

# MOAB SUN NEWS

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COMMUNITY

## Moabites march in support of reproductive rights

The march took place on July 4



[Alison Harford/Moab Sun News]

By RACHEL FIXSEN  
*Moab Sun News*

Over 100 Moabites spent part of their 4th of July holiday marching through downtown in support of reproductive rights, responding to the Supreme Court's recent decision to overturn the landmark case Roe V. Wade, which protected the right to abortion in 1973.

"I've heard that protesting is the

best way to celebrate patriotism," said Britt Zale, one of the organizers of the march. In the wake of the court's decision, she said, she didn't feel much like celebrating Independence Day in the traditional way, with a cookout or picnic.

Zale is part of an emerging group of Moabites who feel compelled to take action and make their views known on bodily autonomy and reproductive rights. During a few informal meet-

ings and sign-making parties, the group organized the 4th of July protest, but they also talked about how to continue advocating and directing their energy to support their cause into the future.

"I think a lot of people are feeling very frustrated and angry and want to take action," Zale said. "One of our priorities is identifying resources that are available."

See **Protest** Page 10

CRIME

## Pregnancy center vandalized

By RACHEL FIXSEN  
*Moab Sun News*

Arches New Hope Pregnancy Center opened its doors on 400 East in 2004, offering pregnancy counseling, adoption information, and education on parenting and abstinence.

"Our purpose is to provide compassionate help through no cost education, along with spiritual, physical, and emotional resources to women, men, and families in our community as they make important decisions and take actions during a pregnancy and long after," reads a recently updated mission statement from the organization. Their website also adds, "We never advise, provide, or refer for abortion or abortifacients. Arches New Hope does not provide contraceptives."

Paula Radcliffe is the director of Arches New Hope. She got a text from a friend on July 5 with photos of blue and black paint splattering the exterior walls and windows of the center.

Someone had already contacted the police by the time Radcliffe got the text message. Officers examined the scene and investigated the incident, but there are no leads at this time.

"We're not so much worried about that," said Kyle VanArsdol, vice president of the board of Arches New Hope, meaning finding out who vandalized the building.

"Let's get it cleaned up and get back to business," Radcliffe agreed. "That's what's important."

See **Vandalism** Page 5

COMMUNITY

## La Sal's six-year-old sensation is ready to ride

Sierra Bull heads to the world's largest motocross race

By ALISON HARFORD  
*Moab Sun News*

La Sal resident Sierra Bull was leading the pack in a motocross race just weeks ago when she completely wiped out, losing her place. The six-year-old brushed herself off, hopped back on her bike, and reestablished her spot in the lead within a single lap.

"That's how driven she is," said her dad, Tron Bull, said. "It's kind of in her DNA. It doesn't matter if it's just bowls of cereal

on the table—she's gonna try to eat her bowl of cereal before you, and then say, 'I won.' Some kids are just that way."

Sierra recently qualified for the world's largest motocross race: the Monster Energy AMA Amateur National Motocross Championship (formerly known as the Loretta Lynn Amateur Championship), held in Tennessee in early August.

The race is considered the final stop for amateur motocross riders before they go pro—but



[Courtesy photo]

even if she wins the whole thing, Sierra still has a ways to go: after all, she's only six years old.

Motocross is essentially off-road motorcycling: riders compete by racing on natural or man-made terrains with hills, jumps, and tight turns. Skilled riders have the best risk assessment, Tron said: they know exactly how fast or how slow to take the obstacles, in order to finish first. Kids can start competing in races when they're four years old.

Motocross is in Sierra's blood,

Tron said. Her mom, Christine, was a motocross champion, and her two older siblings race. Tron and Christine never pushed their kids into the sport—they allowed the kids to decide just how much or how little they wanted to train and practice. Neither of Sierra's siblings loves the sport as much as she does.

What makes Sierra so skilled is seat time, Tron said.

"She's spent hundreds of hours on her bike," he said. "She's

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Seen Around Town

The Moab Rotary Club welcomed new leadership this month, with incoming president Steve Getz honoring Britta Kingsley, who has served as president of the local service organization for the last three years. “Britta pushed us to step up our game during the pandemic,” said Getz at Britta’s “Toast & Roast” party. “We fed folks laid off during the shutdown, helped the kids, and continued our scholarship programs.” For more information about the Moab Rotary Club, call Steve Getz at 702-379-1031. [Courtesy photo]



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Odd But True

**GORGOSAURUS TO BE AUCTIONED IN NYC**  
A T. rex cousin that roamed the earth about 76 million years ago will be auctioned in New York this month, Sotheby’s announced. The Gorgosaurus skeleton, the only known specimen in private hands, will highlight the auctioneer’s natural history sale. The Gorgosaurus lived in what is now the western United States and Canada 10 million years earlier than the T. rex. The Gorgosaurus being sold was discovered in 2018 in the Judith River Formation near Havre, Montana. The dinosaur is estimated to sell from \$5 million to \$8 million.

**WORLD WAR II-ERA BOAT EMERGES FROM SHRINKING LAKE MEAD**  
As water levels at southwestern reservoirs continue to plunge, sunken objects are emerging from the depths. At Lake Mead, a boat dating back to World War II is the latest to surface. The Higgins landing craft—about 1,500 of which were deployed at Normandy on D-Day in 1944—was used to survey the Colorado River, and was later sold to the Lake Mead Marina and sunk 185 feet below the surface. Now, the boat is nearly halfway out of the water.

**12-YEAR-OLD GIRL WRITES FANTASY SERIES**  
Ritaj Hussain Alhazmi has published three novels, with a fourth on the way, and she’s just 12 years old. The author from Saudi Arabia became a Guinness World Record holder, confirmed as the world’s youngest person to publish a book series. Alhazmi wrote her books in English when her family was traveling abroad. “Treasure of the Lost Sea” was published in 2019, with a sequel, “Portal of the Hidden World,” published the same year. The third book in the series, “Beyond the Future World,” followed in 2020. “I write for my fellow children,” said Alhamzi to reporters from UPI. “I realized there aren’t many novels for this age group, so I decided to create a few of my own.”

Best quote

“I think a lot of people are feeling very frustrated and angry and want to take action. One of our priorities is identifying resources that are available.”

BRITT ZALE,  
PAGE 1

News

PUBLIC SAFETY

Search and rescue responds to 3 remote calls in 24 hours



[Grand County Sheriff’s Office Search and Rescue]



[Grand County Sheriff’s Office Search and Rescue]

STAFF REPORT  
Moab Sun News

The Grand County Sheriff’s Office Search and Rescue team responded to three incidents in remote areas in just 24 hours last week, officials reported. On June 30, a woman from Idaho was on her very first mountain bike ride when she suffered an ankle injury on the Big Chief Trail at Dead Horse Point State Park. Search and Rescue responded along with Grand County EMS personnel, transporting the woman to an ambulance at the trailhead on a litter.

A 19-year-old man called for help that night after reaching a “treacherous point on the trail to Castleton Tower” where he felt he could not ascend or descend safely, a report states. First responders were able to find the wayward hiker and guide him down, wrapping up the call deep into the night. Early Friday afternoon, first responders hiked four miles from Highway 128 to attend to a mountain biker who suffered a shoulder injury on the Porcupine Rim Trail. While the injured biker required a helicopter from Classic Air Medical, the rest of the biker’s friends

were reportedly out of water and additional search and rescue members brought water as they descended the trail. SAR officials said the incident took nearly seven hours. “Safety Tip: All three incidents were in remote areas that take a considerable amount of time for rescuers to access,” a post from GCSAR noted. “Thoroughly research any planned trail. Be realistic about your capabilities. Make sure your fitness and skill level are appropriate if attempting rough trails in Moab’s harsh terrain, especially in the summer heat.”

Local

**BLM SCOPES MILL CANYON DINOSAUR TRACKSITE WALKWAY REPLACEMENT**  
The Bureau of Land Management is seeking public input on the environmental assessment to install a new walkway to replace the aging infrastructure at the Mill Canyon Dinosaur Tracksite. Public outcry halted construction on the project in late January, when local paleontologists raised red flags after seeing damage to tracks from heavy equipment. A BLM regional paleontologist conducted a paleontological assessment with recommendations for the BLM to move forward. “Work of any type would proceed only in the presence of a qualified paleontologist authorized to oversee the project,” a press release stated. Comments will be accepted until July 26 at <https://eplanning.blm.gov/eplanning-ui/project/2015048/510>.

**SCIENCE MOAB’S SCHOOL TO SCIENCE WINS GRANT**  
A local project which connects Grand County High School students with internships, job shadows, and field trips with local and visiting scientists was awarded a \$5k grant from the Rocky Mountain Power Foundation. Science Moab, a Moab Sun News media partner, accepted the award for its School to Science Program, which launched this year. “There are dozens more high schoolers and scientists hoping to participate next school year, and we have received requests to expand the program beyond Grand County,” commented Program Director Carrie Schwartz. “There are exciting things to come!”

Regional

**STATE WANTS INFO ON RURAL TRANSPORTATION NEEDS**  
The Utah Department of Transportation is asking for ideas for addressing transportation needs as part of the state’s Long-Range Rural Transportation Plan for rural areas throughout Utah. “A variety of rural state roads in need of transportation improvements have been identified, and the public is invited to share their ideas to solve these needs,” a press release stated. Possibilities include adding travel or passing lanes, improving intersections, adding bike lanes or sidewalks, providing transit service, increasing signage, extending paved trails and more. The public is encouraged to visit the project website at [www.publicinput.com/udotplanning](http://www.publicinput.com/udotplanning).



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# Local Government

PAGE FOUR

The Grand County Commission meets on the first and third Tuesday of every month at 4 p.m. Meetings are streamed online at the Grand County Youtube channel. Schedules, agendas and opportunities for public comment can be found at [www.grandcountyutah.net](http://www.grandcountyutah.net). Residents can email [commission@grandcountyutah.net](mailto:commission@grandcountyutah.net) to automatically reach each County Commission member, the commission administrator, the associate commission administrator, and the county attorney.

### LOCAL GOVERNMENT

## Commission meeting notes

By RACHEL FIXSEN

Moab Sun News

The Grand County Commission held an exceptionally short meeting—about 25 minutes—on July 5. The body unanimously approved the certified property tax rates, which are determined based on the previous year's tax revenues. The commission also approved the final plat of a minor subdivision, and approved a finding of no significant impact required by the Department of Housing and Urban Development to release grant money to the Housing Authority of Southeastern Utah to proceed with a project in the Arroyo Crossing affordable housing subdivision.

The commission also unanimously approved a letter to the Bureau of Land Management, requesting that the agency con-

sider expanding existing nighttime closures of off-road routes in the Sand Flats Recreation Area, with the hope of reducing noise impacts.

"We understand that BLM has already restricted nighttime use on some SFRA routes in order to reduce noise impacts at campgrounds, and that this past decision was relatively uncontroversial," the letter says. "We believe it would be equally uncontroversial to build on this precedent, and that further nighttime restrictions on motorized trails would go a long way to alleviate much of the noise pollution that takes place during sleeping hours."

"The letter to the BLM is just asking them to consider the designations—it isn't actually requesting much action at this point," Commissioner Evan Clapper noted before the vote.

After the short regular meeting, the commission reconvened for a special meeting to canvass the election results of the June 28 Republican Primary.

"The purpose of this canvass is to confirm that each valid vote is included in the official results," explained Grand County Clerk/Auditor Gabe Woytek. He gave a detailed account of how ballot counters conducted their task—how they separate ballots from envelopes to preserve privacy, check signatures, and follow up with voters if there's a question about the validity of a signature. Woytek also emphasized that the computers used to tabulate votes are secure and are not connected to the internet.

Grand County Republicans voted for Senator Mike Lee and Representative John Curtis.

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[Rachel Fixsen/Moab Sun News]

# Vandalism

Continued from Page 1

The owner of the property has contacted insurance agents who will determine an estimate for the damage. Board members expect the building will need to be repainted, and hope that the sidewalk and windows can be cleaned with a power washer.

Radcliffe said this is the first time something like this has happened at Arches New Hope since the center opened. However, since the overturn of *Roe v. Wade*—the landmark case that protected abortion rights—media have reported damage at pregnancy centers across the country. A pregnancy center in Cortez, Colorado was vandalized on the night of June 25.

Radcliffe emphasized that Arches New Hope is “not a threat to anyone,” and described how the center receives clients: First they offer free pregnancy tests, if a client hasn’t taken one. If the test is positive, they’ll discuss options, including parenting, adoption, and abortion.

“We talk about the pros and

cons of each one of those,” Radcliffe said, adding that while the center is explicitly pro-life, they don’t use scare tactics like showing graphic abortion videos. The client meeting room is private, warmly lit and furnished with comfortable chairs; shelves lining the walls are crowded with pamphlets, books and other media about pregnancy, birth and motherhood, as well as with bibles and spiritual literature.

“If she chooses to terminate, we understand it’s her choice. We would prefer a different choice,” Radcliffe said. “She’s always welcome to come back if she’s having any emotional issues with the abortion. We don’t just say, ‘Ok, it’s your choice, goodbye.’”

Arches New Hope offers video courses, which can be sent to clients to view at home, on pregnancy, birth, parenting for mothers and fathers, life and relationship skills, and bible studies. They also have a small “baby boutique” at the center where women can earn “points” for coming in or for completing classes, and use the points to “buy” baby clothes, toys and sup-

plies from the boutique. The center also has a relationship with the San Juan County Jail in Monticello, where some of the state inmates have learned to crochet, and send handmade afghans and animals to the center to give to new moms.

“They adopted us as their mission,” Radcliffe said.

Some of the afghans, as well as crocheted shawls, are sold as part of fundraisers. The center operates entirely on donations from community members and churches, and fundraising—they don’t receive any grants or government funding.

Radcliffe said the center can also offer support to clients beyond pregnancy, birth, and infancy—“whether that’s literature, letting her cry on our shoulder, sending her lessons, or directing her to other agencies in Moab.”

Radcliffe is grateful for the community’s response to the vandalism incident.

“We have had so many people in the community offering to help with the cleanup,” she said. “The outpouring of love in the community is just amazing.”

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## THE CONVERSATION

# Tour de France: How many calories will the winner burn?



Last year's winner, Tadej Pogačar. [Wikimedia Commons]

**By JOHN ERIC GOFF**  
*Professor of Physics,  
University of Lynchburg*

Imagine you begin pedaling from the start of Stage 17 of this year's Tour de France. First, you would bike approximately 70 miles with a gradual increase in elevation of around 1,300 feet. But you've yet to hit the fun part: the Hautes-Pyrénées mountains.

Over the next 40 miles, you would have to climb three mountain peaks with a net increase of a mile in elevation. On the fittest day of my life, I might not even be able to finish Stage 17 – much less do it in anything remotely close to the five hours or so the winner will take to finish the ride. And Stage 17 is just one of 21 stages that must be completed in the 23 days of the tour.

I am a sports physicist, and I've modeled the Tour de France for nearly two decades using terrain data – like what I described for Stage 17 – and the laws of physics. But I still cannot fathom the physical capabilities needed to complete the world's most famous bike race. Only an elite few humans are capable of completing a Tour de France stage in a time that's measured in hours instead of days.

The reason they're able to do what the rest of us can only dream of is that these athletes can produce enormous amounts of power. Power is the rate at which cyclists burn energy and the energy they burn comes from the food they eat. And over the course of the Tour de France, the winning cyclist will burn the equivalent of roughly 210 Big Macs.

## Cycling is a game of watts

To make a bicycle move, a Tour de France rider transfers energy from his muscles, through the bicycle and to the wheels that push back on the ground. The faster a rider can put out energy, the greater the power. This rate of energy transfer is often measured in watts. Tour de France cyclists are capable of generating enormous amounts of power for incredibly long periods of time compared to most people.

For about 20 minutes, a fit recreational cyclist can consistently put out 250 watts to 300 watts. Tour de France cyclists can produce over 400 watts for the same time period. These pros are even capable of hitting 1,000 watts for short bursts of time on a steep uphill – roughly enough power to run a microwave oven.

But not all of the energy a Tour de France cyclist puts into his bike gets turned into forward motion. Cyclists battle air resistance and frictional losses between their wheels and the road. They get help from gravity on downhill but they have to fight gravity while climbing.

I incorporate all of the physics associated with cyclist power output as well as the effects of gravity, air resistance and friction into my model. Using all that, I estimate that a typical Tour de France winner needs to put out an average of about 325 watts over the roughly 80 hours of the race. Recall that most recreational cyclists would be happy if they could produce 300 watts for just 20 minutes!

## Turning food into miles

So where do these cyclists get

all this energy from? Food, of course!

But your muscles, like any machine, can't convert 100% of food energy directly into energy output – muscles can be anywhere between 2% efficient when used for activities like swimming and 40% efficient in the heart. In my model, I use an average efficiency of 20%. Knowing this efficiency as well as the energy output needed to win the Tour de France, I can then estimate how much food the winning cyclist needs.

Top Tour de France cyclists who complete all 21 stages burn about 120,000 calories during the race – or an average of nearly 6,000 calories per stage. On some of the more difficult mountain stages – like this year's Stage 17 – racers will burn close to 8,000 calories. To make up for these huge energy losses, riders eat delectable treats such as jam rolls, energy bars and mouthwatering "jels" so they don't waste energy chewing.

Last year's winner, Tadej Pogacar, weighs only 146 pounds. Tour de France cyclists don't have much fat to burn for energy. They have to keep putting food energy into their bodies so they can put out energy at what seems like a superhuman rate. So this year, while watching a stage of the Tour de France, note how many times the cyclists eat – now you know the reason for all that snacking.

*This article was previously published by The Conversation ([www.theconversation.com](http://www.theconversation.com)), which connects scientists and journalists to tell better stories.*



Motocross

Continued from Page 1

probably logged more hours by the time she was five years old than a lot of people do in their whole life. She would come home from daycare and go ride her bike for two or three hours.”

Tron built her a track in their yard in La Sal where Sierra could practice. If she messes up in a race—like when she wiped out on the jump in New Mexico—she’ll practice the movement hundreds of times in a row on the track, Tron said.

“Sierra will go train herself,” he said. “For practice, she’ll ride around in circles all day—she’ll pick something out and work on it until she’s perfected it.

“It’s kind of in her DNA. It doesn’t matter if it’s just bowls of cereal on the table—she’s gonna try to eat her bowl of cereal before you, and then say, ‘I won.’”

TRON BULL

There’s not much of a motocross community in La Sal, Tron said. Ideally, Sierra would be racing every weekend. But races are far—at least a five- or six-hour drive—and expensive. To qualify for the national championship, Sierra competed in races in Washington, California, and Utah over the course of six months. Some of her competitors at the championship will be kids who race year-round, go to training camps, and spend thousands of dollars on bikes and coaches.

“I see a lot of kids with an extensive amount of training that just weren’t that good,” Tron said. “They didn’t have the mind-set of, ‘I’m going to push into this corner half a second longer to gain an advantage’—instead they’re like, ‘this is scary, I’m gonna back off.’”

And, most of her competitors

will be boys—motocross is still distinctly unpopular with girls.

“It’s unusual for a girl to be here,” Tron said. In all of Sierra and her sister’s races, they’ve only met a few other girls. Fellow motocross parents are always “shocked” to see Sierra, Tron said: first, because she’s a girl, and second, because she’s so good.

Sierra’s reason for liking motocross is simple. She likes to “jump all the jumps,” she said, her shy and quiet answer so at odds with her fiercely competitive attitude at races. Her teachers are always surprised when they find out about Sierra’s primary sport, Tron said. At school, Sierra keeps to herself mostly, but excels academically—she skipped kindergarten and is skipping second grade, too.

The national championship takes place August 1-6. There

will be professional scouts at the event, and while they won’t scout a six-year-old, they will pick out who to keep an eye on. Kids usually start getting seriously scouted in their teens, Tron said.

“That’s how they find out who the kids are,” Tron said. “They see who’s good enough that no matter what happens, is good enough to win anyway.”

The trip will be expensive, so the Bulls are fundraising with a lasagna dinner at the La Sal Community Center at 5 p.m. on July 9—Christine will make salad, garlic bread, and lasagna, for a suggested donation of \$15 per plate. The family is also accepting donations through Venmo @ SierraBullRacing; anyone else who wants to make a donation another way can contact Christine and Tron at secretislandllc@outlook.com.



Sierra Bull races almost every weekend. [Courtesy photo]



[Courtesy photo]

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# Opinion

PAGE EIGHT

## Opinion policy

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## VOICES

# Supreme Court curtails EPA's power to regulate pollution, sending a warning

By **PATRICK PARENTEAU**  
*Professor of Law, Vermont Law School*

In a highly anticipated but not unexpected 6-3 decision, the Supreme Court ruled on June 30, 2022, that the Obama administration's Clean Power Plan exceeded the U.S. Environmental Protection Agency's authority under the Clean Air Act.

The ruling doesn't take away the EPA's power to regulate carbon emissions from power plants, but it makes federal action harder by requiring the agency to show that Congress has charged it to act, in an area where Congress has consistently failed to act.

The Clean Power Plan, the policy at the heart of the ruling, never took effect because the court blocked it in 2016, and the EPA now plans to develop a new policy instead. Nonetheless, the court went out of its way to strike it down in this case and reject the agency's interpretation of what the Clean Air Act permitted.

Having said what the EPA cannot do, the court gave no guidance on what the agency can do about this urgent problem. Beyond climate policy, the ruling poses serious questions about how the court will view other regulatory programs.

### Remaking the electricity sector

The Clean Power Plan would have set targets for each state to reduce carbon dioxide emissions from electric power plants. Utilities could meet these targets by improving efficiency at existing coal-fired power plants and by "generation shifting" — producing more power from natural gas and renewable sources like wind and solar.

In the EPA's view, this sector-wide shift to cleaner sources represented the "best system of emission reduction," a statutory term in the 1970 Clean Air Act. Coal companies and Republican-led states contended that the changes the agency envisioned exceeded its authority.

Chief Justice John Roberts framed the issue as a "major question," a doctrine that the court has invoked in only a handful of cases. It holds that agencies may not regulate on questions of "vast economic or political significance" without clear directions from Congress.

In my view, the Supreme

Court is using the major question doctrine to take on authority to decide what Congress meant, without regard to the agency's expert views or policy judgments.

### A rebuke to EPA

In one sense, the majority opinion is fairly narrow. As Roberts writes: "[T]he only interpretive question before us, and the only one we answer, is ... whether the 'best system of emission reduction' identified by EPA in the Clean Power Plan was within the authority" of section 111 (d) of the Clean Air Act. The majority's answer was no.

Citing its ruling in a 2014 air pollution case, the court said essentially that the majority found the EPA had proposed a sweeping national makeover of the electric power industry. Roberts characterized section 111 (d) as a "backwater" provision of the Clean Air Act that had never been used to adopt a rule as broad and with such "vast economic and political consequences" as the Clean Power Plan.

Although West Virginia and the others who sued argued that the EPA had no authority to regulate emissions "beyond the fenceline" of individual plants, the Court did not constrain the agency that tightly. Roberts also noted that the EPA's authority was not limited to plant-specific technological controls. This suggests that the court is leaving the door open for some regulation beyond the fenceline.

In a lengthy dissent, Justice Elena Kagan, joined by Justices Stephen Breyer and Sonia Sotomayor, argued that the text, context, history and purpose of the Clean Air Act supported the EPA's position.

"The Court appoints itself — instead of Congress or the expert agency — the decisionmaker on climate policy. I cannot think of many things more frightening," Kagan concluded.

### Putting regulators on notice

What can the EPA do now? Its options appear limited. The agency can require existing coal-fired plants to operate more efficiently, but that would extend the plants' useful lives, with negative effects on nearby communities from pollutants that the plants emit.

Theoretically, the EPA could

require every coal-fired power plant to install carbon capture and storage technology. This is the kind of technological control that the agency has long required for air pollution sources. But the costs, especially for retrofitting existing plants, are prohibitive, and utilities would surely challenge the technology as not "adequately demonstrated," as required by section 111 (d).

Another option would be to require retrofitting coal plants to allow co-firing with natural gas. But relying on natural gas brings its own problems.

Market conditions are shifting electricity production away from coal and toward cleaner, more cost-effective sources like wind and solar. Indeed, the Clean Power Plan's original goal of reducing the electric power sector's carbon emissions by 32% below 2005 levels by 2030 has already been exceeded. But this transition is not moving as quickly as climate science suggests is necessary to avoid catastrophic impacts from warming.

### Broader impacts

I expect this ruling to affect how the EPA and other regulatory agencies interpret laws that have been on the books for many years. Regulators may shy away from advancing policies that the court could view as marked departures from past interpretations and actions with big economic and political consequences.

For example, the Securities and Exchange Commission recently proposed a new rule to require publicly traded companies to provide more robust disclosure of the financial risks that climate change poses to their balance sheets. The agency is also moving to more vigorously police greenwashing by companies claiming to be committed to a net-zero carbon future.

In my view, it is clear that the U.S. has entered a new era of administrative law, with an activist court asserting its power to curtail what it perceives as the excesses of regulatory agencies, and not waiting for those agencies to complete their work.

*This article was previously published by The Conversation ([www.theconversation.com](http://www.theconversation.com)), which connects scientists and journalists to tell better stories.*



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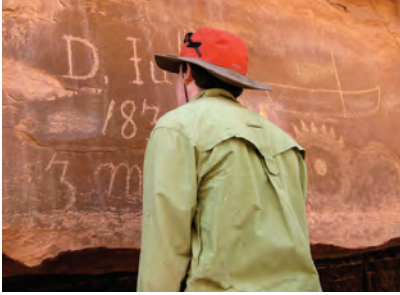
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CURIOUS KIDS

If plastic comes from oil and gas, which come originally from plants, why isn't it biodegradable?

By Yael Vodovotz

Professor of Food Science & Technology,  
The Ohio State University

To better understand why plastics don't biodegrade, let's start with how plastics are made and how biodegradation works.

Oil, also known as petroleum, is a fossil fuel. That means it's made from the remains of very old living organisms, such as algae, bacteria and plants. These organisms were buried deep underground for millions of years. There, heat and pressure turned them into fossil fuels.

Petroleum contains a lot of a chemical called propylene. To make plastic, refiners heat the propylene together with a catalyst, a substance that speeds up chemical reactions. This causes individual molecules of propylene to hook together like beads

on a string.

The chain is called a polymer, a large molecule made of many small molecules strung together. Its name, polypropylene, literally means "many propylenes." And the bonds between these molecules are super strong.

When something that is biodegradeable, like a cardboard box, breaks down, microorganisms that are present in nature break down and digest the polymers in it. They do this using enzymes, proteins that help speed up the breakdown of compounds such as lignin, a natural polymer found in plant tissues.

If oxygen is present, which usually means the microbes and the thing they are breaking down are exposed to air, the polymers will biodegrade completely. Eventually, all that's left will be carbon dioxide, water and other

biological material.

Oxygen is essential because it helps the microorganisms that degrade the material live longer. Biodegradation is usually fastest in hot, wet environments where there are enough microorganisms, like damp leaves on the ground in a warm tropical forest.

But polymers like polypropylene are not abundant in nature. The enzymes in the microorganisms that break down biodegradeable materials don't recognize the bonds that hold polymers together.

Eventually, the polymers in plastic waste may break down, perhaps after hundreds of thousands of years. When it takes such a long time, the damage is already done to the environment. Plastic trash can release harmful chemicals into soil and water, or break into tiny bits that animals eat.

In my laboratory, we're developing what we hope will be the plastics of the future – materials that work like regular plastic, but don't spoil the environment because they can degrade when people are done with them.

We work with bioplastics, materials that are made by tiny living bacteria. The bacteria make these substances for uses such as storing energy or protecting themselves from their surroundings. They can do this over and over, so we have lots of bioplastic to work with.

We blend these polymers with natural rubber, an abundant resource that comes from rubber plants, and with oil removed from waste grounds that are left over from making coffee. The rubber makes our bioplastic flexible, and we chemically modify the coffee ground oil to help make

the material flow in the industrial machines that we use to shape it.

Making bioplastics isn't cheap, because there is not enough of the different ingredients that go into making these materials, and it costs a lot of money to set up the equipment to make them. But when enough people want them, the price will come down. I hope that one day these new biodegradable materials will replace plastics made from fossil fuels.

*This article was previously published by The Conversation (www.theconversation.com), which connects scientists and journalists to tell better stories. Do you have a question you'd like an expert to answer? Send your question to CuriousKidsUS@theconversation.com. Please tell us your name, age and the city where you live.*





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The protest began at Swanny City Park. [Rachel Fixsen/Moab Sun News]



Protestors chanted in front of the Grand County building. [Rachel Fixsen/Moab Sun News]



Protestors circled the intersection of Main and Center. [Alison Harford/Moab Sun News]



Protestors chanted the phrase, “we will not give up the fight, abortion is a human right.” [Alison Harford/Moab Sun News]



[Alison Harford/Moab Sun News]



[Rachel Fixsen/Moab Sun News]

## Protest

*Continued from Page 1*

At the demonstration, some protesters carried signs with information on existing organizations that help people seeking abortions. Other signs invoked the late liberal Supreme Court Justice Ruth Bader Ginsburg; many said simply, “Abortion is a human right.”

“For me it’s not a political issue—it’s a human right,” Zale said. “This is a right that we took for granted.”

In addition to spreading information about organizations that help people seeking abortions, some in the group—which is for now loosely called the “Moab Full Freedom Coalition”—want to advocate on other issues that affect women, like maternity leave and childcare.

“All of us would also like to see better involvement in state politics,” Zale said. “There’s a lot more ramifications of a law like this.”

Trista Winder, another of the organizers of the march, also mentioned sex education as an issue the group is interested in.

Winder has lived in Moab for about a year and half—she and her husband

recently bought the cycling shop Bike Fiend. She feels strongly about the right to abortion.

“I myself had an abortion that saved my life,” she said. About ten years ago, she was 20 weeks pregnant when she was diagnosed with low amniotic fluid. There was no way the baby would survive, she was told, and her own life was in danger. She was able to have the procedure done at a Utah hospital.

Utah’s current law—as well as the “trigger law” that was meant to go into effect immediately following the Supreme Court decision, but is currently under an injunction—does allow abortions in cases where the life of the fetus or the mother is threatened. However, many women fear that even in these cases, restrictions will slow down decision-making during medical emergencies. And, many people view abortion as a valid choice outside of those parameters.

Winder noted that another important aspect of the group is to offer community and a platform for people to express their views.

“It’s important to remind women that they have a voice,” Winder said.

The rights and views of women are important to the group, but organizers

also emphasized that it’s inclusive.

“It’s not just for women,” said Faith Dickey, another organizer. “It’s for anyone this impacts.”

Marchers braved sweltering temperatures to gather at Swanny Park on Monday afternoon. Dickey gave a brief introduction and guidance on safety and courtesy before the group started across the lawn to the beat of a drummer near the front. Leaders prompted chants like “Hands off my body” and “Abortion is healthcare.” The streets were relatively quiet aside from the marchers, but some observers responded—diners waiting for a table outside of a restaurant clapped, some drivers honked in support, some bystanders had a negative reaction. The marchers filled sidewalks for several blocks as they made their way to the courthouse. A Moab City Police vehicle crawled alongside the string of people—the organizers had been in touch with the department about their plans ahead of time. The activists regrouped in front of the Grand County building to chant before returning to the park.

“I think it went great,” Dickey said after the demonstration. “We were all pretty stoked on the turnout and we’re looking forward to organizing more.”

For example, she envisions call-parties where group members gather and telephone politicians on specific issues.

Dickey and others in the group were dismayed, however, to learn that sometime on July 4 the Arches New Hope Pregnancy Center, a local crisis resource center, was vandalized. [See “Pregnancy center vandalized,” page 3.] Though the group disagrees with the center’s anti-abortion stance, Dickey said, they aren’t against the center.

“They do provide resources to people who need them,” Dickey said.

The vandal or vandals have not been identified at this time.

Organizers of the march all expressed a desire to act within the bounds of what’s legal, while still resisting what they see as the obstruction of a human right.

“Women aren’t just going to take this,” Zale said. “We’re protesting. We’re half the population—we’re not just going to let you take away our rights.” She added that while abortion might not direct men’s health directly, the issue certainly affects their lives.

“I’m never going to stop trying,” Winder said. “And the women and men that I’ve met—they’re never going to stop trying.”



# Community

PAGE TWELVE

SCIENCE MOAB

## Fabulous fungi

Science Moab talks to Catherine Gehring about how fungi can save plants from drought



SCIENCE MOAB



Many plants can thrive through drought and other stresses because of the fungi that grow alongside them. Science Moab spoke with Catherine Gehring, the Lucking Family professor at Northern Arizona University, who has been studying plant-associated fungi for more than 20 years. The Gehring Lab at NAU conducts research to understand the functioning of fungi and how they influence the natural world.

**Science Moab: Can you explain a bit about the relationships between fungi and plants?**

**Gehring:** There are many different kinds of fungi that associate with plants. We often think of the ones that cause disease, but there are many that live in association with plants. Some mycorrhizal fungi live in the soil and provide a link between plants, roots and the soil. They scavenge soil resources for plants in exchange for carbon and sometimes lipids. So that's described mostly as a mutually beneficial relationship.

There are other relationships that plants have with fungi that are called endophytes. They are less well described, but they're just fungi that live in plant tissues, but they don't cause disease. They might be beneficial, they might be beneficial only in some circumstances, and they might turn on the plant and act like a disease in some circumstances. My lab group focuses mostly on mycorrhizal fungi. But we also have some work on root endophytes that we're beginning to do because we see them all the time in our plant roots and we're curious about how they function.

**Science Moab: What sort of questions do you look at in your research?**

**Gehring:** In my lab, we look at three main questions, and one is to figure out what happens to these fungi when there's a fire, and how that influences if plants come back quickly. We also are interested in how plants and fungi interact with one another, including understanding whether the fungi are important in things like drought tolerance. The last big thing that we're interested in is, if fungi are reduced in abundance in a place, is that affecting the ability of plants to reestablish? And if we bring back miss-

ing fungi, does that help us bring back the plants too?

**Science Moab: Where do some of the fungi grow? Are they visible to the naked eye?**

**Gehring:** We call them all mycorrhizal fungi, but there are actually different types. For example, if I were to dig up the roots of a pinyon pine, I could see with a naked eye if there were mycorrhizal fungi there or not, which are called ectomycorrhizal fungi. We call it colonizing the roots. So the seedling grew into the soil and a fungal spore germinated and they contacted each other and made an association. They have an area where they exchange materials, so the fungus gets sugar from the plant and provides nitrogen to the plant in return. They have this interface that is microscopic, but as the association develops, the fungi morphologically change the roots. Instead of being long and skinny with root hairs, they turn into these little clubby root tips with a coating of fungal material instead.

**Science Moab: How are you analyzing the effect of fungi in drought scenarios?**

**Gehring:** One thing that we've done is look at a group of pinyon pines over time, starting before we had our first 100-year drought when we were in a wet cycle. We sampled what fungi were on this group of trees when things were wetter, and now we've done it several times when conditions are drier. We can see that the amount of fungal diversity has changed dramatically with drought. We also have what we call a common garden where we compare different kinds of drought-tolerant and drought-intolerant pinyons. We plant them together in the same place, so they have access to sort of the same fungi, then give them different amounts of water and look at how they grow and which fungi they have.

We do greenhouse experiments, too, to see what it's like without fungi at all, because we're going to have some kinds of fungi in most places. We manipulate how much water plants get so we can simulate drought. In doing experiments like that, we

figured out that the difference between a drought-tolerant and a drought-intolerant pinyon is really which mycorrhizal fungi they have. If you give them no mycorrhizal fungi at all, they respond similarly, but it's the different fungi that you give them that make the difference for that drought tolerance.

**Science Moab: What relationship do these fungi have with non-native species?**

**Gehring:** We study tamarisk, which has taken over a lot of our riverside habitat from native cottonwoods and willows. And here in its non-native range, it doesn't form mycorrhizal associations. After a long time of just having tamarisk, the fungi aren't there anymore. We've been studying and trying to document that. Some of my graduate students are trying to see if taking fungi from a native cottonwood-willow forest and putting it in one of these tamarisk-affected areas affects cottonwood or willow restoration. If you bring the fungus back, is it easier to bring the trees back? And we've found that it is.

**Science Moab: What do you do to use the fungi for restorations?**

**Gehring:** Generally, what we do is to take a thin layer of soil from the tamarisk setting, and find some intact cottonwood forests that have mycorrhizae and good-looking cottonwoods near the place that we want to restore. We take a thin layer of that soil, mix it with sand and other kinds of sterile soil, and grow some cottonwoods in there. We grow some other plants that we know form mycorrhizal associations. Then, we bulk it up so that we have bins filled with cottonwoods that have lots of mycorrhizae. Then as we're planting the cottonwoods for restoration, we just put a bit of that soil in when we're planting.

*Science Moab is a nonprofit dedicated to engaging community members and visitors with the science happening in Southeast Utah and the Colorado Plateau. To learn more and listen to the rest of this interview, visit [www.sciencemoab.org/radio](http://www.sciencemoab.org/radio).*

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COSMO'S CORNER

# Explore climbing history with the Chouinard Collection



Hello again, it is I, Cosmo the library cat, checking in from the top of the tallest bookshelf in the library. How did I get up here? I climbed, of course! From my carpeted cat tower in the staff room, to the library's courtyard wall, anyone who sees me in action is impressed with my climbing prowess. But did you know that I am not the only climber ever to visit the Grand County Public Library?

It turns out that climbers from all around the world visit Moab every year to tackle our red rocks, and many of these climbers stop in at the library. In fact, one very famous rock climber, Yvon Chouinard, visited some years ago and was so delighted that he donated his personal collection of climbing books and magazines to the library!

Yvon Chouinard is most



Yvon Chouinard  
[Tom Frost, CC BY-SA 3.0]

famous for founding the gear and clothing company Patagonia, but before that he was well known in climbing circles not only for his skills but his innovations in climbing equipment. He's credited with being a pioneer of "clean climbing," where climbers use special techniques and gear that don't damage rocks.

The Chouinard Collection features guides to climbing spots all over the world, numerous books about climbing and mountaineering, and magazines about—you guessed it, climbing—dating back to the 1970s. Though you can't check these books or magazines out of the library, you are welcome to come down and browse the shelves any time! To find the collection go past the circulation desk and turn left or just ask a librarian to direct you. Happy climbing!

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MOAB HISTORY

Downtown over time:  
Storefronts from Moab’s past

Today, Moab’s Main Street is lined with signs of our time: lots of eateries and shops selling T-shirts provide strong evidence of Moab’s tourism industry and culture. At different times in the past, businesses downtown have been very different and reflected their own era.

From the early days of Euro-American settlement in the Moab Valley to the uranium boom, thousands of businesses have come and gone, reflecting the changing needs and lifestyles of Moabites through time. Photographs from the Moab Museum’s collection offer a view back in time to different chapters of the community’s story.

*The Moab Museum is dedicated to sharing stories of the natural and human history of the Moab area. This is part of a series highlighting photographs and stories of downtown Moab over time. To explore more of Moab’s stories and artifacts, find out about upcoming programs, and become a Member, visit [www.moabmuseum.org](http://www.moabmuseum.org).*

M

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The First National Bank of Moab, on the corner of Center and Main Streets, was the first official bank that opened in Moab. Founded by the owners of the Cooper-Martin Store in 1916, the bank opened with \$50,000 in capital stock. The bank building also housed the Times-Independent newspaper, which was later moved to a new building as the bank grew. [Moab Museum Collection]



The Mokie Trading Post was one of Moab’s many early jewelry and tourist shops that grew up in the wake of the uranium boom. [Moab Museum Collection, 1963]



OBITUARY

# Nancy Bushey Wermuth

June 4, 1956 - June 29, 2022

Nancy Bushey Wermuth passed away from cancer on June 29, 2022, at her home in Moab, Utah at the age of 66. A private service will be held by her family to celebrate her life.

Nancy was born to Eugene and Jacqueline Seelye Bushey on June 4, 1956, in Milwaukee, Wisconsin. She attended Craig Elementary and John Marshall Junior High School in Milwaukee and graduated from Brookfield Central High School in Brookfield, Wisconsin, in 1974. She received her undergraduate education degree in 1978 and her speech-language pathology graduate degree in 1979 from Indiana University in Bloomington, Indiana.

During her 40-year career as a speech-language pathologist, Nancy provided communication science and disorders therapy services for children in early intervention and school-age programs in Minnesota, Georgia, Wisconsin, Colorado, and Utah, as well as supervising new speech-language pathologists. She was associate lecturer for graduate and undergraduate child language courses and the project manager for the



Learning to Talk Communication Sciences Lab at The Waisman Center at the University of Wisconsin-Madison.

Nancy is survived by her husband of 42 years, Robert Andrew Wermuth; her daughter, Betsy Wermuth, and grandson, Charles Robert, of Middleton, Wisconsin; her daughter, Alison Wermuth, and son-in-law, Simon Dick, of Denver, Colorado; and her son, Erik Wermuth of Washington, DC; as well as her brother, Greg Bushey, and sister-in-law, Michelle Kinscher Bushey, of Breckenridge, Colorado; her father-in-law, John Wermuth of Elm Grove,

Wisconsin; her in-laws, Bruce and Sherry Casady Wermuth of Grapevine, Texas; Douglas and Lisa Hoy Wermuth of Mequon, Wisconsin; Andrew and Laura Esterly Wermuth of Denver, Colorado; Marty and Ann Wermuth Robinson of Appleton, Wisconsin; and by nieces and nephews who make their homes throughout the world.

Nancy shared with her husband Robert a commitment to their professional and personal lives as global citizens, traveling, living internationally, and sharing interests in many cultures, music, languages, literature, and art. She had a special place in her heart for Switzerland, having lived and raised their young family there. She spent her free time gardening, hiking, snow-shoeing, cycling, seeking petroglyphs, and poring over maps to plan for the next adventure in our beautiful world.

To this end, Nancy asked that any memorials be directed to The Nature Conservancy (preserve.nature.org). *You may send condolences to the family at [www.spanishvalleymortuary.com](http://www.spanishvalleymortuary.com).*

OBITUARY

# Saundra Souza

March 28, 1954 - July 2, 2022

Loved and treasured by family and friends, Saundra Souza passed away unexpectedly on July 2, 2022, at St. Mary's Hospital in Grand Junction, Colorado. Saundra was born on March 28, 1954, to Harold (Buster) and Faye Townsend in Louisville, Kentucky. She spent most of her early years in Estancia, New Mexico, but moved to Laguna, where she graduated from high school. Saundra moved to Moab in 1995 where she resided ever since.

We have so many fond memories of Saundra. She was the first granddaughter on her mom's side. She had a love for music and shared her talent, not only with her family but with many others. Many hours were spent with family and friends singing her heart out! Saundra never needed a microphone. One of her favorites was singing "Valderie, Valderii," just to tease



her cousin, Valerie. Many of you may remember her dad, Buster Townsend, who played music at the senior center.

Saundra was a member of the First Baptist Church in Moab. She was also a member of the Order of the Eastern Star, where, again, she was loved by many who will remember her gracious loving spirit and especially her singing duets with her sister, Becky. Saundra was employed by

Moab Regional Hospital for 10 ½ years.

Saundra was preceded in death by her parents; her sister, Debbie Crager; and her nephew, John Charles Davidson. She is survived by her sons, Brian Valdez of Kansas and Michael Souza of Oregon; her sisters, Rebecca Day of Moab and Bobbi Jo (Don) Murphy of Puerto Rico; her nieces, Krystal, Chelsi, Cyndi and Allyson; her grandchildren, Ava and Jake Valdez, Gage, Cameron, and Astria Souza; her 8 great-nieces and nephews and 3 great-great-nieces and nephews.

At Saundra's request, cremation has taken place and a celebration of life will be held on Saturday, August 20 from 11 a.m. to 2 p.m. at the First Baptist Church of Moab (420 MiVida Drive). *You may send condolences to the family at [www.spanishvalleymortuary.com](http://www.spanishvalleymortuary.com).*

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DEATH NOTICE

# Deb Hiett

Deb Hiett, 68, passed away on July 5, 2022, at her home in Moab. Services are pending at this time. A full obituary will be in next week's edition of the paper.

DEATH NOTICE

# M Bryon Walston

M Bryon Walston passed away on July 5, 2022, at University of Utah Hospital. Services are pending at this time. A full obituary will be in next week's edition of the paper.

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PAGE SIXTEEN

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## Announcements

**Vehicle Bids**  
The Southeast Utah Health Department (SEUHD) is soliciting sealed bids for the purchase of the following vehicles and camp trailer owned by the SEUHD of Price, Utah. The minimum acceptable bids of the vehicles and camp trailer are as follows:

\$32,000 for 2021 Ram, Promaster City Van Passenger, white, 4 cylinder, 3,176 miles  
\$ 5,500 for 2013 Jeep Patriot Latitude 4 door, 4-cylinder, light blue, 77,000 miles  
\$ 9,000 for 2009 Gulf Stream Kingsport Travel Trailer (tongue pull)

Each bid shall have the name, address, phone number and email address of the bidder along with the purchase price that the bidder is willing to pay.

Bids must be submitted in a sealed envelope marked either "Vehicle Bid" or "Trailer Bid" to: SEUHD, PO Box 800 or delivered to 149 East 100 South, Price, UT 84501, or emailed to dpaletta@utah.gov and must be received no later than 5:00 p.m. on Tuesday, July 12, 2022. Bids will be opened on July 13, 2022, at 4:00 p.m., at the SEUHD, 149 E 100 South, Price, UT.

Each bidder agrees that the vehicles and camp trailer will be sold "as is." Faxed proposals will not be accepted. Additional questions should be addressed to Delia Paletta at (435) 636-1152 or dpaletta@utah.gov.

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## Services

**Pets**  
The Humane Society of Moab Valley celebrates 20 years of rescuing homeless pets and promoting and providing responsible care for our community animals. For information about available pets, spay/neuter clinics, free pet food or to donate, go to our website www.moabpets.org or call 435-259-4862.

## Help Wanted



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Calendar

Continued from Page 20

Park. He will discuss the geology of the greater Colorado Plateau area and the Island in the Sky district of Canyonlands, and how its unique geology led to uranium mining.  
5 p.m. at the Moab Information Center (25 E. Center St.)

Friday, July 15

**Free Movie**  
The Moab Summer Film Series will show “Inside Out,” an animated PG movie about emotions. Bring blankets and chairs, popcorn will be provided.  
8:30 p.m. at Swanny City Park (400 N. 100 W.)

Saturday, July 16

**Multi-Functional Perennial Polycultures workshop**  
Join local permaculture contractor Jeff Adams for an exploration of the role of multi-functional perennial plants to enhance your garden’s ecosystem services and harvests! Snacks will be provided by Moonflower. The event is free but accepts donations.  
9 a.m. to 11 a.m. at the Commu-niTea Garden (100 W. 165 N.)

Musical Story Hour

Musical Story Hour is a collaboration between the Moab Music Festival and Grand County Public Library, and is suitable for newborns through early elementary age kids. This month, join musicians and storytellers Glenn Sherrill and David Steward!  
10:30 a.m. at Swanny City Park (400 N. 100 W.)

Ongoing

Event details may change; check with the organizers before you go.

Zumba Alfresco

Zumba under the Pavilion at Old Spanish Trail Arena. Classes by donation. Fo more information, contact sandisnead@frontier.com.  
Tuesdays and Thursdays at 8:30 a.m. at the Old Spanish Trail Arena (3641 Highway 191, Moab)

Bluegrass Night

Quicksand Soup will play at the Backyard Theater. Free admission, outside food and drink are welcome.  
Wednesdays and Thursdays at 7 p.m. at the Backyard Theater (56 W. 100 S.)

Swing Dance Classes

Drop-in beginner swing dance class. No partner or experience necessary; masks and COVID-19 vaccination required. Donations accepted.  
Wednesdays at 7 p.m. at the MARC (111 E. 100 North)

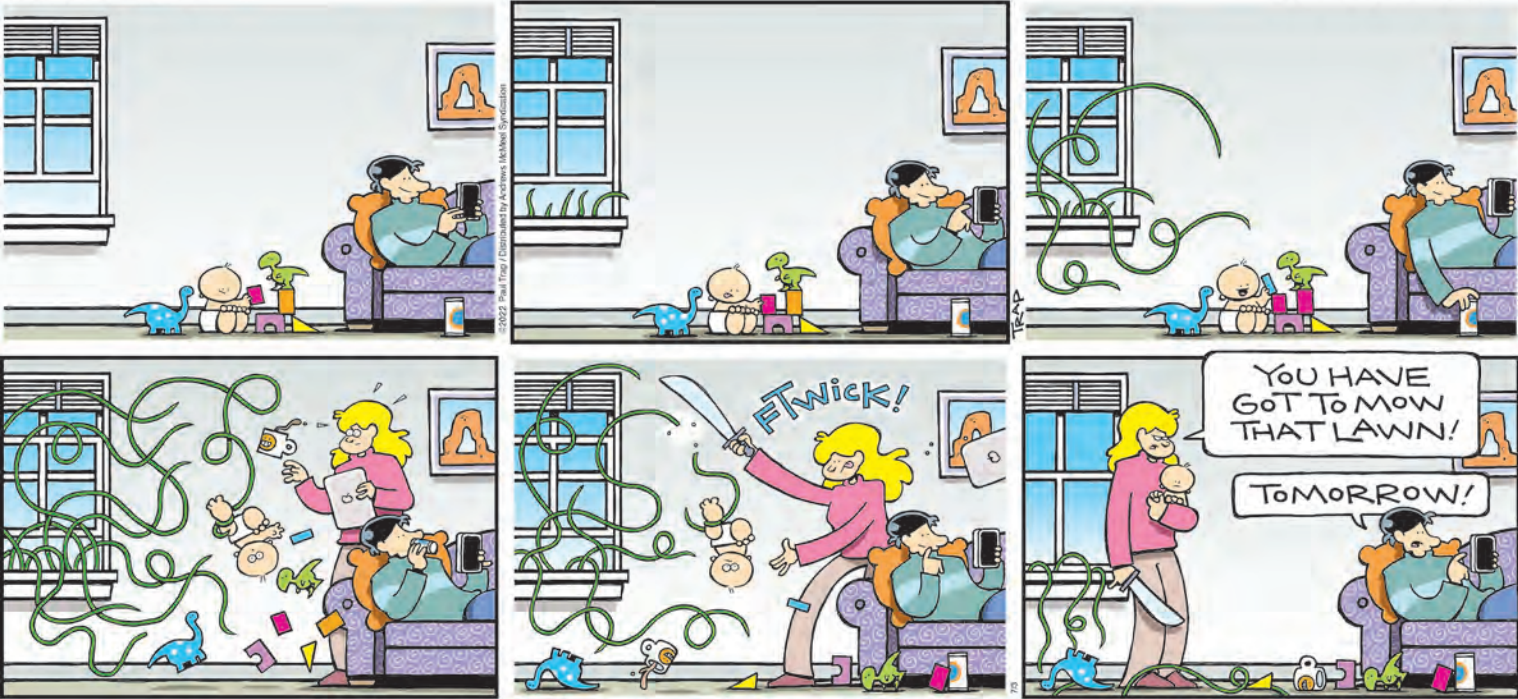
Moab Speaks

Practice public speaking and leadership skills with a welcoming group!  
First and third Wednesdays from 12 p.m. to 1 p.m. at the Bierschied Building (301 S. 400 E.)

Moab Community Yoga

Join local yoga teachers every Tuesday for community yoga! Suggested donation is \$5-10.  
Tuesdays from 6:30 p.m. to 7:30 p.m. at the MARC (111 E. 100 N.)

THATABABY



BY PAUL TRAP

		9		6	2	8	7	
7		3			1			6
		2				5		
1	8		7	2		3		9
3								8
2		6		1	3		5	7
		1				6		
4			6			1		5
	3	5	1	4		7		

Sudoku

Fill out each row, column and square with the numbers 1-9, without repeating any numbers within the row, column or square.

Difficulty rating of this puzzle: Beginner

Solution:

2	8	7	6	4	1	5	3	9
5	6	1	7	3	9	8	2	4
3	4	9	8	5	2	1	7	6
7	5	4	3	1	8	9	6	2
8	1	2	9	6	4	7	5	3
6	9	3	5	2	7	4	8	1
1	3	5	4	7	6	2	9	8
9	2	6	1	8	5	3	4	7
4	8	7	2	9	3	6	1	5

ACROSS

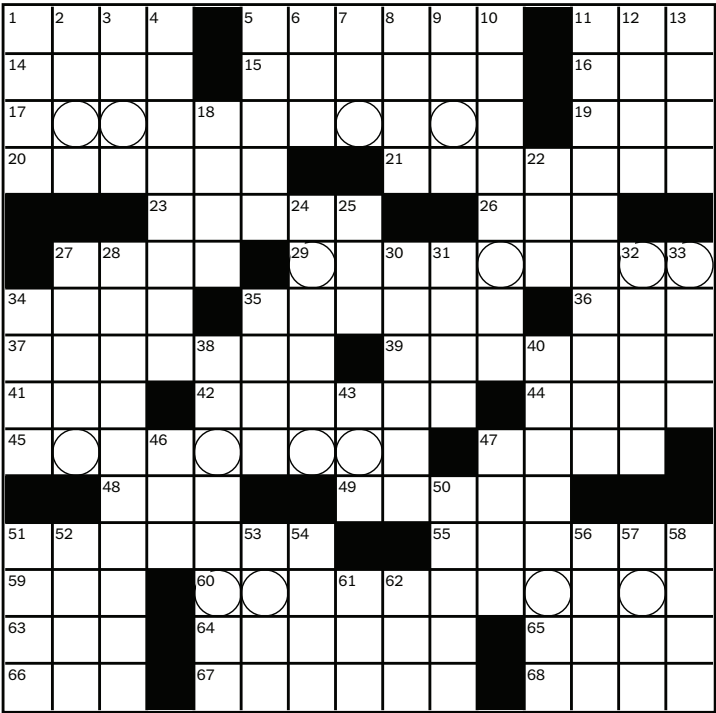
- 1 “Damn right!”
- 5 What a lizard’s tail can do
- 11 Word with snow or bank
- 14 Holiday trio, with “the”
- 15 Mark in the World Golf Hall of Fame
- 16 Kerfuffle
- 17 Info typically not found in the Yellow Pages
- 19 Become one
- 20 Like produce in the produce aisle, often
- 21 Washington post?
- 23 Surreptitiously say “26-Across,” say
- 26 See 23-Across
- 27 Railroad stops: Abbr.
- 29 Creative activity for grade schoolers
- 34 Neighbor of Sudan
- 35 Aspect
- 36 “Back to the Future” actress Thompson
- 37 Can type
- 39 Instinctive behavior for a mother-to-be
- 41 Arafat’s grp.
- 42 Writer Gay
- 44 Tiny salamanders
- 45 Reason to sleep with a night light
- 47 Spell-offs
- 48 Org. in “The Bourne Identity”
- 49 Positions
- 51 Full of noxious vapors
- 55 Pop singer Simpson
- 59 “Catch-22” character

DOWN

- 60 Prized possessions for numismatists
- 63 Prefix with century or sentence
- 64 Just one little bite
- 65 David Ortiz had 1,768 of them, for short
- 66 Jerk
- 67 Unknown people, in slang
- 68 Not yet completed

DOWN

- 1 Digital clock toggle
- 2 When doubled, seafood burger choice
- 3 Some causes of stubbornness
- 4 Switch maker
- 5 Sonata finale, often
- 6 Only living creature in the genus Dromaius
- 7 Little treasure
- 8 Broccoli \_\_\_\_
- 9 City near Provo Bay
- 10 Vintage military planes
- 11 Rescue tool at a crash site
- 12 Lines that lift
- 13 Main section of text
- 18 Some reef dwellers
- 22 Mathematician Lovelace
- 24 Rice dish infused with saffron



PUZZLE BY CHASE DITTRICH

- 25 Neighbor of Ire.
- 27 \_\_\_\_ life
- 28 The Hanged Man and The Chariot, for two
- 30 Scandinavian-inspired shoe brand
- 31 Language spoken in the Canadian Prairies
- 32 Farmer’s market sights
- 33 Droops
- 34 Guitar clamp
- 35 Shoulder’s place
- 38 Early vehicle that could take up to 30 minutes to start
- 40 One might be graphic
- 43 Screw up
- 46 What’s-\_\_\_\_-name
- 47 “Yours truly” alternative
- 50 Assaults, with “into”
- 51 Place to see a Matisse in N.Y.C.
- 52 Biometric scan identifier, maybe
- 53 Smidge
- 54 Rap’s Wu-Tang \_\_\_\_
- 56 Gray wolf
- 57 Children’s author Blyton
- 58 Italian for “it”
- 61 Psilocybin alternative, for short
- 62 W.W. II zone: Abbr.

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# Butterfly

Continued from Page 20

started the La Sal Butterfly Count in 2016 when he was working at Arches National Park. He worked the fee booth, which he said wasn't the most exciting job—to give himself more of a purpose, he said, he started cataloging butterflies in the region. As a child, he was always interested in insects, and butterflies most of all: not only are a butterfly's wings beautiful, they also make species very easy to identify, he said.

This year's butterfly count was one of the best-attended—Hannawacker partnered with Chris Quirin at the Canyon Country Discovery Center to recruit participants. While Hannawacker does keep track of the data, he said the primary goal of the butterfly count is to build a community of butterfly stewards.

"Ideally, once people learn and care about butterflies and moths more, hopefully, they'll be better stewards of the environment," he said. "They'll have better knowledge of what's out there, and know butterflies' needs."

The butterfly population of Southeast Utah is mostly unknown, Hannawacker said. He's the first person, to his knowledge, who is making an attempt to track and survey butterflies in this region. There was an expedition in the 1920s, he said, and a private survey done in the 90s, but as far as building a

database, Hannawacker's observations, and the data gathered during the butterfly count, are laying the groundwork.

Since the population is still unknown, conservation can be tricky. Hannawacker has observed a total of 122 species in the area, he said, each with its own set of ecosystem requirements. One species that he's specifically looking out for is the silverspot butterfly, an endangered species with two small populations in Utah: one in Grand County and one in San Juan County. The species has a handful of populations in southwest Colorado too.

"They're beautiful and rare, and they're a relic of the last Ice Age," Hannawacker said. "With the introduction of the Anthropocene—our diverting of water changing habitats, and overgrazing—most all of them are gone."

Hannawacker helped discover the population in San Juan County, he said. He wants to do more ecosystem and climate studies to see how climate change is further impacting butterfly populations—but to do that, he'd need decades' worth of data, he said.

"What I'm hoping is that I'm laying some baseline data down, that maybe will be helpful for people in the future," he said.

Butterfly populations are most easily observed in places with elevation change and creeks, Hannawacker said, because those are the places that have the most ecosystem



A margined white. [Robb Hannawacker]

overlap—places like the La Sal Mountains, the Book Cliffs, and the Abajo Mountains.

The butterfly data collection happens not only during the annual butterfly count—Hannawacker created a Facebook group a few years ago, "Butterflies and Moths of Southeast

Utah," which now has over 300 members.

He also utilizes the website iNaturalist, which allows people to upload photos of butterflies they see. If someone snaps a photo of a butterfly but they don't recognize the species, they can upload it to the site, where

Hannawacker or other members will help identify it. To date, the iNaturalist project has recorded over 2,000 observations in Grand and San Juan counties.

Anyone is welcome to join the Facebook group or post their observations to iNaturalist, Hannawacker said.



# NOW HIRING SPORT BROADCASTER

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The mural depicts a bighorn sheep. [Courtesy photo]



Wes Abarca spent five days painting the mural. [Courtesy photo]

Mural

Continued from Page 20

painting murals for schools, AirBnbs, and mural festivals. Now, he owns a business: Genesis Mural Co.

Abarca uses spray paint to create his art, a homage to his younger, more trouble-making years, he said. His style—bright and detailed, recalling stained-glass—was developed over the course of a year as an almost

compromise. He was painting a mural for a festival event and decided to use a graffiti style, to the dismay of the older generation, but the adoration of the younger. As he wondered how to appease both audiences, he remembered a trip he took to the Netherlands with his wife—both were entranced by the stained glass windows they saw in old churches.

He thought stained glass could be the answer to staying true to his medium, spray paint,

while also creating artwork that everyone could appreciate. At the following year’s event, he created a lighthouse, done in his now classic style.

“The older generation was loving it,” he said. “And the younger generation didn’t so much love the imagery, but they just loved the spray paint.”

Since then, Abarca’s mural painting has taken him all over the country. He loves pursuing murals that he can create in his style, like the one he did for the

Four Corners Behavioral Health facility, but he also picks up jobs painting large logos or signs for schools and businesses. This summer, he’s planning trips to Indiana, California, and Arizona.

What’s so important about murals is that they’re “in your face,” Abarca said.

“You can’t ignore them,” he said. Artwork that’s in galleries might only be seen by people already interested in art—murals expose art to everyone, he said. Plus, his work puts him in

the public eye too: murals, especially those done in large public spaces, allow people to see the entire process of creating.

“Even if people don’t stop by, they’re just driving by on their way to work or wherever, they’re constantly seeing the process,” Abarca said. “That’s just something special.”

Abarca’s goal for the near future is to do more murals in Utah—he wants to give something back to the state he now calls home, he said.



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Email your picture to [moabsunnewseditor@gmail.com](mailto:moabsunnewseditor@gmail.com) by 5 p.m. Monday to be considered for publication! Include your name and contact information and a short photo caption explaining who is in the photo and when/where it was taken.



# Community&Events

THE SECOND FRONT PAGE

## Events Calendar

Events are free unless noted!  
Email event information to [moabsunnewseditor@gmail.com](mailto:moabsunnewseditor@gmail.com) to get on our calendar.

Friday, July 8

### Pop-Up ReStore

Stop by to shop or donate to Community Rebuilds' collection of gently used furniture, construction and landscaping supplies, and household appliances. 10 a.m. to 2 p.m. at Community Rebuilds (150 S. 200 E.)

### Moab Free Concert Series

Con Brio will play a free concert as part of the Moab Free Concert Series. The band is a seven-piece that plays energetic soul, psych-rock and fresh R&B. 6 p.m. to 8 p.m. at Swanny City Park (400 N. 100 W.)

Saturday, July 9

### Edible Education Cooking Class

Join Moonflower Co-op for a free cooking class for kids ages 8-11! Moonflower's Datura Deli staff will teach kids about natural foods, healthy eating, and basic cooking and baking skills. Sign up at [bit.ly/moonflowerkids](https://bit.ly/moonflowerkids) or in the store. 4 p.m. to 5 p.m. at Moonflower Co-op (39 E. 100 N.)

### Artist Reception

Meet and mingle with Emberly and Marsha Modine, the July guest and featured artists at Gallery Moab! 5 p.m. to 8 p.m. at Gallery Moab (59 S. Main St.)

Wednesday, July 13

### Weed N' Feed

Help weed the Youth Garden Project's garden, then enjoy a free garden-fresh meal prepared by volunteer chefs. 6 p.m. to 8 p.m. at the Youth Garden Project (530 S. 400 E.)

### Free Movie: Part One: "How to Change Your Mind"

A new documentary with Michael Pollan about what the science of psychedelics can teach us about consciousness, dying, addiction, depression and transcendence. Presented in two parts: the second part will screen on Wednesday, July 20. Free! Presented by Grand County Public Library. 6 p.m. in the Grand County Public Library Large Meeting Room (257 E. Center St.) Pt 1: Wednesday, July 13th @ 6 pm; Pt 2: Wednesday, July 20th @ 6 pm

Thursday, July 14

### Free Lecture: Geology of Canyonlands

Canyonlands Natural History Association and the Moab Museum present National Park Ranger and geologist Rhodes Smartt, who will take listeners on a journey through the geologic history of Canyonlands National See *Calendar* Page 17

SCIENCE

## Annual butterfly count finds 26 species in La Sals



A western tiger swallowtail. [Robb Hannawacker]



A Boisduval's blue. [Robb Hannawacker]

By ALISON HARFORD

Moab Sun News

Many Moab residents head to the La Sal Mountains during hot summer days, but recently a group headed up with a goal in mind: spot as many butterflies as possible.

On July 2, butterfly enthusiast Robb Hannawacker led the annual La Sal Moun-

tains butterfly count. The group spotted 26 species and the data will be sent to the North American Butterfly Association.

The most common species observed were the western clouded sulphur (19 spotted this year), a yellow butterfly; the orange sulphur (14), an orange butterfly; and the western tiger swal-

lowtail (14), a large butterfly with yellow and black stripes. The group also spotted a monarch, one of the most well-known butterflies in North America but one whose population has been steadily declining in recent years, according to the U.S. Fish and Wildlife Service.

Hannawacker said he

See *Butterfly* Page 18

ART

## Behind the scenes

Utah muralist Wes Abarca finishes a new mural at Four Corners Behavioral Health

By ALISON HARFORD

Moab Sun News

The Four Corners Behavioral Health facility has a new mural depicting a bighorn sheep in front of an arch, done in a stained-glass style unique to Utah artist Wes Abarca. Abarca spent almost a week in Moab painting the mural. He picked a bighorn sheep as the subject because he loves their story: the animals represent restoration, Abarca said, because of their endangered status and revival efforts.

"These clients are coming in to be restored, just like the bighorn sheep," he said. In his artist statement about the mural, Abarca wrote, "I desire that my mural will instill a sense of hope for the same thing in the lives of the clientele who see it, and also a sense of pride in the lives of those who carry on the good work there."

"Even if people don't stop by, they're just driving by on their way to work or wherever, they're constantly seeing the process. That's just something special."

WES ABARCA

Abarca and his family currently live in Vernal—they moved last October from California, where Abarca was working as an airline mechanic. When the COVID-19 pandemic started, Abarca lost his job with the airline and started running a teen center. The teen center's handball court was where Abarca started experimenting with murals: together with the teens attending the center, Abarca designed and painted his first official mural. His mural painting picked up quickly after that, and he found himself

See *Mural* Page 19



## MOAB REAL ESTATE

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