Surveillance Report
Hastings Fleet Pelagic Fishery

Certificate No.: **MML-F-009**

Moody Marine Ltd.
Nov 09 revised Mar 10 and Oct 10

Author(s): T. Huntington, J Nichols, A Hough

Moody Marine Ltd.
Merlin House
Stanier Way
Wyvern Business Park
Derby DE21 6BF
UK

Tel: +44 (0) 1332 544663
Fax: +44 (0) 1332 675020

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 VIId) 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.

Date of Surveillance Visit:	**03 - 07 November 2009**			
Initial Certification	**Date: 16 September 2005**		**Certificate Ref: MML-F-009**	
Surveillance stage	**1st**	**2nd**	**3rd**	**4th**
Surveillance team:	**Lead Assessor:** **Tim Huntington** **Assessor(s):** **John Nichols, Andrew Hough**			
Company Name: **Address:**	Hastings Fishery Management Group c/o Hastings Borough Council 3rd Floor Aquila House Breeds Place Hastings East Sussex TN34 3UY			
Contact 1	**Stephen Potter**			
Tel No: **Fax No:** **E-mail address:**	01424 451759 01424 451401 STPotter@hastings.gov.uk			

2.0 RESULTS, CONCLUSIONS AND RECOMMENDATIONS OF PREVIOUS AUDITS

2.1 Introduction

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.

2.2 Conclusions of the first surveillance audit

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.

2.2 Conclusions of the expedited audit in August 2007

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.

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."

2.2 Conclusions of the surveillance report 2007 / 2008

The previous surveillance report contained the findings of the second (2007/8) annual audit, using information 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.

Condition 1, related to the recording of by-catch and discards, was closed but condition 2 related to the status of the herring stock remained open and the issues pertaining to the fisheries (as at 29 February 2008), are summarised below. It was noted that changes are occurring in the perception of the stock status were to be detailed in future surveillance reports.

HFMG have taken appropriate measures to address the conditions of certification raised during the MSC certification assessment and subsequent surveillance visit and expedited audit.

2.1.1 Herring

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 had to be re-scored. Relevant PI's and adjusted scores are as follows:

PI 1.1.3.1	85	PI 1.2.1	75	PI 3A.3.4	70
PI 1.1.3.2	90			PI 3A.6.2	85
PI 1.1.4.2	75				
PI 1.1.6.1	75				

As four scores fell below (or remain below) 80, and as the management framework of the stock is being revised, a re-worded Condition was raised to address these issues. The overall scores for the MSC Principles 1 and 3 were re-calculated as follows:

Principle 1: 84 Principle 3: 88

MSC Certification was recommended to continue for the Hastings Pelagic fleet (herring) Fishery subject to satisfactory compliance with the outstanding condition; and that surveillance audits should continue to the same schedule.

2.2.2 Mackerel

As a consequence of various ICES methodology changes, 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 was currently below Bpa but above the level used for Blim. This relatively low level of stock 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 was identified. Therefore some specific areas of 'harmonisation' between the different fisheries were considered. The result of these amendments was that the following PI scores were revised as follows:

PI 1.1.3.1	85	PI 1.2.1	80
PI 1.1.4.1	80		
PI 1.1.4.2	85		
PI 1.1.4.3	90		
PI 1.1.6.1	75		

As one score falls below 80, a Condition was raised to address this issue.
The overall scores for MSC Principle 1 were re-calculated taking into account all of the above amendments, as follows:

Principle 1: 85

It was recommended that MSC Certification should continue for the Hastings Pelagic fleet (mackerel) Fishery subject to satisfactory compliance with the outstanding condition; surveillance audits should continue to the same schedule.

4.0. SURVEILLANCE REPORT 2008 / 2009

4.1 Herring

<table>
<tr><td>Item</td><td>Comments</td></tr>
<tr><td>1</td><td>Status of stock; Herring</td></tr>
<tr><td>Observations</td><td>
<u>The assessment in 2009 of the status of the stock in 2008</u>

The total catch of all herring in the North Sea and eastern English Channel in 2008 was 245,000t. Catches in the North Sea human consumption fishery (fleet A) in 2008, estimated by the working group were 236,000t which was 17,000t more than the official landings figure. The official landings figure represented an overshoot of the TAC of 9% whereas the WG estimated catch showed an excess of 35,200t (17%) above the TAC. In 2007 the WG estimated overshoot was 39,700t (+12%). The estimated catch in Divisions IVc/VIId exceeded the sub TAC by 2,900t in 2008. The total catch of North Sea autumn spawners from all areas in 2008 was 257,870t which includes 12,900t from Division IIIa.

The catches estimated by the assessment Working Group include their best estimates of discards, misreporting and underreporting which are not included in official landings figures. The historic performance of the TAC regulation is shown in the table below. The estimated catch figures by the WG relate to fleet A catches only
<table>
<tr><td>Year</td><td>2000</td><td>2001</td><td>2002</td><td>2003</td><td>2004</td><td>2005</td><td>2006</td><td>2007</td><td>2008</td></tr>
<tr><td>TAC (Fleet A) ‘000t</td><td>265</td><td>265</td><td>265</td><td>400</td><td>460</td><td>535</td><td>455</td><td>341</td><td>201</td></tr>
<tr><td>Official landings ‘000t</td><td>267</td><td>275</td><td>282</td><td>414</td><td>484</td><td>547</td><td>478</td><td>354</td><td>219</td></tr>
<tr><td>WG est. catch ‘000t</td><td>328</td><td>303</td><td>331</td><td>438</td><td>537</td><td>617</td><td>498</td><td>381</td><td>236</td></tr>
<tr><td>Excess of catch vs TAC</td><td>63</td><td>38</td><td>66</td><td>38</td><td>77</td><td>83</td><td>43</td><td>40</td><td>35</td></tr>
<tr><td>By catch ceiling ‘000t</td><td>36</td><td>36</td><td>36</td><td>52</td><td>38</td><td>50</td><td>42</td><td>32</td><td>19</td></tr>
<tr><td>By catch landings ‘000t</td><td>18</td><td>20</td><td>22</td><td>12</td><td>14</td><td>22</td><td>12</td><td>7</td><td>9</td></tr>
<tr><td>Total WG catch ‘000t</td><td>346</td><td>323</td><td>353</td><td>450</td><td>550</td><td>639</td><td>511</td><td>388</td><td>245</td></tr>
</table>
The age composition of the catches shows that there is still a reasonable spread of year classes present in the fishery up to 9+ winter ringers. The strong 2000 year class is still evident in the fishery as 7wrs and is still present in the catches in greater numbers than the four succeeding year classes.

Area misreporting of catches decreased from 26,000t in 2007 to 17,000t in 2008. Most of this misreporting of North Sea catches occurs into Divisions IIa, IIIa and VIaN. In the past much of the excess catch was taken from Divisions IVc/VIId (Downs stock) but after the introduction of a sub-TAC for this area the situation has improved. However in 2008 there was an increased overshoot of the sub-TAC in this area of 2,900t (+11%), compared with 1,500t (5%) overshoot in 2007. This represents a worrying trend in the context the conservation of the spawning aggregations in this area. The Downs stock component has now returned to its pre-collapsed state but is dominated by one year class therefore there is a need to be even more cautious than for the North Sea herring as a whole. The basis for establishing a sub-TAC, in 2003, of 11% of the total North Sea TAC was weak. Indications are now that exploitation of this component is still relatively high which is why the sub-TAC measure in place to protect this stock should be maintained and enforced .
</td></tr>
</table>

Observations (continued)

By-catches in the North Sea small meshed fishery (fleet B) were 8,606t in 2008, an increase of 20% on the previous year but well below the by-catch ceiling of 18,800t. Information on discarding throughout the fishery improved in 2008 but is still poor and only a very small fraction of the fleet was sampled. The estimate of 224t used in the assessment was based on raised figures from just three fleets and is likely to be an underestimate because discarding probably occurs across the whole international fleet. Discarding estimates of around 970t from the Dutch fleet could not be split between VIaN, IV, VIId and IIa and therefore could not be included in the assessment. There is currently no evidence that discarding of herring is a major problem in the North Sea fishery either in terms of the assessment or the conservation of North Sea herring.

Slippage and high grading in the herring fisheries is now prohibited in EU waters (EC Council Reg. 43/2009) provided that the fish are above the legal minimum size (20cm Regions 1-5; 18cm Skagerrak and Kattegat) and that quota is available. However in Norwegian waters slippage is permitted from the purse seine fishery when the fish are considered to be viable.

The 2009 assessment was an update assessment the last benchmark assessment having been carried out in 2006. The FLICA model was used as in 2008. Four fishery independent surveys are used as tuning indices in the assessment. The summer acoustic survey index indicated an SSB of 1.8 million tonnes which is higher than the estimate in 2007. The survey also showed that the strong 2000 year class persists in the stock and still has a slower than average growth rate. This year class has a lower mean size and lower mean weight than the succeeding year class.

The maturity ogive, which is updated annually from sampling during the acoustic surveys, shows that maturity of the 2wr (2005 year class) is the highest in the time series since 1988 although similar to 2002. The maturity of the 3 and 4 wr's is also high. These relatively high maturity values obviously have an effect on the estimate of SSB. Maturity values over the past ten years, showing the percentage mature at age are shown in the table below.

Year/wr	*2wr*	*3wr*	*4wr*	*5+wr*
1999	81	91	100	100
2000	66	96	100	100
2001	77	92	100	100
2002	86	97	100	100
2003	43	93	100	100
2004	69.9	64.9	100	100
2005	76	97	96	100
2006	66	88	98	100
2007	71	92	93	100
2008	86	98	99	100

The International bottom trawl survey in the first quarter of the year, covers the whole North Sea, provides an index of the abundance of 2-5+ wr herring. It also provides an index of recruitment of both 1wr fish from the trawl survey and 0wr fish from a concurrent fine mesh MIK net survey (Methot Isaacs Kidd).

The other fishery independent survey index is the Multiplicative Larval Abundance index (MLAI) from the larvae surveys. This provides an age aggregated index of spawning biomass and also provides valuable information on the development of the three spawning components.

The assessment showed that the fishing mortality on adults (2-6wr) reduced to F_{2-6} 0.24 in 2008 from F_{2-6} 0.34 in 2007 which is still well above the new target F of 0.14. Fishing mortality on the juveniles (0-1wr) remained very low at F_{0-1} 0.05 compared with the target F_{0-1} 0.12. SSB was estimated at 1.0 million tonnes at spawning time in 2008.

ICES Advice for 2009

The assessment of the stock in March 2009 indicated an SSB at spawning time in 2008 of 1.0 million tonnes showing a very slight increase over the previous year (0.95mt). It is expected to remain below the B_{pa} of 1.3million tonnes in 2009. Based on a TAC constraint on catches in 2009 the SSB at spawning time is predicted to decrease slightly to 971,000t. The 90% confidence interval of the estimate of SSB in 2008 indicates that the stock is above the B_{lim} level of 800,000t. Fishing mortality in 2008 on ages 2-6 was 0.24 which was well above the target F_{2-6} of 0.14 but is considered appropriate in relation to the highest yield. The mean F on juveniles was F_{0-1} 0.05 which is around the target level and lower than the previous year (0.07). The stock is still at risk of having reduced reproductive capacity but is considered to be harvested sustainably.

The new estimate of the 2007 year class, estimated as '1' winter ringers in 2009, is considerably higher than the provisional estimate from the '0'wr survey in 2008. It also represents an increase on the low recruitments for the 2002 to 2005 year classes. However many of these '1' ringers were taken in the Kattegat and there is some concern that they could be western Baltic spring-spawners rather than North Sea fish. If this were so then the North Sea recruitment estimate would be reduced to 70% of the long term mean. The '0' ringer index in 2009, which gives an early indication of the strength of the 2008 year class, also indicates a significant increase and is 1.6 times higher than the estimate in 2008. This would place the 2008 year class at around 81% of the mean recruitment back to 1981and similar to the 2001 year class.

Whilst there are indications of some improvement in recruitment it is quite clear that recruitment is still low and that the six year decline may only have been temporarily halted. Year classes since 2002 are the weakest in the time series dating back to the late 1970's and there is not yet a clear indication that recruitment has recovered. Current recruitment levels, and the failure to fish at the target fishing mortality, will not aid a rapid recovery in the SSB to above Bpa in the near future.

The Working Group is still unable to explain the reasons for the succession of poor recruitments in recent years. Larval surveys continue to show good production in particular in the central North Sea where numbers increased in 2008 to the highest level since 2003. The '0' and '1' group surveys have noted some significant changes in the distribution of juveniles with the '0' groups in 2009 distributed much further off the Scottish coast and further north. Higher numbers were also found in the central North Sea and in the Skagerrak and Kattegat.

Agreed TAC for 2009

For 2008 paragraph 6 of the EU / Norway agreement was invoked allowing a greater than 15% reduction in the TAC. The total TAC for IV and VIId of 201,227t for 2008 was a reduction of 41% on the previous year. This included a sub-TAC of 26,661t for Divisions IVc/VIId (11% of the total TAC) and a by catch ceiling of 18,800t.

For 2009 the total TAC was further reduced, by 15%, to 186,985t which included the sub-TAC of 23,567 for IVc/VIId. The TAC was apportioned at 171,000t for fleet A (human consumption) and 15,985t for fleet B (all by-catches in other fisheries).

	<u>Outlook for 2010</u> A reduction in fishing mortality to close to the target fishing mortality is expected to be achieved in 2009. The SSB is expected to increase slightly both in 2010 and further in 2011, indicating that the current management has the potential to reverse the decline in the stock and stabilize it above the present level. The 2008 year class is estimated to be within the range of recent low recruitments. ICES assumes that the recruitment will remain at the low level. Delay in implementing substantial reductions in catch by not following the management plan has resulted in the SSB being at greater risk of being below Blim and lower catches.
Conclusion	The present perception of the stock status, and the consideration by HAWG (ICES, 2008a) and WKHMP (ICES, 2008b) is that, under the current 'low recruitment regime', the fishery would not return to B_{pa} in the medium term without virtual or total closure of the fishery. Fishery scientists consider that this is a consequence of environmental changes. ICES consider that although the current SSB is below the level of B_{pa} that was established for this stock in 1997, this target of B_{pa} is no longer appropriate for the stock. WKHMP and ICES have developed a new harvest control rule based upon model simulations which 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 (B_{lim}). Under the new harvest control rule management of the fishery will in future be Fishing Mortality (F) based and linked to the low probability of the SSB being below B_{lim}. Under the new rule the original B_{pa} point is no longer used as a target in management terms (it may, however, continue to be used by ICES to describe stock status). **The agreed conceptual target under the new harvest control rule is for the SSB of North Sea herring to be at or above a level which has a 95% probability of being above the biomass limit point of 800,000t. The status of the stock at spawning time in 2007 was that SSB was 0.98 million tonnes which is considered to be consistent with the parameters of the new harvest control rule.** The ICES advice on TACs for the stock in 2008 (ICES, 2007c) and for 2009 (ICES, 2008c) is also considered to be consistent with the parameters of the new harvest control rule. The agreed TAC for 2008 was set at a level higher than the ICES advice but for 2009 the agreed TACs are consistent with the advice, and with the new Harvest Control Rules. The surveillance audit team conclude that a new harvest control rule has been developed for this fishery, based upon advice from ICES scientists on an appropriately precautionary approach. This harvest control rule has been adopted and implemented by fishery managers. In the light of this advice, it is appropriate to review the condition for stock rebuilding that was imposed when B_{pa} was a target level for the stock. This is considered as the next item in the surveillance audit.

Item	Comments
2	**Management responses to changes in stock status - Herring**
Observations	In November 2008 EU-Norway have agreed on an adjusted management plan taking account of recent poor recruitment (see Annex 1). ICES evaluated this management plan (WKHMP ICES CM 2008 ACOM:27) and concluded that the plan is consistent with the precautionary approach.
Conclusion	Following discussions of the new harvest control rule and its implementation with scientists involved in the formulation of this advice, it has become clear to the audit team that F is not a reference point for the fish stock, but is a harvest control rule. The reference points for the fish stock are still expressed in terms of stock biomass – however B_{pa} is no longer used as the precautionary reference point. Mathematical models and simulations are now used to determine whether the stock is likely to fall below B_{lim} under a range of fishing scenarios. Target values of F are determined on the basis of these scenarios The audit team conclude that models of stock status and the new harvest control rule that has been implemented for this fishery appear to address previous concerns about stock status and the need for rebuilding measures. There now appears to be no need for rebuilding measures. Similar concerns about the relevant decision rules and the relevance of the SSB and F reference points are also addressed Condition 2 addressed the need for a rebuilding plan for the fishery. Under the revised management approach for the fishery this condition is no longer appropriate. The Performance Indicators relating to decision rules, reference levels and rebuilding have been reviewed and re-scored using the information gathered during the course of the assessment visit. The audit team therefore consider that the condition can be closed but kept under review The team note that the effectiveness of the new approach to management will need to be carefully assessed in future surveillance audits. As a consequence of the implementation of the new harvest control rule and the closure of the related Condition the following scores have been revised. 1.1.4.2 From 75 to 80 1.1.6.1 From 75 to 80 1.2.1 From 75 to 85 3A. 3.4 From 70 to 85 The MSC Certification for the herring fishery should continue. Surveillance audits should continue to the same (annual) schedule and will need to carefully consider the ongoing effectiveness of the new approach.

4.2 Mackerel

As observed at the previous surveillance visit, 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 the differences in fact and interpretation have emerged. As a result, the previous assessment set out to ensure concurrence across these different assessments. This resulted in PI 1.1.6.1 being re-scored at 75 and a condition being raised as a result. In addition, as rebuilding was therefore required PI 1.2.1 was now required to be scored and 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.

Item	Comments
3	**Status of stock - Mackerel**
Observations	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. 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 (which includes spawning areas in VI, VII, VIIIa,b,d,e) comprises around 76% of the total stock. The catches of this component were low in the 1960s, but increased to more than 800 000 t in 1993. The main catches are taken in directed fisheries by purse-seiners and mid-water trawlers. Large catches of the western component are taken in the northern North Sea and in the Norwegian Sea. The 1996 catch was reduced by about 200 000 t compared with 1995, because of a reduction in the TAC. The catches since 1998 have been stable. The SSB of the Western Component declined in the 1970s from above 3.0 million t to 2.2 million t in 1994, but increased to 2.7 million t in 1999. A separate assessment for this stock component is no longer required, as a recent extension of the time-series of mackerel in the Northeast Atlantic data now allows the estimation of the mean recruitment from 1972 onwards. Estimates of the spawning-stock biomass, derived from egg surveys, indicate a decrease of 14% between 1998 and 2001 and a 6% decrease from 2001 to the 2004 survey. The results from 2007 indicated a 5% increased from 2004 to 2007. Catches in 2007 and 2008 have been considerably in excess of the ICES' advice. The total catch of North east Atlantic mackerel in 2008, estimated by the ICES working group, was 611,063t, which was 31,684t higher than in the previous year and the largest annual catch since 2004. The catch represents an overshoot of the total TAC

for 2008 (457,865t) of around 153,200t. The North Sea and western component of the catch, which includes the Norwegian Sea and sub-area V including international waters, was 551,195t an overshoot of the TAC of 120,335t. Much of this excess was an unregulated catch taken, in Sub-areas II and V, by Icelandic vessels. The catch in these Sub-areas more than doubled in 2008 to 148,669t.

The absence of effective international agreements on the exploitation of the stock (between all nations involved in the fishery) is a cause of concern and prevents control of the exploitation rate of the stock. According to the short-term forecast, the total estimated catch in 2009 results in an estimated fishing mortality of 0.31, which is above that stipulated in the management plan (it should be noted that this F would be lower without the significant additional catches in excess of the TAC) Most of this excess is currently taken by Icelandic vessels fishing outside of the Coastal States agreement against a unilaterally declared TAC of 112,000t for 2009.

The spawning stock biomass (SSB) has increased from a low of 1.8 million tonnes in 2002 to around 2.5 million tonnes in 2008, a level similar to that seen in the 1990s.

Available information indicates that the distribution of the spawning area and feeding areas of mackerel have expanded in recent years. Mackerel has been commercially fished in areas where it was previously not fished, particularly in the Icelandic EEZ.

As a whole (i.e. NE Atlantic), based on the most recent estimate of SSB (in 2009), ICES classifies this stock as having full reproductive capacity. Based on the most recent estimates of fishing mortality (in 2008), ICES classifies the stock as being harvested at increased risk. Fishing mortality in 2008 is estimated to be just above Fpa. SSB has increased by 47% since 2002 and is currently estimated to be above Bpa. The 2002 year class is the highest on record. Subsequent year classes are estimated to be about average. There is insufficient information to confirm the sizes of the 2007 and 2008 year-classes.

In 2008 ICES evaluated the following proposed **Management plan** for mackerel in the Northeast Atlantic:

1. For the purpose of this long-term management plan, "SSB" means the estimate according to ICES of the spawning stock biomass at spawning time in the year in which the TAC applies, taking account of the expected catch.

2. When the SSB is above 2,200,000 tonnes, the TAC shall be fixed according to the expected landings, as advised by ICES, on fishing the stock consistent with a fishing mortality rate in the range of 0.20 to 0.22 for appropriate age groups as defined by ICES.

3. When the SSB is lower than 2,200,000 tonnes, the TAC shall be fixed according to the expected landings as advised by ICES, on fishing the stock at a fishing mortality rate determined by the following:

Fishing mortality F = 0.22 SSB/ 2,200,000*
4. Notwithstanding paragraph 2, the TAC shall not be changed by more than 20% from one year to the next, including from 2009 to 2010.

5. In the event that the ICES estimate of SSB is less than 1,670,000 tonnes, the Parties shall decide on a TAC which is less than that arising from the application of paragraphs 2 to 4.

6. The Parties may decide on a TAC that is lower than that determined by paragraphs

2 to 4.

7. The Parties shall, as appropriate, review and revise these management measures and strategies on the basis of any new advice provided by ICES

ICES concluded that the plan is precautionary under the assumption that the TAC equals the total removals from the stock. The plan was agreed by Norway, Faroe Islands and the EU in October 2008.

As a result of the revised management plan some of the Reference points changed.

Current **Reference points** are now:

Blim 1.67mt: The spawning biomass above which reduced recruitment has not been observed
Bpa 2.3mt: Unchanged + B loss raised by 15%
Flim 0.42: Floss- the fishing mortality likely to lead to stock collapse
Fpa 0.23: – Flim x 0.55
Target F between 0.2 and 0.22
Target B > 2.2 million tonnes

ICES Advice for 2009

The perception of the stock based on the assessment results is very similar to that of 2008. The basis of the advice in 2009 is the precautionary management plan given in above Norway, Faroe Islands, and the EU agreed to the plan in 2008, but it has not been agreed to by all of the participants in the fishery. Previous advice was based on a management plan agreed by Norway, Faroe Islands, and the EU in 1999.

Agreed TAC for 2009

Following this advice from ICES the TAC's for 2009 were agreed at a meeting between EU and Norway and endorsed by the Council of Ministers in December 2008. At this stage stakeholders, including the Pelagic Regional Advisory Council have had the opportunity for input.

The TAC advice for 2009 was for a total catch of 642,685t based on the precautionary approach fishing mortality of F 0.23. This did take into account the unilateral TAC declared by Norway and the Faroese of 36,000t and 1,865t allocated to Sweden.

The final agreement for a TAC for VI, VII, VIIIa, VIIIb, VIIId and VIIIe; EC waters of Vb;
international waters of IIa, XII and XIV was 511,287t, of which the UK was allocated 181,694t (out of an EC TAC of 311,531 t.

Advice for 2010

Because of the ongoing problem of catches outside the agreed TAC, the ACOM advice for 2010 is based on an expected total catch in 2009 of 832,275t rather than the advised TAC. That expected catch takes into account an estimated overshoot of the TAC of 70,000t, the Icelandic catch taken by August 2009 of 111,691t and likely discards but less 18,000t which is the agreed past TAC overshoot payback by the UK and Ireland. This expected catch generates a fishing mortality of F 0.31, which is well above Fpa, and will lead to an estimated SSB at spawning time in 2009 of 2.591 million tonnes. The slight increase predicted in the SSB is attributable to the relatively

	good year classes in 2004 and 2005. The ACOM advice for the fishery in 2010 is based on the target fishing mortality between F0.2 and 0.22 which would lead to catches in 2010 of between 527,000t and 572,000t. This in turn would lead to SSBs of between 2.450 and 2.470 million tonnes at spawning time in 2010 and between 2.448 and 2.496 million tonnes at spawning time in 2011. These predictions are based entirely on the current unregulated catches being subject to the advised precautionary level TAC
Conclusion	With the exception of the North Sea component the NEA mackerel stock is currently in a healthy state and is considered to have full reproductive capacity. Following a series of relatively good recruitment SSB is above the biomass precautionary level and fishing mortality is only slightly above it precautionary point. However there are significant problems in the fishery which must be resolved in order to maintain a sustainable harvest in the future. The major problems which must be addressed are the continuing unreliability of the catch data, through misreporting and under reporting, and the large unregulated catches taken outside the agreed TAC. These problems are predicted to generate catches well in excess of the agreed TAC and an increase in fishing mortality in 2009 to F0.31 which is significantly higher than Fpa (0.23).

4	**Condition: Client support for the implementation of an appropriate management plan**
Background	As the previous audit, a condition was raised regarding the expected new management plan for the NE Atlantic Mackerel. 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. In June 2008 ICES provided advice in response to a European Commission (EC) request on evaluation of management plan for mackerel in the Northeast Atlantic (Section 9.3.2.1 ICES, 2008). A number of precautionary harvest rules were presented to stakeholders, for both medium-term expectations and short term catch options. A management plan based on these options was agreed in October 2008 (see Annex 2). ICES concluded that the plan is precautionary under the assumption that the TAC equals the total removals from the stock. From surveillance 2

PI	Score at fishery assessment	Revised score at surveillance 2	Revised score at surveillance 3
1.1.6.1 Is the stock(s) at or above reference levels?	90	75 Rebuilding was therefore required and so PI 1.2.1 was rescored	80 The 2009 stock assessment. Spawning stock biomass was above BPA reference level. Fishing mortality was 0.23 in 2008 and 0.24 in 2009 so marginally over the target. PI 1.2.1 no longer needs to be scored
1.1.3.1 Are there	95	85	

	appropriate limit and precautionary reference points based on both biomass and fishing mortality			
	1.1.4.1 Is there a mechanism in place to contain harvest as required?	95	80	
	1.1.4.2 Are clear, tested decision rules set out?	85	85	
	1.1.4.3Are appropriate management tools specified to implement decisions in terms of input and/or output controls?	95	90	
	1.2.1 If the stock is below the precautionary reference points, are measures to rebuild the stock specified?	Not scored	80	Not scored
	Principal 1 rescore as a result of these changes	89	85	Score not given as super condition below incurred rescoring
Conclusions	The HFMG have attempted to engage with the North Sea Pelagic Regional Advisory Committee (RAC), and have advised them of their willingness to participate in the implementation of the new management plan. The Condition related to the management plan has clearly been complied with. A new management plan has been agreed between the Coastal States and implemented in 2008. As the stock is now (audit was conducted 2-4 Nov 2009) likely to be above the target reference levels, PI 1.1.6.1 has now been scored at 80 and the condition considered as fulfilled. However this condition had resulted from the harmonisation with other NE Atlantic mackerel fisheries. The condition is superceeded with the new condition (9 Feb 2010) that is discussed below.			

Item	Comments
5	**MSC Super Condition for all NE Atlantic Mackerel Fisheries**
Background	The background to this new condition is set out in the text below, which is copied from a statement agreed between the MSC and Certification Bodies in February 2010. ***"Revised proposal for Mackerel harmonisation*** *The following notes are an output from an MSC harmonisation meeting held between relevant MSC certification bodies on 9th February 2010.* *The ICES advice for NEA mackerel releases in autumn 2009 clearly shows substantial catches in excess of scientific advice and the harvest control rule, with countries, notably Iceland, catching significant quantities of mackerel outside of the coastal states agreement (CSA).* *"Catches in 2007 and 2008 have been considerably in excess of the ICES' advice. The absence of effective international agreements on the exploitation of the stock (between all nations involved in the fishery) is a cause of concern and prevents control of the exploitation rate of the stock. According to the short-term forecast, the total estimated catch in 2009 (551,000t compared to a TAC of 431,000t) results in an estimated fishing mortality of 0.31, which is above that stipulated in the management plan (and above Fpa)". ICES NEA Mackerel advice, October 2009* *The situation appears sufficiently serious to require that a harmonised approach be taken by all Certification Bodies undertaking audits or new assessments relating to this stock. A strong and unified position for all certified fisheries may help stimulate constructive negotiation and discussion across all countries exploiting the shared resource.* *Although a number of previous assessments have referred to the threat of unilateral action outside of the coastal states and NEAFC agreement, it is only now that the scale of the potential problem has become clear – and the potential impact on the stock projected.* *At the meeting it was agreed that:* • *The situation is serious, warranting harmonised action, in the form of certain unified conditions being placed on all certified fisheries.* • *The management of the NEA mackerel stock and fisheries is a matter for agreement between all countries exploiting this straddling stock. No such agreement currently exists – and this state of affairs can be shown to pose a real threat to the sustainable management of this fishery in the near future. Therefore the focus of MSC conditions should be on ensuring the management system works.* • *It will take time to resolve the situation with high-level negotiations. Fortunately the stock status is, for the time being, reasonable. It was therefore agreed that a sensible deadline for any new harmonised MSC condition should be the end of 2011, prior to the 2012 season. This should allow enough time for the situation to be resolved before stock status falls below Bpa - a situation that would require a rebuilding plan to be developed and agreed.* *There may need to be some flexibility between CBs / fisheries on the exact scoring / PIs to be addressed in the context of any harmonised condition, due to the differences in existing scoring and/or the differences caused by use of alternate assessment trees (and weighting in earlier versions of the AT). The impact of changes / new conditions is not intended to cause any of the mackerel fisheries to fail at this time, but rather to place a condition that will trigger suspension of all certifications if it is not met within*

	a fixed time-frame. *The overall binding principle (i.e. not yet phrased in MSC scoring guidepost terminology) is that all CBs should notify their clients of the following harmonised condition, and incorporate this condition into assessments (into ongoing or new assessments, or into the next surveillance audit, as appropriate):* *A condition should be placed on all fisheries to ensure that an agreement is in place and working in time for the 2012 fishing season, which ensures that the sum of all catch allocations for 2012 is equal to or less than the TAC set for 2012, and that the TAC is set in line with the agreed harvest control rule and in accordance with scientific advice. A failure to reach such an agreement and the prospect of on-going unilateral action means that all fisheries would lose certification (at the same time) in January 2012."* It was agreed that the harmonising condition should link MSC Principles 1 & 3, but there was no unanimous view on the Performance Indicators that should score less than 80 as a consequence of this issue. Good arguments were put forward for FAM v2 PIs 1.2.1, 1.2.2, 3.1.1, 3.1.2, 3.1.3, 3.2.1 and 3.2.2. The agreement concluded that:- *"In order to move toward a timely resolution it was therefore agreed that so long as the binding principle referred to above was incorporated, on the agreed timeline and bridged between P1 & 3, then there can be some flexibility in the application of this new condition to individual assessments. To meet FCM v6 Section 3.4.2, however, the condition must be applied to Performance Indicators that are re-scored (or currently score) at below 80 levels."*
Response	**<u>Re-scoring assessment</u>** The Hasting mackerel fishery was assessed against a bespoke assessment tree that is included in the fishery assessment report. The fishery assessment pre dates FAM v2 (the standardised Fishery Assessment Methodology Version 2) so the list of potential PI that could be rescored (FAM v2 PIs 1.2.1, 1.2.2, 3.1.1, 3.1.2, 3.1.3, 3.2.1 and 3.2.2) are not strictly available. Translation of FAMv2 PI to the bespoke tree is therefore necessary. The new condition will be raised against a P1 and P3. Clearly this new super condition is very similar to the condition above that was raised against the Hastings mackerel fishery (condition: Client support for the implementation of an appropriate management plan). In consideration of the new super condition PI 1.1.4.1, & 1.1.4.3, were rescored We note the need to award a score of less than 80 for one of the Principle 3 Performance Indicators as part of the harmonisation process. After careful consideration, the team conclude that it is most appropriate to review the scoring of PI 3A.2.1, & 3A.3.4. Our rationale is that the problems with the Coastal States Agreement prevent the decision making process from 'responding to serious and other important issues' and that the decision making process can no longer apply the precautionary approach because of the unilateral action of Iceland outside the decision making process.

PI	Score at fishery assessment	Revised score at surveillance 2	Revised score at surveillance 3
1.1.4.1 Is there a mechanism in place to contain harvest as required?	95	80	70 Mechanisms are in place through the annual EU TAC and the coastal states agreement between EU, Norway, Iceland and Faeroes. However the CSA has now broken down and is no longer effective and has lead to catches in excess of the advice and TACs
1.1.4.3Are appropriate management tools specified to implement decisions in terms of input and/or output controls?	95	90	70 The CSA is the major tool in controlling output and is currently ineffective
Principal 1	89	85	85
3A.2.1 Is the fishery consistent with International Conventions and Agreements?	100	No change	60 The management system is compliant with most international agreements (quota control between EU & Norway) but the CSA is not operational
3A.3.4 Do objectives and operational procedures follow the precautionary approach?	85	No change	70 EU Norway could respond to situation and be precautionary (ie reduce their TAC)
Principle 3	89	No change	88

The text of the new condition is set out below.

Condition from Surveillance 3: Harvest Strategy, Harvest Control

Elements of the harvest strategy work together to achieve the management objectives reflected in the target and limit reference points and decision-making processes respond to serious and other important issues in a transparent, timely and adaptive manner.

Relevant Performance Indicators: 1.1.4.1, 1.1.4.3, 3A.2.1 3A.3.4

Timelines: The condition applies with immediate effect and must be addressed by 31st December 2011 – in time for the 2012 fishing season. Clearly this timescale spans the expiry of the current certificate on 13 Oct 2010. The unique nature of this new condition will be considered at recertification as conditions from one certificate should be closed before the fishery is eligible for recertification.

Suggested Action: Clear, significant progress must be shown in setting catch allocations between all relevant nations and the parties to the NEA mackerel

	management plan, to enable the conclusion to be drawn that "*elements of the harvest strategy work together towards achieving management objectives*". Resolution of this problem will also provide evidence that "decision-making processes respond to serious and other important issues in a transparent, timely and adaptive manner". This will be evidenced by the sum of the catch allocations to all relevant fishing nations being equal to or less than the agreed TAC, and the TAC being in line with the harvest control rule. This situation must be reached in time for the 2012 NEA mackerel fishing season (i.e. by 31/12/2011), indicating that the decision-making has proven adaptive and timely and that the harvest control rule is being implemented as intended, as part of an overall coherent management strategy. If a transition TAC is agreed in the short term which exceeds the target defined by the management plan, it will be necessary to check that the transition TAC is precautionary as defined by ICES or inferred from projections. The harvest strategy and fishery decision-making processes will not meet future objectives unless all countries exploiting the shared NEA mackerel stock work together in the implementation of the harvest control rule, and that this be achieved in a timely manner. Decision making processes must be adaptive to new management pressures. The stock status is currently above the precautionary level, but if current fishing patterns are continued is likely to fall below B_{pa} in the short-term. Only a short window of opportunity exists for an agreement to be reached before the stock is likely to decline. The short-term predictions suggest that the stock will still be above the SSB precautionary level even if there is a high fishing mortality until 2011. Thereafter, without a strong recruitment, it is likely that the stock will be at significant risk of falling below the precautionary level. Consultation with relevant entities: The client will work with relevant entities through the Pelagic RAC to address this issue. It is hoped that high level meetings will take place between the main NEA mackerel fishing nations (EU, Norway, Faeroes and Iceland) with the intention of achieving a formal agreement of quota allocations. The client considers hopes that this condition will be addressed within the timescale proposed.
Client Action Plan	Hastings Fishery Management Group (HFMG) is committed to activity to comply with the new MSC Super Condition for all NE Atlantic Mackerel Fisheries. Landings from the Hastings mackerel fishery at <10t pa is very low: in fact, it is insignificant when compared to the larger North Sea and NE Atlantic MSC certified mackerel fisheries. The political weight and influence that HFMG can bring to bear with regard to this particular Super Condition is therefore extremely limited. Consequently, HFMG will endeavour to work with partners to support lobbying for change in the management of the fishery. HFMG has representation on the following groups, either directly or through belonging to associations: • The Hastings Fishery comprises boats all operating in the <10m sector, and therefore do not (indeed, cannot) belong to a PO. All Hastings' boats are members of the 'New Under Ten Fishermen's Association' (NUTFA) which may be able to assist with lobbying; • Pelagic RAC;

	• Northern Pelagic Working Group of the EAPO (European Association of Producers Organisations). These organisations play a role, either directly and indirectly, in the development of the management of the mackerel fisheries. Through the above mentioned organisations, HFMG (and/or its members) will, wherever practicable, consistently, strongly and publicly lobby against the unregulated Icelandic mackerel fisheries, and will urge the European Commission – which is the negotiator for the EU in the coastal states mackerel talks and in NEAFC – and the member states, to take action in order to require Iceland to manage their mackerel fisheries in collaboration with the existing EU coastal states, Norway and the Faroe Islands. HFMG will continue to make such representations, and others where appropriate, but is itself not in the formal position to force Iceland to act responsibly in this matter.
Observations	The Hastings certified Mackerel fishery is a small fishery compared to other fisheries upon the shared stock. The assessment team suspect that the issue underlying the need for the super condition will continue to develop during 2010. The issue is highly political There was some discussion about the difficulty that the client faces in resolving a condition that will require the cooperation of the Icelandic Government. While it was clear that this issue needed resolution, there was some concern that the approach set out in the MSC "super condition" could have the effect of compromising negotiations and could place the certified fisheries in some jeopardy. The client was, nevertheless, committed to achieving a solution to this issue.
Conclusions	The client will take action to address this issue. It is presently impossible to judge whether the deadline date of 31st December 2011 will be met. .

6	**Any complaints against the certified operation; recorded, reviewed and actioned**
	There were no reported incidents of any complaints against the Hastings pelagic fishery in relation to the scope of this MSC certification.

7	**Any relevant changes to legislation or regulation.**
	Consultation on a Marine Bill for England and Wales is continuing. 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.

8	**Any relevant changes to management regime.**
	There have been no other relevant changes in the management regime.

9	**Overall Conclusions: Herring and Mackerel**
	HFMG have taken appropriate measures to address the conditions of certification raised during the MSC certification assessment and subsequent surveillance visits and the expedited audit. **Herring** MSC Certification should therefore continue for the Hastings Pelagic fleet (herring) Fishery. Whilst the conditions are closed a number of them included monitoring activities that should continue. Surveillance audits should continue annually.

	Mackerel Surveillance 2 resulted in a condition being raised: *'Client support for the implementation of an appropriate management plan'*. This condition had resulted from the harmonisation with other NE Atlantic mackerel fisheries. The condition is superceeded with the new super condition (9 Feb 2010) *'MSC Condition for all NE Atlantic Mackerel Fisheries'*. The new super condition now applies to this fishery and rescoring of P1 and P3 has resulted. The client will need to undertake appropriate actions. 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.

Information Sources:

Reports

M&FA UK Weekly Quota Uptake (http://www.mfa.gov.uk/management/documents/Area-VII.xls) as of 4 November (retrieved 9 November 2009).

ICES. 2008. Report of the ICES Advisory Committee, 2008. ICES Advice, 2008. Book 9. 345 pp.

ICES. 2009. Report of the Working Group on Widely Distributed Stocks, ICES Headquarters, Copenhagen 2-8 September 2009 (ICES CM 2009/ACOM:12).

Meetings

1. 03/11/2009. Steve Potter. Hastings Borough Council
2. 04/11/2009. Hastings Fishery Management Group, Hastings (Paul Joy, Graham Coughlin)
3. 04/11/2009. Hastings Fishery Management Group, Hastings (Paul Joy, Ken Moss)
4. 03/11/2008. Paola Serafino. MFA Hastings
5. 09/11/2008. Angus Radford. MFA Hastings (by telephone)

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

Annex 1: Agreed Management Plan for North Sea herring

According to the EU–Norway agreement (November 2008):

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

Annex 2: New management plan for mackerel in the Northeast Atlantic (agreed October 2008)

1. For the purpose of this long-term management plan, "SSB" means the estimate according to ICES of the spawning stock biomass at spawning time in the year in which the TAC applies, taking account of the expected catch.
2. When the SSB is above 2,200,000 tonnes, the TAC shall be fixed according to the expected landings, as advised by ICES, on fishing the stock consistent with a fishing mortality rate in the range of 0.20 to 0.22 for appropriate age groups as defined by ICES.
3. When the SSB is lower than 2,200,000 tonnes, the TAC shall be fixed according to the expected landings as advised by ICES, on fishing the stock at a fishing mortality rate determined by the following:
4. Fishing mortality F = 0.22* SSB/ 2,200,000
5. Notwithstanding paragraph 2, the TAC shall not be changed by more than 20% from one year to the next, including from 2009 to 2010.
6. In the event that the ICES estimate of SSB is less than 1,670,000 tonnes, the Parties shall decide on a TAC which is less than that arising from the application of paragraphs 2 to 4.
7. The Parties may decide on a TAC that is lower than that determined by paragraphs 2 to 4.
8. The Parties shall, as appropriate, review and revise these management measures and strategies on the basis of any new advice provided by ICES