



Monthly Drought Update
November 22, 2016
San Luis Obispo County

Note: Information provided in this update varies by date.

CURRENT CONDITIONS

U.S. Drought Monitor Status:

The latest U.S. Drought Monitor report released November 10, 2016, indicates the majority of San Luis Obispo County remains at the **D4 – Exceptional Drought intensity rating**. Approximately 60% of the state remains at a level D2 – Severe Drought or worse with 21% of the state in a D4 – Exceptional Drought intensity rating.

San Luis Obispo County Precipitation Totals (in inches):

Sub-Region	Area / Rain Station	Average Annual Rainfall	2015-16 Water Year Total Rainfall	2016-17 Water Year (July 2016-June 2017)	
				Cumulative Total	% of Total Average
North Coast	Cambria (ALERT #717)	22.0	17.1 (78%)	1.16*	7%
	Whale Rock Reservoir (County Site #166.1)	16.0	14.2 (89%)	2.29	14%
Inland	Paso Robles (County Site #10.0)	14.1	13.3 (94%)	1.61	11%
	NE Atascadero (ALERT #711)	17.0	11.3 (66%)	1.93	11%
	Atascadero MWC (County Site #34.0)	17.5	15.5 (88%)	2.36	13%
	Santa Margarita (ALERT #723)	24.0	16.6 (69%)	2.88	12%
	Salinas Dam (County Site #94)	20.9	17.3 (83%)	2.41	12%
South Coast	SLO Reservoir (ALERT #749)	24.0	19.0 (79%)	2.29	10%
	Lopez Dam (ALERT #737)	21.0	18.0 (86%)	2.59	12%
	Nipomo South (ALERT #730)	16.0	9.6 (60%)	1.73	11%
	Nipomo East (ALERT #728)	18.0	12.3 (68%)	2.21	12%

Note: This table contains provisional data from automated gauges and has not been verified. All units reported in inches. Report generated at 10:00am on 11/7/2016.

*Due to an equipment malfunction, not all rain was recorded at this site.

Reservoir Levels (% of capacity):

Reservoir	% of Capacity	Current Acre Feet Storage
Nacimiento	24%	92,275
Whale Rock	32%	12,369
Lopez	23%	11,309
Salinas	10%	2,267

Source: www.slocountywater.org County of San Luis Obispo

NEAR-TERM OUTLOOK

The U.S. Seasonal Drought Outlook, valid for October 20 – January 31, indicates shows most of the Central Coast still in exceptional drought, which is likely to persist and long-term impacts (ground water, reservoir supplies, etc.) will remain. According to the Climate Prediction Center, there is now about a 70 percent chance of a La Niña developing during the Northern Hemisphere fall 2016, which is slightly favored to persist (about 55 percent) during winter 2016-17. Although development and intensification of drought becomes less likely as temperatures and evapotranspiration decrease during the fall, persistence is favored across the long-term drought areas such as California.

STATE WATER

Status: State Water Project (SWP) allocation is currently at 60% per the April 21, 2016 Notice to State Water Project Contractors. As of October 16, 2016 - San Luis Reservoir was at 33% capacity and 60% of historical average and Lake Shasta Reservoir was at 62% capacity and 105% of historical average.

VULNERABLE WATER SYSTEMS

County Service Areas (CSA's)

Santa Margarita (CSA 23)

- Drought response level at ALERT status.
- Primary pumping is from shallow well No. 4; water is also being pumped from deep well No. 3 to reduce needs from well No. 4.
- An emergency ordinance was adopted on August 12, 2014 limiting outdoor watering to two days a week. An informational mailer was sent to customers and signs in the community have been installed. The ordinance remains in place until the Governor's emergency executive order is rescinded. The governor recently extended this executive order to January 2017.
- The intertie with Atascadero Mutual Water Company (AMWC) is complete and ready for operation.

Shandon (CSA 16)

- Two wells currently provide all water to the Shandon community and continued to be monitored.
- Connection to the State Water Project has been completed; State Water is now being delivered to Shandon
- An ordinance was adopted on August 12, 2014 limiting outdoor watering to two days a week, in accordance with the drought emergency water conservation regulations adopted by the State Water Resources Control Board. An informational mailer was sent to customers and signs in the community have been installed. The ordinance remains in place until the Governor's emergency executive order is rescinded.

Cayucos (CSA 10A)

- Supply is available from Whale Rock and one on-site well. Staff has given a presentation to the Advisory Committee and business groups regarding conserving this supply.
- An ordinance was adopted on August 12, 2014 limiting outdoor watering to two days a week, in accordance with the drought emergency water conservation regulations adopted by the State Water Resources Control Board. An informational mailer was sent to customers and signs in the community have been installed. The ordinance remains in place until the Governor's emergency executive order is rescinded.

Avila Valley (CSA 12)

- Adequate supply is available from Lopez and State water for this year.
- The Low Reservoir Response Plan for Zone 3 (the Lopez system) is in effect; municipal deliveries have been cut 10%, however, CSA12 continues to use less than its full allocation and "bank" water for subsequent years.
- Evaluation of emergency drought mitigation options for all of Zone 3 (including CSA12) is underway.

Chorro Valley Institutions (CMC, Animal Services, Sheriff, County Operations, Camp San Luis, Cuesta College, County Office of Education)

- 2016 State water deliveries are at 60% and all sub-contractor's needs are being met.
- The existing distribution system is being evaluated to assure water losses are minimized.
- CMC has completed their water treatment plant upgrade project.
- Discussions with City of San Luis Obispo to exchange Nacimiento for Whale Rock are being initiated if State Water is insufficient in 2018.

San Luis Obispo County Flood Control and Water Conservation District Systems

Zone 3 – Lopez Water Project (CSA12, Pismo Beach, Grover Beach, Arroyo Grande, Oceano)

- The Low Reservoir Response Plan for Zone 3 is in effect; agencies were provided their 3 year water supply per the Governor's May 19, 2016 drought executive order; municipal deliveries have been reduced.
- Downstream environmental and agricultural releases have been cut 9.5%.
- District staff in conjunction with the Zone 3 Technical Advisory Committee is evaluating options to increase District State Water deliveries to preserve Lopez Reservoir's water levels.

Salinas Water Project – Salinas Reservoir (Santa Margarita Lake)

- The reservoir is at 10% capacity; City of San Luis Obispo is reliant on the Nacimiento and Whale Rock Reservoirs.

Nacimiento Water Project

- The Project is operating at full annual allocation levels.
- The District Board of Supervisors approved distribution of all the NWP reserve water to the 5 original participants and 2 additional participants on April 19, 2016. Development of procedures to market surplus water to buyers is underway.
- Water quality resulting from post Chimney Fire are being assessed and discussed with participating agencies. As of 11/7/2016, no impacts have been detected.

Non-County Operated

Cambria Community Services District

- Emergency San Simeon Creek Brackish Water Supply Project went online on January 20, 2015. The district is now seeking a permit to operate it permanently.

San Simeon Community Services District

- The CSD has a new well head salinity project to increase supplies in the current prop 84 grant round. DWR released draft funding recommendations and the San Luis Obispo IRWM region is recommended for 75% of grant request.

Heritage Ranch Community Services District

- The Nacimiento River is the only available water source for the community of Heritage Ranch. An emergency inter-tie, funded with emergency grant funds, from the Nacimiento line is complete. Construction of the emergency inter-tie pipeline from Heritage Ranch is complete

Rural Paso Robles residents

- Continuing to identify water-trucking options and examine outreach efforts. See County Drought Conditions and Water Conservation Website for drought relief update information.

IMPACTS

Agricultural Impacts:

Agricultural producers are continuing to watch the development of precipitation models for early fall and winter on the Central Coast. UC Cooperative Extension Advisors Royce Larsen and Mark Battany recently completed the 2016 Forage Production Update. They found that the unusual rains in July 2015 initiated germination, which normally begins in late September or October. However, there was no sustained rainfall, so all the annuals that did germinate at that time perished. The second germination this year began in November 2015. The interactions of rainfall, in connection with the many local variations in topography, aspect, and soil produced great variation in usable forage across the county. As a whole, by

averaging all plots within each area (coastal, central and eastern zones) of the county, this year's production was near the long term average, Figure 1. All areas within the county had significantly more forage than the last two years.

Figure 2
Usable Forage

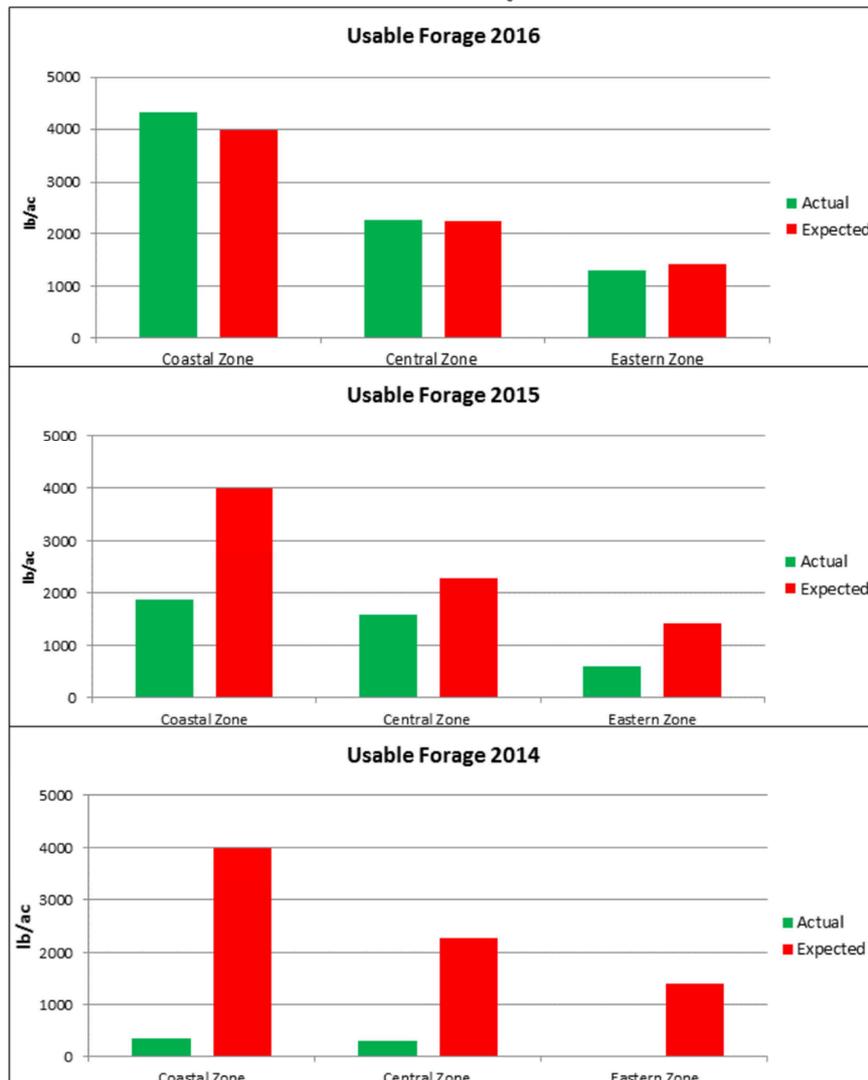
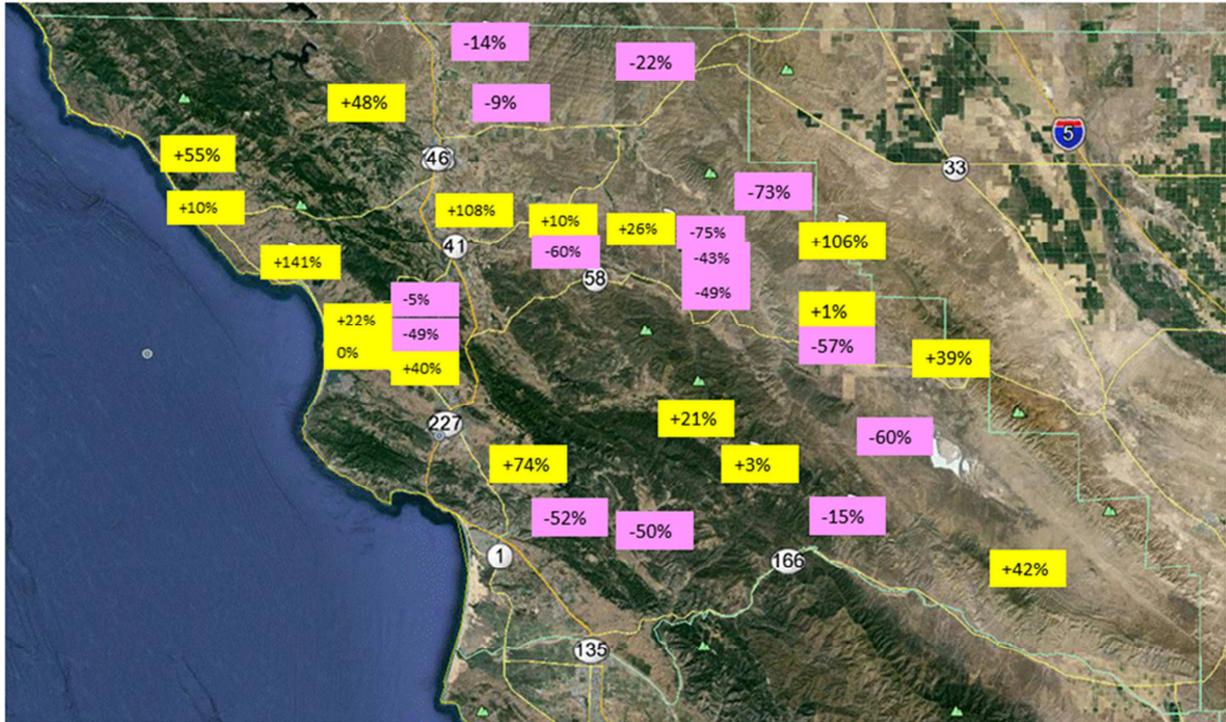


Figure 1 above, shows usable forage production in San Luis Obispo County was much higher this year compared to the previous 2 years. The 2016 usable forage equaled expected average production for each zone. This is compared to the significant losses experienced the previous 2 years, especially 2014 which had a 95% loss.

Despite the near “average” production by precipitation zone across the county this year, forage availability at individual plots, within each zone, varied greatly. The rainfall timing and amounts, varied due to the unusual lightning and thunder storms experienced this year. Usable forage production ranged from a high of 8545 lb/ac on the coast near Cambria to a low of 238 lb/ac in the central part of the county near Camatta Creek. Production at some plots was almost twice the long term average, while other plots were as much as 75% below the long term average amount, Figure 2. Plots within all three precipitation zones had some values that were above-normal and some that were below-normal production this year.

Figure 2 shows the distribution of the values above (positive value, yellow) or below (negative value, purple) from the expected usable forage production, shown as a percentage, for San Luis Obispo County in 2016.

Figure 2: Distribution of Values From The Expected Usable Forage Production



The full forage production report can be seen on the UC Cooperative Extension website:

http://cesanluisobispo.ucanr.edu/Custom_Program355/Forage_Production_Report/

[Update on Producer Assistance Programs- USDA Farm Service Agency](#)

For information about current drought assistance programs, including programs that could pertain to damage caused by the Chimney Fire, contact the USDA Farm Service Agency:

Templeton: 805-434-0398 Ext 2.
Santa Maria: 805-928-9269

Growers are also encouraged to contact the San Luis Obispo County Department of Agriculture/Weights and Measures to report fire damage to agricultural crops, rangeland, livestock and infrastructure such as fences, buildings or wells:

Templeton Office: 805-434-4081, Toll Free: 855-289-6103

Fire Danger:

Fire Danger

In 2016 to date, statewide statistics for CAL FIRE incidents indicate over 5,585 fires across State jurisdiction, burning 147,318 acres, which is 52% less than one year ago. Combined with USFS jurisdiction, 6,883 fires have burned 563,411 acres. Current fire information indicates no uncontained fires currently burning in State jurisdiction.

Chief Jalbert lifted the burn ban allowing agricultural and prescribed burning to be conducted in accordance with a CAL FIRE burn permit. Several prescribed burns are being prepared, primarily on State Parks lands along the north coast. CAL FIRE successfully conducted the Lewis #4 prescribed burn near La Panza Fire Station October 13-15. Approximately 450 acres were burned to reduce fire hazard

and improved the range. Backyard burning is still closed pending additional rainfall adequate to end fire season.

Local Equipment/Staffing:

CAL FIRE remains at peak staffing levels with 12 wildland engines, 3 dozers, 4 hand crews at Cuesta Conservation Camp, 5 hand crews at Ventura Conservation Camp, and 2 CCC crews at Camarillo Center. Paso Robles Air Attack Base is staffed with 1 air tactical aircraft and 2 air tankers and 1 heli-tanker. To date in 2016, Defensible Space Inspectors (DSI) have conducted 6,433 inspections, and Planning & Engineering staff have conducted 440 total fire/building code inspections and prepared 392 Fire Safety Plans & Reviews.

Live Fuel Moisture (LFM)

(LFM is the moisture content of live vegetation expressed as a percentage of the oven-dry weight.)

LFM values in the County peaked in March and due to the October rains have risen slightly from record lows this past summer and are near average at most sites.

Dead Fuel Moisture

(The moisture content of dead organic fuels is another important component of the relative fire danger. As with LFM above, dead fuel moisture levels are a good indicator of how likely fuels are to ignite and how intensely they will burn. 100-hr fuel refers to vegetation between 1 and 3 inches in diameter and 1000-hr fuel is 3-6 inches. When the fuel moisture content is low, fires start easily and will spread rapidly.)

Many fuel beds in the County, particularly coastal sage scrub, have seen a dramatic increase in the percentage of dead fuel as a result of the prolonged drought. In many areas, the volume of dead vegetation exceeds the volume of live vegetation. As with LFM above, dead fuel moisture levels are a good indicator of how likely fuels are to ignite and how intensely they will burn. 100-hour fuels refer to vegetation between 1 and 3 inches in diameter and 1000-hour fuels are 3-6 inches. Due to the October rains, these values are tracking well above average.

Energy Release Component (ERC)

(ERC is an index related to how hot a fire could burn. It is directly related to the 24-hour, potential worst case, total available energy (BTUs) at the head of a fire. The ERC can serve as a good characterization of fire season as it tracks seasonal fire danger trends well. ERC has low variability, and is the best fire danger component for indicating the effects of intermediate to long-term drying on fire behavior.)

The recent rainfall has resulted in ERC values that are below average.

Forest and Range Impacts

Widespread tree mortality is plainly evident throughout the county. All tree species have been adversely affected by the drought. Thousands of coast live oaks of all sizes in all areas and at all elevations have died. The eucalyptus stands on the Nipomo mesa are showing a sharp increase in the number of dead trees and also in the number of live trees with dead crowns which substantially increases the amount of dead fuel loading available for fire.

The area most severely impacted is the Cambria Monterey Pine Forest (CMPF). Already one of the most endangered native forests in the world, the CMPF has been further devastated by the drought. The poor condition of the CMPF resulting from the decades-long problems of senescence, over-crowding, fire exclusion, development, pitch canker, bark beetles, and many other fungal and parasitic pathogens has been severely amplified by the drought. These cumulative impacts have created the current situation where approximately 40-50% of the overstory trees are dead or dying. In certain areas, mortality exceeds 90%. In addition to the major impacts to forest health, the resulting fire hazard has increased to the point where catastrophic stand-replacing fire is very likely. Hundreds of large dead hazard trees are poised to fall on homes, vehicles, and vital infrastructure.

The SLO Fire Safe Council (FSC) continues implementation of a \$498,000 grant from the CAL FIRE Greenhouse Gas Reduction Fund (GGRF) to help improve forest health in Cambria. Another \$275,000 grant has been awarded through the Western Forestry Leadership Coalition (WFLC). The focus of this grant will be to augment and improve fuel breaks on the east side of Cambria. Timber operations are

being planned under a Timber Harvesting Plan (THP) to include sanitation/salvage logging and forest thinning.

CAL FIRE created a web-based map viewer to allow Californians to participate in understanding and identifying the areas most impacted with tree mortality as a threat to life and property. The viewer can be accessed at the following link: <http://frap.fire.ca.gov/projects/DroughtViewer>.

Emergency Permits

County Planning approved an emergency hazard tree removal permit that allows Cambria residents to remove dead hazard trees with a no-cost permit. Residents received a letter from the Planning Director authorizing them to remove hazard trees under certain conditions which include contacting the Fire Department and having an inspection done and their trees marked by CAL FIRE.

Forest Assessments

Forest assessments under the direction of Cal Poly forestry faculty have been initiated to quantify the extent of this issue and the results will be made known as soon as they become available. This research work will continue and will provide the foundation for all the work that will occur under the grants described above.

Economic:

In an effort to coordinate local and state response to drought impacts the following surveys are being utilized by the County:

Drought Business Impact Survey

The Labor and Workforce Development Agency (LWDA) and the Employment Development Department (EDD) developed a streamlined survey to report drought-related job impacts. Collecting "real-time" drought-related information is essential for the LWDA and the Governor's Drought Relief Task Force to identify the drought's impact on California's industries, employers, and workers. The survey, which collects information on drought impacts for employers allows the affected employer to report directly to the State, thereby, providing a level of confidentiality that business and industry need. A link to the new survey is available on the San Luis Obispo Workforce Development Board's website: www.SLOWorkforce.com.

Domestic Water Issues-Intake Form

The Governor's Drought Task Force created an online intake form for local, state, or tribal and federal agencies to document domestic water issues. The information is intended to inform and coordinate state response and mitigate drought impacts. Both agencies and individuals can complete the reporting form. Individuals with domestic water issues are encouraged to contact County Environmental Health at (805) 781-5544 or visit the state online reporting website at <https://mydrywatersupply.water.ca.gov/report/>.

STATE & FEDERAL KEY ACTION ITEMS FROM LAST MONTH

Water Year 2015-16 Ends, California Suffered 'Snow Drought':

On September 29, the Department of Water Resources (DWR) released a new report and announced that California's 2015-16 Water Year will officially close with lower-than-expected rainfall and a "snow drought" as the state's snowpack measured well below average. Water year 2015-16, which ran from October 1, 2015 to September 30, 2016, will be officially categorized as "dry" statewide, continuing California's five-year drought.

COUNTY DROUGHT TASK FORCE KEY ACTION ITEMS FROM LAST MONTH

County Office of Emergency Services:

San Luis Obispo County OES continues to coordinate with the Governor's Office of Emergency Services (Cal OES) to provide updates on the drought situation, respond to specific information requests to Cal OES, and coordinate local emergency needs. County OES continues to participate in the statewide drought conference calls hosted by Cal OES.

Emergency Actions:

No new emergency actions have been taken specific to the drought in this reporting period.

County Facilities Usage & Conservation Actions:

The county has taken the following actions:

- Water Conservation: Water usage status updates for the users in the Utility Manager system and the County Operations Center show a 28% reduction countywide in water usage in July 2016 from July 2013.
- Fixture Replacement and Leak Repair: Staff continues to identify and repair leaks to minimize water loss.
- County Airport: As previously reported, County Airport fire hydrants must be flushed periodically to maintain safe water for drinking due to chlorine levels. The Airport is making the water from hydrant flushing available for agricultural operations, construction, or other purposes. Please contact the Airport at (805) 781-5205 if interested in using this free water.

Drought Contingency Planning:

The Public Health Department, the Public Works Department, and CAL FIRE/County Fire continue to develop plans to ensure there is adequate supply of water for firefighting and domestic water use in the event that a community does not have enough water.

Water Purveyors GIS

Water purveyors GIS data contains the new vulnerability level field that was determined after assessing the results of a one-time voluntary 2014 survey questionnaire that was sent to both large and small water purveyors. The mapping of this data has been categorized by the assessed vulnerability levels which are Watch (green), Vulnerable (orange), Critical (red) and Pending Survey Results (blue) and is available for CalFire in a web map viewer. The link is on the home page under the County Drought Task Force heading of the SLO Cal Fire website <http://www.calfireslo.org/>

Water Well Mapping

Environmental Health is actively working to ensure the completeness of well depth data from 1990 to present for production wells that is captured from well completion reports and digitized into the division's project management database. Next, the well permit application and well completion report information from 1965 up to 1990 will be digitized into the database starting with 1989 and working backwards year by year. Approximated well permit application sites will be mapped and integrated into the GIS well inventory at the completion of every permit year.

County Public Outreach Actions:

Information regarding current and upcoming drought relief programs for rural homeowners has been placed on the County Drought Conditions and Water Conservation webpage. Rural Development, an agency of the United States Department of Agriculture (USDA), delivers a number of programs to help improve the quality of life in rural communities throughout the nation. These programs may also help rural communities, businesses and individuals impacted by California's ongoing drought conditions. For additional resources and information on applying for any of these programs, please visit <http://www.rurdev.usda.gov/ca> or the County Drought Conditions and Water Conservation webpage at http://www.slocounty.ca.gov/admin/Drought_Update.htm.

In an effort to raise awareness about water supply issues the County continues to examine multiple channels of communication for water conservation outreach efforts. Check out our water-saving tips, shareable water saving images, and customized Tweets and Facebook posts just for you to share and help us continue the SLO County culture of conservation at the following link: http://www.slocounty.ca.gov/admin/Drought_Update/water-conservation.htm

To report drought-related concerns or for water conservations questions, call the County Water Conservation and Drought Hotline at (805) 781-4466.

DROUGHT RELATED WEBSITES FOR MORE INFORMATION

County of San Luis Obispo Drought Conditions and Water Conservation
(http://www.slocounty.ca.gov/admin/Drought_Update.htm)

State's Water Conservation Campaign; Save our Water
(www.saveourh2o.org)

California's Drought Information Clearinghouse; Dought.CA.Gov
(<http://ca.gov/drought/>)

California Department of Food and Agriculture; Drought information
(www.cdafa.ca.gov/drought/)

California Department of Water Resources; Current Water Conditions
(www.water.ca.gov/waterconditions/drought/)

California State Water Resources Control Board; Water Rights, Drought Info and Actions
(www.swrcb.ca.gov/waterrights/water_issues/programs/drought/index.shtml)

California Department of Public Health; Drinking Water CDPH Drinking Water Program
(www.cdph.ca.gov/programs/pages/dwp.aspx)

USDA Disaster and Drought Assistance Information; USDA Programs
(http://www.usda.gov/wps/portal/usda/usdahome?navid=DISASTER_ASSISTANCE)

UC Cooperative Extension Drought Information Resources; Drought Information Resources
(http://cesanluisobispo.ucanr.edu/Drought_Information/)

