WWF
HINTERGRUND
D
2014

The Common Wild Capture Fishery Methodology

Background

The "Common Wild Capture Fishery Methodology" is a risk-based assessment to evaluate the impact of a fishery on fish stocks and the marine environment. The assessment makes use of publicly available scientific data and documents and considers the most recent scientific research. The fishery assessment methodology was developed in 2009 with the participation with WWF, the Dutch North Sea Foundation (NSF) and the British Marine Conservation Society (MCS). The advantage of a jointly developed methodology was its global applicability on all fisheries and that consistent consumer recommendations can be made.

In order to ensure that the methodology is up to date and globally applicable, it was updated in 2011/2012 when fisheries scientists, the North Sea Foundation and WWF fisheries experts from Africa, Asia, Europe and the United States thoroughly reworked the methodology.

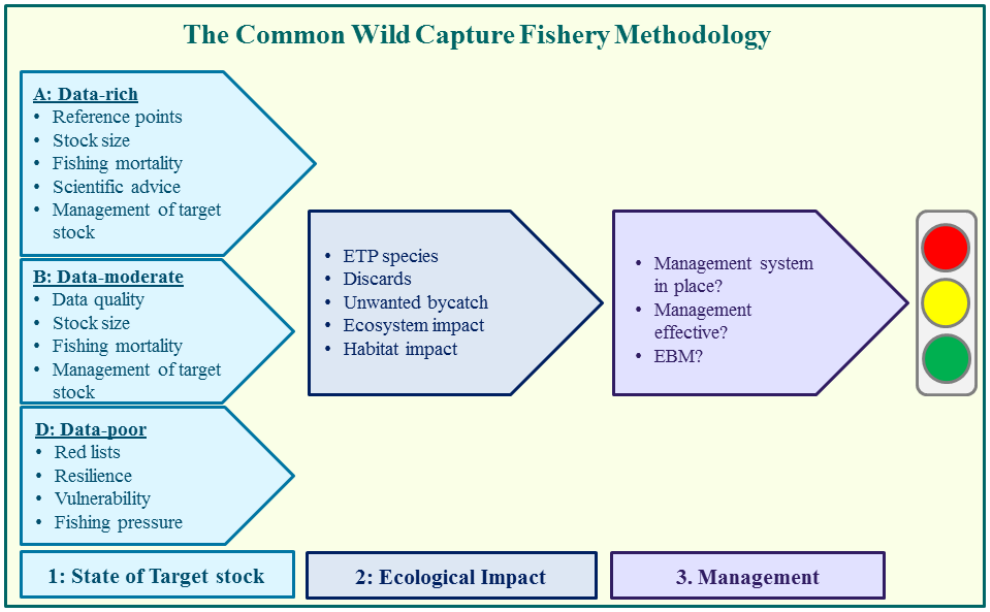
The Common Wild Capture Fishery methodology is divided into 3 categories (Figure 1):

1. Status of the “target stock” (of the species that is subject to the seafood assessment)
2. Ecological effects of the fishery
3. Management of the fishery

In each category, several questions are scored and points are attributed based on the answers, which are collectively summed to provide a total assessment score. The assessment score corresponds to a recommendation in the form of a “traffic light” colour. Green means "recommended", yellow "second choice" and red stands for "avoid". The grouping of questions per the three categories listed above, and the related traffic light scoring per category, helps to identify the particular strengths and weaknesses of a given fishery —e.g. whether the sustainability issues are more in regards to the target stock, the ecological effects or the management (there can be issues in more than one area).

A fishery is defined by the species under assessment, its capture method and the area of capture. The questions consider information on positive and negative aspects of the fishery. Negative aspects are adverse impacts of a fishery on the target seafood stock (overfishing) or on the marine environment (e.g. bycatch of its own and other species). A positive aspect is an effective management that minimizes the negative impacts of the fishery.

Figure 1: Schematic illustration of the Common Wild Capture Fishery Methodology



Category 1: "Target Stock"

The assessment of the stock status of the target species is based on the following guiding principles:

The stock is healthy and abundant. Abundance, sex, age and genetic structure are maintained at levels that do not impair the long-term productivity of the stock or fulfilment of its role in the ecosystem and the food web. Fishing mortality does not threaten populations or impede the ecological role of any marine life. Fishing mortality is appropriate given current abundance and inherent resilience to fishing while accounting for scientific uncertainty, management uncertainty, and non-fishery impacts (e.g. habitat degradation, global warming).

Category 1 also evaluates the management of the stock of the target species as management measures have a direct impact on the stock. The guiding principles with regard to the management of the target stock are:

The fishery is managed to sustain the long-term productivity of the target stock. Management incorporates sufficient data to assess the target species and manage fishing mortality to minimize the risk of depletion. Measures are implemented and enforced to ensure that fishing mortality does not threaten the long-term productivity or ecological role of the target stock in the future. A fishery is awarded full points when these aspects are fully met. Fulfilment of the guiding principles is evaluated in one of three possible tracks (A-C), depending on the available amount of information. Question 1 determines which track is applicable for the fishery in assessment:

Question 1 Are adequate stock assessments of the target stock available?
The answer to question 1 decides which track is used.

- **Track A:** Data-rich target stocks
- **Track B:** Data-moderate target stocks
- **Track C:** Data-poor target stocks

Track A: Data-rich target stocks
Track A is used when data availability of the target stock is optimal. Regular and reliable quantitative stock assessments are performed by the responsible management authority. Scientific reference points are defined for a reliable description of the stock status. Questions to be answered within Track A are:
Question A2 Are scientific reference points for fishing mortality and stock size implemented by the responsible management authority?
Question A3 Is the target species' stock size above scientific reference point?
Question A4 Is the fishing mortality of the target stock below scientific reference point?

Question A5 Is the scientific advice adequately defined and, if implemented, will likely ensure to maintain the long-term productivity and/or the recovery of the stock?
Question A6 Are the regulatory measures to control fishing mortality or stock size determined in accordance with the corresponding scientific advice and met by the current catches?

Track B: Data-moderate target stocks
Track B is used when data availability of the target stock is moderate. Substantial fishery data is available and either a regular stock assessment is performed, but no reference points are defined, or reference points are defined but a quantitative, up to date stock assessment is lacking. Track B is also chosen if the existing reference points are not sufficient for a credible description of the stock status. Questions to be answered within Track B are:
Question B2 How precise is the available fishery-specific information?
Question B3 Do fishery-specific data indicate that the target stock is in good condition with regard to biomass?
Question B4 Do fishery-specific data indicate that the fishing rate is appropriate to sustain the long-term yield in the future?
Question B5 Do management measures exist that will likely ensure the long-term productivity and/or the recovery of the stock? (Management measures could be e.g. Total allowable catch (TAC), fishing effort, technical measures)

Track C: Data-poor target stocks
Track C is chosen when very limited or no fishery specific data is available on the target stock, no scientific stock assessments are performed and no reference points are defined. This track also applies when assessing bycatch species (i.e. species that are only caught incidentally and subsequently retained and landed). Questions to be answered within Track C are:
Question C2 Is there credible, up to date evidence that the stock is at biological risk?
Question C3 Does the species have a growth rate, age at maturity, or maximum age that indicate a low resilience to fishing pressure?
Question C4 Does the species exhibit any inherent life history characteristics that make it particularly vulnerable to fishing pressure?
Question C5 Will the current fishing practice likely reduce the stock to unsafe levels?

Category 2: Ecological effects of the fishing activity

The fishing gear determines the adverse effects of a fishery, but the environmental impact is also directly correlated to the scale of the fishery. The impact of a fishery on the marine environment is evaluated according to the following guiding principles:

The fishery under assessment does not threaten populations or impede the ecological role of any marine life. The impact on all species is appropriate given each impacted species' abundance and productivity, accounting for scientific uncertainty, management uncertainty, and non-fishery impacts (e.g. habitat degradation, global warming). The fishery is conducted such that impacts on the seafloor are minimized and the ecological and functional roles of the seafloor habitats are maintained. Fishing activity does not significantly reduce ecosystem services provided by any fish species or result in harmful changes such as trophic cascades, phase shifts or reduction of genetic diversity.

A fishery is awarded full points when these aspects are fully met. Fulfilment of the guiding principles is evaluated by means of five questions:
Question 7 Does the fishery negatively impact any species (fish and non-fish) that is listed on any national or international list as endangered, threatened or protected (ETP) OR overfished OR biologically highly vulnerable?
Question 8 Does the fishery generate discards?
Question 9 Does the retained catch contain juveniles or non-target species?
Question 10 Does the intensity of the fishery result in significant negative eco-system changes, such as cascade effects, major food chain effects, or community changes (ecosystem effect)?
Question 11 Is the fishing method destructive to particular benthic habitats or habitat forming species within the benthic habitat (habitat effect)?

Category 3: Management

The assessment of the fisheries management status is based on the following guiding principles: The fishery is managed to sustain the long-term productivity of all impacted species. Management is appropriate for the inherent resilience of all affected marine life and incorporates data sufficient to address all affected species and manage the fishery in order to minimize all unwanted impacts. Measures are implemented and enforced to ensure that the ecological and functional roles of the seafloor habitats are maintained and the impact on all marine life is minimized.

A fishery is awarded full points when these aspects are fully met. Fulfilment of the guiding principles is evaluated by means of three questions:

Question 12 Is there a management system in place for the fishery under assessment? (A management system may be anything ranging from fully regulated to completely voluntary and/or small scale.)

Question 13 Are the established management measures for the fishery under assessment effective in maintaining the integrity of the habitat and ecosystem and in maintaining the long-term productivity of all impacted species?

Question 13 is answered through ten subcategories. In a first step it has to be determined whether or not an issue is relevant for the fishery under assessment. The effectiveness of these management issues is then rated based on a five-tier ranking system from "fully effective" to "not effective". The mean value of all applicable issues determines the end result for the question. The ten subcategories are:

- endangered, threatened or protected (ETP) species
- discard
- unwanted bycatch
- ecosystem effect
- habitat effect
- monitoring/data availability
- mixed fishery
- IUU (illegal, unreported and unregulated fishery), misreporting
- compliance, enforcement
- transparency, participation

Question 14 Is there an ecosystem-based management (EBM) plan or approach in place?

Fishery Improvement Measures

Additional information is provided on specific measures that are taken in order to improve the sustainability of the fishery under assessment. This information does not count towards the overall scoring, but is used for informational purposes only. An example for such a measure is a fishery improvement program (FIP).

For further information:

Carolin Bongert
Coordinator Database/Seafood Guide
WWF Germany
International WWF-Centre for Marine Conservation
Mönckebergstraße 27
20095 Hamburg
Tel. UK: +44 1382 450206
Tel. DE: +49 30 56796191
carolin.bongert@wwf.de