



PUBLIC NOTICE

**U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT**

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

Public Notice/Application No.: SPL-2012-00907-MB

Program: Pima County Regional Flood Control District & Tucson Audubon Society In-Lieu Fee Program

Comment Period: December 21, 2012 – January 20, 2013

Project Manager: Marjorie Blaine (520) 584-1684; Marjorie.E.Blaine@usace.army.mil

Program Sponsors

Mr. Paul Green
Executive Director
Tucson Audubon Society
300 E University Blvd, Ste 120
Tucson, Arizona 85705

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Deputy Director
Pima County Regional Flood Control District
97 E. Congress Street, Third Floor
Tucson, Arizona 85701

Location

The Program service area would encompass the following watersheds:

- Upper Santa Cruz River sub-basin (HUC 15050301)
- Lower Santa Cruz River sub-basin (HUC 15050303)
- Brawley Wash sub-basin (HUC 15050304)
- Rillito River sub-basin (HUC 15050302)

Activity

To modify the existing Tucson Audubon Society (“TAS”) In-Lieu Fee (“ILF”) Program (“Program”) pursuant to the requirements of the Corps-EPA Compensatory Mitigation Rule¹ (33 CFR 332.8(d)) (“Mitigation Rule”), to expand sponsorship of the program to include the Pima County Regional Flood Control District (“PCFRCD”) as a co-sponsor with TAS, and to modify the Program’s service area from Pima County to the above watersheds (Figures 1-5 in attached Prospectus). For more information see pages 2 and 3 of this notice. Supporting documents are attached to this Public Notice.

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.

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.

Comments should be mailed to:

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 TAS has requested the Corps re-authorize the Program and include the PCRFCFCD as a Co-Sponsor of 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 (Figures 1-5 in attached Prospectus).

The TAS (<http://www.tucsonaudubon.org>) is a 501(c)(3) non-profit organization established in 1949 that promotes the protection and stewardship of southern Arizona’s biological diversity through the study and enjoyment of birds and the habitats in which they live. In 1999, the TAS became an in-lieu fee sponsor and began habitat restoration in 2001 at the 1700-acre North Simpson Farm along the main channel of the Santa Cruz River. An ILF Memorandum of Agreement (MOA) was signed between the Corps and TAS in 2004. TAS has also undertaken restoration at the 155-acre Martin Farm and 10-acre Cochie Spring sites under the ILF program. The TAS has a long history of successful habitat restoration and has restored over 167 acres of meso and xero-riparian habitat under the ILF program.

The PCRFCFCD (<http://rfcd.pima.gov/>) is a special taxing District of the State of Arizona authorized under Title 48 Arizona Revised Statutes and is a highly qualified agency responsible for flood control and riparian management in Pima County. PCRFCFCD has been a recognized leader in characterizing and protecting, as well as managing and restoring, riparian resources in Southern Arizona. PCRFCFCD began regulating riparian habitat in 1994 and embarked upon their Floodprone Land Acquisition Program (FLAP) and the Riparian Restoration Program in the past two decades. It has also been a participant in the Sonoran Desert Conservation Plan planning team. Projects completed by the PCRFCFCD include the Kino Environmental Restoration Project, the Cienega Creek Natural Preserve, the Cortaro Mesquite Bosque, and the Swan Wetlands.

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 Plan² to the Corps and Interagency Review Team (IRT)³ as well as an application for Corps permit(s)⁴ should the proposed ILF mitigation 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 ILF mitigation sites, the sponsors will provide a fully encumbered site protection instrument which may consist of a perpetual conservation easement, deed restriction, or other similar, legal restriction.

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 permittees 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

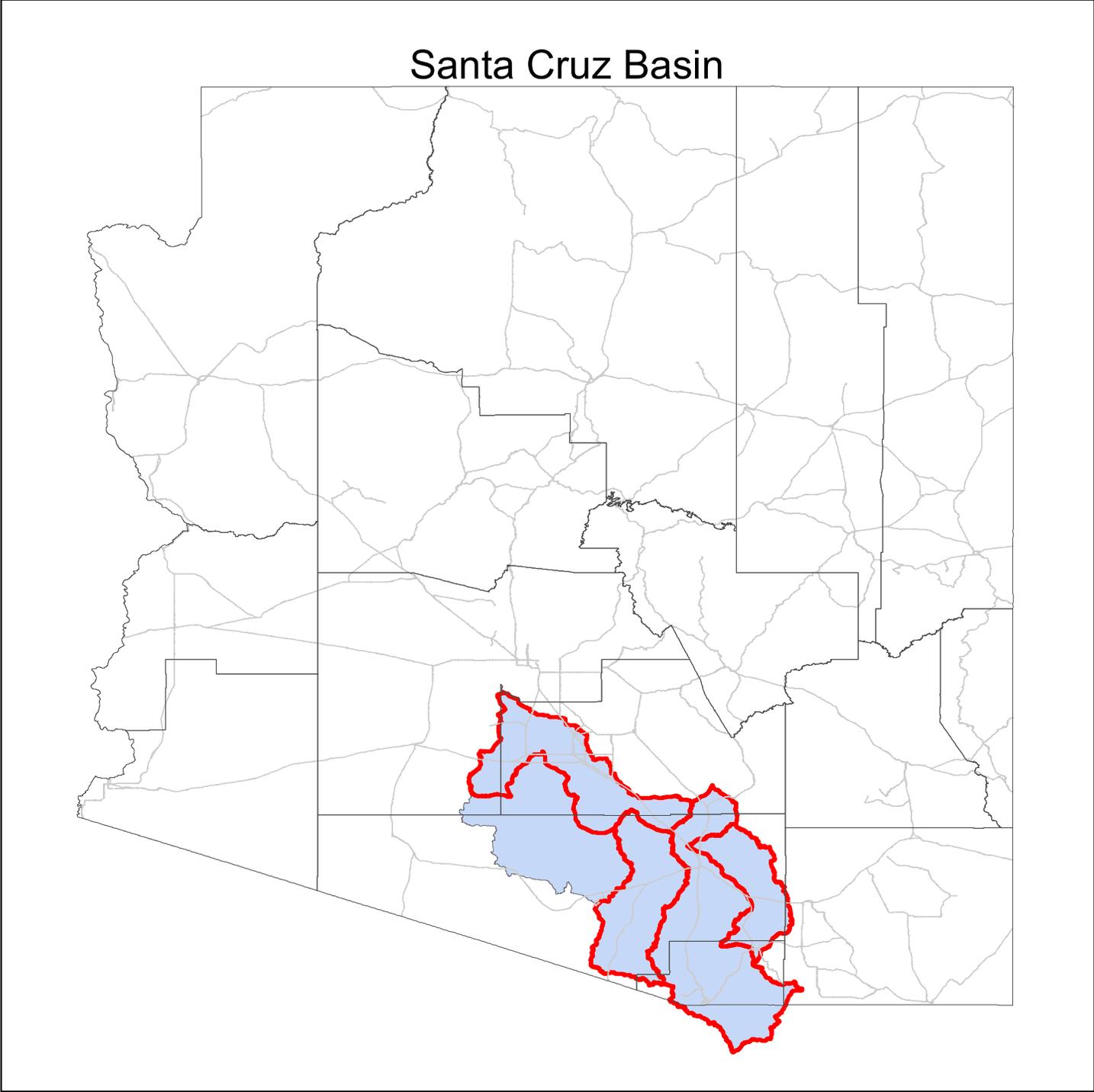
² The content of a complete Mitigation Plan is described in the Mitigation Rule, at 33 CFR 332.4(c)(2-14).

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

Pima County Regional Flood Control District and the Tucson Audubon Society In-Lieu Fee Mitigation Program

Prospectus



Submitted to:

The US Army Corps of Engineers and Interagency Review Team
December 2012



Pima County Regional Flood Control District and Tucson Audubon Society

In-Lieu Fee Mitigation Program

Prospectus

1. Introduction:

The Pima County Regional Flood Control District (RFCD) and Tucson Audubon Society (TAS) are pleased to present to the US Army Corps of Engineers, Los Angeles District (Corps) and the Interagency Review Team (IRT) this Prospectus for the establishment of the RFCD-TAS In-Lieu Fee (ILF) Program for Southern Arizona. After thoughtful analysis, this Prospectus is being submitted as an indication of the firm commitment of RFCD and TAS, as co-sponsors of an ILF Program, to develop and implement the program in full accordance with 33 CFR 332 requirements.

Originally identified as a participant in the IRT, the RFCD has determined that the role as local, qualified Southern Arizona ILF Program co-sponsor is more critical to the Southern Arizona Community than the presence of RFCD on the IRT. Additionally, upon detailed analysis of program requirements, we believe that by partnering with the existing Pima County ILF Sponsor, TAS, RFCD is uniquely positioned to develop and implement an ILF program that is fully complementary to, and integrated with, other environmental preservation and restoration activities in the area to meet the goals of a strategy of environmental mitigation that extends into sub-watersheds within the Santa Cruz Basin. Therefore, with Corps concurrence, the RFCD representative resigned from the IRT role and is instead pursuing the role of Program Manager for the RFCD as ILF co-sponsor.

The ILF Program partnership between RFCD and TAS is built on a desire to blend the financial strength, significant land assets, and riparian preservation and management qualifications of RFCD with the 404 ILF Program and site management experience of TAS. Delineation of specific responsibilities between RFCD and TAS as program partners is being defined in a contractual agreement presently under development.

This Prospectus has been developed and organized in accordance with the requirements presented at 33 CFR 332.8(d)(2).

2. Objectives: 33 CFR 332.8(d)(2)(i)

The primary goal of the proposed RFCD-TAS ILF program is to provide a mechanism for local government and private entities to effectively mitigate for unavoidable losses to aquatic resources in the Santa Cruz Basin within a cohesive, integrated, locally-managed ILF Program. Mitigation activities including preservation, enhancement, and restoration will be planned, implemented and managed at select

mitigation sites within the Santa Cruz Basin, identified by the United States Geological Survey as (USGS) Hydrologic Unit Code (HUC) 150503.

Specific objectives for the RFCD-TAS ILF Program include:

- Selecting multiple sites, within sub-basins and watersheds of the Santa Cruz Basin, so that mitigation will occur in close proximity to impacts where feasible;
- Identifying appropriate mitigation sites and projects based upon their location and proximity to uplands and preserves for purposes of continuity and connectivity, their need for protection, the level of degradation observed, as well as the potential for success of restoration activities;
- Conducting baseline studies and inventories for each proposed mitigation project site and partnering with experienced local natural resource management entities as appropriate;
- Developing site-specific mitigation plans which will begin with land preservation and that may include invasive species removal, environmental enhancements, access restrictions, physical site modifications to enhance ecosystem restoration; and,
- Developing and implementing effective short and long-term management, monitoring and maintenance activities;

3. Establishment and Operation: 33 CFR 332.8(d)(2)(ii)

The Pima County Regional Flood Control District will join with the Tucson Audubon Society to be the co-sponsor and will develop and operate a regional ILF program in accordance with federal regulations at 33 CFR 332, Compensatory Mitigation for Losses of Aquatic Resources. This final mitigation rule articulates that mitigation banks and In Lieu Fee Programs are preferred alternatives when compared to permittee-responsible mitigation projects because they consolidate compensatory mitigation projects in environmentally sensitive areas thus increasing the probability of long-term project success in addition to consolidating technical and financial resources and scientific expertise.

The RFCD-TAS ILF is intended to serve southern Arizona and the Santa Cruz Basin primarily within the four USGS listed sub-basins (Upper Santa Cruz HUC 15050301, Lower Santa Cruz HUC 15050303, Brawley Wash HUC 15050304, and Rillito HUC 15050302). However, the ILF may serve other southern Arizona basins, sub-basins, watersheds and sub-watersheds as deemed appropriate by the Corps. Once the new ILF is established, RFCD-TAS will identify individual mitigation projects within the appropriate sub-basin or watershed that will be located and prioritized based on proposed land development projects that may impact waters, the state of aquatic resources with respect to the level of degradation, and the potential for restoration success.

The Final ILF Program Instrument will serve as the umbrella under which specific mitigation projects

within each service area will be proposed and established. A specific mitigation plan will be developed for each mitigation project and will be signed by RFCD-TAS and the IRT.

The RFCD-TAS Partnership is in a unique position with respect to developing and implementing a comprehensive Compensation Planning Framework (CPF) in Pima County. RFCD has acquired title to significant amounts of property in Pima County under the Floodprone Land Acquisition Program (FLAP) over the past three decades. FLAP was initiated in 1984 and was designed to acquire, through voluntary sale by owner, developed and undeveloped properties that have experienced flood damage or are at risk of flooding due to their locations in or along watercourses within the basin. Acquisition efforts over the past three decades have resulted in RFCD acquiring title to more than 10,000 acres of property, much of which is undeveloped, forming large tracts of open space throughout regional watersheds and sub-watersheds. Significant water resource, flood attenuation, aquatic, wildlife and riparian values, are associated with land acquired under FLAP. Some of those properties and associated functions have been damaged thru past insensitive development activities presenting an opportunity for restoration. . A brief description of a selection of available mitigation properties is presented below in Section 4.

Based on their proximate locations to major and minor washes within Pima County, many of these properties contain Waters of the US and potential or actual high riparian values thus creating ideal opportunities for preservation and restoration activities. They are also dispersed among many different sub-watersheds thus placing them close to areas where future development may impact Waters of the US. Additionally, more land continues to be acquired under the FLAP as monies become available on an annual basis. It is important to recognize that although these parcels were acquired under the FLAP, the parcels are not currently formally encumbered for any specified purpose and may be re-sold or re-designated by the Flood Control District Board of Directors as deemed necessary or advantageous to the District at any time. Capture of these select flood prone lands under the ILF Program for preservation in perpetuity and/or restoration is a critical element in our ILF approach, giving us a vast array of land in close proximity to areas of actual impact to choose from that meet all the program criteria of the ILF Program.

Another unique element of the RFCD-TAS ILF Program is the fact that this program will be operated as a partnership between RFCD and TAS, which has been successfully operating the ILF program in Pima County under an agreement signed with the Corps in 1999. This partnership will ensure that the significant land ownership, management, regulatory, technical, and financial resources of RFCD will be coupled with a local 501 (c) 3 conservation entity experienced in implementing riparian habitat restoration projects. This partnership will deliver the best of “boots-on-the-ground” operational expertise provided by a local non-profit conservation entity backed by the long-term strength of government management, oversight and financial certainty. RFCD-TAS may engage additional conservation entities with significant local resource management and restoration experience in order to attain the goal of extending the number of mitigation sites that can be successfully managed on several watersheds and sub-watersheds within the Santa Cruz Basin.

4. Proposed Service Area: 33 CFR 332.8(d)(2)(iii)

The RFCD-TAS ILF Program is intended to primarily service USGS Hydrologic Unit Code 150503 (Lower Colorado River Region, Middle Gila Sub-Region, and Santa Cruz Basin). Eight digit HUCs, which under the recently-expanded USGS classification system are titled sub-basins (formerly cataloging units), which will be serviced under the ILF would include: a) the Upper Santa Cruz River (15050301); b) Lower Santa Cruz River (15050303); c) Brawley Wash (15050304); and d) Rillito (15050302).

Proposed service areas for individual ILF projects will be identified in site-specific mitigation plans. Priority will be given to development of compensatory mitigation projects located within the same sub-basin where impacts occur. It is expected that a number of opportunities can be identified for mitigation sites within each of the identified sub-basins given the thousands of acres of land owned by RFCD. RFCD-TAS resources for development, implementation and management will be allocated to ensure sufficient attention is given toward each selected and approved mitigation site.

Example clusters of properties owned by RFCD or Pima County, which are among those throughout the sub-basins of the Santa Cruz Basin (Figure 1) and which present some opportunities for creation of mitigation sites, are illustrated in the attached Figures 2 through 5. A brief description of each land cluster identified and numbered in the figures is presented below:

A. Upper Santa Cruz River Sub-Basin (HUC 15050301)

1. Sopori Ranch Mitigation Area (Sopori Wash upper watershed east to I-19)

Potential Mitigation area = 4672 acres RFCD and Pima County property within mitigation area = 2686 acres

Sopori Ranch Mitigation Area is located along Sopori Wash, a tributary of the Santa Cruz River originating west of I-19. Sopori Wash contains riparian mesquite bosque, riparian forests containing cottonwood, Gooding willow, ash, hackberry, and provides for connectivity to the Santa Cruz River just south of the proposed Canoa Ranch Mitigation Area. Portions of the riparian forest have been cleared for pasture and other agriculture. The potential threat of development exists along Sopori Wash due to the proximity of Arivaca Road.

These parcels provide direct connectivity south and east to the Tumacacori Highland portion of the Coronado National Forest.

2. Canoa Ranch Mitigation Area (Esperanza Wash south to Arivaca Road)

Potential Mitigation area = 6400 acres RFCD and Pima County property within mitigation area = 4850 acres

Canoa Ranch Mitigation Area is located in southern Pima County along both sides of the Santa Cruz River adjacent to and south of the developing ex-urban/suburban area of Green Valley. The mitigation area

consists of 6400 acres of river channel, floodplain terrace, active and abandoned agricultural fields, an historic ranch site, riparian strand and native grassland vegetation, and mesquite bosque.

Groundwater pumping, reduction of surface water flows, livestock grazing, agricultural activities, and invasive plant species are primarily responsible for ecosystem degradation in the Canoa Ranch area. The large open space acreage and associated riparian vegetation provides habitat for numerous wildlife species.

The Canoa Ranch mitigation area provides connectivity and wildlife linkages between the Santa Cruz River and adjacent "Sky Islands". To the east are the Santa Rita Experimental Range and the Santa Rita Mountains portion of the Coronado National Forest and, to the west, the Sierrita Mountains and areas west of I-19 such as Pima County's Marley Ranch Open Space Bond acquisition. Wildlife movement corridors provide linkages between large protected habitat areas and are integral to maintaining biodiversity.

3. Canada del Oro (CDO) Wash/Santa Cruz River Confluence Mitigation Area (Orange Grove Road north to Walker Road)

Potential Mitigation area = 152 acres RFCD and Pima County property within mitigation area = 118 acres

Canada del Oro (CDO) Wash/Santa Cruz Confluence Mitigation Area is located on the Santa Cruz River between Orange Grove Road and Walker Road adjacent to and just west of I-10 within the Tucson metropolitan area. The riparian vegetation, bank stability, and hydrology of the Santa Cruz River and lower CDO Wash have been substantially altered by sand and gravel mining, agriculture, groundwater pumping, bank protection and channel straightening, off-road vehicle use, overgrazing, and urban encroachment into the floodplain. Effluent discharges to the river downstream of Pima County's Roger Road Wastewater Treatment Facility have created dense stands of riparian vegetation dominated by cottonwood, willow, and non-native tamarisk. Non-native invasive plants and animals occur in this area.

4. Upper Canada del Oro (CDO) Wash/Catalina Mitigation Area (Catalina State Park boundary north to Edwin Road)

Potential Mitigation area = 661 acres RFCD and Pima County property within mitigation area = 274 acres

The Upper CDO/Catalina Mitigation Area is located along the upper reach of the CDO Wash in the Village of Catalina north of the Town of Oro Valley. Located close to the urban fringe, land use within this mitigation area is a mix of low density residential, higher density residential subdivisions, a resort surrounded by a large amount of natural open space, and Pima County owned Catalina Regional Park, open space managed for natural resource protection. The upper CDO supports meso-riparian vegetation and associated wildlife species including key populations of Bell's Vireo, Abert's Towhee, and Rufous Winged Sparrow. Many other riparian bird species maintain important populations along this reach of the CDO. Plant diversity along the upper CDO is high with significant populations of desert

willow and catclaw acacia. Several locations containing large riparian trees contribute to the biodiversity of the mitigation area including cottonwood, ash, willow, sycamore, canyon hackberry, and walnut.

This mitigation area provides connectivity to surrounding areas of the Catalina Mountains portion of the Coronado National Forest, Catalina State Park, and the Sutherland Wash. Groundwater pumping, agricultural activities, habitat encroachment associated with residential development, diversion of surface flow, over grazing, and off road vehicles have impacted the riparian community in this area.

5. Canada del Oro (CDO) Wash @ Oasis Mitigation Area (Hardy Road north to Lambert Lane)

Potential Mitigation area = 543 acres RFCD and Pima County property within mitigation area = 180 acres

The Oasis Mitigation Area is located between Hardy Road and Lambert Lane within the floodplain and floodplain terrace of the Canada del Oro Wash. This reach of the CDO is located within a suburban area of mixed large lots and subdivisions. Channelization of the river has occurred both upstream and downstream of the Oasis mitigation area. Groundwater pumping, off-road vehicle use, wildcat dumping, and encroachment by development have impacted riparian habitat in the Oasis area. The area is dominated by riparian strand vegetation community, scattered mesquite bosque, and Ironwood-Blue Palo Verde community.

This mitigation area provides connectivity from the Tortolita alluvial fan to the Tortolita Mountains and the Tortolita Mountain Park, via the Honey Bee Wash and the Big Wash, and to the Catalina State Park/Santa Catalina Mountains portion of the Coronado National Forest via the Upper Canada del Oro Wash.

B. Lower Santa Cruz River Sub-Basin (HUC 15050303)

6. Lower Santa Cruz River (LSCR) Mitigation Area (North Trico Road southeastward to upstream of Trico Marana Road)

Potential Mitigation area = 1206 acres RFCD and Pima County property within mitigation area = 418 acres

LSCR Mitigation Area is located on the Santa Cruz River between North Trico Road and North Lockett Road within the Town of Marana. The riparian vegetation, bank stability, and hydrology of the Santa Cruz River have been substantially altered by sand and gravel mining, agriculture, groundwater pumping, bank protection and channel straightening, off-road vehicle use, overgrazing, and urban encroachment into the floodplain. Effluent discharges to the river downstream of Pima County's Roger Road Wastewater Treatment Facility have created dense stands of riparian vegetation dominated by cottonwood, willow, and non-native tamarisk. The LSCR mitigation area is surrounded mainly by

agriculture and rural development. Non-native invasive plants and animals occur in this area.

This mitigation area is immediately adjacent to City of Tucson Water lands to the west and further west, through State and private lands, to the Ironwood Forest National Monument.

C. **Brawley Wash Sub-Basin (HUC 15050304)**

7. Black Wash/Snyder Hill Mitigation Area (the intersection of West Park Road & Airline Road northwest to Sandario Road)

Potential Mitigation area = 3142 acres RFGD and Pima County property within mitigation area = 1496 acres

The Black Wash/Snyder Hill Mitigation area is located in the Black Wash tributary of the Brawley Wash surrounding the City of Tucson's Avra Valley Wastewater Treatment Facility on Snyder Hill Road. This mitigation area is dominated by mesquite bosque, riparian strand vegetation, and supports Ironwood-Palo Verde community on the upland edges.

Large lot residential and subdivision development, road cutting resulting in alteration of surface drainage patterns, agricultural use, off road vehicles, and grazing have adversely impacted riparian habitat within this mitigation area.

This mitigation area provides connectivity and wildlife linkages westward through the Brawley Wash south to the Altar Valley and north to the Avra Valley, and northeastward through City of Tucson, State and federal lands to Tucson Mountain Park. To the north, through State lands, there is connectivity to the protected Bureau of Reclamation Wildlife Mitigation Corridor, Tucson Mountain Park and Saguaro National Park West.

8. Manville Road Mitigation Area (West Rudasill Road south to West Sweetwater Drive alignment)

Potential Mitigation area = 1740 acres RFGD and Pima County property within mitigation area = 648 acres

Manville Road Mitigation area is located in the Brawley Wash floodplain between West Rudasill Road and West Sweetwater Drive alignment. This reach of the Brawley Wash supports mesquite bosque, xeroriparian habitat, Sonoran scrub and Ironwood-Palo Verde community. Agriculture activity, grazing, wood cutting, road construction and off road vehicle use has resulted in alteration of surface drainage patterns, impacting riparian habitat.

This mitigation area provides connectivity and wildlife movement corridors from the southern aspect through City of Tucson Water and federal lands eastward to protected natural, undisturbed open space areas of Saguaro National Park West and Tucson Mountain Park and southwestward through City of

Tucson Water lands to the Ironwood Forest National Monument.

D. Rillito River Sub-Basin (HUC 15050302)

9. Pantano Wash/Rincon Creek Confluence Mitigation Area (Houghton Road east to Old Spanish Trail)

Potential Mitigation area = 1034 acres RFCD and Pima County property within mitigation area = 486 acres

The Pantano Wash/Rincon Creek Mitigation Area is located at the confluence of the Rincon Creek and Pantano Wash and extends between Houghton Road and Old Spanish Trail. The mitigation area is on the urban fringe and land use is a mix of large lot residential, high density subdivisions, planned future master planned development, and gravel mining. This mitigation area contains riparian strand vegetation with scattered pockets of meso-riparian vegetation, including a small area of cottonwood, willow, and elderberry.

The riparian vegetation, bank stability, and hydrology of the Pantano Wash have been substantially altered by sand and gravel mining, agriculture, groundwater pumping, off-road vehicle use, overgrazing, and encroachment into the floodplain. Riparian vegetation associated with Rincon Creek is generally in better condition than Pantano Wash but has also been impacted by residential encroachment, road construction, off-road vehicles, livestock grazing, and agricultural use in the floodplain.

This mitigation area provides wildlife movement corridors and linkages between protected natural undisturbed open space within the Rincon Mountains portion of the Coronado National Forest, Saguaro National Park East, Colossal Cave Mountain Park and the Agua Verde Wash, and Cienega Creek Natural Preserve.

10. Tanque Verde Creek/Agua Caliente Wash Confluence Mitigation Area (Tanque Verde Loop Road to Woodland Road & East Fort Lowell Road to confluence)

Potential Mitigation area = 1290 acres RFCD and Pima County property within mitigation area = 306 acres

The Tanque Verde Creek/Agua Caliente Wash Confluence Mitigation area is located within a scientifically peer-reviewed designated Important Bird Area along the Tanque Verde Creek Woodland Road upstream to Tanque Verde Loop Road and along the Agua Caliente Wash from the confluence with Tanque Verde Creek upstream to East Fort Lowell Road. Land use in the mitigation area is a combination of scattered commercial business, equestrian centers, large lot development and residential subdivisions.

This mitigation area supports significant meso-riparian habitat and mature mesquite bosque. Riparian

forest vegetation in this mitigation area contains cottonwood, willow, ash, sycamore, hackberry, Mexican elderberry, walnut, and western soapberry trees. Typical understory is a dense shrub community of hackberry, acacia, elderberry, wolfberry, and graythorn. Groundcover is a diverse association of native grasses and forbs. The multi layered structure of the habitat in the mitigation area supports a large diversity of wildlife.

Groundwater pumping, bank protection and channel straightening, off-road vehicle use, agricultural use, overgrazing, and urban encroachment into the floodplain has impacted the habitat in this mitigation area. Invasive plant species are becoming an increasing threat to native plants.

This mitigation area provides wildlife linkages between the Rincon Mountains portion of the Coronado National Forest, Saguaro National Park East, and the Catalina Mountains portion of the Coronado National Forest.

Although the clusters of properties described above and illustrated on the attached figures indicate some of the opportunities for development of mitigation sites and have been selected based on characteristics that may benefit from mitigation, the actual inclusion of any specific sites in the ILF Program will be based on a number of factors including where impacts to aquatic resources are occurring.

Each mitigation site will have an individual site-specific mitigation plan prepared by RFCD and TAS for review and approval from the IRT. Mitigation plans for each site will be prepared in accordance with requirements of the Mitigation Rule at 33 CFR 332.4(c)(1)(iii) and will include:

- Objectives: This section of the plan will introduce the resource that will be provided, the method of compensation, and the method in which the resource functions of the proposed compensatory mitigation project will address the aquatic resource needs of the watershed.
- Site Selection: This will consist of a description of the factors which were examined in order to select the particular mitigation site.
- Site Protection Instrument: This will consist of the legal arrangements that ensure the protection of the mitigation site in perpetuity. As described previously, it is envisioned that RFCD will own in fee the property on which most mitigation sites are proposed so site protection will primarily consist of executing appropriate deed restrictions and/or conservation easements.
- Baseline Information: This will consist of a detailed description of the ecological characteristics of the proposed compensatory mitigation site including basic hydrologic and riparian information as well as preliminary delineation of Waters of the US.
- Determination of Credits: Credit determination will be presented in accordance with negotiated credit requirements and a credit release schedule referenced to site performance standards.

- Mitigation Work Plan: This will consist of detailed written work descriptions for the proposed compensatory mitigation project along with the proposed schedule of activities.
- Maintenance and Monitoring Plan: A description of the maintenance activities and monitoring parameters and schedules will be outlined in this section for initiation after initial construction is completed.
- Performance Standards: This section will articulate ecologically-based standards that will be used to determine whether the compensatory mitigation is achieving its objectives.
- Long-Term Management Plan: This will address how the compensatory mitigation project will be managed after identified performance standards have been achieved to ensure sustainability of the preserved or restored resource.
- Adaptive Management Plan: This section will present guidance for when and how mitigation plans will be revised to address circumstances which may negatively impact the sustainability of the success of the compensatory mitigation project.
- Financial Assurances: This section will provide a description of the financial assurance that will be provided to ensure that the project will be successfully completed in accordance with performance standards.

5. General Need For and Technical Feasibility of ILF Program: 33 CFR 332.8(d)(2)(iv)

The need for the initiation of the new RFCD-TAS ILF Program has been underscored by recent changes in the rules. The local ILF Program has been sponsored and successfully operated by the Tucson Audubon Society (TAS), a modest 501 (c) 3 with a diverse mission, since 1999. Following extensive analysis, TAS anticipates that the responsibilities of sole ILF sponsor under the new Rule would adversely impact its ability to meet other program and community commitments. In addition, TAS would be unable to meet some of the requirements of the new Rule. These include financial assurances, the ability to hold sufficient cash resources on hand in advance to purchase and own appropriate parcels of land outright, to purchase heavy equipment, and other factors. TAS therefore approached RFCD to explore the idea of forming a co-sponsorship. Such a relationship promises to unite the continuity, expertise, and experience from the original ILF program with the needed resources, expertise and experience of the new partner to develop and implement a locally managed ILF Program within the Santa Cruz River Basin that incorporates a land area of approximately 8190 square miles.

As development continues to occur in the Sonoran Desert impacts to the natural environment, including Waters of the US within the Santa Cruz River Basin, will continue due to private sector housing and commercial developments that will be built. In addition attendant public sector capital improvement projects (CIP) will be required to service the increasing population. Although Pima County has

developed the Sonoran Desert Conservation Plan (SDCP) as a means to guide these development activities away from the most sensitive areas of our natural undisturbed desert environment, there are compelling reasons to develop a comprehensive strategy to provide for compensatory mitigation under the Clean Water Act Section 404 program for unavoidable disturbance to Waters of the US by employing an ILF Program approach:

Prior to development of sound environmental planning policies, such as the national award winning Sonoran Desert Conservation Plan (SDCP), large areas of riparian habitat and floodplain functions of our riverine systems had been degraded by land development activities. As described previously, over the past three decades RFCD has acquired large tracts of flood prone land under the FLAP in various watersheds around the community, some of which have been degraded due to past development activities and some of which have not yet been developed. The RFCD-TAS ILF will provide a mechanism to provide for permanent preservation along with regular monitoring of a select cross-section of those acquired lands which have not yet been developed. Additionally, the program will provide an opportunity to restore environmentally sensitive lands that have been degraded by past development activities.

The RFCD-TAS ILF Program will be a comprehensive and coordinated program that will synergistically enhance the goals of the SDCP by restoring biotic connectivity between designated Important Riparian Areas (IRAs) and upland habitats. Failure to establish an ILF for the Santa Cruz Basin would likely result in a patchwork of disconnected permittee-responsible compensatory mitigation projects that could meet the technical requirements of the Compensatory Mitigation Rule, but may not provide or maintain habitat connectivity and wildlife linkages. The Mitigation Rule cites these concerns as reasons why ILF and Mitigation banks are preferred options when compared to permittee-responsible mitigation.

RFCD-acquired flood prone lands are located through multiple sub-basins and watersheds of the Santa Cruz Basin. This will allow for creation of an ILF Program where several clusters or “pods” of available land can be identified as potential mitigation sites within watersheds near where development is expected to occur. This program of focused preservation and mitigation planning will allow for the selection of mitigation sites within watersheds that are closest to the site of actual impacts to Waters of the US and will allow the conservation of the habitat types most similar to those to be impacted by development. Mitigation site selection will also be based upon the need for protection, the level of degradation, and actual habitat and riparian values as well as the likelihood of restoration success.

The RFCD-TAS ILF Program presents a significant opportunity for acquisition of riparian lands adjacent to lands already owned by the RFCD to expand and improve the types of habitat to be conserved, the reach of connectivity and/or that could be used as buffer lands as envisioned under 33 CFR 332.3(i).

RFCD works closely with Pima County’s Department of Development Services which manages land development activities through State mandated Comprehensive Land Use Planning and re-zoning processes. Consideration and coordination of these activities with the ILF Program will result in an integrated program with connectivity and development of sufficient buffers to enhance the preservation and restoration of aquatic resource functions.

6. Proposed Ownership Arrangements and Long-Term Management Strategy: 33 CFR 332.8(d)(2)(v)

A. Proposed Ownership: As described previously, RFCD already owns significant land assets that have been acquired over the years through the Floodprone Land Acquisition Program (FLAP). Because these lands are located within the sub-basins, watersheds and sub-watersheds of the Santa Cruz Basin, they often are ideally situated in upper reaches of individual watersheds, where effective mitigation for projects that result in unavoidable impacts to Waters of the US further downstream in the watersheds may occur. Additionally, given the features of the properties that guide the RFCD land acquisition process, the FLAP lands that are already owned and those that are continuing to be acquired are optimal for preservation and restoration of functioning aquatic resources. We anticipate that this suite of lands, as described in Section 4, will form the predominant land bank from which mitigation sites will be selected.

It is also possible however that additional lands not presently owned by RFCD may be acquired. Rights to utilize other public lands, not encumbered under any other government preservation program, may be established if those are deemed ideal for meeting the aquatic resource conservation goals of the ILF program. It is likely that any such agreement would take the form of an intergovernmental agreement (IGA). Ultimately, each individual mitigation site selected under the ILF would be fully encumbered in order to conform to the Mitigation Rule (33 CFR 332.7). That encumbrance may consist of a perpetual conservation easement, deed restriction, or other similar legal restriction to ensure the site is reserved for permanent preservation under the ILF Program.

B. Long-Term Management Strategy: The District will assume full responsibility for long-term management and protection of the mitigation properties selected under the ILF program to ensure long-term viability as functional aquatic resources. Although each individual mitigation project will be designed and developed to limit the amount of long-term maintenance and monitoring that is required once performance standards have been achieved, it is recognized that each mitigation site will require some degree of monitoring and continued long-term care. A long-term adaptive management plan will be developed for each site which will include a description of the expected management needs along with an estimate of the annual costs associated with executing the long-term plan.

Adequate financial resources and a durable long-term financing strategy are essential components for ILF Program sustainability. RFCD, as a special taxing District of the State of Arizona created in 1978 under the authority of ARS Title 48, Section 3603, has the financial and technical strength to ensure sufficient financial and technical resources are mobilized and devoted to the ILF Program for long-term site protection and management. As a participant in Pima County's Sonoran Desert Conservation Plan, developer and implementer of a number of environmental restoration projects (a few of which are highlighted in this Prospectus document), and as a current land owner of more than 10,000 acres of land acquired under the FLAP, the District has significant experience in both short- and long-term land and project management. RFCD has developed strategies for long-term management of these lands and experience gained in those programs will guide the strategy for management of ILF Mitigation sites.

Additionally, proper long-term management funding strategies will likely include the development of special reserve accounts for ILF mitigation sites, that will be filled through an apportioned amount obtained through the sale of credits for that mitigation site.

7. Qualifications of Co-Sponsors: 33 CFR 332.8(d)(2)(vi)

The Pima County Regional Flood Control District (RFCD), a special taxing District of the State of Arizona authorized under Title 48 of the Arizona Revised Statutes, is a highly qualified agency responsible for all aspects of flood control and riparian management in Pima County. Our activities and our sixty-three member staff are broadly divided into regulatory functions and public works functions spread among five Divisions. A generalized summary of the responsibilities of the five Divisions follows:

- Floodplain Management Division: The Floodplain Management Division, containing nine technical staff plus administrative staff, is primarily responsible for implementing the regulatory requirements of the Floodplain and Erosion Hazard Management Ordinance Title 16 of the Pima County Code, ensuring compliance with FEMA requirements and the National Flood Insurance Program. Distinguished from the Planning and Development Division, most of the involvement by the Floodplain Division is on a single lot basis. Single lot drainage complaints are also investigated by this Division;
- Planning and Development: The Planning and Development Division, containing five staff, is responsible for reviewing subdivision plats and larger development plans (as distinct from the Floodplain Management Division) to ensure that development complies with all aspects of the Ordinance, including riparian mitigation planning. Additionally, this Division is responsible for planning activities including large basin and watershed studies;
- Engineering: The Engineering Division, containing eight staff, is responsible for the management of major watercourses, design and construction of drainage projects as envisioned under the District CIP Plan, as well as significant drainage repair projects;
- Infrastructure Management: The Infrastructure Management Division, containing eight staff, is responsible for the inspection and repair of all drainage infrastructure, responses to complaints on any District drainages, as well as the management of the District Geographic Information Systems (GIS) group.
- Water Resources: The Water Resources Division, containing nine staff, is responsible for developing and implementing all aspects of riparian regulatory management programs within Pima County, designing, implementing, monitoring and maintaining riparian restoration projects sponsored by the District, and implementing the ALERT (Automated Level Evaluation in Real Time) meteorological monitoring system within Pima County. Regulatory requirements of the Ordinance are contained in Chapter 16.30, Watercourse and Riparian Habitat Protection and Mitigation Requirements, that control development in areas mapped as Important Riparian Areas (IRAs) and adopted by the RFCD

Board of Directors. This Division essentially acts as the District's riparian resource management entity and has been responsible for implementation of various environmental restoration projects in Pima County.

Staff within each of these Divisions, plus the Director's Office, have both the education and the experience critical to developing and implementing the RFCD-TAS ILF Program - from land management to regulatory compliance (as both a regulator and a regulated entity under 404) to hydrology to engineering to finance. Many have advanced degrees and professional certifications in their fields of expertise.

The ILF Program will be managed by the Director's Office of the Regional Flood Control District which will have direct day-to-day control of the development and implementation of the Program. RFCD's Deputy Director in charge of Floodplain, Infrastructure and Water Resources will be the primary contact and be responsible for the ILF Program. This level of commitment will ensure prioritized allocation of all appropriate District resources as required to properly implement the ILF Program in accordance with the 2008 Mitigation Rule. Additionally, Financial, Property Management, Legal, and Procurement resource experts within select Pima County Departments are available to the District for implementation of this ILF Program, via existing shared services agreements with the District, and will be engaged as required to assist in the implementation of the RFCD-TAS ILF Program. As stated earlier, complementary resources from local non-profit natural resource management entities will also be contracted by the District as partners to assist in the operation and maintenance of mitigation projects as necessary and appropriate.

Although this effort will be the first for RFCD in developing and implementing an ILF Program under Section 404 of the Clean Water Act, the District has been a recognized leader in characterizing and protecting, as well as managing and restoring riparian resources in Southern Arizona.

Characterizing and Protecting: The District first began regulating riparian habitat in 1994. Riparian classification definition and Riparian Classification Maps were developed which define "regulated riparian habitat" as stipulated in Chapter 16.30 of the Floodplain Management Ordinance. The Ordinance is structured to protect regulated riparian habitat from development and requires mitigation for unavoidable disturbances to habitat that exceed 1/3 acre. Regulated riparian habitat is divided into the following classifications; Hydro-riparian-, Meso-riparian, Xero-riparian, and Important Riparian Areas. Xero-riparian habitat is further divided for regulatory purposes into Class A,B,C, and D, based on total vegetative volume. Important Riparian Areas incorporate the riparian elements of Pima County's Sonoran Desert Conservation Plan's Conservation Lands System and provide a framework for linkages between habitats and landscape connections. The Riparian Classification Maps are based on plant community structure and composition, vegetation density, the availability of water, and hydrologic connectivity. In addition to creating the only specific and comprehensive classification system for the various types of riparian habitat found in eastern Pima County, District staff worked with diverse stakeholders including developers, consultants and residents to develop appropriate mitigation strategies for unavoidable disturbances of regulated riparian habitat. Approximately 310 Riparian Habitat Mitigation Plans (RHMPs) for single lots and 92 RHMPs for developments ranging in size from

one half acre to hundreds of acres have been reviewed, negotiated and permitted by the District under this program since detailed tracking began in 1998 after inception of the local riparian regulatory requirements.

Additionally, over the years, the Riparian Regulatory Program has evolved as several technical policy and procedure documents based on the extensive experience gained during program execution have been developed to further guide the detailed implementation of the riparian regulatory program. Due to the large size of these documents, only the cover sheet and table of contents from one of the most recent guidance documents is presented as an attachment (Attachment 6) to this Prospectus. The full version of the document can be found at:

http://rfcd.pima.gov/wrd/riparian/pdfs/onsite_mitigation_guidelines.pdf

Managing and Restoring: In addition to implementation of the riparian characterization and regulatory program, the District has embarked upon several programs over the past two decades to preserve and restore pristine and damaged riparian systems. These programs consist of the FLAP, the Riparian Restoration Program, and participation on the Sonoran Desert Conservation Plan planning team.

FLAP, as discussed previously, is a unique program that has been used by the District over the past three decades to acquire approximately 10,000 acres of flood prone and riparian habitat land within multiple sub-basins, watersheds and sub-watersheds of Pima County. FLAP lands contain an inventory of perennial and intermittent streams, shallow groundwater areas, springs and riparian ecosystems. Significant criteria for evaluating land to be acquired under FLAP is the existing riparian value of the parcel and the connectivity of the parcel to other protected public lands.

The District's Riparian Management and Restoration Program has completed a number of preservation activities and implementation of riparian mitigation projects within pristine or damaged riparian habitat locations at a number of sites around Pima County. A few examples of projects that have been completed by District staff follow:

- Kino Environmental Restoration Project (KERP): This project, completed in 2001 as a partnership between the Regional Flood Control District, the US Army Corps of Engineers, and Pima County, was designed to create fifty acres of native ecosystems and wildlife habitat within the Ajo Flood Control Detention Basin. The restoration project design consisted of grading the detention basin to create four and one half acres of marshland, fifteen acres of riparian habitat, six acres of upland and ten acres of grassland all fed by harvested stormwater (or reclaimed water, if needed) retained in a seven acre, fifty foot deep lake created in the basin. The District has been heavily involved in the management, monitoring and maintenance of the facility over the past decade and the site has been highly successful in achieving environmental objectives for the project including: the creation of several native ecosystems that represent Arizona's southwest riparian environment; the establishment of five distinct environments – Arizona Uplands, Open Water, Riparian Communities, Wetlands, and Mesquite Bosque within the basin; and, the restoration of

wetlands that are ecologically resilient and self-sustaining.

- Cienega Creek Natural Preserve: Over 4000 acres along a twelve mile long reach of Cienega Creek were acquired by RFCD to preserve one of the region's few remaining perennial streams. Establishment of the Preserve in 1986 marked the first major Flood Control effort that was driven by riparian habitat and natural resources preservation. In response to the elimination of grazing and off-road vehicle activity, the density of cottonwoods, willows, and other trees and shrubs along the stream have increased dramatically. The re-establishment of high quality riparian habitat and stream function resulted in improved surface water quality. Due to the high quality surface water, Cienega Creek has been designated an "Outstanding Water of Arizona".
- Cortaro Mesquite Bosque: Cortaro Mesquite Bosque is an eighty acre habitat restoration project located in the overbank terrace of the main channel of the Santa Cruz River adjacent to Continental Ranch in the Town of Marana. The project, completed in 2008, was designed to increase biological diversity and plant community structure of the Santa Cruz River Floodplain providing wildlife habitat, particularly forage and nesting area for birds. The planting scheme consists of islands of vegetation zones or plant communities separated by areas of native grasses. Islands are comprised of five types of plant communities: Cottonwood-Willow, riparian mesquite, riparian grassland-willow, xero-riparian mesquite bosque, and upland grassland and shrub scrub habitat. Nearly five years since completion, the vegetation is thriving and the project is meeting restoration goals for the site.
- Swan Wetlands: The District, in cooperation with the US Army Corps of Engineers Planning Division, developed the Swan Wetlands Ecosystem Restoration Project along the south bank of the Rillito River between 2006 and 2008. The restoration project encompasses sixty acres divided into three specific areas. The project plan primarily consisted of removal of non-native species, land re-contouring to enhance capture of storm water runoff and the planting of native vegetation. Additionally, cement-lining was removed from a main constructed drainage channel and this channel was re-contoured to create a more sinuous alignment thus allowing for more absorption of runoff into the soil to enhance the native vegetation community. A mix of plant species, from Mesquite species to Palo Verde, as well as hydroseeding with native seed mix was used for the majority of the sites. Reclaimed water was provided for irrigation in order to establish the plantings. Nearly five years since completion, planted vegetation is thriving and the project is meeting restoration goals for the site.

The variety of work experience and skills demonstrated by the District, with their highly qualified, experienced and certified staff, indicate their ability to successfully co-sponsor an ILF Program.

Tucson Audubon is a 501 (c) 3 non-profit organization established in 1949 that promotes the protection and stewardship of southern Arizona's biological diversity through the study and enjoyment of birds and the habitats in which they live. Tucson Audubon has a staff of sixteen who implement programs in

education, outreach, conservation, restoration, and advocacy.

In 1999 TAS was invited by the Corps to become the ILF Sponsor for Pima County. In 2001 TAS signed a 99-year right-of-entry agreement with the City of Tucson to enable habitat restoration work on a large, city-owned site in Avra Valley, along the main channel of the Santa Cruz River, which includes the North Simpson Farm. Habitat restoration work has been ongoing since then, facilitated by a water use agreement with the City. A Memorandum of Agreement (MOA) governing TAS's ILF-based habitat restoration work was signed by the Army Corps of Engineers and TAS in January of 2004. A scope of work for the North Simpson Farm site was formalized in 2005. Two other project sites were added, including the Martin Farm, another City of Tucson Water property in Avra Valley, and Cochie Spring, a small, historic Pima County property located at the top of Cochie Canyon in the Pinal County portion of the Tortolita Mountains.

Staff levels at TAS have averaged about fourteen (FTEs) since 2001, with the habitat restoration team ranging from four to seven staff members. The habitat restoration staff has experience and expertise in botany, vegetation management, invasive species identification and control, habitat restoration, site surveys and assessment, concept design, and integrated design for sustainability.

Land Restored

- **North Simpson Farm:** North Simpson Farm is located in unincorporated Pima County's Avra Valley and is part of a 1,700-acre site for which TAS has a 99-year right-of-entry agreement and water use agreement with Tucson Water, a department within the City of Tucson. The 640-acre North Simpson Farm is the primary habitat restoration area with access to the rest of the parcel for observation and making recommendations to Tucson Water land managers. A subset, about 300 acres of the 640-acre site, is available for ILF-based mitigation. This land includes areas along the main channel of the Santa Cruz River and much larger floodplain areas to the east, away from the hydro-riparian channel, which receive stormwater flows in large stormwater events. ILF-based habitat restoration on the broad floodplain has focused on creating mesquite bosque, xero-riparian scrub and saltbush flats in different areas as appropriate. In the hydro-riparian area the thriving cottonwood-willow community is protected from cattle incursions via fencing around the entire site, is enhanced by pole-plantings of cottonwood and mesquite, and is monitored for its birds, wildlife and invasive plants and animals. Approximately 150 acres of floodplain have had invasive plants removed, native vegetation restored, and are being monitored for success.
- **Martin Farm:** Martin Farm is located in Avra Valley about 1.25 miles upstream of the North Simpson Farm along the Santa Cruz River. A right-of-entry agreement and water use agreement with Tucson Water enable work at this site. Thirty acres of this approximately 155-acre site have been planted to create mesquite bosque and xero-riparian scrub vegetation along a terrace above the main channel of the Santa Cruz River. Goals and procedures have been similar to those at North Simpson Farm.

- **Cochie Spring:** Cochie Spring is a Pima County restoration site of about 10 acres, purchased with Open Space Bonds for conservation and located at the top of Cochie Canyon in the southern Pinal County portion of the Tortolita Mountains, for which Tucson Audubon has had a special use permit. An unoccupied historic homestead is adjacent to the spring. Habitat at the spring area is protected from cattle grazing by a wildlife-friendly fence. Restoration vegetation was planted along the wash and, in the absence of cattle, habitat is improving. Large non-native athel tamarisk trees, planted by the original homesteaders, are dying and their demise may make more spring water available to native vegetation in the area.

In 2001, Tucson Audubon established the Arizona Important Bird Areas (IBA) program, part of the global program run by BirdLife International and administered throughout the United States by the National Audubon Society. Tucson Audubon is responsible with Audubon Arizona in identifying qualifying sites, monitoring bird species and threats to those species, and identifying and implementing conservation actions to address those threats. Staff members are conservation biologists who have skills in threat assessment, bird population monitoring, bird survey protocol training, partnering with other agencies, data management, volunteer management, data analysis and report production.

Tucson Audubon partners with the Arizona Game & Fish Department to implement aspects of the Arizona Bird Conservation Initiative (ABCI) program which identifies and prioritizes bird conservation opportunities and needs, and encourages implementation of landscape-oriented multi-species conservation efforts such as Pima County's proposed Multi-species Habitat Conservation Plan (MSCP) under Section 10 of the Endangered Species Act. Tucson Audubon has organized and implemented: all-bird transect, point count and area search surveys as well as owl call-back, Yellow-billed Cuckoo call-back, and comprehensive Coordinated Bird Monitoring surveys in multiple habitat types. Four avian habitat conservation plans/guides for AZ IBAs, as well as riparian habitat management guides for landowners, have been produced by the AZ IBA Program and Tucson Audubon. Data collected by Tucson Audubon, and TAS management recommendations, have been incorporated into several National Forest management plans. Direct conservation efforts in IBAs by Tucson Audubon include invasive *Arundo donax* control in the Tanque Verde Wash/Sabino Canyon IBA, riparian habitat restoration along the Upper Santa Cruz River IBA at Esperanza Ranch in Santa Cruz County, and an ongoing project to construct a fence around Patagonia Lake State Park IBA to keep trespassing cattle excluded from riparian habitat.

In addition Tucson Audubon implements a comprehensive program of Community Conservation Education to encourage residents and visitors to live more lightly on the land. This program, designed for the Tucson metropolitan area and others in the region, brings TAS's expertise in bird identification, avian biology, habitat restoration and environmental education together to reach larger populations in the urban area. It promotes practices in homes and commercial establishments that enhance the long-term ecological sustainability of human populations and that reconcile built areas with the needs of wildlife, particularly birds. We are adding a component of urban food production to the program, teaming with organizations like Food Bank of Southern Arizona and Native Seeds/SEARCH to create

biologically rich landscapes that become more useful to people as they also become more useful to birds.

Tucson Audubon implements habitat restoration work in partnership with the City of Tucson, Pima County, and the Town of Marana. In the Town of Marana we have assisted with re-vegetation of the El Rio Open Space, a mitigation property along the Santa Cruz River. Several projects have been funded by Arizona Water Protection Fund, including restoration projects at the Simpson Farm, at TAS' 300 acre Esperanza Ranch conservation easement along two miles of the Santa Cruz River, and currently at Atturbury Wash on Tucson's east side. The latter is a natural channel design and re-vegetation project along a part of the wash where the hydrology has been compromised by erosion and wash incision. We have worked closely with Tucson Parks and Recreation and the Ward 4 City Council office to bring this project to fruition.

Most significantly, since 1999, Tucson Audubon has been the In Lieu Fee Sponsor for Pima County. In that time Tucson Audubon has restored, and is restoring, 167 acres of meso and xero-riparian habitat on the Lower Santa Cruz River in northeastern Pima County. Tucson Audubon is a local leader in utilizing rainwater harvesting techniques to minimize groundwater use for establishing plants both in urban and large-scale restoration settings. We have installed massive irrigation systems in remote areas. We have implemented intensive erosion control measures at acute erosion points as well as systemic methods to reduce wind erosion. We have utilized multiple propagation techniques for generating plants for re-vegetation efforts including pole plantings, broadcast seeding, imprinting, cuttings, and TAS has locally pioneered the use of tall pots for desert species with primary taproots. Our skill set includes a developed knowledge of the ecological and habitat requirements for restoration species and awareness of the interactions of those species with local flora and fauna including sensitive species for the region. TAS has experience using controlled burns, herbicides, and mechanical removal for invasive species control.

Tucson Audubon has recently hired a Restoration Biologist to implement greater scientific rigor in habitat restoration practices. Tucson Audubon will utilize an adaptive management strategy based on cost-benefit analysis of the ecological sustainability and long-term effectiveness of various established and experimental restoration strategies leading to implementation of the most cost effective and ecologically significant restoration practices. Invasive species control, a major effort on most restoration sites, will be undertaken with the same overall strategy and a keen eye toward cost effective techniques with long lasting effects. Partnerships with researchers at the University of Arizona will be utilized, within the constraints of the ILF Program, to further scientific knowledge of the community dynamics and functional processes involved with restoration work and the implications for native flora and fauna on a broader ecological scale.

Tucson Audubon partners with municipalities, tribes, landowners, resource management agencies, industry and the private sector throughout Pima County and Arizona.

Tucson Audubon's advocacy work focuses on protecting riparian resources regionally. We have campaigned in support of the Clean Water Act and work to discourage proposed activities that might detrimentally impact watercourses.

Tucson Audubon has extensive links in the local community with other non-profit organizations to facilitate the engagement of additional resource conservation and restoration entities, as appropriate.

Tucson Audubon welcomes the opportunity to partner with RFCD to implement larger-scale restoration projects, including those where mitigation funds alone may be insufficient to implement restoration at an effective watershed scale. We welcome the opportunity to implement habitat restoration closer to the point of impact, restoring impacted vegetation communities with like vegetation, and matching more closely damage and degradation with appropriate mitigation.

8. Compensation Planning Framework and Description of Program Account: 33 CFR 332.8(d)(2)(viii)

A. Compensation Planning Framework: Although a detailed Compensation Planning Framework (CPF) will be established in the ILF Instrument, a limited framework for one of the example sites (Canoa Ranch illustrated as Site 2 on Figure 2) is proffered in this section to conform to the requirements as stated in the Mitigation Rule.

i. Upper Santa Cruz Sub-basin Service Area: a watershed-based rationale

As referenced previously, all mitigation will be done within the same basin where the disturbance occurs, and within the same Sub-basin where feasible. Per USACE 332.3c:

...the watershed approach should be based on inventories of historic and existing aquatic resources, including identification of degraded aquatic resources, and identification of immediate and long-term aquatic resource needs within watersheds that can be met through permittee-responsible mitigation projects, mitigation banks, or in-lieu fee programs. Planning efforts should identify and prioritize aquatic resource restoration, establishment, and enhancement activities, and preservation of existing aquatic resources that are important for maintaining or improving ecological functions of the watershed. The identification and prioritization of resource needs should be as specific as possible, to enhance the usefulness of the approach in determining compensatory mitigation requirements.

ii. Threats and In-lieu Fee Program Mitigation Potential for the Upper Santa Cruz Service Area

The aquatic resources of the Upper Santa Cruz River Sub-basin in and around Pima County are threatened by numerous factors that include loss of surface water, groundwater decline, agricultural and urban encroachment, non-native species invasion, and climate change.

Regional managers are working to reduce or eliminate causes and effects of surface water loss, groundwater decline, and encroachment issues, but, to date, little has been done about climate change effects. As reported in *Global Climate Change Impacts in the United States* (2009), "Human-induced climate change appears to be well underway in the Southwest. Recent warming is among the most rapid in the nation, significantly more than the global average in some areas." Projections for climate change in the Southwest include continued increases in average temperature, which has already increased around 1.5 degrees Fahrenheit (°F) in the Southwest since the baseline period of 1960 to 1979. By the end of this century, the annual average temperature in the Southwest could reach as much as 10° F

higher than in the baseline period. The report goes on to state, “Future landscape impacts are likely to be substantial, threatening biodiversity, protected areas, and ranching and agricultural land. These changes are often driven by multiple factors, including changes in temperature and drought patterns, wildfire, invasive species, and pests.”

Rainfall patterns will be affected with an increasing likelihood of drought due to both natural weather cycles and human-induced climate change. Anticipated drought impacts in Southern Arizona include long periods of drought with short periods of heavy intense rainfall and fewer winter storm systems. Plants that require regular rainfall will be the most stressed. Warmer winter temperature and increased areas denuded of native vegetation created by human activity and climate change will allow non-native plants, such as buffelgrass, to spread.

Implementation of In-lieu Fee Program protection has the ability to offset some of these threats through actions that preserve or enhance and manage remaining riparian resources areas.

iii. An Analysis of Historic Aquatic Resource Loss in the Upper Santa Cruz Service Area

The landscape within this region of the Santa Cruz River has changed dramatically since the early 20th century. The Upper Santa Cruz River main stem has a history of being a river oasis in the arid southwest, with long winding reaches of reliable year-round flow from several springs around Tubac and Tucson, adjacent to downstream marshy cienega areas, and all surrounded by a lush riparian corridor with cottonwoods and a wide mesquite bosque supported by shallow groundwater (Mauz, 2011). Over the past hundred plus years, groundwater pumping, agricultural activities, mining, urban encroachment, channelization and climatic change have been primarily responsible for the ecosystem degradation in the Upper Santa Cruz Sub-basin Service Area in and around Pima County.

Based on stream gauge daily discharge records, the loss of year round base flow began around 1912. By 1940, surface flow in the formally wet Tubac and Tucson portions of the Upper Santa Cruz was limited to rainy seasons. The river now flows only in response to storm runoff. Areas of shallow groundwater only exist around the city of Tubac and downstream of the regional wastewater treatment plant(s).

Not only has the amount and location of perennial flow in the Santa Cruz River changed, but the seasonality and magnitude of flows also have shifted as a result of climate change in this region. Although the majority of flow events occur during the summer season, the magnitude and number of flows that occur in the fall and winter were higher before 1930 and since 1960. Also, annual peak discharges are increasing, as six of the seven largest floods on the Santa Cruz River at Tucson occurred after 1960 (Woods et al., 1999).

iv. An Analysis of Current Aquatic Resource Conditions in the Upper Santa Cruz Sub-basin Service Area

Due to declines in groundwater, loss of surface water, channelization, arroyo formation, and climate change effects, aquatic resources along many parts of the Upper Santa Cruz River Sub-basin are desiccated and contain declining plant communities. Perennial flow areas are now limited to effluent release downstream of sewage treatment plants at Nogales and Tucson. Non-native invasive weed

encroachment is threatening the ecosystem function of remaining riparian resources.

Habitat classification is frequently based on plant communities because plant species are definitive of their biomes, since they are rooted in place, and generally adapted to the site-specific environment. Plants are also the most obvious and easily recognizable element of the biological community. Individual site vegetation and other aquatic resource assessments have been undertaken for various areas within the Upper Santa Cruz Sub-basin service area by RFCD, Tucson Audubon Society, Sky Island Alliance, Sonoran Institute, and others. Assessments done by RFCD include vegetation transect surveys at Paseo de las Igelsias Phase One near the confluence of the Santa Cruz River and Julian Wash, Big Wash near the confluence with the Canada del Oro Wash, and at Oasis along the middle Canada del Oro Wash; photo monitoring at Canoa Ranch, at the confluence of the Santa Cruz River with Madera Canyon Wash, and along the upper Canada del Oro Wash; and groundwater level monitoring at Oasis and the upper Canada del Oro Wash.

Several regional vegetation classifications have been done for the Upper Santa Cruz Sub-basin, not limited to the Brown and Lowe biotic communities classifications (1994), the SWReGAP Digital Land Cover Data at <http://earth.gis.usu.edu/swgap/>, and Pima County’s habitat mapping and classification used for development of the Sonoran Desert Conservation Plan and implementation of Pima County Code, Title 16 (Floodplain and Erosion Hazard Management), Section 16.54, Watercourse and Riparian Habitat Protection and Mitigation Requirements. This mapping used multi-spectral satellite imagery (LANDSAT) to interpret riparian habitat value and created classifications based on plant community structure and composition, vegetation density, and availability of water, cross referenced with field data inventories, as described in Table IV.

Table IV. Sonoran Desert Plant Communities

Classification	Plant Community	Description
Hydro-riparian	Open Water	Streams, springs, ponds, lakes: provides habitat for aquatic species and resting/forage for water fowl
Meso-riparian	Wetland	Cattail-sedge: aquatic, wetland species, moist soil and habitat for food, shelter, and nesting sites, high biodiversity
	Cottonwood - Willow Community	Deciduous Gallery Forest: most threatened forest type in North America, one of the most important native habitats, dependent on shallow groundwater, high biodiversity

	Seasonal Cienega	Riparian grasses, sedges, “edge” habitat bordering bosque and gallery forests: provides forage, shelter, important for wildlife
	Meso-riparian Mesquite Bosque	Mixed forest of mesquite, hackberry, acacia: second most threatened forest type in North America, valuable for wildlife forage and nesting habitat
Xero-riparian	Xero-riparian Mesquite Bosque	Similar plant community to Meso-riparian mesquite bosque: lower total vegetation volume than Meso-riparian bosque habitat, occurs along ephemeral streams, Includes Ironwood-Palo Verde community,
	Riparian scrub	Saltbush-wolfberry-graythorn community, also Ironwood: historically common along rivers, important to wildlife.
	Riparian grassland	Sacaton, tobosa grass communities: Seasonal cienegas, floodplain fringe, important for wildlife
Uplands	Upland Sonoran Desert Scrub	Palo Verde-Bursage community
	Desert grassland	Desert grasses, cacti

The habitat classification map for Pima County may be viewed at: <http://rfcd.pima.gov/>. For regulatory and simplification purposes, the County ordinance and associated maps identify three classifications of riparian habitat: Important Riparian Areas (IRA), Hydro-riparian/Meso-riparian (Class “H”), and Xero-riparian classes “A” through “D”, where A is has dense vegetation (>0.85 m³/m²), and Xero-riparian D is less dense (≤0.50 m³/m²), lower structure vegetation found along the floodplain fringe. The sandy bottom channel and associated obligate and facultative wetland species, where present, are classified as Hydro-riparian/ Meso-riparian. This map shows that along the main stem of the Upper Santa Cruz River, most areas currently transition directly from Hydro-riparian/Meso-riparian into undesignated upland plant/habitat community, with no adjacent Xero-riparian habitat as one would expect in a more natural riverine condition. The main channel currently has Xero-riparian habitat along the margins in only a few

limited reaches, mainly at major or undeveloped tributaries confluences and downstream of wastewater treatment effluent discharges. Reaches that preserve buffers of Xero-riparian plant communities include areas of Madera Canyon Wash and Box Canyon Wash in the Santa Rita Mountains of the Coronado National Forest, the Hughes, Airport, Julian, Arroyo Chico, Rillito, and Canada del Oro Washes, and river reaches downstream of the Roger and Ina Road Wastewater Treatment Plant effluent release points.

Numerous undeveloped upper tributaries to the Upper Santa Cruz River Watershed Sub-basin preserve high quality Xero-riparian habitats, including Sopori Wash, Fagan and Lee More Washes, and the upper reaches of the Canada del Oro Wash system in Pima County, and areas upstream of Amado in Santa Cruz County (note: tributaries located in alternate sub-basins are not listed herein).

The Upper Santa Cruz River floodplain upstream of Pima County in the Tubac region of Santa Cruz County (Rio Rico to Amado) was the subject of a multi-disciplined health assessment through partnership with Sonoran institute, Friends of the Santa Cruz River, and others. This report series documents the relatively depauperate, yet fairly stable current conditions of water quality, macroinvertebrates, birds and fish, groundwater, and riparian vegetation along the main stem of the Santa Cruz River upstream of Pima County. As part of this work, a 2006 floodplain vegetation survey in the Tubac region (Rio Rico to Amado) of the Upper Santa Cruz River reach classified percentages of Cottonwood Forest and Woodlands, Mesquite Forests and Woodlands, and Other Vegetation. In partnership with Sonoran Institute, RFCD recently received a wetlands grant from US-EPA to collect data and produce a “Reviving River” annual report series to inform development of a Lower Santa Cruz River Managing Plan, as required by the City of Tucson and Pima County Water Study (www.tucsonpimawaterstudy.com/). This work will include collection of new data and a compilation of existing current aquatic resource conditions, similar to the Sonoran Institute’s Living River series, based on monitoring by numerous agencies including ADEQ, Friends of the Santa Cruz River, National Park Service at Tumacacori, National Weather Service, Tucson Audubon Society, and the USGS.

v. Aquatic Resource Goals and Objectives - General Amounts, Types and Locations

Goals and objectives include protection of current resources and the elements that support them, restoring functioning riparian ecosystems for support of native wildlife under current and future conditions, and an adaptive management approach to monitoring and maintenance actions.

Mitigation Areas within the Upper Santa Cruz Sub-basin include Sopori Ranch, Canoa Ranch, Upper Canada del Oro Wash at Catalina, Canada del Oro Wash at Oasis, and Canada del Oro Wash/Santa Cruz River Confluence. These specific locations are described separately in the RFCD Prospectus (*Section 4*). Within each of these mitigation areas, the general amounts, types and locations of aquatic resources the program will seek to provide will be site-specific and developed using the following goals and guidance:

- 1) Protect and maintain existing high functioning riparian habitat and other aquatic resources.
- 2) Where appropriate, improve riparian function using sustainability design techniques, including

restoration of hydrologic connections, spreading and attenuating flood flows, rainwater harvesting, mulching, temporary establishment irrigation, and others.

- 3) Focus potential re-vegetation efforts on types of native species appropriate for current and expected future conditions that will create more diverse habitat and structure, stabilize erosion-prone areas, and displace non-native invasive species.
- 4) Decrease threats, possibly including but not limited to continued groundwater decline, destructive human and livestock trespass, and invasive non-native species.
- 5) Monitor site conditions to determine impacts and adjust maintenance and management strategies as needed to increase benefits.

Through applications of this guidance, it will be possible to best preserve and enhance natural floodplain function and associated native wildlife habitat at each Mitigation Area.

vi. A prioritization strategy for selecting and implementing compensatory mitigation activities;

The specific goals and guidance listed previously will be utilized, as appropriate, for each mitigation site or project based on site specific needs determined by a baseline site assessment performed by RFCD-TAS. Baseline site assessments will include a basic overview of hydrologic resources, geomorphic condition, existing vegetation classification, anthropogenic setting, on-site property condition, seasonal vegetation and wildlife species summary (primary focus on invasive species), and threats assessment. Based on site conditions, the amount of area suitable for preservation and/or active mitigation project improvements shall be identified.

vii. Explanation of How the Preservation Objectives Satisfy 332.3(h) Preservation Criteria

Preservation may provide compensatory mitigation when all the following criteria are met:

- (i) The resources to be preserved provide important physical, chemical, or biological functions for the watershed;
- (ii) The resources to be preserved contribute significantly to the ecological sustainability of the watershed. In determining the contribution of those resources to the ecological sustainability of the watershed, the district engineer must use appropriate quantitative assessment tools, where available;
- (iii) Preservation is determined by the district engineer to be appropriate and practicable;
- (iv) The resources are under threat of destruction or adverse modifications; and
- (v) The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to appropriate resource agency or land trust).

Where preservation is used to provide compensatory mitigation, to the extent appropriate and

practicable, the preservation shall be done in conjunction with aquatic resource restoration, establishment, and/or enhancement activities, except where preservation has been identified as a high priority using a watershed approach, as authorized by the USACE District Engineer.

viii. Public and Private Stakeholder Involvement

RFCD and TAS will work closely with appropriate and committed public and private stakeholders on plan development and implementation including, where appropriate, coordination with federal, state, tribal and local aquatic resource management and regulatory authorities. RFCD and TAS will coordinate on plan development and implementation. RFCD and TAS may also partner with other willing public and private stakeholder individuals and groups, especially those who have experience in the Service Area, including but not limited to Sonoran Institute, Friends of the Santa Cruz River, and Sky Island Alliance.

ix. Long-term Protection and Management

RFCD-TAS will manage all ILF Program mitigation sites in a manner consistent with program goals as stipulated in Section V herein and the long-term protection and management items as follows:

- (a) Protect Water Resources: Flood control structures or other active floodplain management activities are not permitted, unless related to public safety and approved by RFCD-TAS and USACE. Drainage through the mitigation properties will not be altered, disturbed, or obstructed in any way inconsistent with maintenance of water harvesting needs and preservation of natural floodplain function. All approved construction, maintenance, or other activities that cause disturbance are subject to all applicable codes and ordinances, including riparian habitat protection and mitigation requirements per Pima County Code Title 16 Chapter 16.30.
- (b) Vegetation Management: Any supplemental planting, pruning, or vegetation thinning will only be done with the intended outcome being to preserve, enhance, and/or protect the riparian resource function and habitat quality. The introduction of non-native plant or wildlife species shall be prohibited. As a component of a monitoring and adaptive management program, non-native plants will be managed to reduce threats to species diversity and public safety.
- (c) Public and other use: Public access and passive recreation that does not negatively affect the natural floodplain function is allowable within the mitigation property. RFCD-TAS approved educational and scientific research will be permitted as long as the activity is in compliance with ILF Program goals or implied intent; research project presentations and publications require the approval of RFCD-TAS. In mitigation site locations negatively affected by past or future public use, illegal dumping, agricultural trespass, or similar negative anthropogenic disturbance, exclusion fencing and/or signage will be constructed. No motorized vehicle use in the floodplain will be permitted on the mitigation property except as required for emergency, maintenance, or other necessary uses approved by RFCD-TAS. No overnight camping activities will be permitted.
- (d) Disturbance in pre-existing easements: Where applicable, any construction, maintenance, or other activities that cause disturbance within existing platted easements are subject to all applicable codes and ordinances, including riparian habitat protection and mitigation requirements per Pima County Code Title 16 Chapter 16.30. Mitigation plans and costs will be the responsibility of the

entity responsible for the disturbance. Easement holders will be notified of these requirements. Obsolete easements will be retired.

- (e) Fire: Mitigation property will be managed to reduce the risk of fire to adjacent private property and human life. Limited proscribed fire may be used as a management tool for vegetative waste and exotic invasive species. No non-permitted open fires shall be allowed. A perimeter fire break and fire lane entry points for emergency vehicles may be created and maintained if deemed necessary by the local fire district in order to avoid fire damage to the riparian resources and any surrounding properties. Removal of riparian habitat related to fire prevention will comply with all applicable codes and ordinances, including riparian habitat protection and mitigation requirements per Pima County Code Title 16 Chapter 16.30.
- (f) General Site Monitoring Plan: Unless site conditions warrant otherwise as determined by RFCD-TAS, general site inspections shall be done semi-annually for the five years after the completion of primary restoration efforts, annually until year ten, then biannually thereafter. General site inspection shall include photo monitoring, plus assessment of unauthorized entry, comprehensive trail and/or fence conditions, trash, general vegetation conditions, documentation of major disturbances (e.g. fire, flood, grazing, human encampments, etc.), notable weed observations, and all wildlife observations. Results shall be recorded on a standard General Site Inspection Form. Based on the general site assessment, further restoration/remediation work will be performed including invasive species management, fence repair, trash disposal, and re-vegetation, and public access may be revoked temporarily or permanently. One-off site assessments will also be performed shortly following a major known disturbance to the site. If major changes to the site are determined to have occurred after remediation work has been accomplished the general site inspection schedule will restart at the initial semi-annual frequency.
- (g) Maintenance Plan: RFCD-TAS will conduct or contract maintenance and other activities to facilitate achievement of preservation objectives. Routine maintenance may include invasive species management as needed to reduce threats to species diversity and public safety. Upon notice or observation of maintenance need, corrective action will be undertaken and documented within 90 days or as soon as RFCD-TAS resources and workload permit. Maintenance activities may be recorded on the General Site inspection form or on a separate maintenance form, as deemed appropriate by RFCD-TAS.
- (h) Vegetation Monitoring Plan: Vegetation monitoring protocol may vary depending on degree and phasing of any vegetation enhancement mitigation as deemed appropriate by RFCD-TAS. A detailed site-wide vegetation survey in areas with active mitigation or restoration improvements shall be done pre-project to establish a baseline for measuring the success of restoration work. Photo monitoring points will be established. After planting or seeding activities are finished plant inventories and site assessments will be done as appropriate to document project establishment and species succession, and determining best management of invasive species.
- (i) Bird Monitoring Plan: TAS has an established and standardized bird monitoring protocol system which may be used to monitor these sites. The timing and frequency of these bird monitoring

surveys would be site specific and established on the judgment of RFCD-TAS. With a core group of trained staff members in bird survey techniques and a standardized system of protocols and data sheets developed in cooperation with the Arizona Game & Fish Department's Heritage Data Management System (HDMS), TAS is especially well equipped to monitor the restoration efforts for impacts on wildlife habitat through bird surveys.

- (j) Record keeping: RFCD-TAS will maintain organized, site-specific records of site information, including any initial/baseline assessments, mitigation plans and/or activities, General Site Inspection Forms, Photo Monitoring, and Vegetation Monitoring Forms and results, maintenance notes, and any other applicable site-related information.

x. Evaluation, Reporting, and Program Management

The scope of the proposed ILF Program is focused on preserving and/or enhancing aquatic resources, including natural floodplain function, for current and expected future conditions, using best management practices (BMPs), site appropriate techniques and adaptive management strategies. The performance standards for mitigation activities will be considered met if RFCD-TAS maintains organized, site-specific records of all site information documenting initial condition and progress to date of any project as specified in the ILF Implementation Instrument. Events that are outside of the control of RFCD-TAS, such as wildfire, flooding, erosion, prolonged drought, pestilence, climate change, groundwater elevation changes, etc., or other watershed management decisions beyond the control of RFCD-TAS, shall not require extraordinary management activities other than appropriate documentation and implementation of adaptive management in concurrence with Program goals and objectives specified herein.

xi. Additional Information

RFCD-TAS will supply other information for effective compensation planning as deemed necessary by the USACE District Engineer.

B. Description of Program Account: The Regional Flood Control District will establish a special ILF Program account and individual mitigation project site sub-accounts through the Pima County Finance Department. All funds will be held in the program account which will be established at a financial institution that is a member of the Federal Deposit Insurance Corporation. Sub-account funds will be managed by the District via the Pima County Treasurer's Office. The terms and conditions contained within the ILF Instrument and approved mitigation plans will govern fund expenditures that will be dedicated to the design, implementation and management of each specific in lieu fee mitigation project as well as program administration.

RFCD will maintain detailed accounting records in an electronic database of each and every ILF transaction identifying the credits sold and monies accepted for each specific project.

In accordance with the Mitigation Rule, RFCD will submit to the District Engineer for distribution to the

IRT as appropriate an annual ledger report including the following information:

- All income received, disbursements, and interest earned by the ILF Program account;
- A listing of all Corps permits for which ILF Program funds were accepted including the permit numbers, the service area in which the authorized impacts are located, the amount of authorized impact, the amount of required compensatory mitigation, the amount paid to the ILF Program, and the date the funds were received from the permittee;
- A description of the ILF program expenditures from the account including any costs associated with land acquisition, planning, construction, monitoring, maintenance, adaptive management and program administration;
- The balance of any advance credits and release credits at the end of the report period for each designated service area;

In addition to this Program accounting information, a summary of mitigation activities performed during the designated reporting period will be provided for comparison to the mitigation plan and its approved monitoring requirements in order to determine the level of success of the on-going program and to identify any developing problems that require remedial action. It is anticipated that this monitoring report shall include photo documentation, as well as a detailed comparative analysis with respect to the performance plan and standards, and include a description of any proposed modifications should standards not be adequately met. Additionally, to the extent required by the District Engineer, a financial assurance status report will also be submitted on an annual basis.

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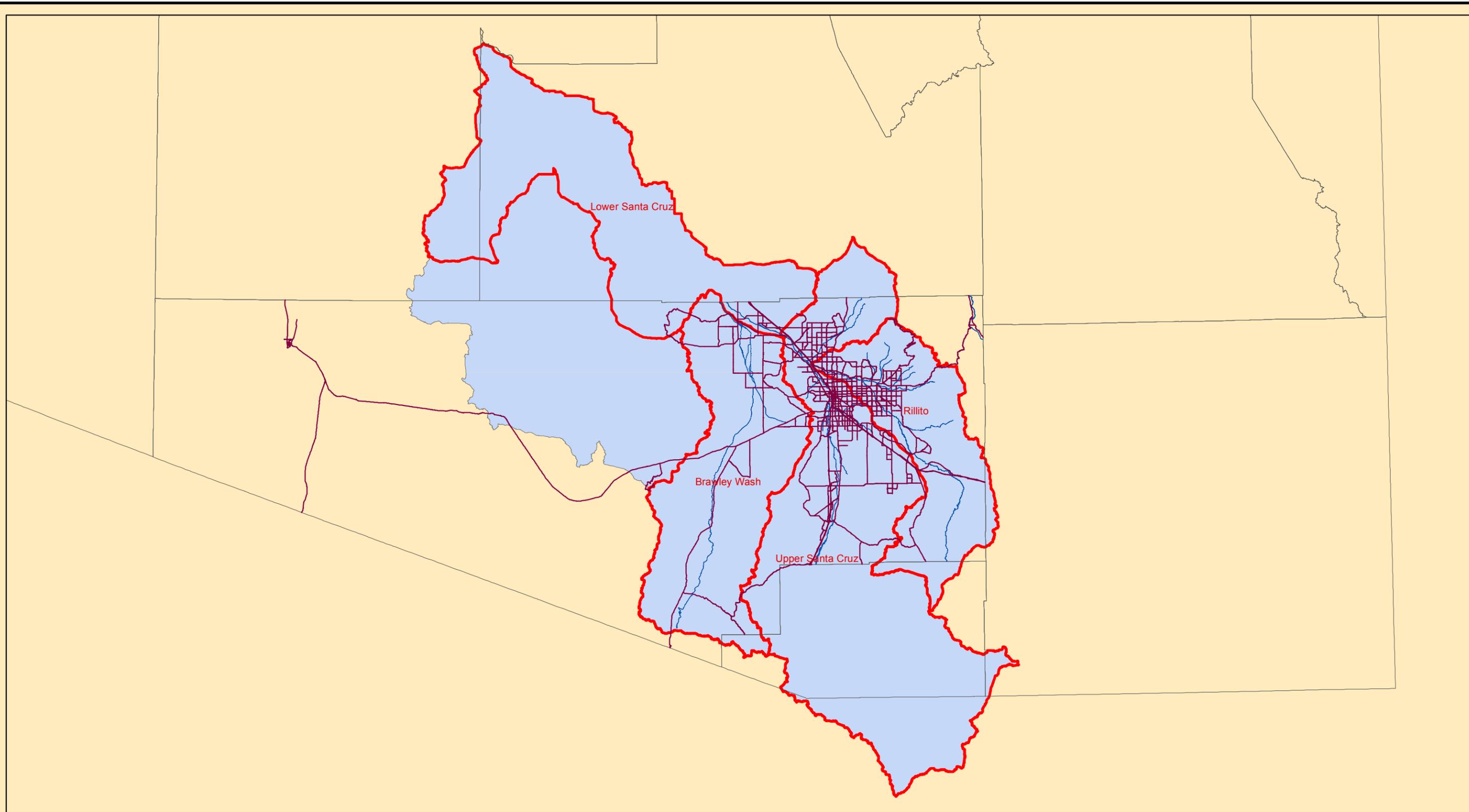
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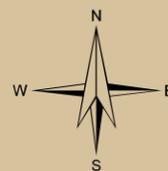
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Santa Cruz Basin and Major Subbasins

Figure 1

1 inch = 100,565 feet

-  Major Streets
-  Major Washes
-  County Boundary
-  Subbasins
-  Santa Cruz Basin



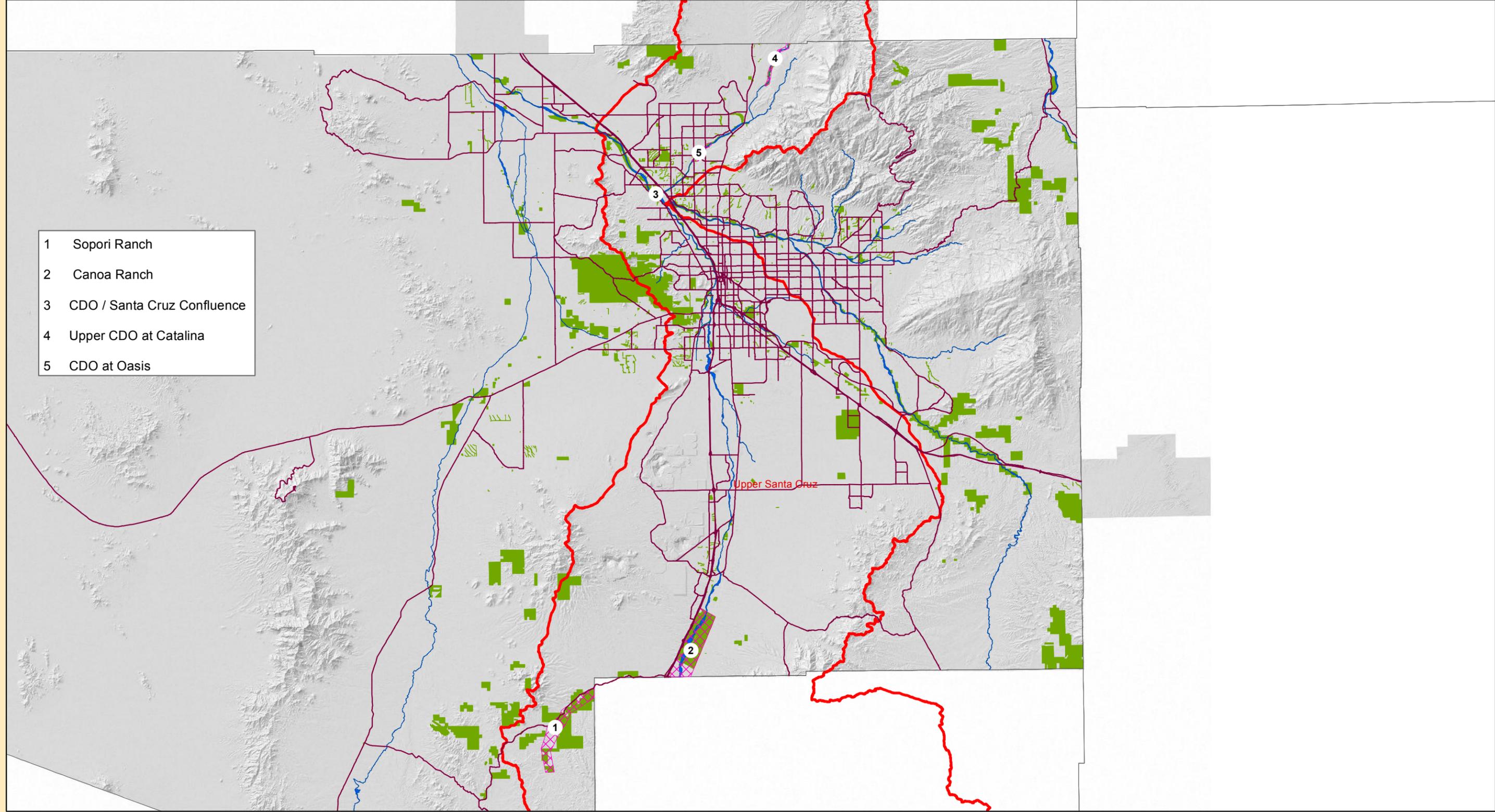
0 25,000 51,000 102,000 153,000 204,000
 Feet

Date: 11/20/2012

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- 1 Sopori Ranch
- 2 Canoa Ranch
- 3 CDO / Santa Cruz Confluence
- 4 Upper CDO at Catalina
- 5 CDO at Oasis

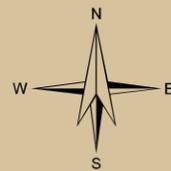


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Upper Santa Cruz

Figure 2

-  Major Streets
-  Subbasins
-  Potential Areas
-  Major Washes
-  County Boundary
-  Pima County Owned Parcels

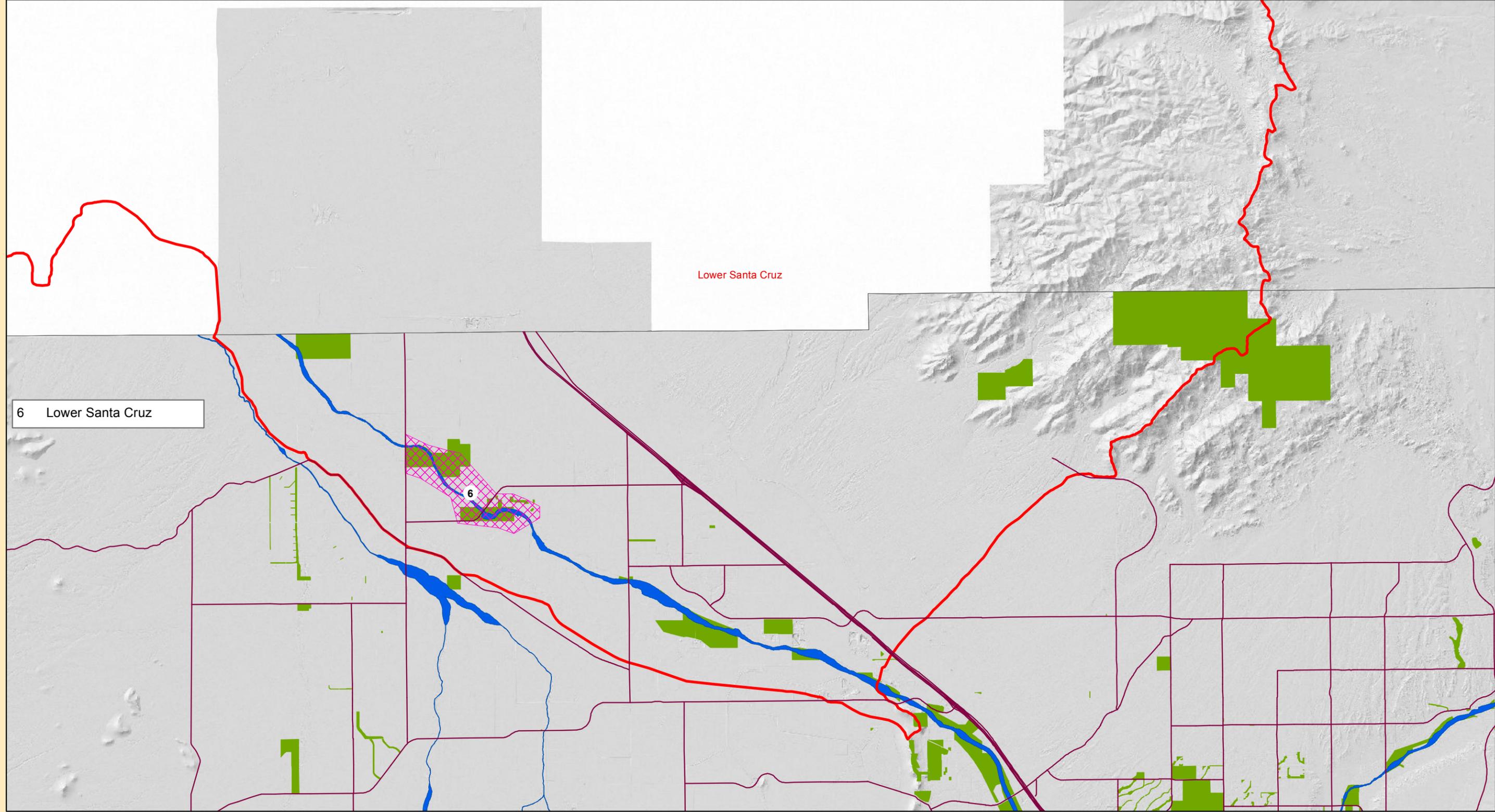


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Lower Santa Cruz

6 Lower Santa Cruz

-  Major Streets
-  Subbasins
-  Potential Areas
-  Major Washes
-  County Boundary
-  Pima County Owned Parcels



Lower Santa Cruz

Figure 3

1 inch = 9,260 feet



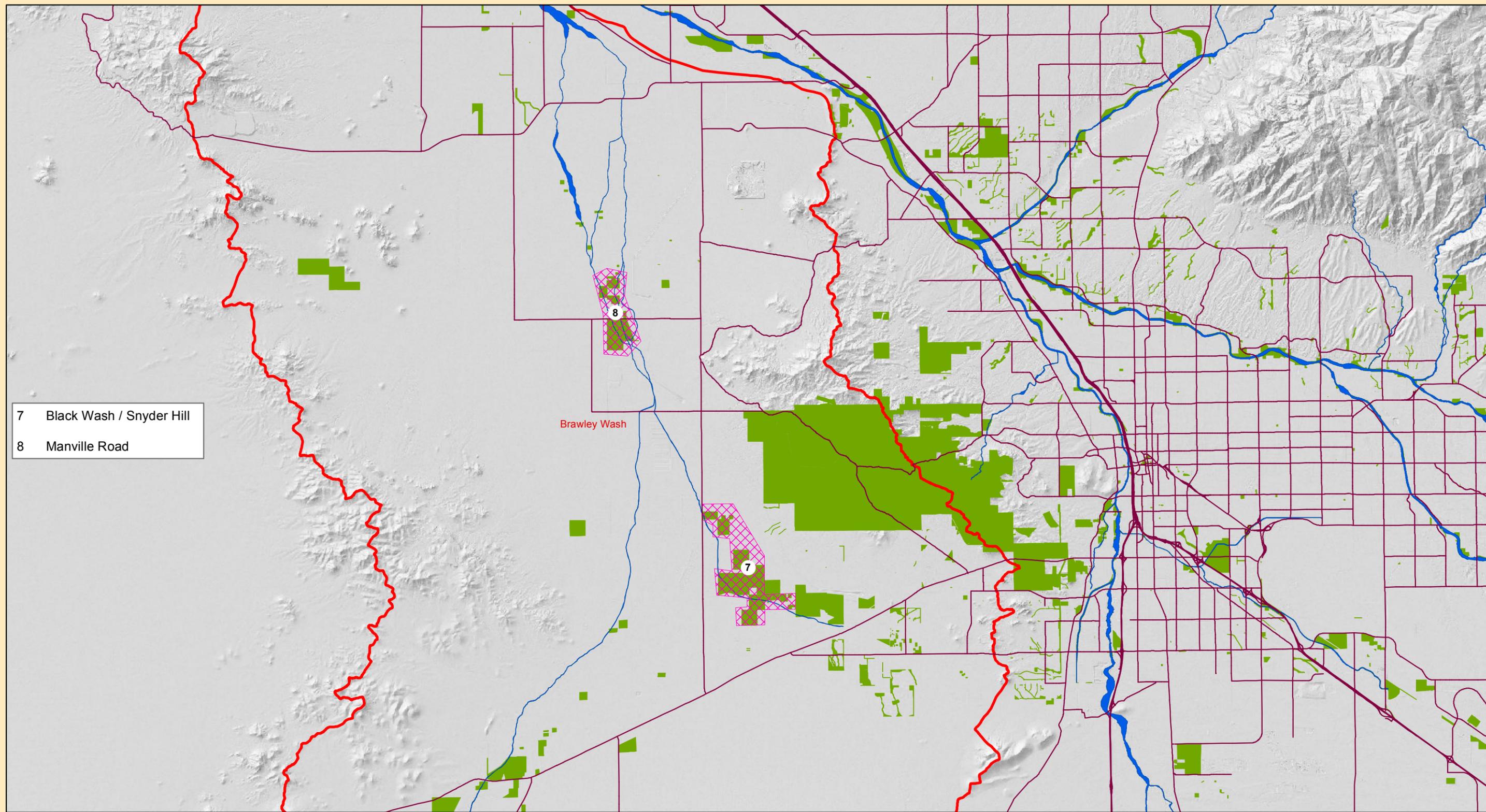
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- 7 Black Wash / Snyder Hill
- 8 Manville Road

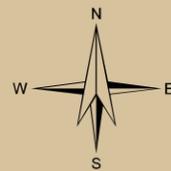
Brawley Wash



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Brawley
 Figure 4

- Potential Areas
- Major Streets
- Subbasins
- Major Washes
- County Boundary
- Pima County Owned Parcels



1 inch = 16,221 feet

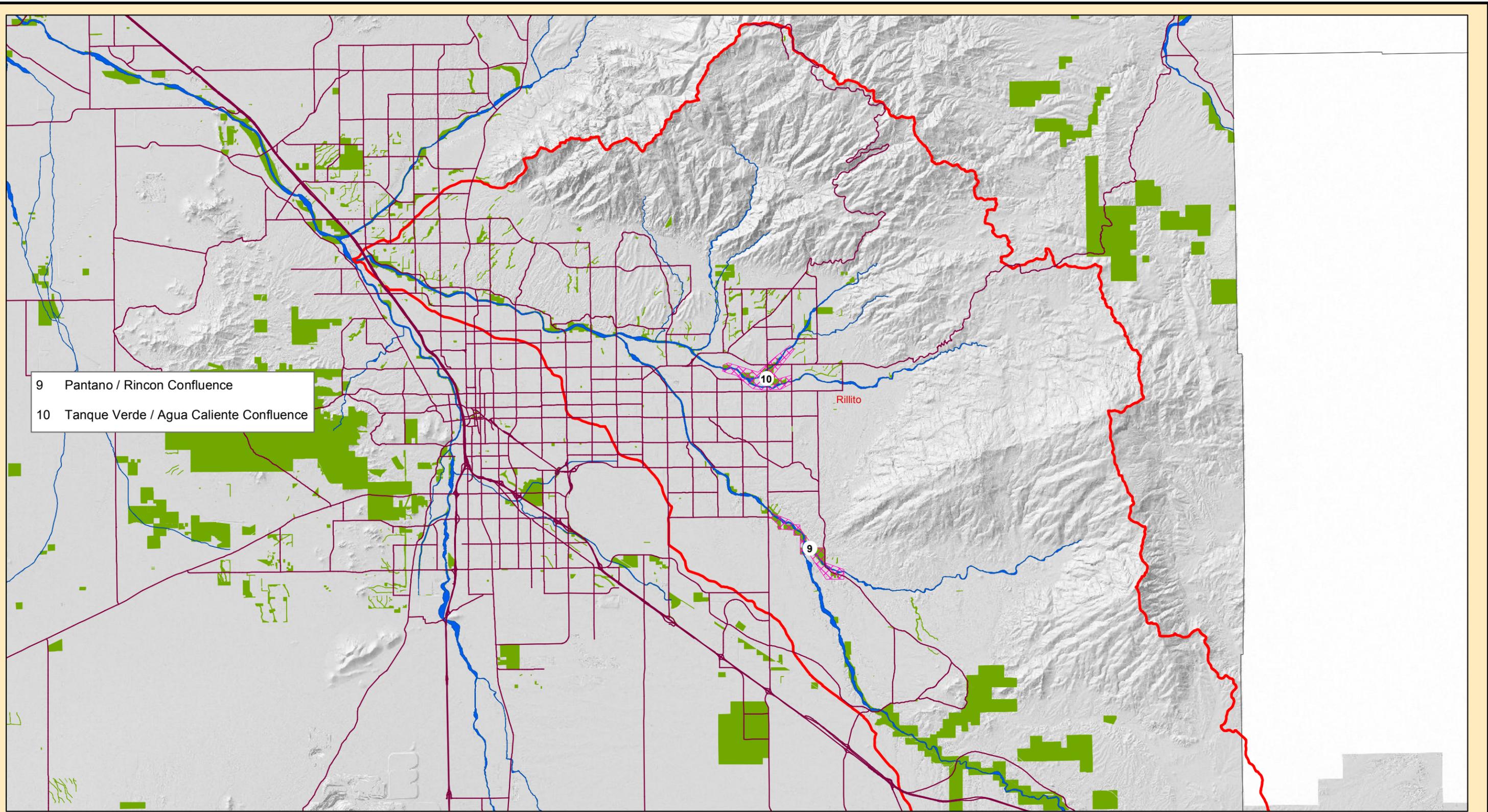
0 4,100 8,200 16,400 24,600 32,800 Feet

Date: 11/20/2012

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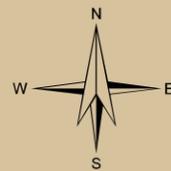
- 9 Pantano / Rincon Confluence
- 10 Tanque Verde / Agua Caliente Confluence


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Rillito

Figure 5

-  Major Streets
-  Subbasins
-  Potential Areas
-  Major Washes
-  County Boundary
-  Pima County Owned Parcels



1 inch = 19,727 feet

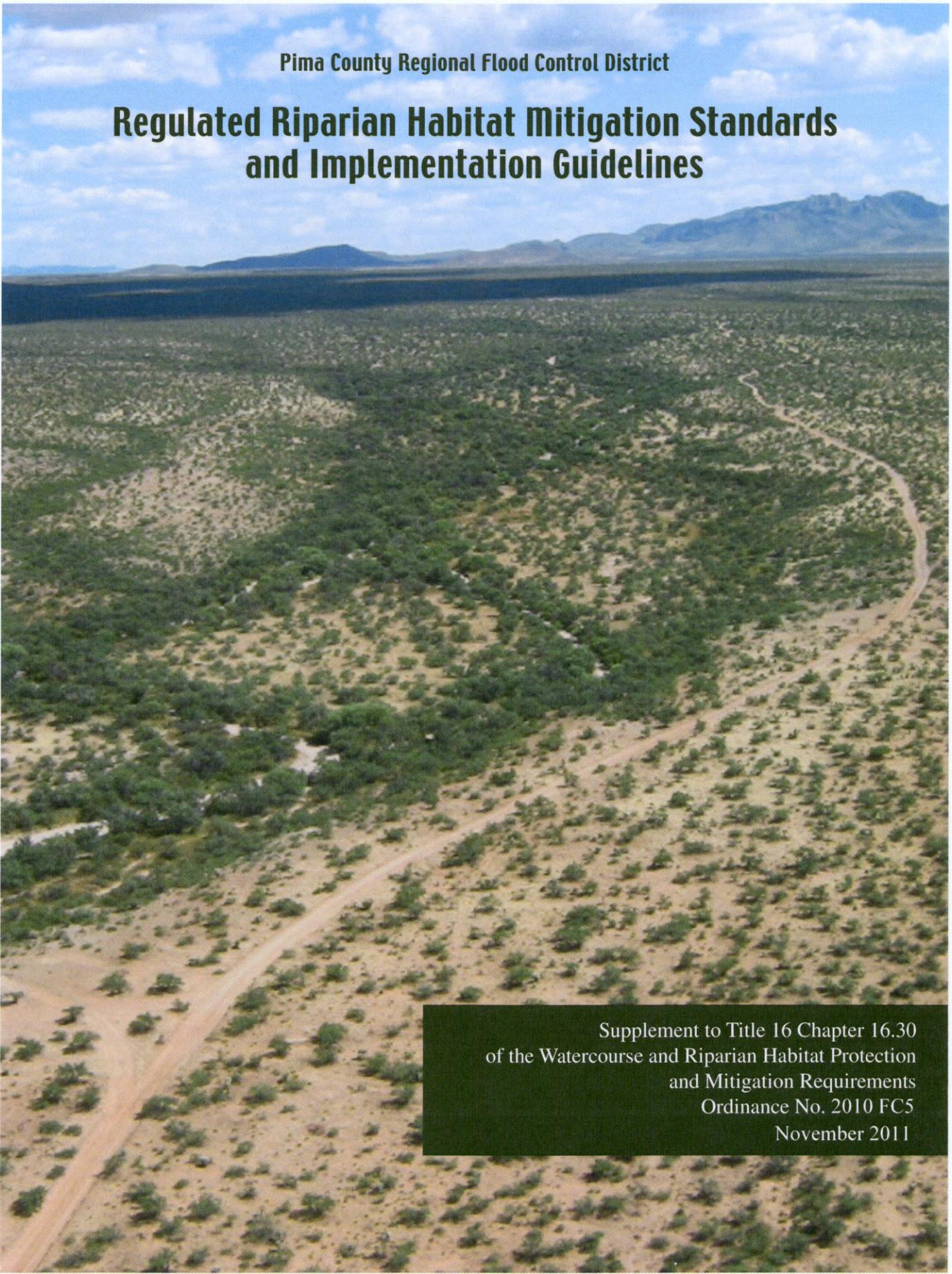


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An aerial photograph of a riparian habitat. A winding watercourse, likely a river or stream, flows through a landscape of dense, green vegetation. The surrounding area is a mix of green shrubs and sandy soil. In the background, there are rolling hills and mountains under a blue sky with scattered white clouds.

Pima County Regional Flood Control District

Regulated Riparian Habitat Mitigation Standards and Implementation Guidelines

Supplement to Title 16 Chapter 16.30
of the Watercourse and Riparian Habitat Protection
and Mitigation Requirements
Ordinance No. 2010 FC5
November 2011

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