

The group noted that while CITES-listed aquatic invertebrates had typically been subject to harvests, the nature of some harvests had changed over time – evidenced by the coral trade where collection of dead coral for curios has shifted to live specimens for the aquarium trade. Some significant problems were identified for this group of organisms, especially in relation to the identification of specimens to the level required by CITES, taxonomy and nomenclature issues and addressing multi-species fisheries. After considering various factors that might affect whether any harvests for international trade were detrimental or not, the group suggested that a cyclic adaptive management approach was required to manage harvests – highlighting appropriate risk assessment and feedback mechanisms.

The group suggested a suggested cyclic 4 step process involving the following sequential steps:

- Risk assessment
- Regulating harvests
- Record harvests and population responses
- Review, revise and refine measures and risks

Risk assessment. The group considered this an essential first step, and noted the following issues, amongst others, would inform any assessment of risk, namely: the proportion of the population subject to harvest (whether for domestic or international use, legal and illegal); the value of the commodity in trade; the drivers for the trade (is trade likely to be one-off or ongoing); governance of the resource (if any and whether this is robust or weak); degree of tenure / ownership of the resource and incentives for stewardship; whether the harvested population is derived from wild harvests or a form of captive production system; the biological characteristics of the population, especially its productivity and resilience to harvest; whether stocks are shared (between or within countries) and subject to harvests across their range; external factors (hurricanes, climate change, etc.); and whether the harvest has wider ecosystem impacts on non-target species or habitats and the services they provide. The group recommended that the rationale for risk assessment (whether a qualitative or quantitative) be documented and a review period be determined (if required).

Regulating the harvest. The group recognised the range of standard fishery measures available and noted the following as a toolbox of measures that might be used to ensure harvests were not detrimental. However, they also noted that where non-detriment could not be achieved then restrictions or closure of fisheries and exports might be required. Any measures being applied should be proportionate to the risk and to available capacity (with assumption that the greater the risk the more precautionary the harvest), and that measures are not mutually exclusive. Such measures include limiting harvests spatially or temporally, or by controlling harvest effort and methods; the use of harvest or export quotas; size limits on specimens being taken; setting reference and threshold points; and shifting from wild harvests to other production methods. The need for co-management where relevant, involving the public and other stakeholders, and the need to collaborate over the management of shared stocks were all key factors to address.

Record harvests, trade and population responses. Monitoring the impacts of any harvests through fishery dependent or independent data, trends in populations, shifts in markets and the impact of any external factors is essential to inform any future adjustments to management measures. Regardless of the sources of any data, it is vital to understand both the limitations and the confidence placed in any results. Potential sources of data include CITES trade data, surveys of the resource, local and expert knowledge, landing information (using appropriate conversion factors) and changes in prices or demand for specimens.

Review, revise and refine. Information from monitoring, risks and the effectiveness of measures should be reviewed, with management measures refined or revised as appropriate. Such reviews should ensure that there is still confidence in the trade being non-detrimental before permitting. Gaps in knowledge should be identified and addressed. The original risk assessment should be re-visited and this cyclic adaptive management process continued.

When is non-detriment achieved? Determining when non-detriment is achieved is not a static process but is likely if population trends (or indicators of these), despite harvests, are positive or stable (within defined thresholds) or measures have been set in place to achieve this. Any risks that have been identified should be being effectively mitigated and addressed.