Abstract

Wetlands such as the Yala swamp in Kenya are among the most important and increasingly threatened ecosystems globally due to their ecological significance and complexity, and the importance of the ecosystem services (ES) they provide to wetland communities. Appropriate governance and management of wetlands thus require the use of interdisciplinary tools that take into account both ecological and social considerations. This study used the matrix model combining social preferences with GIS-based maps of land use/land cover (LULC) to analyse the capacity of the Yala swamp to supply ES (flows). We engaged a total of 132 participants who manage and use natural resources in the wetland through a participatory process to identify ES, map LULC, and score the flow of ES on a scale of 0 to 5 using the matrix model. We also analysed the impacts of stakeholder characteristics (gender, environmental expertise, and location) on the scoring of the matrix. Results showed high average scores (score of 4) for trees and shrubs, papyrus, and water bodies across a range of provisioning, regulating and cultural services. The study found that gender and location had little influence on the respondents' scores, while environmental conservation experts provided scores significantly higher than local resource users (farmers/fishermen) across the ES types. Overall, the study contributes to understanding: 1) the importance of linking LULC with ES provision to inform landscape management and 2) the need to incorporate a range of stakeholder perspectives in studies making use of expert knowledge and preferences, for inclusive management.