North Sea Advisory Council

NSAC Advice in Development

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Draft Letter to the The Director General of Fisheries Concerning the State of the European Eel

Draft (1)
29th July 2017

This letter presents the views of the NSAC on possible ways forward in protecting the European eel, prepared in response to the proposal from the Commission that management measures might include a zero TAC, a very low TAC or a prohibition on fishing for eels. The reply takes account of the answers provided in the ICES Special Request Advice Northeast Atlantic (Published 8 May 2017) relating to the EU request to provide advice on fisheries-related anthropogenic impacts on eels in EU marine waters.

The full range of eel stakeholders is not fully represented within the NSAC, although some members of the NSAC are involved in national groups that have been formed to examine eel management issues. The NSAC suggests that the Commission needs to seek the advice of national eel management groups, in addition to the Advisory Councils, and should also contact the Sustainable Eel Group, which is a Europe-wide conservation, industry and science led organisation working with partner bodies and individuals to accelerate the eel's recovery.

The EC Eel Regulation (EC, 2007) requires each Member State with eels to produce Eel Management Plans (EMPs) with the long-term objective of "*reducing anthropogenic mortalities so as to permit with high probability the escapement to the sea of at least 40 % of the silver eel biomass relative to the best estimate of escapement that would have existed if no anthropogenic influences had impacted the stock*". The Regulation also prescribes that there should be a 50% reduction in marine catches or in effort compared to the 2004–2006 average. ICES reports that the reduction in these marine catches has been attained for some countries, but information from many other countries (including non-EU countries) is

not available. Many Eel Management Plans (EMPs), as reported in 2015, are not yet achieving the EC Eel Regulation biomass escapement targets for the defined management units (the country as a whole or watershed areas).

ICES has emphasised that exploitation of eels in marine areas is only part of the overall anthropogenic impact. ICES considers that, given the current status of the eel stock, the prescribed 50% reduction in marine catches/efforts is not likely to achieve the objectives for the Common Fisheries Policy (CFP) as the reduction only applies to exploitation by marine fisheries. According to ICES, a number of the EU Member States (including some North Sea Member States) have not provided full information on spawner escapement for their Management Units. The values of current reported biomass of escapees are uncertain and incomplete and not suitable to provide stock-wide estimates by main maritime area or sea basin. Catches in marine waters can be quantified, but the effect on spawning potential and stock recruitment cannot be estimated.

The NSAC advises that all Member States should fulfil the~~is~~ basic requirement of data provision within their respective Eel Management Units and marine water catches, in order to allow ICES to provide better estimates of eel escapement. Only then can the potential effects of various measures be evaluated fully.

ICES advises that none of the measures proposed in the EU request to reduce eel fisheries in EU waters seaward of the baselines would be enough to achieve the 40% escapement target. Fishery-specific management measures aimed at reducing fishing mortality for both yellow and silver eels in the marine environment would likely have a positive impact on the stock, with measures for silver eels having the most immediate effect. However, ICES could not identify any management measures for human activities in the marine environment, other than fisheries, that could be taken to protect eel escapement in support of the recovery of the stock. It should also be noted that some commercial fisheries take place in fresh water.

The NSAC agrees that fishery-specific management measures in the marine environment would have a positive impact on the stock, allowing larger numbers of silver eels to survive and to migrate to the Sargasso Sea to spawn. However, measures to reduce fishery-specific mortality should be supplemented by intensified measures in other sectors. Many other factors are contributing to human induced mortality of eels, especially in the freshwater environment, and other measures must also be adopted. National Eel Management Plans have to take account of all causes of mortality to eels.

The most relevant considerations in addition to marine fisheries include:

1. **Habitat Reduction and Reduced Survival in Fresh Water**

In many Member States, habitat availability for eels has been is reduced to such an extent that the 40% escapement target cannot be reached. However, reduced habitat availability is not only caused by permanent habitat loss. The upstream migrations of juvenile eels may be

seriously inhibited by the presence of dams and other barriers associated with hydropower turbines, water pumps etc. The downstream movements of adult silver eels may also be affected, with high eel mortalities often taking place at hydropower turbines. The effects of these migratory barriers can be mitigated. For example, by employing fish passes and ladders specifically designed for eels, by diverting silver eels away from pumps and turbines, or by adjusting the operating regimes of such facilities to avoid periods when large numbers of eels are migrating. By these means, habitat availability and eel survival can be greatly increased. Unfortunately, progress on this in some Member States has been limited – particularly where expensive engineering is required to enable migration past the many thousands of dams and other obstructions that exist across Europe. ***Greater attention must be paid to increasing the freshwater habitat available for eels by promoting their free passage through rivers, and ensuring maximum survival, especially of outmigrating silver eels.***

2. Recreational Eel Fisheries

Throughout the distribution area of eels, recreational eel fisheries have developed. Many anglers and recreational fishermen catch eels, often in freshwater habitats. However, ICES has stated that the impact of these fisheries on the stock is largely unknown. It could be that the total landings by recreational fisheries in some areas exceed the commercial eel fisheries catches. ***There is a need to monitor catches taken by recreational fishers, and in some cases there may be a need to further regulate the recreational fisheries. Regulations need to be enforced more adequately.*** ***It is advisable to evaluate the impact/relevance of catch and release measures for recreational fisheries.***

3. Inland Commercial Fisheries

ICES advises that glass eel fisheries have a negative impact on the recruitment and subsequent adult biomass, and the impact may be significant. The European eel has been listed in Appendix II of the Convention on International Trade in Endangered Species (CITES) since 2007. Despite this listing, the trade in eel, mostly glass eels, is still of considerable concern. Even though glass eel catch recording systems are set in place, the destination of about 32% of the 2015 catch was not recorded. In the light of this: ***Better monitoring and control of the glass eel fisheries and associated trading of glass eels is urgently required.*** ***This is also very important in the light of the obligation that 60% of the glass eel caught has to be used for restocking purposes within the EU.***

Opmerking [AH1]: This formulation is rather strange (it comes from ICES itself but the word advises should be replace by either something like: *has evidence that* or *presumes that*)

Opmerking [AH2]: Also not very specific formulation.

ICES observed that the best possible silver eel escapement (Bbest) has not been realised by most Member States. This would not require solving migration barriers but a reduction in (freshwater) anthropogenic mortality. So, even though it can be argued that the escapement target is not feasible due to a reduced habitat availability, at least the anthropogenic mortality should be reduced sufficiently to a level to allow for a recovery of the eel stock. ~~***Reduction of inland eel fisheries at all life stages is necessary to reach the best possible escapement target.***~~ ***Management of the inland eel fisheries should be further***

improved in order to reach a 40% escapement of silver eels (of Bbest) for all Member States. The NSAC recommends the Commision to seriously promote the way eel management is undertaken in the Province of Friesland in the Netherlands. It is a way of management that provides a lot of additional information relevant for eel management and at the same time gives fishers flexibility in the way they manage their business.

4. Increased Predation Levels

A number of predatory species, both in fresh water and in the sea, have increased in abundance in recent years. They include predatory birds, otters, seals and cetaceans. These increases may have resulted in higher levels of natural mortality for European eels. The German fisheries sector is especially concerned about the impact of predation by cormorants on recovering stocks. Cormorant colonies can be very large and can therefore cause locally significant eel mortality. In general, the European eel is a small part of the cormorant diet (approximately 7%). This estimate, however, is largely dependent on the eel abundance in the area and will increase with eel density. However, many of the predatory species have strong legal protection under the EU Habitats & Species Directive, including the cormorant. **Given the fact that in de marine environment many silver eels with transpoders fall victim to predation by warm blooded animals the NSAC advises to quantificatify this form of natural mortality through the analysis of stomach content of stranded seals and cetaceans.**

5. Additional Threats to Eels

There is a suite of threats that have been implicated in causing the decline in European eel recruitment and stocks. The Sustainable Eel Group has pointed out that a healthy freshwater habitat is an obvious pre-requisite to achieving a healthy eel stock. ~~Eel populations have been decimated by t~~The destruction of wetlands, damming of rivers, and deterioration of water quality are all potential contributors to a decline in the recruitment of glass eel.~~.~~ Without major improvements to all these factors ~~healthy~~ wild eel populations may never experience recruitment levels as observed in the sixties and seventies of the previous century. ~~return~~. Within rivers, changing hydrology, increased pollution levels, diseases and parasites may affect body condition and survival. Only 54% of the European surface waters reached 'good ecological status' in 2015. This is far below the objective of the Water Framework Directive to achieve a good ecological status in *all* surface waters.

The parasitic nematode, *Anguillicoloides crassus* lives in the swimbladders of eels and appears to spread easily among eel populations after introduction to a body of water. It is considered to be one of the threats to the sustainability of populations of European eel. The impact of these freshwater threats individually or synergistically, are likely to be regionally specific. One of the most widely practised measures for promoting the recovery of eels is restocking with juveniles. However, there remains a great deal of debate as to whether this benefits eel spawning stocks and thus enhanced future recruitment. ***Greater attention***

needs to be paid in Eel Management Plans to improving the quality and accessibility of freshwater habitats and protecting eels from environmental deterioration. **ICES should come up with estimates of optimum glasseel recruitment levels in rivers like the Severn in the UK and the Ardour and Loire in France. This is urgently needed in order to end the debate about the net benefit of glass eels taken from these areas of abundance and transferred to well-managed areas with little recruitment.**

Within coastal waters, there may also be problems with water pollution, and eels may also be affected by coastal and offshore industrial developments. In addition, in the sea climate change and changes in oceanic currents may be affecting the ability of silver eels to migrate to their spawning grounds in the Western Atlantic. Water currents and the climate regime and may also play an important role in the survival and transport of the leptocephalus larvae and recruitment of glass eels to coastal, brackish and freshwater habitats. However, there are few management measures specific to eels that can alleviate these marine environmental problems. ***Implementation and enforcement of EU climate and chemicals policy may contribute to the recovery of the European eel in the longer term.***

Other Important Considerations

Conditions for eels are different within different countries, and the NSAC accepts that it is important to devolve management to the different Member States, through the provision of Eel Management Plans, in order to ensure that appropriate national measures are introduced. The formation of national groups, bringing together scientists, industry and conservation interests, will be necessary to fully address the problems faced by eels and to ensure the restoration of healthy aquatic ecosystems. In some countries such groups have already been formed to bring together the relevant stakeholders and assist the implementation of national eel protection plans and introduce appropriate protective measures. In some other countries very little has been done to involve stakeholders and to develop effective national action plans.

There is a need to evaluate protective measures internationally, and to exchange information between Member States, so that national action plans can be strengthened and made more effective. Currently the absence of reliable feedback on how protection is working in different countries is making it difficult to evaluate and adjust protective measures.

Although ICES has highlighted the need to consider mortality from all sources, the advice requested from ICES has focussed on whole stock conservation through the adoption of marine fisheries measures. Such limited advice does not deal fully with the nature of the eel problem. Moreover, it does not match the approach of the Eel Regulation, which devolves management to Member States. Comprehensive assessment of the whole European eel stock can never be achieved. The ICES advice inevitably ends up by, year after year simply

recommending a reduction in all sources of mortality, whereas ideally it should should relate to ongoing management actions under the Eel Management Plans. There is a need to evaluate the protective actions and assessments taken by each country and to ensure that all source of eel mortality are being considered. Effective action to protect eels can only be by achieved by strengthening national protective measures through international cooperation and discussion. In the absence of adequate international cooperation, and feedback on progress with the national plans, the common goals are not being met. Currently, such plans are taken more seriously in some countries than in others. ***The problem of insufficient attention being paid to Eel Management Plans in some Member States must be addressed by the Commission.***