

time. In our request for peer review and public comments on the proposed rule, we asked for specific information on the number and/or distribution of both animals and what areas were essential for the conservation of the species.

During the comment periods on the proposed rule, a significant amount of specific information was received on the presence or absence of primary constituent elements, verified occupied cave locations, and other locations of suitable caves. No additional information was provided on either the location or importance of intercave dispersal corridors. Although our peer review confirmed the importance of protecting caves and surrounding mesocaverns for local dispersal, there was no consensus or scientific clarity provided on intercave dispersal corridors.

We only designate areas as final critical habitat if they contain the physical and biological features essential to the conservation of the species, and if unoccupied, they are essential to the conservation of the species. In the case of the intercave dispersal corridors, we suspect connectivity may be important, but we do not know where they are, to what degree they are used, or how to map these corridors to be consistent with the legal requirements in designating critical habitat. Therefore, we have not included such areas in the final rule.

Based on a review of the public comments received on the proposed critical habitat, we have reevaluated our proposed designations and included several changes to the final designations of critical habitat. These changes include the following:

(1) The final designation went from three proposed units encompassing an area of approximately 1,697 ha (4,193 ac) to 14 units encompassing a total of 110 ha (272 ac).

(2) We received new information on the presence of the Kauai cave wolf spider in two caves in the Koloa region and updated their verified occurrence from four caves to six caves.

(3) We received information indicating we missed a cave from which the Kauai cave amphipod was previously recorded and updated their verified occurrence from six caves to seven caves.

(4) We received information from a survey conducted by Dr. Frank Howarth which identified areas required to maintain the persistence of both animals on Alexander and Baldwin property. The information contained numbers of caves discovered and the amount of areas surrounding them to incorporate sufficient protection and inclusion of

mesocaverns connected to the caves. Areas not identified in Dr. Howarth's survey were excluded from the designation. This information also assisted us in refining the amount of needed habitat surrounding other caves.

(5) We received substantial data from various parties such as drilling records, photographs, archeological surveys, and biological surveys indicating the lack of primary constituent elements in certain portions of proposed critical habitat. These data provided information as to the current depths of dirt, clay, and other soils. Soil deposits greater than a foot deep begin to degrade and fill the mesocaverns and caves necessary for the cave animals' survival and indicate a lack of the primary constituent elements, or at a minimum the primary constituent elements are likely to be severely degraded (Dr. F. Howarth, pers. comm., 2002). These areas have been removed from the designation.

(6) We received additional information from Dr. Frank Howarth on areas of higher quality habitat with a high likelihood of containing occupied caves on Grove Farm property and a Civil Defense map indicating a large cave previously used as a fall-out shelter. These areas have been mapped and retained in the designation.

(7) We received information from various parties on surveys done on their properties indicating the likelihood of suitable cave habitat. Areas found to have a low likelihood of suitability have been removed from the designation.

(8) We made revisions to the unit boundaries based on information supplied by commenters, as well as information gained from field visits to some of the sites, that indicated that the primary constituent elements were not present in certain portions of the proposed unit, that certain changes in land use had occurred on lands within the proposed critical habitat that would preclude those areas from supporting the primary constituent elements, or that the areas may not be essential to the conservation of the species in question.

This final critical habitat designation addresses the conservation of the species by protecting a number of discrete cave systems (*i.e.*, eight caves occupied by one or both species and associated mesocaverns, six caves where occupancy status is unknown with associated mesocaverns, and three areas containing higher quality habitat likely to be occupied by one or both species) that represent a widely distributed pattern throughout the highest quality habitat in the Koloa Basin. Designating only the known occupied caves themselves would only provide extremely small areas with several of

the caves in close proximity to one another. A designation such as this would leave the species vulnerable to extinction due to a single catastrophic event and therefore not provide for the conservation of the species. As previously discussed in this rule under "Adaptations of troglomorphic animals," given the great vulnerability of these species to desiccation, adjacent mesocavern habitats that contain appropriate microclimate conditions will provide habitat or serve as refugia for both animals when conditions in the main cave passages become drier or otherwise less accommodating. It is within these mesocaverns where it is likely that the majority of their time is spent. Therefore, designating surrounding mesocaverns incorporates the area where the majority of the animals are likely to occur and provides for refugia from fluctuating conditions in caves which makes them essential to the conservation of the species. The remaining areas designated where occupancy by either species has not been verified are essential to the conservation of the species for the following reasons. The areas chosen, are known to contain caves or mesocaverns where the animals are most likely to occur. The designated spatter cones are the type of volcanic formations that produce rock with mesocaverns and likely produce cave structures as well. If animals do not currently occupy these areas, if dispersal is occurring, it can allow for areas for the species to disperse into, and if dispersal is not occurring, it can allow for reintroduction. These areas are deemed essential to the conservation of the species because they provide for a widely distributed pattern throughout the highest quality habitat available in the Koloa Basin. This wide distribution will protect the species from extinction from a single catastrophic event and therefore is essential to the conservation of the species. If new and additional scientific information shows that these areas are not essential, the critical habitat designation can then be revised.

Intervening areas between identified units of critical habitat may still be important to the recovery of the species although at this time we do not have information to identify them as essential to the conservation of the species. However, because either animal may be present at any given time in these intervening areas with suitable habitat, section 7 consultation requirements to ensure Federal actions are not likely to jeopardize the species and section 9 prohibitions, which preclude the