



Using species distribution models and multiple sources of species data to inform seahorse conservation in China

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I provide the first conservation study of seahorses in China, the world's largest consumer of dried seahorses and the country with the largest fleets of trawlers, (which catch many seahorses incidentally). I interviewed more than a thousand local fishers working on 554 fishing boats at 79 Chinese fishing ports to collect information on seahorse species, distribution, habitat, and abundance. I also collated seahorse data from local divers and peer-reviewed literature in China, and checked seahorse specimen information in local museums. I then built models to predict distributions of each seahorse species in China. My study indicated that at least five species are living in China and they were mainly found in the south of the country. Seahorses were mainly caught by trawl nets in the south, especially bottom trawls (targeting shrimps), and mainly found in teeth-bar rakes, stow nets, and crab traps in the north. Seahorse catch varied with years, seasons, and fishing zones. Fishers in some areas targeted seahorses with a harvest of up to thousands per boat per day. Reported habitats used by seahorses included seagrass beds, stones, sandy seafloors with sea fans, coral reefs and, macroalgae, and artificial structures. Three actions are needed to protect seahorse populations in China: 1) enhance management of existing marine protected areas that covers seahorse habitats, 2) set up new MPAs in areas where seahorse species richness or abundance is high; 3) regulate fishing activities and nets in fishing zones where seahorses are heavily caught.

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