**TO:** WATER SUPPLY ADVISORY COMMITTEE

**FROM:** CATHERINE BORROWMAN & HEIDI LUCKENBACH

**SUBJECT:** UPDATE ON CA DROUGHT SUMMIT, RE-INVENTING URBAN WATER

**DATE:** JUNE 4, 2015

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City and other local agency staff attended a one-day drought summit presented by the California Water Environment Association (CWEA) and WateReuse California in Sacramento titled "California Drought Summit: Reinventing Urban Water, Potable Reuse." (Event Information attached.) Following is a synopsis of the various topics, discussions and important points.

The keynote address was given by Senator Robert Hertzberg; speakers included:

- Martha Guzman-Aceves, Deputy Legislative Secretary for Governor Brown;
- Karla Nemeth, Deputy Secretary for WaterPolicy, California Natural Resources Agency;
- Lester Snow, Executive Director of the California Water Foundation;
- David Sedlak, UC Berkeley Professor, who serves as ReNUWIt Deputy Director;
- Dr. Rhodes Trussell, water quality expert who served on the EPA's Science Advisory Board;
- Martha Davis, Executive Manager for Policy Development, Inland Empire Utilities Agency;
- Bill Croyle, Department of Water Resources and California's Emergency Drought Manager; and
- Cindy Forbes, Chief Deputy of the Division of Drinking Water.

Sponsors included WateReuse California members, California Association of Sanitation Agencies, water agencies, and the Association of California Water Agencies.

**DROUGHT FORECAST**

Bill Croyle, California's Drought Manager, California Department of Water Resources (DWR) discussed that there is little to no runoff expected from this worst year of snowpack, which among other things will allow little to no coldwater storage for fish releases to maintain habitat. There has been an unprecedented draw on groundwater in recent history. Current El Niño conditions could result in a 50-50 chance throughout 2015 of very dry conditions in Northern California. DWR outlined short term actions: conservation/education, local drought task forces, update water contingency plans, increased emergency actions, critical oversight of environmental monitoring and response. DWR intends to increase conservation, reduce deliveries, install a temporary salinity barrier to protect the Delta from seawater intrusion, surface water curtailments, increased real time data collection and analysis and information, increased oversight of groundwater use, increased mutual aid and assistance. In a dry 2016 there may be minimal State Water Project deliveries, and surface water curtailments.

Karla Nemeth, California Natural Resources Agency Deputy Secretary for Water Policy said the potential for permanent change as a result of this drought is that local water projects are being invested in to diversify water sources. The California Drought Task Force is calling for timely review of projects that will provide recycled water for uses where it is most appropriate. The State is streamlining local water projects with a 90 day process to provide a permit as quickly as possible.

Lester Snow, California Water Foundation Executive Director said "never let a crisis go unused." Given unprecedented levels of public and political attention with water issues with the exceptional drought he noted the challenge is "what do you do with it?" Natural resource reality has been changing faster than our institutions have been adapting. Mr. Snow said that if the wet water year 2011 were taken out of the hydrological record, California would now be in the 8$^{th}$ year of the drought. Mr. Snow remarked that with

1 million acre feet of wastewater discharge into the ocean annually, people need to see the potential for water reuse and consider storing water underground, cleaning up stormwater to limit pollution downstream, and cleaning up pollutants in groundwater. He challenged the group to find ways to talk about potable reuse as a safe way of managing resources; this being a time for bold thinking to bring creative ideas and energy into initiatives that will move forward on water reuse.

**PANEL ON DIRECT POTABLE REUSE IN CALIFORNIA**

The panel moderator discussed that in response to one of the worst droughts in California history, Governor Edmund G. Brown Jr. called for streamlining the California Environmental Quality Act (CEQA) for some water projects such as water recycling. There are a variety of legislative proposals being considered and state agencies were ordered by the Governor to begin working with agencies to reduce environmental compliance timelines.

Martha Guzman-Aceves, Deputy Legislative Secretary Governor Jerry Brown, said in response to a question posed regarding the potential for streamlining the CEQA process for potable water reuse projects, that projects that have sought and received exemptions include emergency wells for drinking water and other emergency supply projects. Water agencies are not advised however to request CEQA exemption for longer term projects because CEQA gives people comfort that impacts on the environment and human health will be considered. The goal of CEQA is to ensure that policy makers are fully informed about these aspects of a proposed project.

The panelists on direct potable reuse (DPR) in California included consultants for Senate Committees working on policy and legislation, and the General Manager of West Basin Municipal Water District, Richard Nagel. The panel discussion covered political and public health issues related to direct potable reuse. The Department of Drinking Water (DDW) is required to adopt regulations regarding surface water augmentation with recycled water, and report to the Legislature on the feasibility of developing uniform water recycling criteria for DPR, by December 31, 2016. To assist DDW with these activities, an advisory group and an expert panel has been appointed. Feedback and recommendations are needed from the scientific panel reviewing treatment technology and results. The scientific panel will offer recommendations to DDW regarding treatment processes to be employed to remove various constituents.

Panelist Richard Nagel noted that beneficial reuse of 25% of the 1.64 billion gallons of discharge a day from a sustainability standpoint would be very good. With the indirect potable reuse projects operating in California, he stated that the safety of the product water from complete advanced treatment has been demonstrated. A recent summary of the DPR Initiative in California can be found here: http://www.watereuse.org/sites/default/files/u8/CA-DPR_Initiative.pdf

**CALIFORNIA LEGISLATION ON WATER RECYCLING (as of June 3, 2015) (http://www.leginfo.ca.gov/bilinfo.html)**

**AB 606** (Levine) State Properties – Directs the state to conserve water on state-owned lands through drought-tolerant landscaping and replacement of irrigation timers, spray sprinkler heads and the use of recycled water for irrigation. Status: amended in Assembly May 12, 2015.

**AB 1463** (Gatto) Onsite Gray Water-- Requires the State Water Resources Control Board to establish water quality standards and distribution, monitoring, and reporting requirements for onsite water recycling systems. This will be prior to authorizing the use of onsite recycled water in internal plumbing of residential and commercial buildings. Status: not yet passed, but no opposition.

**SB 471** (Pavley) GHG Emissions Water Sector – Requires the Air Resources Board (ARB) to develop an emissions inventory for the water sector and makes water recycling and wastewater treatment eligible for funding from the Green House Gas Reduction Fund. Status: passed.

**POTABLE REUSE AND URBAN WATER SUPPLIES**

Professor David Sedlack, Deputy Director of ReNUWIt Engineering Research Center discussed opportunities and challenges with potable water reuse. Dr. Sedlack opined that potable water reuse can significantly enhance urban water supply, however current policies entail the use of additional infrastructure and energy to move the recycled water from the treatment plant (conventionally built at the lowest point of a coastal city) to a point where it can be reused for indirect potable reuse purposes (spreading basins or groundwater injection). He discussed that policies are needed to facilitate adoption for DPR, which presents an opportunity to utilize approximately 34% of the recoverable water available from wastewater treatment plants with advanced treatment prior to blending with drinking water and conveyance in the potable water system. He commented that the Orange County Water District developed an effective source control program to limit the constituents present in the wastewater effluent that are extremely difficult to treat with complete advanced treatment systems. Dr. Sedlack also discussed how public acceptance is associated with the legitimacy of DPR. . He said that the attitudes of the public can be addressed with careful thought to how the innovation provided by this type of water treatment and delivery methodology could serve the long term interest of current customers and future generations and meet external quality standards (drinking water standards).

Rhodes Trussell, Ph.D. is the Founder of Trussell Technologies. He has served as the Chairman of the Environmental Protection Agency's Science Advisory Board on Drinking Water and chaired the most recent National Research Council Committee to look at reuse of municipal wastewater in California. Dr. Trussell discussed the following:

- How potable water reuse can improve urban water supplies;
- That an extensive amount of research is being performed on this subject;
- Several of the recycled water treatment systems that have been used for augmenting potable water supplies;
- The 4 R's are a focus for direct potable reuse: *reliability* and public health protection to meet goals, *redundancy* (taking measurements beyond the minimum requirements), adding additional treatment for removal reduces the probability of failure, *robustness* with the use of multiple barriers and *resiliency* (things that can be done to adapt to failure for example storage or diversion of treated water that is not the desired quality).

**FUNDING INFORMATION FOR WATER REUSE**

Water recycling projects may be funded through grants or financing agreements. Low interest financing agreements may be state bond funded or CWSRF (Clean Water State Revolving Fund) funded. Applicant and project eligibilities vary based on the funding source.

**1% Low Interest Loans for Water Recycling**

In March 2014, the Board made $800 million in one percent loans available for water recycling projects from the Clean Water Act State Revolving Fund. This funding was made available for projects that can be completed within three years of the Governor's January 17, 2014 drought proclamation. Applications for this extremely low-interest financing are accepted continuously, but must be submitted by December 2, 2015. Attached is a list of water recycling projects applying for 1% financing through the Clean Water State Revolving Fund as of 5/27/2015.

**Proposition 1 Water Reuse Funding Rolls Out**

With the 2014 Bond Law, Proposition 1, $625 million is proposed for water recycling and salt-removal projects. Funds can be used to build new recycled water pipelines, test new treatment technology, or build desalination plants. Recycled water funding can be used to promote use of treated municipal wastewater to offset and augment local fresh water supplies. The funding will be allocated to the State Water Board as 50% for loans (~$300 million) and 50% for grants (~$300 million). The State Water Resources

Control Board (Board) recently completed public meetings on their Proposition 1 draft guidelines, which will set the framework for awarding $625 million in funding for desalination and recycled water projects over the next three to five years. The guidelines are set for final approval on June 16 and desalination and recycled water funding contracts with agencies will begin in July of this year. The proposed state share of construction grants is 35% of the cost; the draft guidelines include a $15 million construction grant cap, and a $20 million construction grant cap for disadvantaged communities that the Board intends to combine, when appropriate, with low-interest loan funding. At this date $131 million in funding will be made available, but more funding for this fiscal year could be allocated through the state budget process.[i]

**Attachments**
Event Flyer
List of CWSRF 1% Financing Projects

[i] http://www.waterboards.ca.gov/drinking_water/services/funding/SRF.shtml

# California Drought Summit

## Re-Inventing Urban Water, Potable Reuse


**MAY 11, 2015**

Sheraton Grand Sacramento
1230 J Street
(13th and J Street)
Sacramento, CA 95814
Phone: (916) 447-1700

Free to attend! Limited seating!
Register:
www.cwea.org/conferences

**INVITED GUESTS**

Senator Robert Hertzberg
Senator Fran Pavley
Senator Bob Wieckowski
Assembly Member Mark Stone

California Water Environment Association

WateReuse California

Department of Water Resources, State of California

ReNUWIt — Re-inventing the Nation's Urban Water Infrastructure

Association of California Water Agencies — Since 1910 — Leadership • Advocacy Information • Service

CASA

American Water Works Association California-Nevada Section

Santa Clara Valley Water District

Water Environment Federation — the water quality people

Sonoma County Water Agency

Inland Empire Utilities Agency — A Municipal Water District

CWEA Sacramento Area Section

SVCW Silicon Valley Clean Water — One Drop at a Time

RegionalSan — Taking the Waste Out of Water

MRWPCA

San Diego County Water Authority

San Elijo Joint Powers Authority

Hetch Hetchy Regional Water System — Services of the San Francisco Public Utilities Commission

Los Angeles Basin Section CWEA

Santa Clara Valley CWEA

San Francisco Bay Section, California Water Environment Association

# AGENDA

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|---|---|---|
| | **REGISTRATION** | **8:30 am - 9:00 am** |
| **Welcome** | Eric Hansen, President CWEA - SCVS and<br>Professor Richard Luthy, Master of Ceremonies, Director of ReNUWIt Engineering Research Center | **9:00 am - 9:05 am** |
| **Opening Remarks** | Lester Snow, Excecutive Director of California Water Foundation<br>and former California Secretary of Natural Resources | **9:05 am - 9:20 am** |
| **Direct Potable Reuse In Texas** | Dan Nix, Utilities Operations Manager City of Wichita Falls, Texas | **9:20 am - 9:35 am** |
| **California's Drought Forecast** | Bill Croyle - California's Drought Manager, California Department of Water Resources | **9:35 am - 10:05 am** |
| | **NETWORKING BREAK** | **10:05 am - 10:30 am** |
| | **Panel on Direct Potable Reuse in California**<br>Panelists will include legislative, administrative and local perspectives.<br>(Moderated by Richard Harris, Nossaman Group) | **10:30 am - 11:45 am** |
| | **LUNCH** | **11:45 pm - 1:00 pm** |
| **Potable Water Reuse: Opportunities and Challenges** | Professor David Sedlak, Deputy Director of ReNUWIt Engineering Research Center | **1:00 pm - 1:40 pm** |
| **Potable Water Reuse: How Can it Improve Our Urban Water Supply?** | Dr. Rhodes Trussell, Founder of Trussell Technologies and<br>Chair of recent National Research Council Committee on Reuse | **1:40 pm - 2:20 pm** |
| | **BREAK** | **2:20 pm - 2:30 pm** |
| **Water Recycling—Where do we go from here?** | Cindy Forbes, Deputy Director, California State Water Board, Division of Drinking Water | **2:30 pm - 3:10 pm** |
| **Regulatory Opportunities for Recycled Water** | Martha Davis, Executive Manager for Policy Development, Inland Empire Utilities Agency<br>and WateReuse Board Member | **3:10 pm - 3:50 pm** |
| | Master of Ceremonies Closing Remarks - Professor Richard Luthy,<br>Director of ReNUWIt Engineering Research Center | |
| | **RECEPTION** | **4:00 pm - 5:30 pm** |

# ABOUT THE PRESENTERS

**Bill Croyle**: Department of Water Resources' Drought Emergency Manager; leads Governor Brown's Interagency Drought Task Force.

**Cindy Forbes**: Cindy is the Deputy Director of the Division of Drinking Water at the State Water Resources Control Board and has been with the Drinking Water Program since 1978. She is also responsible for adopting recycled water regulations that are sufficiently protective of public health.

**Dan Nix**: Utilities Operations Manager City of Wichita Falls, Texas.

**David Sedlak**: Malozemoff Chair in the Department of Civil & Environmental Engineering at UC Berkeley, Co-director of the Berkeley Water Center and Deputy Director of the ReNUWIT Engineering Research Center.

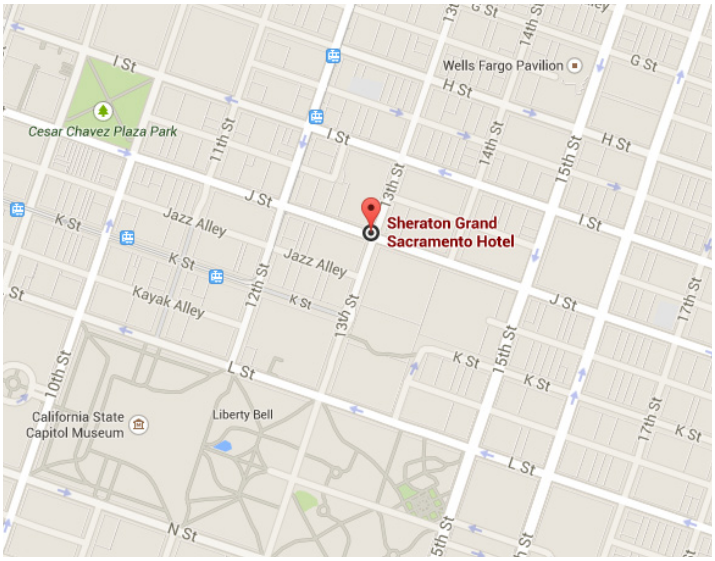
**Lester Snow**: Executive Director of the California Water Foundation and the former California Secretary for Natural Resources.

**Martha Davis**: Executive Manager for Policy Development, Inland Empire Utilities Agency and WateReuse Board Member.

**Richard Harris**: Richard Harris is a Senior Policy Advisor at the Nossaman LLP law firm and has been the WateReuse legislative advocate since 1997.

**Richard Luthy**: Silas H. Palmer Professor in the Department of Civil and Environmental Engineering at Stanford University, and the Director of the ReNUWIt Engineering Research Center.

**Rhodes Trussell**: Rhodes Trussell, Ph.D. is the Founder of Trussell Technologies, He has served as the Chairman of the EPA Science Advisory Board on Drinking Water and chaired the most recent National Research Council Committee to look at reuse of municipal wastewater in California.



# Water Recycling Projects Applying for 1% Financing Through the Clean Water State Revolving Fund

| Project Number | Agency | Project Name | | Funding Amount | Volume (AFY) |
|---|---|---|---|---|---|
| **Projects with an Executed Agreement** | | | | | |
| 5318-110 | Inland Empire Utilities Agency | Central Area Recycled Water Project | $ | 26,500,000 | 1,275 |
| 4806-110 | Victor Valley Wastewater Rec Authority | Apple Valley Subregional Wastewater Reclamation Plant | $ | 24,656,757 | 1,120 |
| 4807-110 | Victor Valley Wastewater Rec Authority | Hesperia Subregional Wastewater Reclamation Plant | $ | 33,508,015 | 1,120 |
| 5210-110 | Napa County Department of Public Works | MST Recycled Water Project | $ | 9,859,434 | 241 |
| 7893-110 | Fresno, County of | Tertiary Treatment Facility | $ | 49,043,336 | 5,600 |
| 7899-110 | Carlsbad Municipal Water District | Phase III Recycled Water Project | $ | 29,500,000 | 800 |
| 8005-110 | Los Carneros Water District | LCWD Recycled Water Pipeline Project | $ | 19,982,000 | 1,000 |
| | | Sub-Total | **$** | **193,049,542** | **11,156** |
| **Projects without an Executed Agreement and Application Complete** | | | | | |
| 5541-110 | Fresno, County of | Fresno County Monte Verdi CSA 44D Wastewater | $ | 1,200,000 | 37 |
| 7808-110 | Idyllwild Water District | Tertiary Recycled Water System | $ | 2,045,217 | 18 |
| 8024-110 | Pleasanton, City of | City of Pleasanton Recycled Water Project | $ | 14,007,230 | 1,303 |
| 8026-110 | Pacific Grove, City of | Pacific Grove Local Water Project | $ | 4,940,000 | 125 |
| 8043-110 | West County Wastewater District | Recycled Water Reliability Upgrades | $ | 28,155,000 | 7,560 |
| 8061-110 | Fresno, City of | Recycled Water Distribution System Southwest Quadrant | $ | 52,475,049 | |
| 8073-110 | San Benito County Water District | SBCWD Recycled Water Project | $ | 7,600,000 | |
| 8084-110 | West Basin Municipal Water District | Carson Regional Water Recycling Facility | $ | 23,803,808 | |
| | | Sub-Total | **$** | **134,226,304** | **9,043** |
| **Projects without an Executed Agreement and Application Not Complete** | | | | | |
| 7831-110 | Eastern Municipal Water District | Recycled Water Pond Expansion and Optimization | $ | 16,810,000 | 700 |
| 8022-110 | Marin Municipal Water District | Peacock Gap Recycled Water Project Extension | $ | 10,000,000 | 888 |
| 8027-110 | Ventura County Waterworks District No. 8 | West Simi Valley Recycled Water Project | $ | 19,620,000 | 1,253 |
| 8028-110 | Monterey Regional Water Pollution Control Agency | Groundwater Replenishment Project | $ | 82,000,000 | 3,500 |
| 8049-110 | Hesperia Water District | Reclaimed Water Pipeline Distribution System | $ | 14,673,750 | 1,120 |
| 8059-110 | Escondido, City of | MFRO Facility | $ | 19,000,000 | 2,240 |
| 8060-110 | Santa Margarita Water District | Trampas Canyon Recycled Water Seasonal Storage Reservoir | $ | 47,450,000 | 5,000 |
| 8062-110 | Modesto, City of | North Valley Recycled Water Program | $ | 96,617,856 | 59,000 |
| 8063-110 | Los Angeles, City of | DCTWRP Advanced Water Purification Facility | $ | 574,226,201 | 30,000 |
| 8071-110 | Brentwood, City of | City of Brentwood Recycled Water Project (Phase A & B1) | $ | 20,802,000 | 1,407 |
| 8072-110 | Pajaro Valley Water Management Agency | Recycled Water Treatment, Storage and Distribution System Pipeline Improvements | $ | 11,093,000 | 750 |
| 8075-110 | Woodland, City of | City of Woodland Industrial Park Recycled Water Project | $ | 6,000,000 | 3,801 |
| 8076-110 | Ukiah, City of | Recycled Water Pipeline Project- Phase 1 & 2 | $ | 17,152,000 | 620 |
| 8079-110 | City of Yucaipa | Wilson III Detention Basin | $ | 4,000,000 | |
| 8102-110 | Palmdale Water District | Palmdale Regional Groundwater Recharge and Recovery Project | $ | 130,000,000 | 12,100 |
| 8091-110 | Hayward, City of | City of Hayward Recycled Water Project | $ | 11,594,760 | |
| 8096-110 | Water Replenishment District of Southern California | Groundwater Reliability Improvement Program Recycled Water Project | $ | 80,000,000 | |
| 8106-110 | East Valley Water District | Recycled Water Center | $ | 124,100,000 | |
| 8107-110 | Barstow, City of | Soap Mine Road Groundwater Clean-up Project | $ | 17,700,000 | |
| | | Sub-Total | **$** | **1,302,839,567** | **122,379** |
| As of 5/27/2015 | | **Totals** | **$** | **1,630,115,413** | **142,578** |