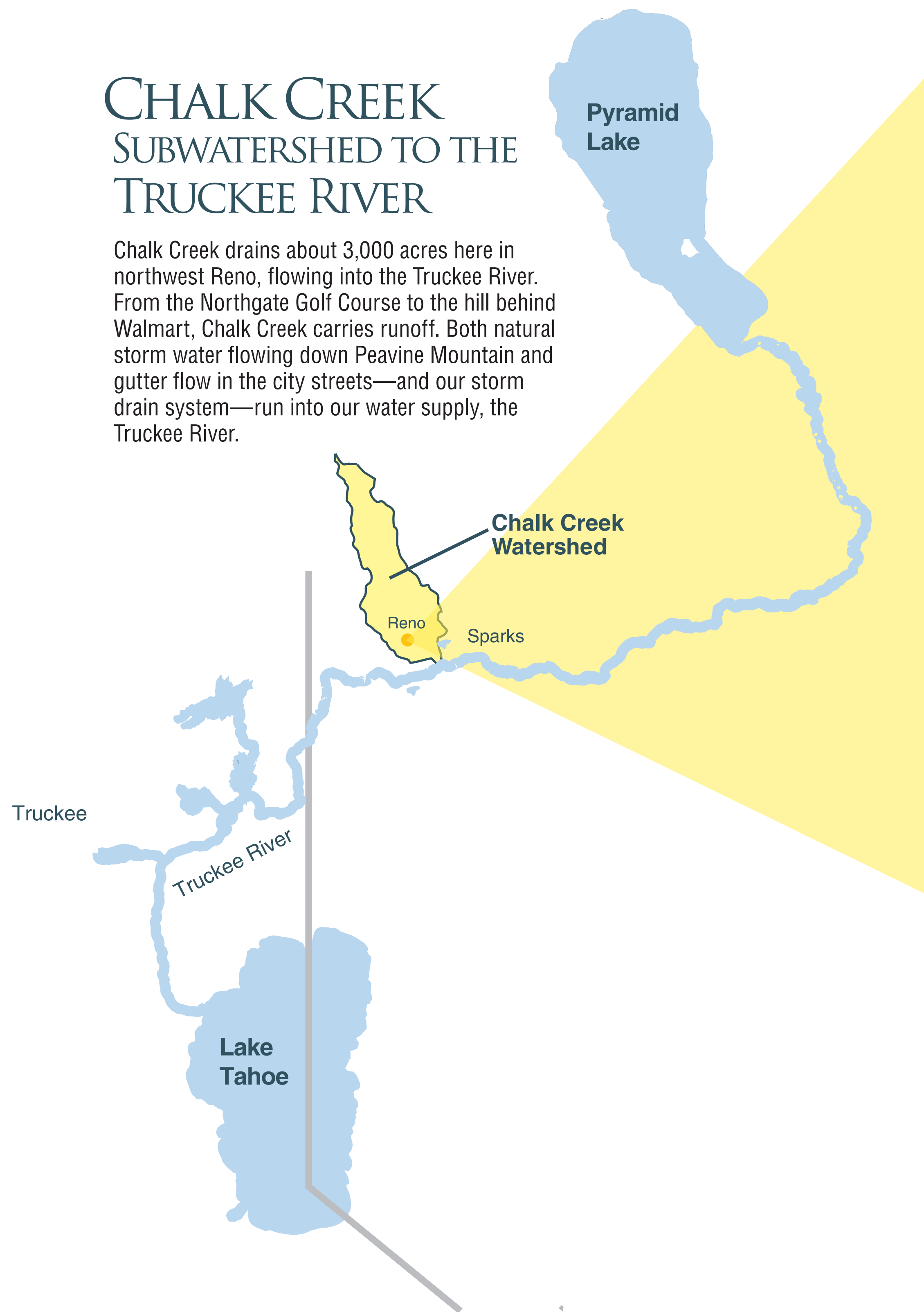


CHALK CREEK TREATMENT WETLAND

CHALK CREEK SUBWATERSHED TO THE TRUCKEE RIVER

Chalk Creek drains about 3,000 acres here in northwest Reno, flowing into the Truckee River. From the Northgate Golf Course to the hill behind Walmart, Chalk Creek carries runoff. Both natural storm water flowing down Peavine Mountain and gutter flow in the city streets—and our storm drain system—run into our water supply, the Truckee River.



This unique approach may be used in other locations for watershed restoration, if it provides great enough benefit to water quality.

NATURAL TREATMENT OF WATER POLLUTION

Entire process takes 4-10 days



DID YOU KNOW?

Chalk Creek has a high concentration of nitrogen (N), phosphorus (P) and total dissolved solids (TDS). Since most of the TDS present is sulfate, reducing sulfate may greatly improve water quality. Sulfates in Chalk Creek are naturally occurring in our soils and are transported by irrigation waters. These salts may be seen as a crust on the creek banks as the naturally occurring salt is pulled through the soil.

- 1 Water from Chalk Creek flows into the treatment wetland through an inlet channel.
- 2 As water migrates downward through the wetland soils, we create a perfect oxygen-free environment for “Desulfovibrium” bacteria in the soil to thrive.
- 3 “Desulfovibrium” is a naturally occurring bacteria in our soils and the treatment wetland is the perfect habitat for maximum growth. As bacteria grow exponentially in this environment, they convert sulfate (most of the TDS) into hydrogen sulfide gas.
- 4 This gas permeates up through the downstream end of the wetland and permanently leaves the system. You may smell rotten egg odors, meaning the bacteria are doing their job!
- 5 Water leaves the wetland through the outlet channel with less TDS (sulfates) to flow down to the Truckee River. Along the way, plants take up N and P and provide bird habitats.

ABOUT THE PROJECT

Chalk Creek has pollution that is 10 to 100 times higher than other creeks in our region. The City of Reno studied the Chalk Creek watershed and monitored water quality to understand the source of pollution. Study results showed that very high levels of total dissolved solids (TDS) or salts, mostly occur as sulfates. High levels of nitrogen (N) and phosphorus (P) come from land applications, either fertilizers in over-irrigation runoff or soap from car washing.

The clays of Peavine Mountain are heavy in salts, which are leached out with our urban irrigation. As seen in northwest Reno, the clays quickly transport fertilizers, making it difficult to grow turf. Our irrigation helps to concentrate and transport TDS, N and P, sending them down to the Truckee River.

HOW YOU CAN HELP?

Everything that runs down the gutters and into the storm drain system enters Chalk Creek without treatment. Water dissolves and carries with it, everything in its path including dirt, fertilizers, soaps, pet waste, etc.

Do your part by following these simple tips:

- **Use less yard chemicals on your property.** Everything applied to the land of Chalk Creek’s watershed drains into the creek, with the clays of Peavine Mountain transporting chemicals very efficiently.
- **Say no to urban slobber!** Use a combination of drip irrigation and sprinkler timers for your yard. Truckee Meadows Water Authority has extended our watering schedule to three days a week, understanding that more frequent and shorter watering times allows the soil to soak up more water, rather than causing runoff into the gutters and creek. Doing this will protect your creek and maintain a healthy lawn.
- **Use a car wash instead of washing your car at home.** Detergents and cleaning chemicals are bad for the creek and our drinking water. Car washes collect and reuse water, then transport it to a treatment plant, not into Chalk Creek.
- **Keep leaves and yard clippings out of the gutter and storm drain system.** The storm drains feed directly into the creek. Even natural materials, when concentrated, damage the creek and cause algae growth.

Visit www.tmstormwater.com for more tips on how to protect Chalk Creek and our source of drinking water, the Truckee River.

This project was funded by The **Truckee River Fund** and funding for the sign was provided by the **Northwest Reno Neighborhood Advisory Board**.

TRUCKEE RIVER FUND
Enhancing and protecting our water resources

