



Napoleon Wrasse Status and Protection Workshop

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The humphead wrasse (*Cheilinus undulatus*), also known as the Napoleon wrasse, is a large reef fish belonging to the family Labridae. It is distributed across coral reefs of the Indo-Pacific region, and is capable of reaching 2 m in length and almost 200 kg in weight. The species is a protogynous hermaphrodite.⁴ The Napoleon wrasse takes 5–7 years to reach sexual maturity (which occurs when they are 40–60 cm in total length) in the wild and has slow population replacement rates. The Napoleon wrasse is popular in the live reef food fish trade, which is centred in Hong Kong and Mainland China. This fish is intensely sought, and typically caught live using cyanide. It is also very attractive to recreational divers who very much enjoy observing and photographing this species in the wild.

The biology of the species, combined with high commercial interest from the live reef fish trade, has resulted in significant declines in populations in Indonesia, the foremost exporter of Napoleon wrasse. According to Dr Toni Ruchimat, Director of Area and Fish Species Conservation in Indonesia, the biggest global exporter of the species, it is nowadays rare to see large adults in the country. This is in comparison to 15 years ago, when Dr Ruchimat became a researcher at the Centre for Marine Aquaculture Research in Gondol in north Bali, and conducted research on Napoleon wrasse rearing and hatchery. Dr Ruchimat believes that monitoring the population and breeding the species is needed for its management and protection. In 2004, due to concerns about population declines, the Napoleon wrasse was listed on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and listed as “endangered” on the International Union for Conservation of Nature (IUCN) Red List. As a result of the CITES listing, Indonesia introduced an export quota of 8,000 fish, which was later reduced to 4,000 fish per year. The

species is considered to be challenging to survey in the wild and cannot be raised in captivity at commercial levels, despite many years of research.

Despite the export quota and additional measures such as an air-only export requirement and measures taken by Hong Kong (the major importer of Napoleon wrasse) to control international trade, there remain concerns over illegal, unreported and unregulated (IUU) trade in the species, which seriously undermines the Appendix II listing. IUU trade compromises Indonesia’s ability to allow its depleted populations of the species to recover. In a workshop in Bali in 2010, the many challenges associated with IUU trade were identified and discussed.⁵ For example, Napoleon wrasses are sometimes labelled as groupers when sent out by air, and illegal exports by sea are rife as indicated by confiscations in Hong Kong. Much IUU trade occurs from Hong Kong into mainland China, where illegally imported fish can be seen openly on sale in southern markets. In shipments, Napoleon wrasses are sometimes stored below groupers to hide them. Transshipments through Singapore are often not documented, and Hong Kong — the foremost importer of the species — cannot adequately enforce restrictions on imports by sea. In general, inspections of shipments by sea are inadequate by both importing and exporting countries, and significant trade of the species is by sea. Many of these issues were addressed at national and international meetings in 2006 and 2010. Indonesia recently proposed that greater action be taken to combat IUU trade in the species — especially in the area of enforcement — at the CITES Conference of the Parties 15 in Doha, Qatar. The decision⁶ calls for CITES Parties to consider limiting international transport of Napoleon wrasse by air, and to work on finding acceptable options for dealing with confiscated fish. It also urges Parties to increase normal measures

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⁴ Many adults change from being female to male during their lifetime and, hence, reproduce as both sexes.

⁵ Workshop report on the trade of *Cheilinus undulatus* (humphead or Napoleon wrasse) an CITES implementation, 3 and 4 June 2010, Bali, Indonesia. [available at: <http://www.cites.org/eng/com/sc/61/E61-49-A.pdf>]

⁶ For background info see: <http://www.cites.org/eng/cop/15/sum/E15-Com-II-Rec14.pdf>

taken for trade control, and requests the CITES Secretariat's assistance in doing so through a newly established working group on the species.

If illegal trade continues, cyanide fishing — which is the major fishing method used to catch this species, despite the fact it is illegal — will persist and Napoleon wrasse populations will continue to decline in Indonesia and elsewhere due to excessive overfishing. This will negatively affect income options for fishers and dive tourism opportunities. Moreover, existing regulations to protect the species within Indonesia are outdated and need revision because, as described below, they do not provide the legal basis to enforce any existing law regulating movement, use or capture of the species internally. In this case, regulation 375/Kpts/IK.250/5/95 prohibits the capture of Napoleon wrasse except for research and traditional fisheries.

Given the challenge of implementing the CITES listing and the outdated nature of current decrees, a workshop on managing Napoleon wrasse was conducted on 8 July 2011, in Jakarta, Indonesia. The national-level workshop was organised by the Indonesian government in collaboration with the IUCN Groupers and Wrasses Specialist Group, and attended by about 40 representatives from the Ministry of Maritime Affairs and Fisheries, Ministry of Forestry, employers, universities, the live fish trade industry, locally active non-governmental organisations and researchers.

The discussions revolved around: 1) the need to review the current Indonesian decrees; 2) the need for regulations to address IUU trade concerns, both within Indonesia and with respect to international trade, to better allow populations to recover; 3) mariculture of the species; and 4) refinement of the monitoring protocol for assessing the species in the field and the need to repeat previously conducted surveys to determine any changes in population status.

Under current Indonesian law, the Napoleon wrasse is subject to annual export quotas that are allocated among the different provinces. Workshop participants discussed the frequent violation of these and other laws that relate to the Napoleon



Napoleon (humphead) wrasses are sold outside restaurants in Sai Kung, northeastern Hong Kong. Large fish, like the one shown here, beside Yvonne Sadovy, are often displayed to attract customers; smaller, juvenile, fish, like the one on the image at the top, are sold as “plate-size” food. Our work shows that some of these fish are illegally brought into China, as all trade into China is illegal (main image: George Mitcheson; insert: Stan Shea).

wrasse trade, as well laws regulating fishing methods (e.g. gear used and minimum sizes). Two key pieces of legislation are the “Agriculture Decree on the Prohibition of Fishing 375/Kpts/IK.250/95 Napoleon Wrasse (*Cheilinus undulatus*)” and the “Directorate General of Fisheries Decree No. HK.330/Dj. 8259/95 on the Size, Location and Procedures for Napoleon Wrasse Fishing”. According to S. Alina Tampubolon, Director of the Directorate of Marine Resources Surveillance PSDKP, this latter rule is invalid because its implementing legislation has been replaced.⁷ This raises concerns about enforcement and lack of provisions regarding fish size, which could threaten the sustainability of the Napoleon wrasse in Indonesia.

⁷ The decree is no longer valid because it was implemented under a fisheries law, the Shelter Act (UU no. 9/1985), which no longer exists, having been replaced by a new fisheries law (31/2004). Because sanctions for violations of the decree are based on the Shelter Act, the decree needs to be adjusted to be consistent with the Shelter Act's replacement.

In response to a question on the role of mariculture and restocking in population restoration, Dr Yvonne Sadovy of the IUCN Groupers and Wrasses Specialist Group and the University of Hong Kong, noted that restocking has not yet proven to be effective in restoring populations of exploited marine fishes in general, and that mariculture will not on its own protect the species because hatchery production is only at the research phase and not at commercial levels, while and fishing will not stop just because mariculture starts. Indeed, fishing for grow-out purposes continues on juvenile Napoleon wrasse, an activity defined by Food and Agriculture Organization of the United Nations (FAO) as “capture based aquaculture” (CBA) and one that requires fisheries management. Dr Sadovy later circulated to workshop participants the full FAO definition of CBA:

Capture-based aquaculture is the practice of capturing or collecting live material from the wild and its subsequent direct use in aquaculture. Based on this, it should be noted that CBA, in addition to the taking of seed, includes the collection of broodstock from the wild for use in hatcheries, whereby the aquaculture system requires repeated replenishment from the wild stock for each production cycle generation produced. Furthermore, the key aspect of this definition, which has not elsewhere been considered in aquaculture practices, is that there can be significant wild capture or collection involved in relation to some types of grow-out operations that have previously been considered only as “aquaculture” and unrelated to “fisheries”.⁸

Field survey results on wild Napoleon wrasse conducted by Dr Sadovy and Sasanti Suharti of the Research Centre for Oceanography in Indonesia were presented to workshop participants. The surveys took place in 2005 and 2006 at six sites: Bunaken, North Sulawesi; Bali and Kangean Islands; Banda Islands; Maratua; Raja Ampat; and Nusa Tenggara Timur (NTT). The results showed that fishing pressure is high and that there is extensive damage to reef habitats in many areas. Findings also showed that Napoleon wrasses are typically rare, but that at sites where the species is not targeted by fishers, divers can still find it. The density of Napoleon wrasses in Bali and Kangean Islands was only 0.04 fish per hectare (ha). Densities at the other five sites were: Bunaken, North Sulawesi, 0.38 fish per ha; Raja Ampat, 0.86 fish per ha; NTT, 0.18 fish per ha; Maratua, 0.15 fish per ha; and Banda Islands, 1.60 fish per ha. More details are available at: <http://www.fao.org/docrep/013/i1706e/i1706e00.htm>. A survey

was conducted at a seventh site in 2007, around the Karas Islands of West Papua, which also showed low average densities. Surveys were conducted in adult habitat, mainly using snorkel for logistical and safety reasons. In workshop discussions, it was acknowledged that the species is particularly difficult to survey because it is uncommon and wide-ranging, and so needs to have dedicated sampling techniques developed. The survey method should be replicable and simple to conduct. The virtual transect survey approach using GPS (global positioning system) that was used in earlier surveys was acknowledged to be a good approach⁹ for the species but that, in addition, more survey sites were needed, previously surveyed sites needed to be resurveyed to determine whether populations were recovering, and greater use of scuba was preferable.

The workshop discussion on ways to address IUU trade examined the pros and cons of a moratorium on exports from Indonesia, a decision that could be taken at the national level in Indonesia. Considerable concern was expressed that current export quotas may not be effective in ensuring population recovery because of challenges with enforcement, and that stronger measures are needed.

The workshop concluded with the following recommendations:

There is a need to standardize the survey methods in the assessing of Napoleon wrasse populations in the wild with leadership from the government and there should be a review and revision of relevant Indonesia regulations of the Napoleon wrasse through the establishment of protected status with specific protection options such as restrictions on catch size, fishing areas (such as marine protected areas or areas already considered to be overfished), suspension of fishing effort or absolute protection (moratorium). There is a need to support a scientific and policy analysis related to full protection (moratorium) of the Napoleon wrasse and to improve effectiveness of restrictions on the Napoleon wrasse. Specially, restrictions to be immediately revised apply to law No. 45/2009, PP. 60/2007, and KP No. Permen. 03/2010. (PBS / KKJI). Zero quotas could support a moratorium on fishing and trading Napoleon wrasse in the country. With a moratorium, surveillance on catching and trading of Napoleon wrasse is easier to implement. The moratorium is expected to give a chance to Napoleon wrasse to recover its population in natural habitats.

⁸ Lovatelli A., Holthus P.F. (eds). 2008. Capture-based aquaculture. Global overview. FAO Fisheries Technical Paper. No. 508. Rome, FAO. 298 p. See <http://www.fao.org/docrep/011/i0254e/i0254e00.htm>

⁹ Sadovy Y., Punt A.E., Cheung W., Vasconcellos M. and Suharti S. 2007. Stock assessment approach for the Napoleon fish, *Cheilinus undulatus*, in Indonesia: A tool for quota-setting for data-poor fisheries under CITES Appendix II Non-Detriment Finding requirements. FAO Fisheries Circular. No. 1023 Rome, FAO. 71 p. See <http://www.fao.org/docrep/012/a1237e/a1237e00.htm>