

WHAT IS A WATERSHED?

A watershed (often called a basin) is an area of land separated by a ridgeline or high point where water flows to a body of water such as a stream, river, lake, sea or an ocean. Water flows downhill due to gravity. So any precipitation that falls on one side of a ridge will flow downhill and into a body of water, while water on the other side will flow to another. Very often, water that may start out in different smaller watersheds will combine downstream and join together to form another larger one. The process can repeat itself until the water ultimately reaches an ocean. Water that flows into a watershed with no outlet is called an endorheic basin. Watersheds are most commonly named after the bodies of water they flow into.

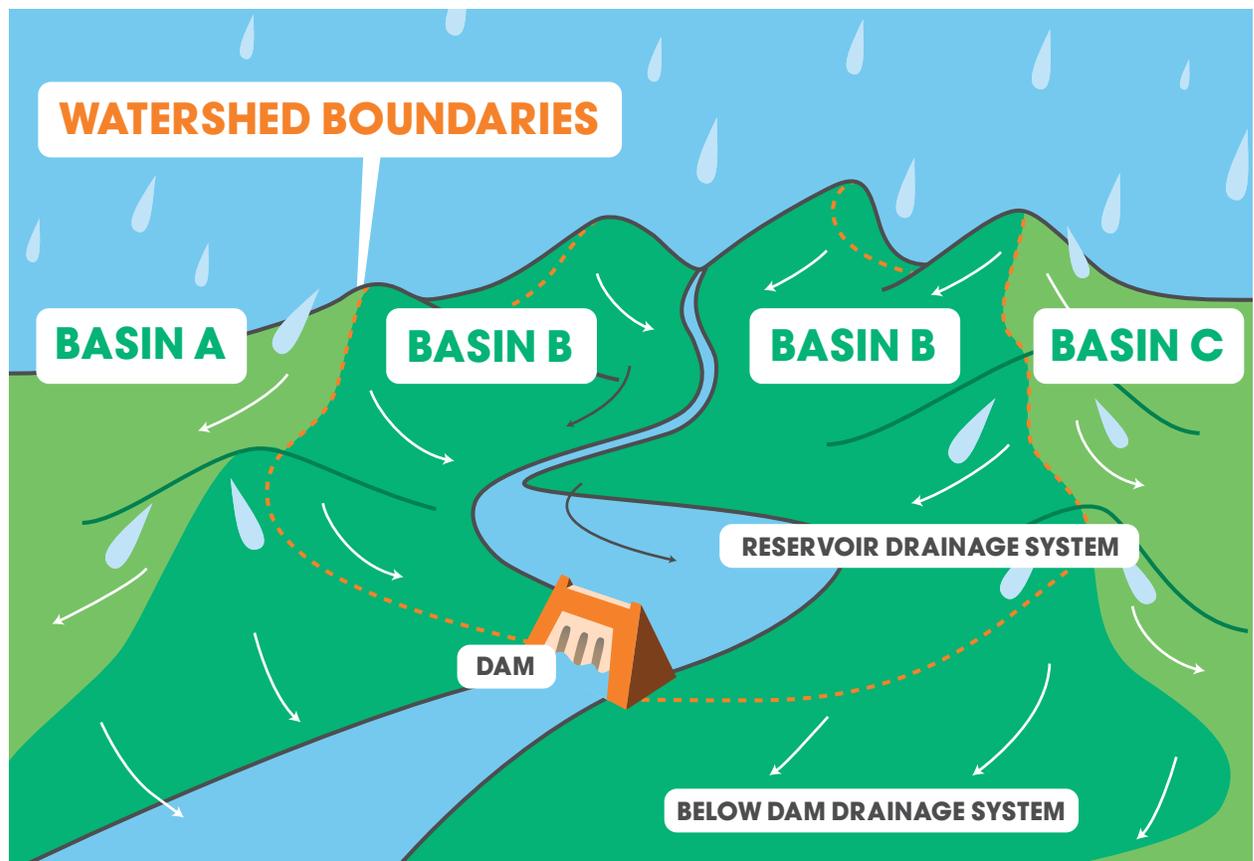
Colorado is broken up into nine major watersheds (see Figure 1). These watersheds are created because of the topography of Colorado and are identified by the major rivers that drain each watershed. The map (Figure 2) illustrates Colorado's

principle watersheds. Watersheds that sit on the west side of the **Continental Divide** eventually drain into the Pacific Ocean, while watersheds on the east side drain into the Gulf of Mexico (and eventually into the Atlantic Ocean).

Colorado is unique in that much of the water we use on the Front Range for municipal and agricultural use fell on the west side of the Continental Divide.

Early Denver water pioneers realized that we live in a dry climate and would need more water to support the population growth of the future. These forward-thinking individuals secured water rights for the residents of Denver early in the 20th century. These water rights were located on the west side of the Continental Divide and meant that **transmountain diversions** would need to be constructed to allow us to manage our water supply and to provide the required amounts of water to Denver's residents today and

FIGURE 1



well into the future. Colorado currently has numerous transmountain diversions that move water across natural watershed boundaries mostly through tunnels.

The water quality within a watershed is based not only on the water in the streams, rivers and reservoirs, but also on the health of the entire **ecosystem**. **Precipitation** that falls will collect contaminants from the air, soil, streets, etc., and deliver them to the water collection areas within the watershed. Keeping watersheds healthy and free of pollution is important because ultimately it will flow downstream to communities below.

Urban areas have unique watersheds that operate in a similar fashion to natural watersheds. In an urban setting, such as the cities of Colorado's Front Range, water moves about in four separate but interrelated systems: natural watersheds, the drinking water system, the stormwater system and the sanitary sewer system. The natural watersheds with the most population in Colorado are the South Platte River watershed (home to Denver, Aurora, Fort Collins, Lakewood, Thornton, Arvada,

Centennial, Boulder, Greeley, Longmont, Loveland, Broomfield, etc.), and the Arkansas River watershed (which includes Colorado Springs and Pueblo). Within each city, there are engineered systems for moving around drinking water, stormwater and sanitary sewage. Drinking water is cleaned to high standards at treatment plants before being piped to homes and businesses. Stormwater comes from rain and snow, which gets moved around by curbs, gutters and pipes; stormwater does not go to a treatment plant before it is returned to streams and rivers. Sanitary sewage is water and everything in it that goes down drains from homes and businesses. It goes to a wastewater treatment plant for stringent cleaning before it is released back to streams and rivers. Keeping these three systems operating efficiently is the work of public works departments. For instance, in the City and County of Denver, Denver Water is in charge of the drinking water, Denver Public Works handles stormwater, and Metro Wastewater Reclamation District operates the sanitary sewers.

FIGURE 2

