



**SCIENTIFIC, TECHNICAL AND ECONOMIC
COMMITTEE FOR FISHERIES (STECF)**

-

Opinion by written procedure

**Assessment of the proposed
management plan submitted by Italy
for hydraulic and boat dredges for
molluscs**

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OPINION OF THE SCIENTIFIC, TECHNICAL AND ECONOMIC COMMITTEE FOR FISHERIES BY WRITTEN PROCEDURE

Assessment of management plan submitted by Italy for hydraulic and boat dredges for molluscs

DECEMBER 2010

Background

Member States were expected to adopt management plans for fisheries conducted by trawl nets (demersal and pelagic), boats seines, shore seines, surrounding nets and dredges (for molluscs) within their territorial waters.

The plans shall include conservation reference points such as targets against which the recovery to or the maintenance of stocks within safe biological limits for fisheries exploiting stocks at/or within safe biological limits (e.g. population size and/or long-term yields and/or fishing mortality rate and/or stability of catches). The management plans shall be drawn up on the basis of the precautionary approach to fisheries management and take account of limit reference points recommended by relevant scientific bodies.

The plans shall ensure the sustainable exploitation of stocks and that impact of fishing activities on marine eco-systems is kept at sustainable levels.

The Management plans may incorporate any measure included in the following list to limit fishing mortality and the environmental impact of fishing activities: limiting catches, fixing the number and type of fishing vessels authorized to fish, limiting fishing effort, adopting technical measures (structure of fishing gears, fishing practices, areas/period of fishing restriction, minimum size, reduction of impact of fishing activities on marine ecosystems and non-target species), establishing incentives to promote more selective fishing, conduct pilot projects on alternative types of fishing management techniques.

Moreover, with a view to exploit the target species of transparent goby, of sandeel and the fry of sardine, the boat seine fisheries concerned should be granted both derogation to the minimum mesh size of 40 mm square or 50 mm diamond and to the minimum distance from the coast of 3 nautical miles or to the depth of 50 m isobath where that depth is reached at a shorter distance from the coast.

In order to benefit of such derogations, as stipulated by Article 9(5) and Article 13(5) and (9) respectively of the Mediterranean Regulation (Council Regulation EC No 1967/2006), the fisheries concerned, in addition of being managed within an adequate management plan, shall be highly selective, in order to ensure that catches of species mentioned in Annex III are minimal, have a negligible effect on the marine environment and shall not be carried out above seagrass beds of *Posidonia oceanica* or other marine phanerogames. For the latter issue a derogation to operate in the water columns above seagrass beds is available (Article 4(1) second subparagraph) provided that the lead-line and/or the hauling ropes of boat seines do not touch the seagrass bed during the fishing operations.

Moreover, in order to exploit the fry of sardine in derogation to the minimum catching size, as established by Article 15 of the Mediterranean Regulation, the national plan shall indicate that the stock of sardine is within safe biological limits.

Member States were expected to provide up-to-date scientific and technical justifications for such derogations.

Italy transmitted the following reports:

- boat seines fisheries including:
 - 1 report with national management plan for boat seines fisheries in different GSAs,
 - 2 reports for boat seine fisheries related with the national management plan and providing complementing information underpinning the requests of derogation to the minimum distance, the minimum mesh size, the minimum size and operation over seagrass beds;
- fisheries exploited by dredges:
 - 1 national management plan for dredges in different areas

Terms of References

STECF is requested to review the plans submitted by the Italian authorities, to evaluate their findings, to make appropriate comments, also with respect to the elements/measures included in the management plans and to advice whether each plan contains elements that account for the state of the exploited resources, if concerned fisheries are expected to exploit main target stocks in line with their production potentials and if the plan is expected to maintain or to revert fisheries productivity to higher levels.

STECF is also requested to evaluate whether the fisheries carried out are highly selective, both in terms of species and sizes, have a negligible effect on the marine environment and if the fishing gear risk damaging the seagrass beds during the fishing operations. STECF shall also advice whether the stocks of sardine, concerned by the fishing for fries of sardine, are within safe biological limits.

STECF RESPONSE

The management of bivalve mollusc resources has been traditionally based on a limited access, individual rights and quotas and is organized under the umbrella of private Consortia. It follows an adaptive system, by defining the size of the individual quota based on the availability at the beginning of the fishing season. The fishery has a long history and has been monitored over many years. An important fraction of the fleet has been withdrawn, and, according to the data submitted within the management plan, equilibrium between capacity and availability of the resource has been reached for most of the stocks (with some local differences). The application of the right-based management approach for hydraulic dredge fisheries is appropriate and in line with currently recommended approaches to fisheries management. This approach is reflected by the European Commission in Communication 73 dated 26.2.2007 relating to management instruments based on fishing rights, and following the current economic crises facing a large portion of the Community fishing fleet that requires a diverse approach to fishing management.

The Consortia considers the following variables: size of population (expressed as LPUE trend) and long-term yields (expressed as landings trend). The fisheries are managed through restrictions on the duration of fishing activity, daily landings, the size of the vessels, engine capacities, demarcation of fishing areas and authorised landing sites, number of licenses as well as a prohibition of fishing licence

transferral. The assessment of resource status in the various Maritime compartments was carried out on the basis of annual trends in LPUE expressed as the ratio of the landing with the specific effort exercised on that species. Effort is expressed as the number of fishing days in which the species is fished per GT and does not take into account the actual time fished per day, which can vary according to resource availability. Therefore, the same daily landing quota, set by the Management Consortia for each boat, might have been reached with different actual effort and the use of LPUE trend can be only an approximation of the resource abundance at sea.

Appendix 1 of the Italian submission contains a description of the history of the fishery managed through the Consortia since the mid-1990s (1996 first clam plan). The MP essentially proposes a continuation of the previous management system (except for the defined limit LPUE threshold Reference Point corresponding to the 25th lower percentile). The observed reduction of the fishing capacity (Graph 2 of Annex 1) as well as the substantial stability of total landings, effort and LPUE over the period 1996 (the start up of the management)- 2009, indicates that exploitation rates over that period do not seem to have resulted in any detectable decline in LPUE.

In the management of these bivalve fisheries there are no agreed equivalents to traditional reference points. The assessment of the status of the different bivalve molluscs stocks has hitherto been done on the basis of annual trends of LPUE and the production by species. For future monitoring and for each species, the plan specifies limit reference points corresponding to the lower 25 percentile along a time series of daily landings by individual vessels.

From the information given in MP it is not possible to determine the number of samples used for the estimation of the lower threshold values of LPUEs, by species and maritime division, and the precision of the estimates or how representative they are for the different areas.

The information regarding environmental factors affecting the target species and the effect of fishing with dredges on the bottom is rather scarce (section "Ecological circumstances and geographical environmental aspects"). It is stressed that operations on phanerogams beds is almost impossible because the suction dredge system does not work properly on these grounds. In addition, the MP includes a prohibition of the use of hydraulic dredges on seabeds where there is presence of phanerogams.

The MP highlights that hydraulic and boat dredging have an impact on the marine environment which needs to be quantified to assess their significance and refers to a number of scientific publications. The most recent were published in 2006, based on data collected in 2000 and 2001. The disturbance is due to continuous fishing over the last thirty years that has already modified the benthic community. STECF recommends that any technological developments aimed at reducing the impact on the marine environment should be supported by the national administration and highlighted in the MP.

The MP suggests that the use of hydraulic dredges gives rise to exploitation of a benthic community typically in a moderately disturbed environment. It may be that the overall condition of the fishing grounds prosecuted using hydraulic dredges may have changed during the last 10 years. STECF notes however that there is no mention of discards from the hydraulic dredging operations in the plan, which according to the references cited in the text (Morello et al. 2005) account for around 50% by weight of the total catch. Among the measures proposed in the MP, is a monitoring program to assess the effect of dredging on the seabed. It is proposed that monitoring will be undertaken every three-years and it is intended that such a programme will provide the basis to assess the impact of the existing closed periods in certain areas and lead to the implementation of more effective impact mitigation measures.

In the Mediterranean, the MLS for Venus spp. is 25 mm (EC Reg. 1967, 2006), which corresponds to 2 year- old individuals which will have reproduced at least once. Currently, catches of undersized clams are restricted to 40% by weight of the total catch of clams. This is achieved through the use of sieves with rods spaced at 11-12 mm. For such sieves, the 50% retention length at (L50) is 25.4 mm.

However STECF notes that to substantially reduce catches of undersized individuals, sieves with rods spaced at a distance larger than the current 12 mm would need to be introduced.

According to the proposed MP, it appears that reductions in fishing effort has favoured an increase in the resource and that current production levels are lower than those that could be achieved with the biomass available. However STECF notes that insufficient detail is provided on how such harvest rate has been estimated. STECF suggests that estimates of current F and a reference point based on fishing mortality could be obtained and would be useful in determining an appropriate annual catch level.

The plan explicitly acknowledged that *Venus* spp. are subject to significant annual fluctuations and in future independent scientific monitoring will be implemented to provide the Consortia with direct, fishery-independent data for the assessment of these resources and provision of management advice.

The MP makes reference to a number of environmental crises, which cyclically occur in the Adriatic. No explanation is given as for what these environmental crises are and no proposals to for management measures in the event of such crises in the future are included in the plan.

STECF notes that detailed data were produced in the plan for each management consortium area (region and maritime compartments), in support of the request for a derogation to fish within 0.3 miles from the coast, analyses indicating the estimated reduction in fishing areas that would result without the derogations being granted are also provided. Since the minimum depth of 3 m is normally reached within a few metres or a few dozen metres from the coastline, the enforcement of the regulation (rejection of derogation) would result in a strong reduction of fishing areas and would practically eliminate the hydraulic dredge fishery for European razor clams (*Solen marginatus*) and the wedge clam (*Donax trunculus*) fishing with boat dredges. The estimated reduction in the available fishing area should the derogation not be granted, ranges from 33% to 100% of the existing area. This clearly would have a high impact in social and economic terms.

STECF conclusions

Detailed information on number of boats, landings and LPUE are provided in the management plan proposal. Based on that information, STECF notes that the sector is composed of a large number of small-medium sized boats distributed along the coast. In relation to the entire Italian fleet, dredges represent 5% in terms of number of vessels, tonnage, employment and revenues and 8% in terms of landings volume. However, in the GSA 17 area where most of the dredge activity takes place, the dredge represents 18% of total fleet in terms of number of vessels, tonnage, employment and revenues and 26% in terms of landings volume, making it socially and culturally important to the region.

The biological information regarding the different stocks is scarce and presented in such a way that difficulties interpretation. The current MP is based on LPUEs (kg per day and boat). The only data regarding the evolution of LPUE, by maritime division and species, are not comparable with LPUE expressed as kg per day and boat. Furthermore, no information is given on the discard rates during the implementation of the current management plan, the surface and species affected by re-stocking, nor on size distribution of the catches and landings of the target species, by maritime division. In summary STECF concludes that the data presented are not sufficient to quantitatively assess the likely impact of the proposed plan on the resources exploited by the dredge fleet or its impact on the habitat.

In the MP it is proposed that fishing will be adjusted annually in line with resource availability. Such actions will aim to ensure that the balance between fleets capacity and opportunities is achieved and maintained. STECF however notes that from the information given in the proposed MP it is not possible to know the current status of the different stocks exploited by hydraulic and boat dredges in the Adriatic and in the Tyrrhenian Sea. STECF also notes estimates of current F and a fishing mortality-based reference point could be obtained and would be useful in determining an appropriate annual catch level.

As regards the impact on the ground and benthic community, the proposed Plan alleges that technical characteristics of the dredge gears make their operation on phanerogam beds ineffective. In any case,

operation with such devices is specifically prohibited on marine phanerogams beds. It is well known that hydraulic dredging has an impact on the marine environment (especially on marine invertebrates). This is acknowledged in the plan but the magnitude of such impacts is not described.

The cyclical environmental rises that are said to affect bivalve molluscs are merely referred to without explanation. This is a potentially important issue and deserves further elaboration and discussion. STECF is unable to determine the extent to which observed variability in resource abundance is due to environmental factors or a consequence of the fishing with dredges.

As regards the derogation to the Minimum distances and depths for the use of fishing gears (Article 13 of the EC Reg. 1967/2006), the MP provides detailed information for each region. The request to fish within 0.3 miles from the coast is justified on the grounds that the extent of available fishing grounds will be severely curtailed if the requested derogation to fish within 0.3 nm of the coast is not granted. STECF notes that for boats with hydraulic dredges in the maritime compartment of Rome, Gaeta, Naples and Salerno in the Tyrrhenian Sea and the maritime compartment of the Adriatic from Molfetta to Monfalcone inclusively, the plan requests a derogation to fish up to 0.1 nm from the coast

STECF notes that, the data provided in support of the MP are not sufficient to provide an informed quantitative assessment of the potential impact of the MP, However, these fisheries exploit benthic communities which can be considered to be only "semi-natural", because of the continuous anthropogenic intervention, either in terms of effects of dredging on the seafloor or in terms of restocking of juveniles over many decades In view of the above and given the apparent social and economic importance of the dredge fisheries for clams, STECF considers that in order to gain relevant information on resource dynamics and exploitation rates, the proposal could be considered as a pilot study for a period of three years. Acceptance of this proposal should be conditional on the provision of all the necessary data prescribed by the regulation, and include an ecological impact assessment for the various areas at the end of this pilot period. This implies that the Italian Authorities shall implement the relevant research and monitoring programmes for the duration of the pilot period.

EUROPEAN COMMISSION

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Abstract

The Scientific, Technical and Economic Committee for Fisheries gave its opinion by written procedure in December 2010 on request by the European Commission for an assessment of the proposed management plan submitted by Italy for hydraulic and boat dredges for molluscs.

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