

EMNRD – Forestry Division

Opening comments on removing Brack's cactus (*Sclerocactus cloverae* subsp. *brackii*) from the list of New Mexico Endangered Plants, 19.21.2 NMAC.

My Name is Robert Sivinski. I am currently a consulting biologist, but from 1989 to 2011 I was a State of New Mexico employee and the staff Botanist for Energy, Minerals and Natural Resources Department – Forestry Division. One of my duties was managing the Rare and Endangered Plant Program for EMNRD. During the 1995 amendment of rule 19.21.2 NMAC, which contains the list of New Mexico endangered plant species, EMNRD added Brack's cactus (*Sclerocactus cloverae* subsp. *brackii*) to that list. At that time, this rare cactus was known from only a few very small populations near Bloomfield and Aztec, New Mexico and all of its locations on Bureau of Land Management land were accessible to cactus collectors.

Consulting biologists conducting field surveys for oil and gas companies have often reported difficulties in distinguishing *Sclerocactus cloverae* subsp. *brackii* from *S. cloverae* subsp. *cloverae*. I personally encountered identification difficulties during a two month field survey in 2015 to determine the status of Brack's cactus throughout its entire range. I learned that *S. cloverae* occurs in a variety of habitats and is morphologically variable between and within its populations. The published distinctions between the two subspecies were often not discernable in the field or were inaccurate. I subsequently assisted Dr. Mark Porter (*Sclerocactus* authority and population geneticist) in 2016 with tissue sampling for DNA analysis of *S. cloverae* and directed him to populations representing the entire range of variability in morphology and habitat. His DNA study is now complete and the final report finds there is no genetic basis for the distinction of subspecies *brackii* from subspecies *cloverae*. Subspecies *brackii* should become a synonym of the species *Sclerocactus cloverae* and Brack's cactus cease to exist as a taxonomic entity. I concur with the EMNRD proposal to remove Brack's cactus from the list of New Mexico Endangered Plant Species.

