



A fisherman casts his net on a lake in Thailand.

Edited by **Jennifer Sills**

Poor fisheries struggle with U.S. import rule

IN THEIR POLICY Forum “U.S. seafood import restriction presents opportunity and risk” (16 December, p. 1372), R. Williams *et al.* describe some possible effects of the U.S. National Oceanic and Atmospheric Administration (NOAA) rule requiring that seafood imported into the United States must come from fisheries that comply with the U.S. Marine Mammal Protection Act (MMPA). Williams *et al.* point out that if fisheries are not adequately supported as they try to comply with the regulations, the rule could exacerbate difficulties experienced in poor fishing communities. We are an international group of marine mammal and fisheries scientists funded by NOAA’s Office of International Affairs to assess the risk of marine mammal bycatch in small-scale fisheries in Southeast Asia (1). Based on our recent research trip to marine fisheries and research institutes in Thailand, Vietnam, and Malaysia, we believe that exporting nations will have trouble achieving and documenting compliance with the MMPA within the 5-year grace period.

From our work with local authorities, scientists, and fishing communities in these developing nations, we believe that the first hurdle will be galvanizing action from government agencies, fishery managers, and fishers. Conservation-driven

policies will likely hold little weight with these constituents, given the intense economic needs in these countries. Because top-down management approaches may be met with resistance, the United States needs to work closely with regional partners to ensure that the benefits of MMPA rule compliance are understood across all levels, from management through to single fish suppliers and fishers.

The second hurdle relates to the considerable data requirements needed within the 5-year grace period to fulfill MMPA standards, such as the calculation of the Potential Biological Removal of species at risk. To our knowledge, this has only been reported for one marine mammal species in Southeast Asia (2). This knowledge gap is compounded by the largely unreported nature of marine mammal bycatches and marine mammal population distributions (3). A lack of robust quantitative data should not, however, mean that management (4) and data collection cannot begin now. Local capacity strengthening should guide regional monitoring programs and the identification of at-risk locations over the next 5 years.

Most of the countries exporting to the United States are dominated by a small number of fish products (5), which does generate hope for future compliance. Whether this compliance happens before 2022 remains questionable, given that clear product identifications, certifications, and traceability are also still widely lacking.

Low MMPA compliance after the grace period could mean economic losses for these

exporting fisheries and an overall increase in fishing effort to compensate for new trades with less lucrative markets than the United States. This will have clear negative impacts on both marine mammal and fish populations. Greater collaboration between government fisheries and conservation departments will be essential to codevelop locally supported strategies that regulate fisheries, specifically to design a suite of approaches to measure and mitigate bycatch of marine mammals.

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REFERENCES AND NOTES

1. NOAA Fisheries International Cooperation and Assistance Program (NOAA-NMFS-FHQ-2016-2004689).
2. E. Hines *et al.*, *Front. Mar. Sci.* **2**, 63 (2015).