

Table S1. Summary of the decision tree framework followed to decide if or how to publish data on vulnerable species (Tulloch et al. 2018). Based on the answers to the questions in the table, the recommended decision was either ‘Restrict data: mask species IDs and not locations, or publish high-res habitat maps’ or ‘Restrict data: mask species IDs and locations’; we decided to ‘mask our geographic locations’ in the results of the study

Question	Answer
Is species at risk of exploitation due to <i>in situ</i> or <i>ex situ</i> value or persecution?	Yes, the humphead wrasse is at risk of exploitation due to its very high value in the live reef fish food trade, and to a lesser extent through local fishing pressure. The live reef fish food trade is not permitted in Seychelles; however, the potential for poaching by long range vessels exists, particularly if the locations of robust populations are known.
Is species’ primary threat wildlife trade ( <i>ex situ</i> economic value)?	Yes, the value of the humphead wrasse in Seychelles is primarily <i>ex situ</i> (an export market outside of Seychelles driven by demand from China; Sadovy & Daves 2006); however, exploitation of the species for the <i>in situ</i> market has resulted in the humphead wrasse being very rare near the more populated parts of Seychelles, such as Mahé (C. Pool pers. comm.).
Would sharing location data increase risk of species decline through improved access?	Yes. Sharing the location data for a robust population of humphead wrasse would provide fishers with a known target area for a highly productive fishing operation.
Are conservation/policy mechanisms in place to mitigate declines?	No. While a number of marine protected areas have been established in Seychelles, the study area for this project is not contained within a protected area.
Could data be used to mitigate threats to species?	Possibly, yes. It is not possible to provide a clear-cut answer to this question, as the mitigation of threats is dependent on protected status and the enforcement of such status. Our data could be used to inform the design and establishment of marine protected areas.

#### LITERATURE CITED

- Sadovy Y, Daves NK (2006) Development of fisheries management tools for trade in humphead wrasse, *Cheilinus undulatus*, in compliance with Article IV of CITES. Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora, Geneva
- Tulloch AIT, Auerbach N, Avery-Gomm S, Bayraktarov E and others (2018) A decision tree for assessing the risks and benefits of publishing biodiversity data. *Nat Ecol Evol* 2:1209–1217 PubMed doi:10.1038/s41559-018-0608-1