

QUANTIFYING THE ECONOMIC VALUE OF MARINE ECOSYSTEMS: A PRELIMINARY VALUATION STUDY FROM THE MALTESE ISLANDS

MARIJA PIA GATT; ALAN DEIDUN [DEPARTMENT OF GEOSCIENCES, FACULTY OF SCIENCE, UNIVERSITY OF MALTA, MSIDA, MALTA]; MARIE BRIGUGLIO [FACULTY OF ECONOMICS MANAGEMENT AND ACCOUNTANCY, UNIVERSITY OF MALTA, MSIDA, MALTA]

Ecosystem service valuation provides crucial insights into the benefits that ecosystems provide to humans. By quantifying these benefits, decision-makers can better understand the trade-offs involved in different management strategies. This study employs the contingent valuation method and a gamma regression model to evaluate the economic value of 11 coastal locations in Malta, and their associated ecosystem components. The valuation results indicate spatial variation in the economic value of the coastal locations, suggesting that different locations offer varying levels of benefits to society and that different ecosystem components hold varying economic values. *Posidonia oceanica*, reefs, and maerl generated higher values compared to other components like sandbanks and caves. However, the chosen methodological approach for valuation significantly influenced the estimated economic value of ecosystem components. Model-based estimates tended to yield higher values than observed willingness-to-pay (WTP) values. Methodological disparities should be accounted for when interpreting valuation outcomes. Furthermore, the substantial disparities between observed and modeled values underscore the potential economic significance of these ecosystems, especially within the modeled scenario. This study emphasizes the importance of acknowledging the economic value of ecosystems in conservation planning and decision-making processes. Such insights can guide resource allocation, policy formulation, and prioritization of conservation efforts to enhance societal welfare and environmental sustainability.

KEYWORDS

ECOSYSTEM-SERVICE VALUATION, CONTINGENT VALUATION METHOD, WILLINGNESS TO PAY, ECONOMIC VALUE, ECOSYSTEM-BASED MANAGEMENT, MARINE CONSERVATION, MARINE ECOSYSTEMS