



Impact of Drought is Far Reaching in Harney County

This year was hotter and drier for longer than usual

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by Lauren Brown

It was a hot, dry summer, and while it may have been nice for outdoor activities and events such as weddings and other get-togethers, those long, hot spells created extreme drought conditions for the majority of Harney County. This in turn negatively impacted hay production, rangeland health and cattle operations as well as wildlife and the area's waterways.

The National Drought Integrated Information System (NIDIS) is a multi-agency partnership that coordinates drought monitoring, forecasting, planning, and information at national, state, and local levels across the country. In 127 years of record keeping, this was the 20th driest year to date in Harney County. About 95 percent of the county experienced extreme drought, which is indicative of the following:

- Pastures are brown, hay yields are down and prices are up
- Producers are selling cattle
- Planting is delayed
- Wildfire activity is high
- Marshes are drying up, little water is available for waterfowl and wildlife
- Reservoirs and lakes are very low compared to normal; irrigation water is scarce



Hay production down

Tony Svejcar, a consultant for the Harney Basin Wetlands Collaborative and a retired rangeland scientist and research leader with the U.S. Department of Agriculture, said that in a normal year Harney County can reliably count on getting some precipitation in the months of March and/or April. However, that didn't happen this year. "We got a little bit in early March but there were long stretches in there where we got virtually nothing. And in April we got nothing. Those are pretty dependable months generally for us," he said.

Svejcar said that normally in the spring, the snowpack will melt providing a push of water to help flood irrigate the meadows. However, cold spring nights prevented the snowpack from melting. Svejcar noted that the meadows rely on that faster melt to spread the water evenly across the meadows. A slower melt means the water will stay in low-lying areas and ditches. "Those cold nights spread out the flow so what we did have, didn't do us as much good as it could have from the standpoint of runoff," he said.

In a drought, when plants don't get enough water, they don't put up seed heads to reproduce. While perennial plants such as those in the wet meadows don't need to put up seeds to reproduce, they simply don't grow as much as they should. As a result, hay production across Harney County was way down this summer.

Jack Southworth owns a ranch near Seneca and is a facilitator for the Harney County Forest Restoration Collaborative. He said almost everyone's hay production is down by at least half, and the summer forage production is down by half as well. "Ranchers in Harney County are having to come off summer range sooner than usual and many are already using fall forage for summer feed. Many ranchers are going to have to start feeding earlier than usual with smaller hay supplies to start with," he said. "We're seeing a doubling in the need for purchased hay in a year when hay production overall is down."

Mitch Baker, a Harney County rancher, has experienced that very thing. He got a quarter to a third of the amount of hay he normally produces and had to move cows around all summer as water sources dried up. Thanks to a few solar wells and some good springs, Baker never had to haul water to his cattle.



Pictured: Moving cattle near Little Stinkingwater Creek. Photo by Andi Harmon of LC Ranch Photography.

Baker was able to secure hay to buy so that he'll be able to feed his cows through the winter. "If I hadn't done that, it would be a serious problem for me. It's going to be an expensive one," he said. "I think we're going to make it because we're going to cull pretty hard on our main cattle herd and not keep a lot of replacement heifers as we have in the past. We're just trying to keep a manageable amount."

Many ranchers will be culling their herds this year according to Southworth. "It will be a good year to get rid of less productive and older cattle," he said. "Fortunately, for the time being at least, cattle prices are still pretty good but there will be a lot of cows going to market this fall throughout the West."

Svejcar said that the perennial plants in the wet meadows can withstand drought and will come back next year. "This year they just went dormant a whole lot sooner than we would have liked. It's not that they're not going to come back, but they really didn't have much of a chance to complete their life cycle, and so they didn't do all of the things that they normally would have done," he said.

Forests holding up so far

In evaluating forest health during a drought, Matthew Cawfield, District Silviculturist for Emigrant Creek Ranger District, said it is hard to tell yet what effect the drought will have. He noted that many of the areas he's visited show good signs of tree vigor with green trees that are retaining at least two years of needles across the vast majority of Emigrant Creek Ranger District. "Ponderosa pine is very well suited for dealing with drought conditions, however in this drought-stressed state it becomes more susceptible to the combined effects of other stressors like insects, disease and fire," he said.

While it may take years for trees to show stress from drought, the forest understory can change rapidly in response to precipitation or lack thereof. "The understory vegetation dries out in quick response to the lack of moisture. In the same token it also responds the fastest to pulses of moisture into the system, greening up and recovering," he said. This year, Cawfield said he saw the understory dry out much earlier than normal because of the lack of spring rains and said this might be the most notable effect of the drought on the forests. The dry understory has resulted in limited forage production for both wild game and range allotments alike.

"Currently, the situation does not look emergent, drastic, or outside the range of normal historical disturbance levels for our area," Cawfield said. "My hope is we don't have another average or below average winter."

Wildlife in search of water

Tom Segal, a biologist with the Oregon Department of Fish and Wildlife, said they won't know the true effects of the drought on game species until they conduct their counts this fall and next spring. However, he noted that the wildlife guzzlers he monitors are in rough shape. "Many of our guzzlers have gone dry or will be going dry in the next month," he said. However, they won't be hauling water to those guzzlers. "Wildlife are well adapted to dynamic systems and will find the remaining natural water sources on the landscape. There will just be more animals concentrated around those sources."

Rod Klus, Harney District Wildlife Biologist for the Oregon Department of Fish and Wildlife, said range conditions in the southern end of the county have declined so much that pronghorn counts are way down. "In places where we normally see 800 antelope, we saw 100, and range and water conditions were deteriorating so badly that more antelope have probably left since our surveys in July," Klus said.

To deal with the lack of pronghorn, ODFW offered hunters who drew tags in that area to give their tags back and have their preference points reinstated. "With those hunts down there, about 70 percent of the people opted to give their tags back," Klus said.

Klus said the upland birds such as sage grouse, chukars and quail seem to be doing all right thanks to the prevalence of grasshoppers this year. "There seems to be a pretty good grasshopper epidemic going on in places, and we expect that may be providing a good food source for a lot of those upland birds," he said. "In drier years, you expect upland bird production to be poor or maybe non-existent in this year of a drought, but it has been reasonable."

Birds opt out of nesting

The water birds, however, may have been more affected by the drought. "A lot of our water birds either didn't appear to nest this year or appeared unsuccessful," said Teresa Wicks, the Eastern Oregon Coordinator for the Portland Audubon Society.

For example, several Franklin's gull colonies can usually be found at the Malheur National Wildlife Refuge in the summer. Wicks said that because of the lack of water, there was only one noticeable colony of gulls on the refuge this year, which may be an indicator that they didn't nest because there wasn't enough water to support them.

Sandhill cranes are another example, said Wicks. Birds with longer lifespans, like cranes, can be more flexible in their breeding seasons. "If it seems like it's not going to be a good year for breeding, they sometimes just don't even attempt it," she said. "A lot of our cranes seemed to either delay when they were initiating nesting or didn't seem to try to nest at all this year."

Songbirds and passerines seemed to be less affected by the drought as long as they had food, Wicks said. While she has made observations this summer of the effect of the drought on birds, she won't know whether or not the drought had a huge impact until next year or the year after.

If the drought seriously impacts the wet meadows, which provide refueling habitat for migratory birds in the spring, Wicks said it could have serious implications for nesting productivity in the northern breeding grounds. "The stopover habitat that Malheur and the Harney Basin provide for migratory birds is a big part of what helps them have the energy to keep going north," she said. "It could be a really big problem if we don't get enough moisture this winter."



Malheur Lake shrinks in size

Malheur Lake can vary greatly in size from one year to the next. Last summer the lake encompassed about 48,000 acres. This year, Rebecca Pickle, an aquatic health technician working for the High Desert Partnership, said after a recent aerial tour, they estimated the size to be about 7,000 acres.

From the aerial flight, Pickle said the Silvies River, which normally feeds into Malheur Lake, appeared to be puddles and did not even reach the lake.

Projects examining lake turbidity and composition that were supposed to extend into August, had to end early because of the lack of water. Carp and trout radio-telemetry studies are still ongoing, but Pickle said she wasn't sure they would be able to retrieve some of the tagged carp that remained in the lake. She also noted that many of the tagged trout were nabbed by hungry birds.

The impact of the drought is less noticeable on the waterways higher up Steens Mountain, Pickle said. "There's still clean, pristine water. There's still redband trout up there," she said.

Climate change afoot

Living in the high desert, Harney County residents expect lots of sunshine and little rainfall in the summers. However, the recent dry pattern suggests that there may be change on a larger scale brewing.

"We're beginning to see the cumulative effects of several dry years in a row," said rancher Southworth. "Springs for stock water are drying up. Creeks that are normally perennial are quite low and sometimes just a series of puddles. When you dig a three-foot posthole, the ground is just dry all the way to the bottom."

He said that most ranchers have been able to persevere up until now, but he warns that another dry year like this might result in serious repercussions. "We have seen dry years before and dealt with them. This time, though, climate change does seem to be entering into the equation. Not only is it hot and dry, it is hotter and drier and for a longer period of time than we've seen in the past," he said.

He believes ranchers will have to adapt to the changing climate and work hard to leave residual forage behind to help cover soils to reduce evaporation in order to better conserve the moisture. "These are challenging times but that is what we as land and cattle managers are here for, to do the best we can despite the challenges that confront us," he said.

This article is provided by High Desert Partnership; a Harney County nonprofit convening and supporting six collaboratives including the Harney Basin Wetlands Collaborative, the Harney County Forest Restoration Collaborative and the Harney County Wildfire Collaborative.

