



CITY OF COLORADO SPRINGS



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Flood Season

Flood Risks in Colorado Springs

Although many people believe that they are not in danger of flooding if they do not live or work near a stream or creek, nothing could be further from the truth. As last year's storms illustrated, debris-clogged drainage inlets and large amounts of stormwater runoff can cause inland flooding in areas that aren't necessarily adjacent to a stream or creek. Flooding occurs in low-lying, depressed areas that are not shown on any flood maps, and can be very difficult to predict. Storm sewers can become overwhelmed, hail and debris can partially or completely clog inlets, and flat or low-lying areas may not have the drainage infrastructure required to handle the runoff.

Causes for flooding vary widely, and every part of Colorado is at risk. Some causes, such as thunderstorms and snowmelt, are obvious, but many are not. Be prepared to encounter flooding anywhere and at anytime!

Colorado Springs' flood season, which is historically April through October, includes both snowmelt and thunderstorm flooding. As temperatures increase with the arrival of Spring, the high mountain snowpack melts and runs off, filling the streams and creeks and sometimes causing minor flooding issues. Thunderstorm floods are caused by intense rainfall over relatively small, localized areas. The term "flash flood" is used to describe flood events caused by convective thunderstorms because little or no warning is provided. Be aware that an area downstream of a thunderstorm event can experience a flash flood even though it may not be raining. The average number of thunderstorm days in Colorado Springs is between 70 and 80.

Between 20 and 30 large flood events occur somewhere in Colorado every year, and Colorado experiences a major flood disaster approximately once every five years.

Safety Tips for Driving during Heavy Rain Events

Statistically, the majority of injuries and deaths occur during flood events because people attempt to drive through floodwaters that are too deep.

- Turn Around! Don't Drown! One foot of water will float many vehicles; if you're in doubt about the water's depth, turn around and find an alternate route.
- Six inches of water will reach the bottom of most passenger vehicles; loss of control or stalling is possible.
- If your vehicle is caught in flood water, remain calm and call 9-1-1. Debris-filled water, which can be found downstream of the Waldo Canyon Burn Scar, can create an environment that may be safer to stay in the vehicle than to flee. In areas with water that contains little to no debris, passengers should prepare to exit the vehicle if the situation warrants. Because each scenario is unique and the best action may vary, the best solution is to avoid flooded and low-lying areas. If you can't see the lines on the road, don't drive through it.

Safety Tips for Pedestrian and Bicycle Travel

- Seek Higher Ground! Never seek shelter near a stream or creek, or under a roadway bridge or culvert; the creek may be conveying floodwaters from a thunderstorm event that occurred miles away.
- Ideally, avoid walking or biking near streams, creeks, or low-lying areas during or following a severe storm event, even on designated urban pedestrian/bike trails. Flash floods can occur quickly and without notice.
- Just a few inches of moving water can cause a person to slip and fall.

For more information, go to www.springsgov.com/ditches And Ditch Playing in Ditches!

VOLUNTEER

Adopt-A-Waterway

Now in its 8th year, the city's Adopt-A-Waterway Program continues to grow. To date, 11 different groups have participated in cleanups in 2014. All together, we now have 33 different adopting groups in the program. If you or your organization is interested in participating, go to www.springsgov.com/adoptawaterway or contact Jeff Besse at 719-385-5566.



Storm Drain Marking

The city's Storm Drain Marking Program continues to be a successful volunteer option. Annually, approximately 300 citizens participate in the program and collectively mark over 700 storm drains in our city. If you are interested in participating, please visit www.springsgov.com/stormwater or contact Jeff Besse at 719-385-5566.



Liquid Learning: Stormwater Education Programs

“Only Rain Down the Drain!” That’s what over 2600 students have learned so far in 2014 through our Education and Outreach Program. Summer campers at City parks, community center program attendees, and students alike have a better understanding for how the stormwater system functions and – more importantly - their role in helping to keep it clean.

This may not seem like the most riveting topic, but with the use of a “community in a box” interactive stormwater model, a simple video featuring the famous water drop H2O Jo, and even some “stormwater soup,” the subject of stormwater pollution prevention can come to life. Program participants now know the difference between stormwater and wastewater, what some of the major pollutant culprits are, and are armed with the knowledge to change their behaviors and influence others - all in the name of clean water.

What can a kid do, you might ask? Well, it’s as simple as bringing a bag on a walk to collect their pet’s waste or trash from litterbugs so it doesn’t get washed down a storm drain. Or suggesting their parents take the family car to a carwash or put it on the lawn for washing to keep the suds and dirt out of the street because that yucky water can ultimately end up in our creeks. They may even consider adopting the closest storm drain to their home and sweeping it every so often to supplement the City’s greatly reduced street sweeping efforts.

Water pollution happens a little bit at a time, from each of us and our everyday actions. It can also be prevented with small changes. Learn more about what you can do to keep our precious water resources clean by visiting www.springsgov.com/stormwater. Consider adopting a waterway, marking the storm drains in your neighborhood, or inviting a speaker to your next neighborhood or organization’s gathering.

We gotta keep it clean, ‘cause we’re all downstream!



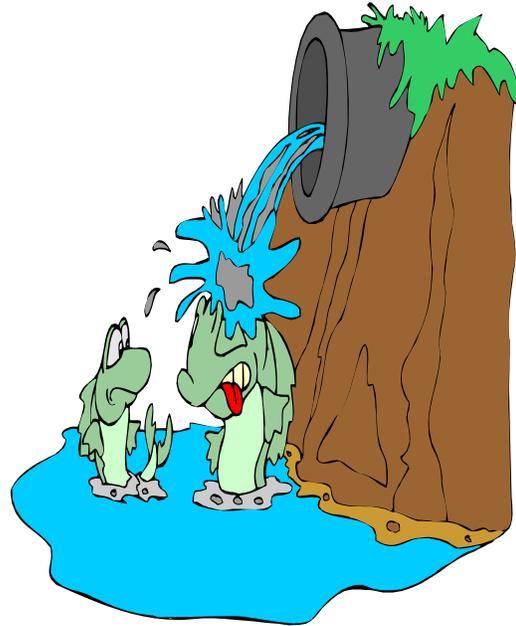
STORMWATER RUNOFF

Did you know stormwater runoff in El Paso County is not treated, but goes directly into our streams and creeks? That is why it is important to insure that pollutants such as pet waste, automotive fluids, soaps and dirt from car washing, trash, garbage and chemicals do not end up in the storm drains.

Water washing over the land can pick up an array of contaminants that can run off into our streams and creeks either directly or through our storm sewer systems.

The Environmental Protection Agency has determined that pollution from this runoff is the largest cause of water quality problems in the U.S.

Everyday personal actions you take can have a significant impact on the water quality of our local streams and creeks. Remember, that while the individual household might contribute only minor amounts of pollution, the combined effect of a neighborhood or a city is serious.



CAR WASHING

Changing The Way You Wash Your Car Can Help!

Outdoor car washing has the potential to result in high loads of nutrients, dirt, metals, and hydrocarbons as the detergent-rich water used to wash the grime off our cars flows down the driveway and the street and into the storm drain. These pollutants degrade the water quality of our streams and endanger the wildlife that lives in or near the streams.

Most fish die when detergent concentrations are near 15 parts per million (ppm); however detergent concentrations as low as 5 ppm will kill fish eggs. Detergents can also add to the problems of aquatic life by lowering the surface tension of water. The fish then much more readily absorbs organic chemicals, such as pesticides and phenols. Detergent concentrations of only 2 ppm can cause a fish to absorb twice the amount of chemicals as they would normally.



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All detergents contain surfactant so that the cleaner rinses off easily with water; some of the most popular types are synthetic phenol-based surfactants.

These have been identified by the USEPA as being possible endocrine disruptors that trick the hormone system by mimicking estrogen. In wildlife, the end result is that aquatic species are not able to reproduce, and population levels decline. Additionally, surfactants destroy the fish's external mucus layers that protect them from bacteria and parasites and they severely damage the fish's gills.



In addition to the detergents used, driveway car washing discharges consist of grease, oil, and other automotive fluids, metals and other elements from brake linings, rust, rubber, trace amounts of benzene and chromium, as well as other pollutants. All of these pollutants cause serious water quality problems in our streams and creeks.

Commercial car wash facilities, on the other hand, recycle their water and are required to treat their wash water discharge before releasing it to sanitary sewer systems where the water is cleaned prior to release back into our surface waters. Additionally, most commercial car washes use 60% less water in the entire washing process than simply rinsing your car at home.

Car washing is a common routine for residents and a popular way for organizations such as school groups, scout troops, and sports teams to raise funds. However, as of 2012, 69% of car owners take their cars to car wash facilities. Still many continue to wash their cars at home.

This activity is not limited by geographic region, but its impact on stormwater quality is greatest in urban areas with higher concentrations of automobiles.

Changing the way you wash your car is something that everyone can do to make a difference in the quality of our surface waters. Proper individual actions can result in significant water quality improvement when carried out by the majority. Unlike some forms of stormwater pollutants, the individual citizens of our community can easily and economically manage this source of stormwater pollution.

What you can do:

Use commercial car wash facilities where wash water is treated and cleaned before it is returned to our streams.

If you do wash your car at home:

- wash it on gravel, grass, or other permeable surfaces
- use plain water with a coarse sponge or biodegradable soaps
- use a trigger nozzle on your hose or a bucket to conserve water



Stormwater Engineering Hosts Class from UCCS

The Stormwater Division recently hosted the annual field trip for the Restoration Geographies class from UCCS. In years past, Professor Havlick's class has visited several projects along Cottonwood Creek, Fountain Creek, and Sand Creek. Students are able to view real-world projects and also the many different stages of a project.

In April, the class went to look at an upcoming project on Cottonwood Creek. This visit allowed students to visualize the historical drop in the creek bed and how the new project will tie into an older successful project.

The class also had a chance to view various stages of construction in the South Douglas Channel. During the visit they were able to watch a concrete pour, deconstruction and prep of the channel, and the finished product as well.

Thanks to Ryan Phipps and Clyde Pikkaraine for providing their personal insight and expertise to the class and making this another successful field trip!



Scoop the Poop! Art Contest

In the fall of 2014, students from local schools will have an opportunity to participate in our Scoop the Poop! Art Contest. They will be asked to submit drawings that focus on the importance of picking up pet waste in our local parks. The winning entries will then be turned into public park signs and will be posted throughout our city.



Pet waste is a huge problem in Colorado Springs. Not only is it a nuisance, but it can also carry viruses and bacteria that are extremely harmful to humans and animals in our watershed. In addition to the risk of diseases, the organic matter and nutrients contained in pet waste can degrade our water quality. YOU can make a difference! Please help educate our citizens on the importance of cleaning up pet waste.

Did you know that it is unlawful to leave your pet's waste in our city's parks? (Code of the City of Colorado Springs 2001, as amended 9.9.301)

For more information, go to www.springsgov.com/stormwater

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"Stormwater Events" is

published by the

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Team.

For additional information,

please call

Jeff Besse at 385-5566

Our Vision

Provide Stormwater programs, services and support with integrity and professionalism through active partnership and involvement with the community

Our Mission

Enhance the quality of life and the viability of our community by providing and supporting Stormwater programs and service that responds to local concerns and community expectations, and promote public safety, stream health and water quality



Stormwater Classes

Grading and Erosion Control Class—Fall 2014

Most land disturbing activities in Colorado Springs require that grading, erosion and stormwater quality control plans be developed and submitted to the City. This class information summarizes the requirements for grading, erosion and stormwater quality control plans and the submittal and review process. Also included is a description of the process for addressing non-compliance .

Developing & Implementing Stormwater Plans— Fall 2014

This full day training program is designed to provide information about how to prepare and implement Stormwater Management plans to help comply with the requirements of the CDPS Stormwater Construction permit as issued by the Colorado Department of Public Health and Environment (CDPHE), Water Quality Control Division (WQCD).

Operations and Maintenance of Stormwater BMPs— Fall 2014

This class is designed for personnel responsible for ensuring the proper functioning of permanent stormwater structures, features, and BMPs as they relate to City requirements and the MS4 permit. This class will be from 1:00pm to 3:30pm at the City Administration Building.

Contact Jeff Besse at 719-385-5566 or jbesse@springsgov.com for more information.

