

## **Anza Borrego Desert Integrated Regional Water Management Grant Application**

### **1.0 Governance**

The following is a description of the Anza Borrego Desert RWMG (ABD RWMG) governance process, participating entities, including their role in the RWMG process, and their regional water management responsibilities. The formulation of the ABD RWMG will allow for a long term working relationship that can lead to a successful solution to the region's water resource management.

All stakeholders and resource agencies have been invited to participate in the RWMG process. The interests and working relationships between these entities has been identified previously and their participation has been grouped into a Policy/Steering Committee or within a Stakeholders subcommittee. Additionally, while not a formal committee, the sole local newspaper, the *Borrego Sun*, serves as an additional outreach component of the RWMG. Each committee make-up and function is described as follows:

#### **1.1 Policy Committee**

Policy/Steering Committee is composed of the three 'local agencies': the Borrego Water District, the County of San Diego (County) and the Resource Conservation District of Greater San Diego County (RCD). This is the basic decision making committee. Input from the Stakeholder's subcommittee is presented, with recommendations to this committee. This committee has the responsibility of providing funding for the activities of the RWMG.

**1.1.1 The Borrego Water District:** The Borrego Water District (BWD) was established in 1962 as a California water district. The District provides water, sewer, and flood control and gnat abatement for areas in the unincorporated community of Borrego Springs. Additionally, the District adopted a groundwater management plan under Assembly Bill 3030 in 2002 and obtained the authority of a groundwater replenishment district. This designation allows the BWD to do planning for groundwater management and provides the authority, among others, to (a) buy and sell water, (b) exchange water (c) distribute water in exchange for ceasing or reducing groundwater extraction (d) recharge the basin and (e) build necessary works to achieve groundwater replenishment. This also provides the authority to levy a replenishment assessment, but only if replenishment water is available. The BWD is not a member of the San Diego County Water Authority (CWA), the regional member of the Metropolitan Water District of Southern California that imports supplemental water into San Diego County.

As indicated, the BWD is the sole domestic water supplier, with the exception of a few private domestic wells, in the Borrego Valley area and also the AB 3030 Groundwater Management agency for the Borrego Valley Groundwater Basin. The BWD has flood control management as well as water supply management authorities.

**1.1.2 The County of San Diego (County):** The County is charged with providing flood protection throughout the unincorporated areas of the county. However, the BWD has responsibilities for flood control in its Improvement District #1.

The County has many authorities, including flood management for the Borrego Valley area. The County has regulatory control over land uses. Developers and landowners must obtain permits from the Department of Planning and Land Use (DPLU) to develop or modify land in the Borrego Valley.

**1.1.3 The Resource Conservation District of Greater San Diego County (RCD):** The RCD is an independent, non-enterprise (local government) special district organized under Division 9 of the California Public Resources Code. It is authorized and directed to promote and provide conservation education, to conduct research, and to advise and assist other public agencies and private individuals in the areas of land-use planning, soil and water conservation, wildlife habitat enhancement and restoration, control of exotic plant species, and watershed restoration.

## **1.2 Stakeholders Subcommittee**

This group is comprised of Agricultural Alliance for Water and Resource Education, Golf Course Association of Borrego Valley, the ABSP, the communities of Jacumbra, Majestic Pines and Canebrake. Further, several local residents participate regularly in meetings. A further description of the major entities follows:

**Golf Course Association of Borrego Valley (GOLF):** Recreation is the second most intensive use of groundwater in the Valley. Golf courses include the De Anza Country Club course, the Borrego Springs Park and Community Services District courses, the Montesorro course and the Road Runner Country Club course. Recently, the golf courses from a nonprofit organization to provide representation for their interests.

**The Sponsor Group (Spon):** The Borrego Springs Sponsor Group is a County of San Diego sanctioned entity that provides local input to the county planning process. Members are appointed by the Board of Supervisors through nominations from the local group. The members have no term limits or official power over planning matters. They are an advisory panel that makes recommendations to the San Diego County Department of Planning and Land Use.

**Agricultural Alliance for Water and Resource Education (AAWARE):** This California nonprofit mutual benefit corporation was formed in 2003 by the majority of growers in the Borrego Valley. Its' purpose is 'to provide educational information concerning agricultural use of water resources and to protect against the reduction of that

use without just compensation...’ This entity has been active in helping to define the amount of water used by agriculture and has conducted a seminar on methods to reduce water usage in the Valley.

**Anza-Borrego Desert State Park (ABSP):** Anza-Borrego Desert State Park is the largest state park in California. Five-hundred miles of dirt roads, 12 wilderness areas and miles of hiking trails provide visitors with an opportunity to experience the California Desert. The park is named after Spanish explorer Juan Bautista de Anza and the Spanish name borrego, or bighorn sheep. The park features washes, wildflowers, palm groves, cacti and sweeping vistas and fauna including roadrunners, golden eagles, kit foxes, mule deer and bighorn sheep as well as iguanas, chuckwallas and the red diamond rattlesnake.

**Canebrake CSD:** This district provides potable water service to a portion of the unincorporated community of Canebrake located about 40 miles southeast of Julian and is bordered on three sides by the AZBD State Park and by federally owned land on the remaining side. The supply system consists of one well, two storage tanks and distribution pipelines. A report prepared for the district indicated that a back up well, additional storage and replacement of the leaking distribution pipelines are needed. The district supplies water to about 70 connections.

The District is pursuing an avenue to apply for and obtain funding under the colonia status to assist in acquiring federal and state financial assistance. The present infrastructure is limiting their efforts of providing potable water to the residents and customers within the Water.

## **Majestic Pines**

## **Jacumbra CSD**

### **1.3 Non Local Technical Resources**

Two other agencies, though not part of the governance structure of the RWMG nor are they local stakeholders, serve as technical resources to the RWMG. The USGS and DWR are actively working in the Borrego Valley area and provide technical advice and information.

**California Department of Water Resources, Southern District (DWR):** The DWR has been conducting limited assessment of the groundwater resources since about 2002 through the DWR Local Assistance Program. In 2008, the DWR and BWD entered into a contract that could span a three year period to perform a comprehensive well inventory and water quality assessment of the basin.

**United States Geological Survey (USGS):** The USGS has entered into a contract with BWD to develop a numeric model of the groundwater basin. This is three year effort also includes establishing a high precision GPS survey of key wells in the Valley.

**2.0 Description of Region**

The Anza Borrego Desert Region is located in the Lower Colorado River Hydrologic unit. The region is almost entirely in the County of San Diego, with a small area in southern Riverside County. The region is bounded on the east by Imperial County; on the south by Mexico; on the west by the Peninsular Range and on the north by Riverside County, except for that portion of the Coyote Creek watershed that extends into the county.

**2.1 Land Ownership in the Region**

The Anza Borrego State Park occupies about 70% of the region. *Percentages needed*

- Land Use/ownership
- Forest Lands
- BLM
- Private Lands
- Other

**2.2 Drinking Water Systems**

The communities within the region and the water systems are listed below in Table 2-1. Also included in the table is a description of water supplies, current and future water demands (for a minimum 20-year planning horizon). Service areas are shown on Figure \_\_\_\_\_.

**Table 2-1 Water Supply Communities in the ABD Region**

Community/Entity	Public Health Regulatory Agency	Number of Connections	Water Supply Source	Current Water Use (afy)	Future Water Use (20 years) (afy)
Borrego Springs			Groundwater - Overdraft	23,000	+3,500?
Canebrake	SDC		Groundwater - Bedrock	4	
Majestic Pines	SDC		?		
Jacumbra CSD	CDPH		?		
Banner Grade Store Transient System	SDC				
Live Oak Springs Water Company at Boulevard ?	SDC				
ABD State Park	CDPH				
Indian	CDPH				

Reservations: <ul style="list-style-type: none"> <li>• Los Coyotes</li> <li>• Manzanita</li> <li>• Campo</li> <li>• La Posta (possibly)</li> </ul>					
Small Communities on Individual Wells: <ul style="list-style-type: none"> <li>• Ocotillo Wells</li> <li>• Shelter Valley</li> <li>• Bankhead Springs</li> </ul>	NA				

Notes to table: (SDC) San Diego County DEH  
(CDPH) California DPH

**2.2 Major Watersheds/Streams Incomplete**

**2.3 Wastewater Facilities:** Domestic and commercial sewage is disposed of through septic tank and leach fields or pits throughout the region. The sole exception, are the sewage from the Montorso development in Borrego Valley. Waste waters from this development are sewered to small activated sludge facility and disposed of through evaporation and groundwater recharge.

**2.4 Flood Control Responsibilities:** The San Diego County Flood Control District is responsible for flood control in the entire region, with the exception of a small area in the Borrego Valley, known as the Improvement District No. 1 of the Borrego Water District.

**2.5 Land Use Regulatory Agencies:** As indicated, the region is comprised mainly of federal and state lands; the lands within the State Park and the State Recreational Area are under the jurisdiction of the State Parks Commission. Forest Service land uses are regulated by the US Forest Service. The Bureau of Land Management manages the land uses for lands under their control and Indian Tribal land uses are jointly managed by the individual tribes and the Bureau of Indian Affairs.

The remaining privately held lands are regulated by the County of San Diego, Department of Planning and Land Use as there are no incorporated municipalities in the region.

**2.6 Ecological Process and Environmental Resources** *water demands to support environmental needs*

**2.7 Climate Change** *potential effects of climate change on the region.*

**2.8 Water Quality** *conditions in Region Describe any water quality protection and improvement needs or requirements within the area of the plan.*

**2.9 Social and cultural makeup** of the regional community. Use 2000 Census Data

Identify important cultural or social values.  
DACs in the management area. Describe economic conditions and important economic trends within the region.

**2.10 Tribal government** representative consultation and collaboration to better sustain Tribal and regional water and natural resources (if applicable).

*Major water related objectives and conflicts in the region, including clear identification of problems within the region that focus the objectives, implementation strategies, and implementation projects that ultimately provide resolution.*

**2.11 Issues and Conflicts for the Region (Insert Task 9)**

The region is comprised of the State's largest State Park, a State Vehicular Recreational area, several tribal holdings, Bureau of Land Management lands, one relatively large community of approximately 3,000 residents and three small communities. The County of San Diego has responsibility for zoning and flood control. Each entity's issues will be discussed separately as the issues and conflicts are somewhat different for each of the entities.

Water supply to the region is composed of runoff from the surrounding mountain watersheds. These flows recharge the Borrego Valley aquifer and the fractured mountain basin complex along water courses. Water is extracted from numerous wells. Most of the extractions are not measured and are therefore estimated water use is estimated by indirect methods. Water districts and CSDs measure their extractions.

The most important and significant water supply in the Region is the Borrego Valley Groundwater Basin. This basin has been known to be in a state of overdraft for many years (probably since 1945), but more recently, with the advent of residential growth and golf course development, the overdraft rate has increased. In the 1980s several agencies, both federal and state conducted investigations that defined the overdraft rate and the water use by domestic and agricultural segments.

**2.11.1 Anza Borrego State Park Issues**

The Park comprises approximately 70% of the ABD IRWM Region. Water resources issues and conflicts are described in the General Plan for the Park and are excerpted below.

Surface Waters: The Park extracts groundwater or stream underflow for a supply to several campgrounds. These include Horse Camp, Borrego Palm Canyon, Tamarisk Grove and Bow Willow Campground. The upgrading of these facilities is an important issue.

Further, water rights could become an issue for the Park. Areas to the north, west, and south of the Park could contain diversions that impact surface and subsurface flow within ABDSP. As of 1998, there were 13 applications for the appropriation of unappropriated water and 26 statements of diversion and use, which were located and identified as being within watersheds tributary to Parklands. Total recorded diversions upstream from the Park in acre-feet per annum were 317 in San Felipe Creek, 1,718 in Vallecito Creek, and 644 Carrizo Creek. There are also permits for the diversion of 4,423 AFA, diverted just south of the Ocotillo Flat area on Coyote Creek, a diversion point

within the Park. In total, two applications and four statements have points of diversion within ABDSP. These points are generally located in lower Coyote Canyon, Hellhole Canyon, and Tubb Canyon. Further review of the watersheds lying west and south of the Park's boundary revealed that seven reservoirs are within the Tule Creek and upper Carrizo watersheds, and a pond-like structure exists in the Cuyamaca Quadrangle.

The morphology of the majority of these reservoirs indicates that they are on-stream reservoirs formed by the creation of a dam. The Division of Water Right files do not indicate diversion rights to these reservoirs, and therefore, no diversion data has been located. Upper Tule Creek drains the McCain Valley area, and upper Carrizo Creek drains the Jacumba Valley area. Both of these areas contain private land holdings where farming and ranching operations exist.

There could be many unreported direct diversions in these areas which can only be substantiated by directly observing the diversion facilities, contacting land owners, or in the case of the reservoirs, requesting that the Division of Water Rights investigate the apparent diversions.

Groundwater: The Borrego Valley Groundwater Basin is surrounded by Park lands. Thus, groundwater conditions affect the adjacent Park lands. Consequently, the Park has expressed its concern about declining groundwater levels.

In a letter dated January, 1998, the then Park Superintendent extensively described the impacts of declining groundwater levels on the flora and fauna of the Park. The letter describes a noticeable die-off of mesquite trees throughout the east and southeast margin of the Borrego Valley and suggests that studies be conducted to determine impacts of continued lowering of groundwater levels on the water resources in Coyote Creek, Palm Creek Tubb Canyon, Sentenac Canyon and Grapevine Canyon. Potentially impacted floras include the California Fan Palm, Smoke tree, Desert Willow, Ironwood, Cottonwood and Willow. Areas of special interest are the Mesquite Bosque and those that have been designated by the Department of Fish and Game as 'Sensitive Habitats' and 'Significant Natural Areas'. The letter also indicates that the loss of mesquite on the valley floor will lead to increased soil loss, soil desiccation, increased surface temperature, nutrient loss and a decrease in overall biodiversity.

Regarding fauna impacts, the letter cites the potential impacts on the Federal and State listed endangered, Least Bell's Vireo. Also mentioned are the Peninsular Bighorn Sheep and numerous amphibians. A more recent issue is the proliferation of an invasive plant known as Mustard Grass. This imported plant has displaced the native wildflowers that typically appear in the early springtime. The apparent rapid expansion of this plant threatens the major tourism event in the Park.

### **2.11.2 Borrego Valley Groundwater Basin Issues**

As the area began to develop residential units, the local residents began to be concerned about the incessant lowering of the water table and that there was no plan or agency to curtail the water level drop and stop the overdraft.

With the exception of a few privately owned domestic wells, the Borrego Water District (BWD) provides nearly all of the water needs for the residential and commercial water users in the basin area. Its service area encompasses about 48 square miles, with a distribution system serving more than 3,000 customers, both residential and commercial. The district operates 11 production wells, four monitoring wells and one wastewater treatment plant.

The BWD initiated the process of becoming the AB 3030 Groundwater Management agency in the year 2000. By the year of the completion and adoption of the GWMP (2002), the stakeholders had established a number of competing interests and concerns for the future of the basin's supply.

BWD issues include the identification and acquisition of a sustainable water supply for its customers, both existing and future. A second issue is the management of the basin to stabilize water levels and possibly to restore water levels to historic beneficial levels. Finally, a third issue is the financial and economic impact on its customers of accomplishing the first two issues.

#### Competing stakeholders identified

The agricultural interests, who represent about 70% of the production from the basin, formed Agricultural Alliance for Water and Resources Education (AAWARE); the golf courses were identified with about 20% of the production from the basin, and in 2008 that they formed an organization to represent their interests. Finally, the residential users of the remaining 10% are represented by the BWD. Their responsibility is to ensure domestic water supply reliability and quality. Further, the BWD is the responsible agency for managing the overdraft issue. As such, BWD adopted a Groundwater Management Plan (GWMP) in 2002. That plan was an initial effort in developing a multi-benefit integrated programs and projects to meet the regional priorities. Subsequent to 2002, the BWD continued to follow the priorities and goals set forth in that plan. In April of 2009, BWD adopted the Integrated Water Resources Management Plan (IWMP). This document updated and incorporated all of the planning and project development (new monitoring wells) since 2002. The document was adopted, after public review and input, as an update to the GWMP.

The County of San Diego was also aware of the continued overdraft. Since this agency has responsibility over zoning and permitting for land use, grading and building, it began to consider and adopt ordinances dealing with grading of land for farming and controlling the expansion of water use for all new uses.

As indicated earlier, the ABSP also expressed its concern about the continued overdraft of the aquifer. Thus by about 2008, all stakeholders and their issues were identified.

### **2.11.3 Issues of Water Suppliers outside the Borrego Valley Area**

Canebrake County Water District Issues – This district provides potable water service to a portion of the unincorporated community of Canebrake located about 40 miles southeast of Julian and is bordered on three sides by the AZBD State Park and by federally owned land on the remaining side. The supply system consists of one well, two storage tanks and distribution pipelines. A report prepared for the district indicated that a back up well, additional storage and replacement of the leaking distribution pipelines are needed. The district supplies water to about 70 connections.

The district also indicates that an intermittent steam above the district has been invaded by non-native vegetation that increases the flooding potential within the community.

Jacumbra CSD Issues – This small community located in the most southerly area of the region has indicated that they do not desire to participate in the IRWM process and that

their water supply funding needs for upgrading their system are being met through the US Department of Agriculture.

Majestic Valley CSD Issues – *No information about this community has been obtained.*

**2.11.4 San Diego County Flood Control District Issues**

The County's concern is with the management of flood waters in the Borrego Valley area. Flood waters from Borrego Palm Canyon have caused extensive damage to the community of De Anza. The US Corps of Engineers has recently completed a reconnaissance study of enhancing the flood retarding capacity of a large basin located immediately upstream of the De Anza development.

**2.11.5 Tribal Lands Issues**– *No information is currently available.*

**2.11.6 BLM Lands Issues**– *No information is currently available*

**2.11.7 State Vehicular Recreational Area Issues** - *No information is currently available*

*How the IRWM regional boundary was determined and why the region is an appropriate area for IRWM planning. This is a tough one!*

*Neighboring IRWM efforts and an explanation of the planned/working relationship that promotes cooperation and coordination between regions.*

**2.12 Neighboring IRWM Efforts:** Two nearby IRWM's are currently in the planning phase. The Coachella Valley IRWM is located immediately to the northeast and the Imperial County IRWM is situated directly and adjacent to the ABD IRWM. Representatives from the ABD IRWM regularly attend meetings of these two processes.

A third IRWM region exists immediately to the west of the ABD region. This San Diego IRWM has been in existence for some time and has prepared an IRWM plan which has been adopted by participating agencies.

**Map of region Boundaries** *The description should also include those not involved in the plan (i.e. groundwater basin boundaries, watershed boundaries, county, state, and international boundaries).*

### 3.0 Goals, Objectives and Targets

#### 3.1 Plan Goals

The Policy Committee initially established the goals of the plan. The goals were subsequently confirmed by the stakeholder outreach process. Four goals identified are:

- Goal No. 1 - Improve water supply reliability,
- Goal No. 2 - Protect and improve water quality,
- Goal No. 3 - Ensure sustainability through environmental stewardship
- Goal No. 4 - Promote integration and regional planning.

The goals are to be achieved so as to provide for reliable and sustainable water resources.

#### 3.2 Plan Objectives and Targets

Through facilitated public workshops and Stakeholder meetings, stakeholders developed five specific IRWM Plan objectives to accomplish the four IRWM Plan goals. Detailed descriptions of each of the five objectives are presented in the following sections along with the rationale for development and inclusion of each objective.

Designation	Objective
A	Reduce Water Demand
B	Increase Water Supply
C	Practice Resource Stewardship
D	Improve Operational Efficiency and Transfers
E	Improve Water Quality
F	Improve Flood Control

With input from the Policy and Stakeholders Committees, measurable targets for each objective have been established. The targets are presented for purposes of measuring the Region's collective attainment of the Plan objectives. The targets represent what needs to be achieved through the combined actions of the Region's governmental jurisdictions, non-government organizations, regulatory agencies, and stakeholders in order to attain the plan Objectives. While it is acknowledged that the Plan targets must evolve in response to changing conditions and stakeholder input, the targets identified herein represent a useful means of measuring progress toward achieving the Plan objectives.

##### 3.2.1 Objective A - Reduce Water Demand

The focus of this objective is to meet the requirements of Goal 1 (Improve water supply reliability) and Goal No. 3 (Ensure sustainability through environmental stewardship).

Stakeholders rated this objective and the following objective (increase water supply) as the most important objectives and of equal ranking.

Reducing water demand or as sometimes referred to as Demand Management is a critical aspect in areas that have a limited and non renewable water supply such as the desert region. Demand reduction, if permanent, acts the same as developing a new water

supply. Further, since it is accomplished on a local basis, the demand reduction is not affected by new or changing conditions or regulations from outside the area.

The primary use of water in the region for agricultural purposes in the Borrego Valley area and thus offers the greatest opportunity for reducing water demands in the region. However, the growers in that area report that they already optimize their use of water through the aid of data obtained from soil moisture sensing devices, micro spray irrigation systems and the use of evaporation/transpiration data obtained from a CIMIS station located the Valley. They also state that groundwater pumping costs, due to the substantial pumping lift, incentivizes them to apply only the required amount of water.

Other programs, such as the recently established program by BWD to purchase a water easement over currently active agricultural lands, appear to offer an effective means of accomplishing these two goals. Stakeholders may be helpful in deciding what the future use of the 'fallowed' lands might be. If left to return to nature, the lands could be a source of sediment in windstorms. The lands could be re-vegetated with native plants, including the wildflowers that the area is known for.

Another program is the water development mitigation program of the County and BWD. This program requires that each new water use be off-set by two units of existing water use. Changing orchards to low water using trees may also be an alternative.

Golf course irrigation is a major user of water in the Valley area. Opportunities such as reducing the area of turf are under discussion.

Residential water use is relatively small compared the agricultural and golf course use, but the water use per dwelling unit is relatively high compared to other areas in the County. Toilet replacement with low water using devices has been implemented the Valley. Other incentive programs such as tiered water pricing, payment for turf removal, etc. have been put into operation.

### **3.2.2 Target for Reducing Water Demand**

The Plan targets for this objective are those included in the Governors 2009 Comprehensive Water Package; Senate Bill No. 7 on Statewide Water Conservation.

**3.2.1.1 Agricultural Target:** This SB 7 bill requires agricultural water suppliers to measure water deliveries and adopt a pricing structure for water customers based at least in part on quantity delivered, and, where technically and economically feasible, implement additional measures to improve efficiency. It further requires agricultural water suppliers to submit Agricultural Water Management Plans beginning December 31, 2012 and include in those plans information relating to the water efficiency measures they have undertaken and are planning to undertake.

Another target is the purchase of water easements on agricultural lands:

- \_\_\_\_\_ acres by 2011
- \_\_\_\_\_ acres by 2013
- \_\_\_\_\_ acres by 2015

**3.2.1.2 Residential Target:** Regarding residential water use, the bill requires urban water suppliers to meet the per capita water use goal for their specific hydrologic region as

identified by DWR and other state agencies in the 20 percent by 2020 Water Conservation Plan;

### **3.3 Objective B - Increase Water Supply**

The focus of this objective is also to meet the requirements of Goal No. 1 (Improve water supply reliability) and Goal No. 4 (Promote integration and regional planning).

None of the existing communities or agricultural water users is connected to a conveyance system that could import water and increase their water supplies. All depend on natural runoff of precipitation from the eastern side of the peninsular range. Precipitation falling on the floors of the valleys is readily lost to evaporation or in the case of flash flooding, is lost to runoff to the Salton Sea. Thus the entire region is dependent on rainfall, over drafted groundwaters or groundwater from the fractured basement rocks. Further none of the communities in Table 2-1 expect to experience growth which would require an increase in water supply. Park water needs are also stable. The one exception is the Borrego Valley area where water use could expand due to the number of existing dwelling units that have previously been approved by the county and are not subject to the County's 1:1 groundwater mitigation requirement. These units are, however, subject to the BWD mitigation fee. The additional demand by these units would accelerate the overdraft of the aquifer and increase the rate of water level decline.

Increasing water supply has been studied. Locally, the DWR suggested the construction of low dykes to impede the occasional runoff from the local mountains to allow for percolation into the basin, but these were readily filled by sediment. Recently, the Corps of Engineers have suggested the deepening of the De Anza flood retarding basin as a means of capturing and percolating runoff from the Borrego Palm Canyon.

There are several proposals to import water from the IID or Coachella Valley Water District. Proposals have also been suggested to import water from local groundwater basins. A complete discussion of these options is contained in the BWD Integrated Water Resources Management Plan (March, 2009). Feasibility level studies are underway on one of the import projects. However, the acquisition of a reliable water supply that could be transported into the Valley is problematic. One importation alternative involves a conveyance system from the CVWD that would also supply water to the City of Salton Sea. Any of the importation plans would necessarily require a substantial amount of regional planning and cooperation.

#### **3.3.1 Targets for Increasing Water Supply**

- Complete hydrogeologic investigation and design in Canebrake for locating a second well by 2011.
- Complete hydrogeologic study and design of Park camp grounds needing new facilities by 2011.
- Complete hydrogeologic investigation of the Northern Clark Lake area by 2011.
- Complete feasibility (STAG Grant) studies on importing water from IID and CVWD by 2012

- Obtain sufficient new water supply to completely satisfy the residential demand of BWD by 2020.

### **3.4 Objective C – Practice Resource Stewardship**

The focus of this objective is to meet the requirements of Goal 3 (ensure sustainability through environmental stewardship) and Goal No. 4 (Promote integration and regional planning).

Resource stewardship is an important component toward ensuring protection of the Region's water quality, water availability, and protection of endangered and threatened species and habitats. Resource stewardship is also important for maintaining the Region's natural aesthetics, preserving and enhancing recreational opportunities, enhancing the quality of life for residents, and providing benefits relative to tourism and the economy.

The IRWM Plan process offers the opportunity for regional cooperation and coordination by:

- allowing for the integration of water management planning actions with existing species and habitat conservation plans
- developing, implementing, and maintaining conservation plans which may include controlling invasive species
- developing and implementing a water bank in the Borrego Basin

The Region features biologically diverse and important habitats. As indicated, the Anza Borrego Desert State Park occupies approximately 70% of the region. The Park is occupied by a wide variety of plants and animals. ABDSP is world-famous for its extensive spring wildflower bloom. During years with specific meteorological conditions, a diverse array of wildflowers. A good wildflower year can draw one-third of a million more visitors to ABDSP, when compared to poor wildflower years.

Water resource management planning must be accomplished so as not to disturb or disrupt these important ecological resources. Because the Borrego Springs community is completely surrounded by the park, any importation system will have to traverse the Park and potentially impact the ecological community. Further, the significant lowering of the groundwater levels in the Borrego Basin has adversely impacted water sources on the boundary between the Park and the Basin. Restoration of historic groundwater levels would add to viability of plants and animals of the Park.

The capture and storage in the Borrego Basin of surplus Colorado River waters that are lost is a major water resources stewardship opportunity. In addition to conserving the potentially lost water, the rebuilding of the water levels in the basin has many benefits including potentially replenishing the springs and seeps along the periphery of the Borrego Basin but also by reducing the pumping lifts as it also reduces energy usage and green house gas emissions associated with the energy production.

Resource stewardship also includes the concept of utilizing the available water supplies in a sustainable manner. Thus, good demand management fits well with this objective.

Resource stewardship also includes Stakeholder and public involvement as a means to identify and address public interests and perceptions, ensure that the Plan and any proposed solutions are in keeping with public interests, and provide for public ownership and support of the proposed solutions.

Stakeholder involvement may assist in identifying areas where increased public education and outreach is required and help focus on the public's key water management issues and potential solutions. Public education and outreach at community events, workshops and school-based educational programs are required to promote the identification and understanding of the Region's resources and the need for resource stewardship.

Agricultural Lands Stewardship

Economic Incentives (Loans, Grants and Water Pricing)

Ecosystem Restoration

Watershed Management

### **3.5.2 Target for Practice Resource Stewardship.**

Targets for measuring progress toward achieving objective C:

- Remove and control a minimum of 1,000 acres of non-native invasive plants by 2012. (Target includes acreage in which non-native invasive species are removed and continue to be controlled following removal.)
- Develop a regional IRWM website to provide centralized public access to water management data and information by 2011.
- Develop by 2011 a regional approach to water management education.
- Conduct water management outreach at no less than 5 local and regional events each year.

### **3.3 Objective D - Improve Operational Efficiency and Transfers Goals 1,3 and 4**

- Conveyance – Regional/local *Import water from Clark Lake, Allegretti Farms*
- Water Transfers *Import water from IID or CVWD*

*Targets ?*

### **3.3 Objective E - Improve Water Quality Goal 2, 3**

- Drinking Water Treatment and Distribution ?
- Groundwater Remediation/Aquifer Remediation *Clark Lake, Allegretti Farms*
- Matching Quality to Use ?
- Pollution Prevention *Purchasing water easements/retireing ag lands*
- Salt and Salinity Management ?
- Urban Runoff Management ?

*Targets ?*

### **3.3 Objective F - Improve Flood Control Goals 1, 3 and 4**

**Targets ?**

De Anza Basin

Viking Ranch

*Coordinate efforts to foster a consistent message that will engage communities and educate the public on the interconnectiveness of water supply, water quality, and natural resources while promoting individual and community ownership of the problems and solutions.* water supply reliability, water quality protection, and environmental stewardship as critical water management needs for the Region. Integration of regional planning efforts to achieve these results was also identified as a critical component of the Plan. The RWMG and stakeholders developed the following four IRWM Plan goals:

**4.0 Resource Management Strategies.** *The IRWM Plan must document the range of RMS considered to meet the IRWM objectives and identify which RMS were incorporated into the IRWM Plan. The effects of climate change on the IRWM region must factor into the consideration of RMS. RMS to be considered must include, but are not limited to, the RMS found in Volume 2 of the [CWP Update 2009](#):*

The Stakeholders Committee reviewed and discussed the potential Regional Management Strategy (RMS) that should be considered in the development of the IRWM Plan. The following RMSs were selected through a consensus process.

<b>Regional Management Strategies</b>	<b>Strategy Content</b>
Agricultural Water Use Efficiency -	Increasing water use efficiency and achieving reductions in the amount of water used for agricultural irrigation. Includes incentives, public education, and other efficiency-enhancing programs.
Urban Water Use Efficiency	Increasing water use efficiency by achieving reductions in the amount of water used for municipal, commercial, industrial, irrigation, and aesthetic purposes. Includes incentives, public education, and other efficiency-enhancing programs.
Conjunctive Groundwater Storage	Using and managing groundwater supplies to ensure sustainable groundwater yields while maintaining groundwater-dependent beneficial uses, including coordinating management of groundwater and surface water supplies (conjunctive use)
Desalination – Brackish	Developing potable water supplies through desalination of brackish groundwater. Includes disposal of waste brine.
Surface Storage – Local/Regional	Developing additional yield through construction or modification (enlargement) of local surface detention basins or developing groundwater storage capabilities in out-of-region reservoirs.
Agricultural Lands Stewardship	Includes strategies for promoting continued agricultural use of lands (e.g. agricultural preserves), strategies to reduce pollutants from agricultural lands, and strategies create wetlands and wildlife habitat within agricultural lands. Stewardship strategies for agricultural lands include, erosion reduction measures, invasive species removal, conservation by mulching.
Economic Incentives	Includes economic incentives (e.g. loans, grants, water pricing) to promote resource preservation or enhancement.
Ecosystem Restoration	Strategies that restore impacted or impaired ecosystems, and may include invasive species removal, land acquisition, water quality protection, revegetation, habitat protection and improvement, habitat management and species monitoring.
Forest Management	
Land Use Planning & Management	Includes land use controls to manage, minimize, or control activities that may negatively affect the quality and availability of groundwater and surface waters, natural resources, or endangered or threatened species.
Water-dependent Recreation	Enhancing and protecting water-dependent recreational opportunities and public access to recreational lands.
Watershed Management	Comprehensive management, protection, and enhancement of groundwater and surface waters, natural resources, and habitat
Improve Operational Efficiency & Transfers,	

Table continued on next page.

Water Transfers	Contracting to provide additional outside sources of imported water to the Region over and above contracted State Water Project and Colorado River supplies
Pollution Prevention	Strategies that prevent pollution, including public education, efforts to identify and control pollutant contributing activities, and regulation of pollution causing activities. Includes identifying, reducing, controlling, and managing pollutant loads from non-point sources.
Flood Risk Management	Strategies that decrease the potential for flood-related damage to property or life including control or management of floodplain lands or physical projects to control runoff.