

DEVELOPMENT OF A FRAMEWORK FOR THE ASSESSMENT OF ECOSYSTEM SERVICES IN THE WESTERN AMAZON: SUBSIDIES FOR DECISION-MAKING
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Abstract:

Depletion of natural resources, biodiversity loss and disappearance of traditional ways of life are issues that are becoming increasingly apparent due to their obvious consequences such as deterioration of quality of life, economic losses, among other disasters that affect the projects and the pace of socioeconomic development and, in a broader context, the human life on the planet. As highlighted by the Millennium Ecosystem Assessment (*Ecosystems and human well-being - a Framework for evaluation*. São Paulo: Editora Senac São Paulo, 2005), "The human species, while protected against environmental immediacy by culture and technology, in fact depends entirely on the flow of the ecosystem services" (p.25).

The clear definition of what ecosystem services are, of the functionality of ecosystems, and of which services they provide, as well as the understanding of possible relationships among these aspects are fundamental for the implementation of proposals focused on environmental accounting, planning and land use and also on payment for environmental services. Discussions on payment for environmental services are important because they bring up, among other issues, the valuation of services provided for free by nature and largely threatened.

The development of this proposal is justified by the lack, in Brazil, of methodologies able to properly relate the complexity and interdependence between ecosystem services and human well-being. Often, this need has resulted in plans, programs and projects that do not consider the existing environmental weaknesses, the risks and the costs of medium and long time scales involved in the loss of ecosystem services. The decision making processes are therefore hampered by the lack of parameters related to the cost of opportunity applied to the consumption of these services.

The objective of this paper is to present the discussions aimed to fill this gap by building a conceptual model for a region of the Brazilian Amazon, which can be adopted for other regions. For the preparation of this model, analysis are being carried out considering the conceptual models proposed by the full study of the Board of the Millennium Ecosystem Assessment (*Ecosystems and human well-being*. USA: Island Press, 2005) and articles from the United Kingdom, "Defining and Classifying ecosystem services for decision-making ", by Brendan Fisher, R. Kerry Turner, Paul Morling, in *Ecological Economics* 68, 2009, available at www.sciencedirect.com), and from Australia, "The development of an Ecosystem Services Framework for South East Queensland," by Simone Maynard, David James and Andrew Davidson in

Environmental Management 45 (2010), and their results, in order to characterize the elements that are applicable to the proposed objective and the specific area of study. During this process, the proposals for payment for environmental services are being considered, such as carbon credits, water regulation and other development experiences in Brazil.

It is hoped that, after the construction of a robust conceptual model, based on ecosystems and covering functional and relational complexities, it will be possible to understand the dynamics of ecosystems and the benefits generated by environmental services, in order to support future evaluation projects of quantity of stocks and flows in the environment at the local and regional scale, as well as qualitative variables on ecosystem functions and driven changes that may involve risk of loss of ecosystem services on the human welfare point of view. Consistent with the challenge described, it was constituted a preliminary multidisciplinary group in which the different thematic dimensions can be analyzed.