

Packin' Parched

I have been a proud Boy Scout of Troop 19 for the last three years. Over the course of my time in scouting, I have had the opportunity to take merit badge classes like environmental science, practice outdoor skills on monthly camping trips across Texas State Parks, and explore new regions and climates on High Adventure trips. One of these trips happened to be for backpacking in the Sangre de Cristo mountain range last summer. Philmont, the infamous high adventure base camp recognized for its rugged trails through the New Mexico backcountry, is well known to be the place where scouts can learn leadership skills, implement conservation practices, and develop their perseverance all while trudging up the steep slopes. Our crew was equally thrilled as we were nervous to witness such a legacy.

Preparing for Philmont required almost a year of training with weekly hikes in our local greenbelts, practicing our backcountry dexterity, and gathering as much information on New Mexico's summer mountain climate as possible. Preparation *is* our motto after all!

Part of our crew's training was to learn how to deal with the limited water resources in New Mexico's high altitude deserts. New Mexico's general water supply is sponsored almost entirely (87% to be exact) by groundwater reserves. This is actually quite impressive, as no other southwestern state can brag of such a large percentage for acquiring its domestic public water supply. However, my time in AP Environmental Science has since taught me the fragility of groundwater sources, especially when a state is not known for heavy precipitation.

As populations grow along with tourism (even in forms like ours), New Mexico in conjunction with Colorado, Texas, and Mexico have seen increased demands on their supplemental river water sources. One example of this is the substantially decreased water levels of the Rio Grande, a river that gains its water from a watershed spanning across 11% of the

United States, much of that being drought-prone land. The river's survival has been a concern for many decades but was especially poignant as irrigation diversions and dam demands caused the river to dry up before its end destination of the Gulf of Mexico for the first time in 2001. New Mexico also happens to draw from the Colorado River basin, but the demand for water has long exceeded the available supply for almost two decades.

Knowing some of this and learning more during our trek and in the months afterward, it became obvious that water conservation would be critical, even if we were up in the mountains and during the time of year dubbed monsoon season. Monsoon season is an ongoing joke for Philmont veterans and a source of nightmares for rookies like ourselves. While most of my crew was terrified of the daily thunderstorms bringing hail, cold weather, and lightning strikes fear never clouded my mind as we pulled ourselves up those peaks on the windy, rain-soaked afternoons of early July. I was thrilled for the chance of a great story. Little did I know, those daily floods on the slopes of the Sangre de Cristo were what kept all crews going. We needed water. If living off the land taught us one thing, it was that.

In fact, in the days to come I was surprised at the energy we spent chasing, collecting, carrying, and purifying water. On the first day out in the backcountry, our instructor, who was with us for the first three days to show us the ropes, brought me out to collect water from that camping spot's water source for the night... an open cow trough. The metal bathtub had plants growing in and around the edge and water bugs skitting across the surface. Being "mostly clear" was the best thing you could say about it. However, clarity doesn't mean pollutant-free, so we took all precautions necessary to keep out those pesky coliform bacteria.

Those days, the crew learned to be grateful for what we could find because we never knew where we'd be drinking from next. Some days were rushing rivers, where we could count

on cleaner water because bank-growing plant life would do most of the filtering for us and some days were puddles. Either way, all we would need were some chlorine tablets. This, along with our beloved sawyer squeezes, became our favorite method of purification, simply because of the efficiency. Some days we would boil water if we were to use it for cooking or cleaning. On special occasions, we might even yank out the two-gallon gravity filter from the bottom of our packs.

Though one can practically count on the mountains receiving rain every day from late June to early August, the summer mountain climate is arid and water supplies fast dry up fast when you're that close to the sun. For this reason, the phrase "conserve like you mean it" was just as important as camp specialty "hydrate or diedrate". We were taught to practice water conservation in all sorts of ways. One of these ways meant being comfortable with the stink. Only wipe baths allowed! We also brought biodegradable soap for dishwashing. Camps suds are safer for the environment because they don't leach into the groundwater, so we didn't need to worry about contaminating sources downstream and inhibiting organisms living in the aquatic environment.

One of my most vivid memories, was on our second to last day when our water source happened to be a brown, standstill cow pond that was clearly heavily polluted by runoff sewage from the nearby cattle ranches that Philmont is also known for. There was even a cattle skeleton nearby to prove it. We had to be so careful with which bottles we dipped into the water source, making extra sure to bleed the threads so that our lips and skin would never touch the pond water. We took every precaution and still the water smelled, so we plugged our noses as we tipped the water back down our throats and ate a dry dinner.

Seeing varied water sources made me further appreciate the clean water we have so readily available in our cities. A great deal of work goes into daily water purification to fuel our taps and faucets with clean, safe drinking water. To think that mal-consumption and misinformation can lead to wasted resources is a problem needing to be solved. More pressing to me is that some communities can't rely on easy access and their daily chase for water is much more real than the one we faced in the mountains.

Since being back in Austin, I have had an increased interest in our local water source, the Edward's Aquifer, and it has spurred me onto taking related AP coursework and joining the Travis Audubon Society's Young Women in Conservation once again for their 2021-2022 water-themed program. Though I might have once turned up my nose at devoting a life to water treatment, not because of a lack of respect but because of ignorance, I now find it fascinating, and learning more has only affirmed my goal to pursue a future in Environmental Engineering next year in university. I strongly believe that educating young students about the vulnerability of one's local water resource is immensely vital for a sustainable future because habits can change to keep our ground and surface water safe for generations to come and the organisms that depend on it.

Samantha Cooke

Ann Richards School, Class of 2022

Eagle Scout To-Be

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