EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES

ATLANTIC, OUTERMOST REGIONS AND ARCTIC
Structural actions: Ireland, Spain, France, Portugal and United Kingdom

Bruxelles, le
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SUBJECT

Vote bv written procedure: Draft Commission Decision approving the Eel Management Plans of Spain submitted to the Commission in accordance with Council Regulation (EC) No 1100/2007

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In accordance with Article 9 of the Rules of Procedure for the Committee for Fisheries and Aquaculture, please find enclosed for your opinion by written procedure the draft Commission Decision approving the Eel Management Plans of Spain submitted to the Commission in accordance with Council Regulation (EC) No 1100/2007. Proceeding by written consultation is justified by the need to approve and implement these plans as soon as possible, however, in view of the summer period, this consultation will expire in 21 instead of 15 calendar days from the date of this fax. Please send your opinion to Mare-C3@ec.europa.eu .

The Eel Management Plans of Spain are available at the following web-site: hfíp://www.mapa.es/es/pesca/paas/comision/comision.htm

The Executive summary of these Eel Management Plans is enclosed.

p.o. *D. LEVIEIL*
in abs. Veronika VEITS
Head of Unit

P:\DirC\C3\IMPLEMENTATION (EFF + FIFG)\ES\FEP 2007-2013\c3.16-Aspects horizontaux\c3.16c-autres\Eel plan\Adoption EMPs\Fax CdG consultation écrite 100809.doc

EUROPEAN COMMISSION

Brussels, COM(2010)
XXX final

Draft

COMMISSION DECISION

of!...]

approving the Eel Management Plans of Spain submitted to the Commission in accordance with Council Regulation (EC) No 1100/2007 establishing measures for the recovery of the stock of European eel

(Only the Spanish text is authentic)

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Draft

COMMISSION DECISION

of

approving the Eel **Management Plans of Spain submitted to the Commission in accordance with Council Regulation (EC) No 1100/2007 establishing measures for the recovery of the stock of European eel**

(Only the Spanish text is authentic)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Council Regulation (EC) No 1100/2007, of 18 September 2007, establishing measures for the recovery of the stock of European eel[1], and in particular Article 5 (1) thereof,

After consulting the International Council for the Exploration of the Seas,

Whereas:

(1) On 23 December 2008, Spain submitted to the Commission one national Eel Management Plan and twelve specific Eel Management Plans for Galicia, Asturias, Cantábria, Pais Vasco, Navarra, Cataluña, Cuenca del Ebro, Valencia, Castilla La Mancha, Murcia, Islas Baleares and Andalucía, in accordance with Article 4(1) of Regulation (EC) No 1100/2007. On 08 May 2009, Spain submitted to the Commission additional information for these plans.

(2) Pursuant to Article 5(1) of Council Regulation (EC) No 1100/2007, the Commission has received the results of the technical and scientific evaluation of these plans, carried out by an appropriate scientific body, the International Council for the Exploration of the Seas (ICES).

(3) On 09 July 2010, Spain submitted to the Commission a revised national Eel Management Plan and revised Eel Management Plans for Galicia, Asturias, Cantabria, Pais Vasco, Navarra, Cataluña, Cuenca del Ebro, Valencia, Castilla La Mancha, Murcia, Islas Baleares and Andalucía, in accordance with Article 5(6) of Regulation (EC) No 1100/2007.

(4) The Spanish Eel Management Plans submitted on 09 July 2010 fiilfil the requirements laid down in Regulation (EC) No 1100/2007. The proposed plans should therefore be approved.

' OJL248,22.9.2007, p. 17.

(5) The measures provided for in this Decision are in accordance with the opinion of the Committee for Fisheries and Aquaculture,

HAS ADOPTED THIS DECISION:

Article 1

The national Eel Management Plan and the twelve specific Eel Management Plans for Galicia, Asturias, Cantabria, Pais Vasco, Navarra, Cataluña, Cuenca del Ebro, Valencia, Castilla La Mancha, Murcia, Islas Baleares and Andalucía submitted by the Kingdom of Spain on 09 July 2010, as set out in Annex I, are approved.

Article *2*

This Decision is addressed to the Kingdom of Spain.

Done at Brussels,

For the Commission Member

of the Commission

ANNEX I Eel

Management Plans for Spain:

(1) Eel Management Plan for Spain

(2) Eel Management Plan for the Autonomous Community of Galicia

(3) Eel Management Plan for the Autonomous Community of the Principado de Asturias

(4) Eel Management Plan for the Autonomous Community of Cantabria

(5) Eel Management Plan for the Autonomous Community of Pais Vasco

(6) Eel Management Plan for the Autonomous Community of Navarra

(7) Eel Management Plan for the Autonomous Community of Cataluña (inland basins)

(8) Eel Management Plan for the river basin "Cuenca del Ebro"

(9) Eel Management Plan for the Autonomous Community Valenciana

(10) Eel Management Plan for the Autonomous Community of Castilla La Mancha

(11) Eel Management Plan the Autonomous Community of Murcia

(12) Eel Management Plan for the Autonomous Community of Islas Baleares

(13) Eel Management Plan for the Autonomous Community of Andalucía

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, XXX
SEC(2010) XXX final

EXECUTIVE SUMMARY

Eel Management Plan in Spain

{C(2010) xxxx}

Anguilla anguilla is a native species in Spain, whose population has undergone a significant decline in recent years as in the rest of Europe (ICES reports). The construction of large dams since the 60's has lead to its disappearance from most of the inland river basins of the Iberian Peninsula, leaving the current populations confined to the coastal areas. Fisheries exploitation and management is very différait amongst the different regions or Autonomous Communities, where traditional fishing dominates.

Given Spain's national and regionai structures, the management plan in Spain is based on a **National Eel Management Plan (EMP) and 12 specific EMPs** (11 regional EMPs for die Autonomous Communities in which regional basins eel populations can complete their life cycle, and 1 EMP specific to the interregional Ebro River Basin where eel populations can be found). The National EMP (summary document) defines the structure and methodology, the monitoring and evaluation measures and the objectives at national level. It also contains a summary of the 12 specific EMPs. Each participating Autonomous Community - with exclusive competences on eel fisheries - has been defined as an **Eel Administrative Unit** (EAU) that shall undertake an Eel Miuiagement Plan, in accordance with Article 2(1) of Council Regulation (EC) 1100/2007.

Planning of the management plan in two phases

The selection of the EAUs and of the areas that currently have natural occurrence *of Anguilla anguilla* is based on the scientific data presently available. As for the availability of monitoring and evaluation data and the capacity for action, there are, however, large differences between the inner regions of Spain where eel populations can no longer be found and the coastal regions where eel populations can still be found. Autonomous regions from which eels disappeared many years ago and that have no data or criteria for action, cannot put forward effective measures in the short term. However, a commitment at national level was adopted within the Sectoral Environmental Conference on 7th June 2010 between the Ministry of Environment, Rural and Marine Affairs (MARM) and the Regional Ministers of Environment of the Autonomous Communities, allowing for effective measures to take place in the medium term to deliver the 40% silver eel escapement target in the Spanish territory. This will be achieved by a two-phase rolling plan.

In the first phase (2010-2015) the coastal Autonomous Communities with data and management measures pre-existing the drafting of the plan will implement a new set of measures. These measures are based on the best available estimates of the pristine and current situation of the European eel in Spain. They aim to achieve a 40% escapement in their area of competence, within the overall aim of reaching a 40% national escapement target. In the inland river basins, a series of commitments and specific measures will be adopted at national level such as the elimination of barriers, habitat improvement, monitoring, study and assessment of the eel population status and more accurate definition of pristine habitat in order to develop specific measures. In addition, working groups will be created comprising scientific experts and representatives of all public administrations involved in eel management. Estimates of the pristine and current situation of the European eel in Spain will be updated on that base. At the end of this first phase, the newly available data will allow to re-assess the situation of the eel stock and to launch the second phase of the plans, as from 2016 onwards, with specific regional measures to strengthen and improve the plan's objectives across the revised habitat.

The second phase (2016-2050^ kicks off in 2016 and will coincide with the timescale for reviewing the River Basin Management Plans as set out in the Water Framework Directive. It therefore makes sense to review the EMPs to take into account further measures needed to meet the objectives of this Directive. This two-step approach will be carried out without prejudice to the periodic evaluation of the proposed measures in the EMPs, both at regional and national level, in particular to comply with the reporting requirements provided for in Article 9 of Council Regulation (EC) 1100/2007 (first report in 2012).

Estimate of the pristine and current situation of European eel in Spain

To comply with the target set out in the Regulation (40% escapement), a series of calculations have been made to define the pristine habitat and escapement, and to compare them with the current situation. As we don't know the exact definition of the pristine habitat and due to the lack of complete sets of data or harmonised methods to estimate escapement levels, a series of general criteria have been assumed, based on the data available in each region and on the scientific literature consulted. This initial data will be reviewed and improved before the end of the EMPs' first implementation phase (2015) to provide more accurate estimates for the second phase.

The criterion generally adopted for the definition of the pristine habitat has been to consider the natural habitat of eel as the watercourses to a height of 800ms in basins with gradual slopes and 600ms for those with steep slopes, provided that there were no natural obstacles at lower altitudė. For this, data on surface water layer have been used, with a series of technical criteria provided by the Hydrographie Confederations. An average pristine productivity of 20 kg/Ha has then been assumed for inland waters and of 50 kg/Ha for transitional waters (ICES 2001) unless more accurate data was available locally. This means that the inland habitat area may be underestimated in comparison to the coastal one as the relevant Autonomous Communities have been able to provide more detailed estimates of their habitat. The approach taken by each of the regions has been to use the calculation estimate which, on the basis on the information available, best matches their particular environmental and ecological conditions. The methodology for the calculation is explained in detail in the National EMP and in each specific management plan.

As a result, the total pristine habitat of eels was estimated at 362.391 Ha. and the total pristine escapement at 8.324.588 kg. The sum of the results obtained in the different EAUs results in a current escapement of 1.333.738 kg of eel. This gives a **current escapement in Spain with respect to the pristine level of 16%,** taking into account the total pristine habitat of European eel in Spain. To achieve the 40% target, 3.329.835 kg of escapement is needed. This translates into an increase of the current escapement by around 2.000.000 kg of eel at a national level.

Estimated timeline to achieve the 40% escapement obiective at national level

As noted in the different plans submitted, the mortality caused by the factors that the measures target is unknown. In addition, the evolution of the species in Spain depends on the overall evolution of the population, especially in respect of recruitment, which depends on the overall effectiveness of the measures taken at European level, something that this plan cannot predict. This means that in order to provide a timeline for achieving the 40% escapement target, a series of assumptions and several scenarios had to be made, taking into account the pristine habitat which could have been underestimated, as detailed in the National EMP. TTiese scenarios predict meeting the 40% escapement in 2050.

National and regional measures to achieve the 40% escapement obiective

The measures provided for in the National EMP and in the specific EMPs aim to ensure the protection and sustainable exploitation of the European eel and to restore its escapement levels at national level, by the year 2050. In those Autonomous Communities where fishing for eel <12 cm is authorised, the reserve percentages of glass eels for restocking provided for in Article 7 of the Regulation are also met. The various measures set in the specific EMPs are summarised below and can be seen in detail in the various EMPs.

In general, there is a clear difference between the measures proposed by the regions of the north of the Peninsula, with waters flowing into the Atlantic, and those of the Mediterranean regions. The first ones propose the reduction of fishing effort by up to 50% compared to reference periods as the main measure to comply with the objectives of the Regulation. The latter ones mainly focus on restocking measures and maintaining the fishing management measures already set in their legislation. In certain cases, these latter also propose measures to reduce fishing effort or to ban certain fisheries.

As a general rule, stricter control and catch monitoring measures to control illegal fishing or poaching are proposed. In the case of Andalucía, a moratorium of 10 years with no eel fishing, except for aquaculture purposes, is foreseen. This translates into a significant reduction in catches for achieving the overall objective.

Transboundary river basins with Portugal

Spain shares four of its major river basins with Portugal: Miño, Duero, Tajo and Guadiana. Of these, and taking into account the lack of data for the Guadiana basin, only the River Miño has a current eel population supporting eel fishing activity. The River Miño flows for about 80 km to the mouth in an international section, governed by a joint Fishing Regulation between both countries. As part of the working groups held with the Portuguese authorities, it was agreed to submit a joint management plan for this international section in early 2011. However, the national pían already identifies a set of measures adopted by the Permanent International Commission for the River Miño since 2006 which clearly demonstrates the intention to reduce fishing effort in the area. Besides, a new commitment to reduce fishing effort by 50% relative to the fishing effort of the 2004-2006 period is adopted, in accordance with Article 6(3) of the Regulation. For the other transboundary basins, possible measures to adopt will be discussed with the neighbouring country, although large dams built on these rivers prevent eels from accessing the river sections located on the Spanish territory.

The National EMP plus the 12 specific EMPs can be consulted in the following link:
http://w^w.niapa.es/es/pesca/pags/comisiony comision.htm

1. EEL MANAGEMENT PLAN FOR THE AUTONOMOUS COMMUNITY OF GALICIA

Before the management plan, eel fishing has been authorised in Galicia both for glass eel (< 12cm) and eel, for both professional and recreational activities. Fisheries management falls under the responsibility of three different autonomous bodies: the Ministry for Fisheries and Sea Affairs for the coastal and transitional waters, the Ministry for Environment and Sustainable Development for inland waters, and Augas of Galicia that deals with water quality. The target species for professional fishing is the yellow eel and, to a lesser extent, the silver eel, which is not discriminated in the catch. The gear used is the "butrón" or "nasa butrón" (fixed conical net) and the eel trap (the latter about to disappear due to the lack of use). The boats are small, made of wood, with an average length of 53 m, an average tonnage of 1.5 GRT, an average power of 22 hp and a crew of 1-2 fishermen. There are three exploitation plans for marine and transitional waters (Vigo Estuary, Arousa Estuary and Ferrol Estuary) and two exploitation plans for inland waters (La Coruna Estuary and Ulla River).

There are four River Basins in the autonomus regon of Galicia: Galicia-Coast (the only one with its whole area within the Galicia territory) and the Cantábrico, Miño-Sil and Duero River Basins (these three shared with others regions and the last two also with Portugal). The first phase of the EMP targets the Galicia-Coast basin, where the eel cycle can be currently completed, whereas the rest of the Galícián basins will be evaluated in the framework of the second phase. Furthermore, for the transboundary basin of the River Miño, where fishing is regulated by an International Commission, a joint transboundary management plan is being developed together with Portugal, which will be submitted to the Commission at the beginning of 2011.

Measures proposed

In marine and transitional waters: reducing the commercial fishing activity to 9 months/year, from March to November, limiting the number of "butrones"; modifying the fishing gear, increasing the mesh size, establishing a minimum catch size (18 cm) and a maximum catch size, banning eel fishing either in one of its phases or in some areas, establishing quotas or total allowable catches (TACs) and banning recreational fishing (in force since Sept. 2009).

In inland waters: it is foreseen to evaluate the possibility of a total ban for recreational fishine of the species, as well as establishing a minimum and maximum size for eel professionaliv caught.

Restocking: restocking measures are not foreseen as the fishing of eel < 12cm is forbidden.

Structural and/or environmental measures to improve inland wata: habitats within the scone of the Water Framework Directive measures; possible agreements for temporal disconnection of hydroelectric production turbines.

Control and surveillance measures: samplings and data collection following INDICANO Project, scientific studies to improve fishing gears, population mapping, health assessment, etc.

2. EEL MANAGEMENT PLAN **FOR** THE AUTONOMOUS COMMUNITY OF ASTURIAS

In Asturias only the professional fishing for glass eel is regulated and authorised. In 2000 recreational fishing was banned and in 2006 fishing for yellow and silver eel in continental waters was also banned. In view of the drastic decline in catches observed in the region, regional authorities have gradually implemented different fishing management measures. The campaign was gradually reduced from 7 months (traditionally from October to April) to 5 months (from November to March) for fishermen on foot, and to 4 months (from November to February) for fishing vessels. Moreover, in the mouth of the Nalón river an exploitation plan has been ongoing since the 2004/2005 campaign, which allows for a detailed monitoring of catches by fishing type.

The EAU in the Principality of Asturias (UG AP A) includes all the river basins that flow to the Cantabrian sea between the Eo and the Deva rivers, that is 9 river basins (from West to East: Eo, Porcia, Navia, Esva, Nalón, Villaviciosa, Sella, Lianes and Deva).

Measures proposed

Glass eel fishing: In 2009 a voluntary temporary cessation for the coastal fleet in Asturias has been adopted, including the vessels from the Nalon river eel exploitation plan. A fishing effort adjustment plan on the glass eel is proposed on a gradual basis over 4 consecutive fishing campaigns, starting in 2009/2010. This plan comprises two types of measures: reducing the fleet by launching annual calls of proposals for the permanent cessation of fishing activities, financed with EFF funds, and reducing the number of authorised licences. A gradual reduction of the glass eel fishing season to 5 full months is also adopted starting with the 2008/2009 campaign. This means going from 60 fishing days for vessels and 75 for fishermen on foot in 2009-2010 to 27 and 36 fishing days respectively in 2012-2013.

Permanent fishing ban for yellow and silver eel

Restocking ulan: to comply with the provisions of Art. 7 of Regulation (EC) 1100/2007, a reserve of the glass eel caught in the annual fishing seasons will be made, starting with 40% of the catches in the 2010-2011 season and increasing this percentage by 5% each season until reaching the 60%. Of the total reserved each season, the Asturian Fisheries Department may use up to lOOKg of glass eel to restock the Asturian river basins and contribute to increase the escapement levels of adult eels to the sea, in order to reach the 40% escapement target.

Habitat and Connectivity improvement withm the measures foreseen in the National Hydrological Plan, with a programme of environmental objectives that includes a series of actions within the National Rivera Restoration Strategy. These will be implemented by tiie Cantábrico River Basin District. In addition to the measures under the national strategy, the Directorate-General for Biodiversity and Landscape of the Ministry for Environment and Rural Development will carry out a series of actions withm a connectivity recovery plan in the Nalón river to ensure the ascent of eel to a large part of the basin.

Control of prédation by other species

Control and surveillance measures: study plan for population assessment to be developed during the period 2009-13, at 20 samplings points in autumn.

3. EEL MANAGEMENT PLAN FOR THE AUTONOMOUS COMMUNITY OF CANTABRIA

In Cantabria, the fishing of glass eel is seasonal and takes place in "rías" and estuaries during the winter months between October and March. Fishing can be either recreational or professional. For recreational fishing, a recreational maritime fishing licence is needed, and there is a maximum catch quota per fisherman per day of 250 grams but marketing is prohibited. For the professional fishing of glass eel, the licence is only granted to professional shellfish fishermen, who can apply for an eel fishing post on-land that will be granted to them by competition. The marketing is made in the "lonjas" (auction halls) or other authorised establishments. For both, the only permitted fishing gear is the sieve, which cannot exceed 1.2 m in diameter. Only one sieve per fisherman is permitted. The glass eel fishing season in Cantabria has taken place over the years from 10 October to 31 March of the following year. However, throughout this period, fishing is prohibited from 14h00 on Saturday till 18h00 on Sunday. In the case of eels over 12 cm, it is a fishery of minor importance exclusivei recreational, which takes place in inland waters.

The eel management plan in Cantabria is articulated through the single administrative unit (EAU), comprising 10 river basins.

Measures proposed

Reduction in the commercial fishing activitv: the number of working fishing days has been reduced, a maximum catch quota by tide has been set and a catch logbook where fishermen must register their catches daily has been implemented. Similarly, a fixed number of fishing posts in certain basins is set and it is prohibited to fish outside of them. These posts are allocated amongst the shellfish fishermen appointed to the plan. With all these measures it is intended to reduce fishing effort by more than 50%.

Restriction of recreational fishing: fishing for European eel is restricted to the transitional waters of some of the basins included in the plan, and prohibited in the rest. Fishing for eel is also prohibited in the river waters. In the areas where fishing for eel is allowed the fishing season is reduced by at least 50% and the number of licences is also reduced.

Restocking measures: a restocking plan has been established, consisting on reserving between 35% and 60% of the catches of eels less than 12 cm for restocking purposes, as required by the Regulation. These will be released in the basins that have the best environmental quality and connectivity conditions.

Structural and/or environmental measures to improve the inland water habitats: a connectivity improvement programme for eel has been established in Cantabrian river basins, in parallel with the implementation of the inland water management plans for the SCIs of Cantabria. Measures relating to the eel's habitat improvement are included therein.

Control and surveillance measures: a control system by increasing monitoring in the fishing days has been designed and a catch logbook has been implemented. Furthermore, studies will be accompanied by a specific monitoring and control programme of the measures to be applied.

4. EEL MANAGEMENT PLAN FOR THE AUTONOMOUS COMMUNITY OF THE BASQUE COUNTRY

The river basins under this plan belong to the Inland River Basins District of the Basque Country *and* to the Basque-Cantabrian River Basin District. Eleven river basin units are considered (Barbadun, Ibaizabal, Butroe, Oka, Lea, Artibai, Deba, Urola, Oria, Uraraea and Oiartzun).

Eel fishery in the Basque Autonomous Community is only done for glass eel, with artisan and specific gears and only for recreational fishing. The fishing for eels over 12 cm is negligible. The glass eel fishing began to be specifically regulated by the Basque Government through Decree 41/2003 (later amended by Decree 107/2005). This Decree requires the possession of a personal licence, which is only valid for a single river basin which identifies the fishing modality and where fishermen must record catches. It also establishes the fishing season, from October to March of March of the following year. The Decree also bans the sale of glass eel.

Measures proposed

Reduction in the fishing activity: the number of working days has been reduced for the glass eel fishing, considering a 50% reduction in catches in comparison to the 2004-2006 catch levels. For the adult eel, its exclusion from the list of fishing species in the rivers and waters in the Basque-Cantabrian area is envisaged. The fishing measures proposed have already been implemented in the 2009-2010 season.

Restocking measures: controlled restocking campaigns within a research plan in Oria and Barbadun river basins.

Control of predators: Defining the impact of predators and future actions through control activities.

Structural and/or environmental measures to improve the inland water habitats: adoption and expansion of programmes and action plans for improving accessibility in the whole river network; e.g. removing obstacles and developing studies for establishing corridors for migratory species. Implementing water quality and cleaning operations covered by the hydrologie plans and other programmes within the river network in the areas with more means and/or recovery potential and with a poor water quality.

Control and surveillance measures:

- Identification of a set of indicators that, through periodic calculations, can monitor the eel fishery, assess the habitat conditions and the species population; as well as evaluating lhe implementation of the proposed measures and their effectiveness.

  Carry out research studies, such as calculating the pristine escapement and estimating anthropogenic mortality, assessing the possible mortality rate associated with hydroelectric barriers, measuring the impact of the dispersion models and the effectiveness of corrective measures, and studying the effect of the controlled restocking operations.

5. EEL MANAGEMENT PLAN FOR THE AUTONOMOUS COMMUNITY OF NAVARRA

In Navarra there are two clearly differentiated river basins:
- The Mediterranean basin belongs to the Ebro River Basin Disttict. The large dams built in the lower course of this river, hindering eel passes, have lead to the gradual decrease of the species in all Navarra Mediterranean rivers, where eels have almost disappeared nowadays.
- The Cantabrian basin belongs to the Cantabrian River Basin District. Overall eel is scarce and is mainly found in the up-streams of the rivers Araxes and Leitzaran that flow to the Oria river basin and also in the Urumea river basin and the watercourse that flow to the North-Pirenean basins. In the Bidasoa river basin, eel is scarce in the upper sections while more abundant in the middle and lower sections of the river, out of the territorial competence of Navarra.

In the Navarra river network there are no inland waters with marine influence or submitted to the tidal regime, so fishing for glass eel has never been practiced. Recreational fishing for adult eels with rods is the only eel fishery in Navarra. There are no quantitative data on the fishing pressure or of the species annual catches, although it is estimated to be low. Recreational fishing is regulated by the rules established on an annual basis in the Fishing Banning Decree of Navarra. The minimum size is 20 cm and there is no quota limit for the catches.

Measures proposed

The proposed management measures can help to achieve the objectives of Regulation (EC) 1100/2007 only in the Cantabrian basin, since it is the only one that currently links up to the sea allowing for the eel to complete its life cycle. For the Mediterranean basin, new specific management measures will be considered for the second phase, with the data already assessed in the first phase, which will allow evaluating the feasibility of other measures to help reach the 40% escapement target at national level.

Permanent ban of the recreational eel fishery in lhe Cantabrian basin

Restocking measures: restocking operations have been carried out in the Mediterranean basin since 1984 for maintaining this local species, primarily for recreational fishing. As work on connectivity measures progresses, the possibility to restock sections in the Mediterranean basin will be assessed.

Structural and/or environmental measures that improve the inland water habitats: connectivity programmes for dams, weirs and other artificial obstacles within the rivers of Navarra. These actions targeted initially for salmonid populations, have been adapted to also favour mobility of other species, including the eel, providing hole constructions that allow the passing of species such as the eel and the lamprey. Between 2001 and 2007 a total of 30 obstacle connectivity projects have been implemented.

Water quality improvement measures are foreseen within the horizontal measures of the Cantabrian River Basin District for the Cantabrian basin, and the Ebro River Basin District for the Mediterranean basin, developed within the Water Framework Directive. For the latter, these measures are included in the specific Eel Management Plan for the Ebro Basin.

Control and surveillance measures of the measures proposed

6. EEL MANAGEMENT PLAN FOR THE AUTONOMOUS COMMUNITY OF CATALONIA (INLAND BASINS)

The Inland River Basins include the North system (Muga, Pluvia, Ter and Tordera rivers), the Central system (Besós, LLobregat and Foix rivers) and the South one (Francoli and Gaia rivers). Here both professional fishing for glass eel and recreational fishing for eel > 35 cm takes place. The main problem is the existence of a large number of obstacles to migration. The Ebro river basin, shared among various autonomous communities, has its own EMP.

Measures proposed

Restriction of professional fishing: for glass eel, fishing is allowed only in 21 points, set on an annual basis by the region's Fisheries Depatment. These are split between the Muga (5 points), Pluvia (5 points) and Ter (11 points) river basms. In the other river basins this activity will be prohibited. The fishing period will be reduced to 143 days per year (from 20 October to 10 March of the following year) and to 15 hours per day (from 17:00 to 08:00). Licences are personal, non-transferable and annually issued. Each fishing gear (traditional *busso)* will be marked and numbered for easy identification from illegal gears. The fishing of eel > 12cm will be totally banned in all inland river basins.

Restriction of recreational fishing: the recreational glass eel fishing is totally banned. Only catch-release fishing for eels >35cm is allowed and no other fishing method or sizes are allowed.

Restocking measures: a restocking plan has been developed to comply with the percentages established in Art. 7 of the Regulation. It will be carried out in those river basins where glass eels are captured, to avoid the possible transmission of parasites and pests between the different basins. The selection of restocking sites has been done based on studies on the current eel situation. Restocking will be carried out with individuals of different sizes to ensure a greater survival of the individuals and to compensate the sex-ratio. It will also be done according to the percentages specified in the Regulation.

Structural and/or environmental measures to improve the inland water habitats: framed within the Water Framework Directive (WFD). Studies on the current habitat situation (Document IMPRESS), a management plan for the Catalonia river basin district (PGDCFC) and a management plan for all the inland Catalan river basins to reach the objectives set for good water quality are underway, with 4 areas of intervention foreseen: improving the hydromorphology and biological quality of the environment, which includes measures to improve river connectivity and to control and eradicate invasion species; management of water resources use; water quality improvement and modernisation of irrigation.

Control and surveillance measures of the measures proposed: to ensure compliance with the measures of the Catalonian Eel Management Plan. Different law enforcement bodies have been set up to reduce as much as possible the illegal recreational eel fisheries. Other monitoring measures will be done including a specific study on the eel populations in Catalonia, with a pilot study in the Muga and the Ebro river basms. Monitoring of the measures proposed will also be carried out in order to assess the implementation and effectiveness of the objectives of the management plan.

7. EEL MANAGEMENT PLAN FOR THE EBRO RIVER BASIN

The Ebro River Basin is characterised by the presence of large infrastructures, dams and pipelines. The major dams in the area пеш· the mouth of the Ebro have conditioned the eel populations to concentrate almost exclusively in that area, which lies in the geographical area of the Autonomous Community of Catalonia. Thus the EMP includes fishing management and restocking measures exclusively in the Catalan area of the basin. However, the EMP also outlines measures to improve connectivity and water quality in the entire basin.

Measures proposed in Üte Catalan part of the Ebro River Basin

Restriction of professional fishing:

Eel < 12 cm: only allowed at 346 points, set on an annual basis by the region's Fisheries Department in the drainage channels and the river mouth. The fishing period is reduced to 4 months and 20 days and 15 hours/day, always at night time. Licences are personal, no transferable and annually issued. Each fishing gear (traditional *busso)* will be marked and numbered for easy identification from illegal gears.

Eel between 12 and 35 cm: fishing will be totally banned

Eel > 35 cm: in the bays, this type of eel fishing will be banned. Only individuals caught as by-catch of the target species of the fishing vessels will be allowed. In the lagoons, fishing is only permitted in the four Delta lagoons with the gear *gánguil* or *ûiepantena* and for a period of five months per year.

Restriction of recreational fishing:

Eel < 12 cm: strictly forbidden by specific legislation.

Eel > 12 cm: only catch-release fishing for eels >35cm is allowed and no other fishing method or sizes are allowed.

To ensure compliance with the fisheries catch measures in Catalonia, different law enforcement bodies have been set up to reduce as much as possible the unregulated and illegal recreational eel fisheries (IUU fishing).

Restocking measures: idem to those of the EMP for Catalonian Inland Basins.

Measures proposed within the whole Ebro River Basin

-*Structural and/or environmental measures to improve the inland water habitats,* within the Water Framework Directive such as fighting against predators, environmental and connectivity measures across the Ebro Basin, water quality, protected sites, environmental pressures, etc.

- Control mid surveillance measures: to develop an "Evaluation of the European eel populations in the inter-regional Ebro River Basin", including a pilot study and proposals for the management and conservation of populations, with a 4-year planned duration. Once data on current eel populations in the Ebro river basin is readily available, and with data on the climatic and orographic characterisation of the area, the management plan could be revised to reflect the real potential of the river basin. This will be done under the 2nd phase of the national plan.

8. EEL MANAGEMENT PLAN FOR THE AUTONOMOUS COMMUNITY OF VALENCIA

In the Autonomous Community of Valencia there is tradition for both adult eel fishing and glass eel fishing. The organised and sustainable exploitation of this resource dates to 1934 and the first regulation to 1936. For each fishing season, the region's Ministry for Environment, Water, Town Planning and Housing, issues an annual resolution establishing the "Regulations for the glass eel fishing". The glass eel fishery is only allowed for commercial fishing. The fishing of eel > 12 cm can be both commercial and recreational. Commercial fishery is practiced within the area of four wetlands, one of which is the Albufera Natural Park. Recreational fishery is practiced throughout the whole Autonomous Community, with a minimum size of 25 cm. The Eel Administrative Unit embraces the whole of its territory, which mainly includes most of the Júcar river basin which is divided into sub-units.

Measures proposed

The Valencian plan includes 5 main action lines:

• To study and calculate the escapement levels of eel populations m the absence of anthropogenic influence for improving the first estimates.

• To reduce eel mortality associated to fishing and aquaculture activities "for consumption". Restocking measures providing for an increase in the amount of eels reserved for restocking are envisaged as compensatory measures to commercial fishing. For recreational fishing, measures include a fishing ban for 2-3 months per year or increasing the minimum sizes. Reserve areas have also been established where no eel fishing is allowed.

• To improve the natural habitat of the species in the inland waters of the region through structural and/or environmental measures to improve the inland water habitats. One of the lines of action consists on measures related to the conditioning and restoration of the access areas, as well as improving the connectivity in the hydraulic infrastructures that create barriers to migration. Grids will be placed in the turbines entry areas and the channels will be maintained in appropriate conditions to facilitate the passing.

• To strengthen the current eel populations in the inland waters of the region. Setting up a restocking plan which complies with the restocking percentages set in the Regulation, from 35% starting in 2009, to 60% in the 2012-2013 season. A method that converts individuals of different sizes into eel equivalent units (EEU) will be used, using local data on growth rate estimates of glass eel mto mature eel (Bevacqua model, 2007). Adapting the characteristics of the eels released to the specific characteristics of the management units will allow for restocking diversification. Eels will also be transported from inland waters to other areas from where they can continue their migration to the sea. Measures against predators will also be assessed.

• To monitor the effectiveness of the four previous actions. Monitoring protocol with logbooks and catch documentation files to be used by authorised entities. Control and surveillance of the different measures proposed. Health control in natural populations.

9. EEL MANAGEMENT PLAN **FOR** THE AUTONOMOUS COMMUNITY OF CASTTLLA-LA MANCHA

Due to the geographical location of Castilla-La Mancha within the Iberian Peninsula, eel is only found here in its adult phase. Fishing is exclusively recreational. In the 2008 Decree regulating fishing activities, eel is listed as a native species in the territorial area of CastiUa-La Mancha and a minimum catch size of 25 cm is set. Catch numbers are very small and there is no quantitative data available. Local eel populations are affected mostly by obstacles and water pollution.

Eel populations have declined remarkably in the last few decades and its current distribution is limited to a very restricted range. Reliable data on the current eel population exists for the Turia and Gabriel sub-river basins, in the Júcar river basin as well as in the dam "el Vicario" in Ciudad Real. Out of the four existing river basins within Castilla-La Mancha (Júcar, Segura, Guadiana and Tajo), only the Jucar river basin is addressed in the first phase for implementing eel management measures as eel population only exist here. The possibility to undertake specific management measures in the other river basins will be assessed under the second phase of the national plan.

Measures proposed

Restocking measures: to carry out a restocking plan in the inland waters of the region to strengthen the current eel populations present here. These waters are inaccessible for the species but have good conditions for their development and lack fishing pressure. The releases will be done with juveniles from aquaculture for restocking purposes.

Fight against predators: in those waters where there are natural predators of the species, monitoring of the natural eel populations will be undertaken as well as of the restocking operations. Appropriate measures will be defined if a significant pressure from natural predators is detected.

Structural and/or environmental measures to improve the inland water habitats: intensify the environmental monitoring on effluents into watercourses, mainly those nearer to industrial and/or urban areas, as well as those with a high presence of eel. The River Basin Districts will be urged to improve the connectivity for the passing of eels through the hydraulic infrastructures. An inventory and assessment of the potential obstacles will be made in order to come up with the most suitable measures for allowing eel passes.

Temporal disconnection of the hydroelectric turbines: the Júcar River Basin District will be urged to set up an agreement with the entities responsible for the main existing hydraulic uses, to ensure temporary disconnections of the turbines, as well as placing grids to avoid eel mortality.

Transport of eels to favour natural mobility

Control and surveillance measures: a monitoring programme for the restocking plan will be implemented for the restocking operations done in the Valencia region as well as those done in Castilla-La Mancha. The evolution of the species in Castilla-La Mancha will also be monitored.

The fishery of this species is made with traditional gears, mainly with *paranza (paranza del hondo* and *paranza del secó)* and with bottom longline. The minimum catch size is 38 cm (Decree 91/84, of 2 August, approving the Regulation for fishing in the Mar Menor). The number of vessels oscillates from 30 to 40 depending on the year. All fishing for this species is done in the Mar Menor and sold through the *Cofradía* de Lo Pagan, in the municipality of San Pedro del Pinatar. There is no recreational fishing in the region.

The eel habitat in the Murcia region is limited to the Mar Menor, which is largest saltwater lake in Europe with an area of 180 Km^2 and 73 Km^2 of coastline. The maximum depth is 7 metres. The water exchange and therefore of fish species between the Mar Menor and the Mediterranean Sea occurs naturally through natural openings or passages and there are no artificial barriers that limit the passage of eels. Murcia region also includes 60% of the Segura River Basin. In this basin, eel populations have disappeared possibly due to extensive changes in the channels and the lost meandering characteristics.

Measures proposed

Restriction of the professional fishing activity

Closure of the fishery from 01/04 to 30/09, except for the longline gear that closure will be from 01/06 to 30/09. This closure period is regulated by Decree 91/84, of 2 August, approving the Regulation for fishing in the Mar Menor. Thus there is a 6 months/year ban, except for the longline, with a 4 months ban. The latter fishing modality is practised much less. The minimum legal size is 38 cm. The region's Directorate-General for Agriculture and Fisheries carries out an administrative control of the catches.

Control and surveillance measures

Monitoring and control of the measures proposed. Since 2006 this species is included in the sampling carried out within the Epidemiological Monitoring Plan in aquatic organisms in the region. This programme analyses a number of specimen annually (minimum 30) and analyses major viral diseases of fish (infectious pancreatic necrosis, viral haemorrhagic septicaemia and nodavirus). Since 2008, a fall parasitologicai study of eels is being made by the Fishing and Aquaculture Service of Murcia and the Animal Health Department of the University of Murda, with special attention to the parasite *Anguillicola crassa.* Since 2009 a biological study of the eel fishery is underway.

Structural and/or environmental measures that improve the inland water habitats

As mentioned, there are no obstacles in the only management unit proposed, as it is an open lagoon. However, the measures set out in the Water Framework Directive will be carried out in the Segura river basin where the species is no longa: found. Furthermore, the feasibility for implementing more specific management measures will be assessed in the second phase of the national plan.

11. EEL MANAGEMENT PLAN FOR THE AUTONOMOUS COMMUNITY OF THE BALEARIC ISLANDS

The lack of real rivers in the Balearic Islands makes it possible to define a single river basin in the Balearic archipelago. Eels *cm* be found in the different brackish coastal lagoons *(albuferas)* as well as in the many streams that flow into the sea. The main locations where this species is found are S'Albufera de Majorca (Mallorca Island), S'Albufera des Grau (Menorca Island) and S'Albufereta or s'Albufera de Pollença (Mallorca Island). The three lagoons are defined as Protected Natural Areas (PNA). The Wildlife Service of the Ministry for Environment is the competent authority for inland water fisheries. However, as the main eel populations are within the PNA, each has its own regulations regarding the management of its eel populations.

Measures proposed

Management of the fishing activity

In tìie two lagoons of Mallorca there is no commercial fishing and only recreational fishing is allowed with traditional gears and a limit of licences and authorised periods. Currently there are around 1000 river fishing licenses for the entire archipelago, of which between 10-20% are estimated to practice recreational eel fishing.

There is only commercial eel fishing in S'Albufera des Grau (Menorca) with a number of limitations: a single authorised fisherman, only with *gánguil* (a conical-like sieve) and subject to technical measures; a maximum annual catch of 2.2 tonnes, although each year a maximum catch is set depending on the salinities reached the 3 previous summers. The minimum catch size is 40 cm and 100 gr in weight. Fishing of glass eel (< 12 cm) is not allowed.

Restocking measures

As there is no fishing of eel < 12 cm reserving a percentage for restocking is not required. Besides, there is no intention to carry out restocking plam since, according to estimates, the 40% escapement level is fully exceeded at present at lhe regional level. Occasionally, back in the late 70s restocking with glass eel was done in s'Albufera des Grau.

Structural and/or environmental measures to improve the inland water habitats

Water quality controls are made periodically in the three lagoons. In S'Albufera des Grau the lagoon is managed through floodgates and opening to the river mouth. For all lagoons, the objectives set in the Wetlands Strategic Plan are followed to preserve and maintain a rational use of the resources, with particular emphasis on maintaining some minimum values for three parameters: level, salinity and connectivity. For the latter, maintaining connectivity to the sea is critical to preserve the existing biodiversity and the functioning of fish populations, including eels.

Fight against predators

As the main locations of the eel populations are within the PNA, measures to eliminate non-native predators are already implemented.

Control and surveillance measures

Commercial fishing is compatible with the target escapement levels provided that the authorised maximum catch level is respected. Recreational fishing does not account for much catches thus doesn't affect this target. Eel populations studies in both Majorcan coastal lagoons are foreseen.

12. EEL MANAGEMENT PLAN FOR THE AUTONOMOUS COMMUNITY OF ANDALUSIA

Most fishing for eel fisheries target elver fishing with large fixed nets on boats in the lower Guadalquivir. The fleet consists of 12Ö-125 boats, most of them artisanal and with difficulties for their legalization. In 2008, the eel was removed fiom the list of allowed fishing species in continental waters and in 2010 all the gears used for the fishing of glass eel have been eliminated. Thus the eel fisheries (in any of its biologica] phases) is banned.

Andalusia manages 3 river basins: the Atlantic, the Mediterranean and the Guadalquivir. There is few data on the eel in Andalusia so it is very complex to define the species situation in the Atìantic and Mediterranean basins. Information is only available for the Guadalquivir basin. This basin is proposed as a management unit in the first phase. However, studies and horizontal measures under the Water Framework Directive will also be carried out within the whole territory of Andalusia.

Measures proposed

- Restriction of the fishing activity: a 10-year moratorium in all inland eel fishing is introduced, except for accidental catches in water systems at aquaculture sites. Some of these catches will be used by the Andalusia authorities for restocking and the rest can be sold under the auspices of an agreement with the Ministry for Environment. Fishing effort reduction will be close to 100%.

- Restocking measures: will only be done with the authorised catches - accidentally caught in water pumping at aquaculture sites - to comply with the percentages established in the Regulation.

- Transport of eels to favour the natural mobility: a plan for transporting eels from inland and continental waters to watercourses where they may escape freely to the sea, will be established. This will be done in collaboration with the aquaculture stations and using the resources of both Ministries. Structural measures are foreseen such as system installations to avoid the turbines.

- Fight against predators: there will be no action against cormorants, as they are a protected species. However, to prevent prédation., it is foreseen to install protection nets at the sites (pools, ponds...) where eel restocking will take place.

- Measures relating to aquaculture: aquaculture intended to develop the management plan will be encouraged, through public support for continental aquaculture under the EFF.

- Structural and/or environmental measures to improve the inland water habitats within the scope of the Water Framework Directive. The implementation of eel passes is also foreseen as well as any other type of action recommended by studies in the different river basins.

- Control and surveillance measures: monitoring and control of the measures adopted in the plan in order to assess its effectiveness on an annual basis. A final evaluation is envisaged for the ninth year, which will serve as a basis for reviewing the management measures proposed, without prejudice to the two-phase rolling plan at national level. Studies to improve the data in the Guadalquivir basin will also be carried out as well as data collection in the other Andalusian river basins. The projects in the short term (2010-2012) amount to a total budget of 954,000

Euros. Further studies, monitoring and control measures will be developed through an agreement signed with the University of Cordoba, to obtain the data needed to improve eel stock assessments and to evaluate the effect of the measures implemented on the different sections of the river basins.

Ref. Ares(2010)692013 - 12/10/2010

EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR MARITIME AFFAIRS AND FISHERIES

MEDITERRANEAN AND BLACK SEA
STRUCTURAL ACTIONS: BULGARIA, GREECE, (TALY, CYPRUS, MALTA, ROMANIA, SLOVENIA

Brussels,
MARE/D3/GSD(2010)n°

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OBJET/SUBJECT/BETftlPFT

Réunion : Comité de la Pêche et de l'Aquaculture *I* Groupe d'Experts centróte de la Pêche.

Meeting : Committee for Fisheries and Aquaculture / Expert Group Fisheries Control.

Sitzung : Ausschuss für Fischerei und Aquakultur/Sachverständigengruppe Fischereikontrolle.

PATE/DATUM: 28 October 2010

(Vote) Opinion of the Committee for Fisheries and Aquaculture, on the Eel Management Plan submitted to the Commission by
Greece in accordance with Council Regulation (EC) No 1100/2007 establishing measures for the recovery of the stock of European eel

Personnes de contact/ Contact persons / Kontakts: Spyrou Georges 0032 2 29 68674, Theophilou Christos 00 32229 65239

Stephanos Samaras
Head of Unit

COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels,
C (2010)

Draft

COMMISSION DECISION

of[...]

approving the Eel Management Plan submitted to the Commission by Greece in accordance with Council Regulation (EC) No 1100/2007 establishing measures for the recovery of the stock of European eel

(Only the Greek text is authentic)

Draft **COMMISSION**

DECISION

of [...J

approving the Eel Management Plan submitted to the Commission by Greece in accordance with Council Regulation (EC) No 1100/2007 establishing measures for the recovery of the stock of European eel

(Only the Greek text is authentic)

THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Council Regulation (EC) No 1100/2007, of 18 September 2007, establishing measures for the recovery of the stock of European eel', and in particular Article 5(1) thereof,

After consulting the International Council for the Exploration of the Seas,

Whereas:

^^βθη 18 May 2009, Greece submitted to the Commission an Eel Management Plan in accordance with Article 4(1) of Council Regulation (EC) No 1100/2007.

(2) On 6 August 2010, Greece submitted to the Commission a revised Eel Management Plan.

(3) Pursuant to Article 5(1) of Regulation (EC) No 1100/2007 the Commission has received the results of the technical and scientific evaluation ofthat plan, carried out by an appropriate scientific body, the International Council for the Exploration of the Seas. That evaluation indicated that the proposed Eel Management Plan fulfils the requirements laid down in Regulation (EC) No 1100/2007.

(4) The plan submitted by Greece should therefore be approved.

(5) The measures provided for in this Decision are in accordance with the opinion of the Committee for Fisheries and Aquaculture,

[1] OJ L 248,22.9.2007, p. 17.

HAS ADOPTED THIS DECISION:

Article J

The Eel Management Plan submitted by Greece on 6 August 2010, as set out in the Annex, is approved.

Article 2

This Decision is addressed to the Republic of Greece.

Done at Brussels, [...]

For the Commission Maria Damanaki Member of the Commission

ANNEX

EEL MANAGEMENT PLAN for Greece.

Hellenie Eel Management Plan
Executive Summary

Summary

Greece is located close to the easternmost limit of the eel distribution and the country presents an extreme Mediterranean Hydrologie profile. The quantity and quality of data on the biology, ecology and exploitation of eel are extremely limited in the four Eel Management Units. The potential escapement for 1980 is estimated to 5491. The 40% escapement target is thus 2201. These quantities will be re-evaluated during the first phase of the Eel Management Plan. The proposed management measures aim to reduce fishing and natural mortalities improve the efficiency of eel migrations and establish an efficient recording system.

Preparation of the Eel Management Plan

The General Directorate of Fisheries of the Hellenic Ministry of Rural Development and Food established a National Working Group on eel management for the development of the Eel Management Plan (EMP) in the context of the Council Regulation No 1100/2007. Scientists and staff of the administration were involved in the establishment of the EMP.

Organisation of the Eel Management Units

The Hellenic Eel Management Plan defines four Eel Management Units (EMU). Their definition is based on the main climatic characteristics, on the spatial distribution of lagoons, lakes and rivers, on the existing Water Districts (Directive 2000/60/EC), on the distribution of the eel fisheries and on the location of the main authorities involved in water and eel management. The management measures concerning fishing restrictions and environmental aspects are applied to all EMUs. The nature and scale of the proposed specific actions, like stocking or pilot studies, respect the relative importance of the EMUs.

Description of the Eel Management Units

Greece is located close to the easternmost limit of the eel distribution and the country presents an extreme Mediterranean Hydrologie profile very different from the majority of the European countries. The total annual precipitation (about 700 mm) increases from southeast to northwest. 91 rivers have been recorded representing 4268 km with deltas covering approximately 72300 ha. The main characteristic of Greek rivers is their torrential flow that is caused by the uneven seasonal rainfall distribution, the mountainous terram with large slopes, and the erosion of the ground. The total surface of Hellenic lakes is about 85000 ha (30% are artificial). The total surface of the Hellenic lagoons is estimated to about 35000 ha. The majority (75%) is located along the western coast. The HWater bodies are considered to have an acceptable quality.

EMU-01 (7 Prefectures, 3 Regions) is located on the North Western Greece. It comprises 70% of the total Hellenic lagoons surface and 45% of the lakes surface. Despite the considerable decrease of the EMU-01 landings (1801 in mid 80' s, 501 the last years), the unit remains the most important eel producer. EMU-02 (5 Prefectures, 2 Regions) is located on the Western Peloponnesos. it comprises 5% of the total Hellenic lagoons surface and 3% of the lakes. The eel landings of this EMU increased since mid 80's contrary to the general pattern and now represent about 40% of the Hellenic lagoon landings (about 401). EMU-03 (4 Prefectures, 1 Region) is located on the North Eastern part of the country. It comprises 24% of the total Hellenic lagoons surface and 9% of the lakes surface. The landings dropped from 701 in early

80's to less than 10 t. EMU-04 covers the rest of the country, mainly the central eastern continental Greece and the islands of the Aegean Sea (35 Prefectures and 8 Regions). The landings of the EMU-04 are almost zero.

The Eel Fishery

The law **(RD/1**42/1971) states clearly that fishing and commercialization of eels less than 30 cm is totally prohibited. The bulk of eel landings are provided by the lagoon fisheries. They are based on fixed barrier traps on the lagoon - sea interface catching mainly silver eels during their seaward migration. Thus, the fishing effort remains stable. The reported catches dropped from 250 t in mid 80's to 80-90 t the last years. Individually operating fishermen around the lagoons and in lakes catch also eels (about 701 in mid SO's). Few catches are also reported from coastal areas mainly from static gears used in small scale fisheries (15 t). No official elements on recreational fisheries exist but their production was estimated about 15 t in mid 80's. Only 20% of the surface of the freshwater ecosystems in which presence of eel is reported is exploited The quantities provided by eel farms (based on imported glass eels) dropped from 7001 in 2001 to 3001 m 2007.

Escapement - Local Stock Modelling

The quantity, diversity and quality of data concerning the biology, ecology and exploitation of eel in Greece are extremely limited. Moreover, the particularities of the Hellenic ecosystems and the geographic position (close to the easternmost limit of the species distribution) make the comparison with otìier areas difficult. In this context the definition of the present escapement and a realistic estimate of the target escapement suggested by the regulation EC no 1100/2007 is very difficult. The approach adopted to estimate pristine escapement is based on the eel lagoon yield productivity (kg ha"^{1} year) in early 80's. In this way, the mean annual fisheries productivity for 1980 is estimated to 11.41 kg ha"^{1} year"^{1} and the total lagoon eel catches for the same year are estimated to 421 t. This value is 68% higher than the total eel landings recorded during the same period and this is due to the partial reporting of eel catches during the early 80's. In addition to the above mentioned quantities, experts' contribution is included to estimate other eel catches leading to a total of 549 t. This quantity is close to the escaping quantity because the lagoon fisheries operate on the lagoon-sea interface and no additional anthropogenic mortality is expected, they are mainly based on silver eel catches during their offshore migration and the exploitation pattern remained unchanged since the mid 80's. The 40% escapement target is 220 t. This target quantity is larger than the mean annual catches of the period 2005-7 (145 t). A quantity of eels escaping from "free" ecosystems (ecosystems communicating with the sea with no fishing activities) have to be added. During the first phase of the EMP an effort will be done to better estimate these quantities and to fill this gap.

Restocking

Some scarce, empirical and small scale restocking attempts have been realized aiming the improvement of local Greek fisheries. The restocking actions planned in the context of the Hellenic EMP will be supported by the eel farms and by the users of natural resources affecting the eel survival and migration. Two main sources of young eels for restocking purposes are proposed. The first concerns 10% of the imported quantities by the rearing farms. The second is based on the transfer of eels from high mortality locations to favourable ecosystems. More specifically, glass eels from the irrigation channels and the pumping stations of the Messolonghi-Etoliko lagoons will be transferred to selected ecosystems of the rivers Acheloos and Kalamas (EMUI). Total prohibition of use of fishing gears targeting eel and the control of any activity affecting the survival and the seaward migration of eel will be taken in the stocking areas.

Monitoring & Post-evaluation

The management plan presents monitoring actions for recruitment, fisheries and also fisheries independent eel surveys. Few elements on glass eel distribution and abundance exist and two monitoring points are suggested along the western coast (EMU-01 and EMU-02). The vast majority of the eel landings are exported to other European countries. The CITES requirements will be respected and the monitoring of these quantities will be realized combining the data provided by central authorities and data from the fishery sector. The catches of lagoon fisheries are by far the more important. The reporting of the catches will be improved and the biological sampling is easy. For the first period of application of the EMP, a more important sampling effort than the one suggested in the context of the DCR is necessary because of the lack of past biological elements. The development of a specific study leading to a typology of the individual fishermen, their fishing tactics and their catches by EMU it is proposed. In the future, the design and implementation of fishery independent surveys will improve the estimates of crucial parameters. The surveys will start in winter 2010 and should continue as long as necessary to collect all relevant data. The status and future of the eel fisheries will be continuously re-examined following the elements provided by the monitoring actions and specific studies.

Management Actions

The management measures of the EMP are based on the following four main components.

Reduce direct fishing mortality. This will be achieved by releasing into the coastal waters 30% of the lagoon catches representing 23.8 t in 2010. Moreover, immediate prohibition of the fyke nets fishing in the lagoons and in the coastal zone, complete prohibition of eel fishing in rivers and deltas during the main migration period of silver eel and complete prohibition of the recreational eel fishing have been decided.

Reduce natural mortality. Several destructive eel traps exist close to the coastal areas. During the first phase of the EMP the establishment of an extended hierarchical list of favourable and unfavourable eel ecosystems mainly based on the eel survival and the escapement probabilities will be carried out. These elements will be also used to improve the efficiency of the restocking actions.

Improve the efficiency of eel migrations. The rapid marease of the number of structures affecting the eel migration and their diversity oblige the development of a common database during the first phase of the EMP. Moreover, immediate actions are decided for the maintenance of free fish movements through the Dimikos channel (EMU-01) linking the lakes Trichonida and Lysimachia, representing 18% of the natural lakes surface, with the Ionian Sea. The particularities of the Hellenic ecosystems (torrential character of the rivers, large slopes, high altitudes, seasonal fluctuations, mean main height of the dams) make the direct transfer and application of technical structures improving the eel migration from NW European countries to the Hellenic ecosystems rather difficult. An evaluation of the feasibility and efficiency of the different structures and methods will be carried out in priority.

Establish an efficient recording system. Three pomts characterise the present situation: the majority of the catches are provided by fishermen cooperatives exploiting the lagoons and they are not considered by the National Statistical Service of Greece, the catches of individual fishermen, the number of which remains unknown, are not reported and no elements on the recreational fisheries exist. Consequently it is necessary to organize an effective reporting system. As severe fisheries restrictions can be decided in the future a fishery independent eel monitoring system will be organized.