

serve as OHV parks for the public. While OHV freeplay, racing, and touring are permitted, the Ocotillo Wells SVRA prohibits most permanent surface disturbing activities. In order to encourage studies on the flat-tailed horned lizard, the Ocotillo Wells SVRA was proposed as a Research Area in the Management Strategy. Funding was to be provided by the California Department of Parks and Recreation Division of Off-Highway Motor Vehicle Recreation.

Comment 5: One commenter stated that large areas within the BLM-managed deserts of California and Arizona, as well as significant portions of Anza-Borrego Desert State Park and the Ocotillo Wells SVRA, have been closed to protect the flat-tailed horned lizard and its habitat from OHV intrusion.

Our Response: No areas have been closed to OHV use to protect the flat-tailed horned lizard or its habitat. Within the Anza-Borrego Desert State Park, OHV activity is limited to designated routes. Most of the BLM managed lands within the range of the flat-tailed horned lizard are currently open to OHV use in some capacity. The entire Ocotillo Wells SVRA is open to OHV use in some form, and the majority is completely open to freeplay (unlimited access and use). The Ocotillo Wells SVRA is in fact the largest of the State Vehicular Recreation Areas in California, comprising approximately 85 percent of land in the program. In addition, there are two BLM Open Areas that have unrestricted OHV use, the BLM's Plaster City (16,592 ha [41,000 ac]) and Superstition Hills (5,261 ha [13,000 ac]) Open Areas.

Comment 6: One commenter mentioned that the data show a weak, almost nonexistent correlation between OHV use and alleged declines in flat-tailed horned lizard populations, and that by contrast, other threats such as predation by ravens, shrikes, and round-tailed squirrels have been substantiated with hard evidence.

Our Response: Past indices of population abundance of the flat-tailed horned lizard have not used similar methodologies, nor have they incorporated detection probabilities. Population trends based on such data potentially include error related to numerous variables, including variation in detectability, scat counts, sampling methods, study areas sampled, number of transects surveyed, number of observers, temperature, year, etc. The BLM (Wright 2002) reported data that can be used as an indication of abundance from 1979 to 2001 and the correlation of OHV activity and

population abundance, conditional on a number of assumptions.

Wright (2002) reported that flat-tailed horned lizards were encountered at the highest rates in the Navy and Limited use areas of West Mesa, at intermediate rates in the Yuha Desert and East Mesa, and at the lowest rates in the West Mesa ACEC, Plaster City, and Superstition Mountains Open Areas. If detection rates were assumed to be equal across all variables involved, then an inference could be made that the areas used most by OHVs, the open areas, have the lowest abundance of flat-tailed horned lizards. If we assume that the main difference between open and the other areas is a higher rate of use of open areas by OHVs, we could reasonably conclude that OHV impacts were responsible for this difference. However, the previously mentioned bias and error associated with the data collection make this inference weak and unreliable.

Further hypothesis testing of the relationship of OHV use and flat-tailed horned lizard abundance incorporating detection probabilities in a rigorous sampling design would be valuable. The BLM has recognized the importance of incorporating detection probability into their flat-tailed horned lizard sampling designs and has recently employed such a design to estimate population size in the Yuha Basin MA, referred to previously in the "Background" section of this notice.

OHV activity has also been documented as the direct cause of mortality of individual flat-tailed horned lizards (Luckenbach 1975; Luckenbach and Bury 1983; Muth and Fisher 1992). However, the number of documented flat-tailed horned lizard mortalities due to OHVs is limited.

The fact that ravens, shrikes, and round-tailed squirrels have been documented as predators of flat-tailed horned lizards does not make them threats to the survival of the species. We assume that flat-tailed horned lizards have coevolved in a predator-prey relationship with most of the predators they encounter in the Sonoran Desert. There are no data showing that round-tailed ground squirrels or other predators depend on flat-tailed horned lizards as a primary food source. To the contrary, round-tailed ground squirrels are omnivorous and rely on plant material for a major part of their diet (Ernest and Mares 1987).

Anthropogenic threats (*i.e.*, human caused habitat destruction and degradation; *e.g.*, OHV activity) and introduced predators or competitors are generally regarded as more severe threats to the survival of native species than are predators or interspecific

competition with which the species has coevolved (Pimm *et al.* 1995). There is also the potential for natural predators to increase their predation rate on certain prey given human subsidies available. For example, increased predation rates on flat-tailed horned lizards by loggerhead shrikes and American kestrels have been reported in localized areas where human-provided perches (*e.g.*, power lines or planted palm trees) have been used by shrikes and kestrels as points from which to hunt (Young and Young 2000, Cameron Barrows pers. comm, 2002). However, areas in which these increased predation rates occur are small in size and occur within relatively short distances of the perches in the abovementioned examples.

Comment 7: One commenter stated that it is absolutely critical that we not issue a final decision until after we have conducted the studies necessary to address flat-tailed horned lizard abundance and viability on private lands. The commenter further recommended that all future studies do the following: (1) Abandon scat counts as a way of deriving species densities, (2) use different, more reliable methods for counting flat-tailed horned lizards, and (3) be repeatable over time, so that trend data on the lizard can be developed.

Our Response: The schedule for the final listing determination was mandated by the Southern District Court of California under the direction of the Ninth Circuit Court of Appeals, to be made within 12 months of reinstating the proposed listing. A notice announcing the reinstatement of the 1993 proposed rule was published in the **Federal Register** on December 26, 2001. Consequently, on the basis of the best scientific and commercial data currently available, we must make a final listing determination for the flat-tailed horned lizard by December 26, 2002.

While our listing determination undoubtedly would be aided by further studies on flat-tailed horned lizards, we can not delay the decision. Additionally, we do not currently have the funding to conduct additional research prior to making our decision. Despite this shortcoming, several of the commenter's recommendations have already been enacted. We have not used any scat count information to derive lizard density or abundance estimates, and the BLM has begun to use the previously mentioned CMR methodology to conduct population estimates on the MAs, which can then be replicated in the future to gain information on population trends.