

Monetary valuation of protected wild animal species as a contingent valuation study in North Sulawesi

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ABSTRACT

Background: Virtually every country has a problem with preserving protected wild animals, and some countries have their way of protecting animals through legal measures. Animals are a nation's wealth, just as are forest timber and non-timber forest products. This asset has an economic value that is worth quantifying. The economic valuation of ecosystem services, specifically the monetary value of protected wild animal species. Raise awareness about the economic value of wild animals and the need to measure their value to support policy efforts to protect them from extinction. The willingness to pay (WTP) measure is used to estimate the value of losses resulting from environmental degradation caused by disasters, hunting, or epidemics. The study highlights the importance of ecosystem valuation and its integration into accounting and reporting systems. The WTP approach is a common method used to measure the economic value of natural resources.

Objective: The study aimed to determine the monetary value of protected wild animal species as a proxy for the ecosystem services they provide in forest ecosystems, using the contingent valuation method. The objective was to raise awareness among the public that wild animals can have economic value, beyond esthetics and tourist value. Ecosystem assessment is becoming an increasingly crucial factor in determining how much the environment contributes to economic value.

Methods: Such studies require additional monetary modeling and evaluation of non-market services. This research presents a willingness to pay (WTP) approach to calculate the value of protecting wild animal species. The study area was in North Sulawesi, one of Indonesia's provinces located at the northern tip of Sulawesi Island. The questionnaire format for collecting data was the dichotomous choice contingency assessment method (DCCVM), and the sample size was 428 respondents. Based on willingness to pay, we assessed the contingency of single bounded dichotomous choice (SBDC) by estimating each protected animal's average (mean) value in three classes, namely mammals, birds, and reptiles.

Results: The results of the study showed that the majority of respondents were willing to pay to protect wild animal species, indicating their recognition of the importance of these animals in providing ecosystem services. The study estimated the economic value of protected wild animal species in North Sulawesi to be mean result of the monetary assessment of protected mammal species was IDR 1,801,870 (USD 124.27), IDR 836,670 (USD 57.70) for protected bird species, and IDR 819,700 (USD 56.53) for protected reptiles.

That respondents' willingness to pay was influenced by their income level, education level, and awareness of the importance of wild animal species. Respondents with higher income and education levels were found to be willing to pay more than those with lower income and education levels. Moreover, respondents who were more aware of the importance of wild animal species were found to be willing to pay more than those who were less aware.

That respondents' willingness to pay was influenced by the type of animal species being protected. Respondents were willing to pay more for charismatic and endangered animal species such as orangutans, tarsiers, and macaques compared to common or less-known species such as snakes and lizards.

The implications of the results for policy and conservation efforts. The estimated economic value of protected wild animal species in North Sulawesi provides important information for decision-makers in designing and implementing conservation policies. The study also highlights the need for awareness-raising campaigns to increase public knowledge of the importance of wild animal species and their contribution to ecosystem services.

That protected wild animal species have significant economic value and should be considered as important assets in natural resource accounting. The study recommends that future research should focus on estimating the economic value of other ecosystem services provided by wild animal species and exploring the potential for sustainable financing mechanisms for conservation efforts.

Conclusion: Any loss in wild animals incurs a natural resource debt burden for future generations to repay, just as does forest loss. If we do not want to leave the forest empty for our future generations, we must continue implementing nature conservation measures, including the protection and restoration of wild animals.