

Small Feet, Big Tracks: The Potential Economic Effects of Critical Habitat Designation on the Economy of Southeastern Wyoming (4)

Thomas Foulke, David T. Taylor and Roger H. Coupal

Preble's Meadow Jumping Mouse, *Zapus Hudsonius Preblei*, is a small rodent that lives in the foot hills of the Rocky Mountains. It was listed as a threatened species under the Endangered Species Act in 1998. Since that time it has become either the standard bearer for the move to stop rural residential sprawl or the poster-child for what is wrong with the Endangered Species Act, depending on one's point of view.

The US Fish and Wildlife Service designated over 125 miles of rivers and streams and over 10,000 acres of land as critical habitat for the mouse in Southeastern Wyoming in 2003. Of this, about 88 percent is on private land. Herein lies the difference for the mouse. In past endangered species controversies, the species was located primarily on public lands, such as with wolves, grizzly bears and the spotted owl. So even though many jobs were dependant on those lands, ultimate control of the land lay with the federal government. Not so with the mouse. Not only is a high percentage of mouse critical habitat on private land, but the type of land (riparian zones and along irrigation ditches) is especially important to landowners' economic survival in the arid west. By imposing federal control on even a small percentage of this critical land type, the economics of an already precarious agricultural economy can be upset.

The researchers took a somewhat different approach to identifying and analyzing the potential economic impact of critical habitat designation on the Southeastern Wyoming economy. First they conducted a series of listening sessions to find out how people in the area are using the land and what specific agricultural practices are prevalent. They then constructed a hypothetical model ranch based on these parameters. Using the GAMS software program they ran a series of scenarios to see how profitability would be affected by different levels of designation (since designated land would be lost to production). They looked at the affect of designation at the firm level and then translated these problems to the regional level using Census of Agriculture producer numbers and IMPLAN software.

The results show that agricultural producers would be significantly affected at even relatively modest acreages, especially if this acreage were hay meadow. This is because, in the words of one local resident, "they would be cutting the heart out of the operation". In other words, removing hay meadow acreage from production hurts the operation's ability to produce in the summer because that land could not be grazed or hayed and winter because the operation would have less feed, thereby reducing overall carrying capacity.

The results of our research are presented in the context of a discussion of property rights versus habitat protection in the Rocky Mountain West. A brief update of the Preble's mouse controversy will also be given.