PUBLIC NOTICE

U.S. ARMY CORPS OF ENGINEERS **BUILDING STRONG®**
LOS ANGELES DISTRICT

Proposed Re-Authorization of an
Existing In-Lieu Fee Program

Public Notice/Application No.: SPL-2012-00540-MB
Program: McDowell Sonoran Conservancy In-Lieu Fee Program
Comment Period: November 16 – December 16, 2012
Project Manager: Marjorie Blaine (520) 584-1684; Marjorie.E.Blaine@usace.army.mil

Program Sponsor

Mr. Mike Nolan
Executive Director
McDowell Sonoran Conservancy
16435 N. Scottsdale Road, Suite 110
Scottsdale, Arizona 85254

Location

The Program service area would encompass portions of the following watersheds:

- Lower Salt River sub-basin (HUC 15060106)
- Lower Verde sub-basin (HUC 15060203)

Activity

To modify the existing McDowell Sonoran Conservancy ("MSC") In-Lieu Fee ("ILF") Program ("Program") pursuant to the requirements of the Corps-EPA Compensatory Mitigation Rule[1] (33 CFR 332.8(d)) ("Mitigation Rule"), as well as to modify the Program's service area from the State of Arizona to the above watersheds (Map 1 in the attached Prospectus). For more information see pages 2 and 3 of this notice. Supporting documents are attached to this Public Notice.

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Interested parties are hereby notified that a Prospectus has been received in order to re-authorize an existing ILF Program for the purpose of mitigating impacts to waters of the United States authorized, or enforcement actions resolved, under section 404 of the Clean Water Act. Interested parties are invited to provide their comments on the proposed re-authorization of this Program, which will become a part of the record and will be considered as part of this proposal.

Comments should be mailed to:

[1] The mitigation rule was promulgated by the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency at 33 C.F.R. Part 332 and 40 C.F.R. Part 230, respectively.

U.S. Army Corps of Engineers
Los Angeles District, Regulatory Division
Attn: Marjorie Blaine, Senior Project Manager
Tucson Resident Office
5205 E. Comanche Street
Tucson, Arizona 85707

Alternatively, comments can be sent electronically to: Marjorie.E.Blaine@usace.army.mil

Background

The MSC has requested the Corps re-authorize the Program. If re-authorized, this Program would continue to receive monies from individuals or entities ("project proponent") receiving Corps authorization under section 404 of the Clean Water Act and, when appropriate, to resolve Section 404 enforcement actions within the proposed service area (Map 1 in the attached Prospectus).

The MSC (http://mcdowellsonoran.org/) is a nonprofit organization established in 1991 with the mission to champion the sustainability of the McDowell Sonoran Preserve for the benefit of this and future generations and, as stewards, to connect the community to the Preserve through education, research, advocacy, partnerships and safe, respectful access. The goal of the MSC ILF program is to replace functions and values of aquatic resources and associated habitast that have been degraded or destroyed as a result of activities conducted in compliance with or in violation of Section 404 of the Clean Water Act. The MSC has operated the current ILF program since 2005.

The MSC has not recently received any ILF monies from the Corps. However, restoration work in the Preserve accounted for 55% of the remediation completed by MSC in the last year. A total of 12 of 22 projects were completed which involved restoration of degraded riparian and aquatic areas through the removal of invasive vegetation, revegetation with native species, and streambed restoration.

Mitigation Approval and Permitting Processes

Mitigation requirements for a particular project are negotiated between the project proponent and the Corps. The project proponent must therefore first submit a mitigation proposal to the Corps that describes the proposed use of an ILF Program or Mitigation Bank. If appropriate credits are not available at a Mitigation Bank located within the service area, and the Corps determines that the Program is the most appropriate approach to mitigation implementation, then the project proponent would contact the Program sponsor to discuss mitigation options. The Program sponsor would review copies of all permits issued to the project proponent and then submit a proposal to the project proponent, including the estimated cost of the proposed mitigation work. Prior to acceptance of payment ("credit sale"), the Program sponsor would also contact the Corps in order to verify the Corps' requirements.

Upon receipt of payment, the Program sponsor becomes legally responsible for initiating the necessary mitigation and monitoring within three growing seasons of receipt of payment. During this time, the Program sponsor would submit a complete Mitigation Plan[2] to the Corps and Interagency Review Team (IRT)[3] as well as an application for Corps permit(s)[4] should the proposed ILF mitigation

[2] The content of a complete Mitigation Plan is described in the Mitigation Rule, at 33 CFR 332.4(c)(2-14).

[3] The Interagency Review Team (IRT) consists of member Agencies and includes U.S. Environmental

project activities involve a discharge of dredge or fill material within waters of the U.S. or work within navigable waters of the U.S. The Corps would complete consultation, as appropriate, under the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, the National Historic Preservation Act and other applicable laws, prior to any permit authorization.

Program funds would be held in a Program account, and all credit sales would be tracked and reported by the Program sponsor to the Corps at a minimum on an annual basis, and also uploaded to the Corps' Regulatory In-lieu Fee and Banking Information Tracking System (RIBITS) .

To ensure permanent protection of the Program mitigation sites, the Program sponsor would secure in-perpetuity conservation easements or grant deed restrictions to be recorded at the appropriate County's Registry of Deeds.

The Corps is soliciting comments from the public; Federal, state, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts and benefits of the proposed re-authorization of the Program. Any comments received will be considered by the Corps to determine whether the proposal has the potential to provide mitigation opportunities for permitees authorized to impact waters of the U.S. under section 404 of the Clean Water Act or as a means of resolving Section 404 enforcement actions.

Additional details are provided in the Prospectus attached to this Public Notice.

For additional information please contact Marjorie Blaine of my staff via phone at 520-584-1684 or via e-mail at Marjorie.E.Blaine@usace.army.mil. This public notice is issued by the Chief, Regulatory Division.

Regulatory Program Goals:

- To provide strong protection of the nation's aquatic environment, including wetlands.
- To ensure the Corps provides the regulated public with fair and reasonable decisions.
- To enhance the efficiency of the Corps' administration of its regulatory program.

U.S. ARMY CORPS OF ENGINEERS – LOS ANGELES DISTRICT
DEPARTMENT OF THE ARMY
TUCSON RESIDENT OFFICE
5205 E. COMANCHE STREET
TUCSON, ARIZONA 85707

Protection Agency, U.S. Fish and Wildlife Service, Arizona Game and Fish Department, Arizona Department of Environmental Quality, Pima County Regional Flood Control District, Pima County Office of Conservation and Science, and City of Phoenix Office of Environmental Programs.

[4] The proposed mitigation activities may also require separate approval from the Arizona Department of Environmental Quality.

Draft Prospectus to Re-Establish the McDowell Sonoran Conservancy In-Lieu Fee Program

Submitted to:
U.S. Army Corps of Engineer, Tucson Project Office
Regulatory Branch

Submitted by:
McDowell Sonoran Conservancy in collaboration with the City of Scottsdale

2012

Introduction

The McDowell Sonoran Preserve In-lieu Fee Program encompasses 34,000 acres of natural open space in northeast metropolitan Phoenix. The geographic service area of our in-lieu fee program extends from the northern boundary of Stagecoach Pass to the southern boundary of Via Linda Drive, and from Pima Road as the western-most boundary to 145th Street as the eastern-most boundary. Hydrologic unit codes (HUC) for this service area include: HUC code 15060106, also called the Lower Salt unit, and HUC code 15060203, or Lower Verde unit (Map 1).

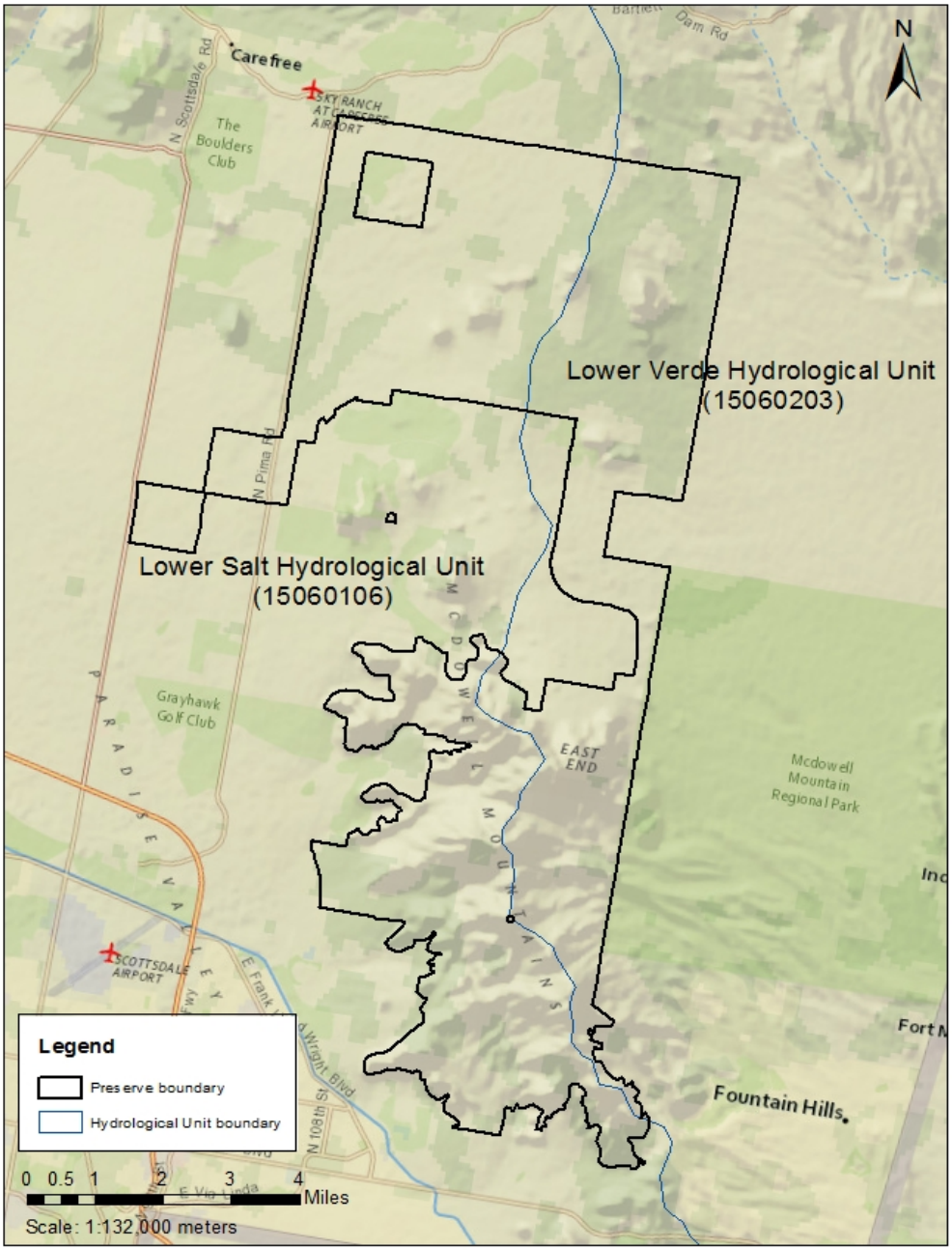
The Preserve currently consists of more than 21,000 acres with an 82-mile wildland urban interface. It is surrounded on three sides by housing developments and is bordered on the fourth side by the McDowell Mountain Regional Park and Tonto National Forest. The Preserve is comprised of isolated mountains, deep washes and lush Sonoran Desert vegetation.

The Preserve has been identified as critical open space. The ecology of the Preserve is significant as species from both the Lower Colorado River Valley and Arizona Upland subdivisions coexist. The Preserve has 12 individual peaks and a 2,000 ft. elevation change and consists of old metamorphic rock and granite formations to younger basalt and volcanic flows. Due to the Preserve's topographic diversity and size, it supports a wide range of species and a number of micro-habitats with specialized biotic communities and significant vegetative variability.

Because of these unique characteristics, Arizona Game and Fish considers the McDowell Mountains and surrounding Sonoran Desert as one of the most significant wildlife habitats in the Valley, second only to the Tonto National Forest**.** The Preserve provides a functional corridor for wildlife to range between McDowell Regional Park and the 3 million acres of wilderness in the Tonto National Forest. The viability of this corridor is a priority as it helps ensure a sustainable wildlife population through safe seasonal species migration, mating and food availability.

In April 2008 the U.S. Army Corps of Engineer (Corps) and U.S. Environmental Protection Agency (U.S. EPA) jointly issued regulations governing compensatory mitigation requirements for aquatic resource losses authorized by Department of the Army (DA) permits, herein referred to as the "Mitigation Rule." The Mitigation Rule emphasizes compensatory mitigation requirements should be developed and implemented using a watershed approach, whenever appropriate and feasible.

The McDowell Sonoran Conservancy, a 501 (c) 3 non-profit conservation organization based in Scottsdale Arizona, is proposing to re-establish an in-lieu fee (ILF) program to work towards more effective and ecologically sound decisions regarding compensatory mitigation in the McDowell Sonoran Preserve. The organization is qualified to assume the sponsorship position given its proven abilities as the primary partner with the City of Scottsdale (COS), regarded as a national model for land conservation. Although COS owns the land of the Preserve, a contractual agreement approved through the Scottsdale City Council (Appendix A) assigns responsibility for preserve management services to the McDowell Sonoran Conservancy.



Map 2: Geographic Service Area (Preserve Boundary) with Hydrologic Unit Codes

As the ILF Program Sponsor, MSC is responsible for preparing the required documentation associated with establishment of the ILF program and, if approved, the implementation and success of individual mitigation projects. This document serves as the draft prospectus for the proposed McDowell Sonoran Preserve ILF Program ("Program"). This Prospectus provides an overview of the proposed ILF Program, outlining the objectives, feasibility, compensation planning framework of the Program, and the qualifications of MSC as the proposed sponsor of the Program. The Prospectus serves as the basis for initial Interagency Review Team (IRT) review and public comment. As required under the rules, a Prospectus must be approved by the District Engineer before production of an ILF Instrument.

Contact information for this program is as follows:
Mike Nolan, Executive Director, McDowell Sonoran Conservancy, 16435 North Scottsdale Road Suite #110, Scottsdale, AZ 85254. Telephone: 480-998-7971, extension 103, email: mike@mcdowellsonoran.org.

I. Objectives

The primary objective of projects developed and funded through the in-lieu fee program will be to replace function and value of aquatic resources and associated habitat that have been degraded or destroyed as a result of activities conducted in compliance with or in violation of Section 404 of the Clean Water Act and/or Section 10 of the River and Harbor Act of 1899. The McDowell Sonoran Conservancy is qualified and prepared to provide well designed and managed aquatic resource restoration projects to an area where there is a great opportunity for long-term ecological benefit.

Through the projects funded through the in-lieu fee program, we expect to achieve the following outcomes:

1. Preservation of lands included in the boundary of the McDowell Sonoran Preserve.
2. Enhancement and modification of land management methods for the better protection of the land, riparian areas, plant and animal life within the Preserve. Creation of a land management plan.
3. Abatement of principle threats in the Preserve and re-establishment of healthy habitats within a watershed approach.
4. Achieve a high level of accountability with strong monitoring and adaptive management components.
5. Identify previously undocumented flora and fauna species.
6. Provide data to the scientific community on which to build a long-term understanding of the urban impact on the ecological integrity of the natural Sonoran desert.
7. Provide new skills and knowledge to community volunteers to encourage a greater appreciation for the Preserve through their participation in the field work.
8. Provide a better understanding and appreciation for conservation and preservation in the community at large through education and interpretation.
9. Provide scientific experience for students through their participation in the field work.

II. Establishment and Operation of the Program

The program was originally established in 2005 through a Memorandum of Agreement between the McDowell Sonoran Conservancy and the Corps. MSC has been operating the program in partnership with the Corps since that time.

III. Service Area

The geographic service area for consideration of in-lieu fee mitigation will be the Verde River watershed and Salt River watershed in the State of Arizona, within the boundary of the McDowell Sonoran Preserve. The program involves the purchase of lands adjacent to the existing Preserve boundary in partnership with the City of Scottsdale, as well as land restoration projects done on previously impacted land within permanently protected Preserve land in partnership with the city Preservation Office. The vision is to preserve approximately 34,000 acres making the more than 50 square mile area the largest urban preserve in the United States.

IV. Need for and Feasibility of the Program

Maricopa County has been growing over the past 20 years at a rapid rate, affecting the Verde River and Salt River watersheds. From 1980 to 2000, the population of Scottsdale grew from 88,000 to over 225,000 (Chart 1). With that growth came an explosion in development, thereby degrading or destroying function and values of aquatic resources and associated habitats in washes. Through the acquisition of property rights, and protection of land within the McDowell Sonoran Preserve, MSC is working to offset these adverse impacts and return this land to a more natural, ecologically sustainable state.

The Sonoran Desert has the greatest diversity of vegetative growth of any desert worldwide (Nabham & Plotkin 1994). The McDowell Sonoran Preserve is part of the Arizona upland section and features bi-seasonal rainfall resulting in great species diversity and richness. We expect to find more than 400 plant species through the baseline flora survey currently in progress, in a variety of ecological relationships that add to the complexity of the community. (Appendix B)

The saguaro cactus is by far the most recognizable Sonoran Desert species. The largest of all cacti, it is only one of many cactus species found in this region. It has been demonstrated that ironwood and palo verde trees nursing relationships promote diversification and increase richness of other plants. Many wildlife species, such as the endemic Bailey's pocket mouse use ironwood, cacti species and other vegetation as both shelters from the harsh climate and a water source. Other mammals include predators such as mountain lions, coyotes and prey such as jackrabbits, and round-tailed ground squirrels.

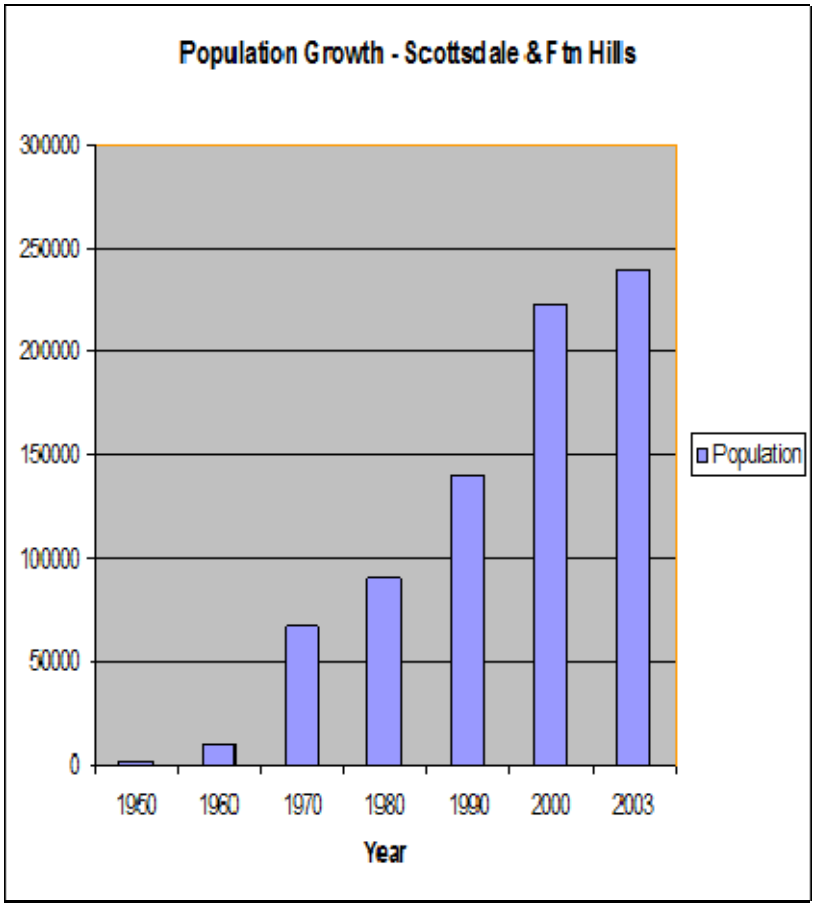


Chart 1: Population Growth in Scottsdale Arizona, U.S. Census

The Sonoran desert is recognized as an exceptional birding area within the United States. Forty-one percent (261 of 622) of all terrestrial bird species found in the United States can be seen here during some part of the year. Fifty-eight species of reptiles, including six species of rattlesnake, are found in this rich desert. The threatened desert tortoise makes its home in burrows and frequents desert seeps and washes throughout the Preserve. Perfectly camouflaged for life in the Sonoran, the giant Gila monster is one of several lizards inhabiting the region.

In the United States approximately 17% of the Sonoran Desert is protected, but residential development on bajadas is eliminating the habitat of bajada-dependent species (Shreve and Wiggins, 1951). The bajada within the Preserve is the last undeveloped bajada in the city. This substantial compound alluvial fan accommodates a variety of flora and fauna species; facilitates a number of natural processes such as groundwater recharge; and is an important cultural resource.

The abundance of dry washes in the Preserve, or desert riparian area, supports up to ninety percent of the wildlife in the area. This concentration of life is the result of the greater availability of water, even though the wash may only carry surface water for a few hours a year.

Animals of all sizes use wash corridors as their primary transportation system to get from one place to another. The Preserve trail system was designed to avoid washes to the maximum extent feasible.

The northern area of the Preserve consists of higher Sonoran Desert. Moderately sloping terrain contains lush native vegetation and also has numerous granite rock outcrops. Cone Mountain in the northwest corner of Section 21 has a protected ridgeline and elevation of 3061', the highest elevation of land in the area. The elevation along Lone Mountain Road alignment is 2760' at the ridgeline with the land sloping down to the southwest to an elevation of about 2620' at the southwest corner of Section 23, and slopes to the southwest to an elevation of roughly 2460' on Section 29.

The central area of the Preserve, providing a link between the McDowell Mountains and Tonto National Forest adjacent to the north section of the Preserve, includes rolling topography with exposed bedrock, boulder outcrops, portions of Fraesfield Mountain and Rock Knob and upper Sonoran Desert vegetation with a number of washes housing abundant wildlife. The lands generally are located north of Pinnacle Peak Road alignment, south of the Lone Mountain alignment and between 128th Street and 136th street alignments.

The McDowell Mountains are located in the southern portion of the Preserve. Named for Civil War General Irvin McDowell, these mountains total roughly 15,000 acres, and range in elevation from approximately 1,600 to over 4,000 feet above sea level. The majority of the McDowells are located within the corporate boundary of the City of Scottsdale, with the eastern edge bordered by McDowell Mountain Regional Park (Maricopa County) and the Town of Fountain Hills. The McDowell Mountains are home to rich populations of plants and animals, and have a cultural history dating back thousands of years.

We believe the Preserve's ecological integrity is high. This, however, is not something to take for granted. Often in areas that experience a diversity decline, the decline is irreversible by the time it is noticeable. The need for a strategic and comprehensive approach to compensatory mitigation is warranted for the Preserve. At present, there is no comprehensive program designed to oversee compensatory mitigation to ensure the replacement of ecosystem function. With no authoritative framework, the mitigation projects attempted in the Preserve have resulted in varying degrees of success.

Protecting the ecological integrity of the McDowell Sonoran Preserve significantly contributes to the community's sustainability, as well as mitigating ecological impacts to waters in the area. Our work will conserve water, maintain and improve water quality, reduce erosion, and protect and restore riparian areas and other sensitive habitat.

V. Technical Feasibility

MSC has developed a map of different biotic communities throughout the Preserve (Appendix C) to serve as the foundation for monitoring long term changes in the Preserve ecosystem and serve as support for the flora and fauna baseline. Plant communities were determined by identifying dominant species of plants that commonly grow together, forming 7 distinct

association categories (Brown). Also included are historical burn areas, distinct geological features, and elevation to allow us to map correlations between certain features and ecological history and corresponding plant communities.

To meet the needs of each mitigation project, MSC will work with our partners to incorporate the best available science along with an appropriate monitoring program that will evaluate the effectiveness of the implemented strategies and inform adaptive management. These plans will be vetted by relevant experts to provide the greatest chance of success for each project.

VI. Ownership Arrangements and Long-term Management Strategy

MSC works in partnership with the City of Scottsdale and its Preservation Office to help expand and manage the Preserve. Land within the Preserve is owned by the city, or is permanently protected by zoning. Of the total land included in the recommended Preserve boundary, more than 21,000 acres have been acquired. An acquisition plan has identified approximately 6,000 additional acres of state trust land to be acquired in December, 2012 ensuring a functional wildlife corridor to the Tonto National Forest.

MSC provides long-term management of the resources under a contract with the city of Scottsdale. We use a comprehensive process whereby we work together with stakeholders, scientists and other conservation groups to address natural resources and related issues within the Verde River and Salt River watersheds. We target areas where loss of habitat poses the greatest risk to human health, ecologic resources, desirable uses of the water, or a combination of these. We bring together all parties with a stake or interest in the Preserve to participate in the analysis of problems and the creation of solutions. Actions undertaken draw on the full range of methods and tools available, integrating them into a coordinated, multi-organization effort including long-term ecological research to ensure ecological integrity, required habitat remediation to ensure full replacement of resource function, and restoration and enhancement of habitat maintaining aquatic resource function and value.

Our focus is urban land preservation, and we continue to improve our knowledge of the specific challenges that come from protecting the Preserve's 82-mile long "wildland-urban interface", or zone of transition between unoccupied land and human development. Our efforts include the following:

Land Acquisition

MSC may accept donation of, or purchase, land or easements in, or adjacent to, the Preserve boundary in order to expand the acreage of the Preserve. Highest priorities include land adjacent to the Preserve in the corridor joining the north area of the Preserve with the portion of the Preserve that comprises the McDowell Mountains, land connecting the northern area of the Preserve with the Tonto National Forest, and washes originating in the Preserve that penetrate the surrounding community.

Habitat Remediation, Restoration and Enhancement
The key to effective management is protecting the living space, or habitat, through habitat remediation, restoration and enhancement. Volunteers led by experts in the field of land management work to repair old road scars, unplanned trails, and remediate vandalism and other human impacts. Their work includes the removal of invasive plants and re-vegetation of areas with native species to ensure plants necessary for wildlife survival and proliferation. Native plants also protect the Preserve from wildfires, a constant danger in a normally hot and dry region that's in the midst of a twelve year drought. Desert riparian areas are specifically targeted to mitigate the impact of nearby development, ensuring habitat diversity and improved water quality.

McDowell Sonoran Field Institute
MSC's research institute examines the health and scope of the Preserve's living and non-living (i.e. rocks, water cycle, etc.) components. Outcomes include instituting enhanced land management methods for the better protection of the plant and animal life within the Preserve, and smart land use planning decisions. MSC also seeks to identify previously undocumented flora and fauna species. From our work, the scientific community receives baseline data on which to build a long-term understanding of the urban impact on the ecological integrity of the natural desert and volunteers will gain new skills and knowledge and greater appreciation for the Preserve through their participation in the field work. The community also gains a better understanding and appreciation for conservation and preservation and students gain scientific experience through their participation in the field work.

VII. Qualifications

The McDowell Sonoran Conservancy champions the sustainability of the McDowell Sonoran Preserve for the benefit of this and future generations. As stewards, we connect the community to the Preserve through education, research, advocacy, partnerships and safe, respectful access.

The McDowell Sonoran Conservancy is the only non-profit land trust protecting the McDowell Sonoran Preserve. We are also unique among Arizona land trusts. Of the 577 volunteers that support the 22 land trusts in Arizona, 400, or almost 70%, support the McDowell Sonoran Conservancy (Land Trust Alliance Census, 2010.) We are known as a national model for land conservation, as we are able to protect the largest urban preserve in the United States because of our volunteer support.

Overall management for the program lies with MSC Executive Director, Mike Nolan. Mr. Nolan has degrees in Geology and Economics and has spent more than 30 years working for land trusts across the country. He has managed a number of federally-funded projects, including a $500,000 EPA-funded stream restoration project in Kentucky. His experience includes managing staff, contract researchers and scientists, and service providers. He has overseen complex financial tracking and reporting, and administered project budgets and the expenditure of funds within permitted uses. He is knowledgeable of the reporting requirements of federal agencies.

Oversight of field work and habitat remediation projects in the Preserve lies with Melanie Tluczek. Ms. Tluczek is the Research Program Coordinator at McDowell Sonoran Conservancy. Melanie graduated from Arizona State University with a Master's Degree in Wildlife and Restoration Ecology in July, 2012. The focus of this Master's degree program was to prepare students for applied, environmentally-focused careers. Melanie has worked throughout her career to understand the human dimensions of conservation. While studying Anthropology as an undergraduate, Melanie received a grant to conduct research on ecological footprints. In addition she worked for the Decision Center for a Desert City, an institution at ASU focusing on decision-making regarding water resources.

Claire Miller is a City of Scottsdale Preservation Office employee and McDowell Sonoran Preserve staff. Ms. Miller, a Scottsdale High School graduate, received her B.A. in Outdoor Recreation from the University of New Mexico in 1983, then attended graduate school at Arizona State University in Natural Resource Management. Prior to becoming Scottsdale's first Preserve Manager in late 1999, she worked in the City of Phoenix Mountain Park and Preserve system for 13 years as a uniformed Park Ranger supervisor and Mounted Patrol Ranger (nationally certified mounted officer).

MSC has written commitments from Arizona Game and Fish, Center for Native and Urban Wildlife, Arizona State University School of Life Sciences, ASU CAP-LTER, Audubon Society and North American Field Herpetological Association and others to train and lead citizen volunteers in the field. Additionally, MSC works with students from state universities and local community colleges in the field. Field data is collected and/or monitored on weekly expeditions into the Preserve during 12 weeks of each school semester.
Partner information follows:

Arizona State University School of Life Sciences: Ron Rutowski, Faculty, R.RUTOWSKI@asu.edu 480.965.4369
ASU has committed the time, expertise and leadership of their faculty to serve on the field team for this project, and help to analyze and publicize the results. The faculty will lead undergraduate students enrolled in the Society for Conservation Biology, Central Arizona chapter to conduct field work.

Arizona State University CAP-LTER: Stevan Earl, stevan.earl@asu.edu 480-965-7949
CAP-LTER has committed the time, expertise and leadership of their staff to serve on a field team for this project, and help analyze and publicize the results.

Arizona Game and Fish: Randy Babb, Education Manager, 480-981-9400, **RBabb@azgfd.gov**
The Arizona Game and Fish Department has committed the time of their staff to lead the field team.

Scottsdale Community College, Center for Native & Urban Wildlife (CNUW): Russell Haughey, Executive Director russell.haughey@sccmail.maricopa.edu (480) 425-6958
SCC has committed the time, expertise and leadership of their staff to serve on a field team for this project, and help analyze and publicize the results.

Desert Rivers Audubon Society: Walter Thurber, wathurber@cox.net 480-483-6450
Desert Rivers Audubon Society has committed expert volunteer support and leadership for a field team and will publicize results.

North American Field Herpetological Association: Dave Weber, bkrdave36@gmail.com 623-760-6053 The North American Field Herpetological Association has committed expert volunteer support and leadership for a field team.

MSC volunteer Stewards provide the critical manpower component for the program, extending the capacity of qualified personnel and scientists. As most Stewards are highly educated, retired community leaders, their intellect and tenacity for life-long learning opportunities will engage them in this project. Their work will help contribute to effective adaptive management and may contribute to more effective regional conservation strategies. Restoration work in riparian areas in the Preserve accounted for 55% of the remediation we completed in this past year, or a total of 12 out of 22 restoration projects were completed in riparian areas in one year. These projects involve riparian/aquatic areas to restore degraded areas through re-vegetation and streambed restoration, and through the removal of invasive plants. We began our restoration efforts in in 2002 and 2003 when groups from Scottsdale Community College's Center for Native and Urban Wildlife, participated with MSC in restoration efforts at Brown's Ranch, specifically in the wash. This involved tree planting and seed germination.

VIII. Compensation Planning Framework

MSC will use a compensation planning framework to select, secure, and implement resource restoration, establishment, enhancement, and/or preservation activities. The compensation planning framework of the program supports a watershed approach to compensatory mitigation. By considering the needs and goals in a watershed context, the compensation framework will allow for more informed decision-making for determining compensatory mitigation in the McDowell Sonoran Preserve.

i. Geographic Service Area:

The geographic service area for consideration of in-lieu fee mitigation will be the Verde River watershed and Salt River watershed in the State of Arizona. This includes all lands within, and priority lands adjacent to, the McDowell Sonoran Preserve located in Scottsdale, Arizona. The approved boundary of the Preserve is in Maricopa County, northeast of Phoenix, and stretches from 145th street, just north of Via Linda Road, to Stagecoach Pass and Pima Roads. The HUCs for this service area include: HUC code 15060106, also called the Lower Salt unit, and HUC code 15060203, or Lower Verde unit (Map 1). The program may involve the purchase of lands and easements adjacent to the existing Preserve boundary often in partnership with the City of Scottsdale, as well as land restoration projects done on previously impacted land within permanently protected Preserve land and long-term management including monitoring and assessment.

Riparian areas in these two watersheds serve as migration corridors for large mammals such as mule deer and shelter for many species of reptile including desert tortoises and various species of rattlesnake. These washes are characterized by unique biotic communities, with mesquite bosques and stands of cottonwood and willow trees. The prevalence of these plants create ideal habitats for many native birds. This type of vegetation is not seen in non riparian areas. Evidence of habitat loss is suspected through the prevalence of various types of invasive weeds, which outcompete native vegetation for resources, in many washes in the Preserve.

ii. Description of the threats to aquatic resources in the service area:

The McDowell Sonoran Preserve is adjacent to an expanding urban area and, unfortunately, this rapidly growing population in the Valley—along with invasive species and diminishing water resources—are threatening the ecological balance of the Preserve (Table 1).

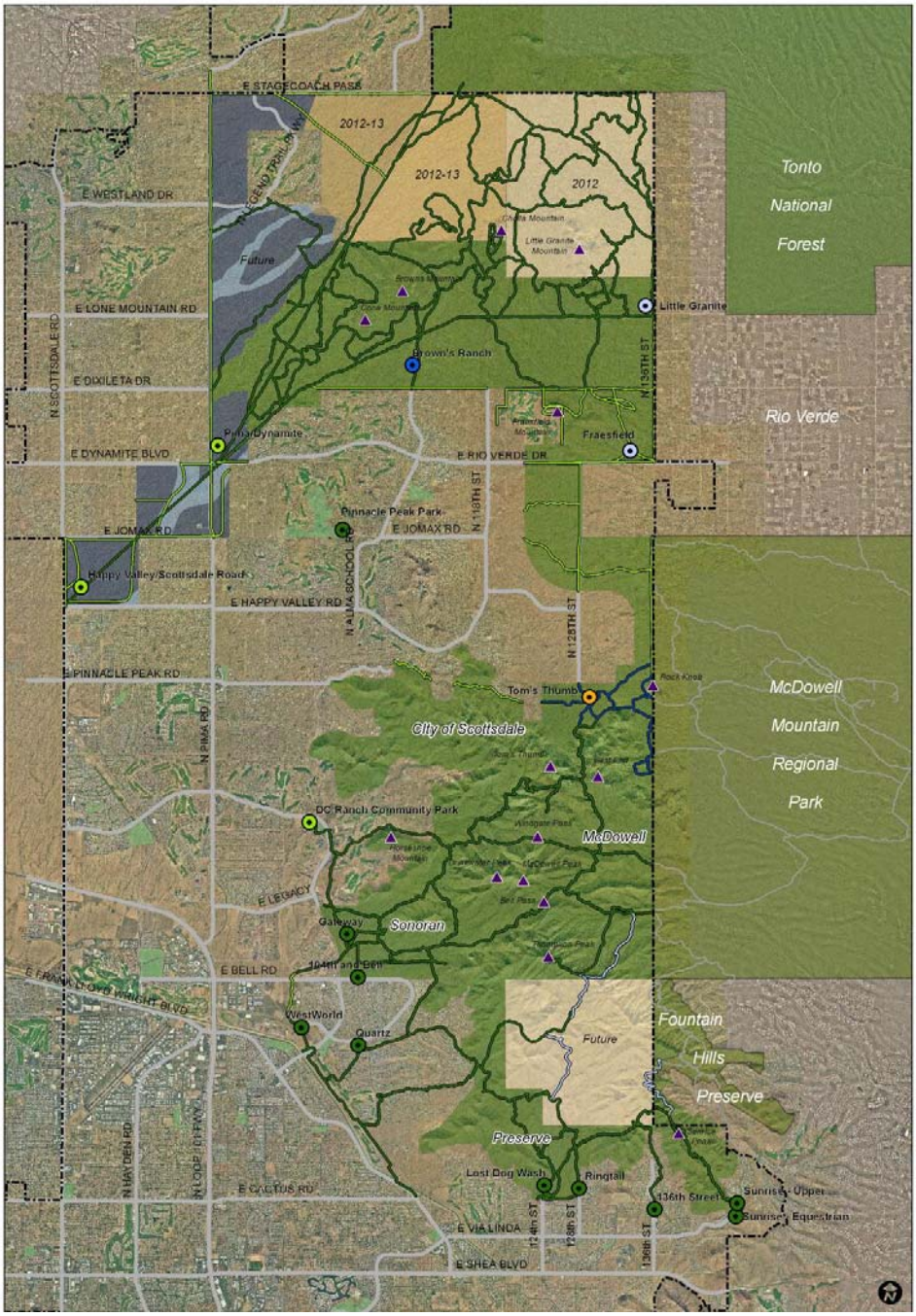
	McDowell Sonoran Preserve Natural Resources			
	Wildlife Migration Corridors	Native Flora	Native Fauna	Historical Resources
Threats				
Recreation/Off-road vehicles	X	X	X	X
Illegal dumping			X	X
Wildfire		X	X	
Habitat degradation	X	X	X	
Invasive weeds		X	X	

Table 1: Summary of threats to natural resources in the McDowell Sonoran Preserve

A more detailed description of the significant threats to the aquatic resources in the McDowell Sonoran Preserve follows:

Recreational Use

As the U.S. population has grown, so too has demand for outdoor recreation and desire by users for access to the Preserve is no exception. Since trails in the Preserve were opened and trailheads built (Map 2), preserve use has increased from 5,000 users per year to 250,000 users per year.



Map 2: The McDowell Sonoran Preserve Access via Trails and Trailheads. City of Scottsdale

Also, a variety of statistical sources show that demand for OHV driving and riding grew especially fast in the 1990's, and in the first few years of the last decade. In fact, according to a 2008 report from the U.S. Forest Service, the number of off-road vehicles grew from just over 350,000 in 1998, to more than 1,000,000 in 2006. Off-road vehicle use in the Preserve is prohibited, and needs to be prevented.

Especially in the north section of the Preserve, a larger, open region hedged in only by spindly fences where motorcycles, ATVs and other vehicles once roamed at will but are now barred in the newly acquired land. Decades of wanton motorized use has degraded large chunks of this Preserve land that will take decades to repair.

In fact significant recreational use in the Preserve requires constant education to the public on the safe enjoyment of the Preserve. Effective enforcement is required, and we have instituted a combination of policing and public education to ensure the protection from recreational users. Through MSC patrol efforts, we identify and educate the public on the Preserve's usage regulations, which include: no motor vehicle use, staying on trail, and not disturbing wildlife and archeological sites. This on-going work is done through an extensive program of more than 200 volunteers who patrol the Preserve based on a set schedule of trails (Table 2, Map 3).

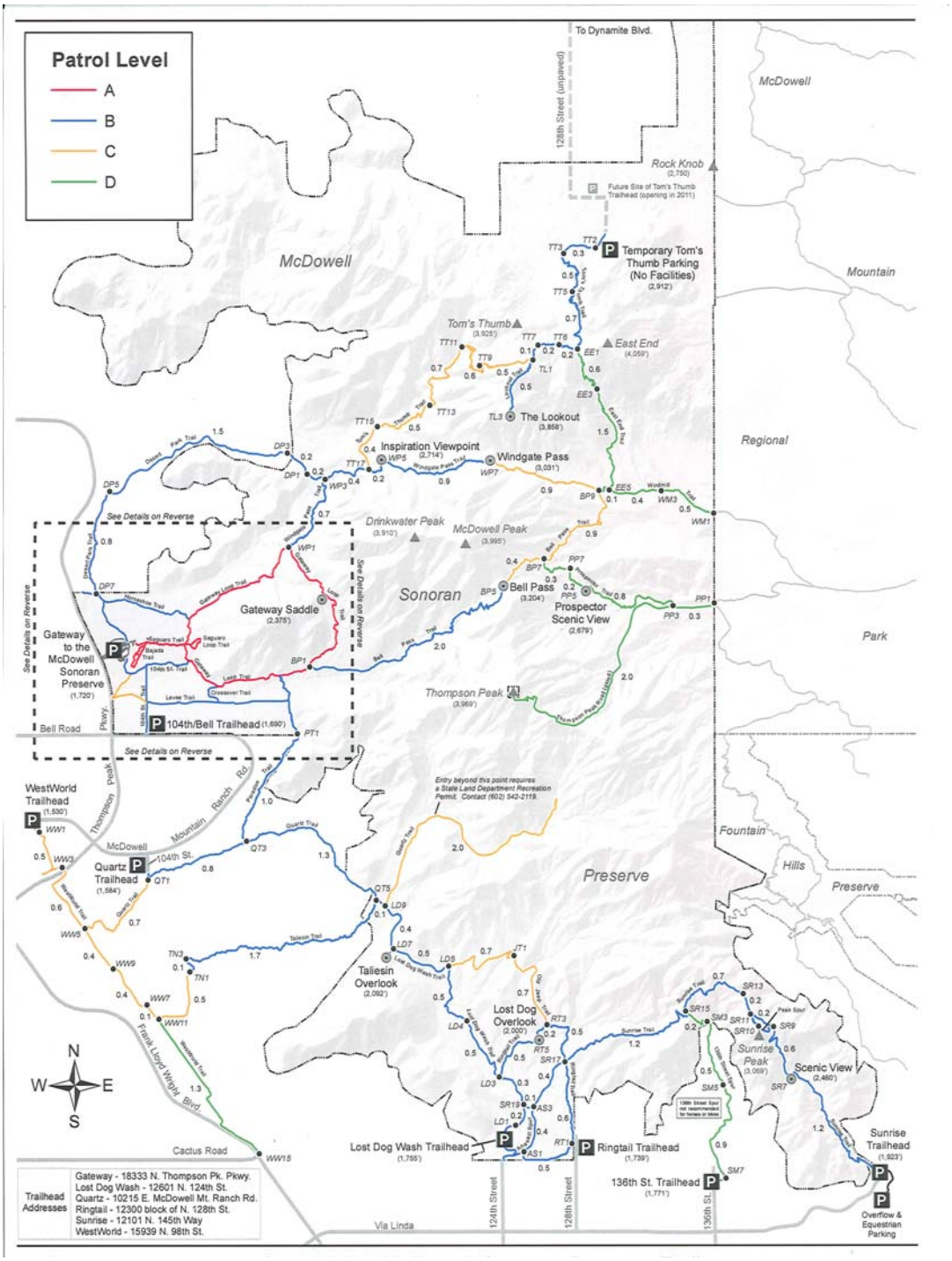
Patrol Frequency – Trails in the McDowell Mountains

		Frequency	
Patrol Level	Miles	High Season	Low Season
A	4.67	At least once per day –every day of week	Twice per week – preferably Saturday and Sunday
B	28.84	Every Saturday and Sunday and once during week	Once per week – preferably on weekend day
C	12.02	Once per week – preferably on weekend day	Twice per month
D	8.88	Twice per month	Once per month
TOTAL:	54.41		

Patrol Frequency – Areas in the Northern Region of the Preserve

		Frequency	
Patrol Level	Miles	High Season	Low Season
A	0	At least once per day –every day of week	Twice per week – preferably Saturday and Sunday
B	6.89	Every Saturday and Sunday and once during week	Once per week – preferably on weekend day
C	6.19	Once per week – preferably on weekend day	Twice per month
D	4.00	Twice per month	Once per month
TOTAL:	17.08		

Table 2: Patrol Schedule



Map 3: Example of Trail Patrol Map

Illegal Dumping

Dumping is another threat to riparian resources in the Preserve. Because of the proximity to urban development, the Preserve's washes have become repositories for construction waste, chemicals (such as paint), household appliances, landscape debris, automotive parts (such as tires and motor oil) and, at times, entire vehicles. This waste pollutes the water that runs through the

washes after a rainstorm. Pollution also seeps into the underlying ground water. Through continual habitat remediation projects, MSC is removing waste from the Preserve. MSC Stewards also patrol the Preserve daily to both deter additional dumping and identify new remediation projects.

Another threat is when important wash corridors become blocked or otherwise made inaccessible to animals through human activity. This often results in a major disruption to area wildlife.

Extended Drought and Wildfires

As evidenced by the wildfire that began in the McDowell Sonoran Preserve in 2010, wildfires are one of the worst threats to Preserve habitat. Steward patrol efforts are critical to the minimization of wildfires, and ultimate health of the Preserve. Because of early and coordinated response between MSC, the City of Scottsdale and the Scottsdale Fire Department in the 2010 fire, damage was held to 80 acres and the fire did not extend into the surrounding community.

Fast and effective detection is a key factor in wildfire fighting. MSC Stewards are trained to patrol, and work diligently during summer months looking for signs of wildfire in the Preserve. On July 4th each year, afraid of what a firecracker party could do to a parched dry Preserve, MSC Stewards man each Preserve access area throughout the night.

Since 1990, there have been 17 wildfires in Arizona that have exceeded 20,000 acres. In 2005, 419,617 acres burned across the nearby Tonto National Forest, including 248,310 in the lightning-sparked Cave Creek Complex Fire, the largest desert wildfire in Arizona history. It was the second largest wildfire in Arizona, burning from near Bartlett Lake to near New River, causing more than $18 million in damage. The loss of desert habitat from wildfires is tremendous. Wildfires often devastate the desert habitat for decades, as some wildlife habitat and plant life is particularly sensitive to ecosystem disturbance and can suffer long-term setbacks.

Finally, extended drought, from the combined effects of natural climate variability and human-induced climate change, is affecting the ecological stability of the Preserve. To respond to this, MSC has initiated an ecological monitoring program to establish a baseline data set and then begin monitoring transects for changes in plant and animal populations. MSC also works to acquire land within and adjacent to the Preserve boundary, as large areas of natural open space can be more ecologically stable and have greater habitat connectivity. The Preserve, when completed, will connect the Maricopa County Regional Park and Tonto National Forest creating hundreds of miles of contiguous habitat.

Invasive Species

A critical and ongoing threat to the riparian habitat within the Preserve is the proliferation of invasive species that both displace native plants and provide fuel for wildfires. Through continual habitat restoration efforts, MSC's habitat restoration projects remove invasives and re-vegetate disturbed areas, often the most susceptible to invasive species encroachment, with native species. This activity fosters habitat stabilization by maintaining food plants necessary to wildlife, and eliminating fire fuel. Long-term strategies to eradicate invasive species from the Preserve includes: Establishing an invasive plant early detection network through MSC patrol

volunteers; producing news articles for educating an urban audience about invasive plants; creating collateral materials and providing invasive plant presentations for homeowners, HOA's, and community groups; and supporting efforts of city offices in their work with invasive plants.

Through preliminary field work, we have identified 6 riparian areas (Table 3) that will serve as preliminary sites for mitigation. The sites have varying degrees of weed density, feasibility of removal, and species present.

Site Name	Species Present	Estimated Density	Difficulty of Removal
Brown's Peak	Buffel Grass (*Pennisetum ciliare*)	Dense	Moderate
Quartz Trail Wash	Fountain Grass (*Pennisetum setaceum*)	Somewhat dense	Easy to moderate
Marcus Landslide	Tamarisk (*Tamarix chinensis)*	Somewhat dense	Difficult
Sven's Slab Climbing Access	Fountain Grass (*Pennisetum setaceum*)	Sparse	Difficult
Troon Outflow	Tamarisk(*Tamarix chinensis*)	Very dense	Very difficult
Dixie Mine	Tamarisk (*Tamarix chinensis*) Bermuda Grass (*Cynodon dactylon)* Foutain Grass (*Pennisetum setaceum*) Malta Star Thistle(*Centaurea melitensis*)	Sparse to moderate for all species present.	Varied depending on species

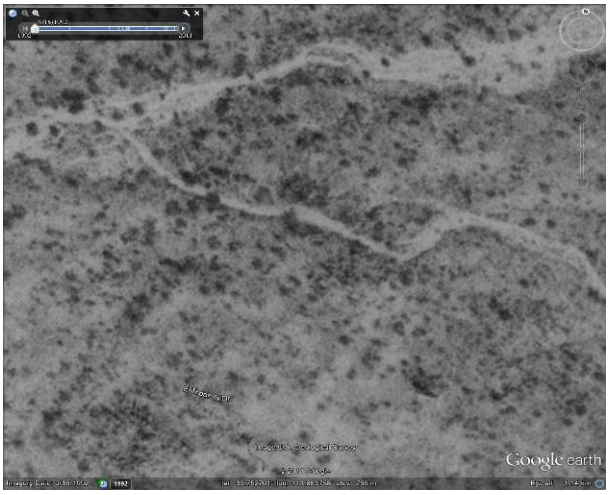
Table 3: Invasive Species Priority Areas in the McDowell Sonoran Preserve

We believe these sites to be representative of additional areas in the Preserve that may face similar problems with invasive weeds.

iii. An analysis of historic aquatic resource loss in the service area(s), supported by field documentation:

Historical aerial photos of a priority site, the Troon Outflow site, portray the speed and severity at which invasive weeds can take hold in the identified riparian ecosystems. The photos show the spread of tamarisk (*Tamarix chinensis*) through the site from 1992 to 2011. Tamarisk outcompetes native cottonwood and willow trees, both of which support native bird populations.

Spread of *Tamarix chinensis* at Troon Outflow study site from 1992 to 2009



1992

2002

2011

Note: Tamarisk is the lighter green large vegetation seen in the 2002 photo and the brown vegetation in the 2011 photo. Color variation is due to season when photograph was taken. *Photos from Google Earth*

iv. Statement of aquatic resource goals and objectives for each service area:

The primary objective of projects developed and funded through the in-lieu fee program will be to replace function and value of aquatic resources and associated habitat that have been degraded or destroyed as a result of activities conducted in compliance with or in violation of Section 404 of the Clean Water Act of 1972 and/or Section 10 of the River and Harbor Act of 1899. Removal of invasive weeds and mitigation of damage caused by off-road vehicles could help to rehabilitate riparian habitats throughout the Preserve.

v. Prioritization strategy:

The McDowell Sonoran Conservancy, working with the city Preservation Office, has a prioritization plan for both land acquisition and remediation efforts. Riparian areas, one of the most fragile habitats within the Preserve, including dry washes and alluvial areas, are the highest priority for habitat remediation. Uplands within each watershed will also be targeted for the protection of the riparian ecosystems into which they feed. Work will include removal and control of invasive species, selective clearing of and litter control in wash areas, salvaging and planting of native plants, and trail maintenance and construction to ensure maximum wash efficiency. Also, MSC will implement research to examine the health and scope of the living and non-living components in the Preserve. This will include baseline studies of flora, fauna and geology of the area.

The Preserve's bajadas, alluvial deposits, and wildlife corridors are also the highest priority for preservation. Land acquisition efforts target areas in the northern area of the boundary of the Preserve which are most threatened by impacts such as off-road vehicle use. This area of approximately 16,000 acres of State Trust Land, includes significant wildlife habitat and plant species not found in other areas within the same elevations. MSC will also acquire land parcels adjacent to the Preserve, specifically along a narrow wildlife corridor, to enhance long-term sustainability of the existing habitats found within the Preserve.

Habitat remediation sites will be prioritized by the severity of the threat to the natural habitat and the feasibility of repair. Many factors will be taken into account when prioritizing sites. Factors will include but are not limited to: the level of difficulty and equipment needed for invasive weed removal methods (i.e. chemical or manual removal required and need for heavy equipment), the extent of erosion from off-road vehicles, potential fire threat from invasive weeds, accessibility to sites, and importance of habitat to native flora and fauna.

Two sites already identified as top priorities are tamarisk removal at the Troon Outflow site and the Dixie Mine site. The invasive weed (tamarisk) problem at the Troon site is very severe and is causing degradation to a riparian habitat that has been identified to be important to birds. The Dixie Mine site has at least four different invasive species present in varying degrees of density. This wash, located in one of the most remote spots in the Preserve, has been identified as an important habitat for various species of mammals and invertebrates. It also contains native vegetation that is relatively unique in all of the Preserve.

vi. If preservation is identified as an objective and addressed in the prioritization strategy, then an explanation as to how the criteria for use of preservation are satisfied [explain compliance with § 332.3(h)]

Given the threats to the health of the Preserve's ecosystem, a precautionary strategy that includes protection and conservation to ensure the viability of adjacent washes as they extend out of the Preserve is prudent in conjunction with mitigation options for restoration and enhancement of these riparian areas. We will pursue preservation of these wash systems through acquisition of conservation easements.

vii. Description of public and private stakeholder involvement:

MSC has always realized that protecting the resources of the McDowell Sonoran Preserve requires long term, region-wide planning and cooperation on the part of public entities and private citizens. Since our founding in 1990, MSC has worked through a public/private partnership with the City of Scottsdale that now serves as a national model for preservation.

By referendum, Scottsdale's voters designated 16,000 acres in the McDowells for preservation and, then, approved a sales-tax increase to purchase them. That area now has been substantially acquired by the city and is protected in perpetuity as the McDowell Sonoran Preserve. An additional 20,000 acres in the northern part of the city later were designated to be protected. When completed, the Preserve will cover about one-third of Scottsdale's land area. Connected to protected areas to the north and east, it will provide the continuous open space corridors necessary for the existence of a sustainable wildlife habitat. A total of six public votes have been approved supporting the McDowell Sonoran Preserve.

MSC has active partnerships with Arizona Game and Fish, Arizona Geologic Survey, and multiple departments and programs at Arizona State University. MSC helped to create, and still works in partnership with, the Center for Native and Urban Wildlife at Scottsdale Community College. We have partnerships with other non-profit organizations that range from conservation organizations like the Nature Conservancy and Desert Foothills Land Trust, to capacity building organizations like Hands On Greater Phoenix, Environmental Fund for Arizona and Public Allies Arizona. MSC also enjoys support from civic organizations like the Greater Pinnacle Peak Association and various Scottsdale Rotary organizations, as well as from the Scottsdale Convention and Visitors Bureau and the Scottsdale Chamber of Commerce.

MSC could not be successful without the support of over 3500 donors and volunteers from the surrounding community. MSC also works in partnership with local corporations including American Express, APS, Boeing, DMB, Henkel, M & I Bank, Wells Fargo and WesPac. These corporations, working with MSC Stewards and youth groups, provide employee volunteers in support of the long-term protection of the Preserve.

viii. Description of long-term protection and management strategies:

The McDowell Sonoran Conservancy will continue to work cooperatively with federal, state, and local governmental entities to achieve shared conservation goals. And, we will work to help develop a regional management strategy that is centered on adaptive management concepts.

Conserving important biological resources is very important to the citizens of the City of Scottsdale. MSC works in partnership with the city to help identify and remediate any negative impacts that surrounding development has on the McDowell Sonoran Preserve to ensure long-term sustainability.

The aquatic resources in the McDowell Sonoran Preserve are the major washes that leave the Preserve and drain into the Verde and Salt Rivers. In general the most significant problems they face are changes in surface and subsurface water flow caused by invasive, non-native plants and damage to and alteration to flow channels caused by off-road vehicle use. The severity of these problems varies across the Preserve – some washes suffer significantly from one but not the other. Long-term management strategies are aimed at removing invasive plants from the washes (and keeping them out) and remediating damage caused by the invasive plants and by vehicles.

Long-term management strategies to address these issues begins with identifying and prioritizing the washes to be protected, using measures such as total area of disturbance caused by vehicles, percentage cover by invasive species, soil studies, biological inventory to determine current native biodiversity, and accessibility to any staff and equipment needed for the mitigation efforts. Together these will allow MSC to build a priority list of washes to be remediated.

The effectiveness of long-term management strategies will be determined in large part by ongoing biological inventory efforts that document the natural communities in the washes and their response to remediation. On-going biological monitoring will be a strategy in every wash. In addition, some will require installation of fencing and signage to prevent disturbances in areas under mitigation. Several tens of miles of trails will be closed and native natural communities restored. This will involve replanting native species, possible soil amendment, and potentially resculpting of the land in places where flow patterns have been dramatically altered.

Species management will be a critical ongoing effort as undesirable invasive plant species must be removed and then kept from overtaking the region. Depending on the species, this will include mechanical removal, herbicide application, and ongoing monitoring and removal to prevent the invasives from re-establishing in the area. Native species returned to their natural settings will require care in the initial years, including potentially soil amendment and supplementary water.

MSC will operate through an adaptive management process, requiring conservation actions to be scientifically evaluated for effectiveness in partnership with the City of Scottsdale and the local scientific community. Conservation actions will then be refined to adapt to new information and changing circumstances.

MSC will work to avoid or minimize future losses and fragmentation of habitat by a publicly supported land acquisition and conservation program. This includes long-term management of approximately 34,000 acres of biological core, important riparian areas, threatened and endangered species management areas, and special landscape elements.

IX. Description of Account

Contributions will be held in a separate account set up as a trust in order to provide financial assurance that monies are spent for the required purpose. Through this mechanism, the MSC Board of Directors will not have the ability to redirect funding received to other purposes rather the funds will be used in accordance to Corps approved projects. The account will be audited annually and an annual report will be submitted to the Corps each year.

MSC will hold the Program account in a federally-insured account maximizing the safety and preservation of the principal fees. MSC will account for the funds in accordance with generally accepted accounting principles. MSC will provide an annual accounting statement to the Corps and the IRT.

Funds collected, including any interest earned on these funds, would be used for the selection, design, acquisition, implementation, management, and monitoring of ILF projects, with a percentage allowed for administrative costs. Any assets left over from mitigation projects will remain in the account for long-term maintenance and monitoring, and future mitigation projects.

References

Brown, D. E. (1994). Biotic communities, Southwestern United States and Northwestern Mexico. Salt Lake City: University of Utah Press.

Census of Land Trusts, 2010. Land Trust Alliance, Washington, D.C.

Nabhan, G. P., and M. J. Plotkin. 1994. Introduction. G. P. Nabhan, and J. L. Carr, editors. Ironwood: An Ecological and Cultural Keystone of the Sonoran Desert. Conservation International, Washington, D.C.

Shreve, F. and Wiggins, I. L., 1951. Vegetation and flora of the Sonoran Desert, Volume 1. Carnegie Institution of Washington.

Southwest Environmental Information Network- current list of flora findings in McDowell Sonoran Preserve http://swbiodiversity.org/seinet/checklists/checklist.php?cl=2560&proj=1

Definition of Terms

Bajada: A broad, sloping deposit caused by the joining together of alluvial fans.

Biotic Community: a group of interdependent organisms inhabiting the same region and interacting with each other.

Compensatory mitigation: the restoration, establishment, enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

Micro-habitat: the smallest part of the environment that supports a distinct flora and fauna, such as a fallen log in a forest.

Mitigation: Moderation of a quality or condition in force or intensity.

Service area: a geographic area within which impacts can be mitigated at for an in-lieu fee program.

Sponsor: any public or private entity responsible for establishing, and in most circumstances, operating an in-lieu fee program.

Watershed: a drainage area that empties into a major body of water.

Watershed approach: An analytical process for making compensatory mitigation decisions that support the sustainability or improvement of aquatic resources in watershed.

Appendix A: Agreement assigning management responsibility to MSC

Contract No. 2011-101-COS

AGREEMENT BETWEEN THE CITY OF SCOTTSDALE AND THE MCDOWELL SONORAN LAND CONSERVANCY REGARDING THE MCDOWELL SONORAN PRESERVE

This agreement is made and entered into this 6th day of December 2011, by and between the City of Scottsdale, an Arizona municipal corporation (hereinafter the "City") and the McDowell Sonoran Land Conservancy , an independent 501(c)(3) non-profit organization, doing business as the McDowell Sonoran Conservancy (hereinafter the "Conservancy").

WHEREAS the City owns and, acting through the Preserve Director or his or her designee, or through such other City employees as the City Manager or City Council may direct, operates and maintains certain lands designated pursuant to Article 8, § 8 of the Charter of the City of Scottsdale as the McDowell Sonoran Preserve (hereinafter the "Preserve"), and

WHEREAS the Conservancy has provided and wishes to continue to provide staff and volunteers to assist and support the City in the important work of protecting, promoting and managing the Preserve, and

WHEREAS in fiscal year 2009/2010, the Conservancy has provided over 42,000 volunteers hours to the City to help promote the Preserve and also provided donated amenities, supplies, tools and equipment that are detailed in annual financial statement to the City; and

WHEREAS the City has considered the value of the Conservancy's volunteer hours, donated amenities and supplies and has determined that the City will receive a clearly identified direct public benefit and in consideration agrees to provide use of City facilities by the Conservancy for functions related to supporting the Preserve; and

WHEREAS the Conservancy has been and will continue to be the City's primary partner in the Preserve, and

WHEREAS the City and the Conservancy wish to set forth their agreement for use of the City's facilities and responsibilities of the Conservancy.

NOW, THEREFORE, the City and the Conservancy agree as follows:

1) **SERVICES PROVIDED BY THE CONSERVANCY:** The Conservancy, as authorized by the City, will provide staff and trained volunteers to assist the City in operations, maintenance, and outreach-related services and activities, in or directly related to the Preserve, which may include, but are not limited to, the following:

a) A comprehensive volunteer stewardship program, including volunteer recruitment and training

i) Patrol – trail, Preserve conditions and user activity
   (1) July 4th and New Years fire watch plans
   (2) Storm Watch
ii) Maintenance
   (1) Access area caretaking
   (2) Trail maintenance
   (3) Work Projects
      (a) Habitat restoration, remediation, invasive plant, etc.
iii) Pathfinder trailhead hosts
iv) Education
   (1) Guided hikes
   (2) Family-oriented trailhead activities
   (3) Classes and lectures, including trailside interpretation
   (4) Youth and Teen programs

b) Facilitating scientific research
c) Website and print resources
d) Advertising, promotion, special events, and membership activities, each with the sole purpose of promoting the use, protection and enhancement of the Preserve, which may include, but is not limited to, providing financial support for Preserve amenities, maintenance, or activities, provided that all net proceeds derived from such advertising, promotion, events and activities are utilized to support programs and activities that protect and enhance the Preserve.

2) **CONSERVANCY INDEPENDENCE:** The Conservancy, as an independent organization, will continue to offer other programs and services and conduct other activities relating to its mission that are not subject to this Agreement, including, but not limited to, advocacy and fundraising.

3) **DUTIES OF THE CITY:** The City, acting through such City employees as the City Manager may direct, will provide the onsite supervision, tools and materials, training or training design, authorization, fee reservations, direction and materials, reporting forms and permit formats, other support as mutually agreed and use of City's facilities, as the City in its sole discretion determines to be necessary and appropriate to carry out the terms of this Agreement.

4) **PERIODIC JOINT PLANNING AND REVIEW:** As often as required, but at a minimum at least annually, the Preserve Director or his or her designee will meet with the designees of the Conservancy to discuss existing Conservancy Preserve-related services and activities, and to jointly plan possible new Preserve-related services and activities for the coming year. Prior to September 1 of each year the Conservancy will present a report setting forth its activities performed in the preceding year pursuant to Paragraph 1 above and its plan for the coming year.

5) **VOLUNTEER SCREENING:** The Conservancy will ensure that its staff and volunteers who work in the Preserve, complete the City's volunteer screening process. The City will provide the Conservancy's volunteers with the insurance and indemnity available to other volunteers working with the City.

6) **TERM:** This Agreement will continue in force until it is cancelled by either party with one year's written notice or may be cancelled with less than one year's notice by mutual consent of the parties.

7) **NOTICE:** Any notice required by this Agreement shall be deemed to have been received either when it is personally delivered to the address set forth below at any time during normal business hours, or three days after it is deposited in the U.S. Mail and addressed as set forth below:

CONSERVANCY:	CITY OF SCOTTSDALE
McDowell Sonoran Conservancy Attn: Executive Director 16435 N. Scottsdale Road, Suite 110 Scottsdale AZ 85254	City of Scottsdale Attn: Bill Murphy, Preserve Director 7447 E. Indian School Road, Suite 300 Scottsdale, AZ 85251
COPY TO:	
Kurt Brueckner Titus Brueckner & Levine PLC 8355 E. Hartford Drive, Suite 200 Scottsdale, AZ 85255	Office of the City Attorney Attn: Bruce Washburn 3939 N. Drinkwater Blvd. Scottsdale, AZ 85251

8) **CANCELLATION:** The City reserves the right to cancel this Agreement immediately, or to cancel or disallow any activity undertaken pursuant to the Agreement, if the City, in its sole discretion, determines that such activity, or the continuance of this Agreement, is detrimental to the health, safety or welfare of the City, its citizens or others. This Agreement is subject to the cancellation provisions of A.R.S. § 38-511. To the extent this Agreement requires the City to provide any funds for the performance of its obligations, the Agreement is subject to cancellation if in any fiscal year funds are not appropriated for the performance of the Agreement.

9) **NO THIRD PARTY BENEFICIARIES:** The City and the Conservancy are the only parties to this Agreement and it is not intended to confer any rights, or to impose upon the City and the Conservancy any obligations, with respect to any third parties.

10) **COUNTERPARTS AND FACSIMILE SIGNATURES:** This Agreement may be executed in counterparts, each of which shall be deemed an original, but all such counterparts together shall constitute but one agreement. The parties may execute this Agreement and transmit their signature by facsimile, which shall, for all purposes, be deemed to be an original.

11) **AUTHORITY TO EXECUTE:** The person or persons signing this Agreement on behalf of the Conservancy warrant that they are duly and legally authorized to enter into this Agreement and are authorized to act on behalf of and bind the Conservancy, and all persons claiming by or through the Conservancy, to the terms of this Agreement.

12) **TERMINATION OF CONTRACT NO. 2009-191-COS:** The parties mutually agree that the agreement dated December 8, 2009, contract number 2009-191-COS, shall be terminated and of no further force or effect upon the full execution of this Agreement by the parties.

13) **ENTIRE AGREEMENT:** The entire agreement of the parties respecting all matters addressed herein is as set forth in this Agreement and any waiver or modification or all or any part of this Agreement is not binding unless in writing and signed by the party to be charged.

McDowell Sonoran Land Conservancy

By _____

Oliver Smith
(print name)

Its Chairman

ATTEST:

By: _____
Carolyn Jagger, City Clerk

CITY OF SCOTTSDALE, an Arizona municipal corporation

By: _____
W. J. "Jim" Lane, Mayor

APPROVED AS TO FORM
OFFICE OF THE CITY ATTORNEY

By: _____
Bruce Washburn, City Attorney
By: Joe Padilla, Sr. Assistant City Attorney

COPY

RESOLUTION NO. 8780

A RESOLUTION OF THE COUNCIL OF THE CITY OF SCOTTSDALE, MARICOPA COUNTY, ARIZONA, AUTHORIZING AND DIRECTING THAT THE CITY ENTER INTO CONTRACT NO. 2011-101-COS WITH THE MCDOWELL SONORAN LAND CONSERVANCY

WHEREAS, the City of Scottsdale owns, operates and maintains the McDowell Sonoran Preserve; and

WHEREAS, the McDowell Sonoran Land Conservancy has provided and wishes to continue to provide staff and volunteers to assist and support the City in the important work of protecting, promoting and managing the Preserve; and

WHEREAS, in fiscal year 2009/2010 the Conservancy provided over 42,000 volunteer hours and donated supplies, tools and equipment in support of the Preserve; and

WHEREAS, the City and the Conservancy wish to set forth their agreement as to the role that the Conservancy will play in the future with respect to the Preserve as well as the use of the City's facilities for functions that support the Preserve; and

WHEREAS, the City Council has considered the value of the Conservancy's volunteer hours and donated amenities and supplies and finds that the City will receive a clearly identified direct public benefit; and, in consideration thereof, agrees to provide the use of the City's facilities to the Conservancy for functions related to promoting and supporting the Preserve.

NOW, THEREFORE, BE IT RESOLVED by the Council of the City of Scottsdale, Maricopa County, Arizona, as follows:

Section 1. That the Mayor is authorized and directed to execute contract No. 2011-101-COS between the City and the McDowell Sonoran Land Conservancy.

PASSED AND ADOPTED by the Council of the City of Scottsdale, Maricopa County, Arizona this 6th day of December, 2011.

CITY OF SCOTTSDALE,
An Arizona municipal corporation

ATTEST:

By: _____
Carolyn Jagger, City Clerk

By: _____
W. J. "Jim" Lane, Mayor

APPROVED AS TO FORM:
OFFICE OF THE CITY ATTORNEY

By: _____
Bruce Washburn, City Attorney
By Joe Padilla, Sr. Assistant City Attorney

9151801v1

Appendix B: Current listing of Flora found in the McDowell Sonoran Preserve

Flora of the McDowell Sonoran Preserve Species List (current as of January 6th, 2012)

Families: 56
Genera: 172
Species: 251 (species rank)
Total Taxa: 261 (including ssp. and var.)

ACANTHACEAE

Anisacanthus thurberi
Carlowrightia arizonica
Justicia californica
Justicia longii

AMARANTHACEAE

Amaranthus albus
Amaranthus fimbriatus
Amaranthus torreyi
Tidestromia lanuginosa

APIACEAE

Bowlesia incana
Daucus pusillus

ASCLEPIADACEAE

Asclepias nyctaginifolia
Matelea parvifolia
Sarcostemma cynanchoides ssp. hartwegii

ASTERACEAE

Acamptopappus sphaerocephalus var. sphaerocephalus
Acourtia nana
Acourtia wrightii
Adenophyllum porophylloides
Ambrosia ambrosioides
Ambrosia confertiflora
Ambrosia deltoidea
Ambrosia dumosa
Ambrosia eriocentra
Artemisia ludoviciana ssp. mexicana
Baccharis salicifolia
Baccharis sarothroides
Bahiopsis parishii
Baileya multiradiata
Bebbia juncea var. aspera
Brickellia sp.
Brickellia coulteri
Centaurea melitensis
Cirsium neomexicanum
Dieteria asteroides var. glandulosa
Encelia farinosa
Encelia virginensis
Ericameria laricifolia
Erigeron divergens
Eriophyllum lanosum
Eriophyllum pringlei
Gutierrezia sarothrae
Isocoma acradenia
Lasthenia californica
Melampodium leucanthum
Oncosiphon piluliferum
Pluchea sericea
Porophyllum gracile
Psilostrophe cooperi
Rafinesquia californica
Rafinesquia neomexicana
Senecio flaccidus var. monoensis
Senecio lemmonii
Sonchus oleraceus
Stephanomeria pauciflora
Stylocline micropoides
Trixis californica
Uropappus lindleyi
Xanthisma gracile
Xanthisma spinulosum
Xanthisma spinulosum var. gooddingii
Xanthisma spinulosum var. paradoxum
Xanthium strumarium

BORAGINACEAE

Amsinckia menziesii var. intermedia
Amsinckia tessellata
Cryptantha barbigera
Cryptantha decipiens
Cryptantha muricata
Cryptantha pterocarya var. cycloptera
Cryptantha pterocarya var. pterocarya
Harpagonella palmeri var. arizonica
Pectocarya heterocarpa
Pectocarya platycarpa
Pectocarya recurvata
Pectocarya setosa
Plagiobothrys arizonicus
Plagiobothrys pringlei

BRASSICACEAE

Boechera perennans
Brassica tournefortii
Caulanthus lasiophyllus
Lepidium lasiocarpum
Physaria tenella
Sisymbrium irio
Thysanocarpus curvipes

CARYOPHYLLACEAE

Herniaria hirsuta ssp. cinerea
Minuartia douglasii

CELASTRACEAE

Canotia holacantha

CHENOPODIACEAE

Atriplex canescens
Atriplex elegans var. elegans
Chenopodium pratericola
Chenopodium watsonii

CROSSOSOMATACEAE

Crossosoma bigelovii

CUCURBITACEAE

Marah gilensis

CUPRESSACEAE

Juniperus coahuilensis

CUSCUTACEAE

Cuscuta indecora

EPHEDRACEAE

Ephedra fasciculata

EUPHORBIACEAE

Argythamnia lanceolata
Argythamnia neomexicana
Chamaesyce abramsiana
Chamaesyce arizonica
Chamaesyce capitellata
Chamaesyce melanadenia

Chamaesyce micromera
Chamaesyce polycarpa
Chamaesyce setiloba
Euphorbia eriantha
Tragia nepetifolia
Tragia ramosa

FABACEAE

Acacia constricta
Acacia greggii
Calliandra eriophylla
Lotus humistratus
Lotus rigidus
Lupinus concinnus
Lupinus sparsiflorus
Marina parryi
Mimosa aculeaticarpa var. biuncifera
Olneya tesota
Parkinsonia florida
Parkinsonia microphylla
Prosopis juliflora var. velutina
Senna artemisioides
Senna covesii
Vicia ludoviciana var. ludoviciana

FAGACEAE

Quercus turbinella

FOUQUIERIACEAE

Fouquieria splendens

GERANIACEAE

Erodium cicutarium

HYDROPHYLLACEAE

Eucrypta chrysanthemifolia
Phacelia cryptantha
Phacelia distans
Phacelia ramosissima
Pholistoma auritum var. arizonicum

KRAMERIACEAE

Krameria erecta
Krameria grayi

LAMIACEAE

Hedeoma nana
Hyptis emoryi
Salazaria mexicana
Salvia columbariae

LILIACEAE

Calochortus kennedyi
Dichelostemma capitatum

LOASACEAE

Mentzelia affinis
Mentzelia multiflora

MALPIGHIACEAE

Janusia gracilis

MALVACEAE

Abutilon palmeri
Abutilon parvulum
Herissantia crispa
Hibiscus coulteri
Sphaeralcea sp.
Sphaeralcea ambigua ssp. ambigua
Sphaeralcea rusbyi

MARTYNIACEAE

Proboscidea althaeifolia
Proboscidea parviflora

NYCTAGINACEAE

Allionia incarnata var. villosa
Boerhavia coccinea
Boerhavia intermedia
Boerhavia wrightii
Commicarpus scandens
Mirabilis coccinea
Mirabilis laevis var. villosa
Mirabilis multiflora var. multiflora

OLEACEAE

Menodora scabra

ONAGRACEAE

Camissonia californica
Camissonia pallida
Camissonia pallida ssp. pallida
Clarkia epilobioides

OROBANCHACEAE

Orobanche cooperi

PAPAVERACEAE

Argemone pleiacantha
Eschscholtzia sp.
Eschscholzia californica ssp. mexicana

PLANTAGINACEAE

Plantago ovata
Plantago patagonica

POACEAE

Achnatherum speciosum
Aristida adscensionis
Aristida divaricata
Aristida purpurea var. fendleriana
Aristida purpurea var. nealleyi
Aristida purpurea var. parishii
Aristida purpurea var. purpurea
Aristida purpurea var. wrightii
Avena fatua
Bothriochloa barbinodis
Bouteloua aristidoides
Bouteloua barbata
Bouteloua curtipendula
Bromus arizonicus
Bromus arvensis
Bromus berterianus
Bromus carinatus
Bromus marginatus
Bromus rubens
Cynodon dactylon
Dasyochloa pulchella
Hordeum murinum ssp. glaucum
Hordeum murinum ssp. leporinum
Muhlenbergia emersleyi
Muhlenbergia microsperma
Muhlenbergia porteri
Panicum hirticaule
Pennisetum ciliare
Pennisetum setaceum
Pleuraphis rigida
Poa bigelovii
Schismus arabicus
Schismus barbatus
Tridens muticus var. muticus
Vulpia microstachys var. ciliata
Vulpia microstachys var. pauciflora
Vulpia octoflora var. octoflora

POLEMONIACEAE

Eriastrum diffusum
Eriastrum eremicum
Gilia flavocincta
Phlox tenuifolia

POLYGONACEAE

Chorizanthe brevicornu
Eriogonum deflexum var. deflexum
Eriogonum fasciculatum var. polifolium
Eriogonum inflatum
Eriogonum palmerianum
Eriogonum trichopes
Eriogonum wrightii
Pterostegia drymarioides

PORTULACACEAE

Calandrinia ciliata
Claytonia perfoliata ssp. mexicana

PTERIDACEAE

Astrolepis cochisensis
Astrolepis sinuata
Cheilanthes covillei
Cheilanthes parryi
Notholaena standleyi
Pellaea truncata
Pentagramma triangularis ssp. maxonii

RANUNCULACEAE

Anemone tuberosa
Clematis drummondii

RHAMNACEAE

Ziziphus obtusifolia var. canescens

ROSACEAE

Cercocarpus montanus

RUBIACEAE

Galium aparine
Galium stellatum ssp. eremicum

SALICACEAE

Populus fremontii ssp. fremontii
Salix gooddingii

SAPINDACEAE

Dodonaea viscosa

SCROPHULARIACEAE

Castilleja applegatei ssp. martinii
Keckiella antirrhinoides
Maurandya antirrhiniflora
Mimulus guttatus
Penstemon pseudospectabilis ssp. connatifolius
Penstemon subulatus

SELAGINELLACEAE

Selaginella arizonica

SIMMONDSIACEAE

Simmondsia chinensis

SOLANACEAE

Datura discolor
Lycium andersonii var. andersonii
Lycium andersonii var. wrightii
Lycium berlandieri
Lycium exsertum
Lycium macrodon
Lycium parishii
Nicotiana obtusifolia
Physalis crassifolia
Physalis crassifolia var. crassifolia
Solanum douglasii

STERCULIACEAE

Ayenia filiformis

TAMARICACEAE

Tamarix chinensis

ULMACEAE

Celtis pallida
Celtis reticulata

URTICACEAE

Parietaria hespera var. hespera

VERBENACEAE

Aloysia wrightii

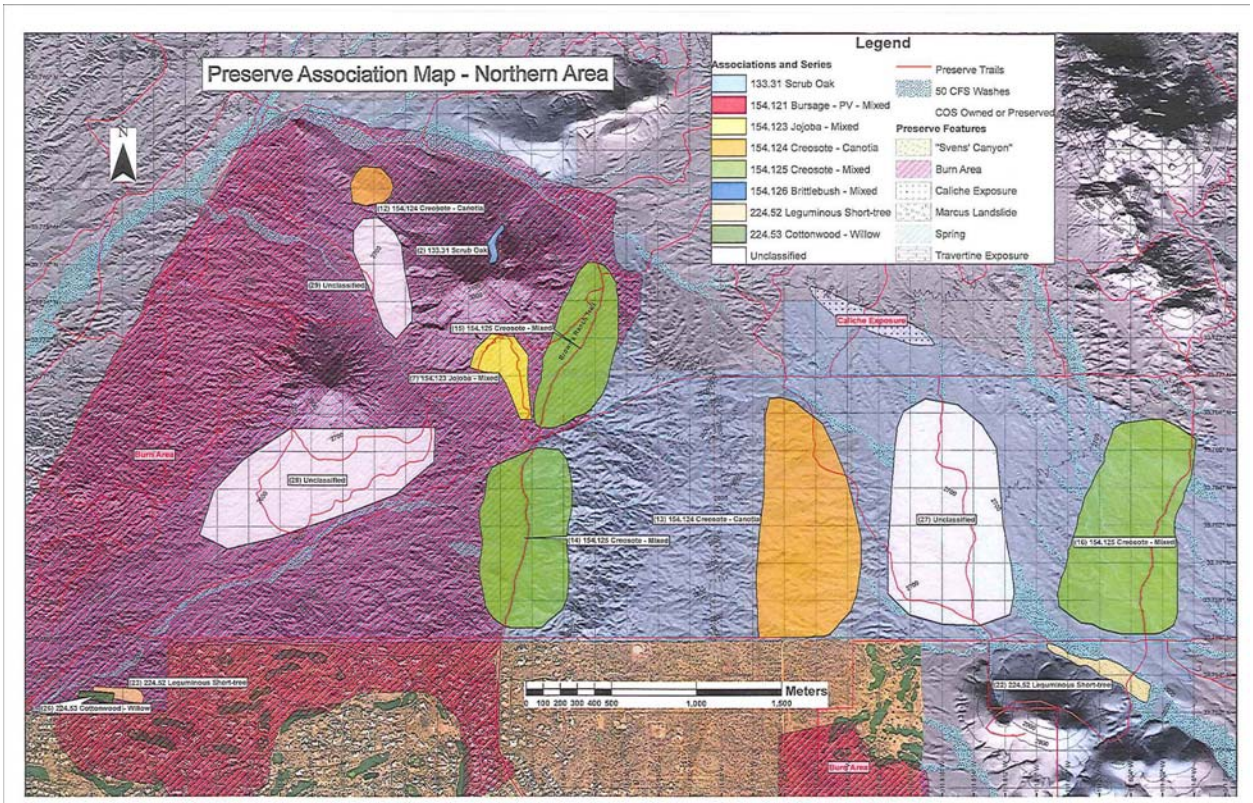
VISCACEAE

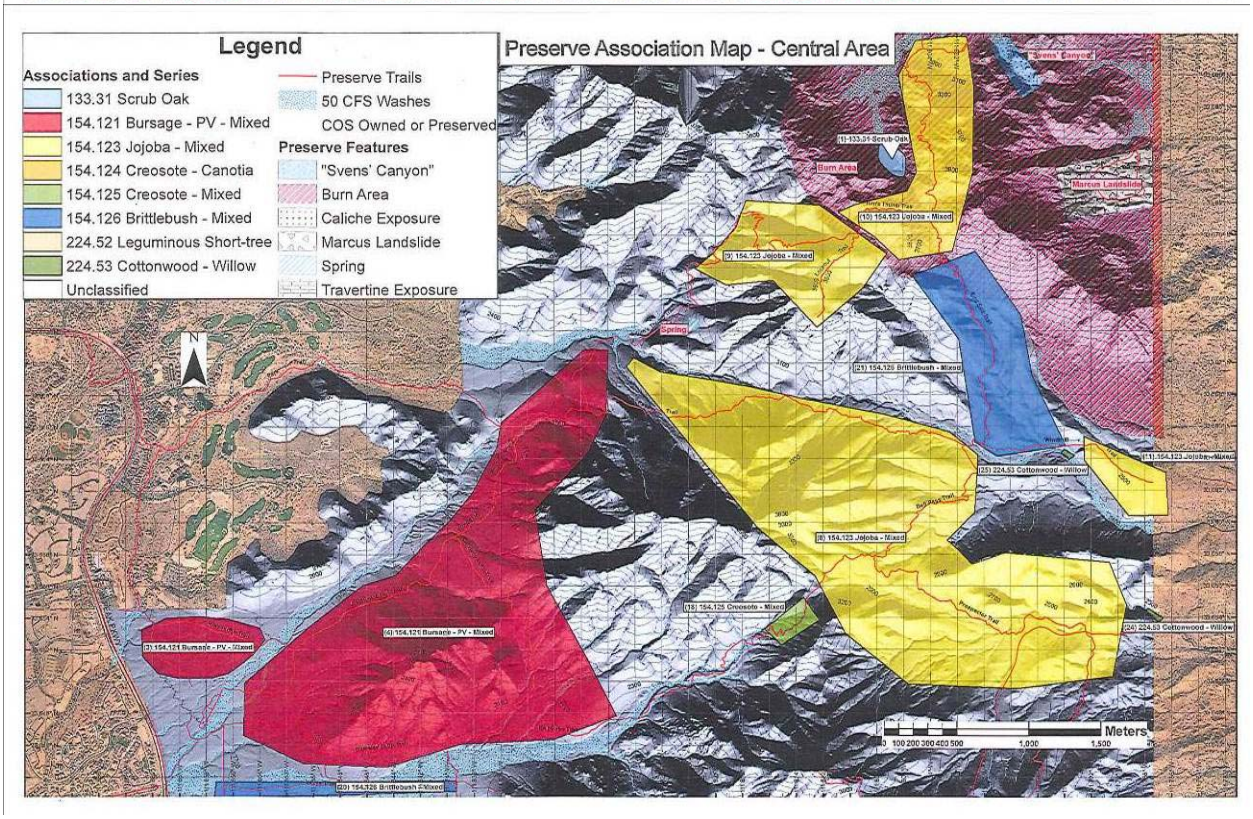
Phoradendron californicum

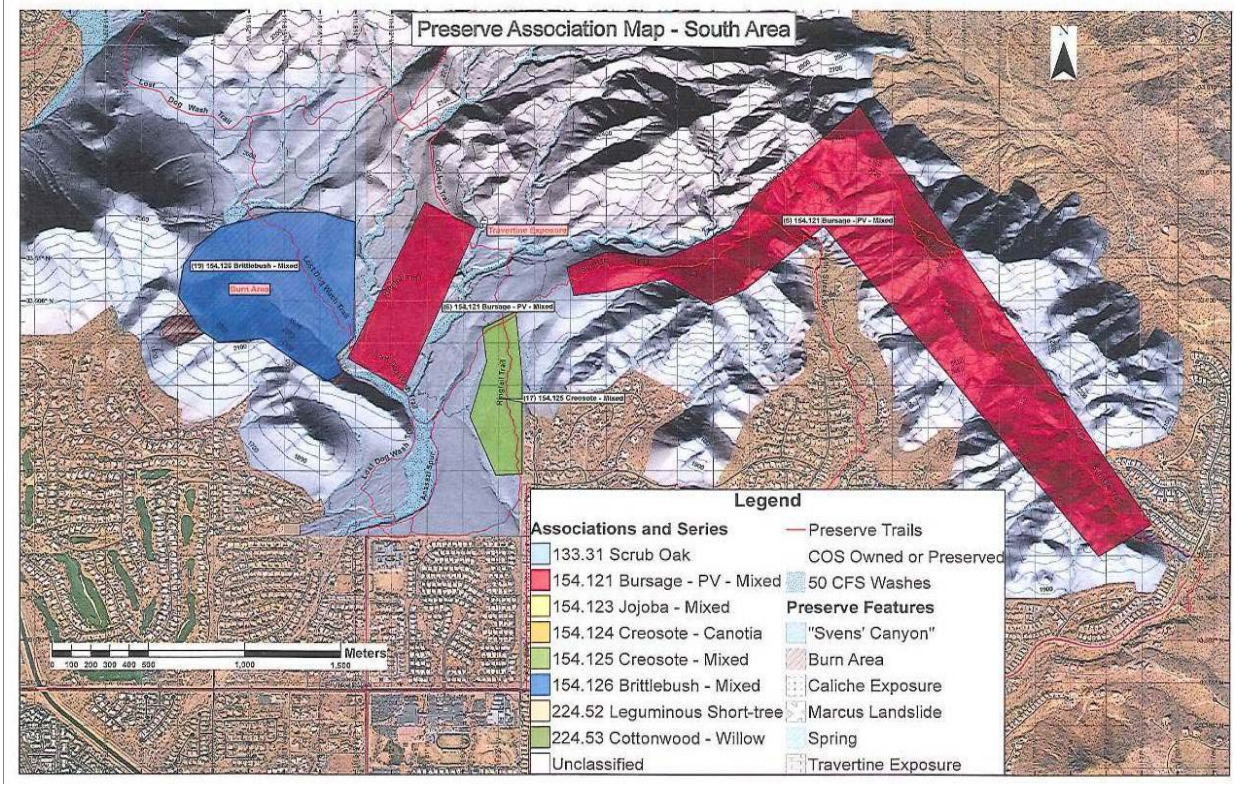
ZYGOPHYLLACEAE

Kallstroemia californica
Kallstroemia grandiflora
Larrea tridentata
Tribulus terrestris

Appendix C: Biotic Communities in the McDowell Sonoran Preserve






Preserve Association Map - South Area
N
Legend
Associations and Series
133.31 Scrub Oak
154.121 Bursage - PV - Mixed
154.123 Jojoba - Mixed
154.124 Creosote - Canotia
154.125 Creosote - Mixed
154.126 Brittlebush - Mixed
224.52 Leguminous Short-tree
224.53 Cottonwood - Willow
Unclassified
Preserve Trails
COS Owned or Preserved
50 CFS Washes
Preserve Features
"Svens' Canyon"
Burn Area
Caliche Exposure
Marcus Landslide
Spring
Travertine Exposure
Meters
0 100 200 300 400 600 1,000 1,550