



201 N. Stone Ave., 9th Floor
Tucson, AZ 85701-1797

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The Pima County
Regional Flood Control District
**has developed a
management plan
for your watershed.**
See what we plan to do for you!

Protect Yourself from Flooding

A floodplain is defined as an area that is inundated by a flood that has a 1 percent chance of occurring annually. That means that over the duration of a 30-year mortgage, there is a 26 percent chance of being flooded. History has shown that structures built in conformance with floodplain regulations sustain less flood damage – or no damage at all – compared to structures that are not. If your structure was built before 1974 or before the flood hazards were identified, your structure may not be adequately elevated. There are permanent retrofitting techniques that can offer protection from flood damage. See the **Prepare Before the Flood Comes** section for specific ways to protect yourself, your loved ones, and your property. Contact the District for technical assistance and suggestions on the best ways to protect your structure.

Purchase Flood Insurance

Flood damage is not covered under homeowners insurance. A separate policy must be obtained from your agent for your home and its contents. Renters should contact an insurance professional to inquire about the cost of contents insurance. Within Special Flood Hazard Areas (SFHA), insurance is required for any federally backed mortgages. Pima County residents within the SFHA receive a 25% discount off premium rates. Within local floodplains, insurance is not required, but is recommended and may be available at an affordable rate.

Prepare Before the Floods Come

Prepare an evacuation plan with several alternate routes to safe locations. The Pima County road closure hotline number is **520-547-7510** and a list of roads affected by flooding is available at: pima.gov/government/transportation/.

In addition to having sandbags on hand, prepare a secure and watertight trash can supplied with:

- First Aid Kit
- Clothing & Bedding
- Non-perishable Food & Can Opener
- Medications & Sanitation Supplies
- Work Gloves
- Fire Extinguisher
- Drinking Water
- Plastic Tarps & Duct Tape
- Flashlight, Radio & Batteries
- Cash or Traveler's Checks
- Utility Shut-off Wrench
- Pliers, Axe & Shovel

Flood Warning

Flood warnings are broadcast via local radio, television stations and online at: emergencyalerts.pima.gov.

The District operates ALERT sensors that help to initiate warnings. Monitoring streamflow depth and rainfall for your local area can be found at: www.pima.gov/ALERTsystem.

The Pima County Office of Emergency Management is committed to alerting you when emergencies do occur, and providing rapid information to help you stay informed and safe. Sign up at: myalerts.pima.gov to create a profile to receive alerts about areas and events that are important to you.

Property Purchases – Disclosure Requirements

Property sellers are required to notify buyers if the parcel lies within a FEMA SFHA and that flood insurance will be required for federally backed mortgages. Real estate disclosure laws may not require a seller to notify the buyer if the property is outside of a SFHA, but within a locally mapped or FEMA Other Flood Hazard Area. Prospective buyers, owners or agents should contact the District to determine if a property is impacted by these or other flood hazards. The District has a Flood Hazard Information Form available to help you identify hazards on the parcel. The form can be found by going to: pima.gov/floodcontrol/ and clicking on the Forms link in the right column.



BE FLOOD SAFE
www.pima.gov/BeFloodSafe

FLOOD OUTREACH MAP
www.rfcd.pima.gov/FloodOutreachMap



Regulations in Flood Zones

A Floodplain Use Permit (FPUP) is required for all work in or near floodplains and regulated washes. If you plan to build a wall, guest home, manufactured home, a pool, or any other improvement, contact the District prior to beginning any work to obtain an FPUP. Knowing the regulations regarding flood zones will save you time, trouble and inconvenience. If you plan home improvements and your home is not properly protected from flood damage, you may be restricted by how much you can legally improve your structure. Be sure to visit our office before you plan improvements in order to determine if these regulations apply to your project.

Drainage System Maintenance

Pima County regularly inspects and maintains public drainageways in order to allow floodwaters to stay in the wash channels and away from structures. You can play an important part in this effort by making sure not to block or obstruct drainage areas that may be in or around your property. Unimproved washes are supposed to remain natural with erosion and deposition occurring. The Floodplain Management Ordinance prohibits obstructing, diverting, or retarding flows in floodplains, washes, and channels in any way. Do not dump in washes including trash, yard waste, soil, construction debris or any other illegal materials. Even if drainage areas are partially filled or blocked, floodwaters may be diverted and cause erosion damage to surrounding properties and structures. If you suspect that there may be a floodplain violation in your neighborhood, please contact the District to report it.

Natural and Beneficial Floodplain Functions

Floodplains provide for the conveyance of floodwater as well as other natural and beneficial functions. Riparian areas are the green belts along rivers and streams. These habitats are among the most valuable natural resources in Pima County, providing abundant vegetation, improved water quality, erosion protection, soil stabilization, open space, and groundwater replenishment. Riparian areas also provide corridors for wildlife and are particularly important for cover, forage, and nesting habitat for both resident and migratory birds. Protect yourself and others by not damaging or destroying riparian habitat. Using techniques found in the Low Impact Development and Green Infrastructure Manual can help you maintain the natural floodplain functions surrounding your improvements. View the manual at: pima.gov/government/flood_control/floodplain_management/low_impact_development/.

The District's riparian habitat regulations encourage avoidance and requires mitigation when avoidance cannot be achieved. Habitat classification maps of specific areas including the Cañada del Oro, Tanque Verde, and Brawley watersheds can be viewed at: gis.pima.gov/apps/floodhazard/.

Never Cross a Flooded Road

Motorists can be cited, fined, and even arrested for ignoring or removing a traffic sign or barricade. Even if no barricade exists, do not risk getting stuck or swept downstream in a flooded wash. Plan for floods by knowing the safe routes to places of shelter. **TURN AROUND, DON'T DROWN!**



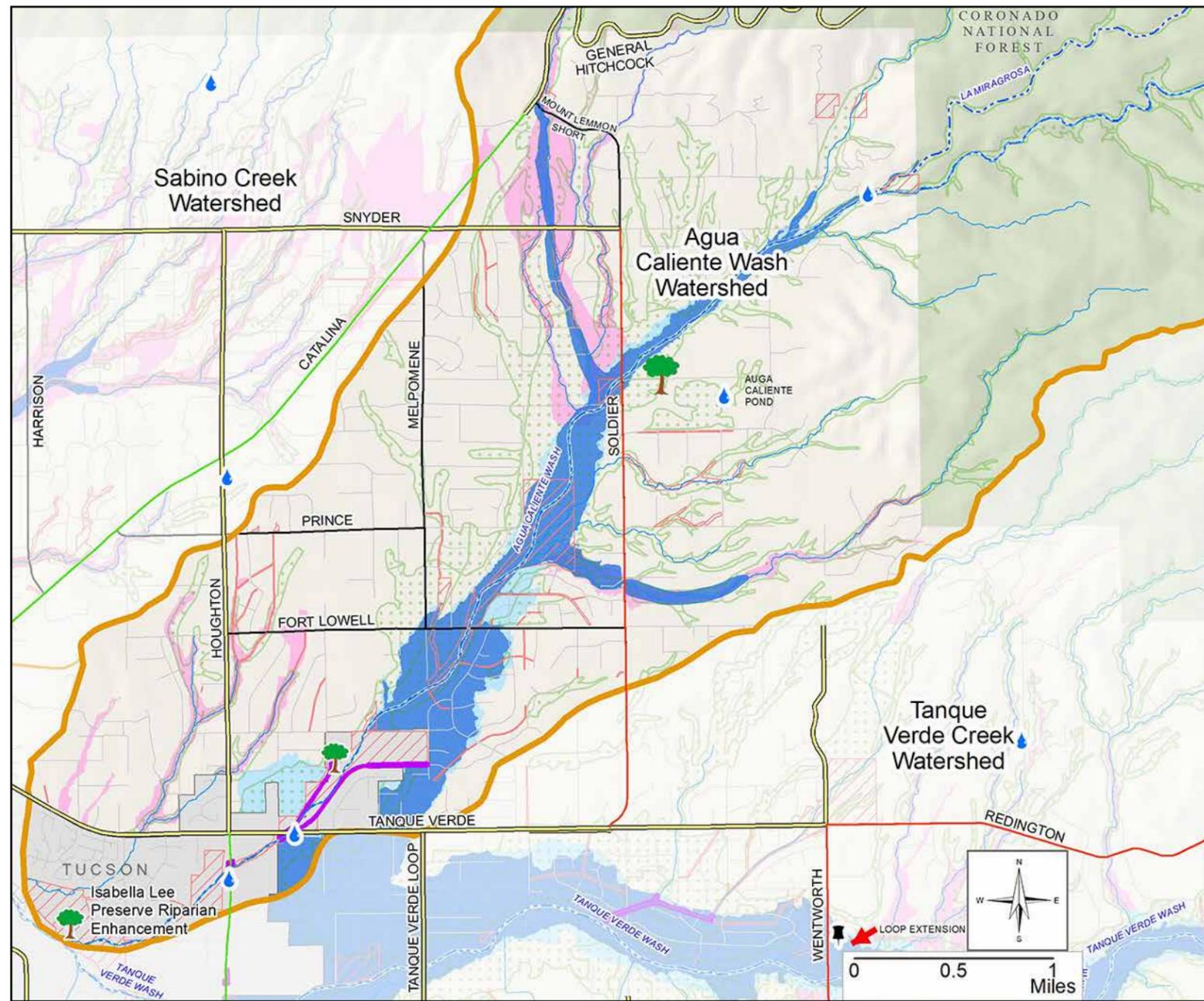
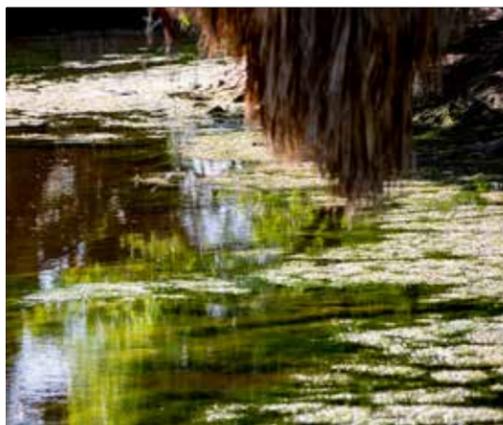
Board of Supervisors

- Ramón Valadez, Chair, District 2
- Ally Miller, District 1
- Sharon Bronson, District 3
- Stephen W. Christy, District 4
- Betty Villegas, District 5

Pima County Administrator
Chuck Huckelberry

Agua Caliente Wash

The Agua Caliente Wash's headwaters originate in the Santa Catalina Mountains at an elevation of about 5,000 feet above sea level. This watershed contains some of the largest networks of springs, surface flows and shallow groundwater anywhere in Pima County. Just upstream of Tanque Verde Road, the Agua Caliente levee has been built to direct floodwater under the Tanque Verde Road Bridge. Agua Caliente Wash and its tributaries impact hundreds of properties, and the District has documented flooded structures due to flooding from this watercourse. Flows may also create unsafe road crossings and limit property access when water is flowing. In this area it is important to plan ahead to find safe alternate routes and purchase flood insurance. This watershed contains 3,821 acres of SFHA, 3,646 acres of locally identified floodplain and 12,232 acres of Regulated Riparian Habitat.



Agua Caliente Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

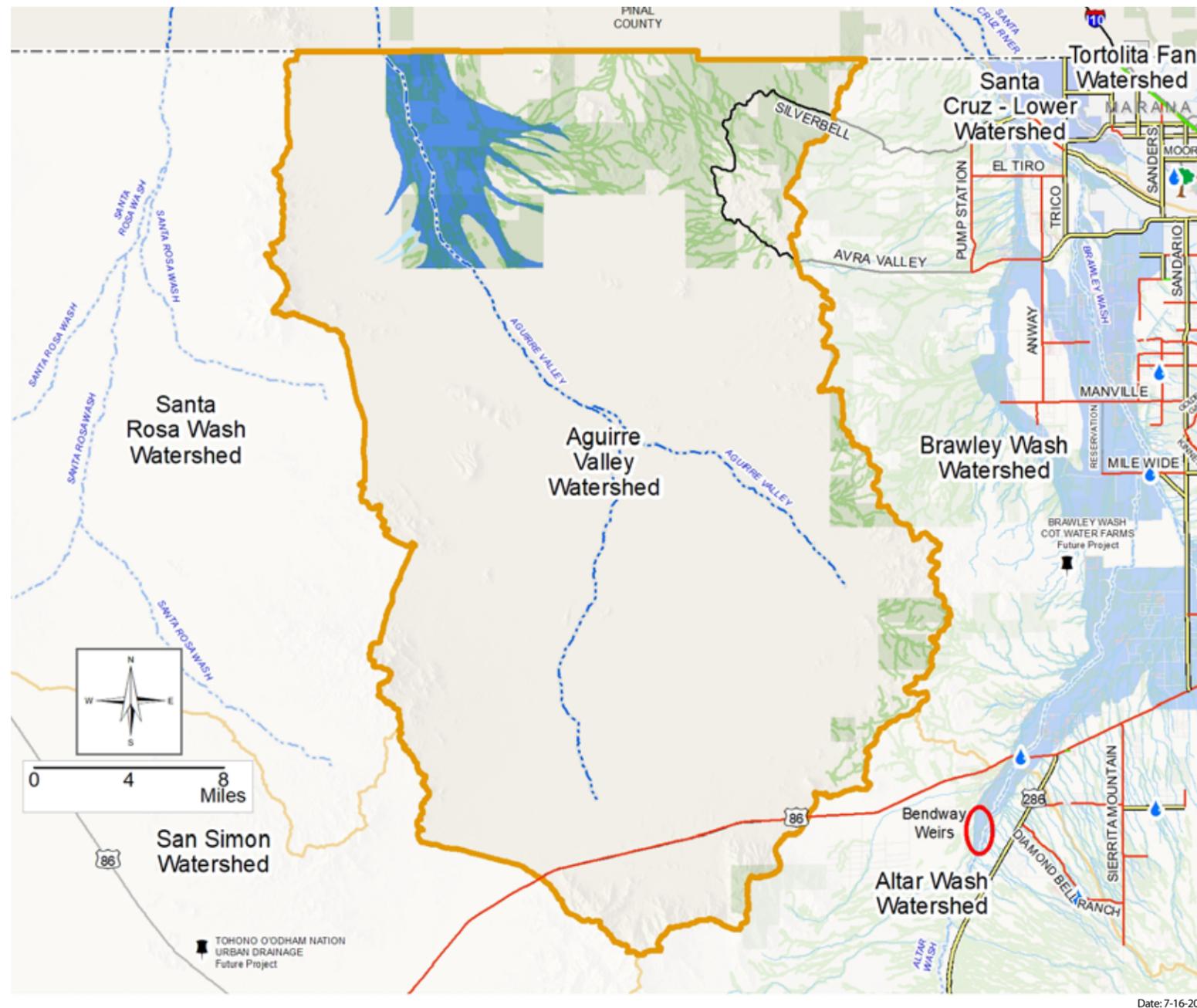
- Address erosion near Soldier Trail
- ALERT warning system outreach
- Conduct targeted outreach about improvements to nonconforming use structures and flooded road access issues
- Identify areas of shallow groundwater
- Identify area with risk of impact by debris flows
- Identify existing development at risk from flooding
- Identify floodprone properties to acquire
- Identify undersized infrastructure
- Outreach to repetitive loss properties
- Provide technical assistance to property owners related to bank reclamation
- Riparian habitat preservation
- Work with responsible parties to address flooded road access issues



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Aguirre Valley Wash

The watershed originates at Kitt Peak in the Coyote and Quinlan Mountains. The Roskrige Mountains and Silver Bell Peak bound it on the east. On the west, the North Comobabi and Santa Rosa Mountains bound it. The washes draining this watershed disappear into deep alluvium just north of the County border south of Tat Momoli Dam at mostly dry Lake St Claire. Eighty seven percent of this watershed is within the Tohono O'odham Nation. This watershed is comprised of 416,192 acres and contains 18,927 acres of SFHA and 6,922 acres of Pima County Regulated Riparian Habitat.



Aguirre Valley Wash Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

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Action Plan recommendations and District needs identified include:

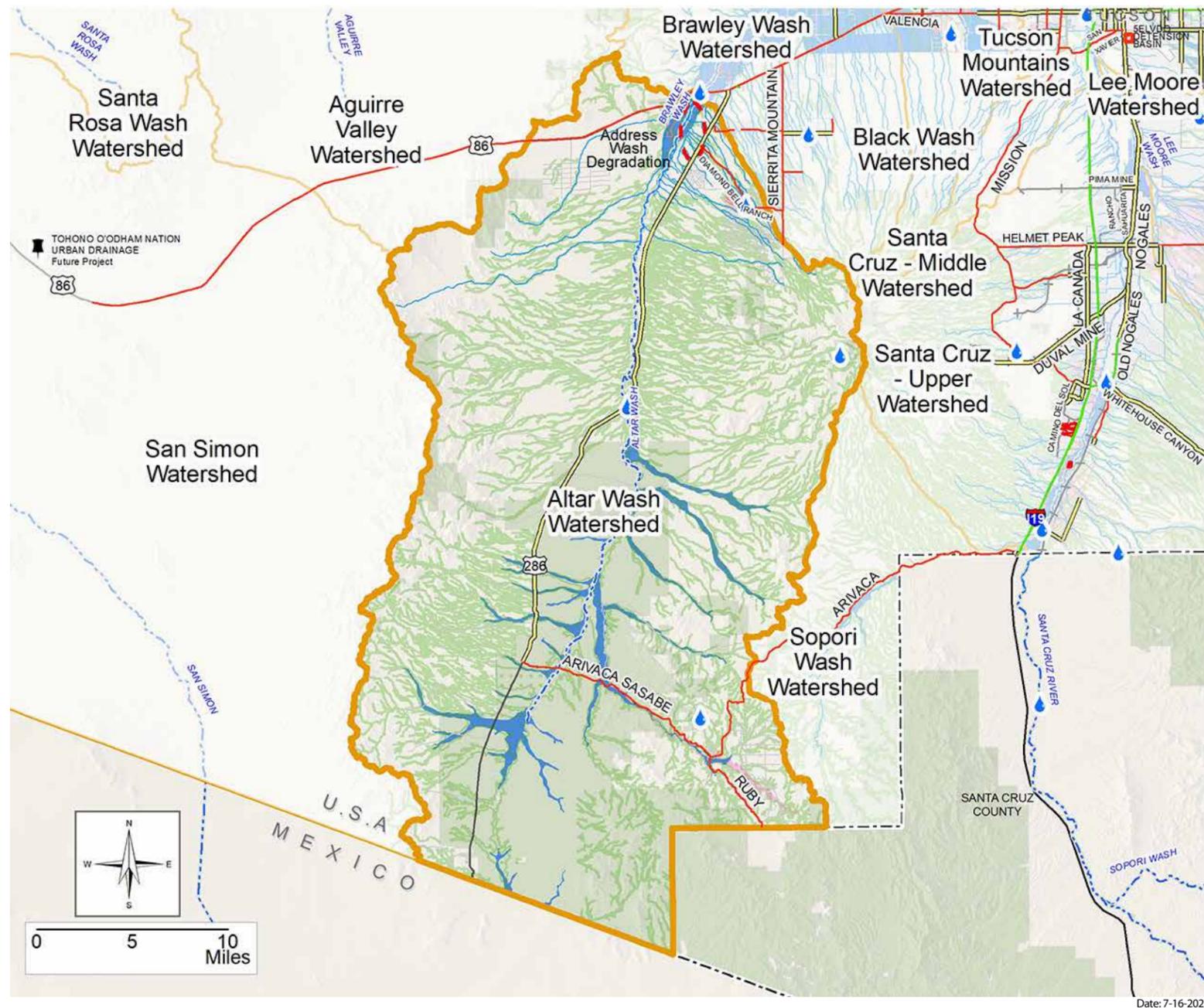
- Continue to regulate any improvements within approximate FEMA Special Flood Hazard Areas
- Conduct outreach about improvements to nonconforming use structures and flooded road access issues



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Altar Valley

The Altar Wash drains the eastern slopes of the Baboquivari Mountains as well as the western slopes of the Sierrita Mountains south of State Route 86 and extends to the south over 30 miles to its headwaters near Mormon and Aguirre lakes, which are within the Buenos Aires National Wildlife Refuge. Flood risks vary in Altar Valley, but sheetflow flooding from the tributaries of the Sierrita Mountains is the dominant type of flooding that affects area residents. While sheetflow flooding is generally fairly shallow, it is also very widespread and makes accessing properties difficult due to the prevalence of unmaintained dirt roads. In sheetflow floodplains, it is important to protect homes from flooding and obtain flood insurance, but it is not appropriate to protect entire properties as this makes flooding worse for neighbors. The main stem of the Altar Wash has experienced severe downcutting and has become a deep canyon in some places with the threat of lateral migration being the primary flood risk factor. This watershed, which includes Arivaca Creek, is 356,123 acres and contains 13,086 acres of SFHA, 44,380 acres of locally identified floodplain and 55,404 acres of Pima County Regulated Riparian Habitat.



Altar Valley Wash Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

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Action Plan recommendations and District needs identified include:

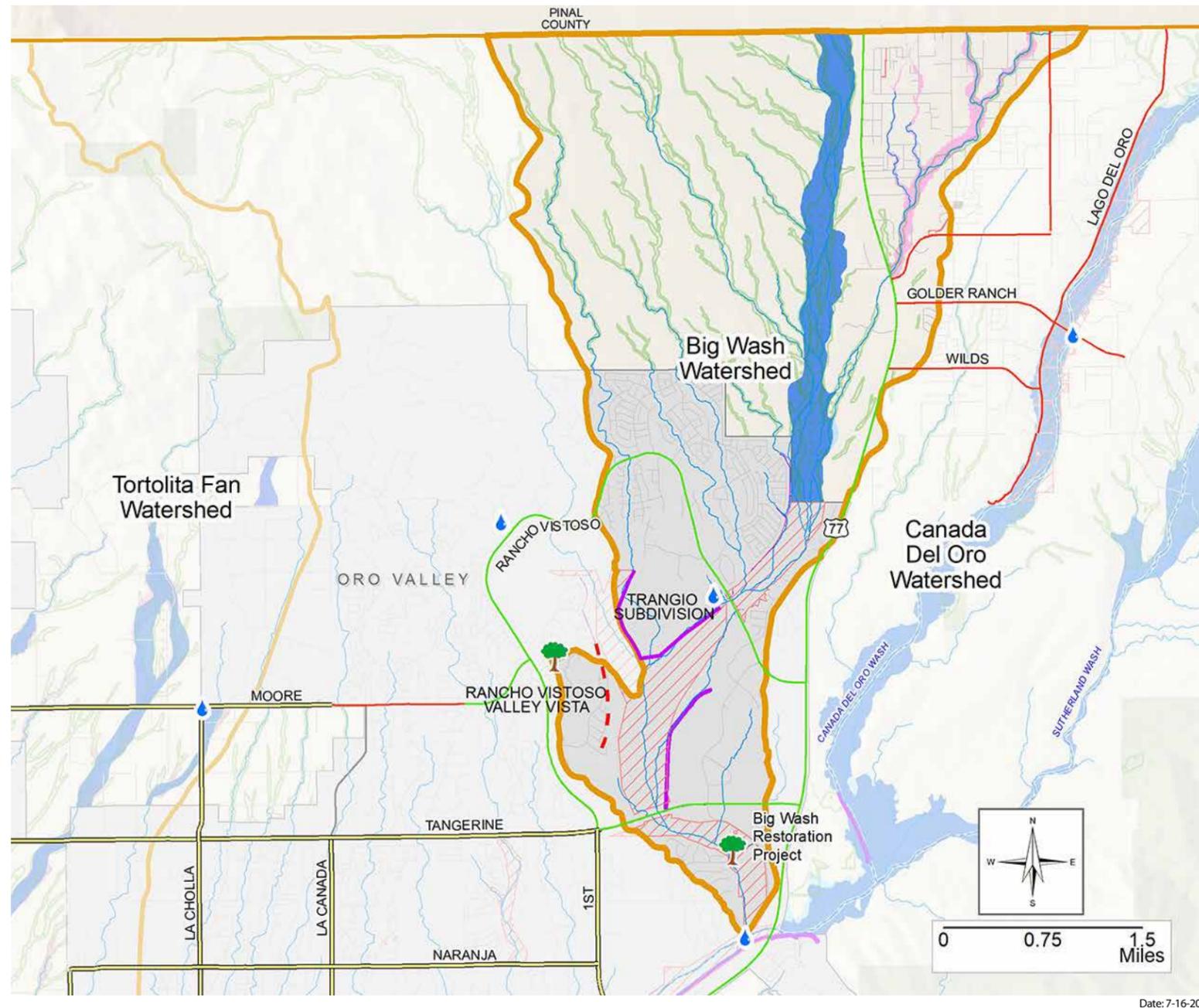
- Conduct detailed mapping of approximate FEMA Special Flood Hazard Areas
- Conduct detailed mapping of approximate sheet flood area
- Coordinate with the Altar Valley Conservation Alliance to implement watershed restoration
- Develop and implement an erosion mitigation plan using natural channel design techniques
- Enhance coordination with public and private landowners and support stakeholder work for the Altar Valley Watershed Management Grant



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Big Wash

The Big Wash, along with Sutherland Wash, drains the western slopes of the Santa Catalina Mountains and the eastern slopes of the Tortolita Mountains into the Cañada del Oro Wash. The Cañada del Oro Wash and Big Wash enter Pima County from Pinal County near the community of Catalina. The Cañada del Oro Wash has very steep and rocky upper slopes and flash flooding is a significant concern. There are a number of at-grade wash crossings that can be extremely hazardous during flows, including where the Cañada del Oro Wash crosses Overton Road. Fires on Mount Lemmon can significantly increase the risk of flooding in this area. This watershed is comprised of 86,415 acres and contains 4,763 acres of SFHA, 371 acres of locally identified floodplain and 6,444 acres of Pima County Regulated Riparian Habitat.



Big Wash Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

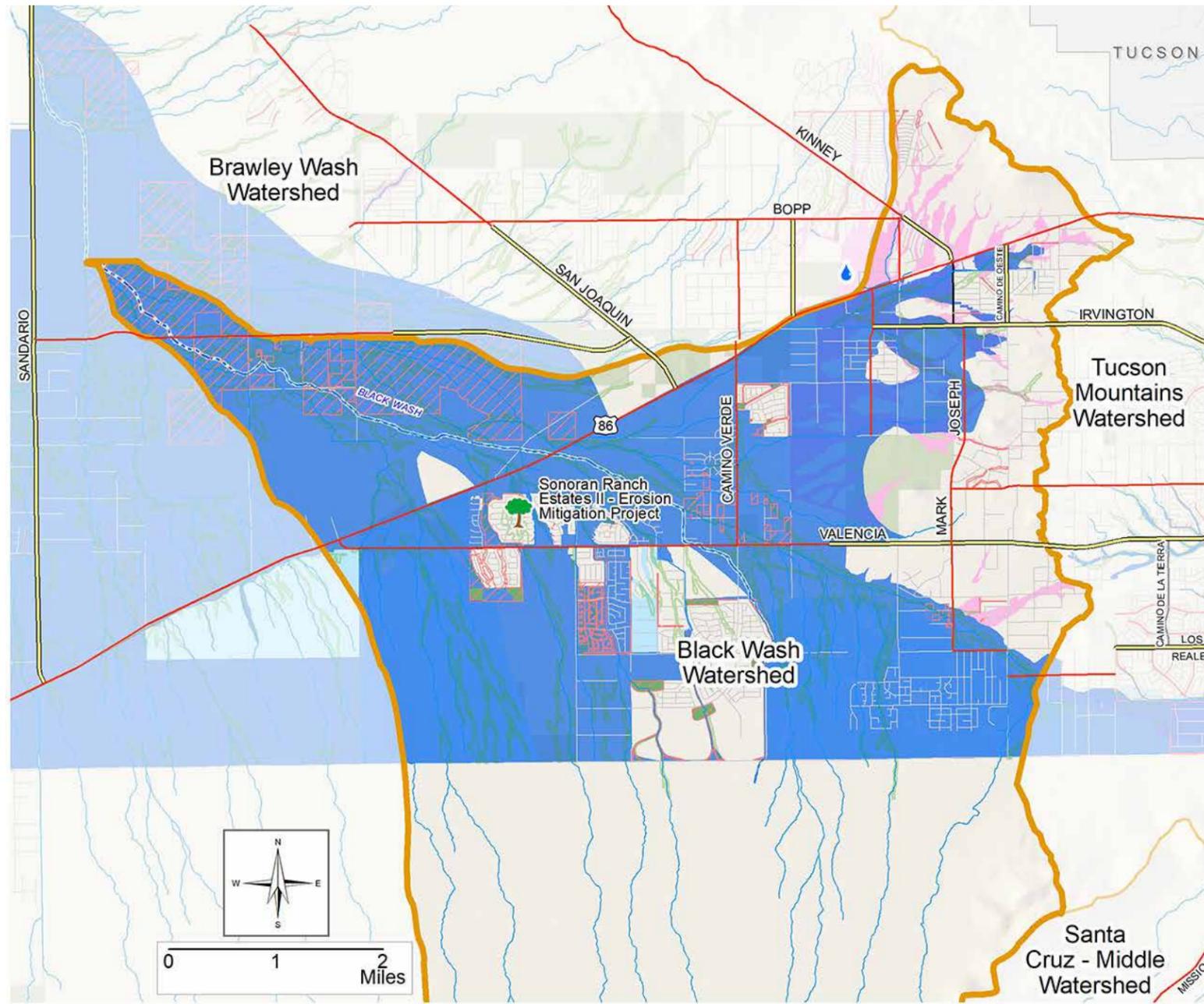
- Develop erosion hazard setbacks in mountainous areas
- Develop vegetation maintenance and open space management plans
- Enhance Loop and trail segments
- Identify existing development at risk from flooding
- Identify floodprone properties to purchase
- Identify undersized infrastructure
- Improve inter-jurisdictional coordination with the Town of Oro Valley
- Map canyon wash floodways
- Remap Twenty-Seven Mile Wash floodplains
- Work with responsible parties to address flooded roads



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Black Wash

The Black Wash's headwaters originate on Black Mountain within the San Xavier District of the Tohono O'odham Nation. Tributaries from the northeastern slopes of the Sierrita Mountains south of San Xavier join it along with those emanating from the southwestern slopes of the Tucson Mountains. These combined flows join the West Branch of the Brawley Wash near Sandario Road. Sheetflow flooding is common and the District has documented flooded structures in this area. While generally fairly shallow, sheetflow flooding is also very widespread and makes accessing properties difficult. Floodwaters may rise quickly and may be very dangerous. It is important to protect your home from flooding and obtain flood insurance in this area, but it is not appropriate to prevent your property from flooding as this makes flooding worse for neighbors. This watershed is comprised of 44,994 acres and contains 13,437 acres of SFHA, 1,977 acres of locally identified floodplain and 3,034 acres of Pima County Regulated Riparian Habitat.



Black Wash Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

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Action Plan recommendations and District needs identified include:

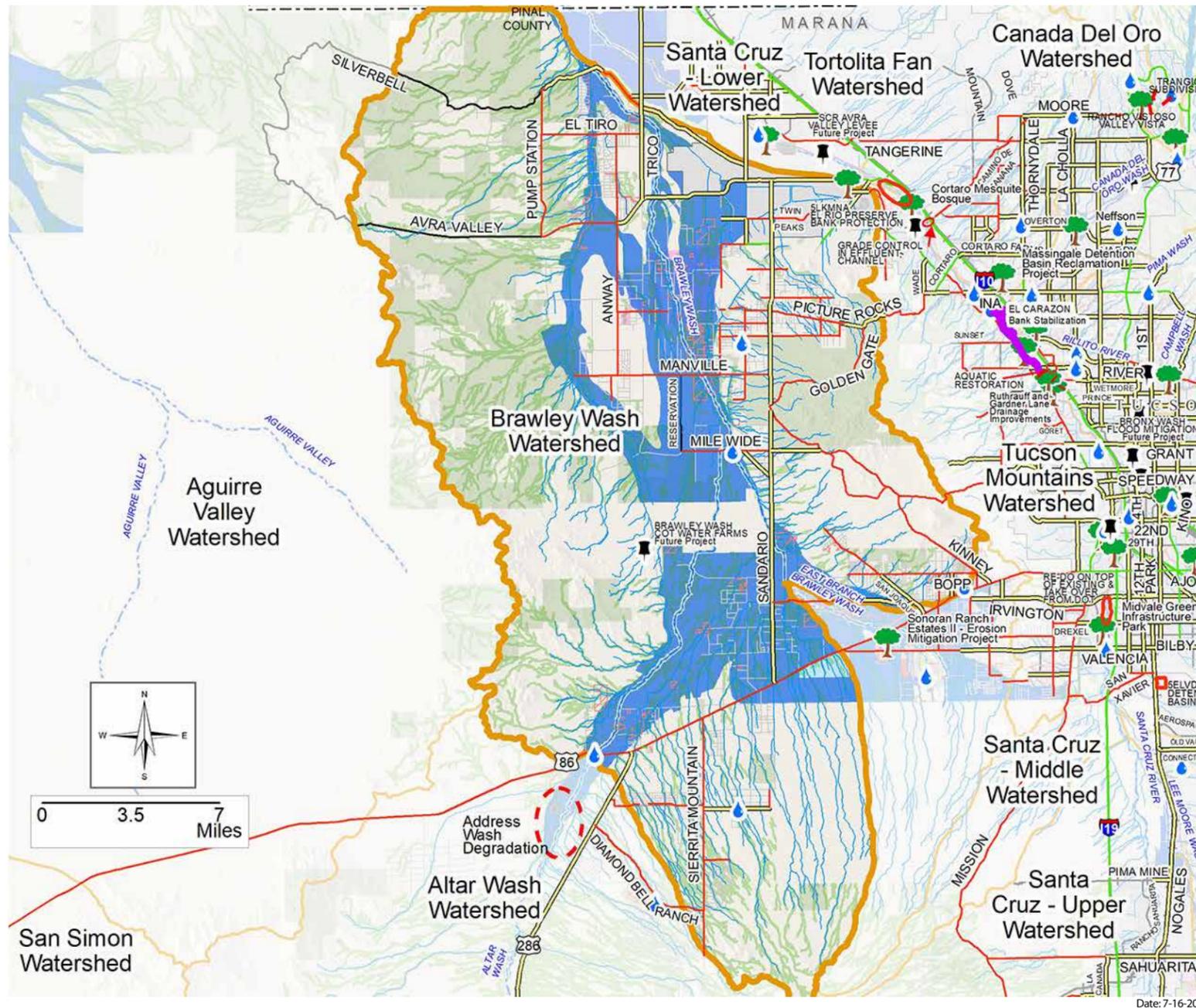
- Conduct detailed mapping for remaining local approximate sheetflow floodplains and FEMA Zone A Special Flood Hazard Areas
- Create inundation mapping for the Black Wash and its administrative floodway
- Develop and implement an erosion mitigation plan using natural channel design techniques
- Evaluate cumulative impacts of lot-splits and identify mitigation
- Identify existing development at risk from of flooding
- Identify floodprone properties to purchase
- Identify undersized infrastructure
- Identify and regulate un-permitted improvements
- Outreach to floodways and flow corridor areas, and provide technical assistance on private road and drainage easement maintenance
- Remove un-necessary diversions
- Work to address issue of sediment placement during road maintenance activities



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Brawley Wash

The Brawley Wash watershed is the largest within Pima County and is comprised of 442,629 acres. The headwaters of the Brawley Wash, as well as its tributary Blanco Wash, originate in the Roskrige and Coyote mountains on the south side of State Route 86 in the community of Three Points/Robles Junction. The Altar Wash and Black Wash are also significant tributaries. The Brawley Wash flows northward toward Pinal County where it joins the Santa Cruz River. Flood risks vary, but sheetflow flooding is the dominant type of flooding that affects residents. While sheetflow flooding is generally fairly shallow, it is also very widespread and makes accessing properties difficult. This is especially true due to the rural nature of the area and the prevalence of unmaintained dirt roads. In sheetflow floodplains, it is important to protect your home from flooding and obtain flood insurance, but it is not appropriate to prevent your property from flooding as this makes flooding worse for neighbors. This watershed, including all tributaries, contains 76,385 acres of SFHA, 131,906 acres of locally identified floodplain and 47,429 acres of Pima County Regulated Riparian Habitat.



Brawley Wash Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

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Action Plan recommendations and District needs identified include:

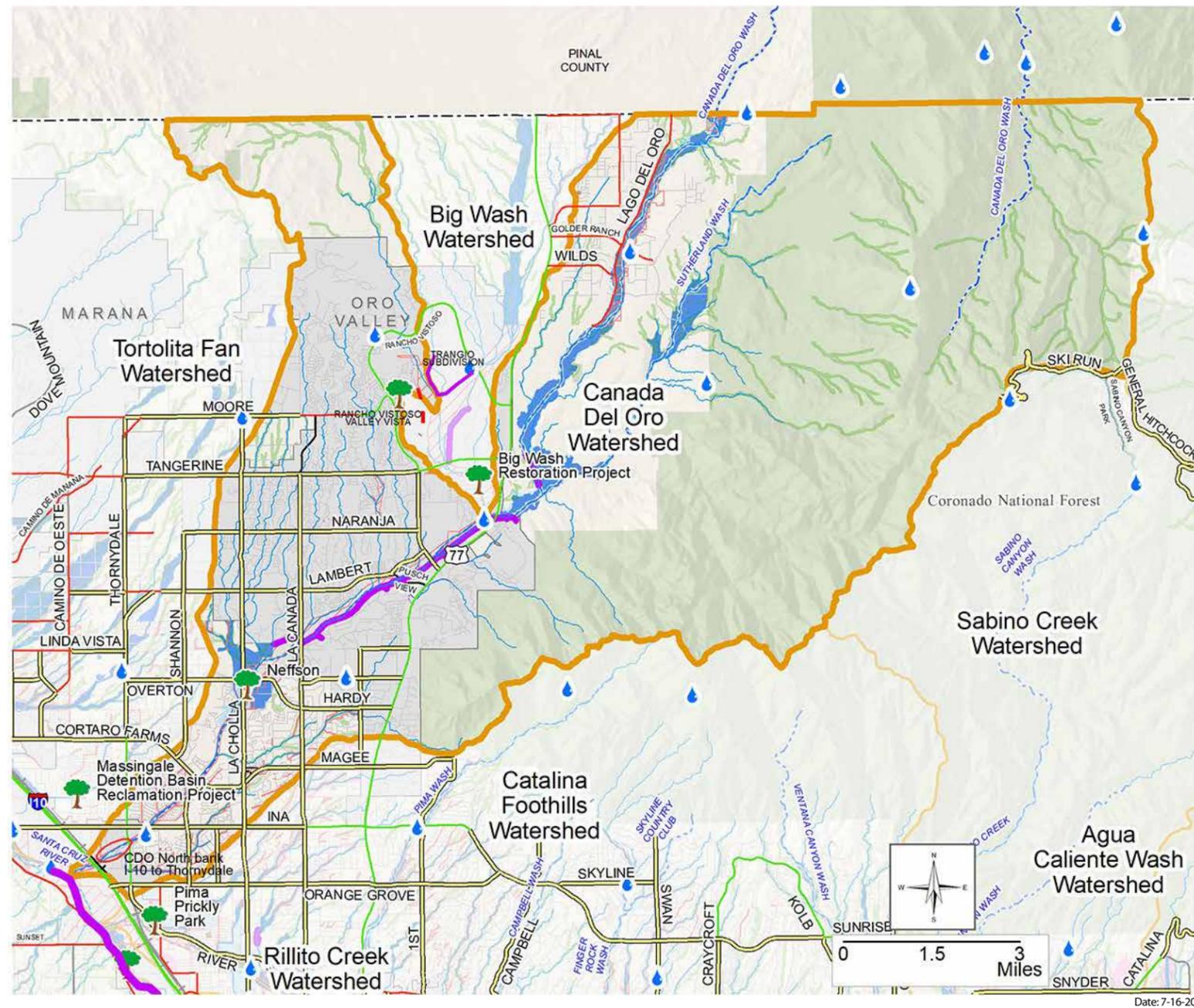
- Conduct detailed stud of Special Flood Hazard and sheetflow areas
- Develop vegetation maintenance and open space management plans
- Identify floodprone properties to purchase
- Identify undersized infrastructure
- Identify and regulate un-permitted improvements
- Implement an erosion mitigation plan using natural channel design techniques
- Outreach to target floodways and flow corridor areas, and provide technical assistance on private road and drainage easement maintenance
- Remove un-necessary diversions on public property
- Update historic floodplain information
- Work to address issue of sediment placement during road maintenance activities of sediment placement during road maintenance activities



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Cañada del Oro

The Cañada del Oro's headwaters originate in the Santa Catalina Mountains at an elevation of 8,000 feet. Two of its largest tributaries, Big Wash and Sutherland Wash, drains the western slopes of the Santa Catalina Mountains and the eastern slopes of the Tortolita Mountains. The Cañada del Oro Wash and Big Wash enter Pima County from Pinal County near the community of Catalina. The Cañada del Oro Wash has very steep and rocky upper slopes and flash flooding is a significant concern. There are a number of at-grade wash crossings that can be extremely hazardous during flows, including where the Cañada del Oro Wash crosses Overton Road. Fires on Mount Lemmon can significantly increase the risk of flooding in this area. This watershed is comprised of 86,415 acres and contains 4,763 acres of SFHA, 371 acres of locally identified floodplain and 6,444 acres of Pima County Regulated Riparian Habitat.



Cañada del Oro Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

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Action Plan recommendations and District needs identified include:

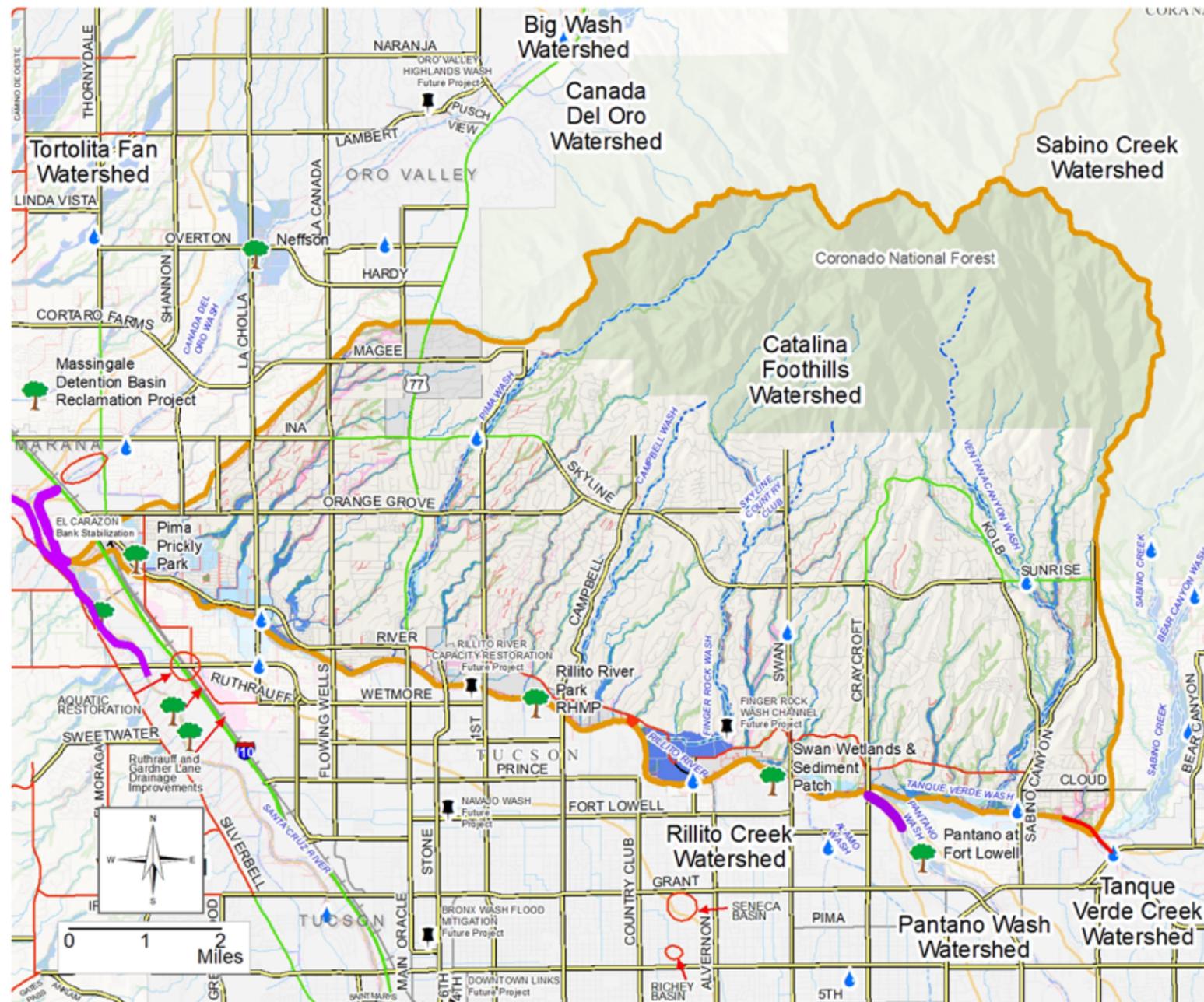
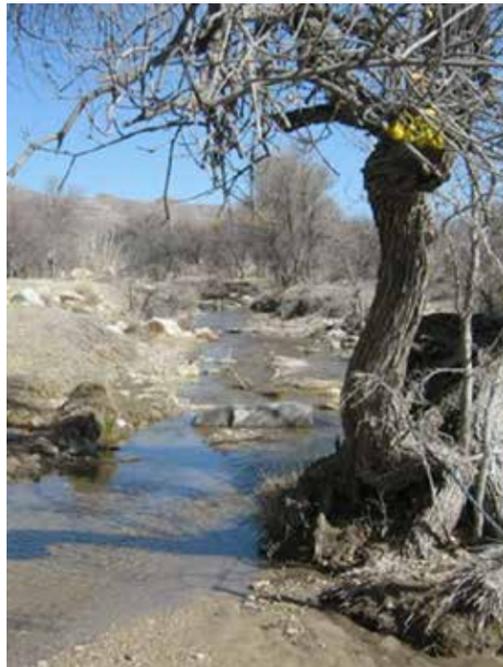
- Develop erosion hazard setbacks in mountainous areas
- Develop vegetation maintenance and open space management plans
- Enhance Loop and trail segments
- Identify existing development at risk from flooding
- Identify floodprone properties to purchase
- Identify undersized infrastructure
- Improve inter-jurisdictional coordination with the Town of Oro Valley
- Map canyon wash floodways
- Remap Twenty-Seven Mile Wash floodplains
- Work with responsible parties to address flooded roads



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Catalina Foothills

The Catalina Foothills Watershed includes numerous washes draining the southern slopes of the Santa Catalina Mountains, including Pima, Campbell, Finger Rock, Valley View and Ventana Canyon washes. Originating in near vertical terrain, these washes descend steeply through canyon walls before spilling onto the alluvial bajada foothills and then into the geologic floodplains associated with Rillito Creek. These watersheds are highly prone to flash flooding, even from rainfall miles away. These flash floods can quickly create life threatening and hazardous situations. Residents are advised to be cautious around washes anytime stormy conditions exist on Mount Lemmon. The District has documented flooded homes in this area. At-grade road crossings are another significant hazard when water is flowing. The District recommends obtaining flood insurance and planning ahead to know alternative routes to and from home. This watershed it is comprised of 46,340 acres and contains 1,490 acres of SFHA, 1,618 acres of locally identified floodplain and 3,394 acres of Pima County Regulated Riparian Habitat.



FLOODPLAIN MANAGEMENT PLAN 2020

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Action Plan recommendations and District needs identified include:

- Identify existing development at risk from flooding
- Identify undersized infrastructure
- Improve and repair the Bellbrook channel
- Outreach to HOAs regarding private maintenance
- Remap and update historical floodplains, floodways, and debris flow



Catalina Foothills Floodplain Area and Emergency Vehicle Access

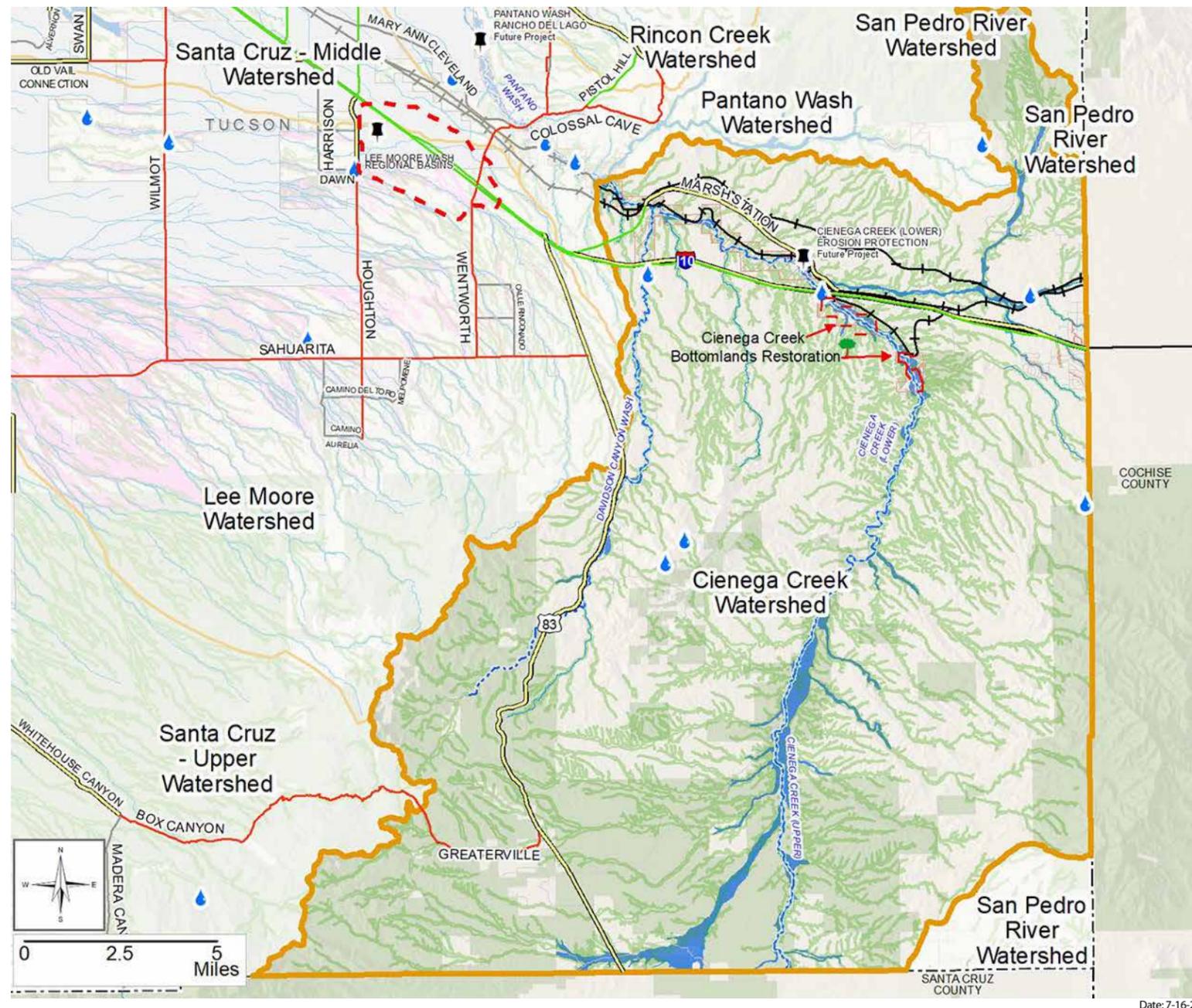


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Pima County Floodplain Management Office is located at 201 N. Stone Ave., 9th Floor | Office Hours: 8:00 A.M. to 4:30 P.M., Monday-Friday | Phone: 520-724-4600
For information on the flood risk impacting your property and flood protection, assistance including site inspection, please contact our office or see our website at: www.pima.gov/floodcontrol

Cienega Creek

The Cienega Creek headwaters originate in Santa Cruz County in the Canelo Hills south of the community of Sonoita. Tributaries draining the eastern slopes of the Santa Rita Mountains and the western slopes of the Whetstone Mountains join it. Running along the east side of State Route 83, it passes under Interstate 10 and joins the Agua Verde to form the Pantano Wash near the community of Vail. This watershed contains one of the last reaches of perennial flow in Pima County and is considered an Outstanding Arizona Water by the State of Arizona. This watershed is comprised of 207,659 acres and contains 7,299 acres of SFHA, 511 acres of locally identified floodplain and 31,572 acres of Pima County Regulated Riparian Habitat.



Cienega Creek Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

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Action Plan recommendations and District needs identified include:

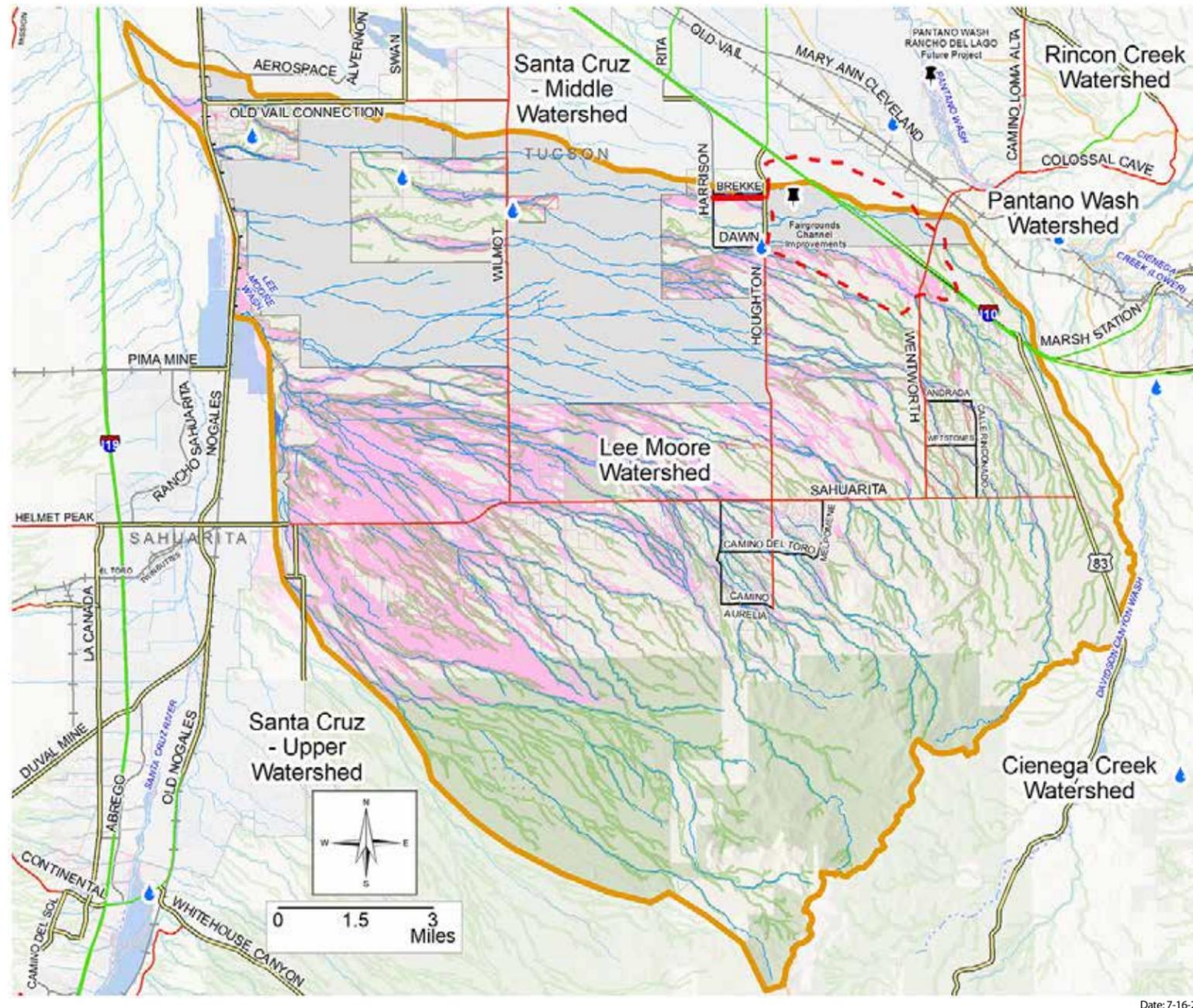
- Complete the Cienega Corridor Management Plan and develop additional open space management plans
- Develop and implement an erosion mitigation plan using natural channel design techniques
- Monitor base and peak flood flows
- Monitor groundwater depth and water quality
- Preserve and enhance riparian habitat and culturally significant areas
- Updated floodplain mapping



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Lee Moore Wash

The Lee Moore Wash watershed extends from the Santa Rita Mountain ridge in the southeast, meeting the Santa Cruz River just north of the Town of Sahuarita. Its many tributaries, including the Cuprite, Flato, Franco, Fagan and Sycamore washes are distributary in nature, resulting in very wide floodplains and alluvial fans throughout the Corona de Tucson area. Numerous properties and homes have flooded in this area. Sheetflow flooding is the dominant type of flooding affecting residents of this area. While sheetflow flooding is generally fairly shallow, it is also very wide-spread and makes accessing properties difficult. This is especially true due to the semi-rural nature of the area and the prevalence of unmaintained dirt roads. In sheetflow floodplains, it is important to protect your home from flooding and obtain flood insurance, but it is not appropriate to prevent your property from flooding as this makes flooding worse for neighbors. This watershed is comprised of 336,918 acres and contains 11,475 acres of SFHA, 44,946 acres of locally identified floodplain and 48,968 acres of Pima County Regulated Riparian Habitat.



Date: 7-16-2020

FLOODPLAIN MANAGEMENT PLAN 2020

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Action Plan recommendations and District needs identified include:

- Conduct outreach to areas which can get cut-off during flood events
- Develop and implement an erosion mitigation plan using natural channel design techniques
- Identify and monitor erosion on tributaries to the Lee Moore Wash
- Identify existing development at risk from flooding
- Identify undersized infrastructure
- Identify un-permitted improvements and agricultural diversions
- Improve communication with sand and gravel operators
- Plan for potential future development including the Sonoran Corridor
- Work with responsible parties to address flooded road access issues including private maintenance activities

Lee Moore Wash Floodplain Area and Emergency Vehicle Access

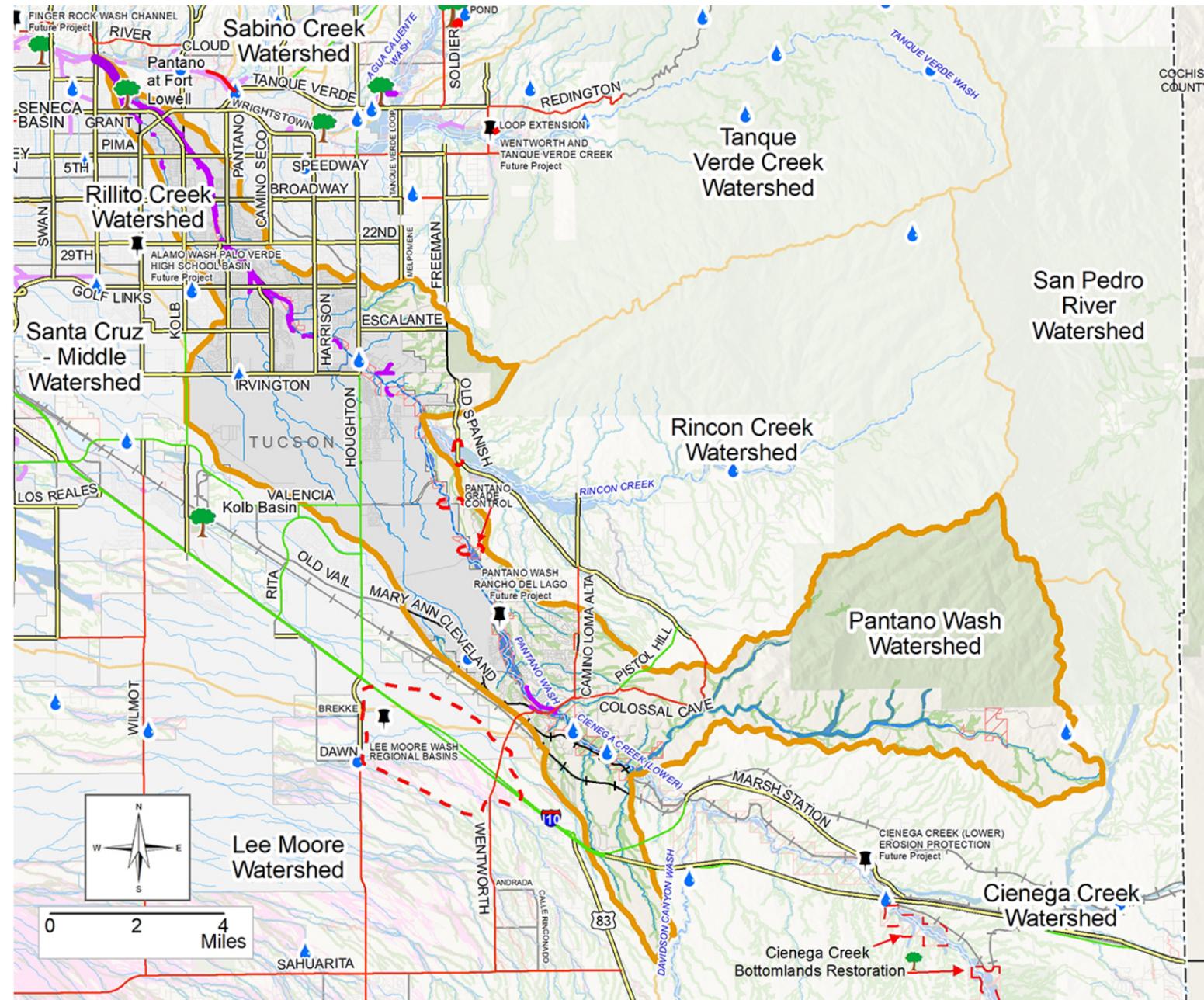
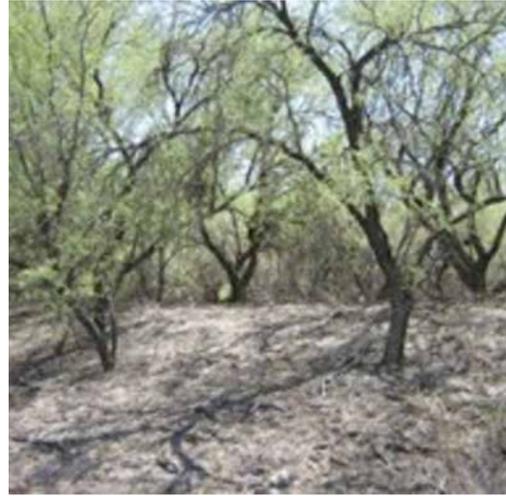


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For information on the flood risk impacting your property and flood protection, assistance including site inspection, please contact our office or see our website at: www.pima.gov/floodcontrol

Pantano Wash

The Pantano Wash begins near the community of Vail at the confluence of Cienega Creek and Aqua Verde Creek. Further downstream, the headwaters of its main tributary, Rincon Creek, originate high in the Rincon Mountains near Rincon Peak over 8,000 feet above mean sea level. The Pantano Wash has been the location of many sand and gravel operations and the most severe threat is lateral migration of the channel. Flood insurance is highly recommended. This watershed is comprised of 67,903 acres and contains 4,566 acres of SFHA, 408 acres of locally identified floodplain and 7,925 acres of Pima County Regulated Riparian Habitat.



Pantano Wash Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

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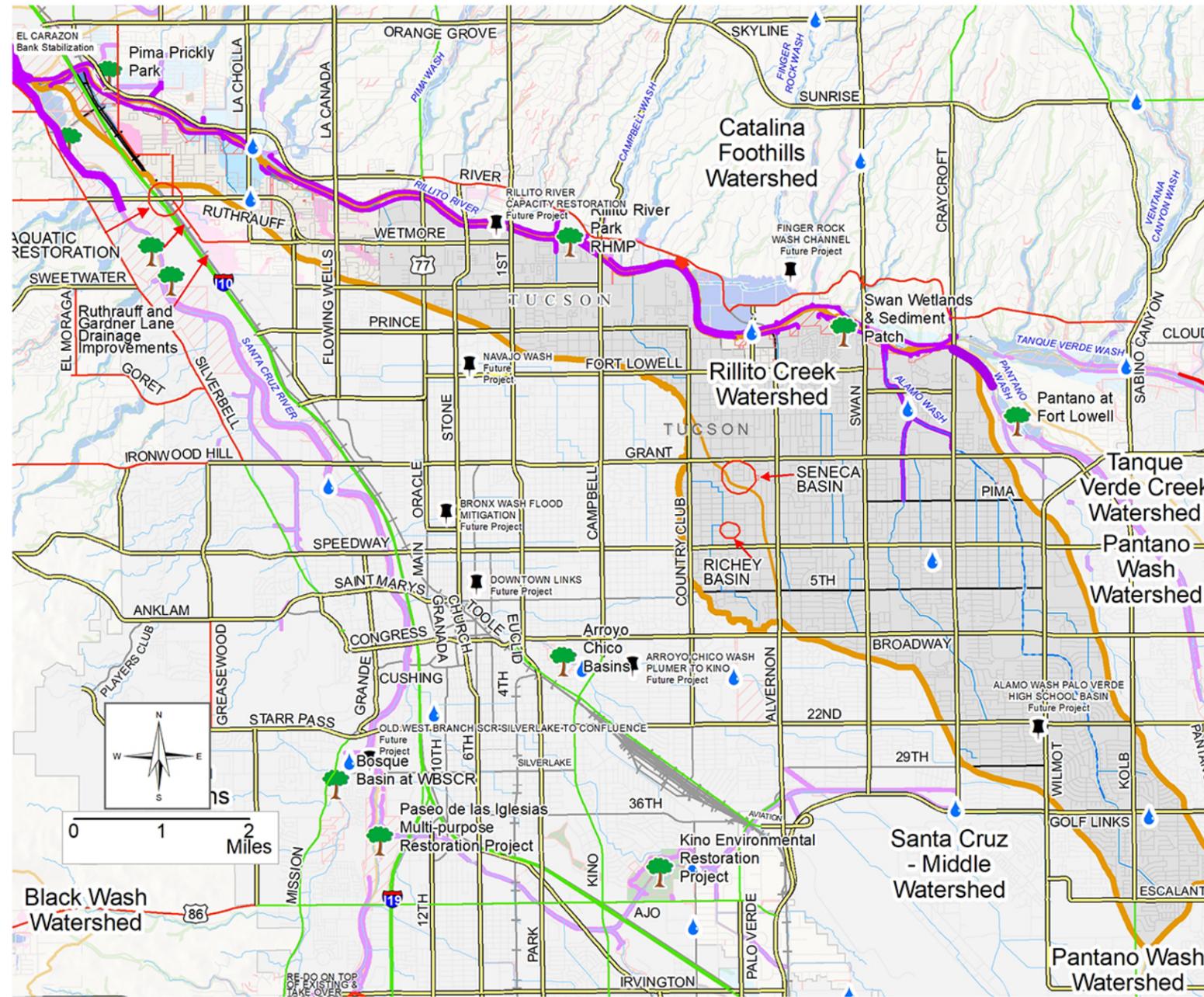
- Assess unstable geomorphology
- Build grade controls to stabilize down cutting
- Develop and implement an erosion mitigation plan using natural channel design techniques
- Develop vegetation maintenance plans
- Enhance Loop and trail segments
- Identify floodprone properties to purchase
- Improve communication with sand and gravel operators
- Improve Inter-jurisdictional communication with City of Tucson
- Obtain public property rights for effective management in the Pantano Wash area
- Refine Pistol Hill sheetflow floodplains
- Repair Michael Perry Park bank protection
- Work with responsible parties to address flooded roads



How would you know the pavement was gone if this road were covered with flowing water? At some point, saturated ground gives way and the pavement above it fails...often from the weight of a car. Don't put yourself, your passengers or rescue personnel in harm's way.

Rillito Creek

The Rillito Creek begins at the confluence of the Tanque Verde Creek and Pantano Wash. Its downstream terminus is the confluence with the Santa Cruz River. The Rillito Creek watershed also includes many of the Catalina Foothills watercourses as well as watercourses that originate in the City of Tucson. Rillito Creek plays a significant role in groundwater recharge. Excluding the Tanque Verde, Pantano and Foothills watersheds, this watershed is comprised of 16,881 acres. Rillito Creek has been largely contained in channel by numerous flood control projects, which have resulted in a string park connected by The Loop bike path. This watershed contains 3,821 acres of SFHA, 409 acres of locally identified floodplain and 763 acres of Pima County Regulated Riparian Habitat.



Rillito Creek Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

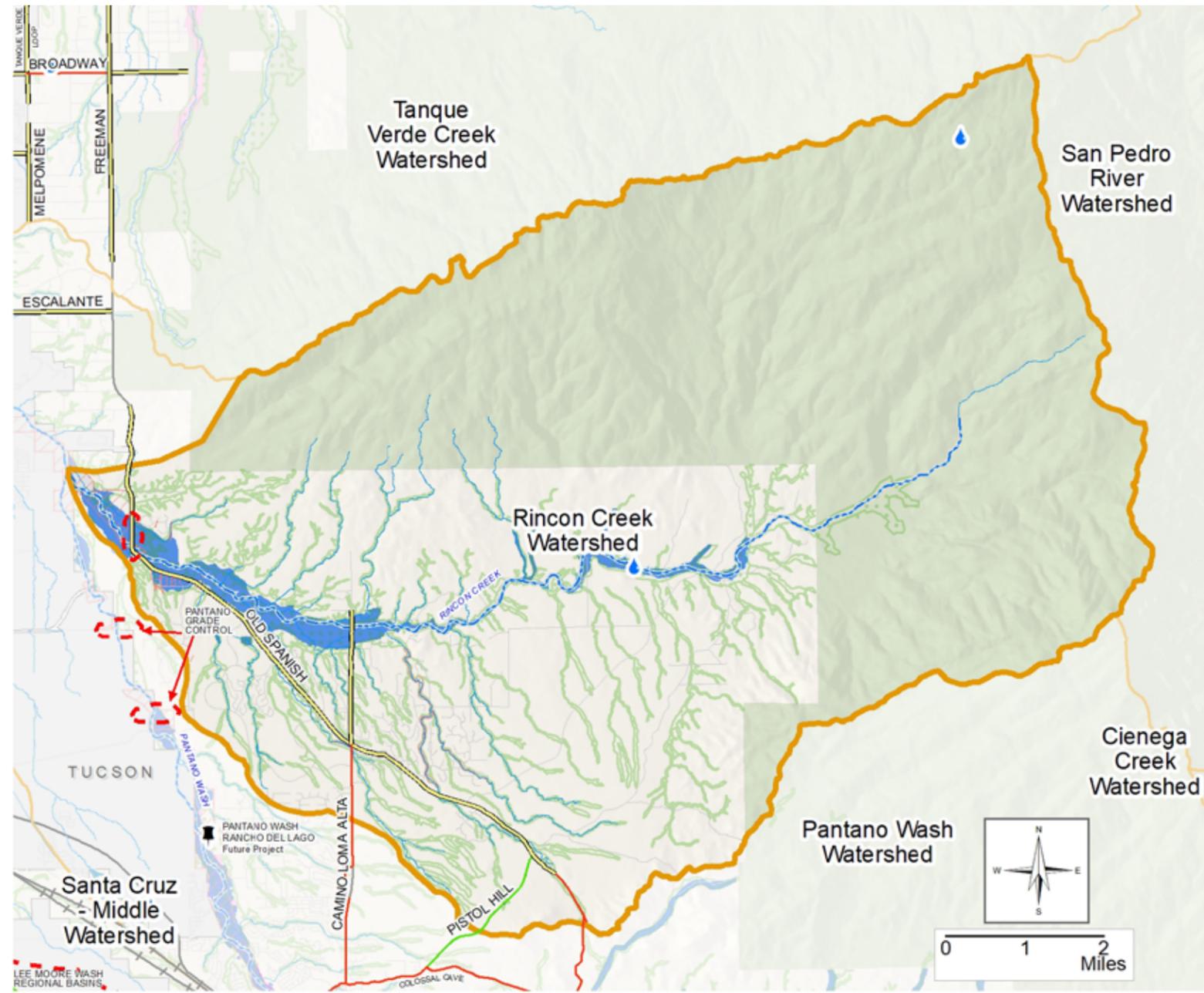
- Enhance Loop and trail segments
- Enhance recreational areas and commercial uses adjacent to the Rillito Creek
- Identify and implement solution to City's urban flooding problems
- Identify existing development at risk from flooding
- Improve inter-jurisdictional coordination with City of Tucson
- Mitigate erosion at the Hacienda del Sol confluence
- Perform maintenance and drainage improvements within wash channels
- Work with responsible parties to address flooded roads



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Rincon Creek

The Rincon Creek's headwaters originate high in the Rincon Mountains near Rincon Peak over 8,000 feet above mean sea level and passes through Rincon Valley to its confluence with Pantano Wash. The presence of water and connectivity between the Rincon Mountains and Tucson Basin make the Rincon Valley a popular wildlife corridor. This watershed is comprised of 52,622 acres and contains 1,450 acres of SFHA, 742 acres of locally identified floodplain and 3,978 acres of Pima County Regulated Riparian Habitat.



Rincon Creek Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

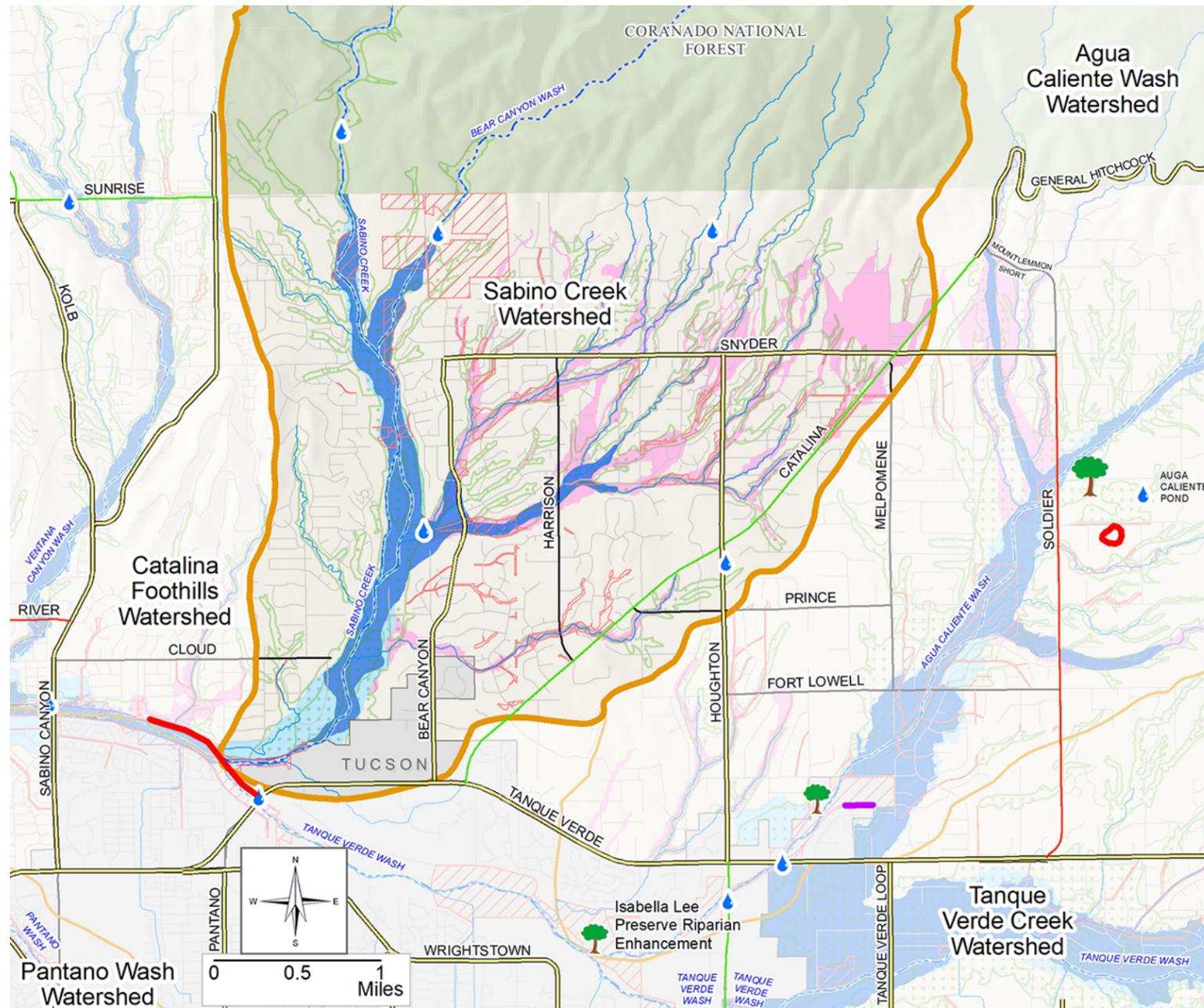
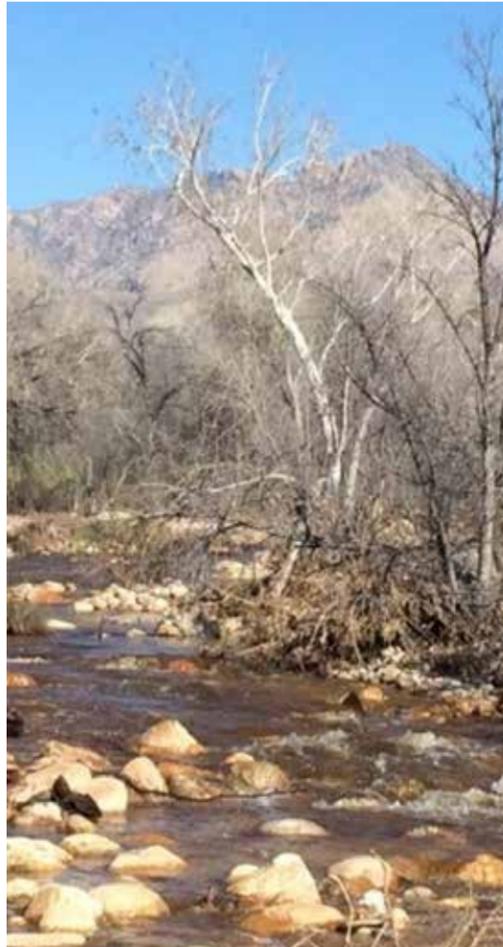
- Conduct detailed mapping for remaining local approximate sheetflow floodplains
- Continue to require identification of floodplains, erosion hazard setbacks and mapped riparian limits at the time of subdivision platting
- Develop vegetation and open space management plans
- Improve roadway access along Old Spanish Trail and the Jeremy Wash tributary
- Mitigate erosion at the confluence with the Pantano Wash
- Monitor groundwater depth and water quality



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Sabino Creek

Sabino Creek's headwaters are near the summit of Mount Lemmon and the community of Summerhaven. Originating at nearly 9,000 feet above mean sea level, it descends steeply through canyons before spilling out onto the bajada foothills and then into geologic floodplains associated with the Tanque Verde Creek. Flash flooding is a significant risk in this area. This watershed is comprised of 140,539 acres and contains 3,821 acres of SFHA, 3,646 acres of locally identified floodplain and 12,232 acres of Pima County Regulated Riparian Habitat.



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

- ALERT warning system outreach
- Develop and implement an erosion mitigation plan using natural channel design techniques
- Identify areas of shallow groundwater
- Identify areas at risk of impact by debris flows
- Identify existing development at risk from flooding
- Identify floodprone properties to purchase
- Provide assistance to property owners related to bank restoration
- Riparian habitat preservation
- Wash bank restoration
- Work with responsible parties to address flooded roads

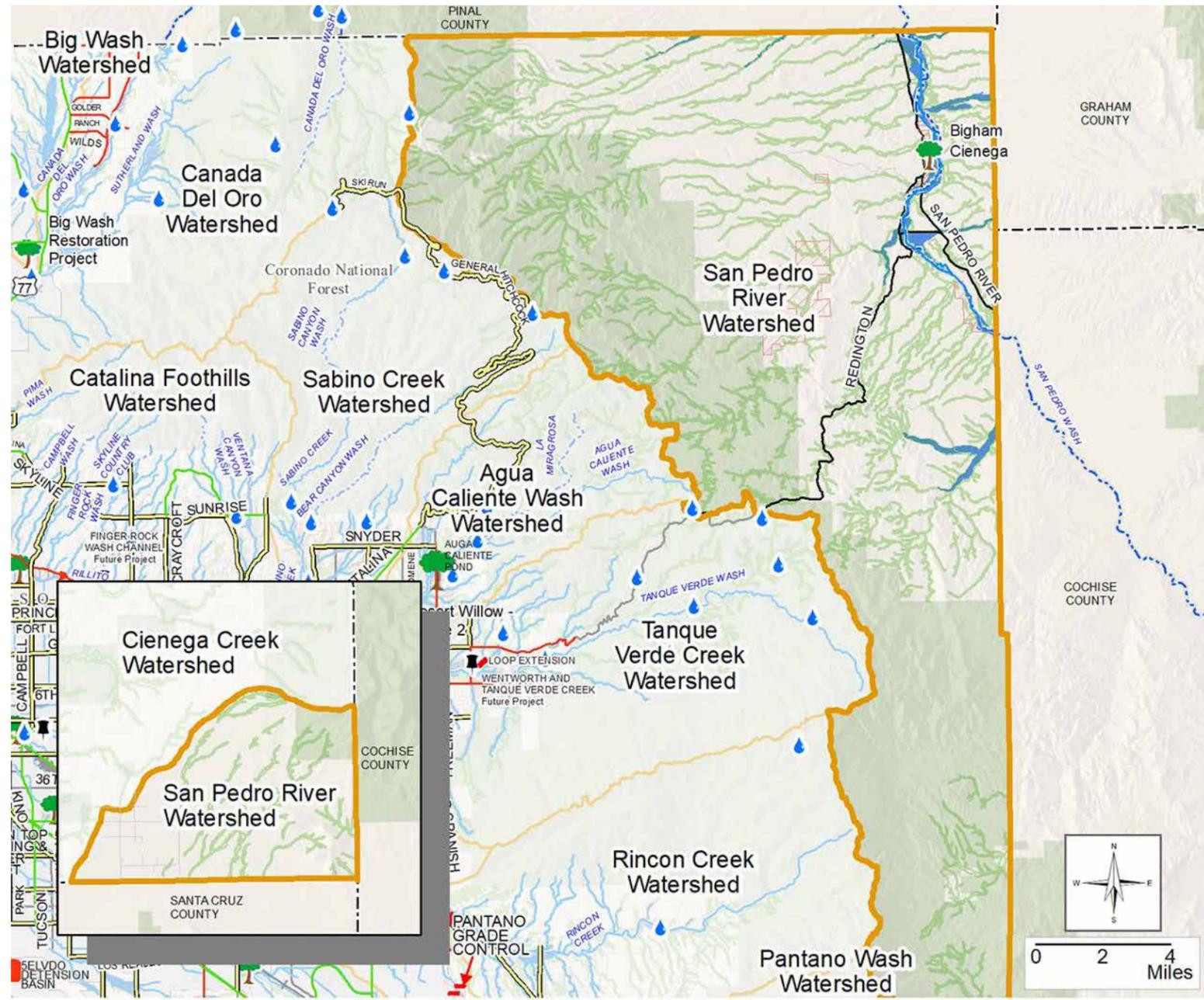
Sabino Creek Floodplain Area and Emergency Vehicle Access



How would you know the pavement was gone if this road were covered with flowing water? At some point, saturated ground gives way and the pavement above it fails...often from the weight of a car. Don't put yourself, your passengers or rescue personnel in harm's way.

San Pedro River

The San Pedro River originates in Mexico and flows through Cochise County prior to entering Pima County. Near Pima County, it drains the eastern slopes of the Rincon and Santa Catalina mountains and western slopes of the Galiuro Mountains. The San Pedro exits Pima County into Pinal County south of the community of San Manuel. Though it is one of the largest watercourses in Pima County, the remote and rural nature of this area means that few people are impacted by flooding on the San Pedro River and its tributaries. Within Pima County, this watershed is comprised of 181,901 acres and contains 3,231 acres of SFHA, 1,674 acres of locally identified floodplain and 15,438 acres of Pima County Regulated Riparian Habitat.



San Pedro River Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

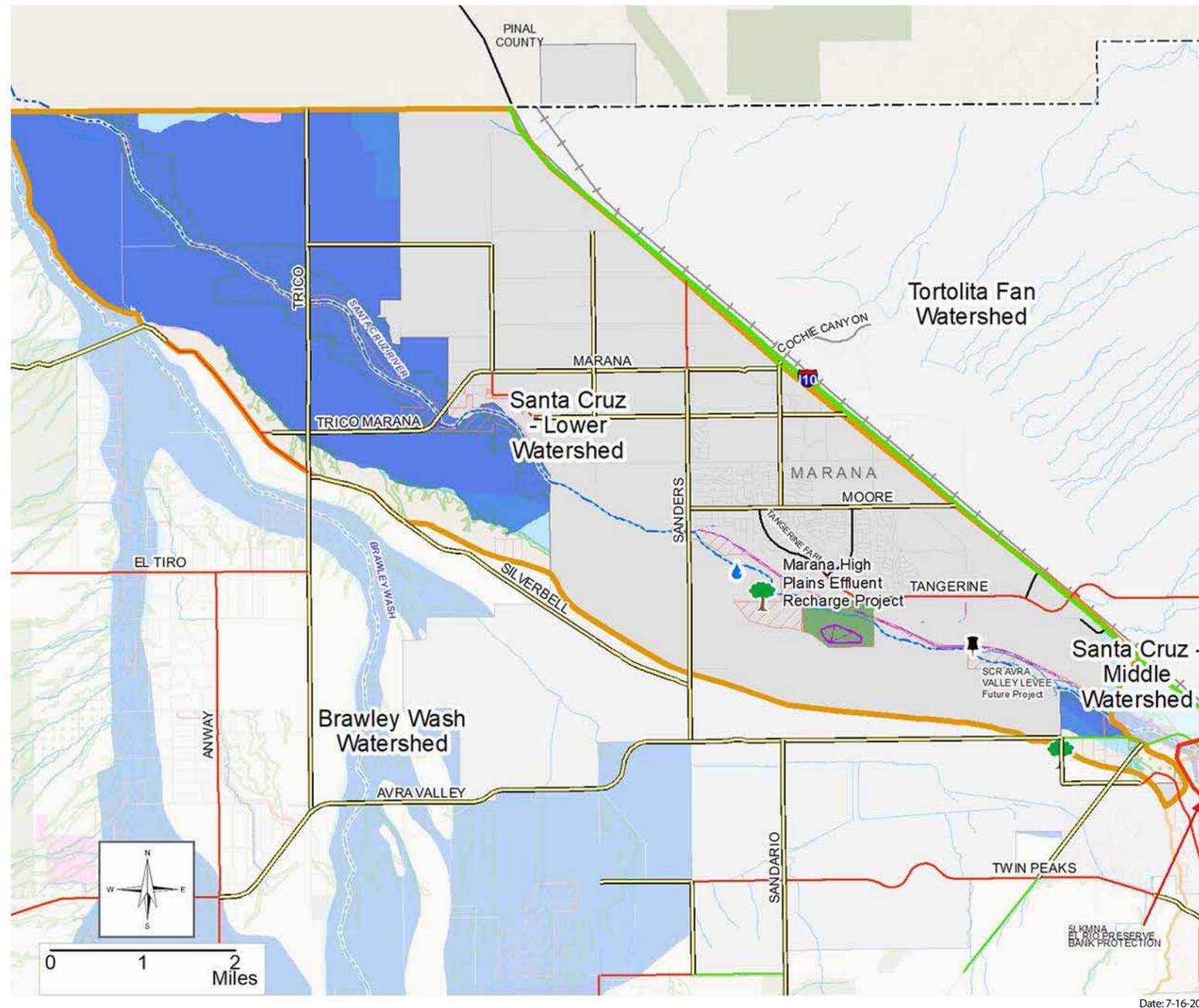
- Conduct outreach to areas which can get cut-off during flood events
- Develop open space management plans
- Identify floodprone properties to purchase
- Monitor development of Sunzia Utility Corridor
- Riparian habitat preservation



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Santa Cruz – Lower

The portion of the watershed identified as the Lower Santa Cruz River begins immediately downstream of a bedrock near Avra Valley Road where the floodplain of the Santa Cruz River is about a quarter mile wide. It then widens to several miles wide as it enters Pinal County draining over 3,000 square miles upstream of the confluence with the Brawley Wash. This portion of the Santa Cruz River mostly impacts farmland, though flooding can pose a significant risk to drivers during times of flooding. This watershed is comprised of 53,781 acres and contains 28,576 acres of SFHA, 1,047 acres of locally identified floodplain and 7,182 acres of Pima County Regulated Riparian Habitat.



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

- Continue discharging reclaimed water
- Develop vegetation and open space management plans
- Enhance Loop and trail segments
- Identify agriculture diversions
- Identify existing development at risk from flooding
- Identify undersized infrastructure
- Implement the Marana High Plains groundwater recharge project and Santa Cruz River Management Plan
- Improve communication with sand and gravel operators
- Inter-jurisdictional coordination with the Town of Marana on implementation of their Marana Drainage Master Plan
- Monitor and maintain bank protection near Continental Ranch and the El Rio Preserve
- Monitor base and peak flows

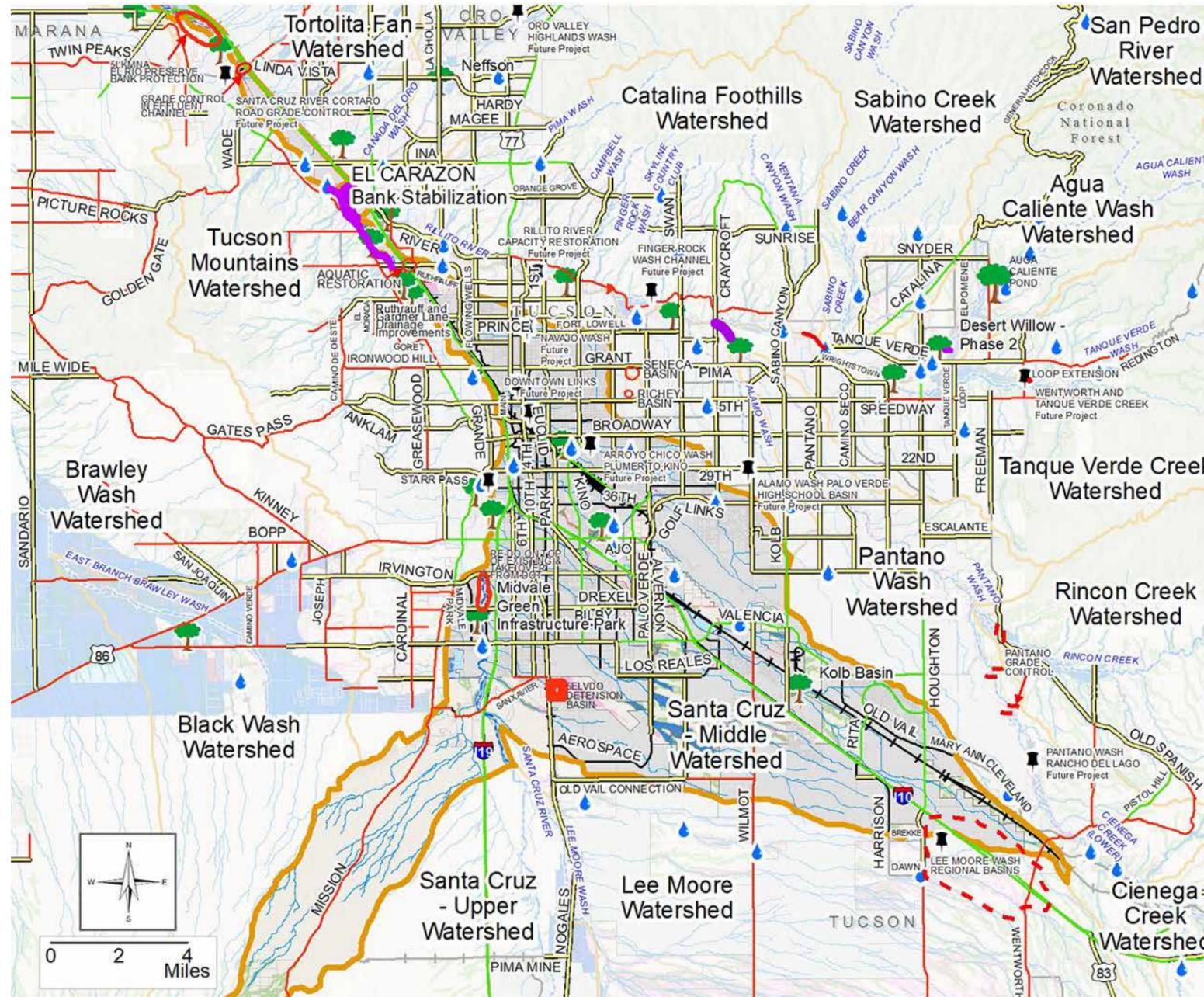
Santa Cruz-Lower Floodplain Area and Emergency Vehicle Access



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Santa Cruz – Middle

The portion of the watershed identified as the Middle Santa Cruz River begins near the northern boundary of the San Xavier District of the Tohono O'odham Nation near Martinez Hill. The Middle Santa Cruz River is where the confluence of its largest tributaries, the Cañada del Oro Wash, Rillito Creek, and the Julian Wash, occur. Excluding these tributaries, the watershed is comprised of 150,746 acres mostly coming from the east slope of the Tucson Mountains and the west portion of Tucson. The portion of the Santa Cruz River through the metropolitan area is significantly confined by flood control infrastructure, but some of the infrastructure and a number of bridges crossing the river were constructed before current standards were adopted and may not be able to withstand the significant flows that may occur. There are unprotected portions of the Santa Cruz River that pose significant hazards to nearby properties. This watershed contains 7,808 acres of SFHA, 10,878 acres of locally identified floodplain and 24,981 acres of Pima County Regulated Riparian Habitat.



Santa Cruz-Middle Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

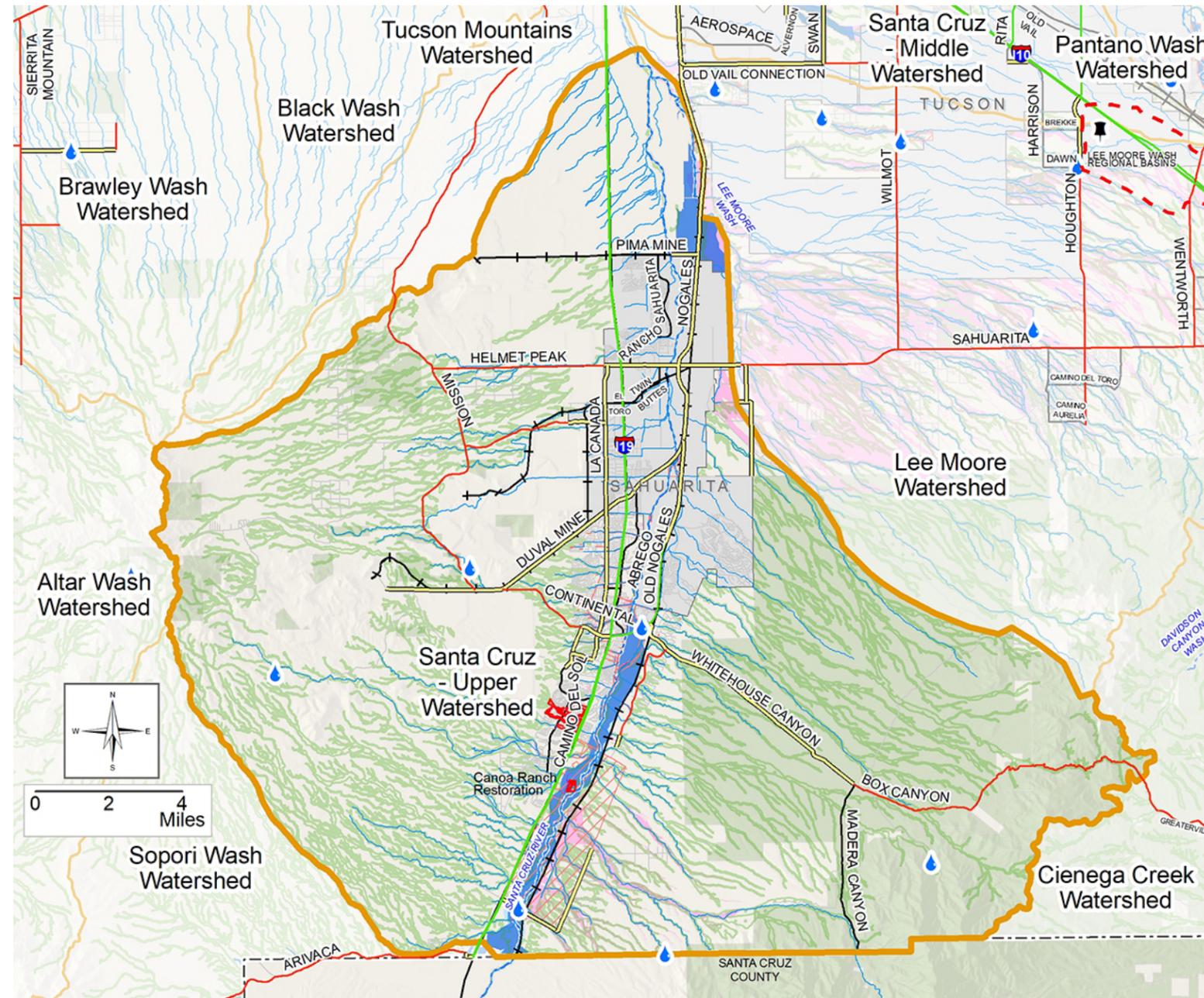
- Construct drainage improvements within the El Vado Watershed and the Ruthrauff/Gardner Lane areas
- Coordinate with the City of Tucson for the Santa Cruz River Heritage groundwater recharge projects
- Develop and implement the Santa Cruz River Management Plan
- Develop vegetation management plans
- Enhance Loop and trail segments
- Identify agriculture diversions
- Identify existing development at risk from flooding
- Identify undersized infrastructure
- Improve inter-jurisdictional coordination with the City of Tucson
- Monitor base and peak flows
- Provide resources on flood insurance
- Remap floodplains for Bronx Wash, Navajo/Wilson Wash, Silvercroft Wash, Wyoming and Dakota Washes
- Repair Santa Cruz River Old West Branch bank protection erosion at Silverlake and mitigate Los Reales erosion



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Santa Cruz – Upper

The portion of the watershed identified as the Upper Santa Cruz River extends from the Santa Rita Mountain ridge in the south-east, across the Santa Cruz River basin to the Sierrita Mountains in the southwest. Its northern terminus is south of Martinez Hill and Black Mountain and the northern boundary of the San Xavier District of the Tohono O’odham Nation, and includes the confluence of the major tributary, Lee Moore Wash. Excluding the Lee Moore Wash watershed, it is comprised of 336,918 acres. Largely unaltered by flood control works, the Upper Santa Cruz River has a wide, riverine floodplain. Nevertheless, it largely impacts agricultural lands. Flood insurance is recommended for any structure near the river or its tributaries. This watershed contains 11,475 acres of SFHA, 44,946 acres of locally identified floodplain and 48,968 acres of Pima County Regulated Riparian Habitat.



Santa Cruz-Upper Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

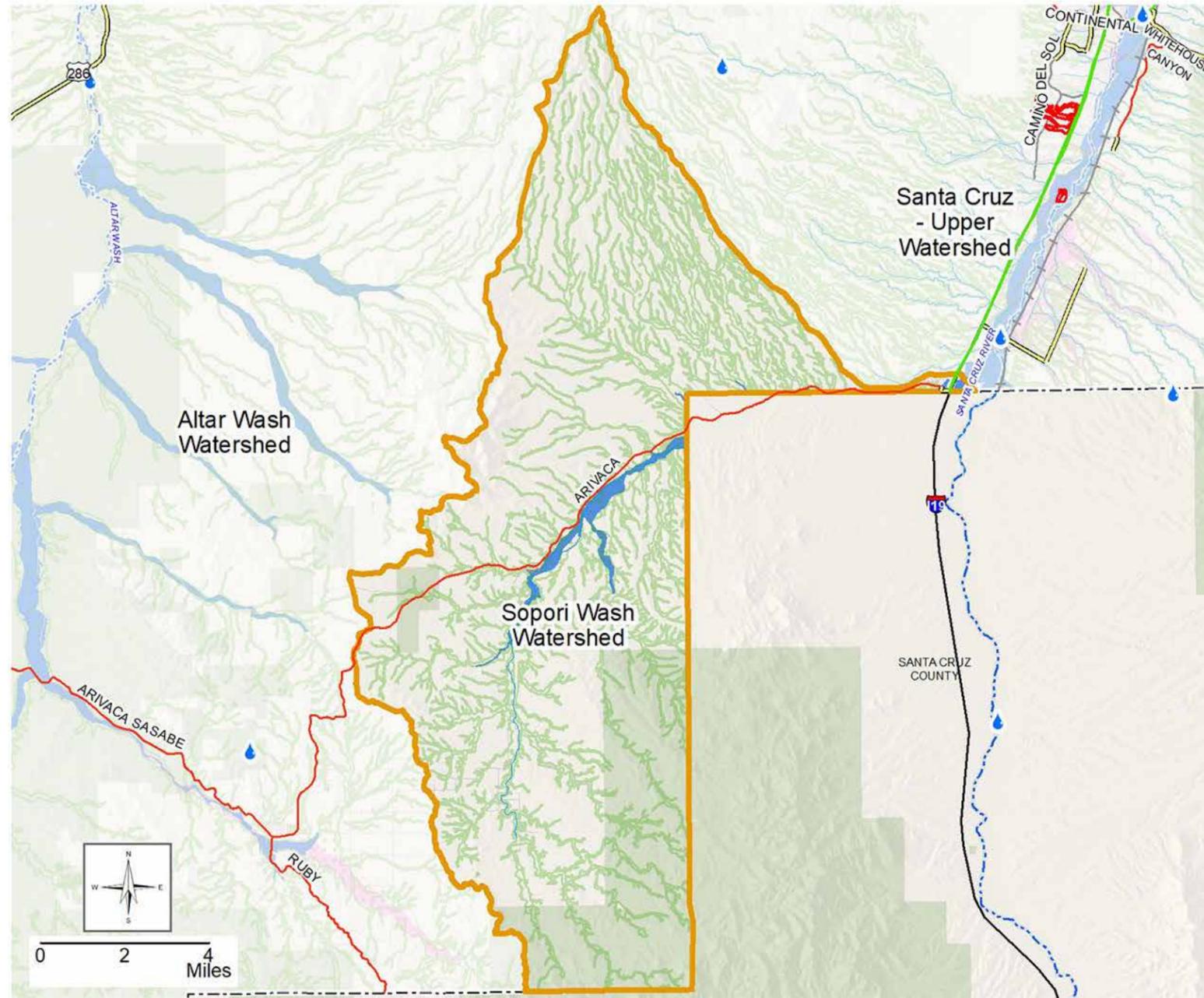
- Develop basin and open space management plans for the Santa Cruz River from the Santa Cruz County Line to Pima Mine Road
- Enhance Loop and trail segments
- Identify existing development at risk from flooding
- Identify flood risks at Sopori and the Santa Cruz River confluence
- Identify undersized infrastructure
- Identify un-permitted improvements and agricultural diversions
- Improve communication with sand and gravel operators
- Improve inter-jurisdictional coordination with other jurisdictions including the Town of Sahuarita and the Tohono O’odham Nation
- Monitor erosion on tributaries to the Santa Cruz River
- Plan for potential future development including the Sonoran Corridor
- Update historical floodplains, add Elephant Heat and RiskMap area floodplains
- Update historical floodplain and RiskMap studies



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Sopori Wash

This watershed originates in Santa Cruz County on the western slopes of the Tumacacori Mountains, passes the eastern slopes of the Cerro Colorado, and then joins the Upper Santa Cruz River at Arivaca Junction. This watershed is comprised of 80,814 acres and contains 1,130 acres of SFHA and 13,359 acres of Pima County Regulated Riparian Habitat.



Sopori Wash Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

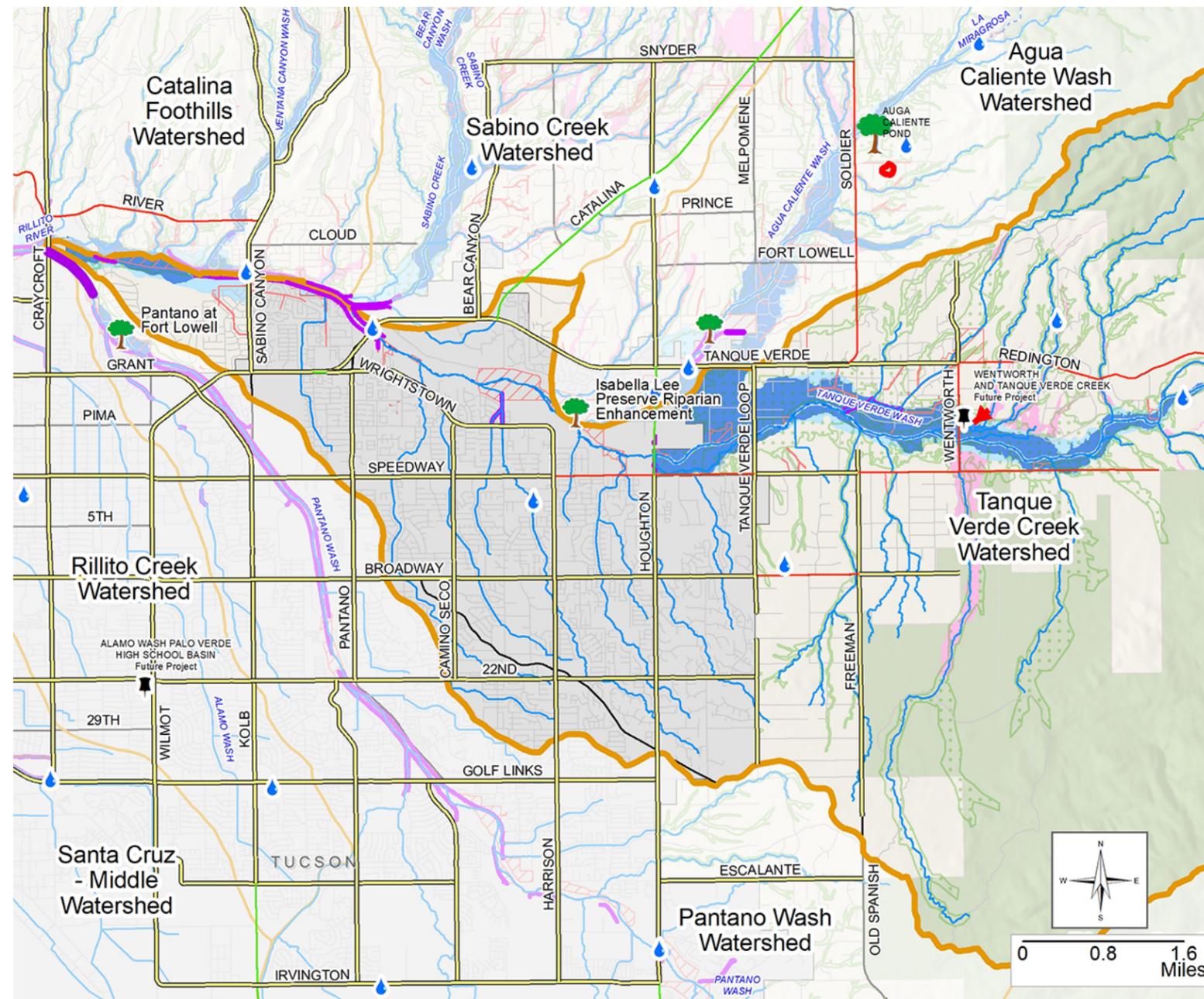
- Define accurate flow discharges and ground topography
- Identify existing development at risk from flooding
- Identify flood risks at Interstate-19, Sopori Wash, and the Santa Cruz River confluence
- Identify undersized infrastructure
- Monitor groundwater depth and water quality
- Regulate and respond to rural use complaints (fencing, grazing, etc.)
- Regulate un-permitted improvements
- Riparian habitat preservation



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Tanque Verde Creek

The Tanque Verde Creek watershed includes the Tanque Verde Creek and two of its largest tributaries, the Agua Caliente Wash and Sabino Creek. The Tanque Verde Creek's headwaters are on both sides of Redington Road in the Rincon and Santa Catalina mountains. This watershed contains some of the largest networks of springs, surface flows and shallow groundwater anywhere in Pima County. Excluding the Agua Caliente and Sabino Creek watersheds, this watershed is 70,199 acres, of which over 50,409 acres is preserved as open space. Tanque Verde Creek is prone to large flash floods that can cause significant damage to homes and property. The District has documented numerous flooded homes along the north bank of the Tanque Verde including within the Forty Niner Country Club Estates subdivision. Flows often frequently close several road crossings, which limits access in the area. Flood insurance is highly recommended and area residents are advised to plan ahead and know alternate routes to get to their destination when roads are closed. This watershed contains 3,821 acres of SFHA, 3,646 acres of locally identified floodplain and 12,232 acres of Pima County Regulated Riparian Habitat.



Date: 7-16-2020

Tanque Verde Creek Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

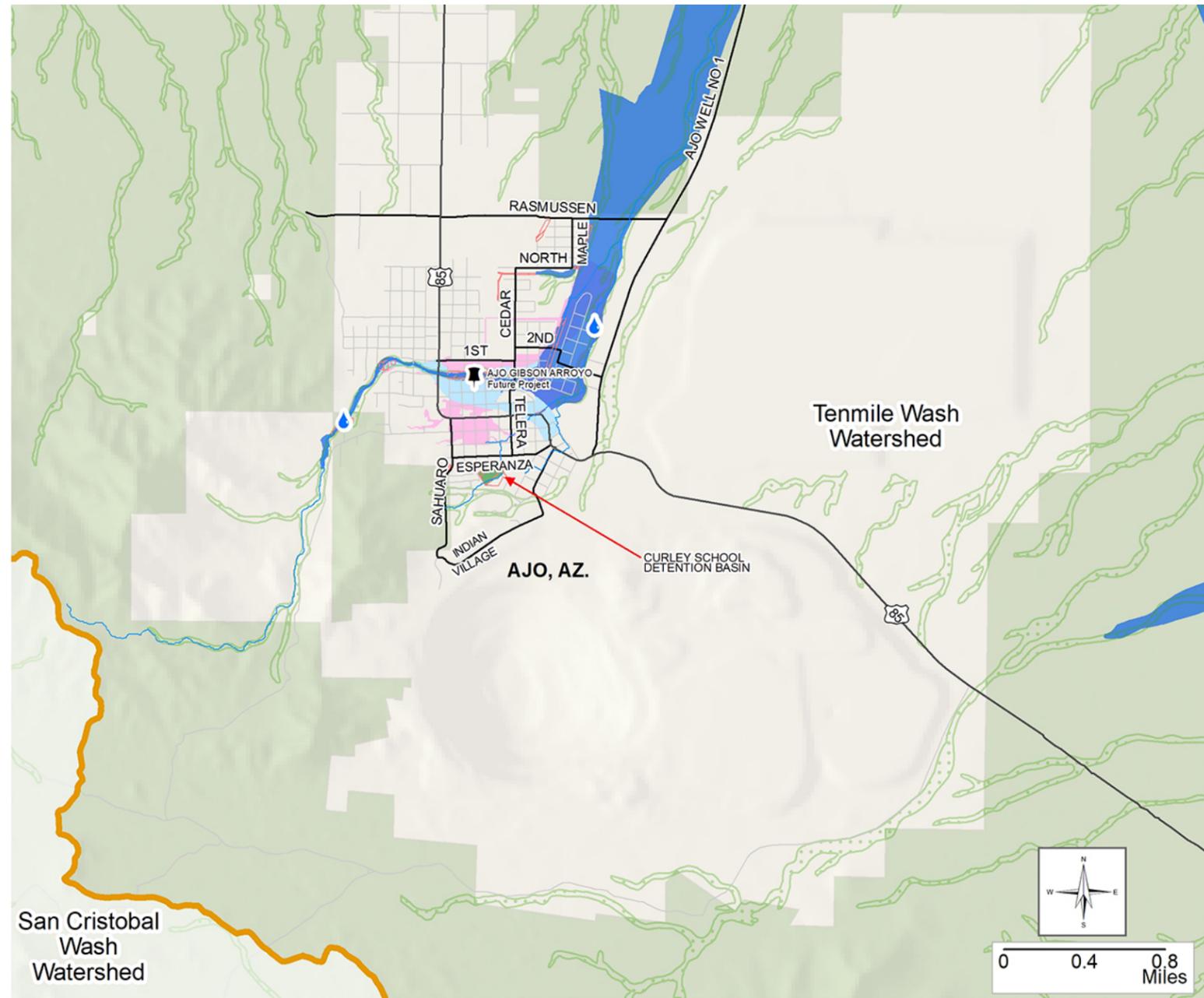
- ALERT warning system outreach
- Conduct outreach about improvements to nonconforming use structures
- Construct Wentworth Wash Channel
- Develop floodplain maps for Rincon Foothills Unnamed Washes 8, 9 and 10
- Develop open space management plans
- Identify areas of shallow groundwater
- Identify existing development at risk from flooding
- Identify floodprone properties to purchase
- Identify undersized infrastructure
- Outreach to repetitive loss properties
- Protect high value public property
- Provide technical assistance to property owners related to bank reclamation
- Riparian habitat preservation



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Tenmile Wash

The Tenmile Wash watershed includes Gibson Arroyo within the community of Ajo and extends from the Pozo Redondo and Batamote mountains in the east across the basin floor to the Little Ajo and Childs mountains in the west. From these headwaters, this watershed then drains northward into Maricopa County. The District has documented numerous flooded homes in Ajo and Why, Arizona. Floods in these areas arrive with little warning and extreme caution is warranted during inclement weather. Flood insurance is highly recommended. This watershed is comprised of 207,127 acres and contains 11,763 acres of SFHA, 182 acres of locally identified floodplain and 13,409 acres of Pima County Regulated Riparian Habitat.



Date: 7-16-2020

Tenmile Wash Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

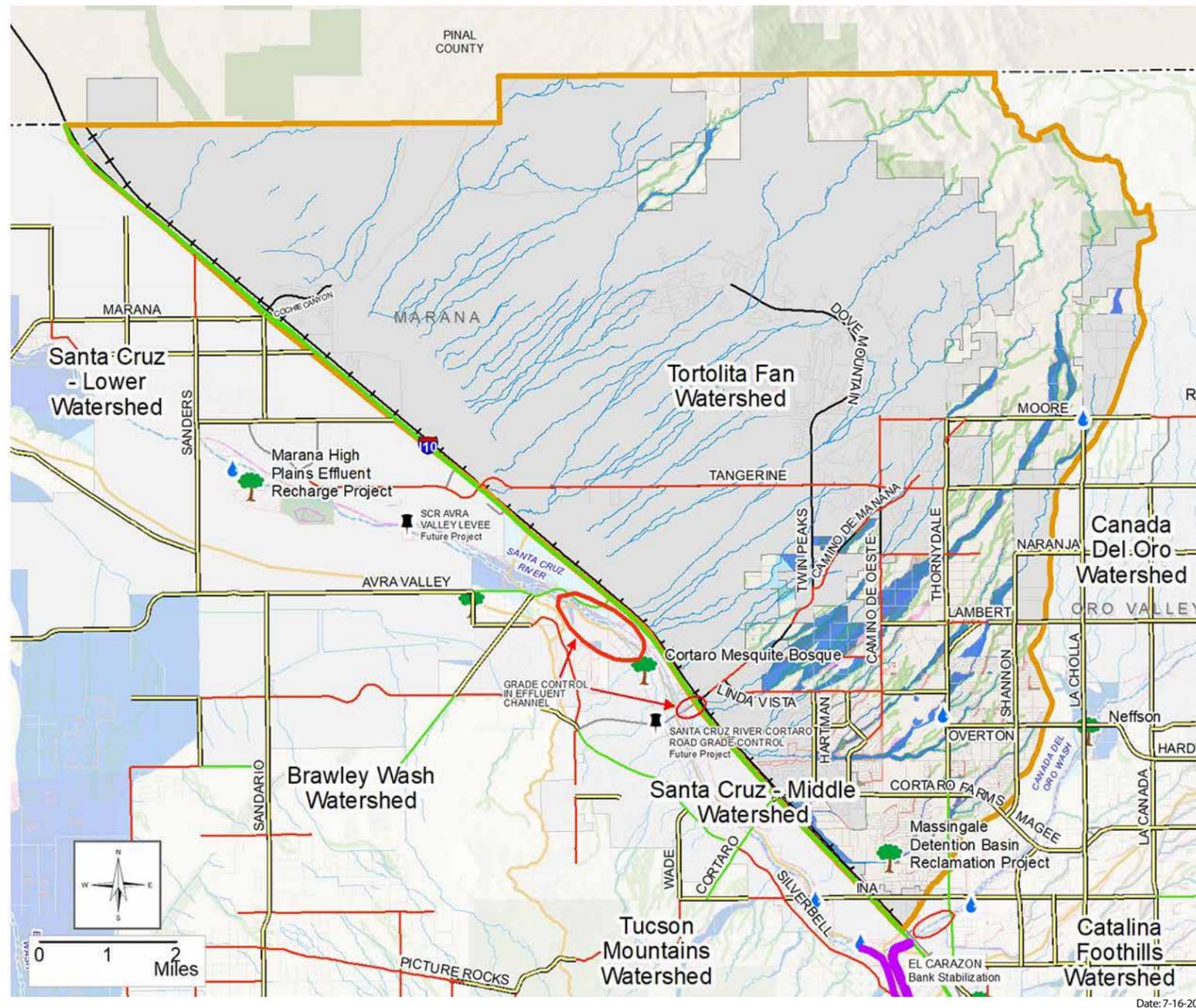
- Conduct outreach to areas which can get cut-off during flood events
- Create inundation mapping for Gibson Arroyo
- Identify existing development at risk from flooding
- Identify undersized infrastructure
- Improve inter-jurisdictional coordination with other jurisdictions including the Tohono O'odham Nation
- Regulate un-permitted improvements when applicable



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Tortolita Fan

The Tortolita Fan watershed includes the Cottonwood, Prospect, Cañada Agua and Hardy washes that drain the southwestern slopes of the Tortolita Mountains. Originating from the Tortolita Mountains and continuing on the relatively gentle slopes of alluvial fans, these washes terminate in the geologic floodplain of the Santa Cruz River. Flood risk in this alluvial fan includes poorly defined washes with the potential for significant changes in flow direction due to flows breaking out of existing channels and continuing downhill via unpredictable new paths. Floods develop quickly and may carry a significant amount of sediment and debris, which may cause damage and further divert flows in unpredictable ways. Sheetflow flooding is the dominant type of flooding that affects residents of this area. While sheetflow flooding is generally fairly shallow, it is also very widespread and makes accessing properties difficult. This is especially true due to the prevalence of unmaintained dirt roads. In sheetflow floodplains, it is important to protect your home from flooding and obtain flood insurance, but it is not appropriate to prevent your property from flooding as this makes flooding worse for neighbors. This watershed is comprised of 38,838 acres and contains 10,130 acres of SFHA, 7,544 acres of locally identified floodplain and 6,824 acres of Pima County Regulated Riparian Habitat.



Tortolita Fan Floodplain Area and Emergency Vehicle Access



FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

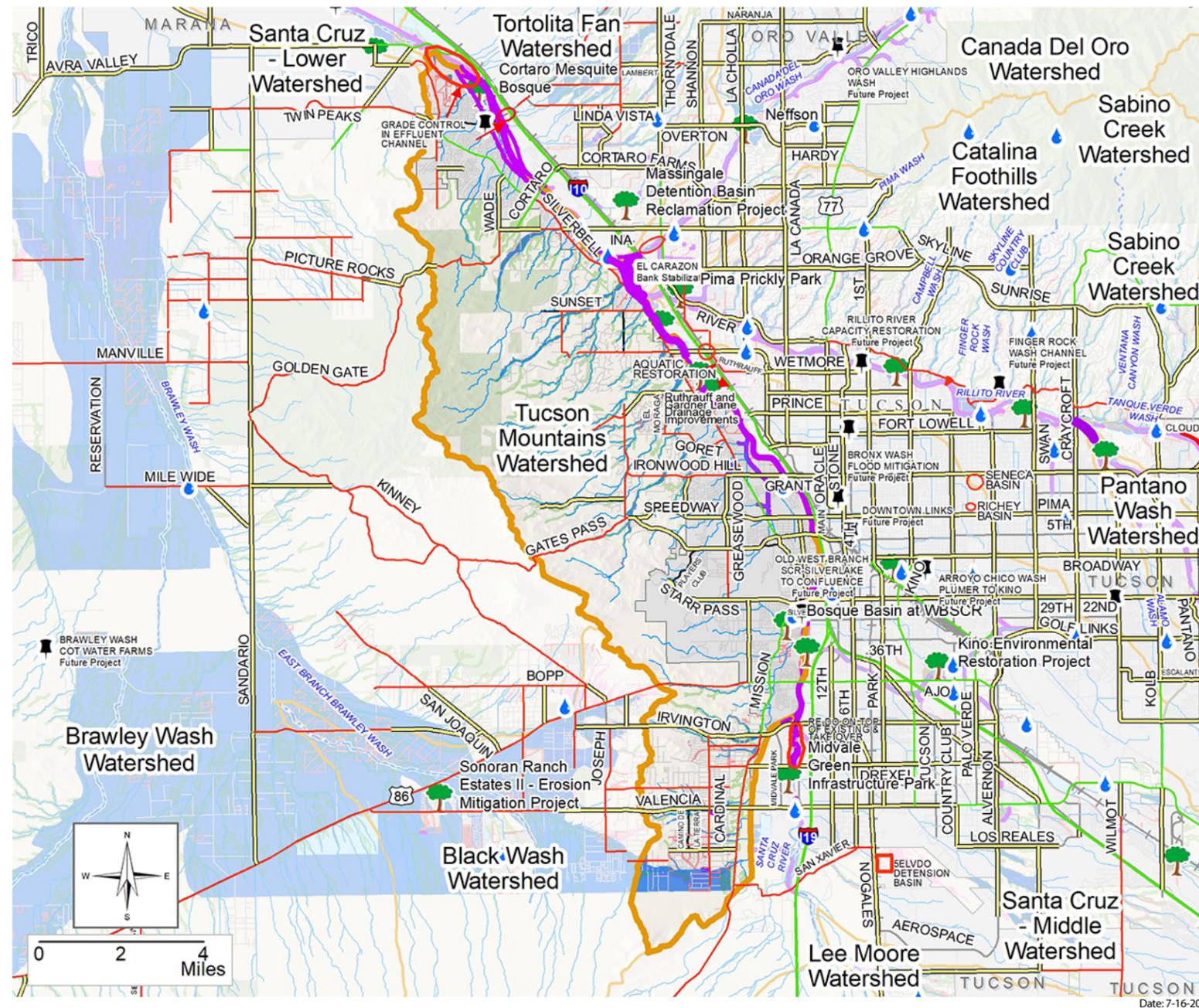
- Define and map mountain front watersheds, flow corridors, canyon wash floodways, loose soils and alluvial fans
- Explore areas for potential retrofitting using green infrastructure to reduce detention storage volume
- Improve inter-jurisdictional coordination with the Town of Oro Valley and the Town of Marana
- Riparian habitat preservation
- Study Massingale Basin area watersheds
- Work with responsible parties to address flooded roads



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Tucson Mountains

The Tucson Mountain watershed drains the eastern slopes of the Tucson Mountains and includes numerous washes that are tributary to the Santa Cruz River. The Tucson Mountains are rocky and have steep canyons that spill out onto alluvial fans before widening further onto the geologic floodplain under natural conditions. Development in low-lying areas is particularly at risk, and residents in these areas are encouraged to obtain flood insurance. All residents of this area should prepare for road closures when water is flowing and plan ahead to find alternative routes. There have been numerous swift water rescues in this area due to people trying to drive on flooded roads. This watershed is comprised of 34,339 acres and contains 810 acres of SFHA, 888 acres of locally identified floodplain and 2,575 acres of Pima County Regulated Riparian Habitat.



Tucson Mountains Floodplain Area and Emergency Vehicle Access



FEMA Special Flood Hazard Areas	Major Washes > 500cfs	Municipalities	RFCD Maintenance area	Restoration Projects	Roads Passable During Major Floods
FEMA Shaded X Zone	Railroad	Federal Land	ALERT Gage	Roads Passable During Moderate Storms	Roads Questionable During Storms
Local Floodplain	Bank Protection	Regional Detention Basins	10 year Intergrated Infrastructure Plan		
Riparian	Budgeted Capital Improvements	Internal Watershed Boundaries			
	Planned Improvements				

FLOODPLAIN MANAGEMENT PLAN 2020

Through surveys and stakeholder feedback, a comprehensive Floodplain Management Plan was developed for this watershed. The plan helps establish near and long-term goals that improve public safety in flood hazard areas and includes an Action Plan. Geographically specific action items including flood warning gages, habitat restoration and bank protection are shown on the map. Watershed specific action items are also described below.

Action Plan recommendations and District needs identified include:

- Conduct detailed mapping of approximate FEMA Special Flood Hazard Areas
- Conduct outreach on the availability of private road and drainage easement technical assistance
- Coordinate with stakeholders on planned drainage improvements along Silverbell Road
- Define and map mountain front watersheds, flow corridors, canyon wash floodways, loose soils and alluvial fans
- Develop criteria for site design and infrastructure at major watercourse confluence areas
- Expand riparian habitat maps
- Identify and monitor erosion on tributaries to the Santa Cruz River
- Identify existing development at risk from flooding
- Install new streamflow gages to warn emergency services of road closures on Silverbell Road
- Map Black Mountain and Mission Wash floodplains
- PCDOT sediment placement/drainage complaints
- Provide technical assistance to property owners related to bank restoration
- Riparian habitat preservation
- Work with responsible parties to address flooded roads



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