

Bar X Ranch

:: Central Arizona ::



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Introduction

Mike and Diane Hemovich own Bar X Ranch, a 55,000-acre cattle operation that relies primarily on Tonto National Forest lands for grazing. They use Angus bulls and Hereford cows to produce black baldy calves, which are sold as yearlings.

Ranch inventory

- **Precipitation:** Average of 22 inches per year, about half of which falls during summer monsoon season.
- **Range:** 14 pastures with a north-south orientation. Rolling hills of pinyon pine, juniper, and gramma grasses in the south, and ponderosa pines and various grasses in the north. Elevation ranges from 5,000 to 7,000 feet.
- **Additional feed sources:** Mineral and protein blocks, but no additional hay or forage.

Strategies for preparing for drought

- **Short- and long-term planning:** Hemovich's long term plan focuses on drought and ensures multiple water sources and adequate water storage with wells and trick tanks. A trick tank captures precipitation which is stored in a covered tank to minimize evaporation and maintain water quality. In his short-term plan, Hemovich identifies the immediate actions he will take in response to drought. *"...we know where we're going to get out of that pasture should [it] run out of drinking water for the cattle."*

- **Rotational grazing:** Cattle are moved through pastures during the year and from year to year. In one year, Hemovich grazes cattle on the east side of his ranch moving from south to north, and in the next, he migrates cattle south on the west side of the ranch.

Critical dates and target conditions

- **Jan. 1:** Public lands ranchers work with their federal land management agency to develop the annual operating instructions (AOI) that dictate how an allotment will be grazed and managed. Hemovich compiles vegetation and precipitation data from the previous year and meets with a Forest Service range specialist to agree on AOI terms.
- **May 1:** Hemovich checks the 14 rain gauges on the ranch to determine winter cumulative precipitation from Nov. 1 to May 1. The rain gauge is a clear plastic pipe glued to a yardstick that is easy to read from horseback or an all-terrain vehicle. The precipitation readings are entered into MyRAINge Log (myrain-gelog.arizona.edu).
- **Sept. 15:** In mid-September, Hemovich spends about 5 days



monitoring vegetation production and composition which informs the grazing rotation schedule.

- **Nov. 1:** Hemovich checks the rain gauges again to determine cumulative summer precipitation (May 1 to Nov. 1) and adds the readings to MyRAINge Log.

Monitoring drought

- Hemovich uses the U.S. Drought Monitor (droughtmonitor.unl.edu) and the Standardized Precipitation Index (SPI) to monitor drought, in addition to data from the pasture rain gauges. *"I'm looking at the SPI because that gives me a good view as to what's happening locally but it's also the data that the Forest Service uses. If that SPI gets down to -1, they are going to be thinking of making some decisions on their part about my cattle."* He also monitors vegetation conditions such as ground cover and species frequency. Additionally, Hemovich relies on personal experience to track drought. During a drought in 2018, Hemovich determined that although his range looked healthy, it was lacking sufficient biomass to support his cattle.

Strategies during drought

- **Change rotation schedule:** Rotate cattle more frequently, which gives the grass time to recuperate, even with limited rainfall.
- **Build water infrastructure:** Each pasture has multiple sources of water including dirt tanks, trick tanks, pipelines, and storage. *"We've worked for 15 years on this ranch, and we've never had to haul water."*
- **Low stocking rates and culling:** While his grazing permit allows for more than 500 cattle, Hemovich

stocks about 250 to lessen the impact on pastures. If necessary, he culls older or less productive cows.

Strategies for recovering from drought

- **Build redundancy:** *"...for every pasture that I use, I want another one in reserve."* Most pastures receive at least a full year of rest, allowing for plant regrowth to occur when drought conditions ease.

Lessons learned during drought

- **Be proactive:** *"You have to get ahead of the drought before the drought comes if you're going to successfully survive that drought."*
- **Plan for the hard times:** *"Don't ranch right to the edge. Don't push the envelope."*

Some general recommendations

- **Build partnerships.** Collaborating with local organizations and agencies can increase the feasibility of various ranch projects for drought planning and rangeland integrity. *"We could not afford...all of these infrastructure projects by ourselves. We've worked with Arizona Game and Fish because every water project we build helps the wildlife. The Arizona Department of Energy helped us change a lot of our wells from fossil fuel and generators to solar power [too]."*

Read the full case study at:

drought.unl.edu/ranchplan/WriteaPlan/SampleDroughtPlans.aspx