



**Surveillance Report
PFA North Sea Herring Fishery**

Certificate No.: MML-FC-011

Moody Marine Ltd.
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1.0 GENERAL INFORMATION

Scope against which the surveillance is undertaken: MSC Principles and Criteria for Sustainable Fishing as applied to the PFA North Sea Herring Fishery

Species: Herring (*Clupea harengus*)

Area: North Sea and Eastern English Channel (ICES Divisions IV and VIIId), within EEZ's of the EU and Norway

Method of capture: Pelagic trawl fishery

Date of Surveillance Visit:	12-13 December 2006			
Initial Certification	Date: 8 May 2006		Certificate Ref: MM-FC-011	
Surveillance stage	1st	2nd	3rd	4th
Surveillance team:	Lead Assessor: Andrew Hough Assessor(s): J Nichols			
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2.0 RESULTS, CONCLUSIONS AND RECOMMENDATIONS

This report contains the findings of the first surveillance cycle in relation to this fishery. This report concentrates on two factors; firstly the status of the stock which has suffered poor recruitment for the past four years, and secondly the compliance of PFA with the Conditions of Certification set out in the original certification report. As conditions are closed out (i.e. actions are completed), the assessment focus will concentrate more and more on the overall ongoing operation of the fishery in relation to the MSC Principles and Criteria.

Information has been collected principally from various ICES reports, consultations with PFA and consultations with IMARES (formerly RIVO) and the North Sea Foundation.

The PFA response to Conditions of Certification is set out in the PFA Action Plan and this has been reproduced below as appropriate. For each condition, the report sets out progress to date. This progress has now been evaluated by the Moody Marine assessment team ('Observations' and 'Conclusion') against the commitments made in the Action Plan. The effects of any overall legislative and management changes in the fishery are also taken into consideration.

Item	Comments
1	Condition of Certification 1: Communication with Management and Research Organisations
Activity assessed	<p>The evaluation concluded that the majority of fishery-related mortality on the target stock is recorded or well estimated. However, PFA are in a position to further assist the stock assessment process by providing specific and accurate data to fishery managers and scientists.</p> <p>Accordingly, PFA shall make available, to <i>bona fide</i> National management and scientific bodies within each country that the PFA Group operate from, all VMS, logbook, or other information relating to the fishery, that would reasonably be requested for management or research purposes. As part of the ongoing surveillance programme for certified fisheries (required for maintenance of certification), any organisation denied access to such information is invited to report this matter to Moody Marine.</p> <p>Timescale: This requirement would apply to all information gathered from the date of certification. Liaison with relevant organisations to establish procedures for transfer of information should be implemented immediately upon certification.</p> <p>Relevant Scoring Indicators: 1.1.2.1, 3B.6.1</p>
PFA Action Plan	The PFA will fulfil this requirement. Requests of bona fide national management and scientific bodies have to be sent (in written form) to the secretariat of the PFA. The PFA will keep a file of all requests and responses.
Observations	<p>This condition requires PFA to respond appropriately to bona fide requests for information.</p> <p>Current information is that, to date, very few requests have been received. These appear limited to:</p> <ul style="list-style-type: none"> a) a request from IMARES (Netherlands) for VMS position data for the PFA fleet, to be used in a study of fleet versus stock dynamics. It is understood that this data is to be provided and that negotiations are taking place with national control agencies to ascertain means of retrieval. However, there does seem to be some delay in providing this information. b) It is understood that a voluntary agreement has been reached between the relevant Government department (DEFRA and SEERAD) and the UK industry, including UK PFA companies, to supply position and catch data on a daily basis.
Conclusion	<p>The delay in the supply of VMS data to IMARES is of potential concern and PFA should expedite the provision of the information requested.</p> <p>Conversely, the voluntary supply of data within the UK is seen as a very positive development.</p> <p>There does not, however, appear to have been clear liaison with relevant organisations making clear PFA's willingness to provide such information.</p> <p>This condition has been only partially met to date. Accordingly, this condition is partly behind target and full compliance should be actioned forthwith. The change in the General Secretary of the PFA, with Gerard van Balsfoort starting in April 2006 and not formally taking up the position until August 2006 is seen as a valid contributing factor in this delay.</p> <p>Nevertheless, communication with relevant agencies and provision of data within reasonable timeframes must now be undertaken immediately and will re-evaluated in an expedited audit. As detailed below, this is currently planned for June 2007.</p>

Item	Comments
2	Condition of Certification 2: Use of Observers on PFA Vessels
Activity assessed	<p>It is noted that PFA have in the past variously provided access to their vessels to independent scientific observers and for on-board catch-sampling opportunities, which is to be commended. Such use of observers is a valuable source of information for management and scientific purposes.</p> <p>PFA shall therefore liaise with <i>bona fide</i> scientific bodies, within each country that the PFA Group operates from, to maximise the access to PFA vessels participating in this fishery for observers and/or to maximise the availability of catch sample information. As a part of the ongoing surveillance programme for certified fisheries (required for maintenance of certification), any organisation denied a reasonable request to place a scientific observer on board or for onboard sampling, is invited to report this matter to Moody Marine.</p> <p>Timescale: This requirement would apply to all PFA Group sailings from the date of certification. Liaison with interested organisations to establish their requirements for observers/samples and to make appropriate provision of access to vessels should begin immediately upon certification.</p> <p>Relevant Scoring Indicators: 1.1.2.1, 2.1.2.2, 3B.6.1</p>
PFA Action Plan	<p>A scientific observer scheme is part of different EU-regulations (regulation on deep sea fishing, protection of cetaceans regulation and data collection regulation). PFA requests that the activities of the observer in order to meet this condition are as much as possible combined with observer-activities in the framework of these and (possible new) EU-regulations that involve observer schemes. Requests to place a scientific observer on board has to be sent (in written form) to the secretariat of the PFA.</p>
Observations	<p>Observers have been present on PFA Dutch and German vessels throughout 2006, as shown in Table 1. These have recorded, among other items, catches and any discarding and have sampled catches for weight at age recording etc.</p>
Conclusion	<p>This condition appears to be on target, but shall be subject to further monitoring in combination with Condition 1 before final review.</p>

Table 1. PFA summary information

PFA member company	initial quota HER/4AB 2006	initial quota HER/4Cxb7 D 2006	net result swaps 2006 HER/4AB	net result swaps 2006 HER4C/7 D	landings 2006	observer presence
Jaczon BV	20,985	8,274	-1,165	515	19,697	-
Parlevliet & Van der Plas BV	11,389	3,398	-3,462	-212	10,779	-
Cornelis Vrolijk's Visserij Maatschappij BV	9,065	2,810	1,076	121	13,032	1 trip
W. van der Zwan & Zn. BV	14,256	4,124	517	-80	18,323	-
Interfish Ltd	3,811	343	921	388	5,406	-
North Atlantic Fishing Company Ltd	7,827	4,476	4,506	150	16,697	1 trip
France Pélagique s.a.r.l.	22,769	7,668	0	0	30,315	-
Doggerbank Seefischerei GmbH	47,506	682	-33,115	7,245	21,932	2 trips
UAB Atlantic High Seas Fishing Company	0	0	0	0	0	-

Current PFA Vessels are listed below:

SCH 6 Alida
 SCH 303 Ariadne
 SCH 333 Oceaan VII
 FC 630 Scombrus
 FC-900 Prins Bernhard
 H-90 Atl. Princess
 H-171 Cornelis Vrolijk
 SCH-72 Frank Bonefaas
 ROS 785 Helen-Mary
 ROS 784 Dirk-Dirk
 ROS 170 Annie-Hillina
 BX 783 Jan-Maria
 KW 171 Maartje Theadora
 KW 172 Dirk-Diederik
 KL 749 Margiris
 FC 716999 Sandettie
 SCH 24 Afrika
 SCH 118 Johanna Maria
 SCH 123 Zeeland
 PH 110 Wiron 1
 PH 220 Wiron 2
 SCH 22 Wiron 5
 SCH 23 Wiron 6

Item	Comments
3	Condition of Certification 3: Recording of incidental sources of mortality in the herring-directed fishery
Activity assessed	<p>The majority of fishery-related mortality on the target stock is recorded or well estimated, and the conditions above would increase the accuracy of any estimates. Nevertheless, there are additional sources of fishery-related mortality for which further, more comprehensive, recording is required. PFA are in a position to assist the stock assessment process by providing specific and accurate data to fishery managers.</p> <p>Additional sources of such potential mortality identified during this assessment are:</p> <ul style="list-style-type: none"> • Slippage of herring from nets prior to pumping on-board • Accidental damage to nets causing release of catch, again prior to pumping • Post-harvest discard of catch, for example following accidental breakdown of systems on-board vessels etc (e.g. breakdown of refrigerated seawater systems). <p>It is acknowledged that many within the industry consider that release prior to pumping on board does not represent a source of mortality. Evidence, however, suggests that all or a significant proportion of these fish may subsequently die. Knowledge of the extent of this problem is therefore considered necessary</p> <p>PFA should therefore record such losses as mortality or, to demonstrate the level of mortality occurring in relevant circumstances, PFA may wish to carry out or commission supplementary research which demonstrates the degree of survival of herring post capture and towing in trawl gear in circumstances typical of their normal fishing operations. Estimates of mortality can then be reviewed accordingly.</p> <p>It is therefore required that PFA record and report to National management and scientific bodies within each country that the PFA Group operate from all such instances of potential mortality with best estimates of the quantities involved. Under current CFP rules, such reporting of potential mortality would not count against quota allocations, but would be an area of monitoring of environmental performance. This information would, however, be available to stock assessment scientists.</p> <p>Timescale: Recording of such incidental mortality should occur immediately from the time of certification.</p> <p>Relevant Scoring Indicators: 1.1.2.1, 3B.6.1</p>
PFA Action Plan	PFA will make a written instruction for the skippers. In this instruction skippers are required to fill in part sixteen (16) of the EU-logbook to record incidental mortality in the herring-directed fishery.
Observations	An appropriate instruction to fishing companies and skippers has been issued by PFA. However, this was not released until September 2006, by which time many PFA companies had completed their fishing quotas. Verification of data was not, therefore, possible during the present audit.
Conclusion	Compliance with the Action Plan was behind target and conformance with the PFA instruction was not measurable during the present audit. Data on compliance with this instruction shall be collated by PFA and this issue will now be followed-up during an expedited audit in combination with Condition 1.

Item	Comments
4	Condition of Certification 4: Compliance with PFA Policies
Activity assessed	<p>The PFA has voluntarily implemented a number of policies to promote sustainable fishing in their fleet. These policies, whilst a significant step within themselves, now need to be supported by procedures to formally measure the performance of skippers against relevant policies (including, but not limited to, the following):</p> <ul style="list-style-type: none"> • limit discards to a minimum; • member ships of the PFA are not permitted to deliberately discard marketable fish to make room for fish of a higher commercial value that are caught later ('highgrading'); • make information about the fishing activities available to interested organisations; • take initiatives (or supports initiatives) for activities that lead to adequate measures to counter by-catches and discards; • through the application of modern technology, to further reduce the occurrence of by-catches and discards. <p>The PFA should also describe appropriate sanctions in the event of breach of these procedures.</p> <p>The internal measurement of environmental performance within the PFA will be considered by Moody Marine (during annual surveillance audits) in combination with feedback from other organisations, particularly management and research bodies, in relation to other conditions identified here.</p> <p>Timescale: The implementation of procedures to enforce PFA policies should be initiated upon certification and completed within 18 months of certification.</p> <p>Relevant Scoring Indicators: 1.1.2.1, 2.1.2.2, 3B.6.1</p>
PFA Action Plan	PFA will work out a set of procedures in combination with sanctions in the event of breach of the procedures concerned. This procedure will be initiated in the next PFA meeting, which will be held late 2005. The draft procedures will be discussed with Moody Marine. Procedures will be implemented at the 2007 fishing season at the latest.
Observations	The development of procedures, and effective means of communicating and ensuring compliance has not yet been undertaken by PFA. However, changes in personnel can be accepted as partial explanation for this delay.
Conclusion	Compliance with the Action Plan is behind target. Appropriate development of procedures should be begun immediately by PFA and this issue will now be followed-up during the expedited audit.

Item	Comments
5	Condition of Certification 5: Recording of incidental mortality of herring in other North Sea pelagic fisheries
Activity assessed	<p>There is recent evidence that herring may constitute a significant by-catch element of other pelagic fisheries, notably the mackerel fishery. To inform the stock assessment process, PFA should therefore record and report, to <i>bona fide</i> National management and scientific bodies within each country that the PFA Group operate from, the extent of herring by-catch within their mackerel fishery. Catches would either be set against quota (which would be reported under existing systems) or may, under law, be discarded once quota is exhausted.</p> <p>Information on the efficacy of measures employed by PFA to avoid by-catch of herring in their North Sea mackerel fishery (such as the three-frequency echosounder/sonar systems) should be made available to stock assessment and regulatory bodies.</p> <p>Timescale: Procedures to achieve this should be implemented immediately upon certification.</p> <p>Relevant Scoring Indicators: 1.1.2.5, 3B.6.1</p>
PFA Action Plan	PFA will make a written instruction for the skippers. In this instruction skippers are required to fill in part sixteen (16) of the EU-logbook to record incidental mortality of herring in other North Sea pelagic fisheries. Moreover, the PFA initiate scientific research projects aimed at to differentiate between the different pelagic fish species (so called Twinson project). The PFA is also investigating the potential possibility to initiate an echosounder project.
Observations	<p>An appropriate instruction to fishing companies and skippers has been issued by PFA. However, this was not released until September 2006, by which time many PFA companies had completed their fishing quotas. Verification of data was not, therefore, possible during the present audit.</p> <p>However, PFA have installed new multi-frequency sonar on most vessels in the fleet, allowing more accurate targeting of shoals and so reducing unintended capture. PFA are also participating in multinational research projects in this regard. Measures to avoid unintentional capture of herring are therefore considered appropriate.</p>
Conclusion	Compliance with the recording of incidental catches of herring element of the Action Plan was behind target and conformance with the PFA instruction was not measurable during the present audit. Data on compliance with this instruction shall be collated by PFA and this issue will now be followed-up during an expedited audit in combination with Condition 1.

Item	Comments
6	Condition of Certification 6: Ensuring the accuracy of area reporting information
Activity assessed	<p>Within the fishery as a whole, misreporting of the area of capture has been a persistent problem. This is estimated within the stock assessment process (see Indicator 1.1.2.6) at a level considered satisfactory. However, this practice does constitute an area of uncertainty in the stock assessment.</p> <p>It was noted during the assessment that the members of the PFA receive from their vessels regular reporting of catches and points of capture (at least twice weekly). This information should be made available to management and research bodies, on request, in line with the requirements of Condition 1.</p> <p>Timescale: This requirement would apply to all information gathered from the date of certification. Liaison with relevant organisations to establish procedures for transfer of information should be implemented immediately upon certification.</p> <p>Relevant Scoring Indicators: 1.1.2.1, 3B.6.1</p>
PFA Action Plan	<p>The PFA will fulfil this requirement. This information will include the catch and position of catches of each day. Requests of bona fide national management and scientific bodies have to be sent (in written form) to the secretariat of the PFA. The PFA will keep a file of all requests and responses. The PFA would consider taking part in trials with electronic logbooks. This information would then also be made available.</p>
Observations	<p>To date, it is understood that the only request for such data has been the voluntary agreement by the UK fleet (including PFA members) to provide daily reports to UK authorities (DEFRA/SEERAD) on catches, position and the quantity of fish frozen (available, of course in combination with VMS data). Data for German vessels is understood to be available now on request.</p>
Conclusion	<p>This condition appears to have been complied with on target, but shall be subject to further monitoring in combination with Condition 1 before final review.</p>

Item	Comments
7	Condition of Certification 7: Recording of interactions with rare, protected or threatened species
Activity assessed	<p>It is acknowledged during the assessment that interactions of these species with this fishery are very uncommon. Due to the acknowledged rare occurrence of such interactions, these have not been quantified in this fishery.</p> <p>In order to provide reassurance and information, any interactions of the fishery with any rare, protected or threatened species (cetaceans, seabirds, seals, elasmobranches, turtles etc) should be recorded and the effects on the animals concerned described. Recording of such interaction by observers should also be encouraged in line with Condition 2.</p> <p>Timescale: Procedures to achieve this should be implemented immediately upon certification.</p> <p>Relevant Scoring Indicators: 2.2.1.2, 3B.6.1</p>
PFA Action Plan	PFA will make a written instruction for the skippers. In this instruction skippers are required to fill in (record and describe the effects on the animals concerned) the form designed by the PFA.
Observations	<p>An appropriate instruction to fishing companies and skippers has been issued by PFA, together with an appropriate form for the recording of any such interactions. It may require clarification with skippers, however, that any animals caught (and not only those landed) should be recorded. Collated information on any interactions is to be provided on an annual basis by the PFA secretariat.</p> <p>However, the instruction and form were not released until September 2006, by which time many PFA companies had completed their fishing quotas. Verification of data was not, therefore, possible during the present audit.</p>
Conclusion	Compliance with the recording of incidental catches of rare, protected or threatened species was behind target. Data on compliance with this instruction shall be collated by PFA and this issue will now be followed-up during an expedited audit in combination with Condition 1.

Item	Comments
8	Status of stock
Observations	<p>The most recent assessment of the stock in March 2006 indicated a SSB at spawning time in 2005 of 1.69million tonnes. However there has been a succession of four below average year classes following a large year class in 2000. Early indications are that the 2005 year class is also below average.</p> <p>The reasons for this succession of poor recruitment cannot currently be explained. However it is the undisputed opinion of both scientists and the fishing industry that the phenomenon is not related to fishing activities, but that it is environmentally driven. Both sandeel and Norway pout have also suffered from recruitment failure in the North Sea in recent years whilst further north the Norwegian Spring spawning stock has enjoyed a succession of strong year classes.</p> <p>Annual scientific surveys have shown that North Sea herring larval production has been good, indicating that the spawning has been satisfactory and that there are no issues of egg quality or destruction of spawn on the sea bed. This suggests that the factors which are generating poor recruitment are occurring in the larval phase well after hatching.</p> <p>The possible causes of poor recruitment are numerous and may be acting together in a complex manner. Many decades of research have shown that these mechanisms are extremely difficult to understand and almost impossible to predict or quantify.</p> <p>Some of the possible causes of poor recruitment in North Sea herring are listed below, but it must be emphasised that the list is not exhaustive and that the true cause may never be known.</p> <ul style="list-style-type: none"> • Density dependant factors such as high SSB leading to poor larval survival through cannibalism and / or competition for food. (<i>This type of stock and recruitment relationship is known for some species but it is also noted that herring have produced large year classes at high SSB levels in the past, including the 2000 year class</i>). • Changes in the composition of the plankton leading to a poor supply of suitable food items at key life history stages. (<i>It is known that there has been a gradual change, over the past decade, to more southerly species of plankton occurring in the North Sea, but again, there has not been a gradual corresponding change in recruitment</i>) • Subtle changes in the physical processes in the North Sea leading to possible changes in speed and direction of residual currents affecting natatory drift to suitable nursery areas. • Anthropogenic factors such as gravel dredging which could reduce the areas of suitable substrate on which herring depend for spawning. <p>Many of these have already been initially examined by ICES and will be the subject of further investigation by a special ICES Study Group (the Study Group on Recruitment Variability in North Sea Planktivorous Fish - SGREPVAP) early in 2007.</p> <p>The assessment in 2006</p> <p>Catches in the North Sea human consumption fishery (fleet A) in 2005 were 617,000t which was an overshoot of the TAC by 83,000t. Comparable figures for the previous year were a catch of 537,000t, an overshoot of 77,000t. Most of this excess is now taken in Divisions IVa and IVb. In the past much of the excess catch was taken from Divisions IVc/VIIId but since the introduction of a sub-TAC for this area the situation has dramatically improved and now the catch and TAC there are comparable.</p> <p>This increasing trend is fuelled by the increase in misreported catches mainly from Divisions IVa and IVb into IIa, IIIa and VIa North. Total misreported catches in 2005 was estimated at 79,000t compared with 57,000t in the previous year. Strong enforcement measures have now been applied which (it is to be hoped) will improve compliance and should considerably reduce this problem in the 2006 fishery with a consequent reduction in F.</p> <p>Herring by-catches, mainly from the Danish small meshed fishery for sprat in the North Sea increased in 2005 to 21,800t but were still well below the by-catch ceiling of 50,000t</p>

	<p>The TAC of 535,000t for 2005 included a sub-TAC of 74,293t for Divisions IVc/VIIId. For 2006 the TAC was reduced by 15% in accordance with the EU / Norway agreement and the constraints of the harvest control rules (para. 5). The final TAC was 454,751t including a sub-TAC of 50,023t i.e.11% of the total TAC. The by-catch ceiling for other fisheries which take herring as a by-catch in the North Sea (fleet B) was also reduced by 15% to 42,500t.</p> <p>The fishing mortality for 2005 on adults (2-6wr) increased to $F=0.35$ compared with an $F=0.27$ in 2004. Fishing mortality on the juveniles (0-1wr) also increased to $F 0.08$ from 0.06 in the previous year.</p> <p>The estimated SSB for 2005 from the assessment (1.69mt) was 7% lower than the predicted value of 1.82mt. This has been affected by the slow growth rate of the very large 2000 year class, resulting in a lower % mature at age. This year class has now fully matured about 1 year later than the long term average. It is noted that this low growth rate has contributed to the current lower than predicted SSB. Retrospective analysis shows a similar trend for the 2004 SSB which was predicted at 1.89mt in 2005 and is now estimated at 1.81mt.</p> <p>The succession of below average year classes, since the good recruitment from the spawning in 2000, is a cause for considerable concern. This recent trend appears likely to continue with the 2005 year class, in spite of the adult stock currently being at full reproductive capacity. This situation is considered to be unusual and managers were advised to take this into consideration in their advice for 2007 in particular in relation to paragraph 5 of the EU Norway agreement which protects the TAC from falling by more than 15% in any one year.</p> <p>The EU Norway agreement for the management of North Sea autumn spawning herring (below) embraces all the aspects of the Precautionary Approach and in particular the provision in rule 6 to permit managers to reduce the TAC by more than 15% when appropriate.</p> <p><i>1. Every effort shall be made to maintain a level of Spawning Stock Biomass (SSB) greater than the 800,000 tonnes (Blim).</i></p> <p><i>2. Where the SSB is estimated to be above 1.3 million tonnes the Parties agree to set quotas for the directed fishery and for by-catches in other fisheries, reflecting a fishing mortality rate of no more than 0.25 for 2 ringers and older and no more than 0.12 for 0-1 ringers.</i></p> <p><i>3. Where the SSB is estimated to be below 1.3 million tonnes but above 800,000 tonnes, the Parties agree to set quotas for the direct fishery and for by-catches in other fisheries, reflecting a fishing mortality rate equal to: $0.25(0.15*(1,300,000SSB)/500,000)$ for 2 ringers and older, and $0.12 (0.08*(1,300,000-SSB)/500,000)$ for 0-1 ringers.</i></p> <p><i>4. Where the SSB is estimated to be below 800,000 tonnes the Parties agree to set quotas for the directed fishery and for by-catches in other fisheries, reflecting a fishing mortality rate of less than 0.1 for 2 ringers and older and less than 0.04 for 0-1 ringers.</i></p> <p><i>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.</i></p> <p><i>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.</i></p> <p><i>7. By-catches 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.</i></p> <p><i>8. The allocation of TAC for the directed fishery for herring shall be 29% to Norway and 71% to the Community. The by-catch quota for herring shall be allocated to the Community.</i></p>
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	<p>9. A review of this arrangement shall take place no later than 31 December 2007 .</p> <p>ACFM advice</p> <p>With continuing low recruitment, SSB is likely to fluctuate around 1.3mt but only if Fishing mortality is maintained at or below the agreed rate of F=0.25 adults and F=0.12 for juveniles. To ensure a 95% probability of SSB remaining above 1.3mt F will have to decrease to 0.17 for adults and to <0.05 for juveniles.</p> <p>The advice for 2007 is based on a series of five options only three of which aim to return SSB to above a B_{pa} of 1.3mt in the following year. Options 2 to 4 include the effect of reducing the juvenile fishing mortality in the small mesh fisheries (herring by-catch) in the North Sea and increasing it in the Skagerrak and Kattegat. Option 5 is based on restricting the reduction in the TAC for fleet A to 15% (rule 5)</p> <table border="1" data-bbox="496 611 1284 898"> <thead> <tr> <th>Option</th> <th>F adult</th> <th>F juv</th> <th>Catch fleet A</th> <th>Catch fleet B</th> <th>SSB 2007</th> <th>SSB 2008</th> <th>fleet A TAC reduction</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0.147</td> <td>0.063</td> <td>177,500t</td> <td>13,400t</td> <td>1.301mt</td> <td>1.51mt</td> <td>- 61%</td> </tr> <tr> <td>2</td> <td>0.2</td> <td>0.05</td> <td>242,200t</td> <td>9,100t</td> <td>1.253mt</td> <td>1.390mt</td> <td>- 47%</td> </tr> <tr> <td>2</td> <td>0.2</td> <td>0.05</td> <td>231,100t</td> <td>5,300t*</td> <td>1.256mt</td> <td>1.393mt</td> <td>- 49%</td> </tr> <tr> <td>3</td> <td>0.25</td> <td>0.05</td> <td>300,300</td> <td>8,900</td> <td>1.209mt</td> <td>1.286mt</td> <td>- 34%</td> </tr> <tr> <td>3</td> <td>0.25</td> <td>0.05</td> <td>289,600</td> <td>5,100*</td> <td>1.212mt</td> <td>1.288mt</td> <td>- 36%</td> </tr> <tr> <td>4</td> <td>0.25</td> <td>0.12</td> <td>300,000</td> <td>31,500</td> <td>1.209mt</td> <td>1.271mt</td> <td>-34%</td> </tr> <tr> <td>4</td> <td>0.25</td> <td>0.12</td> <td>289,100</td> <td>27,800*</td> <td>1.212mt</td> <td>1.274mt</td> <td>-36%</td> </tr> <tr> <td>5</td> <td>0.331</td> <td>0.065</td> <td>387,800</td> <td>13,400</td> <td>1.141mt</td> <td>1.134mt</td> <td>- 15%</td> </tr> <tr> <td>5</td> <td>0.341</td> <td>0.137</td> <td>387,900</td> <td>32,600</td> <td>1.135mt</td> <td>1.102mt</td> <td>- 15%</td> </tr> </tbody> </table> <p>* reduced F in fleet B but increased in fleets C and D in the Skagerrak and Kattegat</p> <p>All prediction are based on average recruitment over the recent poor years only, a precautionary approach to projected stock status that is supported by the industry through the Pelagic Regional Advisory Council (PRAC)</p>	Option	F adult	F juv	Catch fleet A	Catch fleet B	SSB 2007	SSB 2008	fleet A TAC reduction	1	0.147	0.063	177,500t	13,400t	1.301mt	1.51mt	- 61%	2	0.2	0.05	242,200t	9,100t	1.253mt	1.390mt	- 47%	2	0.2	0.05	231,100t	5,300t*	1.256mt	1.393mt	- 49%	3	0.25	0.05	300,300	8,900	1.209mt	1.286mt	- 34%	3	0.25	0.05	289,600	5,100*	1.212mt	1.288mt	- 36%	4	0.25	0.12	300,000	31,500	1.209mt	1.271mt	-34%	4	0.25	0.12	289,100	27,800*	1.212mt	1.274mt	-36%	5	0.331	0.065	387,800	13,400	1.141mt	1.134mt	- 15%	5	0.341	0.137	387,900	32,600	1.135mt	1.102mt	- 15%
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<p>Conclusion</p>	<p>Quite clearly a precautionary approach needs to be followed. This needs to be backed by rigorous enforcement measures to address misreporting and under-reporting. For the PFA component of the fleet, this need is also to be met through the meeting of conditions outlined above.</p> <p>There is a clear need to try to understand the reasons behind the current succession of poor year classes. In this context ICES, supported by recommendations of the RAC, are active in promoting relevant investigations.</p> <p>It is accepted that the poor recruitment in herring is not the result of fishing activities and that it is unlikely to be the result of any other anthropogenic influences.</p> <p>It should be noted that the industry, through the PRAC have fully supported a conservative approach to future assumptions about stock status and accept, that for the time being, predictions must be based on the likelihood of continuing poor recruitment.</p> <p>See item 9 below</p>																																																																																

Item	Comments
<p data-bbox="284 216 483 243">9</p> <p data-bbox="284 247 483 275">Observations</p>	<p data-bbox="492 216 1458 243">Management responses to changes in stock status</p> <p data-bbox="492 247 1458 359">As described above, the current projections for the stock are that, with continued poor recruitment, the SSB will fall below B_{pa} in 2007. When last assessed in March 2006 the SSB at spawning time in 2005 was well above B_{pa} at 1.69mt and was projected to be <u>at</u> B_{pa} at spawning time in 2006 (the time of the present audit).</p> <p data-bbox="492 390 1458 470">If rule 5 of the EU / Norway agreement, which prevents the TAC from falling by more than 15% in any one year is followed then there is a high probability of the stock falling below B_{lim} of 800,000t in the medium term. Such an approach could not be considered precautionary.</p> <p data-bbox="492 506 1458 585">The recommendation of the ICES ACFM was for a 47% reduction in the TAC for fleet A which would return SSB to above B_{pa} in 2008 – an immediate (within-year) return to levels over the ‘Precautionary Reference Point’ of B_{pa}.</p> <p data-bbox="492 621 1458 814">Regional Advisory Councils (RAC’s) have been established to, amongst other remits, give all stakeholders an opportunity for an input to the discussions on the scientific advice for a fishery. Through discussions within the Pelagic RAC the PFA have played an active role in putting forward the industry’s case for a less swingeing cut, in the TAC for 2007, than the 47% proposed by ICES. In doing so, the PFA have always recognised the current recruitment problem and have put forward their own suggestions as reasons for this poor recruitment for ICES to consider.</p> <p data-bbox="492 850 1458 930">The PRAC have also requested of ICES an exploration of alternative scenarios with cuts in the TAC of over 15% but below 47%. These were then considered by the PRAC in terms of both biological effects and socio-economic consequences on industry.</p> <p data-bbox="492 966 1458 1100">As a result of the discussions within the PRAC there was a majority decision to advise a 25% cut in the quota for 2007 to 341,063 tonnes. Two members of the PRAC (WWF and North Sea Foundation) tabled an alternative cut of 35%. The 25% cut was agreed in the EU/ Norway negotiations. A TAC for North Sea herring of 341,063 tonnes for 2007 has now been agreed by the Council of Ministers of the EU.</p>
<p data-bbox="284 1134 483 1161">Conclusion</p>	<p data-bbox="492 1134 1458 1268">It is noted that when last assessed in March 2006 the spawning stock remained well above the biomass precautionary limit of 1.3 million tonnes and was predicted to be <u>at</u> B_{pa} in autumn 2006, the time of the present audit. In terms of the Performance Indicators and Scoring Guideposts used in the original assessment of this fishery (notably Performance Indicator 1.1.6.1), the fishery therefore still achieves a level of 80.</p> <p data-bbox="492 1304 1458 1497">However, based on the current poor recruitment continuing into the future (a precautionary projection), the spawning stock is predicted to decline further. The EU / Norway agreement on the management of the North Sea herring stock allows for a precautionary framework to prevent future catastrophic declines such as that seen in the 1970’s and again in 1995. The adoption of a 25% cut in TAC, and exceedance of the 15% limit on reduction in the TAC, while implementing a <u>more</u> precautionary approach, is recognised as not being as precautionary as that proposed by ICES.</p> <p data-bbox="492 1533 1458 1667">The North Sea herring stock will next be assessed by the ICES Working Group in March 2007 and the ICES ACFM advice for 2008 will be promulgated in May 2007. This timeframe will give stakeholders an opportunity for discussion on how to react to the latest assessment. It also provides management with the opportunity to act quickly to prevent any catastrophic decline in the SSB</p> <p data-bbox="492 1703 1458 1814">The future status of the stock is a clear concern to industry, scientists and managers. The status of the stock, management responses to change in the stock, and the influence on management of PRAC/PFA recommendations are also of critical significance to ongoing MSC certification of the PFA North Sea Herring Fishery.</p> <p data-bbox="492 1850 1458 1900">As discussed above, a lack of progress in meeting certain of the Conditions of Certification means that an expedited audit of the fishery is required. In light of the urgent need to review</p>

	<p>the next (latest) stock assessment outputs, this additional audit shall also be used to evaluate:</p> <ul style="list-style-type: none"> • the latest assessment results (including 2006 recruitment indices) • ACFM advice • PFA's position in relation to the assessment results and ACFM advice <p>To allow the above management factors to be evaluated (these representing a potentially major change in the fishery), this expedited audit is planned to take place early in June 2007.</p> <p>If the 2007 stock assessment (to be evaluated in the expedited audit in June 2007) predicts the stock falling below Bpa (i.e. 2006 recruitment is again poor), then Moody Marine would need to carry out a limited assessment of Performance Indicators relating to stock status. This could lead to the requirement to raise further conditions of certification. Clearly, continuing poor recruitment will require further significant and precautionary reductions in the TAC, such as to allow the stock to be rebuilt to a specified level, consistent with the precautionary approach , and within a specified time frame, as required under MSC Principle 1, Criterion 2.</p>
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16	Any complaints against the certified operation; recorded, reviewed and actioned
	<p>The certified operation considered here is the PFA, comprising the companies listed in Table 1 above and the vessels listed.</p> <p>There were no reported incidents of any complaints against the PFA member companies relating to the scope of MSC certification.</p>

17	Any relevant changes to legislation or management regime.
	<p>Changes to Management Structure Since the initial assessment, Regional Advisory Councils have been established by the European Commission. The Regional Advisory Councils (RAC's) are one of the pillars of the 2002 revised Common Fisheries Policy (CFP). Their objectives are to work towards an integrated and sustainable management of fisheries resources based on the ecosystem approach and the precautionary principle. They aim to increase the participation of those most affected by the CFP and to achieve more regionally focussed fisheries management. They are led by stakeholders and include industry representatives, including fishermen, and other interested groups from relevant EU member states.</p> <p>The Pelagic RAC was formed on 16 August 2005 and is one of seven currently in operation. It covers North-western and South-western waters, the North Sea and the High seas / long distance fleet.</p> <p>Changes in Personnel As a mitigating factor in many of the above observations, it is acknowledged that the change in PFA General Secretary will have caused some delays in implementing the PFA Action Plan. The current General Secretary Gerard van Balsfoort does, however, share the commitment of the previous Secretary, Rob Banning to the MSC process.</p>
Observations	<p>The implementation of the RAC system within the CFP further meets MSC Criteria, notably relating to stakeholder consultation. This is generally seen as a positive development. No re-scoring of MSC assessment Performance Indicators is required, however.</p> <p>The change in the PFA General Secretary is noted above in relation to the PFA's delayed implementation of their Action Plan.</p> <p>Otherwise, no material changes in the management system, other than those recorded above (regarding stock status), are noted.</p>
Conclusion	No re-scoring of MSC assessment Performance Indicators is required in relation to changes to legislation or management regime.

18	<p>Overall Conclusions</p> <p>It is noted that when last assessed in March 2006 the spawning stock remained well above the biomass precautionary limit of 1.3 million tonnes and was predicted to be <u>at</u> Bpa in autumn 2006, the time of the present audit. Future stock status is dependent upon actual levels of recruitment in Autumn 2006. However, the status of the stock is predicted (on the basis of a relatively high degree of knowledge of the stock dynamics, recruitment and a well-tested assessment) to decline in the short to medium term <u>if</u> recent poor levels of recruitment continue. This potentially significant change in the status of the fishery, under MSC assessment methodologies, will require an expedited audit to evaluate the effects of such change on the certified status of the fishery. this additional audit shall be used to evaluate:</p> <ul style="list-style-type: none"> • the latest assessment results (including 2006 recruitment indices) • ACFM advice • PFA's position in relation to the assessment results and ACFM advice <p>To allow the above management factors to be evaluated (these representing a potentially major change in the fishery), this expedited audit is planned to take place early in June 2007.</p> <p>If the 2007 stock assessment (to be evaluated in the expedited audit in June 2007) predicts the stock falling below Bpa (i.e. 2006 recruitment is again poor), then Moody Marine would need to carry out a limited assessment of Performance Indicators relating to stock status. This could lead to the requirement to raise further conditions of certification. Clearly, continuing poor recruitment will require further significant and precautionary reductions in the TAC, such as to allow the stock to be rebuilt to a specified level, consistent with the precautionary approach, and within a specified time frame, as required under MSC Principle 1, Criterion 2.</p> <p>In addition, PFA have taken measures to address (at least in part) most, but not all, of the Conditions of Certification raised during the MSC certification assessment. Where the meeting of Conditions is behind schedule, these items will also be evaluated at the expedited audit.</p> <p>MSC Certification should therefore continue, at least until the time of the expedited audit. This additional audit is currently planned to take place in June 2007.</p>
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Information Sources:

Meetings

1. PFA. 12 December 2006.
2. IMARES. 13 December 2006.

Reports etc

1. ICES (2005b) Report of the Advisory Committee on Fishery Management ICES ACFM. Oct. 2005.
2. ICES (2006). Report of the Herring Assessment Working Group for the Area South of 62°N. ICES C.M.
3. ICES (2006) Report of the Advisory Committee on Fishery Management ICES ACFM: May 2006.
4. Pelagic Regional Advisory Council. Minutes 4/11/05; 13/2/06; 21/6/06; 3/11/06
5. Pelagic Regional Advisory Council. Recommendations. 17/11/06
6. North Sea Foundation letter to PFA, 3/7/06
7. Ad Corten. Memo to PFA on Safe Stock Levels for Herring, December 2006

Standards and Guidelines used:

1. MSC Principles and Criteria for Sustainable Fishing
2. MSC Fishery Certification Methodology Version 6. September 2006
3. TAB Directives - all