

unauthorized taking of listed animals, may apply.

Absent any scientific data on the issue of intercave dispersal corridors, we applied a basic conservation strategy that protects all of the known cave locations and surrounding mesocaverns and identified high quality habitat where the animals are most likely to be found in a pattern that maximizes distribution across the basin. This wide distribution of cave systems should provide for the long term conservation of these two species if they are adequately protected and managed by reducing the vulnerability to diseases and other catastrophic events.

We are currently working on a draft recovery plan for the cave animals which will identify the need for genetic studies to determine the relationships between animals in verified occupied caves and continued study into ways to determine the importance and location of intercave dispersal corridors. In the event that new information is made available and indicates the necessity, we will consider amending the critical habitat designation.

A brief summary of the modifications made to each unit is given below.

Former Unit 1 Waikomo—subunit 1a

This unit has been redesignated into 13 separate units. All of Alexander and Baldwin property has been surveyed by Dr. Frank Howarth, the recognized expert on Hawaiian caves. Along with data that a significant portion of their land has been dynamited and therefore highly unlikely to contain the primary constituent elements, Dr. Howarth has indicated where the primary cave habitats are and the surrounding buffer area (61 m) (200 ft) necessary to maintain the species in this area. Units 1, 2, and 3 represent the areas identified by Dr. Howarth. All other areas surveyed either do not contain the primary constituent elements or are not believed to be necessary to the conservation of the species because they were not identified by Dr. Howarth as necessary to maintain the species in the area and have been removed from the designation.

Areas above the Old Railroad Grade have been surveyed and the caves found to contain these animal species have been retained in the designation. Service biologists have mapped these caves.

The southern cave found in this area is one of the caves where the spider's occurrence has been verified. This cave and a 61 m (200 ft) buffer area to capture the surrounding mesocaverns to provide for a protective area from the

development that may occur outside the buffer area comprise Unit 4.

The northern cave which occurs on the Kiahuna golf course has been gated, informational signs have been posted, and the area above the cave has been planted with native vegetation that is likely to provide food for the Kauai cave amphipod. This cave was mapped and a 30 m (100 ft) buffer placed around to capture the mesocaverns surrounding the cave. The golf course has been fully developed, therefore an additional buffer to protect against additional development is not believed to be necessary. The cave located within the golf course and the buffer area comprise Unit 5.

Additional information was provided indicating large soil deposits on the southern end of the property owned by Kiahuna Golf Club, LLC and KG Kauai Development LLC. In addition, archaeological information was provided indicating a large portion of the property was once used as fish ponds and terraced agricultural fields that were routinely left flooded. The use of land in this manner is likely to have caused a buildup of silt and other deposits that would either eliminate any primary constituent elements or degrade them. Therefore, these areas have been removed from the designation.

Drilling information obtained near areas proposed on the south side of Poipu Road near Koloa Landing and Poipu Beach Park indicate large deposits of sand and therefore no appropriate primary constituent elements. It is unlikely that the three small areas proposed south of Poipu Road, which likely contain similar deposits, contain the primary constituent elements. In addition, drilling information provided just north of Poipu Road, next to Poipu Village Shopping Center indicate a settling basin where large deposits of silt, clay, and soil have accumulated, indicating a lack of primary constituent elements. These areas have been removed from the designation.

Information obtained on the area north of the private road above Alexander and Baldwin property and east of Waikomo Stream indicates that far more homes and other structures have been built than previously believed. It is unlikely that primary constituent elements will be found in this area, and therefore it has been removed from the designation.

Additional information provided by the Eric Knudsen Trust shows two caves located within their property. These caves were identified during an archeological survey. Because the caves have not been surveyed by anyone

familiar with the Kauai cave animals, we do not know whether they are occupied by either species. However, given that many of the caves found in the same area contain the animals, if all the primary constituent elements are present, it is highly likely that the animals will be present in these caves. Therefore, the area mapped for these caves including a 61 m (200 ft) buffer around them to include surrounding mesocaverns and protection from potential development are included in this designation as Units 6 and 8. Other archaeological finds indicate an extensive irrigation system, and it is likely that the rest of Eric Knudsen Trust property was used as terraced agricultural land that would have been routinely flooded. The use of land in this manner is likely to have caused a buildup of silt and other deposits that would either eliminate any primary constituent elements or degrade them. These areas have been deemed not essential to the conservation of the species and removed from the designation.

Unit 7 comprises an area that has not been surveyed recently, but the cave located on the property had a verified occurrence of the Kauai cave amphipod. The property is owned by the Roman Catholic Church, and no new information was provided on it. Since we did not have information on the exact location of the cave, we viewed satellite imagery and designated the area where the cave is most likely located. If new information on the exact location of the cave is gathered in the future, we will consider it in possible future revisions of this rule.

The Koloa bypass cave which is now a park and has a verified occurrence of the Kauai cave amphipod has been retained in the designation as Unit 9. This cave is completely surrounded by previously disturbed areas. The area above the cave was planted with plants to provide food for the Kauai cave amphipod and the entrance sealed over to prevent human intrusion. This unit comprises the open field of the park, which incorporates the cave and mesocaverns surrounding the cave.

Unit 10 includes the area containing the cave indicated on the civil defense map. The civil defense map does not outline the extent of the cave, but gives a general location. The entrance to the cave has also been sealed making it difficult to locate its exact location. This unit also includes the surrounding areas containing mesocaverns. In addition, further refinement was made by reviewing drilling records provided during the comment period. These records showed large deposits of clay