Understanding, Modeling and Valuing Ecosystem Services

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An ecosystem services (ES) based approach can assess the trade-offs inherent in managing humans embedded in ecological systems. Evaluating trade-offs requires both an understanding of the biophysical magnitudes of ES changes that result from human actions, as well as an understanding of their impact on human well-being, broadly conceived. The state of the art of ES assessment and modeling will be discussed, including the potential of integrated ecological economic modeling. The MIMES (Multiscale Integrated Models of Ecosystem Services) framework is one such initiative, designed to address the magnitude, dynamics, and spatial patterns of ecosystem services at multiple scales in a sophisticated but accessible platform. MIMES explicitly address the linked dynamics and tradeoffs among natural, human, built and social capital. Finally, the appropriate uses of economic incentives in managing ecosystem services are discussed, including Costa Rica's system of payments for ecosystem services and the idea of common asset trusts.