

plants would be approximately \$1.8 million.

A critical habitat designation does not in any way create a wilderness area, preserve or wildlife refuge, nor does it close an area to human access or use. It applies only to activities sponsored at least in part by Federal agencies. Land uses such as logging, grazing and recreation that may require Federal permits may take place if they do not adversely modify critical habitat. Critical habitat designations do not constitute land management plans. A designation of critical habitat does not require a private or State landowner to fence the designated area and/or remove game mammals. However, feral ungulates have been extremely important causes of vegetation decline in Hawaii (Cuddihy and Stone 1990) and have been identified as a primary threat to many of the listed plant species on Kauai. The Service recognizes that populations of many game mammal species affect the distribution and abundance of many listed endangered plant and animal species to varying degrees, either directly or indirectly. We also recognize that game mammal hunting is a highly valued activity to a portion of the present-day Hawaiian culture. We recognize hunting as an important tool to manage wild populations of game and support hunting as a recreational activity and the maintenance of game mammal hunting programs within the State of Hawaii. However, Federal and State law dictate that hunting programs should be designed and executed in a way that is compatible with endangered species conservation. Game mammal hunting programs should not only prevent extinction, but allow for the recovery of federally listed endangered and threatened species. The Service also recognizes that under certain circumstances, removal of ungulates can result in an increase in weedy growth and associated fire risk, and we recommend that ungulate management programs assess and address this issue.

(79) *Comment:* The Navy commented that: There is no indication that the specific Navy parcels are, in fact, critical to the survival of these species; the vast majority of the proposed areas to be designated are presently unoccupied by the species in question and their successful introduction to and survival in these areas is speculative; and the proposed areas are presently utilized for national defense operations that may present incompatibilities with the objective of species preservation. Therefore, the benefits of excluding the areas outweigh the benefits of specifying these areas as part of the critical habitat.

*Our Response:* We have had numerous discussions with the Navy regarding these areas, and as a result, have removed some sections of the units for these species, based on either the lack of primary constituent elements or the presence of structures and areas used for Navy training operations. The remaining areas are not excluded because they contain at least one of the primary constituent elements for *Panicum niahauense* as described in the "Hawaiian plants—Constituent elements" section. These areas are essential to the recovery of *Panicum niahauense* because not enough other areas that contain these primary constituent elements outside of the PMRF are known to exist in order to meet our goals of 8 to 10 populations.

(80) *Comment:* One commenter stated the following: It is not prudent to designate critical habitat on Niihau as it may serve to restrict Federal actions that promote the readiness of our nation's fighting forces. The operations most likely to be impacted would be the Special Warfare and the downed pilot recovery training exercised by the U.S. Marine Corps and U.S. Navy. Disruption of these activities may also result in negative economic impact to Niihau residents.

*Our Response:* The potential project modifications as a result of the implementation of section 7 for the plants on military activities on Niihau are discussed in Chapter VI, section 3.m. of the DEA. These project modifications include placing stakes in the ground to mark the boundaries of the areas which should be avoided. The Navy may also give maps to military personnel before they are deployed to the area to delineate these areas. The total cost of these project modifications is estimated at \$6,000. Given that the proposed critical habitat as modified covers less than one percent of Niihau, and the military uses much of the island for Special Warfare and the downed pilot recovery training, the avoidance of the areas in critical habitat is not anticipated to have an effect on the readiness of our nation's fighting forces or Niihau residents.

(81) *Comment:* One commenter stated the DEA lacks a thorough benefits analysis. Multiple commenters stated that the DEA ignored the benefit of keeping other native species off the endangered species list, of maintaining water quality and quantity, of promoting ground water recharge, and of preventing siltation of the marine environment, thus protecting coral reefs. Another commenter noted that additional benefits of critical habitat include combating global warming,

providing recreational opportunities, attracting ecotourism, and preserving Hawaii's natural heritage. Although the DEA makes general observations of the benefits associated with designating critical habitat, it makes no attempt to quantify these acknowledged benefits. The Service must use the tools available such as a University of Hawaii Secretariat for Conservation Biology study that estimated the value of ecosystem services, to determine the benefits of critical habitat. On the other hand, one commenter stated that the DEA overestimates economic benefits and many of the alleged benefits are entirely speculative, unquantifiable or lack any commercial value. In addition, treating "better siting of projects by developers so as to avoid costly project delays," as an economic benefit is circular. The costly project delays result from regulations. They could be avoided by not imposing the regulations in the first place.

*Our Response:* Chapter VI, Sections 6 and 7 of the DEA discusses the potential benefits addressed in the above comments. However, the DEA also indicates that these benefits are not quantified due to lack of information on the value of the environmental benefits that would be attributable specifically to the critical habitat designations (*i.e.*, the benefits over and above those which will occur due to other existing protections, and over and above the benefits from other conservation projects). In addition, there is a lack of (1) scientific studies regarding ecosystem changes due to critical habitat, and (2) economic studies on the per-unit value of the changes.

The 1999 analysis by University of Hawaii (UH) economists on the total value of environmental services provided by Oahu's Koolau Mountains was used in the DEA as a resource document for concepts, and for identifying documents that report the original research on certain subjects.

However, the UH study has limited applicability for valuing the benefits of plants critical habitat designation for a number of reasons. First, the UH study had a different purpose which was to estimate the total value of environmental benefits provided by the entire Koolau Mountains on the island of Oahu versus the value of the more limited benefits provided by the proposed plants critical habitat on the island of Kauai. Consistent with its purpose, the UH study provides no estimates of the changes in environmental conditions resulting from changes in land management due to critical habitat designations.