



Coalition for Sonoran Desert Protection

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Arizona Center for Law in the Public Interest
Arizona League of Conservation Voters Education Fund
Arizona Native Plant Society
Bat Conservation International
Center for Biological Diversity
Center for Environmental Connections
Center for Environmental Ethics
Defenders of Wildlife
Desert Watch
Drylands Institute
Empire Fagan Coalition
Environmental and Cultural Conservation Organization
Environmental Law Society
Friends of Cabeza Prieta
Friends of Ironwood Forest
Friends of Madera Canyon
Friends of Saguaro National Park
Friends of Tortolita
Gates Pass Area Neighborhood Association
Native Seeds/SEARCH
Neighborhood Coalition of Greater Tucson
Northwest Neighborhoods Alliance
Protect Land and Neighborhoods
Safford Peak Watershed Education Team
Save the Scenic Santa Ritas
Sierra Club—Grand Canyon Chapter
Sierra Club—Rincon Group
Silverbell Mountain Alliance
Sky Island Alliance
Sky Island Watch
Society for Ecological Restoration
Sonoran Arthropod Studies Institute
Sonoran Permaculture Guild
Southwestern Biological Institute
Tortolita Homeowners Association
Tucson Audubon Society
Tucson Herpetological Society
Tucson Mountains Association
Wildlands Network
Women for Sustainable Technologies

Steve Spangle
Field Supervisor, Arizona Ecological Services Office
U.S. Fish and Wildlife Service
2321 West Royal Palm Road, Suite 103
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Dear Mr. Spangle:

For over a decade, the Coalition for Sonoran Desert Protection (Coalition) and its 41 member groups have consistently and vigilantly worked with Pima County (County), the US Fish and Wildlife Service (FWS), and community stakeholders to contribute to the development of Pima County’s Multi-species Habitat Conservation Plan (MSCP) and many of its supporting reports and documents. We commend the County for undertaking such a bold and comprehensive conservation effort and for its extensive efforts to involve the public and integrate public input. In particular, we applaud the County for clearly and fully linking the Conservation Lands System (CLS) to the MSCP and for persevering in the design of an opt-in program that addresses the concerns of a wide range of stakeholders. Both of these decisions involved creative problem-solving that has resulted in a stronger and more inclusive MSCP. It is our hope that these comments will be helpful as the County works to refine and finalize its MSCP.

The Public Draft MSCP is the focus of the following comments. However, it is important to consider the MSCP’s context in relation to the biological goals and objectives established by the Sonoran Desert Conservation Plan (SDCP), which more holistically reflect the community’s values and input. The biological goal of the Sonoran Desert Conservation Plan is:

To ensure the long-term survival of the full spectrum of plants and animals that are indigenous to Pima County through maintaining or improving the habitat conditions and ecosystem functions necessary for their survival.

Inherent within this broad goal are the following objectives Science and Technical Advisory Team (STAT) Goals and Objectives 9.1):

1. Promote recovery of federally listed and candidate species to the point where their continued existence is no longer at risk.
2. Where feasible and appropriate, re-introduce and recover species that have been extirpated from this region.
3. Maintain or improve the status of unlisted species whose existence in Pima County is vulnerable.
4. Identify biological threats to the region’s biodiversity posed by exotic and native species of plants and animals, and develop strategies to reduce these threats and avoid additional invasive exotics in the future.

5. Identify compromises to ecosystem functions within target plant communities selected for their biological significance and develop strategies to mitigate them.
6. Promote long-term viability for species, environments and biotic communities that have special significance to people in this region because of their aesthetic or cultural values, regional uniqueness, or economic significance.

...

In the broadest sense, this conservation element of the SDCP will be the framework for integrating biological conservation into Pima County's development process. If the plan effectively addresses the objectives above, it will also lead to a Section 10 Permit under the Endangered Species Act, for those species where it is justified by scientific evidence and by the implementation of a defensible habitat conservation plan.

The MSCP is a crucial component of the SDCP. If adequately structured and implemented, the MSCP will be one of the primary mechanisms that will enable the County to achieve the broader, even more ambitious goals set forth in the SDCP. Therefore, the ultimate success of the SDCP hinges upon an MSCP that contains all of the right elements: sound science, clear management and monitoring commitments, assured funding, and other crucial details specific to Pima County's plan.

The Coalition appreciates the County's commitment to the strategies included in the current MSCP draft. However, the Final MSCP will need additional components, as well as greater clarity and specificity, in order to comply with the Endangered Species Act, be consistent with the FWS HCP Handbook (1996), and ultimately to be more successful than other MSCPs/HCPs have been to date. In order to be successful, the Final MSCP should include:

- Documentation of assured funding for mitigation, management and monitoring, and a transparent mechanism for the FWS to concur with MSCP-related general fund allocations;
- A clear delineation between the actions Pima County commits to under the incidental take permit vs. the actions which will commence in specific circumstances (including when appropriate "triggers" are reached), as well as voluntary actions the County strives towards;
- An adequate explanation of why the proposed minimization and mitigation measures are the "maximum extent practicable";
- Clearly stated biological goals and objectives for all the covered species;
- A commitment to implementing a monitoring and adaptive management program that will enable the County to test hypotheses by tracking the success or failure of management actions to achieve the stated objectives and that will inform future management decisions;
- Greater specificity for species-specific enhancement measures and unequivocal language on which of these measures Pima County is required to perform under the MSCP to maintain its incidental take permit;
- A more robust assessment of foreseeable changed circumstances and a more detailed discussion of how the County plans to respond to changed circumstances; and
- A commitment to developing resource management plans for its mitigation lands (in consultation with the FWS and with public input, including Coalition members) to include monitoring and adaptive management of natural resources and Special Elements found on these lands, which are vital to the continued survival and recovery of the 44 species Pima County seeks coverage for under the incidental take permit.

Mitigation Program

Assured Funding

The FWS HCP Handbook (1996) states:

The ESA requires that the HCP detail the funding that will be made available to implement the proposed mitigation program. Measures requiring funding in an HCP typically include onsite measures during project implementation or construction (e.g., pre-construction surveys, biological monitors, exclusion fences, etc.), as well as onsite and offsite measures required after completion of the project or activity (e.g., revegetation of disturbed areas and acquisition of mitigation lands). Large-scale, regional HCPs should require funds for long term needs such as biological monitoring and habitat acquisition programs. Some will even require perpetual funding mechanisms to support long-term management of mitigation lands or for monitoring.

...
Whatever the proposed funding mechanism is, failure to demonstrate the requisite level of funding prior to permit approval or to meet funding obligations after the permit is issued are grounds for denying a permit application or revoking or suspending an existing permit, respectively.

The Public Draft MSCP identifies potential Assured Funding Mechanisms (8.2) and we appreciate that the County has already conducted biological surveys prior to acquisition of mitigation lands, along with requiring site assessments by private landowners who have open space set-asides on their property. However, the MSCP should more clearly outline the measures that are already funded vs. those that need additional future funding. It is also concerning to read in a footnote of Table 8.1 that the “[mitigation lands management] budget is likely to increase as the number of properties under management increases, which is not reflected in these estimates.” The estimated budget for the “mitigation lands management” line item **must** accurately reflect the anticipated increases in management costs for mitigation lands the County anticipates acquiring and/or conserving. The budget also needs to outline an estimate of necessary funding for future land acquisition. The MSCP must then report the assured funding mechanism for these foreseeable management costs. Furthermore, since the County’s commitments to management and monitoring are not completely clear (see Management, Monitoring and Adaptive Management sections to follow), it is therefore equally unclear how much management commitments required under the permit will cost over the life of the permit.

The Draft Environmental Impact Statement (DEIS) for the MSCP states “The cost of the mitigation commitment, beyond the amount already spent, could be approximately \$20 million” (p. 2-12). This amount does not appear to be included in the MSCP’s list of costs and their assured funding sources in Chapter 8 (Table 8.1). Yet the MSCP states, “Pima County has already acquired over 106,000 acres with which to mitigate future impacts. This represents 91% of the mitigation projects to be needed over the 30-year permit...Based on the current projected footprint of Covered Activities, Pima County’s existing land portfolio will be sufficient for all mitigation needs except for those needed to off-set impacts within Multiple Use Management Areas” (p. 40-42). Thus, the County may potentially need more money to finish purchasing the remaining 8% of mitigation lands, although this could be avoided if they improve and monitor condition goals on State Trust Lands and increase the credit received for these lands. This seems to be in direct contradiction with the DEIS, which indicates that

Alternative D will cost about \$20 million more in mitigation acquisitions. The DEIS does not indicate where this money would come from. In Table 2.1, the Draft EIS states the “Need to acquire additional mitigation lands in addition to those already acquired is ‘potentially minimal.’” Is the DEIS referring to the \$20 million figure noted above? If so, \$20 million cannot be considered minimal. Either way, the MSCP and the EIS must be consistent.

The MSCP must state that the FWS will be given the opportunity to review and concur, or not, with the County’s annual MSCP-related general fund allocation. This process needs to be open and transparent to the public with an opportunity for public input.

Summary of Recommendations:

- The estimated budget for the “mitigation lands management” line item **must** accurately reflect the anticipated increases in management costs for mitigation lands the County anticipates acquiring and/or conserving.
- The MSCP should clarify the amount of money needed for future open space acquisitions. Currently, this information is inconsistent between the MSCP and DEIS and with language included in Table 8.1 in the MSCP.
- The MSCP should include a statement that the FWS will be given the opportunity to review and concur, or not, with the County on a yearly basis with the MSCP-related general fund allocation.
- The MSCP should identify how much of the multi-jurisdictional RTA Critical Landscape Linkages funding the County expects to utilize for mitigation.

Maximum Extent Practicable Analysis

The MSCP should explain why the proposed minimization and mitigation meet the “maximum extent practicable” standard

In approving an HCP, the FWS must conclude that the plan will minimize and mitigate adverse impacts to the “maximum extent practicable.” This is typically a higher standard than the “jeopardy” standard that all HCPs must also meet and is a central component of any HCP. In determining whether the standard is met, the HCP Handbook states the following:

This finding typically requires consideration of two factors: adequacy of the minimization and mitigation program, and whether it is the maximum that can be practically implemented by the applicant. To the extent maximum that the minimization and mitigation program can be demonstrated to provide substantial benefits to the species, less emphasis can be placed on the second factor. However, particularly where the adequacy of the mitigation is a close call, the record must contain some basis to conclude that the proposed program is the maximum that can be reasonably required by that applicant.

The entire draft MSCP, however, mentions the “maximum extent practicable” standard only twice, both in passing. From the draft alone, it is difficult for us to understand how Pima County has created a record that facilitates the FWS’s ability to determine whether the “maximum extent practicable” standard has been met. Further, page 3 of the MSCP misstates the approval standard for HCPs, referring to “those steps Pima County will take to avoid, minimize, and mitigate such impacts

(see Chapter 4),” rather than doing so to the “maximum extent practicable” as required under the ESA. Our comments are not to suggest that the conservation measures in the MSCP do not come close to minimizing and mitigating to the maximum extent practicable. We recognize the valuable amount of habitat acquired under the SDCP, prior to the MSCP. But we also believe that this standard must be taken seriously and that both FWS and HCP applicants must articulate to the public how the standard has been met. In applying the standard, we believe FWS should conclude that many of the species-specific enhancement measures in the Draft MSCP’s Appendix A should be required under the MSCP, as they appear practicable for Pima County to implement. Section 4.3 on mitigation tools, however, does not explicitly commit Pima County to implementing those measures under the MSCP, as discussed in greater detail below.

Summary of Recommendations:

- The MSCP should explain why the proposed minimization and mitigation meet the “maximum extent practicable” standard.

The Mitigation Sandwich

Pima County’s “Mitigation Sandwich” has many, but not all, of the right ingredients

Under the Endangered Species Act [Section 10(a)(2)(A)] and Federal regulation [50 CFR 17.22(b)(1), 17.32(b)(1), and 222.22], a conservation plan submitted in support of an incidental take permit application must detail the “measures the applicant will undertake to monitor, minimize, and mitigate such impacts; the funding that will be made available to undertake such measures; and the procedures to deal with unforeseen circumstances.” (FWS 1996).

An addendum to a memorandum addressed to the Pima County Board of Supervisors, written by Pima County Administrator C.H. Huckelberry on August 28, 2009 regarding “Difference Between Open Space and Mitigation Land for MSCP Credit” states:

The USFWS will grant mitigation credit that is proportional to the level of land protection achieved on each mitigation parcel. **In order for USFWS to grant full credit for mitigation to a parcel, the land must not only be acquired without the use of federal funds, it must be managed and monitored with biological protection in mind, and have an enduring legal status that prevents future incompatible uses.** This standard has been colloquially called the “mitigation sandwich”. Most Mitigation Lands do not yet provide all four levels of protection. **Monitoring and legal protection satisfactory to USFWS will be required to meet with terms of the Section 10 permit**” (emphasis added).

The “mitigation sandwich” required by the FWS is an analogy that has been used to explain mitigation requirements as detailed in the FWS’s Habitat Conservation Planning and Incidental Take Permit Processing Handbook (FWS 1996). The handbook states:

Mitigation actions under HCPs usually take one of the following forms: (1) avoiding the impact (to the extent practicable); (2) minimizing the impact; (3) rectifying the impact; (4) reducing or eliminating the impact over time; or (5) compensating for the impact. For example, project effects can be (1) avoided by relocating project facilities within the project

area; (2) minimized through timing restrictions and buffer zones; (3) rectified by restoration and revegetation of disturbed project areas; (4) reduced or eliminated over time by proper management, monitoring, and adaptive management; and (5) compensated by habitat restoration or protection at an onsite or offsite location.

In order to be consistent with the handbook's guidance, the County's MSCP mitigation sandwich must include clear, transparent commitments (i.e. "sandwich ingredients") in the following categories: **1) acquisition, 2) legal protection, 3) management, and 4) monitoring.** We have organized our comments on the proposed mitigation program based upon these categories.

We commend Pima County's long-standing commitment to implementing avoidance, minimization and mitigation measures through the County's Conservation Lands System and governing development policies. And while we believe the County has demonstrated that it has the ability and mechanisms to meet the acquisition and legal protection requirements for mitigation lands, the MSCP as currently written does not adequately describe and codify the County's ability to implement its commitments to managing and monitoring them.

Summary of Recommendations:

- The MSCP must adequately describe and codify the County's ability to implement its commitments, including managing and monitoring mitigation lands and a subset of the covered species.

1) Acquisition

Pima County has demonstrated a strong commitment, well in advance of applying for an incidental take permit, to acquiring lands (conserved habitat areas) for the purpose of mitigating future impacts it anticipates authorizing for the duration of the permit. In 2004, Pima County residents approved \$164 million in bond funds to acquire important conservation lands identified as "Habitat Protection Priorities" (priorities developed by the Arizona Land and Water Trust and the Nature Conservancy of Arizona, using the biological reserve design developed by the Pima County Science and Technical Advisory Team), community open space, and specific lands requested by other local jurisdictions. According to County staff speaking at the Coalition's MSCP Open House on February 27, 2013, the County has acquired 75,000 acres of fee simple lands and 124,000 acres of leased State Trust Lands (equating to 31,000 acres available for mitigation credit) with this bond money, other funds such as the County's Floodprone Acquisition Program, and monies from the 1997 Open Space bond.

A future Open Space bond election is also anticipated, with the County's citizen-led Conservation Acquisition Commission recommending \$285 million for open space in the next County bond, although the Bond Advisory Committee has tentatively recommended only \$120 million. The County Administrator is, as of this writing, proposing a further reduced \$100 million. Critical parcels remain to be acquired to complete the vision and intent of the County's decade-plus efforts to balance land use planning with conservation of its natural resources. Parcels necessary to complete the vision include critical landscape connections between the northern Tucson Mountains and the Tortolita Mountains; connecting the Canoa Ranch under Interstate 19 towards the Marley Ranch; and other previously identified Habitat Protection Priority parcels.

The 1996 FWS HCP Handbook states: “Generally, the location of replacement habitats should be **as close as possible to the area of impact; it must also include similar habitat types and support the same species affected by the HCP**” (emphasis added). Therefore, the County should “bank ahead” for anticipated impacts with similar (i.e. like-for-like) habitat types that support the same species impacted by covered activities, as close as possible to the area of impact.

The County should track impacts to Special Elements and strive to mitigate for them

Special Elements are landscape features which were used in the development of the reserve design for the SDCP and which are, in combination with Priority Conservation Areas (PCAs), emphasized in the FWS’ DEIS. Special Elements are an important “coarse filter approach” to conservation planning, which complements the more species-specific “fine filter approach.” A total of 21 Special Element conservation targets were chosen by the Science and Technical Advisory Team (STAT) for the “biologically preferred alternative” of the SDCP. In the case of the SDCP, these Special Elements were grouped into five categories of conservation targets: grassland, desertscrub, riparian area, middle to high elevation and “other” (talus slopes, caves, adits, bat bridges, limestone outcrops, etc.).

The County’s Special Elements Report (2002) notes that “Certain plant communities and landscape features, called Special Elements, were used to constrain or influence the location of the exterior and interior reserve boundaries.” Thus, the configuration of CLS reserve design classifications and the delineation of Priority Conservation Areas were informed in part by the known spatial distribution of Special Elements. Because the compensatory component of the County’s proposed MSCP mitigation program is tied to the CLS and the PCAs, monitoring and mitigation for Special Elements should be included in the MSCP. Currently, restoration of Special Elements is included in the list of “species enhancements” that are “over and above what is required in HCP management and mitigation” (p. 47), even though the DEIS identifies significant impacts to them (p. 4-17).

However, because Special Elements are often discrete in their location or distribution, there is the distinct possibility that conservation of Special Elements may “fall through the cracks” if they are not explicitly tracked and mitigated for. For instance, under the current framework, if a covered activity were to result in the destruction of an acre of ironwood desert scrub (a Special Element) located in a special species management or biological core area, the County could mitigate for that acre by conserving another acre in the same or different special species management or biological core area that does not contain ironwood forest. In this scenario ironwood desert scrub, which provides important habitat for covered species, such as nesting and breeding habitat for the cactus ferruginous pygmy-owl, would experience a net loss. The Pima County MSCP DEIS (p. 4-32) states that the impacts to ironwood desert scrub in the Preferred Alternative (D) will only be 141 acres while in Table 4.3 (p. 4-18) the impacts to ironwood desert scrub at the end of the 30 year permit are projected to be 12,325 acres within all jurisdictions in Pima County. Yet in Table 4.4 of the DEIS (p. 4-19) 5,349 acres of ironwood desert scrub are projected to be impacted (the same as Alternative C) in unincorporated Pima County (including State Trust Lands that have been planned for development and lands in other jurisdictions that are owned by Pima County).

While we recognize it is important that the County have some flexibility with its compensatory mitigation program, we also advocate that impacts to Special Elements be incorporated into the annual reporting to the FWS, and that the County strive to mitigate “like-for-like” for impacts to Special Elements, as close to the area of impact as possible, to the maximum extent practicable. This could take a similar form to the County’s 2009 report “Progress Report: Measuring Effectiveness of

Open Space Land Acquisitions in Pima County, Arizona in Relation to the Sonoran Desert Conservation Plan.” This report clearly detailed the acres of individual Special Elements preserved through the County’s Open Space preserve system and identified those Special Elements that need more conservation.

Lands containing Special Elements, especially those Special Elements that provide habitat or resources important to covered species, should continue to inform future acquisition and land conservation priorities. In addition, the County should develop Conservation and Management Goals for each Special Element and these should be discussed in the MSCP in the Impacts, Mitigation, Covered Species, and Monitoring and Adaptive Management sections, and should be included in the Ecological Monitoring Program. (Refer to STAT goals for Special Elements in Table 1 on p. 6 of the County’s “Progress Report: Measuring Effectiveness of Open Space Land Acquisitions in Pima County, Arizona in Relation to the Sonoran Desert Conservation Plan,” included in a Memorandum from C.H. Huckelberry dated August 28, 2009). As noted above, Special Elements often and necessarily provide habitat for Covered Species and their importance, monitoring and management approaches, and the number of acres impacted and mitigated for should be accounted for in the MSCP and in all reporting.

Summary of Recommendations:

- Pima County should conduct detailed biological and Special Element surveys on all acquired fee simple lands to establish a reliable ecological baseline.
- To the maximum extent practicable, Pima County should “bank ahead,” via legal instruments that ensure conservation in perpetuity, with like-for-like habitat as close to the area of impact as is possible.
- Impacts to Special Elements should be incorporated into the annual reporting to the FWS.
- The County should develop Conservation and Management Goals for each Special Element and these should be discussed in the MSCP in the Impacts, Mitigation, Covered Species, and Monitoring and Adaptive Management sections.
- Any future bond monies approved by voters should be used to acquire lands that support populations of covered species, high quality suitable habitat and/or Special Elements critical to the future survival of covered species.

2) Legal Protection

The FWS HCP Handbook (1996) states:

When habitat losses permitted under an HCP are permanent, protection of mitigation lands normally should also be permanent (i.e., "in perpetuity").

The Public Draft MSCP (p. 48-49) states:

The nature of Pima County’s ownership on any given mitigation property pre-determines the tools Pima County will use to meet the remaining criteria. To that end, acquisition of fee-title lands (including appurtenant water rights when possible) and acquisition of partial interests in real property such as leases and receipt of conservation easements are—and will continue to be—the primary conservation tools for assembling Mitigation Lands for the Section 10 permit.
...

Conservation easements or other legally enforceable instruments will be used to provide assurances to the USFWS that the biological values of County-owned fee simple mitigation lands will be maintained in perpetuity. Because a conservation easement grants specified rights to another party and is a legally enforceable agreement that can be used to restrict certain activities on properties subject to the easement, County-owned mitigation lands will be placed under a conservation easement where restrictions on its use will support and maintain the conservation values of the property

...

Pima County currently owns most of the fee-simple lands that would be subject to conveyance of conservation easements under this MSCP. For these lands, Pima County will be the grantor and the Regional Flood Control District (RFCD) will be the grantee. Conversely, Pima County will be the grantee for those lands that the RFCD owns. For those mitigation lands where Pima County or the RFCD, as the grantor, conveys a conservation easement, a third party beneficiary will be designated; first preference will be to designate an entity such as the USFWS or the AGFD whose persistence over time is not questionable. This additional layer of protection provides the USFWS with an assurance that biological values on County-owned fee-simple mitigation lands will be maintained over time. As grantee, Pima County or the RFCD will acquire and extinguish development rights to the Mitigation Land, as well as other rights, to protect the site's conservation values (see prohibited activities, Appendix L).

In regard to the use of a third party beneficiary of conservation easements on mitigation lands, we suggest the County also include the Army Corps of Engineers as an additional option. We concur that the Public Draft MSCP demonstrates the County is committed to using the appropriate legal instruments to conserve mitigation lands in perpetuity. It is crucial that all such conservation easements or other legal instruments include provisions that provide that the land in question is being set aside in perpetuity and that the County and/or RFCD has the unquestionable right to enforce the terms of restrictions. We appreciate the progress the County has made in this regard as the MSCP has evolved and the increased specificity and commitments stated in the Public Draft MSCP.

Summary of Recommendations:

- All conservation easements or other legal instruments should include provisions that provide that the land in question is being set aside in perpetuity and that the County and/or RFCD has the unquestionable right to enforce the terms of restrictions.

3) Management

The MSCP should state a clearer commitment to implementing a management program with the goal of improving resource conditions

Page 22 of the Public Draft MSCP states: "Pima County **may** implement a management program to improve resources conditions..." (emphasis added). This commitment is crucial to the success of the MSCP. Therefore, in order to codify this commitment as a requirement under the controlling document of the MSCP, the conditional language "may" must be replaced with "shall" or "will."

Resource Management Plans for ranchlands must be developed that adequately address the management of natural resources

Approximately three years ago, Pima County finalized its Ranchland Standards and Guidelines, which are applicable to all rangelands controlled by the County. However, these standards and guidelines are not legally enforceable. They do not contain specific best management practices, standards or guidelines for conserving or restoring natural resources (aside from forage value). In addition, five Coordinated Resource Management Plans (CRMPs) have been developed by the County in concert with the Natural Resource Conservation Service. Again however, the CRMPs do not address the management of natural resources beyond forage production. Therefore, the functions of and differences between the ranchland management agreements, the CRMPs and complementary resource management plans should be clearly spelled out in the appropriate sections of the MSCP. This should include the use of fire as a management practice, exclusionary fencing of all riparian areas, closure of certain lands during breeding seasons, and exclusionary fencing of specific plots of land in order to monitor and assess the impacts of climate change versus grazing practices on the baseline resource. It is also not clear whether the County will lose credit for leased or fee simple lands if conditions fall below baseline.

We are also concerned about invasive species management on mitigation lands. We commend the County's existing invasive species management programs. There are examples, however, where County activities are in conflict with invasive species management. Departments impacted by and contributing to the implementation of the MSCP and invasive species management include the Pima County Regional Flood Control District, Pima County Regional Wastewater and Reclamation Department, Pima County Department of Transportation, Pima County Natural Resources, Parks, and Recreation, and Pima County Public Health. These departments should anticipate and initiate protocols such as the washing of tires to minimize the spread of exotic invasive species, maintenance of floodways and roadways to control exotic invasive species such as buffelgrass, while allowing native vegetation to grow naturally, not maintaining a park-like environment, and leaving deadfall and leaf litter to protect soils and enhance habitat. In addition, we understand that County staff currently waters the bermuda grass on the A7 Ranch to utilize their water right. The invasive grass should be removed and replaced with native species.

Summary of Recommendations:

- The functions of and differences between the ranchland management agreements, the CRMPs and complementary resource management plans should be clearly spelled out in the appropriate sections of the MSCP.
- Ensure that County activities are consistent with MSCP management goals and objectives (e.g. vegetation management, ranching practices, etc.).
- The County must develop, in consultation with FWS and with public input, resource management plans that adequately address natural resource management on ranch and preserve lands the County intends to use for mitigation credit.
- If open space “set asides” accumulate in a sizeable and manageable complex, resource management plans should be developed for these set-aside lands as well. The County should also ensure that they have right-of-entry to these set-asides when they are created under the CLS so that appropriate management can take place.

- Pima County should commit to actively managing any lands contributing to its mitigation credit, including certain set-asides, so as to avoid or reduce ongoing threats to the maximum extent practicable. For example, monitor and control for invasive species – or avoid the introduction of same – monitor and repair fencing, restrict unauthorized motorized access, monitor and remove trash, etc.

The MSCP should offer clearer commitments to completing species enhancement measures

The MSCP Management and Conservation Commitments for each covered species need to be clarified and codified such that these commitments constitute an adequate “operating conservation program” (50 CFR 17.3). The Public Draft MSCP makes very few firm commitments, and those that are firm are mostly general in nature. For example, the MSCP states that Pima County will “Implement monitoring as described in Appendix O, including recording and entering incidental observations in the Covered Species Information Database” (p. 69). However, in Appendices A and O there are many instances of the use of conditional non-committal language such as “may,” “if feasible,” “investigate,” and “explore.” A table that clearly outlines what conservation measures the County is definitely committing to in the MSCP and those that are conditional or may potentially occur would be very helpful to the reader.

In addition, subject-matter language is inconsistently used throughout the bulleted points in each species account. The language on conservation easements on preserves is different almost every time it’s mentioned, is missing entirely in some, and important language is missing from other species-specific measures. For example, for the needle-spined pineapple cactus, Appendix A states, “Include measures to avoid and minimize impacts to the species in management and master plans in Pima County-controlled mitigation lands within the PCA” (p. A-11). This important language is missing entirely for the Huachuca water umbel, the Tumamoc globeberry, mammals and birds.

Other measures mentioned, but that must be committed to, in the MSCP include baseline surveys of preserve lands for each covered species and general ecosystem and landscape health observation. In addition, baseline surveys of important habitat and landscape features for each covered species and Special Element should be included. Rangeland health monitoring should include incidental observations of covered species and general ecosystem and landscape health in addition to the Ecological Monitoring Plan. Commitments that are inconsistently applied among the covered species include bat roost surveys, invasive species monitoring, habitat connectivity, and inventories. The County should clearly acknowledge that habitat being used to mitigate for impacts to specific species is only species habitat if the species actually occurs there or has the potential to use that habitat on a consistent basis. Ongoing occupancy surveys will be necessary to document presence/absence and contraction/expansion of ranges.

The Public Draft MSCP relies largely on land acquisition to compensate for adverse impacts under the MSCP. While land acquisition is undeniably an important conservation strategy, it alone may not be adequate to offset adverse impacts to covered species under the MSCP. For example, if high-quality habitat is offset by moderate-quality habitat or habitat where local mortality exceeds reproductive success (i.e., sink habitat), the affected species may experience an overall loss and further imperilment.¹

¹ The importance of identifying source and sink habitats in conservation planning was underscored by the National Research Council in its study on science and the ESA: “The fate of a population as a whole can depend on whether the reproductive success of the individuals in high-value habitats outweighs the failure of the individuals in the poor

This can be the case even with mitigation ratios that exceed 1:1. Pima County should thus carefully evaluate the need to supplement land acquisition with robust species-specific restoration and management, particularly given that the overall mitigation ratio for individual species is only 1:1 under the MSCP and is based entirely on habitat acres. This is particularly true for riparian obligate species.

While the MSCP refers to species-specific conservation measures generally, it does not commit to taking any particular measures. Indeed, it specifies that such measures are “typically over and above what is required in HCP management and mitigation” (p. 47). We urge Pima County to not use a typical HCP as a reference point for the MSCP, since most HCPs are not specifically designed to conserve or contribute to the recovery of listed species. The MSCP, by contrast, claims to “benefit the conservation of listed species” (p. 53). To achieve this goal, the MSCP should explicitly incorporate many of the species enhancement measures listed in Appendix A. The main text of the MSCP, however, does not commit Pima County to implementing those measures. Only in the introduction to Appendix A do we learn of “the conservation commitments that Pima County is agreeing to implement to avoid, minimize, and mitigate for Covered Activities. The proposed management activities in this appendix are in addition to the numerous avoidance, minimization, and mitigation tools that are covered in detail throughout the MSCP” (p. A-1). The Final MSCP should address this ambiguity and treat the conservation measures in Appendix A as seriously as the County’s land acquisition commitments. This means specifying a timeframe for implementation, ensuring adequate funding, and monitoring and reporting on outcomes for affected species.

Section 4.4.5 states that Pima County will work with FWS to determine mitigation credits for species enhancement measures on a “case-by-case basis.” Because mitigation is designed to compensate for adverse impacts to individual species, the metric used to determine credits should, to the maximum extent possible, be the same one used to measure adverse impacts and should inform Pima County about the status of the affected species, not only their habitat. For example, if incidental take is authorized for 50 individual lowland leopard frogs, credits for species enhancement measures should also measure the number of individual frogs, rather than acres of habitat or another variable that allows for “like-for-like” mitigation. Conservationists have also been using metrics based on demographic variables, such as the reproductive value of California tiger salamanders, in assigning mitigation credits for the species.² Pima County should work with FWS to evaluate these and other techniques that make up the best available scientific data on mitigation.

Summary of Recommendations:

- The MSCP should include a table that clearly outlines what conservation measures the County is committing and those that are conditional or may potentially occur.
- The MSCP should correct subject-matter language used throughout the bulleted points in each species account so that this language is consistent and thorough for each species.

areas....Source habitats could easily be overlooked if conservation efforts concentrate only on habitats where a species is most common, rather than where it is most productive. If source habitats are not protected by conservation plans, an entire metapopulation could be threatened.” National Research Council. *Science and the Endangered Species Act*; National Academy Press: Washington, DC, 1995, 98-99.

² Christopher Searcy and H. Bradley Schaffer, *Calculating Biologically Accurate Mitigation Credits: Insights from the California Tiger Salamander*, *Conservation Biology* 22:997-1005 (2007).

- The MSCP should discuss monitoring and management goals, objectives and plans for each species and include a conceptual model for each species on how monitoring and management questions and goals feed into adaptive management.
- The MSCP should include baseline surveys of important habitat and landscape features for each covered species and Special Element, and a commitment to continue to conduct baseline surveys of preserve lands for each covered species and for the observation of general ecosystem and landscape health.
- The MSCP should clearly acknowledge that habitat being used to mitigate for impacts to specific species can only be counted as mitigation if the species actually occurs there or has the potential to use that habitat on a consistent basis for migration, dispersal, or as occupied habitat/home territory for all or part of its life cycle requirements.
- The County should carefully evaluate the need to supplement land acquisition with robust species-specific restoration and management, particularly given that the overall mitigation ratio for individual species is only 1:1 under the MSCP and is based entirely on habitat acres.
- The County should incorporate, and explicitly commit to, many of the species enhancement measures listed in Appendix A, including specifying a timeframe for implementation, ensuring adequate funding, monitoring, and reporting on outcomes for affected species.
- The MSCP should clearly describe which species enhancement measures Pima County shall or will perform under the MSCP.

The MSCP should incorporate clear biological goals for the covered species.

To determine which conservation measures to prioritize under the MSCP and to design an effective monitoring and adaptive management program, the MSCP must incorporate clear biological goals for covered species. Indeed, the FWS’s *Final Addendum to the Handbook for Habitat Conservation Planning and Incidental Take Permitting Process* (“Five-Point Policy”) requires all HCPs to specify biological goals and objectives.³ According to the policy, explicit biological goals and objectives “create parameters and benchmarks for developing conservation measures, provide the rationale behind the HCP’s terms and conditions, promote an effective monitoring program, and, where appropriate, help determine the focus of an adaptive management strategy.” The policy further provides that:

Biological goals and objectives must address each species covered by a HCP. Landscape or habitat-level goals and objectives alone are not adequate to provide for a successful HCP.

...

Although the goals and objectives may be stated in habitat terms, each covered species that falls under that goal or objective must be accounted for individually as it relates to that habitat.

...

Biological objectives should include the following: species or habitat indicator, location, action, quantity/state, and timeframe needed to meet the objective.

We believe that the Public Draft MSCP lacks robust biological goals and objectives for the covered species. The document does not explain how the conservation measures under the MSCP are expected to benefit covered species. Rather, biological objectives (1.2, p. 2-3) are exceedingly general

³ 65 Fed. Reg. 35250 (June 1, 2000)

in nature, which will make it impossible to determine when or if they have been met. In addition, most of these objectives center on avoidance and achieving the 1:1 fee simple habitat mitigation ratio. As mentioned previously, while this ratio certainly furthers habitat conservation for covered species, it alone is inadequate to determine how species will be affected. For example, how will Pima County assess whether the Pima pineapple cactus is sufficiently abundant on mitigation lands in the Priority Conservation Area? And how does this level of abundance compare to that lost through habitat modification authorized under the MSCP? Fine-filter measures should be implemented that adequately assess the demographic traits and trends of the subset of covered species identified for species-specific monitoring. As an example, acceptable mitigation goals and objectives for the lowland leopard frog are included in Appendix 2.

The County needs to clearly describe and demonstrate its ability to implement the terms and conditions of the Incidental Take Permit.

The County is receiving mitigation credit for existing Pima County regulations and protocols. If these regulations and protocols are modified in the future, the FWS must approve these modifications. However, it is unclear how the notification and approval process will occur.

For example, Pima County's Department of Transportation (PC DOT) discussed modifying both their community advisory committee public process and the manner in which PC DOT manages vegetation pre- and post-construction on capital improvement projects. Instead of changing any existent ordinance, PC DOT has simply changed their internal method of operation which does not entail review or approval by the Board of Supervisors or FWS. During the current widening of Cortaro Farms Road and Magee Road in a special species management area, most existent native vegetation, such as Special Element ironwood desert scrub, were not salvaged and/or transplanted, other than a few cacti salvaged by the Cactus and Succulent Society. Post-construction plantings along the median and sides of the road do not reflect the adjacent native tree species or groundcover and do not comply with the Environmentally-Sensitive Roadway Design Guidelines. PC DOT has not changed the applicable ordinance; they have simply not abided by its intent nor followed the standards they expect the regulated community to follow. We therefore are very concerned about the County's ability to adequately implement and integrate their own ordinances into their respective department's policies and actions without a process for ongoing internal integration, training and education and a method of internal policing and review for best management practices and compliance.

Pima County and Pima County Regional Flood Control District must ensure that the MSCP will be carried out as specified since compliance with the MSCP is a condition of the permit. The authority of the permit is a primary instrument for ensuring that the MSCP will be implemented. Implementing Agreements (IA) may also provide assurances that the MSCP will be properly implemented. When a local government agency is the applicant, the IA should detail the manner in which local agencies will exercise their existing authorities to effect land or water use as set forth in the MSCP. Actions that modify the agreements upon which the permit is based could invalidate the permit. In addition, failure to abide by the terms of the MSCP and IA (if included) is likely to result in suspension or revocation of the permit. An informed and responsible entity, such as Pima County's Office of Sustainability and Conservation, must have specific authority over the departments affected by and implementing the MSCP and be willing to exercise that authority to ensure that the terms of the MSCP will be upheld.

To provide a more robust description of the commitments, the species and habitat-specific applications of the avoidance and minimization measures, as described in Chapter 4, should be

described for each covered species or Special Element, such as the application of the Environmentally Sensitive Roadway Design Guidelines and the applicable riparian ordinances. Monitoring and management goals, objectives, and strategies for each species should be discussed and a conceptual model should be included for each species illustrating how monitoring and management questions and goals feed into adaptive management. In Appendix 1 of these comments, we provide several generalized conceptual models and results chains that elucidate the relationships between the various elements of the MSCP and pose key questions the County should consider as it works to finalize the MSCP. We want to especially call the County's attention to boxes containing red text in Appendix 1.

Summary of Recommendations:

- The MSCP should clearly state the notification and approval process for modifications to regulations and protocols.
- The MSCP should specify an appropriate methodology to ensure the County's ability to implement and comply with the intent, terms and conditions of the permit via an ongoing County-wide internal programmatic integration, education, training and compliance monitoring program within Pima County departments.
- The MSCP should specify who will have the authority and be responsible for MSCP implementation and compliance. This could be accomplished by, for example, creating an Assistant Director's position within the Pima County Office of Sustainability and Conservation responsible for ensuring that all the County departments affected by or implementing the permit are able to demonstrate the ability to adequately implement compliance with the intent, terms and conditions of the permit for the life of the permit. The MSCP should also demonstrate the assured funding for same.
- The MSCP should include robust biological goals and objectives for all the covered species.

Riparian and Aquatic Species Mitigation and Management

The County should explain how the Riparian and Aquatic Species Management Plan contributes to offsetting authorized impacts.

Will the adverse impacts offset by the Riparian and Aquatic Species Management Plan be determined on a case-by-case basis? If so, what are the criteria for determining which impacts qualify for offsets? The measures pursued under the Riparian and Aquatic Species Management Plan could be as important, if not more important, than habitat acquisition to conserving certain covered species. Therefore, the Final MSCP should more clearly articulate how mitigation credits will be assigned to species enhancements under the plan and how those credits may be used to offset adverse impacts.

The MSCP must clarify how Army Corps of Engineers In-Lieu Fee 404 mitigation lands interface with and complement mitigation lands under the MSCP.

The Pima County Regional Flood Control District is, as of this writing, in the process of becoming an In Lieu Fee (ILF) Sponsor as specified under the Rule(s) of the Army Corps of Engineers. Pima County states that:

The District may wish to establish locations for offsetting impacts to Waters of the US. These covered activities would be located on lands owned by Pima County or the District and would conform with the Corps of Engineers mitigation requirements in 33 CFR Parts 325 and 332 (p. 19-20)

...

Pima County may, from time to time, utilize portions of county-owned lands for stewardship activities intended to offset impacts to Waters of the US under Section 404 of the Clean Water Act. The U.S. Army Corps of Engineers (Corps) requires mitigation sites to be permanently protected through an appropriate legal instrument. In these cases, the Corps could receive the conservation easement on the qualifying portion of the mitigation land used as a 404 mitigation bank or in-lieu fee project. The conservation easement to the Corps would allow for restoration and stewardship of biological values, similar to the draft conservation easement in Appendix I, but would conform with the particular requirements of the 2008 regulations for Compensatory Mitigation For Losses of Aquatic Resources (33 CFR Parts 325 and 332). Such easement would be an alternative way to provide the permanent protection sought for lands committed as mitigation under Section 10 of the Endangered Species Act. Land acquisition and conservation easements required by the Corps for mitigating the impacts to Waters of the US would be timed so as to precede any claim for mitigation value for lands that provide habitat for endangered species under this MSCP (p. 50).

...

Pima County may establish sites for offsetting of impacts to Waters of the US on portions of Mitigation Lands degraded by historic land-use activities such as farming. The activities on these sites would focus on repairing degraded riparian and aquatic features, while conforming with the U.S. Army Corps of Engineers requirements for mitigation. Mitigation fees paid by public or private sector pursuant to the Section 404 Clean Water Act would be used for stewardship activities such as fencing, erosion treatments, and re-establishment of natural cover. **Such corps mitigation activities would not count as Section 10 mitigation, though the CLS mitigation value of the underlying land could be used to offset CLS impacts elsewhere** (p. 60, emphasis added).

Federal law does not allow 404 encumbered lands to be counted to offset County impacts from covered activities since this is considered “double dipping.” The MSCP needs to clarify how the County will account for these two distinct types of mitigation lands.

Pima County’s MSCP Appendices Table of Contents, Appendix I, Draft Conservation Easement for Mitigation Land Owned in Fee Simple by Pima County or Pima County Regional Flood Control District (pg. A-1), states the draft Conservation Easement provided in Appendix I “would need to be adapted for use on District-owned land.” In addition, the MSCP states, “Specific commitments of water or water rights as mitigation under the Section 10 permit will be made in reciprocal conservation easements for County-controlled mitigation lands (Appendix I). The easement will limit the County’s future uses of surface water, groundwater and water rights associated with the Mitigation Land” (p. 44).

The County should provide templates of Conservation Easements for District-owned or managed lands under both the MSCP and for 404 mitigation.

Conservation Effluent Pool as Mitigation

There is no mention of the Conservation Effluent Pool (CEP), which sets aside effluent specifically for endangered species mitigation purposes. Will the County be utilizing the CEP for mitigation? If so, it needs to be explained how the CEP will fit into the overall mitigation program.

Summary of Recommendations:

- The MSCP must explain how 404 in-lieu fee mitigation lands can be counted for CLS offset credit elsewhere and how this is not “double dipping.”
- The County should provide templates of Conservation Easements for District-owned or managed lands under both the MSCP and for 404 mitigation.
- If applicable, include and explain the utilization of the Conservation Effluent Pool as a mitigation measure.
- The District’s Prospectus (already approved) and Instrument (pending as of this writing) should be attached in the final Appendices as well as any completed Project Plans (e.g. the plans currently in development for Canoa Ranch).

Changed Circumstances and Associated Responses

Changed circumstances means changes in circumstances affecting a species or geographic area covered by a conservation plan that can reasonably be anticipated by plan developers and the Service and that can be planned for (50 CFR 17.3).

While the MSCP does identify a range of changed circumstances, it fails to identify all that are reasonably foreseeable. In some cases, the potential responses are inadequate and lack specificity (Table 7.1). Therefore, this section needs to describe more clearly what Pima County is committed to do in response to all changed circumstances and how the County will fund those activities.

The provisions on changed circumstances should offer climate change adaptation measures specific to covered species

Section 7.2.1 of the Public Draft MSCP, which covers changed circumstances relating to climate change, underscores the unpredictable or potentially serious threats that climate change poses to covered species. However, the section offers no specific measures to help these species adapt to a changing climate. Most of the adaptation and mitigation measures are designed to reduce the emissions of greenhouse gases and to store carbon dioxide in the environment. None of these measures will directly benefit covered species or help them adapt during the life of the MSCP to reasonably foreseeable increased overall temperatures and winds, increased severity and frequency of hard freezes, prolonged droughts, and reduced winter precipitation, at minimum. The appendices are similarly vague. For example, Appendix A states that talus snails are “thought to be particularly sensitive to potential global climate change.” But the management and conservation commitments for the species do not indicate how the MSCP will help the species adapt to a changing climate or monitor the species’ response to those changes. The Final MSCP should include management provisions specific to species that are believed to be vulnerable to climate change impacts - it is reasonable to

foresee that this may include many, if not all, species for which the County is seeking coverage considering current trends and the duration of the permit.⁴

Plants will also be challenged to adapt to climate change. For example, will the County consider amending its Native Plant Preservation Ordinance to accommodate species more tolerant of colder temperature from the Mohave and Chihuahuan Deserts in the presence of continuing severe freezing episodes such as those we have experienced regionally within the last three years? What types of vegetation can we anticipate replacing mesquite bosques along riparian flow channels if the incidence of hard freezes persists or increases? How might plant palettes adapt to similar circumstances throughout the multiple elevations and habitat types throughout Pima County?

The Pima County MSCP DEIS (p. 3-45 – 3-46) references *Climate Change and Natural Resources in Pima County: Anticipated Effects and Management Challenges* (Powell 2010) and Table 3.3 lists the anticipated effects of climate change. These anticipated effects are only briefly and generally summarized in the MSCP's Table 7.1 that lists changed circumstances and potential responses. All of the anticipated effects from climate change found in EIS Table 3.3 should also be included in MSCP Table 7.1, and should include corresponding responses and measures to address these foreseeable effects.

The provisions for Additional Foreseeable Changed Circumstances deserve greater analysis and more robust responses

The MSCP Management and Conservation Commitments section needs a more robust discussion of additional foreseeable changed circumstances, including four issues that could have profound effects on the avoidance, minimization and mitigation plans, and on covered species: 1) anticipated direct, indirect and cumulative impacts from the proposed Rosemont Mine to Davidson Canyon and Cienega Creek Watersheds, where at least half of the species the County seeks coverage for are mitigated at a 1:1 ratio with fee simple lands; 2) loss of hydrological and riparian function in the Cienega Creek Natural Preserve or the Lower San Pedro River due to continued geomorphological and fluvial instability; 3) direct, indirect and cumulative impacts from the proposed Sierrita Lateral Pipeline in the Altar Valley and particularly across the County's mitigation lands; and 4) changes in avoidance and minimization measures by current actions of County employees that fail to implement the terms and conditions of the permit and potential future changes in County regulations, ordinances, and protocols by future less conservation-minded decision-makers. There is a lack of specific detail regarding how the County will integrate and demonstrate its ability to oversee compliance with the MSCP within its own departments. All of these foreseeable changed circumstances should have corresponding potential measures that will address the impacts.

The proposed Rosemont Mine and Sierrita Gas Pipeline are clearly foreseeable circumstances and thus the "No Surprises" rule does not apply. Both projects, and Rosemont in particular, pose very serious and foreseeable threats to the County's ability to implement the MSCP's broad goal of "conserving" covered species, and therefore these changed circumstances in particular deserve greater analysis and more robust potential responses under the changed circumstances provision.

⁴ For suggestions on improving how HCPs address climate change, see Melinda Taylor & Holly Doremus, *Habitat Conservation Plans and Climate Change: Recommendations for Policy* (July 2011). http://www.law.berkeley.edu/files/HCPs_and_Climate_Change.pdf

Lastly, several proposals exist for new transmission lines that would traverse Pima County (e.g. SunZia Southwest Transmission Project and Southline Transmission Project). These are foreseeable projects that should also be included in the changed circumstances section and table.

Summary of Recommendations:

- The provisions on changed circumstances should offer climate change adaptation measures specific to covered species.
- The provisions on changed circumstances should assess in greater detail anticipated impacts from the proposed Rosemont Mine including direct, indirect and cumulative impacts such as fragmentation and loss of ecosystem services, functions, and hydrological function in Davidson Canyon and the Cienega Creek Natural Preserve; direct, indirect and cumulative impacts from the proposed Sierrita Lateral Pipeline in the Altar Valley and across the County's mitigation lands; active transmission line proposals; and the potential for administratively determined avoidance and minimization measures to change due to changes in County leadership and staff.

4) Monitoring & Adaptive Management

Pima County has developed the Pima County Ecological Monitoring Program, or PCEMP (Powell et al. 2010). This detailed, long-term monitoring program and protocol was developed as part of the Section 10 permit application. The County has also committed to conducting single-species monitoring for a subset of the covered species. A robust monitoring program is crucial not only so that ecological trends can be quantified and documented but, more importantly, to guide future management actions that aim to respond to reasonably foreseen and unforeseen changing conditions (i.e. adaptive management).

For adaptive management to be successful, a management plan must include:

- The identification of a target(s) and objectives, with unambiguous metrics and target conditions (What does the management plan seek to achieve?);
- A set of potential management actions and a testable hypothesis about how those actions are expected to affect the target(s); and
- A monitoring plan that will test that hypothesis by tracking the success or failure of management actions in achieving the objectives and inform future management decisions by comparing predicted with actual results, triggering further adaptive management.

The MSCP's targets are the 44 covered species, and its stated objective for each of those species is to avoid, minimize, and mitigate for losses to those species related to covered activities, to enhance their habitat, and ensure their long-term survival (MSCP, p. 1-2). To receive incidental take coverage, the plan must demonstrate that take will not "appreciably reduce the likelihood of the survival and recovery of the species in the wild" (p.1-7).⁵

⁵ USFWS Habitat Conservation Planning and Incidental Take Permit Processing Handbook, 1996.

The mitigation actions outlined in the plan, conversely, address acres of land protected or restored. The “coarse-filter” approach described in the plan requires impacts to land within the planning area to be mitigated through protection or restoration of an equal number of acres in the same category under the County’s Conservation Land System (CLS) (MSCP section 4.3, p. 38). The “fine-filter” approach aims to ensure that impacts to lands that occur in a given species’ priority conservation area (PCA) are offset by protection or restoration of an equal number of acres of land also within that species’ PCA (MSCP section 4.3, p. 39), though not necessarily in the area of impact or of a similar habitat type.

The current draft plan **does not propose a testable hypothesis** about how the County expects mitigation acres in either CLS designations or PCAs to affect populations of covered species and, therefore, the likelihood of their continued survival. For example, impacts to a listed species could be mitigated by the protection of land that occurs within that species’ PCA but does not necessarily contain any individuals of that species. Alternatively, mitigation might occur in habitat included in the PCA for dispersal that does not contain suitable nesting/breeding habitat, such as might occur with the cactus ferruginous pygmy-owl along the valley floor of the Altar Valley. It is also unclear what, if any, action the County would take if species-level monitoring showed that individuals of a species do not exist on mitigation land intended to offset impacts to that species, that mitigation land does not contain key habitat characteristics necessary to the species, or that the species continued to decline on the site despite habitat or management protections. As such, at minimum, the County should conduct occupancy surveys to determine presence/absence and range contraction/expansion to validate and verify their hypothesis and the efficacy of their conservation measures. The County should also consider validating and refining the PCAs upon permit issuance and then on a decadal cycle, to be completed prior to each 10-year FWS review. The County should also attach current protocols, where available and as approved by the FWS, and explain that any future revisions and/or additions will be incorporated with the concurrence of the FWS.

Taken together, the proposed conservation measures and commitments, management actions, monitoring approaches, Ecosystem Monitoring Plan, and the proposed adaptive management process have potential for success. However, it is not apparent in the Public Draft MSCP that these combined approaches will work in concert to conserve the species and habitats they address. The information is widely scattered and is not synthesized in the Covered Species Accounts or Monitoring Plan appendices. After ten years of work since species conservation, monitoring and management goals were first proposed in the Priority Vulnerable Species and Special Elements reports, a more robust synthesis of information should have produced a detailed conceptual adaptive management plan for at least a subset of the covered species, and an outline of how the rest of the species plans will be completed. We realize that adaptive management is a challenging endeavor. However, the MSCP needs to more clearly codify how the County will commit to adaptive management, regardless of potential future changes in political will or budgetary constraints. Pima County has already committed years and a considerable amount of money to the process. As it stands, the community that has supported the development of the SDCP and MSCP, and likely the FWS, cannot make the determination that the County has the ability to implement the commitments of the Draft MSCP or that implementing the MSCP as currently drafted will fulfill the species and habitat goals of either the SDCP or the MSCP, nor the ESA standards for a Section 10(a)(1)(B) permit.

The MSCP should also discuss how covered species and their habitat(s) will be accounted for and managed on CLS set-asides. Will the County obtain a right-of-entry for any set-aside, especially set-asides whose assemblages exceed 100 acres? How can the County consider a management plan for assemblages of set-asides in excess of 100 acres without right-of-entry? The County should detail the

benefits of set-asides to each covered species and how the closeness to the area of impact and like-for-like habitat standards are or are not being met currently and over time. For example, if a homeowners' association allows the incursion of unpermitted exotic invasive species such as buffelgrass, what actions will the County take to substitute like-for-like lands in the area affected? If none, how will the County be able to mitigate like-for-like as close to the area of impact(s) as is possible? In addition, the MSCP should include a description of the GIS model that tracks development and set-asides and the process the County employs for the siting of set-asides.

Finally, the MSCP should address the potential future scenario whereby a covered but currently unlisted species becomes listed during the permit timeframe. If/when this occurs, this now-listed species should be added to the species-specific monitoring plan. We recommend the County add this explicit provision to their monitoring plan.

Summary of Recommendations:

- Management activities should be informed by robust ecological monitoring with specific triggers for implementing an adaptive management framework.
- The County should propose a testable hypothesis about how the County expects mitigation acres in either CLS designations or PCAs to affect populations of covered species and the likelihood of their continued survival.
- The MSCP should set species-level objectives for conservation actions to meet based on expected impacts from covered activities and monitor (through a combination of direct and proxy measures) progress toward those objectives over time.
- The MSCP should explicitly describe how the existing habitat-level objectives are expected to affect species viability, and monitor both progress toward meeting habitat-level objectives and the validity of the assumed link between habitat-level objectives and species viability.
- The MSCP should increase the likelihood that adaptive management will occur by clearly defining “trigger” threshold points for a monitored variable which, when exceeded, would trigger a particular change in management actions under the changed circumstances provisions of the MSCP.⁶
- The MSCP should include discussion of how covered species and their habitats will be accounted for and managed on CLS set-asides, as well as the anticipated benefits to covered species.
- The MSCP should include a description of the GIS model that tracks development, set asides, and the process the County employs for the siting of set-asides.
- The MSCP should add a provision whereby any new listed species (that is already a covered species) will be added to the species-specific monitoring plan.

⁶ Schultz, Courtney A., Thomas D Sisk, Barry R. Noon, and Martin A. Nie. 2013. “Wildlife Conservation Planning Under the United States Forest Service’s 2012 Planning Rule.” *The Journal of Wildlife Management* pre-pub. p. 4.

Critical Habitat Nexus

The relation between the MSCP and potential future critical habitat designations should be clarified

The Public Draft MSCP is unclear on how Pima County might be expected to respond to any new critical habitat designations for covered species. On the one hand, the changed circumstances section suggests that if FWS designates critical habitat for any covered species in the MSCP conservation areas, Pima County will not have any regulatory obligations beyond those under the MSCP (“No further action by Pima County is needed. The MSCP has adequately addressed habitat for Covered Species.”). On the other hand, section 3.4.2 states that activities not covered under the MSCP include “actions reviewed under section 7 of the ESA in the planning area, except for those triggered by section 404 of the Clean Water Act...” We are unclear whether the MSCP is intended to exempt Pima County from having to comply with any “adverse modification” prohibitions or other requirements under section 7 of the ESA. If this is the intent, the MSCP should at a minimum explain why it provides an adequate substitute for any conservation benefits arising from critical habitat designation. For example, does Pima County believe that the conservation measures in the MSCP exceed those that could be required under a section 7 consultation triggered by critical habitat? Answers to these questions are needed to help the public better understand the effects of the MSCP.

Conclusion

The Coalition greatly appreciates working with Pima County and the FWS over the last years on this creative and visionary approach to habitat conservation planning. We hope that you find our recommendations helpful. The bulk of our comments are requesting greater clarity and specificity throughout the permit application documents, while some address substantive additions.

As we stated earlier, the MSCP will be one of the primary mechanisms that will enable the County to achieve the broader, even more ambitious goals set forth in the SDCP. By adopting the recommendations the Coalition has made on the Public Draft, we believe the MSCP will be successful and will shape the legacy of Pima County. Thank you for your consideration of our comments on this very important project as we head toward the “finish line.”

Sincerely,



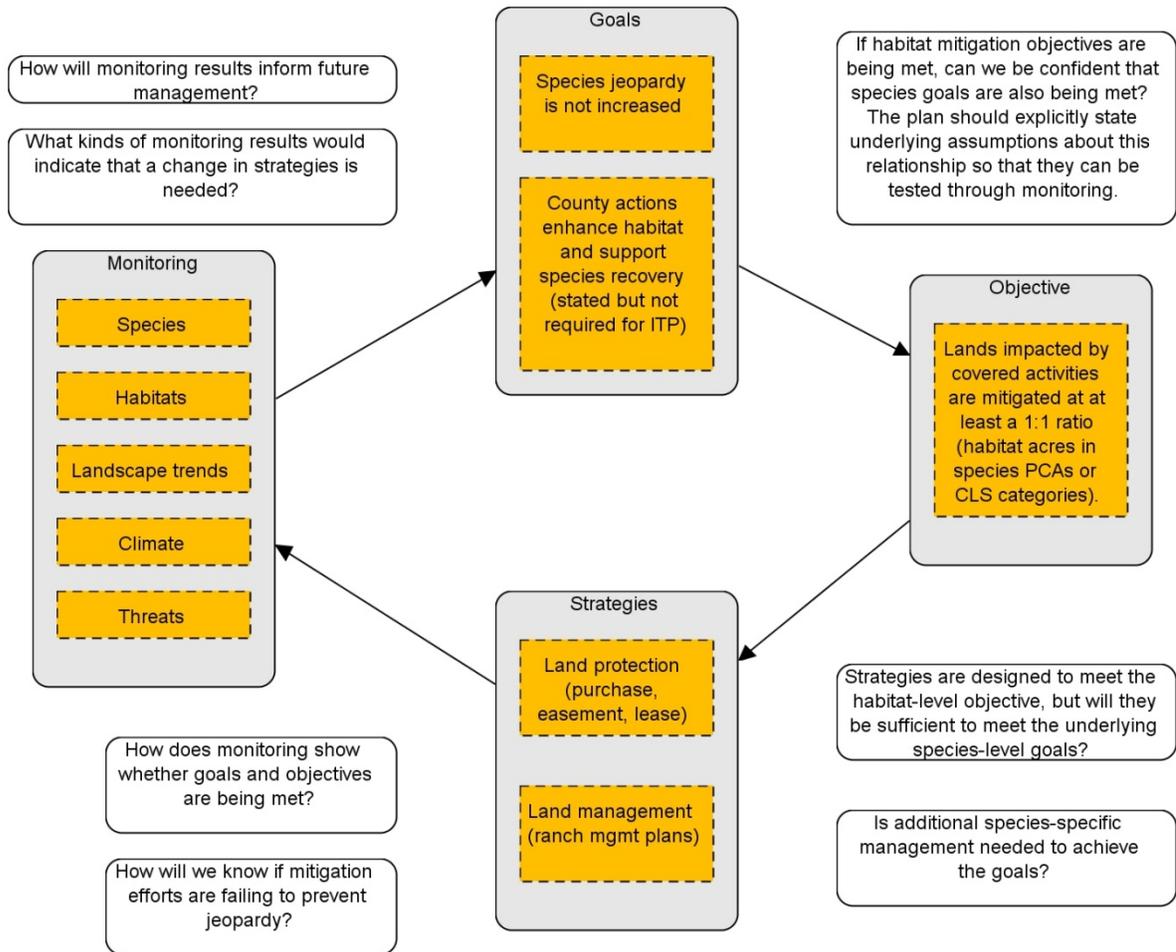
Carolyn Campbell
Executive Director

cc: Julia Fonseca, Pima County Office of Sustainability and Conservation
Sherry Ruther, Pima County Office of Sustainability and Conservation
Neva Connolly, Pima County Office of Sustainability and Conservation
Scott Richardson, Supervisory Fish & Wildlife Biologist, USFWS
Jean Calhoun, Assistant Field Supervisor for Southern Arizona, USFWS

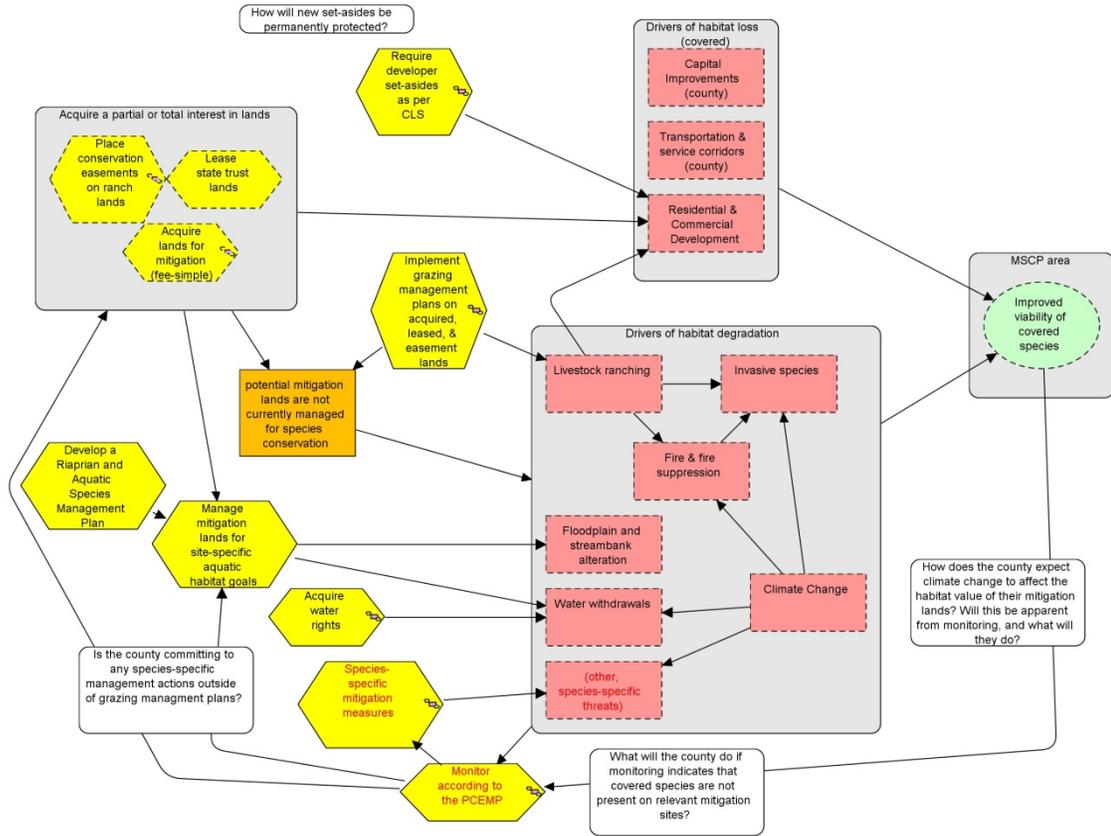
APPENDIX 1

CONCEPTUAL MODELS AND RESULTS CHAINS

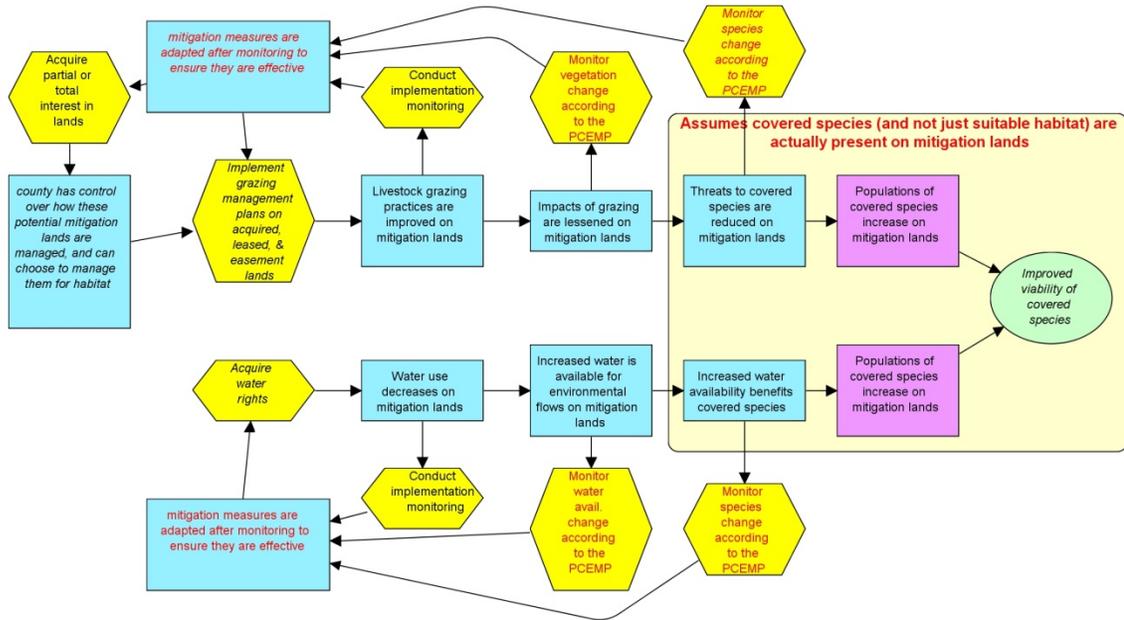
Conceptual Model for MSCP's Monitoring and Management Plan



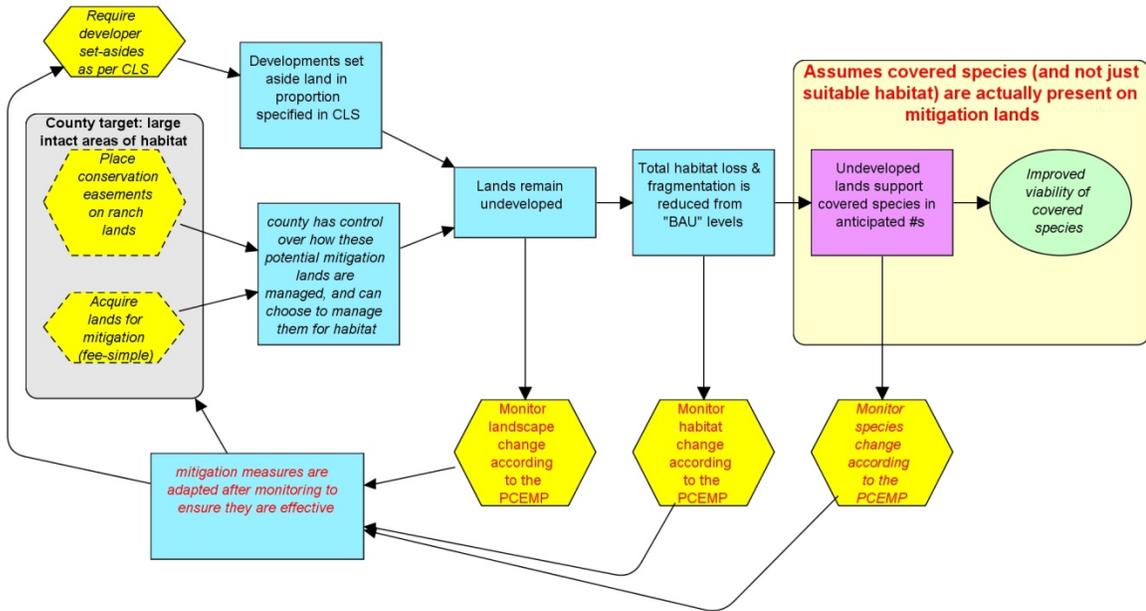
Conceptual Model for the MSCP



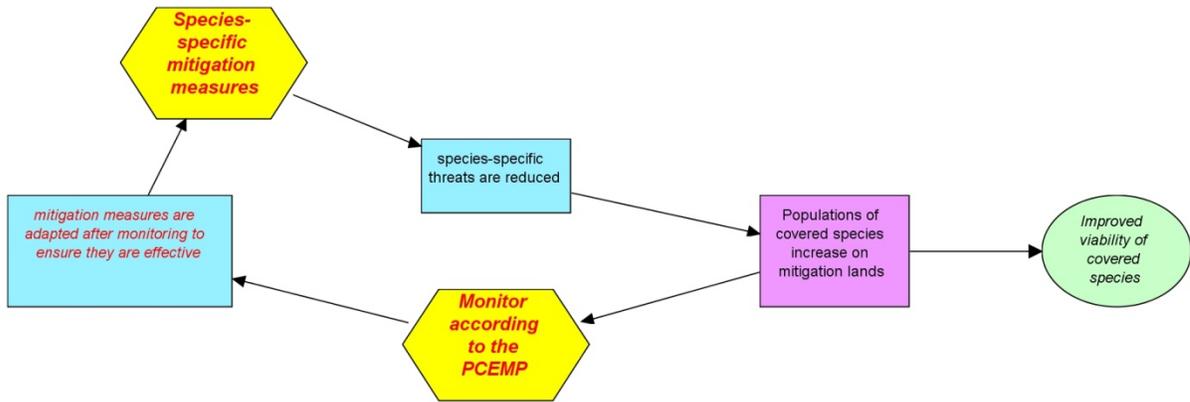
MSCP Land Conservation Results Chain



MSCP Land Management Results Chain



MSCP Species-specific Results Chain



APPENDIX 2

Biological Mitigation Goals and Objectives for the Lowland Leopard Frog (Example)

Population Goals/Objectives:

- No loss of current populations (6 sites).
- One new population established in historic sites every two years if suitable habitat exists or can be restored (24).
- Each frogshed should have at least two metapopulations located in different drainages, plus at least one isolated and robust population in each that exhibit long-term persistence and stability.

Habitat Goals/Objectives:

- Aquatic breeding habitats, including suitable, restored, and created habitats necessary for persistence of metapopulations and robust isolated populations identified above, are protected and managed in accordance with the recommendations in this plan.
- The additional habitat needed for population connectivity, re-colonization, and dispersal is protected and managed, in accordance with the recommendations in this plan.

Threats Goals/Objectives

- Threats and causes of decline have been reduced or eliminated, and commitments for long-term management are in place in each frogshed/preserve such that the lowland leopard frog is unlikely to need protection under the ESA in the foreseeable future.

Monitoring Goals/Objectives

- Monitor the six extant population sites twice every two years.
- Inventory all potential habitat in the preserve system.
- Monitor newly discovered and translocation sites.
- Record all incidental observations especially of non-native aquatic species.
- Monitoring must detect population trends, habitat changes and emergent threats.

Management Goals/Objectives

- Coordinate with Arizona Game and Fish Department, FWS and other entities (Arizona-Sonora Desert Museum, Cienega Watershed Partnership, Frog and Fish Restoration and Outreach Group, Sky Island Alliance, Tucson Audubon Society) to control non-native aquatic species and reintroduce lowland leopard frogs.