The Common Wild Capture Fishery Methodology[1]

Methodology developed with scientific advice from Thünen Institute of Baltic Sea Fisheries

Version 4.01

Unit of Assessment

Scientific Name	
English Name	
(FAO) Area of capture	FAO
Country, Province, State (within EEZ)	
Stock, ICES Area	
Capture method	
Management authority	

Picture	*[place for species picture]*

Score: Total Assessment Score*:

**Scoring guidepost: see APPENDIX. Please insert scoring points and corresponding colour in the respective boxes*

Individual Category Score*:

1. Target Stock		2. Ecological Effects of Fishery:		3. Management:	

MSC available?	Yes/No/in certification	*Details*
FIP available?	Yes/No	*Details*

Assessment Details

Current Assessment	Status	DRAFT / FINAL	Date		
Assessor (Name/Organisation)					
Cross-checker (Name/Organisation)					
Previous Assessment	Date:		Score:		
Assessor (Name/Organisation)					
Cross-checker (Name/Organisation)					

[1] Please note this is a version of the methodology where the scoring has been removed.

Summary	[place for summary / text must comply with master list]
Main references	[place for references which are cited in more than one question]

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.

<u>Note to assessor:</u> Place for background information on Unit of Assessment you might want to add, like biology, stock status, fishery, catches/landings

Wild Capture Fishery

CATEGORY 1: **STOCK STATUS AND BIOLOGY**

Depending on the available amount of information, there are 3 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?

**Adequate = State of the art stock assessment not older than 3 years*
If the current assessment is older than 3 years, go to Track B.

☐	Detailed fishery data is available AND a reliable quantitative stock assessment is conducted on a regular basis AND reference points are defined	→ **Track A** (QA2-A6)
☐	Substantial fishery data is available, but no reference points are defined OR reference points are defined but a recent quantitative stock assessment is lacking	→ **Track B** (QB2-B5)
☐	Little or no fisheries data AND no stock assessment AND no reference points are available OR [*Bycatch*]: Species is not targeted directly - it is taken as bycatch which is retained/landed**	→ **Track C** (QC2-C5)

***Bycatch species which are not appropriately managed in a species-specific manner. If fishery data is available, go to track A or B, respectively.*

Annotations

References

TRACK A/*data-rich.* *Scientific assessments available and reference points defined.*

QA2

TRACK A

Are limit AND target reference points for fishing mortality (F) and spawning stock biomass (SSB) implemented by the responsible management authority?

☐ YES - Limit reference points (LRPs)* AND target reference points (TRPs)** or proxies for these are implemented

☐ NO – Either target OR limit reference points are not implemented

**e.g. Bmsy-trigger, Fmsy OR Bpa, Blim, Fpa, Flim*
***e.g. Bmsy, Fmgt, Ftarget*

Annotations

References

QA3

TRACK A

Is the target species` spawning stock biomass (SSB) above reference points?

☐ Spawning stock biomass is above target level: SSB>Bmsy

☐ Spawning stock biomass is above trigger (ICES sense): SSB>Bmsy-trigger

☐ Spawning stock biomass is above precautionary reference point: SSB>Bpa

☐ Spawning stock biomass is below trigger (SSB<Bmsy-trigger) if no precautionary reference points are defined, OR between limit and precautionary reference points (Blim≤SSB≤Bpa) [*At increased risk**]

☐ Spawning stock biomass is below limit reference point: SSB<Blim OR SSB<0,5 Bmsy as a proxy if Blim is not defined [*Suffering reduced reproductive capacity**]

** According to ICES definition*

Annotations

References

QA4

TRACK A

Is the fishing mortality (F) of the target stock below reference points?

- Fishing mortality is around F target (if that is lower than Fmsy)
- Fishing mortality is below Fmsy OR - if Fmsy is not defined or equal to Fpa - below precautionary reference point: F<Fpa
  [*Harvested sustainably**]
- Fishing mortality is above Fmsy but well below limit reference point (if no Fpa is defined): Fmsy≤F<<Flim OR: F≈Fpa
- Fishing mortality is between limit and precautionary reference points (ICES sense) (Fpa<F<Flim) [*At increased risk **]
- Fishing mortality is above limit reference point: F≥Flim
  [*Harvested unsustainably*, overfishing occurring*]

** According to ICES definition*

Annotations

References

QA5

TRACK A

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?

- YES – The scientific advice is adequately defined → Proceed to QA6
- NO – The scientific advice is not adequately defined and/or will likely lead to stock decline → Do not continue with other questions in Category 1

Annotations

References

QA6

TRACK A

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?**

** This may be either TAC/quota or an effort management system of temporal and/or spatial closures, effort restrictions, etc. Consider existing long term management plans (LTMP) and/or Harvest Control Rules (HCR)*

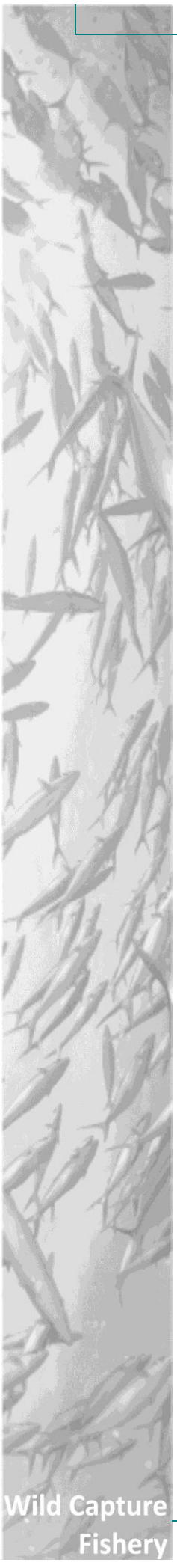
***State of the art scientific advice not older than 3 years.*

- YES – Measures are in accordance with the scientific advice AND effectively implemented AND compliance is evidenced
- Measures are in accordance with the scientific advice AND will likely ensure to maintain the long-term productivity and/or the recovery of the stock
- Regulatory measures to control stock size are not defined OR measures are implemented but effectiveness is uncertain OR stock status is healthy despite the absence of specific management measures
- NO – Measures are not in accordance with the scientific advice but effectively implemented, OR measures are in accordance with the scientific advice but not effectively implemented, OR a LTMP is in place but is unlikely to ensure the long-term productivity of the stock, OR catches in relation to regulatory measures and/or scientific advice are unknown
- NO – Measures are not in accordance with the scientific advice AND measures are not effectively implemented (e.g. target values are exceeded by the fishery)

Annotations

References

Wild Capture Fishery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TRACK B/*data-moderate.* *Substantial fishery data available, but no reference points defined.*

QB2 TRACK B

How precise is the available fishery-specific information*?

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

Note to assessor: Consider only data sources that are relevant for the UoA (e.g. no CPUE for pelagic stocks)

- ☐ The available data is detailed enough to allow for a solid and comprehensive description of the stock
- ☐ Not all of the above mentioned parameters can be described with sufficient accuracy

Annotations

References

QB3 TRACK B

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
- ☐ Stock size is uncertain OR unknown
- ☐ NO - Stock is overfished

Annotations

References

QB4 TRACK B

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]*
- ☐ Stock is fished at a rate that risks maintaining stock at, or decreasing stock towards unsustainable levels *[at risk of overfishing]* OR fishing rate on the target stock is unknown
- ☐ NO – Stock is fished at a rate that is reducing stock to unsustainable levels, OR is preventing recovery of depleted stock *[overfishing is occurring]*

Annotations

References

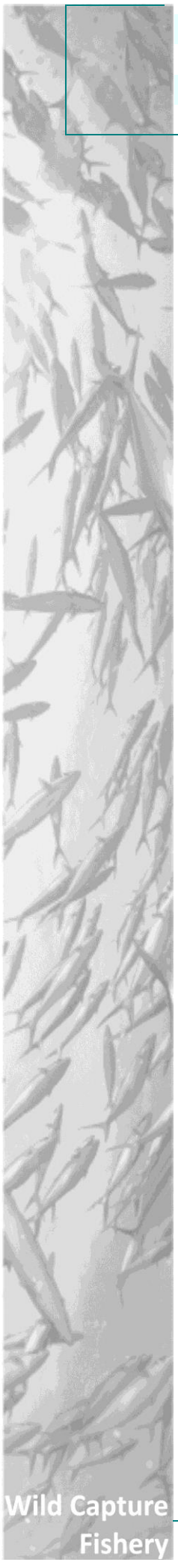
QB5 TRACK B

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*

Note to assessor: Please account for Table 7/Guidance Document

- ☐ Management of target stock is fully effective
- ☐ Management of target stock is partly effective OR stock status is healthy despite the absence of specific management measures
- ☐ Management of target stock is marginally effective OR: Effectiveness of management of target stock is unknown
- ☐ Management of target stock does not exist OR is not effective



Annotations

References

TRACK C/*data-deficient.* *Very limited or no fishery specific data is available on target fish stock* ***OR (Bycatch):*** *Species is only caught incidentally (non-target species) and retained/landed*

QC2

TRACK C

Is there credible, up-to-date evidence that the stock is at biological risk?

NO - The species is not listed as Threatened or Endangered* on any international or domestic list** AND there are no other indications that the species is at biological risk

YES - The species is listed as Threatened* on at least one list**

YES - The species is listed as Endangered* on at least one list**

**For Categories Threatened or Endangered, please refer to Table 8/Guidance Document*

***List Examples: IUCN Red List, CITES Appendices, OSPAR, China Red List, US Endangered Species Act, Canadian Species at Risk Act, European Habitat Directive, national or domestic lists.*

Annotations

References

QC3

TRACK C

Does the species have a growth rate, age at maturity, or maximum age that makes it particularly vulnerable to fishing pressure?

Note to Assessor: Use preferably stock specific information rather than species specific information

Parameters for evaluation (only valid for fish species):

Vulnerability	*VB*-growth parameter K (*yr^{-1})*	*Age at first maturity (tm)*	*Maximum age (tmax)*
Low	*K≥ 0,30*	*<3 years*	*< 8 years*
Moderate	*0,15 < K < 0,30*	*3-6 years*	*8-20 years*
High	*K ≤ 0,15*	*>6 years*	*> 20 years*

NO - Species has a low vulnerability to fishing pressure

YES - At least 2 of the listed factors indicate that the species is moderately vulnerable to fishing pressure

YES - At least 1 of the listed factors indicate that the species is highly vulnerable to fishing pressure OR the details of species` biology are not available

YES - At least 2 of the listed factors indicate that the species is highly vulnerable to fishing pressure

** VB: von Bertalanffy*

Annotations

References

QC4

TRACK C

Does the species exhibit any inherent life history characteristics* that make it particularly vulnerable to fishing pressure?

**Traits to consider: (1) Schooling, (2) other temporary aggregations (spawning, feeding, or diurnal), (3) Geographic distribution – a very limited range or scattered distribution or patchy distribution or isolated subpopulations or restricted mobility, (4) Diadromous (anadromous or catadromous), (5) Semelparous or viviparous reproduction, (6) Sequential hermaphrodit , (7) Other (e.g. high natural population variability (for example: El Nino or decadal oscillations), naturally rare, highly migratory, complex life cycle).*

NO - The species exhibits none or 1 of the listed parameters
[Species is resilient to fishing pressure]

YES - The species exhibits 2 of the listed parameters
[Species is moderately vulnerable to fishing pressure]

YES - The species exhibits 3 of the listed parameters *[Species is vulnerable to fishing pressure]* OR there is insufficient evidence that the species exhibits any of the listed characteristics

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		YES - The species exhibits more than 3 of the listed parameters *[Species is particular vulnerable to fishing pressure]*

Annotations

References

QC5 TRACK C

Will the current fishing practice likely reduce the stock to unsafe levels*?

		NO - Current fishing practice is likely to maintain maximum productivity of the stock
		NO - Current fishing practice does not threaten the target stock
		YES - There are indications that current fishing practice might threaten the target stock OR not enough information for evaluation
		YES - Current fishing practice threatens the target stock

** E.g. due to the gear used or the range or the coverage of the fishing activity.*

Annotations

References

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CATEGORY 2: **ECOLOGICAL EFFECTS OF THE FISHERY**

Q7

Does the fishery negatively impact* any species (fish and non-fish) that is listed as threatened, endangered or protected (ETP) OR overfished OR biologically highly vulnerable***?**

** Impacts only to be considered on population level*

*** List examples as of QC2*

**** Highly vulnerable species: e.g. selected species of elasmobranchs, demersal deep sea finfish (e.g. of the families Macrouridae, Sebastidae, Trachichthyidae)*

- 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
- There is no OR conflicting information concerning the effects on 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

Annotations

References

Q8

Does the fishery generate discards?

Note to assessor: Only use the categories "low", "moderate" or "high" when no other information is available

… by weight	<5%	5-15%	15-30%	>30%	unknown
…referenced in a scientific report as:	low	moderate	high	very high	
High survival rate*					
Low** or unknown survival rate					

** High survival rate: over 75% of each discarded species survive*

*** Low survival rate: less than 75% of discarded species survive*

Annotations

References

Q9

Does the retained catch contain juveniles* or non-target species?

**Juveniles = individuals (target AND non-target species) which are smaller or younger than the length or age where 50% of the individuals of that specific stock are considered mature.*

Percentage of catch is by weight. Assessors should be conservative when looking at juveniles given low weight relative to adults.

- NO - The retained catch contains no (or <5%) juveniles AND no (or <5%) non-target species *[selective catch method]*
- YES - The retained catch contains 5-30% juveniles AND no (or <5%) non-target species OR the landed catch contains 5-30% non-target species AND no (or <5%) juveniles
- YES - The retained catch contains 5-30% juveniles AND 5-30% non-target species OR there is not enough information for evaluation

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YES - The retained catch contains >30% juveniles AND/OR non- target species *[non-selective catch method, e.g. trawling, dredging, FAD associated seine]*

Annotations

References

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]*

**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 e.g. growth or reproduction of the species. OR Destruction of key biogenic/habitat-forming species.*

NO - The fishery is not causing significant negative ecosystem changes

Negative ecosystem changes caused by the fishery are unlikely OR the likelihood of impact cannot be determined because there is conflicting, inconclusive, or insufficient information

YES - Significant negative ecosystem changes are likely *[circumstantial evidence]*

YES - The fishery is causing significant negative ecosystem changes *[direct evidence]*

Annotations

References

Q11

Is the fishing method destructive to particular benthic habitats or habitat forming species within the benthic habitat? *[Habitat Effect]*

Notes to assessor: Provide references for definition of habitat type. In case the habitat types are mixed, scores are to be averaged. In case the fishing grounds are known to include at least one sensitive habitat, score accordingly.

Habitat type / Capture method	Sand/ gravel/ mud	Rocky	Biogenic reefs, sponge-beds, seagrass	Seamounts, cold water corals, hydrothermal vents
Pelagic (midwater) trawl, pelagic long-line, spear, harpoon, purse seine, midwater gillnet, pole & line, trolling, hook-and-line				
Hand-picking				
Hand raking				
Pots, traps				
Bottom long-line, bottom set gillnet				
Danish seine, demersal seine, fly-shooting				
Beam trawl/beam trawl rollers, demersal otter trawl				
Beam trawl/tickler chains or chain mats				
Dredge				
Explosives, chemicals & other illegal operations				

Annotations

References

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CATEGORY 3: **MANAGEMENT**

Q12 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.*

YES - A management system is in place	→ Proceed to Q13
NO - A management system is not in place OR a management system is in place, but the details are not available	→ Do not continue with other questions in Category 3
NO - A management system is not in place but there are indications that it would be urgently required	→ Do not continue with other questions in Category 3

Annotations

References

Q13 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?

Procedure: Highlight the appropriate box for each issue. ***The points don´t go directly in the total assessment score****, but they are aggregated in the* ***"score" section*** *below.*

ISSUE	1. Relevance		2. Effectiveness				
	Is this issue relevant to the fishery under assessment?						
(Q no. relates to question above)	**No** *[Do not continue in this row]*	**Yes** *[Proceed to column 2]*	Fully effective	Largely effective	Partly effective	Marginally effective OR effectiveness unknown	Not effective
ETP species* *(Q7)*			100	75	50	25	0
Discard (*Q8)*			100	75	50	25	0
Unwanted bycatch *(Q9)*			100	75	50	25	0
Ecosystem effect** *(Q10)*			100	75	50	25	0
Habitat effect*** (*Q11)*			100	75	50	25	0
Monitoring/data availability****		**X**	100	75	50	25	0
Mixed fishery			100	75	50	25	0
IUU, misreporting			100	75	50	25	0
Compliance, enforcement			100	75	50	25	0
Transparency, participation			100	75	50	25	0
Others (*please specify*)			100	75	50	25	0

* *Endangered, threatened or protected OR overfished OR biologically highly vulnerable species*

** *Ecosystem effect: refer to definition given in Q10*

*** *Habitat effect = Impact on habitat and habitat forming animals, e.g. corals*

*****Issue must be rated mandatorily*

SCORE: *Notes to Assessor: Determine the score by calculating the arithmetic mean (i.e. add the points from above and divide the sum by the number of relevant issues chosen. [Example: 4 issues chosen with 75+75+75+25=250 points. 250/4=62,5 → SCORE 0]. Insert the result in the respective box below.*

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	SCORE 90-100: Management is effective
	SCORE 65-89: Management is largely effective
	SCORE 40-64: Management is partly effective
	SCORE 15-39: Management is marginally effective OR there is insufficient information to a assess effectiveness
	SCORE 0-14: Management is not effective

Annotations

References

Q14 Is there an ecosystem-based management (EBM)* plan or approach in place?

** For the definition of EBM, please refer to the Guidance document.*

	YES - An EBM is implemented effectively
	YES - An EBM is currently at the state of implementation OR singular measures aiming specifically at the integrity of the ecosystem are in place and effective
	NO - Steps have not been taken to implement an EBM

Annotations

References

FISHERY IMPROVEMENT MEASURES

The following questions do not count to the overall scoring. Data are needed for informational purposes only.

FIP Is the fishery under assessment taking part in a Fishery Improvement Program (FIP)?[2]

	YES - The fishery/a part of the fishery is taking part in a FIP	Indicate share of the fisherv in FIP (e.g. as percentage or number of vessels)
	NO - The fishery is not taking part in a FIP	

Annotations

References

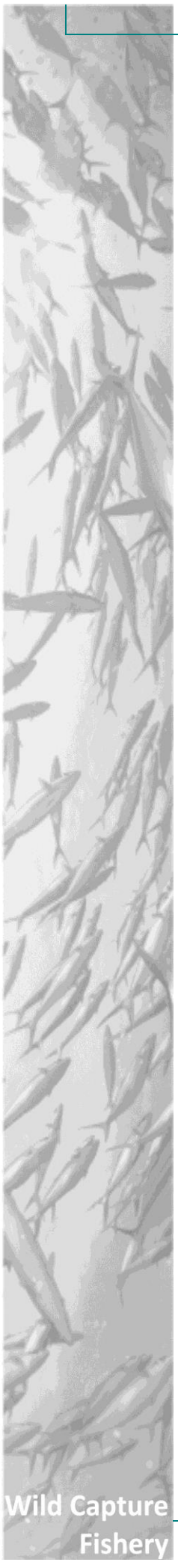
MSC Is the fishery under assessment applying for MSC certification?[2]

	YES - The fishery/a part of the fishery is MSC certified	Indicate landings of the certified fishery as percentage of the total landings in the UoA
	The fishery/a part of the fishery is in the full assessment process for MSC certification	
	NO - Efforts to apply for MSC-certification have not been taken OR a pre-assessment has been undertaken, but no further steps have been taken	

Annotations

References

[2] The questions FIP and MSC are indicator questions only and do not count towards the final score.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