

The self-governance in the Celtic Sea Spanish fishery

M. Dolores Garza-Gil and M.M. Varela-Lafuente

Department of Applied Economics

University of Vigo

Lagoas-Marcosende s/n, 36310 Vigo, Spain

dgarza@uvigo.es; mmvarela@uvigo.es

1. INTRODUCTION

The Celtic Sea Spanish fleet is composed of 199 vessels (whose average characteristics are: 203 GRT, 419 kW and 14 crew), which fish for demersal species in ICES areas Vb, VI, VII and VIIIabd (Figure 1). The vessels are grouped in seven associations, each of them belonging to one of the main base ports of the fleet. These ports are located along the northern and north-western coast of Spain.

The national Government, together with the European Union define the TACs and allocate quotas to the fleet. Besides, the Spanish law applicable to this fleet activity establishes that every producers association may have a quota of the total fishery input and output. These associations are then granted a maximum number of fishing days and quantities of the regulated species. Both allocations are proportional to the sum of the historic rights of the member vessels. In turn, these associations may allocate these rights among their members in the form of individual access quotas and catch quotas.

The active role the associations have shown within the deep-sea fishing sector in the last decades that their experience in management tasks, together with the existence of common, cultural and social values among the fishery members have favoured a greater involvement of the industry in management tasks. As a result, in the present regulatory scheme users and their associations take the management decisions with regard to the annual rights allocation and these are reported to the Government.

The resource users play an active role, both individually and through their associations, in the development of management policy. Every association enjoys the rights of access and the right of withdrawal. The associations hold the collective rights and decide the

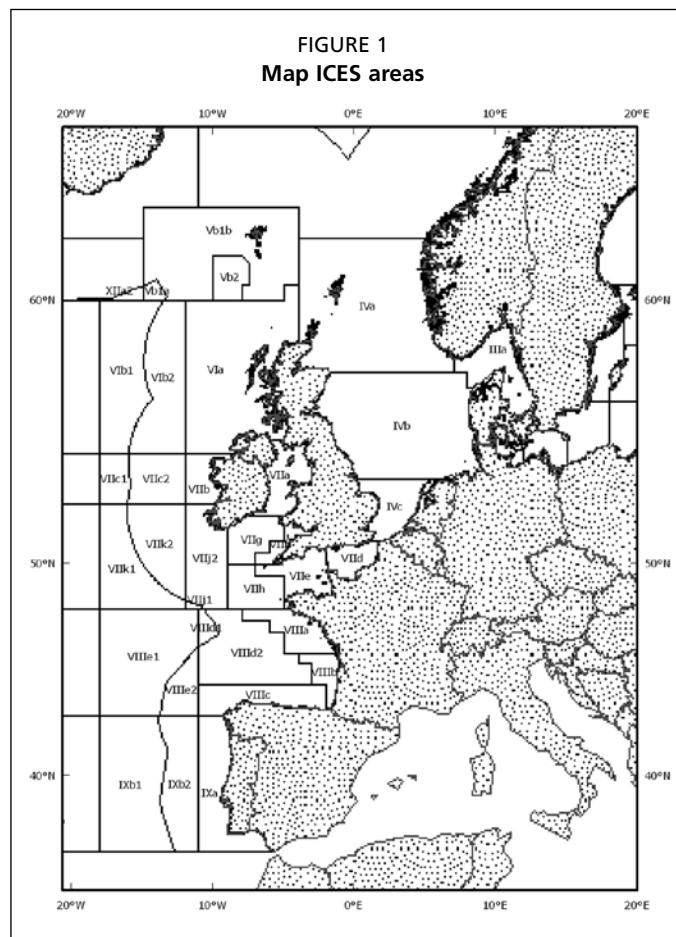


PHOTO 1
Open ocean conditions in the
Celtic Sea can make operations
challenging in this fishery



availability of the rights of access and terms of withdrawal for their members. In this process, the associations also delegate operational rights to the individual users. The latter, after receiving their rights allocation, may transfer them to other members of the same association according to their needs during the fishing season and as a result of their best operation strategies.

In this chapter, we describe the existing self-governance in the fishery. In Section 2 the fishery is described and in Section 3 the regulatory history. In Section 4 we will describe its self-governance. We evaluate the fisheries governance in Section 5 and, last, in Section 6, we comment on some factors that could strengthen self-governance.

2. THE CELTIC SEA SPANISH FISHERY

The Spanish fleet that fishes in the Celtic Sea fishing grounds (Photo 1) is also known as the “300 fleet” for when Spain joined the EEC it was made up of this number of vessels: at present it consists of 199 vessels. The fleet is divided into seven associations (Table 1) of which approximately 70 percent are Galician. This fleet mainly catches hake (*Merluccius merluccius*), anglerfish (*Lophius piscatorius* and *L. budegassa*), horse mackerel (*Trachurus trachurus*), megrim (*Lepidorhombus whiffiagonis*) and nephrops in the ICES zones Vb, VI, VII and VIIIabd. Fleets from other countries also fish in the Celtic Sea; in particular France, UK, Denmark, Ireland, Norway, Belgium, Netherlands, Germany and Sweden.

Most of the demersal fisheries in this area produce a mixed catch. Although it is possible to associate specific target species with particular fleets, variable quantities of hake, anglerfish, megrim and nephrops are taken together depending on the gear type. Since the 1930s, hake has been the main demersal species supporting trawl fleets on the Atlantic coasts of France and Spain. Spain now takes around 60 percent of the landings, France 30 percent, UK 5 percent, Denmark 3 percent and Ireland 2 percent (ICES 2006, volume 9). Hake are caught throughout the year with peak landings in the spring and summer months. The three main gear types

TABLE 1
Evolution of the number of vessels Spanish associations has in Celtic Sea

Association	Location	1996	1999	2002	2004
PASAJES	Basque Country	34	18	13	10
NORPESC	Basque Country	9	11	8	8
ONDARROA/OPPAO	Basque Country	38	48	47	44
GOLDAKETA	Basque Country	26	--	--	--
ARPOSOL	Galicia	61	53	59	--
ARPESCO	Galicia	51	28	22	16
PESCAGALICIA	Galicia	7	6	6	--
OOPP-LUGO	Galicia	--	37	38	8
OPECA	Cantabria	--	--	8	8
ANASOL	Galicia	--	--	--	105
Total		226	201	201	199

TABLE 2

Catches and agreed TAC in Celtic Sea Fisheries (hake, anglerfish, horse mackerel, megrim and nephrops). ('000 tonnes). 1994–2005

	Hake		Anglerfish				Horse mackerel		Megrim				Nephrops			
	Catches	TAC	Catches		TAC		Catches	TAC	Catches		TAC		Catches		TAC	
	V, VI, VII, VIII		VI	VII, VIII	VI	VII, VIII	V, VI, VII, VIII		VI	VII, VIII	VI	VII, VIII	VI	VII, VIII	VI	VII, VIII
1994	53.1	60.0	6.0	21.9	8.6	23.9	385/0	300.0	3.0	16.4	4.8	20.3	11.1	4.3	12.6	20.0
1995	58.9	55.1	7.2	26.8	8.6	23.2	509.0	300.0	3.3	19.1	4.8	22.6	12.8	4.9	12.6	20.0
1996	48.8	51.1	7.0	30.2	8.6	30.4	379.0	300.0	2.9	18.1	4.8	21.2	11.2	4.3	12.6	23.0
1997	44.4	60.1	6.2	29.8	8.6	34.3	440.0	300.0	2.8	17.3	4.8	25.0	11.2	4.4	12.6	23.0
1998	35.8	59.1	5.4	28.2	8.6	34.3	296.0	320.0	2.7	19.7	4.8	25.0	11.2	5.0	12.6	23.0
1999	40.6	55.1	5.3	24.5	8.6	34.3	274.0	265.0	2.5	16.9	4.8	25.0	11.5	4.2	12.6	23.0
2000	42.6	42.1	4.4	22.0	8.0	29.6	175.0	240.0	2.4	15.5	4.8	20.0	11.0	2.7	12.6	21.0
2001	37.2	22.6	4.0	22.2	6.4	27.6	191.0	233.0	2.4	17.1	4.4	16.8	10.9	3.3	11.3	18.9
2002	40.3	27.0	3.0	26.7	4.8	23.7	172.0	150.0	1.6	17.5	4.4	14.9	10.5	4.0	11.3	17.8
2003	41.8	30.0	3.0	31.7	3.2	21.0	190.0*	137.0	1.7	18.6	4.4	16.0	10.7	2.9	11.3	17.8
2004	47.1	39.1	1.2	34.9	3.2	26.7	157.0*	137.0	na	18.8	3.6	20.2	10.3	2.9	1.3	17.5
2005	46.4	42.6	-	-	-	-	-	137.0	-	-	-	21.5	-	-	12.7	19.5

Catches include discards. Catches from all fleets involved in the Celtic Sea.

*: including VIIIc. na: not available.

Source: ICES Advice 2006.

used by vessels targeting hake are lines (UK and Spain), fixed-nets and trawls (all countries), many bottom trawls and recently, very-high-opening trawls by Spanish vessels. A trawl fishery for anglerfish by Spanish and French vessels developed in the Celtic Sea on the shelf edge around the 200 m contour to the south and west of Ireland and Bay of Biscay in the 1970s and expanded until 1990. Although effort in most fleets appears to have declined since the early 1990s in the anglerfish fishery, the increasing use of twin trawls may have increased the overall effective fishing effort. Megrim is caught predominantly by Spanish and French vessels, which together have reported more than 60 percent of the total landings. The nephrops fisheries developed in the 1970s and 1980s and are an important component of the fleets catches in this area, however the fishing effort has decreased continuously since the early 1990s (ICES 2006).

The state of these stocks has changed considerably over the last decades. In the last assessment of hake (northern stock), ICES classifies the species as being at full reproductive capacity and being harvested sustainably. However, the spawning stock biomass (SSB) has decreased in past decades and the European Commission established measures for the recovery of the northern hake stock (EC Reg. No 811/2004). The aim of the recovery plan is to increase the biomass of mature fish to equal or greater than 140 000 tonnes or precautionary biomass (B_{pa}) for two consecutive years. This is to be achieved by limiting the fishing mortality (F) to 0.25 and by allowing a maximum change in TAC between years of 15 percent. The current assessment indicates that the SSB is close to B_{pa} (ICES, 2006). The increase appears to be due to a combination of good recruitment and moderate fishing mortality. In consequence, the TAC was increased for 2005–06 (Table 2).

Due to quota restrictions for many years in this fishery, the Spanish fleet stopped fishing for up to two months in 2001, 2002 and 2003 and fished for only one month in 2004 and 2005. However, this temporary cessation of the fishery is not mirrored in the overall trend in fishing effort (ICES 2006). Spain accounts for the main part of the landings with 58 percent of the total in 2005. France now takes 29 percent of the total, UK 6 percent, Denmark 3 percent, Ireland 2 percent and other countries (Norway, Belgium, Netherlands, Germany and Sweden) harvest small amounts (ICES 2006).

Based on the most recent estimates of SSB and fishing mortality, ICES classifies the stock of anglerfish as being at risk of being harvested unsustainably (ICES 2006,

TABLE 3
Composition of landings (%) 2000–2004

	Value					Volume				
	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
Anglerfish	12.21	16.92	11.05	8.69	8.77	9.30	15.05	10.56	7.67	6.22
Hake	65.79	30.03	32.10	37.09	25.24	59.88	29.77	30.75	33.74	28.00
Megrim	16.10	19.56	14.90	16.63	7.60	20.93	24.75	17.39	18.40	6.22
Nephrops	3.15	3.30	3.15	3.18	5.83	1.16	1.67	1.55	1.53	2.22
Other fish	2.75	30.19	38.75	34.41	52.56	8.72	28.76	40.06	38.65	57.33
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

European Commission (2006).

Volume 5). A trawl fishery by Spanish and French vessels developed in the Celtic Sea in the 1970s and they together take more than 75 percent of the landings (ICES 2006).

In the absence of defined reference points and a full analytical assessment, the state of horse mackerel remains unknown (ICES 2006, Volume 9). Survey data indicate that the SSB shows a decrease since the late 1980s. The fishing mortality is believed to be relatively low.

In the case of megrim, ICES classifies the stock as at risk of being harvested unsustainably. French trawlers operating in the fishery and targeting demersal species catch megrim as a bycatch. Spanish fleets have a targeted fishery for megrim and also catch this species in mixed fisheries for hake, anglerfish, nephrops and other species. The landings have decreased in the last years (Table 2). Otter trawlers account for the majority of the Spanish landings.

Information available for nephrops stocks is considered inadequate to provide advice based on precautionary limits (ICES 2006, Volume 5). According to ICES, the landings have declined in the last years (Table 2). Spain still makes the largest contribution to total landings.

The vessels which make up the Spanish fishery are middle-distance vessels. Their trips last on average fourteen days, with one day to travel from their port to the fishing grounds and another day for the return. The majority of the vessels use trawl gear, with some use of bottom longlines. These monofilament lines have a hook spacing of 2.7 m and a length of 5 to 15 miles. Boats usually use two lines with up to 9 000 hooks a line. Some vessels may use up to five longlines. It is a mixed fishery. Hake is the target species and contributed around 45 percent of the income for the fleet in 2000–04 (Table 3), although with a downward trend due to reductions in TACs over this period. Adaptation to the changes carried out in the regulatory framework has led to a reduction in fleet size and renovation of the fleet. This has made it possible to increase catch per vessel (even with a reduction in the TAC) and also the average yield of the fleet. In 2004 an average of 230 tonnes was caught and the average income per vessel was \$1 111 000 as opposed to 103 tonnes and \$239 000 at the beginning of the 1990s (European Commission 2006), making it one of the most profitable fleets during the last decade (Surís-Regueiro, Varela-Lafuente and Garza-Gil, 2002).

3. REGULATORY HISTORY OF THE FISHERY

Up until the 1960s, 500 Spanish vessels fished on the grounds of the Celtic Sea with no restriction from six miles offshore to the deep oceanic waters. When the Convention of London was signed in 1964, countries with coastlines began to establish different regulations with the objective of restricting access to the fishing resources in their waters, although they recognized the fishing rights of the Spanish fleet to a 6 to 12-mile zone.

The European Community implemented a licence system in 1978 and as a consequence the Spanish vessels had to obtain licences that assigned fishing rights. The Spanish vessels involved in the Celtic Sea fishery do not pay any licensing costs. In 1981, a Ministerial Order (Ministerial Order of the Ministry of Agriculture and Fisheries, June/12/1981) recognized fishing rights that were individual and assigned to vessels to

fish in those areas for which the access mechanisms were introduced and the resource mechanisms were estimated. The Ministerial Order had the following features: (a) a closed census was conducted for vessels to determine historical catch history and access rights were established and (b), the access rights of a vessel could be transferred to other vessels that belonged to the same company if this firm kept a vessel in the fishing area. The same company could transfer its fishing right without transferring legally one of its own vessels that were included in the census. On the other hand, these rights could not be transferred, assigned or transmitted independently to a fishing vessel.

Initially, 415 trawl vessels (this was the number of vessels included in the census) obtained the right to participate in the annual Fishing Plan by means of which the fishing licences granted by the EEC to the Spanish government were distributed. In spite of the fact that the census only included trawl vessels, the Spanish administration continued to maintain 10 licences in reserve for longliners. Therefore, a new census was taken of this fishery in which 44 longliners over 100 GRT were inscribed. The new census was published in 1983 and consisted of 459 vessels.

When Spain joined the EEC in 1986, the number of vessels authorised to fish in the Celtic Sea (with the exclusion of the Irish Box until December 1995) was cut to 300. Of this number, only 150 vessels could fish simultaneously until the end of 2002, forming the so-called "periodical lists".

A new Ministerial Order (June/12/1992) established the possibility that companies could accumulate the access rights of scrapped vessels in other vessels. This system allowed the number of vessels that are included in the census to have a number of fishing days that were closer, on the whole, to the needs of this fleet.

The Law 23/1997 (July/15/1997) allows firms to transfer all or a part of the access rights or fishing power coefficient of their vessels to other units in the same census. Under this law transferability is authorized either in total or partially but now firms are being given access rights that are for an unlimited time (the period is not stated in the Ministerial Order of 1981). The Spanish government still maintains responsibility for the exercise of access and fishing rights and this is without any compensations.

The new management regime tries to ensure that all vessels have a sufficient number of days on the fishing grounds to achieve a rational and suitable execution of their fishing activities. The new EU regulations governing fishing effort (effort is now measured as the engine power of vessels multiplied by the number of fishing days) have accelerated the need to rationalize fishing activity and has facilitated the transfer of fishing entitlements from holders who have too many to those who need more fishing rights in the grounds.

The Royal Decree 1838/97 (November/5/1997) regulates the beginning of fishing activity, the fishing establishments and changes of vessels. At the beginning of every year each vessel is assigned fishing rights, fishing grounds and a base port. The Spanish Law was completed with the Royal Decree 1915/97 (December/19/1997), which controls overfishing. The only established limit to the free transfer of the access rights is a maximum of 315 fishing days and a minimum of 210 days a year per vessel and the vessel is included in the fleet registry. The minimum effort figure affects the owner of a transferring vessel and it aims at guaranteeing the profitability of the sector. The maximum figure affects the vessel that receives those rights and is established to ensure that a single vessel cannot accumulate more fishing rights than it can use in a year.

Last, the Law 3/2001 of Maritime Fishing of the State establishes a new regulatory framework for the transferability of fishing quotas. The allocation of fishing possibilities can be transferred by both the PO and the vessel owner, but it requires an authorization by both the Ministry and the Autonomous Community (region) of the registered port of the vessel. This regulates the consequences of displacements and the effects of concentration of effort. For the purpose of favouring free competition, this law establishes that the volumes of fishing entitlements that can be accumulated by any

TABLE 4
Membership and number of vessels in the
respective Producers Organizations

Producers Organization	Number of members	Number of vessels
PASAJES	7	10
NORPESC	4	8
OPPAO	29	44
ARPESCO	14	16
OPP-LUGO	3	8
OPECA	8	8
ANASOL	87	105
TOTAL	152	199
Rights Management Costs (by month)	US\$ 295.22	

Source: Freijeiro, 2004

fishing company should not exceed 30 percent. This law was implemented at the beginning of 2007.

4. SELF-GOVERNANCE IN THE FISHERY

Through this regulatory scheme, the users and their associations take the management decisions and report to the Spanish government with respect to the fishing rights and annual quotas allocations. The resource users play an active role, both individually and through their associations, in defining management policy.

Each association enjoys the rights of access and the right of transfer of their entitlements. The associations are the first holders of the fishing rights. Associations may transfer their initial rights allocation to each

other and then allocate their total amount among their members. In this process, the associations are the holders of the collective rights and decide on the availability of the access rights and conditions of withdrawal of their members from the scheme.

The associations also delegate the operational rights to the individual users. After receiving their rights allocation users may reallocate them among other members of the same association according to their needs during the fishing season and as result of their operation preferences.

Both associations and users are granted strong property rights, which enhances the efficiency of decentralized resource management policies in this fishery. Only those vessels that belong to the associations are entitled to enter the fishery. The associations are composed of a few members, who are well known to each other and who usually come from the same geographic area and thus the same cultural and socioeconomic environment.

The Spanish government plays an active role when creating incentives to encourage efficiency and establishes the basic rules that govern the associations' internal structures, their functions and responsibilities and the right to allocate catch entitlements among them. The associations are responsible for the supervision and control of these rights and must account to the Spanish government if the harvesting rights are exceeded.

Although the number of vessels that each association groups together is different, the organisational structure of the POs is similar and any difference lies among the number of people who make up the organization and the services provided to their members: they all offer assistance in the management of fishing rights and judicial advice.

Table 4 shows the membership and respective vessels in the different POs in 2004. Of the POs involved in the fishery, ANASOL stands out, with more than 50 percent of the fishery's vessels (Table 1). This PO was created in 2001 with the objective of consolidating the Galician fleet that fishes in the Celtic Sea and thus manages the greatest number of fishing rights. When it formed it grouped together all the vessels of the pre-existing POs of ARPOSOL and PESGALICIA, an ARPESCO vessel, 30 vessels from OOPP-LUGO, 2 from PASAJES, 1 from NORPESC and 3 from OPPAO. The PO with the second largest fleet is OPPAO. It was created in 1998 through the transformation of ONDARROA PO. It grouped together 22 percent of the Celtic Sea fleet, all of them from the Basque Country.

The remaining POs (PASAJES, NORPESC, ARPESCO, OPECA and OOPP-LUGO) have fleets of between 8 and 16 vessels. These POs have certain unique characteristics. The OOPP-LUGO shares associates with ANASOL as around 10 vessels from the former use ANASOL to manage their fishing rights even though they continue to belong to the OOPP-LUGO PO and, therefore, use the rest of its services. The POs PASAJES and NORPESC, both from the Basque Country, collaborate closely with each other in respect of tasks regarding representation to the Spanish administration.

TABLE 5
Fishing rights* per PO (%). 1996–2003

	1996	1999	2001	2002	2003
PASAJES	18.36	12.78	9.26	7.92	7.17
NORPESC	5.41	6.49	4.67	4.17	5.08
ONDARROA/OPPAO	17.77	29.52	29.03	27.30	27.43
GOLDAKETA	14.26	--	--	--	--
ARPOSOL	22.17	20.04	23.14	--	--
ARPESCO	19.03	12.32	10.15	9.69	7.21
PESCAGALICIA	3.00	2.75	2.91	--	--
OOPP-LUGO	--	16.10	16.42	2.98	3.70
OPECA	--	--	4.43	4.43	4.43
ANASOL	--	--	--	43.51	44.98
Total	100.0	100.0	100.0	100.0	100.0

* The fishing rights are defined taking account access and kW coefficients of each vessel.

Source: González (2006).

5. EVALUATION OF SELF-GOVERNANCE IN THE FISHERY

The regulatory framework, the active role the associations have shown within this fishery in the last decades, their experience in management tasks and the existence of common cultural and social values among the fishery members, have favoured a greater involvement of users in management tasks.

The normal working practices of fishing allow the associations to establish fishing plans that regulate management and promote more efficient commercial operations. Since the implementation of the licence system in EC waters, the Spanish administration has established fishing plans in collaboration with the fishing associations. These plans reflect the fishing power of each vessel and their kW coefficients, to establish equivalences in the average vessels and the total fishing rights of each association.

In this sense, the associations could form a group to enforce fishing rights and to participate in the allocation of access and fishing rights. They could authorize the temporary transfer of fishing entitlements among companies and organizations, avoid vessel layups and ensure full use of their entitlements. Geographical mobility of the vessels between different ports is possible with prior consent and this allows changes in the distribution of the fishing rights.

This process has created a market for fishing rights that alters the geographical allocation of vessels and is supported by local financing institutions, by regional institutional bodies and by some shipowners that have become investment agents (González 2006). The regulations have allowed an evolution of the fleet in accordance with geographical criteria and association needs. Table 5 shows this trend. There is some concentration of fishing rights in the associations ANASOL (45 percent) and ONDARROA/OPPAO (27 percent). The ANASOL PO, which has acquired 50 percent of the fleet from pre-existing POs, consequently, possesses their fishing rights.

Table 6 shows the evolution of transfers of the fishing rights. The traditional concept of 'vessel => licence => right' disappeared at the end of the period 1996–2003 resulting in quite a different arrangement of capture options. A consequence is that PASAJES now has more fishing rights than vessels. In other associations, vessels do not have the same fishing rights, which forces them to stop fishing before the rest of the fleet.

These results show a geographical movement of vessels and high volatility in movement of the fishing rights, because of the ability to transfer rights between firms of the same or different associations. This has facilitated the scrapping of vessels, which accelerated the accumulation of rights and transfers: This has been supported by the sector and its associations.

Other types of collaboration exist among the POs. An example is the limiting of trip megrim catches and vessel limits imposed by some POs since 2004. The extension of this measure to the whole fleet was successfully applied in previous seasons.

TABLE 6
Fishing rights* per PO and vessel. 1996-2003

	1996	1999	2001	2002	2003
PASAJES	0.783	1.030	1.033	1.045	1.040
NORPESC	0.872	0.855	0.846	0.864	0.921
ONDARROA/OPPAO	0.678	0.892	0.896	0.900	0.904
GOLDAKETA	0.795	--	--	--	--
ARPOSOL	0.527	0.548	0.569	--	--
ARPESCO	0.541	0.638	0.669	0.669	0.654
PESCAGALICIA	0.622	0.665	0.703	--	--
OOPP-LUGO	--	0.631	0.627	0.617	0.670
OPECA	--	--	0.802	0.802	0.804
ANASOL	--	--	--	0.619	0.621

* The fishing rights are defined taking account access and kW coefficients of each vessel.

Source: González (2006).

TABLE 7
Economic evolution of Spanish Celtic Sea Fishery. Data per vessel.

	1994	1999	2004
Crew members	16	15	14
Effort (days at sea)	252	268	267
Catches	106	150	230
Landings (1 000 \$)	608	768	1111
Gross cash flow (1 000 \$)	51	162	179

Source: European Commission (different years).

We also detected changes in the fishing strategies in this fishery in the last decade as a response to successive EU regulations. Adapting or responding to these measures is not uniform throughout the fleet. In part it depends on the technical characteristics of the vessel and the gear used. But undoubtedly the nature of the companies or, even more so, the nature of their business associations has been an

influence, as a range of different actions has been evident.

Some vessels have widened their zone of fishing activity in response to quota restrictions, looking for new target species, incorporating significant technological advances and reinforcing their business organization. In other cases, where the target species has not changed, low risk strategies have been followed, e.g. used fewer fishing days and shorter spells at sea and using innovative equipment. Both strategies have been used in the ANASOL PO. However, we have found other vessels continuing to follow a more traditional strategy, fishing the same zones, targeting the same species and undertaking few technical innovations. This appears to be the case of vessels operated by the ARPESCO PO.

One of the most usual measures in recent years has been the closure of certain fishing zones as a result of exhausting the annual TACs. This happened for anglerfish in Zone VIII. The response has been the relocation of the vessels in different seasons of the year via the acquisition of fishing rights in zones in which they do not traditionally fish. This situation explains the summer-winter strategies which the ANASOL trawl vessels are developing, catching megrim in Zone VIII and the OOPP-LUGO's bottom liners catching hake in Zone VIII, which corresponds to the French shelf.

All of these industry responses have favoured better economic performance. As Table 7 shows, the economic data related to this fleet show better profitability. Compared with those of the mid-1990s, the economic results show a positive trend: less fishing effort and an annual landings increase per vessel of 13 percent and better profit margins (the GCF grew by 6 percent a year from 1994 to 2004).

6. DISCUSSION

Two significant trends are apparent in the Spanish fishing companies in recent years: First, associations have been reinforced along with an aspiration to play a more important role in fishery regulation. Second, there is a greater knowledge of market instruments, especially the transferability of fishing rights and greater use of these possibilities by the business associations.

Fishing associations have been favoured by European policy in recognizing and promoting the POs as a basic part of the Common Market Organization. However, the existence and diversity of situations in different countries have not made exchange of views easy. The creation of Regional Advisory Committees (RACs) was the management instrument chosen after the reform of the CFP. These committees and in particular the one relating to the Celtic Sea fishing grounds, are currently being formed and should begin to function within a matter of months.

However, the EC system is still highly centralized and the use of market instruments is limited to the framework of decisions of the member states or the associations themselves, as their competencies allows. The Celtic Sea Spanish fishery is a good example of how a governance structure with full incentives may have a positive effect on the economic efficiency of the fishery.

Despite this, decentralization of management can still go further. In our opinion, a disincentive in the existing system is that users do not participate in management decision-making at higher levels. Every year, the TACs are decided according to political and biological criteria that have nothing to do with the users' expectations and estimates, which does not encourage compliance with quotas. Users could usefully participate in the management decisions contributing the relevant information on fishing mortality and the evolution of the state of stocks and so contribute to improvements in management and efficiency of the fishery. The North-Western Waters Regional Advisory Council would provide an excellent opportunity for this.

7. ACKNOWLEDGEMENTS

This study was made possible thanks to financial support from the Ministerio de Educación y Ciencia (SEJ2004-05711/ECON) and Xunta de Galicia (PGIDIT06CSC30001PR).

8. LITERATURE CITED

- European Commission.** Several years. Economic performance of selected European Fishing Fleets. Concerted Action: Economics assessment of European Fisheries. European Commission, Brussels.
- ICES.** 2006. ICES Advice 2005. <www.ices.dk>
- González Laxe, F.** 2006. Transferability of fishing rights: The Spanish case. *Marine Policy*, 30: 379-388.
- Freijeiro, A.B.** 2004. Un análisis institucional para la gestión de los recursos pesqueros. La pesquería de Gran Sol. Universidad de Vigo.
- Surís-Regueiro, J., Varela-Lafuente, M. & Garza-Gil, M.D.** 2002. Profitability of the fishing fleet and structural aid in the European Union. *Marine Policy*, 26: 107-119.

