



# Ever Changing Conditions Force Ranchers, Wildlife to Adapt in the Harney Basin

From drought one year to flooding the next, the swings of Mother Nature present challenges for those who live in the basin.

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by Lauren Brown



The last few years of drought have been hard on hay producers in the Harney Basin. That's why this year, a healthy snowpack and a wet spring, has been a welcome change.

However, such wild swings from one year to the next can make it hard for ranchers to predict how the weather will affect their operations. The varied weather can also make it hard for wildlife and birds as it affects forage quality and nesting habitat.

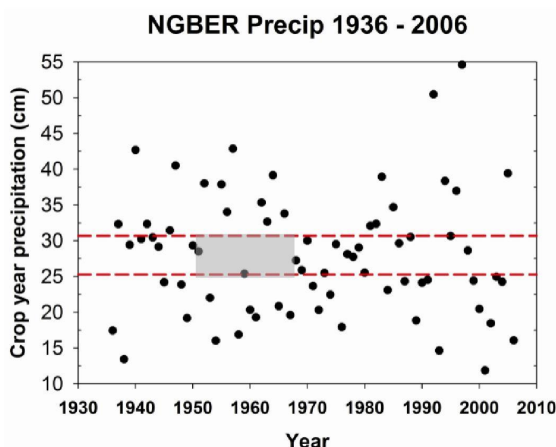
## Feast or famine

"This is the feast or famine conditions we have now," said rancher Keith Baltzor. "We have enough moisture for three years or we have hardly enough for two weeks. It's the way it is."

*Pictured: Livestock morning feeding in a Harney Basin wet meadow, photo by Brandon McMullen.*

Baltzor lives near Burns and runs cattle. He also has some meadow properties that produce hay. He said, normally, adapting to one dry year is doable if the ranch is set up

properly. "You might have to cut numbers and sell a few cows depending on what the uplands look like," he said. He noted that his operation also tries to stay at least half a year ahead on hay stored under a tarp to feed cattle if needed. "When you get back-to-back drought years or three in a row, that's what makes it really tough," he said. "The hay prices go through the roof, and you don't have any reserves."



Tony Svejcar, a retired rangeland scientist and a participant in the Harney Basin Wetlands Collaborative, said that from looking at the data, there is no normal in the Harney Basin as far as precipitation and snowpack are concerned. In looking at a graph of precipitation in the Northern Great Basin Experimental Range dating back to 1930, the data is literally all over the place. While the normal range of precipitation varies from about 9.8 to 11.8 inches per year, very few data points actually fall within that range. The outlier data points both high and low seem to dominate the graph. "It's not like we just have the occasional oddball year, a significant portion of them would fall in that category," Svejcar said.

*In this figure the black dots represent the amount of precipitation for each crop year from October 1 to September 30 from 1936 - 2006 for the Northern Great Basin Experimental Range west of Riley, OR. The red lines represent + or - 10% of the mean. Mean is the "average" number; found by adding all data points and dividing by the number of data points. The gray box shows a 15-year period where no years fell within 10% of the mean.*

Svejcar noted that snowpacks have been declining in the west since the 1950s, with rainfall amounts on the increase. Rainfall numbers are much harder to predict, Svejcar said that the timing of the moisture in the spring can be critical. "If you have good conditions in the uplands that doesn't necessarily mean good conditions for the flood meadows," he said. Last year, the uplands received rainfall in April and May, the critical period for rainfall in the spring, which resulted in decent conditions. However, snowpack numbers were low so the flood-irrigated meadows that rely on that spring flush of water from the Silvies River didn't get as much water and didn't do as well.

Trying to gauge what a water year will look like from a snowpack is easier than trying to predict rainfall. Svejcar said that dealing with one year of drought, where there is lower snowpack and less rainfall, is manageable for most ranchers. Most people can plan for that. "But what happens when you get three years in a row like that? That creates some real hardships," he said.

### Managing a ranching operation

For ranchers, the weather is always a factor. "They look outside, and they look at what the weather is going to be like for the next 14 days," said Melissa Petschauer, the coordinator for the Harney Basin Wetlands Collaborative. While the snowpack is important, ranchers don't always know when it will get warm enough for the snow to melt and get to where it will impact their operation.

Petschauer said that's why the High Desert Partnership and the Harney Basin Wetlands Collaborative is such a valuable resource. Collaborative meetings bring ranchers and scientists together. "We get to talk with people about what we're seeing with science but we're also talking with ranchers who live and work the land every day," she said. Ranchers often see things a bit differently than what the numbers might be suggesting. "That cross communication is really important because if you're looking at one and not the other, you could be missing out on opportunities on how you're moving your water around," she said.



Mitch Baker, a rancher who operates near Burns, said his operation doesn't have the hay ground necessary to feed his cattle, so he must buy hay to supplement his feed. During dry years, he said it's important to acquire hay early on. "We have to always think ahead of what's going on for the year. Last year, we knew it was going to be a dry year the year before, so we started looking to buy our hay early in the year," he said. Even if the weather changes and there is more water, it is beneficial to have it stockpiled for later.

*Pictured: Mitch Baker cutting hay July 2020.*

Rancher Baltzor said that after so many drought years in a row, he now tries to sit on two years' worth of hay stored in a shed or under a tarp.

"That's our back up for the dry time," he said. Hay does degrade in quality over time, which is why he said it is also important to have cattle on a free-choice mineral package year-round. "That's one way you counter that," he said.

This year is one of the outlier water years, where there is plenty of water to go around. As a result, Baltzor said his operation pulled boards and slide gates earlier than usual to let water flow back in the river. With cooler nights and days, he also noticed that the water was not evaporating as quickly as it normally does. He believes this will result in a delay to the hay

season. "The issue we will have this year is we're going to be relatively late putting up the bulk of grass hay. That can affect the protein content and the overall quality of the hay," he said.

While the water has helped the hay grow, it can be inconvenient if it rains on hay that is cut and ready to be baled. Baker said this will be a year where it will be hard to put up what isn't wet.

### **A lot of snow**

The healthy snowpack created a nice flush of water for the rivers and meadows this year, but the winter snow also created some hardships for ranchers and birds alike.

"It was one of those years the winter started about a month early and it went a month late," Baker said. On his ranch, they were wading through feet of snow. He rationed hay to make sure he could feed his cows through the winter, but as temperatures dipped, he increased the feed to help his cows maintain their body condition. The cold weather also had a negative effect on calving. They lost some to the cold and had to deal with frozen ears, tails, and feet.

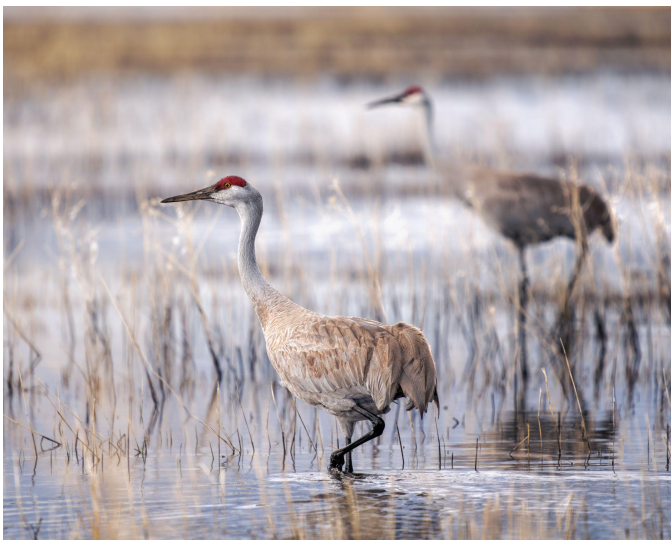
The deep snow also made it difficult for wildlife near his ranch to forage for food. He noticed a lot of deer kills from coyotes and cougars.

As the deep snow took a while to melt off, migrating birds also had to adapt to snow covered meadows. Baltzor noticed that the birds would congregate on his feeding grounds, taking advantage of the grain and seeds in the feed.

Teresa Wicks, Eastern Oregon Field Coordinator with the Audubon Society of Portland, noted that the Eastern Oregon Agricultural Research Station plowed a large section of one of their fields. "That's where almost all the cranes were -- in the plowed sections of their fields at first," she said. While snow covered many of the lakes and bodies of water in the basin, pintail ducks managed to find patches of melted snow to forage in.

Wicks said that there were more snow geese and Ross' geese in Malheur County near Ontario and Vale this year. Some biologists theorized that because there was so much snow in the Silvies floodplain, there was less foraging material for the birds and perhaps that is why they moved on to Malheur County.

Petschauer said that changes in temperature, weather patterns and water availability will affect the food availability, habitat and whether birds will reproduce later in the season. "They have the ability to get up and go, unlike ranchers here, but they also have to adapt to how things have changed," she said.



Wicks said that some species of birds are more adaptable than others. Sandhill cranes, for example, can delay nesting until conditions are more ideal. White-faced ibis will relocate to where the water is more prevalent rather than nesting in the same place each year.

*Pictured: Sandhill cranes walking through a flood irrigated wet meadow, photo by Brandon McMullen.*

However, since the 1980s, the conditions have been more variable with wider swings between high and low water years. "That increased variability that's driven by over pumping of water and less water coming into the system and whatnot, the birds won't necessarily adapt to that year to year," Wicks said. "If they're going to adapt to the predicted climatic conditions in the basin, it's going to take more than a generation of birds to do that."

Wicks said that where wildlife is concerned, there are always winners and losers in any condition. "Conditions that most closely mimic natural ecological processes are the best for the largest suite of species," she said. In the Harney Basin that

means the greatest number of bird species can benefit from having a variety of habitats including semi-permanent wetlands, shallow flood-irrigated meadows, open water, and uplands with an abundant amount of forbes.

Because ideal conditions rarely exist, ranchers and wildlife alike are forced to adapt to the swings in weather and water.

Rancher Baker takes a pragmatic approach to ranching the ever-changing conditions of the Harney Basin. "We are always looking ahead and watching," he said. "We can't predict what Mother Nature is going to do so we just kind of adapt to what Mother Nature is doing."

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

