Examining horizontal and vertical social ties to achieve social-ecological fit in an emerging marine reserve network

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Abstract

1. Most MPA networks are designed only with ecological processes in mind to increase their conservation utility. However, since MPA networks often involve large geographic areas, they also affect and involve multiple actors, institutions, and policy sectors.
2. A key challenge when establishing an effective MPA network is to align the ‘social system’ with the biophysical MPA network (the ‘ecological system’). This challenge is often denoted as ‘social-ecological fit’.
3. Facilitating collaborative social interactions among various actors and stakeholders (social connectivity) is equally as important as accomplishing ecological connectivity. New analytical approaches are required to effectively examine this ‘social’ dimension of fit.
4. An emerging marine reserve network in Jamaica and the recent invasion of Indo-Pacific lionfish are used as a case study to: (1) examine the extent to which horizontal and vertical social ties bring local and national actors together to collaborate, coordinate, and share knowledge; and (2) assess the extent to which different attributes and features of such multilevel social networks may enhance or inhibit particular aspects of social-ecological fit.
5. Findings suggest that multilevel linkages have played the greatest role in relation to enhancing fit in the marine reserve network in the context of the recent lionfish invasion. However, the long-term propensity of the multi-actor and multilevel networks to enhance social-ecological fit is uncertain given the prevalence of weak social ties, lack of a culture of information sharing and collaboration, and limited financial resources.

Read the full article in Aquatic Conservation [1].


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