



Politecnico
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Honor Thesis

Degree Course in
Pianificazione Territoriale, Urbanistica e Paesaggistico-
Ambientale

Abstract

**The evaluation of ecosystem services for the update of “La
Mandria” Regional Natural Park Area Plan**

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The ecosystem services, by definition, represent goods (potable water, agricultural products, forest resources, etc.) and services (climate regulation, protection against hydrogeological disturbances, etc.) represent the benefits human populations withdraw, directly or indirectly, from the ecosystem functions (Costanza *et al.* 1997). Nevertheless, natural events and anthropic actions can compromise the functionality and efficiency of the ecosystems. The effects generated on the ecosystems by anthropization have caused elevated natural resources exploitation and irreversible biodiversity loss, especially because of settlement development.

In this context, starting from the 1990s, the first assessments in the fields of ecology and economy have been developed, because of the need of appropriate land management strategies to preserve, enhance and eventually extend the ecosystem services availability, dealing with the progressive natural resources depletion.

For the reasons above-mentioned and because of the update of the “La Mandria” Regional Natural Park Area Plan, the present thesis has the purpose of assessing and mapping the ecosystem services offered by the Park, in order to provide a supportive study for the preparation of the new management instrument. Particularly, the document focuses on the ecosystem functions in the protected area and on their economic potential, in a local and regional dimension.

In order to spatialize the stock and economic values of the ecosystem services provided by the analysis context, GIS-based methodologies used by national and European projects (Advanced Forest Fire Fighting, LIFE + Making Good Nature) have been applied. A detailed description has been included for the managing authorities to implement future monitoring activities.

The quantification of the ecosystem services and the mapping of stock and economic values allow to define the areas in which to pay special attention during the planning process and the related actions. Therefore, protection, enhancement and implementation measures of natural resources can be defined, also through economic instruments, such as the payment for ecosystem services (PES).

As a corollary of the above, four suggested actions are presented in the final section of the thesis to eventually incorporate in the updated “La Mandria” Regional Natural Park Area Plan.
