

Humphead Wrasse

Cheilinus undulatus

CoP13 Prop. 33 (Fiji, Ireland, on behalf of the Member States of the European Community, and the United States of America) List the humphead wrasse (*Cheilinus undulatus*) on Appendix II in accordance with Article II, paragraph 2 (a), of the Convention and Resolution Conf. 9.24 (Rev. CoP12), Annex 2(a), paragraph B (i)

SSN VIEW: SUPPORT ADOPTION OF PROPOSAL

- The humphead wrasse (*Cheilinus undulatus*), also known by other common names such as Maori wrasse, Napoleon wrasse, and Napoleon fish, is threatened by overfishing of all age and size classes. Live specimens are captured for sale in luxury Asian restaurants (Hong Kong being the largest single importer).
- The humphead wrasse meets the criteria for listing on Appendix II in accordance with Resolution Conf. 9.24 (Rev. CoP12), Annex 2(a) B (i): "it is known, inferred or projected that the harvesting of specimens from the wild for international trade has, or may have, a detrimental impact on the species by exceeding, over an extended period, the level that can be continued in perpetuity".
- The humphead wrasse is listed as Vulnerable in the 2000 IUCN Red List (proposed re-categorization to Endangered in 2004), and is banned from export by several countries.
- There is evidence of decline due to exploitation throughout its range, particularly in Southeast Asia. All locations studied, with significant exports and no effective controls, show that *C. undulatus* numbers have declined by ten-fold or more within a decade or less. Fisheries records over past decades indicate that this species cannot withstand intense fishing pressure, yet the status of the humphead wrasse as a luxury food item will prevent demand from shrinking even as it becomes rarer in the wild and more expensive.
- This species has a very low reproductive potential due to its life history characteristics, including long lifespan, slow growth, late maturity, and female-to-male sex change (hermaphroditic).
- The humphead wrasse is relatively easily identified by its characteristic shape, and the form in which it is traded (alive) will facilitate inspections and enforcement.
- Appendix II listing of this threatened species will improve catch and trade reporting, effectively assist global conservation efforts and management of fish stocks, and strengthen efforts to reduce illegal, unregulated, or unreported fishing.

GENERAL INTRODUCTION

The humphead wrasse is one of the largest reef fishes in the world, growing over 2 meters long and 190 kg. As a rare and spectacular species, it commands some of the highest prices in luxury restaurant markets in Hong Kong—1997 retail prices ranged from US \$90-\$175 per kg (Lau and Perry Jones 1999). A single large specimen could command prices from US\$11,700 up to US\$33,250. Because of their status as a luxury food item, these market prices are expected to increase as the humphead wrasse becomes rarer (Donaldson and Sadovy 2001).

The recent growth of global export fisheries to supply the Live Reef Food Fish Trade (LRFFT) has led to a significant decline in humphead wrasse populations. The species has recently become a highly prized target for live sale in luxury restaurants in Hong Kong SAR, China, Taiwan, Singapore and elsewhere. From 1997-2002, at least 38-189 tonnes per year were imported to Hong Kong SAR (Sadovy et al. 2004). The Philippines and Indonesia are the primary exporters, with other source countries including Kiribati, Vietnam, Australia, China, and Thailand.

The United States submitted a proposal to list the species in Appendix II at CoP12. The proposal received majority support but failed (by six votes) to achieve the two-thirds majority required.

BIOLOGY AND DISTRIBUTION

The humphead wrasse is the largest species in the family Labridae. The species is particularly vulnerable to overfishing because individuals grow slowly, mature late, are hermaphroditic (female to male sex change) and are naturally uncommon. In addition, adults aggregate to spawn in pairs within a larger social group at certain times of the year, and these concentrations are particularly vulnerable to overexploitation by local fishermen. Individuals of this species can live at least 30 years, and reach sexual maturity at five to seven years of age.

Likened to an elephant of the sea, the humphead wrasse can grow to over 2 meters and 190 kg (Sadovy et al. 2003) although adults over 1.5 m are probably uncommon (Choat et al. unpublished data). It is a carnivorous predator in reef ecosystems, feeding primarily on fishes, mollusks, sea urchins, crustaceans, and other invertebrates (Randall et al. 1978). Also a predator of crown-of-thorns starfishes, it is thought that this giant wrasse may play an important role in ecosystem balance (CoP12, Prop. 12.38, section 2.6).

Dependent on healthy coral reef ecosystems, the humphead wrasse is patchily distributed. Adults are found on steep outer reef slopes at depths of 1-100 m. The species is found in coral reefs throughout the Indo-Pacific region, from the Red Sea to the Taumotus, north to the Ryukyus, including China and Chinese Taipei, east to Wake Island, south to New Caledonia and throughout Micronesia. It occurs within the jurisdiction of 48 countries and overseas territories, including those of the proponents.

PROTECTION STATUS

The humphead wrasse is listed as Vulnerable in the 2000 IUCN Red List (proposed re-categorization to Endangered 2004). Reasons include multiple reports of marked population declines, with nearly all studied populations reportedly declining—particularly where heavily fished for export in LRFFT. In light of the growth of LRFFT and the vulnerability of this fish to overfishing, declines are projected to continue or worsen. Catch rates have already declined in many areas, a sign of local overexploitation.

Humphead wrasse are banned from export due to overfishing in many areas, including Western Australia, Maldives, Palawan Islands (Philippines), Niue, and Palau. Fiji is currently drafting legislation that would ban the capture, sale and export of humphead wrasse, to be in effect before the end of 2004.

MAJOR CONSERVATION THREATS TO HUMPHEAD WRASSE

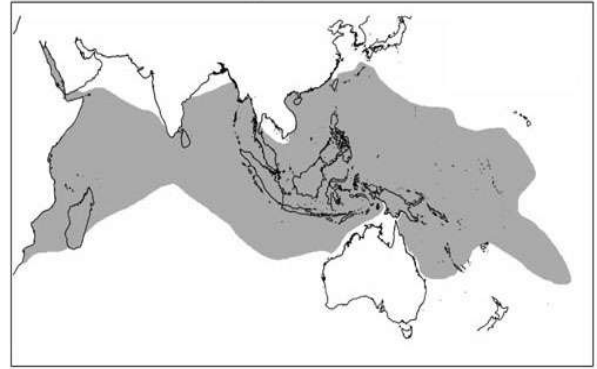
The humphead wrasse is particularly vulnerable to overfishing, and nearly all studied populations have declined—particularly where heavily fished for LRFFT. Because the species is highly-valued for the LRFFT, over-exploitation for international trade is predicted to continue. Currently there are no regional and few national efforts to manage this threat. Market prices are predicted to increase as the humphead wrasse becomes rarer. International trade appears to be the major threat to this species, and evidence indicates that current harvest levels are unsustainable in many jurisdictions.

The humphead wrasse is uncommon throughout its range, and spawning aggregates of this species are extremely vulnerable to overfishing. Fishing on such spawning aggregates depletes reproductive individuals, posing an acute threat to populations. In addition, caves harboring sleeping or hiding wrasse are easy targets for fishermen using destructive cyanide squirt bottles; the majority of humphead wrasse are caught using this method—illegal in Indonesia and many other states—for the purposes of LRFFT (Sadovy 2001). Cyanide fishing has severe negative impacts on coral reefs and other non-target species, and results in higher mortality rates for target species than other live fishing methods.

Although humphead wrasse exports are banned in many areas, traders have acknowledged that smuggling is common and banned specimens still appear in Hong Kong markets. For example, Hong Kong import records show that nearly 101,000 kg of humphead wrasse were exported from the Maldives in 1998, even though the Maldives banned the export of this species in 1995. Because Hong Kong does not require reports of landings by licensed vessels, actual import levels to Hong Kong are significantly underreported.

In addition to the pressures of overfishing, the humphead wrasse is threatened by the degradation of coral reef habitat through water pollution, destructive fishing techniques, rising water temperatures, mining of sand and coral, alien species introductions, reef sedimentation from agriculture and upland deforestation, dredging, and sewage discharge. The humphead wrasse is dependent on healthy coral reef ecosystems and suffers a decrease in appropriate available habitat with current and ongoing reef degradation.

Distribution of the Humphead wrasse in the Indo-Pacific



(Map extracted from Sadovy et al. 2003. The humphead wrasse, *Cheilinus undulatus*: synopsis of a threatened and poorly known giant coral reef fish. *Reviews in Fish Biology and Fisheries*13(3):327-364).