Emery Cowan/Arizona Daily Sun via AP, file

In this 2015 file photo Nate Powell, an employee with Grand Canyon National Park, collects an entrance fee as traffic is backed up as vehicles arrive at an entrance gate at Grand Canyon National Park, Ariz. A new study concludes visitors may be steering clear of some U.S. national parks or cutting their visits short because of pollution.

Pollution leads to fewer park visitors

By MATTHEW BROWN
Associated Press

AP Photo/Ross D. Franklin, File

This 2011 file photo shows the main plant facility at the Navajo Generating Station northeast of Grand Canyon National Park as seen from Lake Powell in Page, Ariz. A new study concludes visitors may be steering clear of some U.S. national parks or cutting their visits short because of pollution.

DENVER (AP) — Visitors appear to be steering clear of some U.S. national parks or cutting visits short because of pollution levels that are comparable to what's found in major cities, according to a study released Wednesday.

Researchers at Iowa State and Cornell universities looked at more than two decades of data on ozone pollution at 33 parks — from Shenandoah to Yellowstone, the Grand Canyon and Yosemite. They say visitor numbers dropped almost 2 percent when ozone levels went up even slightly and by at least 8 percent in months with three or more days of high ozone levels compared with months with fewer days of high ozone.

Study co-author Ivan Rudik said air quality warnings issued by parks and other government agencies may be causing the visitation drop. That's consistent with previous research on so-called avoidance behavior in response to pollution alerts in other settings.

The study sought to control for seasonal variations and daily changes in the weather.

"Even though the national parks are supposed to be icons of a pristine landscape, quite a lot of people are being exposed to ozone levels that could be detrimental to their health," said Rudik, an assistant professor of economics at Cornell.

The study, published in the journal Science Advances, comes as national parks have seen record numbers of visitors in recent years despite concerns over pollution.

Ozone, the main ingredient in smog, is formed when small particles of pollution from cars, power plants and industrial facilities react with sunlight. It limits visibility and can cause respiratory problems.

In parks, ozone is carried in on the wind and also caused by traffic and other activities.

Data collected by the National Park Service show parks failed to meet U.S. air quality standards for ozone at least 85 times this year. In 2016, national parks exceeded the standard a combined 276 times.

Park officials were reviewing the new study but had not evaluated whether ozone and visitation are linked, spokesman Jeffrey Olson said. He said nine parks issue ozone alerts when warranted — Acadia, Great Smoky Mountains, Mammoth Cave, Pinnacles, Rocky Mountain, Sequoia, Kings Canyon, Shenandoah and Yosemite.

Virginia Tech economist Kevin Boyle, who has researched ozone in parks and was a peer reviewer for the study, said it provides "strong, suggestive evidence" that air pollution is changing people's behavior when planning a park visit. Boyle said follow-up research is needed to confirm the findings.

Tourists also cut visits short for other air quality problems, such as thick smoke from wildfires that was blanketing Yosemite National Park this week and led to health warnings.

Ozone concentrations nationwide have generally fallen since the Clean Air Act was amended in 1990 to address the problem, according to the U.S. Environmental Protection Agency.

Yet amounts still regularly exceed national guidelines, and the researchers determined that many national parks have pollution levels similar to New York or Los Angeles.

A comparison of ozone in parks to levels in the 20 most populous U.S. cities showed they were "statistically indistinguishable," according to the study.

At Sequoia National Park, about 200 miles north of Los Angeles, there have been more bad ozone days than in the city in all but two years since 1996, the study said.

Site work begins for opposed oil refinery

By BLAKE NICHOLSON
Associated Press

AP Photo/Beth J. Harpaz, File

This Sept. 2017 file photo shows bison grazing at Theodore Roosevelt National Park in Medora, N.D. A company began site work Monday for an oil refinery about 3 miles from the park in western North Dakota. Several environmental groups oppose the refinery, fearing it will impact the park's scenery.

BISMARCK, N.D. (AP) — Meridian Energy Group said Tuesday that it has begun site work for an oil refinery about 3 miles (5 kilometers) from Theodore Roosevelt National Park in western North Dakota, though the project still faces hurdles, including a lawsuit by environmental groups.

Meridian said it hired St. Paul, Minnesota-based SEH Design/Build Inc. to oversee such work as grading land, installing erosion control devices and developing storm water ponds. Work got underway Monday, according to company spokesman Adam Williams.

Construction of the $800 million Davis Refinery isn't planned until next year, with operations to start in 2020. It would be only the seventh oil refinery built in the U.S. in the last two decades, according to the U.S. Energy Information Administration. The project began five years ago.

"It is great to be finally beginning site work for Davis," Meridian CEO William Prentice said.

However, North Dakota Air Quality Director Terry O'Clair has said that Meridian is proceeding at its own risk in light of a lawsuit filed Thursday in state court by the National Parks Conservation Association, the Environmental Law and Policy Center and the Dakota Resource Council.

The groups fear pollution from the refinery will mar the park's scenery and erode the quality of the air breathed by wildlife and visitors. The park is the state's top tourist attraction, drawing more than 700,000 people annually.

Meridian maintains that the refinery with modern technology will be "the cleanest refinery on the planet" and a model for future refineries. Supporters also point to its potential impact on the economy, creating permanent jobs for 200 people in the area and generating millions of dollars in local property taxes each year.

The environmental groups are challenging a state air quality permit issued in June that allowed construction to proceed, asserting that the state Health Department erred when it concluded that the refinery wouldn't be a major source of pollution and wouldn't negatively impact the park. The lawsuit asks a judge to declare the permit invalid and send the case back to the Health Department for further review.

The review took 1 ½ years and generated more than 10,000 public comments, and O'Clair has said the state stands behind the conclusion. Williams on Tuesday said Meridian is "very confident in the thorough and meticulous 18-month review."

The refinery that would initially process about 27,500 barrels of oil daily faces other steps and potential roadblocks. It still needs state water and wastewater permits, though it can begin building before receiving them. It also will need to prove once it's built that it meets air quality standards.

The Environmental Law and Policy Center and the Dakota Resource Council in late June filed a complaint with North Dakota regulators requesting a study of the refinery's location. The complaint is pending before the Public Service Commission.

The Dakota Resource Council also is challenging in court the zoning permit that Meridian received from Billings County, saying in part that the permit has expired.

3 wolves killed in central Idaho

By KEITH RIDLER
Associated Press

BOISE, Idaho (AP) — Three wolves have been killed by federal authorities in central Idaho near Stanley, an action blasted by an environmental group.

The U.S. Department of Agriculture's Wildlife Services on Wednesday said it killed the wolves over several days earlier this month at the request of the Idaho Department of Fish and Game after confirming wolves killed six sheep.

The three wolves killed are in addition to the 46 wolves Wildlife Services said it has killed in Idaho this year through June 30, following 61 confirmed wolf kills of livestock. Those livestock kills included nine adult cows, 29 calves and 23 sheep, the federal agency said.

Western Watersheds Project decried the killing of the three wolves this month in the Sawtooth National Forest's Recreation Area, which it argues only allows livestock grazing if it doesn't "substantially impair" wildlife conservation.

"Wildlife Services, Idaho Fish and Game, and the Forest Service have time-and-time again shown that they care more about perpetuating economically marginal grazing operations than protecting native wildlife," Scott Lake, Idaho director of Western Watersheds Project, said in a statement.

Idaho Fish and Game manages wildlife in the state. Tom Curet, Idaho Fish and Game supervisor for the Salmon Region where the wolves were killed, said the agency asked Wildlife Services to take action after the federal agency confirmed wolves killed the sheep.

"In this case, it took killing several wolves before the rest of the pack backed off," he said Thursday. "They're not causing any problems right now."

He said the wolves were killed about 1.5 miles east of U.S. Highway 75, the main route through the Sawtooth Valley, and about 20 miles south of Stanley. He said it's believed the pack had five wolves before three of them were killed.

He said it's the first conflict with wolves and livestock in the basin this year. Wolves, he said, typically follow deer and elk to the high elevation valley that offers lush grass for grazing animals. That also makes it attractive for livestock producers.

BLOOMIN' BLUES

Photo by Bruce Barnes

Stemless Goldenweed, Stenotus acaulis

Stemless goldenweed is a rare Blues sight

By BRUCE BARNES
For The East Oregonian

Name: Stemless Goldenweed
Scientific name: *Stenotus acaulis*

This week's plant is quite similar to several others in appearance, and is also one I've only seen once. It's in the sunflower family, with bright yellow flowering heads. The plant is found in dry open places from middle to high mountain sites, from southern Canada to eastern Oregon, and east to Montana and south to California.

Although this is an attractive, showy plant when in bloom, the names are almost as interesting. The common name is misleading. The plant is not stemless at all, having stems that reach well above the leaves and can be seen easily for from a moving car 50 yards away. The name golden weed is accurate as far as the color, but the plant is definitely not a weed and not invasive.

Then there is the scientific name *Stenotus* for the genus. This name is probably from the Latin sten for narrow, referring to its very narrow linear leaves. In checking references for this article, I discovered there are two other similar genus names for some of the plants that look much like those in the *Stenotus* genus and are in the same family. This led me to look further.

These three genus names are anagrams, *Stenotus*, *Tonestus* and *Nestotus*, with each having the same letters. *Stenotus* was named in the late 1800s, *Tonestus* in the 1904, and *Nestotus* in 2005. I was unable to find any Latin root words to provide a basis for the last two names, and even if the second author was unaware of the anagram, I really suspect the third was selected as an intentional anagram, and the three coauthors who published the last name probably had some fun coming up with it. One of those three botanists, Lowell Urbatsch, wrote the descriptions of the several species in those three genera for a recent publication of California plants, in which he pointed out the anagram connection of the names.

The "Stemless" Goldenweed forms dense clusters of somewhat erect, linear leaves from the base of the plant or at the base of the stem. The stems are seldom over 6 inches high with a single head at the top of the stem or rarely 2-3 heads at the top. Each head has 5-15 ray petals around the outer rim, each petal a part of a separate complete flower, with the petal about a quarter to half inch long. The center of the head has 17 to 40 tiny yellow-orange flowers.

Where to find: This should normally be blooming in open meadows south of Pilot Rock, beyond the top of Yellowjacket Road, which is the only place I have found it. Unfortunately that area is already dried up and the meadows even at 5,000 feet elevation are tinder dry.