

# Feds plan to roll back sage grouse protections

By Henry Brean, Las Vegas Review-Journal

The Interior Department released revised planning documents last week formalizing the Trump administration's push to relax protections for the greater sage grouse in Nevada and 10 other states.

Interior officials said the six draft resource management plan amendments – including one that covers both Nevada and a portion of northeastern California – would give states more flexibility to administer conservation efforts to protect the threatened bird without hindering economic development.

**Read the whole story**

---

## Full moon nature hike on South Shore

In partnership with the U.S. Forest Service, Tahoe Institute for Natural Science will be hosting monthly full moon hikes from May through August.

Take a walk under the silver moonlight in search for creatures of the night and uncover the mysteries of the night sky.

The May 30 event will be on the South Shore from 7:30-9:30pm.

TINS naturalists will explore the secrets of Tahoe's nocturnal natural history. The first hour will include a hike around the

Rainbow Trail at Taylor Creek Visitor Center in search of animals that inhabit the water, sky, and ground while learning about their strategies to thrive in the darkness. For the second hour, the group head down the beach at lake's edge to view celestial objects in the night sky.

Register **online**.

---

## **Running event to benefit TY&FS**

Tahoe Youth & Family Services' inaugural 5k Fun Run will be June 9 starting at 8am during Carson Valley Days.

The theme of Carson Valley Days this year is Fun in the Great Outdoors, and the fun run will carry this theme as well. Participants who choose to come dressed in the theme have a chance to win prizes.

Cost is \$30 for adults, \$10 for 17 and younger. The deadline to **sign up online** is June 8. There will be a chance to register the morning of the run, but fees go up \$5.

All proceeds go to help the nonprofit with mentoring programs.

---

## **Tahoe Cup paddleboard race**

# series on North Shore

Officially the longest running paddle race series in the Lake Tahoe region, the Tahoe Cup Paddle Race celebrates its 11th anniversary this year with four events scheduled between May and September.

The series offers the recreational paddler and the race enthusiast an opportunity to participate in SUP, prone paddleboard or OC1 class races on Lake Tahoe.

All four events will take place on Lake Tahoe, with events scheduled on May 26, July 21, Aug. 25 and Sept. 15. Register **online**.

Proceeds will benefit the nonprofit Lake Tahoe Waterman Association, an organization dedicated to preserving the California Tahoe Conservancy land that provides public access to Lake Tahoe in Carnelian Bay. LTWA also works to educate the public on the value of non-motorized paddle sports. Beginning this year, the Tahoe Cup Paddle Race Series will be the primary fundraising mechanism for the Lake Tahoe Waterman Association.

---

## State releases Washoe Meadows Park enviro documents

With the **lawsuit** involving Washoe Meadows State Park favoring the plaintiffs, the state agency is moving forward with a plan to reconfigure the Upper Truckee River where it runs through the South Shore park.

While Washoe Meadows Community won the lawsuit, the documents and actions needed for closure are not yet all resolved in the court.

The latest proposal has Lake Tahoe Golf Course being reduced by 19 acres. Five holes would be moved out of the floodplain into less sensitive land.

This project would restore approximately two miles of the river through Washoe Meadows State Park and Lake Valley State Recreation Area.

It remains to be seen if this “volume six” of the environmental document will satisfy the group that successfully sued the state.

In the Washoe Meadows Community email sent out this week it states, “In our last email we noted that the first Appellate Court of Appeal issued an order to set aside the State Parks approval of the project to move up to nine holes of a golf course into Washoe Meadows State Park. Though State Parks appealed to the California Supreme Court, in January that court declined to hear the case. The matter was then sent back to the original court to finalize the remaining documents needed to close the case. In a stunningly awkward move, State Parks has proposed a new project even while the court has not specified the actions required for compliance with their ruling. Even more surprising, State Parks has attempted to limit public comment to a narrow band of topics regarding this newly proposed project. Washoe Meadows Community’s attorneys are reviewing State Parks’ actions since it is not clear if their actions are in compliance with the law.”

Comments on the draft of the preferred alternative and additional environmental analysis are due June 15. The document is **online**; scroll to El Dorado County. For more information, email [utproject@parks.ca.gov](mailto:utproject@parks.ca.gov).

– *Lake Tahoe News staff report*

---

# **Burn permits available through CalFire**

Residential burn permits are now required for residents in the Amador-El Dorado Unit of CalFire.

The free permits are valid for three years from the date of issuance and allow for the burning of dry landscape vegetation (not household trash) that originates from the landowners' property. Residential burn permit are available at most of the local staffed fire stations.

There should be a minimum of 10 feet of clear bare soil for every 4 foot by 4 foot pile.

The use of burn barrels is no longer legal in Amador and El Dorado counties.

---

# **\$1M in federal funds to help with AIS at Tahoe**

The U.S. Army Corps of Engineers is providing \$1 million in funding to the Tahoe Regional Planning Agency to help control, prevent, and monitor harmful aquatic invasive species in the lake.

This is the second such agreement of federal investment for

AIS in the Lake Tahoe Basin that the Corps has executed. The first agreement in 2008 with the California Tahoe Conservancy helped establish the boat inspection program.

The new agreement will provide funding for prevention, control and monitor existing populations, education, outreach, and research.

TRPA said funding will help with challenges in the Tahoe Keys, Ski Run Marina and at Sand Harbor State Park.

---

# The bike share oversupply

By Alan Taylor, The Atlantic

Last year, bike sharing took off in China, with dozens of bike-share companies quickly flooding city streets with millions of brightly colored rental bicycles.

However, the rapid growth vastly outpaced immediate demand and overwhelmed Chinese cities, where infrastructure and regulations were not prepared to handle a sudden flood of millions of shared bicycles.

Riders would park bikes anywhere, or just abandon them, resulting in bicycles piling up and blocking already-crowded streets and pathways.

**Read the whole story**

---

# Nitrogen from rock could fuel more plant growth

By Benjamin Z. Houlton, *The Conversation*

Nitrogen is one of the most important resources for people, ecosystems and the planet. It's found in all sorts of essential molecules, including DNA, protein and cell walls. Life – and humanity – cannot exist without adequate access to this precious nutrient.

For many years, researchers believed that essentially all of the nitrogen in the world's natural plants and soils originated from the atmosphere, where it makes up about 78 percent of the air we breathe. But in a recent study, my colleagues Scott Morford, Randy Dahlgren and I discovered that up to a quarter of the planet's terrestrial nitrogen originates from weathering of bedrock.

As a global environmental scientist who has been studying nitrogen, climate and ecosystems for over a decade, I found this result surprising. And it has big implications for people and the planet. If there is more nitrogen available in Earth's system than scientists have thought, it could fuel extra photosynthesis by plants, increasing the rate at which they pull carbon pollution out of the atmosphere.

But this isn't a solution to climate change, contrary to what some prominent pundits have contended. Rock weathering is no magic answer: It simply does not supply nitrogen fast enough to radically slow warming over the next 100 years.

## Calculating Earth's nitrogen budget

Geologists have long known that there's a lot of nitrogen in rocks, but our study was the first to show that this nitrogen is released quickly enough to influence plant and soil

nutrient cycling on a global scale. Nitrogen inputs are critical to maintaining ecosystems because they lose a bit of nitrogen every year. Rain washes it out of soil, and bacteria convert it to gaseous forms that escape to the atmosphere. Without ongoing access to new nitrogen sources, plants eventually would stop growing and pulling carbon dioxide out of the air.

Our study used several different techniques to show that rocks are an important component of the planet's nitrogen cycle. In cases where weathering rates are high and sedimentary rocks contain a decent quantity of nitrogen, they actually provide more nitrogen than the atmosphere. We pulled together decades of data on where nitrogen exists – in the atmosphere, rocks, the ocean and Earth's mantle (the rock between its crust and its core), and used this information to build a picture of the planet's nitrogen budget.

This work revealed a critical role played by rock weathering. Many processes gradually break rocks down over time, including freezing and thawing, chemical reactions, and impacts of living organisms such as lichens and tree roots. Weathering releases nitrogen, replenishing nitrogen that continental erosion carries to the ocean over millions of years.

This initial finding was supported by a suite of classic geochemical models, evidence built from our global rock nitrogen inventory, and a new global computer model that we created for this study.

Until now researchers had assumed that the atmosphere was the main source of nitrogen for Earth's ecosystems. But they also had trouble explaining how so much nitrogen accumulated in ecosystems if it came solely from the atmosphere.

We identified bedrock as the source of this "missing nitrogen" by showing that rock weathering could help to meet nitrogen demand from plants and animals. In mountainous regions and

areas with moist climates, where rocks are exposed and tend to weather quickly, we estimate that rock weathering doubles the amount of nitrogen that enters natural ecosystems.

## **Nourishing the carbon cycle**

What does this mean for the carbon cycle and global climate change? Several computer simulations have shown that nitrogen affects carbon storage in a way that could substantially alter the amount of global warming that occurs in this century. Our past work showed that ecosystems living on nitrogen-rich bedrock contained twice as much carbon in their soils and trees as those on nitrogen-poor bedrock. The nitrogen in the rock was feeding the ecosystem, allowing plants to accumulate more biomass than sites without much rock nitrogen weathering.

But rock nitrogen has always been a part of the planet, even if we weren't terribly mindful of it. Our study makes explicit a process that is already affecting the planet's carbon cycle. And it helps explain how plants and soils have absorbed roughly 30 percent of carbon emissions from human activities, even though nutrient constraints on plant growth are widespread.

Globally, ecosystems still derive more nitrogen from the air than from rocks. Nonetheless, our findings may help make global climate models more precise and resolve some puzzling observations at higher latitudes, which tend to hold more nitrogen in rocks. For example, boreal forest zones in northern Canada and Eurasia are storing carbon at a level higher than many scientists would have predicted, and are greening in response to climate change. We expect these regions may have high levels of nitrogen from rock weathering.

## **Rock nitrogen won't save us from climate change**

Some pundits have argued that our work shows scientists don't have a firm grasp of such issues as global climate change. This view is wrong.

Our study highlights a role for rocks in supplying nitrogen to terrestrial ecosystems. It challenges a paradigm that was established as far back as the late 1800s, but this doesn't make us doubt the scientific process. Instead, we recognize that questions must always drive our thinking – for example, “I wonder whether rock nitrogen matters to the planet?”

Others have misinterpreted our work as evidence that the risk of extreme climate change has been overblown. For example, conservative commentator Rush Limbaugh opined, “It's a scientific report that carbon dioxide, CO<sub>2</sub>, that which causes the greenhouse effect, is much, much, much less impactful than anybody knew.”

Wrong again. Our study said no such thing, and it does not imply that curbing global climate change is less urgent. Rock nitrogen can help fertilize the carbon cycle, but there is not enough of it to stop the rapid pace of global climate change. That will require aggressively cutting greenhouse gas emissions and creating technologies that can remove carbon from the atmosphere at a large scale over the next few decades.

Climate models consistently show that nature will not save us. We have to save ourselves – although rocks may provide us with a bit more cushion than we previously knew.

*Benjamin Z. Houlton is a professor of global environmental studies, chancellor's fellow and director, John Muir Institute of the Environment, UC Davis.*

---

# Sierra meadow restoration: Where to start?

**By Julie Fair, American Rivers**

Over the last decade, momentum for restoring Sierra Nevada meadows has been building. The State of California and the U.S. Forest Service have both increasingly recognized the benefits of meadow restoration for California watersheds and are now committed to meadow restoration. Healthy meadows provide a suite of benefits including improved groundwater storage, enhanced water quality, reduced peak flood flows, and critical habitat.

However, with an estimated 50 percent of the 191,000 acres of meadow in the Sierra (Sierra Meadows Strategy, 2016) degraded by human impacts, it is difficult to know where to start. To address this, in 2010, American Rivers partnered with UC Davis and the U.S. Forest Service to develop the Meadow Condition Scorecard, a rapid assessment method to quickly assess overall meadow condition and help identify meadows in need of restoration.

**Read the whole story**