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MSC SUSTAINABLE FISHERIES CERTIFICATION

Astrid Fiske North Sea Herring Purse Seine Fishery

2nd Annual Audit – Public Surveillance Report

Friday, 11 June 2010

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Assessment Data Sheet

Certified Fishery Astrid Fiske North Sea Herring Purse Seine Fishery
Fishery Management Agency Swedish Fisheries Board under the EU Common Fisheries Policy
Species North Sea herring (*Clupea harengus*)
Fishing Method Pelagic purse seine

MSC Registration Number F-FCI-00001
Certification Date 9th June 2008
Certification Expiration Date 8th June 2013

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Surveillance Stage: 2st Annual Surveillance 2010
Surveillance Date: 10th and 11th of May 2010

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1. Introduction

1.1 Purpose

The purpose of the annual Surveillance Report is fourfold:

1. to establish and report on whether or not there have been any material changes to the circumstances and practices affecting the original complying assessment of the fishery.
2. to monitor the progress made to improve those practices that have been scored as below “good practice” (a score of 80 or above) but above “minimum acceptable practice” (a score of 60 or above) – as captured in any “conditions” raised and described in the Public Report and in the corresponding Action Plan drawn up by the client.
3. to monitor any actions taken in response to any (non-binding) “recommendations” made in the Public Report.
4. to re-score any Performance Indicators (PIs) where practice or circumstances have materially changed during the intervening year, focusing on those PIs that form the basis of any “conditions” raised.

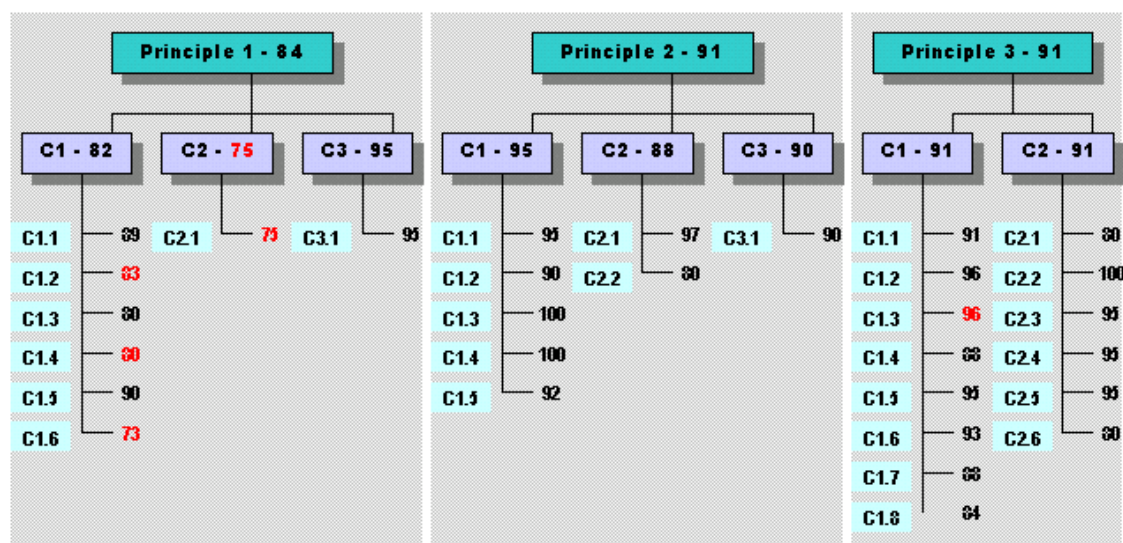
1.2 Recapitulation of Original Assessment

The assessment of the Astrid Fiske purse seine fishery for *maatjes* herring from the North Sea herring stock was undertaken between March 2007 and March 2008, and the fishery was certified on the 9th June 2008.

The certificate covers the activities of three vessels - GG 764 *Astrid*, GG 64 *Astrid Marie* and GG203 *Ginneton* - in exploiting aggregations of *maatjes* herring in the North Sea in ICES Divisions IVa & b during May and June each year.

The original scoring of this fishery is shown in abbreviated form in the following graphic, where figures in red denote where one or more of the Performance Indicators (PIs) under any one set of Sub-criteria scored below 80 but above 60 (basis for scoring given during full assessment is shown in **section 5**):

Fig 1 - Allocation of weighted scores at Sub-criteria, Criteria and Principle levels



As a result of the assessment, a number of conditions of certification were raised by the assessment team, and maintenance of the MSC certificate is contingent on Astrid Fiske moving to comply with these conditions within the time-scales set at the time the certificate was issued. In addition, three recommendations were made which, whilst not obligatory, the client is encouraged to act upon within the spirit of the certification. These conditions and recommendations are shown in **Appendix 1** to this report. The Client Action Plan is shown in **Appendix 2**.

1.2.2 The 1st Surveillance Audit

The 1st surveillance audit on the Astrid Fiske North Sea herring fishery concluded that progression made on all conditions was *on target*. Re-scoring of Performance Indicators related to conditions determined that all scores remained unchanged and therefore none of the conditions were closed. The full 1st surveillance audit can be found at: <http://www.msc.org/track-a-fishery/certified/north-east-atlantic/astrid-fiske-north-sea-herring/assessment-downloads>

1.3 Process

To carry out the 2nd surveillance audit, Friederike Ziegler met with the client, stakeholders and fishery managers during a site visit on the 10th & 11th May 2010. Crick Carleton contributed advice with respect to fishery changes in circumstances or practices. Dr. Antonio Hervás, contributed advice with respect to changes in the status of the stock and stock management. Details of meetings held, consultees and documents referred to, are listed in **Appendix 3**.

1.4 General Background to Fishery

The Astrid Fiske vessels fish the Buchan herring stock (northern North Sea) for *matjes* herring by purse seine, harvesting fish in the months of May, June and July in various parts of the north and central North Sea, extending from the waters off the south western coast

of Norway across to the Shetland Isles (ICES Area IVa), and as far south as the Devil's Hole to the east of Arbroath, north east Scotland (ICES Area IVb). At other times of the year these same vessels deploy either purse seine or trawl gear to fish Atlanto-Scandian herring, blue whiting and other species in the North East Atlantic, and herring and sprat stocks in the Kattegat and Skagerrak.

2. Changes in Circumstance or Practice

2.1 Certified North Sea herring fisheries

At the time of this Surveillance Report, seven North Sea herring fisheries have been certified:

Hastings fleet pelagic herring and mackerel fishery	– certified October 2005
Pelagic Freezer-Trawler Association North Sea herring	– certified May 2006
Astrid Fiske <i>maatjes</i> North Sea herring fishery	– certified June 2008
Norwegian North Sea and Skagerrak Herring Fisheries	– certified April 2009
Danish Pelagic Producers Organisation North Sea herring	– certified June 2009
Scottish Pelagic Sustainability Group Atlanto-Scandian herring	– certified March 2010
SPPO North Sea herring	– certified May 2010

Assessments raised conditions that require:

- » the standard recording of instances of slippage;
- » extension of the practice of recording of instances of slippage to other fisheries exploiting North Sea herring;
- » development and implementation of appropriate stock rebuilding or sustainable harvest strategy.

2.2 Stock Status

2.2.1 Background information on stock status

The scoring of this fishery took place in early 2008 based on the 2007 Report of the ICES Herring Assessment Working Group for the Area South of 62°N (HAWG). At this time the Dutch Pelagic Freezer-Trawler Association (PFA) North Sea herring fishery certificate was in its second year of operation. In response to continued poor recruitment to this stock indicated in the 2007 HAWG report, and in conformity with the requirements of the MSC Assessment Methodology in the case of stocks being found to be below B_{pa} , this client group (PFA) was in the process of making a request to the Dutch Fisheries Research Institute (IMARES – the Institute for Marine Resources & Ecosystem Studies) for the provision of advice on a stock re-building programme. In the expectation that such a re-building programme would soon be drafted, a condition was raised that Astrid Fiske should actively support any such re-building programme. As it was, this proposal was overtaken by events, as described below.

The 2008 ICES advice stated that:

“Based on the most recent estimates of SSB and fishing mortality, ICES classifies the stock as being at risk of having reduced reproductive capacity and at risk of being harvested unsustainably. SSB in autumn 2007 was estimated at 0.98 million t, and is expected to remain below B_{pa} (1.3 million t) in 2008. F_{2-6} was estimated at 0.33, well

above the target. All year classes since 2002 are estimated to be among the weakest since the late 1970s."

In addition to this an ICES Workshop was held in 2007 to specifically review the spawning biomass limit reference point for North Sea autumn spawning herring (ICES WKREF 2007). This concluded that the current level (B_{lim} 800,000t) should be maintained. In general WGREF concluded that moving to a target F based management would probably remove the importance of B_{lim} in a management context. This plan implied a 49% reduction in the TAC relative to 2007, corresponding to a total catch of North Sea autumn spawners of 200,000t (fleets A-D) and a fleet A catch of about 175,000t (in practice the 2009 TAC was set at 171,000t).

The Workshop report also stated that the distance between a management reference point (trigger or B_{pa}) and B_{lim} defines a risk and should be evaluated in the context of harvest control rules in consultation with stakeholders and managers. This statement, plus ongoing concern about the condition of the stock and how a worsening condition (at that time) could be better managed, the European Commission made a request to ICES in early 2008 seeking specific advice on this topic. The EC requested ICES to re-examine the North Sea herring management plan, particularly in the context of the reference points in use, the harvest control rule employed, and efforts to bring about the rebuilding of the stock (see **Annex 1**). A meeting was scheduled to address this issue (Workshop on Herring Management Plans – WKHMP). From this meeting ICES concluded that the fishing mortality rate resulting from the current rule was, in the long run (with or without a 15% constraint on change on TAC) too high, and the rule was not precautionary under the current recruitment regime. ICES recommended that the rule be revised. Based on examination of a series of six options, three options were not considered to be consistent with the management plan. The remaining three were considered compatible with the management plan, and presented to managers for consideration. These options were considered 'precautionary' because the risk of SSB falling below B_{lim} (800,000t) in the medium term is less than 5% when:

- » there are no year to year restrictions on changes in the TAC;
- » current low levels of recruitment continue;
- » implementation is constrained to give less than a 10% TAC overshoot.

These proposed HCRs were communicated to the EC and, through them, to the Pelagic Regional Advisory Council (RAC), of which the Swedish pelagic industry is a party. The Pelagic RAC, by a process of consensus, elected to support the second of the three proposed HCRs (see **Annex 2**), viz:

"The simulations show that the performance of the current harvest rule is no longer precautionary in the present situation of reduced recruitment. A further reduction in recruitment, higher overfishing, or less reliable assessments will all lead to a risk of SSB falling below B_{lim} , which is incompatible with the precautionary approach. Therefore, ICES considers that the fishing mortality rate resulting from the current rule is too high and recommends that the rule be revised. The required reduction can be obtained by changing the rule in one of three options:

1. *by directly reducing the target F_{2-6} from 0.25 to 0.20 and F_{0-1} from 0.12 to 0.05;*

2. by increasing the trigger point from 1.3 Mt to 1.5 Mt and reducing $F_{0.1}$ from 0.12 to 0.05;
3. by reducing the fishing mortality on juveniles to 0.

“Below the trigger biomass, the three options use the same declining rate of fishing mortality as in the agreed EU-Norway management plan.

“The first two options are indistinguishable for advice when SSB is below 1.3 Mt.”

This was taken forward by the EC to the 2008 EU-Norway negotiations, where it was accepted (see **Annex 3, clauses 2, 3 & 4**) by both negotiating parties.

2.2.2 Changes in stock status

Stock status, as estimated in the 2009 ICES advice (latest available at the time of the surveillance audit), stated that:

“Based on the most recent estimates of SSB and fishing mortality, ICES classifies the stock as being at risk of having reduced reproductive capacity and harvested sustainably. The SSB in autumn 2008 was estimated at 1.0 million t, and is expected to remain below B_{pa} (1.3 million t) in 2009. F_{2-6} in 2008 was estimated at 0.24, above the management target F_{2-6} (for this state of the stock = 0.14). The year classes since 2002 are estimated to be among the weakest since the late 1970s.”

Based on 2009 ICES assessment, there has been little change in stock condition since the time of the original assessment – stock biomass is considered to still be below B_{pa} , and recruitment continues to be poor. Nonetheless, this condition – to be formally verified on publication of the latest HAWG report (arising from the meeting convened in April 2010) – is considered to be an improvement in the stock status. The HAWG assessment has estimated F_{2-6} in 2009 at 0.11, lower than F_{MSY} and SSB at around 1.3 millions tones, larger than 2008 year value, but below the biomass trigger adopted in the 2008 management plan. In this regard the stock is considered to be rebuilding appropriately, but the rebuilding phase has not been completed yet.

The relevant Total Allowable Catch (TAC) for North Sea herring has been set in recent years as follows:

Year	TAC	% change from previous year
2006	454,751t	
2007	341,063t	25%
2008	201,227t	41%
2009	171,000t	15%
2010	164,300t	4%

3. Progress in meeting the condition of certification

Condition 1: Seek to provide improved catch composition information.

Action Required:

Astrid Fiske should find out how length, weight and age data might be submitted to improve the stock assessment. If length or weight data are obtained during processing, these data could be prepared and submitted at little cost. If these data are unavailable or inappropriate, the responsible institute may need to send a data collector.

Sweden does not submit any size or age composition data for use by the HAWG. The certified fisheries should make a fair contribution to data required for stock assessment even if they are only a small proportion of the overall fishery. The current level of sampling does not meet the levels specified by the EU.

Timescale:

The initial inquiry must be made from the time of certification. Sweden must meet the EU sampling levels specified by the EU within the period of certification.

Relevant Scoring Indicators: 1.1.2.1

Background information on condition 1

As a result of this condition of certification informal discussions and an exchange of emails took place with scientists from the Research Division of the Swedish Board of Fisheries providing clarification of the status of this issue. EC regulations on the collection, presentation and communication of fisheries data (Commission Regulation 1639/2001) include reference to an agreed regime of catch sampling. This applies to fisheries that harvest in excess of 5 per cent of the TAC for any given species.

The Swedish North Sea herring quota, including swaps, amounts to less than 5 per cent of the species TAC, and so there is no legal requirement to sample the Swedish North Sea herring fishery. In consideration of this, whilst Swedish scientists actively participate, as members of HAWG, in the deliberations on the status and management of this stock, as a matter of policy they do not seek to sample catches from this fishery.

Landings made by the Astrid Fiske vessels to the Danish processor Werner Larsson are routinely sampled per landing, and all fish are automatically weighed on entry to the processing plant. This information forms part of the landings declaration ratified by the official port agent at Skagan, which is submitted to the Danish authorities, and used commercially within the businesses of Astrid Fiske and Werner Larsson.

At the time of the **1st surveillance audit** Astrid Fiske (and Werner Larsson) had indicated its willingness to make this information available to the relevant scientific research institutions if requested, but is aware that there is no such requirement at this time. **It was determined that status of the condition was on target.** However it was considered that size composition data held by Astrid Fiske / Werner Larsson should be provided to the Research Division of the Swedish National Board of Fisheries, who should then make this information available to the ICES Working Group HAWG. In this regard Astrid Fiske did not meet *Condition 1 - Seek to provide improved catch composition information.* It was determined that Astrid Fiske should take the initiative in this regard, and forward available data on the 2008 and 2009 fisheries to the Swedish National Board of Fisheries.

Progress in meeting condition 1: 2nd Surveillance audit

Astrid Fiske wrote to the pelagic RAC to express their wiliness to contribute to efforts to improve the quality of information used to inform stock assessment and the provision of management advice.

However, there has been a lack of interest showed by the Swedish National Board of Fisheries on data held by Astrid Fiske / Werner Larsson. Inclusion of these data would not have an effect on the quality of the assessment (Max Cardinale, *personal communication*.).

The Research Division of the Swedish National Board has expressed, however, interest on gathering data from a specific area of interest of ICES subarea IVb on the border between the North Sea and the Skagerrak (Max Cardinale, *personal communication*). North Sea herring mixes with western Baltic herring. Therefore high quality data is important in this area to be able to differentiate between the two different stocks. The Research Division of the Swedish National Board communicated to the assessment team of FCI that a request on data from this area is going to be made to Astrid Fiske / Werner Larsson.

Status of condition ('on target', 'ahead of target' or 'behind target'): On target

Condition 2: Provide slippage information.**Action Required:**

Astrid Fiske should record all slippage. Slippage may not recently have been a problem partly because of low recruitment so that smaller fish are rarely caught. This may change if recruitment improves.

Astrid Fiske should consult with the Swedish fisheries research institute as to what information is required, but it is likely to include estimated quantity of fish by species, reason for slipping and the condition of the school to give an indication of likely mortality.

Timescale:

The condition should apply from the start of certification and be in place within 18 months of the start of certification.

Relevant Scoring Indicators: 1.1.2.1

Background information on condition 2

As a result of this condition of certification, informal discussions took place with scientists from the Research Division of the Swedish Board of Fisheries providing clarification of the status of this issue. Recognising the low proportion of the North Sea herring TAC fished by the Swedish fleet, and broad recognition that this fishery is a “clean” fishery with little evidence of the need to slip a catch, and given a wide range of more pressing issues competing for researchers’ time, the provision and collation of information on slippage is of low priority to the fishery research service.

Notwithstanding this, the management of Astrid Fiske issued instructions to its skippers to record all incidences of slipped fish and interaction with ETP species. This formed an initial part of its Vessel Operation Manual.

The skippers indicated that during the 2008 *maatjes* herring fishery there were no incidences of slippage, and no interactions with ETP species. Insofar as they are able to do so, both the Research Division and the Fisheries Control Division consider this a reasonable and expected response.

The only sure way of verifying these statements is if the vessels are to carry observers during this fishery. As already indicated above, given a wide range of more pressing issues competing for researchers’ time, and the focus of active observer programmes on the fisheries of the Baltic Sea, the placing by the research and control authorities of observers on these boats during the *maatjes* herring season is not considered an appropriate or useful deployment of resources. Astrid Fiske has, however, indicated its willingness to host observer coverage should they be asked to do so.

The 2nd Surveillance audit: Progress in meeting condition 2:

Astrid Fiske wrote to the pelagic RAC to express the wiliness to contribute to efforts to improve the quality of information used to inform stock assessment and the provision of management advice including the recording of incidences of slipping.

However, the provision and collation of information on slippage remains of low priority to the fishery research service (Max Cardinale, *personal communication*). The allocation of

observers on Swedish boats during the *maatjes* herring season is not considered an appropriate or useful deployment of resources.

The 2nd surveillance audit requested evidence of the recording of incidences of slipped fish and interaction with ETP species. The skippers provided the Vessel Operating Manual for 2009. Slippage and encounters with ETP species have been zero in 2009.

Status of condition ('on target', 'ahead of target' or 'behind target'): On target

Condition 3: Ensure that the fishery makes no contribution to the overshoot of the TAC.**Action Required:**

Astrid Fiske must clearly demonstrate that it does not contribute to overshoot of the TAC. During the period of certification, the total landings should be equal to or lower than the quota allocated to the client (including additional or reduced allocations resulting from quota swaps), which can be checked during the surveillance.

Timescale:

The condition should apply from the start of certification and be on-going until such time as overshoot of TAC is no longer a problem within the fishery as a whole.

Relevant Scoring Indicators: 1.1.4.3**Background information on condition 3**

At the 1st surveillance audit Astrid Fiske demonstrated that the Swedish North Sea herring fleet was in compliance with Condition 3. 1st surveillance audit stated: *"The Swedish North Sea herring TAC for 2008 was 2,893t, which was raised to 14,289t after international swaps. The Swedish harvest of North Sea herring was 14,238t – i.e. within the quota. These figures have been verified with the Control Division of the Swedish Board of Fisheries."*

The 2nd Surveillance audit: Progress in meeting condition 3

The Swedish North Sea herring TAC for 2009 was 2,850t, which was raised to 5,586t after international swaps. The Swedish harvest of North Sea herring was 5,529t – i.e. within the quota. These figures have been verified with the Control Division of the Swedish Board of Fisheries.

Status of condition ('on target', 'ahead of target' or 'behind target'): On target

Condition 4: Promote rebuilding of the stock to an agreed target reference point.
Action Required:

The current harvest control rule has a number of problems and has been identified as only marginally effective in meeting management objectives. In particular, the current rule will not allow the stock to rebuild to above the trigger point, which is effectively the current target.

Any precautionary rebuilding plan (new harvest control rule) developed by scientists meeting management objectives (which specifically state that the TAC should be set at a precautionary level) should be supported by Astrid Fiske. Astrid Fiske can demonstrate support through the RAC minutes and through writing to managers. The plan should be considered as compatible with the principles and criteria during the surveillance.

Timescale:

A rebuilding plan is expected shortly within the period of certification. It should be implemented before the next surveillance audit.

Relevant Scoring Indicators: 1.1.4.2, 1.1.4.3, 1.1.6.1, 1.1.6.2, 1.2.1.1, 3.A.3.4

Background information on condition 4

Following conditions placed on supporting a rebuilding plan for the North Sea herring stock Astrid Fiske wrote to the Swedish authorities and to the Pelagic RAC giving support to the deployment of the new Harvest Control Rule as part of a considered precautionary rebuilding plan, and encouraging the setting of TACs within clearly precautionary limits.

As described in the section on stock status and management above, work was undertaken to revise and improve the basis of management of this stock. The actions taken in respect of the new HRC (2008 management plan) are considered by ICES (and the Pelagic RAC) to be appropriate, responsible and precautionary. Therefore condition 4 was technically complied with at the completion of the 1st Surveillance Audit (subject to provision of copies of relevant correspondence), but its intent was not met (i.e. SSB was still estimated at levels below B_{pa}). Therefore this condition was continued.

The 2nd Surveillance audit: Progress in meeting condition 4

New Harvest Control Rules are in place (2008 management plan) and are considered consistent with the precautionary approach by ICES. As described above, there has been little change in stock condition since the time of the original assessment – stock biomass is considered to still be below B_{pa} , and recruitment continues to be poor. Nonetheless, this condition – to be formally verified on publication of the latest HAWG report (arising from the meeting convened in April 2010) – is considered to be an improvement in the stock status. The HAWG assessment has estimated F2-6 in 2009 at 0.11, lower than F_{MSY} and SSB at around 1.3 million tonnes, larger than 2008 year value, but below the biomass trigger adopted in the 2008 management plan. In this regard the stock is considered to be rebuilding appropriately, but the rebuilding phase has not been completed yet.

Status of condition ('on target', 'ahead of target' or 'behind target'): On target

Condition 5: The overall TAC should not be set to override the harvest control rule with fishing mortalities set significantly above the target.

The decision makers have shown that they may not keep to the decision rule, but set the TAC such that the fishing mortality is significantly higher than the target. This is not consistent with the MSC Ps&Cs and has undermined confidence in the decision making process. Ongoing surveillance is required to ensure that the TAC is not set to override the harvest control rule with fishing mortalities set above the target, particularly as the SSB approaches the limit.

Timescale: The condition applies throughout the period of certification.

Relevant Scoring Indicators: 1.1.4.2, 1.1.4.3, 1.1.6.1, 1.1.6.2, 1.2.1.1, 3.A.3.4

Background information on condition 5

The 1st surveillance audit stated the set TAC was considered to be in compliance with scientific advice, and within the Harvest Control Rule that forms a part of the EU-Norway Agreement.

Condition 5 is to remain for the duration of the certificate.

Progress on meeting condition 5: the 2nd surveillance audit

Through the negotiation of the EU-Norway Agreement the North Sea herring TAC for 2010 was set at 164,300t. This TAC was considered to be in compliance with scientific advice, and within the Harvest Control Rule that forms a part of the EU-Norway Agreement. This is considered to be appropriate, responsible and precautionary, with a low risk of causing the stock to fall below B_{lim} .

Status of condition ('on target', 'ahead of target' or 'behind target'): On target

4. Progress in taking forward any assessment team recommendations

Recommendation 1: Protected, endangered and threatened species - Astrid Fiske vessels should record all vessel interactions with any seabirds and marine mammals. Contact SMRU to find out how such information may be recorded and what other help might be provided.

The skippers provided the Vessel Operating Manual for 2009. Encountered with ETP species have been zero in 2009.

Status of recommendation ('on target', 'ahead of target' or 'behind target'): On target

Recommendation 2: Scientific observer coverage - Astrid Fiske should seek to get some observer coverage to obtain independent data on their North Sea herring fishing activities. While currently this is not perceived as a big problem, the lack of independent verification of activities and catches could create problems for the future certification.

Astrid Fiske has indicated to the Research Division of the Swedish Board of Fisheries (through a letter written to the pelagic RAC and Swedish fisheries board) that it is happy to host scientific observers on any of its voyages. Informally the Research Division has indicated that given the small size of this particular fishery, and the Division's greater focus on the fisheries of the Baltic Sea, it is not currently in a position to take up this offer (Max Cardinale, *personal communication*).

Status of recommendation ('on target', 'ahead of target' or 'behind target'): On target

Recommendation 3: Written operating procedures – Astrid Fiske should formally place on record current vessel operating guidelines in the form of a Vessel Operating Manual to incorporate, amongst others, procedures to be applied in respect of the identification of *maatjes* herring shoals, catch handling, the process of slipping, the recording of the occurrence and nature of slipping, and the recording of any interaction with Protected, Endangered or Threatened species.

Astrid Fiske has issued instructions to its skippers on the recording of incidences of slippage and interaction with ETP species, and this forms the initial part of the Vessel Operating Manual. No progress has yet been made to expand on this, though there is the stated intention to do so.

Status of recommendation ('on target', 'ahead of target' or 'behind target'): On target

5. Any Consequential Re-scoring of Performance Indicators

Table 1 - Those Performance Indicators where a score of less than 80 has been allocated are:

PI	SUB-CRITERION	PERFORMANCE INDICATOR	BASIS OF SCORING	SCORE
1.1.2.1	There should be sufficient information on the target species and stock separation to allow the effects of the fishery on the stock to be evaluated.	Are all major sources of fishery related mortality recorded/ estimated, including landings, discards, incidental mortality and mortality of juveniles?	<p>Catches are recorded adequately for stock assessment. There are significant gaps in data provided on landings and discards, which are corrected as far as possible by the working group. The landings from the directed catches (Fleet A) are well recorded and covered (national and EC sea fisheries statistics). There is some misreporting and unallocated catch, discards are under-reported and there is no reporting of foreign landings (HAWG07 Section 2.2.4 Pg 53). Length, weight and age readings in 2006 decreased from 2005.</p> <p>Although more categories of fleet, nation, area and quarter were covered, the coverage of sampling does not meet levels specified by the EU. The catch of France, UK/England and Wales, Sweden, UK/Northern Ireland, the Faroe Islands and Belgium from the North Sea has not been sampled (HAWG07 Pg. 87 Table 2.2.12).</p>	75
Surveillance Notes:			<p>There are still inadequacies in the sampling of North Sea herring catches by some countries. Information on discards has improved compared to 2007, but is still on a low level. In 2008, the sampling of commercial landings covers 76 % of the total catch (2007: 86 %). However, the number of herring length and weight measured has decreased by 17 % when compared to 2007, and the number of age readings has decreased by 34 % (HAWG09, Table 2.2.12).</p> <p>Astrid Fiske already holds the information referred to in this PI, but needs to communicate this information to the Research Department of the Swedish National Board of Fisheries. Score remains unchanged.</p>	
1.1.4.3	There is a well-defined and effective harvest strategy to manage the target stock	Are appropriate management tools specified to implement decisions in terms of input and/or output controls?	<p>While the management system to control harvest exists, the recent evidence suggests that the system will not be effective in ensuring the stock does not become depleted in future.</p> <p>There are three causes:</p> <ul style="list-style-type: none"> » The harvest control rule (HCR) is not necessarily consistent with the current levels of recruitment. The projections show that the +/-15% TAC change rule in the harvest control rule is not precautionary (ACFM 2005) and that under this HCR the stock will not rebuild to a biomass above the 	70

			<p>precautionary level (HAWG07, Pg180, Figure 2.8.1). To be applicable, the +/- 15% TAC change rule would clearly have to take account of recruitment, and not just the current SSB, to work.</p> <ul style="list-style-type: none"> » The management decision-makers consider the rule as a guide rather than a robust method to set TACs. Consequently, this has led to setting the TAC above the target fishing mortality as biomass has declined. The current approach to implementation of the HCR has not been subject to simulations and therefore has not been tested. (HAWG07 Annex 5: Technical Minutes (Pg 537) states that "The large overshoot of F is explained with the fact that managers have agreed on too high TACs in recent years. This should be interpreted as an implementation error of the Management Plan.") » The official landings have exceeded the TAC by between 2% and 6% during 2001-2006 overall, although the TAC overshoot by Fleet A has been much worse (HAWG07 Sect. 2.7.3.1 Pg 63). This overshoot of the TAC needs to be taken account of in the way the HCR is implemented and administered. <p>Concerning the implementation of the TAC, from the simulations the HAWG07 found that (Section 2.8.3 Pg 66) "the current management rule is not robust to implementation error in terms of overfishing of the quotas beyond the level that is estimated at present. Hence, either the enforcement has to be stronger than in the past, or an even more conservative harvest rule has to be applied in order to safeguard against depleting the stock."</p>	
Surveillance Notes:			<p>The agreed change in the HCR ratified in the 2008 EU-Norway agreement is to be welcomed as an improvement in the management of this stock, and there appears to have been greater credence given to scientific advice evident in the setting of the 2009 and 2010 TAC. Nonetheless, for the fishery as a whole it is still early days in the implementation of these changes, and there is still some concern about overfishing of quotas. On balance it is considered too early in the application of this new management regime to warrant the re-scoring of this PI to "good practice" or above.</p>	
1.1.6.1	The stock(s) is/are at appropriate precautionary reference level(s).	Is the stock(s) at or above reference level for SSB? [If below SG80 then Criterion 2 must be scored; if SG80 or above, then Criterion 1 is	The spawning stock biomass (SSB) in 2006 is estimated at 1.2 million tonnes, below the B_{pa} (1.3 million tonnes) but above B_{lim} (0.8 million tonnes) (HAWG07). Therefore the stock is above the limit but below the precautionary level.	75

		complete]		
Surveillance Notes:			The spawning stock biomass (SSB) in 2008 is estimated at 1 million tonnes, below the B_{pa} (1.3 million tonnes) but above B_{lim} (0.8 million tonnes) (HAWG09). Therefore the stock is above the limit but below the precautionary level. The HAWG 2010 assessment has estimated F2-6 in 2009 at 0.11, lower than F_{msy} and SSB at around 1.3 millions tones, larger than 2008 year value, but below the biomass trigger adopted in the 2008 management plan. In this regard the stock is considered to be rebuilding appropriately, but the rebuilding phase has not been completed yet.	
1.1.6.2	The stock(s) is/are at appropriate precautionary reference level(s).	Is the stock(s) at or above reference level for F? [If below SG80 then Criterion 2 must be scored; if SG80 or above, then Criterion 1 is complete]	<p>The effective target fishing mortality is at or below 0.25. A maximum F_{lim} is effectively not applied.</p> <p>The failure to comply with the precautionary management rule in setting the TAC in 2007 has resulted in a fishing mortality that is higher than the target. This is a matter of concern with the current low recruitment.</p> <p>Although the result of maintaining the present fishing mortality at around the current level (0.35) has not been examined in detail, it is clear that if it is not reduced it will lead to a substantial reduction in SSB to a level below B_{lim} in the near future.</p>	70
Surveillance Notes:			<p>For 2009 the TAC was set at an F_{2-6} of 0.25 in compliance with the HCR.</p> <p>The newly agreed HCR (2008/2009) incorporates management by target F, with F_{2-6} set at 0.25, and F_{0-1} set at 0.05. Modelling of this HCR, inclusive of staged reductions at SSB below the trigger level (SSB of 1.5 million tonnes) (clause 3 of the EU-Norway Management Plan) indicated that it substantially lowered the likelihood of SSB falling below B_{lim}.</p> <p>The above is an improvement on conditions applying in 2007/2008, but the stock remains below the reference level for F. F2-6 in 2008 was estimated at 0.24, above the management target F2-6 (for this state of the stock = 0.14).</p> <p>This does not warrant re-scoring; score remains unchanged.</p>	
1.2.1	If the stock is below the precautionary reference point, are measures to rebuild the stock		Although the rebuilding measures through reduction in exploitation exist in the current harvest control rule, even if they are applied the medium term population projections suggest that the stock will not rebuild to above B_{pa} (HAWG07 Fig. 2.8.1) unless there is a substantial increase in recruitment. Another rebuilding plan is	75

	specified?		required.	
Surveillance Notes:			The measures taken in agreeing and implementing a new HCR on the advice of ICES are considered to reduce the likelihood of SSB falling below B_{lim} , but without a substantial increase in recruitment they are on their own unlikely to result in the rebuilding of this stock. Until such time as there is clear understanding of the underlying cause of this period of poor recruitment it is considered by ICES that the most responsible action is to maintain the <i>status quo</i> rather than seek to devise a rebuilding plan on less secure foundations. Score remains unchanged.	
3A.3.4	Does the management system contain clear short and long-term objectives?	Do objectives and operational procedures follow the precautionary approach?	<p>The decision rules seek to be precautionary to meet the objective of B_{pa}. TAC advised cuts, based on the harvest control rule, appear to be precautionary (certainly more than in previous years). However, there is considerable scope for increased precaution in the setting of F.</p> <p>This has particular relevance in relation to the +/-15% rule, which does not follow best scientific advice and has been shown not to be precautionary, albeit the 15% change can and is overridden. A more significant issue is the implementation, which often parts from the harvest control rule established under the EU-Norway agreement. The decision process lacks transparency and precise reasons for the departure from the HCR are not given, but are clearly not precautionary.</p>	80
Surveillance Notes:			<p>The outcome of the 2008 EU-Norway Agreement, plus the adoption of a new HCR for 2009/2010, mark substantial improvements on the situation evident at the time of original assessment – both in terms of precaution and adherence to best scientific advice.</p> <p>Decision-making in the context of the new HCR has been tested (more than one year's (two years) decision-making). On this basis it is considered appropriate to rescore this PI at 80.</p>	

6. Conclusions

6.1 Stock Status and a Rebuilding Plan

There have been positive underlying changes in the management of the North Sea herring stock and fishery since the time of the assessment of the Astrid Fiske North Sea herring fishery. These changes strengthen the sustainability credentials of this fishery and, critically, changes in the management plan and Harvest Control Rule have put the management of this fishery on a recognised precautionary footing. But the continuing depressed level of SSB and poor recruitment, even though there are good signs that SSB may be considered to be increasing toward B_{pa} and that management is considered to be precautionary, warrant continued vigilance.

In this regard we are of the view that **Condition 4 - Promote rebuilding of the stock to an agreed target reference point** has been technically complied with, but its intent has not been met – as indicated by the retention of scores below “good practice” (i.e. below 80). Accordingly we are of the view that this condition should be continued, not least because in the absence of improved recruitment to the stock the current management plan will not result in a rebuilding of the stock.

6.2 TAC setting and overfishing of Total Allowable Catch

The 2009 & 2010 TAC were set within the limits of the HCR, which is considered positive. The new HCR is considered to provide improved precaution in the setting of TACs for 2010 and onwards – which augurs well for the future. **Condition 5 - The overall TAC should not be set to override the harvest control rule with fishing mortalities set significantly above the target** is thus complied with, but will continue to remain in force for the duration of the certificate.

The Swedish fleet fishing North Sea herring has been found for 2008 to have been fishing within the national quota allocation, adjusted for international swaps. Accordingly the first half of **Condition 3 - Ensure that the fishery makes no contribution to the overshoot of the TAC** has been complied with. But, at a stock level, there is still some evidence of mismatch between official landings and estimated unallocated landings which is of continued concern – the second part of the condition. Accordingly this condition remains in operation.

6.3 Sampling of Catches and Recording of Slippage

Because Swedish fleet catches of North Sea herring fall below the 5 per cent of TAC threshold there is no legal obligation on Sweden to sample catches, and the government has elected not to do so. Astrid Fiske and its trading partner Werner Larsson have, however, indicated their willingness to provide such information if required. The Research Division of the Swedish National Board has expressed interest in gathering data from a specific area of interest of ICES subarea IVb on the border between the North Sea and the Skagerrak. North Sea herring mixes with western Baltic herring. Therefore high quality data is important in this area to be able to differentiate between the two different stocks. Good practice suggests that data held by Astrid Fiske that can make an improvement in the assessment of the North Sea herring stock should be made available. In this regard, Astrid Fiske does not currently meet **Condition 1 - Seek to provide improved catch composition information**.

Astrid Fiske should take the initiative in this regard, and forward required data to the Swedish National Board of Fisheries.

The management of Astrid Fiske has issued instructions to its skippers to record all incidences of slipping. Whilst the skippers report that there were no incidences of slipping in the 2009 *maatjes* North Sea herring fishery, they are nevertheless completing the appropriate form to this effect. Accordingly they are considered in compliance with **Condition 2 – Recording of slippage**.

6.4 Progress in implementing recommendations

Astrid Fiske has instructed its skippers to record all interaction with ETP species. As with slippage, skippers report no interaction with ETP species during the 2009 *maatjes* North Sea herring season and have corresponding notes.

Astrid Fiske has informally indicated to the Research and Control Divisions of the Swedish Board of Fisheries that it is happy to entertain observers on its vessels. For the Swedish Board of Fisheries such observer coverage of this fishery is ranked of low priority, and no further action is likely to be taken in the foreseeable future.

Limited progress has been made in the documenting of a Vessel Operating Manual, but a start has been made in instructing skippers on the reporting of incidences of slippage and interaction with ETP species.

6.5 Summary and Conclusions

The Astrid Fiske *maatjes* North Sea herring fishery remains compliant with its MSC certification, and satisfactory and timely progress has been made by the company, and by the managers of the North Sea herring stock / fishery, in working to improve standards and practices and to close out the conditions applied to this certification.

Evidence of the further development of the Vessel Operating Manual should be provided at the next Surveillance audit.

Appendix 1 - Conditions and Recommendations (from the Public Certification Report)

Conditions

The fishery attained a score of below 80 against a number of Performance Indicators. The assessment team has therefore set a number of conditions for continuing certification that Astrid Fiske, as the client for certification, is required to address. The conditions are applied to improve performance to at least the 80 level within a period set by the certification body but no longer than the term of the certification.

As a standard condition of certification, the client shall develop an 'Action Plan' for Meeting the Conditions for Continued Certification', to be approved by Food Certification International.

The conditions are associated with five key areas of performance of the fishery, each of which addresses one or more Performance Indicators. Conditions, associated timescales and relevant Performance Indicators are set out below:

Condition 1: Seek to provide improved catch composition information.

Action Required:

Astrid Fiske should find out how length, weight and age data might be submitted to improve the stock assessment. If length or data are obtained during processing, these data could be prepared and submitted at little cost. If these data are unavailable or inappropriate, the responsible institute may need to send a data collector.

Sweden does not submit any size or age composition data for use by the HAWG. The certified fisheries should make a fair contribution to data required for stock assessment even if they are only a small proportion of the overall fishery. The current level of sampling does not meet the levels specified by the EU.

Timescale:

The initial inquiry must be made from the time of certification. Sweden must meet the EU sampling levels specified by the EU within the period of certification.

Relevant Scoring Indicators: 1.1.2.1

Condition 2: Provide slippage information.

Action Required:

Astrid Fiske should record all slippage. Slippage may not recently have been a problem partly because of low recruitment so that smaller fish are rarely caught. This may change if recruitment improves.

Astrid Fiske should consult with the Swedish fisheries research institute as to what information is required, but it is likely to include estimated quantity of fish by species, reason for slipping and the condition of the school to give an indication of likely mortality.

Timescale:

The condition should apply from the start of certification and be in place within 18 months of the start of certification.

Relevant Scoring Indicators: 1.1.2.1

Condition 3: Ensure that the fishery makes no contribution to the overshoot of the TAC.

Action Required:

Astrid Fiske must clearly demonstrate that it does not contribute to overshoot of the TAC. During the period of certification, the total landings should be equal to or lower than the quota allocated to the client (including additional or reduced allocations resulting from quota swaps), which can be checked during the surveillance.

Timescale:

The condition should apply from the start of certification and be on-going until such time as overshoot of TAC is no longer a problem within the fishery as a whole.

Relevant Scoring Indicators: 1.1.4.3

Condition 4: Promote rebuilding of the stock to an agreed target reference point.

Action Required:

The current harvest control rule has a number of problems and has been identified as only marginally effective in meeting management objectives. In particular, the current rule will not allow the stock to rebuild to above the trigger point, which is effectively the current target.

Any precautionary rebuilding plan (new harvest control rule) developed by scientists meeting management objectives (which specifically state that the TAC should be set at a precautionary level) should be supported by Astrid Fiske. Astrid Fiske can demonstrate support through the RAC minutes and through writing to managers. The plan should be considered as compatible with the principles and criteria during the surveillance.

Timescale:

A rebuilding plan is expected shortly within the period of certification. It should be implemented before the next surveillance audit.

Relevant Scoring Indicators: 1.1.4.2, 1.1.4.3, 1.1.6.1, 1.1.6.2, 1.2.1.1, 3.A.3.4

Condition 5: The overall TAC should not be set to override the harvest control rule with fishing mortalities set significantly above the target.

The decision makers have shown that they may not keep to the decision rule, but set the TAC such that the fishing mortality is significantly higher than the target. This is not consistent with the MSC Ps&Cs and has undermined confidence in the decision making process. Ongoing surveillance is required to ensure that the TAC is not set to override the harvest control rule with fishing mortalities set above the target, particularly as the SSB approaches the limit.

Timescale:

The condition applies throughout the period of certification.

Relevant Scoring Indicators: 1.1.4.2, 1.1.4.3, 1.1.6.1, 1.1.6.2, 1.2.1.1, 3.A.3.4

Recommendations

In addition to the above Conditions, it is also considered that there are areas of performance that the team would like to see improvements in, despite the fact that they relate to Performance Indicators where the client vessels scored 80 or better.

The assessment team has made a number of recommendations. These are not required to maintain certification but would improve the performance of the fishery against the MSC Principles and Criteria. Accordingly, the action taken and timescales are at the discretion of the client.

Recommendations are made in respect of:

- » **Protected, endangered and threatened species** - Astrid Fiske vessels should record all vessel interactions with any seabirds and marine mammals. Contact SMRU to find out how such information may be recorded and what other help might be provided.
- » **Scientific observer coverage** - Astrid Fiske should seek to get some observer coverage to obtain independent data on their North Sea herring fishing activities. While currently this is not perceived as a big problem, the lack of independent verification of activities and catches could create problems for the future certification.
- » **Written operating procedures** – Astrid Fiske should formally place on record current vessel operating guidelines in the form of a Vessel Operating Manual to incorporate, amongst others, procedures to be applied in respect of the identification of *maatjes* herring shoals, catch handling, the process of slipping, the recording of the occurrence and nature of slipping, and the recording of any interaction with Protected, Endangered or Threatened species.

Appendix 2 – Client Action Plan

Astrid Fiske AB and the owners and skippers of the two vessels Astrid and Astrid Marie¹ have drawn up the following action plan in response to the points raised in this assessment, and paying particular attention to requirements laid down as conditions of this assessment, as well as the recommendations shown in **Section 9** of the report.

At such time as an North Sea herring recovery plan is prepared and presented for implementation (this is a condition of certification applying to the Pelagic Freezer Trawler Association (PFA), and this body is expected / required to provide such a plan within the next twelve months), the company will provide the Certification Body with a copy of a letter from the company to the PFA, the Swedish Board of Fisheries, and the Chair of the Pelagic RAC giving full support to implementation of this plan.

During the first year of application of this certificate, the company, on behalf of the skippers, will enter into discussions with research staff of the Swedish Board of Fisheries for the purpose of:

- » drawing up and agreeing an appropriate protocol for the sampling of catches to record catch composition – either in the processing plant, or on board the vessels;
- » drawing up and agreeing reporting formats for the recording information on the nature and incidence of slipping of catches;
- » seeking agreement on the implementation of a minimum level of observer coverage of fishing operations during the annual maatjes herring fishery;
- » drawing up and agreeing reporting formats for recording any and all interaction with Endangered, Threatened and Protected (ETP) species.

By the time of the first surveillance audit, the company will present to the Certification Body the agreed formats for data collection, and an agreed schedule of observation of fishing practices during the maatjes herring fishery. By the time of the second surveillance audit the company will provide evidence that catch sampling has been undertaken, that the nature and incidence of the slipping of catches is being routinely recorded by the skippers, and that the nature and incidence of any and all interaction with Endangered, Threatened or Protected species is also being routinely recorded by the skippers.

By the time of the first surveillance audit the company will also provide to the Certification Body a copy of letters to the Swedish Director of Fisheries, and to the Chair of the Pelagic RAC, encouraging both bodies to:

- » promote the setting of the annual TAC for North Sea herring at or below the level advised by the ICES Herring Assessment Working Group as both precautionary and likely to support a stock size at or above the precautionary reference level;
- » promote the regular sampling of North Sea herring catches by all national fleets, and provision of such information to national fisheries laboratories.

The company will also provide the Certification Body at the time of each surveillance audit with evidence that its catches of North Sea herring are at or below the level of its catches

¹ The action plan has subsequently been extended to cover the owners and skipper of the vessel GG203 *Ginneton*

entitlements – relevant national quota entitlement and any additional quota added through international swaps.

By the time of the second surveillance audit, the company will also provide the Certification Body with a copy of a Vessel Operating Manual to incorporate, amongst others, procedures to be applied in respect of the identification of maatjes herring shoals, catch handling, the process of slipping, the recording of the occurrence and nature of slipping, and the recording of any interaction with, Endangered, Threatened or Protected species.

Appendix 3 – Listing of Consultees and Documents Referred to

Consultees

- » Borje Johansson – skipper, GG 764 Astrid, & Director of Astrid Fiske A/B
- » Kurt Claeson - skipper, GG 203 Ginneton
- » Dr Max Cardinale, Senior Officer, Department of Fisheries Research, Swedish National Board of Fisheries
- » Marten Gustafsson, Senior Officer, Department of Fisheries Control, Swedish National Board of Fisheries
- » Karin Linderholm, Principal Officer, Policy Division (pelagics) Swedish National Board of Fisheries

Documents referred to

- » ICES HAWG 2007 Report
- » ICES HAWG 2008 Report
- » ICES WKHMP 2008 Report
- » ICES WKHMP 2009 Report
- » 2008 EU-Norway Agreement
- » Pelagic RAC correspondence with EC on preferred revised Harvest Control Rule.

Stakeholders

A total of 24 stakeholder organisations and individuals having relevant interest in the Astrid Fiske assessment were identified and consulted during this surveillance audit. The interest of others not appearing on this list was solicited through the postings on the MSC website.

Annex 1 – Advice sought from ICES on the management of North Sea herring

EC request on management plan for North Sea herring

ICES has received the following request from the European Commission (EC-DG FISH 27.03.2007-02) on the management of North Sea herring:

Evaluate the management plans agreed between Norway and the European Community concerning herring of North Sea origin:

i) *With particular respect to :*

- 1) *achieving the highest yields long-term from these stocks;*
- 2) *ensuring conformity with the precautionary approach;*
- 3) *achieving yields as stable as possible, consistent with achieving a high yield from the stocks and achieving conformity with precautionary principles.*

ii) *provide recommendations on any appropriate alterations to the target fishing mortality rate(s) (para. 2), the rule concerning stability of TACs (para 5), or the depressive rate of fishing mortality at lower stock sizes (para. 3).*

iii) *Consider what (if any) limits on TAC variations could be applied to the TAC for herring by-catches in the North Sea.*

iv) *Advise on the circumstances in which para. 6 should apply, and the action to be taken in such circumstances.*

v) *Comment on any other pertinent aspect of the management plan.*

ICES response

ICES held a Workshop on Herring Management Plans (WKHMP) in February 2008 (ICES CM 2008/ACOM:27).

The simulations show that the performance of the current harvest rule is no longer precautionary in the present situation of reduced recruitment. A further reduction in recruitment, higher overfishing, or less reliable assessments will all lead to a risk of SSB falling below B_{lim} , which is incompatible with the precautionary approach. Therefore, ICES considers that the fishing mortality rate resulting from the current rule is too high and recommends that the rule be revised. The required reduction can be obtained by changing the rule in one of three options:

1. by directly reducing the target F_{2-6} from 0.25 to 0.20 and F_{0-1} from 0.12 to 0.05;
2. by increasing the trigger point from 1.3 Mt to 1.5 Mt and reducing F_{0-1} from 0.12 to 0.05;
3. by reducing the fishing mortality on juveniles to 0.

Below the trigger biomass, the three options use the same declining rate of fishing mortality as in the agreed EU-Norway management plan.

The first two options are indistinguishable for advice when SSB is below 1.3Mt.

The element of the rule constraining the inter-annual variation in TACs appears to work under the assumptions of continued low recruitment, once the TAC has already been substantially reduced so that the fishery is already operating at a low exploitation rate. Currently this is the case. Therefore ICES considers that a 15% permitted change in TAC is currently within the acceptable precautionary range. However, ICES considers the 15% rule is not sufficiently flexible under conditions of sudden environmental change causing changes in productivity. Under such circumstances this TAC constraint rule may need to be suspended.

ICES did not consider the application of limits on variation in the TAC for herring bycatches in the North Sea.

The 2008 ICES assessment shows that there is still reduced recruitment, and it is likely that the recruitment is as low as in the late 1970s. This suggests that the equilibrium biomass under the proposed management rule may in fact be slightly lower than the 1.1Mt estimated by the study group and may give an equilibrium SSB of approximately 950,000 tonnes. This estimate is based on only six years of data from the current productivity regime. In view of the poor understanding of the reasons for the reduced recruitment, the future consequences for the stock are unknown if the stock is maintained too close to, or falls below, B_{lim} . On these grounds, ICES considers the current management plan no longer precautionary and recommends a revision of the management rule based on the options above.

Annex 2 – Pelagic RAC recommendation on management of the NS herring stock

Pelagic RAC recommendations

Having considered the ICES Working Group report on the long term management plan for this stock, in which ICES proposes three options for amendment of the management plan in order to make it precautionary, the Pelagic RAC recommends that:

The Commission will seek an amendment to the management plan by following option two suggested by ICES in their report, i.e. to:

- » accept the proposed new HCR which incorporates:
 - › an increased SSB trigger point of 1.5 Mt;
 - › a target F_{2-6} of 0.25 above the trigger;
 - › a target F_{0-1} of 0.05 and;
 - › a 15% limit on IAV in TAC.

Furthermore, in accordance with this option for amendment of the management plan the TAC for 2009 should be set in line with the ICES advice, i.e. incorporating a decrease of 15%.

Annex 3 – Outcome of 2008 EU-Norway Agreement

Annex IV of the 2009 EU-Norway Agreement - Long-Term Management Plan for Herring of North Sea Origin and Allocation of Catches

The Parties agreed to continue to implement the management system for North Sea herring, which entered into force on 1 January 1998 and which is consistent with a precautionary approach and designed to ensure a rational exploitation pattern and provide for stable and high yields. This system consists of the following:

1. Every effort shall be made to maintain a minimum level of Spawning Stock Biomass (SSB) greater than 800,000 tonnes (B_{lim}).
2. Where the SSB is estimated to be above 1.5 million tonnes the Parties agree to set quotas for the directed fishery and for bycatches in other fisheries, reflecting a fishing mortality rate of no more than 0.25 for 2 ringers and older and no more than 0.05 for 0 - 1 ringers.
3. Where the SSB is estimated to be below 1.5 million tonnes but above 800,000 tonnes, the Parties agree to set quotas for the direct fishery and for bycatches in other fisheries, reflecting a fishing mortality rate on 2 ringers and older equal to:
 - » $0.25 - (0.15 * (1,500,000 - SSB) / 700,000)$ for 2 ringers and older; and
 - » no more than 0.05 for 0 - 1 ringers.
4. Where the SSB is estimated to be below 800,000 tonnes the Parties agree to set quotas for the directed fishery and for bycatches in other fisheries, reflecting a fishing mortality rate of less than 0.1 for 2 ringers and older and of less than 0.04 for 0-1 ringers.
5. Where the rules in paragraphs 2 and 3 would lead to a TAC which deviates by more than 15 % from the TAC of the preceding year the parties shall fix a TAC that is no more than 15 % greater or 15 % less than the TAC of the preceding year.
6. Notwithstanding paragraph 5 the Parties may, where considered appropriate, reduce the TAC by more than 15% compared to the TAC of the preceding year.
7. Bycatches of herring may only be landed in ports where adequate sampling schemes to effectively monitor the landings have been set up. All catches landed shall be deducted from the respective quotas set, and the fisheries shall be stopped immediately in the event that the quotas are exhausted.
8. The allocation of the TAC for the directed fishery for herring shall be 29% to Norway and 71% to the Community. The bycatch quota for herring shall be allocated to the Community.
9. A review of this arrangement shall take place no later than 31 December 2011.
10. This arrangement enters into force on 1 January 2009.