

# Protecting Our Land, Water, and Heritage:

## Pima County's Voter-Supported Conservation Efforts



# Purpose of this Report

Today Pima County manages over 230,000 acres of natural areas for conservation due to supportive taxpayers, visionary County leadership, hardworking staff, willing property owners and resourceful partner organizations. These lands surround Pima County's cities, towns, and unincorporated communities creating a desert greenbelt. They provide us with hiking and other recreational opportunities, preserve scenic beauty, support wildlife, produce food, protect local water supplies, reduce flooding hazards, and protect our historic and cultural heritage. Many of these lands were acquired with funds approved by voters in 1997 and 2004.

The purpose of this report is to highlight lands acquired with 1997 and 2004 voter-approved bond funds, provide a historical record of Pima County's land conservation efforts and consider how these properties contribute to Pima County's long-term vision – the Sonoran Desert Conservation Plan. The report also provides a special feature on the evolution of conservation and land use planning in Pima County.

## About Pima County

Pima County covers 9,184 square miles (an area larger than the state of New Jersey) in the Sonoran Desert of Southern Arizona. It includes the metropolitan area of Tucson, the City of South Tucson, the towns of Marana, Sahuarita, and Oro Valley, unincorporated communities such as Green Valley and Vail, and the reservations of the Tohono O'odham Nation and Pascua Yaqui Tribe. Today the County is home to just over 1 million residents who enjoy the area's picturesque beauty, year-round outdoor recreation opportunities, affordable cost of living, economic opportunities, and rich cultural heritage.

For more information on Pima County, go to [www.pima.gov](http://www.pima.gov)

For more information on Pima County bond programs, go to [www.pima.gov/bonds](http://www.pima.gov/bonds)

For more information on the Sonoran Desert Conservation Plan, go to [www.pima.gov/sdcp](http://www.pima.gov/sdcp)

For more info on Pima County Natural Resources, Parks and Recreation, go to [www.pima.gov/nrpr](http://www.pima.gov/nrpr)



# Protecting Our Land, Water and Heritage: Pima County's Voter-Supported Conservation Efforts



February 2011



## Foreword

Transformative ideas seldom emerge fully formed. Ideas that lead to lasting change typically are shaped over long and, at times, arduous discourse. And, as was the case for Pima County, effective change required thoughtful collaboration among groups that may have started out as adversaries, but through fair and open dialogue ended up coming together in the interest of a common good.

We have come a long way since 1949, when the State of Arizona first granted counties the authority to plan and zone. Like other fast growing counties, Pima went through its share of 'growing pains' and lessons learned. However, beginning in the late nineties, the County embarked on a decade-long planning effort that broke new ground and changed the face of Pima County – the Sonoran Desert Conservation Plan.

Pima County has been recognized in recent years as a national leader in a kind of planning that restores some of what we have lost by reframing the elements of regional planning to encompass the relationship that land has to natural and cultural resources and acknowledges the interdependence of human, plant and animal communities. Former Interior Secretary Bruce Babbitt called it "urban bioplanning."

Babbitt noted in a 1999 congressional subcommittee hearing that there was no other higher priority for funding in his department than the Sonoran Desert Conservation Plan, and testified that this Plan "really is the most exciting event of its kind anywhere in the United States."

Ten years later, the goals of the Sonoran Desert Conservation Plan continue to be at the forefront of County land use and environmental planning efforts. Our land acquisition programs are an extension of the various policies that, cumulatively, were derived from the Plan's development process. This report illustrates that neither the Sonoran Desert Conservation Plan nor our land acquisition programs emerged fully formed from the vision of any single individual or from a specific moment in time. Instead, they emerged from intense public debate, determination, hard work, political will, patience and an enlightened electorate. The Plan is organic, not static, and its overarching vision will continue to further this community's values.



I would like to thank the voters of Pima County who have funded these conservation efforts. They have in 1974, 1986, 1997, and again in 2004 approved a total of \$230 million in general obligation bonds for the purchase of critical, unique and sensitive lands. Without their approval these conservation efforts would not have been possible. This report highlights those efforts. With your help, we preserved the best of Pima County for future generations to enjoy.

  
Chuck Huckelberry  
County Administrator

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# Introduction

Since 1997, Pima County has been working on fulfilling the task assigned by this community to conserve this region's most prized natural and cultural resources. On May 16, 1997 and May 18, 2004, voters showed overwhelming support at the ballot box for the protection of these places by approving bond measures that authorized the acquisition of properties for conservation purposes. In fact, in 2004, the Trust for Public Lands' yearly list of the largest state and local measures passed by voters for conservation listed Pima County's 2004 Conservation Bond measure as one of the top five in the country, alongside San Diego County in California, Charleston County in South Carolina, Adams County in Colorado and Scottsdale, Arizona. Today, the County is pleased to report on the significant accomplishments made possible through the community's continued support.

The County now manages about 230,000 acres for conservation, with over 100,000 acres of it owned in fee by the County. Since 1997, we have purchased more than 50,000 acres and lease 130,000 acres associated with the large working ranches acquired. The properties range in size from less than an acre to over 30,000 acres, and represent the diversity of landscapes that make Pima County unique. For the majority of Pima County residents who live within the Tucson metropolitan area, it is a short trip to many of the newly protected areas. There is truly something for everyone.

## West

A number of properties were purchased around the County's popular Tucson Mountain Park. At the **west end of 36th Street**, we now have another place with access into the heart of Tucson Mountain Park. At the base of A-Mountain a 5-acre site known as **Mission Gardens** was purchased by the County in an area occupied continuously for over 4,000 years. Associated with the Mission San Agustin, an adobe wall has been constructed around the Mission Gardens, and plans with the City of Tucson and community partners for the re-creation of the gardens are underway. For those that regularly hike the steep but rewarding path up **Tumamoc Hill**, 300 acres of State Trust land on the west side of the hill were purchased by the County. This property will remain part of the longest-lived scientific environmental research center in the country, which is managed by the University of Arizona. Physically challenged residents and visitors, as well as those that just prefer a more level path to explore the desert, may want to

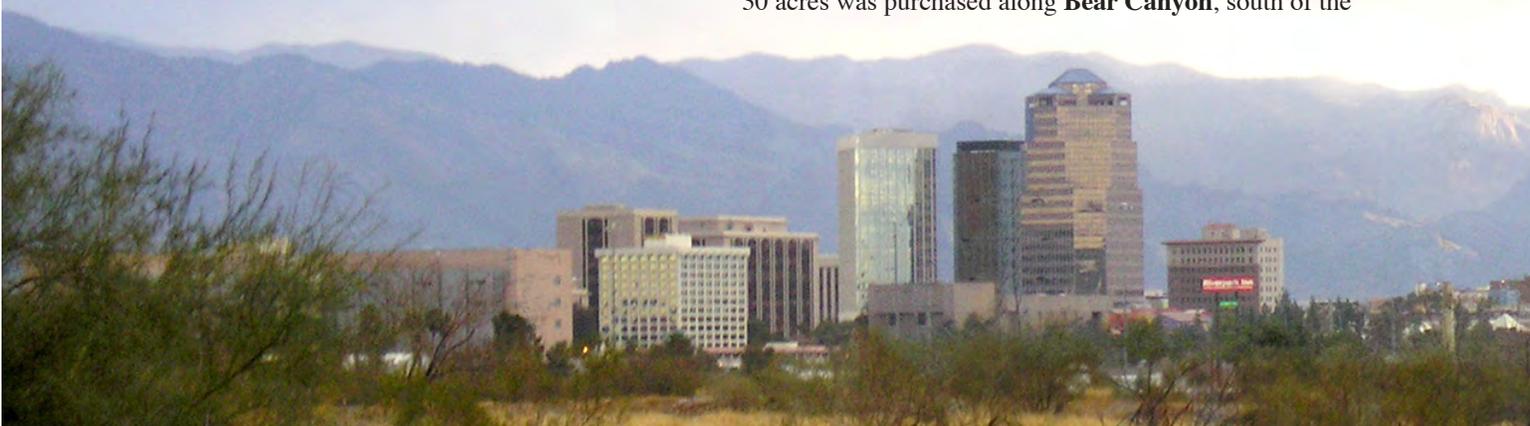
visit **Feliz Paseos Park** - the County's 50-acre universally accessible trails park north east of Gates Pass. Regarding **Gates Pass**, the scenic views as one drives or bike rides up the Pass have much to do with the dollars the community authorized in 1997 and 2004. Ten properties were purchased along both sides of the road, totaling over 800 acres. Another significant addition was the 695-acre **Sweetwater Preserve**, east of Saguaro National Park, boasting actively used hiking, biking, and equestrian trails. Before the 2004 election, neighbors near the Sweetwater Preserve raised thousands of dollars privately to begin the process to protect this special place.

## Northwest

On the northwest side, one can visit the site of what was once a thriving pre-historic Hohokam Village and the center of an extended community of Hohokam sites along the Santa Cruz River - **Los Morteros**. Further north and east, near **Avra Valley Road and Interstate 10**, a future land bridge or underpass is being discussed, allowing animals to cross from the Tucson Mountains to the Tortolita Mountains. Critical pieces of land have been purchased and the planning to make the corridor more safe and inviting for wildlife has begun. Further north and east, almost 1,000 acres were purchased in the **Tortolita Mountains**, preserving scenic vistas and sites of future adventures. East of the Tortolita Mountains, two properties were purchased on either side of Oracle Road in close proximity of the future site of another land bridge already funded by Regional Transportation Authority that will support movement of wildlife between the Tortolita and Catalina Mountains. Further east, the Regional Flood Control District purchased more than 50 flood-prone properties up and down the Canada del Oro Wash, providing four contiguous miles of conserved lands along the Wash for future passive recreational opportunities. For a bit of history and pre-history, people will soon be able to visit the 13-acre **Honey Bee Village Preserve**, the core of a large prehistoric Hohokam village site in Oro Valley, and 15 acres of **Steam Pump Ranch**, a collection of historic ranch and farm buildings from the frontier era located beneath Pusch Ridge, also in Oro Valley.

## Northeast

On the northeast side of town, the historic **Ft Lowell Park** has been expanded to include an additional 5 acres containing portions of 3 more officers' quarters buildings. An additional 30 acres was purchased along **Bear Canyon**, south of the



popular Sabino Canyon Recreation Area. Those driving along Houghton Road between Tanque Verde Road and Speedway Boulevard after a heavy rain storm have most likely noticed the flooding that occurs in this area where the **Agua Caliente Wash and Tanque Verde Creek** converge. Almost 200 acres was purchased here conserving the natural flood flows and significant stands of mesquite trees supporting a lively bird population. Further upstream, as the **Agua Caliente and La Milagrosa Washes** flow out of the Coronado National Forest between the Catalina and Rincon Mountains near Redington Pass, two properties totaling 24 acres were purchased by the County.

### **Southeast**

In the Southeast, visitors to **Colossal Cave Mountain Park** may be interested to know that the 1997 and 2004 bond funds were used to expand the Park by more than 460 acres. Some of these new properties, combined with another 200 acres along the Agua Verde Creek and Cienega Creek, now link the County's **Cienega Creek Natural Preserve** to Colossal Cave Mountain Park and also expanded the Preserve. The Preserve is open to the public through a permit process to protect this unique and fragile ecosystem. **Davis-Monthan Air Force Base** contributes over \$800 million annually to the local economy and provides over 9,000 jobs. Almost 300 acres were purchased with 2004 bond funds to prevent urban encroachment on the primary flight paths. Some of these 300 acres are now being marketed for future solar generating sites to offset Pima County's governmental energy expenses.

### **Southwest**

Along the Santa Cruz River southwest of Downtown Tucson, the 67-acre core of the **Valencia Archaeological Site** was purchased to preserve an ancestral place of Tohono O'odham. Sometimes referred to as the downtown of the prehistoric Hohokam community, future trails and educational interpretive signage will one day make this special place a focal point for heritage tourism. South of Ajo Highway and West of Mission Road, Tucson Mountain Park was expanded by almost 1,000 acres at its southern end. Known as the **Robles Pass** Unit of Tucson Mountain Park, these additional 8 properties provide opportunities for even more trails, as well as protecting scenic views and natural areas for wildlife.

### **Ranches**

While not located as close to the majority of Pima County residents, ranches are significantly important to our quality of life. Ranches, interconnected with our County mountain parks, State parks, National parks, and National forests serve as an

unfragmented natural buffer to our developed metropolitan area and help to create a more compact and efficient urban form. Among other things, they protect our watersheds, provide habitat for wildlife, preserve scenic views, and conserve our western heritage and culture. Some ranches also provide for recreational opportunities such as hiking, horse riding, and hunting. The County purchased 15 ranches, or major portions of ranches, with 1997 and 2004 bond funding. Most of these ranches are still working ranches, thanks to ongoing partnerships between the County and previous ranch owners. Our ranches include: **Carpenter Ranch**, within the Tortolita Mountains; **Six Bar Ranch** and **A-7 Ranch**, located far Northeast in the San Pedro Valley; **Bar V-Ranch**, **Empirita Ranch**, **Sands Ranch**, and **Clyne Ranch**, located southeast of Tucson; and **Canoa Ranch**, **Marley Ranch**, **Sopori Ranch**, **Rancho Seco**, **Diamond Bell Ranch**, **King 98 Ranch**, **Old Hayhook Ranch**, and **Buckelew Farm** located southwest of Tucson.

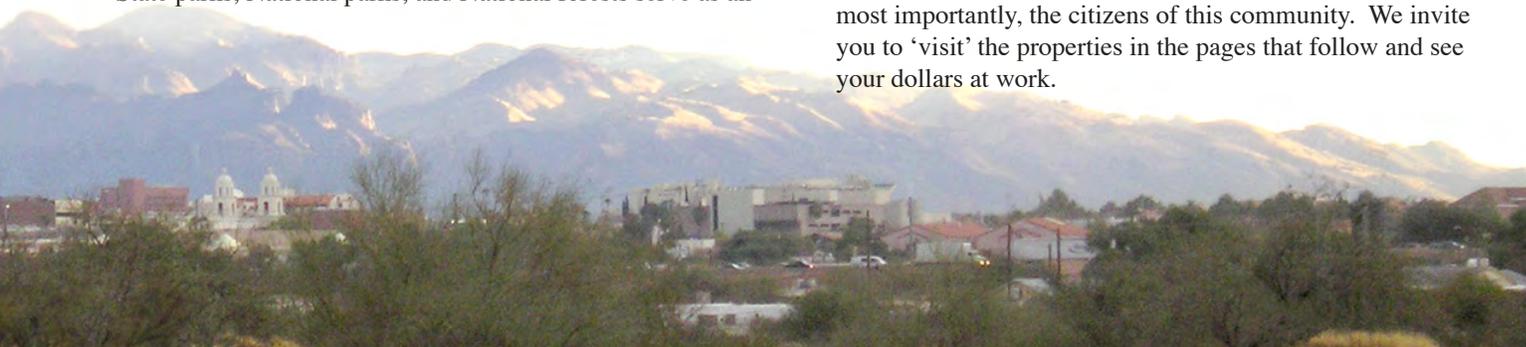
### **Our Land Conservation Programs**

Our efforts would not be as successful or far reaching without the support of the community, outside partners and the willingness of property owners to participate and sell to the County. The Conservation Acquisition Program for example, benefits greatly from our important non-profit partner – the Arizona Land and Water Trust (formally the Arizona Open Land Trust) for their facilitation and relationships with landowners in this region.

In addition, acquisition of these properties relied upon County staff, and outside specialists, with an array of expertise - wildlife biologists, ranch managers, park planners, land use planners, archaeologists, hydrologists, environmental quality specialists, and attorneys. Without the hard work of these individuals, we would not have been able to acquire the large number of properties acquired over the last 13 years.

In this report, we have tried to commit to record every property purchased since the passage of the 1997 and 2004 bond elections. This report provides information on each acquisition, including full descriptions, photos and how some of these properties relate to each other and their larger role in the region. Additionally, this report provides the reader with information on the economic impacts of conservation, an update on our progress towards meeting the goals set forth by the County's award-winning Sonoran Desert Conservation Plan, and an interesting historical account of the County's earliest conservation and planning efforts as a special feature.

It is with pleasure that we present to you the County's significant stride forward towards accomplishing the goals set forth by our Board of Supervisors, stakeholders, partners, and most importantly, the citizens of this community. We invite you to 'visit' the properties in the pages that follow and see your dollars at work.



# Sonoran Desert Conservation Plan

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**Pima County** spans more than 9,000 square miles and is located at the crossroads for two eco-regions – the Apache Highlands, which include the mountainous sky islands, and the Sonoran Desert, which stretches west from Tucson across the Colorado River into California and south into Mexico. Considered the largest of the North American deserts, the Sonoran Desert is also the most biologically diverse, with bi-annual rainfall and mild winters. The County is also known for its rich cultural and historic resources, with some archeological sites dating back thousands of years. An attractive place to live, Pima County has experienced rapid population growth and development since the 1950s.

For the past 10 years, the Sonoran Desert Conservation Plan (SDCP) has been guiding regional efforts to conserve the most important lands and resources in Pima County, while trying to balance our community's growth. The SDCP was developed using science-based principles shaped by public review and discussion, resulting in a plan that reflects community values. Most urban areas across the nation have plans or programs that protect to some extent natural, historical, and cultural resources and a different set of ordinances that regulate the built environment. Pima County was no exception prior to the SDCP. What Pima County achieved through the SDCP is the integration of natural and cultural resource protection and land use planning activities into one plan.

The ongoing implementation of the SDCP has been possible through land acquisition and management, land use and infrastructure planning, development regulations and more importantly, the community's support. The success of the SDCP can be attributed to these four components, as well as the Plan's sound foundation developed through years of intense public participation.

## Sonoran Desert Conservation Plan

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### Origins of the Plan

In response to the Federal listing of the Cactus ferruginous pygmy owl as an endangered species in 1997, the Pima County Board of Supervisors initiated what has come to be one of the nation's most comprehensive conservation and land use planning efforts. In 1998 the Board initiated discussions on land use planning and conservation, but redirected the growth debate to include biological and scientific concepts and assessments of our natural and cultural resource base. Work on the SDCP fulfilled three areas of need: a science-based conservation plan, an update of the comprehensive land use plan, and compliance with federal regulations that protection of endangered species be addressed through a habitat conservation plan. Numerous individuals and agencies with diverse backgrounds and viewpoints recognized the importance of this effort and dedicated time, thought, and cooperation to its success. Broadly defined, the SDCP considered conservation of the following elements:

#### **Critical Habitat and Biological Corridors**

#### **Riparian Areas**

#### **Mountain Parks**

#### **Historical and Cultural Preservation**

#### **Ranch Conservation**

The strong interconnections of all five elements were critical in forming a viable land management plan that ensured the continuing biodiversity for Pima County.

### Planning for Sensible Growth

For several decades, Pima County has been undergoing rapid population expansion and development of our natural and cultural landscape. Until the recent collapse of the housing market, it had been estimated that each year new construction consumed approximately ten square miles of desert. At the same time, the Sonoran Desert, rich in biodiversity, had been identified by the Nature Conservancy as one of the top eco-regions world-

wide, deserving of special conservation attention. The challenge facing the County was how to address the problems of declining natural resources and the loss of cultural identity in one of the fastest growing parts of the country.

The SDCP, mindful of the factual correlation between growth and the consumption of natural and cultural resources, gives high priority to preserving and protecting the most important of these resources. Growth is directed to areas with the least natural, historic, and cultural resource values. The SDCP is not about whether Pima County will continue to grow; it is about where the County grows.

### The Planning Process

From its inception, the Pima County Board of Supervisors fully recognized that the success of the SDCP required the support and approval of the people of Pima County and consequently integrated broad participation by many agencies, organizations and interested citizens into the conservation planning effort.

Public participation and process transparency were top priorities. Keystone elements included a citizens' steering committee of over 80 members that met from 1999 to 2003, over 400 public meetings, a series of educational sessions and workshops, meetings of 12 advisory and technical teams and numerous informal meetings held with a variety of interest groups and concerned citizens. More than 150 scientists from various disciplines contributed their expertise, and nationally recognized peer reviewers provided insights and suggestions throughout the process. Local jurisdictions and state and federal agencies participated in meetings, on committees, and as members of the Science Technical Advisory Team (STAT) to further the successful implementation of the Plan.



## Implementation

In 2001, the Pima County Board of Supervisors adopted the Pima County Comprehensive Land Use Plan Update. Integrated into this plan update were the land-use policies and principles of conservation developed in the SDCP, including the Conservation Lands System (CLS), which represents the biological reserve developed with more than 150 members of the science community after 3 years of study. The CLS is a blueprint for conserving the desert's biological diversity, while defining an urban area designed to improve quality of life for

residents. Since 2001, the SDCP has been an evolving endeavor whose conservation principles serve as guidance for land use and public infrastructure decisions by the County. It is also used as a guide in directing where public money is spent to conserve important natural areas, providing the basis for how cultural and historic resources are protected, and serving to help ensure that our western lifestyle, heritage, and traditions continue. The purchases made under the County land acquisition programs highlighted in this report contribute towards achieving the goals of the SDCP.



# Sonoran Desert Conservation Plan

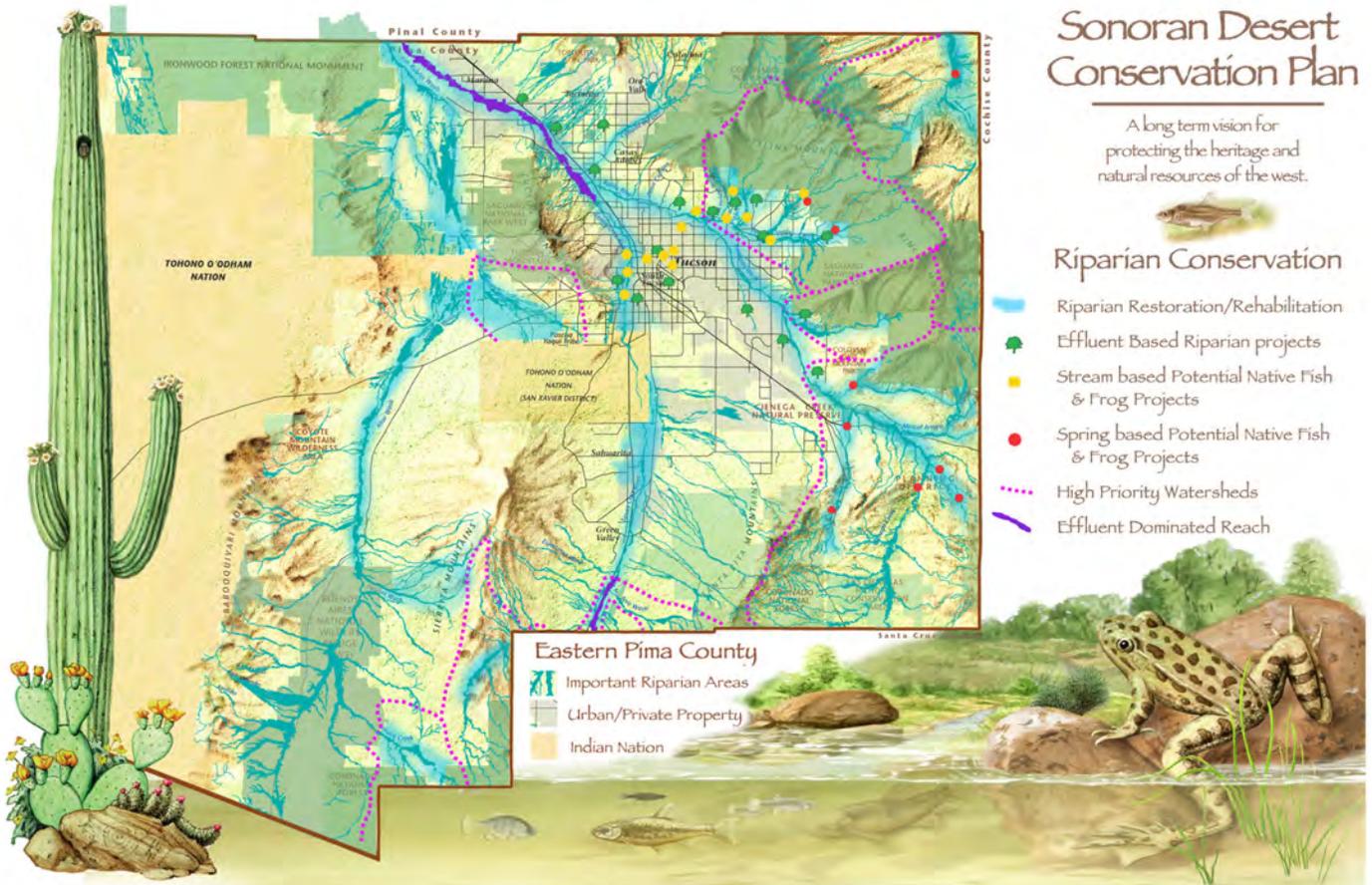
## Elements

### Riparian Areas Element

Riparian areas along water courses in our desert environment are vital places. However, riparian resources and aquatic systems have been the most vulnerable habitats in Pima County. Although 60 to 75 percent of all species in Arizona rely on a riparian environment at some point during their life cycle, a significant number of streams and springs in and near Tucson have ceased to flow year round or are affected by a lower water table. Our streams and springs need protection as well as restoration. While it is far too late to restore many of our riparian communities to their historical natural condition, the Riparian Element of the SDCP proposed that other natural riparian systems be preserved, restored, and managed to compensate for decades of largely unintended destruction of these systems.

Following the devastation of the 1983 flood, the Pima County Regional Flood Control District enacted new regulations to minimize development in floodplains and to require developers to dedicate water courses to the public domain. In essence, these actions reduced the risk posed to the public and reduced costs to taxpayers while laying the ground work for a regional open space and riparian system that now includes thousands of acres of protected floodplain environment.

The SDCP validates Pima County's previous investments in protecting riparian areas such as Cienega Creek, Tanque Verde Wash, the San Pedro River, and Sabino-Bear Canyon. The map below shows the riparian areas identified for protection during the early development of the Riparian Element.



Early graphic representation of this element. Illustration by Bill Singleton

## Mountain Parks & Natural Preserves Element

Pima County's extraordinary and unique natural resources have drawn visitors and residents to the area over many decades. Mountain parks and natural preserves have always played an important and diverse role in the life of our community. Following the Great Depression, heritage tourism based on the natural and cultural assets for the region was seen to be an opportunity for economic development. Pima County's establishment of Tucson Mountain Park in 1929 and development of the Park by the Civilian Conservation Corps for outdoor recreation marked the beginning of an unparalleled conservation ethic in Pima County that set the course and direction for conservation policy for the last 70 years.

Currently, the County's mountain parks consist of Tucson Mountain Park, Tortolita Mountain Park, and Colossal Cave Mountain Park. The County has two natural preserves, with the principle purpose being to provide a higher degree of protection for the sensitive natural, and often cultural resources contained within them. The preserves are the Cienega Creek Natural Preserve and the Bingham-Cienega Natural Preserve.

During the early development of the Mountain Parks and Natural Preserves Element, the map below was created to depict possible expansion areas. Many of these parks and preserves were later expanded using both 1997 and 2004 bond funds.



Early graphic representation of this element. Illustration by Bill Singleton

# Sonoran Desert Conservation Plan

## Historic and Cultural Preservation Element

The Historical and Cultural Preservation Element of the SDCP has a spectacular scope – the experience of hundreds of generations of peoples living in a vast landscape during the last 12,000 years of history that reflects the major traditions that have shaped our community – Native American, Spanish Colonial, Mexican, and American. The legacy of these traditions, which are a vital part of our heritage, is visible to us today as cultural resources and historic places that have great importance to living communities, our identity and sense of place.

Cultural resources, generally defined as historic places or properties, may include sites, structures, buildings, objects, districts, landscapes and traditional cultural places that are significant representations of our history, archaeology, architecture, engineering, and culture. Through this legacy of culture and history that has shaped our region’s landscape, we are able to piece together the story of this place we call Pima County.

As a parallel to the biologically derived Conservation Lands System, Pima County set out to identify, describe, and evaluate those places of such importance to the history and culture of Pima County that their protection is warranted for future generations. Working with teams of experts in the fields of archaeology, history, architecture, and historic preservation, more than 3,500 recorded archaeological sites and 4,000 historic sites, buildings and structures were identified as well as a number of nationally significant historic trails and traditional cultural places important to traditional living communities.

Sensitivity maps were developed and more than 200 priority cultural resources were identified for conservation and preservation so that future generations may know and appreciate the wonders of their past.



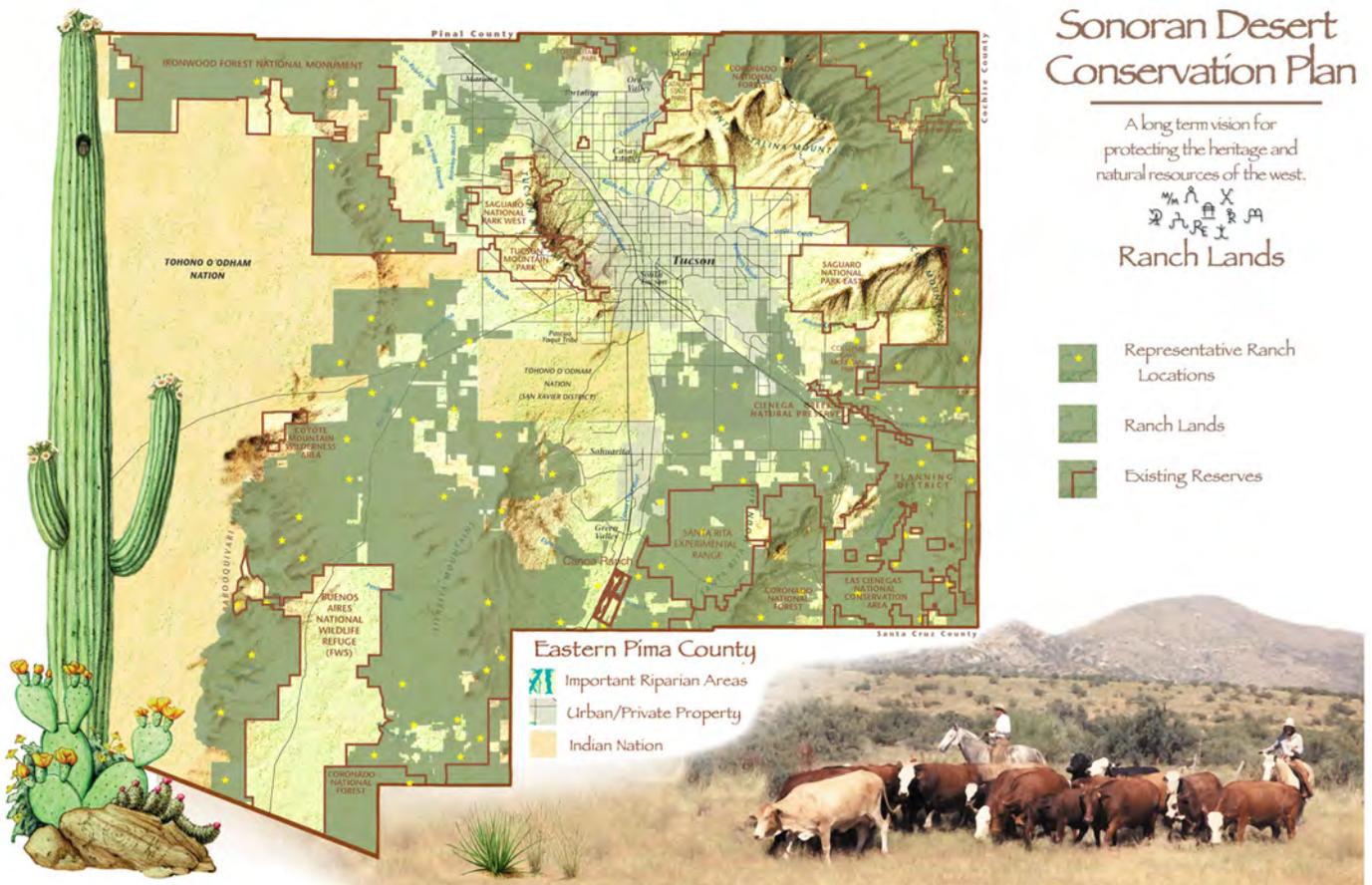
Early graphic representation of this element. Illustration by Bill Singleton

## Ranch Conservation Element

Historically, ranching has been a significant determinant of a definable urban boundary in eastern Pima County. While over half of our 2.4 million-acre region currently appears to be open and unused land, virtually all of this open space is used for ranching. Through the conservation of working ranches that surround the Tucson metropolitan area, vast landscapes of open space are preserved, natural connectivity is maintained, and the rural heritage and culture of the Southwest are preserved. Ranching contributes in defining a compact urban form that can help keep the costs of growth to a minimum by utilizing existing infrastructure and facilities and help to prevent unwanted urban sprawl and unregulated development.

In eastern Pima County, there are approximately 1.4 million acres, comprising a mosaic of private and public land ownership, presently dedicated to ranching. Virtually all of the larger ranches include both privately owned and leased public lands. Most ranches are family-owned enterprises, often operated by the descendants of original homesteaders who established ranching operations in the late 1800s.

Pima County's Ranch Conservation Element was designed to encourage viable and sustainable ranching operations to preserve working landscapes and the integrity of vast tracts of connected and unfragmented open space and wildlife habitat. The map below was developed during the early stages of the SDCP to show the extent of ranch lands in eastern Pima County.



Early graphic representation of this element. Illustration by Bill Singleton

## Sonoran Desert Conservation Plan

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### Critical Habitat and Biological Corridors Elements

The critical habitat and biological corridors elements embody the biological goal of the SDCP – to ensure the long-term survival of the full spectrum of plants and animals that are indigenous to Pima County by maintaining or improving the habitat conditions and ecosystem functions necessary for their survival.

When the planning process began in 1998, the science community did not have a list of priority vulnerable species of concern, a set of biological standards, or even a vegetation map that could serve as the starting point for determining the locations in need of protection for the species that were in decline. After an intensive research effort involving dozens of members of both the local and national science community much was achieved. A list of priority vulnerable species had been identified, the best available vegetation maps were assembled, and the science community identified habitat and connecting corridors that established an effective and lasting strategy to improve the status of these species. Moreover, data on the interaction of land development and the decline of biodiversity provided a scientific basis for decisions regarding lands to be acquired for conservation as well as long-term investment in research, monitoring and adaptive management to ensure the sustained bio-diversity of our region.

The Conservation Lands System (CLS) is the ultimate expression of those lands where conservation is fundamental and necessary to achieve the Plan’s biological goals, while delineating areas suitable for development. The CLS was renamed the Maeveen Marie Behan Conservation Lands System in November 2009 in memory of Dr. Behan’s work on the SDCP and the development of the CLS.

The various land use categories of the CLS were established based on the different resource values identified, with Important Riparian Areas, Biological Core and Special Species Management Areas being the most critical. Each CLS designation, as shown on the map on the right, has an associated conservation guideline. The CLS is regional and covers approximately 2 million acres in eastern Pima County.

In the pages that follow, a detailed description is provided for how the CLS was used to prioritize properties for the 2004 Conservation Acquisition Bond Program.

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## Categories of the Conservation Lands System



*Important Riparian Areas are critical elements of the Sonoran Desert where biological diversity is at its highest. These areas are valued for their higher water availability, vegetation density, and biological productivity. They are also the backbone in preserving landscape connectivity.*

*Landscape conservation objective: 95% undisturbed natural open space.*



*Biological Core Management Areas are those areas that have high biological values. They support large population of vulnerable species, connect large blocks of contiguous habitat and biological reserves, and support high value potential habitat for five or more priority vulnerable wildlife species.*

*Landscape conservation objective: 80% undisturbed natural open space.*



*Special Species Management Areas are those areas that are crucial to the survival of three species of special concern to Pima County: the Cactus ferruginous pygmy-owl, Mexican spotted owl, and Southwest willow flycatcher.*

*Landscape conservation objective: 80% undisturbed natural open space.*



*Multiple Use Management Areas are those areas where biological values are significant, but do not attain the level associated with Biological Core Management Areas. They support populations of vulnerable species, connect large blocks of contiguous habitat and biological reserves, and support high value potential habitat for three or more priority vulnerable species.*

*Landscape conservation objective: 66 2/3% undisturbed natural open space.*



*Critical Landscape Connections are six broadly-defined areas where biological connectivity is significantly compromised, but where opportunity to preserve or otherwise improve the movement of wildlife between major conservation areas and/or mountain ranges still persists.*

*Landscape conservation objective: Protect existing wildlife habitat linkages, remove obstacles to wildlife movements and restore fragmented landscapes.*



# Land Conservation Programs and Property Highlights

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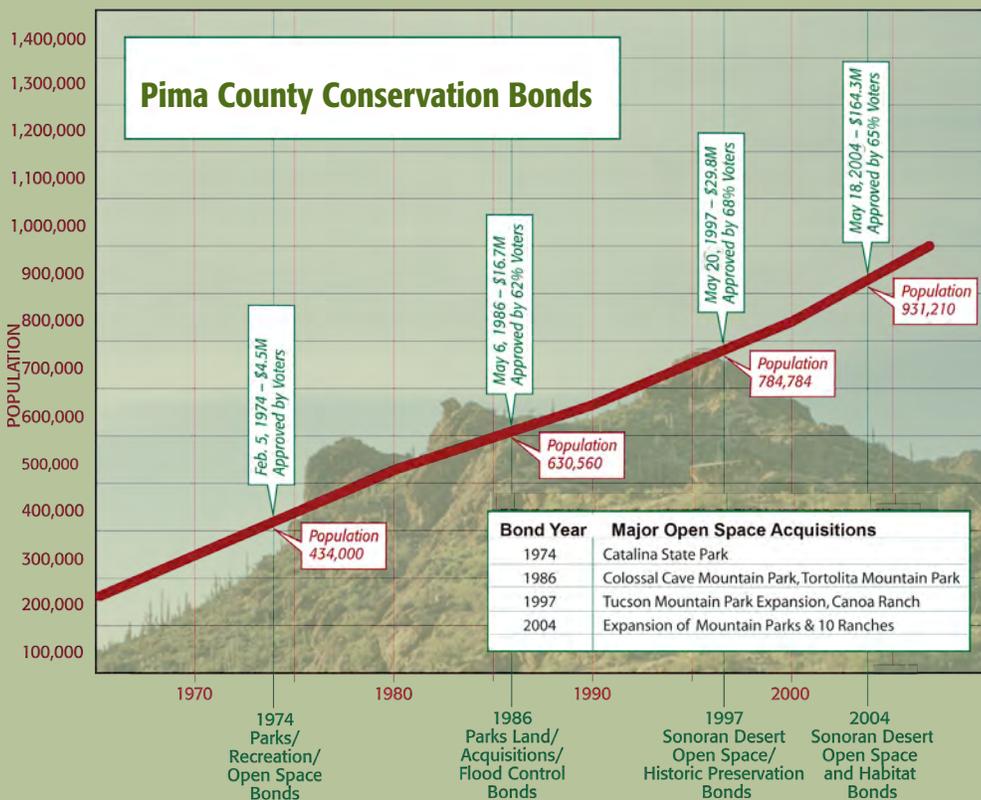
## Since 1974, and the purchase of what later became Catalina State Park, the voters of Pima County have been approving bond funds for the purchase of land for conservation. Although other funding sources have been used from time to time, general obligation bond funding approved by voters and paid back with property tax revenues, has been by far the largest source of funding. Not only have voters supported spending their tax dollars on land conservation, but they have done so at approval rates higher than for any other public need, with the exception of public safety.

These funds have been approved for four general purposes: open space and habitat conservation, cultural resource and historical preservation, floodprone land acquisition, and land acquisition to prevent urban encroachment on Davis-Monthan Air Force Base. This section focuses on properties purchased with voter approved bond funds from the 1997 and 2004 bond elections and provides an overview of the planning and implementation of the 5 distinct programs under

which these properties were purchased: 1997 Open Space Bond Program, the 2004 Conservation Acquisition Bond Program, the Historic Preservation Bond Program, the Floodprone Land Acquisition Program, and the Davis-Monthan Air Force Base Urban Encroachment Prevention Bond Program. In addition, highlights of the properties purchased under these programs are provided.

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1997 Open Space Bond Program, the 2004 Conservation Acquisition Bond Program, the Historic Preservation Bond Program, the Floodprone Land Acquisition Program, and the Davis-Monthan Air Force Base Urban Encroachment Prevention Bond Program. In addition, highlights of the properties purchased under these programs are provided.



# Land Conservation Programs and Property Highlights



## 1997 Open Space Bond Program

**Program Period: 1997 to 2010**  
**27 individual properties acquired**  
**7,200 acres acquired**  
**\$27.9 million authorized by voters on May 16, 1997**  
**No funds remaining**  
**\$3,900 average price per acre**

*The majority of this information was excerpted and adapted from a report to the Conservation Acquisition Commission dated April 19, 2006, drafted and presented by Jim Barry, former Executive Assistant to the County Administrator, and program coordinator for the 1997 Open Space Bond Program.*

The 1997 Open Space Bond Program was included on the election ballot as part of Question 4, Sonoran Desert Open Space and Historic Preservation, which included an authorization of \$27,900,000 for Open Space, \$2,000,000 for Trails, and \$6,430,000 for Cultural and Historic Preservation.

### Planning

Distinct from the 2004 program, planning for the 1997 program was very conceptual and general in the beginning, with more detailed planning and prioritization conducted by a citizen advisory group after the bond election.



*Perper-Rollings property within the Robles Pass portion of the Tucson Mountains, south of Ajo Highway. Photo by Arizona Land and Water Trust.*

During the first phase, from the fall of 1995 through December 1996, the County's Bond Advisory Committee developed recommendations for the 1997 bond election. The Bond Advisory Committee developed its recommendations for the 1997 Open Space Bond Program largely based upon input from an informal coalition of open space advocates (Friends of the Sonoran Desert), County Parks and Recreation staff, and the County Administrator's Office.

County staff further refined the Program in the course of drafting the Bond Implementation Plan Ordinance for the May 16, 1997 election. The result of this effort was the identification of 18 "target areas" and 256 potential acquisition parcels within the target areas. The Ordinance acknowledged that the target areas were general and conceptual, that no estimates of value had been made of the parcels identified for potential acquisition, and that the costs of all parcels were likely to exceed the proposed bond authorization. The Board adopted the Ordinance on May 6, 1997, and 68 percent of voters approved the program on May 20, 1997.

In December 1997, the Board created the Open Space Acquisition Review Committee (OSARC), to develop more precise planning and priorities for the 1997 Open Space Bond Program. OSARC was to be "an independent expert citizen committee, whose goal was to ensure that further planning and analysis was an open process. OSARC is advisory to the Board of Supervisors and is to make recommendations to the Board of Supervisors on implementation of the Open Space Bond Fund program."

OSARC held its first meeting on February 24, 1998, meeting regularly throughout the remainder of the year. During that time, the Committee and County staff discussed each target area and the Committee set priorities for acquisition parcels within each target area. On January 10, 2000, OSARC released its report,



*Canoa Ranch. Photo by Simon Herbert.*

which prioritized the list of potential acquisition parcels to 85, with an estimated price tag of \$60 million, acknowledging that this cost was well in excess of the bond funding available. OSARC continued to provide oversight to the program through May 2004 when the Conservation Acquisition Commission was appointed.

The Sonoran Desert Conservation Plan (SDCP) was being developed during the early years of implementing the 1997 bond program. The scientific data and additional information that resulted from the SDCP planning process also helped to prioritize which properties to purchase with 1997 bond funds.

## Implementation

A total of 27 properties were purchased with funds from the 1997 Open Space Bond Program, totaling almost 7,200 acres. The majority of purchases occurred during the first 4 years of the program, between 1998 and 2001. This report provides highlights of these properties, including photographs and maps. Appendix i includes a table listing all of the expenses by property. The 1997 Open Space Bond Program expanded Tucson Mountain Park, Tortolita Mountain Park, and Colossal Cave Mountain Park, established the Canoa Ranch Conservation Park, and conserved the Clyne Ranch in the Cienega Corridor.



Tang property northwest of Tucson. Photo by EPG



Clyne Ranch looking southeast towards the Mustang Mountains. Photo by EPG.

# Land Conservation Programs and Property Highlights



## 2004 Conservation Acquisition Bond Program

**Program Period: 2004 to 2010**  
**50 individual properties acquired**  
**45,300 acres acquired**  
**127,000 acres managed under grazing leases and permits**  
**\$164.3 million authorized by voters on May 18, 2004**  
**\$157 million spent**  
**\$1.1 million in grant funding spent**  
**\$3,500 average per acre price**

The 2004 Conservation Acquisition Bond Program was included on the May 18, 2004 election ballot as part of Question 1: Sonoran Desert Open Space and Habitat Protection; Preventing Urban Encroachment of Davis-Monthan Air Force Base; and authorizing the sale of \$174.3 million in bond funds for such purposes.

### Planning

When the Steering Committee for the Sonoran Desert Conservation Plan completed their work in 2003, their recommendations included, among other items: (1) a bond election to acquire property for conservation, (2) a map of approximately 525,000 acres of the highest priority biologically important lands in eastern Pima County to begin purchasing through such a bond election, and (3) recognition that additional lands important to the community should also be included in such a bond election.

The Board of Supervisors adopted the Steering Committee's recommendations and immediately directed staff to begin preparations for a May 2004 bond election. This included the appointment of the Conservation Bond Advisory Committee to develop more specific recommendations on properties, funding amounts, and guidelines for the program. This nine member Committee held 17 public meetings over a 3-month period and developed the 2004 Conservation Bond Program Proposal dated October 2003.

After consideration by the Pima County Bond Advisory

Committee and the Board, who were also faced with the task of determining bond-funding amounts for other public facilities such as libraries and courts, the questions that went before the voters included Question 1 for \$174.3 million for land conservation. These funds were to be spent on the highest priority biological lands known as the Habitat Protection Priorities, other important lands referred to as Community Open Space properties, lands specifically requested by cities and towns, and \$10 million for the purchase of land in the approach and departure corridors of Davis-Monthan Air Force Base to prevent urban encroachment.

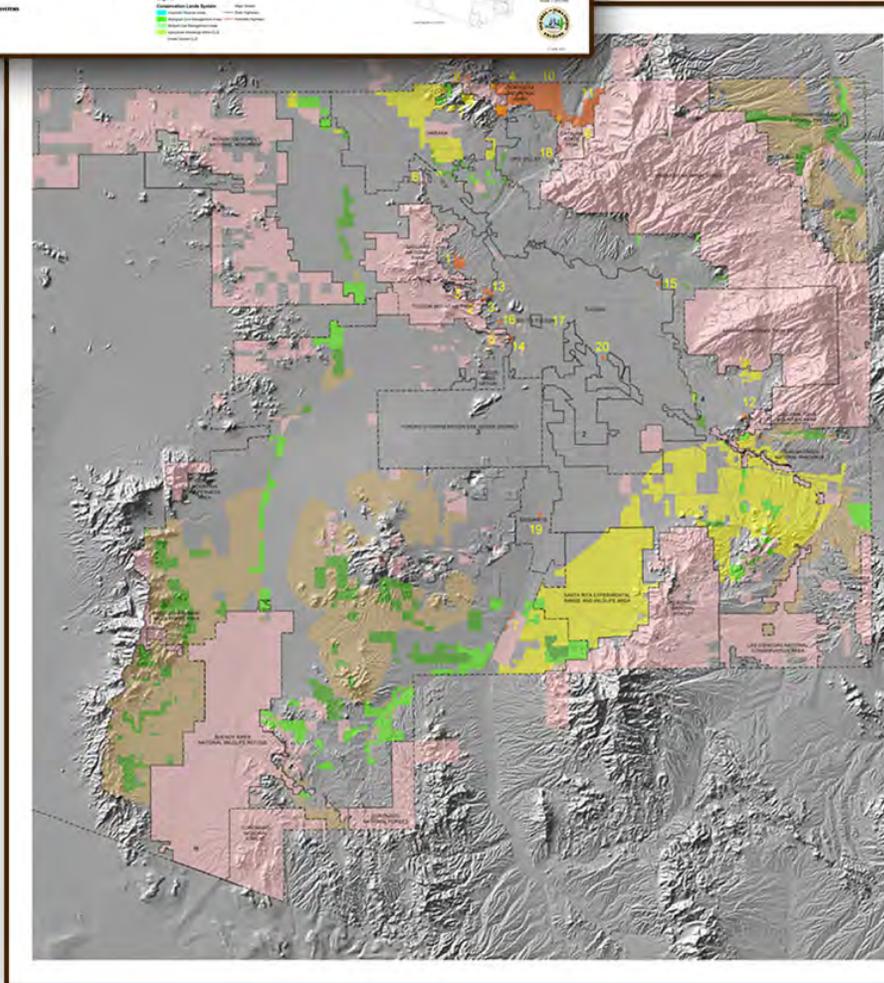
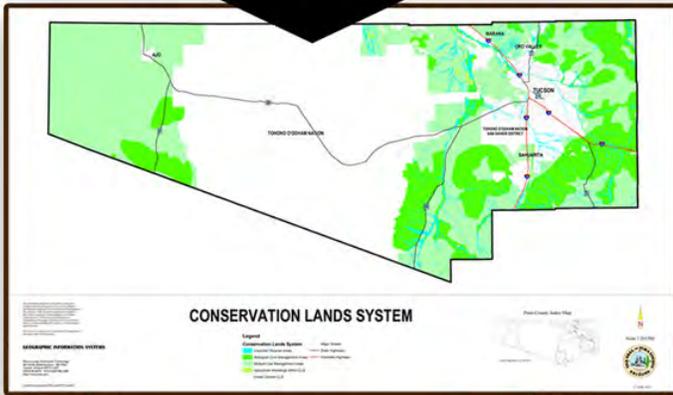
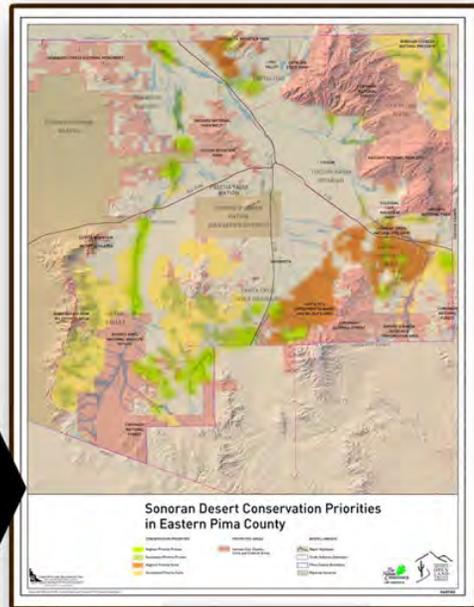
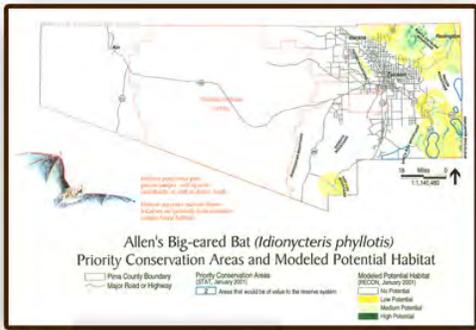
Information provided to voters by the County was clear to point out that the amount of acreage identified as eligible for purchase far exceeded what could be purchased with \$174.3 million, and that additional funding allocations would be needed in the future to fully achieve the goals of the Sonoran Desert Conservation Plan. On May 18, 2004, voters approved Question 1 authorizing \$174.3 million for land conservation by a margin of 65 percent.

### Selection of the Eligible 2004 Conservation Acquisition Bond Properties

The map showing which properties would be eligible for purchase with the 2004 bond funds was a direct result of the scientifically driven Sonoran Desert Conservation Plan process. As depicted in the series of maps on the right, it began with plant and wildlife experts identifying suitable habitat for each particular Priority Vulnerable Species. All of the species maps were then laid upon each other to determine which areas of the County contained important habitat for the most species. Areas that contained habitat for three or more of these species, and five or more of these species, were then used to shape the biologically preferred alternative that is now known as the Maeveen Marie Behan Conservation Lands System (CLS). The CLS was adopted by the County to guide development and conservation decisions.

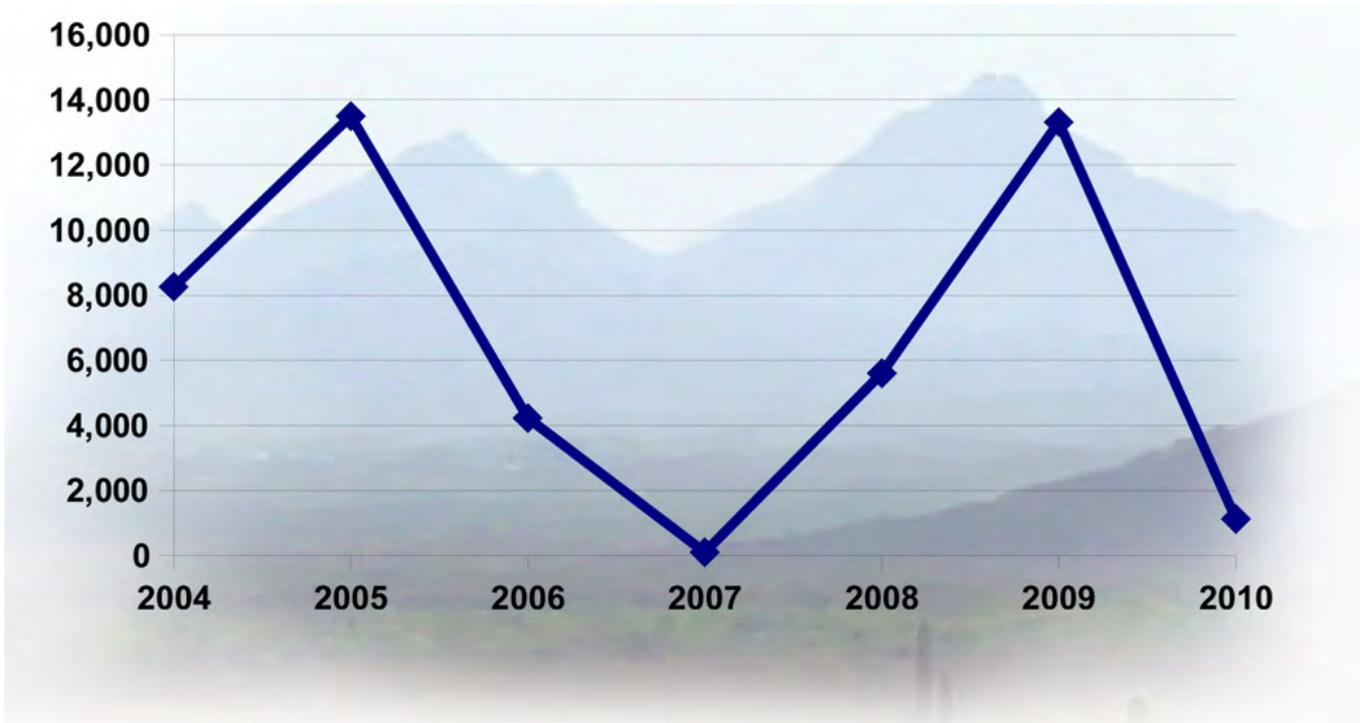
In eastern Pima County, the CLS includes about two million acres. Half of these two million acres were already protected as part of local, state, and federal reserves at the time the County adopted the CLS in 2001. In 2003, The Nature Conservancy and the Arizona Open Land Trust (now Arizona Land and Water Trust) applied selection criteria and goals to the 1 million acres in the CLS in eastern Pima County that was not yet conserved. The result was the selection of 525,000 acres of the most important lands to conserve first. These were called the Sonoran Desert Conservation Priorities, and later known as the Habitat Protection Priorities.

During the planning process for the 2004 bond election, these Habitat Protection Priorities were combined with other properties important to the community, as well as properties requested by cities and towns, to form the properties eligible to purchase as part of the 2004 Conservation Acquisition Bond Program.

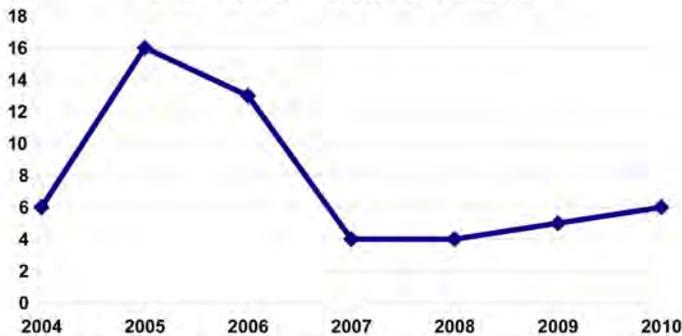


# Land Conservation Programs and Property Highlights

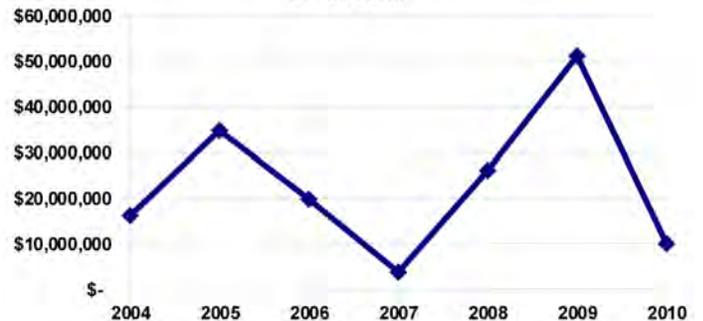
## Number of Acres Purchased



## Number of Individual Properties Purchased



## Dollars Spent



## Purchasing Trends over Time (2004-2010)

In reviewing the charts above, some general observations can be made regarding purchases that took place before, during and after 2007. Before 2007, the County purchased a high number of smaller sized properties, along with a few large ranches, at a cost of just less than half of the total dollars spent. After 2007, the County purchased far fewer properties, but with some of these properties being much larger in size, at a cost of just over half of the total dollars spent. In 2007, the County purchased the fewest properties, totaling the fewest number of acres, with the fewest amount of dollars spent in any of the other years.

Some general observations can also be made regarding what contributed to the County's purchasing trends during this time period. Towards the end of 2006, property values began to drop and discrepancies between landowners' price expectations and appraised values led to a reduced number of sales in the market, and a reduced number of sales between Pima County and potential sellers. Many potential sellers held on to properties with hopes that the market would rebound in the short term. Beginning in 2008, the County was able to successfully negotiate the purchase of some key large properties. Owners of smaller properties, who had high expectations of value during

the first half of the program, sold properties to the County at substantially lower prices. As a result, during the second half of the program, the County was able to take advantage of reduced prices on some properties and purchase a few large ranches or portions of ranches from owners who previously had not been willing to sell.

The types of properties purchased over this time period varied. Initially, the County purchased properties that were in various stages of negotiation prior to the bond election. These included a couple of properties in and around the Tucson Mountains, and the purchase of A-7 Ranch in the San Pedro Valley from the City of Tucson. The Conservation Acquisition Commission then proposed that the County begin to target particular riparian areas, followed by large unfragmented and undeveloped properties, most of which were working ranches. These included properties along Agua Verde Creek, Agua Caliente Wash and Brawley Wash, and several ranches located in Cienega Valley, Northern and Southern Altar Valleys and the Tortolitas. Due to high development pressures at the time, many smaller properties along the eastern slopes of the Tucson Mountains were then acquired, in effect expanding Tucson Mountain Park. Following this, a number of purchases were made that also expanded Colossal Cave Mountain Park and Cienega Creek Natural Preserve in the Cienega Corridor. Key properties within the Tortolita Mountains and the Tortolita piedmont area northwest of Tucson were then actively targeted. After assessing the progress made in acquiring various types of habitats across Pima County, staff noted a shortfall in the number of properties conserved with high quality grasslands and the federally endangered Pima pineapple cactus. This led to the final large purchases of the program, which included working ranches in the Cienega Corridor east of the Santa Rita Mountains, and the Altar and Upper Santa Cruz Valleys southwest of Green Valley, containing a significant amount of high quality grasslands and Pima pineapple cactus habitat. This included a portion of the 114,000-acre Marley Ranch, one of the largest working ranches remaining in Southern Arizona, as well as options to acquire the remainder of the ranch by 2014. Finally, 150 acres was acquired at the confluence of the Tanque Verde Creek and Agua Caliente Washes in Northeast Tucson, as well as a key property in the wildlife corridor along Oracle Road north of Oro Valley.

The land conservation program was implemented in both a pro-active and opportunistic fashion. In some cases, the County or our partner organizations contacted property owners directly. In other cases, owners heard about the program and contacted the County or our partners. Extensive information and data was collected on the properties in order to determine whether to purchase the properties. This included appraisals, biological and cultural assessments, management considerations, environmental hazard assessments, development scenarios, and many maps and photographs. Not only was this data needed to determine whether to purchase a property, but it is also used to establish

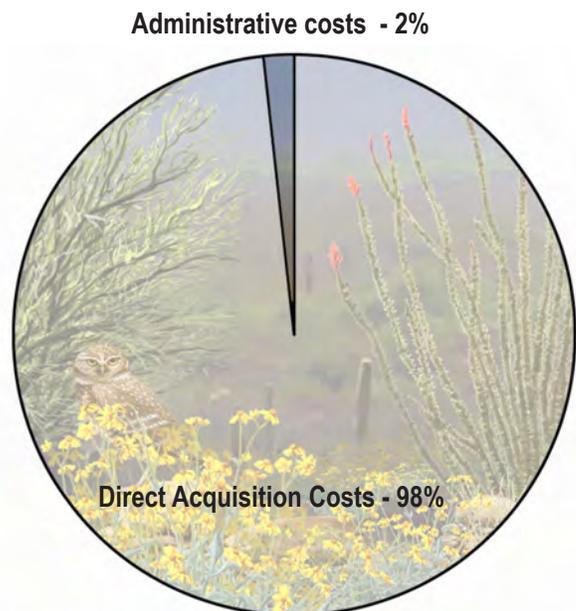
a baseline for long-term management of the properties. Much of this information is provided in the property highlights in this report.

The process of targeting properties for purchase and evaluating requests from sellers, was and continues to be overseen by the 11 member Conservation Acquisition Commission, and governed by the terms of the County's Bond Implementation Plan Ordinance and Truth in Bonding Code. The Commission met 53 times between June 2004 and August 2010, and will continue to meet as necessary. More information on the Commission can be found at the end of this report.

### Summary

In total, 50 individual properties were acquired under this 2004 bond program, totaling 45,300 acres in fee, and another 127,000 acres in State grazing leases and federal grazing permits. \$157 million of the \$164.3 million has been spent, and the average cost per fee acre was about \$3,500.

### 2004 Conservation Acquisition Bond Program Use of Funds



*Chart illustrates amounts spent for all due diligence and administrative costs and actual purchase costs for the 2004 Conservation Bond Program.*

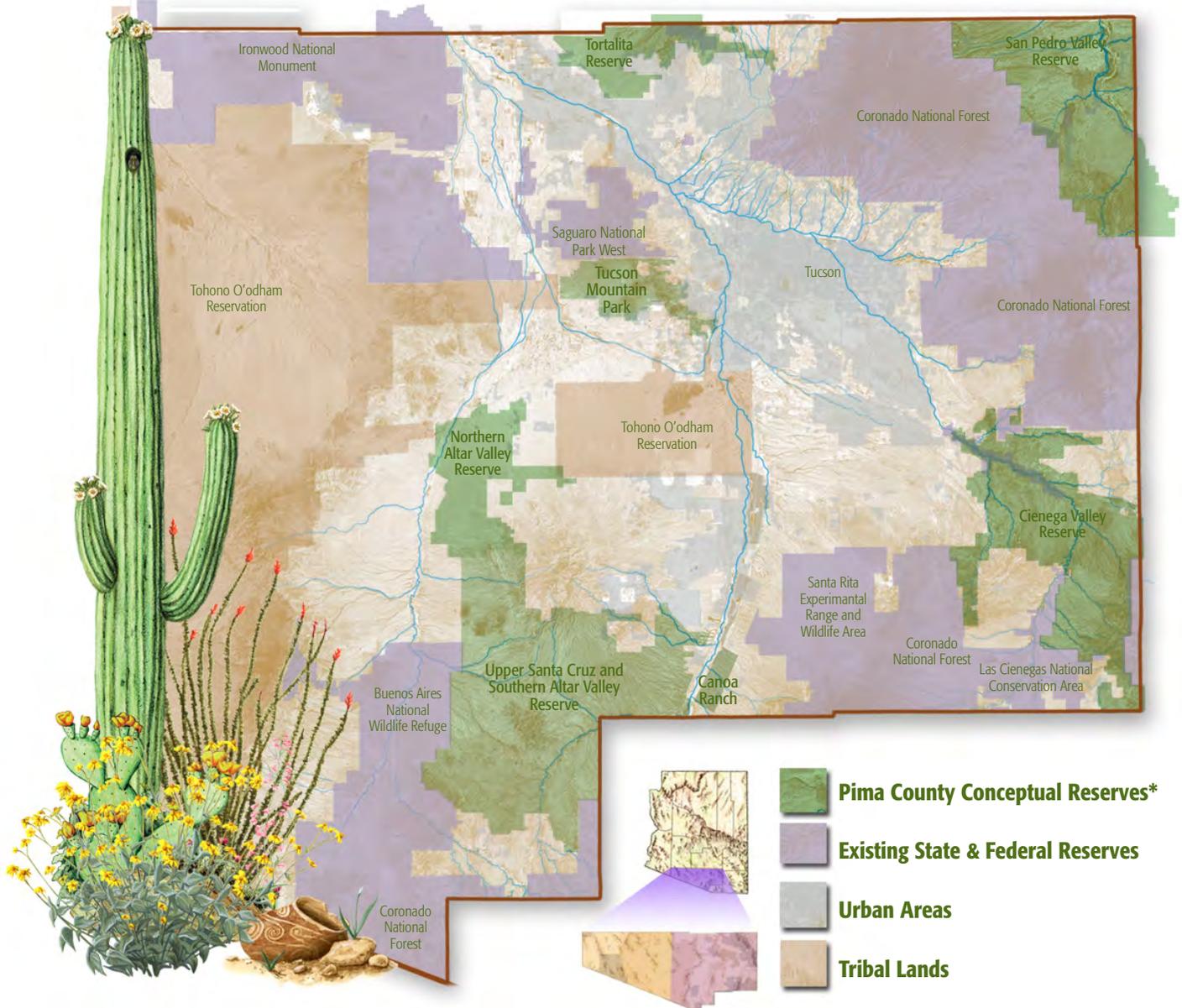
# Property Highlights by Reserve

## 1997 and 2004 Conservation Bond Programs

When we look today at the 230,000 acres the County owns or manages for conservation, we can see the emergence of a reserve system that compliments federal, state and local conservation areas in Pima County, as shown on the map. The conceptual reserves provide a framework to defining an urban boundary, conserving important natural areas, protecting working landscapes and water resources, and preserving our region's cultural heritage. While conceptual in nature, the reserves include lands already acquired by the County, as well as

County-managed state and federal lands that are part of grazing leases held by the County. The reserves build upon the Maeveen Marie Behan Conservation Land System, a major milestone in implementing the Sonoran Desert Conservation Plan, which serves as a guide to achieving sustainable growth in Pima County. Using both 1997 and 2004 Conservation Bond funds, the County has acquired 76 properties, totaling 50,000 acres in fee and manages 130,000 acres of State and Federal grazing leases associated with ranch acquisitions.

### Pima County Conceptual Reserves \*



\* These are conceptual reserves and in no way affect any Federally, State or privately owned land within each reserve. Lands within reserves have been identified within the Conservation Lands System since 2001.

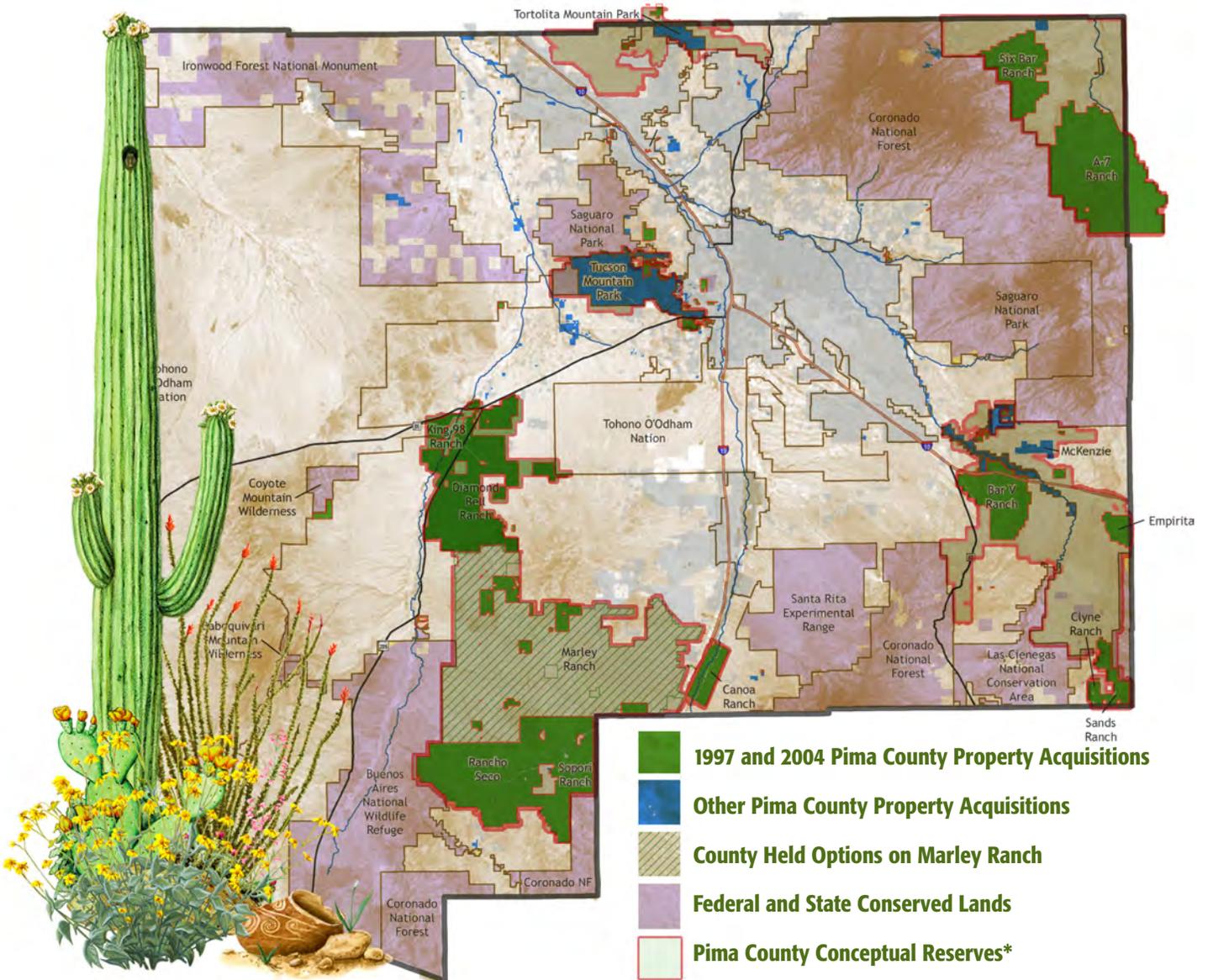
The properties featured here have been divided into the six Conceptual Reserves noted on the map:

- Cienega Valley – Empire Ranch Reserve
- Upper Santa Cruz and Southern Altar Valley Reserve
- Northern Altar Valley Reserve
- Tucson Mountain Park Reserve
- Tortolita Reserve
- San Pedro Valley Reserve

Summaries of each property or group of properties acquired by the County since 1997 under each Reserve include:

- Overviews of each County conceptual reserve
- Background on when and why each property was acquired
- Historical, cultural, and biological resources
- Current management activities and ongoing property improvements
- Recreational opportunities

## Properties acquired under 1997 and 2004 Conservation Bond Programs



\* These are conceptual reserves and in no way affect any Federally, State or privately owned land within each reserve. Lands within reserves have been identified within the Conservation Lands System since 2001.

# Cienega Valley-Empire Ranch Reserve

- 1 Bar V Ranch
- 2 Empirita Ranch
- 3 Sands Ranch
- 4 Clyne Ranch
- 5 Colossal Cave Mountain Park Expansion
- 6 Cienega Creek Natural Preserve Expansion
- 7 Acquisitions that contribute to Reserve

-  Riparian
-  Grassland
-  Mountains

## Grasslands

The Cienega Valley contains one of the most important grassland communities in Arizona and was recently recognized as one of three most important grassland complexes in the southwest by the National Fish and Wildlife Foundation.



Photo by Robert Dawson

Santa Cruz County

Cochise County



Photo by Smith-Southwestern Inc.

### Colossal Cave

Large amounts of limestone in the Cienega Watershed contributed to the development of another resource in this area hundreds of thousands of years ago - Colossal Cave. Colossal Cave Mountain Park supports habitat for almost half of the bat species in the State.



Photo by Pima County

### Cienega Creek

Pima County's Cienega Creek Natural Preserve protects 12 miles of one of the last remaining perennial streams in Pima County. Spanning 4,000 acres, the Preserve is home to many rare and federally protected species. This watershed provides a key source of drinking water to portions of the Tucson basin. These natural resources also play a role in attracting eco-tourism to our region.



Empirita Ranch along the Pima/Cochise County border looking across Interstate 10 towards the Rincon Mountains. Photo by Arizona Land and Water Trust

The Cienega Valley Empire Reserve encompasses some of Pima County's most ecologically rich and desert-rare resources. Located southeast of Tucson, it encompasses the valley between the Rincon, Santa Rita and Whetstone Mountains. This valley received national recognition as one of seven endangered cultural landscapes in America in 2004. The reserve includes Davidson Canyon, Cienega Creek, Colossal Cave, a key segment of Agua Verde Creek, and other important sections of the Cienega watershed. This area contains a wide range of invaluable natural resources, including the best example of a riparian forest system embedded within semi-desert grassland in Pima County. The diversity in habitat types support a majority of Pima County's 55 Priority Vulnerable species. Adjacency to existing federally conserved lands, such as the Coronado National Forest, Saguaro National Park and the Las Cienegas National Conservation Area, provides important wildlife corridors.



Photo by Steve Anderson

### Recreation and Arizona Trail

Cienega Valley offers many natural resource based recreational opportunities. Activities include birding, camping, caving, horse riding, hiking, picnicking, visiting cultural/historic resources, scenic driving, and hunting. The Arizona Trail also passes through this valley.

# Cienega Valley-Empire Ranch Reserve



## Bar V Ranch

**Fee Lands: 1,763 acres**  
**State Grazing Lease: 12,674 acres**  
**Acquired: February 17, 2005**  
**Cost: \$8,189,228**  
**Fund: 2004 Bond Funds**  
**Grant: Transportation Enhancement Fund**

## Background

Pima County's acquisition of the Bar V Ranch contributes to the conservation of one of the most important wildlife movement corridors in the Cienega Valley. The 14,400 acre Bar V Ranch is located between the Rincon and Santa Rita Mountains, and adjacent to the County's Cienega Creek Natural Preserve. The ranch includes a significant portion of Davison Canyon, an important tributary and water source to Cienega Creek and the Tucson Basin. Acquisition of the Bar V Ranch preserves a large intact piece of the Empire-Cienega landscape and protects important riparian habitat crucial for several vulnerable species. In April 2004, the State Transportation Board unanimously approved funding of \$500,000 of the Scenic Easement/Acquisition Category towards the acquisition of the 600 acres of ranch fee land along Davison Canyon to preserve view sheds along state designated scenic roads and highways. In 2009, the National Board on Geographic Names approved a proposal by Pima County to name a key water source to the ranch, Beckys Spring, in honor of the daughter of the former owners who was instrumental in the ultimate conservation of the ranch.

## Historic and Cultural Resources

The Bar V Ranch lands are located in the corridor following the Cienega Creek drainage that historically has been used for transportation linking the Santa Cruz River on the west with the San Pedro River Valley to the east. Historic trails known to have followed this corridor include the route taken by the Mormon Battalion between 1846 and 1847, the Butterfield Overland Mail Company stage stop on the Cienega Creek between 1858 and 1861, and the Wells Fargo Company pony express on portions of the Butterfield Trail. In 1880, the Southern Pacific Railroad laid their line following Cienega Creek, and in the 1920s, OS80 Highway was constructed following this corridor. Interstate 10 is the modern descendant of this earlier highway. Surveys by the University of Arizona revealed that human occupation along Cienega Creek is known between 6,000 B.C. to present day.

## Biological Resources

Bar V Ranch includes a vital wildlife corridor linkage in the Cienega Valley, and is part of a critical landscape connection identified in the SDCP. The ranch is designated as Biological Core and Important Riparian Area within the Conservation Lands System, and supports habitat for at least 34 of the 55 Priority Vulnerable Species identified in the SDCP, including Lowland leopard frog, Bell's vireo, Abert's towhee and Needle-spined cactus. The ranch lands along Davidson Canyon contain reaches of perennial and intermittent stream flow, which supports populations of Longfin Dace. The shallow groundwater supports wetland and riparian vegetation, including the rare yew-leaved willow. This is also one the few places where one can see both the juniper and the saguaro cactus growing in close proximity.



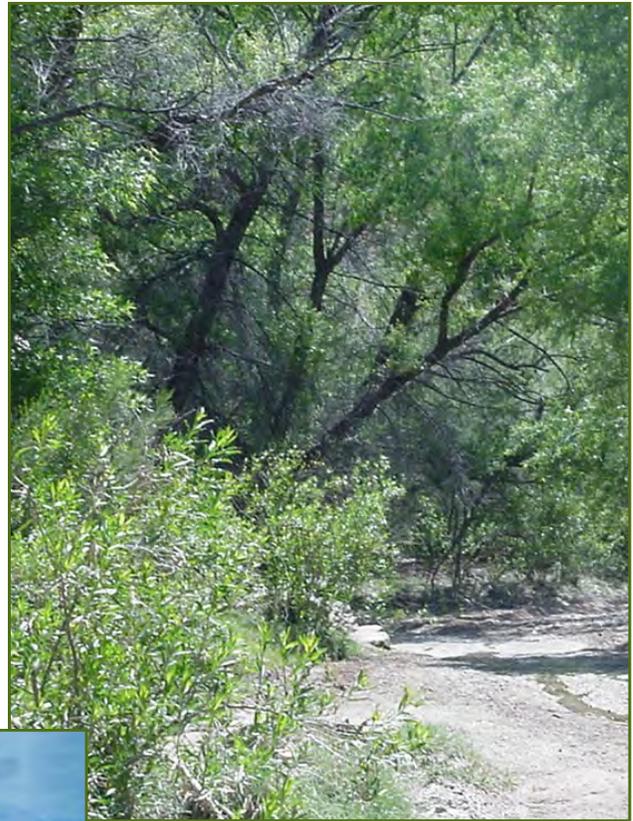
Davidson Canyon. Photo by John Sullivan

## Management

Bar V Ranch is still maintained and operated as a working ranch. Limited grazing is still conducted on parts of the ranch and waters have been developed and are maintained year-round for livestock and wildlife. Range conditions are monitored annually and all activity on the ranch is managed to protect and sustain the ecological values. Most of the Davidson Canyon stretch of the perennial and intermittent flow owned by Pima County has been fenced to restrict livestock access and reduce unregulated recreational use impacts.

## Recreation

Trails and roads along Davidson Canyon are a favorite with hikers, ATV riders and equestrian users. The nationally recognized Arizona Trail crosses Bar V Ranch along the Davidson Canyon drainage. Because the ranch is a mix of State Trust Lands and county-owned parcels, diverse recreational opportunities exist on the ranch. Responsible users follow County Park rules when on the County lands and Arizona State Land Department regulations for the Trust lands. The most significant recreational use impacts are due to irresponsible off-road vehicle use.



Above: Stretches of Davidson Canyon contain water year round, supporting Longfin Dace fish. Photo by Gloria Browne.

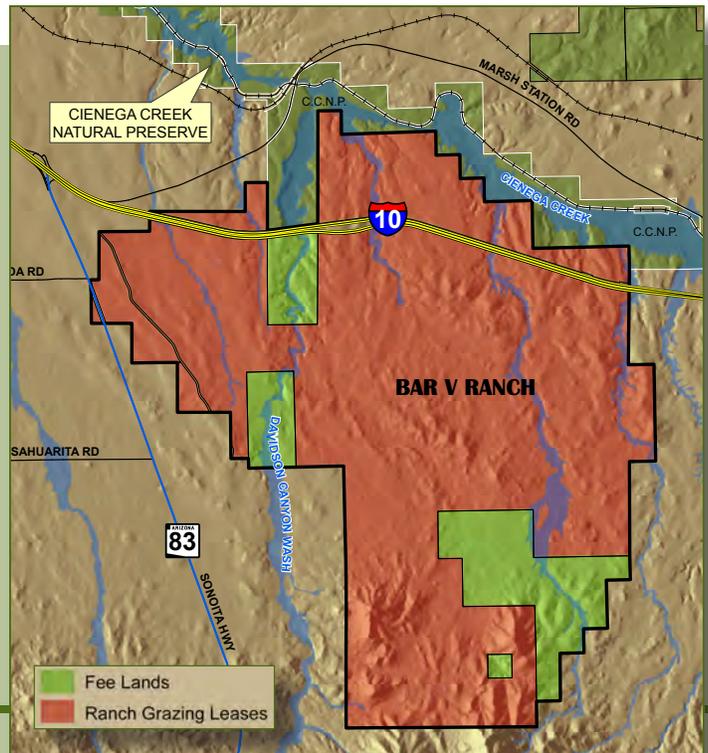
Left: View from Bar V Ranch of Interstate 10 bridge crossing Davidson Canyon. Photo by EPG, Inc.



## Ongoing Property Improvements

Primary projects on the property to date have been related to site security and management enhancements:

- The stretch of Davidson Canyon was fenced to protect riparian habitats.
- Regulatory signage has been posted for recreational users.
- Permanent rangeland condition monitoring plots have been established.
- Surveys have been conducted to look where additional fencing can be placed on the ranch to improve livestock rotational use.
- Status of bat use in some abandoned mine shafts and natural caves have been conducted.
- Davidson Canyon is surveyed for flow patterns and the presence of native fish populations.



# Cienega Valley-Empire Ranch Reserve



## Sands Ranch

**Fee lands: 5,040 acres**  
**Development Restrictions: 200 acres**  
**Acquired: December 30, 2008**  
**Cost: \$21,015,503**  
**Fund: 2004 Bond Funds**  
**Partner: Arizona Land and Water Trust**

### Background

In its entirety, the historic Sands Ranch totals 64,000 acres, spanning east of the Las Cienegas National Conservation Area to the San Pedro River in Cochise County. With the assistance of the Arizona Land and Water Trust, the County acquired the 5,000 acres of the Sands Ranch located in the far southeast corner of Pima County. This acquisition further connects a system of publicly-owned lands from the Santa Rita Mountains to the Whetstone Mountains, especially when coupled with the County's subsequent acquisition of the adjacent Clyne Ranch. Not only does it contribute to the health of the Cienega Watershed, but also conserves high quality native grasslands and wildlife movement corridors. The Sands Ranch was recently featured in the March 2010 issue of Arizona Highways Magazine.

### Historic and Cultural Resources

There are three recorded archaeological sites found on the Sands Ranch property. The USGS 1914 General Land Office map shows several historic ranch houses existed at one time. It is likely that historic-period cultural resources related to ranching, and perhaps mining, are present. A well known camping point for Calvary troops fighting the Apache was the Cottonwood well site located on the southeast portion of the ranch.



*Cattle on Sands Ranch. Photo by Kerry Baldwin*

### Biological Resources

The Sands Ranch property is located in a desert grassland community, which in terms of number of species, is a community that supports more species than any other ecosystem, according to EPG's biological assessment. Not only is the Sands Ranch a valuable acquisition because of its proximity to existing conserved lands, but also for its direct link to significant riparian areas, such as Sonoita Creek, Babocomari River and Cienega Creek. It also includes critical wildlife corridors, such as the drainage in Bear Spring Canyon, which connects the Whetstone Mountains to Cienega Creek. The ranch supports modeled habitat for at least 9 Priority Vulnerable Species, including Bell's vireo and Pale Townsend's big-eared bat.

### Management

The Sands Ranch property has been used for livestock grazing since the turn of the century and remains relatively undisturbed. The ranch is managed as a working landscape through a Ranch Management Agreement with the County. Because of the important native grassland habitats present, the conservation and enhancement of the base resource is a primary management goal. Maintaining the structure, diversity and viability of the high quality native grasslands and wildlife corridor functions are the primary management goals.



*Goat tank on Sands Ranch. Photo by Kerry Baldwin*

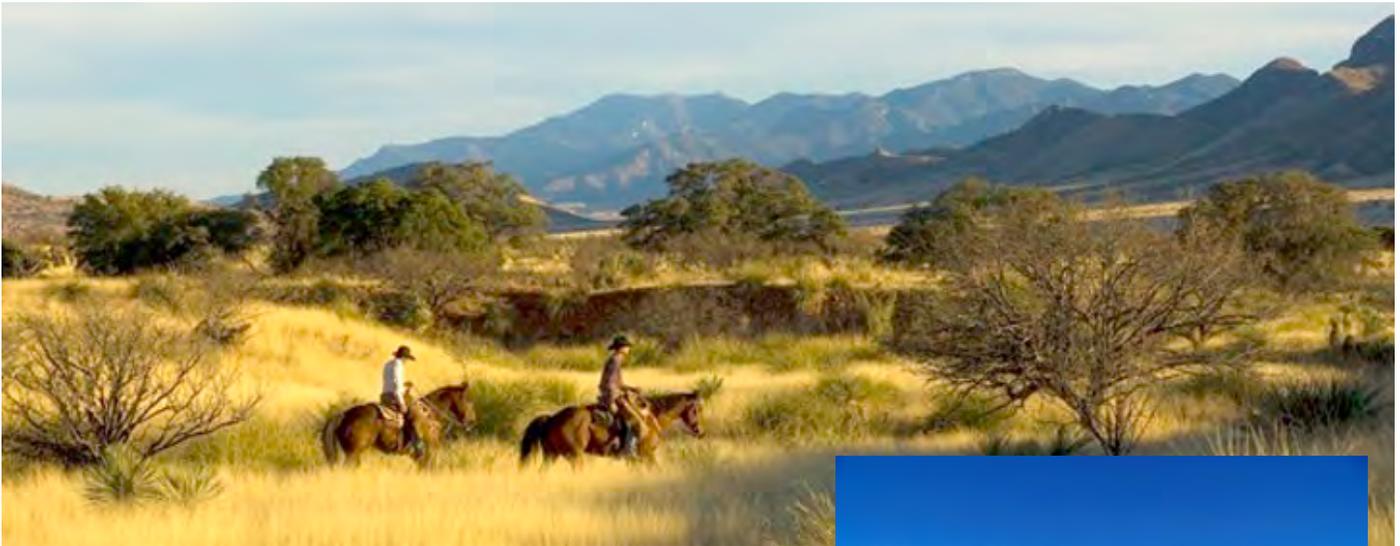


Photo by Robert Dawson

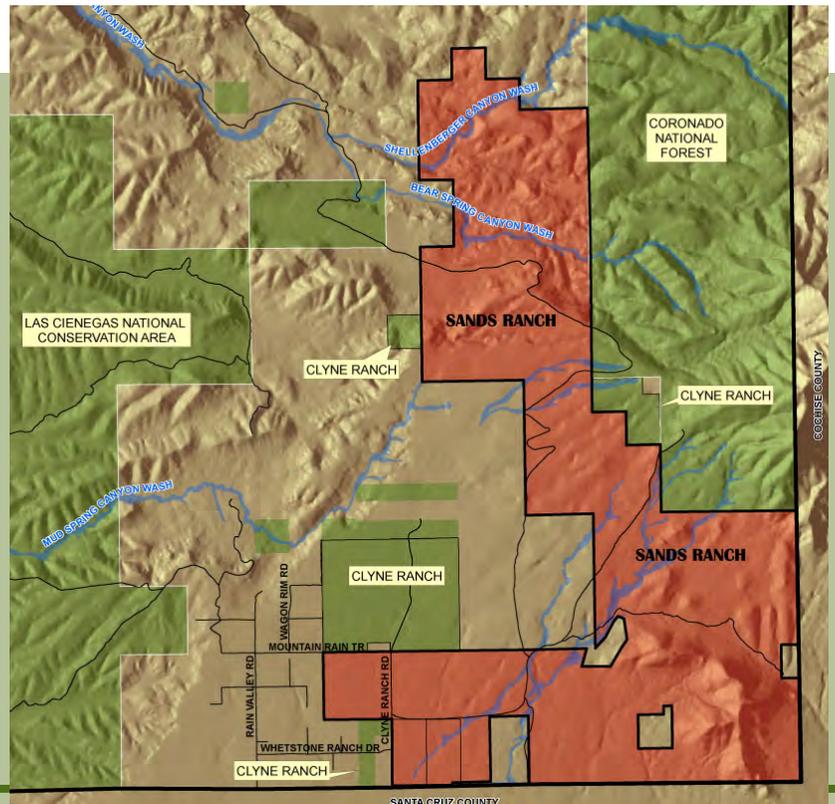


## Recreation

The ranch has historically been open to public recreation and will remain open at controlled access points. A map of the recommended access route is included in the appendix. Primary outdoor recreation activities will include hunting, hiking, camping, off highway vehicle travel on designated routes and wildlife watching. The rugged interior and unimproved ranch roads provide access points to the Coronado National Forest and Las Cienegas National Conservation Area.

## Ongoing Property Improvements

- A Coordinated Resource Management Plan has been completed involving the ranch manager, NRCS, BLM, and the Forest Service to intensively document and coordinate resource management efforts and set sustainable resource use levels.
- Travel access signage and gates
- Water development enhancements and maintenance of year-round water sources.
- Intensive surveys of the ranch ecological units are underway and permanent monitoring transect plots have been established.



# Cienega Valley-Empire Ranch Reserve



## Clynne Ranch

**Fee lands: 880 acres**  
**Development Restrictions: 90 acres**  
**Acquired: October 1, 2009 and January 8, 2010**  
**Cost: \$4,900,000**  
**Fund: 1997 and 2004 Bond Funds**  
**Partner: Arizona Land and Water Trust**

### Background

The County's acquisition of 5,000 acres of the Sands Ranch, located east of the Las Cienegas National Conservation Area, in December 2008, created an interconnected corridor of conserved lands spanning from the Santa Rita Mountains to the Whetstone Mountains. With the assistance of the Arizona Land and Water Trust, the County then acquired the Clynne Ranch parcels, located adjacent to the County's Sands Ranch and also east of the Las Cienegas National Conservation Area, totaling 880 acres. In addition, development restrictions were placed on 90 acres maintained by the seller. The ranch is an integral part of this assemblage of publicly-owned lands and further contributes to this corridor through the Cienega Valley. The Clynne Ranch parcels, like the Sands Ranch, contains high quality native grasslands found in the Sonoita Valley area.

### Historic and Cultural Resources

While there are no archaeological or historic sites known within or near the Clynne Ranch parcels, it does not preclude the possibility of potential cultural and archaeological resources being present, especially with the Important Riparian Areas found on the property.

### Biological Resources

The Clynne Ranch is located on the eastern edge of the Sonoita Basin and includes a mix of rolling plain grasslands that transition up into low agave ridges and oak draws as it moves upward towards the western slope of the Whetstone Mountains. This is dominated by an abundance of native grass species, but exhibits some invasion of Lehmann's lovegrass, a non-native grass species. The property supports habitat for 15 Priority Vulnerable Species, including the Lesser long-nosed bat and Desert box turtle, and falls within the Multiple Use designation of the Conservation Lands System, with ribbons of Important Riparian Areas.

### Management

The ranch's adjacency to the County-owned Sands Ranch creates an opportunity to manage the lands as a larger working landscape. The ranch is managed as a working cattle ranch under an agreement with the County. Because the ranch has important native grassland habitats, the conservation and enhancement of that base resource is the primary management goal. Water sources are being evaluated and modified to ensure they provide a year-round source for native wildlife, as well as meeting the need for the ongoing cattle operations.

### Recreation

Controlled and monitored access will be provided over most of the ranch property primarily as walk in opportunities. Road access to the general area is available on the adjacent Sands Ranch and a map is included in the appendix, showing the recommended access route. Allowed activities will include hunting, wildlife viewing, hiking and outdoor photography.



Horses grazing on Clynne Ranch. Photo by EPG.



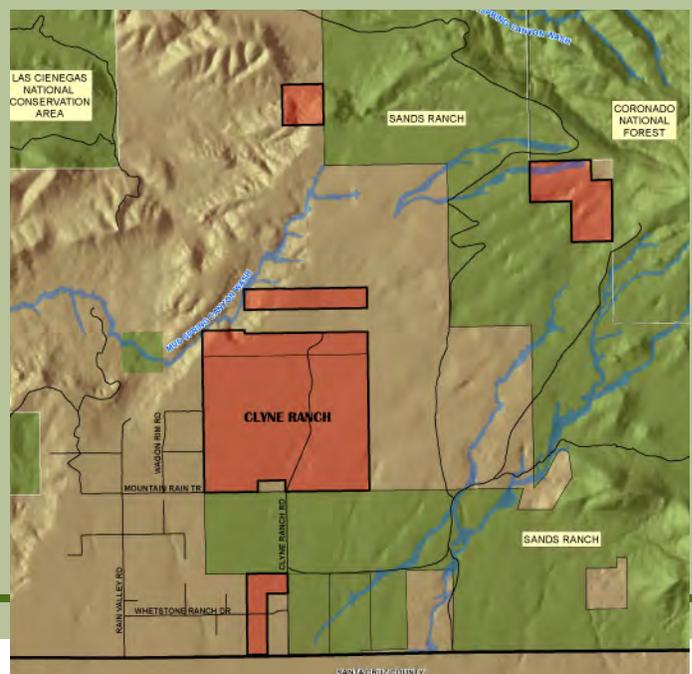
Photo by EPG, Inc.

## Ongoing Property Improvements

- The property is being evaluated to establish priority management projects.
- Ongoing efforts include site monitoring and establishment of key monitoring study plots.
- Important sources of water are being enhanced for wildlife.
- Fences are being evaluated for modification to improve wildlife movement across the ranch onto the Sands Ranch.



View of the Santa Rita Mountains to the west. Photo by Kerry Baldwin



# Cienega Valley-Empire Ranch Reserve



## Empirita Ranch

**Fee lands: 2,700 acres**  
**Cost: \$10,839,500**  
**Acquired: August 14, 2009**  
**Fund: 2004 Bond Funds**  
**Partner: Arizona Land and Water Trust**

### Background

The Empirita (little Empire) Ranch actually broke off from the larger Empire Ranch in 1941. In 1991 and 92, the Pima County Flood Control District purchased 360 acres of the Empirita Ranch. In 2001, Pima County's acquisition of the 2,700-acre Empirita property conserved the last remaining portions of the private land that comprised the historic Empirita Ranch. With assistance from the Arizona Land and Water Trust, the County negotiated the purchase of the Empirita property, along with the owner assigning the County its contractual right to withdraw up to 1,600 acre feet of groundwater annually from the Cienega Creek Basin. The Empirita acquisition expands upon already conserved reserves, including the Coronado National Forest, the Las Cienegas National Conservation Area, and the County's Bar V Ranch, Empirita Ranch and Cienega Creek Natural Preserve.

### Historical and Cultural Resources

There is a High sensitive archaeological zone, as defined by the SDCP, associated with Wakefield Canyon Wash. Several known sites are located immediately adjacent to the County lands. Historically, the Empirita Ranch has roots dating back to the 1800s. The old "cowboy house" at the primary ranch headquarters dating back to the 1880's was completely restored in 2009.

### Biological Resources

The Empirita property is primarily a grassland system and contains a combination of native and semi-desert grassland with mesquite woodland washes. It falls within the Biological Core designation of the Conservation Lands System, with significant Important Riparian areas. The property supports habitat for many species, including 9 Priority Vulnerable Species, including Allen's Big-eared bat, which the Science Technical Advisory team had noted in their early summer 2009 meeting was a species for which more conserved habitat in the County was needed. The property is an important transition habitat on the north end of the Whetstone Mountains.

### Management

This portion of the historic Empirita Ranch has been a working landscape since the early 1900s. The County's Natural Resources, Parks and Recreation Department (NRPR) manages the Empirita property as part of a working landscape similar to other ranch properties and in cooperation with BLM, State Land, and the U.S. Forest Service. Under a management agreement, a local rancher grazes limited livestock on the property and uses the historic ranch headquarters for grazing on adjacent state and federal lands. Acquisition of this property provides additional management options within the broader Las Cienegas Watershed area. The property is being evaluated for the potential to establish and/or maintain year-round water for wildlife. Access to the property is controlled by a permit system and portions of the ranch are closed to public entry or use to protect habitat and watershed values. An access map is included in the appendix.



Photo by Arizona Land and Water Trust

## Recreation

Access to the Empirita property and State Trust or public lands are only through the County fee lands and is available by free permit from the Natural Resources Parks and Recreation Department. A limited number of vehicle permits are available each day to limit impacts of recreational use and control potential vandalism incidents. Primary recreational uses include hiking, hunting, horseback riding and off highway vehicle travel. The Whetstone Mountains of the Coronado National Forest, have limited access available and routes through the County acquisitions are one of the key routes now open to the public.

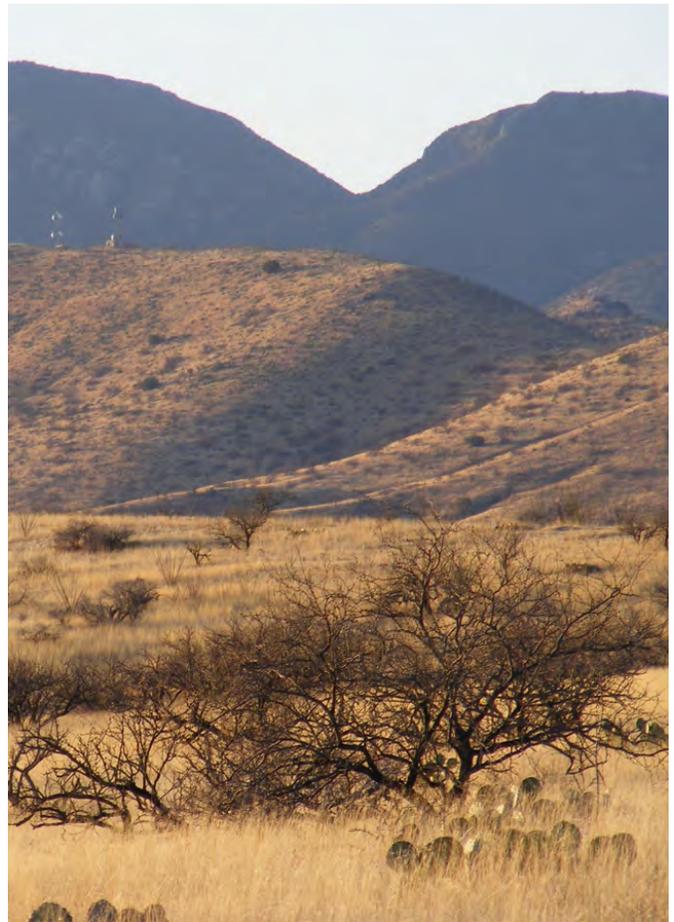


Photo by Arizona Land and Water Trust



New Empirita fencing and gate for access control. Photo by Joe Kellner

## Ongoing Property Improvements

- New public access routes off Empirita Ranch Road were constructed in 2009 in cooperation with Arizona Game and Fish Department. (see appendix)
- A solar water well site was developed establishing year-round water for wildlife.
- Historic buildings on the site were stabilized to reduce further deterioration.
- One of the historic retaque corrals made of interwoven mesquite branches was rebuilt by the property manager.
- Security fencing added and signage for recreational users.
- Permanent rangeland monitoring sites will be established on the property to help property manage any livestock use.



# Cienega Valley-Empire Ranch Reserve



## Colossal Cave Mountain Park Expansion

**Fee lands: 464 acres**  
**Cost: \$2,277,092**  
**Acquired: Between August 13, 1999 and August 7, 2006**  
**Fund: 1997 and 2004 Bond Funds**  
**Partner: Arizona Land and Water Trust**

### Background

Pima County’s first efforts to conserve Colossal Cave began in 1944, when the County leased almost 500 acres from the State Land Department for purposes of a park. Using 1986 voter-approved bond funds for park land acquisition, the County began to establish the mountain park to protect the cave in 1989 and a Pima County park was formally established in 1992. Acquisitions included the historic Posta Quemada Ranch, which is also the site of a 120-year old stagecoach station. Colossal Cave Mountain Park (CCMP) supports habitat for almost half of the bat species in the State of Arizona, including the endangered Lesser long-nosed bat. CCMP also protects large segments

of lush riparian vegetation along Agua Verde Creek, a major tributary to Cienega Creek.

Using both 1997 and 2004 voter-approved bond funds for open space acquisitions, the County purchased 5 additional properties, expanding upon the Park boundaries and connectivity with the County’s Cienega Creek Natural Preserve.

### 1997 Open Space Bonds

#### Akers/Dailey and Bradley Properties:

The Board of Supervisors approved acquisition of the Akers/Dailey parcels totaling 158 acres for \$1,122,720 in August 1999, and the 40-acre Bradley property for \$266,036. The significance of the acquisitions is not only the protection of natural floodplain functions, an Important Riparian Area and wildlife corridor, but also building a link towards the County’s Cienega Creek Natural Preserve, ensuring connectivity between the two areas.

#### Alpher Property:

In January 2000, the County purchased the 147-acre Alpher property for \$514,412. The property expanded the Park’s eastern boundary, protecting water sources upstream and habitat for the endangered Lesser long-nosed bat.

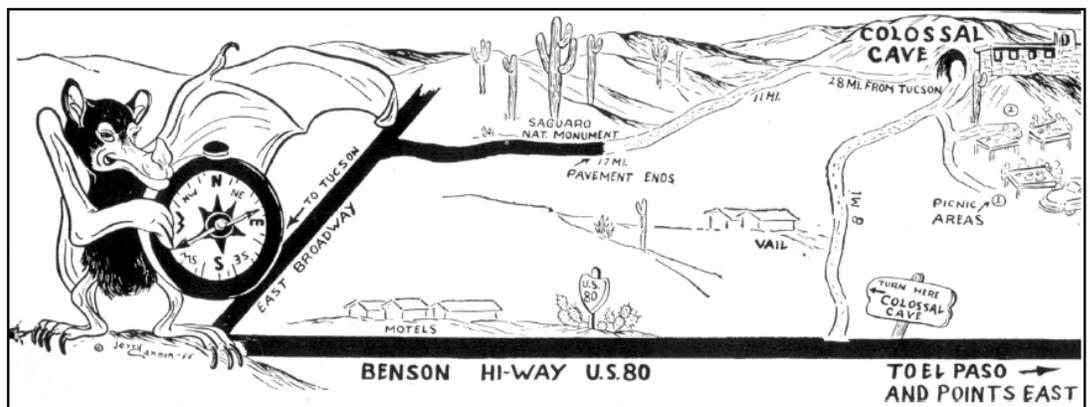
### 2004 Conservation Bonds

#### Cates Property:

The County purchased the 39-acre Cates property for \$132,957 in May 2006. The parcel’s location south of CCMP and its proximity to the County’s Baker property acquired for Cienega Creek Natural Preserve, made it a strategic acquisition. It supports habitat for Lesser long-nosed bat and Mexican long-tongued bat.

#### Knez Property:

The 80-acre Knez property was acquired in August 2006 for \$240,967. This property essentially connected the Cates



The way to Colossal Cave in 1950 according to Arizona Highways

property, expanding conserved lands adjacent to CCMP, and expanding the connection between CCMP and the Cienega Creek Natural Preserve.

The significance in these acquisitions is the expansion of the link between Colossal Cave Mountain Park and Cienega Creek Natural Preserve.

### Management

All of these properties are managed as open space and buffer lands for the larger Colossal Cave Mountain park complex. While they are managed as part of the larger CCMP complex, they are not included as part of the Colossal Cave lease property agreement the County has on management of the cave site and associated public recreation area. At the present time, limited public access exists to the properties and no public use infrastructure is available. The properties are monitored for vandalism or recreational activities resulting in land or watershed degradation.

### Recreation

In 2007, Colossal Cave Mountain Park was visited by over 100,000 guests. The portions of the Colossal Cave Mountain Park complex developed for the public allow hiking, equestrian rides, camping, wildlife watching and a caving experience. Currently, the newly acquired properties are used for dispersed hiking and limited equestrian use. The Arizona Trail goes across the Colossal Cave Mountain Park property and crosses the southeastern portions of the properties adjacent to Cienega Creek.



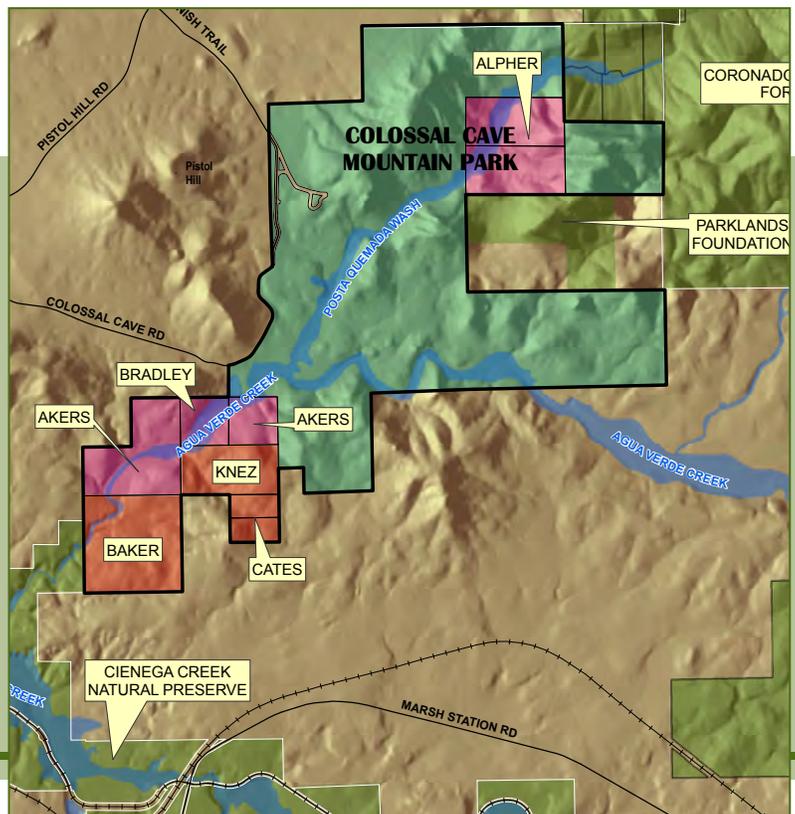
Colossal Cave entrance. Photo by Colossal Cave Mountain Park



Mountain biker in Colossal Cave Mountain Park. Photo by Steve Anderson

### Ongoing Property Improvements

- Previous developments and residences on the properties have been removed and the disturbed site footprints are being rehabilitated.
- Water has been provided for wildlife utilizing developed and natural sites.
- Security fencing and gates have been put in and are routinely monitored.
- A 163-acre property acquired by the Bureau of Reclamation adjacent to the Alpher property (Rancho del Cielo) is being managed by the County under a Cooperative Management Agreement. The property supports the wildlife corridor linkages between Colossal Cave Mountain Park and the adjacent National Forest lands.



# Cienega Valley-Empire Ranch Reserve



## Cienega Creek Natural Preserve Expansion

**Fee lands: 192 acres**

**Cost: \$351,207**

**Acquired: October 19, 2004 and February 9, 2007**

**Funds: 2004 Bond Funds**

**Partner: Arizona Land & Water Trust**

### Background

Recognizing the incredible importance of Cienega Creek and its watershed, the Board of Supervisors established the Cienega Creek Natural Preserve in 1986 using voter-approved bond funds for floodprone land. Spanning 4,000 acres, the Preserve protects 12 miles of the lower reaches of Cienega Creek, which supports native endangered fish species, provides aquifer recharge, and provides important natural flood control protections that lessen impacts to the developed areas in the Tucson Basin. The Preserve also hosts the historic railroad town of Pantano, along with many archaeological features, including bedrock mortars.



*Baker property flora. Photo by EPG. Inc.*



*Baker property. Photo by EPG. Inc.*

Once the Preserve was established, the County continued to seek ways to expand and enhance the Preserve and its sensitive biological resources.

### Baker Property

On October 19, 2004, with the assistance of the Arizona Land and Water Trust, the County was able to purchase the 155-acre Baker property for \$226,342. The acquisition of the Baker property established the connection between Colossal Cave Mountain Park and Cienega Creek Natural Preserve. Coupled with the Cates and Knez acquisitions, the corridor connection was effectively expanded. The property also supports habitat for 27 Priority Vulnerable Species and includes dense mesquite riparian woodland along Agua Verde Creek, an important tributary to Cienega Creek.

### Chess Property

On February 9, 2007, the County purchased the 37-acre Chess property for \$124,865, located adjacent to the Preserve and separated by the Union Pacific Railroad. The property is adjacent to the Cienega Creek drainage, and has two small washes that drain across the tracks into the Cienega. The Chess property also contains evidence of human occupation dating to the Archaic Period (7,500 - 2,100 B.C.) The Chess parcels fall in the SDCP-defined Lower Cienega Creek Priority Archaeological Site Complex.

### Management

Both properties act as open space buffers for the Cienega Creek Natural Preserve and are managed accordingly. As open space lands in a current natural condition, little active management is necessary. Management activities include site security and control of invasive plants with especial attention to buffelgrass invasion. No motorized vehicles, pets off leash, horses and open fires are allowed in the Preserve. All uses of the

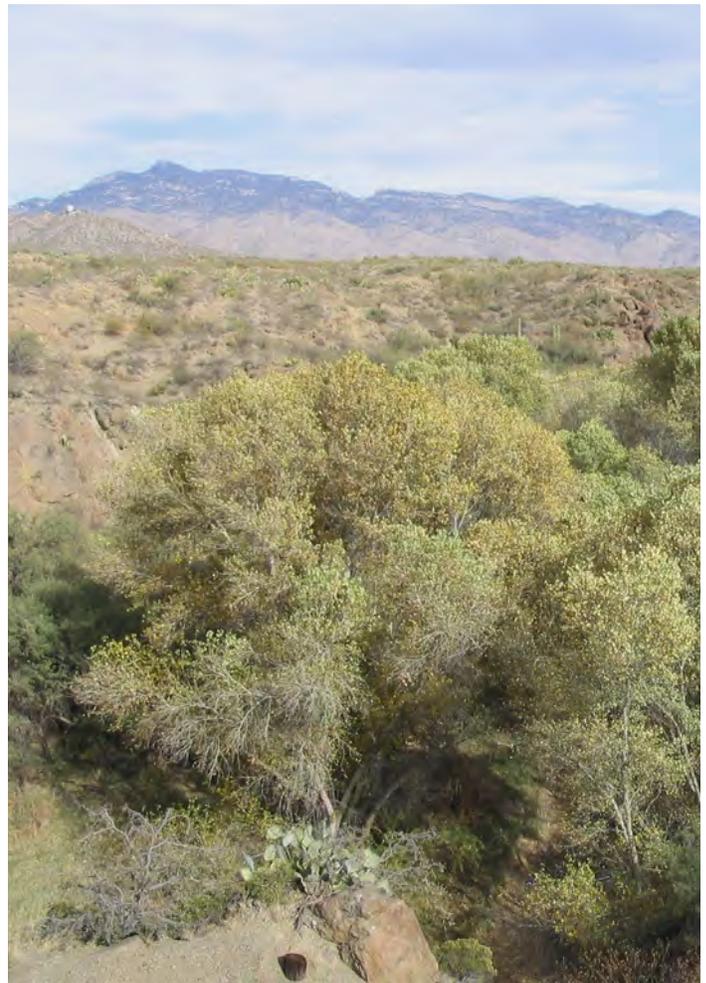


Working with boy scouts to construct artificial bat roost in Cienega Creek where natural soil caves are eroding. Photo by Pima County

newly added properties and the basic acquisition footprint of the Cienega Creek Natural Preserve must support or enhance the unique ecological values and biological diversity of the riparian system within the Preserve.

## Recreation

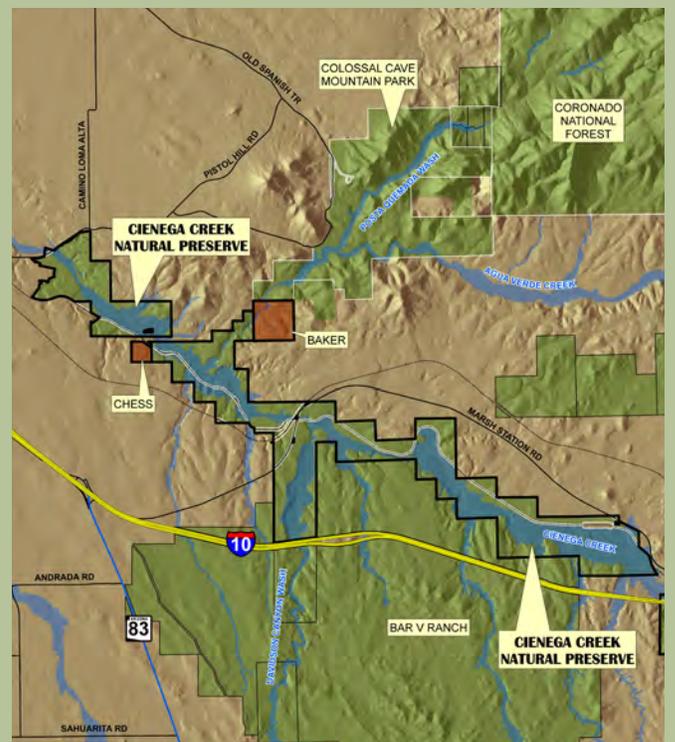
The Cienega Creek Natural Preserve can only be visited with a permit issued by Pima County Natural Resources, Parks and Recreation Department. Guests can enjoy wildlife viewing, nature study, and hiking among the beauty of one of the last few intact riparian areas with a dense forest of Cottonwood willows and mesquite bosques that line the creek. One segment of the Arizona Trail will eventually bisect the preserve in the area of the Three Bridges.



Cienega Creek looking east towards the Rincon Mountains. Photo by Pima County

## Ongoing Property Improvements

- Because of the critical nature of the riparian system and year-round stream flow of Cienega Creek, research projects are routinely conducted within the Preserve.
- Studies on insect diversity, nesting bird ecology, invasive species presence, water flow, endangered plants, wildlife and fish are all common topics. (In 2008, a researcher found a grasshopper species in the Preserve that was previously known to only occur hundreds of miles away in Mexico).
- The elevated presence of bat species has been a focus of surveys and recent successful projects to replace natural soil caves being lost to erosion with artificial habitats that were built by Natural Resources, Parks and Recreation staff.
- Invasive plant surveys and control projects are ongoing and focused on a number of species.
- Location of the new alignment of the Arizona trail is being finalized and then will be constructed by AZ Trail volunteers.
- Projects to reduce trespass of livestock and ATVs into the preserve are also being completed and repaired continuously.



# Cienega Valley-Empire Ranch Reserve



## Walden and Other Properties that Contribute to the Reserve

**Fee lands: 2,141 acres**  
**Cost: \$1,866,579**  
**Acquired: November 2003 - December 2006**  
**Funds: 1997 and 2004 Bond Funds**  
**Other: Land Exchange (McKenzie Property)**  
**Partner: Arizona Land and Water Trust**

### Background

The Cienega Valley-Empire Ranch Reserve includes conserved properties that are not directly adjacent to larger conservation areas, but still contribute significant value to the Reserve.

### Walden Property

In November 2003, Pima County purchased 400 acres known as the Walden property for \$1.4 million using 1997 bond funds, with the Walden family donating an additional 70 acres. This area contributes groundwater underflow to the Cienega Creek Natural Preserve. The property falls entirely within the Biological Core designation of the Conservation Lands System and supports habitat for the Mexican long-tongued bat, Mexican garter snake and Swainson's hawk, among others. Prehistoric artifacts are present along drainages on the property.

A key component in the success of a reserve is promoting the integrity of connectivity through restoring or maintaining critical landscape linkages. The Walden property, when included as part of the larger landscape in combination with the Poteet, Cienega Creek Natural Preserve and the Empirita Ranch properties, is a significant piece in creating viable wildlife linkages between the Rincon, Santa Rita and Whetstone Mountains.

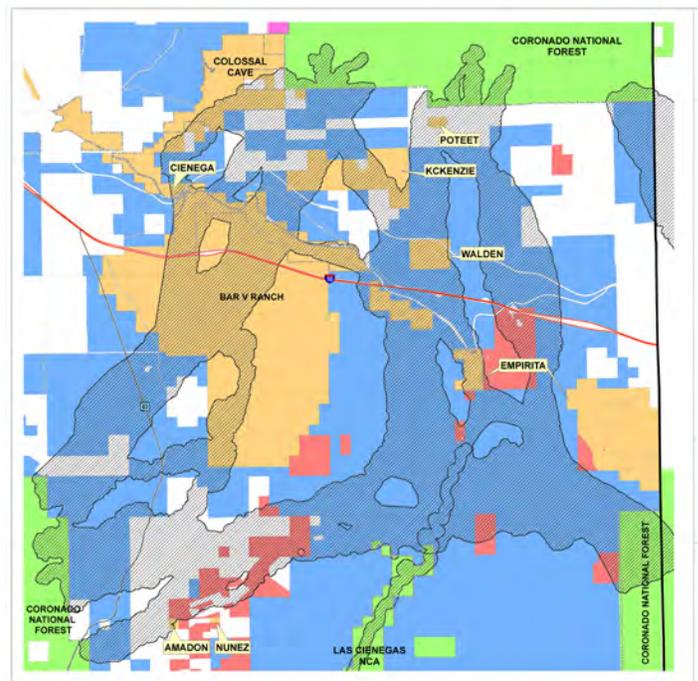
The property is currently being maintained in its current state, and the site is routinely monitored for vandalism, fence repairs or unauthorized uses. Access is controlled and available through special use permits, in order to protect primary conservation values of the site.

### McKenzie Property

The County acquired the 1,600-acre McKenzie property through a land exchange in 2005. The property was previously part of the larger Day Ranch, covering many square miles in the area and reaching the adjacent Coronado National Forest. Portions of the McKenzie property are still grazed seasonally as part of the grazing rotation on the State Trust land grazing leases on both sides of the property maintained by the Agua Verde Ranch.

The area is routinely monitored and vegetative monitoring transects will be placed on the property to document the changes in vegetative communities. Permanent water sources on the property have been reviewed for potential conversion to small wildlife drinker oriented solar distribution systems and construction of fencing to restrict unauthorized livestock use.

The McKenzie parcels provide opportunities for hiking, mountain biking, and general outdoor recreation uses on established roads. More remote portions of the property provide hunting and wildlife viewing opportunities. The property is being reviewed for the potential development of a designated non-motorized trail system utilizing historic roads across the property that will compliment public uses and protect its conservation values.



*This map shows wildlife linkages (black hatch areas) within the reserve. Beier, P., D. Majka, and T. Bayless. 2006.*



Walden property. Photo by Kerry Baldwin.

### Poteet Property

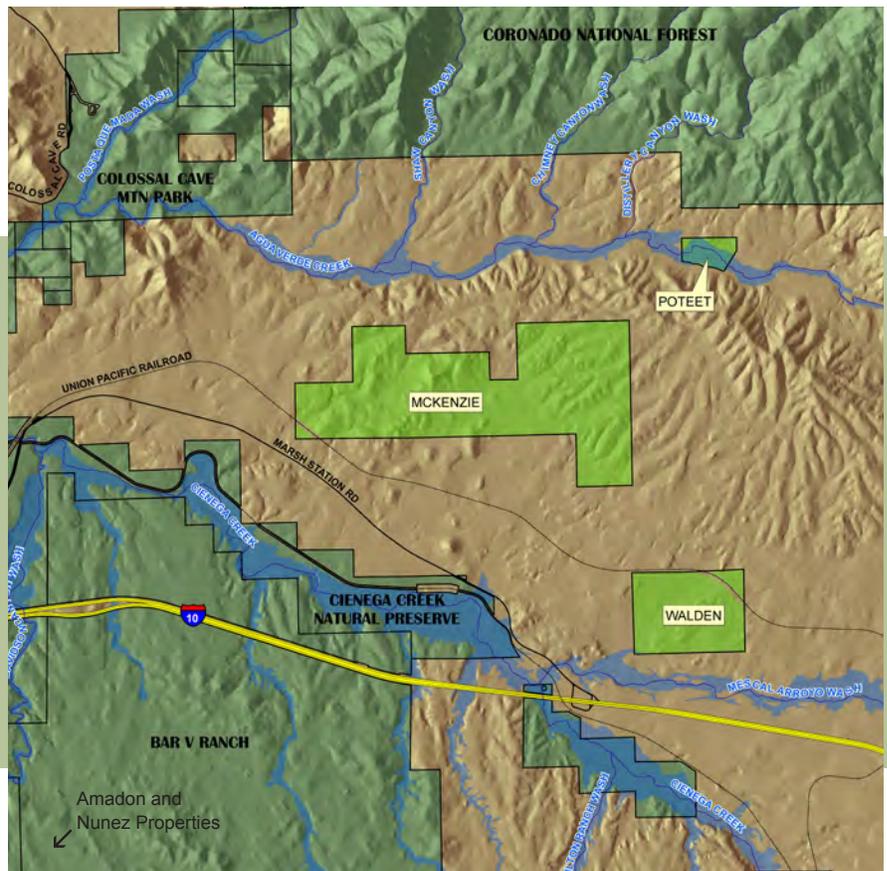
In August 2005, the County purchased the 83-acre Poteet property for \$275,820. It is located in the southern foothills of the Rincon Mountains along a stretch of Agua Verde Creek. This acquisition protected a half-mile segment of Agua Verde Creek and its associated floodplain. It supports well developed mesquite dominated, but deciduous riparian woodland, habitat for at least 7 Priority Vulnerable Species, including Bell's Vireo, Abert's Towhee and Pale Townsend's big-eared bat. Over 70 percent of the Poteet property is designated as an Important Riparian Area under the Conservation Lands System.

### Amadon and Nunez Properties

In May 2006 and December 2006, the County acquired a total of 58 acres near the Empire Mountains, west of the Las Cienegas National Conservation Area, and adjacent to BLM land. These properties cost \$190,759. These properties fall within the Biological Core designation of the Conservation Lands System and support habitat for several species, including the Lesser long-nosed bat and Chiricahua leopard frog. The parcels' adjacency to BLM land, expand upon publicly-owned land in close proximity to the Las Cienegas National Conservation Area and the key habitats of the Empire Mountain complex.



Poteet property along Agua Verde Creek. Photo by EPG



### Management

The properties were acquired because of their basic ecological and habitat values. All management of the properties is designed to protect or enhance those values. The properties are managed as open space with minimal active management required. The sites are monitored and where necessary, site protections like fences, gates and signage are added.

# Upper Santa Cruz and Southern Altar Valley Reserve

- 1 Marley Ranch
- 2 Rancho Seco
- 3 Sopori Ranch
- 4 Canoa Ranch

-  Riparian
-  Grassland
-  Mountains



## Pima Pineapple Cactus

This cactus is federally listed as an endangered species. This Reserve contains a significant number of these increasingly rare plants.



Photo by Mary Scott

## Pronghorn

The southern end of this Reserve is seasonally utilized by the remnant pronghorn herd in the area.

## Santa Cruz County



Sopori Creek. Photo by Joseph Belfere, ACWT

## Sopori Watershed

The Sopori Watershed is a shallow groundwater system, which includes the Sopori Wash and several important springs that support a rich and diverse ecosystem. The Sopori Wash is an important tributary to the Santa Cruz River and has served as the site of numerous human settlements over thousands of years.



## Public Access

Since taking ownership of the portions of the Sopori Ranch in Pima County, the County has established public access across County lands to State Trust and Coronado National Forest lands to the east for recreational users. This cattle guard replaced fencing on the Sopori Ranch to provide public access.



Photo by John Sullivan

## Historic Ranches

Homesteaders settled much of this area. After the great drought of the late 1800s, most small homesteads were bought and consolidated into large ranches. A large portion of the Reserve was part of the expansive Canoa Ranch holdings consolidated by Levi Manning in the early 1900s. Today, the majority of the ranches purchased by the County are still operated as working ranches under ranch management agreements that enable ranchers to continue sustainable grazing programs in return for their financial stewardship of the ranch infrastructure, vegetation, wildlife, and cultural resources found on the ranches.



Historic Canoa Ranch Pond

The Upper Santa Cruz and Southern Altar Valley Reserve is located generally west of Green Valley and Interstate 19, south of the Sierrita Mountains, and includes both the southern portion of the Altar Valley and the western portion of the Upper Santa Cruz Valley. This reserve also includes Canoa Ranch located east of Interstate 19. This region contains significant intact semi-desert grasslands in between several mountain ranges. The dominant land use in the region is livestock grazing. Urban development is found primarily along the Santa Cruz River and Interstate 19 in and around Green Valley and Sahuarita. More rural development patterns are found around Arivaca and Amado. The region provides both habitat and movement corridors for wildlife, and supports plants such as the Endangered Pima Pineapple Cactus. Drainage into the Altar/Brawley Wash and the Santa Cruz Wash off of the slopes of the various mountain ranges plays an important role in aquifer recharge for the Tucson and Green Valley/Sahuarita metro areas. Historically, this region has been a principal focal point for Native American and Spanish settlements.

Within this reserve, the County owns four ranches including Canoa Ranch, Rancho Seco, portions of the Sopori Ranch, and portions of Marley Ranch and the Scheer property near Arivaca. The reserve is part of a large system of conservation properties including the Buenos Aires National Wildlife Refuge to the west, the Coronado National Forest to the south, and the County's Diamond Bell Ranch to the north.



## Upper Santa Cruz and Southern Altar Valley Reserve



### Marley Ranch Conservation Area

**Fee lands: 6,337 acres**  
**Two options to acquire remainder of the 114,400 acre ranch**  
**Cost: \$20,006,112**  
**Acquired: April 30, 2009**  
**Fund: 2004 Bond Funds**

**Total Proposed Conservation Area Size:**  
**114,400 acres (24,000 acres in fee, 1,700-acre conservation easement, 85,900 State grazing lease, 2,800 BLM grazing permit)**

#### Background

The Marley Ranch is located west and southwest of Green Valley, and at about 114,400 acres, is one of the largest working ranches remaining in Southern Arizona. The Ranch adjoins the Buenos Aires National Wildlife Refuge, as well as the County's Rancho Seco, Sopori Ranch and Diamond Bell Ranch. After the great drought of the late 1800s, most small homesteads were consolidated into large ranches, and what is today the Marley Ranch was once part of the enormous Canoa Ranch holdings consolidated by Levi Manning in the early 1900s. Following the death of Howell Manning Jr. in 1951, much of the 500,000-acre Canoa ranch was divided and sold off. That portion sold to Kemper Marley in the mid-1950s became known as the Marley Ranch and still operates as one of the largest ranches in Pima County.

The owners of the Marley Ranch approached the County to acquire the ranch as a conservation area in phases. The County's initial purchase included the more biologically sensitive parcels totaling 6,337 acres of fee lands straddling the foothills of the Sierrita Mountains and the north flank of the Cerro Colorado Mountains, and options to conserve the remainder of the Ranch by the end of 2014.

#### Historical and Cultural Resources

Historically this region has been a principal focal point for Native American and Spanish settlement. It is thought that this land has been occupied throughout the past 10,000 years. Prehistoric rock shelters, pictographs, petroglyph sites and village sites (likely Hohokam) are reported to exist on Marley Ranch. Evidence of early Spanish Missionary settlements may also exist. Some portions of the Ranch were originally settled by early homesteaders. Prominent Historic period ranches still exist on the Marley Ranch property including the Batamote Ranch (Antonio Q. de Elias). Along the road to Batamote Ranch, ruins of an adobe house and a well still stand. Just east of these ruins are the historic ranching features of Baños.

#### Biological Resources

The Ranch's topographical diversity and significant size supports a variety of plants and animals. The Ranch acts as a significant crossroads for movement of native wildlife species between ecologically important mountain systems in southern Arizona. The Ranch is known to support endangered species, such as the Pima Pineapple Cactus, as well as over half of the County-identified Priority Vulnerable Species. The Ranch was also part of the home range of one of the few known jaguars in the United States for over a decade. In addition, drainage into the Altar/Brawley Wash and the Santa Cruz River off of the slopes of the Cerro Colorado and Sierrita Mountains, portions of which are within the Ranch, plays an important role in aquifer recharge for Tucson and the Green Valley/Sahuarita area. Priority Vulnerable Species include Lesser long-nosed bat, Desert box turtle, Pima Pineapple Cactus, and Ground snake.



Portion of Cerro Colorados found on Marley Ranch - Photo by EPG

## Management

The Marley Ranch is still operated as a working cattle ranch. The ranch contains private lands, State grazing leases and Bureau of Land Management grazing leases. Under the Ranch Management Agreement established with the Phase I acquisitions, the current ranch owners still have primary control of the grazing leases and ranch management activities until the County completes the final acquisition phases. There are however restrictions similar in all other Ranch Management Agreements on the new County owned fee lands acquired in the initial acquisition to protect ecological values.

## Recreation

Because of its vast size and mix of private and public lands, the Marley Ranch complex provides numerous recreational opportunities. Common activities include hiking, mountain biking, wildlife viewing, recreational rock hounding, hunting, nature photography and primitive camping. The ranch has a network of rugged, poorly marked and unmaintained roads that require high clearance or 4WD vehicles. Visitors should be prepared for semi-wilderness conditions with little chance of assistance if they break down or become lost.



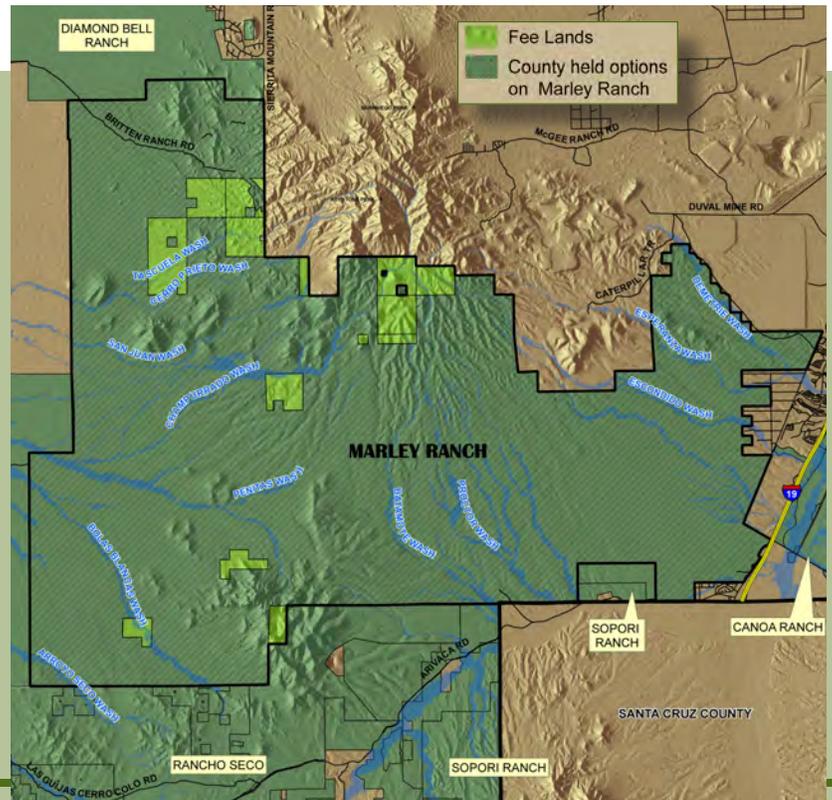
Remnants of adobe structure - Photo by Linda



Looking south towards Cerro Colorado - Photo by

## Ongoing Property Improvements

- Because portions of the ranch are still being acquired, management activities are more oriented around learning and mapping the ranch infrastructure and ecological units.
- Basic vegetative plots will be established on the County owned lands to monitor livestock use and establish baseline vegetative transect species composition and diversity.
- Numerous water sources are being considered for upgrade to solar and availability for native wildlife on a year-round basis.
- The area is being considered for future habitat projects to enhance the viability of the pronghorn antelope herd that still exists in the valley.



## Upper Santa Cruz and Southern Altar Valley Reserve



### Rancho Seco

**Fee lands: 9,574 acres**  
**State grazing lease: 21,662 acres**  
**BLM Federal grazing permit: 5,699 acres**  
**Conservation easement: 478 acres**  
**Cost: \$18,503,948**  
**Acquired: May 19, 2005**  
**Fund: 2004 Bond Funds**  
**Partnership: Arizona Land and Water Trust**

### Background

The 37,000-acre Rancho Seco property is one of several working ranches owned by the County in the Altar Valley and Upper Santa Cruz Valley. Located north of Arivaca, it is visible to those driving on Arivaca Highway, which bisects the ranch. Rancho Seco adjoins the Buenos Aires National Wildlife Refuge on the west and the County's Sopori Ranch and Marley Ranch Conservation Area to the north. The ranch is actually made up of two ranches known as the Santa Lucia Ranch and Rancho Seco.

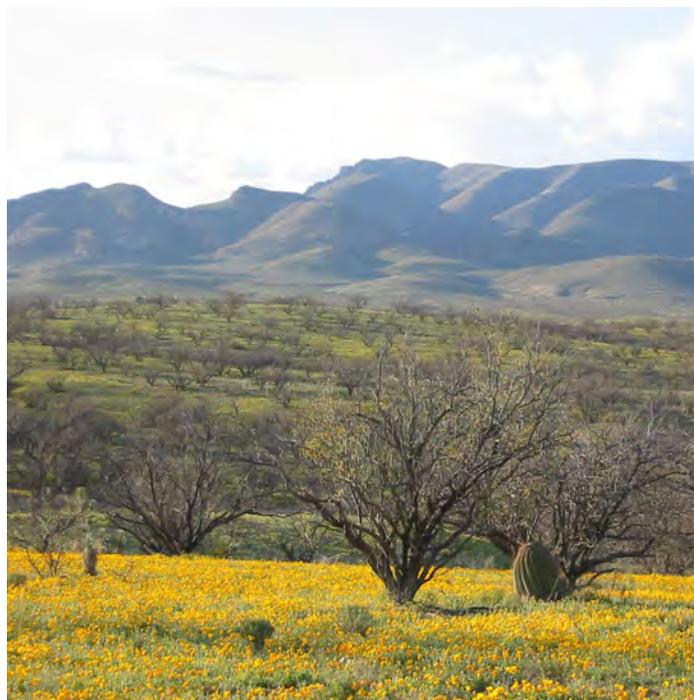
### Historical and Cultural Resources

An inventory of known archaeological and historic sites, mostly concentrated along Arivaca road and within the Cerro Colorado Mountains, indicates prehistoric use of the land between A.D. 900 and A.D. 1450. These sites were undoubtedly established because of the presence of water and arable land along Sopori Creek and its secondary drainages.

Historically, the property was used for ranching and mining. The Cerro Colorado/ Heintzelman Mine opened in 1858 and later became known as the Heintzelman Mine named for Samuel P. Heintzelman, the first company president. In 1861, with the mine subjected to continued Apache attacks and plagued by continuous stealing and desertion by the Mexican and Indian workers, John Poston, co-owner of the mine, executed one of the workers caught stealing to set an example. His workers rose in rebellion, murdered John Poston, and destroyed the mine workings. Mining resumed after the Civil War, and nearby Arivaca became a ranching and mining boomtown. Ruins of the Cerro Colorado mining district settlement and Poston's gravesite remain within Rancho Seco.

### Biological Resources

The ranch crosses the divide between the Altar and Upper Santa Cruz Valleys, and includes portions of the Cerro Colorado and Las Guijas Mountains, and portions of the Sopori Wash and Las Guijas/Calera Wash complex. The property presents a good example of semidesert grassland and open mesquite woodland. Surveys of the property found that several Priority Vulnerable Species are thought to be present, including California leaf-nosed bat, Mexican long-tongued bat, Bell's vireo, and Abert's towhee. The majority of the ranch lies within the Multiple Use Management Area of the Conservation Lands System, with a smaller amount of Biological Core lands, and portions of two Important Riparian Areas. The ranch provides a critical wildlife corridor between the Altar Valley, the Tumacacori Mountains and Santa Cruz River Valley.



*Rancho Seco View of Cerro Colorado Mountains – Photo by Trilby Dupont, Arizona Land & Water Trust*

## Management

The ranch is managed as two separate working ranch units, both under agreements with the County, and is stocked well below allowed use levels. Ongoing monitoring of rangeland condition is done on both the County fee lands as well as the grazing lease lands. Due to the proximity to the border, significant impacts on management activities exist as a result of illegal border crossers and related enforcement activities on our lands, as well as drug trafficking related activity. Much of the Rancho Seco lands are also still open to mining.

## Recreation

Rancho Seco is a large landscape that allows many outdoor recreational activities year-round. With a mix of County, State and Federal lands, regulations vary by agency and due to the remoteness of the lands, little informational signage is in place. Visitors should know the different agency rules and property boundaries before they go. Typical outdoor activities include small and big game hunting, hiking, horse riding, ATV use on existing roads, wildlife watching, camping, recreational mining and mountain biking. Visitors should be prepared for a semi-wilderness setting with rugged, unimproved and poorly marked roads. Visitors should be aware of the potential for camp or vehicle vandalism.



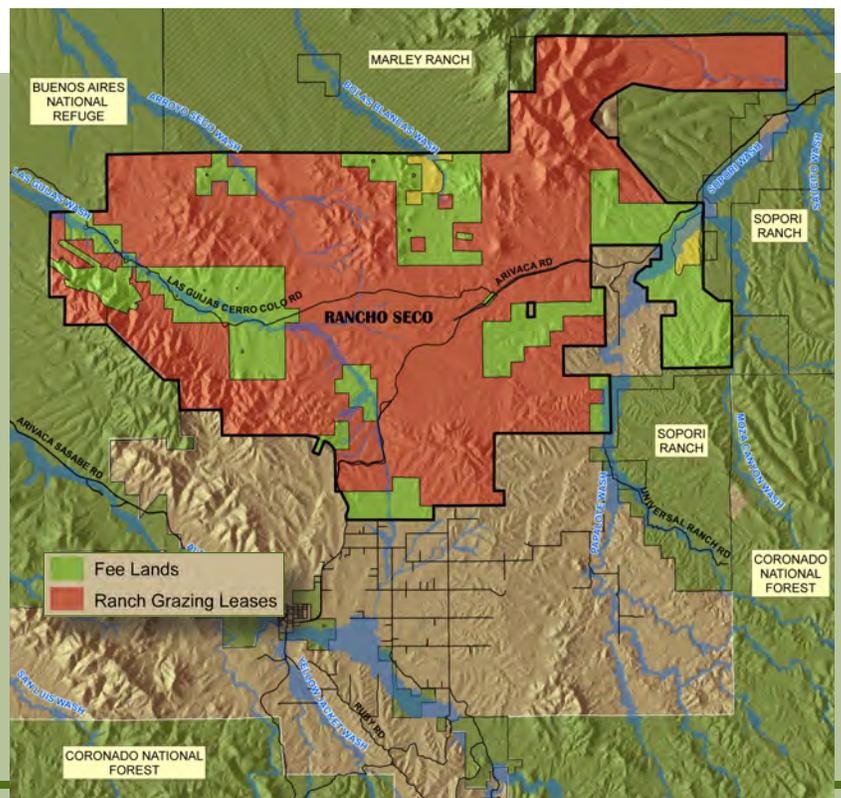
Sketch of Heintzelman Mine 1859



View of Rancho Seco – Photo by Randy Prentice

## Ongoing Property Improvements

- Numerous water enhancement projects have been completed on the ranch for wildlife. Including solar-powered wells.
- Maintenance and repair of fencing and the installation of cattle guards is necessary due to vandalism.
- Sportsmen groups and other volunteers spend at least one weekend annually picking up trash left behind by border crossers. Over the past five years over 120 cubic yards of trash has been collected off the ranch by the volunteers.
- Additional permanent vegetative monitoring transects have been established on the ranch in representative ecological units and are surveyed twice annually.



## Upper Santa Cruz and Southern Altar Valley Reserve



### Sopori Ranch

**Fee land: 4,135 acres**  
**State grazing and agricultural leases: 10,480 acres**  
**Cost: \$18,602,695**  
**Acquired: January 2, 2009 and July 15, 2009**  
**Fund: 2004 Bond Funds**  
**Partnership: Arizona Land and Water Trust**

#### Background

Sopori Ranch covers lands in both Pima and Santa Cruz Counties. In 2009, the County purchased the majority of the Sopori Ranch that lies in Pima County. This is another of the ranches owned by the County in the Altar Valley and Upper Santa Cruz Valley that contributes to an interconnected system of conservation reserves. Located south of Green Valley, west of Interstate 19, and northeast of Arivaca along the Sopori Wash, the ranch covers more than 14,000 acres. The ranch has played a significant role in the legacy of the Santa Cruz Valley, and continues to do so. Conserving this portion of the Sopori Ranch protects several wildlife movement corridors between the numerous sky island mountain ranges in the area, reduces threats to groundwater pumping along Sopori Wash, and preserves the history, culture, and economic traditions of this important place.

#### Historical and Cultural Resources

The Sopori Ranch area has a complex history that includes many-layered stories of Native peoples, Spanish explorers, missionaries, soldiers, ranchers, miners, and two founding Tucson pioneer families – Elias and Pennington. These

numerous stories have been chronicled in historical documents and journals from Spanish times forward. When Father Kino traveled through the Santa Cruz Valley in 1691, Sopori was the location of a farming community of Pima Indians, who called themselves the “Sobaipuri”. Captain Juan Bautista de Anza was perhaps Sopori’s most famous owner. In 1771 the King of Spain granted title to Anza of 14,000 acres of land called “El Ojo del Agua del Sopori” (Eye of the Water of Sopori) after the Sopori Spring. Other noteworthy owners included Arthur Lee – a grandnephew of General Robert E. Lee, from 1926 to 1932; and Ann Boyer Warner – widow of Jack Warner of Warner Bros. movie studio, 1950-1991.

Compared to its historical record, however, very little is known about its prehistoric roots. This is almost certainly due to the lack of a comprehensive archaeological survey. What is known is that three major prehistoric archeological time periods, Paleoindian, Archaic, and Hohokam are recognized in the Upper Santa Cruz Region.

#### Biological Resources

The ranch follows the Sopori Wash from the County’s Rancho Seco property into Santa Cruz County. This reach of the Sopori Wash is one of the few riparian dominated shallow groundwater areas left in Pima County. This shallow groundwater system supports older cottonwoods, willow, ash, hackberry, and large stands of mesquite trees sensitive to significant groundwater pumping. Because of the location between the Cerro Colorado and Tumacacori mountain ranges, topographical diversity and the presence of Sopori Wash, the parcels are ecologically rich with diverse native wildlife species present. Surveys of the property found that several Priority Vulnerable Species are thought to be present, including California leaf-nosed bat, Merriam’s mouse, Pale Townsend’s big eared bat, Abert’s towhee, Giant spotted whiptail, and Pima Pineapple Cactus.

#### Management

The larger Sopori Ranch is still managed as a working cattle ranch and includes lease lands on State, BLM and U.S. Forest Service property. Under a Ranch Management Agreement, the previous owners will still manage the County portions of the ranch as part of the larger ranch complex. County staff will monitor uses and establish annual use and stocking rates based on monitoring data and in consultation with the other land management agencies and the operator. The Sopori has an advantage in that it has a complex of irrigated pastures on the County lands that can be used to reduce livestock use on native vegetation during critical forage growing months during the year. Water use on the irrigated pastures is currently set at a not-to-exceed volume based on partial use figures from the year prior to acquisition by the County to minimize potential impacts to the shallow groundwater system.

## Recreation

The ranch provides diverse opportunities for outdoor recreation. Historically, the ranch provided access to the west side of the Tumacacori Mountains and the National Forest lands. Activities included small and big game hunting, hiking, ATV road riding, equestrian uses, wildlife watching, mountain biking and camping. Access had been restricted to the general public by the previous owners for a number of years. The County has opened up access again for recreational use across designated portions of the ranch road system.



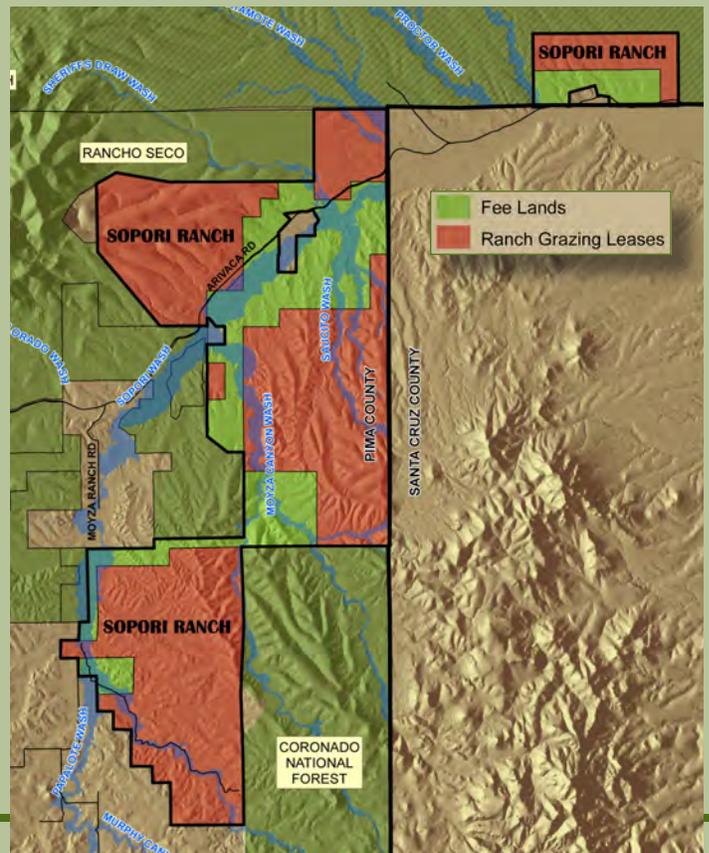
Fortified Pennington stone house on Sopori Creek – 1913.



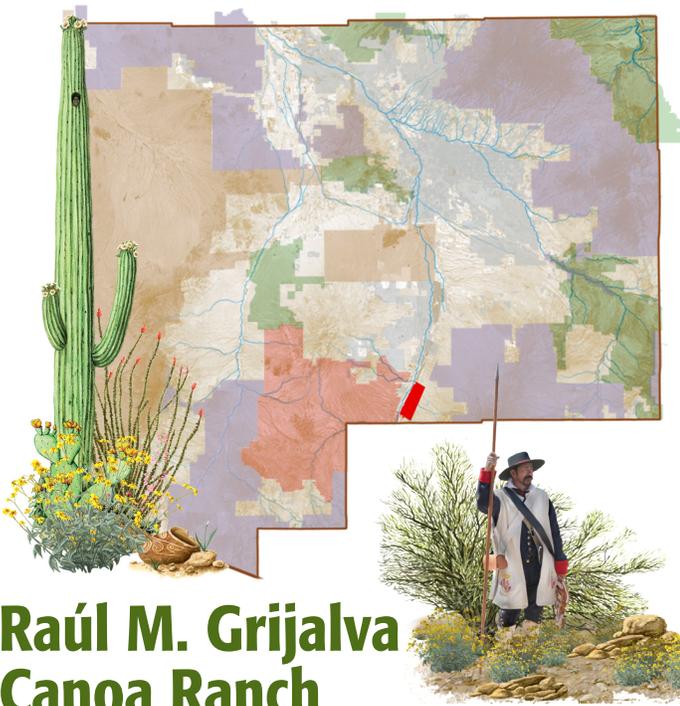
Sopori Creek and Santa Rita Mountains in the background. Photo by Joseph Belfore, ALWT

## Ongoing Property Improvements

- Development of gates, new road segments and signage for the new access points for recreational use.
- Portions of the ranch around the irrigated fields and KX headquarters have been closed to the discharge of firearms and bows and arrows to restrict unsafe hunting activities. This information can be found on the NRPR web site at [www.pima.gov/nrpr](http://www.pima.gov/nrpr).
- Planning is under way to convert existing waters to year-round sources of water for wildlife by converting them to solar pumping and storage systems.
- Existing troughs and tanks will be retrofitted to make them safer for wildlife use.
- Permanent monitoring transects are being established to monitor use by livestock and develop baseline data on current plant diversity and composition.
- Initial planning is currently underway with the operator, County, State Land and US. Forest Service to initiate a Comprehensive Resource Management Plan for the ranch that will eventually involve other resource management agencies and the public. This planning process will take several years to complete.



## Upper Santa Cruz and Southern Altar Valley Reserve



# Raúl M. Grijalva Canoa Ranch Conservation Park

**Fee land: 4,800 Acres**  
**Acquired: 2001, 2005 and 2006**  
**Cost: \$10,800,000**  
**Fund: 1997 and 2004 Bond Funds, Flood Control District Funds**

### Background

Named for former County Supervisor and now Arizona Congressman Raúl M. Grijalva, who was born and raised at Canoa Ranch and championed its preservation, Canoa Ranch is a 4,800-acre property located south of Green Valley. Situated on either side of the Santa Cruz River, the former ranching property was saved from development through its acquisition using Pima County bond funds in 2001 and subsequent acquisition of 135 acres in 2005. Plans are in place to make parts of the ranch publicly accessible.

### History

Canoa Ranch is sited on what was, for thousands of years, an area of nearly continuous occupation by Native Americans, and served as a corridor for travel for Native peoples and European explorers. During the 1690s, Father Kino passed by the Canoa site on his way northward to the O'odham villages of Bac and Tucson where he established missionary outposts. In 1775, de Anza camped at what was then known as La Canoa on his way to find a presidio and settlement at present day San Francisco (California).

In 1821, areas of land that include the existing Canoa Ranch property were issued by the Spanish as a Land Grant to the Ortiz brothers. This transaction was compromised by Mexico's subsequent independence from Spain, followed by the Gadsden Purchase of 1854. As a United States Territory, a succession of ranching operations used the Canoa site.

By 1914, Levi Manning had acquired the Canoa property, and the Manning family continued to own, develop, and raise cattle at Canoa Ranch through the 1960s. There followed a period of corporate ownership during which the condition of the property steadily declined. With the property under threat from development for housing, Pima County purchased portions of Canoa Ranch to preserve the remaining 4,800 acres which included the Ranch Headquarters buildings.

Recognition of the importance of Canoa Ranch occurred on May 30, 2007, when it was listed in the National Register of Historic Places as the Canoa Ranch Headquarters Historic District.

### Biological Resources

Canoa Ranch has been identified for its importance as a natural landmark, and for its significant riparian areas of both scenic and historic value. Located along over five miles of the Santa Cruz River channel, the property has both flood plain habitats and mixed cacti desert grassland uplands. The property is still an important wildlife corridor allowing movement from developing areas to the west of the property along I-19 into the river corridor or on to the Santa Rita Mountains to the east. The ranch still has resident mule deer, javelina, bobcats, coyotes and over 100 species of resident or migratory birds. Efforts are well underway for re-introduction of a Burrowing owl colony at this site.

### Built Environment

A large number of buildings exist at Canoa, most being located within the headquarters area. The majority were constructed from adobe bricks covered in plaster, and represent a unique collection of residential and working structures dating from the early 20th century and representative of large ranch components in southern Arizona and northern Sonora, Mexico. In addition to buildings there are numerous outbuildings and "rataque" (meaning stacked wood) fences made from Mesquite, that form an intricate and extensive system of corrals thought to be the best preserved in Southern Arizona.



*Historic Canoa Ranch*

## Master Plan

In a lengthy public process that included numerous presentations and requests for input, the Canoa Ranch Master Plan was approved by Pima County in 2007. It is this guiding document that is currently being used to guide conservation, repair, and rehabilitation efforts. The long-term goal of the Master Plan is to provide the public with a multi-level experience that will include some access to the sensitive natural areas of the ranch, and museum experiences ranging from a new visitors' center, to rehabilitated buildings. The approach pivots around balancing the integration of Canoa's natural ecosystems with the historic ranch – to include sustainable farming and ranching practices. The center of Canoa Ranch will be the ranch headquarters.

## Recreation

Five miles of the Juan Bautista de Anza National Historic Trail traverse the Canoa Ranch and provide the public with an authentic experience of following the 1775 route of the Anza expedition. The public may hike or ride their horses along the west side of the Santa Cruz River, with a staging and parking area at Elephant Head Road.



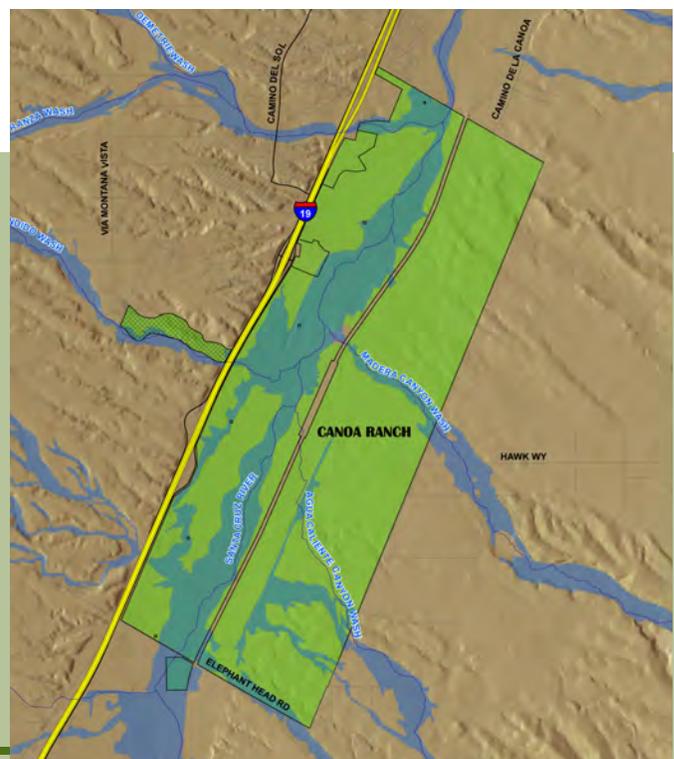
Top – Headquarters buildings under repair.  
Bottom – Headquarters buildings rehabilitated.  
Photos by Simon Herbert



Historic Canoa Ranch

## Ongoing Property Improvements

- Monitoring and maintenance of the Anza Trail passing through the Park.
- The headquarters buildings, including residences, bunkhouses, barns, corrals and outbuildings are being historically restored to ensure their long-term preservation and future enjoyment by the public.
- Ongoing well and water system upgrades.
- Heritage education programs will be developed and planned that include heritage breed livestock and planted areas.
- Working on developing ranch demonstrations and living history opportunities.
- Ongoing restoration of the historic canal, pond and riparian areas continue.
- Developing and enhancing birding, picnicking, hiking and guided horseback riding opportunities.



# Northern Altar Valley Reserve



Photo by Nick Buckelew

## Buckelew Farm Pumpkin Festival and Corn Maze

For 21 years a popular community pumpkin festival has been held at Buckelew Farm.



Controlled fire - Southern Arizona Buffelgrass Coordination Center

- 1 Buckelew Farm
- 2 King 98 Ranch
- 3 Diamond Bell Ranch

-  Riparian
-  Grassland
-  Mountains

## County Partners

The County is fortunate to be working with local agencies in addressing various shared issues in the area. Partners include the Altar Valley Conservation Alliance, the Bureau of Land Management, the Arizona Game and Fish Department, and Tucson Water.



## The Altar Valley Conservation Alliance

The Altar Valley Conservation Alliance was established to bring together large private landowners and the natural resource agencies to better coordinate conservation efforts from a valley wide perspective. One of the more active and successful groups of its kind in the nation, the Alliance has a number of ongoing projects, including reintroducing fire to the grassland system and restoration of overall watershed health among others. As one of the larger landowners in the Valley, the County is an active member of the Alliance.





King 98 Ranch. Photo by Kerry Baldwin

## Watershed and Riparian Restoration Opportunities

Opportunities exist to work with the numerous agencies and private landowners to restore the biological integrity and natural floodplain functions of the Brawley Wash and its associated watersheds. Restoration of a watershed can begin on a small scale. New trends in low-tech localized restoration are being utilized by the County on the open space lands.



The Northern Altar Valley Reserve is located southwest of metro Tucson, along the Ajo and Sasabe Highways. The Altar Wash, which becomes the Brawley Wash, runs north through the Reserve to merge with the Santa Cruz River near Marana. The dominant land use is livestock grazing, with a small amount of active farming, and some urban development within the Diamond Bell subdivision and along Ajo Highway at Robles Junction (Three Points). The area was once part of the historic Robles Ranch, one of the largest in southern Arizona. The landscape includes areas of retired farmland along the Wash complexes. This area, along with southern Altar Valley, encompassed Pima County's largest and most intact semi-desert grassland valley. The grasslands have been degraded over time due to climate changes and land uses but still provide habitat for a variety of species of concern like the Swainson's hawk, and the endangered Pima Pineapple cactus.



## Northern Altar Valley Reserve



### Buckelew Farm

**Fee lands: 505 acres**  
**State grazing lease: 2,000 acres**  
**BLM federal grazing permit: 200 acres**  
**Cost: \$5,080,467**  
**Acquired: October 13, 2006**  
**Fund: 2004 Bond Funds**  
**Partner: Arizona Land and Water Trust**

### Background

Most who know of Buckelew Farm know of it because of the annual fall pumpkin festival and corn maze just outside of Robles Junction (Three Points) on Highway 86. But what many probably don't know is the Buckelew family had been approached in 2006 with a very lucrative offer to sell the farm for a housing development. Instead, the Buckelew family approached the Arizona Land and Water Trust and Pima County to save the farm and other grazing lands south of the farm. On October 13, 2006 the County purchased a total of 505 acres with 2004 bond funds, which included 420 acres of mostly irrigated farmland north of Ajo Highway, and 85 acres on undeveloped ranch land south of the highway. In addition, a 2,000-acre State grazing lease and 200 acre BLM federal grazing permit came with the property. Water rights include 1,092 acre feet of grandfathered irrigation water rights associated with two irrigation wells with the right to irrigate 324 acres of farmland, and a Type II non-irrigation water right of 8 acre feet per year. These lands expand upon a previous 500-acre property the Buckelew's sold to the County in 2002, funded through the County's Floodprone Land Acquisition Program. The Buckelew family kept 9 acres that include a house and other farm related buildings.

### History

Bob Buckelew and his wife Clara purchased this property in 1954 after they had been leasing it for several years to farm cotton. Over the years, Bob and his wife gifted the property to their children, Nick Buckelew and his sisters. Portions of the original property were sold to the City of Tucson to retire water rights. Nick and his wife Laurie purchased the 85 acre property south of the highway during the 1980s, along with the 500 acre property sold to the County in 2002. The Buckelew family has owned and operated the Bucks-Kin Farm since 1954 and has a special tie to the land of the Altar Valley. Like many families in the Altar Valley, the Buckelews have worked the land for generations and developed close ties to it. Nick Buckelew's father has strong beliefs about conservation that underpinned the process to protect the farm.

### Biological Resources

Although most of the land north of Ajo Highway is farmed, 80 acres remains in natural condition, partly along Brawley Wash, partly on the southeast corner of the property, and partly as a small riparian area of 5 acres around a stock pond with water most of the year in the northeast corner of the property that supports native and migratory wildlife. The 85 acres south of the highway is relatively undisturbed and used for grazing. The property falls within the Conservation Lands System categories of Multiple Use, Important Riparian, Special Species Management Area for the cactus ferruginous pygmy owl, and an agricultural in holding. Protecting the Buckelew family lands also protect biological resources and habitat for the Swainson's hawk, Bell's Vireo, Western yellow-billed cuckoo, Western yellow bat, western burrowing owl, Tucson shovel nosed snake, and Pima pineapple cactus.



*Buckelew ranch land south of Ajo Highway looking west towards the Black Hills. Photo by John Sullivan.*

## Management and Recreation

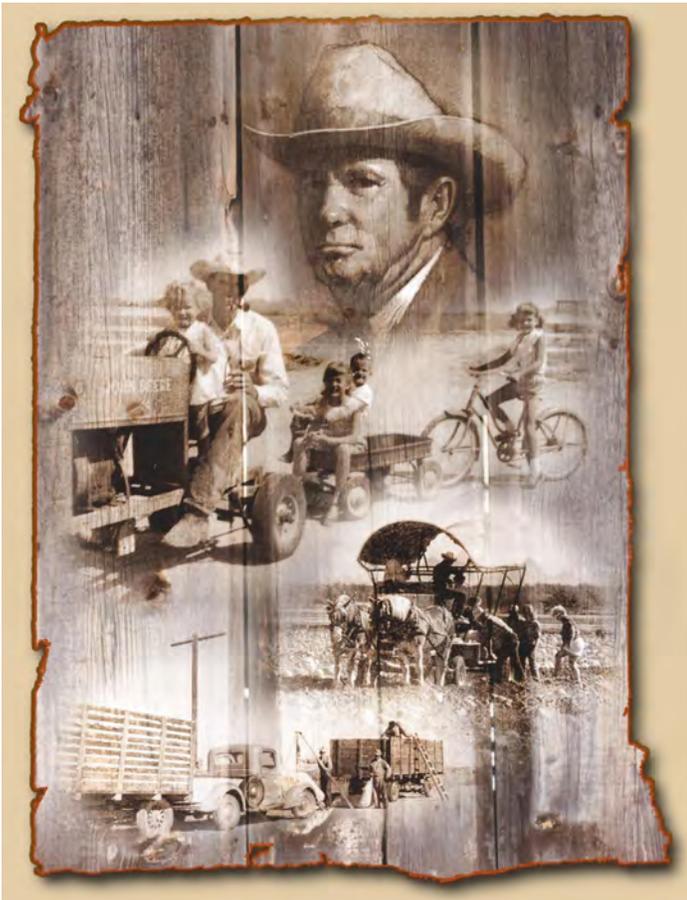
The Buckelew family will continue to farm portions of the land, while working with Pima County to enhance habitat for wildlife on other portions of the property, providing wildlife viewing opportunities for the public, developing outdoor educational opportunities for an adjacent school, and continuing the traditional fall pumpkin festival and corn maze. Grazing will continue to occur on the state and federal leases.



It is estimated that about 35,000 people attend the annual Pumpkin Festival and Corn Maze at Buckelew Farm. Photo from [www.buckelewfarm.com](http://www.buckelewfarm.com)



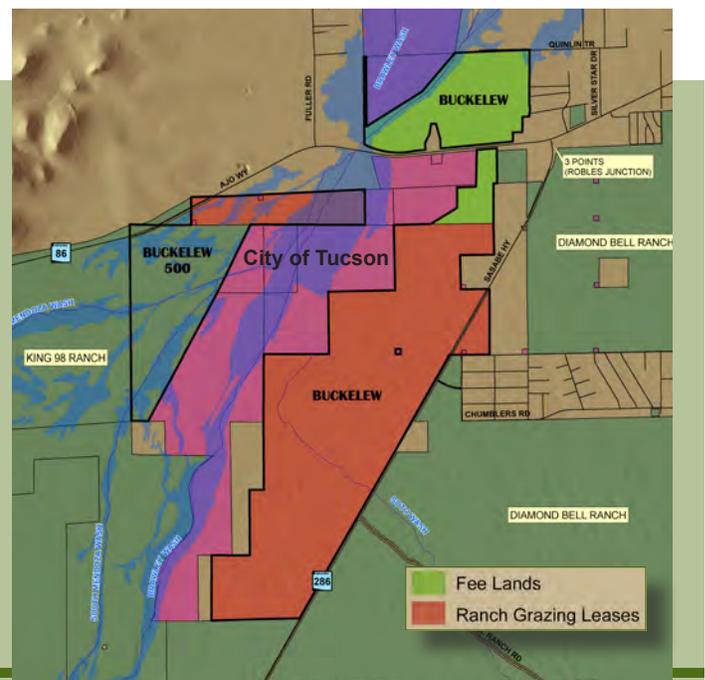
A 5 acre riparian area exists northeast of the farm fields. Photo by Pima County.



The Buckelew Family. Photos from Nick Buckelew

## Ongoing Property Improvements

- Recent projects include new fencing to improve movement of livestock between pastures during the short grazing season.
- A restoration project is being developed along the Brawley Wash adjacent to and down stream from the Highway 86 bridge.
- Nick Buckelew has been looking at alternative crops and land uses to enhance public activity at the farm.
- Parts of grazing areas south of the highway have infestations of the invasive exotic plant buffelgrass, where control efforts were initiated in the summer of 2010.



## Northern Altar Valley Reserve



### King 98 Ranch

**Fee lands: 1,034 acres**  
**State grazing lease: 3,096 acres**  
**State agricultural lease: 410 acres**  
**Cost: \$2,102,921**  
**Acquired: March 18, 2005**  
**Fund: 2004 Bond Funds**

### Background

The County purchased the 4,500-acre King 98 Ranch on March 18, 2005 with 2004 bond funds. The ranch is located southwest of Three Points, along the western side of Sasabe Highway, and includes two miles of Altar Wash. In addition to fee land and a State grazing and agricultural lease, the purchase included grandfathered irrigation water rights associated with 259 agricultural acres of currently fallow agricultural fields, a residential complex, barn, storage buildings and wells.

### Historical and Cultural Resources

During the late 1800s, a number of homesteads were established in Altar Valley including the King ranches. The King 98 Ranch was in the King family for three generations, since the turn of the 20th century. The County purchased the property from several King family trusts controlled by Mrs. Louise King and her daughters. Mrs. King was an owner since she married into the King family in the 1940's. Today, the King 98 Ranch is adjacent to the King Anvil Ranch and it is representative of several family homesteads that remain in operation today in Altar Valley. These Altar Valley ranches provide an historic cultural landscape that is quickly disappearing in the West.

Although the property has not been surveyed for archaeological resources, it is expected that archaeological sites associated with Archaic, Hohokam, O'odham, and Anglo settlements would be found on the property similar to sites found elsewhere along the Altar Wash. The property is relatively close to the Hohokam settlements in the Coyote Mountains and would have provided riparian resources, as well as arable lands to the Hohokam.

### Biological Resources

The property is entirely within the Conservation Lands System categories of Multiple Use, Special Species Management Area for the cactus ferruginous pygmy-owl, and contains portions of an Important Riparian Area. Although the ranch includes abandoned agricultural fields, significant water rights may provide for an opportunity to restore a stretch of the Altar and South Mendoza washes that traverse the property from south to north. The property supports habitat for the California leaf-nosed bat, Swainson's hawk, and Tumamoc globeberry. Portions of the property may provide habitat in the natural dispersal of young pygmy owls when found in the valley. Endangered Pima pineapple cacti have been found on the property.

### Management

The ranch is currently managed primarily as open space. Limited grazing occurs on the ranch as part of the Ranch Management Agreement with the Kings Anvil Ranch owners. Caretakers from the Kings Anvil live in the residential compound to protect the site from vandalism. Vegetative monitoring transects have been established on the property to get range forage production and species diversity baseline information that is used in developing and guiding any annual grazing plans. The grazing leases associated with the property adjoin both the City of Tucson lands and Buckelew Farm property along Brawley Wash.



*Landscape of King 98 Ranch - Photo by Robert Pape*

## Recreation

The area gets minimal recreational use. There are only limited roads into the area. Most of the ranch is State Trust lands and the appropriate recreational use permits from State Land are required. Most activity is walk in only. The area gets hikers, ATV riders, photographers, hunters and wildlife watchers.



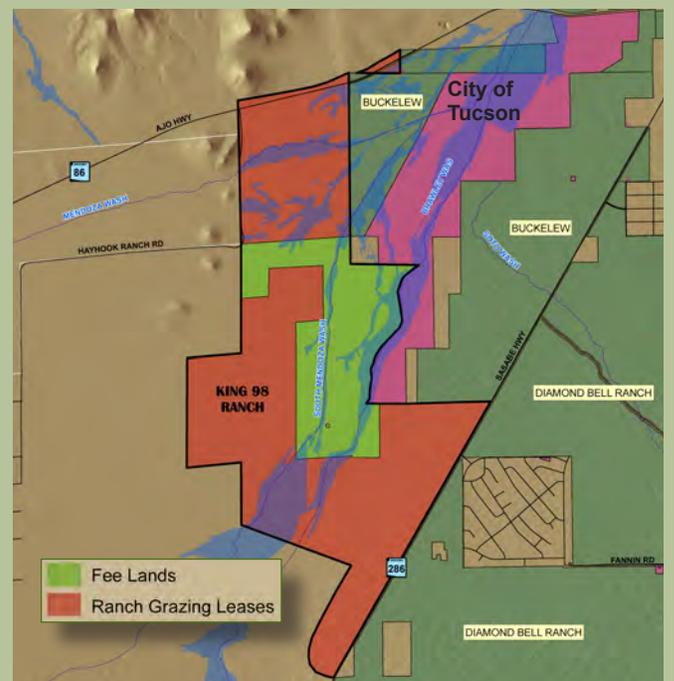
Photo taken for monitoring purposes in August 2008 on King 98 Ranch  
Photo by John Sullivan.



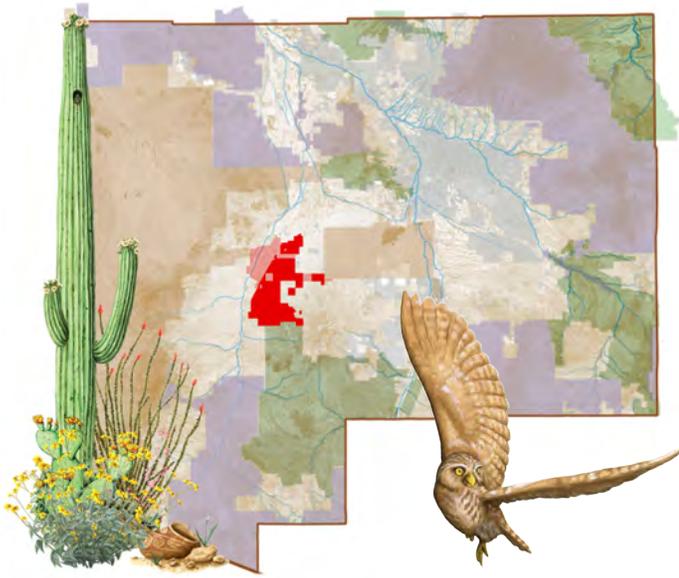
King 98 Ranch looking west towards Baboquivari Mountains - Photo by John Sullivan

## Ongoing Property Improvements

- Most of the current activity at the ranch involves site monitoring or site protection.
- Several new fences have been constructed to better control livestock.
- Permanent monitoring sites have been identified and are surveyed twice annually.
- The ranch is being evaluated for possible restoration projects involving the former agriculture fields.
- The well system has been improved and new storage put in place.
- The County has worked with the group Humane Borders to place emergency water points away from the buildings to minimize vandalism from illegal border crossers.
- The ranch is part of an annual sportsman clean-up effort every year to address the litter and trash left behind by the illegal border crossers.



## Northern Altar Valley Reserve



# Diamond Bell Ranch

**Fee lands: 191 acres**  
**State grazing lease: 29,904 acres**  
**BLM federal grazing permit: 798 acres**  
**Cost: \$897,730**  
**Acquired: March 14, 2008**  
**Fund: 2004 Bond Funds**

## Background

The Diamond Bell Ranch differs from other ranches the County has purchased in that 97 percent of the ranch is on State Trust land, which is managed by the County under a State grazing lease, two percent is on federal BLM land, also managed by the County under a federal grazing permit, and less than one percent is actually owned by the County. That said, this property was important to conserve because the County and others have had a difficult time protecting land that contains Pima pineapple cactus, a federally listed endangered species, and Diamond Bell Ranch contains a healthy population of the cactus. Although there are no assurances that the State Land Department won't sell the State Trust land in the future, the current approach enables the County to manage the land for conservation so long as the grazing leases continue to be renewed. Diamond Bell Ranch is also important for conservation because it is one link in a system of County and federal conservation areas all the way from Ajo Highway to the Mexican border along Highway 286. Another unique aspect about the ranch is that it surrounds a residential subdivision of which more than 6,000 acres worth of lots are undeveloped and remain vacant after more than twenty years after initial subdivision.

## History

Today's Diamond Bell Ranch was once part of the vast Robles Ranch, which was established in 1882 by Bernabe Robles (b.1857 in Baviacora, Sonora, Mexico, d.ca 1945 in Tucson). Robles Ranch was once one of Arizona's largest cattle ranching operations: the 1.5 million acre "El Rancho Viejo" stretched from Florence to the Superstition Mountains to the Mexican border from 1889 to 1918. Following severe drought and overstocking of livestock in late 1800s and early 20th century, the ranch began to be sold off. By 1949, Robles Ranch was reduced to only 50 square miles, and by the mid-1980s, the ranch was sold and broken into small parcels.

From the 1950s to the 1970s, the area of the current Diamond Bell Ranch was known as the O-Bar-J Ranch. In 1979, the Chilton family bought the ranch, and purchased an additional 4,000 acres to the north around 1990. The northern part of the ranch called Diamond Bell Ranch, was sold after failed efforts in the late 1960s and 1970s to develop the entire ranch into a high-density subdivision. Diamond Bell Ranch became part of the Chilton Ranch and Cattle Company and managed by the Chilton family as a cattle ranch from 1979 to the present.

## Biological Resources

The majority of the property is located at lower elevations northwest of the Sierrita Mountains and drainages on the property run west from this mountain range towards the Altar Wash. Most of the property supports semi-desert grasslands with the exception of Valencia Mountain, which supports a diversity of plant communities. The property is entirely within the Conservation Lands System categories of Biological Core, Multiple Use, and Special Species Management Area for the



Rancher Tom Chilton holding a monitoring sign on Diamond Bell Ranch, with the Babaquivari Mountains and Kitt Peak Observatory in the background. Photo by John Sullivan.

cactus ferruginous pygmy-owl. The property contains a healthy population of endangered Pima pineapple cactus, and habitat to support other Priority Vulnerable Species including Swainson’s Hawk, California leaf-nosed bat, desert box turtle and Ground snake.

## Management

The ranch is being maintained as a working landscape. The State grazing leases are being conservatively grazed under a Ranch Management Agreement with rancher Tom Chilton. Permanent monitoring plots have been expanded on the ranch to better measure forage production and track plant diversity and abundance across the ecological units of the ranch. New fences

and enhanced water system elements are being added. The State grazing leases are open for use under the rules and regulations established by the State.

## Recreation

Recreation in the area is primarily the outdoor activities of hiking, mountain biking, hunting, wildlife watching, off highway vehicle travel and some recreational mining. Roads in the area are limited and not maintained for public uses. Access can be limited due to weather conditions and can require 4-wheel drive vehicles. Visitors should be well versed in outdoor travel and not expect to find travel signage or readily available assistance.



Rocky habitat on the western slopes of Valencia Mountain within the Sierrita Mountain range, looking across the southern portion of Diamond Bell Ranch. Photo by EPG, Inc.

## Ongoing Property Improvements

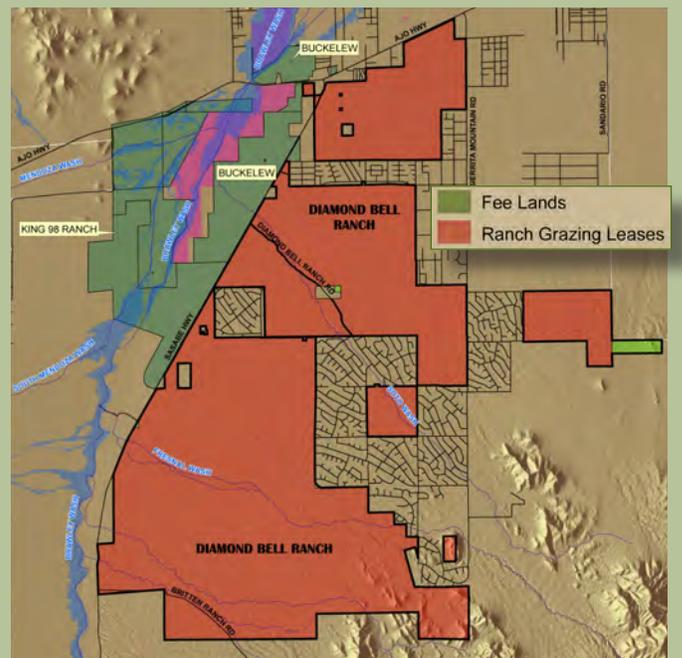
- Fence repairs and construction to enhance livestock pasture uses.
- Water systems have been enhanced to provide year-round wildlife waters.
- Vandalism is an ongoing issue so routine monitoring by the operator and county staff identify wildcat trash sites, cut fences, unauthorized off road vehicle travel points and trash left by illegal border crossers and humanitarian aid groups.



Cluster of Pima pineapple cacti in bloom, Diamond Bell Ranch. Photo by EPG, Inc.



Male desert tortoise on the western slopes of Valencia Mountain within the Sierrita Mountain range. Photo by EPG, Inc.



## Northern Altar Valley Reserve



Flooding in 2005 along the Brawley Wash north of the Bee & Mordka properties, looking northeast across the Tucson Mountains. Photo from Regional Flood Control District.

## Properties that Contribute to the Reserve: Bee and Mordka along the Brawley Wash

**Fee Lands: 160 acres**  
**Acquired: February 4, 2005**  
**Cost: \$81,138**  
**Fund: 2004 Bond Funds**  
**Partner: Arizona Land and Water Trust**

### Background

On February 4, 2005, the County acquired two properties located along the Brawley Wash, west of Tucson Mountain Park. It is bordered on the north and west by the Tohono O'odham Nation's Garcia Strip and on the south by the Tortuga Ranch owned by the Pascua Yaqui Tribe. The 120-acre property was purchased from Nancy Bee for \$60,873. The adjacent 40-acre property was purchased from Mordka Enterprises for \$20,265.

### Significance of the Brawley Wash

The Brawley Wash represents one of the best opportunities in eastern Pima County for riparian restoration. The Brawley Wash in its entirety runs from the southern end of Pima County

in Altar Valley where it is known as the Altar Wash, across Ajo Highway, where it becomes known as the Brawley Wash. It then converges with the Black Wash and continues north out of Pima County until it finally merges with the Santa Cruz River in Pinal County.

Much of the Brawley Wash is in either public ownership or privately owned for ranching or farming. Upstream in Altar Valley: Pima County now owns several ranches, Tucson Water owns former agricultural properties, the Bureau of Land Management (BLM) and Arizona State Land Department manage properties, and many privately owned ranches are part of the Altar Valley Conservation Alliance. North of Ajo Highway in Avra Valley: Pima County owns the Buckelew Farm, the Regional Flood Control District owns several properties acquired through the Floodprone Land Acquisition Program, the Pascua Yaqui Tribe manages the Tortuga Ranch, the Garcia Strip of the Tohono O'odham Nation is actively farmed, Tucson Water owns former agricultural properties of which some are proposed for conservation via its draft Habitat Conservation Plan, the Bureau of Reclamation owns a wildlife mitigation corridor, the BLM manages the Ironwood Forest National Monument, and private farms are common up towards Marana.

Because the Brawley Wash system is generally unimproved and so much of it is either in public ownership or owned by ranchers that also want to see its health restored, we have significant opportunities long-term to preserve natural floodplain functions and restore such functions where they have been degraded.



## Biological Resources

It is highly likely that Tumamoc Globeberry is found on the Bee and Mordka properties, which is a plant designated by the County as a Priority Vulnerable Species and is underrepresented in the County reserve system. These properties are within the Biological Core Management Area and Important Riparian Area categories of the Conservation Lands System.

## Historical and Cultural Resources

A survey of the properties revealed five archaeological sites. Many isolated prehistoric artifacts were also noted in association with the wash system, suggesting the area had been used by prehistoric people for agricultural purposes. The historic occupations on two sites, possibly three, date to the early 20th century, which fits with the addition of the Garcia Strip to the Tohono O’odham Reservation in 1916.

## Management

Opportunities for restoration of these properties in conjunction with other portions of the Brawley Wash, is dependent on future uses of the Tohono O’odham and the Pascua Yaqui Tribe’s lands to the north and south. The Tohono O’odham have put significant acreage into irrigated agriculture to the north east of the County properties.



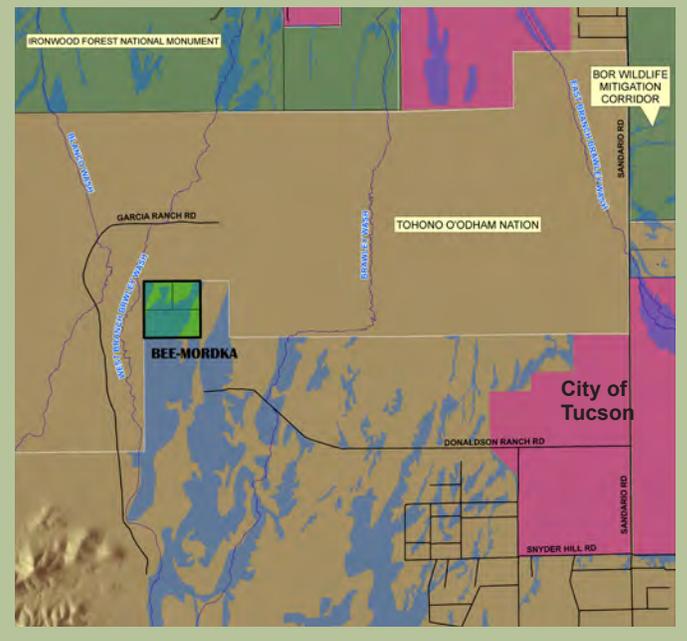
Ajo Highway bridge crossing the Brawley Wash looking south during the 2005 flood. Photo from Regional Flood Control District.



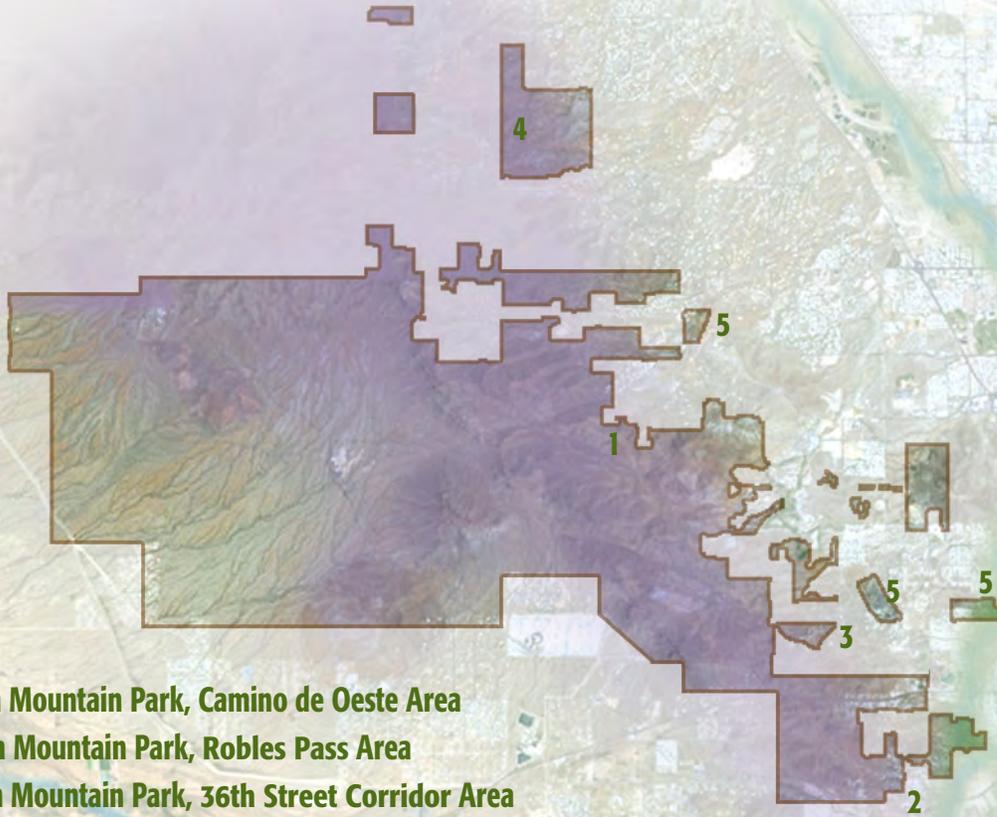
Ajo Highway bridge crossing the Brawley Wash looking north. Photo from Regional Flood Control District.

## Ongoing Property Improvements

- No active ongoing management activities are in place.
- The parcels are monitored during the year and any vandalism noted and security fencing and signage are replaced as necessary.
- Off road vehicle intrusions are one of the primary impacts that are being monitored.
- The properties have been closed to any further grazing.



# Tucson Mountains Reserve



- 1 Tucson Mountain Park, Camino de Oeste Area
- 2 Tucson Mountain Park, Robles Pass Area
- 3 Tucson Mountain Park, 36th Street Corridor Area
- 4 Sweetwater Preserve
- 5 Aquisitions that Contribute, including Feliz Paseos Park



Pima County photo.



Photo by Loy Neff.

## Tucson Mountain Park

Created in 1928, Tucson Mountain Park is Pima County's first mountain park and one of the most visited sites in Pima County. Over a million visitors take a scenic drive through, or take time to stop and visit Tucson Mountain Park annually. At approximately 20,000 acres, it is one of the largest natural resource parks owned and managed by a local government in the U.S. The Park offers spectacular views, over 62 miles of non-motorized trails for hikers, equestrians and mountain bikers, picnic areas, campground site, and nature programs offered by County interpretive staff. For more information, visit [www.pima.gov/nrpr](http://www.pima.gov/nrpr).

## West Branch Archaeological Site Complex

The large prehistoric West Branch Site is part of a complex of prehistoric resources extending into eastern Tucson Mountain Park and associated with the west branch of the Santa Cruz River. Settled by A.D. 950, the West Branch Site soon became one of the largest villages in the Tucson area. A large portion of the West Branch Site is on lands outside the park and have been lost to development in recent years, which underscores the importance of the role of the Reserve lands in preserving heritage resources.



*Petroglyphs in Saguaro National Park. Photo by Sam Negri.*



*Cholla cactus flower. Photo by Bill Singleton*

### **Saguaro National Park**

Once part of Tucson Mountain Park, the Tucson Mountain District of Saguaro National Park (SNP) was established in 1961, creating a large contiguous landscape of federally and locally owned land. The west unit of SNP contains over 500 plants species, including the Giant saguaro, an iconic symbol of the West.

The Tucson Mountains Reserve contains some of the most well-known outdoor recreation sites in Pima County. The reserve consists of Tucson Mountain Park, Sweetwater Preserve, Feliz Paseos Park and other nearby County-owned properties. It is adjacent to Saguaro National Park West (SNP). Tucson Mountain Park (TMP), located west of I-10 at the end of Speedway, is Pima County's largest natural resource park and is one of Tucson's most visited natural areas. Known for its saguaro-studded hills, TMP is home to a myriad of species, including Gray foxes, javelina, Gila monsters, bats, well over one hundred species of birds and occasionally resident mountain lions. Habitats range from rocky mountain slopes to expansive vistas and riparian corridors offering spectacular views and dramatic sunsets. The County has acquired over 2,700 acres since 1997 in the Tucson Mountain Park area. Continuing efforts by the County to acquire lands and establish wildlife corridors will help to prevent this area from becoming a biological island surrounded completely by development.



*Photo by Arizona Sonora Desert Museum*

### **Arizona-Sonora Desert Museum**

Founded in 1952, the world-renowned Arizona-Sonora Desert Museum (ASDM) is located within the Tucson Mountain Park boundaries along Gates Pass Road, and is considered a zoo, botanical garden and natural history museum all in one. The Museum is home to over 300 animal species, 1,200 plant species representative of the Sonoran Desert and spectacular views. ASDM is a private, non-profit organization dedicated to the conservation of the Sonoran Desert. The Museum is considered by most experts one of the top facilities of its kind in the world. It is one of Tucson's most popular visitor destinations.

## Tucson Mountain Reserve



Gates Pass - photo by Bill Singleton

## Tucson Mountain Park Expansion

**Fee: 1,840 acres**

**Cost: \$16,174,086**

**Acquired: June 1998 to October 2009**

**Fund: 1997 and 2004 Bond Funds**

**Partners: Arizona Land and Water Trust**

### Background

The tireless efforts of C.B. Brown, considered to be the “father of Tucson Mountain Park”, to set aside large tracts of land in the Tucson Mountains for future generations, led to the Pima County Board of Supervisors’ request to the U.S. Department of the Interior to set aside thousands of acres of land in the Tucson Mountains for park purposes in 1929. This groundbreaking request was granted under the Recreational Act of 1926, and the Board of Supervisors promptly established Tucson Mountain Park (TMP). Today, the 20,000-acre Park offers some of the most impressive natural Sonoran Desert beauty in the Tucson Basin and contains some of the most significant wildlife habitat in the Tucson Mountains. It is located west of metropolitan Tucson and is bounded on its northern side by the Tucson Mountain District Saguaro National Park. TMP is home to the Arizona-Sonoran Desert Museum and Old Tucson Studios, and includes the Gates Pass Scenic Gateway and the Gates Pass overlook, camping and picnic areas and miles of shared-use recreational trails.

Once seen as a rural park in 1929, TMP is practically surrounded by development today. Its popularity as a destination and the appeal of being located on the edge of a protected natural area has led to increased residential development on its fringes, as well as a high-end resort, golf courses and other commercial development. More recently, the University of Arizona completed their Mountain Lions and Bobcats in the Tucson Mountains: Monitoring Population Status and Landscape Connectivity report in June 2010. This report was primarily funded by Pima County’s Starr Pass Wildlife Enhancement Fund, stemming from a special revenue sharing agreement between the County and the JW Marriott Starr Pass Resort. The university mounted infrared-triggered cameras in Saguaro National Park and Tucson Mountain Park to monitor mountain lions and bobcats in the Tucson Mountains between January 2008 and May 2010. While the majority of the sightings were within Saguaro National Park, the report also confirmed the presence of mountain lions within Tucson Mountain Park. Presence and reproduction of this large predator is one indicator for us of an intact and viable natural system. The complete report can be viewed on Pima County’s Natural Resources, Parks and Recreation Department website at [www.pima.gov/nrpr/](http://www.pima.gov/nrpr/).

In order to ensure that this natural area does not become an isolated biological island, Pima County’s efforts to maintain viable wildlife corridors from TMP to other conserved areas continue. Using voter-approved 1997 and 2004 Bond funds, the County has acquired over 1,000 acres that expand TMP’s boundaries and protect habitat and natural areas. These acquisitions fall into three areas around the Park: Camino de Oeste, Robles Pass, and 36th Street Corridor.



Dos Picos Property - photo by Kerry Baldwin

**Camino de Oeste Area**

Using both 1997 and 2004 bond funds, the County acquired 10 properties totaling 800 acres, for a total cost of \$7,167,473. The properties were acquired between June 1998 and October 2009, and include the Diocese of Tucson, Saguaro Cliffs, Holsclaw, L & F International, Selective Marketing, Matesich, Serr, Des Rochers, Route 606, and Dos Picos properties. These properties are located near Camino de Oeste north and south of Gates Pass Road.

These acquisitions significantly expanded the eastern boundary of Tucson Mountain Park in a critical corridor and provide links to vital biological corridors, including Roger Wash, Trails End Wash, Camino de Oeste Wash and Greasewood Wash.

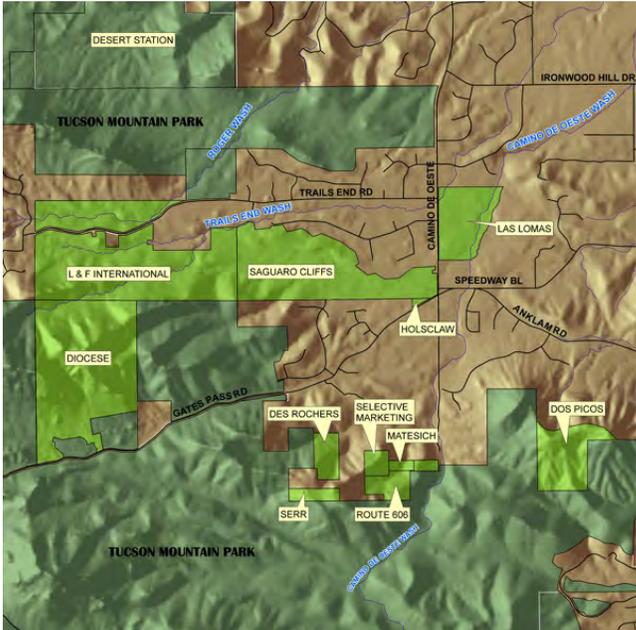
They also protect highly visited viewsheds of the upper foothills of the Tucson Mountains and cultural resources, including several Civilian Conservation Corps check dams dating to the early 1930s. A trailhead was constructed at the end of Camino de Oeste providing access to some of these properties and other major trails in Tucson Mountain Park.



Camino de Oeste Trailhead - photo by Nicole Fyffe



Mountain lion photo taken by University of Arizona infrared-triggered camera in May 2010 in the more rugged and mountainous area just west of the Camino de Oeste area.

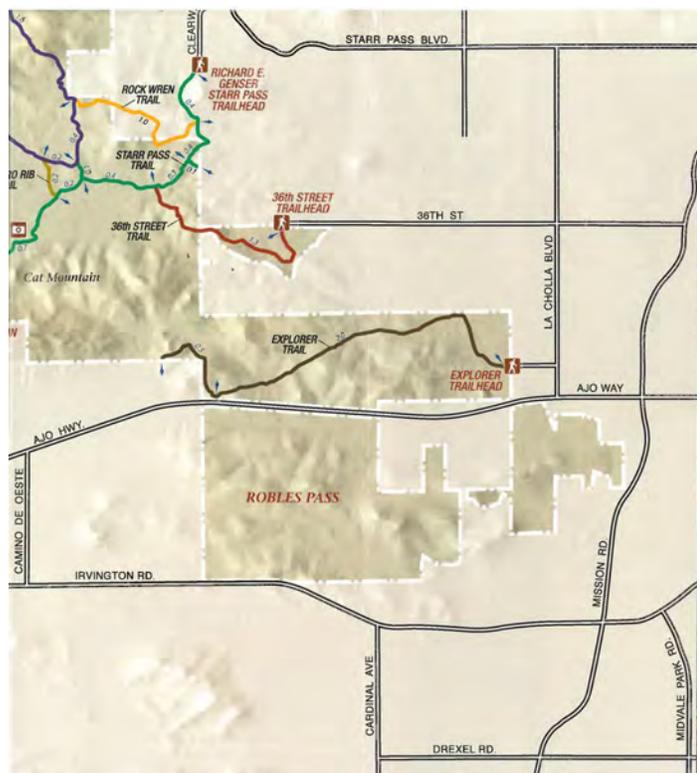
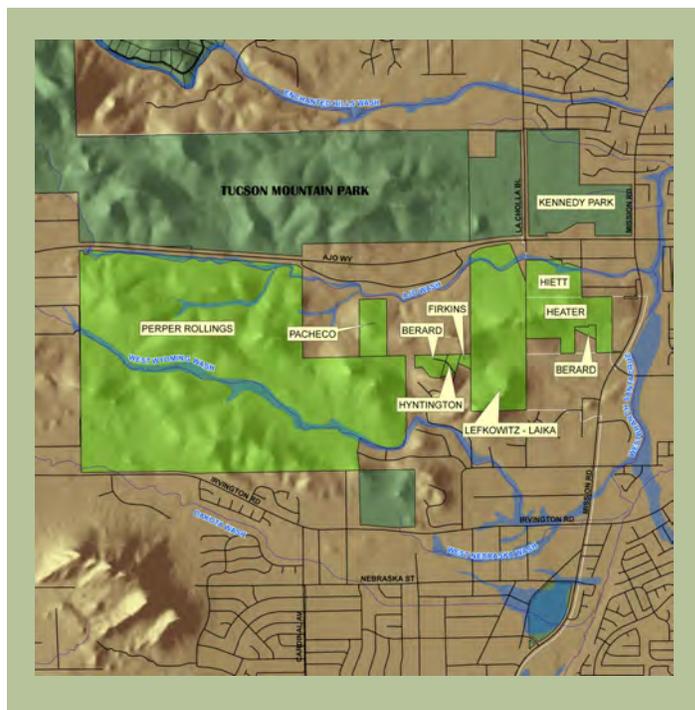


## Tucson Mountain Reserve: Tucson Mountain Park Expansion Continued

### Robles Pass Area

Using both 1997 and 2004 bond funds, the County acquired 8 properties totaling 968 acres at a total of \$8,390,641. The properties acquired were the Lefkovitz/Lakia, Perper/Rollings, Berard, Heater, Hiatt, Pacheco, Firkins, and Hyntington properties, generally located south of Ajo Highway and west of Mission Road. The Perper/Rollings property was the largest by far in this area at 746 acres. These properties preserve this corridor, protect a key scenic gateway into Tucson, buffer the effects of urban encroachment, conserve habitat in the Tucson Mountains and provide further recreational opportunities for residents and visitors. This area of Tucson Mountain Park is referred to as the Robles Pass Unit on maps and informational materials.

This area contains a significant portion of the prehistoric Hohokam Village archaeological site known as the West Branch Site, which was settled by A.D. 950, and soon became one of the largest villages in the Tucson area and a major center of pottery production, with its pottery distributed and used throughout the Tucson area. By A.D. 1150, most residents of the West Branch Site had moved away and the village was essentially abandoned.



Berard Property - photo by Michael Berard



Geology class at Tucson Mountain Park. Photo by NRPR

## 36th Street Corridor Area

Using 2004 bond funds, the County acquired the Belvedere Estates property located at the end of West 36th Street, totaling 72 acres for \$615,972. This acquisition contributes to the protection of a wildlife corridor from the Tucson Mountains east to the West Branch of the Santa Cruz River along the Enchanted Hills Wash. A trailhead was constructed on this property at the end of 36th Street as a jump off point for a new connector trail into Tucson Mountain Park. Additional acquisitions were made along the 36th Street corridor and are discussed under the section titled Acquisitions that Contribute to the Reserve.



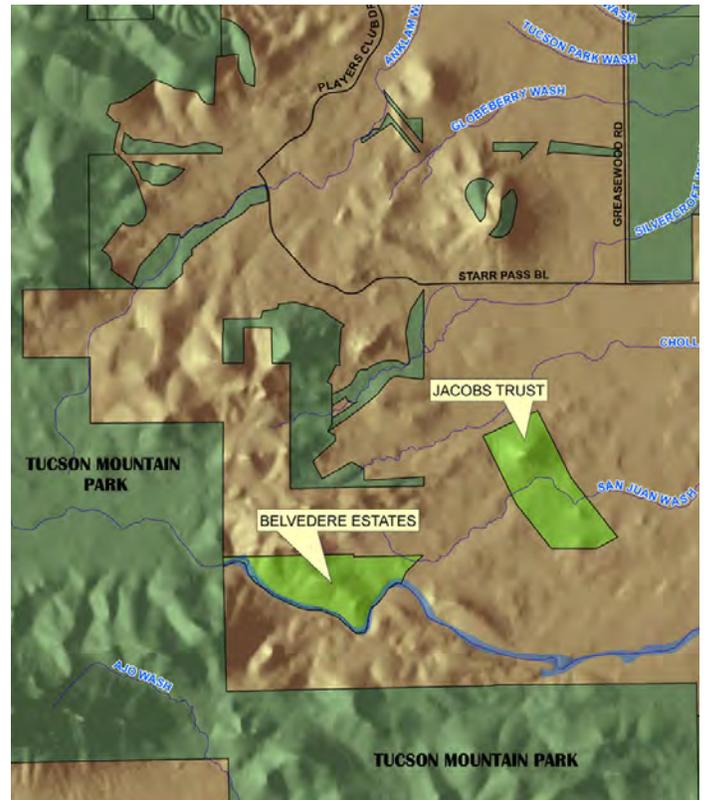
Trailhead on Belvedere Estates Property, 36th Street. Photo by Andrea Altamirano

## Recreation

As part of the overall management strategy for Tucson Mountain Park, new trail developments and locations for increased public uses have been designed for these buffer properties to the original Tucson Mountain Park boundaries. This will allow the core of Tucson Mountain Park to stay relatively undeveloped and the high ecological values protected over time. The development of the new properties will include multi-use trail systems, trailhead parking areas, interpretive trails and other nature-based programs and facilities for diverse audiences with different physical capabilities. All development will however, be done in a way to maintain the conservation values the property was originally acquired for.



Hikers on 36th Street Trail. Photo by Andrea Altamirano



## Ongoing Property Improvements

- A Master Plan has been developed for the Robles Pass Unit.
- Illegal wildcat trails have been removed.
- Trail signage is being installed at various points and a multi-use recreational trail system is being developed in the Robles Pass Unit.
- Methods to connect the Robles Pass Unit south of Ajo Highway to the main body of Tucson Mountain Park north of the highway are being evaluated.
- The Sonoran Desert Weedwackers continue their fight to control buffelgrass in Tucson Mountain Park.
- Additional work has been completed to install a vandal proof gate to protect a historic and active bat roosting cave.
- Properties have been fenced to minimize unauthorized uses and routine monitoring of the new properties continues.
- Ongoing partnerships for wildlife monitoring in Tucson Mountain Park.

## Tucson Mountain Reserve



## Sweetwater Preserve

**Fee Lands:** 700 acres

**Cost:** \$11,733,653

**Acquired:** June 2004

**Fund:** 2004 Bond Funds

**Partner:** Trust for Public Land

### Background

The 700-acre Sweetwater property, located in the eastern foothills of the Tucson Mountains foothills and south of Camino del Cerro, is one of the last remaining intact large tracts of land in the Tucson Mountains outside of Tucson Mountain Park and Saguaro National Park West. Sweetwater Preserve protects a key segment of the Sweetwater Wash that connects Saguaro National Park and Tucson Mountain Park to the Santa Cruz River, and provides recreational opportunities for hikers, mountain bikers, and equestrians. The property includes habitat for numerous plants and animals, known archaeological resources and a key portion of the viewshed of the upper foothills of the Tucson Mountains.

After hearing that this property was being considered for development, area residents mobilized an outreach effort to let others know of the threat to this property. The community strongly supported acquisition of the property and worked diligently to ensure its conservation and to realize the establishment of this preserve. Over 50 neighborhoods, environmental and community organizations provided letters and spoke at the public hearings in support of acquiring the Sweetwater property for conservation. In addition, just over 180 people contributed over \$30,000 in three months to help pay the property taxes to secure an option to purchase this property, the likes of which was not seen in any other acquisition made by the County.

### Biological Resources

The property contains several major washes that cross the property, including a key segment of Sweetwater Wash, which is a major drainage for the Tucson Mountains. Sweetwater provides suitable habitat for many species, including the Lesser long-nosed bat, Gila monster, mule deer, Abert's Towhee, California leaf-nosed bat, mountain lion and Desert tortoise.



*Hiker along a trail in Sweetwater Preserve. Photo by Steve Anderson*

## Cultural Resources

The property contains 52 check dams and other water control features built by the Civilian Conservation Corps dating back to the 1930s. They are part of several homesteads dating back to the same time.



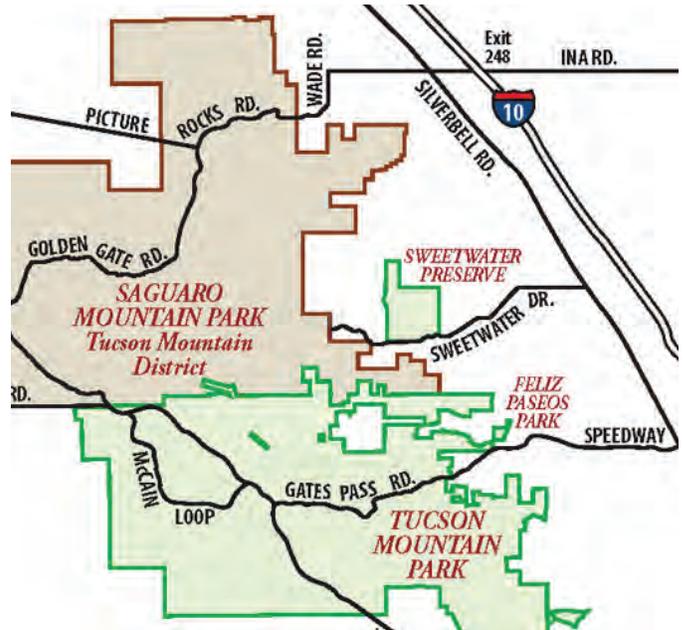
Desert tortoise



Harris hawk

## Recreation

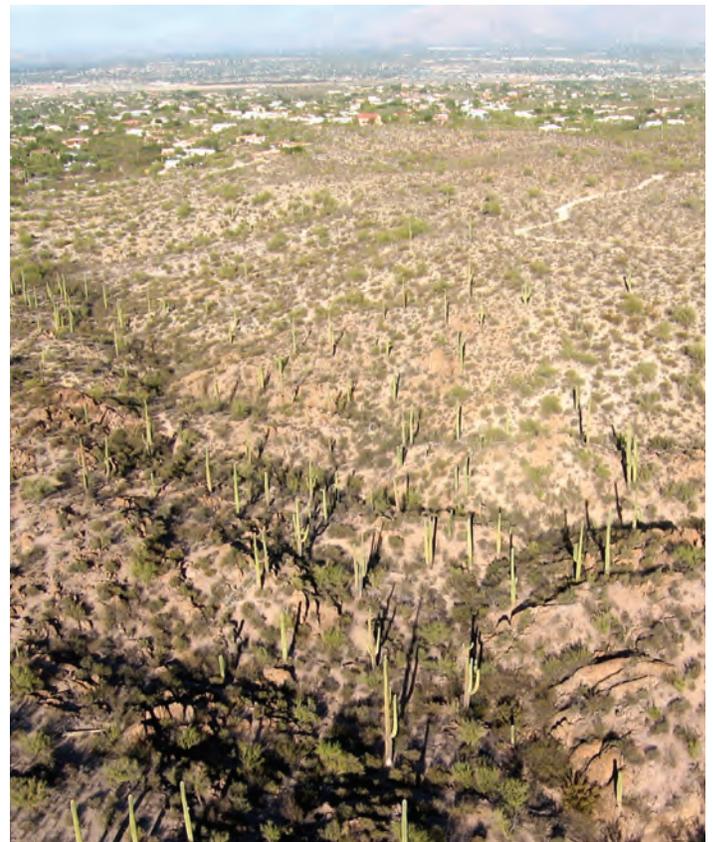
The property has been used for informal nature-based recreational activity for decades. A network of informal trails crossed the property and most of the use came from local residents. There are over 9 miles of interconnecting sustainable trails that have been constructed on site. The preserve is used for hiking, biking and equestrian use. Some archery hunting during season occurred historically as part of the larger Tucson Wildlife Area, but the site is now closed to discharge of all firearms and archery equipment for public safety concerns. The Sweetwater Preserve Trailhead is off of Tortolita Road and can accommodate 8 vehicles and 7 horse rigs.



Riding in Sweetwater Preserve. Photo by Nicole Fyffe

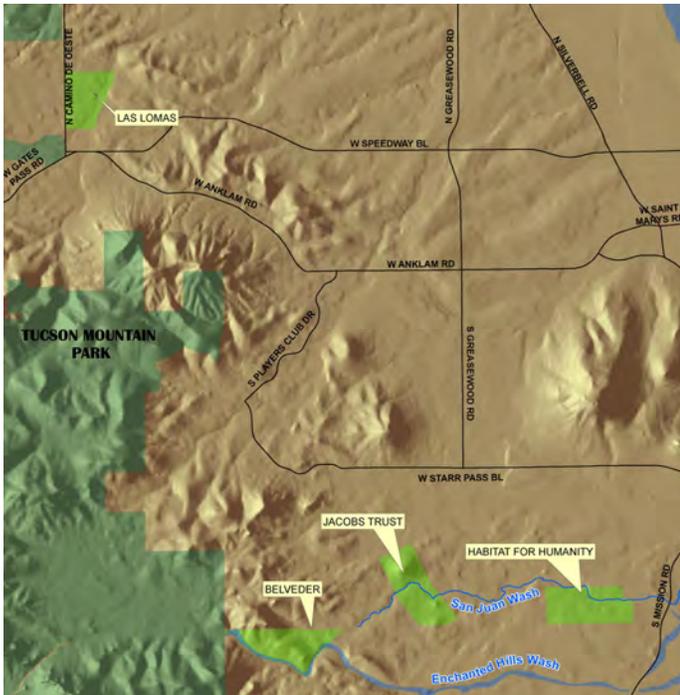
## Ongoing Property Improvements

- The property has been developed as both a natural area of scenic value as well as a multi-use non-motorized trails park.
- A Management Plan was developed for the site in May 2008.
- A parking area and trail head has been constructed off Tortolita Road as the developed access point to the park.
- Nature programs are conducted at the park from time to time during the year.
- Portions of the park have been fenced and signed as a County conservation area.
- Dogs are allowed and restricted to be on leash at all times in the park.
- The park has been closed to the discharge of all firearms, bows and arrows and other weapons.
- All motorized vehicles are prohibited in the park and users are confined to the designated trails.
- The park is routinely monitored by County staff and the Sheriff's Office.



Aerial photo of the property looking east toward the Santa Cruz River . Photo by Chuck Park

## Tucson Mountain Reserve



### Las Lomas Property (Feliz Paseos Park)

The County acquired the 50-acre Las Lomas property in two phases in September 1998 and June 1999 for \$730,000. The property was long envisioned to be used for a universal access trail park. In 1998, the Pima County Board of Supervisors formed a committee to explore using the Las Lomas property for such a site. The committee co-chairs were Bob Mora, one of the leading advocates for the disabled community, nationally, and here in Tucson, and Ms. Laurel Park, an adjacent resident to the Las Lomas property. Today, the Feliz Paseos Park has made that vision a reality. The park features a universally accessible trail system with interpretive signs, and includes a parking area and small plaza with a large ramada and two ADA accessible family restrooms. The park is intended for use by everyone, regardless of ability, and the emphasis is on recognizing and accommodating the special needs and capabilities of people with disabilities. Feliz Paseos Park is a successful example of a public-private partnership and makes a beautiful area universally accessible to all. This is one of the first such parks of its size in Arizona.

## Acquisitions that Contribute to the Reserve, Las Lomas, Jacob's Trust, Habitat for Humanity, Mission and 33rd Street Properties

Fee Lands: 219 acres  
 Cost: \$2,440,568  
 Acquired: Between June 1999 and September 2010  
 Fund: 1997 and 2004 Bond Funds  
 Partner: Arizona Land and Water Trust

### Background

The Tucson Mountains Reserve includes additional properties acquired that are not directly adjacent to the Tucson Mountain Park but nonetheless contribute significant value to the Reserve. These additional acquisitions are all in close proximity to Tucson Mountain Park.



Feliz Paseos Park - photo by Nicole Fyffe



Feliz Paseos Park - photo by Nicole Fyffe

## Jacob's Trust Property

Like the County's Belvedere Estates acquisition, the 80-acre Jacob's Trust property, acquired for \$601,336, further contributes to conservation of open space along the 36th Street corridor, from Tucson Mountain Park to the West Branch of the Santa Cruz River. The San Juan Wash, an important drainage to the Santa Cruz River, crosses through privately owned and County owned lands on its way to the West Branch via the wash corridor. The site has remnants of past mining activity but is still a rich Sonoran Desert upland habitat. The site is available for hiking and general nature enjoyment. No facilities, development or dedicated access has been made available at this time.

## Habitat for Humanity Property

The 80-acre Habitat for Humanity property was acquired in 2008 for \$1,102,832, of which \$1,002,832 came from County 2004 Bond funds and \$100,000 from the City of Tucson. As briefly described above, the San Juan Wash also runs through this property and into the Santa Cruz River. The effects of upstream urbanization on San Juan Wash can be profound, since this can induce more down-cutting on other West Branch properties. This riparian corridor is significant with relatively dense bank vegetation. The property also contains one recorded archaeological site, which consists of scattered chipped stone artifacts that probably date back to the pre-Hohokam Archaic period. The property has a limited number of existing dirt roads and trails crossing the property. Walk-in access gates have been installed on two sides off La Cholla and 36th Street to allow continued walking and biking use of the site. No other development has been done on the property and future trails, ramadas and other site infrastructure planned for the site will require additional funding in the future.



Jacob's Trust Property - photo by Trilby Dupont



Trail along Santa Cruz River on Mission and 33rd Street property. Photo by Kerry Baldwin.

## Mission and 33rd Street Property

The most recent acquisition in the 36th Street Corridor area was in September 2010, when the County acquired the 9-acre Mission and 33rd Street property for \$191,896. The property is located northeast of the County's Habitat for Humanity property, on the west side of Mission Road and north of 36th Street. This acquisition protects another segment of the San Juan Wash, which runs from the Tucson Mountains, through portions of Tucson Mountain Park, through the County-owned Jacobs Trust and Habitat for Humanity properties, through the Mission and 33rd property, under Mission Road and onto properties owned by the Pima County Regional Flood Control District along the West Branch of the Santa Cruz River.



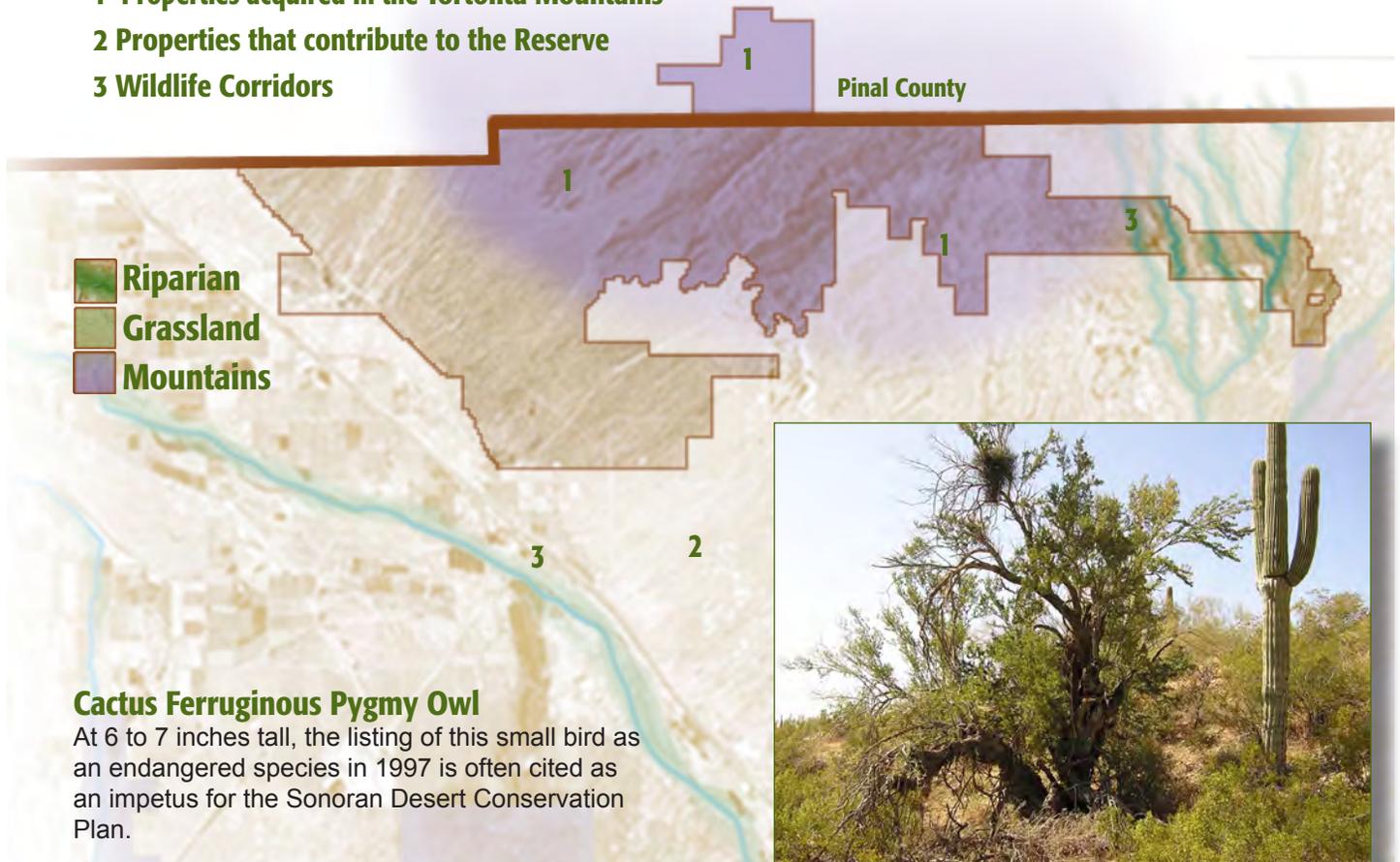
Cholla cactus flowers. Photo by Bill Singleton



Trees along San Juan Wash on the Habitat for Humanity property. Photo by Kerry Baldwin.

# Tortolita Reserve

- 1 Properties acquired in the Tortolita Mountains
- 2 Properties that contribute to the Reserve
- 3 Wildlife Corridors



## Cactus Ferruginous Pygmy Owl

At 6 to 7 inches tall, the listing of this small bird as an endangered species in 1997 is often cited as an impetus for the Sonoran Desert Conservation Plan.



*Ironwood Cochie Canyon – Photo by EPG*

## Ironwood Trees

Ironwoods can live for hundreds of years and serve as nurse plants to over 600 species of plants, such as saguaros and barrel cactus.



*Ironwood tree flowers. Photo by Bill Singleton*



Photo by Bev Showalter

### Recreation

The bajada of the Tortolita Mountains are popular areas for hiking, mountain biking and all terrain vehicle use. The area gets intensive evening and weekend use during the cooler months by all types of outdoor recreation users. Tortolita Mountain Park has developed and undeveloped hiking trails for the more experienced hiker and is still a popular hunting area close to the Tucson metropolitan area.

### Marana Mound Community Site

Marana Mounds is a unique 272-acre site that represents the last Hohokam occupation of the northern Tucson basin, and the greatest prehistoric population and organizational complexity in the area. The site includes a platform mound ceremonial and residential center and an enormous range of other archaeological features.



Photo by Arizona State Museum

The Tortolita Reserve includes the Tortolita Mountains along the Pima/Pinal County line, and large swaths of undeveloped State Trust land east and west of the mountain range. The area contains the region's best examples of Saguaro-Palo Verde-old growth Ironwood plant community. The Tortolita Alluvial Fan and its washes, much of which is located within this reserve, plays an important role in the area's natural flood control and groundwater recharge capabilities. The lands along Oracle Road are capable of linking the Catalina and Tortolita mountains to facilitate the movement of wildlife between the Coronado National Forest and Tortolita Mountain Park. The lands along Interstate 10 are similarly capable of linking the Tucson and Tortolita mountains to facilitate the movement of wildlife between Tucson Mountain Park, Saguaro National Park West and Tortolita Mountain Park. The area also boasts sought after scenic views, as well as

important cultural and archaeological sites such as the Marana Mound Community.



## Tortolita Reserve



## Tortolita Mountains Carpenter Ranch, Leef Property, and Cochie Canyon Property

**Fee Lands: 930 acres**  
**Acquired: March 1999 – June 2008**  
**Cost: \$4,881,091**  
**Fund: 1997 and 2004 Bond Funds**  
**Partners: Arizona Land and Water Trust**

### Background

The County established the anchor to this reserve, Tortolita Mountain Park, in 1986 with bond funds approved by voters that year. Over 3,000 acres in the rugged backcountry of the mountains was acquired for about \$6 million. An additional 110 acres was purchased with 1986 bond funds in 1996 and a donation of 200 acres from Laurinda Queen Burleson was added in 2002. Since that time, the County has continued to conserve land around the Park with 1997 and 2004 bond funds by acquiring three properties totaling another 930 acres: the Leef property, Carpenter Ranch, and the Cochie Canyon properties. The County is also continually involved in efforts to expand the Park through the acquisition of State Trust land and the acquisition of Federal land managed by the Bureau of Land Management.

### Leef Property

The County acquired the 80-acre Leef property on March 24, 1998, along the southern boundary of Tortolita Mountain Park. The property cost \$280,000 and was funded through 1997 bond funds. The property offers outstanding scenic and natural resources.

### Carpenter Ranch

The Carpenter family owned this small ranch located in Pinal County since the early 1920s. Donald and Sarabeth Carpenter sold a 200-acre portion of the property to the County on April 13, 1999. These 200 acres included Cochie Spring and an associated riparian area, as well as a historic homestead site. On August 29, 2005 the family sold the remainder of the ranch, totaling 360 acres, to the County. These 360 acres were directly north of the 200-acre Cochie Spring property and protect upper portions of the extensive Cochie canyon watershed. The 1999 purchase was funded entirely with 1997 bond funds totaling \$520,011. The 2005 purchase was funded with a combination of 1997 and 2004 bond funds (1997 - \$100,265; 2004 - \$1,079,771). The Burleson donation property abuts these parcels to the west, and federal lands managed by the Bureau of Land Management connect the properties on the south to Tortolita Mountain Park.

### Cochie Canyon

On June 18, 2008 the County purchased 290 acres in Cochie Canyon for \$2,901,044, located west of Tortolita Mountain Park and separated from the park by State Trust land. This property is one of the most scenic properties purchased by the County in recent years. The property contains parts of the canyon bottom, several large washes, and most of a rocky north-facing slope of the Tortolita Mountains. Several Ironwood trees on the property are more than a century old. Priority Vulnerable Species likely to be found on the property include: California leaf-nosed bat, lesser long-nosed bat, Abert's towhee, Bell's vireo, Cactus ferruginous pygmy owl, Ground snake, and Tumamoc globeberry. The property falls within the Conservation Lands System categories of Important Riparian Area, Multiple Use Management Area, and Special Species Management Area.



Sunset at Carpenter Ranch. Photo by Iris Rodden

## Management

The County has a ranch management agreement with the Carpenters for Carpenter Ranch. The Leef property is managed as part of Tortolita Mountain Park. Cochie Canyon is managed to protect its scenic and conservation values. All of the properties are currently being maintained in as natural of a state as possible. Vandalism by irresponsible members of the public is a constant concern. Livestock grazing on the Carpenter ranch has been significantly reduced during the current drought and impacts from unauthorized entry are being minimized through fencing and signage. All three properties are currently closed to vehicular traffic.



Old ironwood tree growing on bank of a large wash on Cochie Canyon property - Photo by EPG, Inc.

## Recreation

The properties are currently being used for hiking, nature study, wildlife watching and hunting. Because of the limited access by vehicles, the properties do not get as much visitation as lands farther down on the lower slopes. Efforts are underway with the Town of Marana to establish public use trails and trailheads in the future.



Hackberry Emperor butterfly on desert hackberry, Cochie Canyon property - Photo by EPG, Inc



Blooming flowers of a Desert mariposa and hedgehog cactus, Cochie Canyon property - Photo by EPG, Inc

## Ongoing Property Improvements

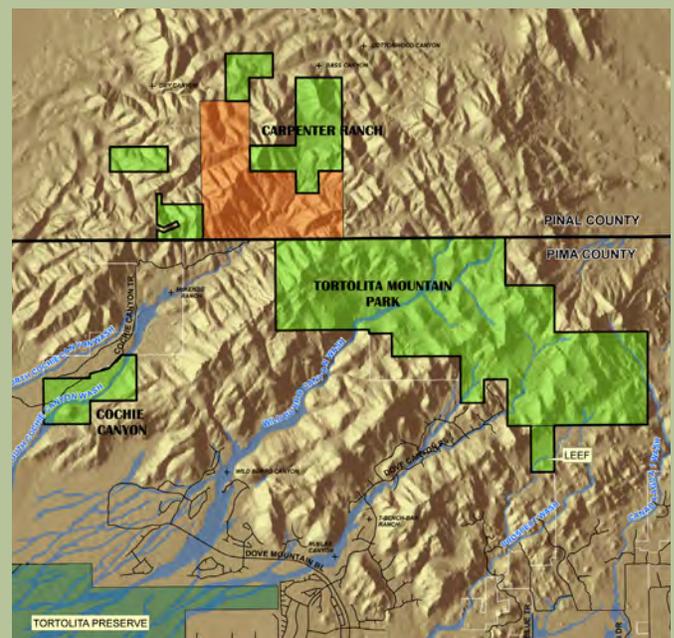
The Carpenter Ranch area was used as a site for a javelina rehabilitation project in 2009 that brought problem javelina from the urban areas together to form a new herd and were ultimately released back into the wild. The project was funded and conducted by a local wildlife rehabilitation group.

As part of a Mountain lion research project, the Carpenter ranch site has been used twice as a base camp for Arizona Game and Fish biologists working on collaring Mt. Lions in the Tortolita Mountains to track their movements via GPS satellite collars.

A restoration of the native vegetation in the Cochie Spring area was implemented in conjunction with Tucson Audubon Society and funded by the U.S. Fish and Wildlife Service.



Javelina rehabilitation project on Carpenter - Photo by Pima County



## Tortolita Reserve



Ironwood tree in bloom. Photo by Bill Singleton

## Properties that Contribute to the Tortolita Reserve

### Linda Vista/Patrick, Reid, Esther and David Tang, and Hartman/Cortaro Properties

**Fee Lands: 99 acres**  
**Acquired: February 2007 – August 2009**  
**Cost: \$4,320,560**  
**Fund: 1997 and 2004 Bond Funds, and Saguaro Ranch Development Agreement funds**  
**Partners: Arizona Land and Water Trust**

### Background

The far majority of land eligible for conservation with 1997 and 2004 bond funds in and around the Tortolita Reserve were large sections of State Trust land. Due to the challenges associated with purchasing State Trust land, the County spent 1997 and 2004 bond funds on smaller private properties in the area, trying when possible to expand upon existing conserved lands and conserve riparian areas and ironwood dominated parcels. The first three purchases described below were efforts to conserve land moving in a northwesterly direction from Arthur Pack Park towards the large vacant State Trust land properties within the Tortolita Fan. The fourth purchase, northwest of Hartman Lane and Cortaro Farms Road, continued the County's efforts to conserve Hardy Wash.

### Linda Vista/Patrick and Reid Properties

The County acquired 9-acres at the northwest corner of Linda Vista Boulevard and Saint Patrick Road, northwest of Arthur Pack Park, on February 9, 2007. The property cost \$451,561 and was funded through 2004 bond funds. Purchase of the property was contingent on the purchase of an adjacent property known as the Reid property. The County acquired 4 acres of the

Reid property in fee simple, and a conservation easement over 3.4 acres of the Reid property on March 26, 2007 for \$316,920. The Reid property was funded with 1997 bond funds. Both of these properties fall within the Multiple Use Category of the Conservation Land System and are included in the Special Species Management Area for the Cactus Ferruginous Pygmy Owl.

### Esther and David Tang

On July 23, 2007, the County acquired 40 acres located south of the intersection of Camino de Manana and Camino de Oeste, north of Arthur Pack Park. The property cost \$2,377,079 and was funded with 1997 bond funds. Conservation of the property expanded upon already conserved land within the Sky Ranch development directly to the west of the property. The property contains several ironwood lined washes, and supports habitat for six Priority Vulnerable Species, including the Lesser long-nosed bat, California leaf-nosed bat, Pale Townsend's big-eared bat, Cactus Ferruginous pygmy owl, Western burrowing owl, and Tumamoc Globeberry. The property falls within the Multiple Use and Special Species Management Area categories of the Conservation Land System, and includes Important Riparian Areas.

### Hartman/Cortaro

On August 14, 2009, the County purchased 50 acres southwest of Arthur Pack Park and northwest of Hartman Lane and Cortaro Farms Road. The property cost \$1,175,000, \$944,135 of which was funded with revenues generated from a development agreement for Saguaro Ranch development, and \$231,999 from 1997 bond funds. The property contains a significant stand of relatively undisturbed ironwood forest



Esther and David Tang property. Photo by Pima County

abundant Sonoran riparian scrub habitat. The property also supports habitat for four Priority Vulnerable Species, including Western burrowing owl, Tucson Shovel-nosed snake, Cactus Ferruginous pygmy-owl, and Tumamoc Globeberry. The property falls within the Multiple Use and Special Species Management Area categories of the Conservation Land System, and includes an Important Riparian Area along Hardy Wash. The property includes portions of Hardy Wash preserved in part by Pima County upstream from this property.

## Management

Because of the location of these properties within a developed suburban area, management focuses on routine monitoring, conservation area signage, and perimeter fencing to limit public access and maintain currently ecological values. No active or passive recreational uses are planned for the properties.



Linda Vista/Patrick property looking southwest towards Tucson Mountains. Photo by Christine Curtis

## Ongoing Property Improvements

- The properties are monitored on a routine basis and repairs made to fences and signage.
- Contacts have been established with local residents who act as an informal conservation neighborhood watch program. They identify issues for the County staff and act as local information stewards with local neighborhood members.



Cactus flowers on the Tang property.



Coppers Hawk on the Hartman/Cortaro property - Photo by EPG

## Tortolita Reserve



## Two Wildlife Corridors: Tucson Mountains to Tortolita Mountains to Catalina Mountains

**Fee Lands: 70 acres**  
**Acquired: July 2007 – April 2010**  
**Cost: \$1,684,637**  
**Fund: 2004 Bond Funds**

### Background

During the development of the Sonoran Desert Conservation Plan, Critical Landscape Connections were identified as broad areas that need to be maintained to allow wildlife to naturally move to and from conservation areas, but which also contain barriers to such movement. For example, Interstate 10 acts as a major barrier to wildlife movement between the Tucson Mountains, Saguaro National Park West and Tortolita Mountain Park, and animals are often killed on Oracle Road trying to move between Tortolita Mountain Park and the Coronado National Forest.

In 2006, as part of a statewide project, experts from Northern Arizona University undertook a science-based approach to design two wildlife corridors from the Tucson Mountains to the Tortolita Mountains and from the Catalina Mountains to the Tortolita Mountains. The result is called a linkage design.

While it is important to conserve land within these wildlife corridors, land conservation alone will not be effective. To ensure viable wildlife corridors at these locations, several actions are needed, including crossing structures to enable wildlife to move safely over or under roads and railroads, fencing to funnel the wildlife to the designed crossing structures, and vegetation enhancements to ensure a low stress approach and travel period across the corridors.

### I. Tucson Mountains to Tortolita Mountains

Avra Valley Road at Interstate 10 is one of the last locations for wildlife to move between the Tucson and Tortolita Mountains, due to a combination of existing conditions including the close proximity of the northern end of the Tucson Mountains to the Santa Cruz River, an abandoned railroad tunnel under Interstate 10, culverts under the interstate, and significant amounts of undeveloped State Trust land east of the Interstate. Pima County, the National Park Service, and the Town of Marana own land for conservation within and between the Tucson and Tortolita Mountains. At the northern end of the Tucson Mountains, Pima County owns over 200 acres that was acquired primarily to conserve an important Hohokam Village site. In addition, the County's Regional Flood Control District owns most of the Santa Cruz River at this location. Two key properties west of the railroad underpass were acquired with 2004 bond funds.

### Continental Ranch Development LLC

The 15-acre Continental Ranch development LLC property was purchased for \$750,448 on July 3, 2007 with 2004 bond funds. This property is located between the eastern bank of the Santa Cruz River and the frontage road west of Interstate 10, just southwest of the underpass.



## I-10 Avra Valley Mining and Development LLC

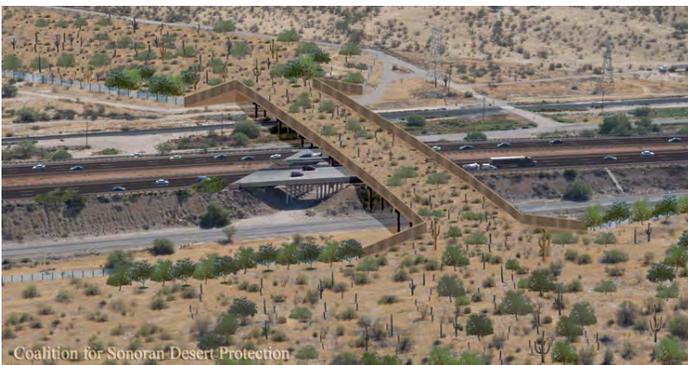
The County entered into a development agreement with I-10 Avra Valley Mining and Development LLC on August 5, 2008 for a 100 acre parcel located directly west of the underpass, also between the Santa Cruz River and the frontage road. The development agreement provided increased development potential for about 44 acres of the site, the dedication of about of 42 acres to the County, the right for the County to purchase an additional 4 acres, and a voluntary contribution of a percentage of sales transactions that occur within the future development over 20 years to support conservation efforts in the area. This voluntary contribution has the potential to generate significant revenue in the future and is restricted to be spent on activities associated with wildlife corridor and its management. In February 2009 the 42 acres was dedicated to the County. Approximately \$14,189 in 2004 bond funds was spent on due diligence and closing costs to accept the 42-acre dedication.



I-10 Before



I-10 After - Underpass Design



I-10 After - Overpass Design

## II. Tortolita Mountains to Catalina Mountains

A significant number of animals are killed annually by cars on Oracle Road, State Highway 77, north of Oro Valley and south of the Pima and Pinal County line. Approximately 9,000 acres of undeveloped State Trust land lay west of the road, along with the County's 4,000-acre Tortolita Mountain Park. Gaps between development east of the road lead to Catalina State Park, the Coronado National Forest, and more undeveloped State Trust land. \$8.2 million in funding from the Regional Transportation Authority has been approved for installing two underpasses and one vegetated wildlife bridge during the Oracle Road widening project, scheduled to begin in 2013.

### Treehouse Properties

In April 2010, the County purchased 13 acres on both sides of Oracle Road, just south of Wilds Road to anchor part of the identified wildlife corridor between the Tortolita Mountains and the Catalina Mountains. The properties cost \$920,000 and were funded with 2004 bond funds.

### Arroyo Grande

The Arizona State Land Department, Town of Oro Valley and Pima County completed a planning effort in 2008 as a first step toward conserving two thirds of the 9,000 acres of undeveloped State Trust land west of Oracle Road.



Oracle Road - after with Overpass



Oracle Road - street view with Overpass

These artist renditions of the proposed wildlife crossing structures come from the Coalition for Sonoran Desert Protection.

# San Pedro Valley Reserve

Pinal County

Cochise County

-  Riparian
-  Grassland
-  Mountains

1 Six Bar Ranch

2 A-7 Ranch

## Recreation

The San Pedro Valley reserve offers significant recreational opportunities in close proximity to the Tucson metropolitan area. Recreational activities include hiking, biking, equestrian trail riding, camping, bird watching, ATV/Off Road vehicle use, hunting, outdoor photography, general nature study and other outdoor endeavors.



Coatimundi at Six Bar Ranch. Photo by Kerry Baldwin.

## San Pedro River

This river flows north from Mexico to the Gila River and is one of the last undammed large rivers in the Southwest. According to The Nature Conservancy, the river in its entirety (140 miles in length) supports habitat for about 350 bird species and stopover habitat for up to 4 million birds migrating each year between North, Central and South America.



Photo by Henry Wallace, ALWT



Butterfly at Six Bar Ranch. Photo by Brian Powell



Reeve Ruin - Adapted from National Science Foundation online publication, "Archaeology from Reel to Real, a Special Report,": July 10, 2010

### Cultural and Archaeological Resources

The San Pedro River Valley was an important historical crossroads of the Southwest from early prehistoric times to the historic era when the 1540 Coronado Expedition traveled through the San Pedro River corridor. Archaeological sites in the river valley represent the remains of human occupation from 13,000 years ago. The Lehner Mammoth Kill Site in the upper San Pedro River valley provides some of the first conclusive evidence of human hunting of mammoths in North America. This is also the site of the significant Reeve Ruin, located on the terrace overlooking the San Pedro River, dating back to A.D. 1200-1450



Bingham Cienega Natural Preserve. Photo by Priscilla Titus

### Bingham Cienega Natural Preserve

In 1989, the Pima County Regional Flood Control District acquired 285 acres of land along the San Pedro River to preserve a spring-fed marsh known as Bingham Cienega. Because of the site's remote location and sensitive environment, the District entered into a long-term agreement with The Nature Conservancy to manage the property. Historically used for ranching and farming, the fallow fields began to be restored by Conservancy volunteers and marsh wetlands, mesquite bosques and riparian forests began to reclaim the land. The Conservancy has also restored sacaton and other native floodplain vegetation to the area.



Edgar Canyon in Six Bar Ranch with the Catalina Mountains in the background. Photo by Brian Powell.

The San Pedro Valley Reserve is located in the northeastern corner of Pima County, east of the Catalina Mountains, and encompasses a segment of the San Pedro River, one of the last free-flowing rivers in the Southwest. The river and its tributaries support riparian vegetation and intermittent stream flow providing habitat for species such as the Southwest willow flycatcher and the Giant spotted whiptail lizard. The upland semi-desert grasslands and woodlands provide habitat for species such as the Lesser Long-nosed bat and Desert box turtle. Archaeological findings suggest that the river valley has been occupied by humans for nearly 13,000 years. More recently its history has been dominated by ranching and agricultural efforts in support of ranching. Overtime, the ranches in this area have grown larger in an attempt to maintain profitability and weather the less than optimum range conditions due to continued drought and changing climate patterns. Free range grazing in this location is often supplemented with irrigated pastures adjacent to the river. Both Pima County and the Nature Conservancy have been active in purchasing and managing land in this reserve, conserving wildlife, river habitat, and archeological sites.



## San Pedro Valley Reserve



### Six Bar Ranch

**Fee lands: 3,292 acres**  
**State grazing lease: 9,000 acres**  
**Conservation easement: 40 acres**  
**Cost: \$11,525,322**  
**Acquired: August 23, 2006**  
**Fund: 2004 Bond Funds**  
**Partner: Arizona Land & Water Trust**

#### Background

The 12,000 acre Six-Bar Ranch is located along the eastern flank of the Catalina Mountains, adjacent to the Coronado National Forest and northwest of the County's A-7 Ranch. It is visible from Catalina Highway at the San Pedro overlook and can be accessed via several trails from the top of the Catalina Mountains. The Ranch contains a major tributary to the San Pedro River – Edgar Canyon. The property expands upon other conserved lands in the area, including the Coronado National Forest, The Nature Conservancy's Buehman Canyon Preserve, and the County's A-7 Ranch, Bingham-Cienega Preserve and Oracle Ridge Properties. A 24,000-acre Forest Service grazing permit is associated with this property. The ranch is a rugged complex of canyons and drainages off the east slopes of the Catalina Mountains down towards the San Pedro Valley.



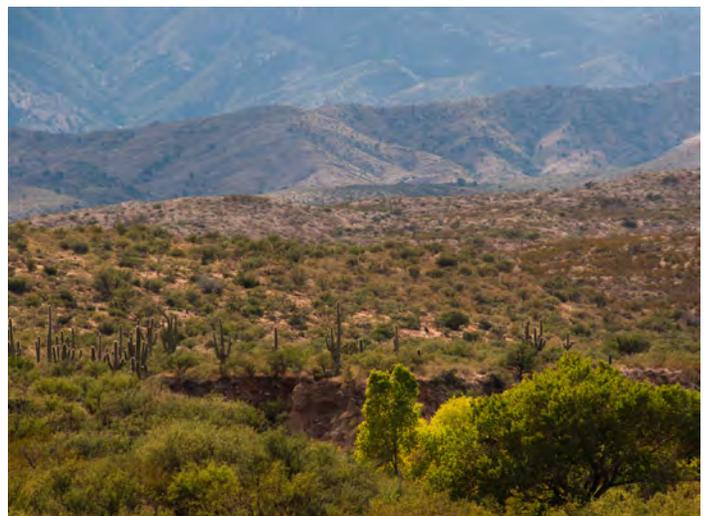
Lowland leopard frog. Photo by Bill Singleton

#### Historical and Cultural Resources

Archaeological sites in the Six-Bar Ranch area suggest a long period of prehistoric human occupation associated with the San Pedro River Valley villages sites. In addition, a cultural resources survey dated July 2006 identified a historic ranch house and related outbuildings along the southeastern bank of Edgar Canyon – the major tributary to the San Pedro River. This complex is located on a 40-acre conservation easement held by the County, and is used today. Records show that this is likely the O.R. Parker House depicted on the General Land Office map for this area, filed in 1924. The Parker family was involved in the original development of Redington Pass road, and at one time owned some, if not all, of the land associated with the County's A-7 Ranch, southeast of the Six-Bar Ranch.

#### Biological Resources

The Ranch is located in the lower San Pedro River Valley and is composed of rugged uplands along the eastern flanks of the Catalina Mountains, alternating with narrow, incised valleys formed by generally east trending tributary washes draining into the San Pedro River. The property contains important stands of cottonwoods, sycamore, hackberry and ash trees along the Edgar Canyon drainage, along with intermittent streams and springs, and limestone outcrops. The uplands contain dense stands of saguaros in many places. The property contributes to the conservation of several Priority Vulnerable Species, including Lowland leopard frog, Lesser long-nosed bat, Mexican long-tongued bat, Western red bat, and the Giant spotted whiptail. Fish and frogs have been reported in Edgar Canyon. All of the ranch lies within the Biological Core of the Conservation Lands System and contains portions of Important Riparian Areas. The location of the property between the Catalina and Galiuro Mountains provides for a corridor of open lands for wildlife movement back and forth between the mountain ranges.



Edgar Canyon on Six Bar Ranch. Photo by Brian Powell.

## Management

The Six Bar Ranch is a working ranch landscape. The ranch is currently stocked at a light rate, about 20% of allowed use, to reflect ongoing drought conditions. The County maintains a Ranch Management Agreement over all aspects of use of the ranch by an independent operator. The rugged ranch has few roads and is generally accessible only by horseback or on foot. The ranch is being monitored twice annually to establish some baseline data on the overall range condition and trend in vegetative community diversity and productivity. Existing waters are being modified to be more wildlife friendly. Public recreation access on the major road into Edgar Canyon and Davis Mesa is being managed under an agreement with the Arizona Game and Fish Department. All visitors are required to check in and out at an information kiosk as the road passes through private and enters County lands.



Stream in Edgar Canyon. Photo by Locana de Souza.

## Recreation

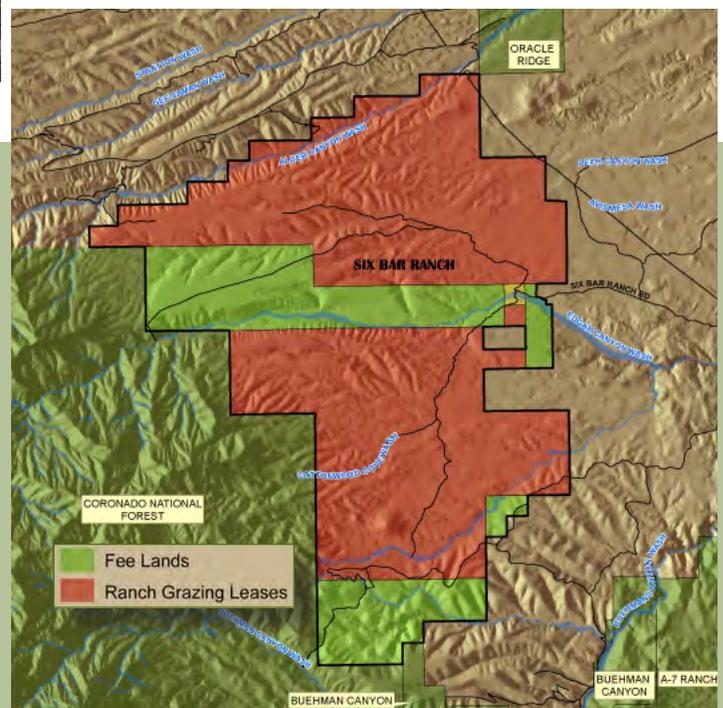
The fee lands along Edgar Canyon contain an existing trailhead for the Davis Spring Trail, which leads up the eastern slopes of the Catalinas to the Palisades Ranger Station from Davis Mesa. The ranch is a popular area for hunting both small game like quail and big game like deer and javelina. Other recreational activities like ATV/OHV riding, wildlife viewing and biking are popular uses of the ranch. This ranch is more remote and has limited access points so it does not get as much use as many of the other ranch properties.



Davis Spring trail signage. Photo by Kerry Baldwin.

## Ongoing Property Improvements

- Most of the ongoing activities on the ranch are related to establishing representative long-term monitoring data points and gathering information about the ranch ecosystem.
- Waters are being maintained for wildlife and livestock with escape ramps being installed to prevent wildlife drowning incidents in open troughs and tanks.
- Challenges exist in protecting the historic ranch buildings because of changes in the dynamics of flood water flows in Edgar Canyon due to the buildings being built on the active flood plain of the stream channel.
- Other routine activities include monitoring of recreational use and users.



## San Pedro Valley Reserve



### A-7 Ranch

**Fee lands: 6,829 acres fee lands**  
**State grazing leases: 34,195 acres**  
**BLM grazing permit: 80 acres**  
**Cost: \$2,041,933**  
**Acquired: September 15, 2004**  
**Fund: 2004 Bond Funds**

### Background

The 41,000 acre A-7 Ranch lies northeast of Tucson along Redington Road, between the Catalina and Rincon Mountains and the San Pedro River. The County acquired the ranch from the City of Tucson in 2004. The City had purchased the ranch in 1999. Prior to the City's purchase, the ranch was part of a larger ranch totaling about 96,000 acres known as the Bellota Ranch, which was owned and operated by the Riley-West Corporation for 20 years. The A-7 portion of the Bellota Ranch was sold to the City, while the Forest Service grazing permit was sold to the owners of the Tanque Verde Guest Ranch. Approximately 3,700 acres were sold to The Nature Conservancy. The County's purchase included 65 acres in Cochise County, 471 acres under conservation easement held by The Nature Conservancy, cattle, equipment, buildings and water rights.

### Historical and Cultural Resources

In the A-7 Ranch area, the Reeve Ruin site, dating to A.D. 1200-1450, is situated on the terrace overlooking the San Pedro River. Reeve Ruin is defensively located above the San Pedro floodplain and further protected by a series of walls. The site contains a central room block surrounded by two plazas that are bounded by walls and lines of contiguous rooms. More than thirty structures are present, including a possible kiva, or Puebloan ceremonial room, within the central room block.

By 1450, archaeological evidence suggests that the valley was largely abandoned. Apache speakers were driven out by Anglo settlers in the 19th century whose ranches today hold the stories of this historic landscape.

### Biological Resources

The ranch is located in the lower San Pedro River Valley and includes woodland vegetation communities at higher elevations, semi-desert grasslands at lower elevations, and riparian habitat along the canyon bottoms and the San Pedro River. In addition, the property includes limestone outcrops, perennial and intermittent streams, springs and shallow groundwater areas. Populations of Priority Vulnerable Species such as long-fin dace, lowland leopard frog, and Abert's towhee, exist on the property and provide suitable habitat for several other Priority Vulnerable Species. The majority of the ranch lies within the Biological Core of the Conservation Lands System, with a lesser amount within the Multiple Use Management and Important Riparian Area categories. The location of the property between the Catalina, Rincon, and Galiuro Mountains, provides for a corridor of open lands for wildlife movement back and forth between the mountain ranges.

### Management

This is the only ranch that the County operates itself with County employees and owns the cattle herd. Pima County is one of only a few county governments that has its own brand - A7. The ranch is currently managed as a cow/calf operation to help offset costs of maintaining the ranch, with a base herd of approximately 300 head. This is about 40% of the allowed use on the State Trust grazing lease lands. The ranch is maintained as a working landscape while protecting and conserving biological and ecological values of the lands. Management activity has primarily focused on monitoring and maintaining a sustainable grazing program while offering recreational use of the ranch by the public. Significant work has been done to enhance the water systems and water storage on the ranch to provide year-round wildlife friendly water for wildlife while at the same time taking pressure off natural springs.



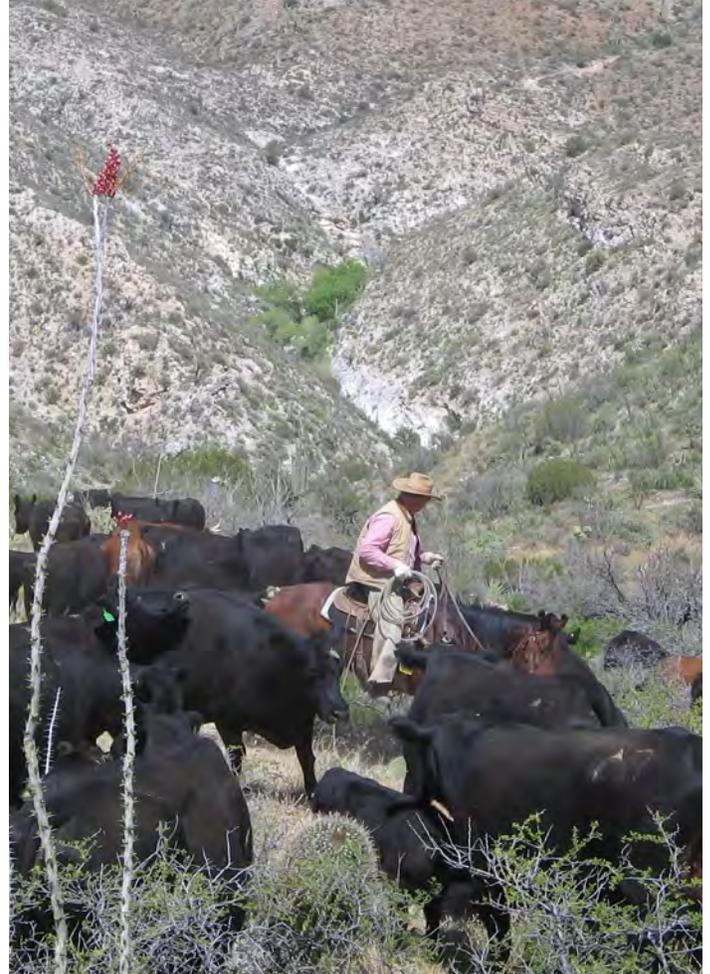
*Farm land on A-7 Ranch. Photo by John Sullivan.*

## Recreation

A-7 ranch offers a wealth of recreational activities. The County has entered into a recreational access agreement with Arizona Game and Fish Department to provide and maintain designated routes to other public lands within and adjacent to A-7 for recreational users. The ranch lands offer camping, hiking, hunting, wildlife viewing, nature study, ATV/ Off Highway vehicle routes, biking, outdoor photography, equestrian trails and access to outdoor open space. Because the ranch is mostly Arizona State Trust lands, recreational users are encouraged to follow all applicable rules, regulations and necessary recreation permit requirements established by State Land as well as those of Pima County Natural Resources, Parks and Recreation (NRPR). Because of its location off Redington Road, A-7 gets significant recreational visits on an annual basis with most of the use in the fall through spring.



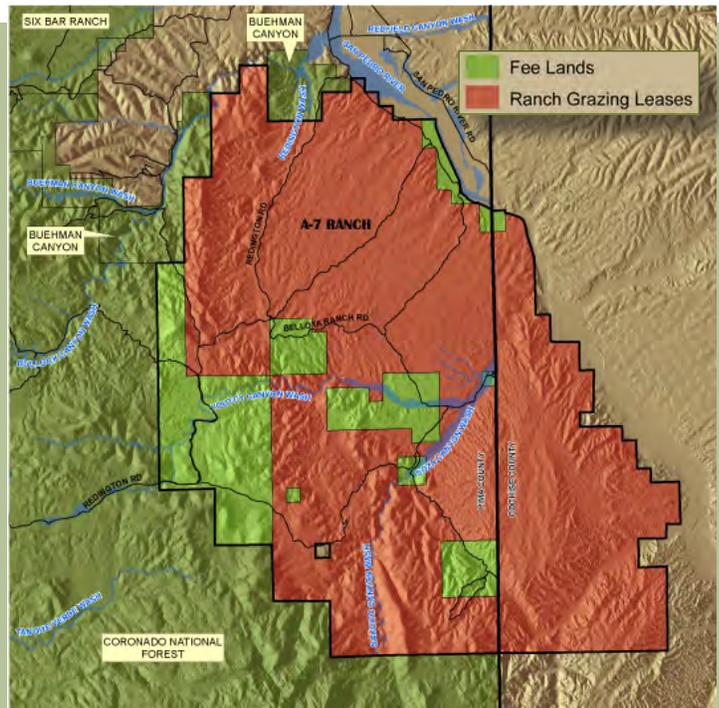
NRPR has been converting many old windmills and generator driven water pump systems to solar. This unit helps bring year-round water to over 56 square miles of the A-7 Ranch. Photo by John Sullivan.



County cattle on A-7 Ranch. Photo by John Sullivan.

## Ongoing Property Improvements

- The County has put much of its effort in enhancing the basic infrastructure and baseline information available on the ranch.
- Water enhancements and solar generation for power have been two major ongoing efforts.
- Over 50 square miles of the ranch now has a dependable water supply via pipelines and storage tanks.
- Additional vegetative monitoring sites have been established on the ranch and are monitored annually to measure trends in plant community diversity and productivity.
- Additional effort has been made to improve the livestock management system and productivity of the herd.
- Stabilization efforts continue on historic buildings and residences present on the ranch which are still being used as part of the working ranch.



## Agua Caliente Wash & Tanque Verde Creek



Looking west at the confluence of the Agua Caliente Wash and Tanque Verde Creek. Photo shows over bank flooding on both sides of Houghton Road, which is visible through the center of the photograph. Photo by Terry Hendricks, July 2006

## Agua Caliente Wash & Tanque Verde Creek Ruddick, Drewes, Doucette and Terra Rancho Grande Properties

**Fee Lands: 117 acres**  
**Acquired: March 1998 – September 2010**  
**Cost: \$4,256,229**  
**Fund: 1997 and 2004 Bond Funds**  
**Partner: Arizona Land & Water Trust**

### Background

Agua Caliente Wash is one of the most significant drainages in the northwest area of the Tucson Basin. The Pima County Regional Flood Control District places a high priority on acquisition of vacant lands along Agua Caliente Wash and has purchased over 160 acres along the wash. In addition, Pima County purchased 117 acres as part of the 1997 Open Space and 2004 Conservation Acquisition Programs. Acquisitions in this area not only preserve a valuable riparian habitat and

wildlife corridor, but also protect natural recharge and floodplain functions, minimizing the potential for future flood damages.

### Drewes Property

The County acquired the 11-acre Drewes property in 1998 with 1997 Bond funds for \$388,000, located at the confluence of La Milagrosa and Agua Caliente Washes, with Milagrosa Wash crossing through the property. The property also offers a popular hiking trail that provides access into Agua Caliente Canyon. The property falls primarily within the Biological Core designation of the Conservation Lands System with ribbons of Important Riparian Areas. The riparian habitat supports numerous bat species including the California leaf-nosed bat and the Western Red bat as well as habitat for the lowland leopard frog. Adjacent uplands habitat support a population of Sonoran Desert tortoise.

### Ruddick Property

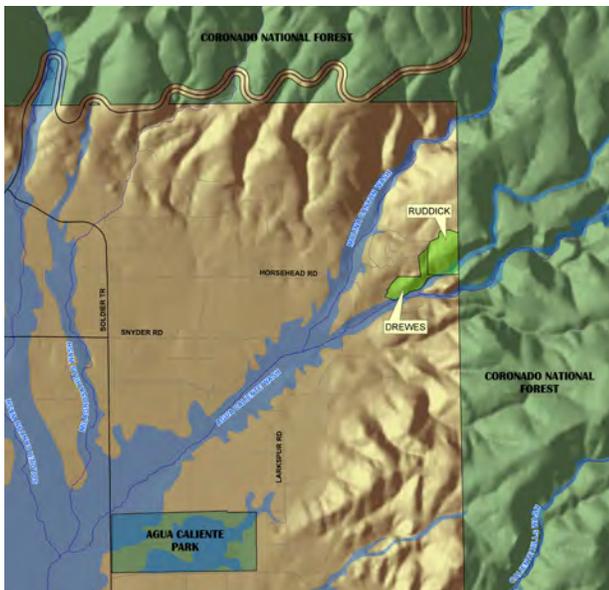
The 13-acre Ruddick property was acquired by the County for \$369,993 in September 2000. The property is located adjacent to the Drewes property and not only protects a sensitive riparian corridor within the confluence, but also protects portions of the La Milagrosa Canyon and Agua Caliente Canyon that extend beyond the boundary of the Coronado National Forest. The property falls within the Biological Core designation of the Conservation Lands System with Important Riparian Areas.

## Doucette Property

In December 2004, the County acquired the 21-acre Doucette property, located near the confluence of Agua Caliente Wash and Tanque Verde Creek, for \$569,608. Acquisition of this property contributes to properties the Pima County Regional Flood Control District purchased in this same location and prevents further fragmentation of the stream and floodplain from development. The Doucette property falls entirely within the Important Riparian Area designation of the Conservation Lands System. It contains Priority Conservation Areas for the Cactus ferruginous pygmy owl and Merriam's mouse. This property is also located entirely within the Tanque Verde Creek Archaeological Complex and contains a portion of the significant Houghton Road Site, which dates approximately to the period between A.D. 1 and 500. This is a rare site that predates the Hohokam occupation.

## Terra Rancho Grande and Tanque Verde and Houghton Partners LLC Properties

The County acquired the 72-acre Terra Rancho Grande property in January, 2010 for \$1,376,628. It is located within the confluence area of the Agua Caliente Wash and Tanque Verde Creek and southeast of the County's Doucette property, along Houghton Road. In September 2010, the County purchased the 78-acre Tanque Verde and Houghton Partners LLC property for \$1,552,000, located just north and adjacent to the Terra Rancho Grande property, creating a 150-acre corridor between the two major wash systems. Both properties fall entirely within the Important Riparian Area designation of the Conservation Lands System and support one of the largest intact tracts of mesquite bosque remaining in the northern Tucson Basin. Both support Priority Conservation Areas for several Priority Vulnerable Species, including Bell's vireo, Western yellow bat, and Abert's towhee. The Tanque Verde Creek bottom will also be maintained as an important linkage in the regional trails system.



## Management

Due to their locations being within the developed suburban fringe, management activities focus on routine monitoring, conservation area signage and perimeter fencing where appropriate to maintain current ecological values and prevent anticipated impacts. Types of potential impacts anticipated include unplanned development of social trails, illegal off road vehicle use, invasive plant infestation and impacts to native wildlife by domestic pets running free in the area.

## Recreation

The properties are all generally small and while biologically significant, they do not lend themselves to more intensive recreation. Their primary use remains conservation of the natural values and enhancement of the ecological functions. Some future opportunities may present themselves on the larger properties for very controlled and limited access for watchable wildlife related activities.

## Ongoing Property Improvements

The properties have been monitored and in some cases perimeter fencing repaired or segments of new fence constructed. Signage has been put up and sites are being evaluated to install small wildlife waters.



Mesquite bosque on Terra Rancho Grande property. Photo by EPG, Inc.



## Pima County's Pima Pineapple Cactus Mitigation Bank



Madera Highlands Sub Unit, looking southeast toward Cerro Colorado Mountains. Photo by Vanessa Bechtol, ALWT

# Pima County's Pima Pineapple Cactus Mitigation Bank



**Fee Lands: 529 acres**  
**Acquired: August 2005 and July 2006**  
**Cost: \$498,423**  
**Fund: 2004 Bond Funds and a land exchange**  
**Partner: Arizona Land and Water Trust**

### Overview

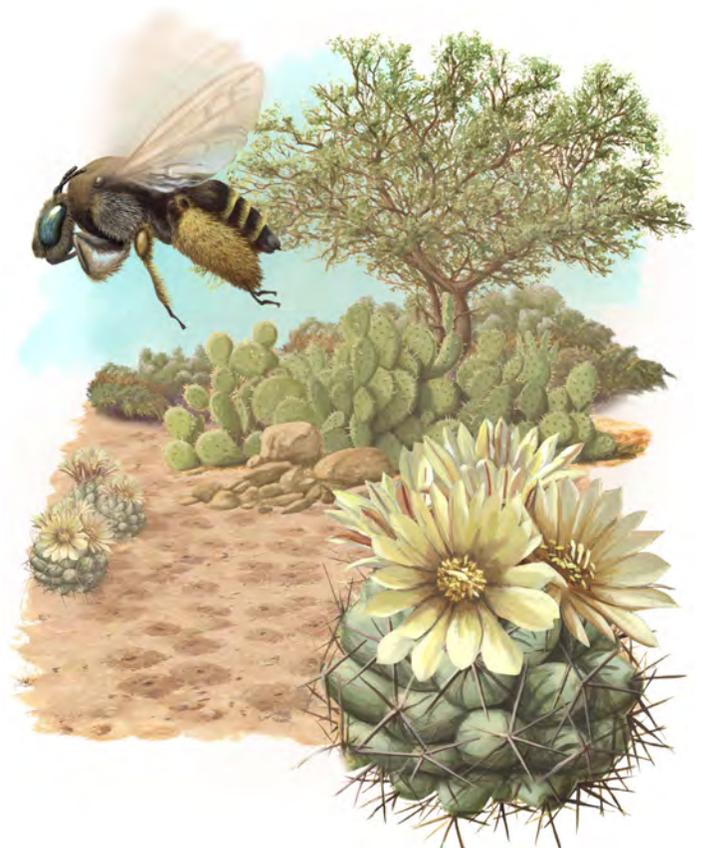
The Pima pineapple cactus was recommended by the Smithsonian Institute in 1975 to be federally listed as a threatened species. But it was not until 1993 that the plant was listed and by then it was listed as an endangered species. Based on known locations of the cactus in Pima County, modeled habitat for likely locations, and land ownership patterns, the majority of cacti not yet conserved are located on State Trust land. The challenges with conserving State Trust land have made it difficult to conserve significant stands of this cactus. That said, Pima County is committed to conserving this cactus, and our land acquisition efforts to this end have included ranch conservation and mitigation banking. The Diamond Bell and Marley Ranches are two County-owned ranches that include land owned by Pima County that contains the cactus, and State Trust land leased by Pima County that contains the cactus.

In addition, the County has established an official mitigation bank with the U.S. Fish and Wildlife Service specifically for Pima pineapple cactus. The bank is made up of two sub units; one on a property known as Madera Highlands, located in Altar

Valley on the northern end of the Buenos Aires National Wildlife Refuge, and another on several properties near Elephant Head, between the Santa Rita Mountains and Canoa Ranch. When the County disturbs habitat for this cactus by building roads and other public facilities, the County is able to use credits from this mitigation bank to offset those impacts. The County provides regular reports to the U.S. Fish and Wildlife Service on how many credits were used from the bank and monitoring information on the health of the individual cacti in the bank.

### Threats

Loss, fragmentation, alteration of habitat from residential development and mining are the primary threats to Pima pineapple cactus. The County is aware of a proposed mining project west of Green Valley that would destroy thousands of acres of cactus habitat. In addition, two residential developers acquired significant acreage south of Madera Canyon around the same time the County acquired the properties near Elephant Head. Other threats include unrestricted recreational off-highway vehicle use, increased proliferation of roads and trails, natural and prescribed fire, general land disturbances and illegal collection of the cactus for trade.

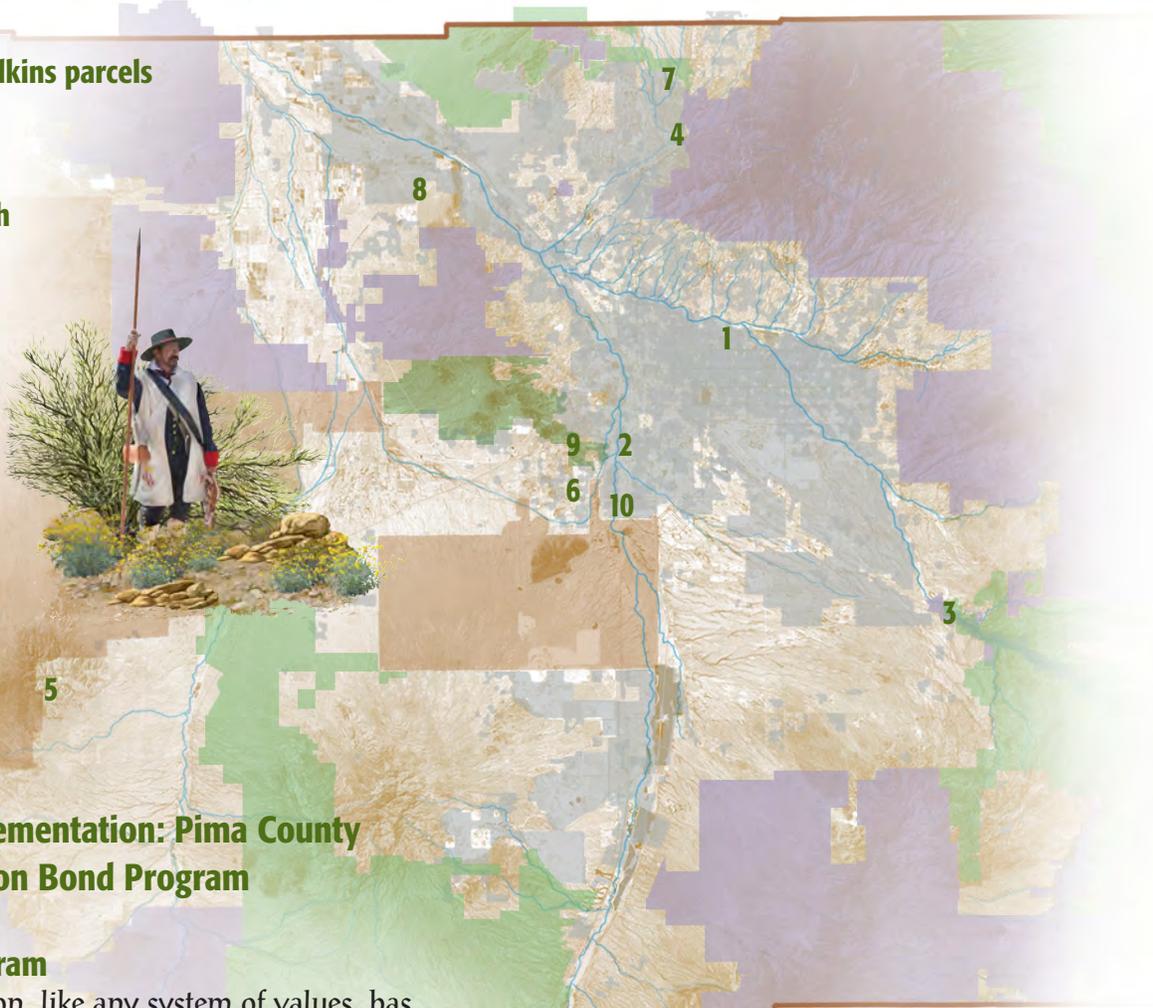


The Pima pineapple cactus is a round cactus measuring 4 to 18 inches wide, with yellow flowers during summer monsoons. The cactus depends on a particular ground nesting bee for pollination. Illustration by Bill Singleton.



# Cultural & Historic Resource Acquisitions

- 1 The Fort Lowell Adkins parcels
- 2 Mission Gardens
- 3 Pantano Townsite
- 4 Steam Pump Ranch
- 5 Coyote Mountains
- 6 Dakota Wash Site
- 7 Honey Bee Village
- 8 Los Morteros
- 9 Tumamoc Hill
- 10 Valencia Site



## Planning and Implementation: Pima County Historic Preservation Bond Program

### Purpose of the Program

Historic preservation, like any system of values, has a philosophical basis or ethic. It presumes that historic properties and cultural places have value as expressions of a community's cultural heritage, living traditions, and sense of place, and therefore merit protection and preservation for the benefit of the community.

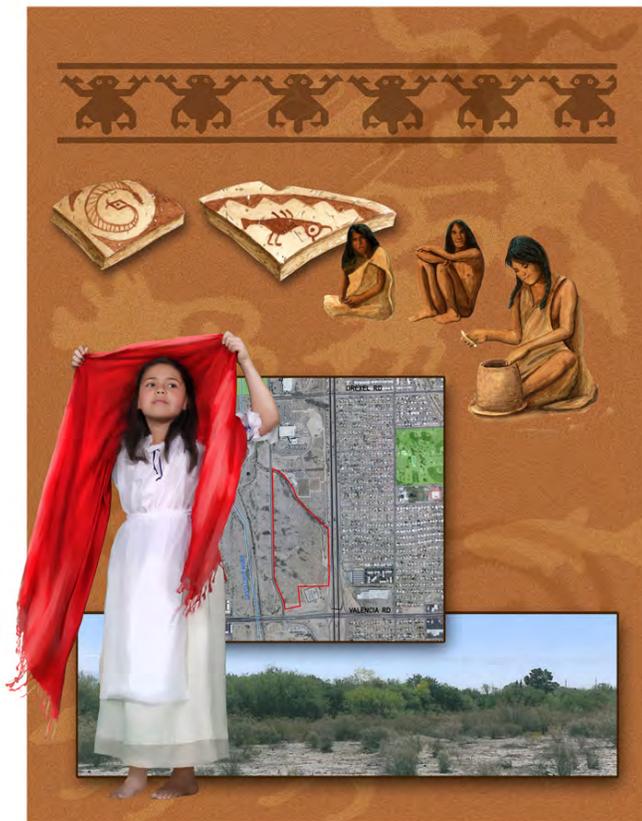
The Pima County Historic Preservation Bond program includes both archaeological and historic properties located throughout Pima County and reflects those places that are important to many stakeholders in the greater community. These projects for the most part derive from the analyses and results of preparing the Cultural Resources element of the Sonoran Desert Conservation Plan that reviewed cultural and historic resources in all jurisdictions, including all those properties listed in the National Register of Historic Places. This resulted in more than 200 "Priority Cultural Resources" being identified for conservation and preservation.





## Funding

This preservation ethic was enthusiastically endorsed by voters in 1997, and again in 2004. A total of \$26 million was approved for these various historic preservation projects, and supplemental funding and grants of \$4.5 million were subsequently obtained for a total of more than \$30 million. Grants were obtained from both state and federal sources including the Arizona Heritage Fund, Arizona Growing Smarter Fund, Community Development Block Grant program, Transportation Enhancement Fund, National Park Service and others. The 1997 program is essentially concluded, and the 2004 program is actively underway.



## Accomplishments

Voter-approved bond funding and grants have allowed the development of a diverse and comprehensive historic preservation program focusing on the acquisition, protection, and preservation of many of the “last of the best” prehistoric and historic resources in the County.

The range of projects spans the County’s cultural landscape, with preservation efforts in urban and rural settings at prehistoric and historic archaeological sites, historic buildings and structures, and historic ranches and ranchlands. Of the various projects, 10 prehistoric and historic sites were acquired for conservation purposes. These properties are either currently owned by Pima County or owned by another local jurisdiction with the County holding a preservation easement. These historic properties include:

The Fort Lowell Adkins parcels, Mission Gardens, Pantano Townsite, and Steam Pump Ranch.

Archaeological sites acquired for preservation purposes and considered ancestral sites by the Tohono O’odham Nation include:

Coyote Mountains, Dakota Wash Site, Honey Bee Village, Los Morteros, Tumamoc Hill, and Valencia Site.

To date, the Pima County Historic Preservation Bond Program has enabled the acquisition, conservation, restoration, rehabilitation, adaptive use, and protection of a diverse set of historical, cultural and archaeological sites so important to our community’s historical and cultural identity. Not only are these non-renewable historic properties protected, but the greater community benefits from the preservation and continued and enhanced use of these historic places. These places provide all of us with a sense of place, community identity and stability, civic pride, cultural awareness, and opportunities for heritage education, heritage tourism, and related economic development – all public benefits.

## Cultural and Historic Resource Acquisitions



Reconstruction work at Fort Lowell - Photo by Cultural Resources Office staff.

## Fort Lowell

**Site: 5.2 Acres**

**Acquired: 2006**

**Cost: \$3,000,000 (with \$500,000 for San Pedro Chapel)**

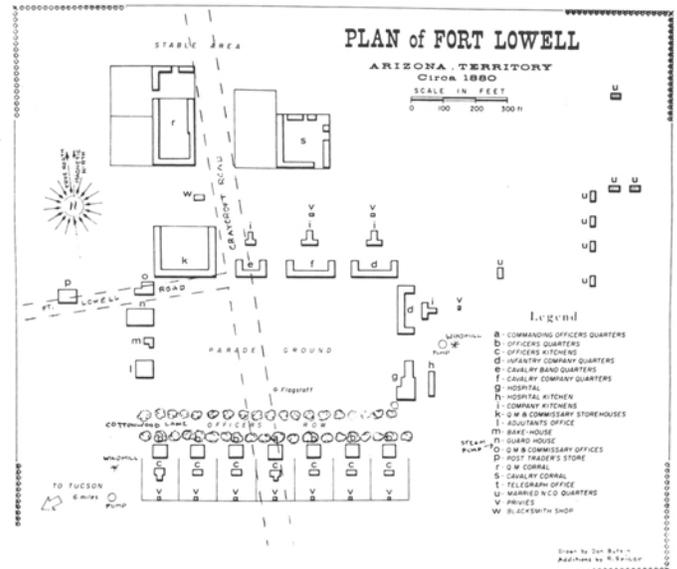
**Fund: 2004 Bond Funds**

### Background

The intent of the acquisition was to use \$2.5 million of bond funding to purchase 5.2 acres (comprising the “Adkins Parcel”), and to incorporate them into the adjacent City of Tucson-owned Fort Lowell Park. The acquisition represented the last significant portion of the historic Fort Lowell still in private ownership, which, including more recent structures, contained three 1873 Officers’ Quarters buildings, one of which was relatively intact.

The Adkins Parcel acquisition process took an unexpected turn during negotiations, and in a unique three-way deal, a private developer purchased the Adkins property from its owner, then swapped the property to the City of Tucson in exchange for a City-owned property. An Intergovernmental Agreement (IGA) between the City of Tucson and Pima County provided for County participation in the project and included provision for the County to reimburse the City in the amount of \$400,000 of bond money toward archaeological data recovery on the developer’s new parcel. The City benefitted by receiving the Adkins Property through the land swap, while the County used only a portion of the bond funds to contribute to the acquisition. In exchange for the reimbursement, the City conveyed a Conservation Easement on the Adkins Property to the County, giving the County a real property interest that allowed expenditure of bond funds for planning and preservation.

After the San Pedro Chapel rehabilitation, \$2.1 million remained from the bond funds to be applied toward (1) planning for the entire Fort Lowell Park, and (2) preservation and rehabilitation of selected buildings on the Adkins Parcel.



Map showing layout of Fort Lowell circa 1880 (image adapted from Desert Archaeology, Inc., Technical Report No. 2009-02, May 7, 2009, Figure 7).

### History

The U.S. Army moved Camp Lowell from Tucson to its current location in 1873. Renamed Fort Lowell in 1879, it was abandoned in 1891 following the end of the Apache campaigns. Many of the buildings fell into disrepair, and portions of the fort were sold-off. The Adkins family acquired a large portion of the fort in 1928, (the “Adkins Parcels”) and developed a business on the site where steel tanks were manufactured. The Adkins family handed over the site to the City of Tucson in the fall of 2006.

Together the City of Tucson and Pima County produced a Master Plan (2009) encompassing the entire Fort Lowell Park, followed by a Preservation Plan (2009) for the Adkins Parcel that represents the first phase of implementation of the Master Plan.



Proposed Officers Quarters showing stabilizing structure that defines and protects original building (from the Preservation Plan Adkins Parcel.)

## Natural and Cultural Resources

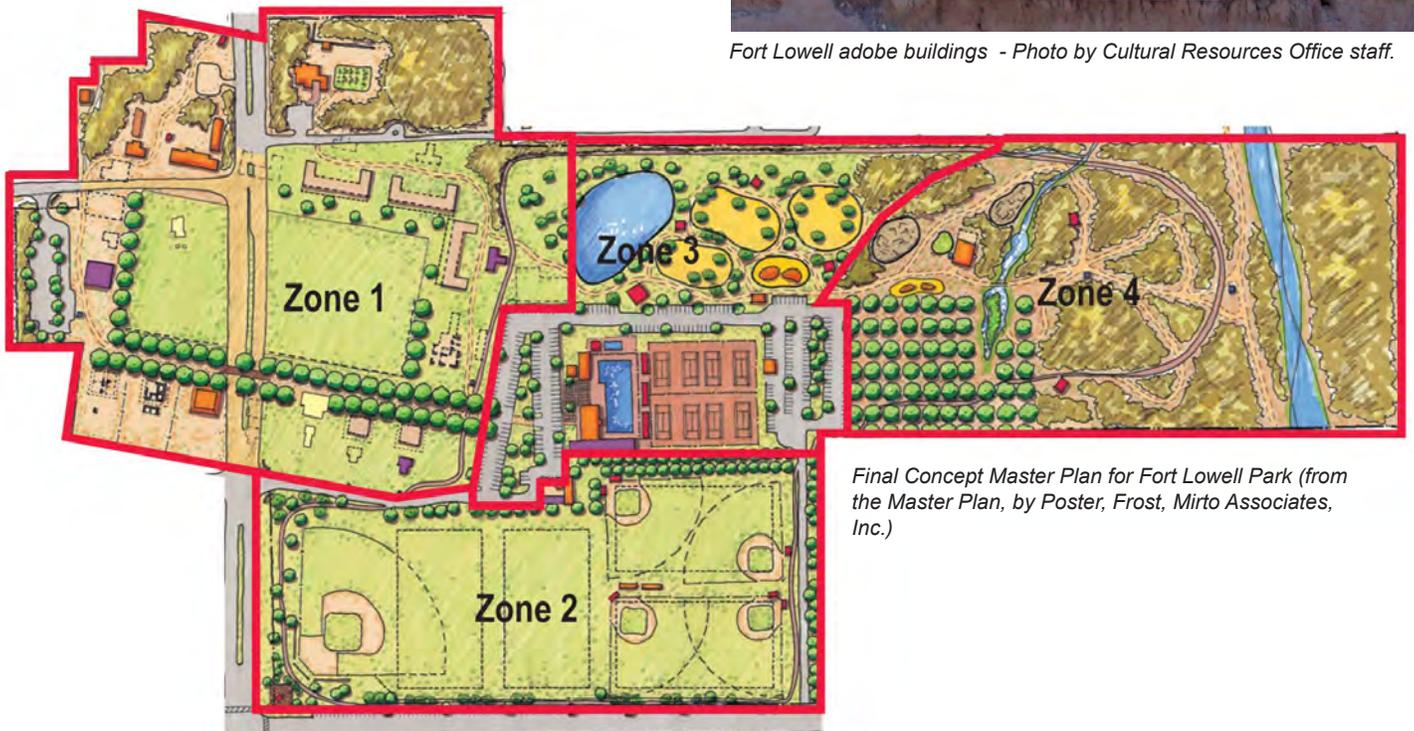
The Fort Lowell Park and vicinity is rich in both natural and archaeological resources. The best description of the entire Fort Lowell Park area is one of complex “layering”. Fort Lowell is situated on a rich archaeological prehistoric site, the “Hardy Site”, where extensive evidence of the former occupants has been discovered. The site was historically popular due to its proximity to the confluence of the Pantano Wash and the Tanque Verde Wash. The eastern portion of the park incorporates the Pantano Wash, where the land edges down into a riparian area. Twentieth century farming brought in orchards and other vegetation. Once a contiguous area, 20th century road development divided the fort into busy sections, creating challenges for wildlife and pedestrians alike.

## Long Term Goals

The well-received Fort Lowell Park Master Plan has opted to create four distinct, yet integrated “zones” that organize the park into different uses as follows: Zone 1 - Fort Lowell Historic (which incorporates the Adkins Parcel and former Parade Ground), Zone 2 – Organized Sports Fields, Zone 3 - Swimming Tennis and Active Recreation, and Zone 4 – Pantano Wash Natural Area and Native American Interpretation.



Fort Lowell adobe buildings - Photo by Cultural Resources Office staff.



Final Concept Master Plan for Fort Lowell Park (from the Master Plan, by Poster, Frost, Mirto Associates, Inc.)

## Cultural and Historic Resource Acquisitions



Mission San Agustín ca. 1810. Illustration by Paul Mirocha based on digital reconstruction by Doug Gann

# Mission Gardens at Mission San Agustín del Tucson

**Site:** 4.7 acres

**Cost:** \$261,465

**Acquired:** March 29, 2002

**Fund:** 1997 Bond Funds

## Background

The Piman village of “stjukshon” or “chukshon” - Tucson’s namesake, is considered the “Birthplace of Tucson.” Located at the base of today’s Sentinel Peak, it was here in 1692 that the Jesuit missionary Fr. Eusebio Kino first encountered the Tucson Sobaipuri village naming it, “San Cosmé del Tucson” and establishing it as a small “visita” of Mission San Xavier del Bac. Nearly 100 years later, the visita was named Mission San Agustín and expanded to include a chapel, Convento building, cemeteries and outbuildings including a large granary, the walled Mission Gardens, and an extensive system of agricultural fields irrigated by acequias from the Santa Cruz River. The mission community became the religious and agricultural center of Tucson that served the native O’odham community, the Spanish military Presidio of Tucson and settlement on the east bank of the river where downtown Tucson is today.

Through time, Mission San Agustín fell into disrepair and ruin, and its parcels split and sold. The Convento site and fields south of Mission Lane became a City landfill in 1953 and eventually surrounded the Mission Gardens. This parcel remained in private ownership and was threatened by development until purchased by Pima County in 2002.

With growing citizen interest in commemorating and restoring the Birthplace of Tucson, the City of Tucson established a Task Force in the 1980s that recommended the Convento site and Mission Gardens be obtained for inclusion

in a future City park. In 1997, Pima County included funding in its historic preservation bond fund to purchase the Mission Gardens, which was achieved in 2002. In 1999 City of Tucson voters approved the creation of the Rio Nuevo tax increment district in 1999 and the development of Tucson Origins Heritage Park.

## Historical and Cultural Resources

For millennia the Santa Cruz River was a permanent stream in the Tucson valley fed by springs at the base of Sentinel Peak and elsewhere along its course. Because of the reliability of water here, Tucson was virtually an oasis where water and arable lands were able to support year-round agricultural settlements. Consequently nearly 4,000 years of continuous agricultural history and settlement have been revealed at the Mission Gardens. Because this area was not impacted by the City landfill, much of the area retains its archaeological integrity, and numerous archaeological features and artifacts have been found throughout the Mission Gardens from various time periods. These features include early pit houses, historic foundations of houses and the walled garden itself, domestic features such as cooking and trash pits, a well, canals and ditches, and burials. Because re-creation of the Mission Gardens will not further impact these archaeological features, most were retained and preserved in place.

## Management

At present, the City of Tucson, Pima County, and other partners are cooperating in the development of the Tucson Origins Heritage Park and re-creation of the Spanish Colonial Mission Gardens at the Mission San Agustín site. Plans call for planting of “Kino Heritage Fruit Trees” and grape vines derived from Old World plant stocks first introduced to southern Arizona by Fr. Kino and later missionaries during the 17th and 18th centuries. The Kino Heritage Fruit Trees project has



Quince (Membrillo) - Photo by Jesús M. García of The Kino Heritage Fruit Trees Project.

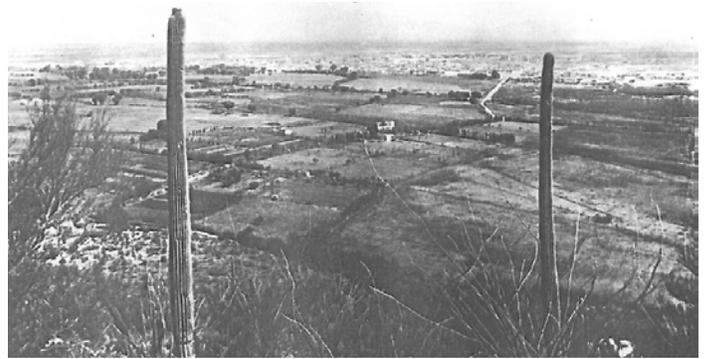
successfully located the oldest surviving heirloom fruit trees in southern Arizona and northern Sonora, and is reproducing them from cuttings for planting in our region to ensure the continued viability of these genetic varieties. The first phase of the Mission Gardens project includes planting of 100 Kino fruit trees in honor of the Arizona Centennial. Heirloom trees to be planted include apple, peach, olive, pear, fig, plum, quince, lime, pomegranate, and others.

### Recreation

The Mission Gardens will be a reconstruction of the Spanish Colonial walled garden that was part of Tucson’s historic Mission San Agustín. It was rebuilt essentially on its original site and will become an important educational element of the Tucson Origins Heritage Park, where visitors can see and experience heirloom plants and gardens interpreting 4,000 years of Tucson history and agriculture.

### Ongoing Property Activities

To date, the City has reconstructed the garden wall and prepared the planting beds in preparation for bringing water into the site and planting crops.



Mission San Agustín ca. 1886.



Early Mission Gardens Concept Plan - Courtesy City of Tucson

## Cultural and Historic Resource Acquisitions



*Pithouse excavated at Dakota Wash. An example of the hundreds of pithouses preserved at this ancient village - Photo by Henry D. Wallace.*

## Dakota Wash

**Site:** 23.46 acres

**Cost:** \$440,000

**Acquired:** Final acquisition, October, 2005

**Fund:** 2004 Bond Funds

### Background

The County has acquired the land parcel encompassing the “core area” of the Dakota Wash site on the west side of South Mission Road, in southwest Tucson. South Rosepine Road forms the western boundary of the parcel. The 23.46-acre parcel was acquired to establish a special Conservation Area to protect and preserve as much of these ancient ruins as possible.

### Cultural and Historical Significance

The Dakota Wash site has been identified in the Sonoran Desert Conservation Plan as part of the West Branch Priority Archaeological Site Complex that includes several Hohokam villages situated along the West Branch of the Santa Cruz River. The Dakota Wash site is the earliest settlement in the complex; dating from A.D. 450 – A.D. 900, Dakota Wash grew to a sizeable village with a ballcourt and central plaza, but the site was essentially abandoned by A.D. 950 and settlement shifted northward to the West Branch Site, which became a major settlement and center of ceramic production between A.D. 950 and A.D. 1150. Settlement then shifted away from the West Branch site to other sites in the area, including re-occupation of the Dakota Wash site, which experienced a resurgence of settlement during this later period. The “core area” encompasses the zone of most intensive occupation at the site, including a ballcourt, many trash mounds, room blocks, and hundreds of pithouses.

### Biological Resources

Most of the Conservation Area is within the Conservation Lands System category of Important Riparian Area because Dakota Wash passes through the property as it drains to the Santa Cruz River. The property also supports native plant and animal

communities within the urban context. Dakota Wash provides a link for wildlife movement between the nearby Santa Cruz River to the east, and the Tucson Mountains to the southwest.

### Management

The Dakota Wash Conservation Area is currently managed as open space and as a Cultural Resources Conservation Area. Archaeological preservation and management efforts were supported by 2004 bond funds remaining from the acquisition, including a detailed mapping and GIS database project completed in 2008. The property is extremely vulnerable to potential impacts from surrounding residential neighborhoods as recreation pressure increases in urban Tucson, so the primary goal of the Conservation Area is to protect and preserve the cultural resources. The best strategy for preservation is to keep the property and its resources secure and closed to public access. Impacts from natural causes are a serious threat to the resources; for example, erosion caused by episodic flows along Dakota Wash presently is impacting important archaeological features of the ancient village. An important management goal is to implement corrective measures to control erosion within the property. A comprehensive Management Plan is also slated for development.

### Value to the Community

Dakota Wash is a uniquely important cultural resource whose undisturbed, buried remains contain an important body of information about the prehistory of the Tucson Basin. Equally important, the Tohono O’odham Nation considers Dakota Wash an ancestral site. Dakota Wash is one of the “Last of the Best” of Pima County’s cultural resources. The core area of the prehistoric village has been acquired and will be protected as one of Pima County’s 2004 bond projects. The archaeological resources will be protected as a Pima County Conservation Area to save them from encroaching development, and to preserve them for the future of Pima County.

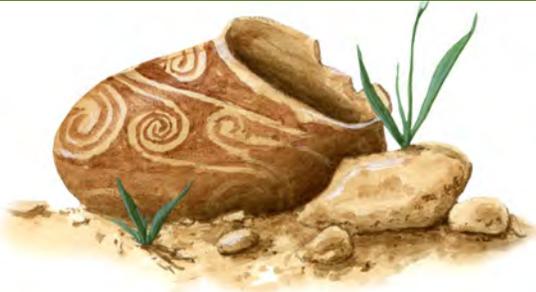
### Ongoing Property Activities

Current activity at the Dakota Wash Conservation Area involves site monitoring or site protection and property maintenance through intensive clean up efforts to restore the property to a natural desert oasis within Tucson’s urban setting.

### Completed and Planned Projects

- Inventory, mapping & GIS database
- Erosion control
- Security fencing and signage
- Management plan.

## Cultural and Historic Resource Acquisitions



# Valencia Archaeological Site

**Site:** 67 acres  
**Cost:** \$940,000  
**Acquired:** March 15, 2010  
**Fund:** 2004 Bond Funds  
**Grant:** State Parks Growing Smarter

## Background

The 67-acre core of the Valencia Site was purchased at auction from the Arizona State Land Department in December 2009. The purchase cost was \$940,000. Half the funds came from Pima County 2004 Bonds, with the other half funded by an Arizona State Parks Growing Smarter Grant. The 67-acre Valencia Archaeological Preserve, located in the City of Tucson, is owned by Pima County.

## Cultural and Historical Significance

The Valencia Archaeological Site is listed in the National Register of Historic Places, attesting to its national significance. The Valencia site is a large prehistoric Hohokam settlement, one of the best preserved in the City of Tucson. The preserved portion of the site represents its core, where the major ceremonial ballcourt is located, along with many large plazas and middens, and as many as two thousand domestic houses. The Valencia settlement, located adjacent to the Santa Cruz River, was occupied for over seven hundred years. Such a long occupation clearly demonstrates that the Hohokam intimately understood the Sonoran Desert environment, and that they knew how to live sustainably within that environment. To the Tohono O'odham Nation, the Hohokam Valencia Site is an ancestral home, and is a traditional cultural place in their historic landscape within Pima County.

## Management

Pima County will protect the 67-acre core of the Valencia Site by preserving it in place. Some new protective perimeter fencing, conducive to the passage of wildlife, will be erected. Signage will advise the public that this is a Pima County Conservation Area that is protected from unauthorized use and damaging activities. Invasive species, such as buffleggrass, will be eradicated, but only using methods that do not disturb the fragile archaeological resources.

## Value to the Community

The Valencia Archaeological Site provides a sense of place representing the deep history of human occupation in the Tucson area. The Preserve provides open space with native vegetation within the modern urban community. When accessible through trails and educational interpretive signage, the Preserve will become a focal point of local visitation. It is expected that the Valencia Site will also be a focal point of heritage tourism in the Santa Cruz River Valley.

In the future, it is hoped that interpretive trails and signage will be added, to provide the public an understanding of this important site, and enhance its educational value. As the Santa Cruz River undergoes habitat rehabilitation, the Valencia Site will be linked to public pathways along the river.



Hohokam ballcourt - Photo by Henry D. Wallace

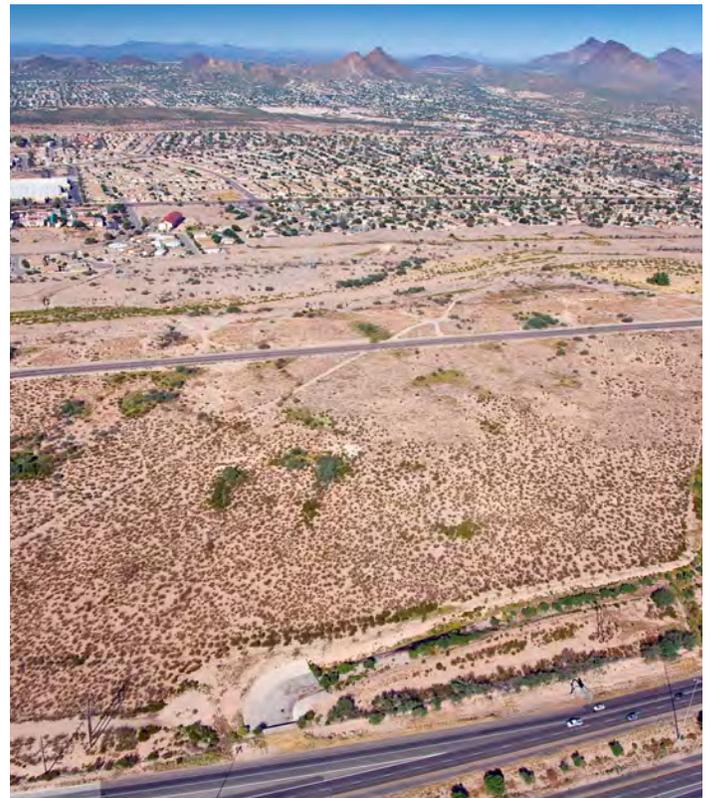


Photo by Henry D. Wallace

## Cultural and Historic Resource Acquisitions



Anza expedition at Los Morteros 1775 - Illustration by Bill Singleton

## Los Morteros

**Site:** 121.4 acres

**Cost:** \$1,379,490

**Acquired:** Final acquisition, December, 2004

**Fund:** 1997 and 2004 Bond Funds

### Background

Using 1997 bond funds, the County purchased a total of 30 parcels in the Town of Marana encompassing the core area of the prehistoric Hohokam village of Los Morteros. Of these parcels, the Los Morteros Conservation Area is comprised of 19 contiguous parcels, forming approximately 120 acres of conserved land northeast of the intersection of North Silverbell Road and West Linda Vista Boulevard. Eleven outlying parcels in the neighboring La Puerta Del Norte Subdivision were also acquired to preserve buried portions of the site. The County-owned land includes the central core of the prehistoric site and contains many important undisturbed archaeological features, including the buried remains of hundreds of habitation structures, or pithouses, as well as a large, oval-shaped ballcourt.

### Cultural and Historical Significance

Los Morteros is situated on the floodplain of the Santa Cruz River near the north end of the Tucson Mountains. Archaeologists named the site “Los Morteros” for the many bedrock mortars on boulders and outcrops found within the site. The Hohokam people used these features to grind and mill seeds, corn, and other plant resources found in the area. Los Morteros was a large Native American village that stretched north and south along the Santa Cruz River and extended west of the river past the current right-of-way of Silverbell Road. The site was occupied during prehistoric times between about A.D. 850 and A.D. 1300. For centuries, Los Morteros was a large village and the center of an extended “community” of related sites along the Santa Cruz River.

The Los Morteros location was the scene of important events in the history of the Tucson Basin and southern Arizona. For example, the famous expedition in 1775-1776 of the Spanish explorer, Juan Bautista de Anza, made a major encampment, called the Llano del Azotado campsite, along the Santa Cruz River in the area north of today’s Coachline Boulevard. This area is part of the Juan Bautista de Anza Trail identified by the National Park Service as a National Historic Trail and Pima County is currently planning its development for public use. In the nineteenth century, the historic Point of the Mountains stagecoach station was established in this location, near present day Oasis Street and Coachline Boulevard.

### Biological Resources

The property is entirely within the Conservation Lands System categories of Multiple Use, Important Riparian, and Biological Core Management Areas. It is an important link in the wildlife corridor between the Santa Cruz River to the east, and the Tortolita Mountains.

### Management

The Los Morteros Conservation Area is currently managed as Open Space and as a Cultural Resources Conservation Area. Archaeological preservation efforts were supported by 2004 bond funds, including perimeter security fencing and signage in 2006. Additional signage will be erected in 2010. The existing network of old ranch roads and pathways within the property form a series of connected informal trails linked to the pedestrian gates that will be developed into a formal interpretive trail system as part of a future bond project. Future management initiatives will include developing a self-guided tour using interpretive signs and wayside exhibits at the site’s important prehistoric and historic features. A comprehensive Management Plan is also slated for development.



This unique “stirrup pot” was recovered and reconstructed during archaeological investigations at Los Morteros - Photo by Henry D. Wallace.

## Value to the Community

Los Morteros is a uniquely important cultural resource whose undisturbed, buried remains contain a huge reservoir of information about the prehistory and history of the Tucson Basin. Equally important, the Tohono O’odham Nation considers Los Morteros an ancestral site. Los Morteros is one of the “Last of the Best” of Pima County’s cultural resources. The core area of the prehistoric village, the Anza campsite, and the historic stagecoach station were acquired with 1997 bond funds, with additional funds approved in the 2004 bond election to preserve and manage the resources. The archaeological and historic resources will be protected as a Pima County Conservation Area to save them from encroaching development, and to preserve them for the future of Pima County.

## Ongoing Property Activities

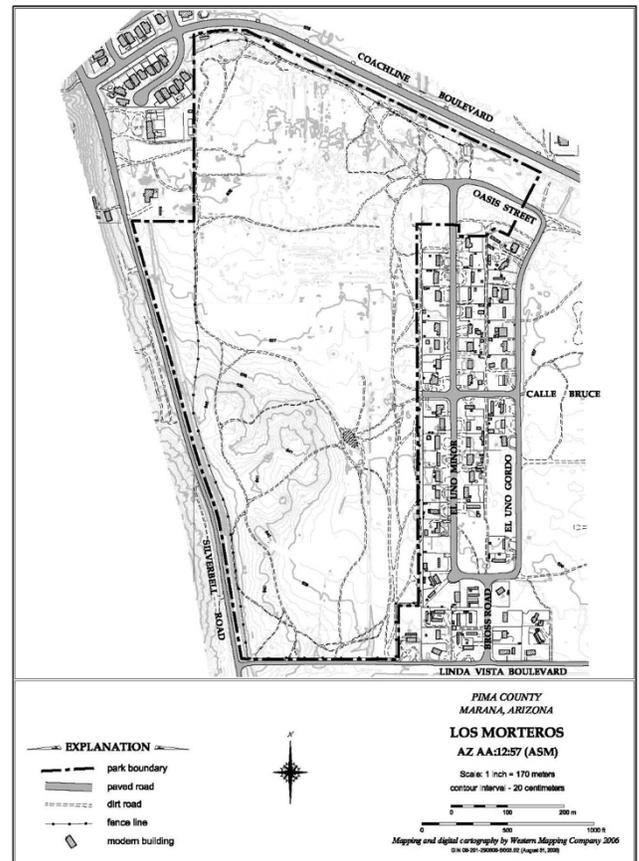
Current activity at the Los Morteros Conservation Area involves site monitoring or site protection and property maintenance through intensive clean up efforts to restore the property to a natural desert oasis within the urban setting of Marana.



Bedrock mortars give the site its name, Los Morteros - Photo by Cultural Resources Office staff.

## Completed and Planned Projects

- Completed inventory, mapping including GIS database
- Security fencing – combination wildlife friendly wire fence and pipe-rail fence
- Trail planning underway
- Entrance signs
- Development of management plan



The Los Morteros Mapping and GIS Project produced detailed maps of the natural and cultural resources at the Conservation Area - Map by Desert Archaeology, Inc.



Panoramic view of the Los Morteros Conservation Area, view to the east. Silverbell Road meets Linda Vista Boulevard, which extends to the east in the lower right. - Photo by Cultural Resources Office staff

## Cultural and Historic Resource Acquisitions



*Tumamoc Hill lands purchased with Pima County Historic Preservation Bonds - Photo by Cultural Resources Office staff.*

### Tumamoc Hill

**Site:** 277 acres  
**Cost:** \$5,209,640  
**Acquired:** June 25, 2009  
**Fund:** 1997 and 2004 Bond Funds  
**Grant:** Arizona State Parks Growing Smarter

#### Background

In 2009 the County acquired the land parcels encompassing the western slopes of Tumamoc Hill, the famous Tucson landmark and location of the 870 acre Carnegie Desert Laboratory. In 1904, the Carnegie Desert Laboratory was established because it had the richest and most diversified vegetation in any area of the desert Southwest and Sonora. Now, it is the longest-lived scientific environmental research center in the country, administered by the University of Arizona. The exceptional natural, archaeological, and cultural values and national research significance of the Carnegie Desert Laboratory has been recognized through its designation as a National Historic Landmark in 1965, its listing in the National Register of Historic Places in 1966, and its identification as both a National Environmental Study Site in 1976, and Arizona State Scientific and Educational Natural Area in 1981.

Urban Tucson steadily encroaches upon Tumamoc Hill and threatens its endangered landscape through conflicting uses, development, gas pipelines, communications towers, and increasing urban recreational demands. In 2006, the Arizona Preservation Foundation identified Tumamoc Hill as the “2006 Most Endangered Historic Place” in Arizona. The County acquisition assures protection in perpetuity of the entire National Historic Land Mark.

The acquisition by Pima County forms a County Conservation Area measuring 277 acres and serving two principal uses: the continuation of the University of Arizona’s existing research mission, and the preservation of the property’s natural open space and significant archaeological and historic resources in a rapidly developing area of the City of Tucson.

#### Arizona State Trust Land

The property that Pima County acquired was State Trust land and was threatened by development. The land was put up for auction and luckily, the County was the only bidder. A matching grant from Arizona State Parks, specifically for State Trust land, funded half the cost. In addition, the City of Tucson agreed to take ownership of an old landfill on the property. All of these steps and partners were necessary to the success of this purchase.

#### Cultural and Historical Significance

The significance of Tumamoc Hill in the cultural history of the Tucson area has long been recognized. The word tumamoc is a Tohono O’odham word for horned toad, and the shape of the hill resembles this desert creature. Tumamoc Hill and its slopes reveal ancient settlement and agricultural systems that supported indigenous peoples more than 2,000 years ago. The hilltop, enclosed by a massive wall with remnant foundations of more than 160 prehistoric structures, is the earliest known trincheras village in the American Southwest.

In addition to the trincheras village, Tumamoc Hill has hundreds of petroglyphs, prehistoric dwellings and burial areas, stone quarries, historic wagon roads, and an extensive system of prehistoric agricultural fields and water control features that is one of the best preserved examples of dry farming field systems in the Southwest. Today, prehistoric trails can be traced from these fields to the hilltop village. Finally, the buildings, structures, and even the permanent experimental areas of the Carnegie Desert Laboratory are important historic resources.

#### Biological Resources

Tumamoc Hill is situated on the west side of the Santa Cruz River, and the entire Conservation Area is within the Conservation Lands System category of Multiple Use Management Areas. The property has been identified in Pima County’s Sonoran Desert Conservation Plan as an important tract of natural open space, and is a key component of the Tucson Mountains Biological Corridor, a county initiative intended to link the 19,000-acre Tucson Mountain Park to nearby parcels of natural open space such as Tumamoc Hill to protect crucial wildlife movement corridors and habitat..



*Tumamoc Hill petroglyphs - Photo by Cultural Resources Office staff.*

## Management

Tumamoc Hill is currently managed as open space and as a County Conservation Area to protect and preserve the natural and cultural resources. Archaeological preservation and management efforts will be supported by 2004 bond funds remaining from the acquisition, including security fencing and signage to counter the property's vulnerability to potential impacts from surrounding residential neighborhoods as recreation pressure increases in urban Tucson. The best strategy for preservation is to keep the property and its resources secure and closed to casual public access. A comprehensive Management Plan is also slated for development.

## Completed and Planned Projects

- Completed cultural resources inventory and mapping
- Security fencing and signage
- Development of management plan



*Tumamoc Hill and adjacent area - County-owned Tumamoc Hill Conservation Area is highlighted*

## Value to the Community

Tumamoc Hill has a unique combination of important natural and cultural resources that collectively inform us about the natural and biological resources and the prehistoric indigenous occupation and use of the of the Sonoran Desert landscape. The Conservation Area's reservoir of important cultural resources illustrates the great time depth of human occupation in the Tucson Basin and the systematic agricultural use of the landscape. The Tohono O'odham view Tumamoc Hill as an important and sacred place that has been occupied by their ancestors since time immemorial.

Tumamoc Hill truly is one of the "Last of the Best" of Pima County's cultural and natural resources and will be protected as a Pima County Conservation Area to save the resources from encroaching development, and to preserve them for the future of Pima County.



*Tumamoc Hill trincheras site, prehistoric rock terraces - Photo by Cultural Resources Office staff.*



## Cultural and Historic Resource Acquisitions



*Hohokam Petroglyphs*

# Coyote Mountains Archaeological Complex: Old Hayhook Ranch

**Site:** 839 acres  
**Cost:** \$1,409,786  
**Acquired:** February 2005  
**Fund:** 2004 Bond Funds  
**Grant:** U.S. Fish and Wildlife Service

### Background

Old Hayhook Ranch, located at the base of the Coyote Mountains in Altar Valley, is comprised of a number of old homestead claims and associated ranchlands located adjacent to Coyote Wilderness BLM Reserve and the Tohono O'odham Nation. Three parcels of the Old Hayhook Ranch were purchased by Pima County in 2005 from a private landowner for its outstanding natural and cultural resources. It was determined to have high habitat value for more than 20 vulnerable species, and the land includes a complex of Hohokam villages considered ancestral sites by the Tohono O'odham. The 839 acre parcel was consequently designated a high priority conservation area for acquisition to preserve these values. Historic Preservation bonds and a Recovery Land Acquisition Grant from the US Fish and Wildlife Service funded the acquisition.



*Coyote Mountains. Photo by Kerry Baldwin*

### Historical and Cultural Resources

The Coyote Mountain Archaeological complex consists of 39 sites situated in the bajada/lower mountain environments on the west side of the Altar Valley, approximately 35 miles southwest of Tucson. Settled since Archaic times, the bulk of the prehistoric occupation dates to the Hohokam Sedentary (A.D. 1100-1150) and Classic periods (A.D. 1150-1450).

During Classic times, the Hohokam community appears to have centered on a number of large habitation sites with compound walls and platform mounds. Additional sites include non-compound settlements, farmsteads, agricultural fields, rock art sites, and special activity sites. Together these sites represent an ancestral site complex of the Tohono O'odham Nation and reflect an intact cultural landscape of Hohokam settlement and land use.

### Management

This land is managed to protect its exceptional habitat and cultural values in perpetuity for the recovery of vulnerable species and to preserve in place the Coyote Mountains archaeological complex.

### Value to the Community

Preservation of the Coyote Mountains Archaeological Complex at Old Hayhook Ranch serves the greater community broadly by preserving exceptional natural habitat and a unique cultural landscape and ancestral village complex of the Tohono O'odham.



*Old Hayhook Ranch. Photo by Kerry Baldwin*

## Cultural and Historic Resource Acquisitions



### Honey Bee Village

**Site:** 13 acres  
**Cost:** \$1,680,000 (land donated)  
**Acquired:** March 2007  
**Fund:** 2004 Bond Funds

#### Background

The 13-acre core of Honey Bee Village was donated by Steve Solomon, in March 2007. In return, the County funded archaeological excavations in the remainder of the village, outside the core, at a cost of \$1,680,000 from the 2004 Bond. The 13-acre Honey Bee Village Preserve, located in the Town of Oro Valley, is owned by Pima County.

#### Significance

Honey Bee Village is a large prehistoric Hohokam settlement that is the most significant extant Hohokam village in Oro Valley. The Preserve contains the ceremonial and habitation core of the village, which consists of the central ceremonial ballcourt, many large middens, plazas, and hundreds of domestic houses. Archaeological excavations in the remainder of the site beyond the 13-acre core preserved the scientific information in the site periphery that is significantly advancing our understanding of Hohokam village development and Hohokam lifeways. The Tohono O'odham Nation regards Honey Bee Village as an ancestral home, and it is a traditional cultural place in their historic landscape within Pima County.

#### Management

A grant, funded by the Tohono O'odham Nation, provided money to construct a wall around the edge of Preserve to protect the Preserve from planned surrounding development.

#### Value to the Community

Honey Bee Village Preserve represents the foundation of permanent habitation in Oro Valley, and as such gives a sense of place representing the deep history of human occupation. The Preserve provides open space in the center of the modern urban community. When accessible through trails and educational interpretive signage, the Preserve will become a focal point of local visitation and heritage tourism.

#### Ongoing Projects

Planning for public access and interpretation has started.



*Aerial view, to the west, of Honey Bee Village during grading for development. Red-outlined area is Honey Bee Village Conservation Area - Photo by Henry D. Wallace.*



*Hohokam pithouse at Honey Bee Village, after excavation - Photo by Cultural Resources Office staff.*

## Cultural and Historic Resource Acquisitions



Northeast corner of Pump house ca. 1900. Courtesy Arizona Historical Society

## Steam Pump Ranch

**Site: 15 Acres**

**Acquired: 2007**

**Cost: \$4,500,000**

**Fund: 2004 Bond Funds**

### Background

The Steam Pump Ranch is a collection of agricultural buildings and historic ranch structures located on approximately 15 acres in the Town of Oro Valley, Pima County, Arizona.

The Steam Pump Ranch was established by George Pusch (1847-1921) and John Zellweger (c.1847-1924) in 1874. Shortly after their arrival they purchased a portion of the old Canada del Oro Ranch, registered the PZ brand, and constructed their ranch headquarters and a steam pump for a watering stop along the Camp Grant Road (Oracle Rd). Steam Pump Ranch became a stopover place for travelers in the 19th century and a place where livestock could be watered and rested. After the arrival of the Southern Pacific Railroad in 1880, the ranch expanded to include land along the San Pedro River between Mammoth and Winkelman and facilitated the consolidation and shipment of cattle from smaller ranches, as well as providing produce, chickens and eggs for the Tucson market.

The Steam Pump Ranch is today listed in the National Register of Historic Places for its association with the history of cattle ranching in southern Arizona. The ranch reflects a depth of history - from the early arrival of American settlers shortly after the region's acquisition by the United States, frontier settlement and conflict, the boom and bust periods of the late 19th century associated with the arrival of the railroad, recurring drought cycles, through the modernization of cattle ranching in the first half of the 21st century.

### Natural and Cultural Resources

Built along the Canada del Oro Wash and the historic route from Tucson to Camp Grant (now Oracle Road), the ranch has a feeling of open space and still retains its historic landscape reflective of its ranching history and setting beneath the Pusch Ridge Wilderness Area of the Coronado National Forest. This feeling of open space is increasingly rare in the growing Town of Oro Valley. The landscape is also consistent with its history of being in a floodplain and riparian area, as evidenced by the generally flat topography and prevalence of mature mesquite and cottonwood trees and introduced plantings.

### Long Term Goals

The well-received Steam Pump Ranch Master Plan acknowledges the historic resources of the Steam Pump Ranch that reflect two eras of ownership, the Pusch era (c.1874-1931) and the Procter/Leiber era (c. 1933-2005). This parcel, though relatively small, provides a place of respite and reflection where the public can enjoy, use, and experience this historic place and founding site of Oro Valley that still holds the buildings, landscape, and stories from its frontier era past.



Southeast corner of Pump house. Date unknown. Courtesy Arizona Historical Society



## Cultural and Historic Resource Acquisitions



*The Pantano Water Tank still stands by the Union Pacific railroad crossing through the Townsite - Photo by Cultural Resources Office staff.*

## Pantano Townsite

**Site: 43.2 acres**

**Cost: \$95,207**

**Acquired: Final acquisition, June 26, 2000**

**Fund: 2004 Bond Funds**

### Background

The County acquired the land parcels encompassing the Old and New Pantano Townsites within the County's Cienega Creek Natural Preserve, north of Interstate Highway 10 and east of Tucson. The acquisition measures 43.2-acres and was acquired to establish a special Conservation Area to protect and preserve the important historic resources, as well as a prehistoric Hohokam village site underlying the historic resources.

### Cultural and Historical Significance

The Pantano Townsite is a historic railroad-era community that was originally established as Pantano Station in 1880 by the Southern Pacific Rail Road (SPRR) on the south side of Cienega Creek. The original Townsite was chosen for its favorable location to build a depot and other railroad facilities and it subsequently attracted private businesses and residential settlement. The Townsite grew until it ultimately supported several warehouses, a store with a blacksmith and carpenter shop, and several private dwellings, claiming a population of 75 by 1880. Flooding in 1887 forced the relocation of the Pantano Townsite to the north side of Cienega creek, where it persisted as the New Pantano Townsite, providing support for the SPRR into

the mid-1950s. By 1905, the town's population had increased to 100, including a deputy Sheriff, a justice of the peace, and six small businesses including a general store and livery. By 1922, Pantano reached its zenith as a town, with a bank, a schoolhouse, a telegraph office, and a post office, all serving the Town's 500 residents. Soon after, the Town went into decline so that by 1941 only 40 people lived there. The post office closed in 1952, and the railroad operations were closed by 1956, effectively closing down the Townsite.

### Biological Resources

Most of the Conservation Area is within the Conservation Lands System category of Important Riparian Area associated with Cienega Creek as it passes through the property, draining westward to the Pantano Wash and, ultimately to the Santa Cruz River. The property also provides important open space supporting native plant and animal communities and functions as part of the wildlife corridor along the creek, within the larger Cienega Creek Natural Preserve.

### Management

The Pantano Townsite Conservation Area is currently managed as open space and as a Cultural Resources Conservation Area. Archaeological preservation and management efforts were supported by 2004 Bond funds. Although distant from Tucson, the property is vulnerable to potential impacts from visitors using Marsh Station Road to gain access. The primary goal of the Conservation Area is to protect and preserve the cultural resources. The best strategy for preservation is to keep the property and its resources secure and closed to public access. A comprehensive Management Plan is also slated for development.



*Although the Pantano Townsite is abandoned, the town cemetery is still regularly visited and maintained by family members of former town residents - Photo by Cultural Resources Office staff.*

## Value to the Community

The Pantano Townsite contains the preserved remains providing a record of historic Arizona settlement associated with the railroad. Pantano Townsite is a uniquely important cultural resource whose undisturbed, buried remains contain an important body of information about the settlement and economic development of southern Arizona through the late 19th century and into the middle 20th century. Pantano Townsite is recorded as an historic archaeological site that also overlies a prehistoric Hohokam village, thus preserving both prehistoric and historic records of human occupation and use of the Cienega Creek landscape. All that is left at the town site today are foundations of the houses and business that once occupied the site and related features and artifacts, all now a part of the archaeological record of this small western railroad town.

The Townsite has been acquired and will be protected as a 2004 County Bond preservation project. The historic and archaeological resources will be protected as a Pima County Conservation Area to save them from encroaching development, and to preserve them for the future of Pima County.

## Ongoing Property Activities

Current activity at the Pantano Townsite Conservation Area involves accurate site mapping to record the nature and extent of the historic resources to assist with management and future planning. Plans also include security fencing, perimeter signage, and development of a management plan.



Nearby Cienega Creek - Photo by county staff.

## Completed and Planned Projects

- Completed acquisition
- Inventory and mapping
- Security fencing and signage
- Management plan



Surface remains of the Pantano school include these foundations, now partially masked by creosote bushes and mesquite trees - Photo by Cultural Resources Office staff.

# Floodprone Land Acquisition Program



## The Floodprone Land Acquisition Program

### Purpose of the program

The goal of the Pima County Regional Flood Control District's (District) Floodprone Land Acquisition Program (FLAP) has been to purchase properties located in flood zones with many of the structures authorized prior to the adoption of the Floodplain Ordinance. The program is strictly voluntary with residents contacting the District for acquisition consideration. Properties are scored and rated based on the type of use, with occupied residentially zoned land in floodplains being given the highest priority; the higher the flood zone, the higher the priority. Vacant land is the lowest priority with the assumption that development requirements and the permitting process will ensure compliance with the floodplain ordinance. Potential acquisitions are also reviewed for riparian habitat under the Sonoran Desert Conservation Plan criteria. The lush riparian environments along watercourses serve many populations of birds, reptiles, plants, and mammals and often provide Priority Conservation Areas for endangered or threatened species. Lastly, a hierarchical rating of watercourses in Pima County with certain watercourses being ranked more favorably than others based on flood potential or flood histories.

### Funding

Following the significant floods of 1983, Pima County voters approved the sale of \$8.6 million in bonds to fund the initial FLAP program with an additional \$20 million being approved in 1986. The District receives funding through the secondary property tax with a small amount of the overall levy being directed to the Floodprone Land Acquisition Program. Over the years, the District's levy rate has been as high as \$0.7630 per \$100 dollars (1988) of assessed valuation to its current reduced rate of \$0.2635. While FLAP is not guaranteed any set annual amount for acquisitions, in recent years the program was able to use funds of approximately \$3 million per year. Voters also approved \$5 million in bond funding for the program in 2004. That same year, a \$3 million dollar federal grant was

received by the District following a large relocation effort in the flood damaged Cañada del Oro area of northern Pima County. Given the recent financial crisis and downturn in the economy, the program does not anticipate any significant funding in the immediate future, however, the program remains a viable method of reducing the numbers of properties and property owners in floodplains. To date, the District has been able to purchase over 10,300 acres of floodprone land at a combined cost in excess of \$66 million dollars.

One of the most significant acquisitions made using both FLAP monies and other voter-approved land conservation programs was the Cienega Creek Natural Preserve, which spans nearly 4,000 acres along a 12-mile long reach of Cienega Creek. These acquisitions protect one of the region's few remaining perennial streams, along with natural ecosystem functions such as groundwater recharge and regeneration of floodplain vegetation. Establishment of the Preserve in 1986 marked Pima County's first major flood control effort that included riparian habitat preservation. In response to eliminating grazing and off-road vehicle activity, the density of cottonwoods, willows and other trees and shrubs along the stream have increased dramatically.



Flood damage, Rillito Creek 1983



Flood damage, First Avenue and Rillito Creek 1983

## Accomplishments

Aside from the acquisition of many acres of floodprone land, other rewards of the FLAP program include: removing residents from floodprone areas; removing non-conforming floodplain uses; reducing the need for structural flood control improvements; reducing infrastructure maintenance costs; reducing the need for community disaster assistance and emergency relief efforts; maintaining overbank storage areas along watercourses; reducing flooding and erosion damage; enhancing groundwater recharge; protecting water quality; preserving wildlife habitat; providing recreational opportunities; and preserving open space. Additionally, with FLAP as an integral part of the District's floodplain management philosophy, it has helped Pima County achieve a high Community Rating System (CRS) ranking with FEMA (Federal Emergency Management Agency) thereby reducing the cost of flood insurance to Pima County residents.

In summary, the Flood Control District's Floodprone Land Acquisition Program has proven to be a valuable tool in the District's comprehensive approach to floodplain management, and with adequate funding, will continue to provide this beneficial service to residents of Pima County.



*June 1998 – Looking east along Cienega Creek towards bedrock outcrop west of “railroad horseshoe bend , J. Fonseca*



*July 2008 – Looking along the same stretch of Cienega Creek towards bedrock outcrop, D. Scalero*

## Floodprone Land Acquisition Program (FLAP) Property Highlights



1990 Black Wash flooding

# Floodprone Land Acquisition: Black Wash

## Background

The Black Wash is located approximately 20 miles southwest of Tucson and drains from southeast to northwest into the Brawley Wash, then finally to the Santa Cruz River. The Black Wash's headwaters are in the Sierrita Mountains, with the watershed encompassing a 147.21 square mile drainage area. This ephemeral stream is a complex braided system with numerous small tributaries flowing between 1 and 11 days per year on average. Absent well-defined channels, numerous shallow, low flow channels proliferate ranging between 500 and 1,000 feet across to over 4,000 feet wide. Flow depths within the floodway ranged from 1 to 4 feet. (Source: Avra Valley – Black Wash Ecosystem Evaluation and Restoration Feasibility Study by RECON Environmental, Inc., May 23, 2008)

Prior to 1980, there was no 100-year floodplain or 100-year floodway delineated, severely hampering the Flood Control District's ability to accurately determine potential flood impacts. Absent specific data, applying a higher measure of regulation was not possible. The District gathered data, aerial photos, analyzed soil samples, and floodplain use permit applications and building permits were reviewed to evaluate floodplain status.

A study commissioned in the late 1980's was funded to determine two critical factors: a designated floodplain and floodway to aide in future applications and approve permissible uses in the wash area. Since many parcels were sold and settled prior to a floodplain ordinance, retroactive application of the new regulations could not happen. As a result, many of these floodprone structures were grandfathered and allowed to remain.

The District's Floodprone Land Acquisition Program (FLAP) had been buying parcels from willing sellers both prior to the administrative floodplain designation (1989) and after. The area of the Black Wash was flooded in 1983 and then again in 1993. Over the next 20 years, the District acquired approximately 1,400 acres of land in the Black Wash. With the new data, Floodplain Use Permits could now be reviewed with fresh information and evaluated more accurately. The approach taken following the study findings included leaving the now identified administrative floodway vacant for flood storage, groundwater recharge, open space recreation and wildlife habitat.

## Historical and Cultural Resources

Previous activities were primarily farming and ranching. Surveys and trenching done prior to the building of the Avra Valley wastewater treatment plant resulted in the possibility of three archaeological sites within 1000 feet of the plant site.

## Biological Resources

The Black Wash area provides wildlife habitat and movement corridors for indigenous species between the Tucson and Roskrige Mountains. The occurrence of specific threatened or endangered species within the Black Wash include many bird species - Abert's Towhee, Bells vireo, Swainson's hawk, and the Rufous-winged sparrow, to name a few. There is a high likelihood for several plants to call the Black Wash region home, including the Tumamoc globeberry and the Thornber fishhook cactus.

Much has changed in the Black Wash over the years. Invasive species, including buffel grass and other non-native grasses, have established a foot-hold in the area. Many local and state agencies are working diligently to identify areas that have been affected by invasive species as well as conducting eradication efforts through clubs, agencies, and other groups of concerned residents.

## Management

Managing the area in the Black Wash is challenging. Much of the land in the Black Wash is government-owned. Management issues the County faces include off-road vehicle use, wildcat dumping, amateur target shooting and other undesirable activities. Large parcels of land belong to the County, the State of Arizona, Tohono O'odham Nation, Pascua Yaqui Tribe, and the City of Tucson. The location of the Avra Valley Wastewater Treatment Plant within the Black Wash, with a ready supply of treated effluent, could provide a rare opportunity to enhance the riparian nature of the area.

## Recreation and Other Activities

Establishing connections between Black Wash and the planned CAP Trail and Sarasota Trailhead would provide access to the Tucson Mountain Park trail system. This may well lead to eventual pairing of public river parks, public preserves, utility rights-of-way, etc. for use by the public.

The area near the Avra Valley Wastewater Treatment Facility percolation ponds has become a destination for local birders with many bird species stopping over in their migratory patterns. Encouraging this activity, along with hiking and equestrian trails, would introduce some favorable passive recreation opportunities to the area.



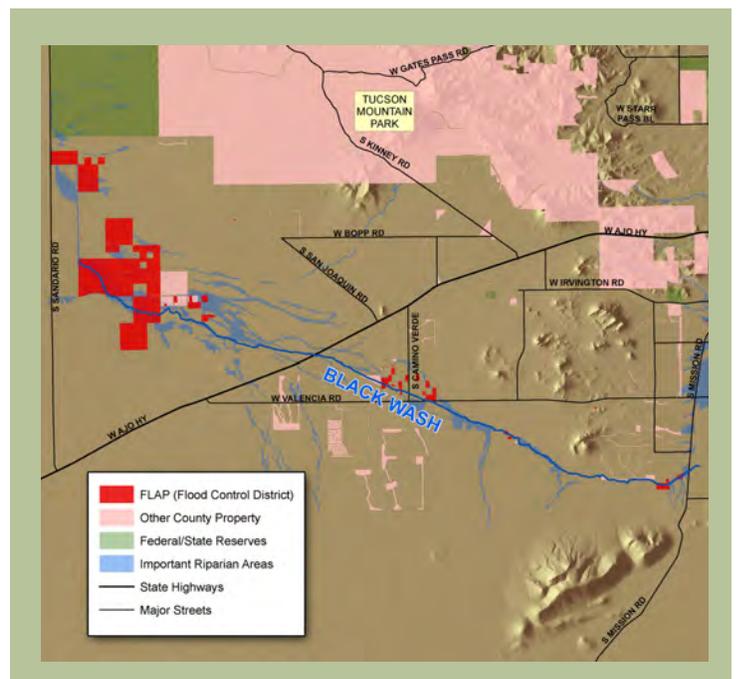
The nearby Avra Valley Wastewater Treatment Facility has become a popular site for birders. Photo by Rick Wright, WINGS.



Black Wash flooding roadways, 1990



Sheet flooding near Black Wash, 1990



## Floodprone Land Acquisition Program (FLAP) Property Highlights



Water flow at Golder Ranch Bridge 2004

## Floodprone Land Acquisition: Cañada del Oro

**Fee Lands: 193.09 acres**  
**Acquired: 2003/2004**  
**Cost: \$9,001,165**  
**Fund: 2004 Bond Funds; District Tax Levy**  
**Grant: \$3,000,000**

### Background

The Cañada del Oro watershed begins in the high elevations of the Santa Catalina Mountains north of Tucson, AZ and covers approximately 63 square miles. For nearly the first mile and one-half after the wash enters Pima County at the Pima/Pinal line, the land is sparsely populated. Moving further south along the wash there are approximately 200 parcels with some portion in the floodplain. The parcels along the watercourse range in size from one-half acre up to one 320-acre parcel owned by the State. Approximately 33% of the acreage along the wash contains some floodplain land.

Most parcels are centered north and south of the Golder Ranch Bridge in Section 15. With a mix of manufactured homes, mobile homes and a few site-built homes, the largest parcel was home to White Dog Ranch, a long time commercial stable. Many property owners along the watercourse had been there for decades with some settling before zoning and floodplain management were implemented in the County.

### Fire, Flood and its Aftermath – August 2003

In the summer of 2003, a major forest fire in the watershed changed the hydrologic characteristics within the Cañada del Oro watershed. Moderate to high burn severity denuded the drainage basin, greatly increasing the chances of flooding during monsoon season. In August 2003, one significant rainfall event occurred in the mountains resulting in flows of approximately 7,000 cubic feet per second along the Cañada del Oro – a 25 year flow. The area was evacuated by Sheriff's Deputies and almost all the homes in the low area on both sides of the wash received flows high enough to enter some of the homes. Immediately following the flooding, the District began its efforts to assist the residents in the area.

Using the Floodprone Land Acquisition Program, 62 property owners of 75 parcels totaling nearly 200 acres asked to be appraised. As of July 2004, 47 owners had accepted the District's offers netting 151 acres of land or approximately one-third of the total in the floodplain of the CDO. Requests for consideration continued to come into the District with others, however, electing to remain in their homes. The cost to the District had been substantial –\$7,880,641 for real property and \$1,120,524 paid as relocation benefits to displaced home owners. The receipt of a federal grant to prevent repetitive flood losses of \$3 million dollars aided the District with some of the costs.

### Historical and Cultural Resources

The White Dog Ranch began operations in the 1930's serving the needs of the equestrian population in rural Catalina. There were plans for it to again serve as a ranch, working with local 4-H groups and the Pima County Natural Resources, Parks and Recreation Department. Further research found no significant archeological or historic sites within the parcels that are now part of the Catalina Regional Park. (Source: Cañada del Oro Ecological Reconnaissance; Phillip C. Rosen; May 15-19, 2004)



Intersection of Wilds Road and Lago del Oro Parkway in August 2003 - Photo by Regional Flood Control District

## Biological Resources

In the northern reach of the Canada del Oro located in adjacent Pinal County, the stream is more hydro-riparian with cottonwood, willow, thornscrub and abundant desert grasses. After passing into Pima County it transitions to xero-riparian habitat with catclaw acacia, mesquite, desert willow, hackberry and walnut trees. A study found 103 plant species (86 native:17 non-native) in a single 300 meter reach along the northern watercourse. Birds, amphibians, mammals and reptiles are abundant along the CDO. Several varieties of lizard are prevalent in the area as are many snake species. A pond in the southern area is home to native Sonoran mud turtles, Red-eared sliders and may have contained fish at one time. Two Priority Vulnerable Species, Bell's Vireo and Abert's Towhee, are present, with suitable habitat for others to occur. Within Pima County, this area is similar to the natural riparian corridor only found at Cienega Creek.

## Management

The Cañada del Oro eventually merges with Sutherland Wash and passes onto Arizona State Trust Land at Catalina State Park, establishing connectivity between the upper and lower reaches. With the acquisitions along the CDO, the District was able to retire 23 active wells. To ensure conservation and determine future planning, the District has used these wells to monitor groundwater levels. Water levels have been rising since the wells were taken out of production, and in some areas, the depth to groundwater is about 30 feet which is suitable to support cottonwoods. Maintaining the meso-riparian environment along both the CDO and Sutherland Wash will be dependent upon groundwater in the area. Two homes outside of the floodplain were kept, with one being occupied by a caretaker who monitors off-road vehicle use, vandalism, trespass, wildcat dumping, wood cutting and other detrimental activities that often take place on government owned lands.

## Recreation - Catalina Regional Park

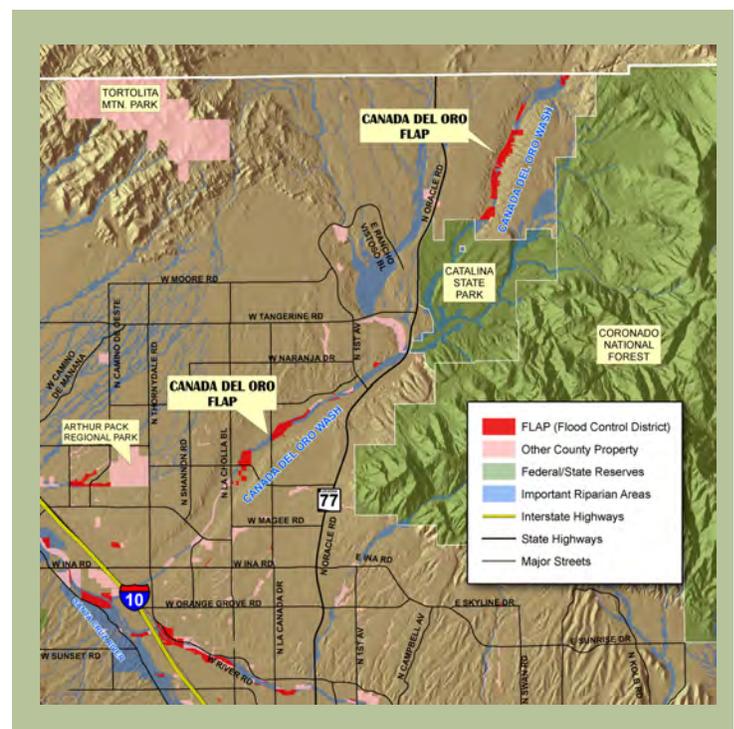
Following the floods in 2003 and the acquisition of nearly four miles of contiguous land along the CDO, utilizing the land for the benefit of the increasing populations in and around the Catalina area seemed a logical next step. Pima County's Natural Resources, Parks and Recreation Department began meeting with residents to get ideas on what they would like to see happen along the wash. A regional park with an equestrian-oriented theme was something many residents were eager to see. There was much enthusiasm for both active and passive types of recreation including horseback riding, birding activities, learning opportunities for children and adults, and the establishment of a native plant nursery. These were just some of the elements neighbors seemed to favor. The County and the District are firmly committed to enhancing recreational opportunities in this growing area of Pima County.



Wetland area in Catalina Regional Park. Photo by Don Carter.



View of Golder Ranch Bridge 2004



## Floodprone Land Acquisition Program (FLAP) Property Highlights



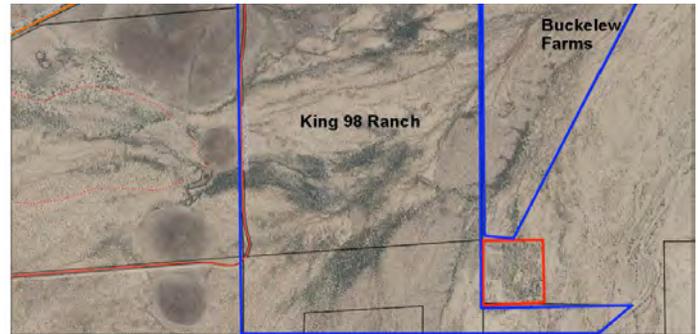
3-acre FLAP acquired parcel, the Marco property, (red) expands a number of conserved properties along Sabino Creek and Bear Canyon.

## Floodprone Land Acquisition: Purchases that Expand Existing Conservation Areas

The Regional Flood Control District has been able to expand existing conservation areas by using the Floodprone Land Acquisition Program (FLAP). These include expansions to the Buckelew and King 98 ranch lands, expansion of Rancho Seco, additional lands acquired in the Berry Acres area in Marana, and the expansion of conserved lands along Sabino Creek and south of Bear Canyon Road.

### Buckelew and King 98 Ranch Expansions

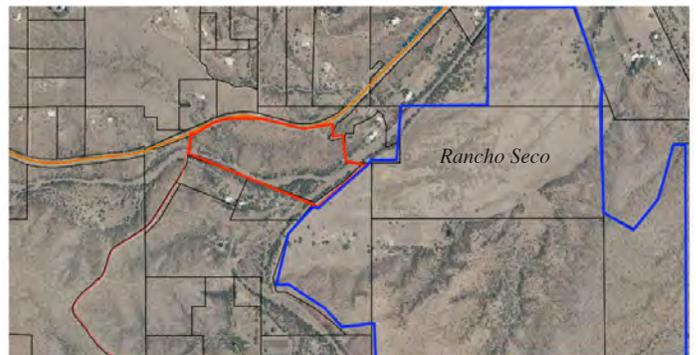
The Regional Flood Control District acquired 500 acres in Altar Valley from the Buckelew family in 2002, under the FLAP program. Pima County acquired the 4,500-acre King 98 Ranch in Altar Valley in 2005 under the 2004 Conservation Acquisition Bond Program. In 2009, an additional 40-acre parcel immediately north of the King 98 Ranch and immediately south of the Buckelew lands, including two wells, was purchased under the FLAP program. The water rights on all three of these properties may provide the opportunity in the future to restore a stretch of the Altar and South Mendoza washes that cross the properties. The properties are all within the Multiple Use and Special Species Management Areas of the Conservation Lands System, and contain portions of Important Riparian Areas. The properties support habitat for the California leaf-nosed bat, Swainson's hawk, and Tumamoc Globeberry. Portions of the properties may provide habitat for the dispersal of young Cactus ferruginous pygmy-owls as well. Endangered Pima pineapple cacti have been found on the King 98 Ranch and are likely to be found on FLAP properties as well.



40-acre FLAP-acquired parcel (red) expands on both the County acquired King 98 Ranch and Buckelew Farms properties.

### Rancho Seco Expansion

In 2005, with funds from the 2004 Conservation Acquisition Bond Program, the County purchased the 37,000-acre Rancho Seco in the Altar and Upper Santa Cruz Valleys near the town of Arivaca. Subsequently, an owner of a 30-acre ranch property with frontage on Arivaca Road, located immediately adjacent to Rancho Seco and containing a reach of the Sopori Wash, contacted the Regional Flood Control District. The owner had been contacted by several parties interested in her land for development, but instead she chose to sell it to the District in 2008 for conservation. The property is within the Biological Core Management Area of the Conservation Lands System, and contains a portion of Sopori Wash, which is an Important Riparian Area. This property expands upon many conservation areas within this region, including two County-owned ranches, the Buenos Aires National Wildlife Refuge, and the Coronado National Forest. Together these lands protect an important wildlife corridor.



30-acre FLAP-acquired parcel (red) that expands on the County-acquired Rancho Seco



The County's Rancho Seco property that was later expanded by a 30-acre FLAP purchase. Photo by Diana Freshwater ALWT.

## Berry Acres Expansion

Several parcels along the Santa Cruz River in an area of Marana known as Berry Acres were acquired by the Flood Control District following the devastating flood of 1983. Over the past 6 years, the District has been able to purchase an additional seven developed properties in Berry Acres for a total cost of \$723,000, returning these properties to their natural floodplain function.



A javelina footprint on one of the Berry Acres properties. Photo by Dana Luton.



One of the properties purchased in the Berry Acres area of Marana. Photo by Dana Luton.

## Sabino Creek and Bear Canyon Expansion

In 2007, through the FLAP program, the District acquired the 3-acre Marco property along Sabino Creek. The property originally contained a house, which was flooded in 2006 and has since been demolished. This purchase expands upon other land owned by the District, The Nature Conservancy, and the Coronado National Forest, along Sabino Creek and Bear Creek, south of Bear Canyon Road. The property is within the Important Riparian Area category of the Conservation Lands System. Conservation of properties along these creeks protects rare riparian habitat and perennial streams, as well as habitat for Priority Vulnerable Species such as the Bell's vireo and western yellow bat.



Location of the former house on the Marco property. Photo by Dana Luton.



A portion of the Sabino Creek crossed the Marco property. Photo by Dana Luton.

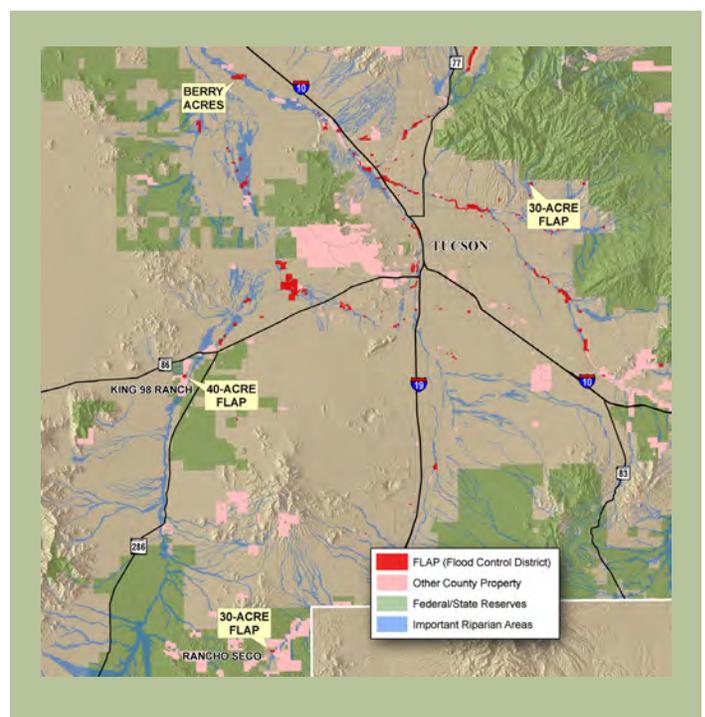




Photo provided by Davis-Monthan Air Force Base.

# Davis-Monthan Air Force Base Urban Encroachment Prevention Program

**From 2004 to 2010:**  
**286 acres acquired**  
**\$10 million authorized by voters**  
**\$7.8 million spent**

## Purpose of the Program

Davis-Monthan Air Force Base is one of the primary institutions in Pima County and Southern Arizona, contributing over \$860 million annually to the local economy, jobs for more than 6,500 military personnel and more than 3,000 civilian personnel, and serving 54,000 medical beneficiaries. This program includes the acquisition of vacant land to prevent urban encroachment off the southeastern end of the Base in the approach/departure corridor. The program is guided by the Arizona Military Regional Compatibility Project Joint Land Use Study for Davis-Monthan Air Force Base. Land acquisition under the primary flight paths is one of several strategies for achieving land use compatibility. Preventing future encroachment in this area protects the long-term survival of Davis-Monthan Air Force Base, assists the Base in fulfilling its mission to ensure the safety of the nation, and continue its significant contribution to our local economy. In 2004, voters approved \$10 million to acquire open space to prevent urban



Photo provided by Davis-Monthan Air Force Base.

encroachment on the Base.

## Implementation

The Board of Supervisors established the Davis-Monthan Open Space Advisory Committee as an oversight committee that oversees implementation of the program, including evaluating proposed acquisitions and making recommendations to the Board of Supervisors. The Committee is composed of the Base Commander, representatives from the Arizona Department of Commerce, the DM-50, the City of Tucson, the Tucson Metropolitan Chamber of Commerce, and the Office of the County Administrator. The Committee identified the open space acquisition project area as the trapezoidal Approach-Departure Corridor (ADC). See map on opposite page.

As of June 2010, 14 properties have been acquired, totaling 286 acres, for \$7.8 million.

## Property Uses

Uses of the properties acquired are limited due to the need to prevent future development and inappropriate land uses on the properties, and the need to deter large numbers of visitors to this area. The County has, however, determined that these properties would be highly suitable as solar generating facilities, as this would be a compatible use under the program's intent. Per Board policy, 15 percent of the electricity used for County operations must come from renewable resources by 2025. The County is marketing these properties as sites for solar generation through land leases.

The DM Open Space Committee recommends that efforts to acquire parcels located within the Base approach corridor continue in order to assist in maintaining DM as an active military base and increase open space in this area, both of which are identified regional objectives.



Photograph of the 1 megawatt solar generating facility at Pima County's Roger Road Wastewater Treatment Plant. The County would like to use portions of the land acquired around Davis-Monthan Air Force Base for solar generating facilities in order to increase the amount of renewable energy resources used for County operations.



Davis-Monthan aerial 2009

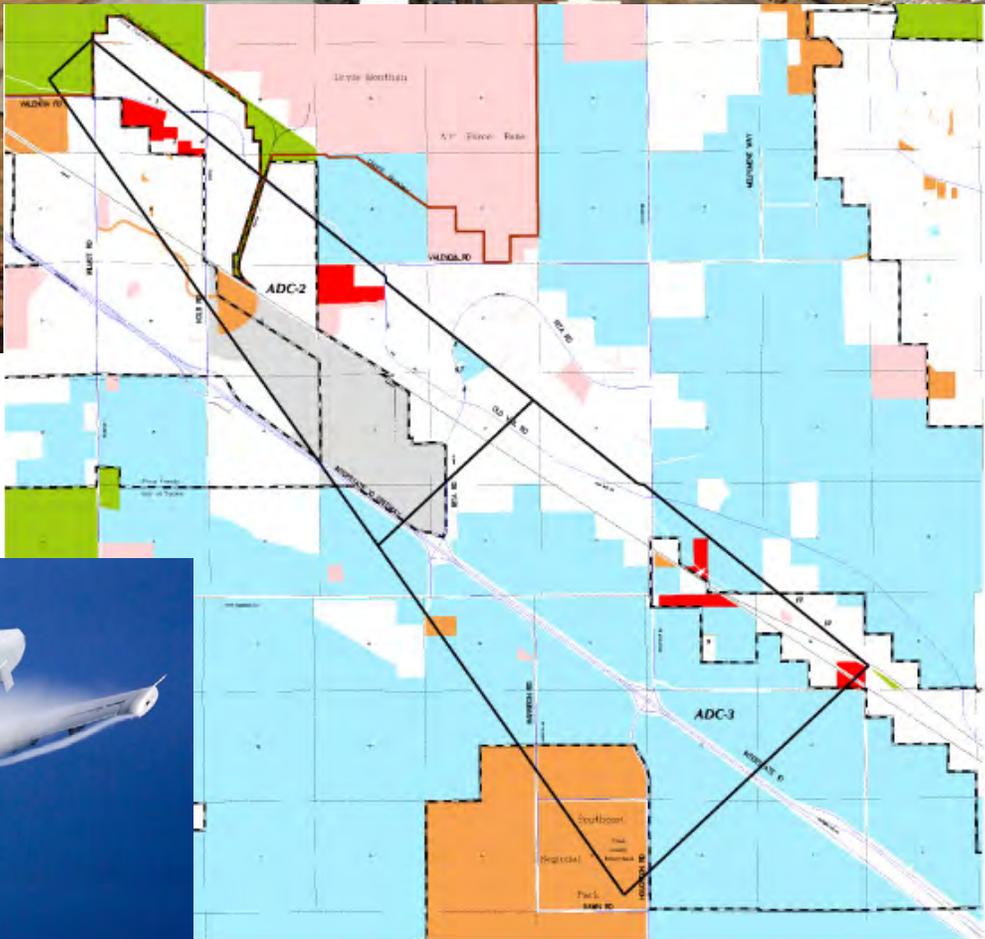


Photo provided by Davis-Monthan Air Force Base.

Davis-Monthan Approach / Departure Corridor Map - red parcels acquired

# Public Oversight of Bond Programs



*The Pima County Board of Supervisors.*

**When Voters** put their support behind something, particularly something that is going to cost them money, there needs to be assurances that they will get what they vote for. Accountability and transparency are two ideals that Pima County takes very seriously. When it comes to bond elections, we hold ourselves to a higher standard than almost all other governmental agencies. The level of detail provided to voters prior to our bond elections is second to none in Arizona. And after voters support our bond programs at elections, we continue that commitment through detailed semi-annual reports on how those bond programs are being carried out. These reports are provided to our oversight committees, our Board of Supervisors, and the public. Any change to our bond programs must be voted on by the Board of Supervisors at a public hearing noticed in the newspaper, and only after review and approval by the Bond Advisory Committee and any other applicable oversight committees. Our internal requirements for accountability and transparency have grown stronger over time.

## Public Oversight of Bond Programs

### Truth in Bonding Code

Prior to the May 20, 1997 bond election, the Board of Supervisors created a new section in the County Code, “Chapter 3.06, Bonding Disclosure, Accountability and Implementation.” This section of the code became known as the Truth in Bonding Code. The Truth in Bonding Code dictates the level of detail that must be provided to the public prior to early voting, as well as the timing and forms of distribution. Additionally, the code calls for the establishment of two formal oversight committees, the County Bond Advisory Committee and the Conservation Acquisition Commission. The code also states specifically the steps necessary to make changes to a bond project, and the level of detail to be provided in semi-annual reviews of existing bond programs.

We are not aware of any other governing body in the State of Arizona that has voluntarily committed to such strict disclosure and accountability standards and procedures. In addition, prior to the May 18, 2004 bond election, the Board adopted numerous revisions to this portion of the code, strengthening even more our commitment to accountability and transparency.

### Bond Implementation Plan Ordinance

Per the Truth in Bonding Code, a detailed implementation plan must be adopted by ordinance prior to early voting, at a public hearing of the Board of Supervisors, and after full publication in the newspaper and on the County’s website. The bond ordinance provides a level of detail that simply cannot be provided on an election ballot due to the limited ballot space. The bond ordinance for the May 20, 1997 bond election was 118 pages, and the May 18, 2004 ordinance was 114 pages. Both contained detailed information about each of the projects. In the case of the 1997 Open Space Bond Program and the 2004 Conservation Acquisition Program, additional direction was provided regarding how the programs would be administered and the process that would be used to pursue acquisitions of individual properties within the project areas. In the case of the 2004 ordinance, direction was also provided regarding the establishment of two oversight committees, the Conservation Acquisition Commission and the Davis-Monthan Open Space Advisory Committee, including their roles and responsibilities.

Substantial cost increases or decreases of projects or properties, compared to the cost estimates included in the bond ordinance, require a formal bond ordinance amendment, as do the addition of projects or properties not originally in the ordinance. In order to amend a bond ordinance, several steps must be met to provide the public with opportunities to comment, support, or oppose the proposed changes. In the case of the 1997 Open Space and the 2004 Conservation Acquisition Programs, this first requires a vote by the Conservation Acquisition Commission at a publicly noticed meeting. If recommended, the change is then considered by the County Bond Advisory Committee at a publicly noticed meeting. If

recommended again, the change is then considered by the Board of Supervisors after a public hearing noticed in the newspaper. There have been several amendments to the 1997 Open Space and the 2004 Conservation Acquisition Programs that enabled the County to take advantage of opportunities to buy important properties from willing sellers meeting the intent of the programs, which could not have been foreseen at the time of preparing for the bond elections.

### Oversight Committees

#### Conservation Acquisition Commission (2004 to present)

The Conservation Acquisition Commission was established by the Board of Supervisors prior to the May 18, 2004 bond election, as part of strengthening the Truth in Bonding Code and the County’s overall commitment to accountability and transparency. The Commission’s core responsibility is to oversee the 2004 Conservation Acquisition Program, including setting priorities for which properties to target and reviewing the detailed staff reports and acquisition agreements for each property proposed for purchase. No property can be approved for purchase by the Board of Supervisors unless the Commission recommended it be purchased. The Commission is also tasked with making recommendations to the County Bond Advisory Committee on which properties should be included in a future bond election, and recommendations on the dollar amount to be allocated to this purpose. Appointments to the Commission are for a term of 8 years.

The Commission is made up of 11 members, appointed as follows:

- Five members, one appointed by each of the Board of Supervisors
- Two members appointed by land conservation organizations active in Pima County
- One member appointed from the Pima County Parks and Recreation Commission
- One member appointed by the local board of realtors
- One member appointed by the ranching community
- One member appointed by the County Administrator



A Conservation Acquisition Commission meeting. Photo by Mike Stofko.



Election day. Photo by Pima County.

The Commission met 53 times between June 2004 and August 2010, and will continue to meet as necessary. The professional and personal experiences that each of the members bring to this program is invaluable. We are forever grateful for the incredible amount of time and effort these individuals have contributed – both to ensure that the best places in Pima County are conserved, and to make certain that the interests of the public and those organizations that have particular interest in conservation, ranching, and real estate, are well represented. The names of each of the Commissioners are included on the back cover of this report.

### **Open Space Acquisition Review Committee (1997 to 2004)**

The Open Space Acquisition Review Committee (referred to as OSARC), was formed by the Board of Supervisors after the May 20, 1997 bond election, to continue to refine the list of properties that were eligible to be purchased with the bond funds, and to generally oversee implementation of the program. Additional information on the process that OSARC undertook can be found in the section of this report dedicated to Land Conservation Programs and Property Highlights, the 1997 Open Space Bond Program.

The Committee was made up of 16 members, with one member representing each of the following groups:

- The Nature Conservancy – Arizona
- Trust for Public Land
- Friends of the Sonoran Desert
- Rincon/Sonoran Institute
- Pima Trails Association
- Friends of the Santa Cruz River
- Pima County Parklands Foundation
- Center for Wildlife Connections
- International Right-of-Way Association
- Buffers Committee
- Sierra Club – Rincon Chapter
- The Appraisal Institute
- Pima County Parks and Recreation Commission
- Pima County Assessor
- Audubon Society
- Green Valley Coordinating Council

The names of each of the Committee members are included on the back cover of this report.

### **Davis-Monthan Open Space Advisory Committee (2004 to present)**

The Davis-Monthan Open Space Advisory Committee was established by the Board of Supervisors prior to the May 18, 2004 bond election, as part of the 2004 bond implementation plan ordinance to oversee the acquisition of properties to prevent urban encroachment in the approach/departure corridors southeast of Davis-Monthan Air Force Base. The Committee's core responsibilities are determining which eligible properties to target, reviewing staff's recommendations to pursue the purchase of particular properties, and making recommendations to the Board on whether to purchase such properties. Additional information on the process that this Committee undertook can be found in the section of this report dedicated to Land Conservation Programs and Property Highlights, the Davis-Monthan Air Force Base Urban Encroachment Prevention Program.

The six-member Committee is made up of the following appointments:

- Base Commander or designee
- Representative from the Arizona Department of Commerce
- Representative of the DM-50
- Representative of the City of Tucson
- Representative of the Tucson Metropolitan Chamber of Commerce
- County Administrator or designee

### **Pima County Bond Advisory Committee (1997-present)**

The Pima County Bond Advisory Committee was established by the Board of Supervisors prior to the May 20, 1997 bond election, as part of the Truth in Bonding Code. The Committee was tasked with making recommendations to the Board of Supervisors on which projects to include in the 1997 bond program, and at what total cost, and to oversee implementation of the program after it was approved by voters. Prior to the May 18, 2004 bond election, the Committee's responsibilities were expanded to also include making recommendations for future bond elections, and overseeing the implementation of those bond programs. Appointments are for 6-year terms. The Committee holds public meetings semi-annually to review reports from staff on the implementation of the bond programs, and consider proposed amendments if necessary. The Committee or subcommittees have been meeting on an almost monthly basis since 2007, in preparation for a future bond election originally planned for May 2008. The bond election has been deferred numerous times due to the state of the economy.

The Committee is made up of 25 members, appointed as follows:

- 15 members, three appointed by each of the Board of Supervisors
- Five members, one appointed by each of the incorporated cities and towns
- Two members, one appointed by each of the Tribes
- Three members appointed by the County Administrator

# Defining Moments:

## The Evolution of Conservation and Land Use Planning in Pima County



*View of the Coyote Mountains from the County's Diamond Bell Ranch. Photo by Brian Powell.*

**For the last 10 years,** a transformation has played out in slow motion in Pima County. It is now 2010, and many of those who will continue to benefit from this change have not yet been born. The contentious debate over urban sprawl that went on for roughly 40 years and polarized developers and environmentalists, has largely dissipated, and a degree of collaboration between both sides has emerged that had not been seen before. Both sides are very much active and aware of their different objectives, but more and more we see efforts made to focus on where these objectives overlap. The concerns over urban sprawl have not disappeared, but where once an "anything goes" attitude prevailed, new policies emerged to create conceptual boundaries that now define where and how growth should occur. Growth continues in Pima County, slowed considerably by economic recession, but now guided by the new awareness that arrived with the county's adoption in 2001 of what has come to be one of the nation's most comprehensive conservation and land use planning efforts - the Sonoran Desert Conservation Plan (SDCP).

### **A Growing Conservation Ethic at the National and Local Levels**

Preserving and enhancing the health of natural resources is by no means a new concept for Pima County. Indeed, as early as 1929, just 17 years after statehood, the County leased 29,988 acres of prime Sonoran Desert habitat, which was federal land at the time, to create Tucson Mountain Park. Eighty years later, that visionary decision by the Pima County Board of Supervisors continues to influence development in or near the Tucson Mountains.

The creation of Tucson Mountain Park was the first significant local expression of a conservation ethic that had been growing in popularity throughout the United States since the latter part of the 19th century. By the turn of the

20th century, the European model of land use and belief that nature was to be used to serve the practical needs of people, began to give way to a new way of thinking. The new model was a hybrid representing on the one hand the utilitarian thinking of Gifford Pinchot, the first chief of the U.S. Forest Service, and on the other the passionate preservationist views of John Muir. Pinchot believed in multiple uses of forests, such as timber harvesting, cattle grazing, camping and hunting, but with those uses managed to sustain the health of the forests for generations to come. Muir agreed that those activities were appropriate in some places, but also maintained that some natural areas were so extraordinarily beautiful and unique that they needed to be set aside as parks that could be enjoyed by future generations. Pinchot was one of the earliest advocates for a policy of sustainable use of the land. In 1909, he wrote:

“We are prosperous because our forefathers bequeathed to us a land of marvelous resources still unexhausted. Shall we conserve those resources, and in our turn transmit them, still unexhausted, to our descendants? Unless we do, those who come after us will have to pay the price of misery, degradation, and failure for the progress and prosperity of our day. When the natural resources of any nation become exhausted, disaster and decay in every department of national life follow as a matter of course. Therefore the conservation of natural resources is the basis, and the only permanent basis, of national success. There are other conditions, but this one lies at the foundation.”

Between 1901 and 1909, President Theodore Roosevelt, an avid outdoorsman and conservationist, used the executive pen to convert the philosophies of Muir and Pinchot (his friend and confidante) into the most far reaching system of national forests and national parks ever created in the nation’s history. He established the Forest Service as a separate bureau of the Department of Agriculture in 1905. During his tenure, nearly 200 million acres were added to the national forest system, including the 1.7 million-acre Coronado National Forest in 1908, roughly three times the acreage set aside in all previous years. He created five national parks and the Grand Canyon National Monument, which became a national park in 1919.

Clearly, the interest in preservation of the natural landscape that was building in Arizona, and especially in Pima County during the 1920’s, evolved from the sustainable land use ethic of advocates like Muir, Pinchot, Roosevelt and, closer to home, the forester and wilderness advocate Aldo Leopold.

Leopold joined the Forest Service in 1909 and immediately was assigned to the Apache National Forest. He became intimately familiar with the area around Escudilla Mountain, north of Alpine, Arizona, and the vast pine and spruce forests that now are protected as the Blue Range Primitive Area in eastern Arizona and Western New Mexico. Widely known for his naturalist writing and especially for his book, A Sand County Almanac, Leopold proposed and helped establish the first officially designated wilderness area in the United States, the Gila National Wilderness, in New Mexico.

It was individuals like Leopold who may have influenced the way some Tucson and Pima County residents began thinking about the desert and mountains of Southern Arizona. For decades, the County has been acquiring land for flood control projects, park expansion and other purposes. But it was not until the Sonoran Desert Conservation Plan (SDCP) that the County developed an informed approach to land conservation.

## New Direction for Pima County

The SDCP is a far-reaching concept that threw the County to the forefront of regional conservation planning. While the Plan’s beginnings date back to the Federal government’s listing of the Cactus ferruginous pygmy owl as an endangered species in 1998, this effort soon evolved into a much larger concept. The SDCP effectively calls for the protection of our historic and cultural resources, working ranch landscapes, biodiversity, mountain parks, scarce desert riparian areas and water resources. As a whole, however, the Plan seeks to balance the community’s sense of place with the conservation of important cultural and natural resources, while fostering economic and sustainable growth.



Prior to the Sonoran Desert Conservation Plan several other nature based planning efforts helped to shape the reserve system in Pima County today. A list of some of these reports dating back to 1976 is included in the Appendix.

The County early on decided that a plan of this scale must be long-lived and effective. It must also be based on fact, the best science available, and enjoy broad community support. After extensive public and expert participation, a steering committee of over 80 members made up of diverse interests supported a science driven plan that would ultimately delineate areas suitable for conservation and areas suitable for development. A cornerstone element of the Plan is the Maeveen Marie Behan Conservation Lands System which, in 2001, was incorporated into the County's Comprehensive Land Use Plan. The marriage between of the Comprehensive Land Use Plan and the Conservation Lands System produced a "blueprint" that guides future growth and conservation actions.

To understand how we arrived at this juncture, we must first know where we have been.

## The Growth Debates

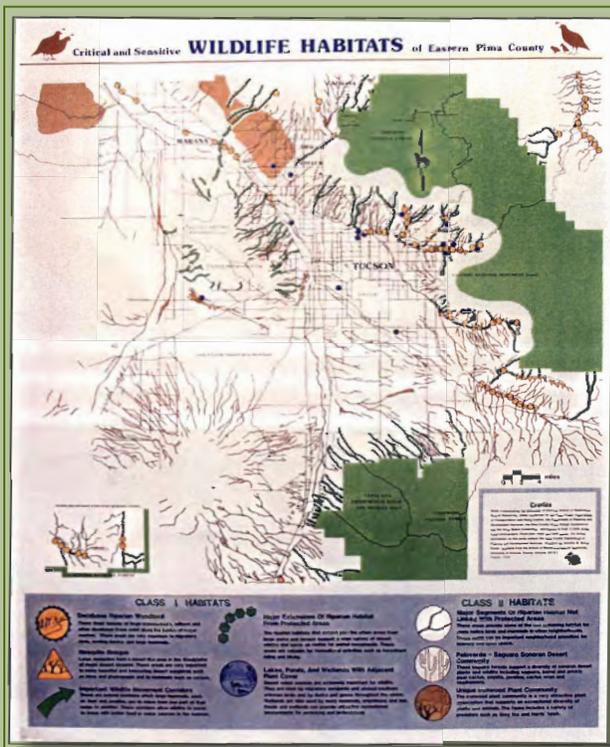
Many years ago, Frank Lloyd Wright declared, "If you don't want to live in a city pick a spot ten miles beyond its outermost limits and then go 50 miles further." Hardly anybody had heard that observation fifty years ago, and yet the impulse that prompted it was clearly reflected in the growth debates that played out in Pima County beginning in

the 1970s. The legacy of those debates is the awareness that the kind of sprawl Wright hinted at could be prevented by acknowledging that some places in our environment should be protected or excluded from man-made development.

The SDCP and Pima County's successful conservation acquisition programs evolved from a series of community debates in the late 1960s and 1970s over the shape and intensity of growth in Tucson and eastern Pima County. Pima County residents had been watching large tracts of Sonoran desert bulldozed to make way for new housing development. However, the boom years for the building industry coincided with an increasing public awareness that the area's natural landscape was its greatest asset from an aesthetic, scientific and economic standpoint. To a degree that alarmed many, that natural landscape was rapidly being converted to suburban housing and shopping centers. The debates were part of long-time growing divisions between developers and builders and others in the business community on the one hand and environmentalists on the other.

Developers saw restrictive land use and zoning codes as violations of private property rights and an impediment to economic success; environmentalists saw the absence of such controls as a recipe for the irreversible destruction of the Sonoran desert. Conservationists and their associates argued that urban sprawl would imperil the area's long-term economic success, rather than enhance it, by eradicating the natural amenities that had made Tucson a unique and popular destination for travelers. The iconoclastic writer Edward Abbey, among other critics, pointed to burgeoning Phoenix as the perfect example of excessive and insensitive growth. Phoenix was widely accepted as exactly what most Tucsonans did not want to become.

Abbey lived in Tucson during the boom years in the sixties and seventies and lamented its growth in a polemic published in the New York Times in 1976. After listing all the reasons why "Nobody in his right mind would want to live here," he says of the burgeoning population: "But all the same they keep coming. The growth figures would shock even a banker. Tucson has grown from a population of 45,000 (counting dogs) in 1950 to an estimated 332,000 today." At the time, nearly three-quarters of Arizona's population was concentrated in Tucson and Phoenix. "If present patterns continue," he wrote in 1976, "the two will become one in the near future. If the water holds out." The headline on the article, "The BLOB Comes to Arizona," played off the title of an old horror movie about an amoeba that escapes from a laboratory and keeps growing until it threatens to swallow the planet. The metaphor was not lost on readers in Tucson.



Affectionately referred to as the "bunny map", this 1986 map advocated for protection of critical and sensitive wildlife habitats as part of regional planning. Bill Shaw, University of Arizona School of Renewable Resources.

## Awareness and Frustration

In a sense, the frustrations of all factions testified to the failure of attempts during the previous three decades to develop a cohesive vision of how the Tucson region should plan for its future. Numerous studies had been completed but none was implemented across all jurisdictions. As County Administrator Chuck Huckelberry wrote in a memorandum to the Board of Supervisors on January 31, 2000, "While the early initiatives, and almost each effort since the 1920s, have demonstrated awareness of the natural and economic resource issues at stake, few plans have been implemented, and few implemented plans have been effective tools for guiding population growth in a rational manner that protects the resource base."

Some of the battles of the late 1960s and early 1970s emerged as defining moments, precipitating events that would have a lasting impact both on the area's physical appearance and on the trajectory that future policy-making would follow. Some of the conflicts were triggered by transportation proposals and others by new housing and commercial developments. The flash point in all cases was a concern over the effects of urban sprawl. The population of metropolitan Tucson had grown at an alarming rate, nearly doubling every ten years between 1940 and 1970, igniting fears among those already here that without controls, Tucson would inevitably become like one of the congested cities they had left behind. The 1940 U.S. census listed the Tucson metropolitan area with a population of 58,000. By 1970, it was up to 323,000, a trend that would continue through the year 2000, with a population of 486,600, making it the 30th largest city in the country, at the time.

The growth outpaced local government's ability, or in some cases the desire, to finance or construct needed infrastructure. Some who advocated controlled growth subscribed to the speculative belief that, "If you don't build it, they will not come." The population of the metropolitan area burgeoned nonetheless.

Traffic congestion was among the more obvious problems associated with such rapid growth, and attempts to deal with it were another significant flashpoint for controversy. One of the most volatile transportation plans emerged in 1968, a time when local planners were studying ways to lessen congestion by redistributing vehicular traffic along three expressways that would form a loop around the periphery of the metropolitan area.

The most controversial of these proposals involved the Catalina Express way, a northward extension of Campbell Avenue from the vicinity of the University of Arizona through the Catalina Foothills to Oracle Road, ultimately linking to the Florence Highway at Oracle Junction. The idea triggered opposition from a broad coalition of residents. When the County Planning and Zoning Department held a hearing on the issue in the now defunct Pioneer Hotel in 1970, roughly 1,000 residents showed up, but only three spoke in favor of it. The plan was consequently discarded. In retrospect, the organizational effectiveness of this grassroots effort may be seen as the birth of the controlled growth movement in Tucson.

The coalition that had defeated the Catalina Express way expanded and re-emerged in 1972 as the prime mover in a larger controversy over a parcel of foothills land known at the time as Rancho Romero. Developer John Ratliff proposed the creation of a satellite community on 4,300 acres along Canada del Oro Wash, east of Oracle Road in the foothills of the Santa Catalina Mountains. Plans called for that community to reach a population of 17,000.

The proposal set off an explosive debate over the effects of urban sprawl. Just as residents and political leaders had coalesced in the 1960s to protect the lush desert of the Tucson Mountains when the federal government threatened to re-open the area to mining, so they did again in the 1970s over the rezoning application that would have permitted a satellite community at Rancho Romero. The rezoning request was denied by the Board of Supervisors. The controversy took a series of complicated land swaps and roughly 10 years to play out, but the end result was that instead of being used for a new suburb, the land on the east side of Oracle Road was dedicated in 1983 as Catalina State Park and the land west of the park eventually became the modern suburb of Rancho Vistoso. Both conflicts reflected a fundamental reality, namely that sense of place is an important aspect of Pima County's persona. By and large, residents preferred a city that was integrated with the natural landscape, and not divorced from it. They expressed this preference in the candidates they elected to public office,

## State's first 'great urban park' opens

By Steve Williams  
The Arizona Daily Star

MAY 26 1983

Gov. Bruce Babbitt praised the long-awaited Catalina State Park as Arizona's first "great urban park" during dedication ceremonies yesterday.

"This is the first time the State Parks Board has established a large open space right in the path of urban development," the governor told about 100 people who attended the ceremonies in the park north of Tucson.

The effort to establish the 5,500-acre preserve on the western edge of the Santa Catalina Mountains was born during a fight to block a housing development on the land a decade ago.

Duane Miller, chairman of the Parks Board, said the number of state parks has grown from five to 18 since he joined the board in 1965. "As far as making a park a reality goes, Catalina was probably the most difficult one."

\* An improved education system is only hole in state's economic-growth plan, Babbitt says. Page 6B.

A group of citizens called the Catalina Park Coalition formed 10 years ago yesterday to block a proposed housing development on the land and seek establishment of the park.

A 1973 petition drive against the development drew 3,700 signatures, and the Pima County Board of Supervisors denied rezoning for the development. Voters approved a \$4.5 million bond issue in 1974 to enable the county to buy the land and trade it with the state so the park could be established.

The land exchange was completed in February 1981, and Babbitt said, "Catalina State Park is, for all practical purposes, a reality." After more than two years of delays because of state Parks Department budget cuts, the park did become a reality yesterday.

The new state park includes 55 camping spaces, 88 picnic tables and grills, water and sewage systems and more than four miles of paved roads. The park, which is east of the Tucson-Florence Highway 14 miles north of Tucson, also provides public access to the Romero Canyon trail in the adjoining Coronado National Forest.

Steve Plevel, Catalina district ranger for the Coronado National Forest, said after the ceremonies that the Southern Arizona Hiking Club is building a two-mile trail under Forest Service supervision to connect the Sutherland Ridge trail with the Romero Canyon trail.

Admission to the park for Arizona residents is \$2 per vehicle for day use and \$3 a night for camping. Fees for out-of-state residents are \$3 for day use and \$4 a night for camping. Annual day-use permits are \$20 for state residents and \$30 for non-residents.

Backpackers may leave their cars at the Romero Canyon trailhead for \$1 a night.

in the bond elections that provided funds for purchasing important natural areas and in the community activism that surfaced over issues like the Tucson Mountains mining and the Rancho Romero development.

## Rancho Romero: The Aftermath

Perhaps the most significant effect of the Rancho Romero conflict was the interest and support garnered among the electorate and the community of using public money to purchase private land for conservation. In 1974, as a direct result of the Rancho Romero controversy, the County held its first bond election in which voters authorized \$4.5 million to purchase land for conservation, \$3.8 million of which was used to buy 2,071 acres of Rancho Romero and 583 acres of the Rail N Ranch. In addition, approximately \$1 million in bonds went for the expansion of Tucson Mountain Park. The Rancho Romero land purchased by the County eventually was deeded to the State for creation of Catalina State Park, in exchange for which the State gave the County land of equal value contiguous to the Pima County Fairgrounds on Rita Road. As noted earlier, Ratliff was then permitted to develop the satellite community that today is Rancho Vistoso, west of Oracle Road.

The 1974 bond election was a landmark in Pima County history. Its success was a clear indication that the appeal of the conservation ethic had broadened across

socio-economic boundaries. It laid the foundation for bond elections in 1986, 1997 and 2004 that generated over \$200 million for the development and expansion of parks, the purchase of several large ranches, the protection of riparian areas and the creation of a variety of flood control and watershed enhancement projects, all of which contributed to the area inventory of undeveloped lands surrounding the metropolitan Tucson region. In addition, the use of bonds redirected growth.

## Plan or Be Planned: Regional Planning in the Tucson Metropolitan Area

Like most communities across the country, Pima County had a variety of planning documents prior to the 1990s that defined policies governing natural resources, residential and commercial development and historical and cultural features. However, true regional planning has been elusive.

Regional planning is a community's attempt to create a habitable environment based on local values, the carrying capacity of natural resources and the economic realities associated with infrastructure expansion. The term suggests that a planned future is preferable to haphazard and unregulated growth, especially in a region where water is in limited supply. Regional planning as a concept also embodies considerable optimism since it implies that some



Past landuse planning and visioning documents.

level of consensus is achievable and that implementation of a rational plan for efficient and effective growth is possible. However, despite public interest in growth issues and various attempts at regional planning, such optimism was only minimally rewarded until the development of Pima County's Sonoran Desert Conservation Plan (SDCP) at the turn of the 21st century. And even though that plan had a regional outlook and widespread citizen participation, it was not in the strict sense of the term a regional plan because it lacked the full participation of all jurisdictions in Pima County. It was only recently that the City of Tucson and Town of Oro Valley adopted a major portion of the Plan, the County's Conservation Lands System, but only for annexations. Growth management is generally defined as a coordinated set of regulations and policies that guide the location, intensity, design, and timing of development. Unlike traditional land use regulations, such as zoning and subdivision review, growth management often begins with the adoption of policies that may define urban boundaries or infrastructure service areas. Growth management emphasizes the element of timing so that locations for expansion are known and phased infrastructure plans for roads, sewer lines and other utilities, are in place. It defines an urban form, anticipating growth rather than reacting to it.

## First Planning Efforts

Land use planning for the Tucson area can be traced back to August 1931 when the Pima County Board of Supervisors and the Tucson City Council hired Ernest P. Goodrich of New York City to assess the regional planning needs of the Tucson metropolitan area, which was already bristling with activity. Goodrich's 1932 report cited among other liabilities "The lack of control of the urban development... the spreading of the housing development over unnecessarily large areas and the lack of control outside" the Tucson city limits. Subsequently, fifteen local citizens united in the late 1930s and created Tucson Regional Plan Inc. to promote regional planning and to encourage the development of a comprehensive, long-range plan. In early 1940, the group contracted with the prominent planning consultant, Ladislav Segoe, of Cincinnati, to examine existing conditions in the Tucson area and create a regional plan. At the time, Segoe was providing planning and zoning assistance to some 50 urban areas across the nation. During the era when the Great Depression was reshaping the nation's social and economic landscape, Segoe was already widely respected as chairman of the committee that prepared the first federal document clearly describing the historic transformation of the United States from a predominantly rural to an urban society.

## The Landmark Segoe Plan

Segoe's Regional Plan was transformed into a Comprehensive Plan for the Tucson region and completed in 1943. Two years later, the Tucson City Council adopted three of its sections (Plan for Thoroughfares, Plan for Railroad facilities and Grade Separation and Plan for Public and Semipublic Buildings). Three other sections were never adopted, though they were revisited in the early 1950s.

Segoe's analysis of the Tucson region and the resulting recommendations were perceptive, far-reaching, and exhaustive. However, the Arizona Legislature at that time had not yet given counties any planning authority. In 1949 a state enabling act permitted counties to plan and zone the same as cities, allowing for creation of a county planning and zoning commission. In 1952, the first county zoning code was adopted, and area or zoning plans such as the Rincon and Catalina Foothills plans were developed in the late 1950's, important attempts to shape unincorporated areas but still not a regional plan.

Segoe's plan, conceived and sponsored by a private organization, provided the impetus that led to public planning agencies in Tucson.

In 1975, thirty-five years after he began work on his regional plan, Segoe returned to Tucson, and in an interview with the Tucson Daily Citizen noted, "The idea was to prevent scattering and sprawl over the urban area." Ironically, six decades after the plan was completed, "scattering and sprawl" were widespread and remained a major concern of local planners and many residents.

## From Segoe to GLUP

In 1950, subsequent to the Segoe Plan, the Tucson Urban Land Use Study was developed which provided the foundation for the General Land Use Plan (GLUP). The GLUP was adopted in 1960, and projected a population of 1.4 million by the year 2000 including significant development of Avra Valley. Large subdivisions, located in today's Rincon Valley and Oro Valley areas, were already beginning to define the geographic extent of the urban area. Together with an accumulation of area, community, neighborhood, and zoning plans, the GLUP served as the long range land use plan for unincorporated Pima County for many years.

During the 1970's, a major effort to update and expand on the GLUP was made jointly by the City of Tucson, Pima County, South Tucson and the Pima Association of Governments (PAG). The draft 1975 Comprehensive Plan took three years to prepare. The process provided an opportunity for community dialogue on issues germane to comprehensive planning. However, the draft document, which was never finalized, proposed policies that ignited

extraordinary controversy. Some factions criticized it as “social engineering.” Business interests saw it as far too restrictive. Environmentalists saw it as a continuation of pro-growth policies. Ultimately, the plan failed to get adopted because it represented too great a change from what different groups perceived the status quo to be. The City of Tucson eventually adopted a subset of the full document as its general plan, but its terms were applicable only within city limits and hence did not constitute a regional plan.

The failure of the 1975 plan prompted some former members of Tucson Regional Plan Inc. to create a new group, Tucson Tomorrow. That group released a broad visioning document in 1982 calling for a new City-County regional land use plan and recommending that new development be planned on the basis of available infrastructure.

## The Search for Goals Continues

In 1983, Tucson Tomorrow spawned another private, non-profit group called “Goals for Tucson,” which identified local goals and priorities. The following year, a panel comprised of members of the Urban Land Institute and the American Institute of Architects produced an urban design report that represented an independent, outside perspective on metropolitan Tucson, its environment and urban setting. The report’s recommendations included an increased importance attributed to city and county planning and zoning, encouragement of “mixed-use activity nodes” to bring residential uses closer to employment centers and further protection of dry washes, rivers, and floodplains, concepts that eventually became codified in County regulations. Echoing the Segoe report of 1943, the 1983 report once more stressed the need for a comprehensive, regional perspective to guide land use. Another report that identifies urban form policies and actions was produced by the Urban Design Commission and adopted in principle by the Board of Supervisors.

In 1985, the Board of Supervisors appointed an Open Space Committee to inventory and classify open space and recommend methods of preservation, including informing the Comprehensive Plan. Draft findings emphasized a network of dedicated and linked open space, urban open space corridors, and the protection of public preserves. That same year, the Board of Supervisors formed a comprehensive plan working committee to achieve a regional perspective on goals, objectives and policies. The Regional Vision of Eastern Pima County and several individual vision statements were early results of the committee’s efforts but it was, once again, the work of one jurisdiction. Pima County’s vision statement is defined by the Conceptual Land Use Element (CLUE) which was adopted by the Board of Supervisors in 1989. The

CLUE document supplemented the GLUP and provided the goals for the development of the Comprehensive Plan that was adopted in 1992 by the Board of Supervisors. It was not, strictly speaking, a regional planning effort but a document that provided the framework for development in unincorporated areas of one jurisdiction, namely Pima County.

## Defining Good Growth

The concepts of regional planning and growth management have evolved over time. The first wave of growth management programs addressed the concern of how much growth would be allowed. The second wave shifted to where and when growth should be permitted, and who would pay for it. The third and current trend is to emphasize the type of growth, with an increasing emphasis on quality development and livable neighborhoods and communities.

It is noteworthy that on June 15, 2009, a technical paper prepared as part of a City/County Water and Wastewater Study included recommendations that were not significantly different from those contained in Segoe’s Comprehensive Plan from the 1940s or the Urban Land Institute Report of 1983.

The 2009 study stated that, “Encouraging good design is the beginning of good urban form, and so suggested options that should be considered during future growth and development discussions organized by the following [partial list of] design issues: designate target growth areas, encourage residential uses within the urban core, concentrate development in regional and town centers, plus transit corridors and station areas.

Those findings are essentially a condensation of the series of both sweeping and highly detailed reports issued as part of Segoe’s Comprehensive Plan, developed approximately seventy years ago. One of its recommendations, however, was remarkably different from anything suggested in the Segoe report. The Water/Wastewater study suggested that, ultimately, the only way to make sure that lands are not developed is for the government to purchase them. In effect, the study suggests that purchasing lands for conservation represents a responsible form of regional planning.

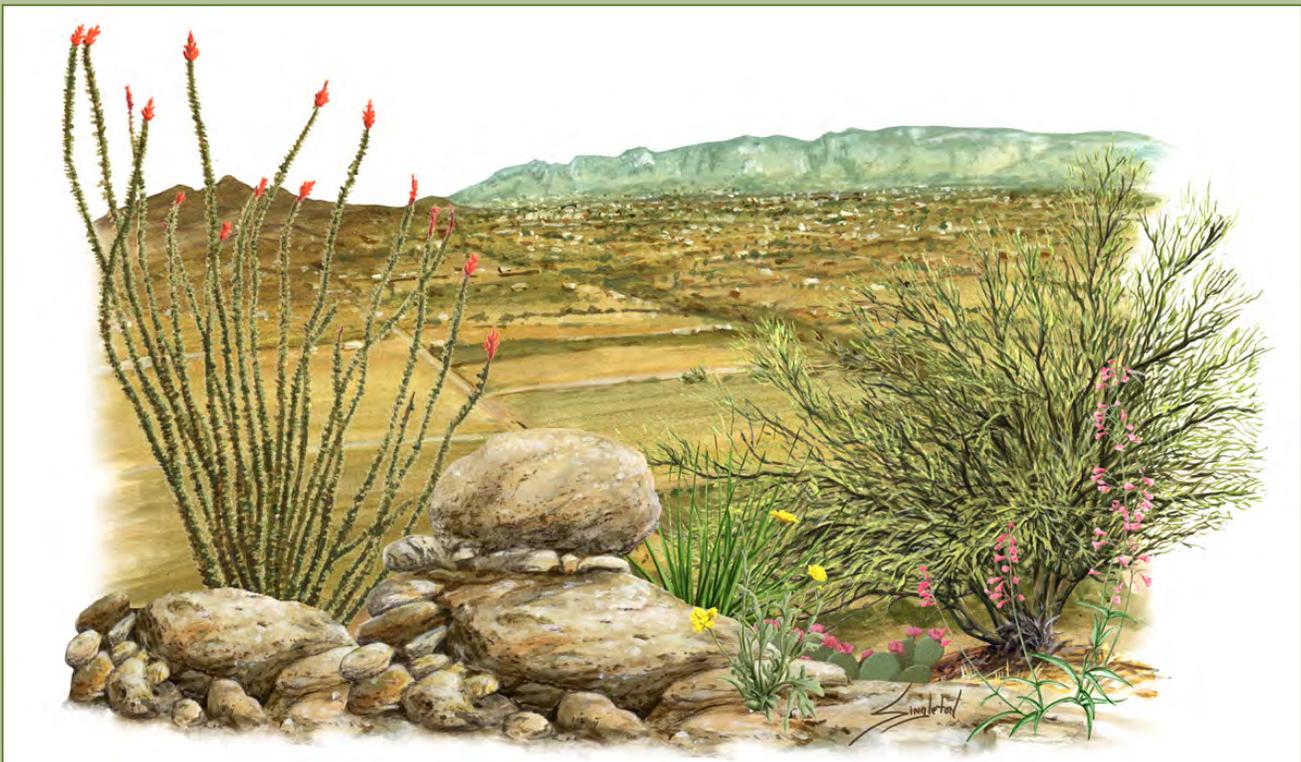
Pima County’s Conceptual Land Use Element of 1989 represented the beginning of what evolved into the Comprehensive Plan adopted by the Board of Supervisors in 1992. A Comprehensive Plan, however, is a blueprint for one entity, a town, city or county and is not regional in its scope or implementation. Indeed, the only successful regional planning effort in recent years has been the creation of the Regional Transportation Authority (RTA), a 20 year plan for transportation improvements financed by a 1/2

cent sales tax. After a series of failed attempts to create a regional transportation plan, voters approved the RTA and sales tax in 2006. After its approval, there was a sense of optimism in regard to the future of regional planning and partnerships.

## Current Efforts

Today, there is another effort underway - Imagine Greater Tucson. The difference between this effort and other past efforts is that this is a community driven effort. This effort grew out of the Tucson Regional Town Hall held in May 2007, which saw the participation of over 150 community leaders. Discussions centered on the major challenges facing our region and possible opportunities that this community can develop. The Town Hall was then followed by the Urban Land Institute's Crafting Tomorrow's Built Environment forum held in December 2008, in which the major topic was the need for local jurisdictions to

think regionally regarding water and growth. This event was attended by more than 350 community participants, including leaders from the local jurisdictions. Imagine Greater Tucson (IGT) began to organize in early 2009 and took many of the past efforts' key information and methods to develop a community-driven effort. Organizers examined a myriad of regional visioning exercises in the United States and Canada to examine what worked and what didn't and why. With a broad array of support, and a mixture of public, private and non-profit funding, IGT will incorporate a 3-phased approach, beginning with identifying the public's shared values, followed by developing a vision for our region's future based on our community's shared values, and moving into the implementation phase and what is needed to achieve true regional planning. A major difference in this effort is that the implementation phase is being thought through from the beginning. At this writing, the project is in the first of the three planned phases. Time will tell if this approach will prove effective.



# The Economic Benefits of Conservation

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**“Outdoor activities draw a significant portion of our tourists to Arizona. In preserving open space, this will draw more tourists and dollars to our community.”**

**--- Valerie Osborne, owner of Ranch House Inn at El Rancho Merlita. October 16, 2009 Pima County Bond Advisory Committee Meeting.**

## Conservation is

good business. Not only is conservation good for the survival of our native wildlife, but it is also vital to the financial health of our community. As Pima County continues to expand our mountain parks and other important natural areas, more residents and visitors are out enjoying these great places. A number of new trailheads have been constructed to facilitate access to these parks, as well as miles of new trails. In this section we discuss findings by state agencies on the economic benefits associated with nature-based outdoor recreation; information on impacts to the tax base, tax payers, and flood insurance premiums; and overall how important conservation is for economic development.

Left: The JW Marriott Starr Pass Resort up against the eastern boundary of Tucson Mountain Park. The resort is one of the County's top 10 major property tax payers. In addition to annual property tax revenues exceeding \$2 million, the resort and the County have a special revenue sharing agreement that generates upwards of \$300,000 a year for enhancement and expansion of Tucson Mountain Park. The resort also donated land to expand Tucson Mountain Park. Photo by JW Marriott Starr Pass.



## The Economic Benefits of Conservation

### Key Draw for Tourists

According to the Arizona Office of Tourism, the travel industry in Arizona continues to outpace the gross domestic product of other export-based industries such as mining and microelectronics, and aerospace.<sup>1</sup> As one of our most important industries, tourism relies heavily on the health of our natural environment. For the 2008 travel year, this same office estimated that the primary activity for a majority of travelers from Arizona and other states included nature-based outdoor activities, including visiting a national or state park, hiking or backpacking, visiting a beach or waterfront, camping, or fishing.<sup>2</sup> In 2001, the Arizona Game and Fish Department looked at the economic impact of wildlife viewing in each of the Arizona counties and estimated that direct spending associated with wildlife viewing in Pima County amounted to \$173.5 million, supported \$90.7 million in salaries and wages associated with 3,196 jobs, and generated about \$9.9 million in state sales and fuel tax revenue.<sup>3</sup> In 2007, Arizona State Parks estimated the annual economic impact of Catalina State Park to be \$19.6 million. This included direct spending of \$12.9 million from visitors to the park.<sup>4</sup>



Mountain biking enthusiasts travel to Tucson because of diverse and challenging trails within the surrounding mountain ranges. It was estimated in 2007 that 50,000 mountain bikers use the Tucson Mountain Park trails annually.



It is estimated that astronomy generates over \$250 million in economic benefits annually to the State of Arizona, according to a study by the University of Arizona's Eller College of Management. This is equivalent to the economic impact of having the Super Bowl in Arizona every other year. Photo courtesy of JW Marriott at Starr Pass Resort.

### Impact to the Tax Rolls

We continue to hear misstatements regarding the impact of the County purchasing private land for conservation and taking it off the tax rolls. Even a cursory analysis shows that the properties acquired by the County had a net assessed value so low that removing those properties from the tax rolls had a barely detectable impact on the total revenue generated by the primary and secondary property taxes. Furthermore, as many builders and businesses have found, consumers are willing to pay a premium for homes that are buffered by or are in close proximity to public preserves. The higher values associated with such properties, and the proportionate taxes generated, compensates for the revenue lost by removing a ranch or other important natural areas from the County's tax rolls.

### Cost to Average Homeowner Less than \$1.35 per Month

Prior to the 2004 bond election, the County's Finance Department provided an estimate of the cost to the average homeowner and property tax payer (defined as secondary property taxes on the average value home at the time) if all of the bond questions were approved by voters and all of the bonds were sold. If no new bonds were authorized by the voters and sold, then property owners would have only been taxed to retire the existing bond debt from the 1997 election. If the 2004 bonds were approved and sold, then secondary property tax rates (and taxes paid) would not decline as rapidly. The total amount of bond authorization for the five ballot questions covering land conservation, public health facilities, parks and recreation, historic preservation, libraries, court buildings and communication facilities, summed to \$582,250,000. The average monthly cost to the average homeowner was estimated at \$4.51. Ballot Question 1 was the land conservation question, and totaled \$174.3 million. Therefore, the cost to the average homeowner for just the portion of the bonds authorized for land conservation was estimated at \$1.35 a month – less than a cup of coffee.

<sup>1</sup> Arizona Travel Impacts 1998-2009, Prepared for the Arizona Office of Tourism

<sup>2</sup> 2008 Arizona Visitor Profile, Arizona Office of Tourism

<sup>3</sup> Economic Impact Analysis of Nonconsumptive Wildlife-Related Recreation in Arizona, May 2003, for Arizona Game and Fish Department.

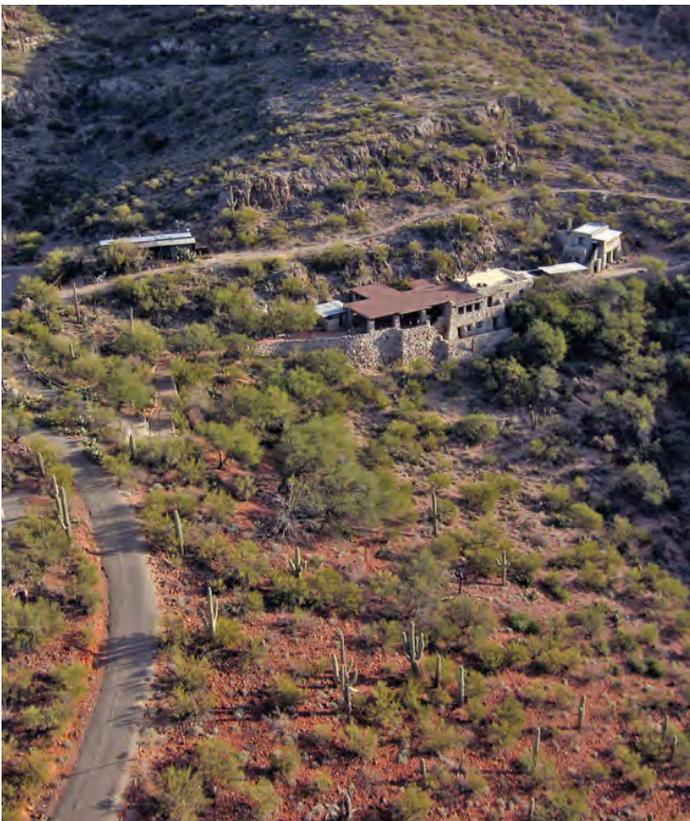
<sup>4</sup> Arizona's 2008 Statewide Comprehensive Outdoor Recreation Plan, Arizona State Parks

More than two-thirds of Arizonans interviewed agreed or strongly agreed with the statement “If I bought a house in my community, having open space nearby would be a top priority”.

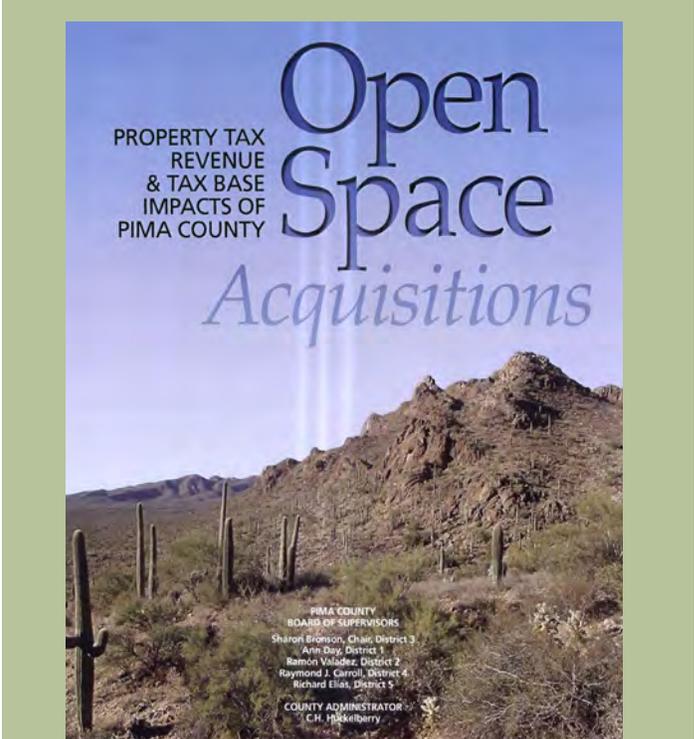
---Arizona State Parks, Arizona 2008 Statewide Comprehensive Outdoor Recreation Plan.



1.4 million people visit Tucson Mountain Park annually, according to 2007 estimates. This excludes an additional 1.1 million that drive through the park without stopping. About 155,000 of these visitors use the parks trails annually. Photo by ALWT.



In 2007, it was estimated that over 100,000 people visited Colossal Cave Mountain Park. Photo by Chuck Park.



### Reduction in Tax Base Miniscule

Properties purchased by the County become tax-exempt. The 2004 Open Space Acquisitions report shown above looked at properties purchased with 1986 and 1997 bond funds and compared their property values (primary and secondary net assessed values) before purchase to the total sum of property values across the County. These values were also compared to the total sum of property values in each school district. The study also compared property tax revenues before and after purchase for the County as a whole, as well as individual school districts. In the far majority of cases, the reduction in value or tax revenue amounted to thousandths or hundredths of a percent per year. Even the largest impact, the purchase of Canoa Ranch, resulted in less than a 1 percent decrease in the tax base and tax revenue for Continental and Sahuarita School Districts.

The impact of purchasing all of the properties identified for the 2004 bond election under the category Private Habitat Protection Priorities was also projected, and similarly, even the greatest impact was estimated to be less than a 1 percent decrease in the tax base and tax revenue. We intend to update this study in the near future to include properties purchased with 2004 bond funds.

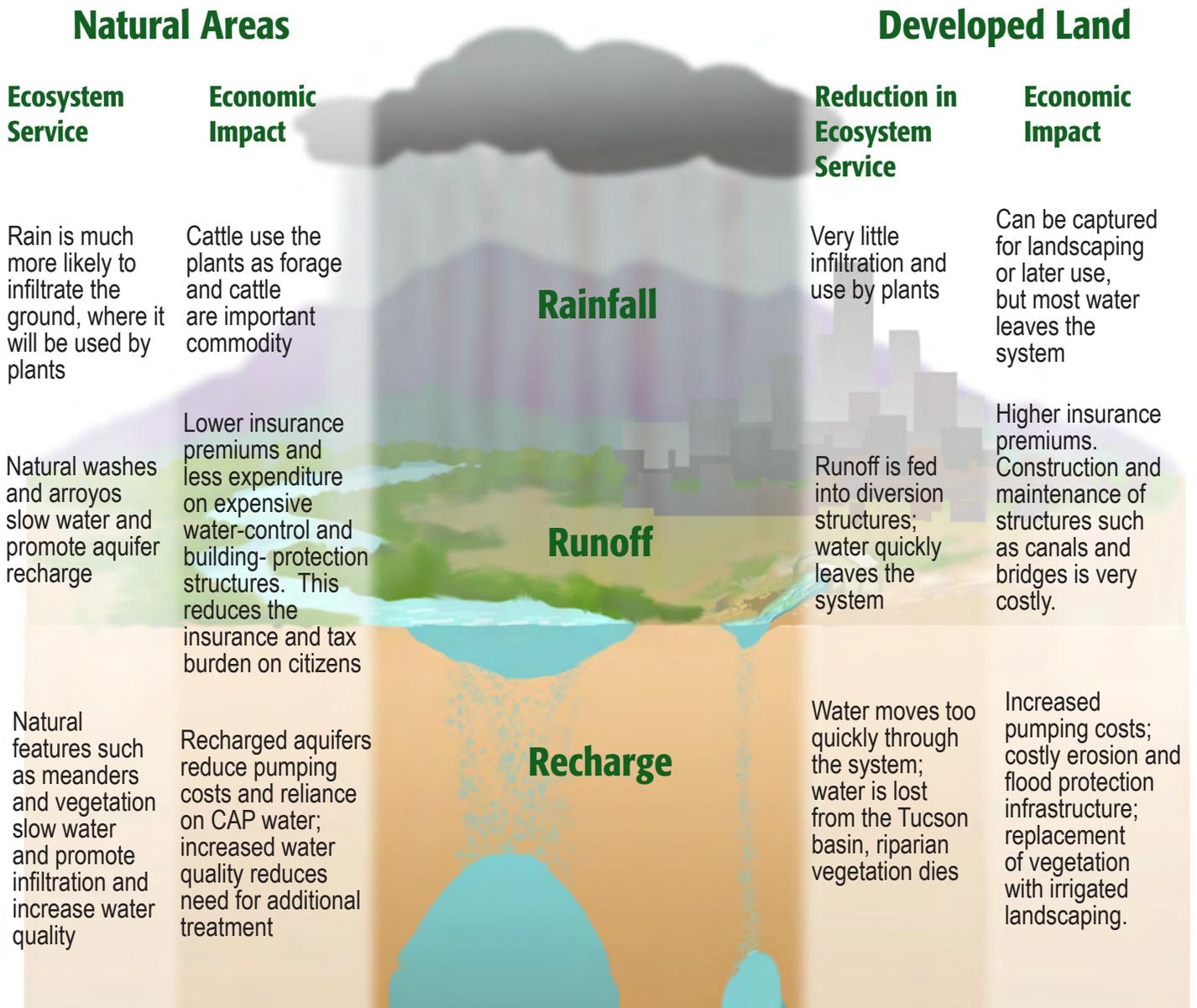
# The Economic Benefits of Conservation

## Economic Benefits of Land Conservation

At its core, the Sonoran Desert Conservation Plan (SDCP) is about seeking an appropriate balance between vital economic development and maintaining and enhancing key elements of the natural and cultural environment. Often missing from the classic growth versus conservation debate is the discussion of the economic benefits of conserving natural and cultural resources. Increasingly, economists are calculating the monetary value of natural resources beyond the traditional view of extracting value from the land for goods such as metals, timber, and crops. A more accurate accounting of economic benefits highlights the importance of natural processes, aesthetics, and non-consumptive resources use on communities' fiscal health. These types of benefits are referred to as ecosystem services—products and services produced by the environment.

One of our most vital resources—water—can be used to illustrate the monetary benefits of conserving important natural areas. Throughout this report, the value of natural waters has been highlighted for its role in maintaining populations of aquatic and riparian species and ecosystems, but what about the financial aspect of water and land protection? It turns out that preserving important natural areas and allowing natural processes to continue in a relatively undisturbed state is also wise from a financial perspective.

Let's follow the water from natural open space to aquifer to understand a few of the many economic benefits of the County's open space:



**“Open space is really important as one tool to decrease or prevent sprawl... sprawl fosters the use of more automobiles...the more automobile use we have, the more air pollution we have...dirty air hurts people’s health...of course there are economic consequences to this. Not only to people missing work and school, but also out of pocket expenses for medical care...and to employers for lost work.”**

**--- Dr. Ivy Schwartz, M.D. October 16, 2009  
Pima County Bond Advisory Committee Meeting**

### **25% Reduction in Flood Insurance Premiums**

It is worth highlighting the benefits of open space as it relates to flood insurance premiums because this represents a significant benefit to the citizens of Pima County, a benefit that would not be possible with the protection of key properties in Pima County. The Community Rating System (CRS) is a Federal Emergency Management Agency (FEMA) program that provides discounts on flood insurance premiums in communities that establish floodplain management programs that go beyond the minimums set through the National Flood Insurance Program. Credits are given for preserving land as naturally as possible, for low density zoning and for acquiring and removing buildings from floodplains and maintaining them as natural areas. Residents of Pima County receive a 25 percent reduction in their flood insurance premiums based on the many elements for which Pima County is credited, including our purchase of floodprone lands. Our community’s rating falls within the top five percent of communities nationwide that are in the National Flood Insurance Program.



*A recent real estate listing for undeveloped land started with a sentence highlighting the spectacular setting next to Pima County’s Sweetwater Preserve. Homebuyers are willing to pay premiums to live adjacent to undeveloped natural areas. These premiums translate into additional property tax value and increased property tax revenues for schools and other property taxing entities. Photo by Nicole Fyffe.*

# Measuring Our Progress

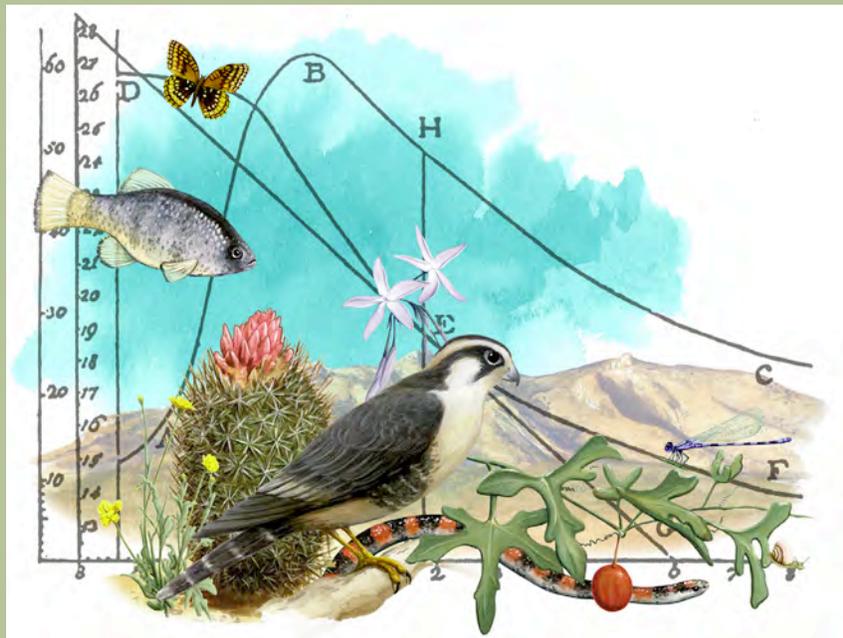
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## An Overview

of the Sonoran Desert Conservation Plan (SDCP) and its overarching vision of conserving the heritage and natural resources of the west, as described earlier in this report, includes goals for moving us closer to achieving that vision, as well as tools to get us there. One of the most significant tools used by the County so far is the purchase of land. As we are close to completing the first major installment of land purchases under the SDCP, it is important that we assess how effective our land conservation efforts have been at meeting the goals of the Plan, and use that knowledge to guide future land conservation efforts. In this section, we assess the progress made under each of the elements of the SDCP and use this assessment to provide recommendations for future actions.

Left: Pima County Ranch Manager John L. Sullivan on Rancho Seco. Photo by Brian Powell.





# Significant Progress Made in Protecting Plants, Animals and Streams

## Critical Habitat, Biological Corridors, and Riparian Elements

The biological goal of the SDCP is to ensure the long-term survival of the full spectrum of plants and animals that are indigenous to Pima County by maintaining or improving the habitat conditions and ecosystem functions necessary for their survival. In August 2009, Julia Fonseca, Pima County Office of Conservation Science, and Cory Jones, Pima County Geographic Information Services, undertook an analysis of how effectively County owned and managed lands have contributed to conservation goals for protecting land for particular species (i.e. Priority Conservation Areas for Lesser long-nosed bat) and particular landscape features (i.e. springs and grasslands). The full title of the report is “Progress Report: Measuring Effectiveness of Open Space Land Acquisitions in Pima County, Arizona in Relation to the Sonoran Desert Conservation Plan”.

Conservation goals developed by the SDCP planning process through the Science Technical Advisory Team were compared to the reserve of lands owned and managed by the County for conservation, in addition to conservation lands owned and managed by partners such as the Coronado National Forest.

The study found that considerable progress has been made in meeting these biological goals. The amount of grasslands conserved has significantly increased. Similarly, more portions of the area’s streams, bat caves, and limestone outcrops have been conserved. Future acquisitions or restoration projects should include ironwood forests, saltbush, and talus slopes.

At an individual species level, County acquisitions have increased the amount of protected habitat for nearly all of the targeted species. For the yellow-billed cuckoo, ground snake, Longfin dace, Mexican gartersnake, and Needlespined cactus, more natural areas for these species are owned or managed by Pima County than by any of the other land conservation partners combined. However, conservation of additional natural areas, in particular for ground snake, Mexican gartersnake, Tumamoc Globeberry, Tucson shovel-nosed snake, and the endangered Pima pineapple cactus are needed.

Each category of the Maeveen Marie Behan Conservation Lands System (CLS) has a conservation goal. For example, the conservation goal for the Multiple Use Management Areas is to conserve two thirds of the areas identified as Multiple Use Management Areas.

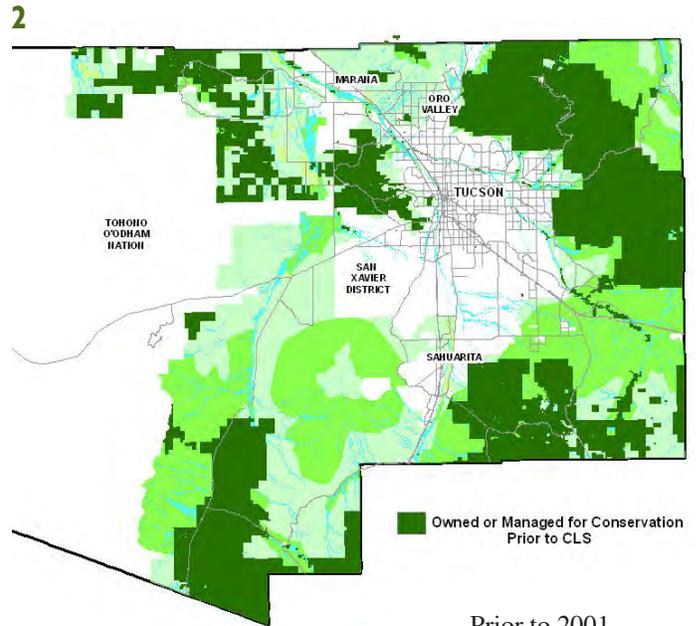
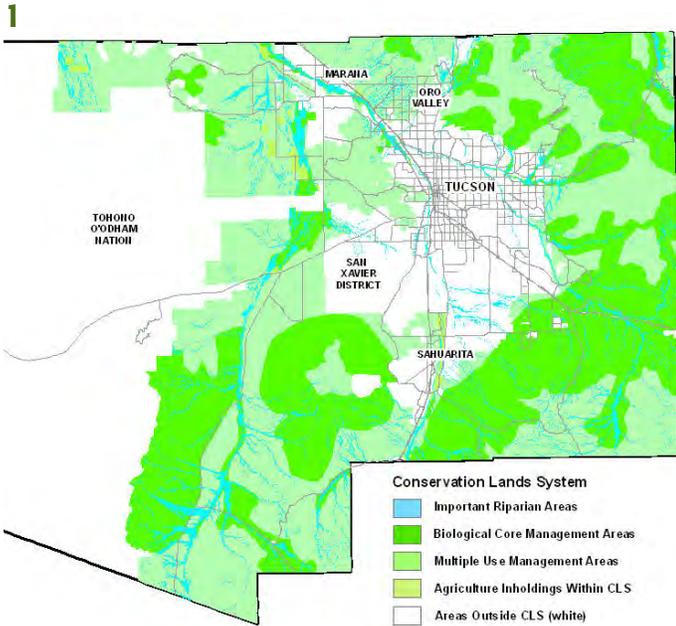
“[The] Flood Control District’s Floodprone Land Acquisition Program (FLAP) has been particularly important for the ground snake and burrowing owl, two species with low levels of regional habitat protection. FLAP acquisitions are based primarily on social and hydrological criteria, not biological criteria. FLAP acquisitions tend to be smaller in size and higher in cost [than other conservation acquisitions], sometimes including flood-damaged housing that is demolished after acquisition. Collectively this program has been protecting and restoring habitat that would not be acquired under the open space program.” (Fonseca, Jones. Progress Report: Measuring Effectiveness of Open Space Land Acquisitions in Pima County, Arizona in Relation to the Sonoran Desert Conservation Plan. P.12)

In terms of the Conservation Lands System goals, we have met the land conservation goal for Multiple Use Management Areas. Conservation of additional land is needed in the areas of Biological Core, Special Species Management, and Important Riparian Areas.

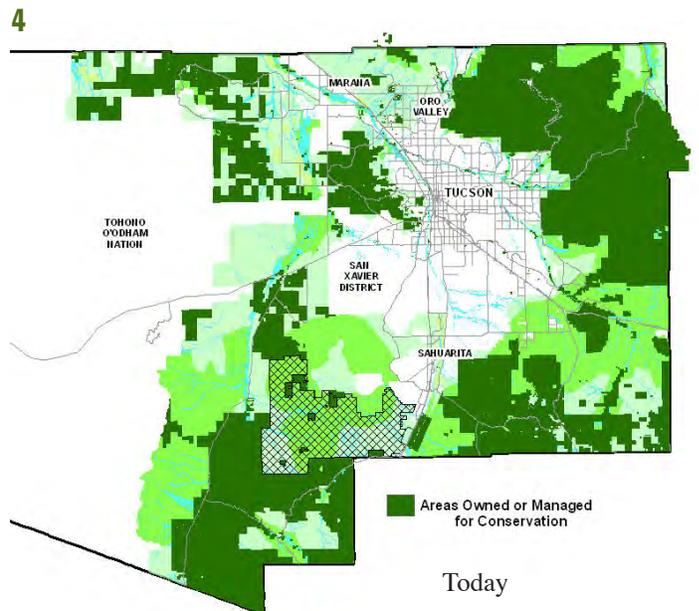
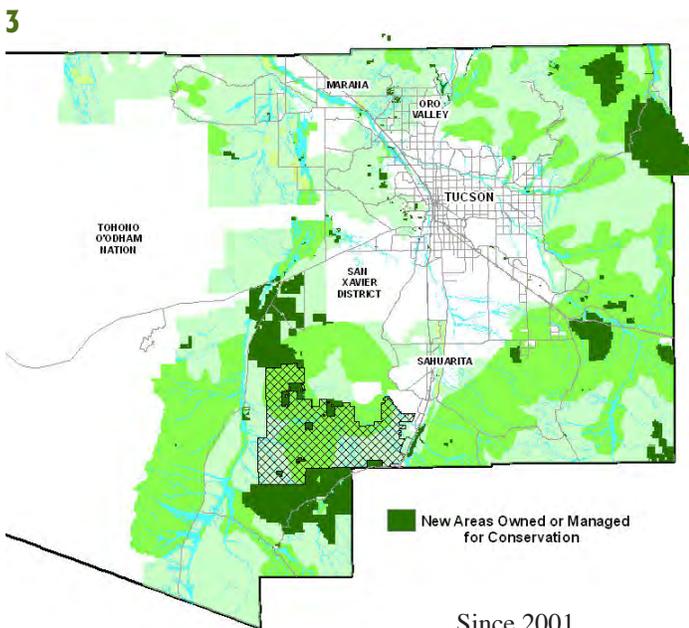


Edgar Canyon on the County’s Six Bar Ranch. Photo by Locana de Souza. The goal is to conserve 100 percent of streams in Pima County. To date 77 percent of streams are found on lands under conservation. Pima County owns or manages 16 percent, or 800 acres, while the remaining 61 percent, or 3,000 acres, are conserved by partners such as the Coronado National Forest.

# Following the blueprint: Conserving areas within the Conservation Lands System



Prior to 2001



The goal is to conserve the blue and green areas within the Conservation Lands System (map 1). Over time, maps 2, 3, and 4 show which lands are owned or managed for conservation (shown in dark green). The cross hatched areas in maps 3 & 4 show lands the County purchased options on for future acquisition.

## Measuring Our Progress

### Recommendations for future purchases:

- Pursue purchase of Habitat Protection Priority properties along the Brawley Wash;
- Prioritize acquisition of State Trust land in low-elevation valley floors and gently sloping piedmonts in the Avra, Altar and Tortolita piedmonts;
- Continue to conserve low-elevation Important Riparian Areas and mesic canyons at mountain front locations;
- Target Important Riparian Areas, Special Species Management Areas, and Biological Core Management Areas over Multiple Use areas within the CLS;
- Continue to explore and support measures that would achieve conservation of State Trust land;
- Continue the Floodprone Land Acquisition Program, as well as the Conservation Acquisition Program; and
- Acquire lands that protect critical movement corridors for wildlife between Habitat Protection Priority properties.

- Conserving tax dollars since working ranches do not require urban services
- Facilitating continued development in more suitable areas of the County by serving as mitigation for such development

The County has purchased 16 ranches or portions of ranches. With the exception of Canoa Ranch, all of these are working ranches. Out of the 230,000 acres in total that the County owns and manages for conservation, the far majority are part of working ranches. The majority of the working ranches that the County owns are managed under detailed ranch management agreements with ranchers for terms typically lasting ten-years. The ranch operators continue their operations while serving as stewards of the land for Pima County.

A priority management concern for these working ranches is grazing use, forage availability and effects of the grazing operation. All of the County's ranches already have very low stocking rates, and continual adjustments on grazing levels and practices are the norm with the current drought conditions. Stocking rates and grazing plans are developed annually with our ranch operators and lease holders to balance use with conservation needs. Eventually, each ranch will have an extensive cooperative resource management plan developed for it that will be built with involvement of stakeholders.

Ranch management currently involves a wide array of partners. Close cooperation with the state and federal land management agencies occurs on a weekly basis. These ranches are being integrated into landscape level planning efforts to re-introduce fire into appropriate areas as a management tool, restore landscapes impacted by past negative natural events and land use, reintroduce native wildlife species, control invasive plant species and protect or recover threatened and endangered plant and animal species. The County also partners with non-governmental organizations, community groups and individuals to implement management activities. The Altar Valley



## 16 Ranches Conserved

### Ranch Conservation Element

Ranching continues to be the single greatest determinant of an urban boundary in the Tucson area. However, as is true for many areas across the country, drought conditions and development pressure continue to result in the conversions of ranches to housing developments. Through the conservation of working ranches that surround the Tucson metropolitan area, vast landscapes of natural areas are prevented from transforming into housing subdivisions, wildlife movement corridors are maintained, and the rural heritage and culture of the southwest are preserved. Ranch conservation also increases the size of adjacent conservation areas, which is important for restoring large natural areas and adapting to the effects of climate change. The County understands that working ranches, along with the state and federal lands leased for ranching, are essential for achieving multiple community and conservation goals, including:

- Protecting water supplies and water quality
- Maintaining natural floodplain functions
- Conserving wildlife habitat, and archaeological and historic sites
- Protecting a local agricultural industry
- Protecting scenic landscapes
- Conserving western heritage and culture
- Protecting recreational opportunities



*Kathy Williams, one of the ranch operators for the Sands Ranch, participates in monitoring activities with County staff. Photo by John L Sullivan*



*On the Bar V Ranch, a portion of the Davidson Canyon riparian area south of Interstate 10, adjoining the Cienega Creek Natural Preserve, is fenced so that cattle cannot enter the riparian area. Photo by Gloria Browne.*

Conservation Alliance, Boy Scouts, Coalition for Sonoran Desert Protection, Sky Island Alliance, Sonoran Desert Weedwackers, Natural Resource Conservation Districts and Sportsmen Who Care are just a few of our many partners. Without the assistance of our diverse partners, our overall ranch conservation goals and objectives would be far more difficult to accomplish today and into the future.

**Alternative Funding Sources Used for Management of County Ranches**

- US Fish and Wildlife Service Partners for Wildlife Grants
- Arizona Game and Fish Habitat Partnership Grants
- Arizona Game and Fish Heritage Access Grants Program
- Safari Club International – Sportsmen Who Care funds
- Arizona Game and Fish Heritage Urban Wildlife Grants
- State Land Department Wildfire Protection Grants
- USDA Wildlife Habitat Improvement Program
- Arizona Watershed Protection Fund Grant
- US Department of Energy- Stimulus Funds

**Recommendations for this element:**

- Complete the acquisitions of the future two phases of the Marley Ranch to create the 100,000-acre Marley Ranch Conservation Area
- Continue to partner with federal, state and local agencies for funding of ranch projects
- Develop additional funding sources for ongoing management costs
- Continue to develop cooperative resource management plans for each County ranch.

“The importance of the ranch conservation program is also evident. The ranch conservation program works at the other end of the size spectrum, increasing the effective size and maintaining connectivity of the landscape. Many of the County ranches offer the most habitat for species of concern. . . . Cooperative projects with ranchers and federal agencies will assist a number of these species.” (Fonseca, Jones. Progress Report: Measuring Effectiveness of Open Space Land Acquisitions in Pima County, Arizona in Relation to the Sonoran Desert Conservation Plan. P.12)



**Significant Expansions Made to County Mountain Parks**

**Mountain Parks Element**

Since 1997, the County has acquired over 3,000 acres to expand Tucson Mountain Park, Tortolita Mountain Park, and Colossal Cave Mountain Park. As well as conserving natural areas for wildlife, these mountain parks provide countless recreational opportunities. Hiking, biking, horse riding, and bird watching are only a few of the activities available. These park expansions have enabled the County to increase the number of trails and public access areas available to the public. In addition to these recent acquisitions, County land acquired as part of Cienega Creek Natural Preserve with 1986 bond funds provided land for two trailheads southeast of Vail.



*Trailhead into Tucson Mountain Park at the end of Camino de Oeste, just south of Gates Pass. Photo by Nicole Fyffe.*

## Measuring Our Progress

### Trailheads resulting from County land conservation acquisitions.

36th Street Trailhead - Located at the western end of 36th Street, this trailhead provides access to Tucson Mountain Park and has space for 22 vehicles and 4 horse rigs.

Camino de Oeste Trailhead - This parking area near the south end of Camino de Oeste has room for 14 vehicles. The trailhead provides access to the Yetman Trail in Tucson Mountain Park.

Honey Bee Canyon Trailhead - This trailhead doubles as the parking lot for Honey Bee Canyon Park and has 24 spaces for vehicles including 4 accessible spaces. The trailhead is located immediately east of Honey Bee Canyon and south of Rancho Vistoso Boulevard approximately 3.2 miles west of Oracle Road.

Richard Genser Starr Pass Trailhead - The Richard Genser Starr Pass Trailhead is the primary trailhead access to Tucson Mountain Park. It has room for 44 vehicles and 5 horse rigs. The Rock Wren Trail connects the trailhead to the Tucson Mountain Park Trail System.

Sweetwater Trailhead - The natural-surface Sweetwater Trailhead is located at the southern end of Tortolita Road and has parking for 7 horse rigs or 22 cars. This trailhead provides access to the Sweetwater Preserve Trail System.

Colossal Cave Road Trailhead - An undeveloped dirt parking area south of Colossal Cave Road at the northern end of the Cienega Creek Preserve, this trailhead provides access to the preserve and has room for 10 vehicles. Horses are not allowed in Cienega Creek Natural Preserve. Note: A permit is required to access the preserve.

Davidson Trailhead - This small paved lot provides access to the Cienega Creek Natural Preserve and Davidson Canyon. The trailhead is located just off Marsh Station Road a short distance west of Three Bridges. Horses are not allowed in Cienega Creek Natural Preserve. Note: A permit is required to access the preserve.



Horse riding in Tucson Mountain Park. Photo courtesy of JW Marriot Starr Pass Resort

### Recommendations for this element:

- Continue efforts to expand County Mountain Parks;
- Continue to develop access to suitable areas for public recreation;
- Develop additional funding sources for ongoing management; and
- Partner with outside groups and agencies for Park projects, such as Tucson Mountain Park's participation in wildlife monitoring projects recently conducted by the University of Arizona.



## Protection of Historic and Archaeological Sites

### Historic and Cultural Preservation Element

“Stewardship extends beyond preserving for future generations those spectacular sites and historic structures that pay tribute to America’s past and the principles upon which our great nation was founded. Our cultural heritage is the gift to our forebears which carries a responsibility for us to share this inheritance with our children for future generations to understand and enjoy.”

Bruce Babbitt, Secretary of Interior 1993-2001

Consistent with these nationally-held principles of preservation and stewardship, the Cultural Resources Element of the Sonoran Desert Conservation Plan defined as its goal: The preservation of Pima County’s cultural and historical resources in order to protect their educational, scientific, recreational, aesthetic, cultural and spiritual values for the benefit of the citizens of Pima County.

Historic and archaeological sites reflect places where people lived in the distant past and include ancestral sites of the Tohono O’odham and some of the earliest agricultural villages in the Southwest dating to between 1200 BC and 200 AD. Other sites reflect Hohokam culture from about 600 AD to 1400 AD, and still more represent the period when Europeans and later Americans settled following the Spanish entrada into southern Arizona in AD 1540. The historic sites consist of buildings, structures, and landscapes that have been used during the Spanish Colonial, Mexican, and American periods.

Voter approval of the 1997 and 2004 Historic Preservation Bond programs allowed a diverse set of the 229 Priority Cultural Resources to be prioritized for acquisition, protection, rehabilitation, and adaptive use – Agua Caliente Ranch, Ajo Curley School, Anza National Historic Trail, the Binghamton Rural Historic Landscape, Canoa Ranch, Colossal Cave, Coyote Mountains archaeological complex, Dakota Wash archaeological site, Dunbar School, Empirita Ranch, Fort Lowell, Honey Bee Village archaeological site, Los Morteros archaeological site, Pantano Townsite, Performing Arts Center, Robles Ranch, San Agustin Mission Gardens, San Pedro Chapel, Steam Pump Ranch, Tumamoc Hill, and the Valencia archaeological site.

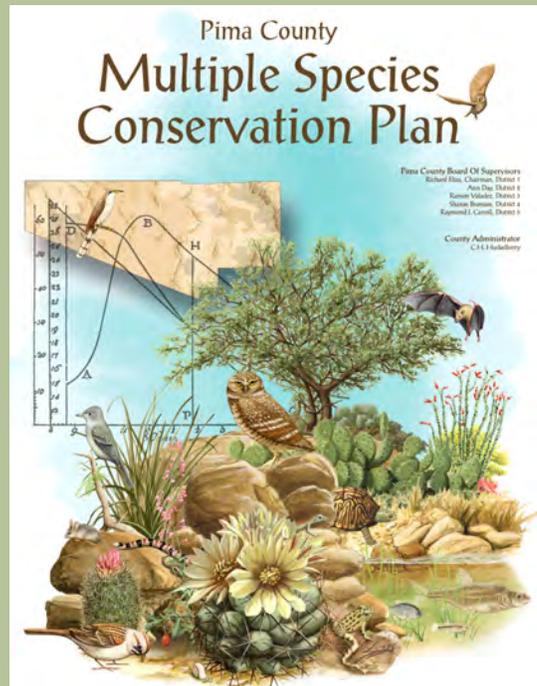
The successful preservation and protection of these 21 historic places contributes to multiple values embraced by the Sonoran Desert Conservation Plan, conserving open space and preserving significant aspects of Pima County’s cultural and historical legacy.

**Recommendations for this element:**

- Continue to conserve additional Priority Cultural Resources in Pima County; and
- Continue to partner with agencies for funding opportunities for rehabilitation and adaptive use.



Anza Trail signage at the base of A Mountain.



**Multi-Species Habitat Conservation Plan and the Endangered Species Act**

Leading up to the 2004 bond election, voter information materials explained that one benefit of conserving important natural areas was that it would reduce the red tape associated with public and private development projects that would be required to comply with the federal Endangered Species Act. These materials were referring to the County’s intent to apply for a permit under the Endangered Species Act, by submitting what is known as a Multi-Species Habitat Conservation Plan (MSCP). The MSCP will take a more comprehensive approach to complying with the Act by conserving lands important to the long-term survival of our native plants and animals (referred to as mitigation lands) as compensation for the loss of habitat caused by future private and public development activities.

To date, the County has acquired roughly enough mitigation land to cover more than 20 years of continued public and private development activities. With few exceptions, the sum of the lands that we have already acquired appear to adequately protect habitats for nearly each plant and animal proposed for coverage under the plan. The Pima pineapple cactus, however, is one species where our current acquisitions may fall short. In recognition of this deficit, the County holds options to purchase the remainder of the Marley Ranch, west of Green Valley which contains very high quality habitat for the Pima pineapple cactus. If the County can raise additional funding through a future bond election to complete acquisition of the Marley Ranch Conservation Area, there would be enough mitigation land to offset projected impacts to the Pima pineapple cactus.

For the latest information on the MSCP, please check the County’s web site at [www.pima.gov/cmo/sdcp/MSCP/MSCP.html](http://www.pima.gov/cmo/sdcp/MSCP/MSCP.html)

### Sustainable Action Plan for County Operations

An important part of implementing the SDCP is integrating it into the way that County government operates. Only through our actions can we expect others to do the same. Through the Sustainability Plan for County Operations, adopted by the Board in 2008, staff reports annually on the progress made based on four success indicators under the category of Land Conservation and Management. Below is a page from the plan that shows sustainability goals and guiding principles.



## Land Conservation and Management

### *Resolution No. 2007-84* *Sustainability* *Goals*

- Support sustainable development and the continual emphasis on sustaining a livable community.

#### Guiding Document

- Sonoran Desert Conservation Plan

## Guiding Principles

### THE COUNTY WILL:

#### LAND AND FACILITY ACQUISITION

- Acquire land and facilities that are best suited for the intended use and will most effectively achieve the goals of the Sonoran Desert Conservation Plan; and
- Acquire or set aside County lands for conservation to offset unavoidable County operational impacts to the Conservation Lands System, designated riparian habitat, and cultural resources.

#### FACILITY AND INFRASTRUCTURE SITING

- Evaluate and track the siting of new facilities and infrastructure to avoid or minimize impacts to the Conservation Lands System, designated riparian habitat, floodplains and cultural resources.

#### MANAGEMENT OF LAND, FACILITIES, AND INFRASTRUCTURE

- Monitor and manage its land, facilities, and infrastructure to achieve the goals of the Sonoran Desert Conservation Plan;
- Manage lands purchased for the conservation of biological and cultural resources to ensure the integrity, diversity and long-term viability of the resources;
- Monitor and control invasive species to minimize impacts on natural ecological systems, protect public safety, and maintain economic viability;
- Assess the impacts on natural and cultural resources prior to the decision to modify or dispose of any County land, facilities, or infrastructure;
- Implement informational and educational programs to improve cultural resources and environmental literacy in the County; and
- Encourage smart growth decisions to promote the most efficient use of infrastructure.

Below is a page from this year's report card that shows the progress we are making through our land conservation programs to compensate for the impacts we cause by building roads and other public facilities.

## Land Conservation & Management Year Two

Number	Success Indicator	Target	Score / Progress Report
26	Acreage of Conservation Lands System conserved	Acres conserved greater than acres impacted	 <p>Achieved</p> <p>The County acquired 4,261 acres within the Conservation Lands System (CLS) to be managed for conservation. County public improvement projects impacted 73 acres of land elsewhere in the CLS.</p>
27	Number of Cultural Resources Sites conserved	Acres conserved greater than sites impacted	 <p>Achieved</p> <p>The County acquired 64 acres of Cultural Resource sites to be managed for conservation. County public improvement projects impacted 24 acres of cultural resource sites located elsewhere.</p>
28	Acreage of Designated Riparian Habitat conserved	Acres conserved greater than acres impacted	 <p>Achieved</p> <p>The County acquired 523 acres of Designated Riparian Habitat for conservation. County public improvement projects impacted 54 acres of designated riparian habitat located elsewhere.</p>
29	Education of County Employees	Provide annual training to employees on environmental education	 <p>In Process</p> <p>Project managers from the Regional Flood Control District and Department of Transportation were educated on riparian mitigation practices and policies. Cultural Resources training was provided on a project specific basis. The comprehensive environmental education program offered last year is now being revised and will be provided in FY 2011.</p>



A skate and BMX park next to the Picture Rocks Community Center is a popular venue for Pima County kids and teens. The County constructed the park on 1 acre of land the County has identified as being within the Conservation Lands System (CLS).

In the same year, the County acquired the Bloom property (below) on the eastern boundary of Saguaro National Park West, which conserved 140 acres of CLS land and offset the impacts to natural resources caused by the construction of the skate/BMX park as well as other County-funded public improvements.



Photo by Jason Bahe

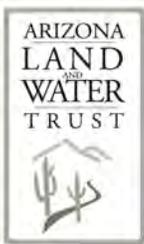


Photo by M. Bell

# Our Partners in Conservation

Without our partners, many of the important natural and cultural areas purchased under the County's 1997 and 2004 bond programs may still be at risk. Our partners range from small non-profit organizations to large federal agencies. Examples of fruitful partnerships abound. Tumamoc Hill would most likely still remain under threat of development if not for the willingness of the State Land Department to auction the property, the State Parks Board approval of a matching grant, and the City of Tucson's decision to acquire the old landfill. Property owners in the Tortolita Mountains may not have been willing to sell to the County if not for the assistance provided by the Arizona Land and Water Trust. The link between the Las Cienegas National Conservation Area and the National Forest to the east may never have been conserved if not for The Nature Conservancy's expertise and identification of "high quality grasslands" in need of protection. The list goes on and on.

We would like to recognize these partners, as well as others that have recently provided funding to manage our newly expanded mountain parks and conservation areas. In addition, we would like to recognize our many ranch managers who continue to act as stewards for the County across hundreds of thousands of acres under conservation ranch management agreements.



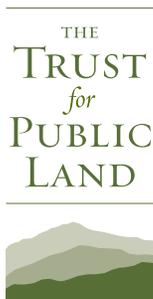
**The Arizona Land and Water Trust**  
(formally the Arizona Open Land Trust) protects Southern Arizona's western landscapes, wildlife habitat, water, and working farms and ranches for future generations. The Trust has had a significant role in the County's 1997 and 2004 bond programs. Acting as a facilitator to bring the County and willing sellers together, the Trust has participated in conserving many

of the properties highlighted in this report.



**The Nature Conservancy's**  
mission is to preserve the plants, animals and natural communities that represent the diversity of life on earth

by protecting the lands and waters they need to survive. The Nature Conservancy's Tucson office worked with the Arizona Land and Water Trust to apply a set of biologically-based goals to the County's Conservation Lands System to identify the most important lands to purchase first with 2004 bond funds. In addition, The Nature Conservancy's long term conservation efforts in and around A-7 Ranch along the San Pedro River, eventually led to the County's purchase of the property from the City of Tucson in 2004.



**The Trust for Public Land**  
(TPL) conserves land for people to enjoy as parks, gardens, and other natural places, ensuring livable communities for generations to come. In 1998, TPL assisted the County in negotiating a 216-acre addition to Tucson Mountain Park along Gate Pass with the Diocese of Tucson. In 2004, TPL facilitated the County's purchase of the 700-acre Sweetwater Preserve located north of Tucson Mountain Park and east of Saguaro National Park West.



**The Coalition for Sonoran Desert Protection's**  
mission is to achieve the long-term conservation of biological diversity and ecological functions of the

Sonoran Desert through comprehensive land-use planning, with primary emphasis on the Sonoran Desert Conservation Plan. The Coalition represents dozens of conservation and neighborhood groups, who in turn represent more than 30,000 members. The Coalition's advocacy for science-based acquisition planning has significantly strengthened the County's 1997 and 2004 bond programs. Their leadership in advocating for wildlife corridor linkages led to the County's acquisition of 13 acres on either side of Oracle Road that will serve as an anchor for moving wildlife under and over Oracle Road between the Tortolita and Catalina Mountains.



**The Altar Valley Conservation Alliance**  
is a collaborative conservation organization founded in 1995 devoted to the mission of leaving the next generation with a healthy productive watershed, a thriving agricultural community, and rural life enriched by the culture and history of the Altar

Valley. The Alliance has provided opportunities for County staff to participate in workshops on watershed restoration and water harvesting off ranch roads. County staff has also been invited to participate in development and implementation of strategic fire burns across the valley, potentially including County lands – a \$50,000 value.



### **The National Fish and Wildlife Foundation**

(NFWF) is a non-profit that preserves and restores our nation’s native wildlife species and habitats by directing public conservation dollars to the most pressing environmental needs and matches those

investments. In 2009 and 2010, NFWF awarded five grants to local organizations using County bond dollars already spent on acquisitions in those geographic areas as matches: \$150,000 to the Altar Valley Conservation Alliance for the planning, implementation, and post-monitoring of 5 strategic fire burns across the Altar Valley; \$445,000 to The Nature Conservancy for inventory, monitoring, and restoration of grasslands in Las Cienegas and Malpai grasslands; \$390,500 to the Cienega Watershed Partnership for restoring leopard frogs to habitats in sky island grasslands; \$150,000 to Sky Island Alliance for a hands on application of a highly successful watershed restoration technique within the Cienega Creek watershed; \$200,000 grant to Arizona Game and Fish Department for release of a 4th black-tailed prairie dog colony with the Las Cienegas National Conservation Area and evaluation of potential additional release sites including Pima County-owned lands.



### **FEMA**

### **The Federal Emergency Management Agency**

(FEMA) administers a Pre-Disaster Mitigation Grant Program that provides

federal funding to qualified local governments undertaking economically viable proactive flood mitigation efforts. After the devastating 2003 Aspen Fire which significantly altered the Canada del Oro watershed, Pima County was awarded \$3 million in aid to help supplement Floodprone Land Acquisition Program (FLAP) funds being used to acquire property and relocate residents who were living in a severe flood hazard area along the Canada del Oro Wash.



### **The Natural Resources Conservation Service**

works with private landowners through conservation planning and

assistance designed to benefit the soil, water, air, plants, and animals that result in productive lands and healthy ecosystems. Staff from two southern Arizona offices provide technical support by conducting annual ranch monitoring, provide technical services on water/well developments, and leading the development of Comprehensive Resource Management Plans on several ranches and fire planning in Altar valley. They are a funding source for our ranch operators for enhancement projects like fencing, water development, restoration, fire, and other natural resources management and conservation activities.



### **Tohono O’odham Nation**

At the very inception of the Sonoran Desert Conservation Plan in 1999, the Tohono O’odham Nation and Pima County issued a “Declaration of Intent to Cooperatively Participate in the Sonoran Desert

Conservation Plan” that acknowledged the Nation’s and the County’s joint commitment to collaborate and work cooperatively in developing and establishing the SDCP that addressed the conservation and protection of cultural and historic resources as well as the natural resource base of the Sonoran Desert. The Nation continues to support County conservation efforts, awarding a grant for a protective wall around Honey Bee Village in the Town of Oro Valley and supporting the County in its efforts to acquire and protect culturally significant places that include Honey Bee Village, the Valencia Site, Tumamoc Hill, Reeve Ruin, Coyote Mountains, Dakota Wash, and Los Morteros.



### **The U.S. Fish and Wildlife Service**

takes the lead in administering the Endangered Species Act by fostering partnerships, employing scientific excellence, and developing a workforce of conservation leaders. The Service awarded the County a \$2.8 million Section 6 grant for the development

of the Sonoran Desert Conservation Plan and multi-species conservation plan. The Service shaped our 2004 conservation acquisition bond program by providing scientific expertise on which species and habitats were most in need of protection. In addition, the Service awarded a Recovery Land Acquisition grant totaling \$352,989 to the County towards the purchase of the 839-acre Old Hayhook Ranch containing the Coyote Mountains Archaeological Complex – a 2004 Historic Preservation bond project. The Service has also provided Partners for Wildlife program grants for fencing and riparian restoration at Carpenter Ranch in Cochise Canyon, bat habitat projects in Cienega Creek Natural Preserve, and wildlife water and invasive plant projects on A7 Ranch.



### **The Arizona Game and Fish Department’s**

mission is to conserve, enhance, and restore Arizona’s diverse wildlife resources and habitats through aggressive protection and management programs and to provide wildlife resources and safe watercraft and

off-highway vehicle recreation for the enjoyment, appreciation and use by present and future generations. Pima County has received \$250,000 in Heritage Fund grants from Game and Fish for activities at Feliz Paseos Park, Tucson Mountain Park hiking guides, access and habitat projects on ranches, the Living With Urban Wildlife education trailer, a wildlife viewing area at Catalina Regional Park, wildlife viewing guides, bat soil cave

habitat construction, and wildlife education programs. Game and Fish also funds Habitat Partnership Programs for wildlife waters on several County ranches, and sponsored the County's application for the U.S. Fish and Wildlife Service's Recovery Land Acquisition grant to acquire the Old Hayhook Ranch.



**Arizona State Land Department**

The mission of the Arizona State Land Department (ASLD) is: To manage State Trust lands and resources to enhance value and optimize economic return for the Trust beneficiaries, consistent with sound stewardship, conservation, and business management principles supporting

socioeconomic goals for citizens here today and generations to come; and To manage and provide support for resource conservation programs for the well-being of the public and the State's natural environment. ASLD twice supported the County's request to purchase State Trust land at auction, which led to the successful conservation of 277 acres on Tumamoc Hill, and 67 acres of the Valencia Archaeological Site.

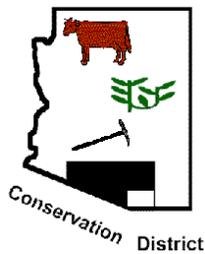
**Arizona State Parks**



administers the Growing Smarter State Trust Land Acquisition Grant Program, which provides matching funds for the acquisition of State Trust land for the purposes of conserving important natural or cultural areas. In 2008 and 2009 the Arizona State Parks Board awarded Pima County a total of \$1,645,000 under this program, which led to the successful conservation of 277 acres on Tumamoc Hill

and 67 acres of the Valencia Archaeological Site.

Pima Natural Resource



**Pima Natural Resource Conservation District**

(NRCDC) cooperators can be landowners, lessees and managers whether they are private or governmental agencies. They are all interested in natural resources management in southern Arizona. Pima NRCDC recently helped fund a small vegetation restoration project along Brawley Wash on the County-owned Buckelew Farm.

**The Town of Oro Valley**



continues to be an excellent partner for its support and assistance in the acquisition and protection of two culturally and historically important sites: the Hohokam archaeological site, Honey Bee Village that was donated to Pima County by Cañada Vistas Homes as a permanent preserve and for public education purposes; and

for the acquisition of Steam Pump Ranch, founded in 1874, that represents one of the earliest ranches in Oro Valley and is a legacy to the Town's frontier origins.



**City of Tucson**

In 2006, the City of Tucson exchanged land with the owner of the Adkin's Parcel – the last significant portion of the historic Fort Lowell to remain in private ownership, and then dedicated a conservation easement to the County, conserving the property as called for in the 2004 bond program. In 2008, the City contributed \$100,000 to the purchase of the 80-acre Habitat for Humanity property,

located along West 36th Street, east of Tucson Mountain Park – also a 2004 bond project. This \$100,000 came from donations made by Tucson Water customers for the purposes of land conservation. In 2009, the City of Tucson took ownership of an old landfill on Tumamoc Hill, which was a critical and necessary step in the County's acquisition of the remainder 277 acres of State Trust land on Tumamoc Hill – both a 1997 and 2004 bond project.



**Marana Unified School District**

In 2004, the Marana Unified School District agreed to a land exchange with Pima County that allowed for the establishment of Los Morteros Archaeological Site Conservation Area. This Hohokam site represents an important and long-

lived prehistoric community established at the north end of the Tucson Mountains in the Town of Marana.



**Vail School District**

is recognized for assisting with acquisition of the Pantano Townsite school parcel for preservation purposes. Pantano thrived as railroad station from 1887 to 1922, but was abandoned when the Southern Pacific Railroad closed its

operations. The Pantano and Rincon one-rooms schools were later combined into Vail School District who continued to own the Pantano school property until purchased by Pima County.



**Starr Pass**

In 1999, Pima County entered into a development agreement that resulted in development of the Starr Pass residential development, as well as the JW Marriott Starr Pass Resort. The agreement also resulted in the developer donating land to expand Tucson Mountain Park adjacent to the resort, and in a revue sharing agreement that currently generates

upwards of \$300,000 annually for the enhancement and expansion of the Park.



**JW MARRIOTT**  
HOTELS & RESORTS

## Ranch Managers

A<sub>3</sub>

**Mr. Tom Chilton**, on behalf of Diamond Bell Ranch Management Company, L.L.C., for management of Diamond Bell Ranch.

TH

**Thomas R. Fischer**, on behalf of Saddle Tree Ranch, for management of Empirita Ranch.

B

**Mr. Donald and Ms. Sarabeth Carpenter** for management of the Carpenter Ranch.

LS

**Marilyn Harris and Karen Williams**, on behalf of LS Cattle Company, L.L.C. for management of Sands Ranch.

-V

**Don Martin**, on behalf Martin Cattle Company, for management of Bar V Ranch.

2

**John King**, on behalf of John F. King and Sons, for management of Kings 98 Ranch and Old Hayhook Ranch.

T>

**Nick Buckelew**, on behalf of Buckelew Farms, L.L.C., for management of Buckelew Farm.

^

**James Webb**, on behalf of MMC Ranch Management, L.L.C., for management of Marley Ranch.

49

**Joe and Charlie Goff**, on behalf of Mule Tank Limited Partnership, L.L.L.P., for management of Six Bar Ranch.

~Z

**Meade and Susan Clyne** for management of the Clyne Ranch

~

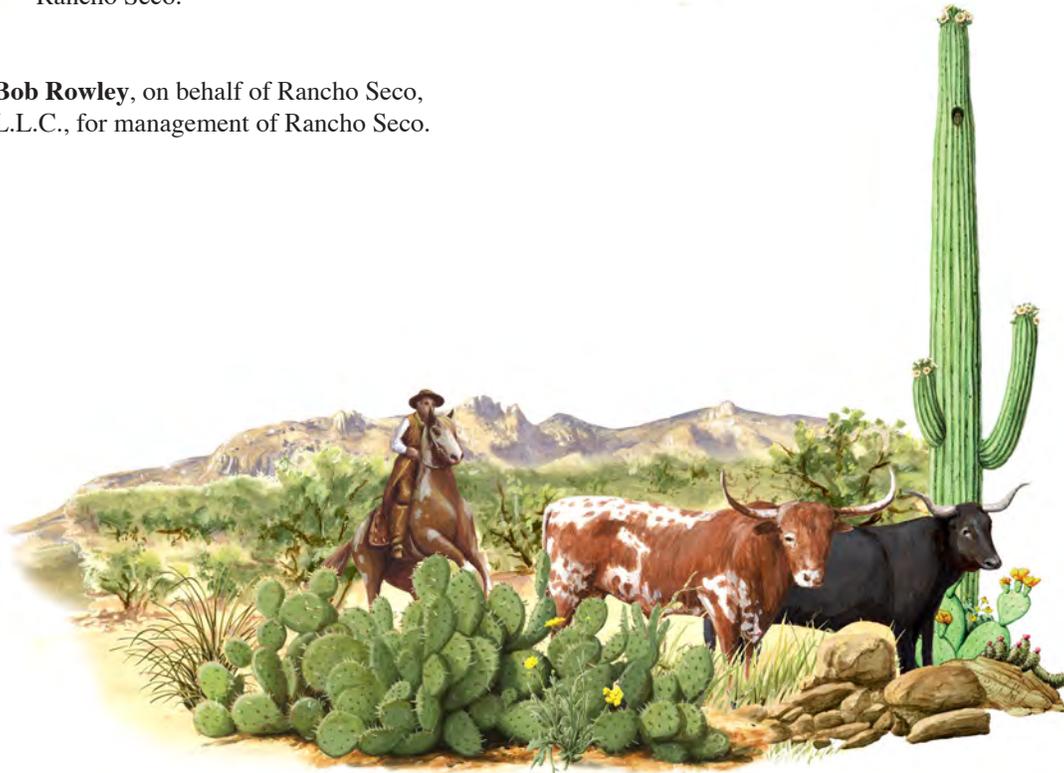
**Jon and Peggy Rowley**, on behalf of Carrow Company, for management of Rancho Seco.

RU

**Richard Schust**, on behalf of Solero Dos L.L.C. for management of Soporri Ranch.

Ⓢ

**Bob Rowley**, on behalf of Rancho Seco, L.L.C., for management of Rancho Seco.



# The Path Ahead

**"I would challenge you to think about a vision for the future....It is important for us to not just think about immediate needs...Think back to the 1920s when a very small group of people had the vision and forethought to set aside Tucson Mountain Park. Think how much poorer we would all be if that did not happen. We need to be thinking 50, 75, and 100 years from now and plan for what this community will be like at that stage of the game. The projects that we have done are incredibly important to protect the watershed and define the urban edge, and are part of good urban planning. The work of good urban planning merges nicely with that of the scientists who have given us direction on what properties we should be buying. It makes this a better community and a more efficient community; a community where the planned areas of it return more to the tax base than would otherwise."**

**----Bill Roe, Chairman of the Pima County Conservation Acquisition Commission at the October 16, 2009 Pima County Bond Advisory Committee Meeting.**

In the years to come, Pima County intends to continue to take a diversified approach to protecting our land, water and heritage. We will continue to purchase important natural areas, flood prone areas, and historic and cultural sites, just as we have done in the recent past, and historically. These purchases will be guided by a combination of the best available science and the values important to our community. We will continue to conserve these important areas through development regulations requiring private developers to avoid or set aside areas for conservation, as well as the same regulations that we as County government need to comply with when building public facilities like roads and libraries. Just as important is another approach we use frequently – cooperative land use planning with other agencies. This includes planning and management agencies such as cities and towns, neighboring counties, the National Park Service, the National Forest Service, Davis-Monthan Air Force Base, the Bureau of Land Management, and the State Land Department.

In the case of the State Land Department, the importance of cooperative land use planning cannot be understated. In eastern Pima County, State Trust lands comprise about 35 percent of the total land base. The County will continue to advocate for comprehensive land use planning and State Trust land reform, as opposed to the piecemeal sale of State Trust land for development that has often occurred.

The degree to which our land conservation activities are deemed successful will be regularly measured against the goals of the Sonoran Desert Conservation Plan, including the piecing together of our ultimate reserve – the Maeveen Marie Behan Conservation Lands System. Our recent submittal of a Multi-Species Conservation Plan (MSCP) to the U.S. Fish and Wildlife Service, as well as the development of a comprehensive ecological monitoring plan, is a milestone in our commitment to Endangered Species Act compliance, as well as to our ongoing broader conservation efforts. The MSCP also provides additional mechanisms to evaluate our progress.

Pima County's use of bonds as the primary source of funding for purchasing land will likely continue. While other communities may rely on different sources of revenue, such as sales tax revenue, for this purpose, our voters have consistently since 1974 supported the use of bond funding for land acquisition.

It is clear that our land conservation activities will only be successful with continued partnerships. Our ranch management agreements enable the County to rely upon experienced ranchers to provide stewardship for over 130,000 acres, or over more than half of the land we own or are responsible for managing. Partners such as the Arizona Game and Fish Department and Altar Valley Conservation Alliance also greatly assist the County in meeting our management responsibilities. In addition, as we continue to purchase more land, we will continue to rely upon the Arizona Land and Water Trust to help us build relationships with private property owners.

We will continue to expand recreational access. Many of the properties we have purchased for conservation are within easy reach of those living in the metropolitan area. We know that it is important to continue developing new trailheads, trails, and interpretive signage so that these great places are accessible and easy for people to visit. For our more remote County ranches, we will continue to develop appropriate public access points, similar to those shown on the ranch access maps in the appendices.

In conclusion, land conservation is good for our health, good for our economy, and good for the plants and animals that share this environment with us. With the momentous support of voters in 1997 and 2004, we have been able to make significant strides in expanding mountain parks, conserving ranches, protecting watersheds and flood prone areas, preserving important historic and cultural sites, preventing encroachment around Davis-Monthan Air Force Base, and guiding growth to more fiscally sustainable areas. While much has been accomplished, we understand that our task is not complete. We look forward to continuing to carry out the County's long term commitment to conservation with the support of our many partners, visitors, and most importantly -- our residents.



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# Appendices

# Appendix i - List of 1997 and 2004 Conservation Properties

## Pima County Conservation Acquisition Bond Programs List of Properties

1997 – On May 20, 1997, Pima county voters approved funding in the amount of \$27.9 million for the acquisition of properties for conservation. To date, 27 properties have been purchased, totaling 7,200 acres.

2004 – On May 18, 2004, voters approved \$164.3 million in bond funds for conservation purposes. To date, 50 properties have been acquired, totaling 45,300 acres in fee lands and 127,000 acres of grazing leases. Approximately \$7 million remains in this program.

### 1997 and 2004 Bond Acquisitions

Property (Location)	Acres	Grazing Lease Acres	Acquisition Cost	Acquisition Date
A-7 Ranch (San Pedro Valley Reserve)	6,829	34,195	\$2,041,933	Sep-04
Akers/Dailey (Cienega Valley-Empire Ranch Reserve)	158		\$1,222,720	Oct-99
Alpher (Cienega Valley-Empire Ranch Reserve)	147		\$514,412	Feb-00
Amadon (Cienega Valley-Empire Ranch Reserve)	39		\$122,257	Dec-06
Baker (Cienega Valley-Empire Ranch Reserve)	155		\$226,342	Oct-04
Bar V Ranch (Cienega Valley-Empire Ranch Reserve)	1,763	12,674	\$8,189,228*	Feb-05
Baxter (Tucson Mountains Reserve)	33		\$274,472	Mar-99
Bee (Northern Altar Valley Reserve)	120		\$60,873	Feb-05
Belvedere (Tucson Mountains Reserve)	72		\$615,972	Jan-06
Berard (Tucson Mountains Reserve)	7		\$81,792	Aug-05
Bradley (Cienega Valley-Empire Ranch Reserve)	40		\$266,036	Oct-99
Buckelew Farms (Northern Altar Valley Reserve)	505	2,200	\$5,080,467	Oct-06
Canoa Ranch (Upper Santa Cruz-Southern Altar Valley Reserve)	4,700		\$6,150,000*	May-01
Canoa Ranch II (Upper Santa Cruz-Southern Altar Valley Reserve)	33		\$1,801,106	Aug-05
Canoa Ranch Phase III (Upper Santa Cruz-Southern Altar Valley Reserve)	52		\$1,200,581	Dec-06
Carpenter Ranch (Tortolita Reserve)	200		\$520,011	Apr-99
Carpenter Ranch Phase II (Tortolita Reserve)	360		\$1,180,036	Aug-05
Cates (Cienega Valley-Empire Ranch Reserve)	39		\$132,957	May-06
Chess (Cienega Valley-Empire Ranch Reserve)	37		\$124,865	Feb-07
Clyne Ranch (Cienega Valley-Empire Ranch Reserve)	880		\$4,979,434	Jan-10
Cochie Canyon (Tortolita Reserve)	290		\$2,901,044	Jun-08
Continental Ranch Development LLC (Wildlife Corridor)	15		\$750,448	Jul-07
Cortaro and Hartman (Tortolita Reserve)	50		\$1,175,000*	Aug-09
Des Rochers (Tucson Mountains Reserve)	19		\$294,028	Oct-06
Diamond Bell Ranch (Northern Altar Valley Reserve)	191	30,702	\$897,730	Mar-08
Diocese of Tucson (Tucson Mountains Reserve)	216		\$636,462	Jun-98
Dos Picos (Tucson Mountains Reserve)	60		\$1,425,677	Nov-09
Doucette (Agua Caliente Wash)	21		\$569,608	Dec-04
Drewes (Agua Caliente Wash)	11		\$388,000	Mar-98
Empirita (Cienega Valley-Empire Ranch Reserve)	2746		\$10,835,000	Aug-09
Firkins (Tucson Mountains Reserve)	1.4		\$30,987	Mar-06
Habitat for Humanity (Tucson Mountains Reserve)	80		\$1,102,832*	Jul-08
Heater (Tucson Mountains Reserve)	50		\$991,743	Sep-05
Hiett (Tucson Mountains Reserve)	25		\$721,863	Sep-05
Holsclaw (Tucson Mountains Reserve)	10		\$159,969	Jun-99
Hyttington (Tucson Mountains Reserve)	3.6		\$72,163	Jan-06
Jacobs Trust (Tucson Mountains Reserve)	80		\$601,336	Mar-04

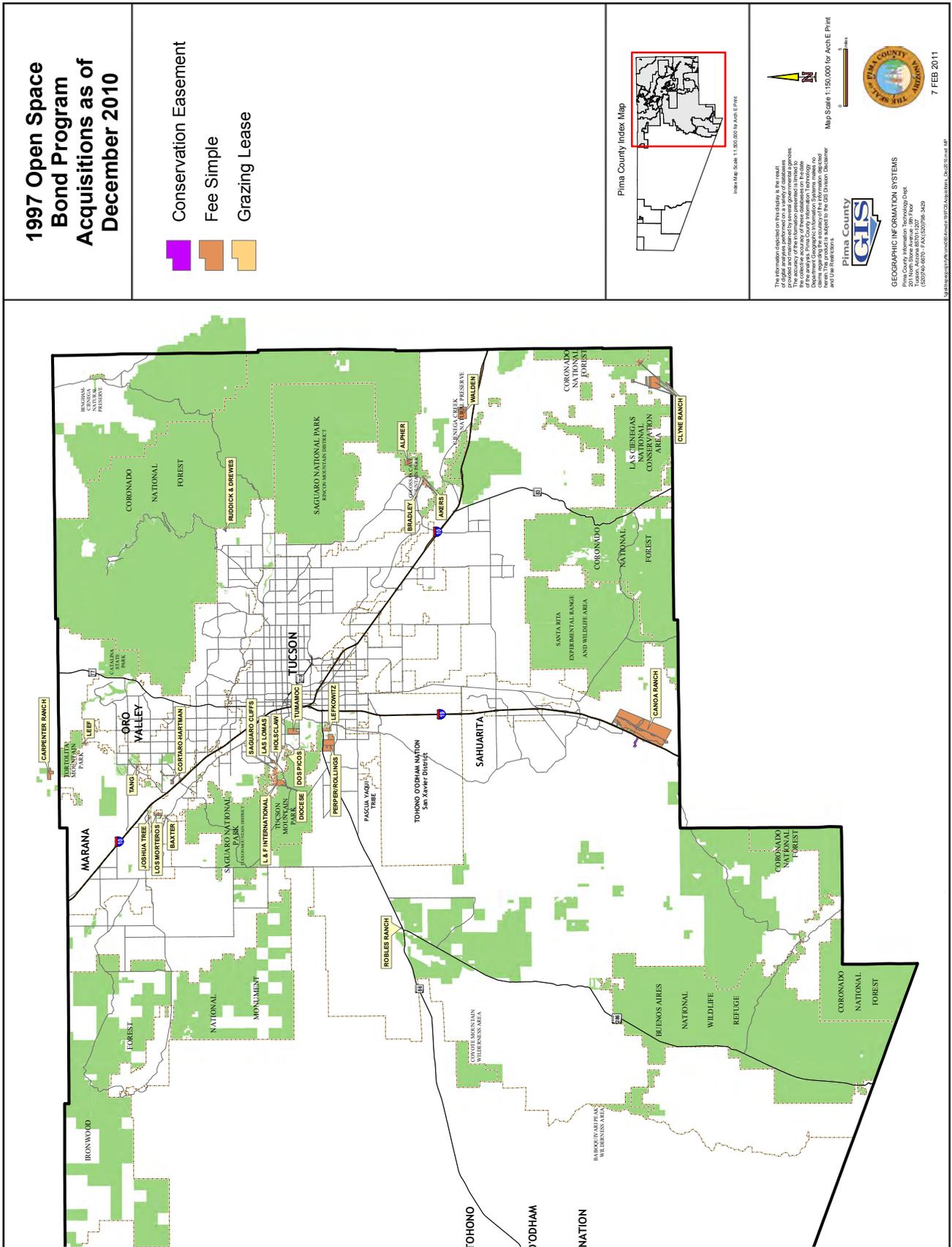
\* Acquisition cost includes non-bond funding



Joshua Tree II (Tucson Mountains Reserve)	40		\$130,389	May-00
King 98 Ranch (Northern Altar Valley Reserve)	1,034	3,096	\$2,102,921	Mar-05
Knez (Cienega Valley-Empire Ranch Reserve)	80		\$240,967	Aug-06
L & F International (Tucson Mountains Reserve)	294		\$2,589,225	Jun-99
Las Lomas 1 & 2 (Tucson Mountain Park)	50		\$748,400	Jun-99
Leef (Tortolita Reserve)	80		\$280,000	Mar-98
Lefkovitz/Lakia (Tucson Mountains Reserve)	115		\$275,825	Jul-01
Linda Vista/Patrick (Tortolita Reserve)	9.1		\$451,561	Feb-07
Madera Highlands (Upper Santa Cruz-Southern Altar Valley Reserve)	366		\$385,733	Aug-05
Marley Ranch Phase I (Upper Santa Cruz-Southern Altar Valley Reserve)	6,337		\$20,006,112	Apr-09
Matesich (Tucson Mountains Reserve)	4		\$85,586	Nov-05
Mission and 33rd Street (Tucson Mountains Reserve)	9		\$191,896	Sep-10
Mordka (Northern Altar Valley)	40		\$20,265	Feb-05
Nunez (Cienega Valley-Empire Ranch Reserve)	19		\$68,502	May-06
Orach (Tucson Mountains Reserve)	3		\$60,620	May-01
Pacheco (Tucson Mountains Reserve)	20		\$241,010	Dec-05
Perper/Rollings (Tucson Mountains Reserve)	746		\$5,975,258	Feb-00
Poteet (Cienega Valley-Empire Ranch Reserve)	83		\$275,820	Aug-05
Rancho Seco (Upper Santa Cruz-Southern Altar Valley Reserve)	9,574	27,361	\$18,503,948	May-05
Reid (Tortolita Reserve)	4		\$316,920	Mar-07
Route 606 (Tucson Mountains Reserve)	22		\$241,134	Oct-06
Ruddick (Agua Caliente Wash)	13		\$369,993	Sep-00
Saguaro Cliffs (Tucson Mountains Reserve)	155		\$1,548,244	Nov-98
Sands Ranch (Cienega Valley-Empire Ranch Reserve)	5,040		\$21,015,503	Dec-08
Selective Marketing (Tucson Mountains Reserve)	10		\$92,372	Oct-05
Serr (Tucson Mountains Reserve)	10		\$94,776	Dec-05
Six Bar Ranch (San Pedro Valley Reserve)	3,292	9,000	\$11,525,322	Aug-06
Sopori Ranch Phase (Upper Santa Cruz-Southern Altar Valley Reserve)	4,135	10,480	\$18,602,695	Jan-09
South Wilmot LLC (Pima Pineapple Cactus Mitigation Bank)	36		\$112,690	Jul-06
Sweetwater (Tucson Mountains Reserve)	695		\$11,733,653	Jun-04
Tang (Tortolita Reserve)	40		\$2,377,079	Jul-07
Tanque Verde & Houghton LLC (Agua Caliente Wash)	77		\$1,558,137	Sep-10
Terra Rancho Grande (Agua Caliente Wash)	72		\$1,376,628	Jan-10
Treehouse Realty (Wildlife Corridor)	13		\$922,742	Apr-10
Tumamoc Hill	277		\$5,209,640*	Feb-09
Valenica Site	67		\$940,000*	Mar-10
Walden (Cienega Valley-Empire Ranch Reserve)	477		\$1,400,000*	Sep-04

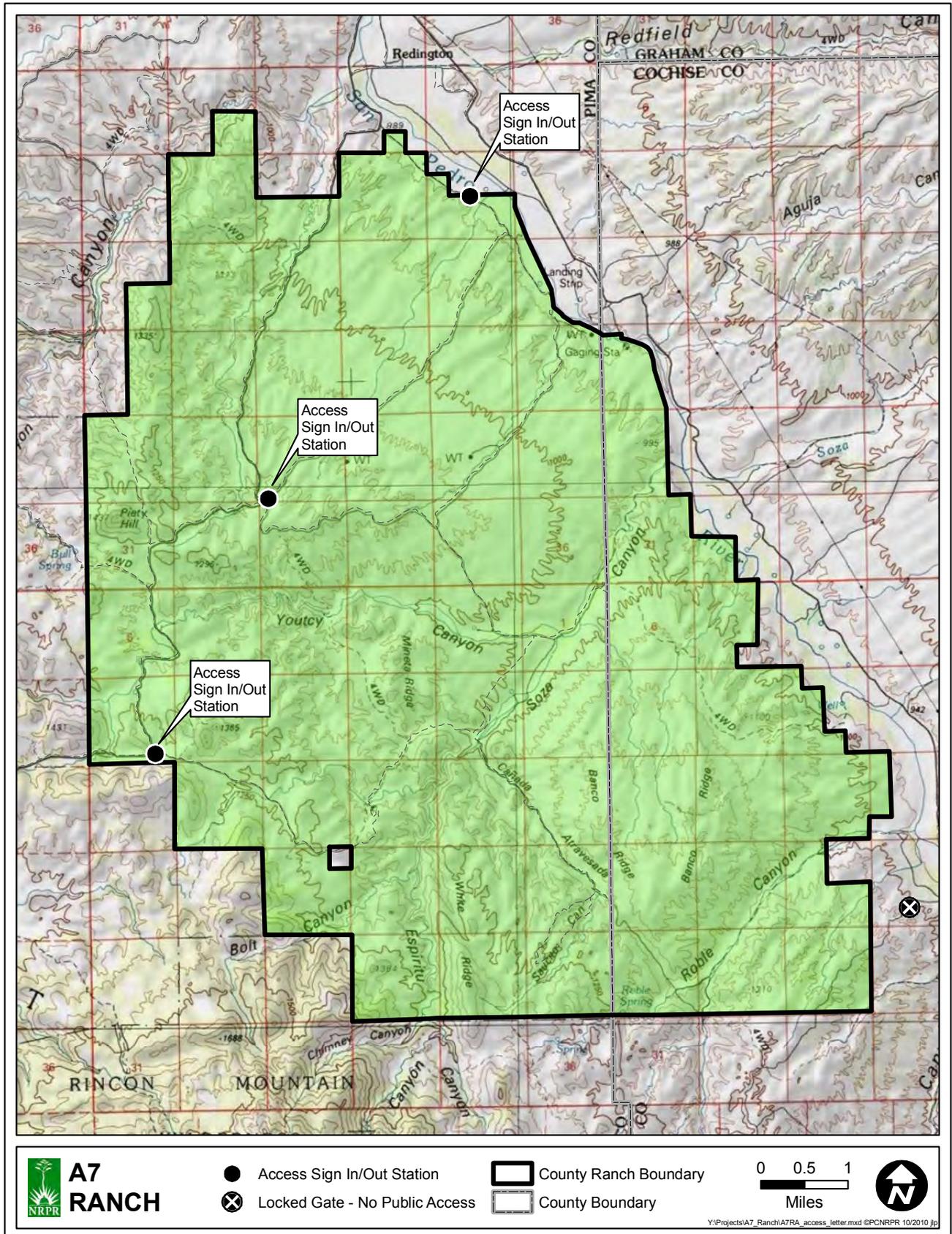
\* Acquisition cost includes non-bond funding

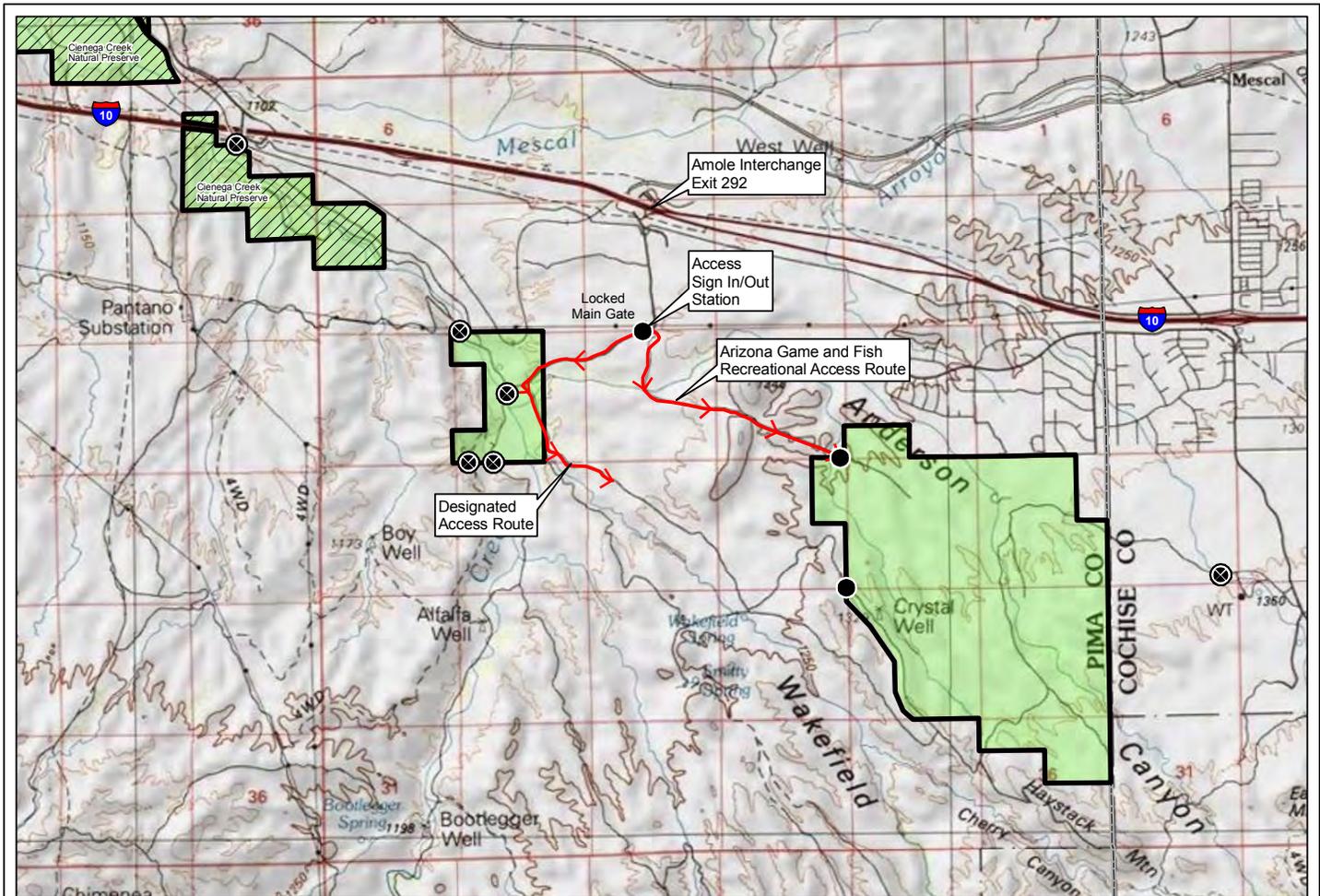
# Appendix ii - 1997 Open Space Bond Program Properties Map





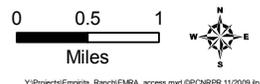
# Appendix iv - Ranch Access Maps



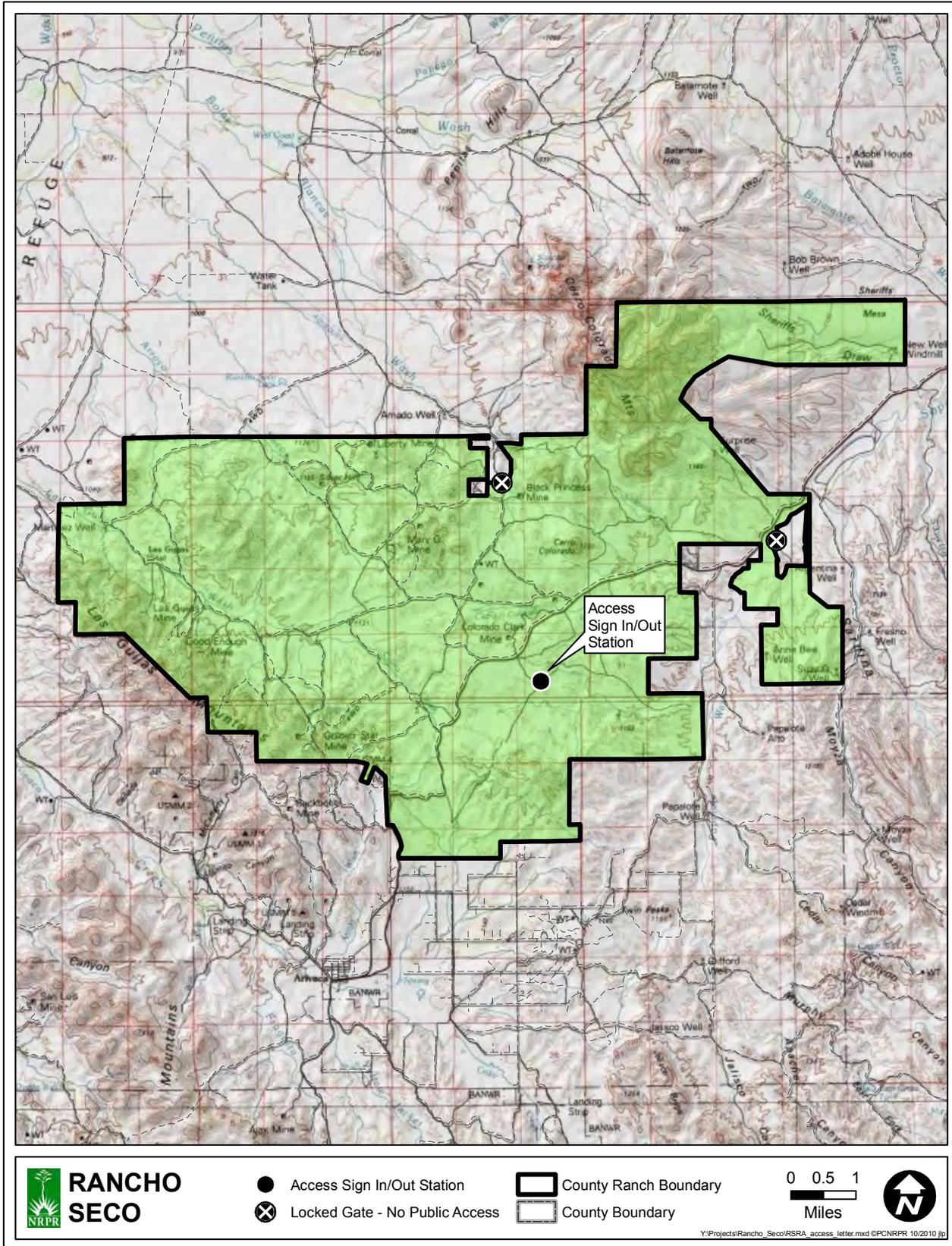


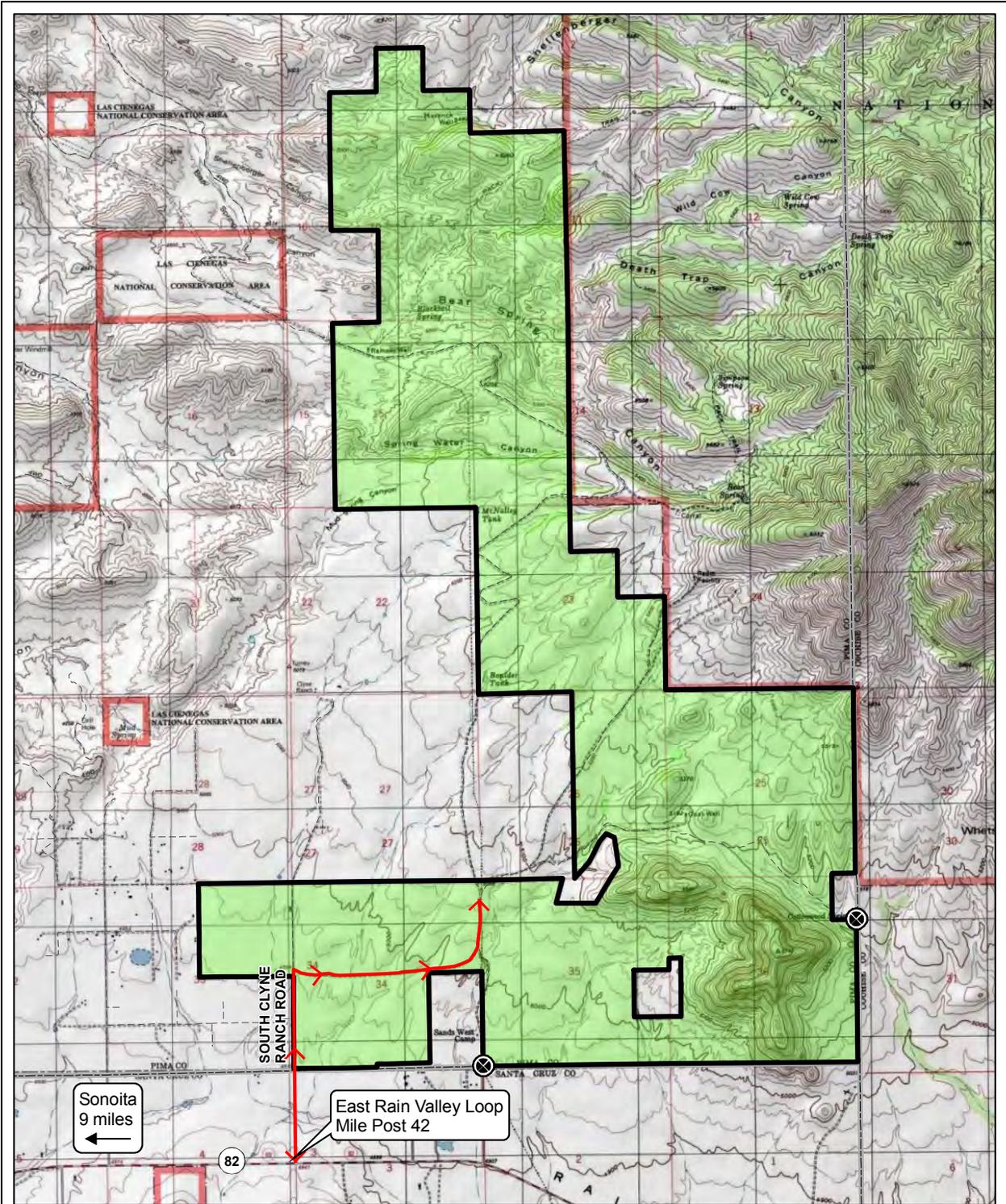
**EMPIRITA RANCH  
ACCESS MAP**

- Locked Gate - Access by Permit Only
- ⊗ Locked Gate - No Public Access
- ▭ County-Owned Land Boundary
- ▭ County Boundary



# Appendix iv - Ranch Access Maps





Sonoita  
9 miles  
←

East Rain Valley Loop  
Mile Post 42



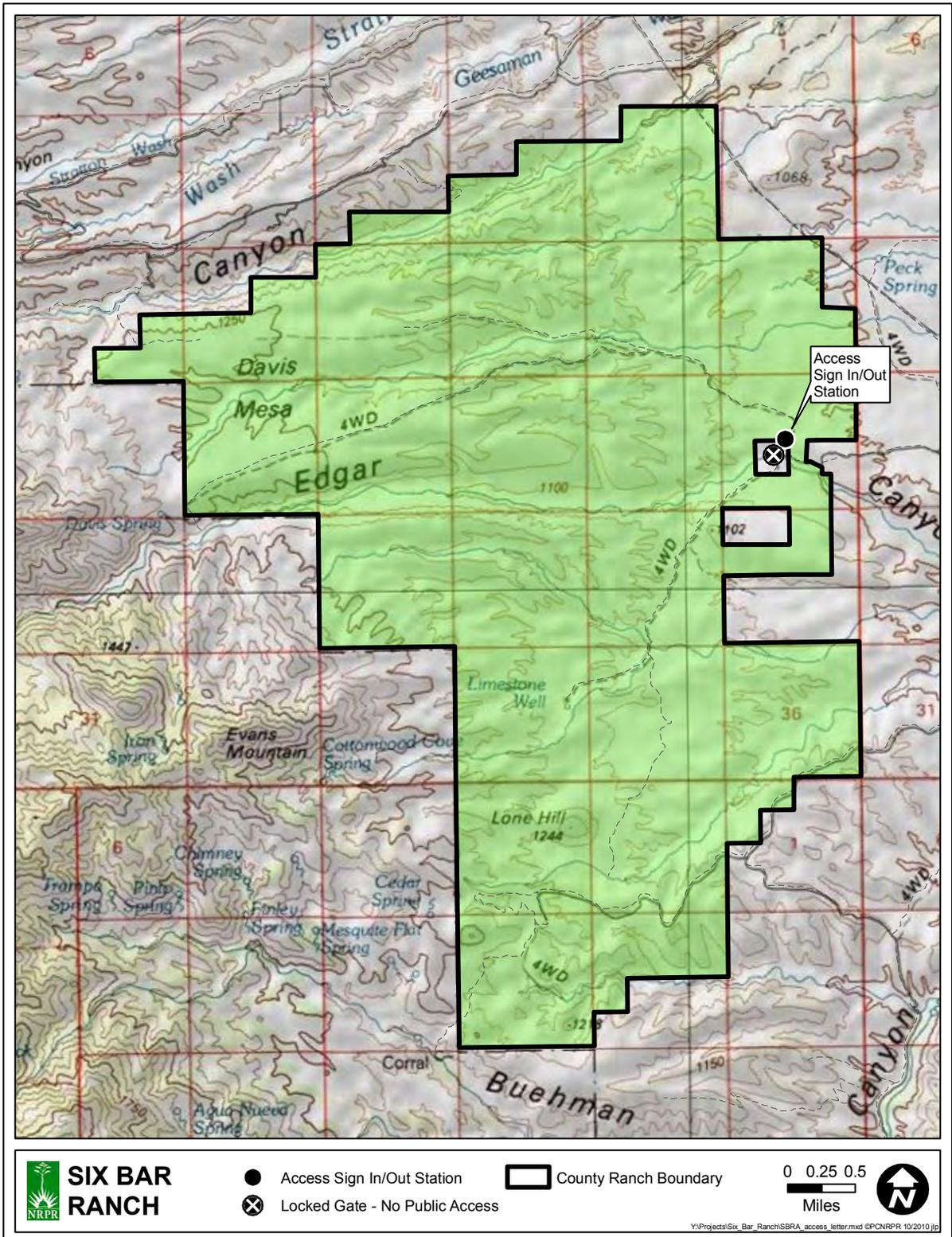
**SANDS RANCH  
ACCESS**

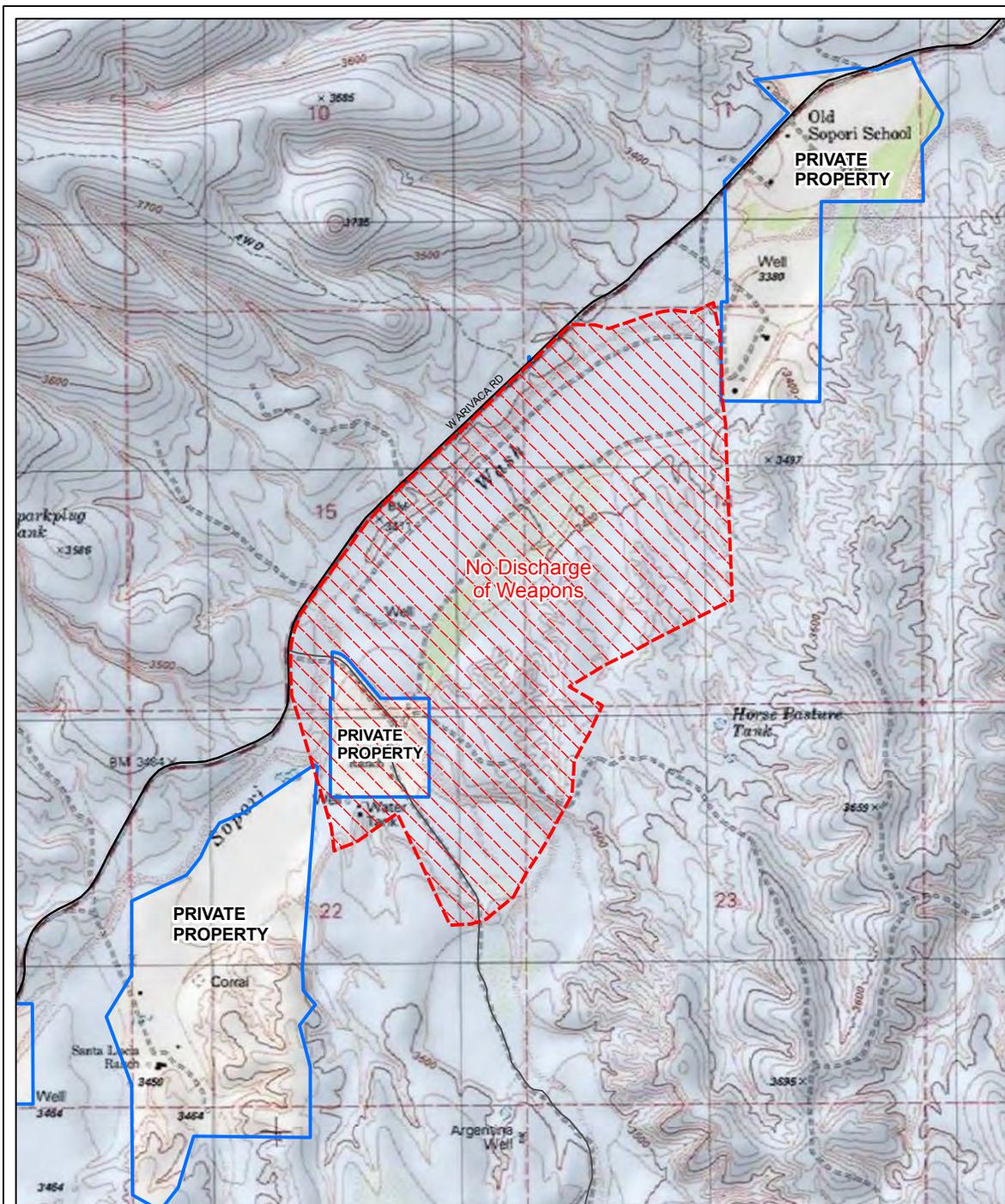
- Locked Gate - No Public Access
- Sands Ranch
- County Boundary



Y:\Projects\Sands\_Ranch\SARA\_access\_letter.mxd ©PCNRP 3/2010 jlp

# Appendix iv - Ranch Access Maps

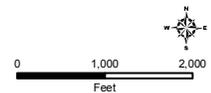




**SOPORI RANCH**

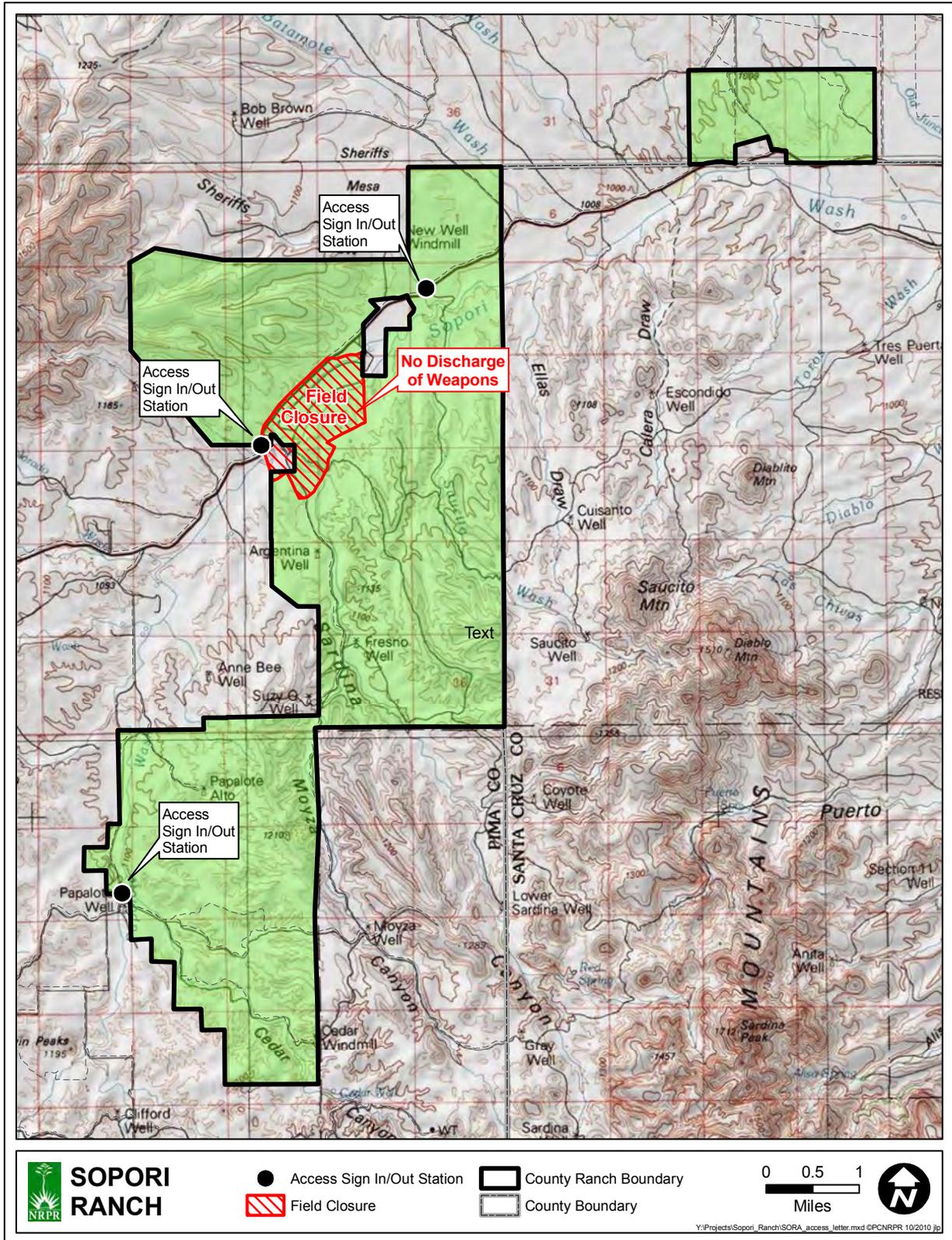


No Discharge of Firearms,  
Archery Equipment, or Other Weapons



Y:\Projects\Sopori\_Ranch\SORA\_NDOW.mxd GPCNRR 10209.jp

# Appendix iv - Ranch Access Maps



# Appendix V - Recreational Use Grid

## PIMA COUNTY NATURAL RESOURCE LANDS – USES AND RESTRICTIONS

Pima County Natural Resource Properties are managed by Pima County Natural Resources, Parks and Recreation (NRPR) under Park Rules adopted pursuant to A.R.S. 11-935 (B) (2) and 11-936. The following table is a general overview of the major properties open for public visitation and outdoor recreation. The actual type and level of use is often unique to each property. If the table lists prohibitions or restrictions be sure to check with NRPR, (520) 877-6000, for further information. Public use is subject to change depending on management need and public safety concerns. Always follow instructions or regulations on posted signage at the property. The most current and accurate Park Rules may be found on the NRPR web site at [www.pima.gov/nrpr](http://www.pima.gov/nrpr).

 Pima County Natural Resources, Parks and Recreation 3500 West River Road Tucson, AZ 85741 (520) 877-6000 <a href="http://www.pima.gov/nrpr">www.pima.gov/nrpr</a>	PROPERTIES															
	6 Bar Ranch	A7 Ranch	Agua Caliente Park	Bar V Ranch	Bucklew Farm	Canoa Ranch/Anza Trail	Cienega Creek Preserve	Diamond Bell Ranch	King 98 Ranch	Rancho Seco	Sands Ranch	Sopori Ranch	Sweetwater Preserve	Tucson Mountain Park	Empirita Ranch	Feliz Paseos Park
<b>USES AND FACILITIES</b>																
Biking	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Developed Camping Areas														X		
Developed Picnic Areas			X											X		
Developed Parking Areas			X			X	X					X	X			X
Developed Trails			X			X	X					X	X			X
Dogs on Leash Only			X			X	X					X				X
Equestrian Access	X	X		X	X	X	X	X	X	X	X	X	X	X	X	
Hiking	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Limited Hunting	X	X		X	X		X	X	X	X	X	X		X	X	
Motorized Vehicles	X	X		X				X	X	X	X	X			X	
Pets	X	X		X	X		X	X	X	X	X	X			X	X
Restrooms			X											X		X
Wildlife Viewing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Potable Water			X											X		X
Mixed Public Lands	X	X		X	X	X		X	X	X	X	X			X	
Permit Only Access							X								X	
Required Access Check In/Out Boxes	X	X									X	X			X	
<b>PROHIBITED OR RESTRICTED</b>																
Alcohol	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Camping	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Commercial Use Restrictions	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Restricted Travel Routes	X	X				X	X				X	X		X	X	
Restricted Entry Area(s)	X	X	X	X	X	X	X				X	X			X	
Fires	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Firearms and Archery Hunting	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Motorized Off Road Travel	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Unauthorized Land Disturbances	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Target Practice	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Wood Cutting	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

# Appendix vi - Past Open Space Planning Efforts in Pima County

During the research for this report, a 1998 report was reviewed called Open Space in Pima County; A Supplemental Report on the Open Space Committee Findings. The report was generated by a Committee appointed by the Pima County Board of Supervisors in 1985. It included a list and brief summaries of prior open space planning efforts. The list is reproduced below and more recent open space planning efforts have been added to the list.

1976 – Trails Access Plan. This plan located several areas and developed public acquisition strategies where access in existing public lands was in jeopardy of disappearing because of urban development.

1978 – Parks, Recreation and Open Space: A Conceptual Plan. This study provided the background framework for the open space element of the first comprehensive plan adopted by the City of Tucson in 1982.

1978 – Tucson Urban Study. The study developed both short term (10 to 15 years) and long term (50 years) alternate plans to integrate watercourses and other water resource projects into locally developed regional recreation plans.

1982 – Santa Cruz River Park Master Plan Update. This was the first major river park in Pima County.

1982 – Comprehensive Plan. The Comprehensive Plan was adopted by the City of Tucson and contained an open space element which called for the acquisition of major washes to link open public lands and for a more complete and detailed metropolitan Open Space and Regional Park Plan.

1984 – Rillito Corridor Study. The recreation element of this study proposed acquisition along the Rillito River for park development and a proposed connective series of trails along the Rillito River, Tanque Verde Creek and Sabino Creek. The flood control element provided flood plain management and acquisition of flood storage areas along Rillito, Tanque Verde, Sabino and Agua Caliente Washes.

1984 – The ULI/AIA Plan for Action. This plan called for implementation of the 1978 conceptual plan for open space and parks, and advocated early acquisition of open areas along the Rillito and Pantano Creeks.

1986 – Canada del Oro Master Plan. This plan was the first recreational river plan developed after all structured flood control improvements were completed on a major river.

1986 – Urban Design Commission Report. This report was an effort of local experts in planning, engineering, architecture and landscape architecture to improve the future urban form through quality design techniques. The Commission proposed a desert belt be created to define the Tucson southern boundary and supported the river park concept.

1986 – Critical and Sensitive Wildlife Habitats Study. This study identified areas of critical and sensitive wildlife habitat which should be preserved in the future.

1988 – Regional Trail and River Park System. This study was an interim step in developing primarily a regional system for Pima County. More detailed studies will be completed in the near future.

1988 – Regional Goals of Eastern Pima County. The adopted regional goals state: “A major asset of the region is its existing natural open spaces. To preserve open space amenities as urbanization continues, there is a need to integrate the mountains, foothills, floodplain and urban and natural parks into a continuous open space system.”

1988 – The Findings of the Pima County Open Space Committee. This report was generated by a Committee appointed by the Pima County Board of Supervisors in 1985. It provided recommendations on the types of lands that should be conserved, criteria that should be used to more narrowly select lands for conservation, mechanisms to protect such lands, and ideas on how to implement an open space program.

1998 – Open Space in Pima County. A Supplemental Report on the Open Space Committee’s Findings. This report is a supplement to the above report. It includes a history of past planning and funding efforts for open space preservation, the roles of federal agencies and State Trust lands, the lack of tax impacts from acquiring open space, the need to plan for open space in conjunction with development planning, summaries of other communities efforts at open space preservation, and local funding options for open space preservation.

1989 - Eastern Pima County Trails System Master Plan. The principal purpose of this plan was to identify acquisition priorities for the development of a trail network across eastern Pima County for pedestrians, equestrians, bicyclists, handicapped users, and other non-motorized trails users.

1993 - Pima County Open Space Land Acquisition Program. The report provided recommendations for a 3 year open space land acquisition program, including the identification of lands to purchase, and the following funding sources to purchase these lands: \$600,000 of General Fund monies approved by the Board earlier that year, proceeds from the sale of surplus property, state and federal grants, and a 15 million general obligation bond issue at a future bond election.

2000 – Open Space Acquisition Master Plan and Staff Report. This report was drafted by the Open Space Acquisition Review Committee (OSARC), appointed by the Pima County Board of Supervisors to oversee the 1997 open space bond program, and Pima County Staff. The plan identified properties that could be purchased with the 1997 bond funds.

2003 – Sonoran Desert Conservation Plan Steering Committee Report to the Pima County Board of Supervisors. This report documented the Steering Committee’s recommendations on issues related to the County pursuing an Endangered Species Act Section 10 Permit, including the acquisition of a group of lands known as Habitat Protection Priorities, and a request for a 2003 bond election to be held to fund such purchases.

2004 – Conservation Bond Program Proposal. The Pima County Board of Supervisors appointed a committee to make specific recommendations for a 2004 bond election regarding the dollar amounts, categories, and types of properties to be acquired for conservation. The Pima County Conservation Bond Advisory Committee produced this report as their proposal. It called for the conservation of lands known as Habitat Protection Priorities, as well as lands known as Community Open Space Properties, as one tool for implementing the Sonoran Desert Conservation Plan.

2007 – Conservation Acquisition Commission Recommendations. The Conservation Acquisition Commission appointed to oversee the implementation of the 2004 conservation acquisition bond program, developed recommendations for a tentative 2008 bond election. The recommendations continued to implement the Sonoran Desert Conservation Plan and focused on properties that were not able to be acquired with the 2004 bond monies, as well as some additional priorities.

# Appendix vii - Endangered, Threatened and Priority Vulnerable Species of Pima County

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# Special Recognition

## Pima County Bond Advisory Committee (1997-present)

*The Pima County Bond Advisory Committee is tasked with overseeing implementation of all of the Pima County voter-approved bond programs, in addition to making recommendations on which projects to include in future bond elections. The support of this Committee made possible the expansion of our mountain parks and conservation areas highlighted in this report.*

Larry Hecker, Chairman  
Carolyn Campbell, Vice-Chair  
Peter Backus  
Pat Benchik  
Donald Chatfield  
Gary Davidson  
Pete Delgado  
Brian Flagg  
René Gastelum  
Harry George  
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Kelly Gomez  
Byron Howard  
Terri Hutts  
David Lyons  
Rebecca Manoleas  
A.C. Marriotti  
Wade McLean  
Ted Prezelski  
Patty Richardson  
Chris Sheafe  
Thomas Six  
Dan Sullivan  
Tom Warne  
Greg Wexler



*Cover and all illustrations by  
Bill Singleton unless  
otherwise noted, with contribu-  
tions by George Maleski and  
Jan McDonald.*

# Acknowledgements

*This report, and the acquisition of the great places highlighted in it, would not have been possible without the hard work and expertise provided by the individuals listed below. Descriptions of our partner agencies and organizations are included inside the report. In addition, we'd like to especially thank the voters of Pima County who, since 1974, have continued to support their tax dollars going towards these efforts.*

*In memoriam: Maeveen Marie Behan (1961-2009)*

## Authors

### County Administrator's Office

Chuck Huckelberry, County Administrator  
Diana Durazo  
Nicole Fyffe  
Sam Negri

### Cultural Resources & Historic Preservation Office

Linda Mayro, Manager  
Roger Anyon  
Loy Neff  
Simon Herbert

### Natural Resources, Parks & Recreation Department

Kerry Baldwin, Natural Resources Superintendent

### Office of Conservation Science & Environmental Policy

Julia Fonseca, Manager  
Brian Powell

### Regional Flood Control District

Connie Maraschiello

### Design, Illustration & Layout

Bill Singleton

### Mapping & GIS Analysis

Mike List  
Mark Probstfeld

### Printing

Dave Weber

### Reviewers & contributors

Diana Barnes Freshwater  
Susan Beebe  
Wendy Burroughs  
Carolyn Campbell  
Arlan Colton  
Tedra Fox  
Gayle Hartmann  
Bill Mackey  
Sherry Ruther

### Current and former County staff who also worked closely on the acquisition programs

Steve Anderson  
Jim Barry  
Christina Biggs  
Linda Closs  
Neva Connolly  
Celina Cuaron  
Christine Curtis  
Carla Danforth  
Jean Emery  
Greg Foster  
Kelley Hall  
Dana Hausman  
Joe Kellner  
Debbie Knutson  
Neil Konigsberg  
Doug Laney  
Rita Leon  
Regina Nassen  
David Petersen  
John Regan  
Iris Rodden  
Deseret Romero  
Courtney Rose  
Suzanne Shields  
Mike Stofko  
John L. Sullivan  
Mary Tyson  
Jim Veomett

### Conservation Acquisition Commission (2004 – present)

Bill Roe, Chair  
Jan Johnson, Vice Chair  
Leslie Corey  
Trevor Hare  
Jim Marian  
Rob Marshall  
Chuck Pettis  
Tim Prouty  
Tom Sheridan  
Corey Smith  
Helen Wilson  
Bill Arnold (former member)  
Wanda Shattuck (former member)

### Davis-Monthan Open Space Advisory Committee (2004 – present)

Dr. William Carrell, Chair  
Hank Atha  
James B. Barker  
John C. Camper  
Albert Elías  
Rob Morton  
Michael R. Toriello  
Frank Felix (former member)  
Mike Hein (former member)  
Jennifer Meyer (former member)  
Roberto Rios (former member)  
Karen Thoreson (former member)

### Open Space Acquisition Review Committee (1997-2004)

Gayle Hartmann, Co-Chair  
Kate Hiller, Co-Chair  
William J. Acton  
Neale Allen  
Diana Barnes Freshwater  
Sue Clark  
Jan Gingold  
George Goode  
Roseann Hanson  
Debbie Hecht  
Jan Johnson  
Jonathan Kandell  
Delores Kazantzis  
Carol Klamerus  
Rob Kulakofsky  
Ellie Kurtz  
Andy Laurenzi  
Sonya Macys  
R. William Mannan  
Wendy Marcus  
Larry Marshall  
Patty McCleary  
Tom Monahan  
Jud Richardson  
Reed Sanderson  
Susan Sherrer  
Jerry Sweeney  
Sperry Van Langeveld  
Gene Wendt  
Donovan C. Wilkin

# Pima County Board of Supervisors:

District 2 - Ramón Valadez, Chairman

District 1 - Ann Day

District 3 - Sharon Bronson

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District 5 - Richard Elías

County Administrator

Chuck Huckelberry

