

## FRESHWATER WILD CAPTURE FISHERY METHODOLOGY



*Version 1.0*

### ASSESSMENT DETAILS

Date of Assessment:

WWF Office:

Assessor - Organisation:

Cross-checker - Organisation:

Network Comment:

Assessment Methodology:

Re-Assessment:

Date of Previous Assessment:

Score of Previous Assessment:

Previous Assessor - Organisation:

Previous Cross-checker - Organisation:

### ASSESSMENT HISTORY/RATIONALE

### ASSESSMENT SCORING

Total Assessment Score:

Total Rating Score (1-5):

Category 1: Stock Status and Biological Characterization::

Category 2: Ecological Characterization:

Category 3: Management and Governance Characterization:

## UNIT OF ASSESSMENT

Scientific Name:

English Name:

(FAO) Area of capture:

(FAO) Country, Province, State (within EEZ):

Capture method:

Capture method (Additional Info):

Vessel type(s) used:

Vessel size range (m) used:

Season of capture (indicate if capture is year-round):

Size of fishery, larger-scale, or small-scale or indeterminate:

Annual revenue generated by fishery activity in the assessment area:

Management or Governance Authority:

Catch figures: (in t)

## PRELIMINARY CHARACTERIZATION

| Characteristic  | Yes                   | No                    | unknown               | N/A                   |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| This fishery targets a species...   |                       |                       |                       |                       |
| 1 ...listed as threatened or endangered on a local, national or international list of threatened species  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2... from an enhanced or otherwise linked to (through food web of life history interactions) an enhanced population   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3...with known crucial life history and habitat needs   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4...that exhibits migratory* behaviours   |                       |                       |                       |                       |
| *For these assessment purposes, a species should be considered migratory if it spends a portion of its lifespan or significant stages of its life history transitioning from marine to freshwater environments, vice versa, or across freshwater environments (diadromy, anadromy, or catadromy). | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5... that is at known risk for climate change impacts, such as predicted range shift, decreased oxygen availability, and/or increased water temperatures  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6...that is endemic to the assessment area or to a similarly narrow range   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 7. This fishery represents a highly important cultural activity   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 8 This fishery provides a significant portion of local nutritional or food security   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 9 This fishery's products are mainly consumed on a local household basis  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 10 This fishery's products are sold or traded using traceable* market channels  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| *For our purposes, 'traceable' refers to known production chains, local, or international markets.  |                       |                       |                       |                       |

If the 'Not Applicable' response was chosen for any of the characteristics above, please describe in the space provided below why the characteristic does not apply to the fishery in question.  
Not Applicable Rationale (Please include the characteristic number with each rationale)

## ASSESSMENT SUMMARY

## MAIN REFERENCES

## BACKGROUND INFORMATION SECTION

### References

## ASSESSMENT IMAGE

## PREAMBLE

A Guidance Document with comprehensive additional information as well as useful links and references is available as a separate document. The Guidance Document provides detailed information on the interpretations of the questions.

**PLEASE NOTE:** Assessors **must** take **the entire Guidance Document** into due consideration!

### **Disclaimer**

This assessment is carried out by a qualified assessment team composed of experienced fisheries biologists from the nature conservation organizations WWF, NSF, and associated institutions. The information provided in this assessment has been collected according to high scientific standards. All judgments are delivered independently of commercial interests. This is an assessment methodology to indicate the relative sustainability of a fishery. This methodology is not a certification of sustainability, nor does it allow the fishery or retailer to make any claims about the species or stock or a certain product. This is a desk-based assessment. Each assessment undergoes a quality control (cross-check) regarding consistency by a member of the assessment team. However, no rights whatsoever can be based upon the advice. This methodology is not to be used by third parties without consulting the WWF Global Seafood Coordinator.

## CATEGORY 1: TARGET STOCK

Depending on the available amount of information, there are two possible tracks on which the stock status is rated. Question 1 sets the course which track is applicable.

### Q1 Are adequate\* stock assessments of the target stock available? Or is the available fishery data sufficient to describe or estimate the stock status and fishing pressure?

- A  YES a recent stock assessment is available and/or the available fishery data suffices to adequately describe the stock [stock is monitored] → **Track A** (QA2-A6)
- B  NO this is a data deficient fishery, stock status can only be evaluated by a risk-based approach → **Track B** (QB2-B5)

\* Adequate: recent (within 5 years) and reliable, but not necessarily traditional stock assessment methods (e.g., using complex modelling).

## TRACK A

## QA2 How well is the stock monitored and how precise is the available fishery-specific information\*?

- YES - The available data is detailed enough to allow for a solid and comprehensive description of the stock
- NO - Not all of the above-mentioned relevant parameters can be described with sufficient accuracy

**Custom Score**, see Annotations

*\*E.g. landings, total catch (including CPUE), fishing effort, size/age distribution*

## QA3 Do fishery-specific data indicate that the target stock is in good condition with regard to biomass?

- YES - Stock is in good condition or underfished
- YES - Stock is appropriately used or fully fished
- NO - the stock status is below its optimum but the reproductive capacity is not yet hampered
- NO - Stock is overfished
- UNKNOWN - Stock size is uncertain OR unknown

**Custom Score**, see Annotations

## QA4 Do fishery-specific data indicate that the fishing rate\* is appropriate to sustain the long-term yield in the future?

- YES - Stock is fished at a rate likely to maintain stock at, or increase stock towards, good condition [overfishing is not occurring]
- NO - Stock is fished at a rate that risks maintaining stock at, or decreasing stock towards unsustainable levels [at risk of overfishing]
- NO - Stock is fished at a rate that is reducing stock to unsustainable levels, OR is preventing recovery of depleted stock [overfishing is occurring]
- UNKNOWN - there is not enough information to assess the effect of the fishing pressure on the target stock

**Custom Score**, see Annotations

*\*Please also consider fishing pressure on certain stock compartments (e.g. juveniles / mega spawners) which might alter the stock structure and hamper the reproductive capacity.*

## QA5 Is the stock under assessment subject to restocking mechanisms/stock enhancement?

- NO, the stock is not enhanced → continue with QA6
- YES, the stock is enhanced with juveniles/-mature individuals originating from hatcheries → continue with QA5a
- YES, the stock is enhanced with juveniles/-mature individuals originating from wild-catch → continue with QA5b
- UNKNOWN it is unknown if the stock is being enhanced OR it is known that the stock is enhanced but the origin of the enhancement individuals is unknown → continue with QA6

**Custom Score**, see Annotations

## QA5a Does the restocking from hatcheries result in detrimental effects on the ecosystem\*

- NO - The restocking unlikely leads to detrimental effects on the gene pool or the ecosystem
- YES - The restocking likely leads to detrimental effects on the gene pool of the ecosystem
- Unknown - The effect on the gene pool or ecosystem is not known

**Custom Score**, see Annotations

\*Consider ecosystem effect such as gene pool drift/reduction or by "pushing" species abundance and resulting effects e.g. on the trophic web

## QA5b Does the enhancement species originate from overfished or vulnerable stocks? Does the restocking result in detrimental effects on the ecosystem?

- NO, the original stock of the enhancement species is not overfished and the restocking does not lead to detrimental effects on the gene pool or the ecosystem
- YES, the original stock of the enhancement species is overfished OR available information indicates a detrimental effect on the gene pool or the ecosystem caused by the enhancement.
- YES, the original stock of the enhancement species is overfished AND available information indicates a detrimental effect on the gene pool or the ecosystem caused by the enhancement.
- UNKNOWN - The status of the original stock is unknown AND/OR there is not enough information to evaluate effects on the ecosystem caused by the enhancement practise.

**Custom Score**, see Annotations

*\*(Consider ecosystem effect such as gene pool drift/reduction or by "pushing" species abundance and resulting effects e.g. on the trophic web)*

## QA6 Do management measures\* exist that will likely ensure the long-term productivity and/or the recovery of the stock?

- YES - Management of target stock is fully effective
- YES - Management of target stock is partly effective, OR stock status is healthy despite ineffective or absent management measures
- NO - Management of target stock is marginally effective
- NO - Management of target stock does not exist OR is not effective
- UNKNOWN - There is not enough information to assess the effect of management measures on the target stock

**Custom Score**, see Annotations

*\*Management measures could be e.g. Total allowable catch (TAC), fishing effort, slot regulations, technical measures, traditional forms of management, cultural community standards, etc.*



## CATEGORY 2: ECOLOGICAL CHARACTERIZATION

### Q7 Does the fishery negatively impact\* any species (fish and non-fish) that is listed\*\* as threatened, endangered or protected (ETP)?

- NO - The fishery under assessment does not cause significant damage to any listed, overfished, or highly vulnerable species
- NO - The fishery under assessment is not likely to cause significant damage to any listed, overfished, or highly vulnerable species
- YES - The fishery under assessment is likely to cause significant damage to some listed, overfished, or highly vulnerable species
- YES - The fishery under assessment causes significant damage to any listed, overfished, or highly vulnerable species
- UNKNOWN - There is conflicting or insufficient information concerning the effects on listed, overfished, or highly vulnerable species

**Custom Score**, see Annotations

\* Impacts should be considered at a population level (not just within assessment area)

\*\* Listed on regional, national or international threatened species lists such as IUCN RedList

### Q8 Does the fishery generate discards of species exhibiting a high\* post release mortality?

- NO - The fishery produces less than 5% discards of species exhibiting a high post release mortality?
- YES - The fishery produces between 5% and 15% discards of species exhibiting a high post release mortality?
- YES - The fishery produces between 16% and 30% discards of species exhibiting a high post release mortality?
- YES - The fishery produces more than 30% discards of species exhibiting a high post release mortality?
- UNKNOWN - The discard rate is unknown (please refer to baseline matrix for the score)

**Average Score**

**Custom Score**, see Annotations

\* >25 %

Discard rates should refer to weight (not in numbers).

\*Please add the following Custom scores in case the discard rate is unknown

| Gear             | Custom score | Total score |
|------------------|--------------|-------------|
| Bottom Trawl     | -1           | -2          |
| Gillnet/Longline | 0            | -1          |
| Handline         | +1           | 0           |
| Traps/Pots       | +1           | 0           |

## Q9 Do discards or landings of other species including overfished or biologically highly vulnerable species occur within this fishery at levels that potentially harm the stocks of these bycatch species?

- NO - Discards and bycatch do not occur in this fishery at potentially harmful levels. All landed\* and discarded species are well monitored
- NO - impacts on other populations by landing or discarding them is unlikely although not all affected species are monitored.
- YES - Discards and bycatch occur in this fishery at potentially harmful levels.
- YES – there is evidence that discard and bycatch of other species occurs and causes significant damage to these stocks.
- UNKNOWN - It is unknown or uncertain if discards or bycatch occur in this fishery at potentially harmful levels,

**Custom Score**, see *Annotations*

## Q10 Does the intensity of the fishery result in significant negative ecosystem changes\*, such as cascade effects, major food chain effects, or community changes? [Ecosystem Effect]

- NO - The fishery is not causing significant negative ecosystem changes [direct evidence]
- NO - Negative ecosystem changes caused by the fishery are unlikely [circumstantial evidence]
- YES - Significant negative ecosystem changes are likely [circumstantial evidence]
- YES - The fishery is causing significant negative ecosystem changes [direct evidence]
- UNKNOWN – There is not enough information to evaluate ecosystem effects caused by the fishery under assessment.

**Custom Score**, see *Annotations*

*\*Examples of significant ecosystem changes: Significantly increased abundance of species with a low trophic level caused by depletion of predators OR depletion of top predators as a result of the decrease of key prey species OR truncated size composition of the ecological community. OR Major changes in the species biodiversity of the ecological community OR changes in the genetic diversity of a stock that lead to changes of growth or reproduction of the species*

**Q11a** In the space provided below, please indicate which of these capture methods and habitat types occur in the freshwater capture fishery being assessed by placing a mark in the appropriate cells.

| Habitat Types   | Medium or large lacustrine  |                             | Medium or large riverine    |                             | Streams or ponds            | Wetland                     | Estuarine (e.g., sea grass, kelp forest) | Temporary water (sloughs, paddy fields, etc.) | Unknown                     |
|---|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|--|---|-----------------------------|
|   | Sand and gravel             | Rocky bottom                | Sand and gravel             | Rocky bottom                |                             |                             |  |   |                             |
| Handlines and pole and lines (hand operated), Pelagic gillnets, Longlines (nei) | <input type="checkbox"/> 2  | <input type="checkbox"/> 2  | <input type="checkbox"/> 2  | <input type="checkbox"/> 2  | <input type="checkbox"/> 2  | <input type="checkbox"/> 2  | <input type="checkbox"/> 2               | <input type="checkbox"/> 2                    | <input type="checkbox"/> 2  |
| Hand collection and Hand implements, Fyke nets, Beach seines, Scoop-nets        | <input type="checkbox"/> 1  | <input type="checkbox"/> 1  | <input type="checkbox"/> 1  | <input type="checkbox"/> 1  | <input type="checkbox"/> 1  | <input type="checkbox"/> 1  | <input type="checkbox"/> 1               | <input type="checkbox"/> 1                    | <input type="checkbox"/> 1  |
| Pot (traps), Demersal gillnets  | <input type="checkbox"/> 1  | <input type="checkbox"/> 0  | <input type="checkbox"/> 1  | <input type="checkbox"/> 0  | <input type="checkbox"/> 0  | <input type="checkbox"/> 0  | <input type="checkbox"/> 0               | <input type="checkbox"/> 0                    | <input type="checkbox"/> 0  |
| Danish seines, Pair seines  | <input type="checkbox"/> 0  | <input type="checkbox"/> -1 | <input type="checkbox"/> 0  | <input type="checkbox"/> -1 | <input type="checkbox"/> -1 | <input type="checkbox"/> -1 | <input type="checkbox"/> -1              | <input type="checkbox"/> -1                   | <input type="checkbox"/> -1 |
| Beam trawls   | <input type="checkbox"/> -1 | <input type="checkbox"/> -2 | <input type="checkbox"/> -1 | <input type="checkbox"/> -2 | <input type="checkbox"/> -2 | <input type="checkbox"/> -2 | <input type="checkbox"/> -2              | <input type="checkbox"/> -2                   | <input type="checkbox"/> -2 |

**Average Score**

**Average Score Value (just for testing ..)**

**Custom Score**, see Annotations

**Q11b Is the fishing method destructive to fish habitats that are valuable to target species, important prey or predator species in the ecosystem, or to the ecological function of the habitat (including habitat communities)?**

- NO - This fishery does not cause damage to the habitat or its ecological functioning.
- YES - The fishery causes some damage to fish habitat, but this damage does not show effect during seasons important to fish life history and/or does not irreversibly affect the ecological functioning of the habitat.
- YES - The fishery causes significant damage to fish habitat throughout the year or during seasons important to fish life history, e.g., spawning, migration, and/or has prolonged negative effects on the ecosystem functioning.
- UNKNOWN - There is not enough information to evaluate effects on the ecological functioning of the habitat, OR the habitats occurring in the area of assessment is unknown.

**Custom Score, see Annotations**

## CATEGORY 3: MANAGEMENT

### Q12 How effective are implemented management measures to minimize impacts on endangered, threatened protected, overfished and biologically vulnerable species?

Score between 100% (fully effective) and 0% (measures have no effect / there are no measures)

IRRELEVANT – this item is irrelevant for the fishery under assessment

UNKNOWN – There is no information on established management measures or their efficiency.

### Q13 How effective are implemented management measures to minimize discards?

Score between 100% (fully effective) and 0% (measures have no effect / there are no measures)

IRRELEVANT – this item is irrelevant for the fishery under assessment

UNKNOWN – There is no information on established management measures or their efficiency.

### Q14 How effective are implemented management measures to protect affected habitats and ecosystems?

Score between 100% (fully effective) and 0% (measures have no effect / there are no measures)

IRRELEVANT – this item is irrelevant for the fishery under assessment

UNKNOWN – There is no information on established management measures or their efficiency.

### Q15 How effective are existing regulations enforced? How effective are measures in assuring overall compliance and preventing IUU?

Score between 100% (fully effective) and 0% (measures have no effect / there are no measures)

UNKNOWN – There is no information on established management measures or their efficiency.

## Q16 How transparent is the decision-making process and how effective does it include stakeholder participation?

○

Score between 100% (fully effective) and 0% (measures have no effect / there are no measures)

UNKNOWN – There is no information on established management measures or their efficiency.

*\*Effective such that communication occurs and the content of communication informs management and policy outcomes*

## Q17 When multiple fisheries sectors are competing with each other for the same species (i.e. recreational, artisanal): How effective\* are conflict-resolution mechanisms\*\* to resolve space or resource access conflicts

○

○

Score between 100% (fully effective) and 0% (measures have no effect / there are no measures)

IRRELEVANT – this item is irrelevant for the fishery under assessment

UNKNOWN – There is no information on established management measures or their efficiency.

*\* Effective such that the methods put in place to resolve conflict issues are accessible to members with differing viewpoints and are able to arrive at solutions, implement them, and measure their success.*

*\*\* Conflict-resolution mechanisms can refer to various processes or bodies designed to handle and reduce conflict situations. Examples include but are not limited to boards of directors, panels consisting of members from different sectors, community-led conflict resolution processes, traditional or culturally-based conflict resolution methods, etc.*