

are not quantified due to lack of information available on: (1) Quantified data on the value of the Lanai species; and (2) quantified data on the change in the quality of the ecosystem and the species as a result of the designation. Although the UH study does value ecosystem services, it has limited applicability for valuing the benefits of the critical habitat designation for the plants 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. Consistent with its purpose, the UH study provides no estimates of the changes in environmental conditions resulting from changes in land and stream management due to critical habitat designation. Furthermore, many of the assumptions and much of the analysis in the UH study are not transferable to the economic analysis for the critical habitat of the Lanai plants. For example, the value of water recharge in the UH study reflects projected water supply and demand conditions on Oahu, an island three times the size of Lanai, but with a population of more than 360 times that of Lanai. Also, the UH benefit analysis of reducing soil runoff is unique to three valleys that drain through partially channelized streams in urban areas into the manmade Ala Wai Canal. Since this canal was designed with inadequate flushing from stream or ocean currents, it functions as an unintended settling basin, so must be dredged periodically. In addition, the recreational and ecotourism values provided in the UH study apply to areas that are accessible to most hikers, which is not the case with most of the Lanai critical habitat. Most of the critical habitat units designated on Lanai are either in mountainous areas with steep slopes and difficult access or on coastal cliffs.

(41) *Comment:* Existence values should be quantified. Studies referenced in the DEA analysis contain information about how much people would be willing to pay to save various species. Even assuming plants are noncharismatic and therefore would justify lower values, there would still be a value of \$6 per household per year. If the study is able to take values for a day of hunting from the State of Idaho and apply them to Hawaii, it should be equally able to take values from studies which have looked at other species to get some sense of what people would pay to make sure these species recover and do not go extinct.

Our Response: As discussed in the Addendum, when primary research is

not feasible, economists frequently rely on the method of benefits transfer. Benefits transfer involves the application of results of existing valuation studies to a new policy question. Two core principals of defensible benefits transfer are: (1) The use of studies that apply acceptable techniques to generate welfare values, and (2) similarity between the good being valued in the literature and the good being valued in the policy context to which the transfer is being made (*i.e.*, the protection afforded the Lanai plants by critical habitat). As noted above, no known studies exist with quantified data on the value of plants or the change in the quality of the ecosystem and the species as a result of the designation. Therefore, applying results of existing valuation studies on non-plants to Lanai plant critical habitat is not feasible.

(42) *Comment:* The conclusion under E.O. 12866 that the rule will not have an annual economic effect of \$100 million or more, or adversely affect in a material way any sector of the economy or State or local governments or communities, is flawed because it does not consider the major adverse impacts from secondary effects.

Our Response: For the reasons explained in the DEA, this rule is not expected to have an annual economic effect of \$100 million or more. Both the DEA and the Addendum provide analysis of the indirect costs associated with designation of critical habitat for the Lanai plants in terms of land management, loss in property values and investigative costs. These indirect costs are considered and those costs that can be quantitatively estimated are addressed in the DEA and Addendum. Some potential costs are not estimated because the likelihood of actually incurring the cost is considered to be extremely remote.

(43) *Comment:* The designation of critical habitat will have direct and substantial impacts on private property because large areas will be unavailable for productive use and land values will be substantially diminished. The Service must take these into account and weigh them against the speculative protections that would accrue from designation. The DEA correctly recognizes that perceptions and uncertainty of the economic impact of critical habitat designation can cause temporary reductions in land value as long as those perceptions persist and until information is distributed. These impacts, however, need to be analyzed. The DEA should examine true appraised values, rather than relying on "GIS analysis of land value," which is not explained, with and without critical

habitat designation and as it may be perceived by buyers and lenders. In addition to the reduction in land value itself, the DEA should investigate whether these losses in property value may be long-term, because the consequences of critical habitat are yet to be determined and will likely be the subject of extensive and costly litigation that will take years to resolve. The DEA should also recognize that land use values may be used as collateral for loans supporting commercial operations and assess the potential impact critical habitat designations may have on these transactions.

Our Response: The DEA did indeed estimate land values associated with the different land use districts using GIS analysis. This technique assesses large parcels as a group, rather than as specific parcels, due to lack of obtaining information on land values for specific locations. However, during the comment period, Castle and Cooke Resorts, LLC, provided location-specific land value information for the areas in the proposed units. Therefore, the Addendum relied on those figures to recalculate the decrease in property value in the worst-case scenario. According to Castle and Cooke Resorts, LLC, the agricultural lands included in the designation should be valued at \$390 to over \$1,000 per acre; rural lands at \$160,000 to over \$335,000 per acre; and conservation lands at \$250 to over \$550 per acre (based on an appraisal of similar lands). Based on these figures, the decrease in property value of agricultural lands could range from \$50,811 to \$163,323 million $[(\$390 - \$250) \times 362.94]$, $[(\$1,000 - \$550) \times 362.94]$. The decrease in value for rural lands may range from \$1.2 million to \$2.7 million $[(\$160,000 - 250) \times 8]$, $[(\$335,000 - 550) \times 8]$. As noted above, this scenario is not expected to occur, and ensuring that clear and correct information is available to all potential buyers will further reduce the potential for such a scenario.

(44) *Comment:* It is not adequate to state, without any analysis, that any reduction in property value to agricultural lands proposed in units E and F is expected to be small because many of the lands are categorized as open space by the county to limit development. Agricultural lands such as those on Lanai have been appraised from \$390 to \$1,000 an acre. The DEA should examine the effects by using appraised values before and after critical habitat designation. The DEA also states that rural land on Lanai is valued at approximately \$44,000 per acre, even though nearby house lots in the Manele