

# Seasons

INLAND EMPIRE



RESOURCE

CONSERVATION DISTRICT

## STORMWATER POLLUTION

Every rainy season in southern California seems to bring news of closed beaches due to infections and other illnesses suffered by those who have gone swimming in the ocean. These afflictions are typically the result of stormwater pollution, defined as the accumulation of trash, motor oil, fertilizer and other pollutants that collect in our storm drains and eventually wash into the Pacific Ocean. Heavy rains in the winter increase both the intensity and frequency of stormwater pollution events, making them more of a public health issue in the winter months than they are in the summer months.

Excessive precipitation is designed to collect into a system of storm drains that have been constructed in urban areas for the purposes of flood prevention. Everything that washes into the storm drains will end up in our waterways and eventually the ocean. Unfortunately, none of the water entering storm drains ever gets cleaned or filtered out.

The Santa Ana Watershed connects the Inland Empire to the Pacific Ocean.

A watershed is a basin-like landform that collects water whenever it rains or snows. Through gravity, water is channeled into soils, groundwater, creeks, streams, lakes and eventually drains into larger bodies of water. The Santa Ana Watershed is the largest coastal river system in Southern California. The flow of the Santa Ana River begins in the San Bernardino Mountains and discharges into the Pacific Ocean at Huntington Beach.

Stormwater pollution affects all of us in some way. It negatively affects the habitat of marine animals, the water that people recreate in, and groundwater which is a source of drinking water.

Stormwater pollution is preventable. Everyone can help to reduce the amount of pollution that ends up in our water. There are many products that we use on our lawns, around our homes, and on our cars that can easily wash down the storm drains. Switching to environmentally-friendly versions of these products or even avoiding their use altogether can make a difference

in the amount of stormwater pollution entering the ocean.

### ***How you can prevent stormwater pollution:***

#### **Trash:**

- Never litter! Even something as small as a cigarette butt drastically affects our water quality.
- Keep trash and recycle bins covered as wind can easily blow items from them.
- Always leave outdoor areas cleaner than when you found them. If there is trash on the ground, pick it up even if it isn't yours.

#### **Pet owners:**

- If possible, wash your dogs indoors or have your pet professionally groomed. Use shampoos and soaps that are less toxic.
- Clean up all animal waste and dispose of it in the trash or toilet

#### **Auto Maintenance:**

- If you change your own motor oil, recycle it at a certified

# WATER SHORTAGE



In August 2007 a judge ordered new operating criteria for the Delta Pumps to protect the Delta Smelt, curtailing pumping by 30% from December to June, when the smelt are ready to spawn and move to the San Francisco Bay. In June 2008, Governor Schwarzenegger publicly proclaimed that California is in a drought, the first since 1991.

This is attributable to consecutive years of sub par rainfall coupled with a snowpack that evaporated before it became runoff.

While much of the state did receive a fair amount of rain in early November, this mustn't mislead water users. In addition, the rainfall forecast for 2009 is uncertain. The Department of Water Resources reports that storage in the state's reservoirs is at a 14-year low. In addition, pumping restrictions in the Delta will only exacerbate lower water supply conditions for Southern California.

There have been other negative impacts as a result of the current drought situation. The agricultural community has experienced \$260 million in losses from unplanted and abandoned fields due to lack of water according the California Department of Food and Agriculture. This has also resulted in many layoffs in the agricultural industry.

Lifestyle changes need to take place to accommodate our arid climate. Some changes are currently being implemented. For example, Los Angeles has adopted "drought buster" rules; fines are doubled for repeated watering violations. L.A. residents are restricted from watering outdoors between 9a.m. and 4p.m. Other water districts may be implementing tiered rate schedules charging customers more for increased water usage.

It is critical to educate the public that our water source is unpredictable and must be treated as a precious resource. The water shortage problem does not disappear when we receive rainfall. California needs to find ways to improve long-term sustainability of our water supply system. Residents should make necessary lifestyle changes before rationings and shortages become a reality rather than a looming threat. For more information on reducing water consumption in the home or workplace, visit [bewaterwise.com](http://bewaterwise.com).



## Make Rainwater Work for You!

The hydrologic cycle teaches us that falling rainwater should be absorbed into the ground where it undergoes natural purification before percolating into aquifers or meandering into water bodies. Unfortunately, this



process has been altered by the increased presence of impermeable surfaces that have accompanied the growing human population. In the heavily populated region of southern California, the majority of rainwater washes over these impenetrable surfaces and empties into the storm drain system. Ultimately, a percentage of this unfiltered water will reach the Pacific Ocean, bringing with it all of the contaminants acquired along its journey. Besides the additional pollution, the failure to collect water with re-use potential in our somewhat arid climate also seems irresponsible.

One solution to this issue is the establishment of a personal rainwater collection system, otherwise known as a rain garden. In a relatively dry climate, the construction of a seemingly elaborate mechanism for catching the mere 15-inches of average annual rainfall received by San Bernardino County residents can seem odd. However, while these landscaping features can be complicated, labor-intensive undertakings, they can also be as simple as a barrel poised under a rooftop gutter to collect excess stormwater. The common goal of both is to increase the amount of water available for irrigation without raising household water bills or wasting drinkable water.

The easiest approach to capturing household rainwater is to locate and purchase a container designed for this purpose that is capable of withstanding weather.

A quick google search yields pages of such items; however, [composters.com](http://composters.com) has by far the largest, most comprehensive collection. Once the vessel for water capture and storage has been purchased,

the next step is to observe the pattern of rainfall in your yard to determine the best location for placement of the barrel. As the barrel fills, don't forget to jostle it every few days to prevent mosquito infestation. The final step is to hydrate your landscaping with the water that you harvest; bragging to your friends of your financial and environmental savvy is of course optional.

A more complicated method of rainwater capture involves the creation of a planted bed in your yard that will function as a collection device. The first step is to observe your yard during a storm event and determine the path the water normally takes to the storm drain. This will determine the best location for the garden. The way the garden collects water is to construct it on a slight angle to create a "pooling end" in order to encourage collection and percolation of stormwater. If the garden will be on flat ground, the angle will only need to be slight; if you are constructing the garden on any kind of incline, it needs to be steeper to compensate. Finally, you will select your species list; the drought-tolerant or "xeric" species will be planted in the non-pooling end, while the water-preferring or "mesic" species will be planted in the pooling end. The last step will be to sit back and enjoy both your naturally irrigated lawn and your lower water bill.

For more information or assistance with your rain garden, contact Mandy Parkes at [mandy.parkes@ca.nacdnet.net](mailto:mandy.parkes@ca.nacdnet.net)

## Energy-Efficient Winter Practices

Although southern California does not typically experience the sorts of temperature extremes found in the Midwest or Northeast, winter has indeed arrived, bringing the cold weather with it. For many people, these cooler temperatures signify the need for a compensatory raise in thermostat level, which unfortunately can cause household energy bills to skyrocket. Elevated household heating also generates more atmospheric Carbon Dioxide, the presence of which is a contributing factor to the currently accelerated rate of climate change. However, while seasonal higher household expenses and increased energy use can seem unavoidable this time of year, the following simple behavior modifications can prevent both from happening.

**Check for Drafts:** Heat may be escaping through spaces between windows and doors, especially in older homes. Locate and seal all places in your house that may be contributing to heat loss.

**Turn Your Thermostat Down:** The house does not need to be heated when no one's home or everyone is asleep. When people are home, try setting the household temperature to 4-5 degrees lower than it normally is.

**Stay Comfortable in a Cooler House:** Layer clothing or use additional blankets to stay warm.

**Take Advantage of the Sun:** Open curtains during the day to let energy from the sun warm the interior of the house naturally.

**Smaller Spaces Require Less Heat:** Close doors to seal off parts of the house that do not need to be heated.

**Downsize Your Heater:** Use a small device such as a space heater to warm up the bathroom in the mornings before showering, rather than heating the entire home overnight.

**Cook Efficiently:** Put frozen food in the refrigerator during the day to defrost rather than using the microwave at night. Use cooking implements that match the size of the task; for example, don't use a large pan to cook a single egg.

**Shorten Your Showers:** Lowering the amount of hot water your family uses will lessen household energy demands.

According to the United States Energy Information Administration, 47% of energy consumed in the average American household is in the form of active household heating. Adoption of any of the aforementioned lifestyle changes can contribute to the decreased percentage of household energy used in heat production. Decreasing individual dependence on home energy use has the ability to lower utility bills as well as to positively impact the natural environment that we are part of.

## FREE EDUCATION PROGRAMS



IERCD offers free educational programs to all schools and organizations within the district. We offer science based programs in Backyard Conservation, Storm Water pollution, Toil of Soil, Trees Please, and Water Use Efficiency, our newest program. Water Use Efficiency is an interactive program that teaches kids about the importance of water and ways to conserve it. Our Conservation Educator will come to your school or event and provide all handouts, materials, and hands-on activities for you and your students. If you are interested in scheduling a program, please contact our Conservation Educator at (909) 799-7407, ext 107 or at [education@iercd.org](mailto:education@iercd.org)

## WHAT BIRD IS THAT?

By Allyson Beckman, SAWA Biologist

“Whip whip whip” is a sound you may hear coming from many of the trees in San Timoteo Canyon and other parts of southern California. You also may be able to see that the bird making these sounds has a conspicuous yellow patch on its rump. But have you noticed this bird is not here all year round? That's because the Yellow-rumped Warbler, *Dendroica coronata*, is only found here during the fall and winter months. We sometimes use the term “snowbird” to describe someone who moves south for the winter in order to live in milder weather. A large number of bird species also migrate south or move to lower elevations in the fall to take advantage of warmer temperatures, more abundant food resources (such as insects and seeds), and shelter during the winter months.

Some bird species found in San Timoteo only from the fall to early spring include the Yellow-rumped Warbler, White-crowned Sparrow, Ruby-crowned Kinglet, Mountain Bluebird, Blue-gray Gnatcatcher, and Orange-crowned Warbler. These winter residents are joined in the cottonwood and willow trees of San Timoteo Canyon by birds that remain there year-round (permanent residents) including Song Sparrows, Anna's Hummingbirds, Bewick's Wrens, Bushtits, House Finches, Black Phoebes, California Towhees, Common Yellowthroats, Lesser Goldfinches, and Nuttall's Woodpeckers. In addition, raptors, commonly known as birds of

prey, including the Red-tailed Hawk, Red-shouldered Hawk, American Kestrel, Cooper's Hawk, and White-tailed Kite can also be seen year-round.

In conjunction with the IERCD, the Santa Ana Watershed Association (SAWA) has been conducting both winter and breeding bird surveys in the riparian (streamside) habitat of San Timoteo Canyon near the city of Redlands over the last several years. The riparian habitat of the canyon has undergone restoration by SAWA predominantly by the removal of the prolific invasive weed *Arundo donax*, Giant reed. Removal of this invasive has helped restore native vegetation to the stream and not only provides valuable wintering grounds and migration stopovers for many species of bird but also serves as important breeding grounds for numerous species in the spring and summer, including the endangered Least Bell's Vireo, Yellow Warbler, Yellow-breasted Chat, and Downy Woodpecker.



The Yellow-rumped Warbler, a winter resident of San Timoteo Canyon.



# RESOURCE

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## Storm Water Pollution

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collection center or household hazardous waste site.

- Clean up any leaks or spills with absorbent materials such as kitty litter.
- When washing your car at home, select an area where wash water can soak into grass, gravel or be diverted to nearby landscaping. This way, the excess run-off can be filtered before entering the Santa Ana water system.
- Use phosphate-free or biodegradable soap.
- The best way to wash you car is to take it to a washing facility that reclaims wash water, preventing oil and other toxic fluids from washing into the storm drains.

### Home Improvement:

- Never clean paint brushes in the street or gutter.
- Take paint or paint-related products to a hazardous collection site rather than dumping them in the trash, gutter, or storm drain.
- Keep all construction debris away from the street, gutter and storm drains.

### Lawn care and Gardening:

- Use non-toxic alternatives to traditional pesticides and fertilizers.
- If you must use pesticides or fertilizers, do not apply them before rain or near storm drains, channels, creeks, or other water bodies. Do not over apply; spot-apply rather than blanketing an entire area.
- Recycle leaves and grass clippings in a compost or green waste bin instead of sweeping them into the street or gutter.
- Properly maintain sprinklers to reduce the amount of run-off that comes from your yard.