

## Learning from livestock producers: Coping with environmental and economic uncertainty

*Summary of findings from listening sessions hosted by SageCon*

Ranchers make decisions in contexts characterized by both environmental and economic uncertainty. In eastern Oregon, widely fluctuating annual precipitation, drought, and frequent wildfire yields unpredictable forage quantities from year to year. As a result, some years ranchers face tough tactical and operational decisions, which can have long-term consequences for rangeland resilience and rural economies.

The SageCon Partnership's Grazing Flexibility for Range Resilience Workgroup sought to understand ranchers' experiences responding to fluctuations in forage availability and to identify potential information, tools, or policy changes that may improve eastern Oregon livestock producers' abilities to adapt to changing conditions.

### Objectives

Three objectives were developed to address these needs:

1. Understand rancher perspectives on the conditions that contribute to fluctuating forage availability
2. Explore how ranchers adapt to these conditions; identify options for improved responses
3. Inform SageCon's efforts to advance tools and programs to increase flexibility for rangeland resilience

### Approach

The Grazing Flexibility Workgroup hosted five listening sessions between December 2021 and August 2022 with 19 livestock producers from communities in Harney, Lake, Crook, and Baker Counties. Participants were invited to share their knowledge and experiences with facilitators and to brainstorm and react to options for responding to drought, wildfire, or other uncertain conditions. These facilitated discussions aimed to provide an opportunity for ranchers to describe in their own words the challenges and potential solutions they associate with environmental and economic uncertainty.

### Findings

All producers primarily rely on experiential knowledge to inform their operational planning. Many reported basing their plans on the preceding year's productivity and then adjusting as the growing season progresses using environmental indicators, such as timing of precipitation and plant phenology. Few producers reported using formal decision support tools to forecast forage production. A majority of participants stated that they prefer to receive information through word-of-mouth from family, neighbors, or other trusted sources.

Common challenges participants associate with livestock production and forage availability were:

- Logistics of rapidly responding to variability: For most producers, it is financially and/or logistically difficult to modify the structure of a livestock operation in response to one or two years that depart from average conditions (e.g., changes in type, herd numbers, or rotation). Importantly, the effects of back-to-back "bad years" compound. For example, several participants shared that in dry years they rely more heavily on forage grown on private pastures, potentially affecting long-term rangeland health.
- Forage shortages are regionally concentrated: Following particularly dry and/or active fire years in which multiple producers look to source additional hay or pasture, producers described regional competition for a very limited supply of alternative forage, "*Every blade of grass is spoken for,*" (Lake County participant).

- Livestock water availability limits forage use: Water availability was the most commonly cited limitation to forage use, regardless of productivity. More than half of participants reported hauling water once or twice daily, requiring labor, personnel, and large fuel expenditures. Producers described not necessarily being able to fully use authorized forage on federal allotments because of limited distribution of troughs or access routes for hauling water.
- Social uncertainty: All listening sessions included at least one reference to pressures participants perceive from groups opposed to livestock grazing. These pressures were tied to concerns about the long-term viability of their operation, transformation of ranching communities, and/or the loss of values associated with ranching (e.g., open space, wildlife habitat).

**In a dry, below-average production year:** operations must absorb the costs, e.g., purchase of supplemental feed or lower livestock weight gains.

**In a wet, above-average year:** operations may be unable to quickly capitalize on abundant forage, e.g., by increasing herd size or installing infrastructure to improve utilization in novel areas.

These tactics were commonly identified as options for adapting to below- or above-average forage production:

Forage productivity	Adaptation tactic	Description and limitations
Below average	Shorter grazing rotation	Livestock graze pastures for shorter durations; at end of grazing rotation, livestock remain on private pasture longer and/or require more hay
	Earlier weaning	Separate calves from cows because dry cows require less feed; limited forage may last longer but calves are lighter
	Use forage stockpile or feed hay	Feed hay or ungrazed pasture from previous year; may take longer to reach or recover good body condition, may require supplementation. Hay may be difficult to source; expensive
	Dormant season grazing	Graze pasture in fall/winter (i.e., perennial grasses are dormant, less susceptible to harm); potentially useful for controlling invasive annual grasses. Requires supplementation, must be authorized, not logistically feasible for all operations.
	Cull or destock	Reduce herd numbers (e.g., yearlings); compounds losses over time, takes time to rebuild
Above average	Rest pastures/stockpile standing forage	Save forage for below-average years and improve rangeland health; potentially decreases forage quality, increases fire risk
	Conserve hay	Feed less hay, store for future use
	Additional hay cutting	Grow and harvest another hay crop; increases operational expenses (e.g., equipment, labor)
	Range improvements	Seeding, spraying, juniper thinning; expensive, may require regular treatments

A variety of insurance or assistance programs were reportedly used by participants. Notably, multiple producers characterized these programs as confusing and “not user-friendly.” Some reflected that pasture, range and forage insurance helps provide stability for their operations, while others were skeptical about how losses are triggered or the validity of inputs used by the administering agency. Some producers also participate in cost-share provided by Natural Resource Conservation Service (NRCS) programs and USDA Conservation Reserve Programs (CRP). Of these producers, some expressed frustration with the timeframes or perceived restrictiveness of the programs. Other producers have no interest in receiving federal funds for their operations.

Lastly, producers were asked to reflect on tools, resources, or information that would help them better adapt to uncertainty. Some of these included:

- Operational changes to improve forage use: Water development to improve rest-rotation programs or livestock distribution, additional fencing to improve forage utilization, and road maintenance to create more options for water hauling and wildfire response.
- Investing in rangeland improvements: Wider use of prescribed fire to address juniper encroachment, reduce burn severity, and increase forage; seedings to improve forage quality; treating invasive annual grasses. There was a general desire to undertake long-term projects that will require sustained funding.
- Sourcing alternative forage: Some interest in grass bank (owned by a non-governmental organization) or forage reserve (vacant federal allotment.) Most were not interested in a formal forage-finding platform (“Forage Exchange”), acknowledging that they already do this informally through their social networks.

### **Summary and implications**

Listening session participants described the challenges they associate with fluctuating forage availability and some of the tactics they use to respond. Underlying these conversations was a general recognition that investing in rangeland health is an investment in their operation and their ability to withstand uncertainty. Thus, the following recommendations are focused on enhancing ranchers’ abilities to enhance both ecological and social resilience:

- Increase awareness of existing programs and the circumstances under which they are beneficial: While several producers have participated in programs or hold insurance, there was general confusion about the benefits and limitations of different programs or insurance offerings. Importantly, some participants were less skeptical if a neighbor had enrolled or if the administrator was a known and trusted individual.
- Provide long-term funding for rangeland improvements: Several participants reflected that rangeland improvements are incremental and accumulate over long time horizons. While enhancing rangeland resilience enhances an operation’s ability to adapt to uncertainty, these time horizons are not reflected in most funding opportunities. More consistency and stability to pursue long-term improvements would also enhance learning.
- Forage sourcing should use existing collaborative infrastructure: Rather than creating new organizations or networks to improve sourcing of forage or hay when regions are affected, existing organizations could provide a venue for networking and/or pursuing the establishment of local grass banks.
- Tell the story of ranching and healthy rangelands: Ranching can provide for multiple values such as open space and wildlife habitat. Loss of working ranches and transition to other land uses risks losing these values. Public outreach to highlight the values safeguarded by working ranchlands may diffuse some public opposition to grazing uses.

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