

ing the number of stock would solve the land resource problem; we know better these days. Rarely does density in itself represent a problem, but when linked with **DURATION** of grazing during specific **SEASONS**, some abuses can occur, but abuses are more likely to be corrected by changing the **duration not the density**.

The last item we manipulate is the **KIND** and **CLASS** of livestock. This item can function independently in that different animals have different behavior patterns, diet, and management strategies which cause different effects on the land. Changing kind and class of stock probably isn't going

to be done very regularly for land resources, but maybe ought to be considered more often than it is. My favorite way of thinking about this is to ask: "Are we adjusting the land to meet our animals, or are we adjusting our animals to meet the land?"

In any circumstance of manipulating livestock on the land, we are in one way or another manipulating one or more of these items. Now we only need to concern ourselves that we are adjusting what needs to be adjusted to meet our objectives. If season or resting is the problem, changing density isn't likely to solve it.

## Endangered Species—Something Real, Something Phantom

Lee E. Hughes\*

The two men walked out through badlands from a spring in the cliffs. They walked in a straight line and then stopped. They milled about as they watched something on the ground. The two veered to the right and soon resumed the straight line.

"Those cactus are endangered," said the ranger, "and we can't run the pipeline through the colony."

"Hell, I see that cactus all over," said the rancher.

"We do too," answered the ranger.

"How did it get listed endangered?" asked the rancher.

"You don't want to know," answered the ranger jokingly.

"It got listed by proponents who claimed it was endangered. They appealed to the Fish and Wildlife Service here several years ago with some limited data and the Service made it an Endangered Species."

Whooping cranes, black-footed ferrets, peregrine falcons, and grizzly bears are endangered. With these and many other plants and animals, there is little argument that at one time or now they are threatened with extinction throughout or in a significant portion of their range. However, there are the other species. They are on the endangered listed of the U.S. Fish and Wildlife Service and they are bleeding its credibility. These are the ones you do not read about.

Many plant and animal species are restricted to certain soil types and weather regimes and are rare but are neither endangered nor threatened. They may be listed by the U.S. Fish and Wildlife Service as endangered or threatened but they lack the quality of being threatened or endangered.

The definition for threatened and endangered in the Endangered Species Act is as follows: threatened means "any species which is likely to become an endangered species within the foreseeable future throughout all or a signifi-

cant portion of its range;" endangered means, "any species which is in danger of extinction throughout all or a significant portion of its range."

How did these species get on the list? In the late 1970s, many species were hastily listed with little factual data. Many stories tell how it happened. One story, for example, tells of botanists researching botanical taxonomic textbooks and proposing as candidates, plants listed only in one county. Little money to research candidates prevented adequate data from being gathered also.

Many of these species have meaning only to specialists in various biological fields, who fear destruction of species and their habitats by the blades of crawler tractors, the hooves of cattle, or the knobby tires of all-terrain vehicles. The gap between the fear of what could happen and what really occurs is wide in the case of some species. The fact that only a few individuals have working knowledge of many of these species makes it difficult to get a balanced view of the real threat to the species.

### An Experience

The Arizona Strip of northwest Arizona had two cactuses listed as endangered in 1979: *Pediocactus sileri* (*P. sileri*) and *Pediocactus bradyi* (*P. bradyi*). The data gathered in 1979 on both species could be described as microscopic. Some locations of these plants were known, as was the soil they grew on and an estimate of their number. The threats to both cactuses, however, were largely opinion.

The status report on *P. sileri* showed that its authors had measured 36 plants but estimated that fewer than 1,00 individuals remained. The authors claimed that strip mining of gypsum was a threat because the cactus grew on gypsiferous soils and gypsum is mined on the Arizona Strip. A mining

\*Views and opinions are the author's own.



*Siler Cactus*—will it change traditional grazing patterns?

feasibility study, which was later conducted, showed that the soils contained gypsum of too low a quality to mine. Geologists knowledgeable of mining in the area knew and stated this previous to listing, also.

Moreover, the authors claimed that cattle grazing in the cactus habitat threatened the cactus by trampling when the soil was wet but presented no study or data to show a threat to the species. The same lack of evidence appeared in the statements on off-road vehicle (ORV) use and rare-cactus collecting.

In fact, evidence to the contrary was presented to the U.S. Fish and Wildlife Service by an Arizona Strip botanist who had studied *P. sileri* for 5 years. His data were considered but did not prevent *P. sileri* from getting listed.

### The Real

*P. bradyi* was listed as endangered with the same quantity of evidence and with the same statements documenting threats for *P. sileri*. *P. bradyi*, however, is small and rare. It grows along the Colorado River and is endangered because of its small numbers and potential vulnerability. But observations (through inventory and monthly monitoring) lead to the conclusion that cattle trampling, collecting, ORV use, and mining are not widespread enough to threaten its populations. To be sure, cactuses next to stock waters have been trampled, an occasional ORV has run over some, and some have been collected. But none of these activities yet define a threat to the population.

*P. bradyi* is endangered. In 35 miles of transecting only 600 individuals have been observed. Granted the largest of the species are only 2 inches wide and seldom protrude far above the soil surface. Many are missed in transects because they are hard to see. But evidence points to the fact that *P. bradyi* is rare.

While ORV use and mineral exploration may threaten *P. bradyi*, these occurrences are rare. A few *P. bradyi* have been found in vehicle tracks dead, but more have been found alive, well, and fruiting. I do not recommend driving over them, but *P. bradyi* can survive occasional drive overs. *P. bradyi* have found in lightly used roads. Moreover, *P. bradyi* is densest on



*Brady pincushion cactus*—a rare species. Could it preclude livestock grazing?

the heaviest used grazing allotments in its habitat.

The culprit in this cactus' survival is Mother Nature. Dry weather sometimes shrinks the cactus into the ground. Rabbits and rodents relish eating the cactus during the dry periods. Old age followed by death also plagues this biological unit. But, the cactus re-emerges during wet weather, it reproduces by seed, and the rodents nibble other species.

The cactus is rare, but it is more resilient than the proponents for listing seem to give it credit for. All the man-induced threats (mining, ORV use, collecting) stated as a cause of endangerment have not occurred in widespread enough manner, if at all, to affect the population.

### The Phantom

*P. sileri* is not endangered. Though the status report estimated that fewer than 1,000 of the plants remained, over 8,000 plants were later counted on 4,100 acres of the 400,000 acres of potential habitat. Because of the many cactuses missed in the count transects, 15,000 individuals are believed to occur on the 4,100 acres. Thirty thousand of these cactuses are estimated to exist in the 400,000 acres of potential habitat.

Dense cactus populations have been found near a livestock water well used yearlong. Another well has a modest number of these cactuses with a few hundred feet of a livestock trough. *P. sileri* habitats with no livestock use have large areas lacking the cactus. *P. sileri* appears to occur independently of cattle trampling.

All the listed threats and potential threats (gypsum and uranium mining, cattle trampling, ORV use, and plant collecting) have occurred only slightly if at all and not often or great enough to affect populations.

## A Reflection

It must be stated that government agencies and their managers want to protect truly endangered species. The reasons to protect them are practical and aesthetic. The practical reasons are medical and maintaining a large gene pool for future biotechnological efforts. Plants (unendangered and endangered), it is cited, provide the world with over 25 percent of our prescription drugs. Biotechnology and genetic engineering need a large gene pool to develop more efficient food-producing plants. These reasons alone make saving species worthwhile.

Aesthetics are enriched if a diverse plant community is allowed to exist as opposed to a plant community with only a few plant species. This is practical and the public desires diverse plant communities to experience.

## Conclusion

From the experience of the Arizona Strip these conclusion and solutions are offered:

1. The Endangered Species Act has a section dealing with delisting species. This section should be utilized with the same zeal as has been shown with listing species, threatened and endangered, in the past. Currently it's used little.

2. In varying degrees across the west, many species on the federal endangered and threatened list could be pared off the list. The list would then reflect truly endangered and threatened species. Species, of course, should be added when studies show endangerment.

3. Recovery Teams formed to decide on a course of recovery for threatened, endangered, or species proposed to list need to be made up of interdisciplinary, interagency, and industry people. This would increase the chance of a balanced and a broadly supported management view to occur for the species.

These solutions would utilize the flexibility built into the Endangered Species Act and give it more credibility to all involved with this very necessary piece of legislation.

# Thoughts on Calving

Ruth Knudtson

Somewhere, far from here, I'm sure,  
A limousine pulls up to the curb  
And its single passenger  
Is escorted by her chauffeur  
From the plush rear seat.

Extricate myself  
From the "right-hand driver's" side  
Of the old Chevy  
Which contains (besides driver)  
Ropes, pails, medicine, emasculator,  
And me.

Somewhere, perhaps in a story I read,  
A doorbell rings  
And a florist's messenger  
Delivers roses  
To a silken-gowned creature.  
But I  
Yell "Stop!"  
And the man in my life  
Obligingly brakes the ancient Chevy  
And smokes  
While my denim-clad self  
Picks crocuses from the hillside.

Somewhere, no doubt in TV land,  
A languid, graceful figure  
Chooses a milk bath  
Which she enjoys  
In her exquisitely tiled bath room.

Have mine thrust upon me  
As I bump over pasture roads  
With a pail of "first milk"  
At my feet.

Somewhere in this land  
A dainty blonde  
Shakes her pom-poms and screams  
As her hero poises by the basket,  
Nerves taut,  
And sinks the ball.  
In the pasture, I  
Sweatshirted and grubby,  
Applaud silently,  
For my hero has just looped, stitched, and  
veered  
In time to avoid  
His bovine patient.

*Editor's Note:* Carl and Ruth Knudtson moved to their ranch in the Blue Mountains area north of Wibaux in 1964 and made their home there until Carl's death in 1983.