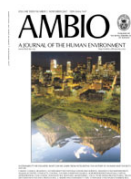




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Ecosystem Goods and Services from Swedish Coastal Habitats: Identification, Valuation, and Implications of Ecosystem Shifts

Patrik Rönnbäck, Nils Kautsky, Leif Pihl, Max Troell, Tore Söderqvist, and Håkan Wennhage

Abstract

Coastal areas are exposed to a variety of threats due to high population densities and rapid economic development. How will this affect human welfare and our dependence on nature's capacity to provide ecosystem goods and services? This paper is original in evaluating this concern for major habitats (macroalgae, seagrasses, blue mussel beds, and unvegetated soft bottoms) in a temperate coastal setting. More than 40 categories of goods and services are classified into provisional, regulating, and cultural services. A wide variety of Swedish examples is described for each category, including accounts of economic values and the relative importance of different habitats. For example, distinguishing characteristics would be the exceptional importance of blue mussels for mitigation of eutrophication, sandy soft bottoms for recreational uses, and seagrasses and macroalgae for fisheries production and control of wave and current energy. Net changes in the provision of goods and services are evaluated for three cases of observed coastal ecosystem shifts: *i*) seagrass beds into unvegetated substrate; *ii*) unvegetated shallow soft bottoms into filamentous algal mat dominance; and *iii*) macroalgae into mussel beds on hard substrate. The results are discussed in a management context including accounts of biodiversity, interconnectedness of ecosystems, and potential of economic valuation.

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