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TITLE: Fish conservation in freshwater and marine realms: status, threats and management

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ABSTRACT:

Abstract Despite the disparities in size and volume of marine and freshwater realms, a strikingly similar number of species is found in each ? with 15 150 Actinopterygian fishes in fresh water and 14 740 in the marine realm. Their ecological and societal values are widely recognized yet many marine and freshwater fishes increasingly risk local, regional or global extinction. The prevailing threats in aquatic systems are habitat loss and degradation, invasive species, pollution, over?exploitation and climate change. Unpredictable synergies with climate change greatly complicate the impacts of other stressors that threaten many marine and freshwater fishes. Isolated and fragmented habitats typically present the most challenging environments for small, specialized freshwater and marine fishes, whereas overfishing is by far the greatest threat to larger marine and freshwater species. Species that migrate within or between freshwater and marine realms may face high catchability in predictable migration bottlenecks, and degradation of breeding habitat, feeding habitat or the intervening migration corridors. Conservation reserves are vital to protect species?rich habitats, important radiations, and threatened endemic species. Integration of processes that connect terrestrial, freshwater and marine protected areas promises more effective conservation outcomes than disconnected reserves. Diadromous species in particular require more attention in aquatic restoration and conservation planning across disparate government agencies. Human activities and stressors that increasingly threaten freshwater and marine fishes must be curbed to avoid a wave of extinctions. Freshwater recovery programmes range from plans for individual species to recovery of entire basin faunas. Reducing risks to threatened marine species in coastal habitats also requires conservation actions at multiple scales. Most of the world's larger economically important fisheries are relatively well?monitored and well?managed but there are urgent needs to curb fishing mortality and minimize catch of the most endangered species in both realms. Copyright © 2016 John Wiley & Sons, Ltd.

SOURCE: Aquatic conservation

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