



Advice to Commission & Member States on the Management of *Nephrops* stocks in the North Sea, especially in relation to the Farne Deeps fishery

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1. Background

- 1.1 The North Sea Advisory Committee has recently completed a Long Term Management Plan for the North Sea *Nephrops* fisheries. Independent scientists have subjected the plan to peer review. The revised plan is now being submitted to the Commission together with this advice paper for further discussion and comment. It is intended that the *Nephrops* Management Plan would sit within the context of the Mixed Fishery Plan being proposed for the North Sea. The Mixed Fishery Plan would look after the overall management of the *Nephrops* and other North Sea fisheries and would set a range of values for Fmsy for the North Sea as a whole. But management of *Nephrops* would also take place at a Functional Unit level, through the NSAC's Management Plan for North Sea *Nephrops*. The NSAC Management Plan suggests the preparation of Fishing Plans, proposing measures for the individual Functional Units, to be approved on a regional basis.
- 1.2 Following the latest ICES advice there is some immediate concern over the state of *Nephrops* stocks in one of the Functional Units in the North Sea – the Farne Deeps. The NSAC wishes to draw the attention of the Commission and Member States to these problems in the Farne Deeps and is proposing that they be handled through the adoption of a Fishing Plan for this ground, as suggested in the NSAC Long Term Management Plan.
- 1.3 Currently, in the North Sea, *Nephrops* stocks are divided into separate Functional Units (FUs) for assessment purposes. Management is achieved through the setting of an overall TAC for the North Sea area, based on the aggregated abundance of *Nephrops* in the different FUs. A major management consideration for *Nephrops* stocks is whether management should be at the FU level rather than a North Sea level. Advice from ICES and STECF has been that current management of *Nephrops* in the North Sea (both in terms of TACs and effort) does not provide adequate safeguards to ensure that local effort is sufficiently limited to avoid depletion of resources in the FUs. Catches can be taken anywhere in the North Sea and vessels have the flexibility to move between grounds. This freedom, although it provides operational flexibility for fishing vessels, may lead to unacceptably high harvest rates from some of the FUs. This has now happened in the Farne Deeps.

- 1.4 The NSAC Management Plan for *Nephrops* concludes that management at the FU level through the preparation of Fishing Plans for particular FUs will provide the necessary controls to ensure that catch opportunities and effort are compatible and in line with the scale of resources on each of the grounds defined by the FUs. At the same time the Fishing Plans also provide flexibility for the fleets to move between grounds.
- 1.5 As part of the task of preparing an overall management plan the NSAC has already considered a Fishing Plan for the Farne Deeps; which was previously identified as the most vulnerable FU in the North Sea. The NSAC consulted fishers and other stakeholders on a number of measures and came forward with an “of which no more than” approach, limiting the quantities of *Nephrops* to be taken from the Farne Deeps, as the best solution to the problems on that fishing ground.
- 1.6 The NSAC has recognised that with this approach a problem arises over the allocation of shares in the catch for that fishery. A solution is required that will achieve equity for all those vessels that fish the Farne Deeps, recognising the particular problems faced by those who are limited to fishing there.
- 1.7 In this paper the NSAC outlines the proposals set out within the NSAC Long Term Management Plan for dealing with the problems that have now arisen with the Farne Deeps fishery. We are now seeking discussion with the Commission and Member States during 2015 on the solutions to be adopted, and especially on the issue of resolving quota allocation issues arising from the implementation of an “of which no more than” approach. Should the Farne Deeps Functional Unit continue to be subjected to over-exploitation then a Fishing Plan for this Functional Unit might be implemented in 2016.

2. The current state of the Farne Deeps fishery

- 2.1 Although the Farne Deeps is a relatively small area, close to the English coast, it has the largest landings of all the *Nephrops* Functional Units. Those landings have recently been increasing. The Farne Deeps is one of the FUs where abundance estimates can be made, from Underwater Television Surveys. The ICES advice follows MSY Harvest Control Rules based on most recent abundance estimate. The estimate takes into account discard rates and the mean weights of *Nephrops*.
- 2.2 The *Nephrops* fisheries within the European Union are governed by the key policy goal of achieving MSY by 2015. The advice is presented in terms of the fishing mortality to achieve MSY (F_{msy}) and the spawning stock biomass to reach MSY (B_{msy}). Reliable proxies for F_{msy} are available for key FUs like the Farne Deeps, with precautionary data deficient protocols in use for those FUs with less reliable information. $B_{trigger}$ is used as the biomass reference point in the same way as B_{lim} in many white fish fisheries, and is the lowest observed abundance or the abundance at which the stock is considered to be experiencing reduced recruitment.
- 2.3 The abundance of *Nephrops* in the Farne Deeps assessed by UWTV survey has declined since 2005 and the biomass is now below $B_{trigger}$ (although the 2014 survey shows signs of recovery). The harvest rate has increased over the last 3 years and is now above F_{msy} . There has been a great increase in number of vessels fishing within the area and an increase in the fishing power of some of the vessels (more of them are using twin-rig and multi-rig gears). The latest ICES advice remarks that without suitable controls on effort movement between FUs, both effort and harvest rate could increase in this FU in 2015. Recently a large proportion of the catch has consisted of large females with the proportion of males declining and many of the males being small in size. This is believed by scientists to be a harbinger of poor recruitment.

- 2.4 The Farne Deep is particularly vulnerable to over-exploitation because it has yielded good catches in the past and is close to fishing ports, enabling vessels to land their catch daily and return to port more often. Changes in the price of fuel have posed a particular problem for *Nephrops* vessels fishing offshore grounds like the Fladen Ground. It now costs more to fish on the Fladen than to fish elsewhere. However, the price for the product has not changed. There has therefore been economic pressure to move to grounds that are closer to shore. Spatial data indicate that *Nephrops* vessels may fish together as a fleet, moving from one ground to another. As a result there are often peaks in fishing effort on fishing grounds, caused by a range of factors. Moving among grounds is a good thing in terms of distributing the fishing effort and spreading the impact of the fishery, but under some circumstances it can lead to excessive fishing effort being focused on a particular fishing ground. The Farne Deep *Nephrops* fishery is mainly a winter fishery, and if the fisheries in other larger Functional Units are slow to take off at the beginning of the year there is a tendency to move to the Farne Deep. Any management plan must include provisions to deal with such heavy exploitation within a FU, and must also take account of the displacement to other units that can occur when restrictions are placed on a particular FU.

3. The NSAC Long Term Management Plan for the North Sea *Nephrops* fisheries

- 3.1 The draft LTMP proposes the following biological targets for the North Sea *Nephrops* fishery:
- To maintain the biomass of each Functional Unit at a sustainable level, above MSY Btrigger.
 - To exploit *Nephrops* in the North Sea at a rate that is sustainable and consistent with Fmsy through the setting of Fmsy targets and limiting fishing mortality for each Functional Unit accordingly.
 - A biomass trigger point (Bbuffer) should be set for each FU that will prompt a revision of the target value for fishing mortality in the event of a major change in stock size.

Bbuffer is a precautionary level of abundance above Btrigger that will turn on a set of management measures designed to avoid further stock decline to below Btrigger, and then turn off those measures once recovery has been achieved. Advice has been taken from ICES in defining Bbuffer.

As the main management measure the Long Term Management Plan proposes that a TAC should be set for the North Sea as a whole, consistent with the aggregated assessments for the individual FUs, as is done at present. Management at the FU level should be achieved through the adoption of specific, defined, management measures for vulnerable FUs or for FUs for which there are few data. Those measures should reflect the particular circumstances on those grounds, including any effects as a result of displacement from other grounds. The restrictions would be lifted when the stock had fully recovered.

4. Managing fisheries within Functional Units

- 4.1 It has been evident that some of the *Nephrops* FUs within the North Sea, and especially the Farne Deeps, are vulnerable to over-exploitation. ICES and STECF advice recommends the introduction of FU management to provide the controls to ensure that catch opportunities and effort are compatible and in line with the scale of the resources in each of the stocks defined by the FUs.
- 4.2 The NSAC Management Plan for *Nephrops* sets out how such controls can be introduced to FUs to limit potential damage and restore stocks to sustainable levels should they exhibit decline. Setting a Harvest Rate according to ICES advice will go a long way in guarding against depletion. Nevertheless it is also important that local Fishing Plans are agreed, which will protect FU stocks until they have recovered to sustainable levels.
- 4.3 ICES notes that FU TACs are only one way of managing the fisheries and other approaches may also deliver the required safeguards. The NSAC believes the proposed management measures for the Farne Deeps will achieve the required safeguards and represent a better solution than the imposition of TACs for individual FUs. The concept of quotas specific to each of the FUs raises a number of rather difficult questions in relation to quota allocation at an international level. Management of the FUs by setting individual TACs or catch limits is therefore not favoured in the proposed Long Term Management Plan.
- 4.4 Instead the draft Management Plan suggests that Fishing Plans be developed for each FU. The first step in preparing Fishing Plan is to ensure that full information relating to the state of the fishery, and the state of the resource is provided. Where information is lacking the Fishing Plan will be suitably precautionary. The plan will then consider how the *Nephrops* stock could be rebuilt in that FU; in a manner that is fair and equitable to all fishers – allowing all participants in the fishery to continue fishing. The plans should relate only to a particular FU and they should not discriminate against any fishers. An important element of the plans would be the detailed information on how the FU has been fished in the past and is being fished in the present. The main elements of each Fishing Plan should be concerned with protecting and rebuilding the *Nephrops* resource within an FU. Provision would be made for lifting the Fishing Plan once the *Nephrops* stock within the FU had been restored to a sustainable level.

5. A Fishing Plan for the Farne Deeps

- 5.1 Overall the *Nephrops* stocks in the North Sea do not appear to be over exploited. However, the latest ICES assessment for the Farne Deeps is that fishing pressure is above MSY (F_{msy}) and that stock size is below MSY (B_{trigger}). There are currently many vessels fishing the Farne Deeps. There are some local small and larger vessels that can fish the Forth and West coast fisheries, but the locally based fleet is most dependent on Farne Deeps. In the winter, there are no alternatives for the least mobile vessels. Recently, vessels from more distant UK ports have joined the Farne Deeps fishery as a result of factors affecting fishing at their more usual grounds. Some flexibility in the ability to roam between different areas is considered advantageous and is provided for under the CFP. In the case of the Farne Deeps, however, heavy effort has recently been concentrated into a small area and this has affected the *Nephrops* stock adversely. One of the reasons for the influx may have been the days-at-sea regulations introduced under the cod recovery plan. Division of the fleet into whitefish vessels, with large mesh nets and fewer days at sea (TR1), and *Nephrops* vessels, with smaller mesh nets and more days at sea (TR2), resulted in a transfer of additional effort into the *Nephrops* fleet in the North Sea.

- 5.2 An initial report on a Sustainable Fishing Plan for the Farne Deeps *Nephrops* fishery was prepared for the NSAC by Newcastle University and submitted to the English Marine Management Organisation (MMO). It listed the different management options and summarised the views of different fleet sectors on these. Fishers were consulted on management proposals during the 2011 – 2012 *Nephrops* season. Interviews were undertaken with fishers at Hartlepool, North Shields, Blyth, Amble, Seahouses, Berwick upon Tweed, Eyemouth, Edinburgh and Fraserburgh. Fishers from North East England, Scotland and Northern Ireland who participated in the one-to-one interviews were subsequently invited to comment on the conclusions of the consultation.
- 5.3 There was common concern amongst the fishers interviewed that fisheries management in the North Sea had become too complex and that there was a clear need for simplicity and clarity in any regulations to be applied. All skippers, regardless of gear type, were also of the opinion that by-catch and subsequent discard of marketable whitefish for which there was no quota was a significant issue in some FUs. Whiting and cod in particular were more abundant on the Farne Deeps *Nephrops* grounds than the stock assessments would suggest. There was support from some fishers for reducing discards by adopting a policy of land all you catch.
- 5.4 There was general support from fishers for the adoption of selective measures tailored to particular fishing gears and capture species. Skippers pointed out the measures already being taken by the industry with regard to improving gear selectivity by allowing escape of undersize whitefish through large mesh panels and net grids.
- 5.5 Having discussed the merits of various measures to be considered for the Farne Deeps the NSAC decided that the most effective means for promoting the recovery of the Farne Deeps *Nephrops* fishery was by the application of an “of which no more than” measure. That is, the temporary imposition of a landings quota to the Farne Deeps until such time as the *Nephrops* stock within the FU was no longer vulnerable. The landings quota would then be lifted once the stock had recovered.
- 5.6 The NSAC has recognised that the implementation “of which no more than” measures will pose some practical difficulties in terms of quota allocations. In the case of the Farne Deeps only UK vessels are involved, which may ease the problems. During discussion of these measures it became clear that whereas some local vessels are totally dependent upon the Farne Deeps, and are not able to fish for *Nephrops* elsewhere, other larger vessels fishing this ground are not subject to such limitations. Restricting fishing opportunities within the Farne Deeps could effectively close the area to part of the local fleet, while other fishers would be able to move to other grounds.
- 5.7 The NSAC has decided that the introduction of additional accompanying measures, including the adoption of more selective fishing gears or area restrictions, would contribute to the overall aim of reducing fishing pressure on *Nephrops* and should be encouraged. There may also be by-catch and discarding issues in this and other FUs. However, these issues are best dealt with initially in the context of measures to meet the landings obligation. There are also other pressures that will drive the fishing fleet to adopt more selective fishing methods.

6. In conclusion

- 6.1 The NSAC has decided that the best option for managing any over-exploitation in the Farne Deep's *Nephrops* fishery is to adopt a Fishing Plan with implementation "of which no more than" measures as its main feature. This proposal, specific to the Farne Deep's, would be supplemented and augmented by the much broader suite of biological measures proposed as part of the overall Long Term Management Plan for the North Sea *Nephrops* fisheries, outlined earlier.
- 6.2 Management at the FU level through the preparation of a Fishing Plan for the Farne Deep's would provide the necessary controls to ensure that catch opportunities and effort are compatible and in line with the scale of the resources on this ground. However, the NSAC recognises that with this approach a problem arises over the allocation of shares in the catch for that fishery. The issue has been thoroughly discussed and all parties accept that in the event of a significant reduction in *Nephrops* fishing opportunities for operators in the Farne Deep's fishery, quota availability would become a serious issue for locally based vessels dependent on this single fishery. The administrations involved would need to work with the POs to find the best outcome for those who have a record of fishing in the area and to safeguard the interests of the locally based fleet for the duration of any required quota reductions.
- 6.3 The NSAC acknowledges that the Commission and Member States are likely to share its concern over the state of *Nephrops* stock in the Farne Deep's Functional Unit and the NSAC invites officials to join the Advisory Council during 2015 in its detailed consideration of the measures to be adopted in 2016 to make the fishery more sustainable, pending further advice from ICES on the state of the stock.
- 6.4 It is of prime concern to the NSAC that a common understanding applies to the lifting of the 'of which no more than' provision should the draft Fishing Plan for the Farne Deep's be adopted. The NSAC has a clear vision that, in line with the LTMP, the Fishing Plan for the Farne Deep's that includes the 'of which no more than' provision shall be lifted once the stock biomass reaches a position at or above Bbuffer. It is important that the fishing sector, via the NSAC, retain ownership over rebuilding measures that they themselves have asked to be introduced. It is essential therefore that we agree upfront a clear strategy to revoke the measure when appropriate; this forms a crucial part of this proposal.