

Coral reef fishes—a case for trade controls

Not a single species of marine fish is listed by the Convention of International Trade in Endangered Species of Wild Fauna and Flora (CITES), despite the fact that trade in marine fish is the largest wildlife trade in the world. Most of this trade is concerned with fish for human consumption, but the trade in ornamental marine fish is growing.

The great majority of the colourful fish and invertebrates that grace marine aquaria are taken from wild populations on coral reefs. Unlike freshwater aquarium fish, they are difficult to breed in captivity. Divers on some reefs report that certain species seem harder to find than they were, but apart from this anecdotal information little is known about the effects of collecting on wild populations. There is an urgent need to study this so that the trade can be controlled and managed to ensure that the animals are exploited at a sustainable level. The Marine Conservation Society of the UK took an important step last year when Dr Elizabeth Wood, a marine biologist, undertook a case study of the exploitation of coral reef fishes for the aquarium trade. The FFPS helped finance the study from its *Oryx* 100% Fund.

The study focused on imports into the UK and on the export trade in Sri Lanka, from which 39 per cent of the UK's imports come. The UK is not a major importer, but takes 3 per cent of the world trade, which is worth US \$24–40 million annually.

In her report, Dr Wood points out that there are difficulties in interpreting the import statistics because HM Customs and Excise makes no distinction between fish, corals and other invertebrates and keeps no records of the number of animals imported nor of the species involved. She estimates, however, that in 1983 the UK imported 371,500 fish. Export figures from Sri Lanka are also not very useful in assessing the trade. It is valued at around £640,000, of which the UK takes 20 per cent, and approximately 25,000–30,000 boxes of marine species are exported each year, containing an estimated 200,000 fish and 390,000 invertebrates.

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In Sri Lanka the collection of these creatures is not regulated or controlled in any way, except in one conservation area, and there are no controls on export. Collectors make every attempt to capture all specimens of high value in the area in which they are diving, and record at least 29 species on the export list as being rare or uncommon and/or as having a restricted distribution. Whether such low populations are normal or have been caused by overcollection is not known, but clearly these species are vulnerable to overexploitation. Collectors in Sri Lanka do not use toxins to capture fish, but inadvertently may cause damage and disturbance by breaking corals. They also exert a predation that is not only additional to natural predation, but perhaps has a greater impact because they are more adept than 'natural' predators at removing prey from hiding places and at catching poisonous or aggressive species. Some of the fish most sought after are quite unsuitable for captivity. Seven species of butterflyfish exported from Sri Lanka feed exclusively on coral polyps and are virtually impossible to keep alive in captivity for very long. The cleaner wrasse often starves to death in captivity once it has cleaned the parasites from the other fish in its tank.

Other problems identified in the report include a relatively high mortality rate. For every 1000 fish removed from the sea, 850 survive to be exported, 765 reach their destination alive, 727 survive to be sold, and only 363 live longer than six months.

After a thorough and detailed analysis of the trade and its problems, the report makes two general recommendations: that both importing and exporting countries explore the possibilities of captive-breeding; and that exporting countries assess the present status of their reef fish populations and monitor them, and, if it is necessary, set up refuge areas, prohibit collection during the breeding season and set quotas for certain species. Dr Wood also recommends that serious consideration be given to listing particularly vulnerable species on Appendices II and III of CITES. The Marine Conservation Society, the FFPS and the WWF, which also sponsored the report, are jointly presenting the report to the Department of the Environment urging early action on its recommendations.