

# Management practices key to watershed condition

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Animals thrive on the banks of waterways. And those same tree-covered, green grassy areas are keys to maintaining healthy watersheds for creeks and rivers. Landowners must learn how to manage these properties to strike an ecological balance that benefits wildlife and livestock and still protects watersheds, Texas AgriLife Research scientists say.

Dr. Bill Pinchak, AgriLife Research range animal nutritionist, said landowners should take a holistic approach.

"The goal is to move the animals and reduce the amount of time they are grazing in a particular area," Pinchak said. "You have to have more than just water to get them to move and stay."

For many years, grasslands were grazed and periodically renewed by brush-clearing wildfires, he said. But humans have upset that natural balance, and now they must figure out how to restore it.

Riparian areas along creek beds are considered nirvanas for all animals, from deer to cattle to feral hogs, because they provide cover, food and water.

"But it is the most limited ecosystem in the region," he said.

And in most cases, it cannot sustain the existing population of animals using it. So Pinchak suggested landowners backtrack on the animal trails leading into these particular areas.

The questions, Pinchak said, are: Why did the animals leave other areas? Are they over- or under-grazed? Is it a matter of where the water is?

"We have to become active managers or the riparian area will degrade over time," Pinchak said. "They will concentrate and over-utilize it."

Management is required to achieve both goals of providing for the wildlife and maintaining the watershed, he said.

"Determine what is not being provided in other areas for animal survival. First they need thermal balance (shade) to keep cool, and then they need water balance, then food, then resting areas and so forth."

Pinchak said land away from the riparian areas might need to be burned to allow green growth and provide a new focal point to attract the animals. Creating artificial shade might be necessary, or adding another source of water.

"If we can get an animal to water elsewhere at midday and rest there, we've reduced the impact on the riparian section by one-third," he said.

Dr. John Sij, AgriLife Research agronomist, has been working with some alternate watering sources for remote locations that will help draw both cattle and wildlife away from riparian areas and keep them from overgrazing and deteriorating the banks of waterways.

Working on his own ranch and others, Sij constructed a solar-powered watering system that will pump about 4 to 6 gallons per minute into a stock tank, with the overflow traveling down about 100 foot into a second earthen tank that can be used by both wildlife and livestock.

By using a helical pump, there is no reasonable limit to the well depth, he said. More solar panels can be added the deeper the well gets, or use a

larger pump.

"Just don't go out and develop the system yourself," Sij advised. "You need someone to help set up the system; someone who knows the depth, water temperature, well capacity and other measurements that help determine the energy needed, how much water is needed and how much it will pump during the summer vs. winter."

Dr. Jim Ansley, AgriLife Research rangeland ecologist, said many landowners are trained to think the best rangeland management is to kill the brush to increase grass growth to feed livestock.

But with wildlife interests becoming more of a forefront issue, brush growth could be encouraged, depending on what the long-term goal is for the particular property, Ansley said.

"A person needs to understand that if they control brush all the way, they may lose their wildlife option," he said. "But you can't just let it go either. The brush and grass relations have to be balanced."

Brush competition can sometimes change the species of grass that thrive, Ansley said. While the short buffalo grass may come in and be a nutritious forage, it doesn't have as much grazing value as mid-grasses because it doesn't produce as much biomass.

Production of palatable grasses can triple if warm-season mid-grasses are allowed to establish, he said. But they can be lost over time and take five to 10 years to re-establish if the area becomes overgrown with brush.

"If you have areas where brush is getting out of hand and you still want to have both livestock and wildlife, you need to start looking at control," Ansley said. "If you have an interest in wildlife hunting, don't just let

brush go. You will lose your grass understory."

Some places, he said, will be reduced to bare ground and prickly pear.

Since it takes time for the better grass species to come back, he advised landowners to start controlling the brush canopy when they first start seeing a decline in grass growth. Treat the medium areas of overgrowth first, not the worst areas, because that will give the best return on the investment.

Dr. Dean Ransom, AgriLife Research wildlife biologist, said in working with wildlife the first and foremost focus is on habitat, which is affected by both cattle grazing and brush control.

"With the suppression of fire, we've seen a brush invasion," Ransom said.

Wildlife need a mix of plant life, and enough brush to provide protective cover, thermal cover, food and places to rest, he said. Maintaining some residual cover from the previous season's growth is important for birds especially.

"If wildlife are on your radar screen, think about how you manage the landscape, think about your stocking rates," he said.

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