



Updates from the Trail: June 2022

The fate of our water in a changing climate

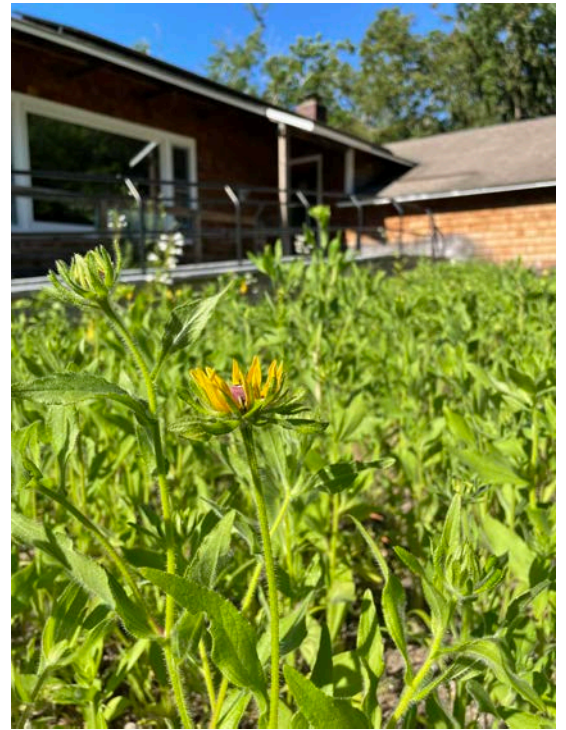
In 1983, warmer than average temperatures caused the snowpack within the western United States to melt early, and quickly. The snowmelt from four different states rushed into the Colorado River and flowed toward Lake Powell, the nation's second largest reservoir created by the Glen Canyon Dam.

[By June, the 190-mile-long reservoir was rising 1 foot a day](#), even as half a million gallons of water poured through the overflow tunnels every second and the hydroelectric station operated on full cylinders. As water threatened to overtop the dam, engineers added metal base boards to the top to make the 708-foot structure taller and increase the amount of water Lake Powell could hold. Even still the reservoir rose to only inches from the top of the boards. The Colorado River swelled from a flow rate of 20,000 to a high of 92,300 cubic feet (or 673,246 gallons) per second. The surge of water through the overflow tunnels caused house-sized craters to develop, eating through the concrete and causing the Colorado River to run a tinge of red as it ate into the sandstone bedrock, and threatened to collapse the dam itself. The Glen Canyon Dam was on the brink of catastrophe.

[Today, the dam is on the brink of a different catastrophe](#). After over 20 years of drought [made worse by a changing climate](#), and combined with unsustainable water withdrawal, the surface level of Lake Powell have dropped 100 feet below the average for this time of year and to the [lowest level since 1969](#)—when the reservoir was still being filled. The dramatic drop of reservoirs across the Colorado Basin threatens the water supply for approximately 40 million people, 4-5 million acres of farmland, and may soon be too low for the hydro turbines of the dams to turn.

The Cape is experiencing our own water crisis which is being exacerbated by a warming climate. Mandatory water restrictions are in place for towns like [Brewster and Chatham](#) due to [‘Abnormally dry’ conditions across the Cape](#), causing lower than average ground water levels. Meanwhile, every year, [more of the Cape’s nearly 1,000 freshwater ponds and lakes are closed due to unsafe algae blooms](#). As our summers become hotter, drier, and plagued with more severe drought, the Cape overall will receive more precipitation. This however will mainly fall during the winter [as more rain, less snow, and during more frequent and intense storms](#). This stormwater rushes into our waterbodies, causing significant erosion and carries with it more sediments and nutrients—ingredients for more algae blooms.

Although the ponds and lakes on Cape aren't falling at such dramatic levels like Lake Powell, polluted water is just about as useful as no water. Algae blooms can be toxic to people and pets, and they destroy the ecology of our water bodies. With each algae bloom, ponds, and lakes creep closer to becoming a dead, unproductive ecosystem. The entire economy of the Cape depends on water bodies—from restaurants and vacation rentals to house development and fishing. These are symptoms of underlying issues that are large and complex, but the solutions start at our front door. How we chose to landscape is one of the most powerful tools we have to address these problems. Shrinking your lawn to only areas that you need, using drought tolerant grass seed blends, and choosing drought resistant native plants for your gardens are the easiest way to reduce water usage and pollution that is plaguing the Cape. Small steps like these can have a large impact on addressing the issues plaguing our water supply.



*A black-eyed Susan (*Rudbeckia hirta*) becomes the first to bloom within the Hay Meadow. The conversion of lawn to meadow will save the Trust water, money, and time, while supporting our local ecosystem. (6/29/22).*