

The Yellowstone Yell

4 July 2025

Yellowstone National Park, Wyoming, Idaho and Montana

Happy Fourth of July



Holy cow!

An icon of the West — the American bison — guards the East Entrance to Yellowstone National Park in Wyoming.

— Emily Meacham photo

Happy Fourth of July

SOURCES: Underlined words link to them.

Yellowstone is the birthplace of what documentary filmmaker Ken Burns called “America’s best idea” — the national park. I always celebrate a national park with a newsletter on my nation’s birthday; its 249th birthday this week is the first time I’ve celebrated Yellowstone.

Like all 433 units managed by the National Park Service, which also include monuments, seashores, recreation areas and others, Yellowstone is wrestling with President Trump’s March executive order, “Restoring Truth and Sanity to American History.” Public notices in all parks now ask visitors to report “signs or other information that are negative about either past or living Americans or that fail to emphasize the beauty, grandeur, and abundance of landscapes and other natural features.” Accurate history must yield to feel-good fairy tales during the Trump Administration.

President Ulysses S. Grant signed the Yellowstone Park Protection Act in 1872, creating the first of our current 63 national parks and inspiring the creation of an estimated 6,500 national parks in other countries. Yellowstone National Park fills the northwest corner of Wyoming, the United States’ emptiest state, and slops over Wyoming’s border a bit into Idaho and Montana. What ties together this park, which is nearly a quarter the size of Switzerland, is the super-volcano that lies hidden beneath the landscape and has affected life on the surface for millions of years.

In 2021, my sister, Julie, and I followed Lewis and Clark’s exploratory trail blazed in 1804-05 from Saint Louis to the Pacific Coast (read the 11-newsletter series from that adventure here). They were probably the first American explorers to hear about the land of steaming ground, spouting geysers, boiling mud and its river. French fur trader Toussaint Charbonneau, who joined them, called it Roche Jaune (Yellow Rock), and his wife/slave Sacajawea said in the Hidatsa language it was Mi tsi a-da-zi (Yellow Stone River). Lewis and Clark didn’t take the time to detour to Yellowstone, but Julie and I did. Emily and I visited 40 years ago when we moved to California, and then we returned last week.

Early white explorers from Lewis and Clark’s expedition returned and visited the region, including John Colter and Jim Bridger. But their tales of this other-worldly place were largely dismissed. Then a party of Montana Territory residents, led by surveyor-general Henry Washburn, vigilante Nathaniel P. Langford (later nicknamed “National Park” Langford after becoming the park’s first superintendent), and U.S. Army Lt. Gustavus Doane, spent a month exploring Yellowstone in 1870. A year later, lawyer/geologist Ferdinand Hayden led a government-funded expedition that included a photographer and a landscape artist. Hayden’s illustrated report and passionate advocacy to protect Yellowstone from those who would “make merchandise of these beautiful specimens” (by which he was referring to Niagara Falls), persuaded Congress and the president to act.

Today, Yellowstone draws nearly 5 million visitors a year, two-thirds of them in June, July and August, the season of the Great American Road Trip, which accounts for most of all the national parks’ annual visitation of 93 million in 2024. That ranks Yellowstone behind only Great Smoky Mountains National Park (North Carolina-Tennessee) at 12.1 million, Zion National Park (Utah) at 4.95 million, and Grand Canyon National Park (Arizona) at 4.92 million.



You lookin' at me, kid?

*A grizzly bear checks me out above the
north shore of Yellowstone Lake.*



First Peoples Mountain

The slopes of this 10,656-foot / 3,248-meter peak are covered with dead lodgepole pines from the 1988 Yellowstone fires that burned a third of the park's area.



Yellowstone ...
... lake, falls, canyon and river.



Hayden Valley herd

About 1,400 bison are considered part of this herd lunching alongside the Yellowstone River, which I photographed in July 2021 on a cross-country road trip with my sister, Julie.



Like clockwork

Old Faithful, in the Upper Geyser Basin, spouts about every 70 minutes. This shot was from my '21 visit.



Sputters, snorts, smells and steam

Visitors walk through the Norris Geyser Basin — and all Yellowstone's geyser basins — on boardwalks, which protect them from falling through the thin, fragile ground between them and the volcano-heated water below.

Notes on photos

SOURCES: Underlined words link to them.

HOLY COW! — It's quite the newsletter when the first words I write are a lie. But this bison — and while I'm being biologically accurate, this North American animal is not a buffalo, although in the United States the two terms are used interchangeably — is not female. It's very apparent when you get a good side view. He was standing by the road at the East Entrance, where visitors pass through a toll booth to pay their entry fee and get a park map. The rangers who do this work live in a cluster of cabins just out of sight in this photo. The woman to whom we showed our lifetime senior pass for admittance said this bison had taken to hanging around the entrance, perhaps because he sees himself as a symbol of the park for tourists to photograph. But she said he makes her walk home after work a bit frightful.

YOU LOOKIN' AT ME, KID? — Unlike Yellowstone's herd animals, like bison and elk, which are usually found grazing in open grassland, bears can be spotted in the open or the forest. The easiest way to find them, however, is to pull over where you spot other parked cars and ask people why they're stopped. They will point. We confirmed this was a grizzly — whose range through the West has dramatically shrunk since the arrival of white settlers — by showing our pictures to park personnel. Grizzlies are extinct in California except on the state flag and are the largest North American bears after polar bears, who live on arctic coasts, and Alaska's Kodiak bears. Black bears, which can also have brown coats, are found across the continent. The park people we spoke with later, after we described the bear's location, said this bear was probably a female they were familiar with. She frequently checked out her audience but otherwise was engaged in a leisurely walk across a grassy hillside.

FIRST PEOPLES MOUNTAIN — This peak was called Mount Doane, after early Yellowstone explorer Gustavus Doane, until the name was changed by the U.S. Board of Geographic Names in 2022 at the recommendation of the Rocky Mountain Tribal Council, the Wyoming Board of Geographic Names, and the National Park Service. In 1870, the year Doane explored Yellowstone, he led an attack on a band of Piegan Blackfeet. They were believed to have been responsible for the murder of a white fur trader. At least 173 Blackfeet were killed, and Doane wrote about the retaliation and bragged about it the remainder of his life. The 1988 Yellowstone forest fire marked a milestone in federal forest management practices, as recounted in this *New York Times* video. Lodgepole pines predominate in Yellowstone forests and, like several other tree species in the West, depend on wildfires to successfully reproduce. Allowing fires to burn when they don't threaten lives or private property is controversial and counterintuitive to people raised on Smokey the Bear commercials. But it prevents an excessive buildup of flammable underbrush that can lead to even bigger fires. Thus, this scene illustrates two aspects of the Trump Administration's goal to return current policy to some of the worst practices of America's past.

YELLOWSTONE ... — Yellowstone Lake lies at 7,733 feet / 2,357 meters above sea level and is almost completely contained within the caldera of a volcanic hot spot that drifted eastward over billions of years from western Idaho. The snowmelt and rain that fills the lake is the source of the Yellowstone River, which flows north to the Missouri River in Montana, then southeast to the Mississippi River at St. Louis and then south to the Gulf of Mexico. The roughly circular Yellowstone caldera is 48x25 miles / 72x45 kilometers across, created by the last big eruption about 640,000 years ago. There's no conical mountain to betray the volcano's existence. The power for the volcano is a subterranean pool of magma (liquid rock that has not yet reached the surface, where it is called lava). The magma chamber is between 3 and 7 miles / 4.8 and 11.3 kilometers underground and 37x18 miles / 60x29 km across. Within the magma chamber, the temperature is 1,475° Fahrenheit / 800° Celsius. There are thousands of earthquakes each year in the park, but most are too small to be felt. The latest seismic study regarding the possibility of an eruption by the

super-volcano — which would affect most states in the U.S. interior — was just completed in June by the U.S. Geological Survey. It found that “Yellowstone Caldera activity remains at background levels.” Translated by University of New Mexico scientists who did the study, that means that pressure within the magma chamber is being effectively vented to the surface, thus avoiding an explosive buildup. That does not mean that small steam explosions don’t occur in Yellowstone’s geyser basins, however. That is routine. The Biscuit Basin between the Old Faithful geyser and the Grand Prismatic Spring, which Emily and I just visited, had an explosion in July last year that destroyed a boardwalk and parking lot and forced closure of a segment of the Grand Loop Road. That segment remains closed.

HAYDEN VALLEY HERD — About 5,400 bison were counted in Yellowstone in 2024, the most on public land in the United States and the only place they have continuously lived since pre-historic times. An estimated 30 to 60 million once lived on the Great Plains until the U.S. Army led a campaign in the late 1800s to kill them off. The army was enforcing a federal policy to drive out indigenous tribes, who depended on the bison, so the land could be given to white homestead farmers. Most Yellowstone bison live in one of two breeding herds. The central herd lives in Hayden Valley and numbers about 1,400. The northern herd is in the Lamar Valley and numbers about 2,300. Males weigh about 2,000 pounds / 900 kilograms and females about half that, although herds are led and mostly populated by females. They are strong swimmers, can run 35 miles per hour / 55 kilometers per hour (much faster than a human), can jump over objects 5 feet / 1.5 meters tall and spend 9-11 hours a day grazing. They’re peaceful until they aren’t. Watch this YouTube video about Yellowstone’s bison before the National Park Service is forced to remove it because it’s “woke.”

LIKE CLOCKWORK — Old Faithful’s faithful eruption schedule meant the National Park Service had to build a small, semi-circular stadium around a quarter of its base to handle all the people who want to see it spout. But it’s just one of more than 500 active geysers in the park, which is more than half of the world’s total.

SPUTTERS, SNORTS, SMELLS AND STEAM — The Norris Geyser Basin can be seen as typical of Yellowstone’s nine basins, each with a variety of mud pots, fumaroles, hot springs, steam vents and other openings through which Mother Nature expels hot stuff and foul gasses from within the planet into the outside world. Here’s a National Park Service video about that.

GRAND PRISMATIC SPRING (next page) — Only two hot springs — New Zealand’s Frying Pan Lake and Dominica’s Boiling Lake — are larger than this 300-foot / 100-meter diameter pool in the Midway Geyser Basin. The blue of the water comes from the natural refraction of sunlight. The color around the edge is the color of microbes called “thermophiles,” which thrive in extreme heat and surround the pool in spongy mats. The color differences in the bands around the pool depend on the species of microbe that lives in that temperature range, which is obviously cooler as the water spreads outward and comes into contact with the atmosphere. The color bands change seasonally to shift from reds in summer to greens in winter, when sub-zero Fahrenheit weather is common. At sea level, water boils at 212° F / 100° C. But at the 7,270 ft / 2,220 m altitude of this spring, water boils at only 200° F / 93° C, meaning these life forms tolerate temperatures very close to boiling. A week before we hiked to this overlook, an early morning tourist saw and photographed a bison that fell into the spring and was killed. Yellowstone can be a hazardous place for humans, too, what with the abundance of dangerous wildlife, steep mountains and geothermal activity under the ground you walk on. But automobile accidents accounted for 45% of the 74 human fatalities in Yellowstone between 2007 and 2024, according to the Montana law firm that tracks the statistics. We are our own worst enemy.



Grand Prismatic Spring

Visitors to the Midway Geyser Basin follow the boardwalk past this deep pool of near-boiling water.