



**Surveillance Report  
Hastings Fleet Pelagic Fishery**

Certificate No.: MML-F-009

**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 Hastings Fleet Pelagic Fishery

**Species:** Herring (*Clupea harengus*) and Mackerel (*Scomber scombrus*)

**Area:** Within the Eastern English Channel (ICES Division VIIId) and specifically between Beachy Head and Dungeness and offshore to the six mile limit.

**Method of capture:** Fishing is undertaken by under 10m boats launched from the beach at Hastings ('Stade-launched boats'). Fishing for pelagic species (herring and mackerel) is at a relatively low level (around three to five vessels only) using drift nets.

<b>Date of Surveillance Visit:</b>	26 – 29 February 2008			
<b>Initial Certification</b>	<b>Date: 16 September 2005</b>		<b>Certificate Ref: MML-FC-009</b>	
<b>Surveillance stage</b>	1st	2nd	3rd	4th
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## 2.0 RESULTS, CONCLUSIONS AND RECOMMENDATIONS OF PREVIOUS AUDITS

This fishery was certified in September 2005. Following certification of the fishery, we are now continuing the process of annual surveillance audits of the fishery. These audits have two principal functions:

1. To review any changes in the management of the fishery, including regulations, key management or scientific staff, or stock evaluation
2. To evaluate the progress of the fishery against any Conditions of Certification raised during the Main Assessment

The first surveillance audit was carried out in November 2006. The client (HFMG) response to Conditions of Certification was set out in the client Action Plan and this has been reproduced below as appropriate. For each condition, the expedited report set out progress to date. This progress was evaluated by the Moody Marine assessment team ('Observations' and 'Conclusion') against the commitments made in the Action Plan. This evaluation includes a re-evaluation of the scoring allocated to the relevant Performance Indicators in the original MSC assessment. Where the requirements of a condition were met, the Performance Indicators were re-scored and if the score was 80 or more, then the condition was closed.

It should be noted that the Hastings fleet pelagic fishery is small and has an exceedingly low impact on the overall Downs component of the North Sea herring stock and the North-east Atlantic mackerel stock. The total landings of herring at Hastings were 2.91t in 2005 and 2.80t in 2006. The total landings of mackerel at Hastings were 3.61t in 2005 and 6.24t in 2006.

The first surveillance audit of this fishery reported the following conclusions: *"The actions taken by Hastings Fishery Management Group (HFMG) in meeting the Condition of Certification is judged to be insufficient. To ensure that conditions are met, an expedited audit shall take place June 2007. The status of herring stocks is being detrimentally affected by four years of poor recruitment. The effects of recruitment in 2006 will be evaluated in the next surveillance. This could have critical implications for ongoing MSC certification of the Herring component of the Hastings Fleet Pelagic Fishery."*

As a result an expedited audit was carried out in August 2007 in relation to meeting the original Conditions of Certification and addressing the changes in the Herring stock and a report produced which contained the findings of that expedited audit (the timing of which was delayed slightly) in relation to the two Conditions raised.

The Conclusions of the Expedited Audit were as follows.

*"HFMG have taken appropriate measures to address the conditions of certification raised during the MSC certification assessment. This can be summarised as follows:*

1. *Conditions where requirements are deemed to have been fully met and the condition closed:*  
*Condition 1*

*As a result of actions taken by HFMG to address these conditions, the two relevant Performance Indicators have been reviewed and scores raised as follows:*

*PI 2.1.2.1 – 80*

*PI 2.1.2.2 – 80*

*However, the continuing poor recruitment to the North Sea herring stock, and the current absence of a recovery plan/scenario means that a number of other Performance Indicators must be re-scored. Relevant PI's and adjusted scores are as follows:*

*PI 1.1.6.1 – 75*

*PI 1.2.1 – 75*

*PI 3A.3.4 – 70*

*As these three scores now fall below 80, a new condition has been raised, as detailed in Section 3 above.*

*The client action plan is appended to this document.*

*The overall scores for the MSC Principles have been re-calculated taking into account all of the above amendments. Scores for each Principle remain above 80.*

*MSC Certification should therefore continue for both species. For herring, continuing certification will depend upon satisfactory compliance with outstanding conditions and enactment of a rebuilding plan/scenario for the North Sea stock. Surveillance audits shall continue to the same schedule.”*

### **3.0. SURVEILLANCE REPORT 2008**

This surveillance report contains the findings of the second (2007/8) annual audit. Information has been collected principally from ICES Herring Assessment Working Group Reports (HAWG), ACFM advice, EU documentation of TAC's for 2008, consultation with members of the Hastings Fishermen's Protection Society and Sussex Sea Fisheries Committee.

The effects of any overall scientific, legislative and management changes are also considered. For the North Sea and Eastern English Channel herring fishery there are significant potential changes in the science and management. These are highlighted in an ICES Workshop report which will be presented to the HAWG which meets in March 2008.

As noted above condition 1, related to the recording of by-catch and discards, has been closed but condition 2 related to the status of the herring stock remains open and the issues are considered in full below.

The report considers separately the two stocks, herring and mackerel.

This report relates to the situation pertaining to the fisheries as at 29 February 2008. It is noted that changes are occurring in the perception of the stock status, which will be detailed in future surveillance reports.

### **3.1 Herring**

Item	Comments
<b>1</b>	<b>Status of stock; Herring</b>
<b>Observations</b>	<p data-bbox="459 259 600 293"><b>Stock status</b></p> <p data-bbox="459 320 1477 680">The most recent assessment of the stock in March 2007 (ICES HAWG: 2007) indicated an SSB at spawning time in 2006 of 1.2 million tonnes which is a reduction 400,000t compared with the previous year. ICES considered the stock to be at risk of having reduced reproductive capacity and of being harvested unsustainably. The perception of SSB in 2005 was reduced from 1.69 to 1.6 million tonnes. There has now been a succession of five below average year classes following a large year class in 2000. The 2005 year class was the lowest since 1979. Indications from the February 2007 surveys for '0' winter ring ("wr") fish are that the 2006 year class is also below average at 28% of the geometric mean since 1981. Such a sequence of poor recruitments has never been observed before for this stock. As a consequence the stock is expected to remain below the biomass precautionary level of 1.3 million tonnes during 2007 and 2008. Poor recruitment has reduced the catch potential to 40% of the average and will continue to reduce it even further.</p> <p data-bbox="459 719 1477 1021">The reasons for the succession of poor recruitments cannot be explained. 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 during the larval phase well after hatching. Surveys of the '0' winter ringers show that their distribution is restricted mainly to the Southern Bight of the North Sea and the west-central area off the Scottish coast. Off the English east coast numbers have been very low. It is the undisputed opinion of both scientists and the fishing industry that <b>the phenomenon is not related to fishing activities</b>, but that it is environmentally driven. All herring stocks assessed by HAWG appear to have average or below average recruitment at present.</p> <p data-bbox="459 1055 1477 1140">The possible causes of poor recruitment are numerous and likely to 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 data-bbox="459 1173 1477 1236">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 data-bbox="507 1238 1477 1765" style="list-style-type: none"> <li>• 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 herring have produced big year classes at high SSB in the past including the 2000 year class.</i>)</li> <li>• 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 subtle changes have been occurring in the North Sea and that there has been a gradual change, over the past decade, to more southerly species of plankton occurring</i>)</li> <li>• 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.</li> <li>• Possible changes in the distribution and abundance of potential predators on larval herring, such as jellyfish.</li> <li>• Anthropogenic factors such as gravel dredging which could reduce the areas of suitable substrate on which herring depend for spawning.</li> <li>• Nothing is known of the potential for disease in larval and juvenile stages to affect survival.</li> </ul> <p data-bbox="459 1798 1477 1980">ICES set up a study group in 2007 to report on recruitment variability in planktivorous fish (ICES SGREVAP: 2007). They commented that recent trends in herring recruitment are similar to the warming of the water on the spawning grounds and changes in hydrography. These changes are also associated with observed changes in the zooplankton community. The Study Group also noted that there was no indication that the current poor recruitment was likely to change.</p> <p data-bbox="459 2013 727 2047"><b><u>The assessment in 2007</u></b></p>

The TAC of 455,000t for 2006 included a sub-TAC of 50,000t for Divisions IVc/VIIId. For 2007 paragraph 6 of the EU / Norway agreement was invoked. As a result the TAC was, after discussions with the Pelagic RAC, reduced by 25% to 341,000t, including a sub-TAC of 42,500t for IVc/VIIId plus a by-catch ceiling of 32,000t.

Catches in the North Sea human consumption fishery (fleet A) in 2006 were 498,000t which was 119,000t less than in 2005. It was an overshoot of the TAC by 43,000t (+9%). In 2005 the TAC overshoot was 83,000t (+16%). 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 (Downs stock), but after the introduction of a sub-TAC for this area the situation had improved. However in 2006 there was an overshoot of 6,600t (+13%), of the sub-TAC in this area, which is a worrying new trend. The Downs stock, on which the Hastings fishery is based, has now returned to its pre-collapsed state but is dominated by one year class therefore there is a need for extra caution.

By-catches in the North Sea small meshed fishery (fleet B) were 11,900t in 2006 which was well below the by-catch ceiling of 42,500t and therefore well below target F for this fishery. Misreporting of landings, taken in the North Sea, but reported from other areas such as IIa, IIIa and VIaN decreased to 19,000t in 2006 compared with 58,000t in 2005, although both estimates were based on limited information. The reduction in 2006 was the result of tougher enforcement measures and possibly a greater willingness on the part of industry to comply.

Only a very small fraction of the fleet was sampled for discards, therefore the resultant estimates are poor. In 2006 raised estimates from just two fleets indicated a reduction in discarding to 2,000t compared with 17,000t and 13,000t in 2004 and 2005 respectively. The fishing mortality on adults (2-6wr) for 2005 was revised upwards from F0.35 to F0.37. In 2006 it reduced slightly to F0.35. Fishing mortality on the juveniles (0-1wr) remained low at F0.08 compared with the target  $F_{max}$  of 0.12.

#### **ICES Advice for 2008**

The ICES advice for 2007 was based on the requirement to achieve a spawning stock biomass at or above the  $B_{pa}$  level of 1.3million tonnes by 2008. Given the current sustained low level of recruitment, ICES considers that using the current  $B_{pa}$  as  $B_{trig}$  (action point) may be unrealistic. For 2008 it is considered preferable to look at the management plan as a whole rather than referring to a biomass reference point which may not be achievable under the current environmental conditions. With the current low recruitment, the medium term predictions are for SSB to fluctuate around 1.1million tonnes but only provided that F is kept at or below the present recommended harvest control levels. Under these circumstances it should be possible to maintain annual catches of North Sea autumn spawners at around 200,000 to 240,000t. Because the TAC's in this fishery have been regularly overshoot, the harvest control rule needs to be sufficiently robust to errors in the assessment and implementation. The current rule is considered to be sufficiently robust provided that these errors do not exceed 10%.

The revised management plan for 2008 is aimed at bringing the target  $F_{2-6}$  in line with the harvest control rule and implies an  $F_{2-6}$  0.17. If the 15% rule were applied (paragraph 5 EU/Norway agreements) then the SSB in 2008 would remain well below  $B_{pa}$  and would further decline in 2009 close to  $B_{lim}$ . As a consequence ICES recommended invoking paragraph 6 of the agreement, allowing a greater than 15% reduction in the TAC for 2008. This has resulted in a TAC for the human consumption fishery (fleet A) of around 175,000t in 2008.

Thorough investigation of the spawning biomass limit reference point for North Sea autumn spawning herring, by an ICES Workshop in 2007, (ICES WKREF:2007) concluded that the current level ( $B_{lim}$  800,000t) should be maintained. They 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. **In general WGREF concluded that moving to a target F based management would probably remove the importance of  $B_{lim}$  in a management context.**

The advice for 2008 was based on a series of six options including a complete ban on all

directed fishing for herring which is the only option which would return SSB to above  $B_{pa}$  of 1.3mt by 2009. The options are based on the TAC constraint in 2007 plus an overshoot of 10% resulting in an F adult of 0.34. It is also assumed that, as in recent years, not all the by-catch of herring (fleet B), will be taken. The different predicted catches result from different options for fleets C and D in Division IIIa (not shown).

Options 3, 4 and 5 are not considered to be consistent with the management plan. The **plan implies 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 ca.175,000t.

The current management plan has been evaluated and is 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.

#### **Agreed TAC for 2008**

Following this advice from ICES the TAC's for 2008 were agreed at a meeting between EU and Norway and endorsed by the Council of Ministers in December 2007. At this stage stakeholders, including the Pelagic Regional Advisory Council have had the opportunity for input.

The final agreement for a TAC for fleet A in the North Sea north of latitude 53°30'N was 201,227t representing a cut of 41% on the 2007 TAC. A sub-TAC of 26,661t was agreed for ICES Divisions IVc/VIIId (Downs stock)

#### **Recommendations for Harvest Control Rule**

The EU Norway agreement for the management of North Sea autumn spawning herring, the harvest control rule (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. The relevant text of the agreements is below:

1. *Every effort shall be made to maintain a level of Spawning Stock Biomass (SSB) greater than the 800,000 tonnes ( $B_{lim}$ ).*
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.*
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\*(1,300,000-SSB)/500,000) for 2 ringers and older, and  
0.12 (0.08\*(1,300,000-SSB)/500,000) 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 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.*
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. *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.*

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.*

9. *A review of this arrangement shall take place no later than 31 December 2007 .*

The origins of the harvest control rule date back to 1997 and was based on simulations produced in a working document to ACFM (Patterson et al 1997). The simulations examined adult and juvenile fishing mortalities consistent with a low risk of SSB remaining below the minimum biologically acceptable level (MBAL) of 800,00t which was the SSB below which impaired recruitment could be expected. The target SSB of 1.3 million tonnes was established, at the same time, following discussions between the EU and Norway and was considered to provide some protection against SSB falling below MBAL. This was derived mainly as a political compromise reflecting an ambition to maintain the stock at a high level by reducing fishing mortality at an early stage of any perceived decline in SSB. It was considered to be a sufficiently robust cushion (500,000t) to give a very low probability of SSB falling below 800,000t again. When ICES introduced precautionary reference points in its advisory practice these two points were adopted as  $B_{lim}$  (800,000t) and  $B_{pa}$  (1.3million tonnes). The precautionary rule describes  $B_{lim}$  as the level below which recruitment may be impaired and  $B_{pa}$  the level which takes assessment uncertainty into account so that if SSB is estimated at  $B_{pa}$  the probability that it is actually below  $B_{lim}$  at that time is small.  $F_{pa}$  is related to  $F_{lim}$  in the same way.

At the time that these management plans were being developed, SSB had already fallen to around 500,000t. At that time the harvest control rule did not specify actual fishing mortalities for the situation where the SSB was below 1.3 million tonnes but in practice TAC's were set corresponding to an adult F of around 0.2 with a heavily regulated fishery on the juveniles which reduced  $F_{juv}$  to around 0.05. The rule was amended in 2004 to incorporate specific rules for SSB <1.3million tonnes and including a constraint on annual TAC changes. An F of 0.25 was linked to this and established as  $F_{pa}$ .

In 2005 ICES examined the performance of the harvest control rule and considered target F to be consistent with the precautionary approach but strict application of the 15% rule was not. Because of the succession of low recruitments, which appear at present unlikely to change, ICES advised that management should adapt to a regime with reduced recruitment noting that "the performance of the present harvest control rule is at best marginal in this situation since it may easily break down if assessment and or implementation and compliance are sufficiently biased". It was considered by ACFM that the assessment at that time (2005) may possibly be an overestimate and the TAC's in the human consumption fishery had been regularly overfished. For this situation a harvest control rule is required which is robust to errors in the assessment and implementation, the current one is thought not to be sufficiently robust (ICES 2005).

The Herring Assessment Working Group in 2007 (ICES HAWG: 2007) endorsed the reports of the SGREVAP and WKREF. Comments from the report and both groups were referred to and endorsed in the ACFM advice in 2007. They stated that "*The dynamics of North Sea herring have changed. For five years, 2002-2006, herring recruitment has been unusually low, due to environmental effects, reducing catch potential to 40% of the long term average*". The advice goes on to state that "*given the current low level of recruitment, considering  $B_{trig}$  in the management plan as  $B_{pa}$  (1.3 million tonnes) may be unrealistic and it is preferable to evaluate the precautionary nature of the management plan as a whole rather than referring to a biomass reference point which may not be achievable. With current low levels of recruitment, simulations show that SSB will fluctuate around 1.1million tonnes if the realised fishing mortalities are kept at the levels intended in the harvest control rule*"

The observations on the part of the WG and ACFM in their advice begin to reduce the significance and importance of the current  $B_{pa}$  as a reference point, set at a time when recruitment was good and SSB was low but increasing. They start to recognise that the North Sea herring stock may now be moving in to a new equilibrium state and that state could be

	<p>held at around 1.0 to 1.1 million tonnes.</p> <p>In the light of the present recruitment situation, where the stock can be expected to be below 1.3 million tonnes most of the time, ICES convened a Workshop (ICES WKHMP: 2008) in February 2008 to consider the management plan of North Sea herring and to develop tools to test management plans. The workshop also served as an opportunity for the exchange of expertise between scientists and stakeholders. They stated that in a harvest control rule parameters serve as guidance to action according to the perceived state of the stock. The parameters are chosen in accordance with management objectives one of which should be to have a low risk of bringing SSB to an unacceptably low level. There can also be other objectives such as ensuring a long term high yield and stable catches over time.</p> <p>The workshop carried out an extensive series of simulations each consisting of 1000 iterations of all the relevant stochastic variables related to the assessment and management of the stock. This process is a statistically reliable and robust method of assessing the performance of the stock in any selected scenario. All the new scenarios explored were compared with a basic scenario which consisted of the current management plan but with the reduced juvenile mortality observed in recent years rather than the harvest control rule <math>F_{juv}</math> of 0.12. The ultimate comparison for each was the risk of SSB being below the current <math>B_{lim}</math>.</p> <p>The baseline scenario gave an SSB fluctuating around 1.1 million tonnes with a probability of 2-3% of actually being below <math>B_{lim}</math>. They then explored the effect of reducing target F to 0.2 which gave a long term SSB of 1.2 million tonnes. Catches in fleet A were initially 15% lower but later the difference became insignificant. The risk of SSB being below <math>B_{lim}</math> was generally lower than the baseline scenario peaking at 5% but then reducing in later year to 1%.</p> <p>Removing the juvenile mortality completely by cutting out the catches of the B,C, and D fleets produced SSB generally around 100,000t higher than the baseline scenario and the A fleet catches were 20% higher. Both those scenarios show that by reducing target fishing mortality to F0.2 increases SSB marginally and improves the stability of the catches. Both result in reduced catches of around 7% in the early years. The workshop did explore other relevant issues including most importantly the trigger point (<math>B_{pa}</math>). The results showed that reducing the trigger point to 1.0 million tonnes produced a much higher risk of SSB being below <math>B_{lim}</math> than the baseline scenario. There was also an increased probability of small catches, the median SSB's were smaller with an increased probability of low SSB's. Increasing <math>B_{pa}</math> to 1.5 million tonnes produced much the same results as the baseline scenario. The workshop concluded that a point too close to <math>B_{lim}</math> increased the probability of SSB being below <math>B_{lim}</math> but that the actual value of <math>B_{pa}</math> became less significant as the distance increases. In all the scenarios, paragraph 6 of the EU/Norway agreement was not invoked unless the SSB was below <math>B_{lim}</math>.</p>
<b>Conclusion</b>	<p>The scenarios developed and tested by the ICES Workshop on Herring Management Plans (WKHMP) indicated that the stock could be fished at a Target Fishing Mortality (F) of 0.2 with a low probability (3%) of the stock falling below the Limit Reference Point (<math>B_{lim}</math>). This contrasts with the situation under the current Management Plan in which this probability was calculated at 23%.</p> <p>The proposal to move to an 'F-based' management plan has now been proposed by (WKHMP) for consideration by the Herring Assessment Working Group (HAWG) and then by the ICES Advisory Committee (ACOM). If approved, this plan will then be proposed by ICES to the EU and Norwegian Government. It is anticipated that this would take place in 2008.</p>

Item	Comments
<b>2</b>	<b>Management responses to changes in stock status - Herring</b>
<b>Observations</b>	<p>The present perception of the stock and the consideration by HAWG and WKHMP is that, under the current 'low recruitment regime', the fishery would not return to Bpa without virtual or total closure of the fishery. However, the scenarios developed by WKHMP indicate that ongoing fishing to a target F of 0.2 would result in a low probability (3%) of the stock falling below the Biological Limit Reference Point – and so the fishery could continue to meet the intent and requirements of the MSC Principles and Criteria if this was agreed as a modification of the current harvest rule.</p> <p>The reduction in TAC from 2007 to 2008 (a 41% reduction in TAC), has given rise to a predicted level of F in 2008 of 0.2 – in line with the target developed by WKHMP. The fishing mortality expected in 2008 would therefore be sustainable under the current stock situation.</p> <p>However, the revision of the Management Plan has only been proposed, and has not yet been reviewed within ICES nor adopted and implemented by EU-Norway.</p>
<b>Conclusion</b>	<p>The proposal of WKHMP affects a number of Performance Indicators (PI's) relating to the Hastings Pelagic fishery for herring. This change has entailed a 'limited re-assessment' of the fishery in relation to these affected PI's.</p> <p>The text of the affected PI's and corresponding Scoring Guideposts (SG's) is as follows:</p> <p>PI 1.1.3.1 Are there appropriate limit and precautionary reference points based on both biomass and fishing mortality?  SG 60: Limit and precautionary reference points have been chosen and are justified based on standard international practice.  SG 80: Limit and precautionary reference points are justified based on stock biology (e.g. a stock-recruitment relationship) and are measurable given data and assessment limitations.  SG 100: Limit and precautionary reference points are justified based on stock biology, uncertainty, variability, data limitations and statistical simulations of these factors.</p> <p>The original score for this PI was 95.</p> <p>The simulations carried out by WKHMP confirm the conclusion by ACFM in 2005 that the performance of the current harvest control rule is at best marginal in the present regime of reduced recruitment. The key issue is that even the relatively low fishing mortalities prescribed in the rule lead to an equilibrium biomass that is close to <math>B_{lim}</math>. A further reduction in recruitment, increased over fishing of the quotas or less reliable assessments all lead to a risk of falling below <math>B_{lim}</math> which is incompatible with the precautionary approach. A better protection requires the realised F of 0.25 to be reduced to F of 0.2. This reduction could be achieved by a reduction in target F to 0.2 or less effectively by a higher trigger point or by reducing the fishing mortality on juveniles. None of these would lead to a substantial loss of catch for the A fleet in the longer term. The stability of TAC's may improve with lower fishing mortalities.</p> <p>The score for this PI is therefore now revised to 85.</p> <p>PI 1.1.3.2 Do reference points meet acceptable international standards?  SG 60: Reference points recognise appropriate international standards and are being developed to meet these.  SG 80: Reference points recognise, and are in line with, acceptable international standards.  SG 100: Reference points meet or exceed international standards.</p> <p>The original score for this PI was 100.</p> <p>The proposed change to an F-based management plan has also led to probable removal of Bpa (Precautionary Biological Reference Point) from the management framework. However, the existing reference points (<math>B_{lim}</math>, <math>F_{lim}</math> and <math>F_{pa}</math>) are considered to fully meet international</p>

<p>standards.</p> <p>The score for this PI is therefore now revised to 90.</p> <p>PI 1.1.4.2 Are clear, tested decision rules set out?  SG 60: It can be demonstrated that decision making, though not documented, is logical and appropriate. Rules have not been tested.  SG 80: Clear decision making rules exist, are fully documented, but have not been fully tested. Decision rules are reconciled with reference points and with data and assessment limitations.  SG 100: Clear, documented and tested decision rules are fully implemented and have been fully reconciled with reference points, and the data and assessment limitations, and have been periodically evaluated.</p> <p>The original score for this PI was 85.</p> <p>ICES concluded the given the current low level of recruitment, considering <math>B_{trig}</math> in the management plan as <math>B_{pa}</math> (1.3 million tonnes) may be unrealistic and it is preferable to evaluate the precautionary nature of the management plan as a whole rather than referring to a biomass reference point which may not be achievable. With current low levels of recruitment, simulations show that SSB will fluctuate around 1.1million tonnes if the realised fishing mortalities are kept at the levels intended in the harvest control rule.</p> <p>The succession of low recruitments appear at present unlikely to change and ICES has advised that management should adapt to a regime with reduced recruitment noting that the performance of the present harvest control rule is at best marginal in this situation since it may easily break down if assessment and or implementation and compliance are sufficiently biased. For 2008 it is considered preferable to look at the management plan as a whole rather than referring to a biomass reference point <math>B_{pa}</math> which may not be achievable under the current environmental conditions. The simulations carried out by WKHMP were rigorously tested against the current baseline scenario and the conclusion to move to an F-based management regime with an <math>F_{adult}</math> of 0.2 is considered both appropriate and precautionary. Such a regime provides a lower risk of SSB being below <math>B_{lim}</math> and the likelihood of more stable TAC's in the future. The proposed regime does not require paragraph 6 of the EU/Norway agreement to be invoked unless SSB falls below <math>B_{lim}</math>. Appropriate rules have therefore been proposed and rigorously tested and reconciled with F reference points, but have not yet been reviewed and implemented.</p> <p>The score for this PI is therefore now revised to 75.</p> <p><b>PI 1.1.6.1: Is the stock(s) at or above reference levels for SSB and F?</b>  [YES - Criteria 1 is complete. NO - Answer Criteria 2]</p> <p>SG 60: The stock is close to the limit reference levels.  SG 80: The stock is above the precautionary reference levels  SG 100: The stock is significantly and consistently above appropriate reference levels.</p> <p>The perception of the status of the stock in relation to reference points may be subject to considerable revision in light of the proposals put forward by WKHMP. Clearly, the stock remains above <math>B_{lim}</math> but below the original level of <math>B_{pa}</math>, and F is predicted to be below <math>F_{pa}</math> (i.e. fishing pressure is lower than that considered to be a precautionary reference level). However, under the current recruitment regime for the herring stock, the previous value of <math>B_{pa}</math> is not considered relevant by WKHMP. If proposals to implement an 'F-based' fishery management are adopted, then SG80 and SG100 would need to be interpreted such that instead of considering the 'stock', we would consider fishing pressure. The SG's would therefore be read as:</p> <p>SG80: Fishing pressure is below the precautionary reference level  SG100: Fishing pressure is significantly and consistently below appropriate reference levels.</p> <p>As F in 2008 is predicted to be at F 0.2, and the risk of the stock falling below <math>B_{lim}</math> is considered low, then should the proposals of WKHMP be adopted and the current harvest rule</p>
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<p>modified accordingly, then the fishery would score above 80. However, as these proposals are not yet adopted, then the score for this PI will remain at 75.</p> <p>As the stock 'officially' remains below <math>B_{pa}</math>, MSC Criterion 1.2 must be invoked. The text of the PI and SG's is as follows:</p> <p><b>PI 1.2.1: If the stock is below the precautionary reference point, are measures to rebuild the stock specified?</b></p> <p>SG60: Appropriate rebuilding measures through reduction in exploitation exist and are being implemented. Rebuilding measures other than reduction in exploitation are being considered. Measures have not been tested.</p> <p>SG80: Appropriate rebuilding measures are being implemented to promote recovery within reasonable time frames. Measures have been tested and can be shown to be rebuilding the stock.</p> <p>SG 100: Appropriate rebuilding measures are being implemented to promote recovery as quickly as is possible. Additional measures are being implemented to prevent problems in the future.</p> <p>As discussed in detail above, projections based on the prevailing recruitment situation in the stock (including those commissioned by PFA themselves in response to an earlier Condition of MSC Certification) do not allow for a return to <math>B_{pa}</math> in the short term without virtual or complete closure of the fishery. However, a move to an appropriate F-based management scenario is predicted to maintain the fishery at a sustainable level in the current recruitment regime. As and when this change in management occurs, then this PI would no longer be appropriate (fishing pressure would be at or below the new target F of 0.2).</p> <p>The score for this PI therefore remains at 75 and the Condition below is re-worded.</p> <p><b>3A.3.4. Do objectives and operational procedures follow the precautionary approach?</b></p> <p>SG 60: Some objectives and procedures implement a precautionary approach.</p> <p>SG 80: Key objectives and procedures explicitly implement a precautionary approach.</p> <p>SG 100: All objectives and procedures explicitly implement a precautionary approach.</p> <p>Again, the adoption of management of the fishery to target F 0.2 would result in this PI being scored above 80. Until this is formally adopted as a modification to the current harvest control rule, however, the score remains at 70.</p> <p><b>PI 3A.6.2 Are results evaluated against precautionary target and limit reference points?</b></p> <p>SG 60: Target, precautionary and limit reference points exist and some level of evaluation is possible.</p> <p>SG 80: Results of monitoring are regularly interpreted in relation to precautionary, target and limit reference points.</p> <p>SG 100: Results of monitoring are quantitatively evaluated against precautionary, target and limit reference points on a regular basis.</p> <p>The original score for this PI was 100.</p> <p>The advice for 2008 was based on a series of six options including a complete ban on all directed fishing for herring which is the only option which would return SSB to above <math>B_{pa}</math> of 1.3mt by 2009. The options are based on the TAC constraint in 2007 plus an overshoot of 10% resulting in an F adult of 0.34. It is also assumed that, as in recent years, not all the by-catch of herring (fleet B), will be taken.</p> <p>The revised management plan, for 2008 is aimed at bringing the target <math>F_{2-6}</math> in line with the harvest control rule and implies an <math>F_{2-6}</math> 0.17. If the 15% rule were applied (paragraph 5 EU/Norway agreements) then the SSB in 2008 would remain well below <math>B_{pa}</math> and would further decline in 2009 close to <math>B_{lim}</math>. As a consequence ICES recommended invoking paragraph 6 of the agreement, allowing a greater than 15% reduction in the TAC for 2008. This implies a TAC for the human consumption fishery (fleet A) of around 175,000t in 2008.</p>
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	<p>The score for this PI is therefore revised to 85.</p> <p>As the score for PI 1.1.4.2, 1.1.6.1 and 1.2.1 and 3A.3.4 are below 80, we are required to raise a Condition of Certification. Given the recent developments discussed above, this requires that we <u>change the requirements</u> of the previous Condition as follows:</p> <p><b>Condition . Rebuilding Measures</b></p> <p><b>Action required:</b>  The Condition specified in the last Surveillance report was that “<i>Other MSC fisheries also target North Sea Herring and are seeking, through appropriate scientific sources, development of a recovery plan/scenario which would return the stock to Bpa over a reasonable time frame.</i>”</p> <p><i>HFMG should write to appropriate UK and/or European management agencies expressing the requirement for, and support for, any such rebuilding plan/scenario and should support the implementation of this plan at any appropriate fora</i></p> <p><i>It is recognised that Bpa may be subject to review by ICES and that this may alter the basis for the rebuilding plan.</i></p> <p><i>As required by the MSC standard, any TAC’s adopted prior to identification of the requirements of a recovery plan/scenario shall use best available information and a precautionary approach.</i></p> <p><i>A plan must be implemented and have recovered, or be shown to be on schedule to recover the stock, in line with the recovery plan/scenario, by the fourth annual audit.</i></p> <p><i>Should such an effective plan/scenario not be in place by this time, and/or TAC’s not adopted as outlined above, this condition would be deemed not to have been met.</i></p> <p><b>Timescale:</b> <i>Actions to be completed before the next annual surveillance audit, scheduled for late 2007/early 2008. ”</i></p> <p>HFMG have complied with this request, but such scenarios, as detailed by ICES, would require virtual or total closure of the fishery to attain Bpa under the prevailing (environmentally-driven) stock recruitment regime.</p> <p>However, (as detailed above) proposals have been advanced by WKHMP for a move to an F based management regime and Management Plan which would be precautionary under the current stock recruitment regime. Implementation of these, or other appropriate proposals (which are considered sufficiently precautionary) are clearly desirable. It is noted that such an approach is likely to be acceptable to all stakeholders in the Pelagic RAC. <u>HFMG should therefore provide active support for an appropriate management plan. Evidence of such support through, for example, UK authorities and/or Pelagic RAC, should be demonstrated at the next surveillance audit.</u></p> <p>Until such time, any TAC’s adopted should be consistent with precautionary harvest of the stock (F below Fpa). It is noted that in 2008 F is 0.2, which is the proposed new target F and below current Fpa 0.25.</p> <p><b>Relevant Scoring Indicators:</b> 1.1.4.2, 1.1.6.1, 1.2.1, 3A.3.4</p>
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### **3.2 Mackerel**

Two factors affect the certification of the mackerel fishery. Firstly, the status of the mackerel stock has been revised by ICES, and secondly, since the re-certification of this fishery, other mackerel fisheries have progressed to MSC assessment, including Scottish, Norwegian and Dutch fleets notably using purse-seine and pelagic trawl gear. These assessments have reviewed latest developments in the fishery and some differences in fact and interpretation have emerged. Following discussion and agreement between the various assessment teams, a need to 'harmonise' the assessments has been identified. Harmonisation issues are discussed below.

Item	Comments
<b>3</b>	<b>Status of stock - Mackerel</b>
<b>Observations</b>	<p>Mackerel is fished by a variety of fleets ranging from open boats using handlines on the Iberian Coast to large freezer trawlers and Refrigerated Seawater vessels (RSW's) in more northern waters.</p> <p>Since 1996 the three components, southern mackerel, western mackerel and North Sea mackerel have been combined for stock assessment and management purposes. It is generally accepted that the western component comprises around 85% of the total stock and that the North Sea spawning component is still severely depleted compared to its status in the 1970's. An egg survey in 2005 has indicated a further increase in the North Sea SSB to 220,000t compared with 2002. Consideration is now being given as to whether or not this should be added to the total area SSB as currently it is excluded.</p> <p>The total catch of North east Atlantic mackerel in 2006, estimated by the ICES working group, was 472,652t, which was 71,000t lower than in the previous year. This corresponds to a TAC of 444,000t which was an increase of 22,000t on the 2005 TAC. Less than half of that catch 206,000t was taken in the northern North Sea (Division IVa) mainly in the third and fourth quarters of the year. This was 46,000t less than in the previous year. Catches taken in the western area decreased by 20,000t to 167,000t whilst in the southern area catches continued to increase and were 52,000t in 2006. A total of 47,000t was taken in the Norwegian Sea and Area V, a decrease of 7,000 on the previous year. A nominal catch of 10,000t is ascribed to the North Sea component of the stock.</p> <p>Recent analyses carried out by ICES suggests that, over the fourteen year period up to 2001, there has been under-reporting of the catch by 60% or more, over and above the ACFM estimate of catches. Since then various measures have been taken which have improved the situation. However, overshooting of the TAC has continued and this is still a cause for some concern in the management of this fishery. Confidential information suggests that reliance on log book figures has generated under estimates of the catch of 18% up to 2004 and around 11% since then. This under-reporting can occur legally within current legislation. The working group report that, where inspections are not carried out, the under-reporting of EU catches can be as high as 56% and the EU catches account for about 65% of the total landings.</p> <p>In addition to the uncertainty surrounding the level of under-reporting there is the major problem of discarding and slippage in this fishery which is difficult to quantify. Discarding and slippage can occur for a number of reasons the most common being high grading when the market for small mackerel is less lucrative. This has decreased in recent years as a result of a more equitable pricing regime and less pressure for large mackerel from the Japanese market. Catching an unmarketable mix of species and over quota catching also contribute to discarding and slippage. Real estimates of the extent of discarding in the 2006 fishery were only available for the Netherlands, German and Scottish fleets from observer trips. These fleets together take around 40% of the total catch of North East Atlantic mackerel. Discarding in those three fleets was estimated at 7,265t, 959t and 10,932t respectively. There are no independent estimates of the extent of slippage in this fishery. Discarding is illegal in the Norwegian, Russian and Faroese fleets.</p> <p>The general unreliability of catch data does generate problems in relation to the robustness of the stock assessment and the overall perception of fishing pressure on the stock. The North East Atlantic mackerel assessment also suffers from having only two input sources; the catch at age data from the fishery and the triennial egg survey estimate of SSB, which is not age disaggregated. The egg survey is the only fishery independent data source at present and has been running regularly since 1977. There are other surveys including acoustic and aerial surveys but none of them are robust enough to be included in the assessment process. Up and until the 2004 assessment the triennial egg survey was used as an absolute estimate of SSB. Since then the egg survey results have been used as a relative index going back to 1992 to cover the minimum requirement of five data points. There are valid reasons why this change was made and why it is considered to be a better assessment strategy than an absolute index. In practice the egg survey tends to dominate the assessment in an egg survey year while the catch data dominate in the intervening years. The effect of using the egg surveys as a relative</p>

estimate is equivalent to using the catch data only to provide the absolute levels of the population. The North East Atlantic mackerel catch data indicate SSB's lower than those measured by the egg surveys but if the catch data are serious underestimates then the actual estimate of SSB could be much higher.

As a consequence of the methodology changes the retrospective analysis now shows a reduction in the perception of SSB compared with the previous assessments. It now appears that the estimated SSB has been below the  $B_{pa}$  of 2.3 million tonnes since 2000 and was as low as 1.63 million tonnes in 2002. Following above average recruitment in 2001 and a very strong year class in 2002 the SSB has recovered and the most recent estimate indicates an SSB of 2.23 million tonnes at spawning time in 2006. It is predicted to remain at that level in 2007 increasing to around  $B_{pa}$  by 2009. The 2003 year class is estimated to be poor but there are early indications that the 2006 year class may be strong.

Since 1998 fishing mortality (ages 4-8) has been very high, reaching a peak of  $F$  0.46 in 2002 decreasing gradually to  $F$  0.297 in 2005. This is well above the precautionary level of  $F_{lim}$  0.26 which is the fishing mortality estimated to lead to potential stock collapse. Fishing mortality reduced further in 2006 to  $F$  0.258 which well above  $F_{pa}$  of 0.17 and only marginally below the  $F_{lim}$  of 0.26

The  $F_{pa}$  was set at 0.17 in 1999 following an agreement between the EU, Norway and the Faroes that TACs should be consistent with an  $F$  between 0.15 and 0.20 for appropriate age groups. The ACFM subsequently opted for the 0.17 as  $F_{pa}$  and 0.26 as  $F_{lim}$ . ICES considers that the agreement is consistent with the precautionary approach and provides a 95% probability of avoiding exploitation of the stock above  $F_{lim}$  taking into account the uncertainties in the assessment.  $B_{pa}$  has been set at 2.3 million tonnes for this stock but there is currently no biological basis for defining  $B_{lim}$ .

Based on the most recent estimates of fishing mortality ICES classifies the stock as being harvested unsustainably. Because of the unknown levels of under-reporting of the catch, SSB cannot be accurately evaluated in relation to  $B_{pa}$ . However all the indications are that SSB has increased since 2003 and has been stable for the last three years. The absolute values of the last three triennial egg survey estimates confirm this trend with SSB estimates of 2.90, 2.75 and 2.89 million tonnes in 2001, 2004 and 2007 respectively.

The big 2002 year class and the possibilities of another strong year class in 2006 inevitably invoke concerns about increased discarding in by-catch fisheries and also as a result of high grading. Unless this can be actively discouraged in some way, such practice may well reduce the positive affect that these year classes have on the future SSB.

Based on a TAC constraint of 499,000t plus an 18,000t estimate for discards minus 21,000t voluntary reduction in the Irish and UK catch and with geometric mean recruitment, the SSB at spawning time in 2007 is predicted to be 2.23 million tonnes. The ICES advice for 2008 is based on this scenario for the 2007 fishery. The upper and lower limits of  $F$  in the EU / Norway agreement generate catches of 392,000t ( $F$  0.17) and 456,000t ( $F$  0.2) in 2008. Both would produce an SSB around  $B_{pa}$  at spawning time in 2009.

Following the meeting between EU and Norway on shared management stocks and the subsequent EU Council of Ministers meeting in December 2007 the agreed TAC for 2008 is 385,666t. There is a maximum limit of 70,225t to be taken in Division IVa and 27,005t in the southern area.

The advice for 2008 continues to contain the strong recommendation that the ICES Divisions IVb,c and IIIa remain closed to mackerel fishing to aid the recovery of the North Sea spawning stock. This also helps protect juvenile mackerel of western origin which are numerous in the division IVb,c during the second half of the year. This closure does of course generate discarding of mackerel in other North Sea fisheries.

Egg surveys of the North Sea component have been carried out since 1982 and are now done on a regular triennial basis. The last survey was in 2005 and provided an SSB estimate of

223,000t. The Working Group decided not to add this to the 2007 western and southern component egg survey estimates but to wait for the result of the next North Sea egg survey in 2008 as this would be closer in time to the 2007 survey.

Observed changes in the distribution of mackerel have led the assessment Working Group to the hypothesis that there has been an overall shift to the north over the period 2005 -2007. There has also been a westerly shift of the spawning and feeding areas in the northern part of the distribution. Such changes, if confirmed, may have substantial consequences for the abundance, spawning, growth and recruitment of North East Atlantic mackerel. The reason for such changes could be found in changes in the hydrographic conditions linked to the strength of the sub-polar gyre.

The release of this report has been delayed due to issues of harmonisation between fisheries. As a result, the latest stock assessment figures have been released which indicate a revised estimate of SSB in 2006 of 2,592,116t compared to the initial estimate of 2,231,941t and for 2007 the revised estimate was 2,532,654t, an increase of around 300,000t over the predicted value. The values of F have also been revised downwards to F0.208 for 2006 and F0.248 for 2007. This is still well above the Fpa (0.17) but just below Flim (0.26) The SSB has now increased to a level similar to those seen during the 1990's. This increase has been partly driven by improved recruitment with the above average recruitment in 2001 and a very strong year class in 2002 which has shown increased survival due to a general decrease in fishing mortality. Although the 2003 year class was weak the 2004, 2005 and 2006 year classes are relatively strong although early indications are that the 2007 year class is poor. This will be reported more fully in the next surveillance report.

As a consequence of the methodology changes described above, the assessments in 2004 and 2005 show a reduction in the perception of SSB compared with the previous assessments. The status of the stock itself is currently below Bpa but above the level used for Blim. As discussed above, this relatively low level of stock has resulted from a revision of the use of data in the assessment, rather than a major change in fishing practice. Rebuilding is, however, clearly required to return the stock to a level above Bpa, as discussed in 1.2 below.

As a result, the score for PI 1.1.6.1 has been revised to 75. Rebuilding is therefore required and so PI 1.2.1 is now required to be scored. This is discussed below.

4	<p><b>Assessment harmonisation with other North East Atlantic Mackerel Fisheries</b></p> <p>Since the re-certification of this fishery, other mackerel fisheries have progressed to MSC assessment, including Scottish, Norwegian and Dutch fleets notably using purse-seine and pelagic trawl gear. These assessments have reviewed latest developments in the fishery and some differences in fact and interpretation have emerged. Following discussion and agreement between the various assessment teams, a need to 'harmonise' the assessments has been identified. Therefore some specific areas of 'harmonisation' between the different fisheries are considered here in relation to the following Performance Indicators (PIs).</p> <ol style="list-style-type: none"> <li>1. PI 1.1.3.1. Appropriate limit and precautionary reference points based on biomass and fishing mortality. This aspect has been harmonised with other fishery assessments where the situation is now interpreted as follows: <i>“Target reference points are set based on a precautionary approach. The Fpa was set at 0.17 in 1999 following an agreement between the EU, Norway and the Faroes that TAC.s should be consistent with an F between 0.15 and 0.20 for appropriate age groups. The ACFM subsequently opted for the 0.17 as Fpa and 0.26 as Flim which is the fishing mortality estimated to lead to potential stock collapse. ICES considers that the agreement is consistent with the precautionary approach and provides a 95% probability of avoiding exploitation of the stock above Flim taking into account the uncertainties in the assessment. Bpa has been set at 2.3 million tonnes for this stock but there is currently no biological basis for defining Blim. Reference points are regularly reviewed during the Working Group assessment process. There is some concern that current biomass reference points may not be applicable to current levels of SSB estimated in the assessment, because of the changes in method in 2004 whereby the egg survey estimate of SSB is used as a relative index rather than as an absolute value (described in section 1.1.1.4). The score for this PI is now revised at 85.</i></li> <li>2. PI 1.1.4.1 Mechanisms to contain harvest. There were differences here between the Scottish and Norwegian fisheries, for example, where the effectiveness of mechanisms to constrain harvest differs. For the Hastings fishery, the fishery has been found to operate effectively within its allocated quota. The score for this PI has been reconciled with the situation, and score, in the Norwegian fishery where similar controls are in place and the score amended to 80.</li> <li>3. PI 1.1.4.2 Decision rules. This aspect has been harmonised with other fishery assessments where the situation is now interpreted as follows: <i>“Management of the fishery is carried out jointly by the EU, Norway and the Faroes. The agreed decision rules for management were set up and well documented in 1999 as follows: “Fishing would be restricted on the basis of a total TAC constraint consistent with a fishing mortality in the range 0.15 to 0.20 for appropriate age groups, unless future scientific advice requires modification of the fishing mortality rate. Should the SSB fall below 2.3 million tonnes (B<sub>pa</sub>) the fishing mortality should be adjusted to ensure a safe and rapid recovery of the SSB to above B<sub>pa</sub>. The parties shall as appropriate review and revise these management measures and strategies on the basis of any new advice provided by ICES.” ICES considers the agreement and rules to be consistent with the precautionary approach if fishing mortality is kept on average below Fpa = 0.17. However, testing of the decision rules through management strategy evaluation, taking into account the full uncertainty within the biological, fishing and management systems, has not yet been performed. Rules on quota management are implemented nationally and compliance monitored. Data assessment limitations are reviewed annually by the ICES working group and a re-evaluation of the stock assessment process in 2004 led to considerable reductions in the TAC because of a change in the perception of SSB. The rules are clear, tested, are reconciled with reference points and are under regular review”.</i> The score for this PI is now revised at 85.</li> <li>4. PI 1.1.4.3. Appropriate management tools specified to implement decisions in terms of input and/or output controls. This aspect has been harmonised with other fishery assessments where the situation is now interpreted as follows: <i>“The input controls are all specified within the agreement between EU, Norway and the Faroe Islands as fishing mortality and SSB reference limits (section 1.1.4.2). Annual quotas are then negotiated based on advice from ICES which in turn is formulated in the context of the management agreement. Decisions are implemented through TACs, licensing and</i></li> </ol>
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technical regulations. Within UK, the MFA now report that under new licensing and computerised monitoring arrangements they are able to respond more quickly to any quota issues in the fishery. Quota controls (i.e. output control) are considered appropriate to the species and fishery. Tools appear sufficiently responsive to meet fishery management objectives. The score for this PI has been reconciled with the Norwegian fishery where similar controls are in place and the score amended to 90.

5. PI 1.2.1 Effectiveness of stock rebuilding measures. This has been an area of discussion between the different assessment teams addressing mackerel fisheries. The latest interpretation of this (notwithstanding the last ICES assessment is that *“Up and until the 2004 assessment, the triennial egg survey was used as an absolute estimate of SSB. Since then the egg survey results have been used as a relative index going back to 1992 to cover the minimum requirement of five data points. There are valid reasons why this change was made and why it is considered to be a better assessment strategy. As a result of the changed perception, the TAC was reduced significantly to promote recovery. The effect of using the egg surveys as a relative estimate is equivalent to using the catch data only to provide the absolute levels of the population. The NEA mackerel catch data indicate SSB’s lower than those measured by the egg surveys (the last egg survey being in 2007), used as an absolute estimate, would have indicated a combined area SSB of 2.89 million tonnes. As a consequence of the changed perception of both SSB and F strong measures have been put in place to ensure that the north east Atlantic mackerel stock returns to precautionary levels in the short term. The TAC in recent years has been consistently set at levels appropriate to fishing mortality rates within the precautionary approach levels which would ensure that SSB remained above the Bpa of 2.3million tonnes. However the TAC has been regularly overshoot and the resultant fishing mortality has been too high. The current management options are to operate within the agreed EU/Norway/Faroes strategy which is firmly embedded in the precautionary approach. Based on a catch constraint of 499,000t (the TAC + 18,000t for discards – 21,000t penalty for UK and Ireland), F should reduce to 0.22 and SSB should increase to 2.23 million tonnes at spawning time in 2007. Based on this advice for 2007 the management options show that at Fpa (0.17) the SSB should further increase to 2.25 million tonnes in 2008 and to 2.37 by 2009. This should be backed by strong internationally agreed control measures, enacted at the national level, in an attempt to eliminate misreporting, underreporting, discarding and slippage. Based on current management options, SSB is expected to recover to Bpa in 2009, and since the plan came into force in 2005, the decreasing trend in fishing mortality that began in 2002 has continued. The strong year classes of 2001 and 2002 both fully recruited to the SSB in 2006 and will play a big part in any subsequent recovery to above Bpa. Unfortunately the 2003 year class is predicted to be very weak and the effect of this on recovery must be monitored. The revised stock assessment should provide more reliable indications of future stock status.”* As a result of harmonisation, a score for this PI has been awarded of 80 and a new, ‘Harmonised’ Condition of Certification to address PI 1.1.6.1 has been raised as follows.

**Action required:** ICES are currently completing the evaluation of a new multi annual management plan for NEA mackerel. This involves the re-assessment of target and limit reference points for both fishing mortality and biomass. Although the request is from the European Commission, subsequent discussion and implementation will inevitably involve the EU/Norway negotiations. The client will be expected to put its full weight behind the new management plan formulated by ICES through UK management or Pelagic RAC offices.

**Timescale:** A new management plan for the NEA Mackerel is expected to be drafted within the period of this certification. The Client must provide evidence of its support for the implementation of an appropriate management plan at the surveillance audit immediately following publication of the plan, in line with the action plan for the original Condition 1. A new and appropriate management plan needs to be shown to be fully adopted and effective by the end of the period of certification.

The score for Principle 1 for the Hastings mackerel fishery has now been revised to 85 as a result of the changes above.

<b>4</b>	<b>Any complaints against the certified operation; recorded, reviewed and actioned</b>
	There were no reported incidents of any complaints against the Hastings pelagic fishery in relation to the scope of this MSC certification.
<b>5</b>	<b>Any relevant changes to legislation or regulation.</b>
	<p>Consultation on a Marine Bill for England and Wales has been completed and a draft Bill is expected in 2008. There is the potential for the Bill to change the structure or boundaries of Sea Fisheries Committees. This will be evaluated when enacted into legislation.</p> <p>The registration of buyers and sellers of fish has meant that the recording of the landings from under 10 m vessels (i.e. the majority of Hastings pelagic fleet) is considered to be more accurate and obtained in quick time. The system appears to be efficient enough for the Marine Fisheries Agency to be able to provide daily quota uptake figures on their website <a href="http://www.mfa.gov.uk/statistics">www.mfa.gov.uk/statistics</a></p>
<b>6</b>	<b>Any relevant changes to management regime.</b>
	There have been no other relevant changes in the management regime.

<b>6</b>	<p><b>Overall Conclusions: Herring and Mackerel</b></p> <p>HFMG have taken appropriate measures to address the conditions of certification raised during the MSC certification assessment and subsequent surveillance visit and expedited audit.</p> <p><b>Herring</b></p> <p>However, the continuing poor recruitment to the North Sea herring stock, the proposal of a revised, F based, management plan and the fact that this new plan has not yet been fully considered by ICES and EU-Norway (and so has not been formally adopted) has meant that a number of other Performance Indicators must be re-scored. Relevant PI's and adjusted scores are as follows:</p> <p>PI1.1.3.1 – 85  PI 1.1.3.2 – 90  PI 1.1.4.2 - 75  PI 1.1.6.1 – 75  PI 1.2.1 – 75  PI 3A.3.4 – 70  PI 3A.6.2 - 85</p> <p>As four scores fall below (or remain below) 80, and as the management framework of the stock is being revised, a re-worded Condition is raised here to address these issues.</p> <p>The overall scores for the MSC Principles 1 and 3 are now re-calculated taking into account all of the above amendments. Scores are:</p> <p>Principle 1: 84  Principle 3: 88</p> <p>MSC Certification should therefore continue for the Hastings Pelagic fleet (herring) Fishery subject to satisfactory compliance with the outstanding condition; surveillance audits should continue to the same schedule.</p> <p><b>Mackerel</b></p> <p>As a consequence of the methodology changes described above, the assessments in 2004 and 2005 show a reduction in the perception of SSB compared with the previous assessments. The status of the stock itself is currently below Bpa but above the level used for Blim. As discussed above, this relatively low level of stock has resulted from a revision of the use of data in the assessment, rather than a major change in fishing practice. Also, since the re-certification of this fishery, other mackerel fisheries have progressed to MSC assessment. These assessments have reviewed latest developments in the fishery and some differences in fact and interpretation have emerged. Following discussion and agreement between the various assessment teams, a need to 'harmonise' the assessments has been identified. Therefore some specific areas of 'harmonisation' between the different fisheries have been considered.</p> <p>The result of these amendments are that the following PI scores have been revised as follows:</p> <p>PI 1.1.3.1 – 85  PI 1.1.4.1 - 80  PI 1.1.4.2 – 85  PI 1.1.4.3 – 90  PI 1.1.6.1 – 75  PI 1.2.1 – 80</p> <p>As one score falls below 80, a Condition is raised to address this issue.</p> <p>The overall scores for MSC Principle 1 is now re-calculated taking into account all of the above amendments, as follows:</p>
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	<p>Principle 1: 85</p> <p>MSC Certification should therefore continue for the Hastings Pelagic fleet (mackerel) Fishery subject to satisfactory compliance with the outstanding condition; surveillance audits should continue to the same schedule.</p>
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**Information Sources:****Meetings**

1. 22/2/2008. Sven Kupchus. CEFAS Lowestoft (by telephone)
2. 26/2/2008. Sussex Sea Fisheries Committee
3. 27/2/2008. Steve Potter. Hastings Borough Council
4. 27-28/2/2008. Hastings Fishery Management Group, Hastings
5. 27/2/2008. Angus Radford. MFA Hastings

**Reports etc**

1. ICES (2007) Report of the Advisory Committee on Fishery Management ICES ACFM.
2. ICES (2007) Report of the Herring Assessment Working Group for the Area South of 62°N. ICES C.M 2007/ACFM: 11 546pp.
3. ICES (2007) Report of the Mackerel, Horse mackerel, Sardine and Anchovy Working Group. ICES CM 2007/ACFM31 725pp.
4. Pelagic RAC letter to ICES with Request for reassessment North Sea herring reference points. 5 June 2007 and ICES response of 6 July 2007.
5. PRAC presentation on North Sea herring.

**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