



*Unique Dive*

# Yellowstone

Text and photos by Jennifer Idol

— *An Extreme Experience*

# unique dive

## Yellowstone



Turquoise Pool (above) and Great Fountain Geyser (previous page) at Yellowstone National Park, Wyoming, USA

**A volcano larger than the US states of Delaware and Rhode Island combined, Yellowstone National Park is a geothermal hotspot that attracts more than four million visitors a year. Wildlife roam the landscape freely in this caldera, defined by ongoing thermal activity. In this unique landscape, opportunities for exploration above and below the water line abound.**

Yellowstone National Park is a remote wilderness. The closest major airports are six to eight hours away by car in Salt Lake City, Utah, and Denver, Colorado. I started the 24-hour drive from Texas at dawn with my buddy Doug Harder. We watched as flat plains in the Texas panhandle gave way to Rocky Mountains in Colorado. We completed our drive the first day as the moon rose and continued our journey the next day.

On the second day of driving, we looked left as we neared Yellowstone and noted the Grand Teton



Mountains towering over Jackson Hole Valley, an impressive destination. We finally reached the south entrance, an hour north of Grand Teton National Park. Entering the park feels like reaching the edge of Texas and having hours of driving ahead before reaching the final destination.

Slow speed limits protect people and wildlife. Either may jump out from the forest at any moment. I booked my tent site at Bridge Bay Campground, another hour from the south entrance. We headed west past the impressive Lewis Lake and then north along Yellowstone Lake, the largest lake at high



Yellowstone Lake (above) at night—it is the largest lake at high elevation in North America; Diver Trey Lessard (top right) enters the water at Bridge Bay in Yellowstone Lake; Location of Yellowstone National Park on US map (left)



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Wildlife abounds in Yellowstone: elk (above) and grizzly bear (left) in Hayden Valley

elevation in North America. West Thumb Geyser Basin hurled steam into the air on the south side of the lake.

Yellowstone is one of the world's largest calderas. It feels flat and strange compared to the surrounding landscape. The last eruption destroyed the mountains in the center and only left mountains on the park's perimeter. Nonetheless, the lowest point in elevation is 1,610m (5,282ft) and our dive would be conducted at 2,357m (7,733ft).

## A storied history

Evidence from archaeological sites shows people have inhabited the area for more than 11,000 years. When Europeans first visited the region in the 1800s, they were so moved by the proliferation of life

they first called it "Wonderland".

Individual ideas and actions make a powerful difference for the world around us, as seen in the history of people's appreciation for Yellowstone National Park. It is the world's first national park, established 1 March 1872. More than 100 nations have since created an estimated 1,200 national parks or equivalent preserves.

This beginning of park development led to other parks in the United States, which then led to the creation of the National Park Service on 25 August 1916. We celebrate the centennial of our national parks this year because Yellowstone National Park was deemed an area worth protecting from development and misuse and led to the protection of other important resources.



View of Yellowstone River in Hayden Valley (above); Lower Falls at Artist Point (top right)



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Turquoise Pool (above) near Grand Prismatic Spring—a year later its color has changed (see previous page) due to damaged bacterial mats; Daisy Geyser erupts (right)



Old Faithful erupts (above); Upper Falls (right)

Yellowstone has also been designated a UNESCO World Heritage Site and a biosphere reserve. This means Yellowstone is part of a network of reserves devoted to the conservation of nature and scientific research and is part of a select list of globally protected areas whose natural and cultural resources benefit all people.

### Too hot to touch

The geysers and thermal features throughout the park are the most visible reason for a storied history of fascination with this wilderness. More than half the world's geysers and 10,000 thermal features are found in this world of extremes. Water temperatures range from 257°C (459°F) in Norris Geyser Basin to the cold waters of Yellowstone Lake at 5°C (41°F). This makes the world's first national park an unlikely destination for diving, yet I return annually.

Since thermal features are dangerous and often reach temperatures above boiling point, swimming is limited to Firehole Canyon near Madison Junction. The most injuries and deaths in the park are due to thermal areas. Every year I visit the

park, I read park news and notices. The park issues alerts for areas closed to the public and new rules. This year, five notable incidents in the park became national news.

The first incident involved a person



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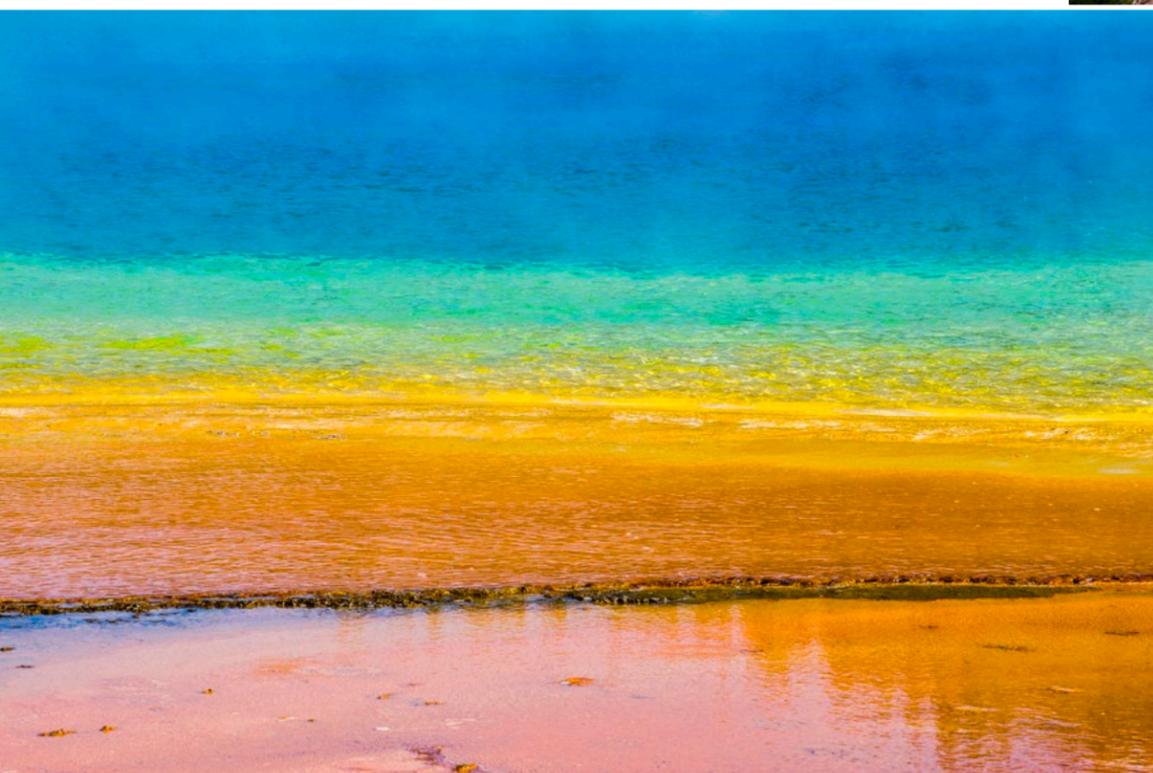
who died when they left the protected boardwalk and fell through thin crust into a hot spring in Norris Geyser Basin, the hottest thermally active area. Although the landscape looks solid, it is a wild and unpredictable land. Even scientists and park rangers who study the area cannot predict which areas

are solid ground or fragile crust. Additionally, between 1,000 and 3,000 earthquakes shake Yellowstone and change geyser behavior every year. Old Faithful is named for its predictable eruptions. Seismic activity has changed the eruption cycle, so the interval between eruptions seems to be increasing. Predictable geyser times are listed at the visitor center in the

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View overlooking Grand Prismatic Spring (above); Minor eruption of Castle Geyser (top left)

Old Faithful lodge area. Each lists the expected time of eruption, plus or minus time when the geyser could possibly erupt.

The second most recognized feature, Grand Prismatic Spring, also experienced two national incidents. Fortunately, no one was hurt in either. However, a group of amateur videographers left the boardwalk and irreparably damaged the bacterial mats that provide the color surrounding the spring to share their adventure through social media. It can result in a \$1,000 fine to leave the boardwalk.

The spring features unreal colors. The bacteria that form the colors around the pool display colors depending on the temperature in which they grow. Another unfortunate incident may change those colors over time. A drone flew across the spring and lost contact, then falling into the center of the spring. Anything that falls into a thermal feature is irretrievable due to extreme temperatures. Objects in springs block the flow of water and cool their temperatures, causing man-made change. It is a felony offense to

fly drones in any United States national parks.

### Defined by water

From geysers and springs to lakes and rivers, Yellowstone National Park is defined by water. Glaciers from the last two million years and up to 14,000 years ago shaped Yellowstone Lake. Yellowstone River flows from Yellowstone Lake through Hayden Valley and carved the Grand Canyon of Yellowstone. Upper and Lower Falls are two of more than 290 waterfalls in the park, and are the most



Large leaf lupine flowers

Thermophiles in Grand Prismatic Spring at Yellowstone National Park



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## TIPS FOR THE ADVENTURER

- Save money and experience two parks by purchasing an annual parks pass.
- Bring a light jacket in the summer and heavy winter clothes the rest of the year.
- Make lodging reservations one year in advance.
- The nearest SCUBA shop is Yellowstone Divers. Advance notice is needed for equipment and may need to be rented from shops in Salt Lake City or Denver. Bringing all equipment is highly recommended.

impressive. Lower Falls descends 94m (308ft) into the canyon.

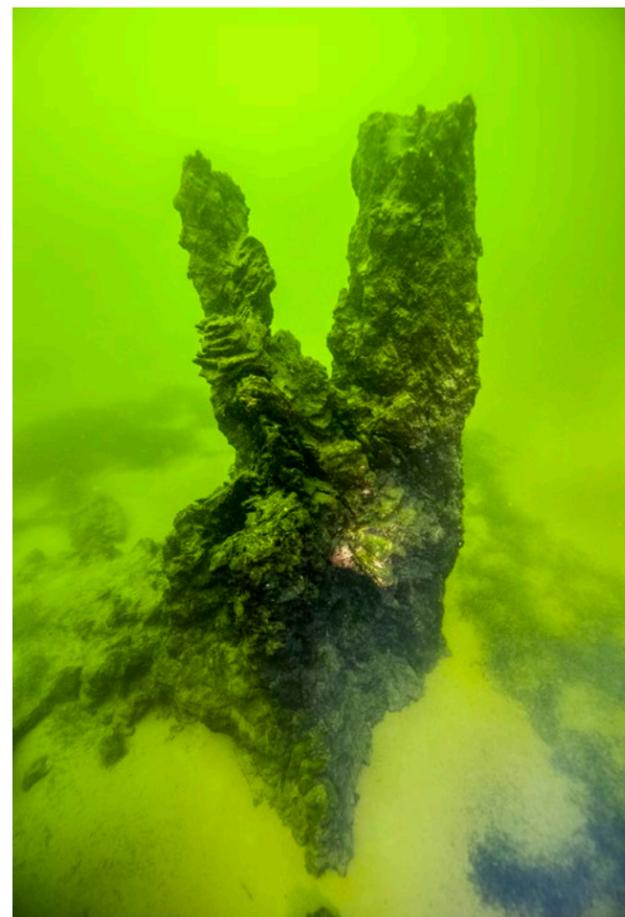
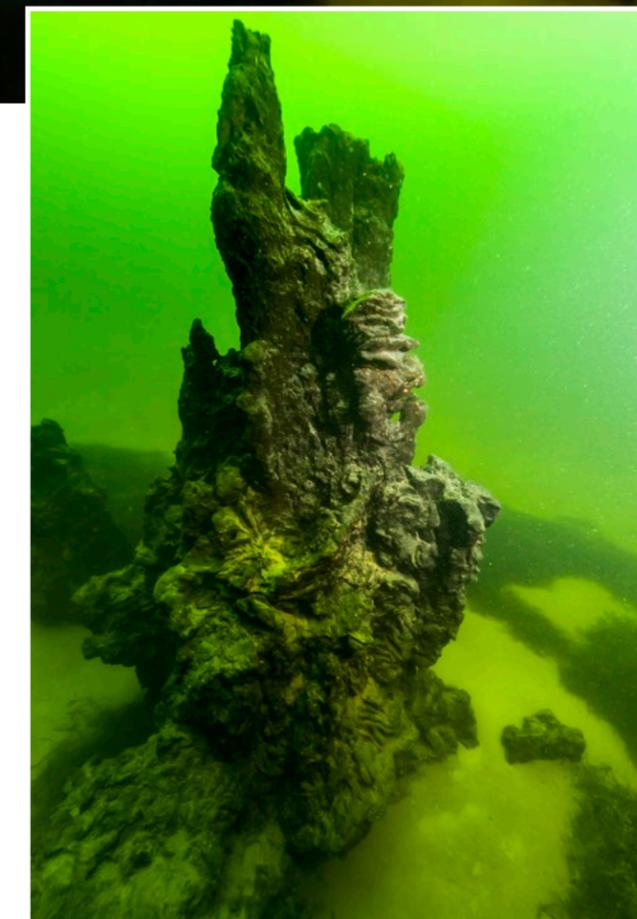
I dive Yellowstone Lake to explore siliceous spires in Bridge Bay, an unusual feature created after the last glacial retreat, that rise up to 6m (20ft) from the bottom. They look like solidified smoke that squeezed through a chimney. The delicate spires are thought to have formed while underwater and are surrounded by bacterial mats.

Diving in special bodies of water like Yellowstone Lake is an adventure. Yellowstone Lake reaches a

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maximum depth of 131m (430ft), so can accommodate any dive plan imagined. I usually plan shore dives, but could rent a boat from Bridge Bay Marina. While this is a cold water dive at altitude, I enjoy the good visibility and exploration. The lake is enormous and makes me feel like a piece of straw in a hay field.

Few visitors experience the park's underwater resources, and because of this, the lake can reveal surprising finds. I observed round balls of algae, which I confirmed



THIS PAGE: Hydrothermal siliceous spires in Yellowstone Lake; Diver examines a spire (top left and far right)

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CLOCKWISE: Muskrat taking vegetation to nest; Yellowstone Lake shoreline; Nostoc cyanobacteria in Yellowstone Lake; Red fox near Yellowstone Lake

were nostoc algae balls known as a cyanobacteria. They are reported to be successful nitrogen and carbon fixers. Yellowstone Lake is also home to the largest population of wild cutthroat trout in North America, which can be seen returning to spawn in the lake mid-summer as they jump over the LeHardys Rapids on the north side.

Diving activities are bound by regulations specific to individual bodies of water. Each national park follows independent diving guidelines. Diving with a dive flag is mandatory in Yellowstone. Park rangers require divers

all divers must be certified.

## The wild side

Wildlife thrives in the park because of their access to fresh water. Bison congregate around thermal features in winter to keep warm. A keen eye is pertinent to finding wildlife. However, another good indicator in the summer is to find parking areas full of cars. A bison, elk or grizzly bear has likely been spotted and visitors linger to catch glimpses and photos of these encounters.

It may feel like the wildlife is tame

to check-in before and after dives at the Bridge Bay Marina station. Park rangers are helpful and a useful topographic map of the lake hangs in the office. No solo diving is allowed and

because of the animals' close proximity, but they are not. Each animal requires its own personal space; and the law requires 91m (300 ft) distance from bears and wolves, and 23m (75ft) from all other animals, including elk and bison.

## An extreme experience

Impossible life persists in the heat of springs and geysers, providing almost unnaturally saturated colors. Fish and other aquatic species inhabit frigid waters in Yellowstone Lake and all animals must survive serious winter conditions. I am awestruck by the diversity in this landscape and dwarfed by its scale and complexity. ■

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*27 certifications and has been diving for 20 years. Her underwater photography and articles are widely published. A native Texan, she creates design and photography for her company, The Underwater Designer. For more information, visit: [uwDesigner.com](http://uwDesigner.com).*

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AnAmericanImmersion.com

Available on Amazon

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