

# Watersheds 101:



## What's a watershed?

A **watershed** is an area of land where rain, meltwater, and runoff drains into a common body of water. This means that all the water in a watershed flows to the same place. Why? Natural landforms form the boundaries in a watershed. The mountains, canyons, and valleys act like a funnel, directing the water to the lowest point. Some watersheds drain to a river, lake, estuary, or bay, while others drain directly to the ocean. Regardless of where they drain to, nearly all watersheds are eventually connected to the ocean by networks of creeks and rivers.

You might be surprised to learn that everyone on earth lives in a watershed. To put it another way, "if you aren't in the water, you're in a watershed." Depending on where you are, watersheds range greatly in size and scale. While the boundaries of a watershed are defined by natural landforms, watersheds are sometimes grouped together or divided for management purposes. The smallest sub-watersheds may only encompass the drainage of a tiny individual stream. On the other end of the spectrum, some watersheds are so large that the area they drain may cross county, state, or international borders. For example, the massive Mississippi River Watershed includes parts of 31 U.S. states and two Canadian provinces. Closer to home, the Tijuana Watershed stretches from southeastern San Diego into Baja California.



*Figure 1. View of Cuyamaca Lake from Stone-wall Peak. Many of San Diego's coastal watersheds begin nearby. Source: Rick Webb under CC BY-SA 3.0*

## What does a healthy watershed look like?

Watersheds connect people and the environment. Watersheds transport sediment that forms our beaches, cycle soil nutrients, and maintain critical habitat for wildlife. Healthy watersheds tend to be less

**watershed:** an area where all the water drains to the same place

developed and more natural. Fewer paved surfaces means that water flows slowly and soaks into the soil. This permeation slows the rate of erosion and

filters pollutants out of the water. Intact wetlands at river mouths also help filter pollutants, provide habitat for wildlife, and protect coastal areas during storms.

Unhealthy watersheds tend to be characterized by dense development and a loss of natural space. Development replaces permeable surfaces like grass and soil with pavement and asphalt. Water flows faster over paved surfaces, leading



*Figure 2. Creeks and rivers are the lifelines that of our watersheds. Caring for your creeks will help the whole watershed! Source: San Diego Coast-*

to more erosion when it does hit softer ground. The **channelization** of rivers stops water from soaking into the soil. The destruction of wetlands remove natural filtration that cleans water. In addition, development typically brings more pollution from human activities. These changes to our watersheds impact water quality and affect wildlife. Unfortunately, many of San Diego's watersheds face these challenges.

Because watersheds are so connected, even small actions have far-reaching impacts. Pollution in one part of the watershed affects communities downstream. Imagine someone litters on the sidewalk in Clairemont. Rain, wind, or water from irrigation could easily wash the litter down a storm drain or into a nearby Tecolote Creek, where it travels into Mission Bay and then the ocean. Trash, fertilizer, soap, pet waste and more move through our waterways and pollute our watersheds. Pollution makes it unsafe to swim, play in creeks, or go fishing, and endangers habitat for wildlife.

**channelization:** straightening, widening, or otherwise changing the course of a waterway from its natural state

By understanding what makes a healthy watershed, we can better understand the health of our rivers, streams, and ocean. This information can help us fight pollution and better protect people and the environment. Watersheds are our ecological neighborhoods. Just like our own neighborhoods, we should take care of them for everyone to enjoy. After all, if you're not in the water, you're in a watershed!

## References

Photos: San Diego Coastkeeper, Rick Webb under CC BY-SA 3.0  
San Diego Coastkeeper blog