

CNA Insurance Companies  
 Erie Insurance Group  
 Farmers Insurance Group  
 Berkshire Hathaway/GEICO Corporation  
 Group  
 Great American P & C Group<sup>1</sup>  
 Hartford Insurance Group  
 Liberty Mutual Insurance Companies  
 Metropolitan Life Auto & Home Group<sup>1</sup>  
 Nationwide Group  
 Progressive Group  
 SAFECO Insurance Companies  
 St. Paul Companies  
 State Farm Group  
 Travelers PC Group  
 USAA Group

4. Appendix B to Part 544 is proposed to read as follows:

**Appendix B—Issuers of Motor Vehicle Insurance Policies Subject to the Reporting Requirements Only in Designated States**

Alfa Insurance Group (Alabama)  
 Arbella Mutual Insurance (Massachusetts)  
 Auto Club of Michigan Group (Michigan)  
 Commerce Group, Inc. (Massachusetts)  
 Kentucky Farm Bureau Group (Kentucky)  
 New Jersey Manufacturers Group (New Jersey)  
 Southern Farm Bureau Group (Arkansas, Mississippi)  
 Tennessee Farmers Companies (Tennessee)

5. Appendix C to Part 544 is proposed to read as follows:

**Appendix C—Motor Vehicle Rental and Leasing Companies (Including Licensees and Franchisees) Subject to the Reporting Requirements of Part 544**

Alamo Rent-A-Car, Inc.  
 ARI (Automotive Resources International)  
 Associates Leasing Inc.  
 Avis, Rent-A-Car, Inc.  
 Budget Rent-A-Car Corporation  
 Consolidated Service Corporation  
 Dollar Rent-A-Car Systems, Inc.  
 Donlen Corporation  
 Enterprise Rent-A-Car  
 Ford Rent-A-Car System<sup>1</sup>  
 GE Capital Fleet Services  
 Hertz Rent-A-Car Division (subsidiary of The Hertz Corporation)  
 Lease Plan USA, Inc.  
 National Car Rental System, Inc.  
 PHH Vehicle Management Services  
 U-Haul International, Inc. (Subsidiary of AMERCO)  
 Wheels Inc.

Issued on: March 21, 2002.

**Stephen R. Kratzke,**

*Associate Administrator for Safety, Performance Standards.*

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**BILLING CODE 4910–59–P**

<sup>1</sup>Indicates a newly listed company which must file a report beginning with the report due October 25, 2002.

**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**50 CFR Part 17**

**RIN 1018–AH01**

**Endangered and Threatened Wildlife and Plants; Determination of Critical Habitat for the Kauai Cave Wolf Spider and Kauai Cave Amphipod**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Proposed rule.

**SUMMARY:** We, the U.S. Fish and Wildlife Service (Service), propose designation of critical habitat for the Kauai cave wolf spider (*Adelocosa anops*) and the Kauai cave amphipod (*Spelaeorchestia koloana*) pursuant to the Endangered Species Act of 1973, as amended (Act). The proposed critical habitat consists of three units whose boundaries encompass an area of approximately 1,697 hectares (ha) (4,193 acres (ac)) on the island of Kauai, Hawaii. Critical habitat identifies specific areas that are essential to the conservation of a listed species and that may require special management considerations or protection.

If this proposal is made final, section 7 of the Act requires Federal agencies to ensure that actions they fund, authorize, or carry out do not destroy or adversely modify critical habitat to the extent that the action appreciably diminishes the value of the critical habitat for the conservation of the species.

Section 4 of the Act requires us to consider economic and other impacts of specifying any particular area as critical habitat. We solicit data and comments from the public on all aspects of this proposal, including data on economic and other impacts of the designation. We may revise or further refine critical habitat boundaries prior to final designation based on new information received during the comment period.

**DATES:** We will accept comments until the close of business on May 28, 2002. Requests for public hearing must be received by May 13, 2002.

**ADDRESSES:** Comment submission: If you wish to comment, you may submit your comments and materials as follows:

(1) You may submit written comments and information to Paul Henson, Field Supervisor, Pacific Islands Fish and Wildlife Office, U.S. Fish and Wildlife Service, 300 Ala Moana Boulevard, Room 3–122, Box 50088, Honolulu, HI 96850.

(2) You may hand-deliver written comments to our Pacific Islands Fish

and Wildlife Office at the address given above.

You may view comments and materials received, as well as supporting documentation used in the preparation of this proposed rule, by appointment, during normal business hours in the Pacific Islands Fish and Wildlife Office in Honolulu at the above address.

**FOR FURTHER INFORMATION CONTACT:** Paul Henson, Field Supervisor, Pacific Islands Fish and Wildlife Office, at the above address (telephone: 808/541–3441; facsimile: 808/541–3470).

**SUPPLEMENTARY INFORMATION:**

**Background**

The Hawaiian archipelago consists of eight main islands and the numerous shoals and atolls of the northwestern Hawaiian Islands. The islands were formed sequentially by basaltic lava that emerged from a hot spot in the earth's crust located near the current southeastern coast of the island of Hawaii (Stearns 1985). Kauai is the oldest of the main islands, with most of its land mass being formed between 3.6 and 5.6 million years ago (MYA) from a single, large shield volcano, now represented by the Alakai Plateau and adjacent ridges. Younger, secondary eruptions occurred over the eastern portion of the island as recently as the Pleistocene era (approximately 0.6 MYA). Due to the age of the island, the terrain is heavily eroded, with steep water-carved valleys and gulches characterizing the slopes of the Alakai Plateau and other isolated ridges. The Alakai Plateau is one of the wettest places on earth, receiving an average of 1.3 meters (m) (444 inches (in)) of rain annually (Juvik and Juvik 1998). Rain is delivered to the island by prevailing trade winds which come from the northeast. Southern and southwestern portions of the island lie in the rain shadow of the Alakai Plateau, ridges, or other uplands, and receive relatively little rain (22 to 91 centimeters (cm) (9 to 36 in) per year in Waimea Town) (NOAA 1990–1999).

The Koloa District lies in the southeast corner of Kauai and includes the town of Koloa and the community and resort area of Poipu. The area is dry to mesic (moderate rainfall), receiving an average of 107 to 223 cm (42 to 88 in) of rain annually. Although the Koloa District includes upland areas such as ridge lines derived from the Alakai Plateau and Haupu ridge, most human-occupied areas lie between sea level and about 183 m (600 ft) in elevation.

The Koloa area is composed of the youngest rock on Kauai, the Koloa Volcanics (MacDonald *et al.* 1960;

Langenheim and Clague 1987), with flows dating from between 0.6 and 1.4 million years. Younger, consolidated marine deposits and lithified sand dunes lie on top of some coastal portions of the older Koloa Volcanics. The great age and subsequent weathering that has occurred on Kauai has resulted in most lava tubes having been collapsed or filled with sediments (MacDonald *et al.* 1960; Howarth 1973; Berger *et al.* 1981; Howarth 1987), relative to younger islands (e.g., Hawaii) where lava tubes are common features (Howarth 1983a). It is only in portions of the Koloa District, with its younger, cave-bearing rock, relative lack of developed soils, and minimal rainfall and subsequent sedimentation, that caves are known to be relatively common features on Kauai (Howarth 1981).

#### *Kauai Cave Wolf Spider*

The Kauai cave wolf spider (*Adelocosa anops*) is a member of the wolf spider family (Lycosidae). Spiders in this family are characterized by a distinctive eye pattern, including two particularly large eyes located within the middle row of eight eyes (Foelix 1982). While wolf spiders are typically visual predators, the most conspicuous physical character of the Kauai cave spider is its complete lack of eyes. This character is unique among wolf spiders and, in part, provides justification for the recognition of a separate genus for this taxon (Gertsch 1973). A few species of wolf spider have reduced eyes, including another cave-adapted species on the island of Hawaii, but only in the Kauai cave wolf spider are the eyes entirely absent. Adults of the Kauai cave wolf spider are about 12.7 to 19.0 millimeters (mm) (0.5 to 0.75 in) in total body length with a reddish-brown carapace, pale to silvery abdomen and beige to pale orange legs. The hind margin of each chelicera (biting jaw) bears three large teeth, two situated basally, and the third at the outer end of the chelicera. The tibiae of the two front pairs of legs have four pairs of ventral spines, and the tarsi (ultimate segments) and metatarsi (penultimate segments) of all legs bear unusually long, silky, and shiny trichobothria (sensory hairs) (Gertsch 1973).

Dr. Frank Howarth, of the Bishop Museum, first discovered the Kauai cave wolf spider in Koloa in 1971, and it was formally described by Willis Gertsch of the Bishop Museum (Gertsch 1973). The Kauai cave wolf spider is a predator, and although blind, can detect the presence of potential food items through chemo-tactile sensory organs and actively stalks its prey (Howarth 1983a).

Although predation has not been observed in the field, the spider probably feeds on the Kauai cave amphipod, other cave-inhabiting arthropods, and alien species of arthropods that enter the cave system. Compared to most wolf spiders, the reproductive capacity of the Kauai cave wolf spider is extremely low, with only 15 to 30 eggs produced in each egg sac (Wells *et al.* 1983; Howarth 1991). Newly hatched spiderlings are unusually large for wolf spiders, and are carried on the back of the female for only a few days (Howarth 1991; Howarth and Mull 1992). Other species of wolf spider may have in excess of 100 offspring per clutch and the newly hatched spiderlings are relatively small (Foelix 1982; Howarth 1991; Howarth and Mull 1992).

#### *Kauai Cave Amphipod*

The Kauai cave amphipod (*Spelaeorchestia koloana*) was discovered in some of the same caves as the Kauai cave wolf spider in 1971 (Bousfield and Howarth 1976). Because of the unusual attributes of a highly reduced pincher-like condition of the first gnathopod (thoracic appendage) of the amphipod, and the second gnathopod being mitten-like in both sexes, this taxon is placed in its own unique genus (*Spelaeorchestia*) within the family Talitridae (Bousfield and Howarth 1976). This species is also distinctive in its lack of eye facets and pigmentation, and extremely elongate, spiny, post-cephalic appendages. Adult cave amphipods are 7 to 10 mm (0.25 to 0.4 in) in length with a slender, laterally compressed body and a hyaline cuticle, giving it a shiny, translucent appearance. The second pair of antenna are slender and elongate, with the flagellum (slender outer part of the antenna) only slightly longer than the peduncle (narrow stalk attaching to the body). Peraeopods (abdominal walking legs) are very elongate, with slender, attenuated claws. All pleopods (swimming legs) are reduced, with branches vestigial or lacking. Uropods (tail-like appendages) 1 and 2 have well-developed pre-peduncles, and brood plates in the mature female are vestigial or entirely absent (Bousfield and Howarth 1976).

The Kauai cave amphipod is a detritivore and has been observed feeding on the roots of *Pithecellobium dulce* (Manila tamarind) and *Ficus* sp. (fig), rotting roots, sticks, branches, and other plant material washed into, or otherwise carried into the caves, as well as the fecal material of other arthropods. In large cave passages, most individuals are found in association with roots or

rotting plant debris. When disturbed, this cave amphipod typically moves slowly away rather than jumping like other amphipods. Nothing is known of the reproductive biology of this amphipod, but the vestigial brood plates of the female suggest they give birth to a small number of large offspring (Poulson and White 1969; Bousfield and Howarth 1976).

#### **Cave Habitat**

Cave habitats have a high degree of zonation which plays a major role in the distribution of cave-dwelling organisms. Howarth and Stone (1990) recognize five distinct zones, not all of which are always present within any one cave. The first zone, the "entrance zone," typically receives large amounts of solar radiation and is often vegetated with surface plants. Within the second zone, the "twilight zone," ambient light levels decrease as one moves away from the entrance and photosynthesizing plants that may be present in the entrance decline. The third zone is referred to as the "transition zone." The transition zone lacks light penetrance from the entrance, but other outside factors still greatly influence the cave habitat (e.g., ample air movement and daily temperature fluctuations). All of the above described zones (entrance, twilight, and transition) are typically influenced by surface conditions, daily cycles of warming and cooling, surface humidity, and a fair degree of air exchange occurring between these zones and surface habitats over relatively short periods of time (daily). The fourth cave zone, the "dark zone," typically exhibits a sharp climatological change from the three previously described zones. The dark zone largely lacks daily air exchange with the surface and the three previously described zones. The relatively constant conditions encountered in the dark zone are often the result of a narrowing cave passage or low ceiling(s) that serve as physical barriers that restrict air exchange with other cave zones, or may be due to an up-slope orientation into a dead-end passage that traps warm, moist air. While the dark zone may undergo drastic changes in temperature and relative humidity, this more often is associated with seasonal rather than diurnal changes in air temperature. As a result of this, dark zones are seasonally stable in their micro-climatic conditions, remaining warm and humid during warm seasons. The final recognized cave zone is that of the "stagnant" zone (Howarth and Stone 1990). This zone lies deeper than the dark zone, receiving significantly less air exchange. As a consequence, the

composition of gasses within this last zone is often largely controlled by the decomposition of organic matter and maintains high concentrations of carbon dioxide and low concentrations of oxygen. While considered inhospitable by human standards, field observations have indicated that obligate cave-dwelling species are highly tolerant of these conditions and many may, in fact, thrive in the stagnant air zone of caves (Howarth and Stone 1990).

Cave habitats almost always contain small voids, cracks, and passages (mesocaverns) that cannot be accessed by researchers (Howarth 1983b), but remain readily accessible (or preferred) by small troglobites (obligate cave-dwelling animals). Although such voids and cracks can occur in any zone and possess characteristics of each of the five zones, they frequently represent areas of reduced air flow and consequently are most similar to the dark and stagnant air zones. Passages and mesocaverns in limestone caves can form or be destroyed at almost anytime in the life of the cave, depending on the chemical characteristics of the rock and normal geologic processes. Limestone caves often become larger over time as acidic waters from the surface dissolve away the calcium carbonate bedrock. Since water flow enlarges and creates caves in limestone by solution, subterranean voids do not fill through erosion. If any do, the water quickly finds a different path and enlarges a new void. Limestone caves grow deeper as the water table sinks and the surface over the caves dissolves away. Limestone caves improve with age because, although individual voids and passages may be short-lived, limestone caves continuously reform so that habitat can remain suitable for very long time spans. Caves derived from lava tube systems are fundamentally different from limestone in that basalt is not as readily soluble. Hence, lava tube passages and mesocaverns do not typically dissolve away and become larger (formed), but are subject to filling with sediments (destroyed).

The tendency for Hawaiian basalt to shrink and crack upon cooling results in younger lava flows having an abundance of mesocaverns throughout their structure that may serve as habitat or as corridors between habitats. However, the cave-building process typically stops some time after cave and crack formation, and is replaced by the cave-filling processes as weathering and sedimentation begin filling in mesocaverns and passages. On younger islands, the abundance of mesocaverns may allow cave animals to move among and between larger, adjacent lava tubes

(Berger *et al.* 1981; Howarth 1991). However, because these smaller voids become filled with erosional sediment in older flows like the Koloa Volcanics, and as a result of surface disturbance (Mueller-Dombois and Howarth 1981; Adam Asquith, Service, *in litt.*, 1994a), it is less likely that the Kauai cave animals can readily move among separate lava tubes or other cave systems. Therefore, this places great importance on protecting the remaining undeveloped lands since they now represent only a fraction of habitat and interhabitat corridors where the cave animals can readily move between areas that were present before modern (i.e., post-European colonization) habitat modification.

Cave ecosystems are typically regarded as being food limited, and in most caves, the resident food-web communities require food input which is derived from surface systems based upon a photo-autotrophic (i.e., photosynthesizing plants) food base (Culver 1986). Nutrients may enter caves via subterranean streams or other surface runoff; as guano from bats, birds, rodents or other cave visitors or residents; or from plant roots that penetrate the cave (Culver 1986). Of these methods, roots from surface plants are the primary means by which Hawaiian caves receive nutrient input (Howarth 1973). Protection and/or restoration of surface plant communities is, therefore, an extremely important consideration for cave conservation in Hawaii, as it is elsewhere (Culver *et al.* 2000). Factors or activities that impact or modify surface vegetation over caves (e.g., fire, replacement of native or other perennial vegetation with grasses or some non-native plants) can damage or destroy the underlying cave community.

#### *Adaptations of Troglobitic Animals*

As discussed in the species descriptions of the Kauai cave wolf spider and cave amphipod, troglobites typically possess specialized anatomical characters that represent adaptations to life in the cave environment. Such anatomical adaptations include enlarged and/or elongate tactile-sensory appendages (e.g., legs or other appendages, antennae), and the lack of, or reduced, pigmentation and/or eyes (Barr 1968). Less obvious adaptations are also present in the physiology of troglobites and this has the potential to restrict their distribution within various cave zones (Huppopp 1985). Laboratory studies with Hawaiian crickets were conducted that compared the abilities of closely related surface and cave-dwelling forms (*Caconemobius* spp.) to cope with desiccation (Ahearn and

Howarth 1982). Surface-dwelling species exhibited considerably lower evaporation/desiccation rates than did the troglobitic species, and in one case, the surface species became dehydrated at half the rate of its cave-inhabiting relative. This low desiccation threshold largely confines these troglobites to the high-humidity environment of the deeper portions of caves, the dark and stagnant air zones. While such tests have not been conducted on the Kauai cave species, a logical assumption is that they have similar humidity tolerances, and this has been supported by field studies and observations conducted in the Kauai caves (see below). Similar adaptations in other troglobitic faunas (Vandel 1965; Barr 1968; Huppopp 1985) support the universality of these traits in troglobitic animals.

Given the great vulnerability of troglobites to desiccation, adjacent mesocavern habitats will contain appropriate microclimate conditions and provide habitat or serve as refugia for troglobites when conditions in the main cave passages become drier or otherwise less accommodating. For example, during a previous survey of one cave of the Koloa area, the Kauai cave amphipod was not observed (Miura and Howarth 1978). However, on a subsequent survey, the floor of a small, dead end passage was saturated with 40 liters (10 gallons) of water, and 24 hours later amphipods had moved into this area, presumably from the surrounding mesocaverns (Howarth 1983a, 1983b). The foraging activities of both the Kauai cave wolf spider and the Kauai cave amphipod are restricted to dark, moist areas of large caverns and mesocaverns, and it is possible that the majority of their time is spent within such spaces.

Both Howarth (1983a) and Huppopp (1985) have postulated that troglobites may be adapted to cope with low levels of oxygen and/or elevated concentrations of carbon dioxide, similar to conditions that would be encountered in the stagnant air zone of caves. This ability has been substantiated from observations in known stagnant air zones (Howarth and Stone 1990), as well as under controlled laboratory experiments. Hadley *et al.* (1981) conducted experiments with Hawaiian wolf spiders, both troglobites (*Lycosa howarthi*) and a related surface-dwelling species (*Lycosa* sp.). These researchers found the surface-inhabiting spider had a higher metabolic rate, requiring 2.5 times more oxygen as did its cave-dwelling relative. The reduced need for oxygen would better allow these spiders to survive in stagnant air cave zones. Given the ability of at least

some troglobites to cope with reduced oxygen and elevated carbon dioxide, as well as their ability to inhabit inaccessible mesocaverns, it is assured that many troglobites will be able to reside in areas not readily surveyed by biologists. Hence, cave habitats will extend well beyond those areas accessible by researchers (Howarth 1983a).

### Species Distribution and Abundance

The Kauai cave wolf spider and Kauai cave amphipod are generally restricted to cave dark and stagnant air zones, or other subterranean habitats such as cracks, voids, and other mesocaverns containing microclimate conditions similar to those zones. However, both the cave wolf spider and amphipod may be found in sub-optimal cave habitats (e.g., cave transition zone) when conditions are appropriate (e.g., elevated humidity during periods of increased rainfall). All of the caves where the cave amphipod has been located contain penetrating plant roots and/or other decomposing plant material which serves as a food source for this detritivore. Plant material upon which the amphipods feed need not be from native plants, although non-native toxic or indigestible plants may be inappropriate or damaging for amphipod foraging. The Kauai cave wolf spider can be found in caves where the cave amphipod does not occur, but, other, non-native arthropods (e.g., cockroaches, wood lice, small spiders) can be used as food for this generalist predator.

Since its discovery in 1971, the Kauai cave wolf spider has been observed in only five caves in the Koloa area. Since 1996, Service biologists have conducted annual surveys, and starting in 1998, we have conducted biannual monitoring visits to three of the known occupied caves. Observations recorded in these visits include a total count of animals within each cave, potential threats to the listed cave organisms or their habitat, and the cave's condition (e.g., human disturbance, presence of standing water). The following information is based on these monitoring visits.

In three of these five caves, wolf spiders have been seen on only three occasions, but have been more often observed in two other caves. Of the two known occupied caves, in only one of these are wolf spiders encountered during every monitoring visit with 14 to 28 individuals being encountered during any monitoring visit (USFWS data from 18 January 1996 to 22 June 2001). The second cave contains a smaller number of wolf spiders (one to

four per monitoring visit) and spiders are frequently absent; since April 2000, no wolf spiders have been observed in this cave. This decline in wolf spiders has been matched with a corresponding increase in the number of resident brown violin spiders, an alien, web-building species that likely preys upon both the Kauai cave wolf spider and amphipod (A. Asquith, *in litt.* 1994b; David Hopper, Service, *in litt.* 1999). Although these data are not conclusive, the declining numbers in the second of the regularly occupied caves warrants concern with regard to population persistence.

To date, the Kauai cave amphipod has been recorded from six caves in the Koloa area but is only regularly encountered in three of these caves. In one of these three caves, where the amphipod is found with the wolf spider, their numbers have ranged from 8 to 37 during the biannual monitoring visits. In another regularly occupied cave, amphipod numbers have increased steadily from 10 to 20 individuals per visit in pre-1998 counts to over 300 individuals during a visit in November 2000 (Service, unpub. data).

In three of the six known occupied caves, the lack of observations of the species is probably due to several factors. In one of these caves, relative humidity is often below 100 percent, which is a suboptimal condition for troglobites. Amphipods have been found in this cave when humidity conditions were optimal, such as after heavy rains which saturated the soil and increased the relative humidity in the dark zone. In a second cave, amphipods appeared to be resident but were only observed during two visits that were conducted soon after the cave had been exposed by heavy machinery, and prior to the cave being re-closed for road construction (A. Asquith, *in litt.* 1999). The last of these caves has been visited irregularly and amphipods have been observed during some, but not all, visits (Bousfield and Howarth 1976; D. Hopper, *in litt.* 1998a; D. Hopper, *in litt.*, 2000a).

Despite the data obtained in these biannual monitoring counts, the quantities of animals reported do not represent sound population estimates. The methods needed to conduct non-damaging, mark-recapture studies for accurate estimates of population size are yet un-developed for these animals, and no attempt to conduct such studies have been undertaken.

Cave systems may be separated by various physical barriers such as subterranean streams, or areas with developed soils that have filled in the mesocavern passages or habitats of these

old caves (Mueller-Dombois and Howarth 1981). The degradation and loss of naturally occurring mesocavern habitats and corridors has likely been accelerated with development or other land uses which often requires clearing of vegetation, blasting, and filling of trenches and construction sites. These activities, as well as modern agricultural practices, exacerbate the rates of sediment mobilization (Kirch 1982; Cuddihy and Stone 1990) resulting in the filling of caves and mesocaverns (Howarth 1973; Mueller-Dombois and Howarth 1981; Burney *et al.* 2001).

Because distinct species can evolve in adjacent lava tubes even when cave animals can move extensively through mesocaverns (Hoch and Howarth 1993), it is prudent to consider the separate localities of these animals as different populations, even though intervening areas of potential habitat cannot be surveyed. Thus, the Koloa Caves #1 and #2 and adjacent areas are considered to harbor one population of the spider and one population of the amphipod. The seaward Kiahuna Caves #267 and #276 harbor another population of both the spider and amphipod; the Kiahuna Cave #210 harbors a separate population each of the spider and amphipod; the Mahaulepu Cave harbors a population of the cave amphipod (Service, unpublished data, 1998–1999); and a small cave near the Koloa bypass road harbors a fifth amphipod population.

### Previous Federal Action

On June 16, 1978, we published in the **Federal Register** a proposal to list the Kauai cave wolf spider as an endangered species and the Kauai cave amphipod as threatened (43 FR 26084). That proposal was withdrawn on September 2, 1980 (45 FR 58171) as a result of a provision in the 1978 Amendments to the Endangered Species Act of 1973 that required withdrawal of all pending proposals that were not made final within 2 years of the proposal or within one year after passage of the Amendments, which ever period was longer. An initial comprehensive Notice of Review for invertebrate animals was published on May 22, 1984 (49 FR 21664), in which the Kauai cave wolf spider and Kauai cave amphipod were treated as category 2 candidates for Federal listing. Category 2 taxa were those for which conclusive data on biological vulnerability and threats were not currently available to support proposed rules.

We published an updated Notice of Review for animals on January 6, 1989 (54 FR 554). In this notice, the Kauai cave wolf spider and Kauai cave

amphipod were treated as category 1 candidates for Federal listing. Category 1 taxa were those for which we had on file substantial information on biological vulnerability and threats to support preparation of listing proposals. However, in the Notice of Review for all animal taxa published on November 21, 1991 (56 FR 58804), the two Kauai cave arthropods were listed as category 2 candidates. In the November 15, 1994, Notice of Review for all animal taxa (59 FR 58982), the two Kauai cave arthropods were again elevated to category 1 candidates. Upon publication of the February 28, 1996, Notice of Review (61 FR 7596), we ceased using candidate category designations and included the two cave arthropods as candidate species. Candidate species are those for which we have on file sufficient information on biological vulnerability and threats to support proposals to list the species as threatened or endangered. The two cave arthropods were included as candidate species in the September 19, 1997 (62 FR 49398), Notice of Review.

A proposed rule to list these two species as endangered was published on December 5, 1997 (62 FR 64340), and the final rule to list them was published on January 14, 2000 (65 FR 2348). Since that time, we have conducted conservation efforts through private lands partnerships with two landowners in the Koloa area within which the Kauai cave wolf spider and Kauai cave amphipod are known to occur.

In the proposed listing rule, we indicated that designation of critical habitat for the Kauai cave wolf spider and Kauai cave amphipod was not prudent. Our concern was that publication of precise maps and descriptions of critical habitat in the **Federal Register** could increase human visitation to these highly sensitive cave habitats, which could lead to incidents of vandalism, destruction of habitat, and unintentional cases of take. Also, we believed that critical habitat designation would not provide any additional benefit to these species beyond that provided through listing as endangered.

However, in the final rule, we determined that critical habitat designation was prudent as we did not find specific evidence of taking, vandalism, collection, or trade of these species or any other similarly situated species. Also, we did find that there may also be some educational or informational benefit to designating critical habitat. Therefore, we found that the benefits of designating critical habitat for these two species outweighed the benefits of not designating critical habitat.

On June 2, 2000, the U.S. District Court for the District of Hawaii, in the case of *Center for Biological Diversity v. Babbitt and Clark*, Civ. No. 99-00603 (D. Haw.), ordered us to publish the final critical habitat designation by February 1, 2002. Currently, the plaintiffs and the Service have entered into a consent decree dated October 2, 2001, stating that we will jointly seek an extension of this deadline to August 10, 2002 (*Center for Biological Diversity, et al. vs. Norton*, Civil No. 01-2063 (D.D.C)).

On February 14, 2001, we mailed pre-proposal letters to 96 interested parties and cave biologists informing them that we were in the process of designating critical habitat for the Kauai cave wolf spider and Kauai cave amphipod. We requested from them information on management of lands that are known to currently support the Kauai cave wolf spider or amphipod. The letters contained a fact sheet describing the two species and their habitat, and a map showing the presumed historic and current range (based on occupied habitat and the distribution of similar geology and soils) of one or both of these species. The letter requested any information regarding current or planned land management practices benefiting these animals or their habitat, which we requested be returned to us by March 31, 2001. We received eight responses to our landowner and interested parties mailing.

#### Critical Habitat

Critical habitat is defined in section 3, paragraph (5)(A) of the Act as—(i) the specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and, (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. “Conservation,” as defined by the Act, means the use of all methods and procedures that are necessary to bring an endangered or a threatened species to the point at which listing under the Act is no longer necessary.

Critical habitat receives protection under section 7 of the Act through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a Federal agency. Section 7 also requires conferences on Federal actions that are

likely to result in the destruction or adverse modification of proposed critical habitat. Destruction or adverse modification is direct or indirect alteration that appreciably diminishes the value of critical habitat for the conservation of a listed species. Such alterations include, but are not limited to, alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical. Aside from the added protection that may be provided under section 7, the Act does not provide other forms of regulatory protection to lands designated as critical habitat. Because consultation under section 7 of the Act does not apply to activities on private or other non-Federal lands that do not involve a Federal nexus, in such instances critical habitat designation would not afford any additional regulatory protection under the Act.

Critical habitat also provides non-regulatory benefits to the species by informing the public and private sectors of areas that are important for species recovery and where conservation actions would be most effective. Designation of critical habitat can help focus conservation activities for a listed species by identifying areas that contain the physical and biological features that are essential for the conservation of that species, and can alert the public as well as land-managing agencies to the importance of those areas. Critical habitat also identifies areas that may require special management considerations or protection, and may help provide protection to areas where significant threats to the species have been identified or help to avoid accidental damage to such areas.

In order to be included in a critical habitat designation, the habitat must be “essential to the conservation of the species.” Critical habitat designations identify, to the extent known and using the best scientific and commercial data available, habitat areas that provide essential life cycle needs of the species (i.e., areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)). Section 3(5)(C) of the Act states that not all areas that can be occupied by a species should be designated as critical habitat unless the Secretary determines that all such areas are essential to the conservation of the species. Our regulations (50 CFR 424.12(e)) also state that, “The Secretary shall designate as critical habitat areas outside the geographic area presently occupied by the species only when a designation limited to its present range would be

inadequate to ensure the conservation of the species.”

Section 4(b)(2) of the Act requires that, when determining the final designation of critical habitat, we take into consideration the economic impact, and any other relevant impact, of specifying any particular areas as critical habitat. We may exclude areas from critical habitat designation when the benefits of exclusion outweigh the benefits of including the areas within critical habitat, provided the exclusion will not result in extinction of the species.

Our Policy on Information Standards Under the Endangered Species Act, published on July 1, 1994 (59 FR 34271), provides criteria, establishes procedures, and provides guidance to ensure that decisions made by the Service represent the best scientific and commercial data available. It requires that our biologists, to the extent consistent with the Act and with the use of the best scientific and commercial data available, use primary and original sources of information as the basis for recommendations to designate critical habitat. When determining which areas are critical habitat, a primary source of information should be the listing rule for the species. Additional information may be obtained from a recovery plan, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys and studies, and biological assessments or other unpublished materials (i.e., gray literature).

Section 4 of the Act requires that we designate critical habitat based on what we know at the time of designation. Habitat is often dynamic, however, and populations may move from one area to another over time. In addition, given the cryptic nature of these animals and their habitat, additional populations may be discovered in other areas over time. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the recovery of the species. For these reasons, critical habitat designations do not signal that habitat outside the designation is unimportant or may not be required for recovery. Habitat areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1) of the Act and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard, and the section 9 take prohibition, as determined on the basis of the best available information at the time of the action. It is possible that federally

funded or assisted projects affecting listed species outside their designated critical habitat areas could jeopardize those species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans, or other species conservation planning and recovery efforts if new information available to these planning efforts calls for a different outcome.

#### Methods

As required by the Act and regulations (section 4(b)(2) and 50 CFR 424.12), we used the best scientific information available to determine areas that contain the physical and biological features that are essential for the survival and recovery of the Kauai cave wolf spider and the Kauai cave amphipod. This information included: peer-reviewed scientific publications; the final listing rule for the Kauai cave wolf spider and Kauai cave amphipod (65 FR 2348); the Hawaii Natural Heritage Program database; unpublished field data collected by Service biologists, unpublished field notes and communications with other qualified biologists or experts (e.g., F. Howarth, Bishop Museum); published descriptions of the regional geology and soils (MacDonald *et al.* 1960; Foote *et al.* 1972); and the Recovery Outline and draft Endangered Species Recovery Plan for Two Cave Arthropods from Kauai, Hawaii (Service, *in litt.*, 2000).

The Koloa lava tubes of Kauai and their associated endangered fauna were identified as one of the ten most endangered cave communities in the world (Tongvig and Mylroie, *in litt.* 1998; Belson 1999). Approximately 36 percent of the original habitat available for the cave animals is now designated as “urban” or “urban residential” (County of Kauai, *in litt.* 1994), and the human population of the Koloa area is expected to double by the year 2015 (KPMG Peat Marwick 1993). Thus most of the land that potentially harbored these animals has been highly modified, and an estimated 75 percent of the area has been rendered uninhabitable. The remaining habitat is being degraded by current land use or is threatened with degradation and destruction from proposed development and alien species. The area currently known to be occupied by the Kauai cave wolf spider and the Kauai cave amphipod represents a small percent of the species’ likely range, harboring three known (sub)populations of the Kauai cave wolf spider and five known (sub)populations of the Kauai cave

amphipod. These existing (sub)populations would be unlikely to persist because their small sizes make them vulnerable to extinction due to a variety of natural and human-induced processes. Small populations are particularly vulnerable to reduced reproductive vigor caused by inbreeding depression, and they may suffer a loss of genetic variability over time due to random genetic drift, resulting in decreased evolutionary potential and ability to cope with environmental change (Frankel 1970, 1983). Small populations are also demographically vulnerable to extinction caused by random fluctuations in population size and sex ratio and to catastrophes such as hurricanes (Soule 1983; Gilpin and Soule 1986). In addition, the low reproductive potential of both cave species (less than five percent of their surface relatives) means that they require more time and space to recover from a disturbance than would similar animals living on the surface (F. Howarth, *in litt.* 2001).

One of the major threats facing the Kauai cave wolf spider and the Kauai cave amphipod is the introduction of invasive alien diseases (F. Howarth, *in litt.* 2001). Of particular concern are the several disease-causing micro-organisms that are being sold or are in development for sale as biopesticides in the United States. These species are inhabitants of soil, and would be expected to do well in caves. An example of one of these micro-organisms currently used in Hawaii is BT (*Bacillus thuringiensis*). Most recently BT was promoted in the State’s efforts to eradicate an outbreak of dengue fever. In addition to intentional introductions, an unintentional introduction from a soil source originating outside of Hawaii could begin an epizootic that could sweep through part or all of the Koloa cave habitat. If portions of the habitat are more or less isolated and protected, the chances are greater that the animals would survive and eventually recolonize their former habitat. This situation would also apply for other surface disturbances, such as oil spills, pollution, and pesticide application.

Human impacts in the Koloa caves, and resulting impacts on the Kauai cave wolf spider and Kauai cave amphipod are another concern. Caves are frequently sought out by curiosity seekers, and over-use of caves occurs readily due to their fragile nature (Howarth 1982; Culver 1986). In addition, both natural and cultural features (e.g., human burials and associated artifacts) of caves are often damaged or destroyed by collectors or

vandals (Howarth 1982; N. McMahon, Hawaii Dept. Historic Preservation, pers. comm., 2001). Unauthorized visitation and vandalism is such an issue in caves that the Cave Resources Protection Act (16 U.S.C. 4301 *et seq.*; 102 Stat. 4546) was passed with the main intent of protecting cave-associated natural and cultural resources. Unauthorized entry and vandalism of the Koloa caves has been documented (D. Hopper, *in litt.*, 1998b, 2000a), and public interest in visiting caves is reflected in the publication of the location of two of these caves in a recent tourist guide (Doughty and Friedman 1998).

Human visitation to caves, even when not intentionally destructive, often results in severe impacts to the resident troglobites or other cave inhabitants. For example, nicotine is a potent insecticide that is easily introduced into the cave environment through cigarette smoke or discarded butts. Given the confined space and poor air circulation encountered in caves supporting suitable troglobite habitat, the effects of cigarette smoke are far more pronounced in caves (Howarth 1982; Howarth and Stone 1993). The impacts of cigarette smoke are not restricted to the main cavern and will also impact mesocavern habitats, where its effects cannot be seen. Although less toxic than cigarette smoke, wood fire smoke may be equally damaging since far more smoke is produced and detrital food reserves may be burned. The use of cigarettes, as well as fire activity, have been documented in the Koloa caves (D. Hopper, *in litt.*, 1998b, 2000a).

The narrow confines of most caves often result in focusing human travel and associated impacts to a small area, and increase the likelihood of troglobite mortality from unintentional trampling and the destruction or disturbance of food resources (e.g., roots, detrital matter). In addition, human use of caves frequently results in the importation of garbage, which encourages the invasion of caves by potential competitors and predators such as cockroaches (F. Howarth, Bishop Museum, pers. comm., 1994; A. Asquith, *in litt.*, 1994a).

The restricted area in which the Koloa cave animals occur is rapidly undergoing development (KPMG Peat Marwick 1993). The shallow cave habitat has been, and continues to be, degraded or destroyed through surface alterations such as the removal of perennial vegetation, soil fill, grading, paving, collapsing and filling of caves, diversion of waste water into subterranean voids and spaces, and other activities associated with development and agriculture.

The Kauai cave wolf spider and Kauai cave amphipod are also increasingly at risk from predation and competition for space, water, and nutrients by introduced, non-native animals (Howarth 1985, pers. comm., 1994; A. Asquith, *in litt.*, 1994a, b; D. Hopper, *in litt.*, 1999), biological and chemical pest control activities associated with residential and golf course development (Hawaii Office of State Planning 1992); and an increased likelihood of extinction from naturally occurring events due to the small number of remaining individuals, populations, and their limited distribution.

Due to the small number of known caves inhabited by these animals, we remain concerned that these threats may be exacerbated by the publication of critical habitat maps and further dissemination of locational information. Since publication of the proposed listing rule for these animals in 1997 (62 FR 64340), we have found evidence of increased entry and vandalism in these caves (D. Hopper, *in litt.* 1998b, 2000b). While direct and intentional threats to these species from human take and collection are not documented, the sensitive nature of these animals and their habitat to increased human presence makes increased human awareness of these caves a potential direct threat to the Kauai cave wolf spider and Kauai cave amphipod.

Prior to human alteration of the surface and subsurface habitats, which resulted in the loss of subterranean habitat and dispersal corridors, troglobite subpopulations were probably more genetically mixed, being exposed to a greater frequency of emigration and immigration between these subpopulations. Connecting subpopulations via dispersal corridors would increase the overall effective population size and increase genetic exchange, thereby helping to alleviate the threats associated with small population size, and would better reflect the conditions under which the Kauai cave wolf spider and the Kauai cave amphipod existed prior to human alteration of the Koloa area. Areas between known, occupied caves that could contain important subterranean habitat (e.g., undeveloped lands) include, but are not limited to: Active and fallow agricultural lands, livestock pasture, golf courses, undeveloped land between "low density" residences, and undisturbed, but biologically invaded (i.e., non-native weeds) forests and shrublands. Protecting habitat areas around known subpopulations of these endangered cave animals would increase the likelihood of their survival since it would potentially increase the

size of the habitat patch and increase the probability of emigration and immigration with other subpopulations. In addition, if each cave population is isolated, it will be only a matter of time before individual events eventually result in the extinction of each population in turn. If the caves are connected, the animals would have a better chance at retreating from disturbances and a disturbance affecting one or more cave systems will be less likely to result in the extinction of the species.

Section 3(5)(A)(ii) of the Act provides that areas outside the geographical area currently occupied by the species may meet the definition of critical habitat upon determination that they are essential for the conservation of these species. Although we do not know whether the entire area is currently occupied, to date, all caves that have been surveyed within the Koloa Basin, that contain the primary constituent elements, have contained the Kauai cave amphipod and/or cave wolf spider. Hence, where appropriate habitat occurs within the Koloa Basin, we fully expect it will be occupied by one or both of these species. Intervening areas between the known occupied caves, that are comprised of cave-bearing rock, will contain occupied habitat and/or serve as corridors between suitable habitat and all of these areas need to be protected if these species are to be conserved. The final rule listing the Kauai cave wolf spider and Kauai cave amphipod stressed that these animals were at increasing risk from "predation and competition for space, water, and nutrients by introduced, alien animals; biological and chemical pesticide control activities associated with residential and golf course development; and an increased likelihood of extinction from naturally occurring events due to the small number of remaining individuals and populations and their limited distribution" (65 FR 2348). Recovery may require augmentation or enhancement of suitable cave habitat in areas in which the current population densities of one or both of these animals are known to be low due to food limitation. Protected areas around and adjacent to accessible, occupied caves are needed for recovery since these habitat areas will allow for the expansion of existing populations and help alleviate the threats associated with small population size. Subterranean habitats that lack appropriate food resources must also be protected since such spaces will provide opportunities for dispersal among

subpopulations, promoting mate location and genetic exchange, and will allow these animals to gain access to other needed resources that may become limiting within a smaller area.

In determining these areas we started with lands within the region containing geologic and soil characters similar or identical to those of known, occupied, accessible caves. This area includes the Waikomo-Kalihi-Koloa soil association (Foote *et al.* 1972) where it overlies the Koloa Volcanic Series flows (MacDonald *et al.* 1960). Within this area, we conferred individually with the recognized expert on the probable distribution of appropriate mesocaverns (F. Howarth *in litt.* 2001). Multiple cave entrances are known within the following geographic zone—the area between Kukuiula Bay, northeast to Koloa Town and east to, and including, the volcanic cones inland of Poipu, as well as the Mahaulepu limestone bluff and cave and a wide connecting corridor in limestone and lava along the coast from Poipu to Mahaulepu. The whole region is similar to the Koloa Cave reserve (Kukuiula area) in surface environment and sporadic bare lava exposures, while areas to the south and east include prominent cave and mesocavern-bearing limestone features. Expert opinion is that these areas represent good habitat for the cave animals (F. Howarth, *in litt.* 2001). Within the areas described above are occupied lava tubes as well as geologic features indicating the presence of additional cave-bearing rock.

The Kukuiula area (that area lying between Kukuiula Bay, Koloa Town, Waikomo Stream and south to the coast) is known to contain numerous caves and cave-bearing rock. Two caves within this area are occupied by the Kauai cave wolf spider and the Kauai cave amphipod, and one of these caves is home to the largest known population of the wolf spider.

Three caves known to contain one or both of the Kauai cave arthropods are located in the area east of Waikomo Stream and west of the Poipu volcanic cones (Puu Wanawana, Puu Hunihuni, and the Puu Hi Reservoir cone). This area is similar to the Kukuiula area in the amount of exposed cave-bearing rock (pahoehoe lava flows) and degree of geologic weathering. In addition, Puu Wanawana and Puu Hi are spatter cones that are known to contain caves. In addition, the longest known cave on Kauai was located upslope from Kiahuna, between the Koloa Mill on the east and Koloa Town on the west. This cave was filled with cane waste in the early 1970s, before it could be surveyed but indicates that there are other caves

and mesocaverns in the area (Howarth 1973, and F. Howarth, pers. comm., 2001).

The exposed sea cliffs along the coast from Poipu to Mahaulepu are composed of calcified marine deposits. These karst outcrops are part of the same geologic deposits that contain the cave at Mahaulepu that is occupied by the Kauai cave amphipod. Solution pockets and voids are abundant in this rock type and, like the cave at Mahaulepu, lie on top of old, lava-tube-bearing pahoehoe flows. The presence of both basalt and calcareous cave-bearing rock along this coast line indicates that there is suitable habitat connecting the Mahaulepu caves with those of the lava tubes of the Koloa area.

Because a recovery plan for neither of these species has been completed, in making this determination we looked to the most likely historical distribution of the Kauai cave wolf spider and the Kauai cave amphipod. We included areas within the region containing geologic and soil characters similar or identical to those of known occupied habitat, and further refined it by conferring with the recognized expert on the probable distribution of mesocaverns in the Koloa area (F. Howarth *in litt.* 2001). This approach is consistent with the approved recovery outline for the Kauai cave wolf spider and the Kauai cave amphipod. If, after critical habitat for the Kauai cave wolf spider and the Kauai cave amphipod is designated, a final approved recovery plan for these animals calls for a different approach to the conservation of the Kauai cave wolf spider and the Kauai cave amphipod, we will consider amending the critical habitat designation, subject to resource and workload priorities.

#### Primary Constituent Elements

In accordance with section 3(5)(A)(i) of the Act and regulations at 50 CFR 424.12 in determining which areas to propose as critical habitat, we are required to consider those physical and biological features essential to the species' conservation that may require special management considerations and protection. Such features are termed primary constituent elements, and include but are not limited to: Space for individual and population growth and for normal behavior; food, water, air, minerals and other nutritional or physiological requirements; cover or shelter; and habitats that are protected from disturbance and represent the historic geographical and ecological distributions of the species.

The habitat requirements of the Kauai cave wolf spider and Kauai cave

amphipod may differ slightly as the wolf spider can feed on other arthropods that become trapped in caves or reside in caves facultatively. However, as observed elsewhere in Hawaii, the presence of a healthy, intact cave ecosystem, which includes roots or other sources of naturally occurring detritus and an associated detritivore or herbivore fauna, contains larger numbers of healthy troglobitic predators (A. Asquith, pers. comm., 2001). While native, troglobitic predators, detritivores, and herbivores may be present in caves lacking naturally occurring plant biomass, this situation represents an un-healthy cave ecosystem. Native troglobitic assemblages occurring in "sterile" caves (those lacking roots or other sources of active nutrient input) probably represent declining populations that will be extirpated as the existing plant biomass is consumed.

As with most troglobites, both the Kauai cave wolf spider and Kauai cave amphipod require dark or stagnant air zone habitats in caves. These zones typically have atmospheres with humidity at saturation levels (greater or equal to 100 percent), which is necessary to prevent desiccation and death of the troglobites.

A sustainable food base, such as the roots of living perennial plants or other sources of detritus, is necessary to support a breeding population and for the long-term survival of the Kauai cave amphipod and other herbivorous or detritivorous troglobites. In turn, healthy populations of herbivores or detritivores will help ensure that co-evolved predators, such as the Kauai cave wolf spider, will also persist as viable populations.

There is little information on what, if any, species of food plants are preferred by the Kauai cave amphipod. Since the amphipod is regarded as a detritivore, there may be little or no food specialization by these animals. However, plant species containing naturally occurring toxic compounds, such as tannins or alkaloids, might be of low food value, inhibit feeding, or result in the direct mortality of cave organisms. For this reason plant species and their potential toxicity must be considered as well. Likely candidates for suitable plants would be native species like ohia (*Metrosideros polymorpha*), maiapilo (*Capparis sandwichiana*), and aalii (*Dodonea viscosa*).

The primary constituent elements required by the Kauai cave wolf spider and the Kauai cave amphipod consist of two environmental parameters. The first of these is the presence of subterranean

spaces from 5 mm to 25 cm (0.2 in to 10 in) at the narrowest dimension (collectively termed “mesocaverns”) or caves or passages, (spaces greater than 25 cm) (>10 in) that have dark and/or stagnant air zones that maintain microclimates with humidity at saturation levels. The second is the presence of roots from living, non-toxic plants such as, but not limited to, ohia (*Metrosideros polymorpha*), maiapilo (*Capparis sandwichiana*), and aalii (*Dodonea viscosa*) in these types of mesocaverns or caves.

The areas proposed as critical habitat for the Kauai cave wolf spider and the Kauai cave amphipod are designed to incorporate what is essential for their conservation. Habitat components that are essential for these two species include the primary biological needs of foraging, reproduction, intra-specific communication, dispersal, genetic exchange, or non-restricted movement to appropriate microclimates in mesocaverns, and refugia from human induced or other environmental threats. Caves and mesocaverns containing actively growing tree roots or other sources of detritus provide a food source for herbivorous or detritivorous troglobites, which in turn provide food for predators. Such caves will be necessary for the long-term persistence of viable populations of the endangered troglobites by providing areas for foraging and reproduction. Caves and or mesocaverns lacking food resources but containing appropriate microclimates are important in providing corridors which facilitate movement and genetic exchange between populations or subpopulations. In addition, these areas may also provide dispersal opportunities from areas impacted by human-induced or other environmental threats, and may provide humid refugia at times when main cave passages become temporarily drier or otherwise less accommodating.

**Criteria Used To Identify Critical Habitat**

We used several criteria to identify and select lands for designation as critical habitat. First we selected critical habitat areas based on the known distributions of the Kauai cave wolf spider and the Kauai cave amphipod (known occupied habitat). We then

added lands containing the primary constituent elements that are needed for recovery of the species but where, due to the cryptic nature of the habitat, it is unknown whether they are occupied or not. As discussed in greater detail in the Methods section, in deciding which areas were essential for recovery, we used the areas within the region containing geologic and soil characters similar or identical to those of known occupied habitat. In addition, we conferred individually with the recognized expert on the probable distribution of mesocaverns in the Koloa area. These areas are likely to contain caves or appropriate mesocavern habitats. For the purpose of this proposed determination, critical habitat units have been described using Universal Transverse Mercator (UTM) North American Datum of 1983 (NAD83) coordinates using a scale of 1:85,000. Soil series was determined using information and maps from soil surveys (Foote *et al.* 1972). Geologic and soil features that appear to limit the distribution of cave and mesocavern habitats were determined using information and maps from MacDonald *et al.* (1960) and Foote *et al.* (1972).

We were unable to map the critical habitat unit boundaries in sufficient detail to exclude all existing developed lands that do not contain the primary constituent elements. As specified in the proposed rule language, existing features and structures within the boundaries of the mapped units that have resulted in below-surface modification or alteration are excluded from critical habitat designation. Human-constructed structures and features, such as large buildings, homes, major roads, and other activities or projects that require trenching, filling, and/or excavation, likely resulting in loss or severe degradation of the primary constituent elements and are therefore not included within this critical habitat designation. Such human-constructed structures and features would include homes and buildings for which the underlying bedrock has been altered for their construction through incorporation or connection to buried structural foundations, septic tanks, city sewage and drainage systems, or water and underground electrical supply corridors

and conduits. Additional areas that are also excluded from critical habitat include paved roads, locations of prior or current use as a quarry, and sewage treatment facilities. Included in critical habitat are areas that have been modified on the surface, but for which below-surface modifications have not severely altered the underlying bedrock and subterranean habitat. These land uses include but are not limited to— agriculture (e.g., sugar cane, corn, coffee), range land, golf courses, county and city parks, unimproved roads, and undeveloped lands. These areas may lie adjacent to areas that have undergone extensive below-surface modification. Prior to finalizing this rule, we will seek ways to refine our mapping in order to exclude, from within the critical habitat boundary, developed areas or other areas that do not contain the primary constituent elements and therefore, would not be considered to be critical habitat.

**Critical Habitat Proposal**

Lands proposed as critical habitat provide the full range of primary constituent elements needed by the Kauai cave wolf spider and Kauai cave amphipod, including cave-bearing rock underlying undeveloped areas and areas with minimum or moderate surface modification in the Koloa District, to be used for foraging, shelter, and raising of offspring. Habitat that provides for dispersal of individuals and allows genetic exchange between populations has also been incorporated. Undeveloped areas lying between known occupied caves will contain subterranean spaces and voids that will provide primary habitat or act as corridors for movement of animals between foraging sites and dispersal between subpopulations, and should be regarded as critical habitat. We may revise this proposal prior to final designation to incorporate or address new information received during the comment period.

Lands proposed as critical habitat for the Kauai cave wolf spider and Kauai cave amphipod occur in three separate units. The approximate area encompassing the proposed designation of critical habitat by land ownership is shown in Table 1.

TABLE 1.—APPROXIMATE PROPOSED CRITICAL HABITAT IN HECTARES (HA) (ACRES (AC)) BY LAND OWNERSHIP  
[Area estimates reflect critical habitat unit boundaries, not the primary constituent elements within]

Unit	State/Local	Private	Federal	Total
1a. Waikomo .....	128 ha 316 ac	1,480 ha 3,658 ac	0 ha 0 ac	1,608 ha 3,974 ac
1b. Waikomo .....	0 ha	7 ha	0 ha	7 ha

TABLE 1.—APPROXIMATE PROPOSED CRITICAL HABITAT IN HECTARES (HA) (ACRES (AC)) BY LAND OWNERSHIP—  
Continued

[Area estimates reflect critical habitat unit boundaries, not the primary constituent elements within]

Unit	State/Local	Private	Federal	Total
2. Haula .....	0 ac	17 ac	0 ac	17 ac
	0 ha	68 ha	0 ha	68 ha
3. Puu Keke .....	0 ac	168 ac	0 ac	168 ac
	0 ha	14 ha	0 ha	14 ha
Total .....	0 ac	34 ac	0 ac	34 ac
	128 ha 316 ac	1,569 ha 3,877ac	0 ha 0 ac	1,697 ha 4,193 ac

Proposed critical habitat includes land under private, county, and State ownership. Proposed lands include areas known to be occupied by the Kauai cave wolf spider and the Kauai cave amphipod and includes habitat with similar distribution of geologic and soil characteristics of known occupied habitat and that contain the most probable distribution of appropriate mesocaverns. A brief description of each unit and reasons for proposing it as critical habitat are presented below.

**Unit 1: Waikomo**

Unit 1 is the largest unit, encompassing 1,615 ha (3,991 ac) of the greater Koloa Basin from sea level to elevations of approximately 120 m (400 ft) above sea level. This unit has been further divided into two subunits, 1A and 1B, since intervening areas between these units have undergone development and the below surface habitats have been extensively modified. Natural features of the unit include Kaulala Point to the southwest, Makahuena Point to the extreme south, Puna-hoa Point to the southeast, and Puu Hunihuni. Developed areas within the unit include Koloa Town and the Poipu residential and resort area.

Unit (subunit) 1A is the larger of the two subunits, comprising the vast majority of the proposed critical habitat (1,608 ha (3,974 ac)). The western portion of this subunit does not include areas along the coast where prior intensive development (e.g., major road, resort, and home construction) have greatly altered the subsurface habitats. Coastal areas excluded from this subunit include developed areas from Kaulala Point to western Makahuena Point. This subunit does include coastal areas from the Puu Ainako and Makawehi Bluff/Bench areas and to the east to the end of this subunit (i.e. Punahoa Point and Mahaulepu).

Unit 1B is a relatively small subunit (7 ha (17 ac)) that is comprised of undeveloped basalt and calcareous sea cliffs and adjacent areas from eastern

Makahuena Point, east to areas above but adjacent to western Shipwreck Beach (Keonelo Bay). This area has been spared from extensive development and the cave-bearing nature of the rock is identical to the Mahaulepu area which includes a cave occupied by the cave amphipod.

The Koloa Basin was the first location where large-scale sugar cane cultivation was established in Hawaii. Although sugar cane is no longer commercially harvested in Koloa, it is present over extensive areas where soils are relatively well developed and other land uses have not been implemented. Given the long history and use of this area by Polynesian and European cultures, very little native vegetation is present and the area is dominated by alien species such as kiawe (*Prosopis pallida*), koa haole (*Leucaena leucocephala*), banyan (*Ficus* spp.), Manila tamarind (*Pithecellobium deluce*), and numerous other naturalized ornamentals and cultivars. Adjacent areas containing more contiguous stands of native vegetation are located at higher elevations, in areas of well-developed soils, outside of the Waikomo Soils area and the proposed critical habitat.

This unit (two subunits) contains all of the known occupied habitats of both the Kauai cave wolf spider and Kauai cave amphipod (i.e., a total of seven caves), and all of these caves occur within private or county land. All of the occupied caves occur in volcanic flows of the Koloa Volcanic Series, which are present as exposed rock or covered under the shallow soils of the Waikomo-Kalihi-Koloa soil association (Foote *et al.* 1972), or in depositions of cave-bearing, calcareous (e.g., calcified dunes, limestone) deposits. Proposed lands in Unit 1 provide for expansion of subpopulations by providing areas that share geologic and soil characteristics of known occupied habitat and include the most probable distribution of required mesocaverns. This habitat also has the largest human presence, which is likely to grow and increase, and therefore is

under the greatest threat from human visitation and development. Inclusion of this additional habitat is essential to provide for: population expansion and dispersal, refuge from catastrophic events, and habitat corridors needed to maintain gene-flow within the population and/or subpopulations.

**Unit 2: Haula**

Unit 2 is the second largest of the three units, being approximately 68 ha (168 ac) in total area covered. The elevational range of this unit is sea level to approximately 110 m (360 ft) above sea level. Natural features of the unit include Haula, Paoo Point, and a portion of the coast of Kawailoa Bay. Unit 2 contains no developed areas, but the area has been greatly altered from various human uses such as grazing, and has been altered by the invasion of alien plants such as koa haole and iron wood (*Casuarina equisetifolia*). Native dryland vegetation such as ilima (*Sida fallax*) and maiapilo (*Capparis sandwichiiana*) is common along portions of the coast line and uplands. The high-elevation portions of the unit need further surveys but are expected to be alien-dominated.

Unit 2 is composed of uplifted coral and algal reefs and consolidated calcareous deposits (MacDonald *et al.* 1960), and exposed, basaltic flows are not believed to be present within this unit. This unit lies only a short distance (approximately 350 m (1,100 ft)) from the occupied Waikomo Unit, and was likely once connected to that unit in the geologic past (Pleistocene Era) by deposits that have since eroded away or have been covered by unconsolidated sediments. It is not known if this unit is currently occupied by the Kauai cave wolf spider, Kauai cave amphipod, or other endemic troglobites.

Recent visits to this unit have found that the area is composed of exposed calcareous deposits containing cracks and solution pockets, which are indicative of the presence of underlying cave and mesocavern habitats. While

accessible caves have not been located, air-passages, holes, and fissures visible above ground strongly suggest the presence of underlying caves or mesocaverns. Critical habitat designation of this unit is proposed because of the cave-bearing nature of the geology, and because of the occurrence of occupied habitat in adjacent areas with similar geologic features. Because the types of voids that occur in these calcareous formations continuously reform thereby providing suitable habitat for very long time spans, this area is essential to provide for expansion and refuge from human and catastrophic environmental threats. This unit currently has minimal human presence in the area and there are no known current plans for development.

### Unit 3: Puu Keke

Approximately 14 ha (35 ac) in total area, Unit 3 is the smallest of the three units and lies between 30 to 60 m (100 to 200 ft) above sea level. It's geographic and geologic setting is similar to that of Unit 2 which lies less than 46 m (150 ft) to the east. Like Unit 2, the vegetation is not well characterized but most likely is largely dominated by alien vegetation.

This unit is also composed of consolidated calcareous deposits, and has a high probability of containing subsurface habitats, but details of the composition of these deposits are not known. The presence of obligate cave-dwelling organisms is presently unknown. Critical habitat designation of this unit is proposed because of the cave-bearing nature of the geology, and because of the occurrence of occupied habitat in adjacent areas with similar geologic features. Because the types of voids that occur in these calcareous formations continuously reform thereby providing suitable habitat for very long time spans, this area is essential to provide for expansion and refuge from human and catastrophic environmental threats. This unit currently has minimal human presence in the area and there are no known current plans for development.

### Effects of Critical Habitat Designation

#### *Section 7. Consultation*

Section 7(a) of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out do not destroy or adversely modify critical habitat. Destruction or adverse modification occurs when a Federal action directly or indirectly alters critical habitat to the extent it appreciably diminishes the value of the critical habitat for the conservation of the species. Individuals,

organizations, States, local governments, and other non-Federal entities are affected by the designation of critical habitat only if their actions occur on Federal lands, require a Federal permit, license, or other authorization, or involve Federal funding.

Section 7(a) of the Act requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is designated or proposed. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402.

Section 7(a)(4) of the Act requires Federal agencies to confer with us on any action likely to jeopardize the continued existence of a species proposed for listing or result in destruction or adverse modification of proposed critical habitat. Conference reports provide conservation recommendations to assist the agency in eliminating conflicts that may be caused by the proposed action. The conservation recommendations in a conference report are advisory. We may issue a formal conference report, if requested by the Federal action agency. Formal conference reports include an opinion that is prepared according to 50 CFR 402.14, as if the species was listed or critical habitat was designated. We may adopt the formal conference report as the biological opinion when the species is listed or critical habitat is designated, if no substantial new information or changes in the action alter the content of the opinion (see 50 CFR 402.10(d)).

If a species is listed or critical habitat is designated, section 7(a)(2) of the Act requires Federal agencies to ensure that actions they authorize, fund, or carry out are unlikely to jeopardize the continued existence of such a species or destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency (action agency) must enter into consultation with us. Through this consultation, the Federal agency would ensure that the permitted actions do not destroy or adversely modify critical habitat.

If we issue a biological opinion concluding that a project is likely to result in the destruction or adverse modification of critical habitat, we would also provide reasonable and prudent alternatives to the project, if any are identifiable. Reasonable and prudent alternatives are defined at 50 CFR 402.02 as alternative actions identified during consultation that can be implemented in a manner consistent

with the intended purpose of the action, that are consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that the Director believes would avoid destruction or adverse modification of critical habitat. Reasonable and prudent alternatives can vary from slight project modifications to extensive redesign or relocation of the project. Costs associated with implementing a reasonable and prudent alternative are similarly variable.

Regulations at 50 CFR 402.16 require Federal agencies to reinitiate consultation on previously reviewed actions in instances where critical habitat is subsequently designated and the Federal agency has retained discretionary involvement or control over the action or such discretionary involvement or control is authorized by law. Consequently, some Federal agencies may request reinitiation of consultation with us on actions for which formal consultation has been completed if those actions may affect designated critical habitat.

Activities on Federal lands that may affect the Kauai cave wolf spider or Kauai cave amphipod or their critical habitat will require section 7 consultation. Activities on private or State lands requiring a permit from a Federal agency, such as a permit from the U.S. Army Corps of Engineers (ACOE) under section 404 of the Clean Water Act, or some other Federal action, including funding (e.g., from the Federal Highway Administration, Federal Aviation Administration, Federal Emergency Management Agency (FEMA), or Natural Resources Conservation Service (NRCS)) will also continue to be subject to the section 7 consultation process. Federal actions not affecting listed species or critical habitat and actions on non-Federal lands that are not federally funded or permitted do not require section 7 consultation.

Section 4(b)(8) of the Act requires us to evaluate briefly in any proposed or final regulation that designates critical habitat those activities involving a Federal action that may adversely modify such habitat or that may be affected by such designation. Activities that may result in the destruction or adverse modification of critical habitat include those that alter the primary constituent elements to an extent that the value of critical habitat for the survival and recovery of the Kauai cave wolf spider and Kauai cave amphipod is appreciably reduced. We note that such activities also may jeopardize the continued existence of the species.

Activities that may directly or indirectly adversely affect critical habitat for these cave animals include, but are not limited to:

(1) Removing, thinning, or destroying perennial surface vegetation occurring directly above or adjacent to the cave or within the cave (roots) or mesocaverns (as defined in the primary constituent elements discussion), whether by burning, mechanical, chemical, or other means (e.g., wood cutting, grading, overgrazing, construction, road building, mining, herbicide application, etc.);

(2) Activities within or outside of the cave or other mesocavern (i.e., all cave-bearing rock) that promotes prolonged soil-disturbance, resulting in the filling of caves, voids, and mesocaverns, with sediments or other materials, or alters airflow, and/or light penetration such that habitat microclimates are exposed to conditions of desiccation. These activities include, but are not limited to: utilizing caves for the disposal of wastes or unwanted soil or rock, elevated and prolonged soil disturbance above or adjacent to cave-bearing rock, closing existing cave openings, breaching existing caves (i.e., creating new openings), modifying the natural geomorphology of a cave interior, passage, or opening;

(3) Appreciably decreasing habitat value or quality through indirect effects (e.g., introduction or promotion of potential troglomorphic (i.e., non-obligate cave visitors) predators, parasitoids, diseases, or disease vectors (e.g., non-native arthropods), vertebrate or invertebrate food competitors, or invasive plant species), habitat fragmentation, overgrazing, water diversion or impoundment, groundwater pumping, inappropriately planned ground water disposal (e.g., diversion into potential habitat or prevention of natural water recharge into soils and rock above and adjacent to caves) or other activities that could potentially alter water quality or quantity to an extent that vegetation structure is affected, reduced cave humidity levels, habitat is flooded, or toxic materials (e.g., pesticides, fuel, solvents, or other household or industrial chemicals) are transported into habitat, and activities that increase the risk of fire within or outside habitats above the cave;

(4) Application of pesticides, herbicides, insecticides, fungicides or other such chemicals within, above, or adjacent to known habitat, that may directly or indirectly affect troglomorphic organisms; and

(5) Release of certain biological control organisms within or outside of

the critical habitat area. Biological organisms include, but are not limited to: predaceous or parasitoid vertebrates or invertebrates, fungi, bacteria, or other natural or bio-engineered bio-control organisms.

To properly portray the effects of critical habitat designation, we must first compare the section 7 requirements for actions that may affect critical habitat with the requirements for actions that may affect a listed species. Section 7 prohibits actions funded, authorized, or carried out by Federal agencies from jeopardizing the continued existence of a listed species or destroying or adversely modifying the listed species' critical habitat.

Actions likely to result in the destruction or adverse modification of critical habitat would almost always result in jeopardy to the species concerned, particularly when the area affected by the proposed action is occupied by the species concerned. In those cases, critical habitat provides little additional protection to a species, and the ramifications of its designation are few or none. However, critical habitat designation in unoccupied areas may trigger consultation under section 7 of the Act where it would not have otherwise occurred if critical habitat had not been designated.

Federal agencies already consult with us on activities in areas where the species may be affected by their projects to ensure that their actions do not jeopardize the continued existence of the species. These actions include, but are not limited to:

(1) Regulation of activities affecting waters of the United States by the ACOE under section 404 of the Clean Water Act;

(2) Regulation of water flows, damming, diversion, and channelization by Federal agencies;

(3) Development on private or State lands requiring permits from other Federal agencies, such as the Department of Housing and Urban Development;

(4) Construction of communication sites licensed by the Federal Communications Commission;

(5) Road construction and maintenance, right-of-way designation, and regulation of agricultural activities by Federal agencies;

(6) Hazard mitigation and post-disaster repairs funded by the FEMA; and

(7) Activities not previously mentioned that are funded or authorized by the U.S. Department of Agriculture (Forest Service, NRCS), Department of Defense, Department of Transportation, Department of Energy, Department of

the Interior (U.S. Fish and Wildlife Service, U.S. Geological Survey, National Park Service), Department of Commerce (National Oceanic and Atmospheric Administration), ACOE, FEMA, Environmental Protection Agency, or any other Federal agency.

If you have questions regarding whether specific activities would constitute adverse modification of critical habitat, contact the Field Supervisor, Pacific Islands Ecological Services Field Office (see **ADDRESSES** section). Requests for copies of the regulations on listed wildlife and plants, and inquiries about prohibitions and permits, should be directed to the U.S. Fish and Wildlife Service, Endangered Species Act Section 10 Program at the same address.

#### *Exclusions Under Section 3(5)(A) Definition*

Critical habitat is defined in section 3, paragraph (5)(A) of the Act as—(i) the specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and, (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. Special management and protection are not required if adequate management and protection are already in place. Adequate special management or protection is provided by a legally operative plan/agreement that addresses the maintenance and improvement of the primary constituent elements important to the species and manages for the long-term conservation of the species. If any areas containing the primary constituent elements are currently being managed to address the conservation needs of the Kauai cave wolf spider and/or the Kauai cave amphipod and do not require additional management or protection, we may exclude such areas from the proposed rule because they would not meet the definition of critical habitat in section 3(5)(A)(i) of the Act.

We used the following three guidelines to determine if a plan provides adequate management or protection—(1) A current plan specifying the management actions must be complete and provide sufficient conservation benefit to the species; (2) the plan must provide assurances that the conservation management strategies will be implemented; and (3) the plan

must provide assurances that the conservation management strategies will be effective.

In determining if management strategies are likely to be implemented, we considered whether: (1) A management plan or agreement exists that specifies the management actions being implemented or to be implemented; (2) there is a timely schedule for implementation; (3) there is a high probability that the funding source(s) or other resources necessary to implement the actions will be available; and (4) the party(ies) have the authority and long-term commitment to the agreement or plan to implement the management actions, as demonstrated, for example, by a legal instrument providing enduring protection and management of the lands.

In determining whether an action is likely to be effective, we considered whether: (1) The plan specifically addresses the management needs, including reduction of threats to the species; (2) such actions have been successful in the past; (3) there are provisions for monitoring and assessment of the effectiveness of the management actions; and (4) adaptive management principles have been incorporated into the plan.

Based on information provided to us by landowners and managers to date, we find no areas are adequately managed and protected to address all of the threats to Kauai cave wolf spider and Kauai cave amphipod and thus no areas qualify for exclusion under section 3(5)(A) of the Act. Several areas are covered under management plans and are currently managed in a manner that meets some of the conservation needs of the Kauai cave wolf spider and/or the Kauai cave amphipod, but we find that in none of these areas does present management adequately reduce all the primary threats to these species or that such management will be implemented into the future. For example, we have no assurance that one cave system, currently free of development plans, will retain a protected status for the long-term. Other areas of habitat lack a timely implementation schedule and appropriate management has lagged.

Adequate reduction of the threat from non-native predators (e.g., brown violin spider), already present within some caves may, to some extent, require different management activities. This may be difficult for managers to control and is not, at this time, a requirement in determining whether an area is being adequately managed such that it does not meet the definition of critical habitat.

#### *Exclusions Under Section 4(b)(2)*

Section 4(b)(2) of the Act requires that we designate critical habitat on the basis of the best scientific and commercial information available, and that we consider the economic and other relevant impacts of designating a particular area as critical habitat. We may exclude areas from critical habitat designation if the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. We will conduct an economic analysis for this proposal prior to making a final determination. When completed, we will announce the availability of the draft economic analysis with a notice in the **Federal Register**, and we will open a 30-day comment period on the draft economic analysis and proposed rule at that time.

We believe that in most instances the benefits of excluding habitat conservation plans (HCPs) from critical habitat designations will outweigh the benefits of including them. Currently, there are no HCPs including the Kauai cave wolf spider and/or the Kauai cave amphipod as covered species. However, two separate landowners have entered into cooperative agreements with us that cover both of these species.

Conservation actions were outlined in those agreements to benefit these species, and one landowner has initiated a couple of those actions, such as gating and locking one of the caves to prevent disturbance, and planting suitable vegetation above the cave foot print to enhance the below-ground habitat. The other landowner has not yet initiated conservation actions outlined in their agreement. In the event that these cooperative agreements are developed into HCPs, or future HCPs are developed within the boundaries of designated critical habitat, we will work with applicants to encourage them to provide for protection and management of habitat areas essential for the conservation of these species. This could be accomplished by either directing development and habitat modification to nonessential areas, or appropriately modifying activities within essential habitat areas to minimize impacts to critical habitat.

#### **Public Comments Solicited**

We intend that any final action resulting from this proposal be as accurate and as effective as possible. Therefore, we solicit comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this

proposed rule. We are particularly interested in comments concerning:

(1) The reasons why any area should or should not be determined to be critical habitat as provided by section 4 of the Act, including whether the benefits of designation will outweigh any threats to the species due to designation;

(2) Specific information on the number and/or distribution of Kauai cave wolf spider and/or the Kauai cave amphipod, and what areas are essential to the conservation of these species and why;

(3) Whether lands within proposed critical habitat are currently being managed to address the conservation needs of the Kauai cave wolf spider and/or the Kauai cave amphipod;

(4) Land use practices and current or planned activities in the subject areas and their possible impacts on proposed critical habitat;

(5) Any foreseeable economic or other impacts resulting from the proposed designation of critical habitat, in particular, any impacts on small entities or families;

(6) Whether future development and approval of conservation measures (e.g., Conservation Agreements, Safe Harbor Agreements, etc.) should be excluded from critical habitat and, if so, by what mechanism; and,

(7) Economic and other values associated with designating critical habitat for the Kauai cave wolf spider and/or the Kauai cave amphipod, such as those derived from non-consumptive uses (e.g., hiking, sight-seeing, enhanced watershed protection, improved air quality, increased soil retention, "existence values," and reductions in administrative costs).

If you wish to comment, you may submit your comments and materials concerning this proposal by any one of several methods (see **ADDRESSES**). The Service is soliciting comments and additional information on the Kauai cave wolf spider and amphipod, their habitats, and any new information on their status or status of the habitat or lands throughout the proposed critical habitat area.

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Respondents may request that we withhold their home address, which we will honor to the extent allowable by law. In some circumstances, we would withhold from the rulemaking record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this request prominently at the

beginning of your comment. However, we will not consider anonymous comments. To the extent consistent with applicable law, we will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the Pacific Islands Fish and Wildlife Office in Honolulu.

#### Peer Review

In accordance with our policy published on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of such review is to ensure listing and critical habitat decisions are based on scientifically sound data, assumptions, and analyses. We will send copies of this proposed rule to these peer reviewers immediately following publication in the **Federal Register**. We will invite these peer reviewers to comment, during the public comment period, on the specific assumptions and conclusions regarding the proposed designations of critical habitat.

We will consider all comments and data received during the 60-day comment period on this proposed rule during preparation of a final rulemaking. Accordingly, the final decision may differ from this proposal.

#### Clarity of the Rule

Executive Order 12866 requires each agency to write regulations and notices that are easy to understand. We invite your comments on how to make this proposed rule easier to understand, including answers to questions such as the following: (1) Are the requirements in the proposed rule clearly stated? (2) Does the proposed rule contain technical language or jargon that interferes with the clarity? (3) Does the format of the proposed rule (grouping and order of sections, use of headings, paragraphing, etc.) aid or reduce its clarity? (4) Is the description of the proposed rule in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful in understanding the document? (5) Is the background information useful and is the amount appropriate? (6) What else could we do to make the proposed rule easier to understand?

Send a copy of any comments that concern how we could make this notice easier to understand to: Office of Regulatory Affairs, Department of the

Interior, Room 7229, 1849 C Street, NW, Washington, DC 20240.

#### Required Determinations

##### *Regulatory Planning and Review*

##### *Executive Order 12866*

In accordance with Executive Order (E.O.) 12866, this document is a significant rule and has been reviewed by the Office of Management and Budget (OMB) in accordance with the four criteria discussed below. We are preparing a draft economic analysis of this proposed action, which will be available for public comment, to determine the economic consequences of designating the specific areas as critical habitat. The availability of the draft economic analysis will be announced in the **Federal Register** so that it is available for public review and comment.

(a) While we will prepare an economic analysis to assist us in considering whether areas would be excluded from critical habitat designation pursuant to section 4 of the Act, we do not believe this rule will have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, jobs, the environment, public health or safety, or State, local or tribal communities. Therefore, we do not believe a cost benefit and economic analysis pursuant to E.O. 12866 is required.

Under the Act, critical habitat may not be adversely modified by a Federal agency action; critical habitat does not impose any restrictions on non-Federal persons unless they are conducting activities funded or otherwise sponsored or permitted by a Federal agency. Section 7 of the Act requires Federal agencies to ensure that they do not jeopardize the continued existence of the species. Based on our experience with the species and its needs, we believe that any Federal action or authorized action that could potentially cause an adverse modification of the proposed critical habitat would currently be considered as jeopardy to the species under the Act in areas occupied by the species.

Accordingly, we do not expect the designation of areas as critical habitat within the geographical range of the species to have any incremental impacts on what actions may or may not be conducted by Federal agencies or non-Federal persons that receive Federal authorization or funding. The designation of areas as critical habitat where section 7 consultations would not have occurred but for the critical habitat

designation may have impacts on what actions may or may not be conducted by Federal agencies or non-Federal persons who receive Federal authorization or funding that are not attributable to the species listing. We will evaluate any impact through our economic analysis (under section 4 of the Act: see the "Exclusions Under Section 4(b)(2)" section of this rule). Non-Federal persons who do not have a Federal sponsorship of their actions are not restricted by the designation of critical habitat.

(b) We do not believe this rule would create inconsistencies with other agencies' actions. As discussed above, Federal agencies have been required to ensure that their actions not jeopardize the continued existence of the Kauai cave wolf spider and the Kauai cave amphipod since its listing in January 2000 (66 FR 4770). We will evaluate any additional impact through our economic analysis. Because of the potential for impacts on other Federal agencies activities, we will continue to review this proposed action for any inconsistencies with other Federal agencies actions.

(c) We do not believe this rule, if made final, would materially affect entitlements, grants, user fees, loan programs, or the rights and obligations of their recipients. Federal agencies are currently required to ensure that their activities do not jeopardize the continued existence of a listed species, and, as discussed above, we will evaluate any additional impacts through an economic analysis.

(d) OMB has determined that this rule raises novel legal or policy issues and, as a result, this rule has undergone OMB review.

##### *Regulatory Flexibility Act (5 U.S.C. 601 et seq.)*

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (i.e., small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended the Regulatory Flexibility Act to require Federal agencies to provide a statement of the factual basis for certifying that the

rule will not have a significant economic impact on a substantial number of small entities. SBREFA also amended the RFA to require a certification statement. In today's rule, we are certifying that the rule will not have a significant economic impact on a substantial number of small entities. The following discussion explains our rationale.

According to the Small Business Association, small entities include small organizations, such as independent non-profit organizations, and small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents, as well as small businesses. Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than \$5 million in annual sales, general and heavy construction businesses with less than \$27.5 million in annual business, special trade contractors doing less than \$11.5 million in annual business, and agricultural businesses with annual sales less than \$750,000. To determine if potential economic impacts to these small entities are significant, we consider the types of activities that might trigger regulatory impacts under this rule as well as the types of project modifications that may result. In general, the term significant economic impact is meant to apply to a typical small business firm's business operations.

To determine if the rule would affect a substantial number of small entities, we consider the number of small entities affected within particular types of economic activities (e.g., housing development, grazing, oil and gas production, timber harvesting, etc.). We apply the "substantial number" test individually to each industry to determine if certification is appropriate. In some circumstances, especially with proposed critical habitat designations of very limited extent, we may aggregate across all industries and consider whether the total number of small entities affected is substantial. In estimating the numbers of small entities potentially affected, we also consider whether their activities have any Federal involvement; some kinds of activities are unlikely to have any Federal involvement and so will not be affected by critical habitat designation.

Designation of critical habitat only affects activities conducted, funded, or permitted by Federal agencies; non-Federal activities are not affected by the designation. In areas where the species

is present, Federal agencies are already required to consult with us under section 7 of the Act on activities that they fund, permit, or implement that may affect the Kauai cave wolf spider or the Kauai cave amphipod. If this critical habitat designation is finalized, Federal agencies must also consult with us if their activities may affect designated critical habitat. However, we do not believe this will result in any additional regulatory burden on Federal agencies or their applicants where consultation would already be required due to the presence of the listed species, because the duty to avoid adverse modification of critical habitat would not likely trigger additional regulatory impacts beyond the duty to avoid jeopardizing the species.

Even if the duty to avoid adverse modification does not trigger additional regulatory impacts in areas where the species is present, designation of critical habitat could result in an additional economic burden on small entities due to the requirement to reinstate consultation for ongoing Federal activities. However, since the Kauai cave wolf spider and the Kauai cave amphipod have only been listed since January 2000, and no consultations have occurred involving these species, the requirement to reinstate consultations for ongoing projects will not affect a substantial number of small entities.

When the species is clearly not present, designation of critical habitat could trigger additional review of Federal activities under section 7 of the Act. Because the Kauai cave wolf spider and the Kauai cave amphipod have been listed only a relatively short time and no activities with Federal involvement have occurred in these areas during this time, there is no history of any formal consultations based on the listing of these species. Therefore, for the purposes of this review and certification under the Regulatory Flexibility Act, we are assuming that any future consultations in the area proposed as critical habitat will be due to the critical habitat designation.

None of the proposed designation is on Federal lands. One of the three units contain land parcels owned and managed by the State of Hawaii. All of these State owned parcels are zoned as "urban." On State lands, activities with no Federal involvement would not be affected by the critical habitat designation.

All three units of the proposed designation include private land. On private lands, activities that lack Federal involvement would not be affected by the critical habitat designation.

On the Island of Kauai, previous consultations under section 7 of the Act between us and other Federal agencies most frequently involved the Department of the Navy, and the ACOE. In the case of ACOE consultations, the applicant is often the County of Kauai which is not considered a small entity as defined here. ACOE consultations involve wetlands or waterways and occur due to the presence of species that spend at least part of their life in aquatic habitats. Consultation with the ACOE may occur if a permit is required for a project in Waikomo Stream that may negatively impact adjacent cave systems. Waikomo Stream runs between two known occupied cave systems and consultation may be required if the activities on the stream may affect the cave systems and the Kauai cave amphipod and Kauai cave wolf spider.

In general, two different mechanisms in section 7 consultations could lead to additional regulatory requirements. First, if we conclude, in a biological opinion, that a proposed action is likely to jeopardize the continued existence of a species or adversely modify its critical habitat, we can offer "reasonable and prudent alternatives." Reasonable and prudent alternatives are alternative actions that can be implemented in a manner consistent with the scope of the Federal agency's legal authority and jurisdiction, that are economically and technologically feasible, and that would avoid jeopardizing the continued existence of listed species or resulting in adverse modification of critical habitat. A Federal agency and an applicant may elect to implement a reasonable and prudent alternative associated with a biological opinion that has found jeopardy or adverse modification of critical habitat. An agency or applicant could alternatively choose to seek an exemption from the requirements of the Act or proceed without implementing the reasonable and prudent alternative. However, unless an exemption were obtained, the Federal agency or applicant would be at risk of violating section 7(a)(2) of the Act if it chose to proceed without implementing the reasonable and prudent alternatives. Secondly, if we find that a proposed action is not likely to jeopardize the continued existence of a listed animal species, we may identify reasonable and prudent measures designed to minimize the amount or extent of take and require the Federal agency or applicant to implement such measures through non-discretionary terms and conditions. However, the Act does not prohibit the take of listed plant species or require terms and conditions to minimize

adverse impact to critical habitat. We may also identify discretionary conservation recommendations designed to minimize or avoid the adverse effects of a proposed action on listed species or critical habitat, help implement recovery plans, or develop information that could contribute to the recovery of the species.

Based on our experience with section 7 consultations for all listed species, virtually all projects—including those that, in their initial proposed form, would result in jeopardy or adverse modification determinations in section 7 consultations—can be implemented successfully with, at most, the adoption of reasonable and prudent alternatives. These measures, by definition, must be economically feasible and within the scope of authority of the Federal agency involved in the consultation. Although we have no consultation history for the Kauai cave wolf spider or the Kauai cave amphipod prior to their listing as endangered species, a road project was slightly modified when a cave occupied by the Kauai cave amphipod was breached and threatened by the construction. The Service provided technical assistance to the Federal Highways Administration (FHA) which resulted in the project being implemented in a timely fashion without major changes, little or no added project costs, and without impacting the cave habitat. The modifications suggested were based on the geometry of the cave in relation to the road construction project, and our understanding of the needs of the species and the threats it faces, especially as described in the final listing rule, the draft Recovery Plan, and in this proposed critical habitat designation, as well scientific papers on the habitat requirements of troglitic species. The kinds of actions that may be included in future reasonable and prudent alternatives include conservation set-asides, identification and protection of occupied habitats, management of competing non-native species and predators, restoration and management of degraded habitat (surface and subterranean), and regular monitoring. For most foreseeable projects, these measures are not likely to result in a significant economic impact to project proponents because based on our experience, no proposed projects have been prevented from being implemented with or without some modification, due to the presence of known occupied caves, and some of these activities have been carried out by other private landowners with Service involvement. As required under section

4(b)(2) of the Act, we will conduct an analysis of the potential economic impacts of this proposed critical habitat designation, and will make that analysis available for public review and comment before finalizing this designation.

In summary, we have considered whether this proposed rule would result in a significant economic impact on a substantial number of small entities. It would not have a significant economic impact on a substantial number of small entities. The entire designation involves three units which primarily includes private land as well as some State and County lands. Probable future land uses in these areas are not expected to result in a Federal nexus or section 7 consultations. Projects likely to occur in these areas would likely involve only private funding and are not likely to require Federal permits. In these areas, Federal involvement—and thus section 7 consultations, the only trigger for economic impact under this rule—would be limited to a subset of the area proposed. The most likely Federal involvement would be associated with activities involving the U.S. Department of Agriculture, Federal Highways Administration (U.S. Department of Transportation), or the Federal Emergency Management Agency. This rule would result in project modifications only when proposed Federal activities would destroy or adversely modify critical habitat. While this may occur, it is not expected frequently enough to affect a substantial number of small entities. Even when it does occur, we do not expect it to result in a significant economic impact since we expect that most proposed projects, with or without modification, can be implemented in such a way as to avoid adversely modifying critical habitat, as the measures included in reasonable and prudent alternatives must be economically feasible and consistent with the proposed action. The kinds of measures we anticipate we would provide can usually be implemented at low cost and include activities or measures such as modification of project foot-print, landscaping with native, perennial vegetation, and controlled use of pesticides. We are certifying that the proposed designation of critical habitat for the Kauai cave wolf spider and the Kauai cave amphipod will not have a significant economic impact on a substantial number of small entities and that this proposed rule does not meet the criteria under SBREFA as a major rule: therefore an initial regulatory flexibility analysis is not required.

#### *Executive Order 13211*

On May 18, 2001, the President issued E.O. 13211 on regulations that significantly affect energy supply, distribution, and use. E.O. 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. Although this rule is a significant action under E.O. 12866, it is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action and no Statement of Energy Effects is required.

#### *Unfunded Mandates Reform Act (2 U.S.C. 1501 et seq.)*

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 August 25, 2000 *et seq.*):

a. This rule, as proposed, will not “significantly or uniquely” affect small governments. A Small Government Agency Plan is not required. Small governments will be affected only to the extent that any programs having Federal funds, permits, or other authorized activities must ensure that their actions will not adversely affect the critical habitat. However, as discussed above, these actions are currently subject to equivalent restrictions through the listing protections of the species, and no further restrictions are anticipated to result from critical habitat designation of occupied areas. In our economic analysis, we will evaluate any impact of designating areas where section 7 consultations would not have occurred but for the critical habitat designation.

b. This rule, as proposed, will not produce a Federal mandate on State, local, or tribal governments or the private sector of \$100 million or greater in any year; that is, it is not a “significant regulatory action” under the Unfunded Mandates Reform Act. The designation of critical habitat imposes no obligations on State or local governments.

#### *Takings*

In accordance with Executive Order 12630 (“Government Actions and Interference with Constitutionally Protected Private Property Rights”), we have analyzed the potential takings implications of designating critical habitat for the Kauai cave wolf spider and the Kauai cave amphipod in a preliminary takings implication assessment. The takings implications assessment concludes that this proposed rule does not pose significant takings implications. Once the revised economic analysis is completed for this proposed rule, we will review and revise this preliminary assessment as warranted.

**Federalism**

In accordance with Executive Order 13132, the rule does not have significant Federalism effects. A Federalism assessment is not required. As discussed above, the designation of critical habitat in areas currently occupied by the Kauai cave wolf spider and the Kauai cave amphipod would have little incremental impact on State and local governments and their activities. The designations may have some benefit to these governments in that the areas essential to the conservation of these species are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the species are identified. While this definition and identification does not alter where and what federally sponsored activities may occur, it may assist these local governments in long-range planning rather than waiting for case-by-case section 7 consultation to occur.

**Civil Justice Reform**

In accordance with E.O. 12988, the Department of the Interior's Office of the Solicitor has determined that this proposed rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order. We propose to designate critical habitat in accordance with the provisions of the Act, and will plan public hearings on the proposed designation during the comment period, if requested. The rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of the Kauai cave wolf spider and Kauai cave amphipod.

**Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)**

This rule does not contain any information collection requirements for which OMB approval under the Paperwork Reduction Act is required. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB Control Number.

**National Environmental Policy Act**

We have determined that an Environmental Assessment or an Environmental Impact Statement as defined by the National Environmental Policy Act of 1969 need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act as amended. A notice outlining our reason for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244). This proposed rule does not constitute a major Federal action significantly affecting the quality of the human environment.

**Government-to-Government Relationship With Tribes**

In accordance with the President's memorandum of April 29, 1994, "Government-to-Government Relations with Native American Tribal Governments" (59 FR 22951), Executive Order 13175, and 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. The proposed designation of critical habitat for the Kauai cave wolf spider and Kauai cave amphipod does not contain any Tribal lands or lands that we have

identified as impacting Tribal trust resources.

**References Cited**

A complete list of all references cited in this proposed rule is available, upon request, from the Pacific Islands Fish and Wildlife Office (see **ADDRESSES** section).

**Author**

This rule was primarily prepared by the Pacific Islands Fish and Wildlife Office (see **ADDRESSES** section).

**List of Subjects in 50 CFR Part 17**

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

**Proposed Regulation Promulgation**

Accordingly, we propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations as set forth below:

**PART 17—[AMENDED]**

1. The authority citation for part 17 continues to read as follows:

**Authority:** 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. In § 17.11(h) revise the entries for "spider, Kauai cave wolf" under "ARACHNIDS" and "amphipod, Kauai cave" under "CRUSTACEANS" to read as follows:

**§ 17.11 Endangered and threatened wildlife.**

\* \* \* \* \*  
(h) \* \* \*

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
* ARACHNIDS	* *	* *	* *	* *	* *	* *	* *
Spider, Kauai cave wolf	<i>Adelocosa anops</i>	U.S.A. (HI)	NA	E	676	17.95(g)	NA
* CRUSTACEANS	* *	* *	* *	* *	* *	* *	* *
Amphipod, Kauai cave	<i>Spelaeorchestia koloana</i>	U.S.A. (HI)	NA	E	676	17.95(h)	NA

3. Amend § 17.95 by adding, in the same alphabetical order as these species occur in § 17.11(h):

a. In paragraph (g), critical habitat for the Kauai cave wolf spider (*Adelocosa anops*); and

b. In paragraph (h), critical habitat for the Kauai cave amphipod (*Spelaeorchestia koloana*), as set forth below.

**§ 17.95 Critical habitat—fish and wildlife.**

\* \* \* \* \*  
(g) *Arachnids.*

Kauai cave wolf spider (*Adelocosa anops*)

(1) Critical habitat units are depicted for the island of Kauai, Hawaii, on the map below.

(2) The primary constituent elements for the Kauai cave wolf spider and the

Kauai cave amphipod are the presence of subterranean spaces from 5 mm to 25 cm (0.2 in to 10 in) at their narrowest point (collectively termed "mesocaverns") and/or cave passages greater than 25 cm (>10 in) that have dark and/or stagnant air zones that maintain relative humidity at saturation levels ( $\geq 100$  percent); and the presence in these types of mesocaverns or caves of roots from living, non-toxic plants such as, but not limited to, ohia (*Metrosideros polymorpha*), maiapilo (*Capparis sandwichiana*), and aalii (*Dodonea viscosa*). All critical habitat areas contain one or more of the primary constituent elements for the Kauai cave wolf spider.

(3)(i) Existing human-constructed features and structures within the boundaries of mapped units that required trenching, filling or excavation resulting in below-surface modification or alteration would not contain either of the primary constituent elements and are excluded from critical habitat designation. Such features and structures include but are not limited to: Homes and buildings for which the underlying bedrock has been altered for their construction or through incorporation of or connection to buried structural foundations, septic tanks, city sewage and drainage systems, or water or underground electrical supply corridors; paved roads; and areas previously or currently used as a quarry.

(ii) Areas that have been modified on the surface but without trenching, filling or excavation resulting in below-surface modification or alteration are included in the critical habitat designation, even if they are adjacent to areas that have undergone below-surface modification. Such areas include but are not limited to: Active or fallow agricultural lands; range land; golf courses; county and city parks; unimproved road; and undeveloped lands.

(4) Unit 1—Waikomo Unit, Island of Kauai (1,615 ha (3,991 ac)):

(i) Unit 1A. Unit 1A consists of boundary points with the following coordinates in UTM Zone 4, with the units in meters, using North American Datum of 1983 (Nad83):

(A) 451377, 2420941; 451318, 2421296; 451365, 2421383; 451432, 2421109; 451596, 2421040; 451959, 2421072; 452051, 2421203; 452003, 2421772; 452057, 2421775; 452169, 2421853; 452125, 2421972; 451884, 2422006; 452107, 2422210; 452088, 2422291; 452683, 2421992; 452828, 2422429; 452693, 2422516; 452580, 2422426; 452535, 2422471; 452566, 2422602; 452491, 2422655; 452558, 2422751; 452872, 2422984; 453183, 2422994; 453561, 2422770; 453689,

2422802; 453710, 2423076; 453803, 2423173; 453928, 2423094; 454010, 2423198; 453900, 2423337; 453989, 2423437; 454124, 2423472; 454142, 2423601; 454096, 2423765; 454199, 2423872; 454267, 2423643; 454452, 2423640; 454616, 2424086; 454780, 2424043; 454757, 2423914; 454891, 2423911; 454673, 2423458; 454987, 2423312; 454770, 2422941; 454834, 2422595; 454688, 2422555; 454631, 2422409; 454866, 2422399; 455030, 2422481; 455001, 2422349; 455009, 2422131; 455631, 2421763; 456040, 2421846; 456196, 2422136; 456445, 2422235; 456572, 2421329; 456982, 2421024; 457171, 2421036; 457345, 2420833; 457027, 2420606; 456763, 2420391; 456728, 2419912; 456456, 2419772; 455868, 2419764; 455633, 2419645; 455601, 2419531; 455389, 2419219; 455225, 2419029; 455014, 2418947; 455014, 2419015; 454875, 2419059; 454861, 2419151; 455014, 2419182; 455056, 2419329; 455001, 2419400; 454781, 2419487; 454388, 2419255; 453419, 2419161; 453425, 2419586; 453516, 2419934; 453495, 2420106; 453368, 2420082; 453384, 2419931; 453275, 2419923; 453275, 2419438; 453252, 2419031; 453114, 2419045; 453162, 2419267; 452950, 2419349; 453029, 2419550; 452799, 2419624; 452707, 2419428; 452638, 2419449; 452691, 2419590; 452540, 2419649; 452416, 2419487; 452294, 2419410; 452057, 2419393; 451918, 2419437; 451814, 2419420; 451685, 2419686; 451812, 2419796; 451712, 2419918; 451815, 2420032; 451796, 2420129; 451672, 2420235; 451733, 2420399; 451601, 2420492; 451558, 2420333; 451561, 2420058; 451614, 2420037; 451587, 2419912; 451516, 2419770; 451449, 2419696; 451188, 2419748; 451212, 2419865; 450884, 2419942; 450661, 2419968; 450603, 2419919; 450443, 2419921; 450202, 2419919; 449823, 2420156; 449805, 2420288; 449905, 2420389; 450560, 2420577; 451016, 2420683; 450974, 2420585; 451194, 2420502; 451201, 2420756; 451193, 2420887; 451377, 2420941.

(B) Excluding seven areas:

(1) Bounded by the following fifteen points (31 ha, 77 ac): 456695, 2420426; 456573, 2420330; 456388, 2420278; 456081, 2420300; 456051, 2420586; 456163, 2420674; 456259, 2420772; 456357, 2420895; 456412, 2420942; 456538, 2420879; 456570, 2420792; 456741, 2420763; 456682, 2420622; 456714, 2420574; 456695, 2420426.

(2) Bounded by the following fourteen points (1 ha, 3 ac): 454229, 2420036; 454177, 2420082; 454147, 2420126; 454158, 2420147; 454202, 2420185; 454250, 2420172; 454242, 2420136;

454231, 2420112; 454264, 2420082; 454294, 2420066; 454326, 2420085; 454332, 2420050; 454286, 2420025; 454229, 2420036.

(3) Bounded by the following seven points (2 ha, 5 ac): 452714, 2419850; 452561, 2419837; 452519, 2419846; 452504, 2419912; 452533, 2419989; 452613, 2419958; 452714, 2419850.

(4) Bounded by the following thirty-one points (16 ha, 38 ac): 452185, 2420755; 452280, 2420765; 452349, 2420719; 452402, 2420614; 452434, 2420595; 452451, 2420559; 452438, 2420516; 452462, 2420442; 452486, 2420421; 452498, 2420398; 452480, 2420334; 452412, 2420247; 452399, 2420223; 452435, 2420209; 452444, 2420139; 452467, 2420112; 452467, 2420069; 452443, 2420047; 452391, 2420052; 452288, 2420126; 452239, 2420219; 452191, 2420271; 452190, 2420397; 452177, 2420428; 452190, 2420478; 452215, 2420500; 452173, 2420538; 452193, 2420597; 452190, 2420654; 452158, 2420722; 452185, 2420755.

(5) Bounded by the following eleven points (17 ha, 14 ac): 454202; 2421942, 454138; 2421880, 454209; 2421804, 454226; 2421640, 454083; 2421628, 453679; 2421700, 453652; 2421875, 453771; 2421965, 453915; 2421937, 454078; 2422088, 454202; 2421942.

(6) Bounded by the following seven points (1 ha, 4 ac): 454850, 2419801; 454897, 2419736; 454922, 2419684; 454860, 2419633; 454825, 2419667; 454740, 2419694; 454850, 2419801.

(7) Bounded by the following five points (1 ha, 2 ac): 452149, 2419675; 452231, 2419635; 452180, 2419556; 452101, 2419583; 452149, 2419675.

(ii) Unit 1B (ha; 17 ac). Unit consists of twenty-one boundary points with the following coordinates in UTM Zone 4 with the units in meters using North American Datum of 1983 (NAD83): 454027, 2418515; 454106, 2418549; 454143, 2418484; 454378, 2418600; 454341, 2418842; 454405, 2418865; 454385, 2418971; 454483, 2418981; 454531, 2418957; 454517, 2418910; 454398, 2418787; 454409, 2418590; 454378, 2418573; 454341, 2418505; 454303, 2418512; 454262, 2418484; 454272, 2418426; 454170, 2418362; 454109, 2418338; 454055, 2418369; 454027, 2418515.

(5) Unit 2—Haula Unit, Island of Kauai (68 ha (168 ac)):

(i) Unit consists of 45 boundary points with the following coordinates in UTM Zone 4, with the units in meters, using North American Datum of 1983 (Nad83):

(ii) Starting on the coastline at approximately coordinates of: 458997, 2422152; follow: 458345, 2422341; 458686, 2422405; 458786, 2422373;

458934, 2422253; 459001, 2422151;  
 458997, 2422152; 457589, 2420990;  
 457575, 2420975; 457511, 2420984;  
 457631, 2421127; 457738, 2421168;  
 457900, 2421206; 458023, 2421343;  
 458023, 2421417; 457895, 2421435;  
 457803, 2421394; 457686, 2421405;  
 457637, 2421453; 457631, 2421540;  
 457678, 2421675; 457766, 2421821;  
 457908, 2421944; 458069, 2421867;  
 458216, 2421849; 458244, 2421886;  
 458253, 2421996; 458235, 2422079;  
 458299, 2422272; 458345, 2422341;  
 457589, 2420990; to approximately:  
 457590, 2420991 (coastline); follow  
 coastline to the approximate coordinates

of: 458494, 2421794; then follow:  
 458494, 2421795; 458495, 2421795;  
 458502, 2421802, 458492, 2421904;  
 458483, 2421987; 458566, 2422060;  
 458559, 2422190; 458630, 2422263;  
 458718, 2422262; 458805, 2422159;  
 458777, 2422115; 458686, 2422119;  
 458658, 2422060; 458667, 2421987;  
 458702, 2421920; to the coastline,  
 approximately at: 458702, 2421919;  
 follow coastline to beginning point:  
 458997, 2422152.

(6) Unit 3—Puu Keke Unit, Island of  
 Kauai (14 ha (35 ac)):

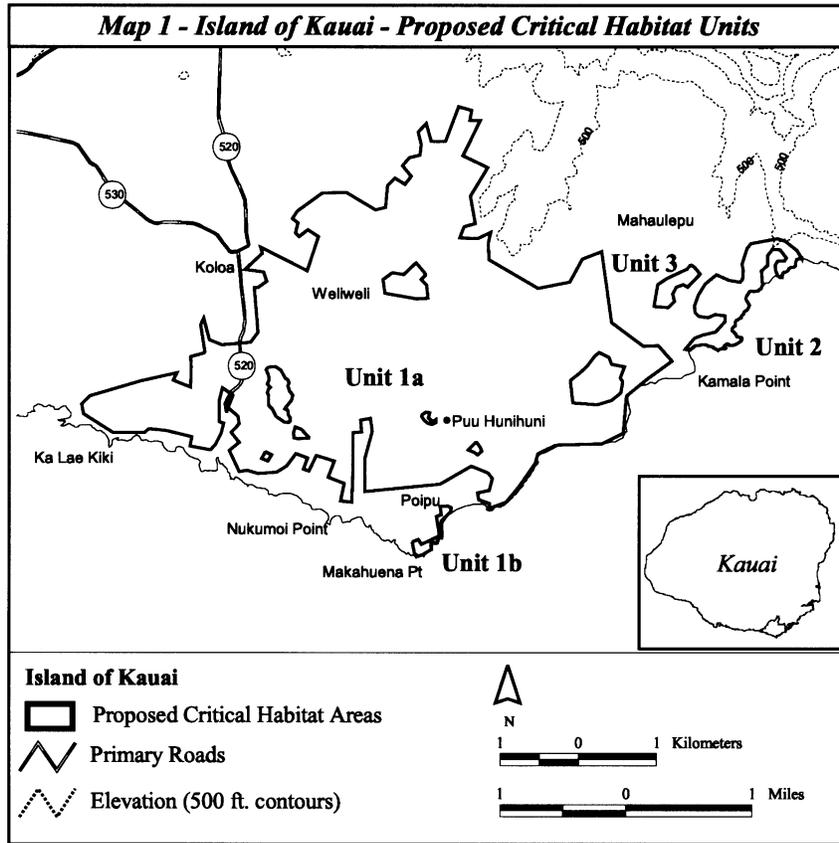
(i) Unit consists of 14 boundary points  
 with the following coordinates in UTM

Zone 4, with the units in meters using  
 North American Datum of 1983 (Nad83):

(ii) Follow the approximate  
 coordinates: 457583, 2422071; 457631,  
 2422040; 457702, 2421952; 457543,  
 2421778; 457490, 2421812; 457400,  
 2421778; 457352, 2421693; 457380,  
 2421601; 457297, 2421518; 457115,  
 2421532; 457162, 2421817; 457279,  
 2421895; 457536, 2422014; 457583,  
 2422071.

(7) Note: Map 1—Units 1, 2, and 3  
 follows:

BILLING CODE 4310-55-P



\* \* \* \* \*

(h) *Crustaceans.***Kauai Cave Amphipod (*Spelaeorchestia koloana*)**

The critical habitat designation and the primary constituent elements for the Kauai cave amphipod are exactly the same as those of the Kauai cave wolf spider. See the entry in paragraph (g) of this section for the Kauai cave wolf spider. All critical habitat areas contain one or more of the primary constituent elements for the Kauai cave amphipod.

\* \* \* \* \*

Dated: March 12, 2002.

**Craig Manson,***Assistant Secretary for Fish and Wildlife and Parks.*

[FR Doc. 02-6801 Filed 3-26-02; 8:45 am]

BILLING CODE 4310-55-P

**DEPARTMENT OF COMMERCE****National Oceanic and Atmospheric Administration****50 CFR Part 229**

[Docket No. 001128334-2048-07; I.D. 021202A]

RIN 0648-AN88

**Taking of Marine Mammals Incidental to Commercial Fishing Operations; Atlantic Large Whale Take Reduction Plan Regulations**

**AGENCY:** National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

**ACTION:** Proposed rule; request for comments.

**SUMMARY:** NMFS is proposing to amend the regulations that implement the Atlantic Large Whale Take Reduction Plan (ALWTRP), specifically with regard to the straight set of gillnets in the Southeast U.S. Restricted Area in waters off the coasts of Georgia and Florida. The intent of this proposed rule is to prohibit straight sets of gillnets at night from November 15 through March 31, annually, to reduce the risk of entanglement of large whales, including the western North Atlantic right whale. NMFS is also announcing the availability of an Environmental Assessment (EA) and a Regulatory Impact Review (RIR).

**DATES:** Comments on the proposed prohibition of the straight set of gillnets must be postmarked or transmitted via facsimile by 5 p.m. Eastern Standard Time, on May 28, 2002. Comments

transmitted via e-mail will not be accepted.

**ADDRESSES:** Send comments on this proposed rule to the Chief, Protected Resources Division, NMFS, 9721 Executive Center Drive North, St. Petersburg, FL 33702-2432.

Atlantic Large Whale Take Reduction Team (ALWTRT) meeting summaries, progress reports on implementation of the ALWTRP, and a table of the changes to the ALWTRP may be obtained by writing to Diane Borggaard, NMFS/Northeast Region, 1 Blackburn Dr., Gloucester, MA 01930 or Katie Moore, NMFS/Southeast Region, 9721 Executive Center Dr., St. Petersburg, FL 33702-2432.

**FOR FURTHER INFORMATION CONTACT:** Katie Moore, NMFS, Southeast Region, 727-570-5312; Diane Borggaard, NMFS, Northeast Region, 978-281-9145; or Patricia Lawson, NMFS, Office of Protected Resources, 301-713-2322.

**SUPPLEMENTARY INFORMATION:****Electronic Access**

Copies of the EA and RIR can be obtained from the ALWTRP Web site: <http://www.nero.nmfs.gov/whaletrp/>.

**Background**

The ALWTRP was developed pursuant to the Marine Mammal Protection Act (MMPA) to reduce the level of serious injury and mortality of whales by Atlantic lobster trap and gillnet fisheries. The background for the take reduction planning process and development of the ALWTRP is set out in the preamble to the proposed (62 FR 16519, April 7, 1997), interim final (62 FR 39157, July 22, 1997), final (64 FR 7529, February 16, 1999), interim final (65 FR 80368, December 21, 2000), interim final (67 FR 1142, January 9, 2002), final (67 FR 1133, January 9, 2002), and final (67 FR 1300, January 10, 2002) rules implementing the ALWTRP. Copies of these documents and supporting EAs are available from the contacts noted in the **ADDRESSES** section of this proposed rule.

NMFS issued four biological opinions (BOs) on the multispecies, spiny dogfish, monkfish, and lobster fisheries on June 14, 2001, in accordance with section 7 of the Endangered Species Act (ESA). The BOs concluded that all four of the fisheries jeopardized the continued existence of the western North Atlantic right whale. The reasonable and prudent alternative (RPA) in the June 14, 2001, BOs included additional gear modifications for the northeast lobster trap fisheries and new gear modifications for the mid-Atlantic and southeast gillnet fisheries

that are necessary to avoid jeopardizing the continued existence of western North Atlantic right whales. Southeast gillnet gear restrictions identified in this proposed rule address the RPA in an effort to reduce potential entanglements of western North Atlantic right whales.

**Take Reduction Planning Activities in 2000 and 2001**

Pursuant to section 118 (f)(7)(E) and (F) of the MMPA, NMFS has reconvened the ALWTRT periodically to monitor progress of the ALWTRP and to make recommendations for improvements. During the February 2000 meeting, the ALWTRT split into sub-groups covering the northeast, mid-Atlantic, and southeast areas. The recommendations of the northeast sub-group were addressed by the December 2000 interim final rule. The mid-Atlantic and southeast sub-groups met on August 25, 2000, and July 24, 2000, respectively, and provided meeting summaries with recommendations to the entire ALWTRT for review.

The ALWTRT met as a whole on June 27 and 28, 2001, to review the elements of the RPA required by the four BOs and recommend measures that would not only satisfy the requirements of the ESA and the four BOs, but would also satisfy the requirements of the MMPA. The MMPA provides the goals of reducing takes in commercial fishing operations to below the potential biological removal (PBR) level within 6 months of the ALWTRP's implementation and the achievement of a zero mortality rate within 5 years of ALWTRP implementation. For western North Atlantic right whales, these two goals are essentially the same since the PBR level is defined as zero. Consequently, the ALWTRT concurred that additional entanglement risk reduction is needed to comply with the MMPA.

NMFS published a proposed rule on October 1, 2001 (66 FR 49896), and final rule on January 10, 2002 (67 FR 1300), to amend the ALWTRP per the RPA and the Atlantic Large Whale Take Reduction Team's recommendations. The rule included provisions such as requiring weak links, temporal anchoring, and line diameter restrictions. The proposed rule also included provisions addressing the straight set of gillnets in the Southeast U.S. Restricted Area at night. Though NMFS prepared a thorough analysis of the straight set provision to include in the proposed rule's EA, NMFS accidentally left out the analysis in the EA. In order to ensure that the public had sufficient information to review and analyze the straight set provision in the proposed rule, NMFS removed the