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### Further Reading:

O'Connor, E., Hynes, S., & Chen, W. (2020). Estimating the non-market benefit value of deep-sea ecosystem restoration: Evidence from a contingent valuation study of the Dohrn Canyon in the Bay of Naples. *Journal of Environmental Management*, 275, 111180.

<https://doi.org/10.1016/j.jenvman.2020.111180>

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Read More About: Read more about the Socio-Economic Marine Research Unit [here](#).

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## Estimating the benefit value to society from the restoration of deep-sea ecosystems

Globally, direct and indirect human impacts have led to the widespread degradation of marine ecosystems. The resulting loss of habitat and marine biodiversity has led to increased impetus for marine ecosystem restoration at a policy level. Restoration success is judged on ecological outcomes but with limited resources, the magnitude of the societal benefits achieved is also an important consideration for policymakers. Perhaps owing to the remoteness of the deep-sea, the societal benefit of deep-sea ecosystems has been relatively understudied. With consideration of these issues, and as part of the EU Horizon 2020 MERCES (Marine Ecosystem Restoration in Changing European Seas) Project, this research estimated the benefit value to society of the restoration of the deep-water Dohrn canyon ecosystem in the Bay of Naples. By examining the Italian population's willingness to pay for restoration of the Dohrn Canyon, the study demonstrates how the potential non-market benefit value of a deep-sea ecosystem restoration project might be assessed.

### Research Findings

The contingent valuation method was employed to measure the Italian population's willingness to pay for restoration. In addition, sample selection models that control for the impact of protest zero bidders on benefit value estimation were compared to more traditional modelling approaches. Results were generated from a representative sample of 1,060 individuals drawn from the general Italian population. The results indicated a positive willingness to pay for the restoration of the canyon ecosystem of €34.69 per person per year. Extrapolating to the population of the Campania region the aggregate value of restoration is estimated to be approximately €127 million per annum. This result compares favourably to available estimates for the cost of restoration, indicating a positive net benefit to society from the potential restoration of the canyon. The results also indicate the importance of accounting for protest zero bidders in contingent valuation studies, especially when the environmental good is relatively unfamiliar to respondents.

### Policy Implications

This study examined the non-market benefit value of ecological restoration in a deep-sea canyon ecosystem. Such information is critical when decision-makers are faced with multiple restoration/conservation needs and can help to ensure that the most efficient restoration projects are chosen. Marine restoration is also increasingly being seen as a vehicle to offset the impacts of off-shore developments. It is important therefore to develop a clear picture of the benefit values that are to be derived from such restoration projects so that the value of the ecosystem services that may be reduced through developments are adequately compensated for in the offsetting process. As demonstrated in this study the inclusion of non-market ecosystem service benefit values is particularly important in terms of assessing the potential for marine ecosystem restoration if a true reflection of benefit value to society is to be captured.