

Assessing Homelessness Impacts on Water Quality, Riparian and Aquatic Habitat in Upper Santa Ana River Watershed

Mark Norton, Water Resources & Planning Manager
SAWPA Commission | February 4, 2020
Item No. 5.A.



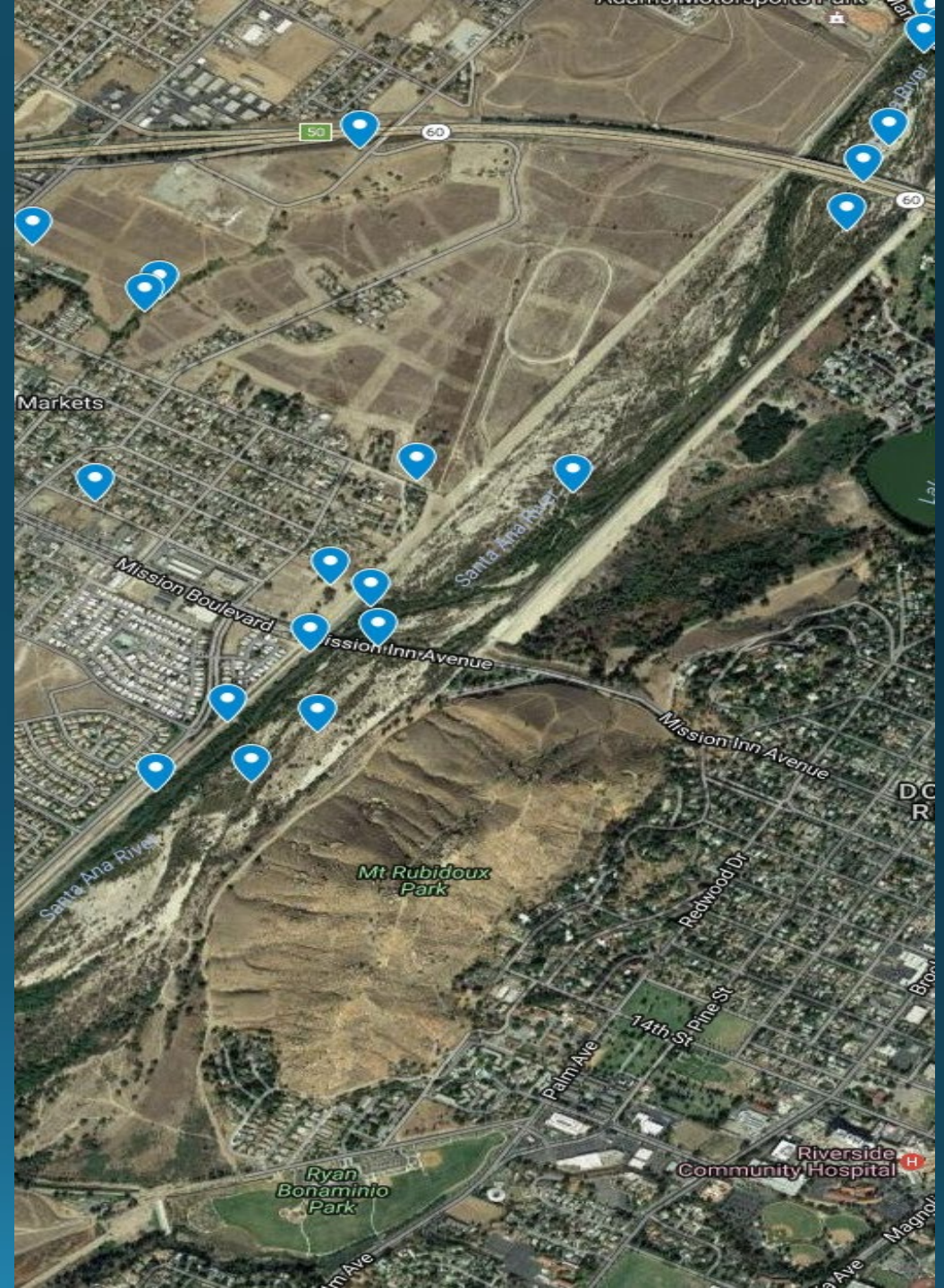
Project Scoping

- In late 2018, Commission directed staff to hire consultant to conduct assessment of the homelessness impact on water quality, riparian and aquatic habitat in upper Santa Ana River Watershed.
- Contract for work was approved on Feb. 5, 2019 with GEI Consultants to conduct work for \$74,441
- Draft Task 1 Memo is completed including
 - Assessment of Homeless Encampments
 - Literature Review
- Work is funded by Prop 1 IRWM Disadvantaged Community Involvement Grant Program



Questions to be Answered:

- What is known about the impacts caused by encampments of people experiencing homelessness to:
 - Water quality?
 - Riparian & aquatic habitat health?
- How would this watershed evaluate the impacts being felt here?
 - Existing monitoring?
 - Additional monitoring?
- What is the relationship between the impacts caused by encampments and those caused by other sources?



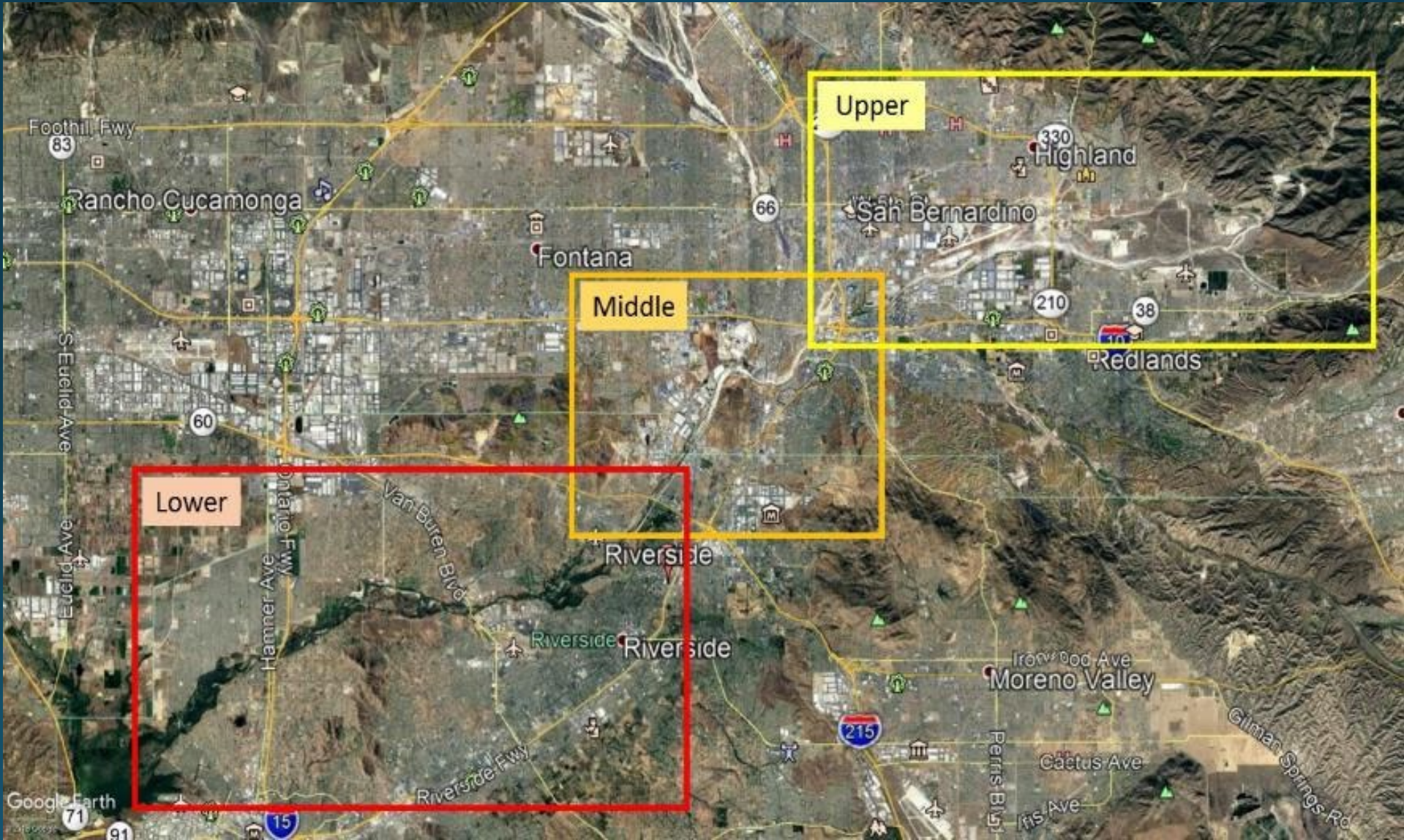
Assessment of Homeless Encampments

Data gathered from the following entities:

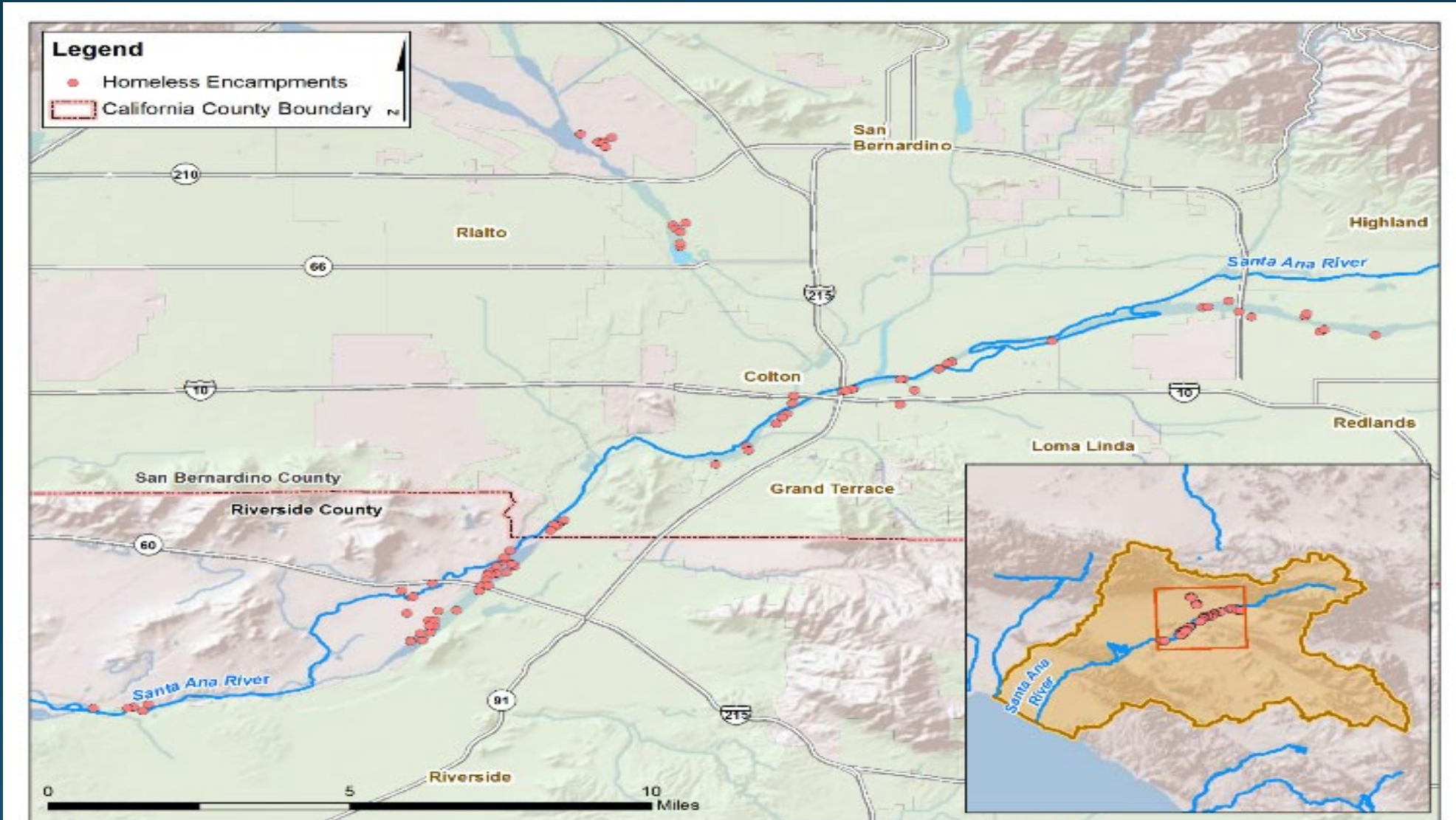
- Santa Ana Watershed Project Authority and SAWPA Task Forces
- San Bernardino County Sheriff Department
- San Bernardino County Department of Public Works
- Riverside County Flood Control & Water Conservation District (including information from County of Riverside County Executive Office)
- Inland Empire Waterkeeper
- City of Rialto (represented by Lynn Merrill and Associates, Inc. and Geovironment Consulting)
- Riverside Regional Water Quality Control Plant
- Santa Ana Regional Water Quality Control Board
- San Bernardino Valley Water Conservation District



Locations of Lower, Middle and Upper Portions of the Upper Santa Ana River Watershed Study Area



Locations of Homeless Encampments in the Upper Santa Ana River Watershed in 2016 (Data sources are the San Bernardino County and Riverside County Sheriff Departments)

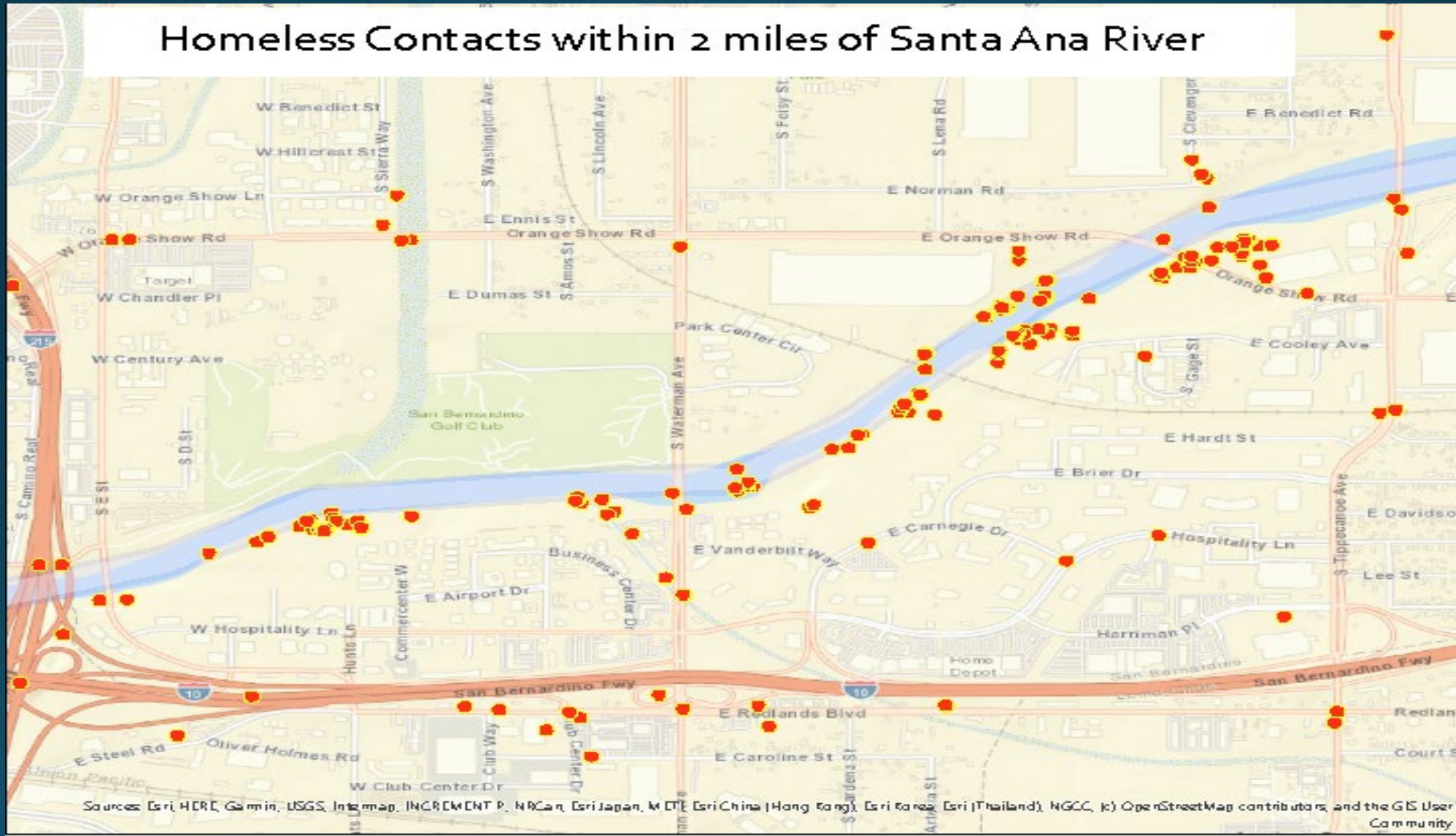


Source: Esri, SANWPA

Maps created by GEI Consultants, Inc. on behalf of Santa Ana Watershed Project Authority (December 2019)

Records of Contacts with Homeless in Area with Highest Concentration of Encampments: Tippecanoe Avenue to E Street/I-215

(Map provided by the San Bernardino County Sheriff Department, 10-10-19)



Examples of Homeless Encampments in Santa Ana River Upstream of I-215 Bridge (Photographs from San Bernardino County Sheriff Dept.)



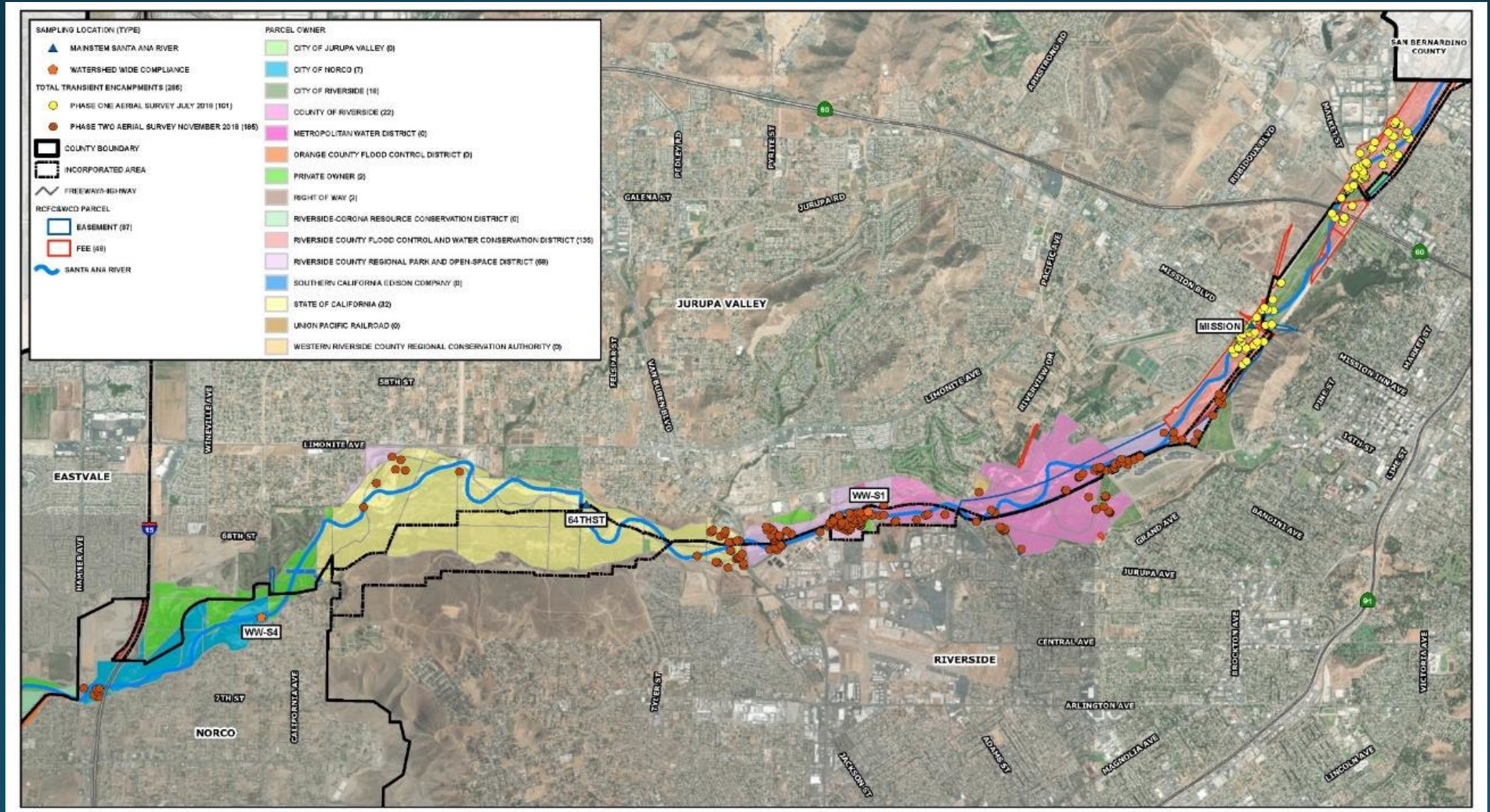
Example of Impacts from Homeless Encampments along City Creek

(Presentation delivered by Arlene Chun, Stormwater Program Manager for the San Bernardino County Department of Public Works, at the CASQA Quarterly Meeting, May 9, 2019)

Site Conditions



Documentation of Homeless Encampments along Santa Ana River between I-15 and Riverside County Line Based on 2018 Drone Surveys (Map provided by RCFC&WCD)



Literature Review

Environmental impact concerns from homeless encampments in riverbeds in the upper Santa Ana River watershed are no different than what is observed in other areas. Key concerns include:

- Trash - both the presence of the trash itself and the potential for the leakage of toxic chemicals from items in the trash;
- Human waste disposal
- Degradation of riparian areas, including vegetation, habitat, and riverbanks
- Fish barriers created by large trash (e.g., shopping carts)
- Impacts to the physical integrity of levees
- Fire.



CA Studies and Other States

Inside California

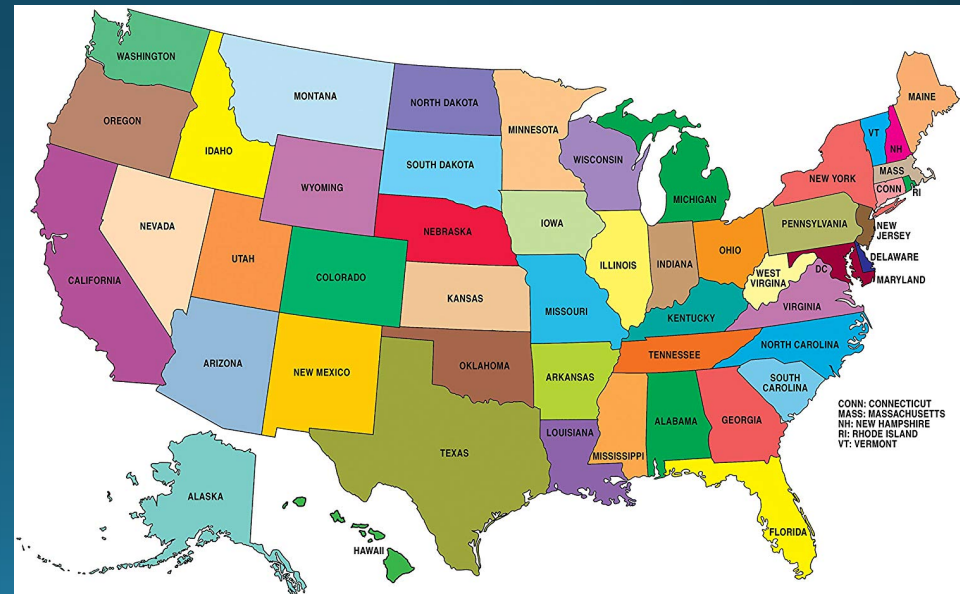
Santa Ana

California State University Fullerton
San Bernardino Valley Municipal Water District

- San Gabriel River Watershed
- San Diego Area
 - San Diego River
 - Other San Diego Area Examples
- Contra Costa County
- Santa Clara County
- Santa Clara Valley Water District
 - Guadalupe River Watershed Study
- Sacramento Area
 - Water Quality Studies
 - Levee Impacts
- Russian River

Outside of California

- Colorado
- Oregon
- Texas
 - Austin, Texas Area
 - San Antonio, Texas Area
- Utah



Literature Review Results

- No studies found that clearly demonstrate a direct relationship between encampments and poor water quality.
- Data on trash volume has been reported in other areas. Relationship of trash volume to number of homeless encampments or campers is unclear.
- One study sought to evaluate potential impact of homeless encampments on the quality of the water supply but often a misperception.
- Southern California Coastal Water Research Project (SCCWRP) developing a study in the in San Diego River watershed. Demonstrates how difficult it is to design a study to collect sufficient data and test hypotheses regarding impact of homeless encampments on water quality.



Preliminary Conclusions

- No studies available that directly tie any water quality data to homeless encampments.
- Even recently completed Synoptic Study shows findings that were not consistent from week to week.
- Transient nature of camps, differences in how they operate or handle waste or site conditions from one camp to another make study design difficult.



Preliminary Conclusions

Five key areas where camps are currently concentrated. All are in various reaches of the Santa Ana River:

- Van Buren Boulevard bridge upstream to Anza Drain
- Along the Tequesquite Landfill
- Above and below the Mission Boulevard bridge crossing
- Upstream of the 60 Fwy
- Between the I-215 bridge and Tippecanoe Road
- All of these locations have two things in common
 - Near water
 - Vegetative cover
- Most believe the number of encampments and numbers of residents is on the increase.



Preliminary Recommendations

Next Study Phase:

Preliminary Monitoring Program will consider both direct and indirect approaches to evaluating impacts to water quality and habitat.

- Collect and analyze data to directly evaluate potential dry and wet-weather impacts from homeless encampment activity.
- Will evaluate the relative contribution of bacterial loads from human versus other sources such as wildlife.
- Provide a monitoring framework that takes an indirect approach to monitoring, using survey tools and collaboration with other watershed agencies to track trends in homeless encampments



Recommendation:

Receive and file this status report on the assessment of the homelessness impact on water quality, riparian and aquatic habitat in upper Santa Ana River Watershed.

Emergency Generator

Carlos Quintero, Operations Manager
SAWPA Commission | February 4, 2020
Item No. 5.B.

Recommendation

- Authorize the use of \$48,000 from Building Reserves to the General Fund and authorize the General Manager to issue a Purchase Order to YC Power Systems in the amount of \$63,243.56 for the purchase of a Generac Model MDG75DF4 portable diesel powered generator and a GTS automatic transfer switch.

Emergency Generator

- Provides full power needs under peak conditions (summer months)
- Easily connected to building with automatic transfer switch
- Can be used during Brine Line Operations field work or pipeline repairs (lights, power tools, etc.)

Transfer switch

- Requires permitting, installation, testing
- SAWPA current electrical contractor, Alexander Pacific, can install
- Portable unit is parked next to the building and connected directly to transfer switch

Quotes Received

Manufacturer	Model (rating, kW)	Cost*
Generac	MDG75DF4 (62 kW)	\$57,170
Wacker Neuson	G100 (80 kW)	\$63,148
Caterpillar	XQ125 (110 kW)	\$82,650

*Includes Sales Tax (8.75%)

Total Cost

Concept	Vendor	Cost
Portable Generator	YC Power Systems	\$57,170
Automatic Transfer Switch	YC Power Systems	\$6,074
Permits, installation of transfer switch	Alexander Pacific	\$15,000 (estimated)
TOTAL	-	\$78,244

Cost allocation basis

- Cost to install a stationary unit: \$48,000
 - Stationary generator: \$26,926
 - Automatic Transfer Switch: \$6,074
 - Permitting installation: \$15,000 (estimated)
- Cost to purchase a portable unit: \$78,244
 - Portable unit: \$57,170
 - Automatic Transfer Switch: \$6,074
 - Permitting installation: \$15,000 estimated
- Cost difference paid from Brine Line Fund (Fund 240): \$30,244

Recommendation

- Authorize the use of \$48,000 from Building Reserves to the General Fund and authorize the General Manager to issue a Purchase Order to YC Power Systems in the amount of \$63,243.56 for the purchase of a Generac Model MDG75DF4 portable diesel powered generator and a GTS automatic transfer switch.



Questions??

Partnership Agreement for WECAN in the City of Riverside

Ian Achimore, Senior Watershed
Manager

SAWPA Commission | February 4, 2020

Item No. 5.C.



Recommendation

Authorize the General Manager to execute a Partnership Agreement between SAWPA and the City of Riverside in support of the City application for a Transformative Climate Communities grant which, if awarded, would fund a component of the Water-Energy Community Action Network (WECAN) Program for approximately \$700,000.



Grant Application to Strategic Growth Council

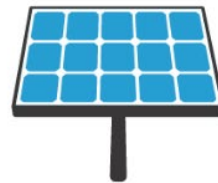


Projects

Funded



Transportation & Sustainable Communities

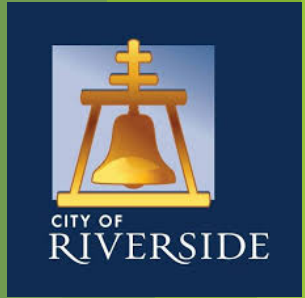


Clean Energy & Energy Efficiency



Natural Resources & Waste Diversion

Eastside Climate Collaborative



Urban Greening



Solar



Water Conservation



Transit Options



Housing: 7th and Chicago Entrada Project



Project Area - Riverside (Eastside)

Area Improvements

Name

- Bike Share Station
- HAWK Traffic Signal
- Mobility Hub
- Transit Stop Improvements
- Highways

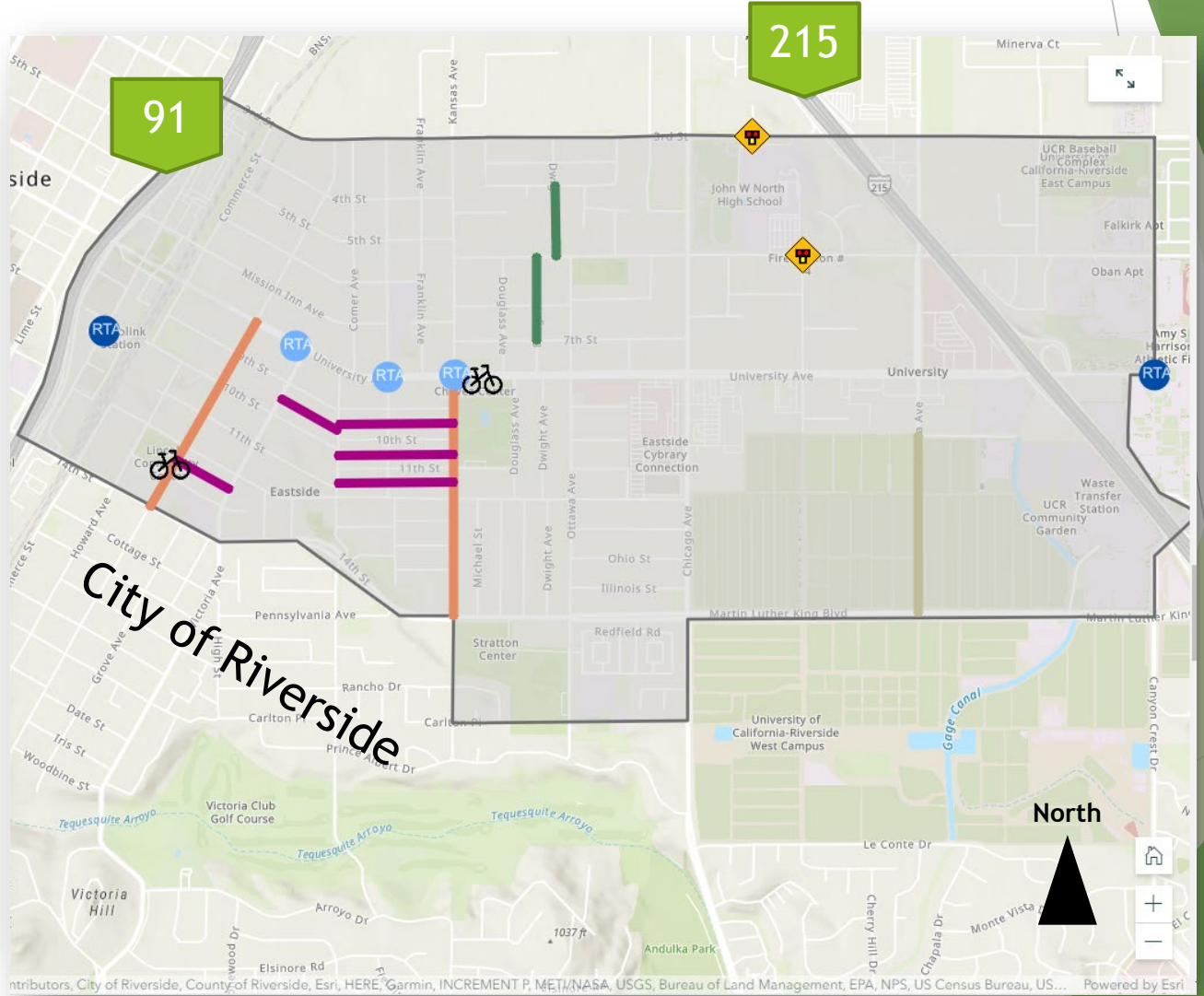
Street Improvements

Name

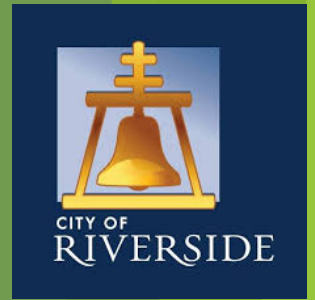
- Art Alleyways
- Dwight Avenue New Sidewalk
- Iowa Avenue Class I Bike Lane
- Kansas Avenue Class III Bike Lane
- Park Avenue Bike Improvements

Grant Area

-



Partnership Agreement With Riverside



- ▶ Required for application to the Strategic Growth Council;
- ▶ Outlines City's role and the role of the 13 partner agencies (including SAWPA):
 - ▶ Representation on Leadership Council and working groups;
 - ▶ Notification process of scope changes to Leadership Council; and
 - ▶ Reporting requirements under grant.
- ▶ Also affirms 13 partner agencies share goals for Riverside: growth of community amenities and assets (improvement infrastructure, reduced hazardous waste and carbon emissions, etc.).
- ▶ Nothing specific to the detailed scope of the SAWPA project: **WECAN.**

Water Energy Community Action Network (WECAN)

- ▶ SAWPA partners with retail water agency (4 agencies to date) and hires landscape contractor;
- ▶ SAWPA ensures landscape contractor:
 - ▶ Provides landscaping design choices to residents,
 - ▶ Removes existing turf grass in residential front yards,
 - ▶ Plants drought tolerant landscaping and installs efficient irrigation, and
 - ▶ Conducts post-installation site visits.
- ▶ Phases 1 and 2 of WECAN funded by:
 - ▶ 2014 Water-Energy Nexus Grant (Department of Water Resources), and
 - ▶ 2016 Water and Energy Efficiency Grant (Bureau of Reclamation).



ANAHEIM PUBLIC UTILITIES

**West Valley
Water District**



Jurupa
Community Services District



WE CAN



**Water Energy
Community Action
Network**

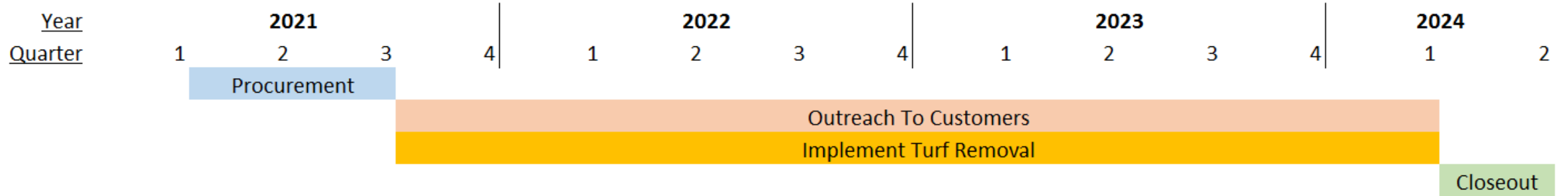
City of Riverside - SAWPA WECAN Component

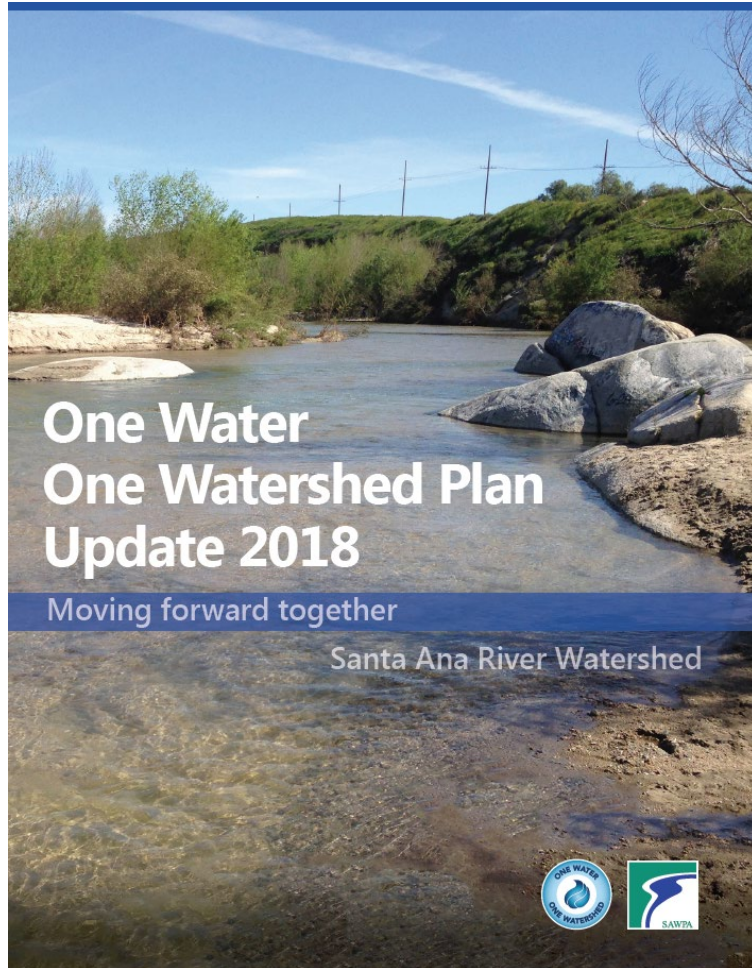
- ▶ Will target 100 single family residential properties for 1,000 square feet of turf removal per home (total of 100,000 square feet); and
- ▶ Will save 11,176 kWh per year from reducing groundwater pumping.

Item	Grant	Match*
Project Management	\$72,000	\$ -
Turf Removal Contractor	\$500,000	\$100,000
Outreach to Customers	\$21,000	\$ -
Total	\$593,000	\$100,000

*Provided by Riverside Public Utilities

City of Riverside - SAWPA WECAN Component





Benefits of Executing the Agreement

- ▶ Allows SAWPA to implement the OWOW Plan Update 2018 goals of engaging disadvantaged communities and implementing water conservation in the watershed;
- ▶ Allows watershed to attain water-energy nexus benefits of saving 13.5 acre-feet per year and 11,176 kWh per year; and
- ▶ Furthers a partnership with the City of Riverside, a member on the OWOW Steering Committee.

Recommendation

Authorize the General Manager to execute a Partnership Agreement between SAWPA and the City of Riverside in support of the City application for a Transformative Climate Communities grant which, if awarded, would fund a component of the Water-Energy Community Action Network (WECAN) Program for approximately \$700,000.

