

Stormwater in Puget Sound

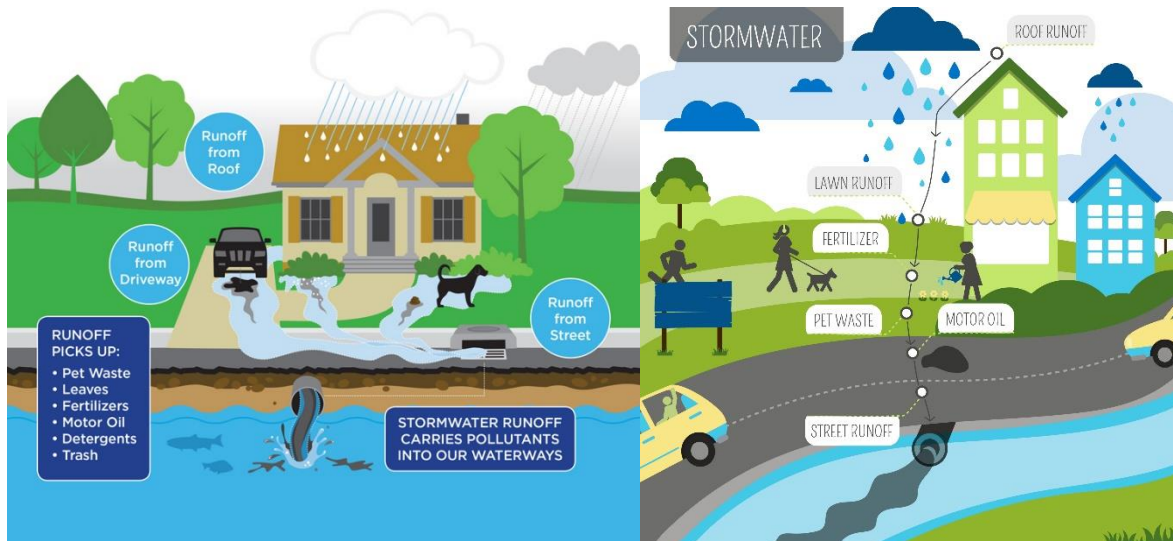
What is it?

Stormwater is water from rain or snowmelt that flows over land. Stormwater can be the water running out of the gutters on your home or garage, across your lawn, or down your driveway or street. Stormwater can be the water rushing across a farm field, over a highway, or through a parking lot.

In a forest or natural area, stormwater gets absorbed into the ground. But when stormwater flows over hard (impervious) surfaces like paved streets or parking lots, it picks up litter, chemicals, oils, fertilizer, pesticides, and other pollutants that flow into stormdrains, streams, lakes, and eventually Puget Sound.

Where does stormwater come from?

Wherever there's rain or snowmelt, there's stormwater. Because it rains so much in our area, stormwater is everywhere! A growing number of cities and towns have replaced the forests that once absorbed all that stormwater with impervious surfaces. This has increased the amount of stormwater that we need to manage.



How does stormwater affect us?

The land and water of Puget Sound are intrinsically connected. We rely on Puget Sound for healthy food, recreational opportunities like boating and beachcombing, and a large part of our state's economy. In turn, the health of Puget Sound and the creatures that rely on it are directly impacted by what happens on the land all around them.

As population and urban development in our region has grown, so has the amount of stormwater we need to manage. Excess stormwater increases flooding, which can damage property and habitat. Stormwater carries pollution to our lakes, streams, and oceans when pet owners don't pick up pet waste, cars leak, people use pesticides on their lawns, or wash their cars in parking lots, streets, or driveways. It's estimated that about three quarters of the pollution that is found in Puget Sound comes from stormwater.

How does it affect wildlife and our environment?

Stormwater flows through underground pipes that empty directly into lakes, streams, and the coastline carrying all the garbage and pollutants it picks up along the way. This is bad news for the animals that live in our waters. The nearshore environment of Puget Sound provides habitat for hundreds of species of animals. If you're a fish or an orca living in Puget Sound, all this pollution is coming into your house. Yuck!

Stormwater pollution can have big effects on the animals in Puget Sound. Plastic that washes into the ocean can look a lot like food – when animals eat it, they end up with a belly full of plastic and no way to digest their real food. Some chemicals in the water can change the way animals see or smell, making it hard for them to avoid predators or navigate to where they need to go. Other types of pollution can accumulate in animals' bodies, making them unable to reproduce or toxic to eat.

Let's do an activity! Create your own mountain town and watch how stormwater moves.

Materials needed:

- 2 pieces of paper
- Scissors
- Tape
- Washable markers
- Crayons or permanent markers
- Stapler
- Spray bottle with water



STEP ONE: Create your mountain town

Take one piece of paper and cut it in half. Crumple up one of the half-sheets, then flatten it out again. Using a crayon or permanent marker, draw the town features such as trees, houses, parks, or anything else you want in your town.

Staple and/or tape this drawing onto the top left corner of the full sheet of paper to create a hill or mountain. Continue using the permanent markers or crayons to draw in more of your favorite city things. Be sure to include a drawing of a part of the Puget Sound in the lower right hand corner of the sheet. Once you are done let it sit and dry completely (especially if you used permanent markers).



STEP TWO: Draw in pollutants

Now it's time to grab your washable markers to draw in the pollutants (do not use the markers or crayons you used for creating your city). First, create a color-coded key for the pollutants on the last half sheet of paper. Start with the most common ones – the ones that most of us contribute to the environment:

- Dog poop/pet waste
- Oil and brake dust
- Fertilizer and pesticides
- Small garbage/micro trash



Using the washable markers in the color code you created, draw your pollutants where they would be found. For example, car oil and dust would be found on roads, driveways, and parking lots. Dog

poop or pet waste would be found where dogs walk or live, and fertilizer and pesticides would be found on lawns and gardens.



STEP THREE: Let's make stormwater!

Once your city is complete its time for the storm to come. This step is best done in a sink or bathtub to minimize the mess. Place your city down and grab your squirt bottle (if you do not have a squirt bottle you can use a cup and water or a faucet turned on low). Start squirting the water on your hill or mountain. Squirt more as if a big rain storm is hitting your town or city.



What do you see happening to the 'pollutants' in your city? You should see them running 'downhill' from the mountain to the waters of Puget Sound. This is how our Puget Sound watershed works. As stormwater flows downhill, it picks up all of the pollutants on our urban landscape and carries them to the Puget Sound.



What can we do?

Luckily, a few simple actions can make a big difference in keeping stormwater out of the Puget Sound. Here are a few suggestions for you and your family:

- Scoop your animals poop and throw it into the garbage.
- Use a commercial car wash or wash your car on the lawn or gravel where water can soak in.
- Fix oil and car leaks as soon as you know about them.

- Plant native species in your yard that don't require fertilizer.
- Pull weeds instead of using pesticides - use less toxic products and dispose of them safely.
- Consider installing a rain garden.
- Tell your friends and family about stormwater and what they can do to help too.

For more information about stormwater and educational classroom tools visit:

www.pugetsoundstartshere.org



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