
Goods and Services provided by Marine Biodiversity

Nicola Beaumont and Mel Austen

Plymouth Marine Laboratory, UK

Exploitation of environmental goods and services is essential for human survival. To ensure our utilisation of the marine environment is sustainable, efficient and equitable it is essential that we have a comprehensive understanding of the goods and services provided, and the impact of human activity on all of these functions. Thirteen goods and services are provided by marine biodiversity: resilience and resistance; biologically mediated habitat; food provision; raw materials; leisure and recreation; disturbance prevention; nutrient cycling; gas and climate regulation; bio-remediation of waste; cultural heritage and identity; cognitive values; future unknown and speculative benefits; feel good/warm glow. This research aimed to define each of these functions, and case study areas were then used to validate these definitions and to provide an insight into the difficulties of assessing the goods and services at specific locations. The data available on the goods and services was found to be very variable in quantity and quality. Using present knowledge, it would be impossible to quantify all the goods and services at any given site in a comparable way. To achieve an ecosystem approach to managing the marine environment we need to develop methods to quantify goods and services that are based on the underlying ecological processes.