

Drought stunts grass growth in burn scar

Sagebrush growth encouraging

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Ongoing drought conditions have had varied impact on the landscape in and around the 175,000-acre House Draw fire burn scar.

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—Jaycie Arndt,
Northeast Wyoming
Invasive Grasses
Working Group
Coordinator

After one of Johnson County's largest wildfire events two summers ago, vegetation is still in the process of growing back as land managers continue to plant seed for native grasses and sagebrush.

Jaycie Arndt, Northeast Wyoming Invasive Grasses Working Group Coordinator and assistant research scientist with the University of Wyoming's Institute for Managing Annual Grasses Invading Natural Ecosystems, said in an interview that, burned or not, across the landscape, there is significantly lower vegetation produc-

tion generally due to dry conditions.

While a bit of June and early July rainfall helped

BURN SCAR

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Bulletin file photo

A tractor spreads sagebrush seed mix on areas impacted by the 2024 House Draw fire near Schoonover Road earlier this spring. Seeds planted this spring appeared to have germinated better than those planted in the spring of 2025.

Burn scar: Drought slows invasives

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some perennial, native grasses green up, it has not been enough to expel drought concerns, she said. The southern half of Johnson County is experiencing extreme drought, which is one step below the U.S. Drought Monitor's highest drought classification level. Northern Johnson County is in severe drought, one step below extreme, and the northwest corner of the county in the Bighorn Mountains is in moderate drought.

"The interesting part is, invasive annual grasses are not really a huge problem this year," Arndt said. "I think the lack of precipitation early on this spring actually kind of slowed down cheatgrass and Japanese brome. A lot of them seeded out really early or had pretty low productivity."

Invasive annual grasses have little, if any, forage value for livestock and wildlife, and they are also tinder for more wildfires. Cheatgrass is palatable for livestock in late fall or early spring when it is green, according to previous Bulletin reporting. Some invasives that are newer on the landscape in the region, including *Ventennata*, which is spreading in Johnson County, and *Medusahead*, which hasn't yet been identified in the county but has been documented in Sheridan County, have higher silica content and therefore cannot be grazed at all.

Drought conditions started this year with a record-low snowpack in Johnson County and throughout Wyoming and the West broadly. Last year, higher precipitation rates aided perennial grass recovery in the House Draw burn scar. Sagebrush recovery, on the other hand, had been less promising this time last year.

After the Johnson County Natural Habitat Restoration Team aerially spread sagebrush seed over the burn scar last spring, last summer's monitoring efforts yielded a few promising sagebrush sprouts but mostly not much re-establishment. The team attempted aerial seeding, as well as on-the-ground seeding in Greater Sage-Grouse nesting habitat.

This year, Arndt said, she is so far seeing more sagebrush growing in, which is somewhat unusual. Wildfire recovery is a yearslong process, so natural resources professionals are still waiting and seeing

Burn scar provides research opportunities

The burn scar, while a reminder of a difficult event for local producers and land managers, is also a prime wildfire research opportunity. Studies span across disciplines, including rangeland, wildlife and economics, said Jaycie Arndt, assistant research scientist with the University of Wyoming's Institute for Managing Annual Grasses Invading Natural Ecosystems based in Sheridan.

A graduate student in the IMAGINE program at Sheridan College is studying biomass clippings inside and outside of the House Draw fire burn scar to collect data on exactly how vegetation is growing back after a wildfire event. The University of Wyoming's Merkle Research Group studying movement ecology and conservation will follow 75 collared mule deer whose habitat is in and around the burn scar to determine how the animals are adjusting their utilization of the landscape. Arndt said that study will continue through 2028.

And the university's Department of Agricultural and Applied Economics is studying the fire's economic impacts.

"This is kind of a transition zone between true sagebrush steppe and the Great Plains," Arndt said. "Frankly, there hasn't been a fire like this for folks to see what recovery looks like in those grassland-sagebrush transition zones. So I think it's just a really cool opportunity to keep learning from it."

what grows in and what doesn't, she added.

"Nationwide, folks have a hard time getting sagebrush established, no matter what," she said.

"Usually, sagebrush seed viability is pretty low in the second year, so whatever grows in the first year is usually about all that you get long term. I don't know if it's because we had such a mild winter that some of them are actually able to emerge. It'll be interesting with the drought — and also pressure from wildlife and livestock — if that's going to impact the survival of those seedlings as well."

Clear Creek Conservation District Manager Zach Byram concurred. He said he saw "hundreds" of sagebrush that germinated this spring.

"The interesting thing about sagebrush is it typically isn't a very long-lived seed in the soil, so that's why we were disappointed after last year's lack of success," Byram said. "But it looks like the second year, for whatever reason, it looks better this spring than it did last spring."

The conservation district in northern Johnson County has headed up habitat restoration and monitoring projects on behalf of the county's habitat restoration team in the aftermath of the fire. Byram said that in spots where contractors have seeded as part of the grouse nesting habitat project, drought has been

detrimental so far for the germination process.

"It has everything to do with the warm, open winter and long, dry spring we've had," he said. "Up front, that doesn't look great, but the nice thing about the mix we did is it's a diverse native mix, so all it needs is some moisture this winter into spring next year to see germination."

Because of the drought conditions, the district determined it will suspend monitoring efforts this year and pick up again next year.

"We don't want to spend money to have monitoring done if they've completed a third of the plots and found zero," Byram said. "(Drought) is definitely impeding the projects we've started, especially the sage-grouse nesting habitat. If we would have had even a normal spring with the normal moisture amount we get, I have no doubt we'd have germination throughout. It's variables we have no control over, but the drought is most definitely affecting the restoration efforts we've started in the burn scar."

Byram said that he is optimistic that if the county comes out of drought conditions and receives normal amounts of moisture moving forward, land managers will start to see growth.

"Native seed can hang out in the ground for years," he said. "We just need to be patient."