



Accounting for Natural Capital in a Marine Environment

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DESCRIPTION

The natural capital approach is receiving more attention in the UK, which has increased demand for approaches that connect economic sectors with natural capital components and can support environmentally friendly management. The parameters determining the benefits' availability and their connections to different economic sectors, however, are not clearly defined. In this analysis, a novel paradigm is developed to examine how the interaction of various forms of capital—natural, financial, social, manufactured, or human—may provide a supply of benefits, and how variations in the nature or extent of natural capital can impact that supply. Benefit delivery factors are examined, and indicators are chosen for each category. Benefit supply is represented by a unique, composite index that is created by ranking and weighting indicators. Next, a relevant economic sector is linked as an input to the composite supply index. For the first time, this approach is applied to four advantages of the marine environment in the UK: seafood, offshore wind power, wildlife viewing, and water sports. The strategy is compliant with accepted classifications of ecosystem services, national accounts, and natural capital accounting. This finding suggests how connecting economic sectors with advantages might offer fresh proof in favour of maritime management.

It is generally known how crucial integrated assessments are for determining the value of ecosystem services, natural capital assets, and environmental benefits. However, the majority of applications have been to terrestrial habitats, and there are large data gaps that prevent comprehensive analyses of marine natural capital. Humans and society can benefit specifically from the marine and coastal environment. Humans use it for energy, seafood, raw materials, and recreational purposes, among other things. The realization of these advantages depends on natural and social systems, as well as on living and non-living components within each of these systems. Economic benefits from the marine and coastal environment are also possible.

The quantity and quality of assets in the natural environment are,

are, however, being harmed by human pressure, and the complexity of the linkages between human and environmental systems only makes controlling its usage more challenging. The environmental extent and condition, as well as the interdependencies between the environment, economy, and society, are integrated into decision-making, which can help to solve these challenges. Therefore, attempts have been made on a global scale to assess natural capital assets, keep track of their state over time, link them to ES, and gauge the benefits they can offer.

Natural capital includes both living and non-living elements of the environment, as well as ecological processes, land mass, air, and water. When natural capital is joined with other types of capital, the elements work together to supply ES and generate advantages. The natural capital concept requires measuring assets, but there is no widely accepted mechanism for doing so. The transactions being recorded on separate bases, at different times, or with different values, which would make accounting information less helpful, a consistent set of rules and principles is required for all kinds of accounting. The UN's System of Environmental-Economic Accounting Central Framework (SEEA) formally defines methods for evaluating environmental assets, changes in asset stock, and the flow of resources between the economy and the environment. The SEEA applies to the environment the concepts of financial accounting, or those of the System of National Accounts. The Experimental Ecosystem Accounting (EEA) framework adds further direction to the SEEA.

The EEA comprises distinct accounts for financial assets, ecosystem services, ecosystem expanse, and ecosystem condition. Ecosystem accounting, as they are defined under the EEA, are extended to include natural capital accounts. Compared to ecosystem assets, the assets defined by natural capital accounting also include environmental resources. Natural capital accounting (NCA), designed to measure assets and track change, records the condition of assets in terms of stocks and flows, in both monetary and non-monetary terms, but its language and structure

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are aligned with those of the SEEA and thus conform to international accounting standards. Australia, Sweden, Costa Rica, the Netherlands, and the UK have all created marine natural capital accounts. The SEEA, EEA, and NCA do not explicitly identify non-natural capital involved in producing

benefits, however, as their goals are to measure environmental assets, and manufactured and human forms of capital are already taken into account within the production boundary of national accounts.