

TALK ON WATER

April 2016

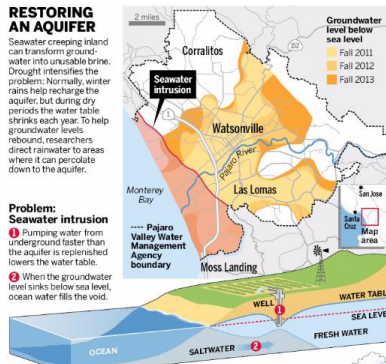
In the News

"Caltrans New Stormwater Pollution Prevention Campaign"



Caltrans launches new stormwater campaign [Read More on pg. 6](#)

"Aquifer Recharge Projects on the Rise"



El Nino triggering aquifer recharge experiments across California [Read More on pg. 8](#)

By the Numbers



You will need a Pre Rain Inspection or a REAP if you have a forecast of **50%** or greater of precipitation 48 hours before the event. Check NOAA for the official weather at your site.

Upcoming Classes



GSP Training

Apr. 14th/15th

June 25th/26th

Oct. 20th/21st

Dec. 8th/9th

PDH Classes

May 11th

July 20th

Sept. 21st

Nov. 16th

BMP of the Month - Wattles

WATTLES



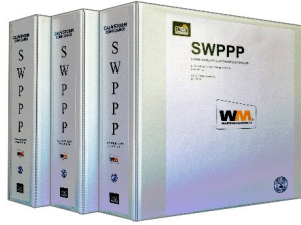
NOT WADDLES



A guide on one of the most widely used, and misused, BMPs. [Read More on pg. 3](#)

Keeping Your SWPPP Up to Date

Your SWPPP is a living document, meant to reflect the ever-changing landscape that is construction. As such, it is imperative that the SWPPP be kept up to date.



[See Tips on pg. 5](#)

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[SWPPP Prep/Revision](#)

[QSP/QSD Training](#)

[PDH Classes](#)

[QSP Inspection Services](#)

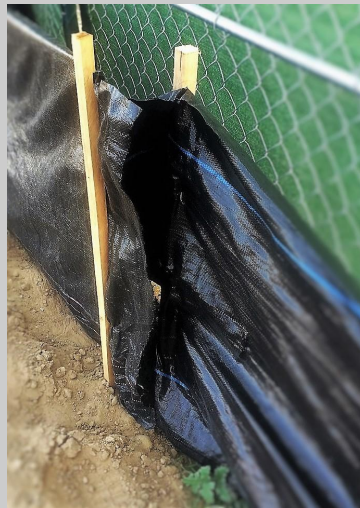
[SMARTs Filing](#)

The Good, The Bad, and the Ugly Photo Contest

Provide CAL-Storm Compliance with an original Good, Bad, or Ugly site photo to enter. Monthly winners will receive a FREE PDH class and have their submissions appear in an upcoming newsletter! Congrats to this months winner:

Jan Heppert

Contest Rules: Photo cannot be used that do not protect contractor or site personnel anonymity. Please send submissions, with signed release, to info@calstormcompliance.com



No matter what type of stormwater compliance services you may need, CAL-Storm Compliance, Inc. can guide you through your options and provide quality, cost-effective solutions.

Sincerely,

The CAL-Storm Team
(949) 354 5530

BMP OF THE MONTH - WATTLES

WATTLES

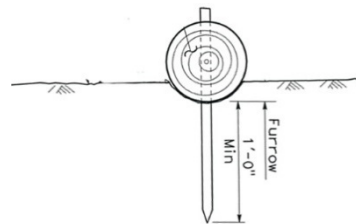


NOT WADDLES

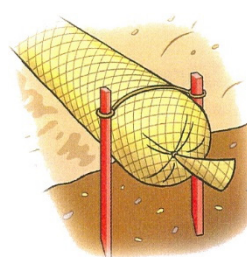
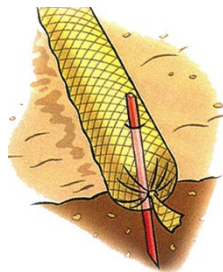


Wattles, straw or otherwise, are also known as fiber rolls. Straw Wattles are the most common type used in Southern California and are typically made up using rice straw contained in a casing of netting, burlap or geo-synthetic material. Some common alternatives to rice straw are: coir (coconut fiber), Excelsior (shredded aspen wood), pecan and walnut shells, as well as synthetic foam blocks.

Installation typically requires 1 to 3 inches of keying or trenching in.



Wattles are typically held in place with stakes, either through the cover material, or with notched stakes on either side of the wattle and a cinched cord across the wattle to hold it in place. Stakes and/or cinch points should be installed at 4 foot intervals.

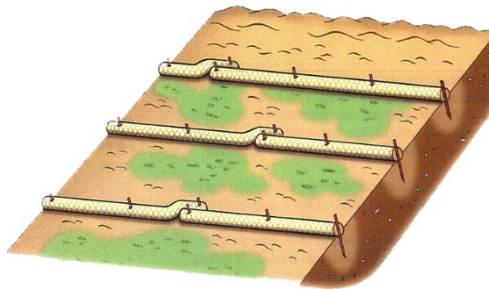


Wattles should be sufficiently overlapped to ensure effective coverage after shrinkage. Wattles come in various lengths, but the most common is 25 foot by approximately 8 inches in diameter.



Quality wattles will have approximately 1.5 lbs. of straw per linear foot making a 25 foot wattle weigh just under 40 lbs. There should be no voids in the straw wattle if the cover material is intact. Wattle specifications can include a weed and bug free certification.

Risk Level 2 and 3 projects must install wattle grade breaks in accordance with the following guidelines. Remember we are referring to sheet flow distance, not vertical drop. Wattle installation should be level across the face of the slope.



Percent of Slope	Ratio (H:D)	Interval Spacing
<i>0 to 25%</i>	<i>0:0 to 4:1</i>	<i>20 feet</i>
<i>25 to 50%</i>	<i>4:1 to 2:1</i>	<i>15 feet</i>
<i>50% Plus</i>	<i>2:1 to ...</i>	<i>10 feet</i>

KEEPING YOUR SWPPP UP TO DATE

Your SWPPP is a living document, meant to reflect the ever-changing landscape that is construction. As such, it is imperative that the SWPPP be kept up to date.

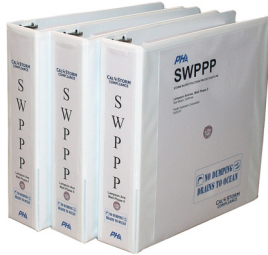
1. *Keep great records*

- a. Print your official weather daily and keep on file. It is a good idea to not just have digital copies, as electricity may not always be flowing to your jobsite trailer.
- b. Copies of inspections need to be kept in the appropriate appendix or in an easily assessable binder.



2. *Mark up your plans*

Keep an up to date 24" by 36" drawing posted up on the wall of your job trailer. Mark it up! When legibility becomes a problem, print out a new copy, marking changes as needed. Save your old copy for reference.



3. *Communicate with your QSD*

If your site's scope of work is going through major revisions or the current plan just does not fit with conditions on site, it is time to reach out to a QSD. It is their responsibility to provide feedback that allows your site to stay in compliance, be it through revised water pollution control drawings, modified BMPs, and more.



CALTRANS LAUNCHES NEW STORMWATER POLLUTION PREVENTION CAMPAIGN

SACRAMENTO, Calif., March 2, 2016 -- Caltrans today unveiled its new stormwater public education and outreach campaign "*Protect Every Drop*" to educate Californians about the sources and pathways of stormwater pollution, and encourage motorists to reduce the pollutants that affect water quality in California's streams, rivers, lakes and coastal waters, keeping them drinkable, swimmable and fishable.

"Clean water is essential for our quality of life in California, and it's important to '*Protect Every Drop*,'" said Caltrans Director Malcolm Dougherty. "Every motorist needs to do their part to keep California's waterways clean."

The campaign will address several actions the public can take, including:

- Performing routine vehicle and tire maintenance, which reduces pollution from vehicles.
- Properly disposing of trash and recycling.
- Covering truck loads that may fall or blow off during travel.

The "*Protect Every Drop*" campaign builds on the past successful "*Don't Trash California*" public awareness campaign, broadening the focus beyond litter and trash to address other stormwater pollutants such as sediment, metals from tire and brake wear, fluid leaks and contents from unsecured vehicle loads.

The campaign will also address other pollutants found in highway stormwater that may originate from non-highway sources such as pesticides and bacteria from natural sources.

Caltrans owns and operates storm drain systems along more than 15,000 miles of the state highway system, which discharge into every major watershed of the state. Stormwater picks up pollution washed off of vehicles and roadways when it rains, which makes its way through ditches and pipes that make up storm drain systems. The polluted water then discharges either to an adjacent city or county storm drain system, or to a stream, river or lake – and eventually to bays and the ocean.

"Stormwater testing shows that virtually all our lakes, rivers, bays and ocean waters get polluted after it rains, all across California," said State Water Board Member Steven Moore.

"Some of those most impacted waters are those around our bigger cities, like Los Angeles, San Diego, San Jose and Sacramento. The pollutants that can be carried in stormwater impair the beneficial uses of our waters that belong to all Californians. We can all contribute to helping keep every drop of water in our rivers, lakes and ocean clean."

About the Campaign

The three-year "*Protect Every Drop*" educational campaign will include a cohesive and integrated public relations, advertising and community outreach program across California in order to help change the behavior of Californians in a way that leads to improved water quality. The campaign is being guided by a steering committee that includes Caltrans, the State Water Boards and the California Stormwater Quality Association.

Groundwater law, winter rain trigger flood of aquifer-recharge experiments around California

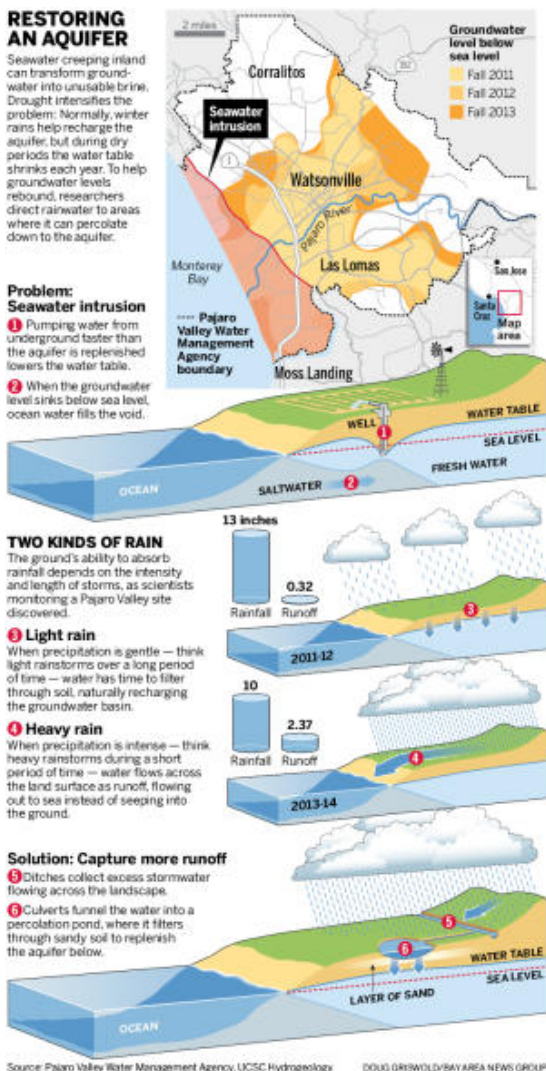
By Emily Benson, ebenson@mercurynews.com

Posted: 03/25/2016 09:33:09 PM PDT |

WATSONVILLE -- A historic 2014 law requiring water agencies across California to replenish the state's imperiled aquifers created a new problem: Many local officials just weren't sure how to do it.

But this winter's abundant rains are triggering a flood of experiments that have turned the state's agricultural regions into aquifer-recharge laboratories.

Farmers in Modesto inundated an almond orchard with the city's stormwater. Water managers in and around Fresno have more than 20 new groundwater recharge projects in the works. On the Central Coast, researchers in the Pajaro Valley are carefully designing percolation basins to capture rainfall before it gushes out into the Pacific.



"Groundwater has kind of been out of sight, out of mind for a long time," said UC Santa Cruz hydrologist Andy Fisher, who's leading the research team in the Pajaro Valley. "Suddenly it's on people's radar again."

Californians still don't know if this winter's rains will be enough to refill the state's reservoirs and bring an end to the historic drought. But one thing we do know is that even if Gov. Jerry Brown declares the dry spell over this spring, California's underground water woes will still be with us.

For decades, water has been sucked from aquifers faster than nature can replenish it -- and the drought has only intensified the thirst for groundwater. Scientists agree that it will be decades before a future governor can declare California's groundwater problems solved.

The state has designated 21 groundwater basins throughout the state "critically overdrafted." Most of

them are in the Central Valley, but three basins on the Central Coast -- in the Pajaro, Soquel and Salinas valleys -- are also on the list.

California was the last Western state to regulate groundwater. And it took the state's most punishing drought ever to force the Legislature to finally act.

The Sustainable Groundwater Management Act requires local governments to come up with written plans by 2020 that ensure that basins are kept in balance. It aims to make overdrawn aquifers a relic of the past by 2040.

Overpumping groundwater can cause the overlying surface to sink. Last summer, sections of the San Joaquin Valley were collapsing by two inches a month, threatening roads, pipelines and canal linings.

In coastal locations, however, seawater intrusion is a bigger menace than land subsidence. The ocean has crept miles inland in parts of the Soquel, Pajaro and Salinas valleys, turning groundwater into unusable brine.

Fisher and his team got a jump on some colleagues working on recharge projects because they began monitoring one percolation basin in the Pajaro Valley in 2011, just as the drought began.

With Fisher's help, the owners of the property and the company farming the land teamed up to build a series of ditches to capture runoff, the water that collects and flows across the ground when it rains. The ditches direct that water into a sediment-settling pond; then a culvert funnels it into a 2-acre infiltration basin. From there, the water drains through sandy soil to refresh the aquifer below.

Pressure sensors at key points track how much water flows into the basin, and a rain gauge -- its top ringed with prong-up plastic forks to keep birds away -- monitors precipitation. A digital camera mounted on the hillside takes a picture every few minutes to serve as a "gut check" that the flow and rain measurements reflect reality, said Fisher's graduate student Sarah Beganskas, a Ph.D. candidate in hydrology.

Recharging groundwater supplies with surface water isn't a new idea: The Santa Clara Valley Water District maintains 99 percolation ponds, which together total about 265 acres, according to district spokesman Marty Grimes.

Between 1915 and 1965, groundwater overdraft in the Santa Clara Valley led to about 13 feet of land subsidence in parts of San Jose. The district stopped the sinking by replenishing the aquifer below, and the groundwater level has largely rebounded since then.

The Santa Clara Valley district's percolation basins are fed partly by water from the state and federal water projects. The Pajaro Valley and its neighboring basins along Monterey Bay lack a connection to the project pipelines. They depend on other sources of water for groundwater recharge, like recycled

wastewater or stormwater runoff.

Fisher and Beganskas are developing other percolation ponds in the Pajaro Valley. Based on maps of soil types and water runoff simulations, they estimate that the valley could support about a dozen sites like the one they're monitoring. Together, the researchers say, the sites could supply about 10 percent of the annual groundwater deficit in the Pajaro Valley.

They've also learned that how hard the rain falls affects how much water the basin collects. During drizzly showers, rain has time to soak back into the soil, then naturally filter down to the aquifer. But during heavy storms, precipitation rushes into rivers and to the ocean -- unless a stormwater collection system is there to catch it.

"During a big storm, that's when you're going to get the most bang for your buck," Beganskas said. Roughly the same amount of rain fell during the winters of 2011-12 and 2013-14, for example, but in 2011-12 it was mostly light and moderate rain, while the winter two years later saw fewer but more severe storms. The experimental basin collected about 7½ times as much water in the latter year.

Last winter, the infiltration basin gathered more than 100 acre-feet of water, much of it during a single December storm. That's enough to supply 200 families with water for a year.

Months earlier, Fisher and Beganskas had calculated that a large downpour could overwhelm the final culvert leading into the basin, creating a flooding hazard. So acting on the researchers' recommendation, the farming company replaced the pipe with a larger one three months before the December deluge.

That may seem like an easy fix, but it's a crucial one -- and it was only possible because someone was keeping track of the rainfall and runoff data, Beganskas said.

Because of climate change, intense rainstorms may become more common along the Central Coast in the coming decades, said Howard Franklin, a senior hydrologist at the Monterey County Water Resources Agency.

"We're going to see many more drought periods interspersed with extreme events," he said.

Those deluges could be a significant source of water in the Salinas and Soquel Valley groundwater basins, which are overdrawn by up to 28,000 acre-feet per year.

Small field projects such as the ones in the Pajaro Valley supply researchers with knowledge and data they can apply across different kinds of landscapes, as long as they take local conditions into account, said UC Davis groundwater hydrologist Thomas Harter.

"Andy's work has statewide implications and even beyond that," he said.

Fisher and Beganskas certainly hope so.

"You can't just dig a hole in the ground," Beganskas said. "You have to be smart about it."