On the effectiveness of marine protected areas for predator-prey communities with differential mobility

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Abstract

Marine protected areas (MPAs) are regions in the ocean where fishing is restricted or prohibited, that complement the fishing grounds (FG) where fishing is allowed. MPAs are used to manage fisheries for conservation of species and habitat restoration, while maintaining the economic output of the fishing enterprises.

In this talk, I will focus on the interplay between fish mobility and the fish abundance in marine communities where both predator and prey species are mobile and have commercial value. Specifically, I will address the two main ecological questions:

(i) Does increased mobility always have a stabilizing effect on the community? (ii) Is increased mobility always equalizing, i.e. bringing the MPA to FG density ratio closer to unity?