

# Urban Waters Partnership

## RIO REIMAGINED WATERSHED WORK PLAN 2019 - 2020

**PILOT LOCATION:** Salt River and Middle Gila River Watershed

**POINTS OF CONTACT:** Melissa McCann, ASU University City Exchange – Project Director  
Jared Vollmer, UWFP - U.S. EPA

**BACKGROUND:** Includes the 58 miles along both the Salt and Gila Rivers, with its headwaters from three larger watersheds: the Salt which starts west of Alpine, AZ; the Upper Gila which starts east of Baldy Mountain in New Mexico; and the San Pedro which starts in Mexico. All three watersheds eventually converge east of Phoenix and drain into the Middle Gila (Phoenix Metro area) and then to the Lower Gila River and finally the Colorado River which takes the remaining water away in a series of diversions at the US and Mexico border.

### SRP Water Infrastructure Facts

- 8.3 million acre watershed
- 8 dams – storing water in wet years to ensure reliable supplies in dry years, and generating clean renewable power
- 131 miles of canals and 1,000 miles of laterals and ditches to move water to cities and agricultural water users
- Salt River Watershed is 15,000 square miles

### FEDERAL

#### Agencies Participating

AGENCY	FEDERAL / REGIONAL	STATE / LOCAL
<b>DEPARTMENT OF AGRICULTURE   USDA</b>		
<b>U.S. Forest Service</b>	Laura Moser - Cooperative Forestry, Asst. Program Mgr. for SW Region	John Richardson - Program Manager, UCF   FH, AZ Dept. of Forestry + FM Micah Grondin – Program Manager, AZ Dept. of Forestry + FM
<b>Natural Resource Conservation Service   NRCS</b>	Terry D'Addio – National RC&D Program Mgr.	Keisha Tatem – State Conservationist Rebecca de la Torre – Asst. State Cons.
<b>DEPARTMENT OF COMMERCE</b>		
<b>National Oceanic &amp; Atmospheric Administration   NOAA</b>	Linda Belton – Senior Policy Advisor	
<b>US Economic Development Administration   EDA</b>	Jacob Macias – Regional Representative	
<b>DEPARTMENT OF HOUSING &amp; URBAN DEVELOPMENT</b>		
	Michael Freedberg – Senior Advisor	Stephanie Smelnick - AZ Field Office Director Carol Dittmore – Director, Arizona Department of Housing Rachel Milne – Assistant Director, Maricopa County Housing & Community Development
<b>DEPARTMENT OF DEFENSE</b>		
<b>US Army Corps of Engineers   USACE</b>	Col. Kirk Gibbs – Hdqtrs. Chief of Staff <u>LA District:</u> Col. Kimberley Colloton – Commander S. Pacific Div. Col. Aaron Barta – Commander/District Engineer LA Eduardo De Mesa - Chief Planning Division LA Tyson Vaughan - AAASU	Brian Kenny - Civil Works Project Mgr. Kim Gavigan – Chief Water Resources Planning Section
<b>DEPARTMENT OF INTERIOR</b>		
<b>Bureau of Reclamation   BOR</b>	Terry Fulp – Regional Director Michael Bernardo, Jr. – Chief of Staff, Lower CO Reg.	Alexander Smith – Phoenix Deputy Area Mgr. Mary Reece – Program Development Mgr. John Rasmussen – Program Mgr. Water Res.
<b>Fish and Wildlife Service   FWS</b>	Lisa Pelstring – Advisor, Urban Env. Issues	Nichole Engelmann – Endangered Species Biologist
<b>National Park Service   NPS</b>		
<b>U.S. Geological Survey   USGS</b>	Dave Westerholm – Office of Response + Restoration Vivian Nolan, PhD – Science Coordinator	Jim Leenhouts, PhD – Director, AZ Water Science Center Kenneth Fossum – Hydrologist, Tempe Field Office
<b>Bureau of Indian Affairs   BIA</b>		
	Bryan Bowker – Regional Director, Western Region Matt Crain – Deputy Regional Director Rodney McVey – Deputy Bureau Director	Cecilia Martinez-Baker – Superintendent Pima Agency TBD – Superintendent Salt River Agency
<b>Bureau of Land Management   BLM</b>		
		Karen Kelleher – Assoc. State Director Leon Thomas – Phoenix District Manager Patrick Putnam – Phoenix Assoc. District Mgr. Fritz Mueller – Fire Mgmt. Officer

<b>DEPARTMENT OF TRANSPORTATION</b>	Karla Petty – Division Administrator Shari Schafflein – Director, Office of the Human Environment	John Halikowski – Director, ADOT John Carlson – Asst. Director, Govt. Relations, ADOT Steve Boschen, PE – Asst. Director, Infrastructure + Operations Division, ADOT Clemenc Ligocki – Planning & Program Mgr., ADOT
<b>ENVIRONMENTAL PROTECTION AGENCY</b>	Roy Simon – Hdqtrs. Special Asst. UWFP <u>Region 9:</u> Mike Stoker – Regional Administrator Tomas Torres – Director, Water Division Gail Louie – Senior Watershed Specialist Jared Vollmer - Project Officer   UWFP Scott Stollman – Senior Policy Advisor Jose Garcia – AZ Brownfields + Tribal Grant Lead	Travis Barnum – Brownfields Coordinator, ADEQ Steve Heaton – Manager Waste Programs, ADEQ
<b>NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES</b>	April L. Bennett – Senior Advisor/Program Manager	
<b>DEPARTMENT OF TREASURY</b>		
<b>Community Development Financing Institution   CDFI</b>	Jodie Harris – Director CDFI Fund Jason Boehlert – CDFI Program Manager Legislative and External Affairs <u>Federal Reserve Bank of San Francisco:</u> David J. Erickson, PhD. – Community Affairs Officer, Community Development Joselyn Cousins – Senior District Manager, Field Group Regional Manager   Community Development Arizona and Nevada Elizabeth Mattiuzzi, PhD. – Senior Researcher, Community Development	Terry Benelli – Executive Director, LISC Arizona David Castillo – Native Capital Access
<b>FEDERAL EMERGENCY MANAGEMENT ADMINISTRATION</b>	Alison Kearns – Senior Community Planner Jesse Carpenter – Community Planner	Lucrecia "Lu" Hernandez – AZ DEMA Melanie Gall - Co-Director, Center for Emergency Management and Homeland Security, ASU Watts College of Public Service & Community Solutions
<b>ARIZONA STATE LAND DEPARTMENT</b>		Lisa Atkins – Commissioner ASLD

### Congressional

- US Senator Martha McSally
- US Senator Kyrsten Sinema
- US Representative Raul Grijalva
- US Representative Greg Stanton

## ARIZONA STATE AGENCIES

### Participating

- Arizona Department of Environmental Quality | ADEQ
- Arizona Department of Water Resources | ADWR
- Arizona State Land Department | ASLD
- Arizona Game and Fish Department | AZGFD
- Arizona Department of Transportation | ADOT
- Arizona Department of Emergency Management Administration | AZDEMA
- Arizona State Parks and Trails
- Natural Resources Conservation Service | NRCS

## MARICOPA COUNTY

- Flood Control District
- Department of Transportation
- Parks and Recreation Department
- Planning and Development
- Health and Human Services

- Housing and Community Development

## **COMMUNITIES**

- Native American Communities
  - Salt River Pima-Maricopa Indian Community (SRP-MIC)
  - Gila River Indian Community (GRIC)
- Cities
  - Mesa
  - Tempe
  - Phoenix
  - Avondale
  - Goodyear
  - Buckeye

## **LOCAL AGENCIES**

- Maricopa Association of Governments (MAG)
- Salt River Project (SRP)
- Arizona Public Service (APS)
- Regional Transportation Agency – Valley Metro

## **UNIVERSITIES**

- Arizona State University – ASU
- University of Arizona – U of A
- Northern Arizona University - NAU

## **NON-GOVERNMENTAL ORGANIZATIONS**

- American Institute of Architects – Arizona Chapter
- Arizona Audubon
- Arizona Community Foundation
- Arizona Conservation Corps
- Arizona Forward
- Arizona Municipal Water Users Association | AMWUA
- Arizona Rock Products Association | ARPA
- Arizona Sustainability Alliance
- Center for the Future of Arizona
- Central Arizona Conservation Alliance
- Chicanos Por Las Causas | CPLC
- Cross Watershed Network | XWN
- East Valley Partnership
- Greater Phoenix Economic Council
- Greater Phoenix Leadership
- Habitat for Humanity Arizona
- Liberty Wildlife
- Local Initiatives Support Corporation of Arizona | LISC AZ
- National League of Cities
- National Forest Foundation
- Pheasants Forever

- Sonoran Institute
- The River Network
- Trout Unlimited
- Urban Land Institute Arizona
- Valley Partnership
- Vitalyst Health
- WESTMARC

Non-Governmental Organizations Actively Participating in Workplan Projects (see Appendix for full list of all Urban Waters Partners)

- Audubon Arizona
- Buckeye Valley Natural Resources Conversation District | NRCD
- Buckeye Water Conservation & Drainage District | BWCCD
- Central Arizona Conservation Alliance
- Green on Purpose
- Liberty Wildlife
- Maricopa County Food System Coalition
- RiversEdge West
- Pheasants Forever
- Sonoran Institute
- Tepeyac
- Trout Unlimited
- Trust for Public Land
- The Nature Conservancy
- Team Rubicon
- United Way of the Sun Valley

## **OVERALL GOALS/OBJECTIVES**

The Rio Reimagined Project will work to protect, restore and revitalize the Salt and Middle Gila River Watershed. The Project will use the mission, vision and principles of the national Urban Waters Federal Partnership to guide this work:

- Promote enhanced water quality and access
- Reconnect people, communities and neighborhoods to their waterways
- Foster the sustainable water stewardship and management
- Embody the urban river corridor to complement existing communities while catalyzing economic revitalization and prosperity
- Encourage community involvement through active, sustainable partnerships
- Engage community organizations in a transparent outreach and education process
- Focus on measuring results and evaluation to fuel future success

In addition, the Partnership has also identified the following goals specific to the Rio Reimagined Project:

- Restore urban ecosystem functions
- Balance revitalization with resilience and mitigation strategies relative to fire, flood, heat and drought to ensure public safety and resilience
- Maximize multi-benefit watershed goals to encourage health, wellness,
- Foster sustainable stewardship of natural resources

- Foster diverse participation and equitable community benefits respectful of the power of place
- Restore social, environmental and economic vitality along the river corridor

## ONGOING PROJECT ACTIVITIES

### PROJECTS TO BE INCLUDED IN THE WORKPLAN

- El Rio Vegetation Management Plan (by Stillwater Sciences) – Maricopa County Flood Control
- New Lower Gila River & Overflow Area Floodplain Delineation Study - Maricopa County Flood Control
- Salt Cedar Removal Pilot Project - Maricopa County Flood Control
- El Rio Buckeye Levee – Maricopa County Flood Control
- Maricopa County Regional Open Space Master Plan Update
- Central Arizona Conservation Alliance (CAZCA) Greenprint
- Regional Open Space Strategy (ROSS)
- Va Shly'ay Akimel Habitat Restoration
- Tempe Town Lake Master Plan
- Tempe Streetcar
- Rio Salado Multiuse Path Underpass at McClintock Drive Tempe
- Grand Canal Multi-Use Path Tempe
- North/South Rail Spur Multi-Use Path Project Tempe
- South Central Light Rail Phoenix
- Tres Rios Recreation Amenities Phoenix
- Rio Salado Oeste Habitat Restoration Phoenix
- Brownfield Redevelopment Phoenix
- 202 Red Mountain Freeway Extension Phoenix
- Gila River Indian Community Gila Wetlands Expansion
- Gila River Indian Community Pee Posh Wetlands Expansion
- Gila River Indian Community Water Conservation
- Beyond the Banks – City of Phoenix
- Lower Gila River Restoration Collaborative – Avondale, Goodyear, Buckeye
- El Rio Watercourse Masterplan - Avondale, Goodyear, Buckeye
- El Rio Planning and Design Guidelines - Avondale, Goodyear, Buckeye
- Sand & Gravel Policies – City of Buckeye
- In Lieu Fee Program – City of Buckeye + AZ Game + Fish Department

### NEW PROJECTS IN THIS WORKPLAN

- State Route 30
- 303 Freeway Extension
- Maricopa County Trails 2.0 Plan
- Multi-benefit Projects within FCDX jurisdiction
- Recreation Amenities within FCDX jurisdiction
- River Greenway
- Tempe | Mesa Streetcar Extension Feasibility Study
- Tempe Town Lake Upstream Dam Bike/Ped Bridge
- Educational Signage Along Rio Salado – Mesa, Tempe, Phoenix
- Phoenix Local Foods, Local Places (LFLP)
- Salt River Pima Maricopa Indian Community River Corridor Planning Study
- Pedestrian Connections across and adjacent to the river corridor
- Vehicular Connections across and adjacent to the river corridor
- 101 | 202 Interchange Public Access
- Base + Meridian Project - Gila River Indian Community + AZ Game and Fish Dept.

- Gila River Indian Community Mesquite Bosque Restoration
- GO:K A'AKIMEL AB'E NAMKS'CH" (Where The Rivers Meet) - Gila River Indian Community
- Invasive Species Removal / Hazardous Fuels Mitigation / Revegetation – Gila River Indian Community
- Avondale Festival Fields Park Expansion
- Goodyear Brine Management Wetlands
- Goodyear Rio Vista Trailhead
- Buckeye Recreation Pilot Project

**PROJECT DESCRIPTIONS (listed geographically from East to West along the river corridor)**

**1. Salt River Pima-Maricopa Indian Community**

- A. VA SHLY'AY AKIMEL - Originally designed in conjunction with the USACE, the SRP-MIC and the City of Mesa to naturalize approximately 13 miles of the Salt River bed from the Loop 101 crossing to the Granite Reef Dam. The final design included three phases: Phase 1 from the Loop 101 crossing to approximately Alma School Road, Phase 2 from Alma School Road to Gilbert Road and Phase 3 from Gilbert Road until Val Vista Drive. The project is currently under revision to focus on the 3 miles of habitat restoration and associated improvements beginning at the 101/202 interchange to the east along the Salt River.

The original design included ecosystem restoration and recreation project would restore ecosystem functions and values to an approximate 14-mile reach of the Salt River. The recommended plan includes restoration plantings, reshaping of abandoned quarry pits and the river channel to provide low-flow channel and terraces, construction of new drainage channels, irrigation diversions and pipelines, installation of groundwater well to nourish vegetation planted on the terraces along the river, and construction of a grade control structure to protect the restoration area. The recreation plan consists of approximately 5.1 miles of multi-use trails, parking lots, rest stops and interpretive signs. Implementing the plan would restore and improve approximately 1,485 acres of habitat, including 880 acres of cottonwood/willow community, 380 acres of mesquite bosque, 200 acres of wetlands, and 25 acres of Sonoran desert scrub. Additionally, about 2600 acres of existing cover type would be improved through invasive species control. This plan would support endangered and special species recovery, improve water quality, and restore greater ecological balance in the project area.

**SUMMARY OF CONSTRUCTION COSTS – OCTOBER 2008**

<b>Total Project Cost</b>	<b>\$179,400,000.00</b>	
Ecosystem Restoration	\$177,700,000.00	Cost Share 65% Federal + 35% non-Federal based on 1986 WRDA
		Federal: \$115,500,000.00
		Non-Federal: \$62,200,00.00
Recreation Features	\$1,700,000.00	Cost Share 50% Federal + 50% non-Federal based on 1986 WRDA
Estimated Cost of OMRR+R	\$2,200,000.00	Annually
Validation Report		Planting 300 tall pot trees in Mesquite Treatment Zone.
PMP / GRR Report		Timeline Unknown

At present the Salt River Pima-Maricopa Indian Community has engaged a design consultant to review this design and develop alternatives for consideration.

**Involved Partners:** Salt River Pima- Maricopa Indian Community, City of Mesa and US Army Corps of Engineers

**Status:** Reauthorization to restart Design

**Milestones:** TBD with SRP-MIC, City of Mesa and US Army Corps of Engineers

- B. RIVER CORRIDOR PLANNING STUDY

**Involved Partners:** Salt River Pima- Maricopa Indian Community

**Status:** Design Consultant team has been retained and preliminary work has begun

**Milestones:** TBD with SRP-MIC

## 2. City of Mesa

- D. VA SHLY'AY AKIMEL - Refer to description above.
- E. RECREATION AMENITIES
  - o South Bank Trail Extensions

## 3. City of Tempe

- A. TEMPE TOWN LAKE MASTERPLAN - Tempe Town Lake is Arizona's second-most visited public attraction. The more than 2-mile long lake was created by damming a portion of the dry Salt River and adding water. Today, the lake continues to act like a river to convey rainwater and snow run-off by lowering the dam when needed and raising it again to maintain the water within the lake. Tempe Town Lake is located in the heart of Tempe, running from west of McClintock Road to east of Priest Road between Rio Salado Parkway and Curry Road. A system of paths allow people to walk, jog, bike and more along its edges. It's also a great place for electric, wind and human-powered boats. The City of Tempe is has recently updated the Rio Salado and Beach Park Masterplan which is a comprehensive planning effort to develop improvement recommendations that will shape the public open space over the next 20 – 30 years. The Rio Salado and Beach Park area includes both sides of Tempe Town Lake between Priest Drive and Rural Road. The master plan focused on programming, infrastructure, access, use of space and land/water activities to provide a blueprint for future of the area.

The Master Plan identified twelve zones for improvements or enhancements with a probable cost of construction estimated at a total of \$381 million. Two priority zones were identified the for further conceptual development - Entertainment North Shore and the Recreation / Adventure along the north bank. The Entertainment North Zone identifies programming for events, fishing, small music venue, and connections to adjacent cultural and open space amenities with a probable cost of construction estimated at \$9 million. The Recreation / Adventure Zone to the north indicates programming for active outdoor recreation featuring adventure elements including a zipline, climbing wall and viewing platform as well as a beach boardwalk featuring a swimming pool with a probable cost of construction at 28.1 million.

Next steps include the development of conceptual plans for the two priority activity zones to define components of the proposed design, associated costs and potential sources of funding. In addition, a set of design guidelines for the Rio Salado would establish signage, plant materials palette, site furnishings, and other design elements to guide implementation over the future phases of the Master Plan. An estimated \$50,000-\$75,000 funded through Development Impact Fees is under consideration to develop the top two activity zone concepts (Entertainment North Shore and Recreation/Adventure) and create design guidelines for the Rio Salado.

**Involved Partners:** City of Tempe

### **Milestones:**

Feb. 1, 2018 – City Council Work Study Session Update

Feb. 28, 2018 - Visioning Workshops

May 9, 2018 - Public Meeting

Summer/Fall 2018 - Final Public Review

November 29, 2018 – City Council Adoption

April 4, 2019 - City Council Work Study Session: Rio Salado Implementation Plan

- B. TEMPE TOWN LAKE UPSTREAM DAM BIKE/PED BRIDGE

The Tempe Town Lake Upstream Bridge is a 0.2 mile long (986 feet) by approximately 26 feet wide, grade-separated bicycle and pedestrian crossing west of McClintock Drive connecting Rio Salado's north and south banks. The bridge will provide a safe, protected, low-stress, off-street connection for users of all types with links to the regional Valley Path bicycle/pedestrian system such as Indian Bend Wash and Rio Salado Path system. It will include lighting, seating and public art, while remaining ADA/MUTCD/AASHTO compliant. Funding for construction has not yet been identified.

Currently, the off-street bike facilities of Tempe, Scottsdale, Phoenix and Mesa are fragmented by Rio Salado. This 0.2 mile link would directly connect the eastern end of the north and south banks of the Rio Salado and the 51+ miles of regional shared-use paths that converge onto these banks. Completion of this link will allow residents of these four communities to directly and safely access regionally significant employment, commercial and entertainment destinations (Tempe Marketplace, Mesa Riverview, Rio Salado Corridor, Old-Town Scottsdale, Arizona State University, etc.), without having to leave a shared-use path, share an arterial or circuitously go to the west end of Town Lake, which is the only other existing bike/pedestrian-only connection across the Rio Salado.

The project will connect with the Rio Salado Shared-use Path, Rio Salado Underpass at McClintock Drive (currently in design), Rio Salado Shared-use Path extension from Indian Bend to McClintock Drive (currently in design), "Chain" BIKEit Bike Boulevard Route (future) and 95 miles of connected Tempe bike lanes that converge onto the Rio Salado Shared-use Path system. Public art will play a key role in realizing the objective of providing an iconic bridge. Design and construction issues are addressed in 15% preliminary design documents. A preliminary cost estimate for two alternative designs is estimated at \$15.18 million with no project constraints identified.

The project area community is home to the highest percentage of Tempe residents (individuals) living in poverty (44%, ACS 2015). Building this connection will create a direct and safe off-street connection to economically important regional destinations for these Tempe families, as well as those in Mesa, Scottsdale and Phoenix, who are more likely to depend on alternative modes of transportation like transit, biking and walking. The bridge will improve access to employment, commercial, educational and recreational opportunities.

The immediate area is home to one of the highest concentrations of minority residents in Tempe (39%, ACS 2015). The proposed connection will give all residents, especially minority residents who are more dependent on alternative modes of travel, safer non-motorized routes and better access to transit and to more employment, recreational, educational and commercial destinations. Locally, access to/from these banks provides direct connections to destinations such as Tempe Marketplace, State Farm's Marina Heights and ASU's future 330-acre mixed-use facilities district. Regionally, residents of Scottsdale, Mesa, Phoenix and Tempe whose daily work commutes include these alternative modes will benefit from the improved direct regional Valley Path link and increased access to transit.

Coordination with several agencies and stakeholders will be required for the extent of final design and construction of the project. Arizona Department of Water Resources, Bureau of Land Management, Federal Aviation Administration, United States Army Corps of Engineers, Arizona Department of Transportation and Flood Control District of Maricopa County will be involved as critical stakeholder agencies, as well as the, and neighboring municipalities and Native American communities.

**Involved partners:** City of Tempe, Maricopa Association of Governments and Maricopa County Flood Control District  
While the proposed project is located only within the City of Tempe, it directly connects the east end of the regional Rio Salado Shared-use Path system in which the cities of Phoenix, Scottsdale and Mesa all converge. The project location is also less than one mile from the borders of Scottsdale and Mesa.

**Potential Funding Sources:** Tempe anticipates applying for CMAQ and/or TA or other federal grants to fund most of the project cost. In addition, Tempe Transit Tax, PTF, and other local funds will also be solicited to provide the required match. Other potential funding partners include National Endowment for the Arts, Arizona Commission on the Arts, Arizona Highway Safety Improvement Program, Arizona Federal Lands Access Program, Rio Salado Foundation, St. Luke's Health Initiative, Surface Transportation Block Grant Program, and the TIGER Grant Program.

**Milestones:**

July 2017 - Awarded \$59,000 design assistance grant from Maricopa Assoc. of Governments (MAG)

November 2017 – Project Kick-off

February 2018 - Public Meeting #1

April 2018 - Public Meeting #2

June 2018 - Final project assessment report and 15% preliminary design plans

C. RIO SALADO MULTIUSE PATH UNDERPASS AT MCCLINTOCK DRIVE

The Rio Salado multi-use path underpass at McClintock Drive will be located on the south bank of the Rio Salado multi-use path system at McClintock Drive. The west and east sides of McClintock Drive have existing paths, and path users are currently expected to cross McClintock at the street level at the nearest traffic signal. Tempe has built several underpasses along the Rio Salado including at Mill Avenue and at Rural Road on both the north and south side of the Town Lake.

This proposed underpass would be similar in character to the completed underpass at Priest Drive. It will meet all necessary design requirements and traverse under six lanes of traffic on McClintock Drive. The project is identified in the Transportation



Master Plan and will provide a convenient and attractive link in the city's non-motorized network. The project construction estimate is between \$2 million and \$3.5 million.

**Design:** \$159,000 Congestion Mitigation and Air Quality Improvement grant

**Construction:** \$1.1 million Congestion Mitigation and Air Quality Improvement grant & \$79,604 Transit Tax

**Involved partners:** City of Tempe

**Milestones:**

Late 2015 - Awarded \$1.1 million in Federal funding

October 2016 – Design kick-off

June 2018 - 100% Design complete and Federal authorization to bid project.

Early Fall 2019 – Construction begins

2020 - Completion anticipated

D. GRAND CANAL MULTI-USE PATH TEMPE

Currently, the City of Tempe's portion of the Grand Canal (located just north of the 202, east of Priest Drive) is separated from other off-street pathways in the area including the Rio Salado Path System, Crosscut Canal and Phoenix's portion of the Grand Canal. The city is undertaking two projects that will begin to address the gaps in the off-street path network in this area.

In 2015, the Grand Canal was realigned as part of The Grand at Papago Park Center development, which provided for a multi-use path that connects to an existing multi-use path at Washington Street to the east and stops just east of Priest Drive on the west side of the development. Currently, Phoenix is constructing their third phase of the Grand Canal Multi-use Path, which will be the connection between Tempe and Phoenix.

Grand Canal Phase I includes designing and constructing a concrete multi-use path with lighting and landscaping to complete the 800-foot gap in off-street pathway between Tempe and Phoenix.

Grand Canal Phase II will produce preliminary design concepts and a report for the feasibility of a connection between the Grand Canal and the Rio Salado North Bank paths. The proposed grade-separated project is located between the Rio Salado North Bank Multi-use Path and Washington Street along Center Parkway over SR-202.

Although the Rio Salado North Bank and Grand Canal paths are less than a quarter mile apart, they are separated by SR-202, which is a barrier for continuous off-street travel in the region. The study will look at options that use grade separation to connect the paths. The proposed project would include public art, lighting and rest nodes with amenities. Once this project is completed, it will provide continuous off-street travel into Mesa, Phoenix, Scottsdale and Tempe, allowing better access to employment, entertainment and education. Construction for the Grand Canal Multi-use Path Phase I is anticipated to begin in summer 2020 and to be completed late 2020.

Grand Canal Phase I was originally included in the Tempe Multi-Use Path System Detailed Plan (2000) and was also identified in the Tempe Transportation Master Plan. Construction funding includes \$388,000 Tempe Transit Tax funds and a \$25,000 developer contribution. Grand Canal Phase II was awarded a Maricopa Association of Governments preliminary design grant of \$67,500. Final design and construction for Phase II are unfunded at this time.

**Phase I:** \$388,000 Local Funding, \$25,000 Developer Contribution

**Phase II:** \$67,500 preliminary Maricopa Association Governments design grant

E. NORTH/SOUTH RAIL SPUR MULTI-USE PATH PROJECT

North/South Rail Spur Multi-use Path Project ([www.tempe.gov/northsouthrailroadpath](http://www.tempe.gov/northsouthrailroadpath)), a 7-mile, non-motorized path from Knox Road on the south to a planned pathway north of University Drive. Using grant funding from the Maricopa Association of Governments (MAG), a preliminary design of the North-South Railroad Spur Multi-use Path was completed in 2015. The preliminary design included concepts for a 7-mile, non-motorized path from Knox Road on the south to a planned pathway north of University Drive.

Phase 1 will travel between University Drive and Baseline Road with Phase 2 connecting Baseline Road to Knox Road. This project will provide a low-stress non-motorized connection spanning from Tempe Town Lake/Downtown Tempe to Knox Road near the Chandler border, making it the longest continuous pathway in the community.

One short segment of this proposed path system has already been built as part of the Encore on Farmer housing development, which is a model for the remaining parts of this path. The path will include lighting, landscaping and public art while being ADA compliant, and will include improvements to street crossings (i.e., at grade signals or pedestrian islands).

**Funding:**

Phase 1:

- Design: \$507,000 Transit Fund
- Construction: \$2.3 million Congestion Mitigation and Air Quality Improvement grant & \$220,000 Transit Fund

Phase 2:

- Design: \$491,000 Transit Fund
- Construction: \$2.8 million Congestion Mitigation and Air Quality Improvement grant & \$338,000 Transit Fund

**Involved partners:** City of Tempe

**Milestones:**

Phase 1: University Drive to Baseline Road

- Project is in design.
- Public meetings in fall 2019.

Phase 2: Baseline Road to Knox Drive

- Design to begin in 2020.

F. EDUCATIONAL SIGNAGE ALONG RIO SALADO

Development of educational/interpretive signage; subject matter may include birds and their habitat, explanation of the Salt River and Indian Bend Wash watershed, and seasonal distribution of the birds that use Tempe Town Lake and adjacent habitat. May include QR codes that link to the citizen science worldwide interactive birdwatching website, eBird, that is coordinated by Cornell University.

**Potential Partners:** City of Tempe, Maricopa Audubon Society, Rio Reimagined, City of Mesa, ASU, and others

**Potential Funding Sources:** nonprofit partners, municipalities

**Milestones:**

September 2018: Initial meeting with Audubon Arizona

March 2019: Exploration of concept

G. TEMPE/MESA STREETCAR FEASIBILITY STUDY

The purpose of the streetcar system extension is to improve mobility by providing a dependable and efficient transit option that serves employment, activity centers, educational facilities and residential areas in and around Mesa Riverview, Fiesta District, Tempe Marketplace, Marina Heights, Arizona State University, downtown Tempe, downtown Mesa, Tempe Public Library and the developing Novus Innovation Corridor. Expansion of the streetcar system in the study area would:

- Connect major regional destinations, downtowns, public facilities, university/community college campuses, employment cores and multi-unit residential areas.
- Aid mobility of transit-dependent populations.
- Assist with travel demand within the study area and between downtown Tempe and downtown Mesa.
- Support growing population and employment in the study area, along with the local planning priorities for transportation, land use and economic development.
- Further the momentum of economic and transit-oriented development in the study area.
- Enhance high-capacity transit connectivity by interfacing with existing light rail and potential future projects in the Fiesta District and along the Arizona Avenue corridor in the city of Chandler.
- Enhance multi-modal connectivity between streetcar, high-ridership bus and circulator routes, and pedestrian and bicycle facilities.
- Identify potential improvements that can be adopted to make the corridors more competitive for future transit investments.
- Support regional efforts for congestion mitigation and air quality improvement.

**Next Steps:** Design concepts will be developed for each alternative advancing to Tier 2. Identification of station locations, capital and operating cost estimates, and ridership forecasting will be conducted for the Tier 2 alternatives. The project team will use this information for the Tier 2 Evaluation and recommend potential streetcar corridors for future regional

transit funding. Additionally, stakeholder outreach will continue throughout the process to inform the identification of a recommended alternative.

**Involved Partners:** City of Tempe, City of Mesa, Valley Metro

**Potential Funding Sources:** TBD

**Milestones:** March 2019 - Tier 1 Evaluation Report

#### 4. City of Phoenix

##### RIO SALADO HABITAT RESTORATION AREA –

The Rio Salado Habitat Restoration Area is an environmental restoration collaborative project between the US Army Corps of Engineers (Corps) and the city of Phoenix that includes flood control improvements, ecosystem restoration and recreation features. The Rio Salado Restoration Area provides needed habitat for Arizona wildlife, economic development benefits and regional trails along the riverbed. The entire project includes three components – Rio Salado, Rio Salado Oeste and Tres Rios - that span more than 20 miles and link with other flood control and river restoration projects in the metro area.

##### A. RIO SALADO – PHOENIX

Rio Salado was the first habitat restoration project, comprised of a five mile stretch of the Salt River that spans through the core of the City of Phoenix from 24th Street to 19th Avenue. The goal of the Phoenix Rio Salado Habitat Restoration Area was to restore the native wetland and riparian (riverbank) habitats that were historically associated with the Salt River, which once was a perennial fed river through what is now Phoenix. The site, just 1 1/2 miles south of downtown Phoenix, totals 595 acres and extends five miles from 24th Street on the eastern upstream end to 19th Avenue on the western or downstream end. The once deteriorated dumping site is now transformed into a lush corridor for visitors to enjoy while providing an opportunity for wildlife and native vegetation to flourish. The project was a partnership between the City of Phoenix and the U.S. Army Corps of Engineers (USACE). The design was completed on schedule in five phases over 3 years to meet the fiscal funding and construction schedule constraints. Project was completed in November of 2005.

##### B. TRES RIOS ENVIRONMENTAL RESTORATION

The Tres Rios Environmental Restoration project involved the rehabilitation of nearly 700 acres in and around the Salt River, restoring a vital wetland and riparian habitat. In 2000, the U.S. Army Corps of Engineers (USACE) received approval from Congress for the Tres Rios Ecosystem Restoration and Flood Control Project. The City of Phoenix partnered with the USACE to improve and enhance a 7-mile long, almost 700-acre section along the Salt and Gila Rivers in southwestern Phoenix. The project received 65% of the funding from the ACOE, with 35% coming from the local sponsor, the City of Phoenix and the Sub-Regional Operating [SROG] Group Members (Scottsdale, Tempe, Glendale, and Mesa). Technical and financial assistance was also provided by the Flood Control District of Maricopa County. Construction lasted from 2007 – 2012 with completion of phases 1, 2, 3A and 3B.

The project creates a mutual relationship between the renewed wetlands and the nearby 91st Avenue tertiary wastewater treatment plant. The reclaimed water from the wastewater treatment plant is pumped over to the wetlands, and the plants and animals take what they need before it is discharged back into the river. Water inflows from the treatment plant to the Tres Rios wetlands varies seasonally from 95,000 to over 270,000 m3 d-1. Water losses via open water evaporation and plant transpiration are several orders of magnitude higher than annual precipitation inputs in Phoenix.

The lush and scenic Tres Rios is now home to more than 150 different species of birds and animals like muskrats, raccoons, skunks, coyotes, bobcats, and beavers. The beautiful cottonwood groves, willows, mesquites, and other desert shrub around the reed-lined ponds and along the trail attract many migratory and wintering songbirds. By bringing the Salt River back to the condition it was in during the early 1800s, this project is repairing a natural habitat.

##### **Remaining Phases to be Completed – Phases 3C, 4, + 5:**

- **PHASE 3C - Environmental Restoration**

This phase extends environmental restoration from El Mirage Avenue west approximately one mile, which is upstream of the Agua Fria confluence.

- **PHASE 4 - Recreation Phase**

The Recreation Phase design contract was awarded to Tetra Tech in 2010. Based on Alternative 3.5 from the Tres Rios Feasibility Study and Environmental Impact Statement report of April 2000, the consultant developed the Final Development Plan. The Final Development Plan should was completed in August 2010, and Construction Documents were completed in February 2011. The goal of this phase was to take advantage of and formalize the multiple recreational opportunities available at the site. This phase was to provide recreational opportunities for visitors of all ages and backgrounds to enjoy and become more aware of this unique resource. Most of the 150,000 expected visitors

would be taking advantage of the recreational opportunities at the Tres Rios project between October and May when temperatures are moderate.

Recreation Design features were to include the following but are under reconsideration by the City of Phoenix:

▪ **Site Access Parking, Picnic Tables and Restroom Facilities:**

Those visiting the project will be able to arrive by private vehicle or alternate modes of transportation, including horse, public transit or bicycle. Users may enter at one of five primary access points along the bank at 9st Avenue, 99th Avenues, 107<sup>th</sup> Avenue, 115th Avenue (Avondale Blvd.), and El Mirage Road. These points coincide with existing river crossings or roads. Amenities at each access point will vary, but shall include:

- Twenty-five (25) stabilized decomposed granite parking spaces
- Picnic tables
- Staging/educational areas with one (1) interpretive sign
- A pre-fabricated composting (toilet) restroom facility

Each trail head will provide appropriate information and directional signage, an orientation kiosk to give visitors an overview of the activities and experience available, and orient users to the sensitivity of the area and appropriate uses and expectations.

▪ **Trails:**

Stabilized decomposed granite multi-use trail connections from the site access parking lots and trail heads (above) to the environmental restoration project, overbank wetlands existing maintenance roads/trails will be provided. Barrier-free access will also be provided for users with limited mobility. Trail directional signage will be included.

▪ **Future Educational Design Features and Visitor/Interpretive Center:**

In a future phase of the Tres Rios Ecosystem Restoration project, the City of Phoenix and others will design and construct a visitor/interpretive center and possibly some outdoor classrooms and interpretive exhibits. As a part of this contract, the recreation phase design shall plan for the future center and any outdoor classrooms, and coordinate for these features in our design by ensuring our recreational features will not conflict with future programming.

• **PHASE 5 - Open Water Marsh**

Final phase of the overall Tres Rios Environmental Restoration project includes Open Water Marsh along the south side of the Salt River that extends from 91<sup>st</sup> Avenue to 105<sup>th</sup> Avenue. It was anticipated that this phase would be awarded in FY 15 which was not authorized.

**Involved Parties:** City of Phoenix, Gila River Indian Community and US Army Corps of Engineers

**Status:** Reauthorization

**Milestones:** TBD with the City of Phoenix, Gila River Indian Community and the US Army Corps of Engineers

C. **RIO SALADO OESTE**

The Rio Salado Oeste is planned to restore an eight-mile reach of the Salt River between 19th and 83rd Avenues. The project was in the first phase of design from 19th to 51st Avenues. Since 2008, the project has received more than \$3.4 million in federal funding.

- Chief's Report from the Corps was signed in December 2006
- Project authorization in the 2007 Water Resources Development Act
- Restores eight miles of riparian habitat, approximately 1,500 acres
- Total cost of \$165 million (estimated federal share is \$105 million)
  
- **Benefits:**
  - Flood control improvements
  - Increase in ecosystem function
  - Benefit local and migratory wildlife
  - New economic development beyond the banks of the project

**SUMMARY OF COSTS TO DATE**

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<b>Total Project Costs to Date</b>	<b>\$7,688,723.00</b>
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Reconnaissance	\$124,979.00	Federal
Feasibility	\$3,063,679.00	
		Federal: \$ 1,997,036.00
		Non-Federal: \$ 1,066,643.00
Design	\$4,500,000.00	
		Federal: \$ 3,384,134.00
		Non-Federal: \$ 1,115,931.00
Estimated Construction Costs		
Estimated Cost of OMRR+R		Annually

The USACE Project Fact Sheet states that optimal funding (\$1.446M) would be used to complete remaining Pre-Construction Engineering & Design (PED) phase activities:

- (1) Complete Water Supply and Low Flow Channel Task Orders Plans & Specifications (P&S) to 100 percent design completion, and conduct District Quality Control (DQC) and Agency Technical Review (ATR) on contractor's work products;
- (2) Prepare draft Project Partnership Agreement (PPA) & Project Management Plan (PMP);
- (3) Conduct Real Estate coordination and review Land, Easements, Rights-Of-Way, Relocation, and Disposal Areas (LERRD) crediting;
- (4) Award a Task Order #3 contract modification for additional design work at low flow channel & outfalls;
- (5) Award a contract to design a newly identified 51st Avenue grade control structure.

**Involved Partners:** City of Phoenix and US Army Corps of Engineers

**Status:** Reauthorization to restart design

**Milestones:** TBD with the City of Phoenix and the US Army Corps of Engineers

#### D. RIO SALADO OESTE URBAN WATERS TECHNICAL ASSISTANCE GRANT

The City of Phoenix and the Rio Salado Oeste project was awarded an EPA Urban Waters Technical Assistance Grant in the Fall of 2018 focusing on area land use planning. The U.S. Environmental Protection Agency (EPA) has national responsibility for the Urban Waters program, through which this project is funded. EPA Region 9 staff responsible for this project provide coordination with the City of Phoenix and expertise in Arizona urban waters and watersheds, community development, and brownfields redevelopment. Arizona State University (ASU) has an overall coordination role in the larger Rio Reimagined – Rio Salado Project initiative to revitalize the entire Salt – Gila river corridor transect through the metro region. The City of Phoenix (COP), as the Urban Waters grant recipient, is providing project management and implementation through its long-range planning, community and economic development, and environmental programs departments. The project has retained the consultant team of The Participation Company and Dig Studio to support a community engagement and conceptual site design process.

**Overview of Technical Assistance, Study Area, & Work Product:** The Rio Reimagined – Rio Salado Project concept is working with federal agencies to receive a designation under the Urban Waters Partnership. In the interim, the EPA is assisting with federal coordination and funding for “shovel-ready” projects within the region. For this particular urban waters project, the study area has been defined as the Salt River corridor between 15th and 67th Avenues, which includes the under-construction freeway State Route 202. Within this corridor the study will evaluate current and future land use, general planning, zoning, development requests, and disposition of sand and gravel operations and other industrial properties.

Many studies of the Salt River corridor have been conducted over the past 50 years, some of which have resulted in significant water-related development and environmental restoration projects. The most relevant of these studies is the COP's Area Plan *Beyond the Banks* (<https://www.phoenix.gov/pdd/pz/pzstudies/rio-salado-beyond-the-banks-area-plan>). It was suggested that the Rio Salado Oeste project should be guided by the visions, concepts, and policies included in this plan. However, it was emphasized that this is not a final plan, and community and stakeholder involvement in future planning is vital. The more detailed site concepts and plans that will result from the Rio Salado Oeste project should be consistent with and fit within the *Beyond the Banks* plan.

**Project Goals & Key Issues:** The Rio Salado Oeste project seeks to identify three sites or target areas within the study corridor that are ripe for redevelopment and to create design concepts for these sites in concert with the affected community. These “key sites” could include economic development opportunities, open space, sand and gravel redevelopment and other uses, with the objective of ultimately creating “shovel-ready” projects using a variety of possible funding sources. Examples discussed include the city-owned landfill south of Lower Buckeye Road between 27<sup>th</sup> and 35<sup>th</sup> Avenues; a sand and gravel operation on the south side of the river in this same area that might be evaluated for housing; and a possible economic

development zone around the new Loop 202 freeway between 59<sup>th</sup> and 67<sup>th</sup> Avenues. It was clarified that the three Key Sites will be identified before the public/stakeholder charrette or workshop that is the focus of this project.

**Schedule, Logistics, & Charrette Process:** Due to the 2019 first quarter Federal government shutdown, Federal requirements were extended for this project for completion by July 31, 2019. Based on recent meetings, the charrette will be held on May 20<sup>th</sup>, to allow for preparation of logistics and post event completion of site design concepts and documentation such as the report.

Two to three key sites will be identified before the public/stakeholder charrette or workshop that is the focus of this project. Workshop participants will be selected using several sources and contacts that the City maintains, and City staff will start developing an invitee list. Participants will likely include special interest groups, community leaders, local developers and businesses, and representatives of local, regional, state, and federal stakeholder agencies.

The City of Phoenix thinks there will likely be between 50 to 75 participants in the planning event. The charrette and field trip for participants is estimated to require 2 days, with ½ day for the field trip and 1.5 days for the workshop. Follow-up activities will include a briefing for the City Council, particularly District 7 and 8 representatives, and some type of outreach to the public. Hosting an open house shortly after the workshop, as the last component of the planning process, was discussed so that the team can present and get feedback on draft site design concepts. The location of the charrette has not been selected. The Flood Control District of Maricopa County has agreed to host the Charette as it has a large well-equipped facility which could accommodate large groups.

The charrette design will generally include the following main components:

- Field trip to key sites
- Presentation on project description, background, objectives, key site descriptions
- Group discussion, brainstorming on concepts for key sites – may be small groups based on stakeholders followed by large group collaboration
- Development of design concepts, with planners and participants
- Session on implementation, to include discussion of next steps, action plan, available resources, funding options

Working Project Schedule as outlined by the Design Team:

- First Planning Meeting – Dec 18, 2018
- Second Planning Meeting - Feb 7, 2019
- Third Planning Meeting – March 18
- Invitations Sent – April 5
- Field Trip & Charrette – May 20
- Open House – 21 evening
- 1st Draft Report – June 7 - 21
- 2nd Draft Report – June 28 – July 5
- Final Report – July 15

**Next Steps:**

The Field Trip and Charette were tentatively planned for May 21 - 22, 2019 with a location as determined above.

**Involved Partners:** EPA Region 9, City of Phoenix, The Participation Company, Dig Studio and Arizona State University – University City Exchange. Steering Committee members have not yet been identified.

**Status:** Charette and Field Trip Planning is on-going.

**Milestones:** Three planning meetings have been completed and planning efforts are focused on the remainder of the timeline above. Final Report Due July 2019.

E. DEL RIO LANDFILL REDEVELOPMENT

Phoenix has issued a Request for Proposals for the lease and redevelopment of the 156-acre site. Between 1971 and 1981, the City operated approximately 103 acres of the Site as a municipal solid waste landfill and accepted approximately 2.5 million tons of solid waste at the Site. Upon its closure in 1981, the landfill was capped with imported soil. The Site presents a unique, infill opportunity to build on the economic development momentum the City is experiencing. The vision of the City is to encourage the creation of a commercial development that complements and enhances the surrounding neighborhood through employment opportunities, public open space, and recreational components. Development may include commercial, light industrial, recreational, retail, destination, cultural or other compatible uses.

**Project Timeline**

January 2018	COP Community and Economic Development Department Issued RFP
February 2018	Site Tour Registration Deadline
February 2018	Proposal Meeting and Site Tour
March 2018	Written Questions Deadline
Late March 2018	Responses to Written Questions
Late April 2018	Proposal Deadline
May 2018	Short List and Proposer Interviews
Summer 2018	Negotiations with Recommended Proposer

**Involved Partners:** City of Phoenix

**Status:** Ongoing negotiations with proposers

**Milestones:** To be revised based on City of Phoenix next steps

F. SOUTH CENTRAL LIGHT RAIL and CENTRAL AVENUE BRIDGE CROSSING

The South Central Light Rail Extension will connect with the current light rail system in downtown Phoenix and operate south to Baseline Road. The project includes a transfer hub in downtown Phoenix. The expansion adds new nine stations, over 5.5 miles of track and 14 artists engaged in art elements for the transit project. The proposed project will cross the Salt River and require a broad range of bridge improvements, including but not limited to structural abutments, pedestrian, bicycle and lighting, as well as a new light rail station in close proximity to the Nina Mason Pulliam Rio Salado Audubon Center and some of the City of Phoenix brownfield redevelopment sites.

**Project Timeline**

November 2013	Valley Metro completion of alternatives analysis and selection of locally preferred alternative (LPA)
November 2015	New Starts Project Development initiated
November 2016	Environmental Assessment Submittal
January 2017	Environmental Review Process Completed – Finding of No Significant Impact
Late 2017/ Early 2018	Engineering Agreement anticipated
June 2018 – October 2018	Phoenix City Council votes to pursue design alternatives in response to S. Phoenix Community concerns
January 2019	Full Funding Grant Agreement anticipated
2023	Start of Revenue Service anticipated

**Involved Partners:** City of Phoenix, Maricopa Association of Governments, Valley Metro, Federal Transportation Administration and US Army Corps of Engineers

**Milestones:** To be revised based on timeline outlined above

G. 19TH AVENUE LANDFILL REDEVELOPMENT

Potential future development opportunity which is an inactive landfill with mixed waste. It was a Superfund National Priority List (NPL) Status: The EPA listed this site on Oct. 4, 1989 known as EPA No: AZD009004177. The 19th Avenue Landfill site is located in an industrial area of Phoenix, Arizona at the southeast corner of 19th Avenue and Lower Buckeye Road. The site covers 213 acres of land, of which the major part containing 200 acres is referred to as Cell A, and located on the north side of the Salt River channel. The remainder of the landfill Cell A-1 is located south of the river channel.

- **Contaminants of Concern** - The current contaminants of concern in groundwater include very low levels of volatile organic compounds (VOCs), and heavy metals including arsenic, barium, mercury, and nickel. Currently, arsenic continues to exceed the water quality standards on the site. Contaminants of concern at the site may change as new data become available. Sampling of soil and refuse in the landfill indicated that the contents of the landfill are similar to those expected in municipal landfills; however, industrial wastes were also disposed at the site.
- **Public Health Impact** - The baseline risk/health assessment prepared by the Agency for Toxic Substances and Disease Registry indicates that the groundwater flowing underneath the landfill is not considered to be a threat to public health. Groundwater in the area is used for industrial purposes only; it is not used as drinking water. Potential and future

groundwater impacts will be mitigated by the groundwater contingency plan. Therefore, there will be no exposure pathway through any drinking water supplies.

The area's primary drinking water is provided by COP water distribution system. The municipal system draws water from groundwater and surface water sources over thirty miles away. The nearest drinking water supply well is over three miles away. An industrial well and a down gradient agricultural well are located 200 feet and 800 feet, respectively, from the Site. However, there is no known contamination of these wells at this time. Ambient air quality monitoring indicates no apparent risk to human health from landfill gas emissions.

- Action Taken - In 2016, the Army Corps of Engineers, on behalf of the U.S. EPA, completed the fourth Five Year Review (FYR). The FYR concluded that the site remedy is protective of public health and the environment.
- Status - The COP continues to operate and maintain the treatment system and submit quarterly groundwater monitoring reports. As hazardous substances remain buried on-site above health-based levels, the Site will continue to undergo FYRs to ensure the remedy continues to be protective of public health and the environment. The next FYR will be due in 2020.

- H. **RESOURCE INNOVATION CAMPUS [RIC]** – Developing waste diversion strategies and economic development opportunities. The RIC, located at 27th Avenue and Lower Buckeye Road, is dedicated to the creation and growth of a circular economy that will fulfill the city's goal of diverting from the landfill 40 percent of trash generated in Phoenix. The RIC will help Phoenix reap the economic development benefits of attracting manufacturing processes and conversion technologies that transform trash into resources.

The campus will be comprised of five main components:

- The 27th Avenue Transfer Station - as the attracts new innovators with manufacturing processes and conversion technologies that use trash as resources, the transfer station will divert more volume away from the landfill and into the city's circular economy.
- Materials Recovery Facility (MRF) - as innovators identify new ways to transform trash into resources, the role of the MRF could expand to allow Phoenix residents to recycle additional items in their blue recycling containers.
- Composting Facility - the city is in the design phase for a composting facility that is expected to divert some of the 400 million pounds of compostable materials currently sent to the landfill each year. The facility is scheduled to be operational by mid-2016.
- Land Leases - approximately 40 acres of property at and around the RIC will be used to develop a resource cluster focusing on a circular economy and by-product synergies. Land leases will be made available for innovators and manufacturers with market-ready technologies and manufacturing processes that use trash to create new products. A competitive process will determine how the land will be developed.
- RISN Headquarters and Technology Solutions Incubator - the RIC will house a business incubator for start-up/emerging technologies and manufacturing processes. Conceptually, the business incubator will provide office, workshop, support services, technical services and possible funding resources to innovators.

**Involved Partners:** City of Phoenix and Arizona State University

**Milestones:** TBD

- I. **202 FREEWAY SALT RIVER CROSSING**

The Loop 202 (South Mountain Freeway) will add 22 miles of freeway to the existing Phoenix metropolitan transportation system, providing a long-planned direct link between the East Valley and West Valley and a much-needed alternative to Interstate 10 through downtown Phoenix. The freeway will also connect the southern and northern communities giving alternative access from flood prone local streets. A pedestrian bridge will be constructed as part of the South Mountain Freeway project which is being coordinated with the City of Phoenix Office of Arts and Culture to incorporate public art. The Arizona Department of Transportation is in the progress of constructing the longest bridges on the freeway at two, half-mile-long spans [2700 feet long] over the Salt River. Crews are two-thirds of the way finished with the bridges, which will serve vehicular access in the southwest Valley in 2019.

**Involved Partners:** Arizona Department of Transportation, US Army Corps of Engineers and City of Phoenix

**Milestones:** TBD

- J. **LOCAL FOODS, LOCAL PLACES (LFLP)**

A federal initiative that helps communities reinvest in their neighborhoods and improve quality of life as they develop the local food economy. The Local Foods, Local Places - EPA Environmental Justice Grant was awarded to the City of Phoenix in Spring 2018. The City of Phoenix, Arizona, is developing a plan to improve access to healthy food in the South Central



Light Rail Corridor, an economically distressed area. The plan will be folded into other initiatives in the area, including implementing a strategy for equitable transit-oriented development and restoring and improving access to the Rio Salado (Salt River). The goals and supporting actions are listed below:

- Goal 1 – Activate a City-Wide Action Plan for South Phoenix
- Goal 2 – Identify local food projects
- Goal 3 – Establish community engagement processes
- Goal 4 – Recommend policies and strategies for implementing food system initiatives

These efforts are continue are an extension of the [Local Food Systems](#) program. The City of Phoenix has focused on increasing community access to fresh and healthy food by creating a vibrant food system. Many residents live in "food deserts" where resident are more than one mile from fresh and healthy food. In Phoenix there are 43 food deserts which are more than 75% of the total number of food deserts in Maricopa County. By increasing neighborhood access to fresh and healthy food will improve community health and reduce diet-related disease.

By 2050, the City wants to establish a sustainable, healthy, equitable, local food system by eliminating food deserts, increasing urban agriculture, establishing farmers markets in each of the city's urban villages, and significantly reducing the rates of hunger, obesity, and diet-related disease.

**Next Steps:** The City of Phoenix has held two community workshops within the South Phoenix Village Planning area and has preliminary plans to host a third community workshop in mid-May.

**Involved Partners:** City of Phoenix, Maricopa County Food Coalition (MarCo), Valley of the Sun United Way, Vitalyst Health Foundation, Green on Purpose, Tepeyac, Health Improvement Partnership of Maricopa County.

**Milestones:** Grant is Scheduled to be Complete May 2019

## 5. Maricopa County

- A. NEW LOWER GILA RIVER & OVERFLOW AREA FLOODPLAIN DELINEATION STUDY FCD - a new floodplain delineation study of the Lower Gila River between Miller Road and Bullard Avenue in cooperation with the Cities of Buckeye and Goodyear. The new study uses updated topographic mapping and a recently approved FEMA model (HEC-RAS 2D). The model will evaluate the spillover from the river to the north into the Lower Gila River Overflow Area (previously referred to as the Buckeye Slough which is located between Apache and Perryville Roads on the north side of the river). This new modeling will provide more accurate floodplain delineation potentially decreasing floodplain limits and flood depths. There may be, however, some areas where the flood depths could increase.

The Lower Gila River floodplain downstream of the Overflow Area, between the Hassayampa River and Miller Road, is also being evaluated using recent topographic mapping. This area will be included in the delineation if there are meaningful changes to the floodplain limits or depths.

FCD anticipates a quick turnaround with the study being completed and submitted to FEMA in June 2018. A public meeting to present the study results is planned for May, 2018 prior to submitting to FEMA. The date and location for this public meeting has yet to be determined but will be provided in a future mailing and placed on FCD's website.

- B. SALT CEDAR REMOVAL PILOT PROJECT - FCD is working on a 40 acre Vegetation Management Plan pilot project located within the Gila River just east of the State Route 85 Bridge. The project is designed to test methods and techniques for vegetation removal and replanting as established in the Vegetation Management Plan. Clearing of the project site began December 4th and was completed on December 15th. The District utilized a grant from the Gila River Indian Community to procure a forestry clearing machine. Following the clearing, planting of native vegetation will take place from mid-January to mid-March. A second phase of planting will occur in winter of 2019. The planting strategy calls for a mix of cottonwood and willow pole cuttings, mesquite and hackberry plants, and desert shrub hydroseeding in specified zones determined by depth to ground water. Once planting is complete, monitoring will continue for several years to document survivability of replanted vegetation, costs and best practices for future work. See press release for more at <http://bit.ly/SaltCedarPress>.

### **Pilot Project Schedule Salt Cedar Removal Pilot Project Timeline**

February 2017-November 2017	Planning, permitting, securing equipment, right of entries, and surveying for endangered species.
December 2017	Tree removal and mulching vegetative debris.
January 2018	Collecting/planting 500 cottonwood and willow poles in Riparian Treatment Zone.
March 2018	Planting 300 tall pot trees in Mesquite Treatment Zone.
April 2018	Hydroseeding ½ of Desert Shrub Zone.
May-November 2018	Monitoring site and treating new salt cedar seedlings.

## C. EL RIO BUCKEYE LEVEE –

FCD evaluated potential levee locations along the north bank of the Gila River to protect the eastern Buckeye area from the 100-year flood, or a flood with a 1% chance of occurrence in any given year. Conceptual plans were developed using levee and non-structural alternatives that identified the size, alignment and profile of major project components and provided conceptual level cost estimates. Implementation costs of the levee with vegetation management is approximately \$210 million, although funding is currently not available. View the final report at <http://bit.ly/BuckeyeLeveeDCR>.

<b>Estimated Cost of Construction</b>	
Levee and Wide Embankment Construction	\$ 66,423,995.00
Levee System Design and Construction Administration	\$ 5,845,312.00
Rights of Way	\$ 26,365,433.00
Sand and Gravel Mining Royalties	\$ 1,314,594.00
Vegetation Management Implementation	\$ 25,319,525.00
Vegetation Management Maintenance	\$ 15,710,720.00

## D. EL RIO WATERCOURSE MASTER PLAN –

A plan is underway to restore the Gila River's natural flood control functions, rejuvenate the river's wildlife habitat and provide recreational opportunities along the river for residents of the Phoenix metropolitan area. The El Rio Watercourse Master Plan is a comprehensive flood control and multi-use recreation plan for a 17.5-mile stretch of the Gila River in the communities of Avondale, Buckeye and Goodyear and Maricopa County Park's and Flood Control. A multi-jurisdictional team has been assembled to facilitate implementation of the plan.

## E. EL RIO VEGETATION MANAGEMENT PLAN by STILLWATER SCIENCES -

At the direction of the Maricopa County Flood Control District, Stillwater Sciences completed the El Rio Vegetation Management Plan in September 2016. The stated goal of the plan is to provide science-based guidance on salt cedar removal and native plant revegetation within the floodway along a 17.5-mile segment of the Lower Gila River (from the confluence with the Agua Fria River downstream to State Route 85 bridge) that will in turn provide floodplain-management benefits in addition to improving biodiversity within the floodway corridor.

The El Rio Vegetation Management Plan follows the floodway boundary and encompasses roughly 8,787 acres, 53%, or 4,665 acres of that total being publicly owned. The Plan recommends treatment of 5,662 acres of which 2,979 is publicly owned. Stillwater estimates the full costs of implementing, maintaining and monitoring the vegetation management units over a 5-year period of approximately \$109 million[1]. If only the public lands were treated, the total would be \$58 million.

While the scope of the plan did not include the identification and prioritization of specific restoration sites, Stillwater Sciences provided five prioritization criteria and two de-prioritization criteria. The plan also provides general site assessment and design guidelines to be utilized once specific sites have been identified as well as general best management practices and guidance on maintenance, monitoring and adaptive management.

<b>Summary of Revegetation Costs – September 2016</b>		
<b>Total Project Cost</b>	<b>\$109,000,000.00</b>	
Clearing & Grubbing	\$22,373,880.00	5,745 acres
Wetland Grade/Fill	\$385,000.00	77 acres
Herbicide Application	\$32,576,640.00	Entire 8,787 acres (4 to 5 years)
Planting	\$3,595,7946.00	5,136 acres
Monitoring	\$1,823,4270.00	Entire 8,787 acres (5 years)

**Involved Partners:** Maricopa County Flood Control, City of Avondale, City of Goodyear, City of Buckeye

**Milestones:** Conceptual 5-year time frame as follows:

**Phase One:** Identify landowners to implement elements of the Plan on their property.

**Phase Two:** Conduct site specific field evaluations, establish project goals and develop design plans.

- Phase Three:** Apply for and acquire funding for implementation of units with willing landowners and high flood risk reduction and/or habitat enhancement priority.
- Phase Four:** Apply for and acquire permits for implementation of units with willing landowners and high flood risk reduction and /or habitat enhancement priority.
- Phase Five:** Implement salt-cedar removal and appropriate habitat enhancement at funded units, and conduct monitoring and maintenance.

F. HAZARD FUELS MITIGATION GRANT by BIA

G. ESTRELLA MOUNTAIN PARK IMPROVEMENTS –

These 19,840 acres of desert and mountains became the first regional park in the Maricopa County Park System in 1954. Located near the meeting of the Gila and Agua Fria Rivers in the southwest Valley, the park includes a large riparian area. The landscape seen by the first settlers and explorers. The Sierra Estrella range, or “Star” Mountains, was once within the Mexican border, and remained so until the Gadsden Purchase in 1853. Proposed improvements to the park include new play areas, restroom renovations, nature trails, riparian areas, road improvements, multipurpose sports fields, El Rio Pilot Project Trailhead, Goodyear Brine Management and Demonstration Wetlands, and connection to the Maricopa Trail.

**Involved Partners:** Maricopa County Parks and Recreation

**Milestones:**

H. MARICOPA and SUN CIRCLE TRAILS - MCRP

Maricopa Trail is the primary trail loop connecting the Maricopa County Regional Parks. Several segments fall within the Rio Salado project area which include Segment 2 connecting the Indian Bend Wash to Tempe Town Lake (approx.. 10 miles), Segment 3 connecting the South Canal from the Granite Reef Dam to the Roosevelt Water Conservation District Canal in Mesa, and Segment Four connecting Roosevelt Water Conservation District Canal, Segment 9 and 10 connect Tres Rios with the Cities of Buckeye and Goodyear.

**Involved Partners:** Maricopa County Parks and Recreation

**Milestones:**

## 6. City of Avondale

A. AVONDALE PILOT PROJECT

The Avondale pilot project will be located within the City of Avondale’s Festival Fields Park at Lower Buckeye Road and the Agua Fria River. The development of a trailhead will be incorporated into the western half of the park that is currently slated for phase 2 development. An existing hard bank levee runs along the south side of the park and protects it from most of the adjacent Agua Fria river flows. The existing levee does not protect the site from all flows as there is a Zone A floodplain behind the existing levee. The land on the far southwest corner of the site is currently unprotected from any levee and would be within the immediate Agua Fria floodway. The El Rio Trail is planned to run along the top of the existing flood control levee and then transition down into the river at the end of the existing levee.

The undeveloped portions of the park are largely devoid of vegetation, except within the existing drainage area north of the levee, which has some low desert scrub and trees. Land surrounding the site is private property on the west, park development on the north and east and the Agua Fria River to the south. This site offers a great opportunity for access to the El Rio Trail system as well as to the Sun Circle and Maricopa Trail system along the Agua Fria River. This site has the opportunity to serve as a major hub for connectivity to the regional trail systems and as an access point to two of Arizona’s vitally important river corridors.

B. AVONDALE LEVEE

Connecting Agua Fria to Tres Rios – refer to the information above.

## 7. Gila River Indian Community

The Gila River Indian Community Department of Environmental Quality – Water Quality Program has completed multiple restoration projects in the Gila River Wetlands during 2012 through 2014. Funding for these projects was from US EPA Non-Point Source Grants.

A. GILA WETLANDS

The Gila River Wetlands contains more than 1,000 acres of wetland habitat and includes more than four miles of perennially flowing riverine habitat. The Gila River Wetlands is a hydrologically modified salt cedar dominated system characterized by high salinity in soil and water. In 2008 the Gila River Wetlands was burned due to the Ethan Wildland Fire. This fire provided the opportunity to restore the wetlands. The goal of restoration activities in the Gila River Wetlands is to demonstrate ecological potential while improving water quality through effective salt cedar management practices. Work continues within the Gila Wetlands to provide maintenance, hazardous fuels mitigation and to supplement native materials establishment.

**Involved Partners:** US EPA and Gila River Indian Community Department of Environmental Quality

**Milestones:**

B. PEE POSH WETLANDS

The Pee Posh Wetlands covers 70.8 acres and is characterized by a cottonwood-willow gallery of riparian and wetland habitat. This valued wetland supports an array of wildlife and culturally significant native plants and was designated as a Tribal environmental conservation easement (GR-129-10) in 2010 for the purposes of protection, restoration, and preservation. The wetlands have increasingly become susceptible to environmental impacts from external sources. These impacts include salt cedar encroachment, illegal dumping, and trash and sediment loading from conveyance flows into the Wetlands. The goal of the restoration efforts continues to improve water quality through effective salt cedar management practices and remove trash and sediment. Work continues within the Pee Posh Wetlands to provide maintenance, hazardous fuels mitigation and to supplement native materials establishment.

**Involved Partners:** Gila River Indian Community Department of Environmental Quality, United States Environmental Protection Agency, Arizona Game and Fish Department and the United States Army Corps of Engineers

**Milestones:**

Other Projects:

C. GO:K A'AKIMEL AB'E NAMKS'CH" (WHERE THE RIVERS MEET)

The Gila River Indian Community's Department Environmental Quality has established a partnership with the Arizona Game and Fish Department that would allow the entities to work towards restoration of the environment. The intergovernmental agreement between AZGFD and the Gila River Indian Community (GRIC) enables restoration and propagation for native plants. The scope of work for this partnership will include invasive species removal to mitigate fire hazard as well as revegetating eradicated areas with indigenous plant material of greater ecological and cultural value.

These efforts would supplement the work done in 2015 by the Arizona Game and Fish Department and funding from the U.S. Army Corps of Engineers who completed restoration within the Base-Meridian Wildlife Area. The restoration project included removal of large quantities of salt cedar and other exotic vegetation that negatively impacted the area. However, maintenance is required to continually remove the salt cedar which has regrown.

The goal of the current efforts would restore an area along the Gila River, near ISM Raceway in a place that is adjacent to the Gila River Indian Community land. The GRIC DEQ's Fuels and Restoration Crew will remove salt cedar with chainsaws, chip and mulch removed vegetation, stack and burn excess wood, and apply herbicide to ensure that salt cedar does not re-sprout and reestablish.

In return for assistance, the State's wildlife management department will offer approximately 230 acres of farmland adjacent to the GRIC in two locations: Robbins Butte and Powers Butte Wildlife Areas located 50 miles downstream of the Gila River. The intergovernmental agreement establishes land at these two adjacent wildlife areas to be used to grow native plants such as desert marigold, brittlebush and wolfberry on agriculture fields that AZGFD acquired to benefit wildlife.

Under the agreement a seed farm would cultivate native plants on a large scale for restoration projects and potentially harvested to help with other restoration projects in the region. Developing a template for growing native plant species would allow native plant data to be an educational resource for GRIC members who are interested in cultivating native species as agricultural crops. Currently, there is no large-scale business that specializes in native plant seed cultivation. Developing these practices would restore propagation skills and techniques for indigenous plants that are adapted to desert conditions and climate impacts.

There is a significant market demand for native seeds and plants, create a valuable industry, economic driver and GRIC workforce development consistent with cultural practices. Cultivating native plants on a commercial scale would not only

benefit farmers, it would also benefit the natural environment because native plants use less water, require less tillage and provide excellent habitat for wildlife.

**Involved Partners:** Arizona Game and Fish Department and Gila River Indian Community Department of Environmental Quality

**Milestones:** IGA executed - January 2019

#### D. BASE AND MERIDIAN - PARTNERSHIP PROJECT

The proposed project includes working with the Gila River Indian Community (GRIC or Community) to remove Tamarisk and other exotic plants from the Salt and Gila river channels in the Arizona Game and Fish Commission-owned Base and Meridian Wildlife Area. The goal of these restoration plans is to provide quality habitats for wetland-associated species that are known to occur at or near the site, including the Federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and Ridgway's clapper rail (formerly Yuma clapper rail; *Rallus longirostris yumanensis*), the Federally threatened western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and the snowy egret (*Egretta thula*), a state species of special concern. Base and Meridian falls within AGFD's Resource Category I for Wildlife and Wildlife Habitat Compensation. Habitats in this category are of the highest value to Arizona wildlife species and are unique and/or irreplaceable on a statewide or ecoregion basis.

Vegetation management will be conducted using the following protocols for up to 40 acres:

- Mechanical removal of Tamarisk using chainsaws, mulcher, and skid steer.
- Native revegetation re-seeding by hand, soil augers, shovels, etc.
- Pole planting of native vegetation from locally sourced material.
- Herbicide spray on the stumps of the Tamarisk with back sprayers on individuals licensed and/or ATVs.
- Disposition of removed material will be on a site-specific basis but will be one of the three (3) following strategies:
  - Chipping/mulching of removed vegetation to be left on site for erosion control/seed stratum.
  - Stockpiling of removed vegetation for curing (6 months) followed by slash pile burning.
  - Hauling removed vegetation off-site for disposal.

In turn for the vegetation treatment, the Department has agreed to allow for the Gila River Indian Community to utilize 11 acres on Robbins Butte Wildlife Area for propagation of seed and/or pots for use in restoration activities.

**Involved Partners:** Gila River Indian Community - Department of Environmental Quality, Arizona Game and Fish Department and Bureau of Indian Affairs - AZ Pima Agency, Fire Management

**Milestones:** Grant initiated in 2018 to be completed within a four year period

#### E. INVASIVE SPECIES REMOVAL / HAZARDOUS FUELS MITIGATION / REVEGETATION

In an effort to remove invasive salt cedar and restore native vegetation to areas of the Gila and Salt rivers and to promote beneficial ecosystem management through fire management, two resolutions passed by the Gila River Indian Community Council which will allow the Department of Environmental Quality and Bureau of Indian Affairs Pima Agency Fire Management to begin restoration work commencing in the Fall of 2017. Resolution GR-104-17 approves the implementation of the fuel reduction and native plant communities restoration project and resolution GR-105-17 approves the Pima Agency's programmatic burn plan for piles.

These two resolutions are in effect partner resolutions that will be utilized to remove portions of the Gila and Salt rivers of salt cedar, re-plant native plants in their place, and burn or distribute the left-over organic material to the Community. The areas of the Gila and Salt rivers that will be restored are located within Districts 6 and 7 of the Gila River Indian Community. The focus of the removal and revegetation will be areas of significant dense stands of salt cedar along the Gila River just east of St. Johns, and westward to the confluence with the Salt River, and the lower Salt River starting at the Pee Posh wetlands down to the confluence with the Gila River.

**Involved Partners:** Gila River Indian Community - Department of Environmental Quality and Bureau of Indian Affairs - AZ Pima Agency, Fire Management

**Milestones:** Resolution adopted October 2017

#### H. MESQUITE BOSQUE RESTORATION – WILDLAND URBAN INTERFACE PROJECT

The Wildland Urban Interface project is a unique combination of vegetation restoration and reduces the risk of a wildfire. Of the three major plant communities that define the riparian environment of the Gila River (cottonwood/willow gallery forest, "cienega" or marsh, and mesquite "bosque" or woodland), mesquite bosques are one of the most threatened. Today, most of these extensive bosques – such as the historic New York Thicket, have been undermined by extensive flooding, groundwater pumping from alluvial aquifers, clearing for agriculture, harvesting for cultural practices or heavily degraded by salt cedar. Honey and Velvet Mesquite has also encroached out into adjacent grasslands to a large extent. Anthropogenic changes in hydrology along many of the major southwestern drainages has also reduced the range of the community especially in the western portion of this area.

Some remnants of mature bosques still survive along the Middle Gila River, which are critical to wildlife and require protection, restoration and preservation to deter further fragmentation. With adequate water, the trees create a dense leaf canopy supporting a multi-layered set of habitats. Bosques can develop where groundwater is shallower than 45' below the surface, but most have much shallower water tables, usually 20' or less. These bosques are typically complemented with netleaf hackberry, velvet ash, and Arizona walnut are some of the other trees making up the top leafy canopy. The understory is comprised of Mexican elderberry, graythorn, fourwing saltbush, catclaw acacia, wolfberry and other small trees and shrubs create great nesting, hiding, foraging and hunting habitat. The lowest understory may include carpets of flowers like ruellia (violet wild petunia) and pigeonberry after winter or summer rains; and many species of vines such as virgin's bower (wild clematis), passionflower, and climbing milkweed connect all the vertical layers as they cloak the bosque in grace.

Bosques support more breeding birds in the Southwest than any habitat other than neighboring cottonwood-willow forests. They are also critical migration corridors, for birds as well as for mammals like mule deer, mountain lion, and the occasional jaguar. Mesquite bosques also provide protection from flood erosion damage to roads and structures, since they line the active floodplain and take the brunt of any major flood event through vegetation slowing and filtering the flows. Bosques also filter runoff from upland sources (including polluted road runoff, sediments, agricultural and livestock debris, and trash), so protect the quality of water that reaches the river and recharges our drinking water aquifer. The Gila River Indian Community recognizes the significance and value of these extensive stands of mesquite, and is actively working on restoration of these significant components of the riparian environment. The work involves removing invasive species, restoring mesquite stands as well as properly maintaining and managing mesquite thickets.

**Involved Partners:** Gila River Indian Community - Department of Environmental Quality and Bureau of Indian Affairs - AZ  
Pima Agency, Fire Management

**Milestones:**

## 8. City of Goodyear

- A. EL RIO LAKE  
Joint project with Avondale, MCFCD, Buckeye Irrigation District (BID) and MC Parks Dept. to plan expansion of BID impoundment lake at confluence of Agua Fria and Gila Rivers for active and passive recreation.
- B. RIO VISTA TRAILHEAD –  
Joint project with MC Parks Dept. and MCFCD to construct trailhead at NEC of Bullard Ave. and Vineyard Ave., expand parking lot for MCFCD's Demonstration Project and provide connection to El Rio Trail, Maricopa Trail and Estrella Mountain Regional Park. Not in current CIP.
- C. MARICOPA TRAIL –  
Joint project with MC Parks Dept. to develop portion of trail using Yuma Road and Bullard Wash and connects to Estrella Mountain Regional Park. Temporary surfacing has been installed.
- D. BRINE MANAGEMENT WETLANDS –  
Joint demonstration scale project with Maricopa County Parks Department to develop engineered wetlands on a site in Estrella Mountain Regional Park to treat concentrate generated by Reverse Osmosis water treatment process to remove contaminants. Water discharged from the wetlands will be blended with other water to dilute TDS to levels equal to those present in the river and may be used for irrigation to help establish native vegetation in habitat restoration projects. Seeking funding source.

## 9. City of Buckeye

- A. EL RIO DESIGN GUIDELINES & PLANNING STANDARDS  
The Cities of Avondale, Goodyear, and Buckeye, along with Maricopa County and the Flood Control District of Maricopa County have jointly been developing design guidelines and planning standards for future development within the El Rio

Corridor that would be consistent across jurisdiction lines. The El Rio Corridor is a two to three mile wide stretch of the Gila River running 17.5 miles from its confluence with the Agua Fria River west to the State Route 85 Bridge. Approved by Buckeye City Council in August 2017, the El Rio Watercourse Guidelines include approximately 3.5 square miles bounded by Beloit Road on the north, Miller Road to the west, Watson Road to the east, and the south portion of Gila River to the south. Objectives include the following:

- Preserve and restore existing pristine natural habitat areas in the Gila River in Buckeye
- Complement those preservation efforts with appropriately designed recreational opportunities that take advantage of open water bodies and interconnected trail system;
- Establish a vision for supporting land uses along the north bank of the Gila River that celebrate the river to become a premier destination place in Buckeye.
- Guidelines for development along Gila River include the following components:
  - El Rio Trail
  - Landscape & Signage Guidelines
  - Pilot Projects

**Involved Partners:** Cities of Avondale, Goodyear, and Buckeye, along with Maricopa County and the Flood Control District of Maricopa County

**Milestones:**

**B. CITY OF BUCKEYE GILA RIVER RESTORATION PROGRAM**

Historically, perennial flows and shallow groundwater conditions in the Gila River supported large gallery forests of cottonwood and willow, open water and wetlands. In turn, these landscapes supported abundant wildlife species including fish, reptiles, amphibians and avian species. Today, the Buckeye reach of the Gila River is listed as having critical habitat for several species, including the Ridgeway's clapper-rail, Southwester willow flycatcher and the Yellow-billed cuckoo. Unfortunately, the majority of the area that is listed as critical habitat is unsuitable due to a lack of instream flows and the invasive Salt Cedar plant.

Not only is the biodiversity negatively impacted by Salt Cedar, but so are public safety, water supply and soil salinity. The State Route 85 (SR 85) Bridge, which traverses the western end of the plan study limits, is a critical transportation route linking Interstate 10 with Interstate 8. In the event of a fire, if the Salt Cedar located underneath and immediately adjacent to the SR 85 Bridge burns, temperatures can be sufficient to cause damage to the structural integrity of the concrete bridge. The extremely high density at which Salt Cedar can grow is also largely attributable to a 4,500-acre expansion of land now included within a new floodplain delineation within Buckeye alone.

To combat the oversaturation of Salt Cedar, the Gila River Restoration Program, prepared by Wass Consulting with input from AZGFD, represents a significant component to the overall "Restore the River; Enliven the Banks" plan. Close collaboration with the Flood Control District of Maricopa County also ensures Buckeye's approach to restoration was in concert with the district's vegetative management and flood control intentions for the Gila River within the greater region. The major components of the program include preservation, restoration and creation of high quality habitat, enhancement of low quality habitat, and Salt Cedar eradication and long-term management.

While specific implementation tools and activities are presented for designated preservation, restoration, and enhancement areas, the Gila River Restoration Program focuses to a large extent on the management of invasive plant species. In fact, a central focus of Buckeye stakeholder comments and objectives largely centered on the eradication and long term management of Salt Cedar. To that end, the program offers significant detail to defining five primary techniques for Salt Cedar management: prevention, cultural, mechanical, biological and herbicide treatment.

**Involved Partners:**

**Milestones:**

**C. SAND & GRAVEL POLICIES –**

Many of the existing lakes along the Gila River in Buckeye were created by sand and gravel mining operations. This includes the "City Lakes" which are a hallmark feature of the future planning concepts for the El Rio District. Several mining operators have outstanding permits to mine and additional operators will likely receive permits based on the Gila River's alluvial channel characteristics and readily available aggregate materials. Consequently, the city recognized the need to collaborate with the mining industry to develop sand and gravel mining guidelines that maximize the short-term business objectives while recognizing that there are continued financial, environmental, social and recreational benefits that can be achieved during and upon completion of the mining process and after mining is completed. Sand & Gravel Reclamation Guidelines that are intended to serve as a tool to aid the process of reclamation so as to develop more creative and

productive approaches for establishing the desired end condition – providing a sustainable ecological environment and open water body lakes for future recreational uses.

The guidelines focus on developing more robust reclamation plans at the onset that consider proposed future land uses and specific land shaping and re-vegetation strategies to be used. The guidelines also offer suggested elements for drafting development agreements that include timelines and phasing provisions, financial assurance factors, along with compliance verification approaches.

**Involved Partners:** City of Buckeye

**Milestones:**

**D. BUCKEYE PILOT PROJECT -**

The Buckeye pilot project will be located on 40 acres of land at the south end of Miller Road about a half mile south of Hazen Road. The property is currently covered with dense vegetation of mostly Atriplex (saltbush), Tamarix (salt cedar) and a few populus trees (cottonwoods). The site is located within the Gila River floodway and does not have any existing development occurring on the site. There is some evidence of off-road vehicular activities and illegal trash dumping on the site. Land surrounding the site is private property on three sides and it is adjacent to a Bureau of Land Management owned parcel to the south. Approximately 300-feet north of the site, the planned El Rio Trail will parallel the top of the Buckeye Irrigation District's irrigation canal. Planned secondary trails will run along the river to the south of the site. The South Buckeye Equestrian and Event Center and the River Ridge Veterinary Hospital are located at the southwest corner of Miller Road and Hazen Road just to the north of this site.

**Involved Partners:** City of Buckeye

**Milestones:**

**E. BUCKEYE LEVEE –**

El Rio Buckeye Levee FCD evaluated potential levee locations along the north bank of the Gila River to protect the eastern Buckeye area from the 100-year flood, or a flood with a 1% chance of occurrence in any given year. Conceptual plans were developed using levee and non-structural alternatives that identified the size, alignment and profile of major project components and provided conceptual level cost estimates. Implementation costs of the levee with vegetation management is approximately \$210 million, although funding is currently not available.

View the final report at <http://bit.ly/BuckeyeLeveeDCR>.

Buckeye and the FCDMC have developed 15% Plans for 8.3 miles Levee Perryville to Norton – refer to the detailed information above.

**Involved Partners:** City of Buckeye, Maricopa County Flood Control District

**Milestones:**

**F. LOWER GILA RIVER COLLABORATIVE -**

The Arizona Game and Fish Department along with Maricopa County Flood Control and the cities of Avondale, Goodyear and Buckeye began meeting informally six years ago in an effort to improve communication and collaboration along the Lower Gila River. The group has focused on the portion of the Lower Gila River from its confluence with the Salt River downstream to Gillespie Dam (approximately 33 river miles). Over the years, the membership has expanded to include a broad cross-section of stakeholders and topics of interest include the various plans and pilot projects identified in this workplan. Recently, the group brought in a facilitation team to help formalize their efforts as the Lower Gila River Collaborative (LGRC). The LGRC established an initial mission and goals focused on restoration, recreation and community engagement. At this time, the LGRC envisions itself as a forum for collaboration and communication of the wide variety of projects its partners undertake, many of which have already been identified in this workplan.

**Involved Partners:** Arizona Game and Fish Department, Maricopa County – Flood Control, Parks and Planning Departments, Arizona Department of Environmental Quality, Arizona State Forester, Arizona State Land Department, Gila River Indian Community, Buckeye Valley NRCD, BLM, BOR, NRCS, USFWS, City of Avondale, City of Goodyear, City of Buckeye, City of Phoenix, Arizona Rock Products Association, Buckeye Valley Chamber of Commerce, Buckeye Water Conservation & Drainage District

**Milestones:** LGRC intends to complete and adopt an initial charter by the Fall of 2019.



## G. ARLINGTON WILDLIFE AREA - IN LIEU FEE PROGRAM

The Arizona Game and Fish Department (AGFD) will restore approximately 208 acres of wetland and riparian habitat at the Arlington Wildlife Area (AWA). The AWA is an 8,413-acre assemblage of lands located along the west bank of the Gila River in Maricopa County, Arizona. The AWA consists of agricultural lands, constructed wetlands, and riparian areas dominated by tamarisk (*Tamarix* spp.) and mixed native and non-native vegetation. Restoration actions will be implemented as part of a statewide, U.S. Army Corps of Engineers-approved, in-lieu fee (ILF) compensatory mitigation program. This ILF program involves restoration, establishment, enhancement, and/or preservation of aquatic resources using funds generated through credit sales to satisfy compensatory mitigation requirements for unavoidable impacts to Waters of the United States. Restoration actions described herein are expected to benefit numerous wildlife species, as well as several federally-listed species and state species of special concern that occur at or near the AWA.

In order to improve habitat quality for these and other wildlife species, Arizona Game and Fish Department has developed plans to restore the native wetland and riparian vegetation to the site. These restoration objectives aim to improve ecosystem functions resulting in high quality habitats for native wildlife. Current restoration objectives include:

1. Identify baseline habitat conditions in order to develop the Restoration Plan, including appropriate plant palettes, seed mixes, and success criteria
2. Construct a water-delivery system across the 202 acre project site to supply created wetland features and associated biotic communities
3. Excavate depressions, re-grade agricultural fields, and construct berms to create 12 acres of ephemeral wetlands, 6 acres of emergent wetlands, and 6 acres of a riparian stream complex for waterfowl, wading birds, and other wildlife
4. Clear, grub and recontour areas to establish native woody vegetation (i.e., 148 acres of mesquite bosque [*Prosopis* spp.], 30 acres of Fremont cottonwood [*Populus fremontii*] and willow [*Salix* spp.]) in suitable areas
5. Develop monitoring and long-term management plans to ensure that ecologically-based performance standards are being met, and the area perpetually remains in its restored state

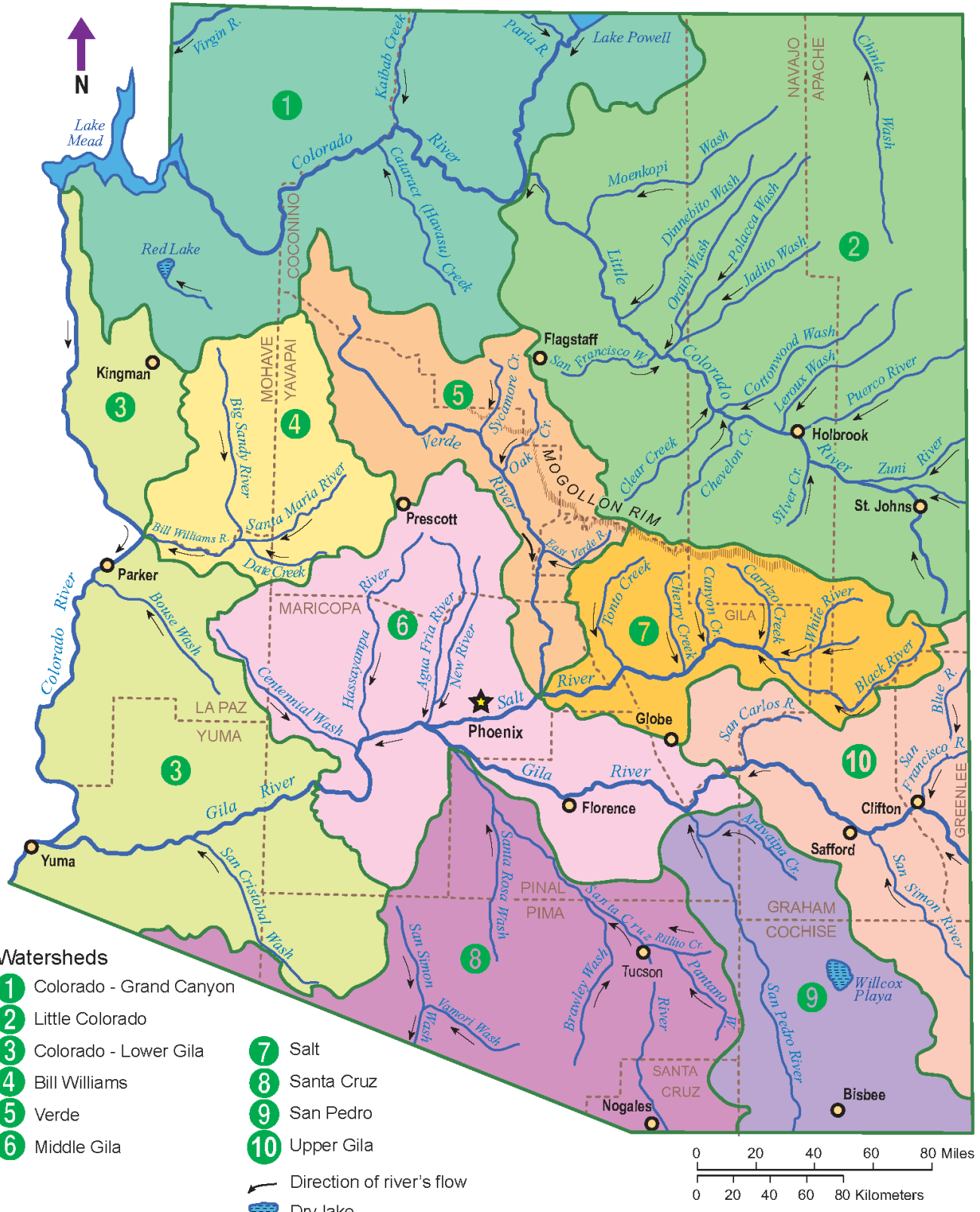
The goal of these restoration plans is to provide quality habitats for wetland-associated species that are known to occur at or near the site, including the Federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*) and Ridgway's clapper rail (formerly Yuma clapper rail; *Rallus longirostris yumanensis*), the Federally threatened western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), and the snowy egret (*Egretta thula*), a state species of special concern. To that end, Arlington falls within AGFD's Resource Category I for Wildlife and Wildlife Habitat Compensation. Habitats in this category are of the highest value to Arizona wildlife species and are unique and/or irreplaceable on a statewide or ecoregion basis.

- Improve bank stability along the Gila River and Centennial wash using revetment strategies and restoration of native riparian gallery
- Restore native floodplain and upper terrace vegetation
- Create emergent and ephemeral wetlands from low quality upland habitat
- Restored and created areas will support a diverse community of wildlife species
- Develop and implement additional maintenance activities to ensure viability of project areas for long term sustainability

**Involved Partners:** Arizona Game and Fish Department, United States Army Corps of Engineers

**Milestones:**

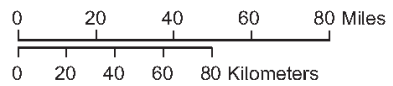
# Map: Arizona's Watersheds



### Watersheds

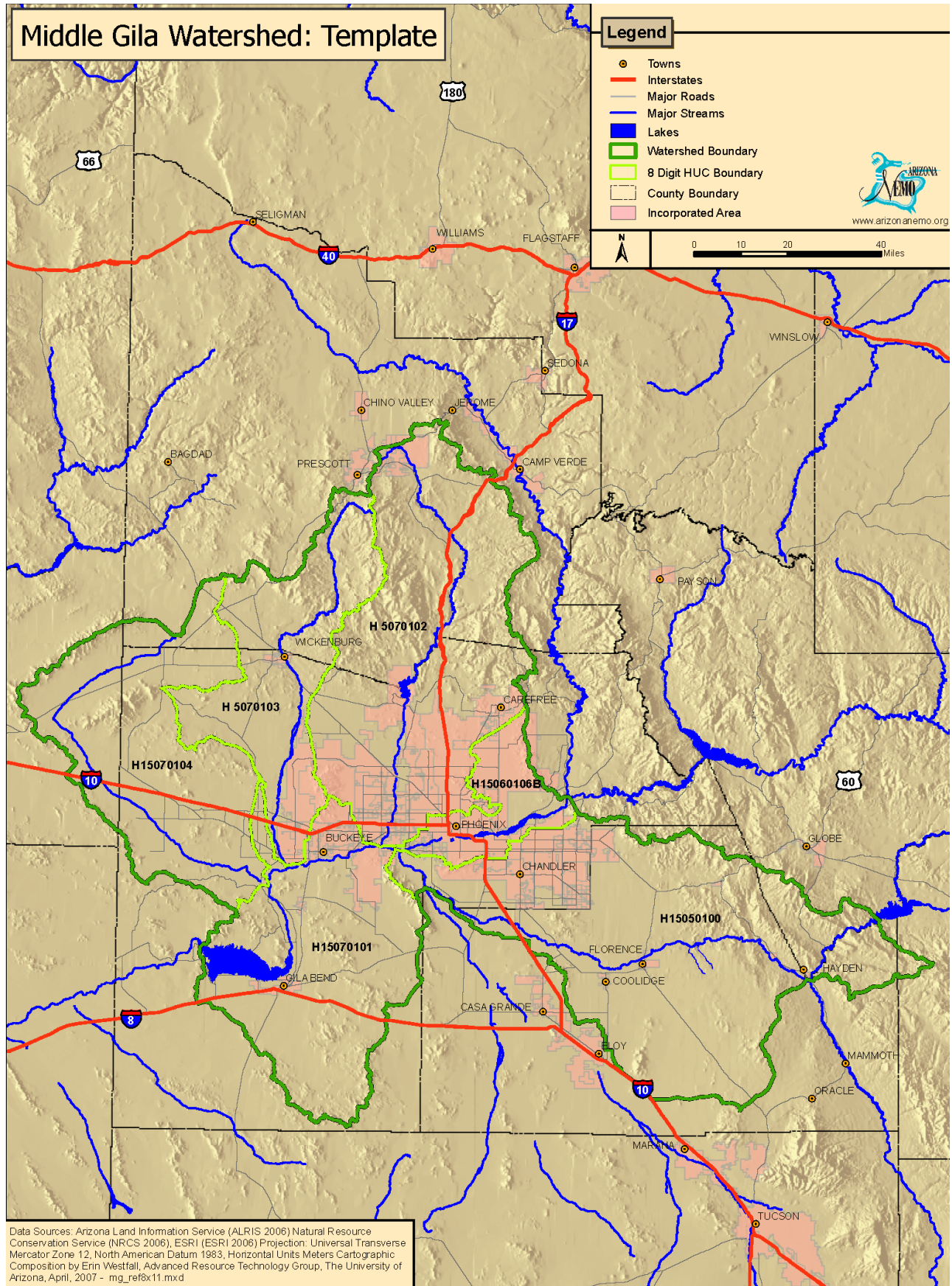
- 1** Colorado - Grand Canyon
- 2** Little Colorado
- 3** Colorado - Lower Gila
- 4** Bill Williams
- 5** Verde
- 6** Middle Gila
- 7** Salt
- 8** Santa Cruz
- 9** San Pedro
- 10** Upper Gila

- Direction of river's flow
- Dry lake
- Cliff

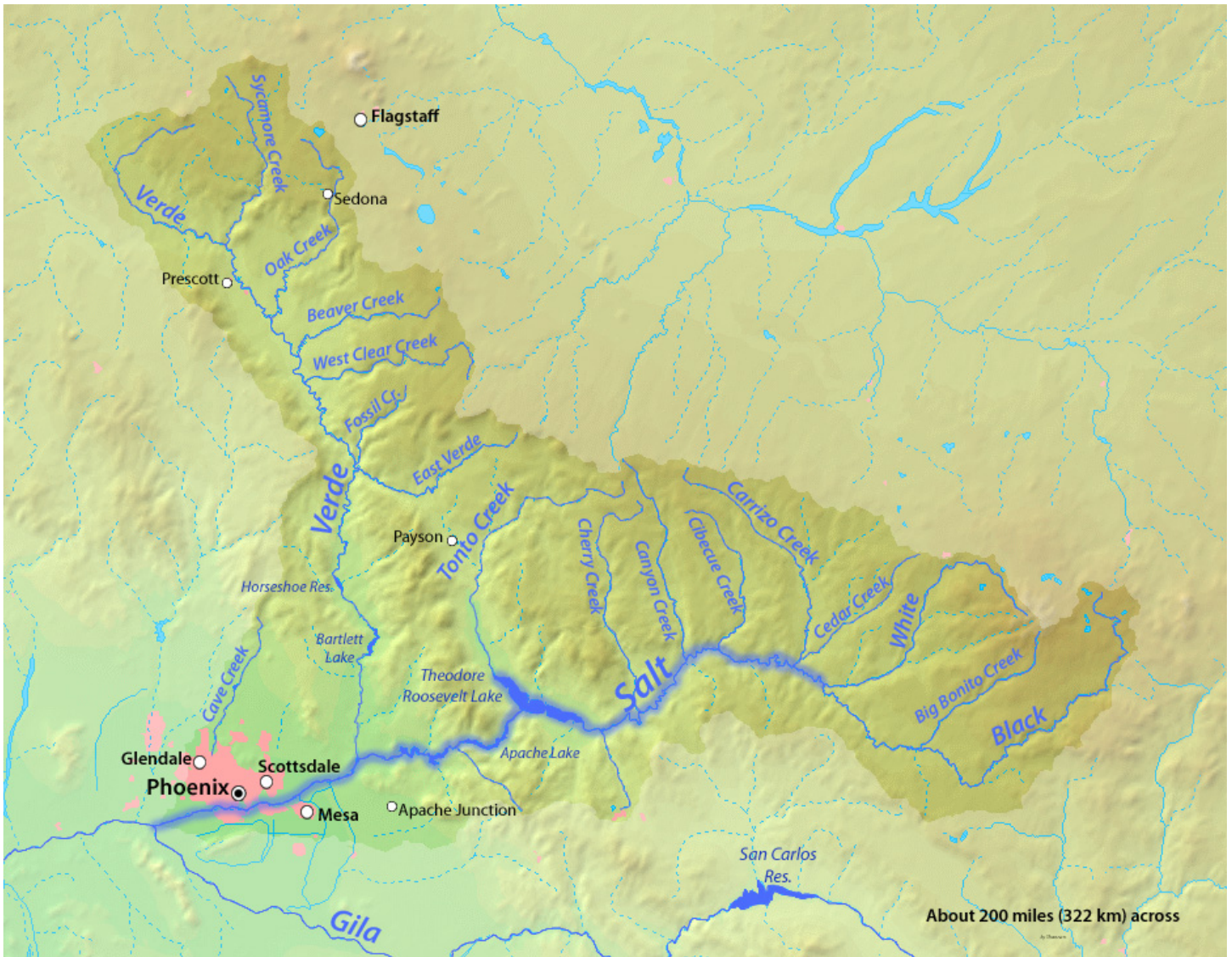


Courtesy: Arizona Geographic Alliance <http://alliance.la.asu.edu/azga/>  
 School of Geographical Sciences & Urban Planning,  
 Arizona State University  
 Barbara Trapido-Lurie and Becky L. Eden  
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## Map: Middle Gila Watershed



## Map: Salt River Watershed



Credit: Wikipedia

**Map: Rio Reimagined – The Rio Salado Project**

**55+ Mile Revitalization**

