



Effects of indiscriminate fisheries on small data-poor species

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As catches of economically valuable fishes decline, and demand continues to increase, commercial and small-scale fishers retain and sell more non-target marine fishes. Some of these catches are destined for international markets and subject to international trade regulations. Many of these species are considered “data-poor” in that we have limited data on their biology, ecology and exploitation, which poses a serious management challenge for sustainable fisheries and trade. Our research explores the relative pressure exerted by such indiscriminate fisheries on a data-poor marine fish genus – seahorses (*Hippocampus* spp.) – whose considerable international trade is regulated globally. Our focus is Thailand, a dominant fishing nation and the world’s largest exporter of seahorses (*Hippocampus* spp.), where we gathered data by interviewing commercial and small-scale fishers and through port sampling of landed catch. We estimate that annual catches were more than three times larger than previously documented, approximating 29 million individuals from all gears. Three fishing gears - two commercial (otter and pair trawl) and one small-scale (gillnet) - caught the most individuals. Results from port sampling and our vulnerability analysis confirmed that *H. kelloggi*, *H. kuda*, and *H. trimaculatus* were the three species (of seven found in Thai waters) most vulnerable to fishing pressure. Small-scale gillnets captured the majority of specimens under length at maturity, largely due to catches of juvenile *H. kuda* and *H. trimaculatus*. This research indicates a role for vulnerability analysis in initiating precautionary management plans while more extensive studies can be conducted. Our intention is to identify paths towards sustainable fisheries management when minimal data are available, which in the case of seahorses in Thailand, should focus on commercial trawling gears and small-scale gillnets.

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