

determined that the threats to the vernal pool crustaceans and plants and their habitat from the specific instances of habitat destruction we identified in the final listing rules do not outweigh the broader educational, regulatory, and other possible benefits that a designation of critical habitat would provide for these species. We believe there is sufficient information available on the 15 vernal pool species to find that critical habitat is determinable for these species, and that an analysis of the impacts of the designation can be performed according to 50 CFR 424.12(a)(2)(i).

*Comment 3:* Several commenters stated that the species are not threatened or endangered because of their widespread distribution.

*Our Response:* Species may be listed under the Act if the species is in danger of extinction throughout all or a significant portion of its range by one or more of the five listing factors (endangered species), or if the species is likely to become endangered in the foreseeable future, throughout all or a significant portion of its range by one or more of the five listing factors (threatened species). The five listing factors as defined in the Act are: (A) The present or threatened destruction, modification, or curtailment of [a species'] habitat or range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; and (E) other natural and manmade factors affecting [a species'] continued existence. These factors apply to both narrowly and widely distributed species.

As discussed in the final rules to list the 15 vernal species addressed herein, the vernal pool crustaceans and plants are threatened by habitat loss, degradation, and modification from land conversion and degradation to the extent that known populations are endangered, or likely to become endangered, throughout all or a significant portion of their range. Thus, the vernal pool species are threatened by Factor A and appear to meet the definitions of threatened or endangered, regardless of having a relatively extensive distribution.

*Comment 4:* Several commenters believe that we cannot realistically determine critical habitat without first developing a recovery plan, and that the determination of critical habitat should be postponed until site specific surveys have been conducted and a recovery plan is in place.

*Our Response:* Section 4 of the Act requires us to designate critical habitat

at the time of listing to the maximum extent prudent and determinable. We concur that a recovery plan is a useful tool in assisting us with determining which areas are essential for the conservation of a species. We are currently developing a draft recovery plan for these vernal pool species, and have been able to use the information and gathered and analysis conducted to date for the draft recovery plan in helping us determine areas essential to the conservation of the 15 vernal pool species addressed herein.

*Comment 5:* Several commenters reported that vernal pools provide a breeding source for mosquitoes. They stated that the designation would lead to an increase in diseases such as infection of the West Nile virus (*Flavivirus* sp.) and other mosquito-vectored diseases.

*Our Response:* The best information available to us indicates that non-degraded vernal pools and swales do not provide a significant breeding source for mosquitoes. Mosquitoes do not appear in vernal pools until very late in the season, when they are unlikely to complete their development before the pools dry (Wright 1991). Female mosquitoes are attracted to gases produced by fermentation that indicate an abundance of decaying organic matter suitable for food for mosquito larvae (Wright 1991). This is the likely cue used by females mosquitoes to select oviposition sites. Healthy vernal pools appear to have relatively low levels of decaying organic material, which makes them undesirable as oviposition sites for gravid mosquitoes (Wright 1991). Only late in the season, when the abundance of invertebrates in vernal pools begins to decline, are enough nutrients and organic material available to make the vernal pools attractive to mosquitos. By this time, however, it is often too late for the mosquito larvae to develop before the pools dry.

*Comment 6:* One commenter stated that there are occurrences of the vernal pool plants and vernal pool crustaceans on protected lands, and for this reason, additional lands are not needed for the conservation of the species. Other commenters contended that the acreage in the proposed rule should represent the minimum amount of land considered critical for the 15 vernal pool species.

*Our Response:* We recognize that while some occurrences of the vernal pool plants and vernal pool crustaceans are found on protected public and private lands, only about 16 percent of the lands designated as critical habitat are on Federal land or are protected by a conservation easement. A smaller

percentage of these lands are managed for protection of vernal pool resources and specifically for the species addressed in this rule. Restricting the designation to currently protected lands would exclude areas that we believe are essential to the conservation of the 15 vernal pool species. We based the designation on the best scientific available and determined that the designation identifies those areas believed to be essential for the conservation of the species.

*Comment 7:* The California Army National Guard (ARNG) asks that Camp Roberts be excluded from the final critical habitat designation (ARNG 2002a). Letters from Fort Hunter Liggett and the Headquarters of the United States Army Reserve Command state they do not agree with designating critical habitat on the base, and that the designation is not necessary to protect vernal pool fairy shrimp (Fort Hunter Liggett 2002b; Department of the Army 2002).

The letters from Camp Roberts and Fort Hunter Liggett present numerous reasons why critical habitat designation is not warranted on the two bases. Some of these reasons include: suggestions that each installation has an Integrated Natural Resources Management Plan (INRMP) that provides protective measures for vernal pool fairy shrimp; the two bases are implementing numerous activities that conserve vernal pool fairy shrimp habitat; and critical habitat designation would adversely affect the National Guard and Army's abilities to meet their mission, *i.e.*, train soldiers for combat situations.

*Our Response:* Camp Roberts and Fort Hunter Liggett have drafted INRMPs that we have not signed. The current documents are therefore working drafts that are being revised as the National Guard and Army work together with us to finalize conservation strategies that will benefit all listed species on the two bases. After adequate conservation strategies for all listed species on the bases are incorporated into the two INRMPs, we expect to sign the documents and will consider them final. We recognize the military is implementing measures to conserve existing locations of vernal pool fairy shrimp and the habitat they occupy. These activities include periodic monitoring of selected pools, control of exotic plant species that may alter vegetation communities around vernal pool habitat, fencing or delineation of areas known to contain vernal pool fairy shrimp, and use of review processes designed to avoid or minimize effects that may arise during military training activities and base operations. We