

## **Elk hunted, studied, debated on Valles Caldera** Dave Menicucci, Special to the Monitor

In 1907 only 41,000 elk roamed the United States. Today, the National Shooting Sports Foundation estimates a population of 1.2 million. The New Mexico Game and Fish Department calculates about 5,000 elk reside in the Jemez Ranger District and many of them spend most of the year on the Valles Caldera National Preserve.

The fact that trophy and general elk hunting produces nearly half of the preserve's annual \$790,000 indicates the wild animals' financial importance to the preserve.

Based on hunter success rates around 70 percent, the preserve's autumn elk hunt is the best in the state. James Lucero, a representative for the Rocky Mountain Elk Foundation personally believes that this hunting is the highest quality in the US.

However, managing this resource has been challenging because of the unique relationship between the preserve and the Game and Fish Department. "The Department manages the elk herd and we manage the forage," says Dennis Trujillo, the preserve's manager. This means that decisions are jointly discussed and planning is done "on a two-year moving window."

The preserve is even more remarkable because Bob Parmenter, the preserve's chief scientist, is producing scientific information in greater volume than in any other area of the state. Parmenter's team measures the size and type of the elk's favorite grass, the number and type of predators, the fat content of harvested animals, grazing patterns, and the ratio of calves per hundred cows—an indicator of the overall health of the herd.

R.J. Kirkpatrick, chief of the Department's Wildlife Management Division, recently acknowledged the scientific data but said the data are not always pertinent, because the department manages the herd in its entire habitat, including areas *outside* the preserve.

The department administers the preserve like other hunt areas. The state is divided into a mosaic of Game Management Units or GMUs. The Jemez elk herd is contained largely in GMU 6, an area of about 2500 square miles surrounding the preserve. The unit is subdivided: 6a on the west, 6c on the east, and in between is the preserve, designated 6b. Kirkpatrick said, "Most elk spend the warm months on the preserve and migrate south when the snow hits."

To maintain healthy herds the department uses standard estimating techniques to compute the targeted annual animal harvest in each GMU. But there are complications in 6b. First, the preserve is the only GMU where no predators are hunted, because of the preserve's local policy. Second, political pressures have forced the department to drastically reduce the elk populations in units 6a and 6c, leaving the preserve as an island with a large elk population.

There are concerns that predators, especially bears and coyotes, are attracted to the preserve and are killing elk calves soon after they drop. In recent years, the calf-cow ratio has fallen below 20, an alarming indicator of a non-sustainable population. A desirable ratio is around 40.

Kirkpatrick cautioned that there are no specific data connecting predators to the ratio. He said that other possibilities for the low ratios include poor nutrition, measurement error, aging cows, and disease. He said one of these might now be eliminated. "We studied the body conditions of elk harvested in 2005/2006—drought years—and their health indicated that nutrition was not a factor."

Parmenter countered that studies in similar preserves have shown that calf-cow ratios are largely controlled by the quality and quantity of the forage. Until last summer the drought had degraded the nutritional content of the preserve's forage. "If anyone has any data to the contrary," he says, "I'd like to see them."

Jim Trout, a preserve field worker with a degree in Fisheries, offered an alternate possibility. "Calves are simply hidden better from predators in tall, healthy grass."

According to Parmenter, the current calf-cow ratio is over 40, which he believes supports the nutritional connection. "Forage is as good as we have seen it."

Kirkpatrick, however, remained dubious. "We believe that the best time for these measurements is in the fall after the dynamic changes in the herd settle down." The department is planning to survey the Jemez herd this fall.

Parmenter and Kirkpatrick agreed that more studies are needed before any firm conclusions can be drawn regarding the factors influencing calf-cow ratios.

Another influence on the elk's environment is cattle grazing. There are 500 head of yearling steers currently on the preserve. Tracy Hephner, chair of the preserve's board and long-time rancher, said that a "sustainable livestock operation can contribute to both the financial and ecological health of the reserve." She added, "Cattle can be managed in a way that encourages the consumption of old grass while elk prefer the newer growth."

Jeffrey Cross, the preserve's Executive Director, believes in science-based decisions, but has an eye on business. "We would like to maximize revenue from our elk hunting to help us become self-sustaining," Cross said. "But New Mexico law that limits out-of-state hunters to 22 percent of the total permits is not helping." Trujillo feels that the preserve's reputation could attract hunters nationally, many of whom would pay upwards of \$25,000 for a quality bull elk hunt, many times that of typical in-state hunters. The preserve is currently at an impasse with the state about increasing out-of-state permits.

In one area of outstanding cooperation, Trujillo and the department are studying ways to situate hunters to encourage elk to migrate off the preserve without affecting surrounding areas. Trujillo said, "If we are successful, we can not only establish permanent, replicable migration routes that aid our planning, but will improve hunting in the surrounding GMUs."

Because elk provide multi-faceted value to the preserve, they will be observed, hunted, studied and relied upon for revenue for decades to come. Managing elk may well be a key to the preserve's ultimate success.