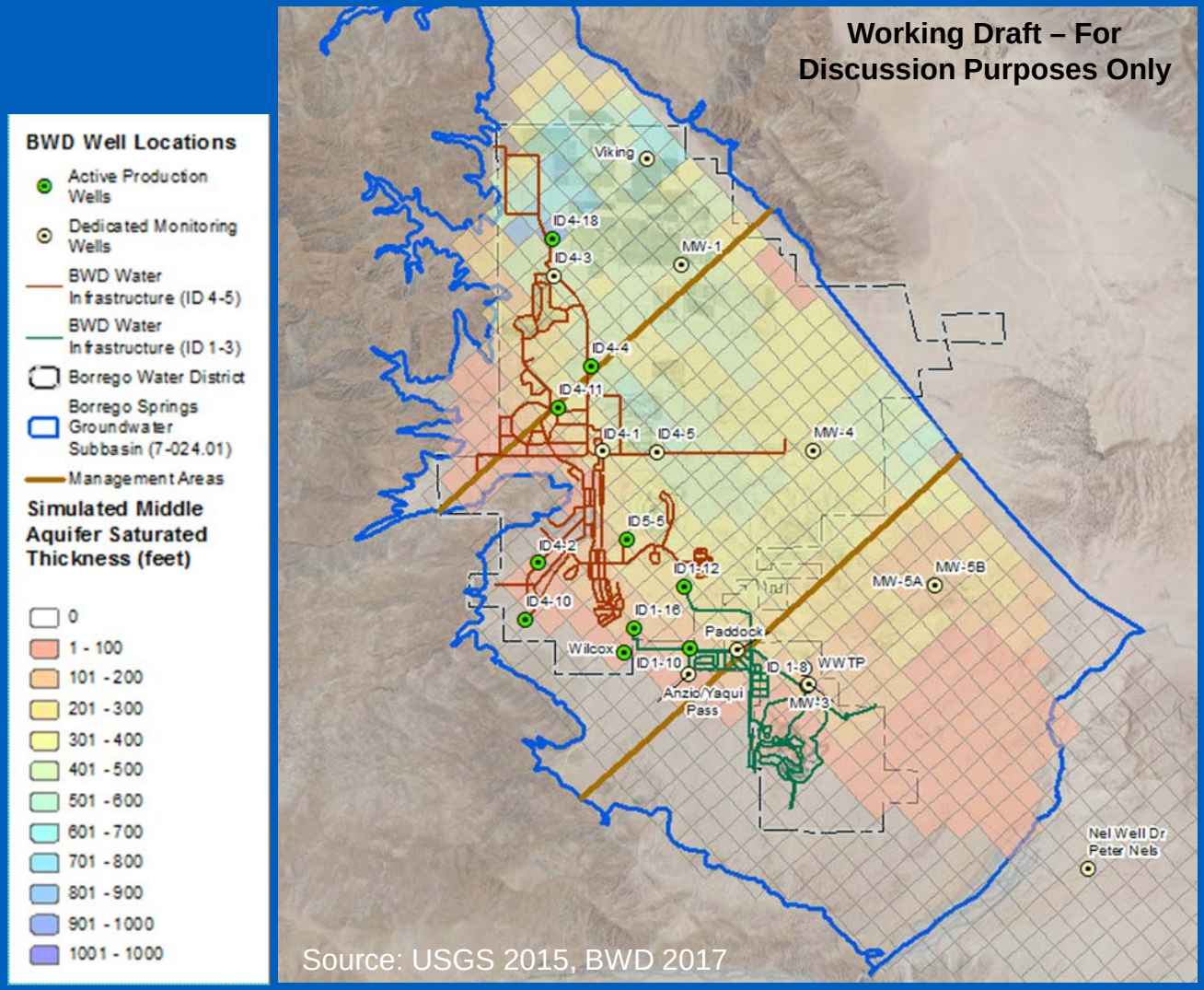
Modeled Middle Aquifer Saturated Thickness and BWD Water Infrastructure



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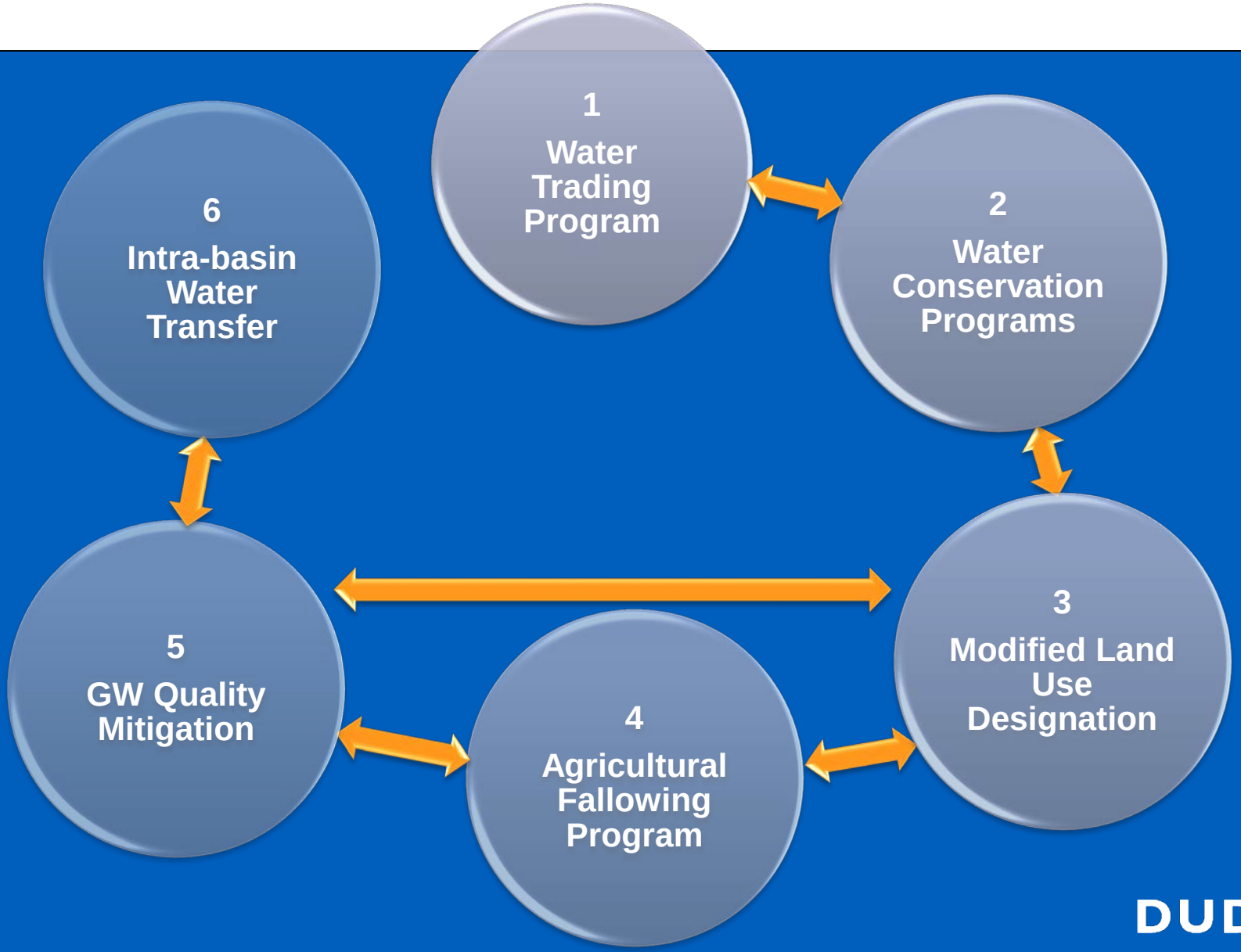
Projects & Management Actions Interplay



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