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)
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)

Homeless Contacts within 2 miles of Santa Ana River
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 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

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<thead>
<tr>
<th>Manufacturer</th>
<th>Model (rating, kW)</th>
<th>Cost*</th>
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<tbody>
<tr>
<td>Generac</td>
<td>MDG75DF4 (62 kW)</td>
<td>$57,170</td>
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<tr>
<td>Wacker Neuson</td>
<td>G100 (80 kW)</td>
<td>$63,148</td>
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<tr>
<td>Caterpillar</td>
<td>XQ125 (110 kW)</td>
<td>$82,650</td>
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*Includes Sales Tax (8.75%)
## Total Cost

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<tr>
<th>Concept</th>
<th>Vendor</th>
<th>Cost</th>
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<tr>
<td>Portable Generator</td>
<td>YC Power Systems</td>
<td>$57,170</td>
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<tr>
<td>Automatic Transfer Switch</td>
<td>YC Power Systems</td>
<td>$6,074</td>
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<tr>
<td>Permits, installation of transfer switch</td>
<td>Alexander Pacific</td>
<td>$15,000 (estimated)</td>
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<td>TOTAL</td>
<td>-</td>
<td>$78,244</td>
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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)
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**.
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).
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.

<table>
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<tr>
<th>Item</th>
<th>Grant</th>
<th>Match*</th>
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<td>Project Management</td>
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<tr>
<td>Turf Removal Contractor</td>
<td>$500,000</td>
<td>$100,000</td>
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<td>Outreach to Customers</td>
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<td><strong>Total</strong></td>
<td><strong>$593,000</strong></td>
<td><strong>$100,000</strong></td>
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*Provided by Riverside Public Utilities
City of Riverside - SAWPA WECAN Component

- **2021**: Procurement
- **2022**: Outreach To Customers, Implement Turf Removal
- **2023**: Closeout
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.