

Introduction

- The sand-eel fishery in Catalonia targets two species: *Gymnammodytes cicerelus* (dominant in the catch) and *Gymnammodytes semisquamatus.*
- It is a short-lived small fish typically found in shallow sandy bottoms in the Mediterranean and adjacent East Atlantic waters.



Gymnammodytes cicerelus (sonso blau)



Gymnammodytes semisquamatus (sonso ros)

Introduction

- Individuals of both species in the Mediterranean rarely reach 15 cm length and live in shallow bottoms between 5 and 10 m depth.
- The fishery is carried out by 25 small-scale artisanal seines scattered around 6 fishing ports along the central and northern Catalonian coast, north of Barcelona.
- Boats operate on a daily basis and landings are entirely devoted to direct human consumption.
- Annual production of the fishery doesn't reach 1000 tonnes.

Regulatory Framework

- The first regulatory framework for the fishery was adopted in 1987. A key element of this initial regulation was a seasonal closure during the reproduction period.
- After the adoption in 2006 of the EU Mediterranean Regulation (1967/2006) the fishery needed two specific derogations to proceed with the activity (mesh size and minimum distance from the coast).
- Derogations should be duly justified with scientific evidence and in the context of a <u>comprehensive management plan</u>.
- The absence of the required scientific study on time resulted in the illegality of the fishery.
- The consequence was a huge crisis in the sector which approached the administrations, scientists and NGOs calling for support.
- After agreement of the members of the four groups (fishing sector, scientists, administrations and NGOs) <u>the Co-management Committee of the sand-eel fishery in Catalonia was created in April 2012</u>.

Why co-management?

- Co-management transfers the management responsibility to the stakeholders involved in the fishery.
- The participation of the fishing sector in the decision making process ensures their proactive participation and commitment.
- Commitment from the fishermen is crucial in providing a real incentive for a through adherence to the rules.
- The join design of the management measures, monitoring, and control and its full understanding contributes also to promote compliance among fishers.
- Co-management properly recognizes the social and cultural values of the fishing sector and therefore their long standing tradition particularly relevant in coastal regions.

The Co-management Committee (CMC)

The CMC was created with the aim of guaranteeing the long term sustainability of the fishery by specifically:

1.Designing the <u>scientific study</u>, fundamental basis for the adoption of the required comprehensive management plan.

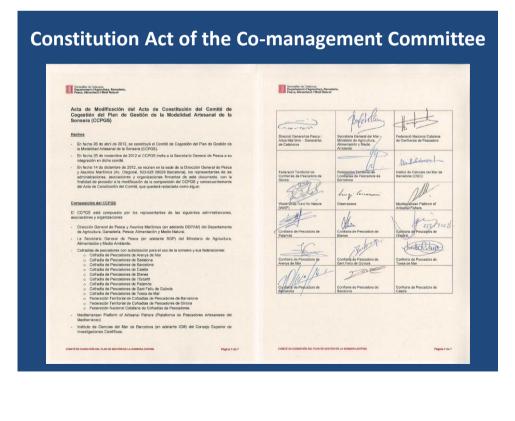
2.Setting the rules for the fishery under an <u>adaptive management</u> approach.

3.Close monitoring the activity, assessing compliance to the rules and agreeing on sanctions if applicable.

Composition of the Co-management Committee

- 1. The fishing sector, represented by Fishers associations, sand-eel fishers, and MedArtNet.
- 2. The Catalan administration.
- 3. The Spanish national administration
- 4. Scientists from the National Institute of Marine Sciences (ICM-CSIC)
- 5. NGOs (WWF and Greenpeace).

All on equal footing with respect to decision making regarding the rules and their implementation



4

Constitutive Bodies of the CMC

The CMC is composed by 2 bodies:

1.Plenary of the CMC. It meets once a year or by petition of the Permanent Commission.

2.Permanent Commission, made of 10 members (2 per group). It works as a technical working group for the close follow up of the fishery. <u>It meets</u> <u>once a month</u>. Decisions are taken by consensus whenever possible or at least by a majority of 7 votes (for the moment consensus was always achieved).

The secretariat of the CMC is assumed by the Catalan administration and meetings usually take place in its headquarters.

The scientific fishery

- The first achievement of the CMC was the approval by the EC for the development of a "scientific fishery" under <u>highly strict and precautionary</u> <u>rules</u> with the purpose to carry out the scientific study needed to develop the required management plan.
- The maximum number of fishing vessels authorized to fish simultaneously in the same day was fixed at 10 from the total of 25 usually operating in the fishery.
- The biological sampling took place in four fishing trips per month during 12 months (a total of 46 fishing trips from August 2012 to July 2013).
- The authorized vessels should complete a catch document with very detailed information about the activity after every fishing day.
- During the scientific fishery the fishing vessels not authorized to fish should stay moored at their base port.
- Strict <u>management measures</u> and a specific <u>Control Protocol</u> were adopted.

Management measures

The main management measures agreed are:

•The <u>seasonal closure</u> during the reproduction season.

•The fishing gear can only operate in <u>sandy bottoms</u> and never over marine phanerogams beds or rocky bottoms.

•Strict daily fishing schedules, landing and commercialization measures.

•A fixed maximum <u>annual catch</u> and a <u>daily catch</u> per vessel revised and adapted monthly.

•Strict measures for association of vessels and only possible for vessels from the same base port.

The Control Protocol

- <u>Strict control of the daily catch</u>: 10% excess allowed from Monday to Thursday to be then adjusted on Friday. Double penalization of the excess over 10% (on profits and on the following monthly catch).
- Landing control: always at the base port.
- <u>Market measures</u>: as a general rule the fish should be sold at the market associated to the base port where the first sale note is generated. If not possible the fish should travel together with a transport document to another fish market always <u>within the Catalan territory</u>.
- Fishing time: from 6:00 or 7:00 AM (according to the month) to 14:00 h.
- <u>Disciplinary measures</u>: Non compliance to the rules are being evaluated by the Permanent Commission in order to apply disciplinary measures that could even imply the exclusion of the vessel from the activity.

Functioning of the Co-management Committee

The Permanent Commission of the COM meets once a month basically to analyze:

- •the fishing activity during the previous month,
- •catch levels and associated compliance measures,
- •communications and petitions from the sector, and
- •disciplinary measures if applicable.
- Based on the above analysis the Permanent Commission takes decisions.

It is noteworthy that during the more than a year of life of the CMC all decisions of its Permanent Commission have been adopted by consensus with full agreement of all its members.

Main results of the scientific study

- Both sand-eel species can appear mixed in the catch. However, *Gymnammodytes semisquamatus* represented only around 2% of the catch.
- Fishing grounds are located very close to the coast, generally in shadow waters from 6 to 16 m depth.
- The gear does not operate on sea bottoms characterized by the presence of sea grass meadows, in particular *Posidonia oceanica*.
- The analysis of the catch evidenced high selectivity of the gear when targeting sand-eel. The percentage in weigh of by-catch species over the study period was 2-3%.
- Most of the by catch can be returned back alive to the sea.
- According with the assessment scenarios considered the sand-eel stocks would be in healthy conditions.

Some preliminary and encouraging results

- The sense of ownership of the management process among all relevant stakeholders resulted in a very high adherence to the rules.
- Fishing effort have been reduce by half. However, profits for fishermen considerable increased (mean price of the fish had multiplied per 3 basically due to the elimination of an existing black market and by the strict implementation of an individual daily quota).
- Positive social impact (increase of vessel crew)
- The experience has been highly instructive for all stakeholders as regards the relevance of bottom-up participative approaches to dramatically improve management success.
- The strong buy-in from the two administrations involved, who are already promoting the replication of the model to other fisheries.

