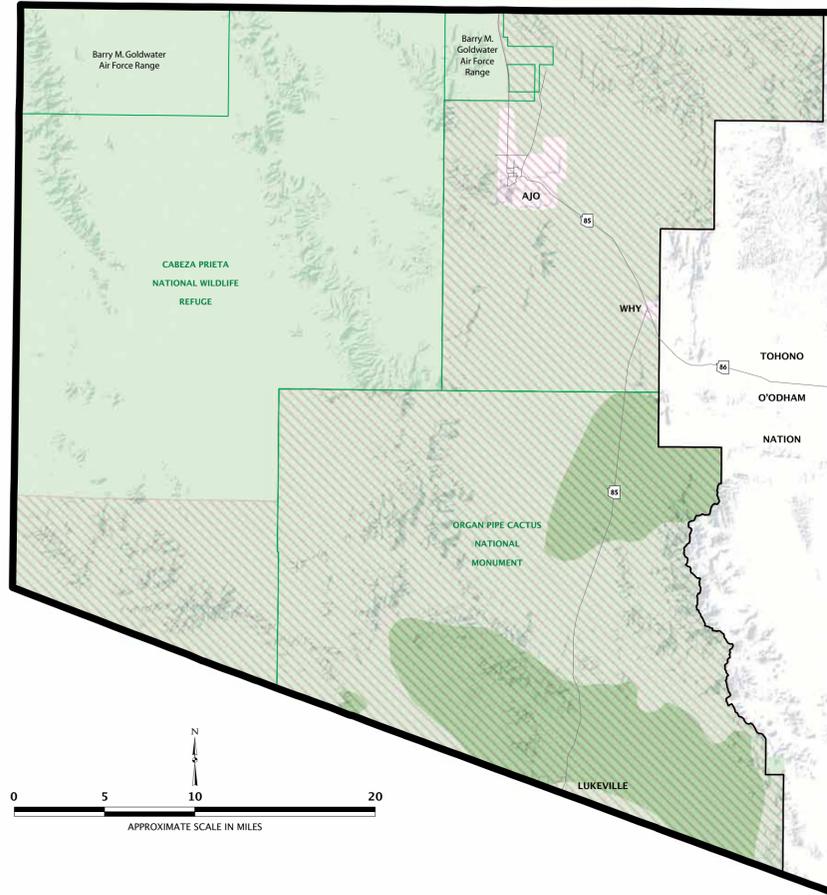


# Maeveen Marie Behan Conservation Lands System

## PRIORITY BIOLOGICAL RESOURCES of the SONORAN DESERT CONSERVATION PLAN

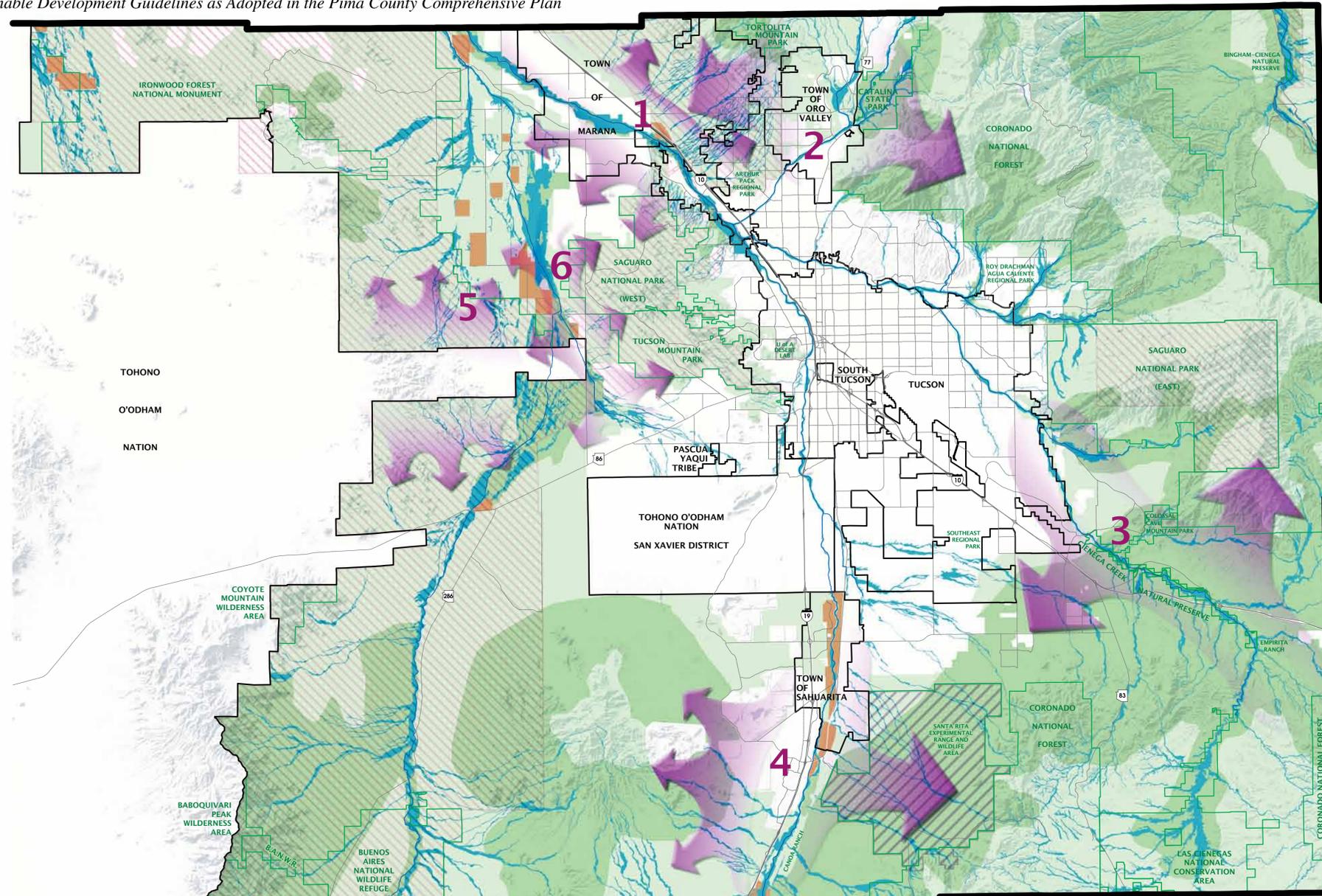
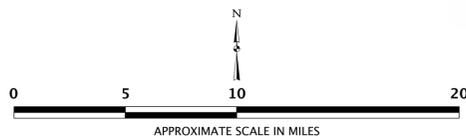
Providing Sustainable Development Guidelines as Adopted in the Pima County Comprehensive Plan



Notes:  
 1. Biological data is regional in application and not site specific.  
 2. Guidelines do not alter, modify, decrease or limit existing land uses, zoning, permitted activities or management of lands.  
 Base map provided by Pima County DOT Geographic Information Services. Layout and illustration by Pima County Graphic Services Department

### LEGEND

-  **Important Riparian Areas** are critical elements of the Sonoran Desert where biological diversity is at its highest. These areas are valued for their higher water availability, vegetation density, and biological productivity. They are also the backbone to preserving landscape connectivity.  
*Landscape conservation objective: 95% undisturbed natural open space.*
-  **Biological Core Management Areas** are those areas that have high biological values. They support large populations of vulnerable species, connect large blocks of contiguous habitat and biological reserves, and support high value potential habitat for five or more priority vulnerable wildlife species.  
*Landscape conservation objective: 80% undisturbed natural open space.*
-  **Special Species Management Areas** are those areas that are crucial to the survival of three species of special concern to Pima County: the cactus ferruginous pygmy-owl, Mexican spotted owl, and southwest willow flycatcher.  
*Landscape conservation objective: 80% undisturbed natural open space.*
-  **Multiple Use Management Areas** are those areas where biological values are significant, but do not attain the level associated with Biological Core Management Areas. They support populations of vulnerable species, connect large blocks of contiguous habitat and biological reserves, and support high value potential habitat for three or more priority vulnerable species.  
*Landscape conservation objective: 66% undisturbed natural open space.*
-  **Scientific Research Areas** are those lands within the Tucson Basin that are managed for scientific research: the Santa Rita Experimental Range and the University of Arizona's Desert Laboratory at Tumamoc Hill.  
*Landscape conservation objective: Continue management for the purpose of promoting scientific research on the environment and natural resources.*
-  **Agricultural In-Holdings** consist of active, or abandoned, agricultural lands that lie within the Conservation Lands System.  
*Landscape conservation objective: Ensure that future, non-agricultural land uses conserve on-site resource values where present, facilitate the movement of native wildlife and the pollination of native flora across the landscape, and do not adversely impact surrounding CLS lands.*
-  **Critical Landscape Connections** are six broadly-defined areas where biological connectivity is significantly compromised, but where opportunity to preserve or otherwise improve the movement of wildlife between major conservation areas and/or mountain ranges still persists.  
*Landscape conservation objective: Protect existing wildlife habitat linkages, remove obstacles to wildlife movement, and restore fragmented landscapes.*
- Areas Outside of Conservation Lands System**
-  **Incorporated Areas and Native American Jurisdictions**
-  **Pima County Boundary**
-  **Washes**
-  **Major Streets**
-  **Parks**



# MAEVEEN MARIE BEHAN CONSERVATION LANDS SYSTEM

*Protecting biodiversity and providing land-use guidelines  
consistent with the conservation goals of the  
Sonoran Desert Conservation Plan*



March 2011  
(Previous printings February 2002, August 2007)

*A Long-term Vision for  
Protecting the Heritage and Natural Resources of the West*

**Pima County Board of Supervisors:**  
Ramón Valadez, Chairman, Supervisor, District 2  
Ann Day, Supervisor, District 1  
Sharon Bronson, Supervisor, District 3  
Raymond J. Carroll, Supervisor, District 4  
Richard Elías, Supervisor, District 5

**Pima County Administrator:**  
C.H. Huckelberry



For additional information about the  
Sonoran Desert Conservation Plan  
call (520) 740-8661 or write to:

The Sonoran Desert Conservation Plan  
Office of Sustainability and Conservation  
201 North Stone Ave.  
Tucson, Arizona 85701

www.pima.gov/sdcp

# Highlights of the Maeveen Marie Behan Conservation Lands System

*For a full text of the policy, please see the Pima County Comprehensive Plan, Environmental Element, Regional Plan Policy 6B(1), as amended June 21, 2005.*

The Conservation Lands System (CLS) is designed to protect biodiversity and provide land-use guidelines consistent with the conservation goals of the Sonoran Desert Conservation Plan (SDCP). The overarching purpose of the SDCP 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.*

The CLS was constructed according to the most current tenets of conservation biology and biological reserve design. The CLS:

- perpetuates the comprehensive conservation of vulnerable species;
- retains those areas that contain large populations of focal vulnerable species;
- provides for the adjacency and proximity of habitat blocks;
- preserves the contiguity of habitat at the landscape level; and
- retains the connectivity of reserves with functional corridors.

The collective application of these individual tenets produces a CLS that retains the diverse representation of physical and environmental conditions, preserves an intact functional ecosystem, minimizes the expansion of exotic or invasive species, maximizes the extent of roadless areas, and minimizes fragmentation. Implementation of the CLS not only conserves those biological resources that exist today but, because of its landscape focus, preserves the future ebb and flow of resources essential to a healthy functioning ecosystem. The seven CLS conservation land categories reflect relative values of biodiversity for various lands across the landscape.

Based on the science of the SDCP with participation and oversight by the SDCP Science Technical Advisory Team (STAT), seven CLS conservation land categories (CLS categories) were created, defined, and mapped. Each category has an associated conservation guideline policy.

## General Application of CLS

CLS category designations and Conservation Guidelines policies apply to land uses and activities under the jurisdiction of Pima County and Pima County Flood Control District. Application of these designations or guidelines shall not alter, modify, decrease or limit existing and legal land uses, zoning, permitted activities, or management of lands. These policies apply to new rezoning and specific plan requests, time extension requests for rezonings, requests for modifications or waivers of rezoning or specific plan conditions, including substantial changes, requests for Comprehensive Plan amendments, Type II and Type III conditional use permit requests, and requests for waivers of the subdivision plat requirement of a zoning plan. Implementation of these policies shall achieve the level of conservation necessary to protect a site's conservation values, preserve landscape integrity, and provide for the movement of native fauna and pollination of native flora across and through the landscape. New applications subject to this policy will be evaluated against the following conservation guidelines for the CLS categories, where applicable, to determine their appropriateness:

## Important Riparian Areas

These areas are characterized by hydro-riparian, meso-riparian and xero-riparian biological communities. Hydro-riparian communities generally exist in areas where vegetation is supported by perennial watercourses or springs. Meso-riparian communities generally exist in areas where vegetation is supported by perennial or intermittent watercourses or shallow groundwater. Xero-riparian communities generally exist in areas where vegetation is supported by an ephemeral watercourse.

Important Riparian Areas are valued for their higher water availability, vegetation density, and biological productivity. In addition to the inherent high biological value of these water-related communities, Important Riparian Areas including their associated upland areas provide a framework for linkages and landscape connections. Important Riparian Areas are essential elements in the CLS.

*Conservation Guidelines* – At least 95 percent of the total acreage of lands within this designation shall be conserved in a natural or undisturbed condition. Every effort should be made to protect, restore and enhance the structure and functions of Important Riparian Areas, including their hydrological, geomorphological and biological functions. Areas within an Important Riparian Area that have been previously degraded or otherwise compromised may be restored and/or enhanced. Such restored and/or enhanced areas may contribute to achieving the 95 percent conservation guideline for Important Riparian Areas.

## Biological Core Management Areas

This category identifies lands that fulfill the five tenets used to construct the CLS and which provide greater biological diversity than Multiple Use Management Areas. These areas are primarily distinguished from other lands within the CLS by their potential to support high value habitat for five or more priority vulnerable species as identified by the SDCP.



*Conservation Guidelines* – At least 80 percent of the total acreage of lands within this designation shall be conserved as undisturbed natural open space. As such, land-use changes will result in 4:1 land conservation (i.e., four acres conserved for every one acre developed) and may occur through a combination of on- and/or off-site conservation inside the Biological Core Management Area or Habitat Protection Priority Areas. For purposes of this policy, Habitat Protection Priority Areas are those such areas referenced and mapped as part of the 2004 Conservation Bond Program. The 4:1 mitigation ratio will be calculated according to the extent of impacts to the total surface area of that portion of any parcel designated as a Biological Core Management Area. Development shall be configured in the least sensitive portion(s) of the property. Area(s) of undisturbed natural open space will be configured to include on-site conservation values and preserve the movement of native fauna and pollination of native flora across and through the landscape. Land use and management within these areas shall focus on the preservation, restoration, and enhancement of native biological communities. Land uses appropriate for these areas must retain and improve conditions for on-site conservation values, preserve the movement of native fauna and pollination of native flora across and through the landscape, and preserve landscape integrity. A transfer of development rights may be used in order to secure mitigation lands.

## Scientific Research Areas

This designation identifies lands currently managed for scientific research: the Santa Rita Experimental Range and the University of Arizona Desert Laboratory (at Tumamoc Hill). Land uses and management within these areas focus on balancing conservation, restoration, and enhancement of natural communities in support of scientific research on the environment and natural resources (e.g., monitoring ecological change, measuring effects of experimental grazing methods).

*Conservation Guidelines* – Scientific Research Areas should continue to be managed for the purpose of scientific research on the environment and natural resources. Scientific research activities should minimize any long-lasting impacts that may affect adjacent or nearby CLS lands. Any land-use changes subject to Pima County jurisdiction should achieve the conservation goals of the underlying CLS category.

## Multiple Use Management Areas

This category identifies those lands that fulfill the five tenets used to construct the CLS, but which are not as biologically rich as those lands designated as Biological Core Management Areas. These areas are primarily distinguished from other lands within the CLS by their potential to support high value habitat for three or more priority vulnerable species as identified by the SDCP.



*Conservation Guidelines* – At least 66% percent of the total acreage of lands within this designation shall be conserved as undisturbed natural open space. As such, land-use changes will result in a 2:1 land conservation (i.e., two acres conserved for every one acre developed) and may occur through a combination of on- and off-site conservation inside the Multiple Use Management Area or any more protective category of the CLS, including Habitat Protection Priority Areas. For purposes of this policy, Habitat Protection Priority Areas are those such areas referenced and mapped as part of the 2004 Conservation Bond Program. The 2:1 mitigation ratio will be calculated according to the extent of impacts to the total surface area of that portion of any parcel designated as a Multiple Use Management Area. Development shall be configured in the least sensitive portion(s) of the property. Area(s) of undisturbed natural open space will include on-site conservation values and facilitate the movement of native fauna and pollination of native flora across and through the landscape. Land use and management goals within these areas shall focus on balancing land uses with conservation, restoration, and enhancement of native biological communities. Land uses appropriate for these areas must facilitate the movement of native fauna and pollination of native flora across and through the landscape,

maximize retention of on-site conservation values, and promote landscape integrity. Additional conservation exceeding 66% percent will be encouraged through the use of development-related incentives and may utilize undisturbed natural open space on individual lots. A transfer of development rights may be used in order to secure lands utilized for mitigation, restoration, and/or enhancement purposes.

## Agriculture In-Holdings Within the Conservation Lands System

This designation denotes those lands utilized for agricultural purposes and lands where agricultural uses have been abandoned. Agricultural land uses, in general, are more conducive to the movement of native fauna and functional pollination processes than other lands supporting higher intensity uses. Intensifying the land use of these areas could compromise landscape integrity, promote the spread of exotic species, and otherwise compromise the biodiversity of adjacent or nearby CLS lands.

*Conservation Guidelines* – Intensifying land uses of these areas will emphasize the use of native flora, facilitate the movement of native fauna and pollination of native flora across and through the landscape, and conserve on-site conservation values when they are present. Development within these areas will be configured in a manner that does not compromise the conservation values of adjacent and nearby CLS lands.

## Special Species Management Areas

These are areas defined as crucial for the conservation of specific native floral and faunal species of special concern to Pima County. Currently, three species are designated as Special Species: cactus ferruginous pygmy-owl, Mexican spotted owl, and southwest willow flycatcher. Special Species and associated Conservation Guidelines may be added or deleted in the future based on the best available regional scientific information as developed by the Science Technical Advisory Team and added to or deleted from the Special Species Management Areas as shown on the CLS map. Such additions and/or deletions will be processed as a Comprehensive Plan amendment. Land use and management within these areas will focus on conservation, restoration, and enhancement of habitat for these species.

*Conservation Guidelines* – At least 80 percent of the total acreage of lands within this designation shall be conserved as undisturbed natural open space and will provide for the conservation, restoration, or enhancement of habitat for the affected Special Species. As such, land use changes will result in 4:1 land conservation (i.e., four acres conserved for every one acre developed) and may occur through a combination of on- and off-site conservation inside the Special Species Management Area. The 4:1 mitigation ratio will be calculated according to the extent of impacts to the total surface area of that portion of any parcel designated as Special Species Management Area. Development shall be configured in the least sensitive portion(s) of the property. Area(s) of undisturbed natural open space will be configured to facilitate the movement of the relevant Special Species through the landscape and will include those on-site conservation values essential to survival of the relevant Special Species. A transfer of development rights may be used in order to secure mitigation lands.

## Critical Landscape Connections

These are broadly defined areas that provide connectivity for movement of native biological resources but which also contain potential or existing barriers that tend to isolate major conservation areas. Specifically, these regional-scale areas are located: (1) Across the I-10/Santa Cruz River corridors in the northwest; (2) Between the Catalina and Tortolita Mountains; (3) Across the I-10 corridor along Cienega Creek

in the east; (4) Across the I-19 and Santa Cruz River corridors in southern Pima County; (5) Across the Garcia strip extension of the Tohono O'odham Nation; and (6) Across the Central Arizona Project canal in Avra Valley. Roads, other infrastructure services, and residential and commercial land uses within these areas, depending on configuration, can result in habitat loss and fragmentation that inhibits the movement of native fauna and interrupts the pollination processes of native flora.

*Conservation Guidelines* – Land-use changes in these broadly defined areas should protect existing biological linkages. Where they occur, barriers to the movement of native fauna and pollination of native flora across and through the landscape should be removed and fragmented corridors of native biological communities should be restored. Opportunities to remove barriers and restore corridor connectivity may arise as part of other, non-land use related activities (e.g., new construction for or upgrade of infrastructure services). Such opportunities should be pursued. High priority shall be given to identifying, preserving, and re-establishing the connection between native biological communities especially where natural connectivity is most constrained.

## Adherence to CLS Conservation Guidelines

Adherence to Conservation Lands System Guidelines will protect against the loss of conservation values and landscape integrity through in-place preservation and restoration or enhancement of degraded or otherwise compromised natural resources. Urban development will occur in a manner that retains conservation values at both the micro and macro landscape scale by minimizing impacts to site-specific sensitive conservation values, maximizing landscape continuity, facilitating the movement of native fauna and pollination of native flora across and through the landscape, promoting the long-term diversity of native flora and fauna, and preserving the viability of the CLS.

## Application of Conservation Guidelines

The Conservation Guideline for the associated CLS designation shall apply to the total acreage of the site that lies within the boundaries of that designation. If a CLS designation applies to a portion of a site, Conservation Guidelines for that designation will apply only to that portion of the site affected by that category. For purposes of this policy, site is defined as a single lot or combination of contiguous lots. If more than one CLS category applies to all or a portion of a site, the more protective Conservation Guideline will apply to the affected portion.

Those conservation lands that are to be reserved from development, or which are provided as mitigation, shall be conserved and managed, in perpetuity, for the benefit of the natural resources. Various means may be utilized to protect conservation or mitigation lands including, but not limited to, the transfer of deeded property to Pima County, pending approval by the Board of Supervisors, or other conservation entities and the granting of conservation easements. Land conserved through application of the CLS shall be established as separate, natural open space parcel(s) from the development area. Residents, or associations of residents, of a development may not serve as the sole administrator or enforcement entity for the management and protection of those conservation or mitigation lands.

On November 3, 2009, the Pima County Board of Supervisors named the Conservation Land System in honor of Dr. Maeveen Marie Behan, Project Director for the award-winning Sonoran Desert Conservation Plan. Dr. Behan brought together scientists, stakeholders, and citizens to seek consensus on shared community values and establish a lasting vision for conservation of our cultural and natural resources.

