


## Los Angeles Regional Water Quality Control Board

**TO:** Interested Persons

**FROM:** Ginachi Amah, D.Env, P.E.   
Basin Planning Program

**DATE:** September 18, 2017

**SUBJECT:** Notice of California Environmental Quality Act (CEQA) Scoping Meeting for Proposed Amendments to the Water Quality Control Plan for the Los Angeles Region (Basin Plan) to adopt a Program of Implementation for the Management of Salts and Nutrients in the San Fernando Valley Groundwater Basin

Notice is hereby given that the California Regional Water Quality Control Board, Los Angeles Region (Regional Water Board), in conjunction with the stakeholders of the San Fernando Valley Groundwater Basin (also referred to as the Upper Los Angeles River Area (ULARA) Groundwater Basins), will hold a CEQA Scoping Meeting. Pursuant to California Public Resources Code Section 21083.9, the purpose of this meeting is to receive comments on the appropriate scope and content of the substitute environmental documents supporting Basin Plan amendments that would adopt implementation strategies for the management of salts, nutrients and other related constituents of concern in the San Fernando Valley Groundwater Basin of the Los Angeles Region. The substitute environmental documents will be prepared pursuant to Public Resources Code Section 21080.5, and the State Water Resources Control Board's regulations related to its Certified Regulatory Program (23 C.C.R. § 3775 et seq.). The substitute environmental documents are intended to serve as program level environmental documents, consistent with Public Resources Code Section 21159.

### BACKGROUND

Salt and Nutrient Management Plans (SNMPs) are required for each basin/sub-basin in California in accordance with the State Water Resources Control Board's (State Water Board's) Recycled Water Policy (Policy), which was adopted by the State Water Board through Resolution No. 2009-0011 on February 3, 2009, and became effective on May 14, 2009. The State Water Board amended this Policy in 2013 through Resolution No. 2013-0003. Per the Policy, local water and wastewater entities, together with local salt/nutrient contributing stakeholders, are responsible for developing SNMPs through a locally driven and controlled, collaborative process.

The Policy encourages increased use of recycled water and stormwater as safe, local, drought-proof water sources. It is the intent of the Policy that salts and nutrients from all sources are managed on a basin-wide or watershed-wide basis in a manner that ensures attainment of water quality objectives and protection of groundwater's beneficial uses. The State Water Board finds that the appropriate way to address salt and nutrient issues is through the development of regional or sub-regional SNMPs rather than through imposing requirements solely on individual recycled water projects. The Resolution, Policy, Policy amendments, and other related information can be found at: [http://www.waterboards.ca.gov/water\\_issues/programs/water\\_recycling\\_policy/](http://www.waterboards.ca.gov/water_issues/programs/water_recycling_policy/).

The Policy defines essential elements of the SNMPs, including: 1) a basin-wide monitoring plan; 2) a provision for annual monitoring of constituents of emerging concern (CECs) for basins with recycled water recharge projects; 3) water recycling and stormwater recharge/use goals and objectives; 4) salt and nutrient source identification, basin assimilative capacity analysis, and loading estimates, together with fate and transport of salts and nutrients; 5) implementation measures to manage salts and nutrient loading on a sustainable basis; and 6) an anti-degradation analysis demonstrating that the projects described in the SNMP will, collectively, satisfy the requirements of State Water Board Resolution No. 68-16.

## PROJECT DESCRIPTION

The San Fernando Valley Groundwater Basin is located in Los Angeles County and covers an area of approximately 513 square miles. The San Fernando Valley Basin consists of four groundwater sub-basins: the San Fernando, Sylmar, Verdugo, and Eagle Rock basins. This basin is also referred to as the Upper Los Angeles River Area (ULARA)<sup>1</sup> Groundwater Basins. The objective of the San Fernando Valley (ULARA) Basin SNMP is to develop a plan to sustainably manage salts and nutrients in those ULARA groundwater basins. The SNMP will discuss a process and management strategies that are intended to manage salt and nutrient loading in the aquifer systems within the four ULARA groundwater basins. Using a spreadsheet-based mixing model, ULARA stakeholders determined the assimilative capacity of the groundwater basins with respect to Basin Plan Objectives (BPOs) set forth by the Regional Water Board. In addition, the stakeholders modeled the potential impacts in those groundwater basins to total dissolved solids (TDS), chloride, and nitrogen concentrations potentially caused by various groundwater replenishment projects using recycled water, as well as potential stormwater recharge projects, that are under consideration by the stakeholders during the SNMP planning period. Modeling results indicate that most basins and subareas within those basins have sufficient assimilative capacity with respect to the existing BPOs. Additionally, modeling has shown that those constituents that are either near or above their respective BPO can be managed sustainably with measures described in the SNMP. Through the process, ULARA stakeholders have developed a well-vetted and flexible SNMP that accounts for evolving planning documents produced by various agencies and/or municipalities, evolving project descriptions and projected implementation periods, multiple avenues for implementation of groundwater recharge of highly treated wastewater or recycled water, and increasing stormwater capture planned in the region.

The initial SNMP findings and implementation measures are described in more detail in the attached Project Summary. Various SNMP documents and other related materials are available on the ULARA Watermaster website at: [www.ULARAWatermaster.com/SNMP](http://www.ULARAWatermaster.com/SNMP).

The Regional Water Board proposes to adopt a program of implementation based on the implementation strategies contained in the SNMP for the San Fernando Valley Basin. This SNMP is being developed with the co-equal priorities of increasing recycled water use, which is strongly encouraged by the State Water Board's Recycled Water Policy as a means of ensuring sustainable local water supply into the future, and protecting groundwater quality. Specifically, the SNMP addresses potential increases in salts and nutrients that could occur as a result of the increased use of recycled water.

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<sup>1</sup> The Upper Los Angeles River Area (ULARA) is an area created by Court adjudication in the case of City of Los Angeles vs. City of San Fernando et al. The adjudication identified four distinct groundwater basins within ULARA: the San Fernando, Sylmar, Verdugo, and Eagle Rock basins. These basins are collectively referred to as the San Fernando Valley Groundwater Basin in the Water Quality Control Plan for the Los Angeles Region.

Per the State's Recycled Water Policy, implementation strategies contained in the SNMPs must be consistent with the State's Policy with Respect to Maintaining High Quality of Waters in California (Antidegradation Policy, State Water Board Resolution No. 68-16). The purpose of the CEQA Scoping Meeting is to present the foreseeable management alternatives and to determine if these strategies would result in significant adverse impacts to the environment. Some of the proposed strategies are an expansion of already existing effective programs; others are yet to be implemented. All will be fully examined in the subsequent substitute environmental documents.

Interested persons are specifically requested to provide the following information:

- Other reasonably foreseeable strategies for management of salts, nutrients and CECs, not included in the Project Summary.
- The reasonably foreseeable significant adverse environmental impacts associated with the strategies provided.
- Specific evidence supporting that such impacts are reasonably foreseeable and describing the magnitude (significance level) of the impacts.
- Reasonable alternative management strategies resulting in less significant environmental impacts.
- Reasonable mitigation measures that would minimize any unavoidable significant adverse environmental impacts associated with the proposed implementation strategies.

The proposed information and resulting analysis will be incorporated into the Draft Substitute Environmental Document. The CEQA Scoping Meeting will be held at the following time and location:

Date: October 17, 2017

Time: 1:00 PM

Location: 2nd Floor Assembly Room of Building 7  
LADWP Valley Center in the Van Nuys area of the City of Los Angeles (14401 Saticoy St., Van Nuys, CA 91405).  
Detailed parking info available via [www.ULARAwatermaster.com/SNMP](http://www.ULARAwatermaster.com/SNMP)

If you are planning to attend the meeting, please RSVP by emailing your contact information to [SNMP@ULARAwatermaster.com](mailto:SNMP@ULARAwatermaster.com). An RSVP is strongly encouraged, but not required to attend.

#### QUESTIONS AND ADDITIONAL INFORMATION

General questions concerning this notice may be directed to Dr. Ginachi Amah at (213) 576-6685 or by e-mail to [Ginachi.Amah@waterboards.ca.gov](mailto:Ginachi.Amah@waterboards.ca.gov). You may also contact Mr. Anthony Hicke, Assistant ULARA Watermaster at (818) 506-0418 or by email at [SNMP@ULARAwatermaster.com](mailto:SNMP@ULARAwatermaster.com). Please bring the foregoing to the attention of any persons known to you who would be interested in this matter.

## PROJECT SUMMARY

### ULARA SNMP Background

In accordance with the Recycled Water Policy adopted in February 2009 by the State Water Resources Control Board, a Salt and Nutrient Management Plan (SNMP) is being developed for the Upper Los Angeles River Area (ULARA) Groundwater Basins; this effort is being led by the ULARA Watermaster.

The Upper Los Angeles River Area (ULARA) is an adjudicated area that encompasses all the watershed, the four groundwater basins, and the tributaries of the Los Angeles River located above the junction of the Los Angeles River and the Arroyo Seco, where Gaging Station F57-C is located. This watershed boundary surrounds the entire San Fernando Valley, the Verdugo, and Tujunga canyons (including the Verdugo Hills) along the northeastern side of the valley and Bell and Dry canyons on the west side of the valley. Four major cities occur within the ULARA boundaries and/or share the same watershed area. These cities include the City of Los Angeles, the City of San Fernando, the City of Burbank, and the City of Glendale. In addition, the unincorporated communities of La Crescenta and Montrose are within the boundaries of ULARA, and the cities of Calabasas, Hidden Hills, and La Cañada Flintridge overlay small portions of ULARA. Four separate groundwater basins were identified by the Court within the region known as ULARA. For the purposes of the ULARA SNMP, the largest groundwater basin was divided into four subareas for the purposes of analysis. Figure 1 shows the location of these four groundwater basins, and subareas. From largest to smallest, the groundwater basins are:

- San Fernando Groundwater Basin (SFB)
  - Includes Narrows (NAR), Tujunga (TUJ), San Fernando West (SFW), and San Fernando East (SFE) subareas
- Sylmar Groundwater Basin (SB or SYL)
- Verdugo Groundwater Basin (VB or VER)
- Eagle Rock Groundwater Basin (ERB or EAG)

The four groundwater basins and their watershed areas encompass a total surface area of approximately 328,500 acres (513 square miles). All valley areas of ULARA are highly urbanized and land use is predominantly commercial/residential. There remains only minor agricultural land in the western portion of the SFB. The remaining land uses are numerous flood control basins, reservoirs, and several spreading basins. The watershed areas to the east-northeast of SFB consist of a National Forest (in the San Gabriel Mountains), whereas the hill and mountain areas on the south and west sides of ULARA are predominantly residential and covered by native vegetation, with occasional but small interspersed park areas.

Groundwater is pumped from each of the subareas for various purposes. Nearly all of the groundwater extracted from ULARA is used for municipal supply; only minor amounts of groundwater are pumped for dewatering and/or other purposes. The majority of groundwater extractions in ULARA occur from the SFE and NAR subareas (at combined totals of approximately 55,000 to 93,000 acre-feet per year (AFY), depending on year). The primary use of this groundwater is for potable water delivery within the cities of Burbank, Glendale, and Los Angeles. Pumping from the SFW subarea has been much smaller (less than 400 AFY), and these extractions are primarily for groundwater remediation, dewatering, and other non-consumptive or minimally consumptive uses. No groundwater extractions are known to have occurred in the TUJ subarea during the baseline period for this SNMP.

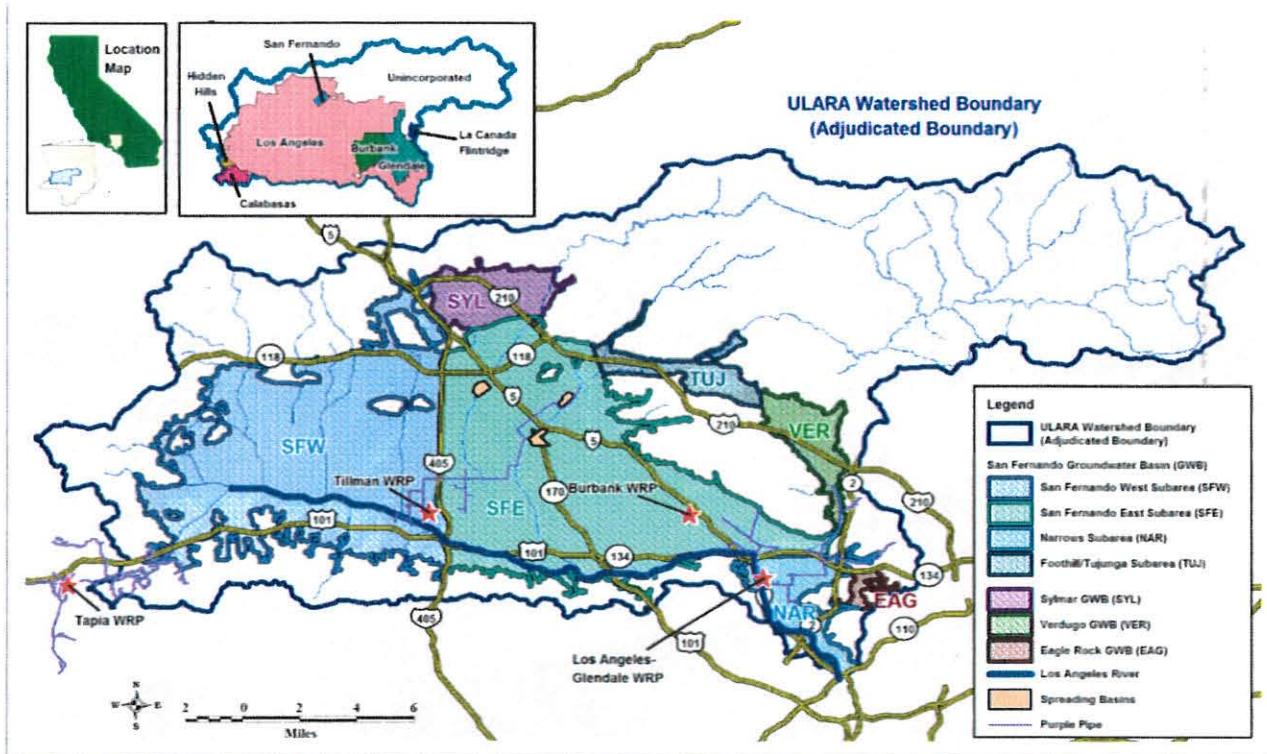


Figure 1 - ULARA Location Map and Groundwater Basins

Groundwater extractions from the SYL have averaged approximately 5,500 AFY. Almost all groundwater in the SYL subarea is extracted from two wellfields: the Mission wellfield operated by LADWP, and the San Fernando wellfield operated by the City of San Fernando. An average combined pumping volume of approximately 5,300 AFY was calculated for wells in the VER subarea owned by Crescenta Valley Water District and the City of Glendale. The only groundwater extraction in the EAG subarea is from the well(s) operated by DS Waters (formerly Sparkletts); approximately 200 AFY are extracted by this private company. Not all groundwater pumped from a particular ULARA subarea is delivered to the same ULARA subarea, and in fact some groundwater is exported from the ULARA basins entirely.

Recycled water is delivered to four of the ULARA subareas from three main water reclamation plants (WRPs), as follows: deliveries from the Tillman WRP are to the SFE and SFW subareas; the LA-Glendale (LAG) WRP delivers recycled water to the SFE, NAR, and VER subareas; and the Burbank WRP delivers recycled water to the SFE subarea. A relatively small volume of recycled water is delivered to the SFW subarea from the Tapia WRP.

For over 50 years, local agencies within ULARA have been collaborating and implementing critical measures to help prevent groundwater overdraft and to replenish the local aquifer systems. Further, the more recent use of recycled water in these groundwater basins has played a role in increasing the reliability and sustainability of the overall water supply.

The overall purpose of the ULARA SNMP is to estimate changes in Salt and Nutrient concentrations over time in the ULARA groundwater basins due to current practices and projects and anticipated future practices and projects, including:

- Increase in Stormwater Capture
- Increase in Recycled Water Use
- Existing and Proposed Projects within ULARA
- Changes in Groundwater Extraction Volumes

Key constituents evaluated for the SNMP are total dissolved solids, chloride and nitrate.

### Basin Plan Objectives

Water quality objectives (Basin Plan Objectives, or BPOs) are described in the "Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties" (Basin Plan) prepared by the Regional Water Board. The Basin Plan includes water quality objectives for many constituents in the ULARA groundwater basins, and serves as a basis for targeting specific salts and nutrients for management as part of the ULARA SNMP. The Basin Plan includes discrete BPOs for several smaller areas (called subareas) within the ULARA groundwater basins, as identified by the Regional Water Board. For the purposes of the SNMP, the subareas of the ULARA groundwater basins were defined as shown on Figure 1. The seven subareas for the ULARA SNMP are: the San Fernando Basin West (SFW); the San Fernando Basin East (SFE), the San Fernando Basin Narrows (NAR); the Tujunga/Foothill portion of the San Fernando Basin (TUJ); the Sylmar Basin (SYL); the Verdugo Basin (VER); and the Eagle Rock Basin (EAG).

### SNMP Analysis

The ULARA stakeholders have prepared five Technical Memoranda (TM's) to date, detailing the ULARA SNMP development process. These TM's are:

- Technical Memorandum No. 1 - Introduction to the ULARA Groundwater Basins (TM-1)
- Technical Memorandum No. 2 - Background Data (TM-2)
- Technical Memorandum No. 3 - Goals and Objectives (TM-3)
- Technical Memorandum No. 4 - Management Measures (TM-4)
- Technical Memorandum No. 5 - Water-Quality Modeling for the ULARA Salt and Nutrient Management Plan (TM-5)

Each of these TM's are available for download from the ULARA Watermaster website at [www.ULARAwatermaster.com/SNMP](http://www.ULARAwatermaster.com/SNMP).

Ultimately, a spreadsheet mixing model was developed using the data compiled to simulate groundwater quality in the four ULARA groundwater basins (divided into seven subareas) to estimate the possible future effects of management measures identified in the Salt and Nutrient Management Plan (SNMP), and to help understand the potential effects on groundwater quality related to the increased use of recycled water and stormwater for recharge within ULARA. This model allowed stakeholders to estimate future effects of management measures, or projects, identified in the SNMP.

### Management Measures Considered

To develop the SNMP in a way that helps sustainably manage salts and nutrients in the ULARA groundwater basins, stakeholders relied on several planning documents, as described in TM-3.

Stakeholders relied on the 2013 Greater Los Angeles County (GLAC) Integrated Regional Water Management (IRWM) Plan (GLAC, 2013). One of the sub-regions, the Upper Los Angeles River (ULAR) IRWM sub-region, has geographic boundaries that are similar to the ULARA SNMP boundary area. Because of this similarity, and since the GLAC IRWM water supply targets include the irrigation and recharge categories that are relevant for the ULARA SNMP, they are a useful

starting point for developing several of the recharge/irrigation projections necessary for the mixing model work.

Used as the basis for recharge and irrigation projections to 2025, the 2013 GLAC IRWM Plan contains water supply targets for each of the five sub-regions within the GLAC IRWM Region, including the region most similar to ULARA. Several categories of supplies were identified in the GLAC IRWM Plan. These supply categories included: groundwater; imported water for direct use; imported water for recharge; recycled water for direct non-potable use; recycled water for recharge; stormwater for direct use; stormwater for recharge; and water conservation. Supply targets were estimated for each category of supply based on specific assumptions listed in the IRWM Plan documents. For more detailed information on stormwater for recharge, stakeholders also relied on the City of Los Angeles Stormwater Capture Master Plan (SCMP) for data related to stormwater capture and recharge (LADWP, 2015a). Projections were further adjusted to allocate volumes to each of the subareas in ULARA.

The Stakeholders also compiled a "Management Plan" (TM-4) consisting of management measures. "Management measures" in the context of SNMP development are defined as projects or other actions (existing, planned, or conceptual) that may in some way change salt and/or nutrient conditions in the ULARA groundwater basins, whether in a positive or negative fashion. Projects or actions that improve salt and nutrient conditions in the ULARA basins are defined as "implementation measures". Recycled water projects and groundwater remediation efforts are the most significant management measures for this region, but other management options (including land development) are also discussed.

One specific proposed groundwater recharge project proposed for the SFE subarea by the City of Los Angeles could provide for infiltration of a significant volume of recycled water. Because the level of treatment to be implemented for any proposed recycled water groundwater recharge project could potentially have a significant impact on salt/nutrient loading in the groundwater basin, it was necessary to develop a methodology to capture the hypothetical range of possibilities for the currently proposed City of Los Angeles recharge project. To accomplish this, the ULARA Watermaster worked with the ULARA stakeholders and the Regional Water Board to develop two hypothetical scenarios that were intended to represent a lower-end theoretical salt and nutrient loading condition and a higher-end theoretical loading condition. Because plans for the proposed recycled water groundwater recharge project have not been finalized, these two "low" and "high" scenarios represent a range of possibilities for the groundwater recharge project currently being put forth by the City of Los Angeles.

#### Mixing Model Results

Simulated concentrations of TDS, chloride, and nitrate were projected by the mixing model over a 29-year period using annual time steps. This 29+ year period is from 2013 to 2044, and was selected to coincide with the development of various projects planned within ULARA. The model tracked flow, concentration and mass concurrently to account for flows and key constituent loads entering and leaving the groundwater system.

Using the data, assumptions, and model inputs described above, four future scenarios were simulated using the mixing model, including:

- Future Baseline Scenario. This scenario continues existing conditions and planned non-SNMP projects. It assumes that no new SNMP recycled water or stormwater projects will be implemented. This scenario serves as the reference condition for evaluating effects of SNMP implementation.

- Recycled Water Only. This scenario includes only the recycled water elements of the SNMP and was performed so the effects of recycled water and stormwater elements could be assessed independently. The scenario assumes percolation of tertiary recycled water.
- Recycled Water Plus Stormwater. This scenario simulates the elements of the SNMP, with the tertiary recycled water option for percolation at the Pacoima and Hansen spreading basins in the SFE subarea plus all planned stormwater projects.
- Advanced Treated Recycled Water. This scenario also simulates all SNMP elements, but with the advanced treated recycled water option for percolation at spreading basins plus all stormwater projects.

Technical Memorandum No. 5 – “Water-Quality Modeling for the ULARA Salt and Nutrient Management Plan” (TM-5) provides a detailed explanation of the data, methods, and results of the mixing modeling work for the ULARA SNMP.

Results derived from the data analysis and modeling support the following key conclusions:

- Measured and simulated concentrations were variable among subareas, as are the Basin Plan Objectives (BPO). Thus, the amount of assimilative capacity was as dependent on the BPO as on the ambient water quality.
- Many subareas have existing water quality trends unrelated to recycled water use such as increasing TDS and chloride concentrations in the Eagle Rock Basin.
- Recycled water use is proposed for four of the seven ULARA subareas (Los Angeles River Narrows, San Fernando East, San Fernando West and Verdugo). In those areas, use of recycled water for irrigation raised the simulated concentration trends for TDS and chloride over the simulation period. However, increased stormwater recharge (centralized and distributed) consistently lowered concentration trends of TDS and chloride over the simulation period. In some cases, simulated trends with full SNMP implementation were even lower than baseline trends, which means the stormwater recharge more than offset the effects of recycled water use.
- Nitrogen trends were downward over the simulation period under baseline and all SNMP scenarios in all subareas except TUJ. The exception in that subarea could result from the relatively high density of onsite wastewater systems.
- As of 2044, model-projected concentrations and trends were acceptable for all constituents in all subareas except the Los Angeles River Narrows (NAR), where there was a small shift toward increasing concentrations during 2016-2044. This result appears to stem from the relatively high intensity of recycled water use and low intensity of stormwater recharge contemplated by the SNMP in that subarea. Other regional efforts not considered by the ULARA mixing model will likely reduce these trends.

#### Future Monitoring

To help corroborate the results of the ULARA SNMP modeling efforts, water purveyors within ULARA have committed to annual monitoring of, at a minimum, the key ULARA SNMP constituents of TDS, chloride, and nitrate in the potable supply wells used to serve their constituents. The results of the corroborative sampling will be compared annually to the BPOs in the ULARA groundwater basins, and to the trends predicted by the ULARA SNMP mixing model in the Annual Pumping and Spreading Plan published by the Watermaster each year for ULARA.

### Next Steps

A California Environmental Quality Act (CEQA) Scoping Meeting will be held on October 17, 2017 to describe the SNMP findings and implementation measures and solicit public comments on the environmental analysis. A Draft SNMP and Draft Substitute Environmental Document (SED) are expected to be submitted to the Regional Water Board for review in November 2017. A Final SNMP is expected to be submitted to the Regional Water Board in early 2018.

For up-to-date ULARA SNMP information, including updated meeting information once available, please visit [www.ULARAwatermaster.com/SNMP](http://www.ULARAwatermaster.com/SNMP).

For more information on the Upper Los Angeles River Area and the ULARA Watermaster, please visit [www.ULARAwatermaster.com](http://www.ULARAwatermaster.com).