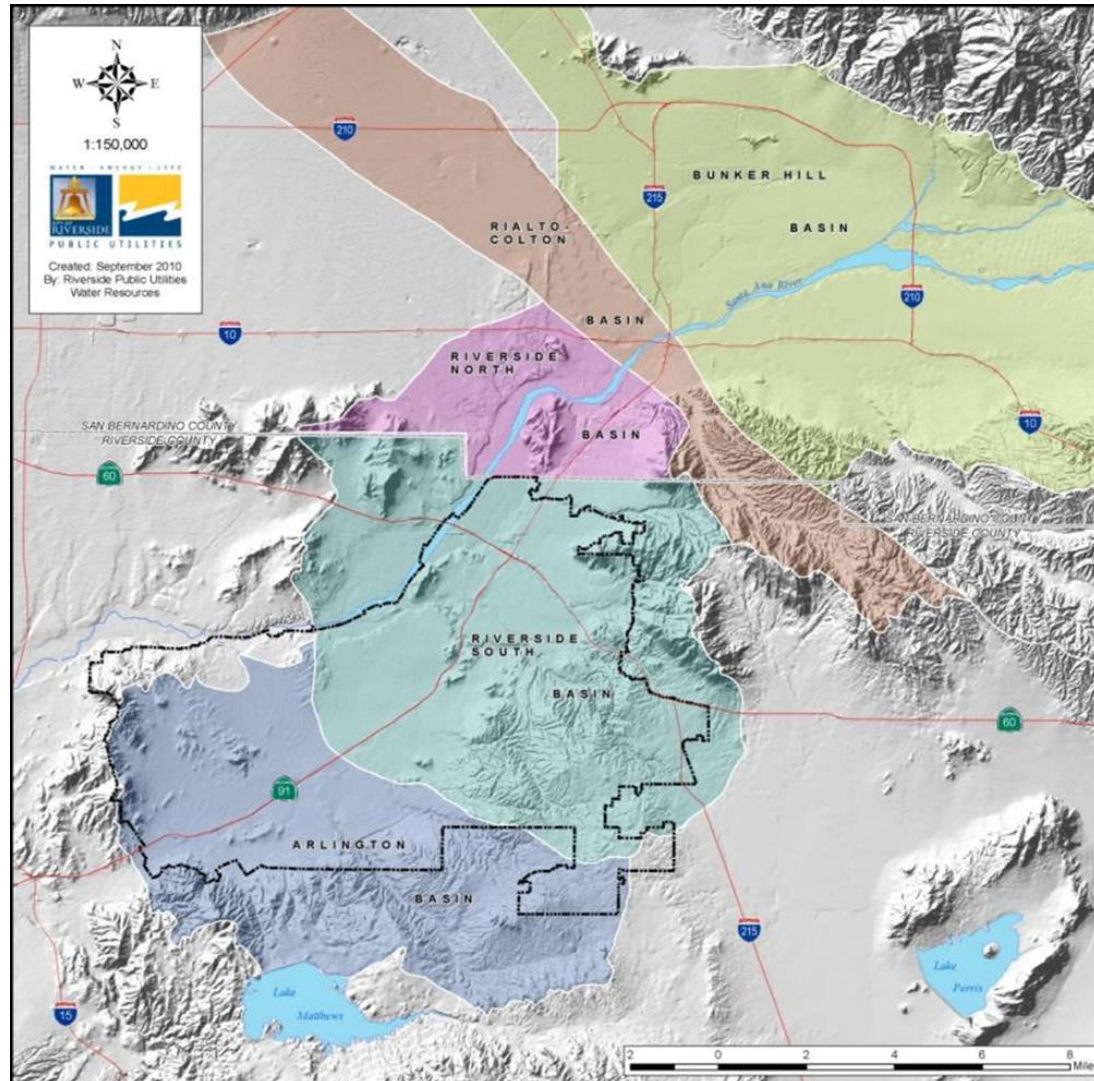




THE SANTA ANA RIVER HABITAT CONSERVATION PLAN AND THE RIVERSIDE HABITAT, PARKS, AND WATER PROJECT

Board of Public Utilities – Water Committee
November 19, 2020

RIVERSIDE EXPORT WATER RIGHTS



Extraction/Export Rights

Bunker Hill

- 55,263 AFY Export

64%

Colton

- 2,728 AFY Export

3%

Riverside North

- 10,902 AFY Export

13%

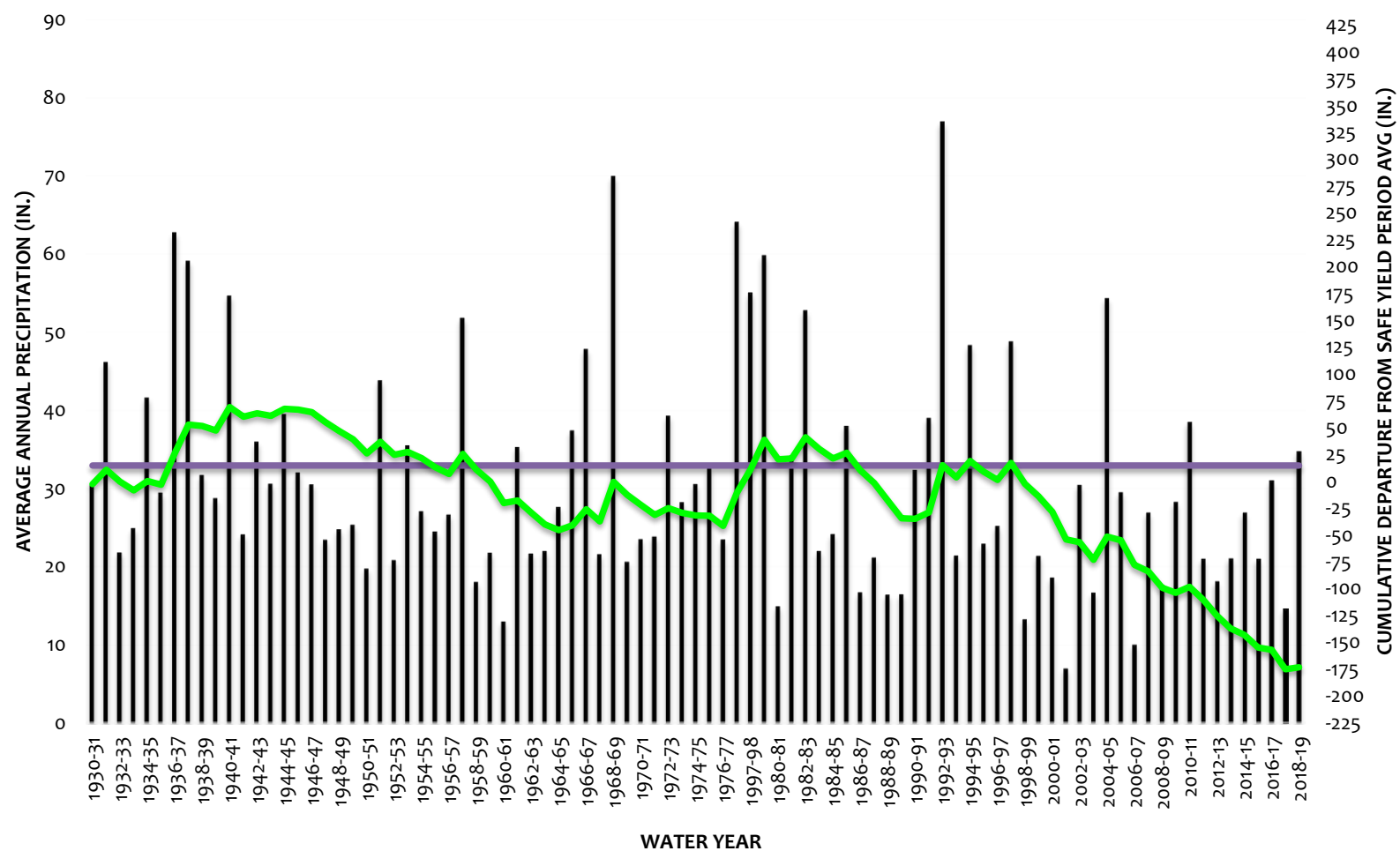
Riverside South

- 16,880 AFY Extraction

20%

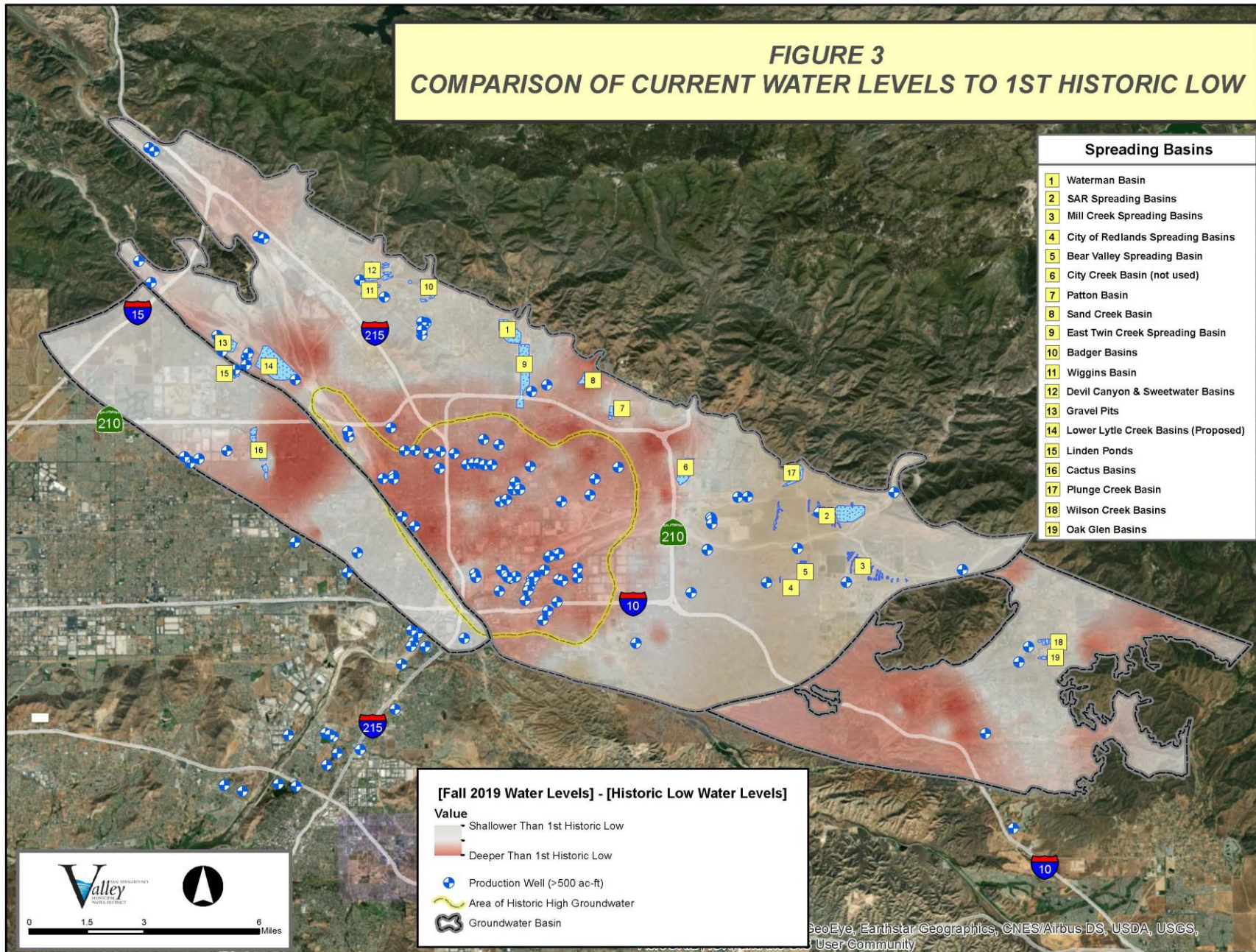
85,774 AFY Total

LOCAL PRECIPITATION



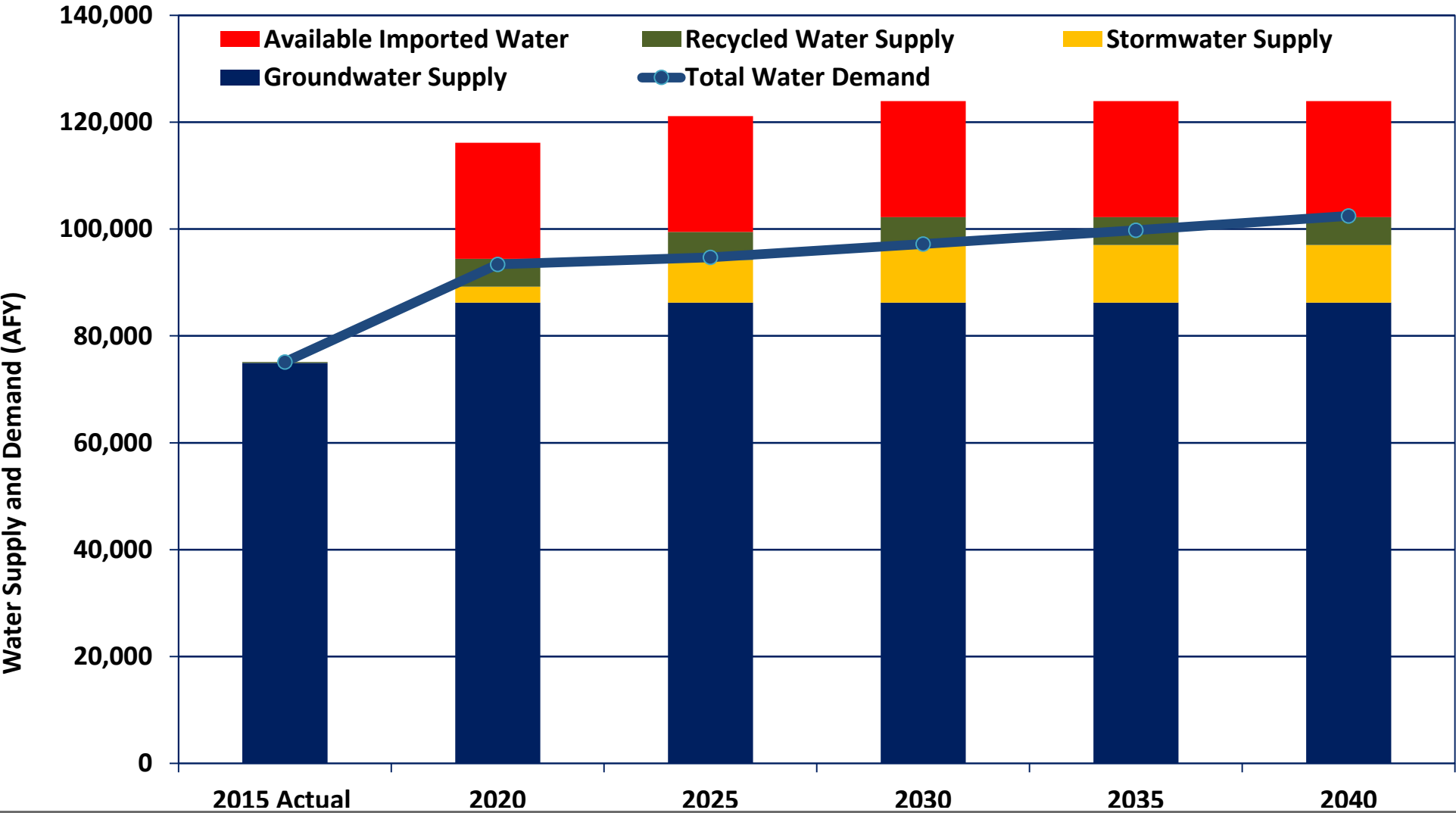
■ Average of Lytle Creek / Big Bear (SAR) / Mill Creek - Precip Data — Safe Yield Period Avg (1934-1960)
— Cumulative Departure from Safe Yield Period Avg

FIGURE 3
COMPARISON OF CURRENT WATER LEVELS TO 1ST HISTORIC LOW



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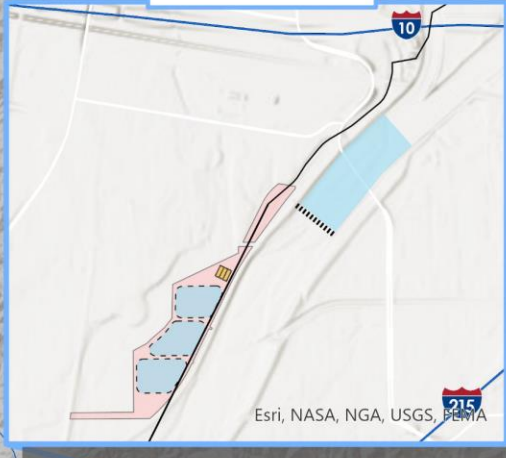
PROJECTED SUPPLY & DEMAND



WATER SUPPLY - RECHARGE

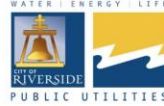
1. MWD 2022 Tier 2 cost \$1,146 per AF
2. Enhanced Recharge at Seven Oaks Dam
 - a. Phase 1A – 1,719 AFY
 - b. Phase 1B & 1C (in progress) – 711 AFY, \$12M or \$1,100/AF
3. Active Recharge (planning in progress)
 - a. Up to 8,047 AFY, minimum est. capital \$50M or \$400/AF
4. Rubber Dam (planning in progress)
 - a. Up to 2,000 AFY, \$16.7M or \$540/AF
5. Riverside Basin (planning in progress)
 - a. Up to 2,440 AFY, \$21.3M or \$570/AF

RUBBER DAM



WATER SUPPLY PROJECT

NO SCALE

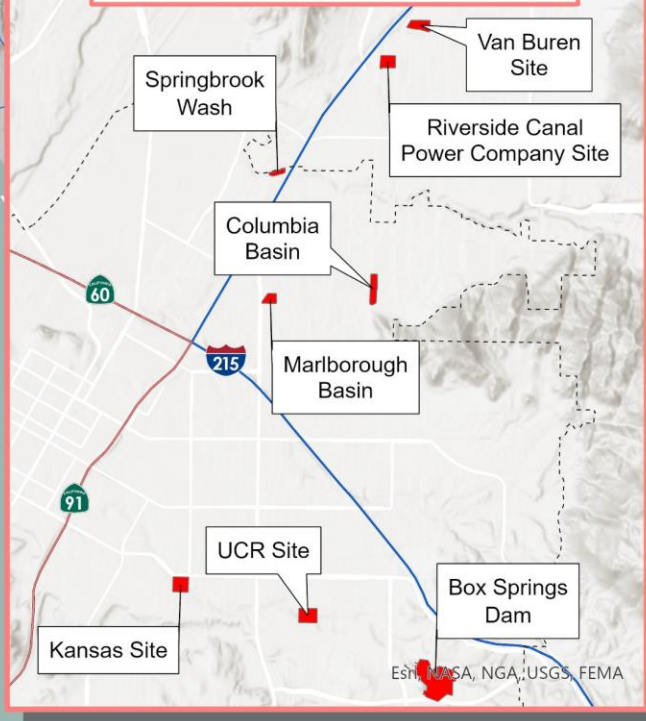


PROJECT LOCATION MAP

ACTIVE RECHARGE



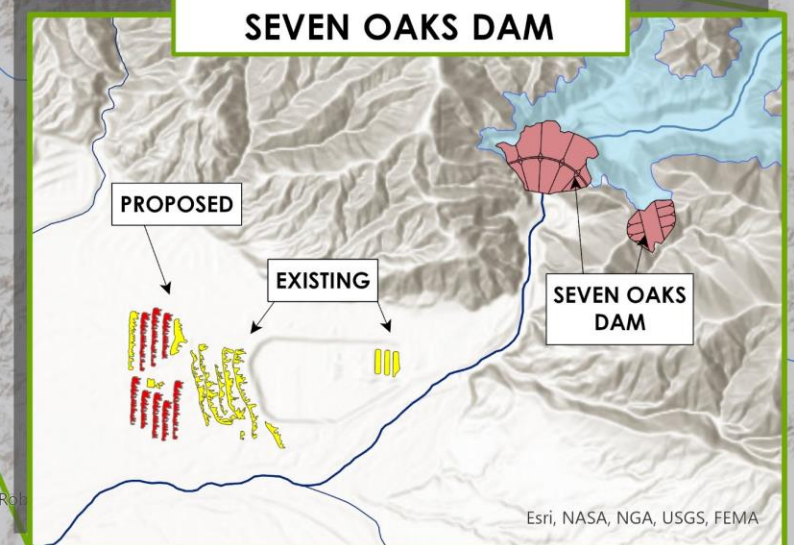
RIVERSIDE BASIN RECHARGE



LEGEND

- RUBBER DAM LOCATION
- DE-SILT AREA
- PROPOSED RNASR RECHARGE BASINS
- RPU PROPERTY
- RIVERSIDE BASIN RECHARGE SITES
- ACTIVE RECHARGE BASINS
- EXISTING SPREADING BASINS
- PROPOSED SPREADING BASINS
- SEVEN OAKS RESERVOIR DAM
- INTERSTATE
- STATE ROUTE
- RIVERSIDE CITY LIMITS
- COUNTY BOUNDARY

ENHANCED RECHARGE AT SEVEN OAKS DAM



FUTURE SYSTEM IMPROVEMENTS & NEEDS

1. North Waterman Treatment Plant (remove perchlorate)
2. Pipeline replacements (including under river crossings)
3. Well Replacements
4. Property Site Management
5. Energy efficiencies / Solar

SINGLE, LARGEST PROJECT CHALLENGE

1. Environmental Issues
2. Listed (Endangered or Threatened) species and/or their habitat have halted or significantly slowed water supply development and maintenance projects
 - a. Enhanced Recharge at Seven Oaks Dam
 - b. Active Recharge
 - c. Rubber Dam
3. RPU-specific projects where environmental challenges occur:
 - a. Select well replacements
 - b. Pipeline replacements at river crossings
 - c. Property maintenance
 - d. RPU's share of regional water supply projects

LOCAL SPECIES & HABITAT CONCERNS

1. **Santa Ana sucker**, threatened (2000), Critical Habitat (2010)
 - a. Impacts to water supply within Santa Ana River
2. **San Bernardino Kangaroo Rat**, endangered (1998), Critical Habitat (2008), State listing in progress
 - a. Impacts to RPU and Gage property
3. **Santa Ana River Woollystar**, endangered (1987)
 - a. Impacts to RPU and Gage property
4. **Southwestern willow flycatcher**, endangered (1995), Critical Habitat (2013)
 - a. Impacts to RPU and Gage property
5. **Riversidian Alluvial Fan Sage Scrub (RAFSS)**
 - a. Key habitat type continually shrinking with time
 - b. Found on RPU and Gage property



SANTA ANA SUCKER

1. The Santa Ana sucker was the driver behind implementing the Santa Ana River HCP
2. 2010, Critical habitat listing put regional water supply projects at risk
 - a. Enhanced Recharge (currently 7,643 AFY for the region)
 - b. Active Recharge
 - c. Rubber Dam
3. 2011-2016, Litigation efforts failed
4. 2014, Valley initiated planning efforts for the Santa Ana River HCP



Photo source: Center for Biological Diversity

SANTA ANA RIVER HCP

1. A Habitat Conservation Plan (HCP) is a planning document required for incidental take of a listed species and identifies the take and how to mitigate the take and improve the species occurrence
2. Water Agencies working with Wildlife Agencies to promote and mitigate impacts to endangered species while enabling construction of new water supply projects on a regional scale.
3. Proposed mitigation efforts
 - a. Protect minimum flow needs for species
 - b. Improve, expand, create & manage habitat
 - c. Relocate species
 - d. Maintain & adaptively manage a mitigation bank
4. 50-year term permit

HCP TEAM

1. Funding Partners (% derived from activities covered in HCP)

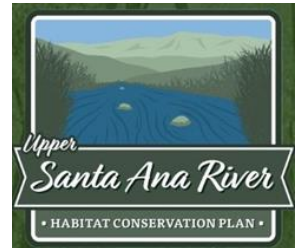
- a. City of Rialto (2%)
- b. East Valley Water District (7%)
- c. Inland Empire Utility Agency (20%)
- d. Metropolitan Water District of Southern California (2%)
- e. Orange County Water District (1%)
- f. Riverside Public Utilities (5%)
- g. San Bernardino Valley Municipal Water District (40%)
- h. San Bernardino Valley Water Conservation District (3%)
- i. San Bernardino Municipal Water Department (5%)
- j. West Valley Water District (1%)
- k. Western Municipal Water District (15%)

2. Incidental take will be covered for 23 species

3. 65 Covered Activities

- a. New Water Supply, Enhanced Water Capture, Maintenance

4. 87,000 AFY on average of water supply covered in the HCP



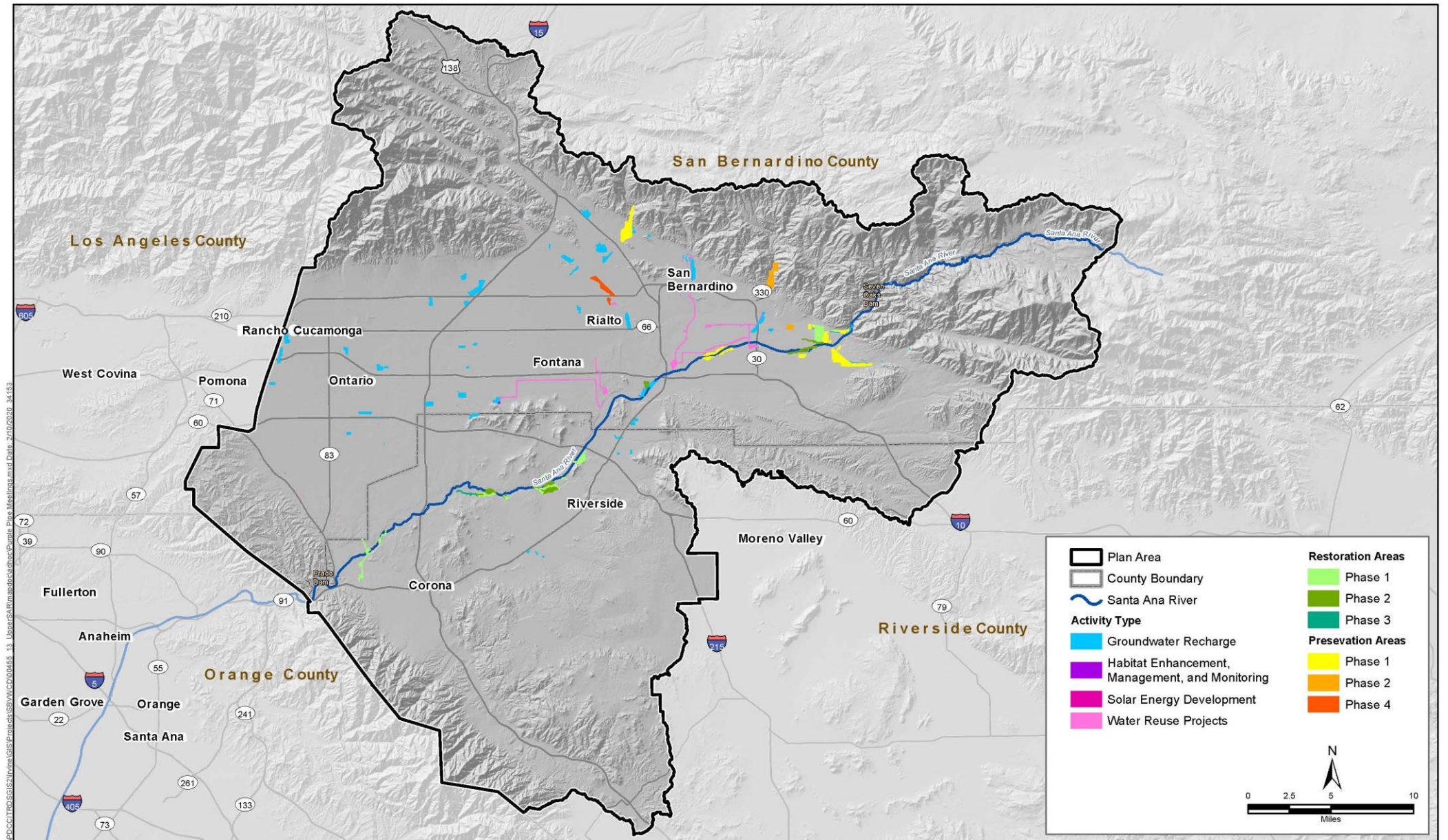


Figure 1-1
 Upper Santa Ana River Habitat Conservation Plan Extent

HCP STRUCTURE

1. Joint Incidental Take Permit (USFWS)
 - a. Operate collectively under one permit, but each agency responsible for own project
 - b. Other necessary permits will be streamlined in coordination with the HCP: CDFW & USACE
2. Governed by a Joint Power Authority (JPA)
 - a. JPA made up of 1 elected official from each agency
 - b. HCP Executive Committee composed of GMs to act as liaison between the JPA and Permittee Agencies
 - c. An Agency may withdraw however must make the HCP whole for any costs incurred
3. Pay-as-you-go Structure
 - a. Pay mitigation costs once ready to implement Covered Activity
4. Total Implementation Costs - \$187.5M (over 50-years)
 - a. Capital Costs - \$71M
 - b. Operational Costs - \$116.5M
5. RPU's proposed JPA Operational costs - \$200,000 / year

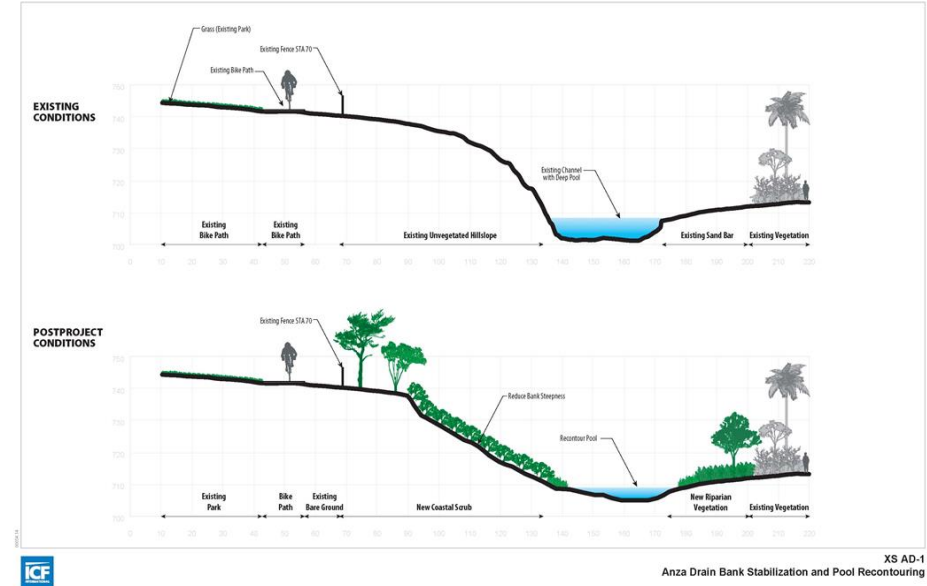
RPU'S COVERED ACTIVITIES

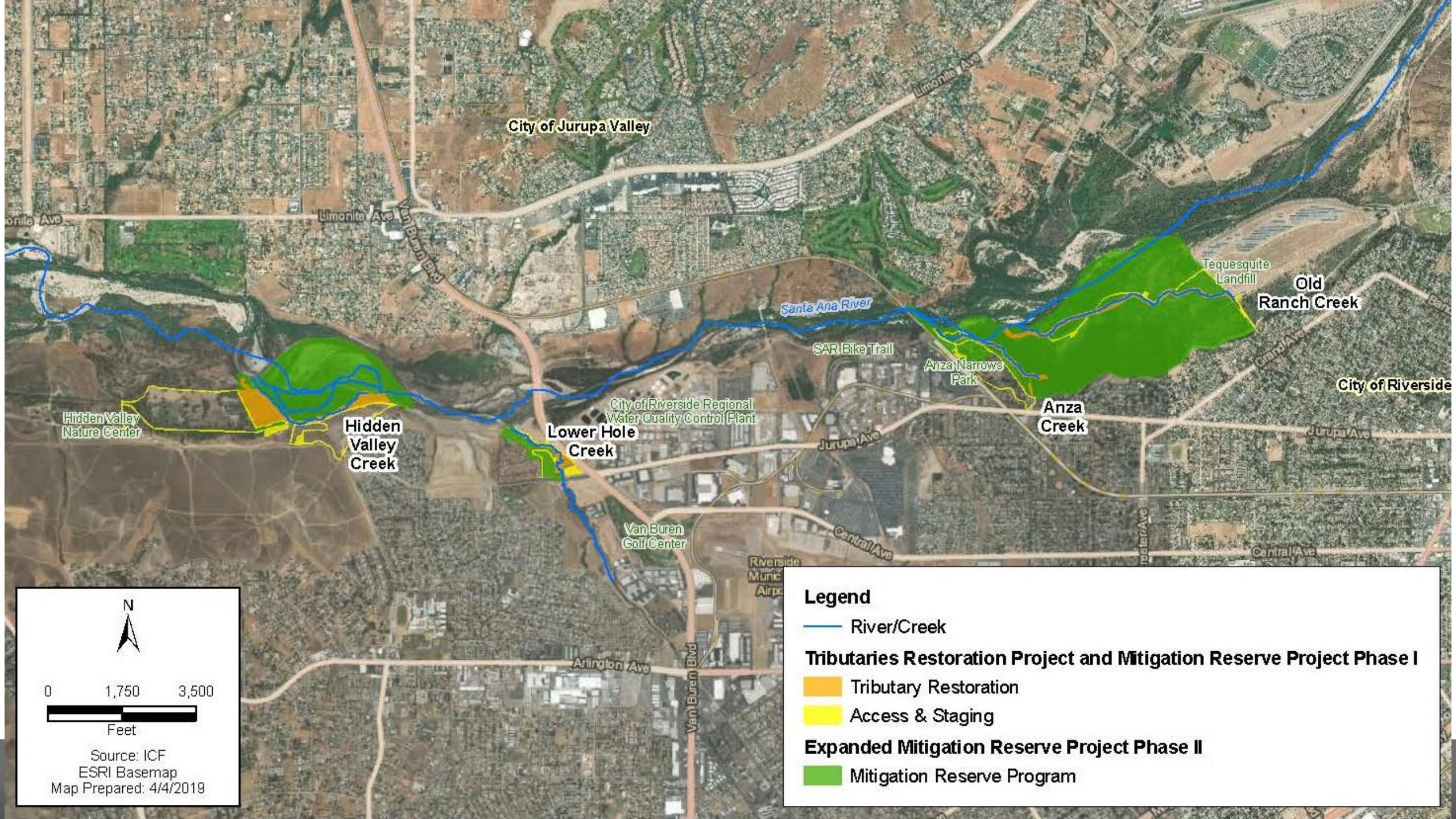
1. Riverside North Aquifer Storage & Recovery Project
2. Riverside Basin Recharge Project
3. Bunker Hill Groundwater Basin Wells & Pipelines
4. RPU / Upper SAR Regional Recycled Water Project
5. North Waterman Treatment Plant
6. Various RPU Solar Projects
7. Gage Canal Transmission Main Replacement
8. Waterman Pipeline Upsizing Project
9. Flume & Riverside Canal Pipeline Replacements
10. Future Gage Canal Transmission Main
11. Weed Abatement & Property Maintenance
12. Facilities Maintenance
13. Jurupa Ditch Company
14. Pipeline crossing from RIX

- RPU is also a partner on Enhanced & Active Recharge Projects

MITIGATION EFFORTS

1. Mitigation Bank (located in Riverside)
 - a. Tributaries (\$4 million prop 84 funding)
 - i. Improvements to Hole & Anza Creeks
 - ii. Creating Old Ranch & Hidden Valley Creeks
 - b. Upland habitat
 - c. Hidden Valley Wetlands
 - d. Lake Evans Creek area
2. Land Management
 - a. Protect and manage habitat & land
3. Fish Translocation
4. Improving Species Occurrence





Hidden Valley
Nature Center

Hidden
Valley
Creek

Lower Hole
Creek

City of Riverside Regional
Water Quality Control Plant

Van Buren
Golf Center

SAR Bike Trail

Anza Narrows
Park

Anza
Creek

Tequesquite
Landfill

Old
Ranch Creek

City of Riverside



Source: ICF
ESRI Basemap
Map Prepared: 4/4/2019

Legend

— River/Creek

Tributaries Restoration Project and Mitigation Reserve Project Phase I

Orange square: Tributary Restoration

Yellow square: Access & Staging

Expanded Mitigation Reserve Project Phase II

Green square: Mitigation Reserve Program

TRIBUTARIES NEED RELIABLE WATER SUPPLY



Old Ranch Creek



Hole Creek

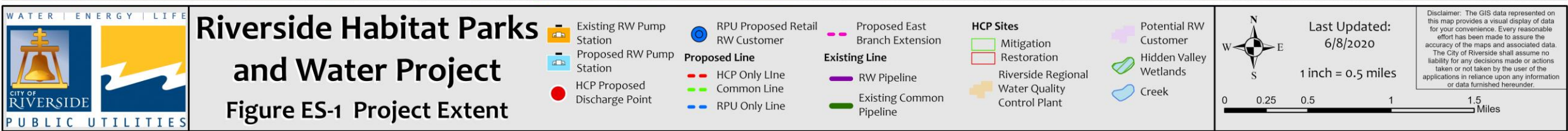


Hidden Valley

The map displays the San Juan River Watershed area, highlighting various water resources and infrastructure. Key features include:

- Water Resources:** Labeled areas include Hidden Valley Wetlands, Hidden Valley Creek, Hole Creek, Anza Creek, Old Ranch Creek, Tequesquite Arroyo, and Lake Evans Creek.
- Infrastructure:** Major roads shown are Jurupa Av and Van Buren Bl. A red dot marks a location near Van Buren Bl.
- Land Use:** The map shows a mix of urban development, agricultural fields, and natural habitats.
- Legend:** A legend box in the top left corner provides AFY Allowance values for various water sources:

AFY Allowance	
Anza Creek	728 AFY
Hidden Valley Creek	2,317 AFY
Hidden Valley Wetlands	507 AFY
Hole Creek	1,448 AFY
Lake Evans Creek	2,172 AFY
Old Ranch Creek	1,448 AFY
Tequesquite Arroyo	728 AFY
RPU Recycled Water Customer Demand (est.)	2,500 AFY



RIVERSIDE'S EXISTING DISCHARGE OBLIGATIONS

1. 1969 Santa Ana River Judgment
 - a. Riverside holds an agreement with Western to discharge 15,250 / 12,420 AFY in Vicinity of Narrows (dependent on credits)
2. 2008 Wastewater Change of Use Petition (WW-0045)
 - a. Riverside agreed to discharge no less than 25,000 afy at RWQCP & could utilize excess flows for recycled water
 - b. Recession + Drought + Conservation = minimal recycled water
 - c. 28,640 af discharged in 2019

PROPOSED DISCHARGES

1. Discharge volumes agreed to with Western to support the Santa Ana River Judgment
2. Relocate up to 5,000 AFY of treated effluent to upstream tributaries for improved environmental habitat
 - a. Bucket-for-bucket concept with HCP
3. Remove up to 4,750 AFY of treated effluent for recycled water use



PROJECT SUMMARY – WEST BRANCH

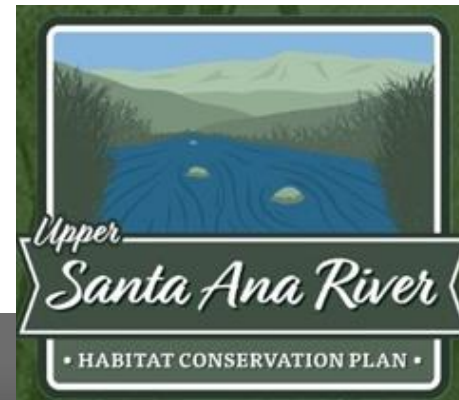
1. RWQCP to Hidden Valley Wetlands
2. Customers
 - a. RPU: Rutland Park & La Sierra Hills
 - b. HCP/Valley: Hole Creek, Hidden Valley Creek & Wetlands
3. Capital Costs (estimated)
 - a. RPU: \$7,500,000
 - b. HCP/Valley: \$12,200,000
4. O&M (estimated)
 - a. RPU: \$165,000
 - b. HCP/Valley: \$975,000
5. Commodity
 - a. Discharges consist of Riverside's obligation under agreement with Western
 - b. Gesture to the Environmental groups
6. \$400 - \$540 per AF

COST SHARE AGREEMENT

1. Agreement with Valley District to fund:
 - a. Overall Project CEQA Environmental Impact Report (est. at \$500,000)
 - i. RPU & Valley to share costs 50/50%
 - b. Discharge Technical Study – Dechlorination of Recycled Water (\$400,000)
 - i. Valley & RPU to share costs 50/50%
 - c. Overall Project WW Change Petition (\$50,000)
 - i. RPU to finance 100%
 - d. West Branch Extension Design (\$1,200,000)
 - i. RPU & Valley to share costs 50/50%
2. Cost sharing Totals
 - a. RPU to request approval for approximately \$1,100,000
 - b. Valley District to request approval for \$1,050,000

RHPWP BENEFITS

1. Water reuse on regional, integrated scale
2. Habitat creation, improvement & sustainability
3. Landscape irrigation & sustainable public parks
4. Improved water quality by increasing velocities
5. Integration with HCP & public outreach & education components
6. Water supply (HCP & RPU)



HCP, RIVERSIDE BENEFITS

1. Mitigate Water Supply and Infrastructure projects
 - a. Obtain necessary environmental permits enabling new water supply projects and supporting maintenance activities
 - b. Supports up to 15,000 AFY of new water to Riverside over the next 50 years
2. Riverside Habitat, Parks & Water Project
 - a. Up to 9,750 AFY of new water supply for Riverside
3. Restoration
 - a. Tributary creation and restoration in Riverside
 - b. Hidden Valley Wetlands revitalization and management
4. Management
 - a. Protect & manage habitat
 - b. River Rangers
 - c. Integration with Parks & Rec (hiking trails, viewing centers, interpretive signage)
5. Fairmount Park
 - a. \$2 million Prop 1 grant
 - b. Lake Evans Creek