

# **Multifunctional Landscapes**

Interdisciplinary Approaches to  
Landscape Research  
and Management

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accompanied by high fragmentation of forest complexes, are shown on the map drawn in the 1930s. Within the whole studied period (194 years) an increase in forest surface was reported (12.2 square km or 15.8 percent), and the length of the forest boundaries increased by 64.1 km (38.4 percent). Thus, the average "rate of increase" stood at 0.06 square km/year and 0.33 km/year respectively. A considerable increase was reported also in the years 1793-1830 (the first time-interval) and 1933-87 (the third time-interval) - 12.8 square km and 122.8 km, and 35.8 square km and 57.5 km respectively. A sharp decline was reported in the case of the second time-interval (1830-1933), when the forest surface was reduced by 36.4 square km and the length of the forest boundaries decreased by 116.2 km. At that particular time the degree of afforestation dropped to merely 13.4 percent, and the forest complexes were characterised by the highest degree of fragmentation.

### **The use of vegetation structure and composition measures to improve habitat classification in rural landscapes**

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The methods used to determine habitat classifications are important to planning and management. Therefore, the use of wildlife communities to improve habitat classification is crucial in Landscape Ecology. The importance of vegetation in the habitat use characteristics of breeding bird communities occurring in Évora and Setúbal (Portugal) was studied. Those areas have different land use gradients resulting from their management. Four transects were censused to provide distributional records of all species in order to investigate the relationship between vegetation structure and ornithological abundance. Multivariate ordination methods were used to classify the habitat on each transect as suitable or unsuitable for avian species, using foliage diversity measures and other structural measures. After calculating avian similarities among vegetation types, cluster analysis was used to group vegetation types into similar habitats based on wildlife species composition. This approach for classifying physiognomic types in rural landscapes allows consistent development of wildlife management strategies.

### **Methods of studying biodiversity in relation to landscape pattern of Estonian coastal areas**

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The biological diversity connected with landscape diversity. Every landscape represents a system of closely interrelated components (abiotic and biotic), being a definite structural complex that is constantly enriched with new features in the course of its development. The