

Terms of Reference

Position:	Consultant – Singapore Sustainable Seafood Campaign
Supervision:	Coral Triangle LRFT Program Leader, WWF Singapore
Candidate:	TBA
Commencement Date:	February 2009
Completion Date:	April 2009
Location:	Singapore

A. Background

The live reef fish trade (LRFT) has been identified as a serious threat to coral reef ecosystems and biodiversity in the region through impacts arising from the use of destructive fishing practices and overfishing, including targeting of juveniles for growout and within the aquaculture sector, the widespread use of inferior husbandry practices along the custody chain. Increasing demand from consumer markets in the region is seen as the major driver of these sub-standard practises remaining entrenched and in some cases, becoming more prevalent and perverse in their outcomes.

Singapore is a major seafood consumption destination in the Asia-Pacific region with its consumption footprint extending across the breadth of the Coral Triangle. Singaporeans, as well as tourists and business travellers, consume a wide spectrum of seafood, some of which includes those species preferred by the live reef fish trade.

B. Scope

WWF Singapore, in partnership with the Coral Triangle Network Initiative (CTNI), has developed a consumer-based project to increase the awareness of Singaporean consumers and corporations on the need to make a sustainable choice when purchasing seafood and to utilize a resident “customized” Singapore seafood guide to make those choices. The awareness campaign will focus on seafood consumption in Singapore generally; however, the awareness campaign will concurrently use grouper species to iconize the live reef fish trade. The project will include a modicum of background trade-related research to inform the awareness campaign.

In order to develop the full “customized” Singapore seafood guide, an inventory of seafood products traded in Singapore will need to be determined. The full guide will still to some extent be limited as to the number of seafood products that can be included and as such the inventory process will need also to collate information on the relative volumes of seafood traded in Singapore and a subjective analysis of which species are the most important or desired by consumers. This process will provide the information needed to develop a final list of seafood products for the guide.

WWF is seeking an experienced fisheries biologist/ecologist to collect data on seafood on sale in Singapore at various wholesale and retail outlets in Singapore. The person must be able to identify a range of seafood species in order to collate a database of species available to consumers in that marketplace. Ideally that person will have had previous experience in collection of such data and interactions with seafood traders and buyers in Southeast Asia.

B. Specific Elements

The primary responsibility of the consultant will be to identify a suite or subset of seafood species that are available for sale in Singapore.

Most seafood guides are limited as to the number of species they include. The final list of species that will appear on the Singapore seafood guide will be determined by what we know of the consumption habits of consumers being targeted by the guide, including the relative consumption volumes traded of various species, their culinary value to consumers and the relative importance of a species in ecological or biological terms.

Seafood guides used throughout the world generally rely on a system of classifying seafood in guides as falling into one of three categories; red (avoid consumption), yellow (think twice about consumption) and green (consumption recommended). Both wild-caught and farmed species included in the seafood guide will be assessed as to their relative sustainability. These assessments will be conducted according to a common methodology developed by WWF and other NGO's. The assessments for any given species are externally reviewed by scientific experts and form the basis for deciding which species will appear under what category in a seafood guide; red, yellow or green.

The final list of species will be assessed and classified on the basis of sustainability by an external agency appointed as part of a broader sustainable seafood initiative of the wider WWF network. A variety of information will be required by the external agency to facilitate the assessment. The consultant will need to ensure that in the process of establishing an inventory of species for the final list, he/she collates as much of this information as possible to assist the assessment agency.

Overall the consultant will be required to confirm the origin (country, ocean) and production source (wild-caught, aquaculture) for each of these species. The consultant will also be required to collate additional information including price, volume traded either as a quantity amount or comparative to other similar species (e.g. we trade twice as much coral trout as other specific varieties of grouper), re-exports (i.e. are species re-exported from Singapore to other countries such as Hong Kong). A table describing the information required to undertake an assessment is set out below (Table 1).

The consultant will be expected to undertake field visits to multiple seafood wholesale and retail outlets including but not limited to

- Jurong and Senoko Fishery Port fish markets
- Importers and exporter companies
- Wet markets, supermarkets and Restaurants

The consultant will also be required to work with partner non-government agencies (i.e. TRAFFIC) to identify official data sources available through Government departments (e.g. Agri-Veterinary Authority of Singapore).

Table 1: Notes for species assessment

General Assessment Information

- 1 All assessment will primarily based on available published materials.
- 2 It is suggested a list of expert (from industry and academic) be prepared so that the consultant can ask for supplementary information for assessment.
- 3 The assessment will **NOT** support any field research to collate background information.
- 4 Please think of including potential 'green' species for assessment.
- 5 It is suggested that prioritisation of species is included for assessment, if possible.

Assessment of Wild-caught species

- 1 Species scientific name is needed for assessment of species.
- 2 It will be good to obtain English/local common name, and corresponding Chinese equivalents.
- 3 If alternative species is proposed, please include it into the species list.
- 4 It is important to define the assessment at national level (generic) or specifically for an area. If specific area is proposed, it is very important that information is available without any extra field research required.
- 5 If the species is imported from other country, information of the actual fishing area will be required to conduct the assessment. **Without** the information of exporting country, **no** assessment can be conducted. If more than one countries exporting countries are found, it is suggested the most important one (highest quantity of imports) will be used.
- 6 If the species is captured by more than one method, it is suggested the most common one or the most productive one will conduct the assessment.

Assessment of Farmed species

- 1 Species scientific name is needed for assessment of species.
- 2 It will be good to obtain English/local common name, and corresponding Chinese equivalents.
- 3 If alternative species is proposed, please include it into the species list.
- 4 It is important to define the assessment at national level (generic) or specifically for an area. If specific area is proposed, it is very important that information is available without any extra field research required.
- 5 If the species is imported from other country, information of the most important exporting country will be used to conduct the assessment. **Without** the information of exporting country, **no** assessment can be conducted.
- 6 If the species is farmed by more than one method, it is suggested the most common one or the most productive one will be used to conduct the assessment.

C. Outputs

The consultant will be expected to deliver a final report containing, but not limited to the following:

1. A methodology section describing the collection of data;
2. A discussion section containing information as outlined in Table 1 for all species including but not limited to:
 - a. Production and capture sources;
 - b. Capture methods;
 - c. The production area from where seafood sourced (ocean, bay etc);
 - d. Scientific names as well as English or local/common names;(NB. Species lists may be tabularised and an example is shown in Table 2 below)
3. Tables containing additional species data (price, volumes, market trends, re-exports etc.);
4. Background details on official data sources; and
5. List of names of businesses and outlets contacted

Contents of the final report will be determined by the CTNI LRFT Initiative Leader, WWF Singapore and the consultant.

D. Dimensions

The consultancy will be conducted in Singapore over a period of three (3) months and account for approximately sixty (60) days. The consultancy will commence February 2009 or earlier, and be completed by no later than April 2009.

The consultant will receive the necessary support from the CTNI LRFT Initiative Leader for the purposes of completing all activities and, where necessary, the WWF Singapore Office.

E. Entrance requirement

- Substantial knowledge of seafood species and an ability to identify a large range of species including finfish, crustaceans, Penaeids, bivalves, shrimps etc.
- Experience working with relevant governmental bodies, NGOs and industry bodies;
- Fluency in English and Chinese languages (speaking, writing, reading);
- Experience and skills in obtaining fisheries related data from industry stakeholders with an understanding of the constraints and limitations of doing so;
- Strong affinity with conservation and sustainable fisheries issues, specific knowledge of the live reef fish crisis and issues;

F. Consultancy Fees and Benefits

The consultancy fees will be determined by WWF Singapore / CTNI LRFT Initiative Leader in accordance to the experience and qualifications of the consultant. The consultant will also undergo a 5-day "familiarization" workshop at the WWF Office in Hong Kong.

Interested applicants are requested to send a copy of their CV to Ms Amy Ho, Managing Director , WWF Singapore at aho@wwf.sg, by 24 Jan 2009.

TABLE 2: Preliminary Species Review List (From Study Conducted in Oct 2008)

Species (Common Name)	Species (Scientific Name)	Chinese Name	Production Source	Production Source
High finned grouper	<i>Cromileptes altivelis</i>	老鼠斑	Wild caught	捕撈
Humphead wrasse	<i>Cheilinus undulatus</i>	蘇眉	Wild caught	捕撈
Leopard coralgroup	<i>Plectropomus leopardus</i>	東星斑	Wild caught	捕撈
Red Crab	<i>Charybdis feriatius</i>	紅蟹	Wild caught	捕撈
Bluefin tuna	<i>Thunnus maccoyii, T.thynnus, T orientalis</i>	藍鰭吞那魚	Wild caught	捕撈
Chilean Sea Bass	<i>Dissostichus elegendinoides, D mawsoni</i>	雪花鱸魚	Wild caught	捕撈
Swordfish	<i>Xiphias gladius</i>	劍魚	Wild caught	捕撈
Shrimp	Penaeids (<i>Penaeus orientalis, P. vannamei, P. monodon</i>)	中蝦	Farmed	养殖
Cuttlefish	<i>Sepia pharaonis</i>	墨魚	Wild caught	
Camouflage grouper	<i>Epinephelus polyphekadion</i>	杉斑	Wild caught	
Squartetail coralgroup	<i>Plectropomus areolatus</i>	西星斑	Wild caught	
Orange roughy	<i>Hoplostethus atlanticus</i>	金獅	Wild caught	
Hoki	<i>Macruronus novaezelandiae</i>	南冰魚	Wild caught	捕撈
Black Cod	<i>Anoplopoma fimbria</i>	銀鱈魚	Wild caught	捕撈
Leopard coralgroup	<i>Plectropomus leopardus</i>	東星斑	Wild caught	捕撈
Geoduck	<i>Panopea abrupta</i>	象拔蚌	Farmed	养殖
Rock lobster	<i>Panulirus cygnus</i>	龍蝦	Wild caught	捕撈
Scallop	<i>Amusium balloti</i>	帶子	Wild caught	捕撈
Scallop	<i>Chlamys farreri, Argopecten irradians, Patinopecten yessoensis</i>	帶子	Farmed	养殖
Abalone	<i>Haliotis spp. (Haliotis laevigata, H.rubra, H. roei)</i>	鮑魚	Wild caught	
Squid	<i>Nototodarus spp. (Todarodes pacificus, Ommastrephes bartramii, Illex argentinus, Nototodarus gouldi, N. sloanii)</i>	魷魚	Wild caught	捕撈
Pacific salmon	<i>Oncorhynchus spp. (Oncorhynchus keta, O.tshawytscha, O. kisutch, O.gorbuscha, O. nerka)</i>	三文魚	Wild caught	