

IMPACTS OF STORMWATER RUNOFF

What is Stormwater Runoff?

Stormwater runoff is water from precipitation events that flows over land surfaces instead of being absorbed into the ground. Stormwater can often be detrimental to the environment, people and wildlife, yet it can also replenish bodies of water, groundwater, and contribute to natural erosion.

“RAIN IS NEVER GOING AWAY, AND NEITHER IS HUMAN INFRASTRUCTURE... BUT EMERGING TECHNOLOGIES... CAN GO A LONG WAY IN PROTECTING THE BEAUTY AND HEALTH OF THE LAKES, RIVERS, AND OCEANS,” (STALTER, 2018).

Causes of Stormwater Runoff

In urban areas, impervious surfaces such as buildings, parking lots, paved roads, and other hard surfaces make it very difficult for water to percolate into the ground. These types of infrastructure result in stormwater to accumulate and runoff over streets, parking lots and roofs as the stormwater flows to the lowest point often a body of water or storm drain. As it runs across these surfaces, it becomes contaminated with dirt, bacteria and other harmful pollutants.

Stormwater Impacts

As a result of impervious surfaces, stormwater collects and transports pollutants into waterways

such as streams, rivers, lakes, and oceans. These pollutants can have large impacts to the environment, human health, biodiversity, and water quality.

THE ENVIRONMENT

Often stormwater runoff collects oils, metals, pesticides, bacteria, soil, soap, fertilizers, chemicals, and other potentially polluting materials. Eventually, all these substances are deposited into lakes, oceans, rivers and other bodies of water carried by the storm water. Not only can runoff degrade water quality but it can also create flash floods and water shortages. With too much runoff, nearby water bodies can become overfilled. Currently, Soboba's water source is primarily from our ground water. Too much impervious surfaces results in groundwater not being replenished as fast as it's pumped. Unfortunately, this can cause water shortages in surrounding areas.

BIODIVERSITY

Land and aquatic animals can also be affected by stormwater runoff. As runoff travels, it collects debris, pollutants, and excess nutrients that severely damage aquatic habitats. An excess amount of nutrients within water bodies can cause eutrophication. This causes in overgrowth in algae that depletes oxygen once they die. As a result, the lack of oxygen will cause death for aquatic life. On the other hand, land animals such as cattle or pets may consume water from these contaminated water bodies which may bring forth illness.

HUMAN RISK

Stormwater runoff can put people at risk of flood that can lead to property loss, injury, and sometimes fatalities. Furthermore, damage from floods can be expensive to clean up and potentially affect the financial well-being of an area.

WATER QUALITY

Stormwater runoff can cause issues with our water quality. Not only does it pollute our waters, but a combination of these pollutants can also make the waters harder to treat in order to have safe drinking water. E. coli is one of the leading causes of waterborne illnesses indicating that the water is contaminated by sewage water or traces of animal waste. Also, recreational waters for swimming, fishing, etc. have the potential to affect us indirectly and directly. Swimming in polluted waters can cause illness as well as eating aquatic life living in said infected waters.

IF YOU HAVE ANY QUESTIONS, COMMENTS, OR CONCERNS PLEASE REACH OUT AND CONTACT THE SOBOBA TRIVAL ENVIRONMENTAL DEPARTMENT AT (951)654-5544 EXT. 4154; CASEY@SOBOBA-TRIVAL.COM; KAREN@SOBOBA-TRIVAL.COM; P.O. BOX 487 SAN JACINTO, CA 92581

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How Can You Help?

A few things you can do to help reduce the impacts of stormwater runoff include:

- 1) Limit driving and maintain frequent car maintenance to avoid leaks
- 2) Clean up pet waste
- 3) Maintain septic systems
- 4) Avoid using products that contain pesticides
- 5) Avoid littering and picking up trash when possible

Updated Infrastructure

We are discovering new ways to provide stormwater runoff a better way to percolate. One way to provide storm water a better way to percolate is through managed aquifer recharge (MAR). MAR is the intentional recharge of water to aquifers by diverting it to “percolation ponds,” “infiltration pits,” or “infiltration basins” which then seeps into the groundwater. Another way consists of permeable pavement. It is made of cement, a coarse aggregate, and water. This allows stormwater to easily run through the material and seep into the ground. These are being practiced in multiple cities throughout the U.S.

INCREASE IN STORMWATER RUNOFF WITH URBANIZATION

