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Abstract

The Millennium Ecosystem Assessment classified ecosystem services into four major categories: provisioning services, regulatory services, cultural services, and supporting services. Cultural services are defined as “. . .the nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences”. Heterogeneous ecosystems influence the diversity of cultures, spiritual and religious values, knowledge systems (traditional and formal), educational values, inspiration, aesthetic values, social relations, sense of place, cultural heritage values, and recreation and ecotourism. There is also a degree of feedback from cultural uses into ecosystem structure and function than can, in turn influence the services provided by ecosystems. Spiritual and other cultural values are as important as other services, but have been significantly compromised by ecosystem degradation, recreation and ecotourism placing pressures on ecosystems but also serving as potentially influential levers for their conservation. It is important to balance management for and uses of cultural services provisioning, regulatory and supporting services to ensure overall resilience and contributions to human wellbeing, including their contribution to poverty alleviation.

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Nonmaterial benefits · Spiritual · Religious · Cognitive development · Reflection · Recreation · Tourism · Aesthetics · Knowledge systems · Poverty Alleviation

Definition

The concept of ecosystem services, describing the diverse benefits that the natural world provides to people, has been emerging as a pedagogic and management tool since the late 1980s. Since that time, disparate classification schemes have been developed often addressing specific habitat types (wetlands, coral reefs, rangelands, croplands, forests, etc.) and/or bioregions.

One of the many contributions of the UN's Millennium Ecosystem Assessment program (Millennium Ecosystem Assessment 2005a) was the harmonization of these prior schemes into a consistent classification system suitable for comparison of major habitat types on a global basis. The primary division within the MA classification scheme was the grouping of ecosystem services into four major categories: provisioning services, regulatory services, cultural services, and supporting services.

Cultural services are defined by the Millennium Ecosystem Assessment as "... the nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection, recreation, and aesthetic experiences". These include the influence of heterogeneous ecosystems on the diversity of cultures, spiritual and religious values, knowledge systems (traditional and formal), educational values, inspiration, aesthetic values, social relations, sense of place, cultural heritage values, and recreation and ecotourism. There is in this a degree of feedback in that cultural factors also influence human wellbeing, as well as influencing the way that ecosystems are valued and used.

A number of subglobal assessments informing the MA found that the spiritual and cultural values provided by ecosystems were as important as other services, such as provisioning and regulating, for many local communities, both in developing nations (for example the importance of sacred rivers in India) and industrial countries (such as the importance of water features in urban landscapes). However, another conclusion of the MA was that 70% of regulating and cultural services are being degraded or used unsustainably across the world, highlighting the threats to continuing human wellbeing from ecosystem degradation. "Spiritual and religious values" were found to be significantly compromised by, for example, the rapid decline in sacred groves and species, while aesthetic values too were in sharp decline due to decreases in the quantity and quality of "natural" lands. The situation for recreation and ecotourism was equivocal, with some declines but other enhancements as more areas became accessible while many became degraded. Intensive exploitation of cultural services can have significant impacts on the environment, such as tourism impacts or disturbance of species of cultural significance, while the cultural significance of some fish and other wetland species can be a powerful lever for conservation of the habitats that support them (Everard and Kataria 2011).

A Millennium Ecosystem Assessment synthesis specifically considering global wetlands and water (2005b) (including lakes, rivers, marshes, and coastal regions to a depth of 6 m at low tide but acknowledging that many wetland types were underrepresented) found that “. . . more than 50% of specific types of wetlands in parts of North America, Europe, Australia and New Zealand were destroyed during the twentieth century, and many others in many parts of the world degraded”. Nevertheless, wetlands produce a diversity of all categories of ecosystem services, including significant cultural services such as “. . . significant aesthetic, educational, cultural, and spiritual benefits, as well as a vast array of opportunities for recreation and tourism”. The economic value of these cultural services may be significant, for example, with recreational fishing generating considerable income. For example, the Wetlands and Water synthesis report notes that, “35–45 million people take part in recreational fishing (inland and saltwater) in the United States, spending a total of \$24–37 billion each year on their hobby. Much of the economic value of coral reefs—with net benefits estimated at nearly \$30 billion each year—is generated from nature-based tourism, including scuba diving and snorkelling.” The report also highlights how different types of wetlands produce a different balance of cultural and other services, so the heterogeneity of wetland types across landscapes is of importance for the conservation of these important services.

The Ramsar Convention’s “wise use” concept (www.ramsar.org/handbooks4/) recognizes the need to balance the use of wetlands for the production and use of cultural services and all other provisioning, regulatory, and supporting services contributing to multiple dimensions of human wellbeing and ongoing resilience, including their contribution to poverty alleviation.

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