

actions that have been and are being implemented do provide protection for the flat-tailed horned lizard and its habitat and have contributed to reductions in specific threats to the species. Most planning actions listed in the Management Strategy were implemented between the period of May 1997 and June 2002 (see our response to comment 3). The Management Strategy actions that contributed the most to the conservation of flat-tailed horned lizards were the exclusion of pesticide spraying within MAs, exclusion of competitive recreational events within MAs, efforts to develop and implement a monitoring strategy, and compensation for project impacts to flat-tailed horned lizard habitat.

The actions that have been and are being implemented on the MAs do provide protection for the flat-tailed horned lizard and its habitat in each of the four geographic areas, except the Coachella Valley, in which the flat-tailed horned lizard occurs. Additionally, the Management Strategy has contributed to reductions in specific threats to the species, and to the viability of the flat-tailed horned lizard in each of the five MAs and ultimately the four geographic areas. Current available information does not indicate that the viability of the flat-tailed horned lizard in each of the geographic areas in which it occurs, with the exception of the Coachella Valley, is dependent on full implementation of the Management Strategy.

Regional Habitat Conservation Plans in preparation by the Coachella Valley Association of Governments and the Agua Caliente Band of Cahuilla Indians would conserve a yet-to-be-determined amount of flat-tailed horned lizard habitat, leaving the rest subject to development. These Habitat Conservation Plans are in progress and are subject to approval in the future; therefore, their completion and implementation cannot be relied upon for conservation purposes.

The species is listed in the official Mexican Endangered Species List as threatened (CEDO 2001). Consequently, the species is protected from collection, sale, and commerce, and its habitat is afforded special protection in Mexico. The majority (about 60 percent) of the species' range in Mexico lies within two Mexican Federal natural protected areas: The Upper Gulf of California and Colorado Delta Biosphere Reserve, and the Pinacate and Gran Desierto de Altar Biosphere Reserve (CEDO 2001). The National Park of Pinacate is an area administered by the Mexican government with use restrictions similar to those of a national park in the United

States. However, the boundaries are not well established, and enforcement of regulations is minimal.

In conclusion, currently available information does not indicate that inadequate regulatory mechanisms necessitate listing the species under the Act. However, if flat-tailed horned lizard populations are found to be declining in the future, it would be prudent to revisit the adequacy of the regulatory mechanisms mentioned above, including the Management Strategy.

#### *E. Other Natural or Manmade Factors Affecting Its Continued Existence*

Pesticide spraying associated with the Curlytop Virus Control Program to control the beet leafhopper (*Circulifer tenellus*) (Curlytop Program) on the east and west sides of the Salton Sea and Imperial Valley, is a threat because of its effects on the ant prey base for flat-tailed horned lizards. In the 1993 proposed rule, this threat was identified as having an impact mainly the East Mesa and Yuha Desert. Since the proposed rule, the threat from pesticide spraying has been reduced by a BLM Record of Decision on the Curlytop Program in 1997 and 2002 to prohibit pesticide spraying within MAs. The Curlytop Program or a similar program has not been conducted in the Arizona geographic area of the species range (Minch, Arizona Department of Food and Agriculture, pers. comm. 2002). However, the Curlytop Program persists outside MAs and its direct, and indirect effects on flat-tailed horned lizard populations outside the MAs are not known in any detail. Foreman (1997) stated that the effects of applying broad-spectrum insecticide to desert scrub communities over many years are potentially many and complex. Pesticide/herbicide drift from croplands also has the potential to adversely affect plant communities adjacent to agricultural areas (Foreman 1997).

The California Department of Food and Agriculture's Joint Environmental Assessment proposed that the Curlytop Program is likely to have no direct adverse effect to flat-tailed horned lizard populations, because studies (Hall and Clark 1982, Peterle and Giles 1964, and Giles 1970; all cited in CDFA 2000) have shown various lizard species have a high tolerance of malathion. However, indirect effects of the Curlytop Program to ant populations were noted as being a concern in the associated Biological Opinion (11430-2002-7FCC-2365.1). The Curlytop Program included monitoring of ant colonies in 1991. Malathion was found to negatively affect ant colonies temporarily;

however, ant colonies rapidly recovered (Peterson *in litt.* 1991). The Biological Opinion estimated the program could affect up to 141,643 ha (350,000 ac) of flat-tailed horned lizard habitat outside the MAs; however, most treatments are localized.

Historically, treatments in the Imperial Valley are necessary 1 out of every 3 years, and the area treated may vary from 50 to a few thousand hectares (100 to several thousand acres) (CDFA 2000). The most recent treatments in the Imperial Valley were in 1998 and 1991, when 2,388 ha (5,900 ac) and 2,891 ha (7,143 ac), respectively, of flat-tailed horned lizard habitat were sprayed (CDFA 2000).

Because of the limited extent of area sprayed, the prohibition of spraying on MAs, the long intervals between applications, and the apparently temporary nature of the adverse affects, we do not believe the Curlytop Program to be a threat to the species throughout all or a significant portion of its range to the extent that the flat-tailed horned lizard would be likely to become in danger of extinction in the foreseeable future. However, because the study conducted by CDFA (mentioned earlier) was cursory, we recommend further monitoring of ant colonies and flat-tailed horned lizard populations in treated and adjacent areas.

The potential adverse impacts associated with drought were mentioned in the 1993 proposed rule. The threat that localized areas may experience long-term drought resulting in decreased local flat-tailed horned lizard populations still exists.

In our 1993 proposal to list the flat-tailed horned lizard as threatened, we identified numerous potential threats to the species and its habitat as the rationale for believing that the listing of the flat-tailed horned lizard was warranted. In this withdrawal, we have spoken directly to many of the threats discussed in our 1993 proposal in addition to other information that has become available since the publication of that proposal. We did not, however, speak directly to all threats because we believe, based on our review of currently available and credible information, that the threats not directly discussed here no longer pose a significant threat to the species and/or its habitat individually or in combination such that the species warrants listing under the Act.

#### **Finding**

The species was proposed as threatened in 1993 because much of the habitat of this species was reported to have been lost, fragmented, or degraded