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# DISCOVERY

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## A BIRD'S EYE VIEW OF YELLOWSTONE

Aerial view of Grand Prismatic Spring. Photo: NPS

By Lisa Reuter  
Yellowstone Association

**F**or all of its popularity, Yellowstone National Park has managed to avoid regular flightseeing tours and the noise and protests they engender. A visitor can spend a week or more in the park and see only the occasional contrail of a commercial flight tens of thousands of feet up.

Any small plane or helicopter spotted 500 to 2000 feet overhead likely is on National

### What's Inside...

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- GUIDE TO YELLOWSTONE'S THERMOPHILES
- EXCLUSIVE INTERVIEW WITH RICHARD LOUV

Park Service business: counting animals, search and rescue, evacuating a medical emergency, looking for poachers.

By far the most numerous flights are for medical emergencies—perhaps one or more a day during peak visitation months, according to park spokesman and licensed pilot Al Nash. “We have a great EMS system in the park, but we’re a long ambulance ride from definitive care at many locations. So if flying conditions prevail and a helicopter is available, we’ll call one in.”



The most frequent flights in Yellowstone are for medical emergencies. Photo: Ron Shade

Most of the emergencies involve traffic accidents or the effects of altitude on visitors' pre-existing medical conditions. And most of the rescue flights come from Idaho Falls, Idaho, about 40 minutes away. It is the

closest medical center that doesn't require a flight over a mountain range. The alternative is usually Billings, Montana, about equally distant; but that flight can involve crossing some part of the Absaroka Range.

The closest airport large enough to support a flightseeing business is at West Yellowstone, Montana. But it is in a mountain range and 25 to 50 or more miles away from popular sights such as Old Faithful, the Grand Canyon of the Yellowstone River, and the Lamar Valley. The mountains' tricky and variable wind patterns and the distances deter any business plan for a sightseeing business of small planes or helicopters, Nash said.

### Ground Plus 2000 Feet

The federal government also puts some brakes on flying over Yellowstone. Public Law 106-181, Sec. 801, otherwise known as "The National Parks Air Tour Management Act of 2000," limits flightseeing business plans. Anyone may fly over Yellowstone but, per Federal Aviation Administration Advisory Circular 91-36, pilots "are requested to maintain a minimum altitude of 2000 feet above the surface." This applies to all national parks and wildlife refuges to minimize noise impact.

But that 2000 feet is just the beginning when speaking of altitude.

"People forget how high the elevation is at Yellowstone," Nash said. "Mammoth is the low spot at 6200 feet, and most of the park interior is 7700 to 7800 feet where it's flat." The park's big passes—Craig, Sylvan, and Dunraven—are 8200 to 8860 feet high, and many peaks top 10,000 feet.

"Think of how you are at elevation," Nash continued. "The higher you go, the harder it is to breathe. The same goes for the piston engine that's in most small airplanes and helicopters. They have a service ceiling of how high they can fly with a full payload at a certain altitude and temperature. On a 90-degree day in West Yellowstone, where it's 6600 feet high, you add another 2000 feet and they don't have much room or performance left."

To overcome the altitude, a flightseeing business would need more powerful and more expensive aircraft to fly over Yellowstone. That would require more fuel, adding even more cost. But nature puts up one more impediment to regular flightseeing near Yellowstone, and it's what keeps even those who can afford the aircraft from buying in.

"There are just too many days you can't fly because of weather," said pilot Roger Stradley, who has flown park biologists and scientists over Yellowstone for

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**YELLOWSTONE ASSOCIATION**

### THE MISSION OF THE YELLOWSTONE ASSOCIATION

The Yellowstone Association, in partnership with the National Park Service, fosters the public's understanding, appreciation and enjoyment of Yellowstone National Park and its surrounding ecosystem by funding and providing educational products and services.

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51 years. “It is high, rugged country. Everywhere you go, there are mountains to contend with. If you go on the wrong day, you’re in trouble. You can get caught in wind currents, and it gets really dangerous. It’s not a place to mess around.”

More than once, a sudden turn in the weather has forced Stradley to look for a safe route out of the park. He knows them all, along with every tree line, river drainage, and valley, in case weather also affects his ability to see much.

“He always knows where he is, and where he won’t get trapped,” said his wife, Ann, after Stradley detailed one particularly harrowing escape that finally grounded him in Livingston, Montana. “If he’d been depending on GPS, he’d never have gotten out.” In fact, her husband has led other planes and helicopters out of the park in bad weather.

### Three-Hour Roller Coaster

Stradley learned to fly from his father, Jim, who recorded many of the first Yellowstone elk and bison counts in his flight logs in the 1940s. Today, Roger helps count those species, plus birds, bears, wolves, and fish. He’s also taught a few pilots how to fly Yellowstone, including Steve Ard, who has been working with him in the park for the past nine years.

For many years, Stradley’s brother, David, also flew over Yellowstone. He was the first to tell bear biologists about grizzlies on scree slopes at 11,000 feet pushing over boulders to eat the moth larvae underneath. “He’d seen as many as 60 bears together doing that,” Roger said. “But the biologists didn’t believe him until one of them went up there and saw it for himself.”

Roger Stradley developed the counting technique biologists now use, said Doug Smith, who oversees Yellowstone’s wolf program and aviation efforts. Stradley’s technique involves dividing a large herd into sections according to ground landmarks such as creeks or boulders, counting individuals in each section, and figuring the total. That can require several aerial passes at 500 to 2000 feet, and it’s not always comfortable.

It’s a skill that Rick Wallen, leader for bison management, likes to assign to younger biologists to make sure they master it.

“It requires the ability to concentrate and endure for many hours at a time on an amusement-park-like ride and still be able

to focus on the thing you’re looking for. The issue is seeing appropriately what’s on the ground—not counting rocks and not missing bison. And that can be really hard to do after the first hour, because you’re really circling around and going up and down sometimes,” Wallen said. “The plane can be bouncing all around if the wind’s really blowing; and if you look in your lap to make a note instead of keeping track of the plane’s ups and downs, your breakfast can wind up there, too.”

Wallen laughed and added, “It’s definitely a way to see the park like nobody else does. But it’s not easy.”

Even from 500 feet, a bison still looks like a dot, and they can be hard to spot against brown background or below geyser steam. Over the years, a couple of biologists have returned after less than an hour’s flight and asked that they never get the assignment again.

Wallen schedules 8 to 10 bison flights a year, mostly between November and July. Under ideal conditions, an entire

park bison count can be completed with two planes and two observers in about six hours. When herds of thousands are encountered, photos are taken. The images are later blown up and pieced together; then each animal is counted. Without a plane, 20 to 30 people on the ground would need a week to achieve the same result. In that time, though, the bison could move and confuse the count.

Elk are hardest to count because they blend in with the landscape, and they also like the woods. Grizzlies and wolves like forests, too, but many of them wear tracking collars. There’s an extra skill involved with tracking collared animals. The biologist has to listen for and be able to follow the tracking signal over the airplane noise.

The 16-year-old wolf project, which brought Doug Smith to the park, wouldn’t be as successful without the ability to find and watch the packs from the air.

“It’s been a truly magical privilege,” Smith said of his flights over Yellowstone. “We’ve



Aerial studies allow biologists to observe natural behaviors they would not otherwise see. Photo: NPS