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Integration of fishers' local knowledge in mangrove research and conservation in the Galapagos Islands

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Abstract

Mangroves are highly productive coastal ecosystems providing goods and services to humans, but also to marine species, many of them of fishery importance. In the Galapagos Islands, although mangroves cover around 35% of the coastline, in most locations, they only exist in an underdeveloped state. Yet, the importance of mangroves for fisheries production has been recognized in economic terms, even though there is still little scientific evidence about mangrove-fisheries linkages in the Galapagos. In such regards, fishers' ecological knowledge (FEK) could be a suitable approach to complement mangroves' science and management knowledge, and to guide decision making in mangrove conservation. To explore FEK about mangrove-fisheries linkages, we conducted 35 in-depth interviews to fishers from the three main ports (Santa Cruz, San Cristobal e Isabela), and contrasted and validated the information with interviews conducted to a group of 33 experts, including tour guides, park rangers and local scientists. Most fishers recognized mangrove ecosystem services, and past and current threats, and were able to propose conservation measures. Most relevant FEK includes, knowledge about fishery species' associativity to mangroves (e.g., *Mycteroperca olfax*, snappers, mullets), and habitat use (e.g., nursery habitat, refuge), and the identification of important sites (e.g. mostly in Isabela). Experts' responses, in general, allowed us to validate FEK, although more emphasis was given to the value of mangroves for non-commercial species (e.g., sharks) and tourism. Future steps involve the conduction of community workshops with fishers in two islands, in order to validate ambiguous information, and to explore new insights about mangroves-fisheries linkages. In addition, the conduction of a roundtable with mangrove decision-makers, will allow us to evaluate the integration of FEK and perceptions in mangrove research and conservation of the Galapagos Islands.

Keywords

mangroves, fishers' ecological knowledge, fisheries, Galapagos Islands