



METADATA

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Abstract

This textbook meets the needs of the course "Protection, Biomonitoring, and Restoration of Ecological Systems," taught in the eighth semester of the Biology Department at Aristotle University of Thessaloniki. A review of the Greek literature showed that there is nothing more than textbooks which, in a technocratic context, are limited to providing instructions on the techniques that should be followed to restore degraded/destroyed ecological formations. The aim of this textbook, on the contrary, is to present the ecological theoretical basis that guides anyone implementing restoration programs, make decisions on what steps to take, and have criteria for redesigning restoration actions when the effort proves unsuccessful. It focuses on the restoration of terrestrial formations,

the cornerstone of which is the soil. To this end, it provides a detailed presentation of the structural elements of soil (biotic and abiotic), their interactions, and the restoration projects aimed at managing these interactions with a view to creating a functional system. It is divided into three sections. The first focuses on the description of the abiotic and biotic elements of the soil system and the processes produced by their interactions. The second section refers to the theory of restoration ecology and how concepts from the field of community ecology, such as succession, disturbance, metapopulation, dispersal, species pool, etc., are applied in restoration programs. Finally, the third section describes restoration techniques according to the system being restored.

