

Pima County's Multi-Species Conservation Plan: Balancing Development and Habitat Conservation

November 2012



Pima County is now finalizing the long-awaited Multi-species Conservation Plan (MSCP), which, if approved by the U.S. Fish and Wildlife Service, will streamline public-sector and private-sector development compliance with the Endangered Species Act while protecting endangered species and their habitats. In the coming months, the public will have a chance to comment on the MSCP through the U.S. Fish and Wildlife Service's formal public comment process before it goes to the County Board of Supervisors for final adoption. This report reviews the history of the MSCP, its relationship with the award-winning Sonoran Desert Conservation Plan, what benefits the MSCP will bring to the community, and what obligations the County, developers, and the taxpayers will have over time. The report also highlights other benefits of conservation actions undertaken by Pima County, including economic, recreation, and health benefits.

Sands Ranch in the foreground and the Mustang Mountains in the background. Sands Ranch contains some of the best grassland habitat in Pima County's land holdings. This agave-studded ranch also provides important habitat for the endangered lesser long-nosed bat.

The Sonoran Desert Conservation Plan: A Blueprint for Urban Growth and Conservation

Pima County has a history of grappling with contentious land-use decisions, starting as early as the 1970s. Since that time, many residents have been concerned about rezoning decisions in exurban, natural areas where proposed developments have threatened to alter the natural environment and cultural character. Concerns about the destruction of natural and cultural features to make way for housing, shopping centers, and roads often resulted in polarized hearings before the Board of Supervisors. These land-use debates raged unabated through the late 1990s, when the cactus ferruginous pygmy-owl was listed as an endangered species under the Endangered Species Act. That 1997 listing — and subsequent court battles — left the real estate market, individual developers, and the public sector uncertain about what was needed to comply with the listing and associated rules. A comprehensive and region-wide solution was needed to bring compliance and certainty into balance.

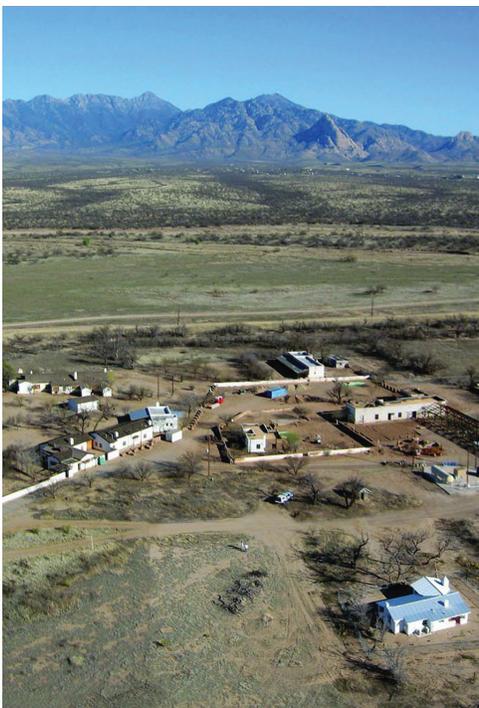
The situation with endangered species and development interests was not unique to Pima County; many other communities have similarly faced species' listings under the Endangered Species Act. What made Pima County's situation different was the County used

the listing decision as a catalyst to transform the conversation from a single-species conservation challenge into a regional vision for balancing economic development with the protection of our natural resources and cultural

heritage. Perhaps the most valuable outcome of that regional vision, known as the Sonoran Desert Conservation Plan (SDCP), has been to identify those areas where urban development is most desirable as well as those areas where conservation of rural landscapes and natural resources is preferred. In its implementation, this vision resulted in voter-approved bond funding to acquire open-space properties that conserve many species and their habitats, sustain ecosystem functions, protect cultural resources, and support the continuation of cattle ranching. This vision continues today by way of current planning efforts that are now more actively focusing on infrastructure and economic strategies necessary to ensure the long-term sustainability of our community.



The listing of the cactus ferruginous pygmy-owl as an endangered species marked the beginning of the community discussion that culminated in the Sonoran Desert Conservation Plan (SDCP). Photo by Aaron Flesch.



Pima County acquired the Raul M. Grijalva Canoa Ranch Conservation Park in 2001. Protection of lands like Canoa have become the hallmark of the SDCP. Photo by Chuck Park.

Since 1998, when the SDCP was first launched, it has received numerous awards as one of the nation's most ambitious, locally driven conservation plans. These accolades point to the SDCP's incorporation of sound science and community values, which set the SDCP apart from most other plans of its type.

Much of the early planning effort for the SDCP was focused on conservation of natural resources. Considerable time and effort was devoted to identifying those species that were most at risk by the expansion of residential and commercial development in unincorporated Pima County. Mapping the distribution of these species using geographic information system tools helped to determine if the County — through its land-use authority and land acquisitions — could contribute to the conservation of the species. Concurrent with the development of the scientific foundations of the plan were the workings of the SDCP Steering Committee, which was charged with a broad mission of representing community values and developing recommendations for Pima County on how to achieve compliance with the Endangered Species Act (ESA), particularly with regards to developing the MSCP. The Steering Committee was made up of self-chosen representatives from a broad swath of our community, including the real estate and mining industries, local ranchers, environmentalists, Native American tribes, and neighborhood groups.



The Endangered Species Act and Pima County

The ESA affords certain legal protections to species listed as endangered or threatened. Under the ESA, it is illegal to knowingly “take” (kill, harm, or harass) a threatened or endangered species. However, Section 10 of the act provides for legal take of a listed species when: 1) the taking is incidental to an otherwise lawful activity (i.e., the intent of the action is not to take), and 2) a Section 10(a)(1)(B) (herein “Section 10”) permit is authorized, which details measures to avoid, minimize, and/or mitigate for that take.

The cactus ferruginous pygmy-owl lost its endangered status in 2006, but the delisting did not eliminate the County's need for a Section 10 permit. This is because Pima County is located in one of the most biologically diverse regions in the U.S., and as a result, the number of listed species (16) is quite high relative to other areas of the U.S. In addition to those species that are currently listed, there are many more species found in Pima County that are being proposed or petitioned for ESA coverage. This high number of currently or potentially listed species, coupled with continued development pressure on natural areas,



The needle-spined pineapple cactus is an MSCP-covered species. It is possible that this species will be listed under the Endangered Species Act.

means that it will become increasingly difficult to avoid take of listed species.

Given these circumstances, Pima County has continued to work with the community to develop the Multi-species Conservation Plan (MSCP) as the County's application for a Section 10 permit. If approved by the U.S. Fish and Wildlife Service and adopted by the Pima County Board of Supervisors, the Section 10 permit will allow the County (and certain private development projects included under the permit) a specified level of take of listed species in exchange for implementation of a variety of conservation measures to avoid, minimize, and compensate (mitigate) for that take.



Aquatic habitats, such as this seasonal pool in the County's Buehman Canyon property, provide important habitat for many rare species in Pima County.



Scope of the MSCP

Permit Area

The MSCP Permit Area (Figure 1) is the area within which the Section 10 permit will apply and is a subset of Pima County that includes: 1) Only those lands under the Pima County Board of Supervisor's legal authority — principally private, unincorporated lands over which the Board has some regulatory authority — and those lands managed by Pima County for mitigation purposes; 2) all County-owned lands; 3) lands where Pima County constructs and maintains infrastructure on lands owned by another jurisdiction; 4) certain Arizona State Trust lands and Bureau of Land Management (BLM) lands that could be disposed to the private sector during the term of the permit; and 5) a subset of Arizona State Trust lands on which Pima County holds a grazing lease, including some lands outside of Pima County.

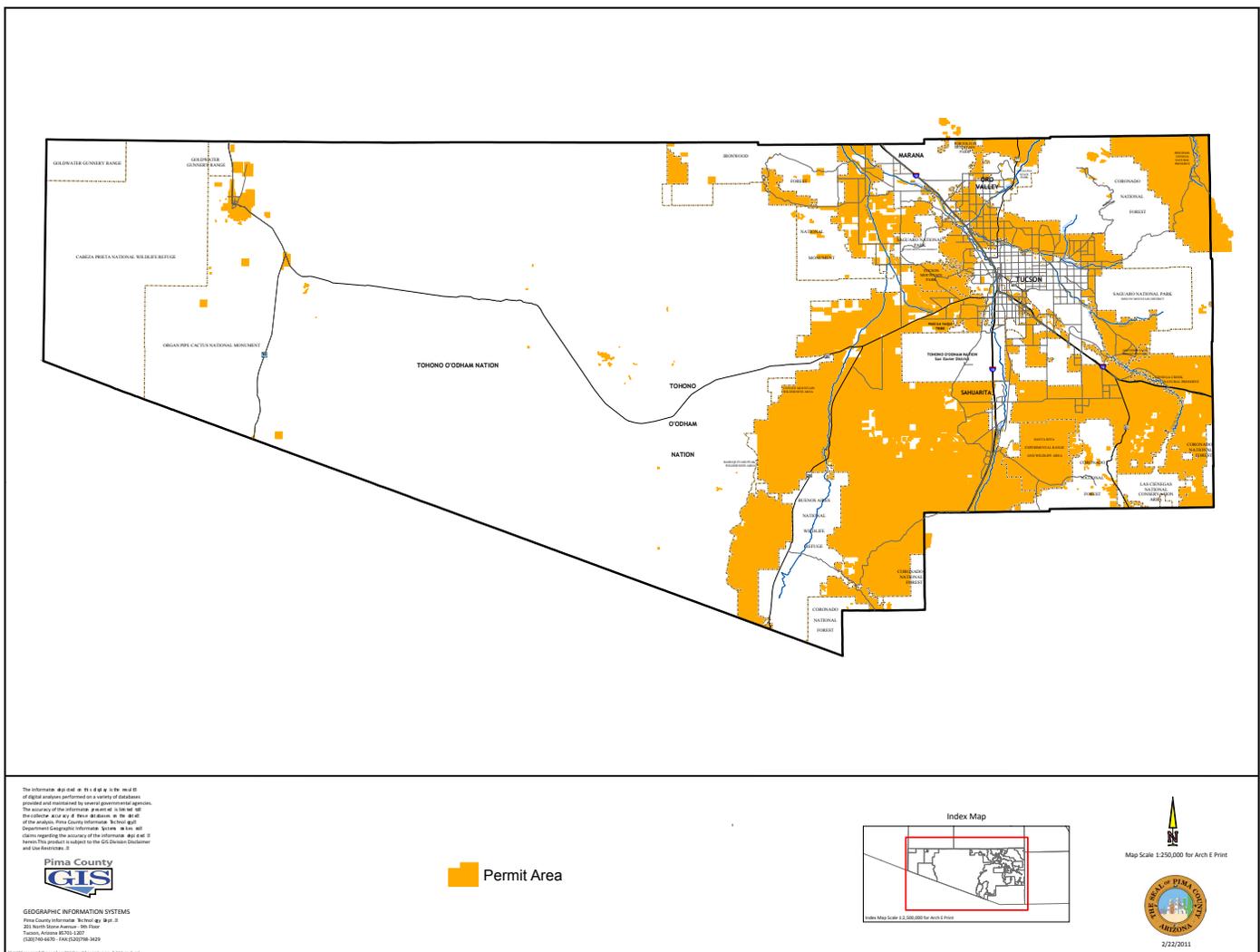


Figure 1. Section 10 permit area. A subset of development activities that take place in the Permit Area will be covered under the County's Section 10 Permit.

Covered Species

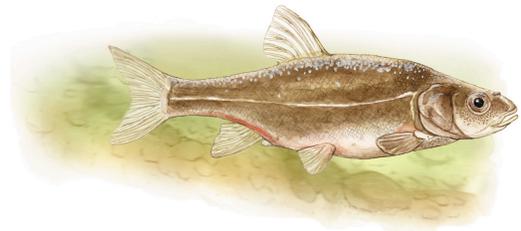
Covered Species are those species that are (or could be) listed as threatened or endangered under the Endangered Species Act and that are likely to be negatively impacted by certain development activities within the Permit Area. In initial planning stages of the MSCP there were 55 Covered Species, but that number has been reduced based on more recent decisions about what activities to cover under the permit, as well as new information about the species themselves. The County is now proposing to cover 44 species (Table 1). Most of the species are not currently listed under the Endangered Species Act, but by including them within the scope of the Section 10 permit, Pima County will be assured that if any are listed as threatened or endangered during the 30-year term of the MSCP, no new conservation measures will be required of either the County or private development covered under the permit.

Table 1. Species that will be covered under Pima County's MSCP. Species currently listed under the ESA are in bold.

Taxon	Common Name
Plants	Pima pineapple cactus
	Needle-spined pineapple cactus
	Huachuca water umbel
	Tumamoc globeberry
Mammals	Mexican long-tongued bat
	Western red bat
	Southern yellow bat
	Lesser long-nosed bat
	California leaf-nosed bat
	Pale Townsend's big-eared bat
	Merriam's mouse
Birds	Burrowing owl
	Cactus ferruginous pygmy-owl
	Rufous-winged sparrow
	Swainson's hawk
	Western yellow-billed cuckoo
	Southwestern willow flycatcher
	Abert's towhee
	Bell's vireo
Fishes	Longfin dace
	Desert sucker
	Sonora sucker
	Gila chub
	Gila topminnow
Amphibians	Chiricahua leopard frog
	Lowland leopard frog
Reptiles	Desert box turtle
	Desert tortoise (Sonoran population)
	Tucson shovel-nosed snake
	Northern Mexican gartersnake
	Giant spotted whiptail
	Ground snake (valley form)
Invertebrates	12 species of talus snails



Pima pineapple cactus



Gila chub



Cactus ferruginous pygmy-owl



Lesser long-nosed bat

Covered Activities

Private and County actions covered under the permit are called Covered Activities and are limited to grading and development of certain private land in unincorporated Pima County (see next paragraph) and County maintenance and construction activities, including capital improvement projects. Coverage for County activities also extends to some actions on ranchlands, including maintenance and construction of infrastructure, but not cattle grazing. The permit does not cover ground-disturbance activities by Federal agencies.

The MSCP offers private property owners two avenues to gain the protection of the County's permit.

- One avenue is available to individual property owners who apply for and receive a grading permit for 14,000 square feet or more from Pima County. Grading activities will automatically be protected under the Section 10 permit whenever Pima County issues the grading permit, unless the property owner declines permit protection. Declining protection is known as "opting out." If the owner does not opt out of protection, permit coverage will be provided at no cost to the property owner.
- Permit coverage is also available to those property owners whose grading and development are subject to a subdivision plat or development plan approved by Pima County. In these cases, the property owner must initiate the request for their development to be included under the County's Section 10 permit and such action is at the discretion of the land owner. This is the "opt in" method. The potential for such development to be included under the permit will be determined by eligibility criteria that include having an approved subdivision plat or development plan where the entire area is retained under a single ownership and where none of the development contemplated by the plat or development plan has occurred. There is a cost to the property owner when they choose to opt in. All fees are based on the fee-for-service principle. Everyone who opts-in will be required to pay an application fee and some may also be required to pay a compliance monitoring fee when natural open space set-asides within the development are dedicated as Section 10 mitigation lands.

The County's deliberations on the host activities that will be covered under the permit have resulted from



County development projects, including future construction and repair of bank stabilization along urban watercourses, will be covered under the Section 10 Permit. Photo by Regional Flood Control District.



Many private-sector development activities, such as this residential construction, can impact endangered species. The Section 10 Permit will provide benefits to some development projects, including certainty about compliance with endangered species regulations

numerous discussions with stakeholders and balanced with the County's needs and obligation under the permit. These deliberations are reflected in the range of alternatives that will be seen in the Environmental Impact Statement (EIS), which is the U.S. Fish and Wildlife Service's document that will accompany the County's MSCP and be subject to public review. Alternatives range from only covering County activities to covering all development activities for which the County issues a permit. Pima County believes that the suite of MSCP Covered Activities in the MSCP and the EIS's preferred alternative is reasonable and prudent and that the mitigation needed to offset impacts from the Covered Activities is achievable.



The Pima pineapple cactus is an MSCP-covered species.

Permit Timeframe and Expected Acres of Impact

The County is requesting a 30-year Section 10 permit to be divided into three 10-year phases. This phasing strategy creates check points to monitor the plan's implementation and effectiveness. Prior to the end of the 30-year permit period, Pima County may decide to extend the permit or let it lapse. Regardless of whether the permit expires after 30 years or is extended for an additional period of time, there will be some management and monitoring responsibilities that must continue indefinitely. Pima County capped the amount of ground disturbance that will be covered under the permit at 36,000 acres, but the EIS will examine a range of alternatives that includes covering more or fewer acres. The map and description of the Permit Area (Figure 1; noted earlier) encompasses a much larger area than will ultimately be covered under the permit because exactly where private development activities will occur is unknown. However, County staff developed a 30-year growth model to predict areas of development. That modeling effort has helped to inform the discussion about Covered Activities and the County's mitigation obligations under the permit.

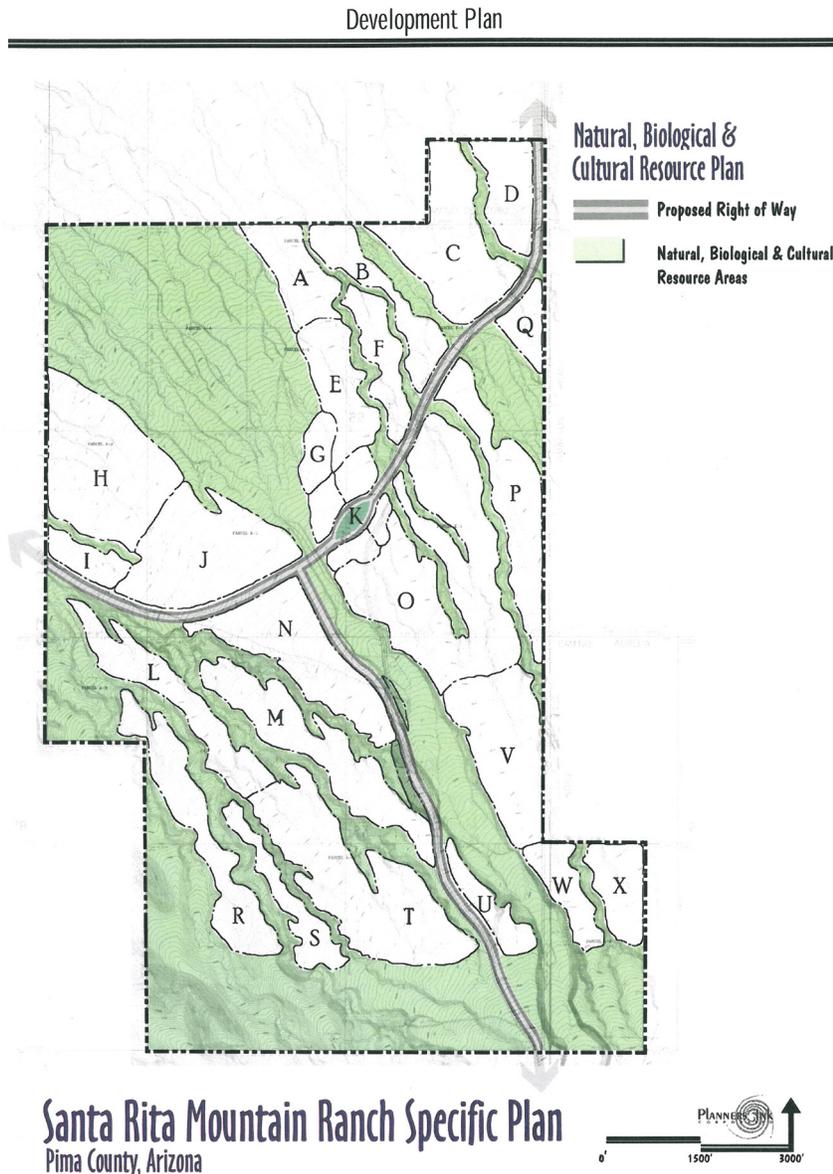
Mitigation: Combining MSCP Needs with the SDCP Vision

The SDCP brought forward a landscape-level vision for conservation, and the MSCP will institutionalize many SDCP principles, especially with regard to long-term land conservation. Funded in large part by the 2004 Open Space bonds, the County now owns or leases over 200,000 acres that help the County meet key SDCP goals, but also provide the bulk of the land-based portfolio that Pima County will need in order to mitigate or compensate for the habitat loss caused by those public and private development activities that are covered under the Section 10 permit. The mitigation approach that Pima County has put forward in the MSCP will require the County to have an aggressive and innovative conservation approach that seeks to match the scale of — and address the goals of — the SDCP.



The desert tortoise (Sonoran population) is not currently listed under the Endangered Species Act (ESA), but its declining numbers and increasing threats could result in the species listing.

The CLS map is also integral to the County’s mitigation approach for the MSCP; it will be a primary tool in determining the acreage and quality of lands the County will need to provide as mitigation for Covered Activities. More specifically, the CLS designation of mitigation land must match the CLS designation of lands that are being impacted and the amount of that mitigation acreage must correspond to the percentage of natural open space set-aside identified in the MSCP for that CLS designation. Based on overlapping the location of modeled future development onto the CLS map, Pima County estimates that approximately 116,000 acres will be needed to meet our Section 10 mitigation obligations. The lands that Pima County owns plus those the County currently holds under State grazing leases are a significant down payment on this anticipated mitigation responsibility. Many of these lands are ranchlands that encompass a wide range of habitats, from desert scrub and riparian forest to oak woodlands (Figure 4; next page).



In addition to using bond-funded open-space properties as mitigation lands, when a property owner desires protection under the Section 10 permit and exercises the opt-in method, Pima County intends to use natural open-space set-asides required by the Board of Supervisors during the rezoning process as mitigation (Figure 3). In this way, the MSCP honors the long-standing expectation that the private sector’s compliance with the CLS and SDCP would materially contribute to the County’s Section 10 permit.

Additional legal protections will be placed on those natural open-space lands at the time they are designated as mitigation for Covered Activities. The purpose of these additional protections is to ensure that lands used for mitigation remain as permanent, undeveloped, natural open space. Ensuring the perpetual undeveloped, natural condition of these lands is required in order for the County to receive maximum mitigation credit for these lands.

Figure 3. Most land-use proposals that require a rezoning are required to provide natural open space set-asides to comply with the CLS. The natural open space set-asides shown here for the Santa Rita Mountain Ranch Specific Plan is an example of a CLS-compliant project whose open-space areas could be used as Section 10 mitigation land.

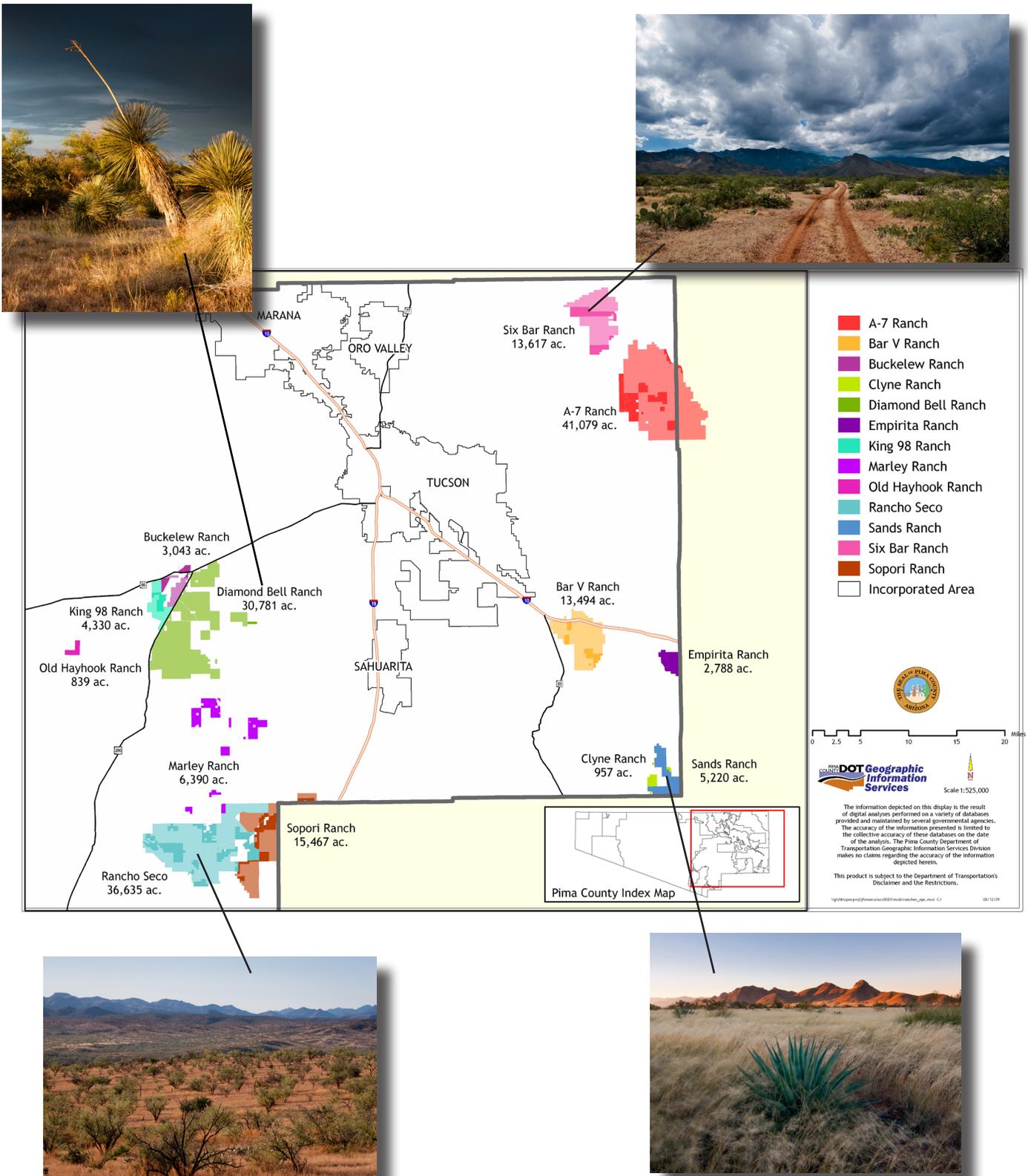


Figure 4. Since 2004, Pima County has acquired 13 active cattle ranches. Most ranches include both private land that is now owned by Pima County (shown in darker shades within most ranches on the map) as well as State and Federal lands, which the County leases (shown in lighter shades within most ranches on the map).

Land and Resource Management

The County is responsible for management of County owned and leased mitigation lands to ensure that the natural and cultural resource values for which they were secured persists over time. How the County manages these lands for the benefit of natural (especially biological) resources has a direct and critical relationship to the MSCP and, ultimately, the County's receipt of the Section 10 permit. Current management efforts focus on protecting important habitat communities like riparian areas, reducing the spread and adverse effects of buffel-grass and other invasive species, cleaning up illegal trash dump sites, and providing for recreational opportunities



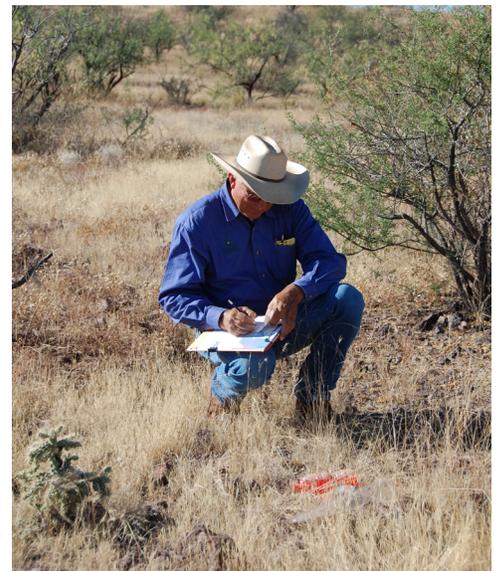
The lowland leopard frog is a Covered Species that will be monitored for the duration of the MSCP. Pima County owns or manages some of the best lowland leopard frog habitat in southern Arizona.

for people to enjoy resources without causing undesirable impacts. Because Pima County has acquired extensive lands with active livestock operations, management also focuses on maintaining the long-term health of these rangelands. Once Pima County has the Section 10 permit in hand, the current management activities will continue and will become a commitment under terms of the permit.

Where natural open space set aside within a development are used as section 10 mitigation, management will remain the responsibility of the property owner. No additional, permit-specific requirements will be imposed on the private landowners or Home Owners Associations (HOA's), but the landowner must comply with applicable County ordinances, adhere to any rezoning conditions that might have been applied by the Board of Supervisors if the property was previously rezoned, and conform with stipulations prescribed by the subdivision plat or development plan. In the execution of these responsibilities, specific attention will be placed on maintaining the undeveloped status of the mitigation land and reasonable prevention of the spread of invasive species.

Permit Monitoring

As a recipient of a Section 10 permit, Pima County is obligated to provide the U.S. Fish and Wildlife Service with regular evaluations of how well it is doing in meeting the permit requirements. This permit monitoring requirement has two components, compliance monitoring and ecological monitoring. Compliance monitoring demonstrates that Pima County has accurately accounted for take and subsequently provided the necessary amount of mitigation land. Ecological monitoring is more involved and requires the County to determine if implementation of the permit is having the desired environmental benefit. Therefore, Pima County will be tracking the status and well being of individual species and their habitats throughout the 30-year permit period.



Monitoring the condition of resources, such as vegetation and ground cover, is a key aspect of the County's monitoring obligation under the Section 10 Permit.

Pima County will also be assessing the effects of climate as well as environmental threats such as invasive species because of the direct relationship these factors have in the long-term health of species' populations and habitat quality. Particular emphasis will be placed on monitoring aquatic, riparian, and rangeland conditions. Pima County will monitor the populations of 15 Covered Species, among them the Pima pineapple cactus, desert tortoise, two species of leopard frogs, and the cactus ferruginous pygmy-owl. The broad focus on species, habitats, and other environmental features follows the recommendation by the Science and Technical Advisory Team, which suggested that Pima County take a broader perspective and monitor a complement of ecosystem features (e.g., vegetation, water, climate, and land cover change) rather than focusing solely on tracking populations of individual species. Single-species monitoring is often the only focus of monitoring for Section 10 permits.

As monitoring information is collected, the County expects to learn that some of its management activities have been successful while others may need to be adjusted. The intent is to make adjustments to on-going management activities with the expectation that these adjustments will have a favorable result on species and their habitats. Ecological monitoring activities will be the responsibility of Pima County and any monitoring that requires an on-the-ground presence will only take place on lands the County owns or lands on which the County holds a grazing lease.



Buffelgrass is an invasive species that is prevalent throughout southern Arizona. It forms dense stands, which can lead to large and catastrophic wild fires. Management and monitoring of this and other invasive species is an important priority for Pima County and for the MSCP.

Annual Compliance Monitoring reports and Ecological Monitoring reports will be provided to the U.S. Fish and Wildlife Service. These reports will also be available to any member of the public as well as the subject of regular updates to the Board of Supervisors.



A7 Ranch in the foreground with the Rincon Mountains in the background. A7 Ranch is the largest of the MSCP mitigation properties.

Costs

Unlike most other communities with large-scale Section 10 permits, there are few commitments in the MSCP that would trigger new costs to the County (Figure 5.). Most of the elements proposed are already incorporated into — and funded as part of — the County’s ongoing commitment to the SDCP. The community’s investment in acquiring open space lands is a stellar example of getting a benefit for dollars that have already been spent. As noted earlier in this report, the approximately 200,000 acres of open space lands that the County has bought and leased since 2004 will be used to fulfill permit mitigation requirements. Approximately \$139 million in bond funds was used to acquire these lands, which is a cost that the community has already sustained. To date, taxpayers have repaid a significant amount of these bond funds. In fact, the average contribution per property owner necessary to secure this portfolio of potential permit mitigation lands is only about \$1.35 per month and as the County continues to pay off the outstanding balance, this amount will decline.

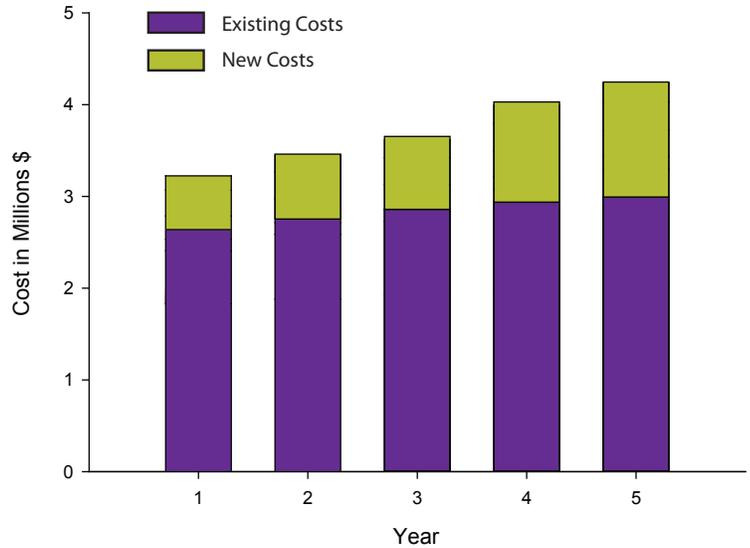


Figure 5. Annual cost of the MSCP and SDCP, by program element. It is important to note that most of the costs associated with MSCP implementation are ongoing program costs (shown in purple). Only the ecological monitoring program would be a new and required element of the MSCP (shown in green).

Receipt of the Section 10 permit will carry some new costs, most of which will be related to those Ecological Monitoring tasks the County must perform under the permit in order to demonstrate that implementation of the MSCP is having an ecological benefit. Current estimates indicate that the initial cost of this program will total approximately \$570,000 annually for the first few years and then level out at about \$1.2 million annually as this monitoring program becomes fully implemented.



MSCP/EIS Timeline and Public Review

The U.S. Fish and Wildlife Service is a federal agency subject to the requirements of the National Environmental Policy Act, which dictates a process by which the Service must evaluate the County’s Section 10 permit. Key considerations for the Service during the review period are the range of alternatives (one of which is the MSCP) and their potential to affect the region’s human, natural, and cultural environment. At a time of their choosing, the Service will announce in the Federal Register that the County’s MSCP and the Service’s Draft Environmental Impact Statement are available for public review and comment. The review and comment period will be for 90

days. During the comment period the Service will hold at least one public meeting, collect public comment by various means, and meet with tribal officials to solicit their input. After the public comment period ends, the Service must address the comments, and if necessary, ensure that any new impacts be evaluated and reported in the Final Environmental Impact Statement. This entire federal process is expected to take at least a year to complete, after which the Service will issue a Section 10 permit to Pima County.

Other Community Benefits

At their core, the SDCP and MSCP are about seeking an appropriate balance between vital economic development and maintaining and enhancing key elements of the natural environment. Often missing in the classic growth vs. conservation debate is a discussion of the economic benefits that natural resources provide to the economy beyond the traditional view of extracting value from the land for goods such as metals, timber, and crops. These types of benefits are referred to as ecosystem services — products and services produced by the environment.

Water is one of our most precious resources and it can be used to illustrate the monetary benefits of obtaining and improving conditions on those mitigation lands that are used for the MSCP (Figure 6). Maintaining mitigation lands as natural open space allows natural processes to continue in a relatively natural state, as illustrated in the example as compared to developed land.

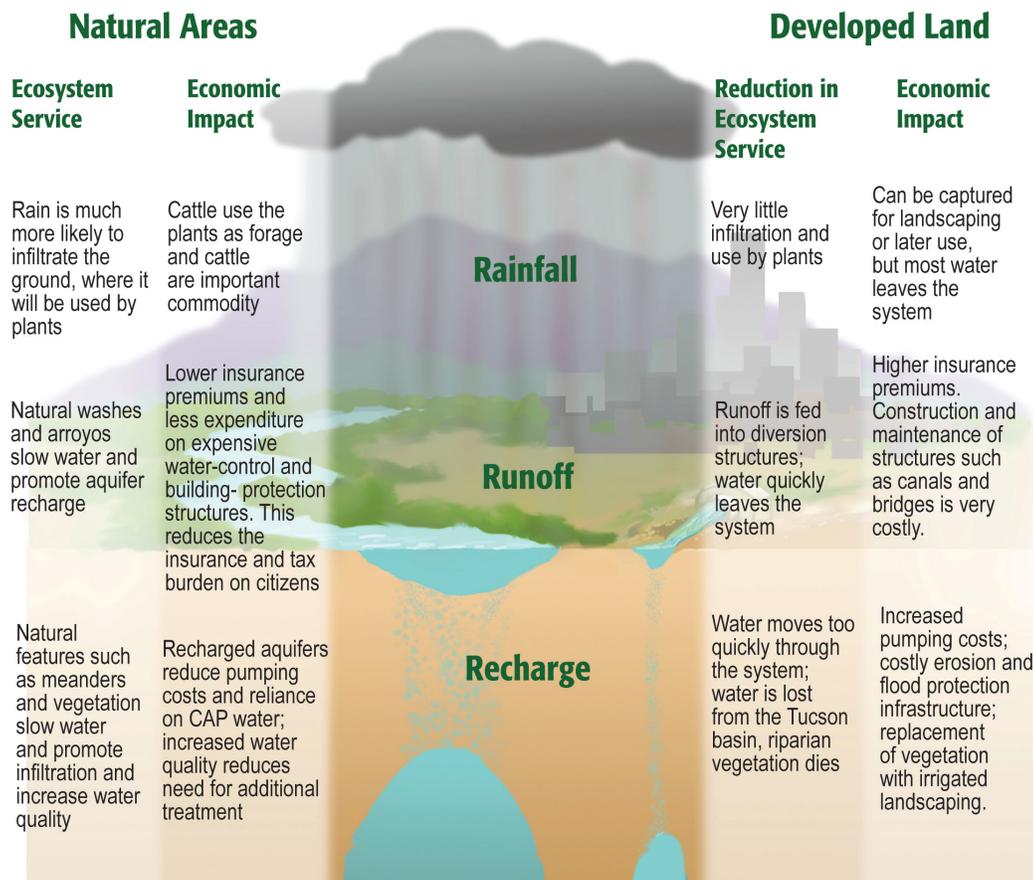


Figure 6. Economic benefits of maintaining natural areas including the role these areas play in redirecting floods, replenishing aquifers, and reducing flood-insurance premiums.

Benefits of ecosystem services become more tangible for some residents of Pima County when flood insurance premiums are considered, a benefit that would not be possible without the protection of key properties in Pima County. The Community Rating System (CRS) is a Federal Emergency Management Agency 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 flood insurance premiums based on the many elements for which Pima County is credited, including the purchase of flood-prone lands. Our community's rating falls within the top 5 percent of communities nationwide that are able to pay the reduced rates for flood insurance.

The benefits of mitigation lands also provide both economic and recreational benefits that impact our quality of life and improve our regional economy. According to the Arizona Office of Tourism, the leisure and travel industry continues to outpace the

gross domestic product of other export-based industries such as mining. Given that many activities of tourists are nature-based outdoor activities, the protection of open space for recreation can create tourist-based jobs.

Tourism in Pima County accounted for more than 5 percent of total county employment in 2006, with an estimated \$2.26 billion in revenue. Hunting, fishing and wildlife viewing are also big revenue generators and together produced over \$15 million in state tax revenue in Pima County in 2001. In addition to the financial benefits, preserving open space — particularly in areas close to the urban core — creates recreational opportunities that promote healthy and active lifestyles. Unlike some other jurisdictions that have closed off mitigation lands to recreation, Pima County has been steadfast in allowing recreation to occur on these lands. The conservation of open space at a landscape level also provides protections for the rich and varied cultural resources, from prehistoric artifacts to present-day rancher heritage.

The SDCP and CLS have also been critical to multiple community discussions on how and where we accommodate future growth. The products of such community discussions include the County's Comprehensive Plan, the Joint City – County Water and Wastewater Study, and Imagine Greater Tucson. These and other community-based conversations will continue to influence our transformation into a more livable and sustainable community.

In summary, the benefits of preserving open space and the tools we have developed in response to an initial regulatory compliance issue have allowed the community to realize tangible financial, health-related, and community-planning benefits.

A Final Thought

As the County concludes the decade-long development of the MSCP and stands on the verge of receiving the long-awaited Section 10 permit, we should reflect a moment on how far this journey has brought us as a community. The once contentious debates about urban sprawl are now rare events and for the most part have evolved into a more civil discourse that recognizes that our economic vitality and the conservation of our unique natural and cultural heritage are equally important to sustain a vibrant community. While we have made much progress and realized both expected and unexpected benefits, the lessons we have learned along the way will serve us well as we embark on the latest success of the SDCP: the adoption of the MSCP.



Section 10 mitigation lands, such as the Sweetwater Preserve, are used for a variety of purposes, including recreation.

Photo by Dean Knuth

For more information about the MSCP, please visit our website:
<http://www.pima.gov/cmo/sdcp/MSCP/MSCP.html>
Or call the Pima County Office of Conservation and
Sustainability at: (520) 740-6440.



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and Conservation**

Linda Mayro, Director

Report by:

Text: Office of Sustainability and Conservation

Photos: Brian Powell unless otherwise credited

Illustrations: Bill Singleton

Layout: NRPR staff