

The Future for Fisheries-Dependent Communities: The Fisheries-Dependent Region of Galicia

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Abstract

Galicia is a European region in which the fisheries sector is of greatest importance. Here, fishing acts not only to generate employment, but also to fuel associated industrial activity, particularly in the processing of fish products. Similarly, aquaculture and the exploitation of shellfish stocks have both undergone rapid development in recent years, and are of major importance to the Galician economy and production in these areas is increasing. Statistical data indicate that until recently the number of fisheries jobs, though declining in the rest of Spain and the European Union, was in fact increasing slightly in Galicia. This trend has been reversed over the last few years, with jobs being lost. However, the proportional losses have been smaller than in other sectors, so that unemployment rate in the fisheries sector is considerably lower than the national average.

The fisheries sector employs 4.6% of the active population in Galicia, a much higher percentage than in any other European country. Considering only coastal population nuclei, this figure reaches about 45–50%, and the economy of many towns is almost entirely dependent on fishing.

The Galician fishing fleet is active in Spanish waters, in territorial waters of other countries through fishing agreements and in international waters. The Galician position as regards the exploitation of fisheries resources on the high seas is based upon two fundamental considerations: 1) the need to preserve stocks; the convictions that fisheries policy should be based on resource conservation and as a consequence, that fishing in international waters should be regulated at least as strictly as within the territorial waters of individual Coastal States, 2) the principle of freedom of fishing on the high seas, as recognised in all prevailing conventions.

In accordance with this, the regulation outlined in 1) above should be effected by international organizations representing those countries that, for one reason or other, have interests in the fisheries in question. By contrast, it is considered that regulation by a single country, purported to be "the coast" of the waters in question, is not appropriate.

Keywords: economics, employment, fishing community, international management.

Introduction

Fishing activity, by its very nature, does not extend throughout a territory but is limited to coastal areas. This means that fisheries, though they may not be of great importance to the economy of the nation as a whole, are often critical to particular coastal regions. Galicia is the European region in which the fisheries sector is of greatest importance. Here fishing acts not only to generate employment, but also to fuel associated industrial activity. Indeed, the Galician fisheries complex is unequalled in Europe, and generates extensive associated activity, particularly in the processing of fish products.

Similarly, aquaculture and the exploitation of shellfish stocks have both undergone rapid development in recent years, and are of major importance to the Galician economy. Production in these areas is increasing, in line with the professionalization of the industry currently being promoted by the administration.

Statistical data indicate that until recently the number of fisheries jobs, though declining in the rest of Spain and the European Union, was in fact increasing slightly in Galicia. Unfortunately, this trend has been reversed over the last few years, with jobs being lost. However, the proportional losses have been smaller than in other sectors, so that the unemployment rate in fishing communities is considerably lower than the regional average.

The Galician fishing fleet is active not only in Spanish waters, but also in territorial waters of other countries (through fishing agreements) and in international waters. The Galician position as regards the exploitation of fisheries resources on the high seas is based upon two fundamental considerations:

1. *The need to preserve stocks.* It is stressed that fisheries policy should be based on resource conservation and as a consequence, that fishing in international waters should be regulated at least as strictly as within the territorial waters of individual Coastal States.
2. *The principle of freedom of fishing on the high seas, as recognised in all prevailing international conventions.* In accordance with this principle, the regulation outlined in 1) above should be effected by international organizations representing those countries that, for one reason or other, have interests in the fisheries in question. By contrast, it should be considered that regulation by a single country, purported to be "the coast" of the waters in question, is not appropriate.

Fishing activity in Spain does not extend throughout a territory but is limited to coastal areas. This means that fisheries are often critical to particular coastal regions. This is notably the case in Galicia, in which most of Spain's fishing activity is concentrated. Specifically, over 50% of the Spanish catch is landed in this region. Clearly, this catch is of critical importance to Galicia, despite the fact that, according to the latest FAO reports, Spain as a whole ranks only number 16 in the global ranking, with 1.3% of world catch. Furthermore, Galicia's fishing activity has a strong "knock-on" effect on the region's economy. This makes it the most important fishing region in Spain and in the European Union as a whole, and the most dependent on this activity.

Within Galicia, productivity per worker is much higher in the fisheries sector than in the agricultural sector, and similar to that in manufacturing. The "knock-on" effect of the fisheries sector is particularly important in view of the fact that most of the sector's capital goods (including boats) are manufactured in Galicia. Furthermore, fisheries-related industries (such as packing factories and fishmeal plants) are of outstanding importance in many parts of the region.

Economic Importance of Fisheries

Galician Region

To understand the fisheries sector of Galicia, it is important to consider the extent to which Galicia is capable of developing its own fisheries policy, independent of that of Spain as a whole.

Galicia – a region of 29 434 km² with a population of 2 720 445, located in the extreme northwest of the Iberian Peninsula – constitutes an "Autonomous Community", the term used in the Spanish constitution to refer to the regions that make up the state of Spain. These regions enjoy considerable autonomy, and the political organization of Spain is thus in many respects similar to Germany or the USA with their federal states. Within the limits of the existing constitutional framework, Galicia's political autonomy allows it to define goals (which need not necessarily be identical to those of Spain as a whole) and to take measures – including laws passed by the Galician Parliament – aimed at the achievement of these goals.

In the fisheries sector, Galicia has developed an extensive body of legislation, which is both quantitatively and qualitatively more important than that of Spain as a whole. This legislation, discussed in greater detail below, provides the framework for application of Galicia's own fisheries policy, and covers aspects ranging from resource conservation to the organisational structure of the sector.

The coast of Galicia is irregular, extending 1 195 km between the River Eo in the north and the River Miño in the south. Of this coast, 820 km are rocky and 278 km sandy. The morphology of the coastline is varied: bays alternate with promontories, sand-banks with cliffs and marshes, and exposed areas with sheltered areas, giving rise to a whole collection of littoral environments. A notable characteristic of the coast is the *rias*; river valley flooded by the sea. These as fishing areas to great extent compensate for the narrowness of the continental shelf, and additionally these are of considerable socio-cultural importance within the region.

Employment in the Fisheries Sector

The fisheries sector is of undeniable importance to the Galician economy, not only as a direct source of employment (Table 1) but also as the driving force associated with industrial activity. Indeed, the Galician fisheries complex is unequalled in Europe, and generates extensive activity, particularly in the processing of fish products. Similarly, aquaculture and the exploitation of shellfish stocks have both undergone rapid development in recent years, and are of major importance to the Galician economy.

TABLE 1. Employment in the Galician fisheries sector.

Activity	Number Employed
Capture fisheries	39 400
Distribution and marketing	6 730
Shellfish	9 200
Aquaculture	13 422
Canning	18 000
Freezing	2 922
Ship-building etc. ¹	15 000
Directly associated services ²	13 000
TOTAL	117 674

¹ Shipyards, dry docks, boat maintenance, naval effects, fishing gear, etc.

² Transport of fish, insurance, financial services, consulting, etc.

In general, just over 12% of employment in Galicia is directly dependent on fisheries, highlighting the critical importance of this sector for the economy of the region (particularly if it is borne in mind that Galicia also has an important inland economy).

In Galicia, 4.6% of the active population is employed in the fisheries sector, a much higher percentage than in any other European Union country. In some coastal population nuclei, this figure may reach almost 50% (Table 2), and indeed, the economies of many towns are almost entirely dependent on fishing.

The Galician Fishing Fleet

The Galician fishing fleet comprises a total of 8 811 boats, taking into account all vessels, from the humblest inshore boat to the most sophisticated factory trawler. Total gross registered tonnage (GRT) is 254 279 tons, and total horsepower 895 748. A total of 39 400 fishermen are employed in the fleet. Most of the boats are small: 80% have GRTs of less than 10 tons, and 92.5% have GRTs of less than 75 tons. However, the boats weighing 75 tons or more (7.5% of the total number) provide employment for more than 25% of the total of 39 400 workers.

TABLE 2. Coastal towns of Galicia showing percentage of population active in fisheries sector.

Town	Percentage
A Guarda	26.0
Camariñas	27.9
Cangas	31.9
Malpica	32.4
Cariño	36.9
Ribeira	39.9
Fisterra	47.2

The fleet can be broken down into two major categories: the *coastal fleet* and the *long-range fleet*. The coastal fleet works the continental shelf off Galicia and other parts of Spain, and comprises a total of 8 129 boats that provide direct employment for 28 270 people. Roughly speaking, these boats can be classified according to fishing method (Table 3) though note that a given boat may use different methods at different times:

TABLE 3. Coastal fleet of Galicia classified according to fishing method.

Method	Number of Vessels
Gillnetting	1 856
Potting	1 602
Long-lining	1 238
Raft cultivation of shellfish	1 257
Other aquaculture-related	1 061
Purse seining	321
Bottom trawling	154
Beam trawling	54
Other methods	586
TOTAL	8 129

The long-range fleet, which works outside Galicia's territorial waters, comprises a total of 682 boats, with a total GRT of 184 590 tons. The fleet provides employment for 11 130 fishermen (Table 4).

TABLE 4. The long-range fleet of Galicia classified by fishery activity.

Method/Fishery	Number of Boats	Number of Fishermen
Factory trawlers	95	3 320
Northeast Atlantic fleet (Gran Sol)	125	1 750
Morocco fleet	200	2 000
Surface longliners	178	2 700
Tuna boats (Bay of Biscay)	60	800
Cod boats	18	450
Large factory tuna boats	6	110
TOTAL	682	11 130

These data illustrate the dependence of the Galician fleet on long-range activity, and the importance for the sector of retaining the right to fish outside the European Union's Exclusive Economic Zone.

Distribution and Marketing

Spain is a major consumer of fish and fish products, with mean per capita consumption of more than 40 kg per year. Fish landed within Spain meets only 39% of the national demand, so that large amounts of fish and fish products must be imported from both the EU (notably from France, Great Britain and Ireland) and elsewhere (notably Norway, Argentina, Chile, Ecuador, Namibia, South Africa and Mozambique).

Within Galicia, the distribution and marketing of fish provides employment numbers estimated at more than 6 000 (Table 5).

TABLE 5. Estimates of numbers in the Galician fish distribution and marketing sectors.

Sector	Number of Companies	Number of Employed
Quay-side auction halls	63	400
Wholesalers/Exporters	700	2 300
Cold storage	446	3 300
Shipping	71	350
Live seafood storage	140	380
TOTAL	1 420	6 730

Shellfish Gathering

The gathering of shellfish on foot along the Galician coastline has a historic background. This activity, though not a particularly important source of income (sales about US \$33 m per year), is of great social importance, providing employment for more than 9 000 people.

Aquaculture

The most important aquaculture activity in Galicia is raft-based shellfish culture, notably of mussels, and to a lesser extent of oysters and scallops. There are over 3 200 active mussel rafts, which have an annual production of about 200 000 tons (value US \$85 m) and which provide employment for about 13 000 workers. As regards fish farming, turbot culture has undergone intense development, while farming of other species (including salmon, sea bass and gilthead bream) is beginning to take off.

Fish Processing

Galicia has an important fish-processing sector, with extensive production of frozen fish and other "semi-processed" products, in addition to canning.

The canning industry comprises 71 plants (45% of the total for Spain), which have a total annual production of about 130 000 tons (value US \$391 m) and provide direct employment for about 18 000 workers. Annual production and employment provided are both about 65% of the totals for Spain as a whole. The principal canned products are tuna, bonito, sardine and mussel, which together account for 78% of the total volume and 73% of total value (Table 6).

The frozen products industry is largely concentrated in the area of the city of Vigo which, considering freezing plants and cold stores, has a total cold storage capacity of about 350 000 m³. The most important species are squid (*Loligo vulgaris* and *Todarodes sagittatus*), hake and various flatfish.

TABLE 6. Canned fishery products in Galician given as percentage in volume and value.

Species	Volume (%)	Value (%)
Tuna	49	40
Bonito	5	8
Sardine	12	10
Mackerel	6	7
Other fish	8	12
Mussel	6	9
Cephalopods	5	3
Other	9	10

Marine Resources Protection

Fishing and associated economic activities are only possible because of the existence of exploitable marine resources. As a result, any effective fisheries policy must be based upon resource conservation.

The Galician Administration is fully aware of this, and acts in consequence. At the same time, however, it is essential to take into account a) the "hunting" aspect of fishing activity, and the difficulties involved in effectively managing fisheries so that rational exploitation permits a compensatory return; b) the problems posed by the monitoring and enforcement of legislation; and c) the mode of action of the world's different fishing fleets and the attitudes of the corresponding authorities.

Galicia has one of the best-developed fisheries legislation of all of Spain's Autonomous Communities, and monitoring of fishing activity is highly efficient. The region's dependence on the fisheries sector requires strict control of the exploitation of the resources that are so important for the region. Currently, management of the region's marine resources is governed by the Galician Fisheries and Shellfisheries Resource Management Plan, a document drawn up by the Galician government.

Since 1990, the Galician Administration has been working to revise and expand the existing fisheries-related legislation, with the aim of developing a complete and coherent legislative framework for the sector. In what follows, the principal components of this framework are briefly outlined.

Basic Legislation

Fisheries activity is basically governed by three acts:

- a) The Galician Fishing Act (*Ley de Pesca de Galicia*) is a comprehensive and systematic set of laws governing all activities involved in or related to fisheries, shellfisheries and aquaculture. In particular, it regulates i) the exploitation of fisheries resources, ii) the characteristics and conditions of fishing activity, and iii) the protection, conservation and recovery of fisheries resources.
- b) The Marine Fisheries Resource Protection Infringements Act (*Ley de Infracciones en Materia de Protección de los Recursos Marítimo-Pesqueros*) defines infractions of marine fisheries resource protection, and lays down appropriate sanctions. It aims to ensure the conservation of the region's marine fisheries resources, and thus the continuation of fishing and shellfishing activity. In particular, this legislation i) defines the concept of resource protection, ii) considers not only punitive sanctions, but also monitoring aimed at preventing infringements, and iii) delimits the Administration's general advisory and planning role in this field.
- c) The Fishermen's Union Act (*Ley de Cofradías de Pescadores*) is a set of laws regulating workers' organizations within the Galician fisheries sector.

Other Legislation

Subsequent to the introduction of these major legislative elements, a number of decrees have been issued governing more specific areas. Notable examples of such decrees include the following:

- a) Decree approving the regulations governing fishing activity and permissible fishing gear in Galicia (*Decreto por el que se aprueba el reglamento de la actividad pesquera y de los artes y aparejos de la pesca permisibles en Galicia*); this text constitutes the basic set of regulations for the control of fisheries and management of the sector, and defines authorised methods and gear (including minimum mesh sizes, maximum lowering times, maximum engine horsepower, etc.).
- b) Decree revising current regulations governing the landing, first sale and marketing of fresh marine products (*Decreto por el que se refunde la normativa vigente sobre descarga, primera venta y comercialización de los recursos marinos en fresco*); this document regulates the marketing of marine fish and shellfish, from landing and first sale to the retail stage. In particular, it specifies authorized species and lays down limits on maximum catches and minimum sizes.
- c) Decree revising current regulations governing permits for fishing and shellfish gathering activity (*Decreto por el que se refunde la normativa vigente sobre el permiso de explotación para ejercer la actividad pesquera y marisquera*); this text lays down the framework for the practice of fishing activity in Galician waters, with reference to vessels, shellfish fisheries and the exploitation of specific resources.

Other Important Decrees Regulate:

- i) the registration of boats and fish-processing companies,
- ii) the *appellation d'origine* "producto gallego de calidad" for the fisheries, shellfish fisheries and aquaculture sectors,
- iii) structural aid for the fisheries, shellfish fisheries and aquaculture sectors,
- iv) exploitation of shellfish resources, and of seaweed and other marine crops,
- v) training in fisheries skills and seamanship, and
- vi) recreational fishing activity.

Monitoring and Control

The monitoring and control of the existing fisheries-related legislation falls to the Resource Protection Service, a body specially constituted for this purpose. Specifically, this service is concerned with the monitoring and control of capture fishing and exploitation of shellfish resources, with landing of catches in ports or other authorised locations, and with distribution and marketing, from transport to consumption.

The Resource Protection Service is structured as follows:

Sub-Director General for Resource Protection (head of the service)	
Operations Room (coordination)	Santiago
Maritime Bases (6)	Celeiro
	A Coruña
	Ribeira
	Vilagarcía
	Pontevedra
	Vigo
106 staff	Inspectors/Subinspectors
	Base Directors

	Boat Commanders
	Mechanics
	Marine Guards
	Police (Regional Force)
14 standard boats	3 crew/vessel
8 fast launches	2 crew/boat
1 ocean-going tug	320 tons, length 30 m, 2 x 2100 HP
1 support vessel	250 tons, length 24 m, 1 x 980 HP
50 road vehicles	30 four-wheel drives
20 saloons	
2 helicopters	Bell 212 (IFR)

The Galician Resource Protection Service, one of the largest and best-equipped fisheries protection operations in Europe, merited a special mention in the Report on Monitoring of Application of the Common Fisheries Policy (SEC-92-394 final), which congratulated the Autonomous Community of Galicia as regards its efforts to increase awareness of the importance of minimum sizes among the various subsectors of the fisheries industry.

In Galicia, it has become clear that it is important to go beyond the policing role of the Resource Protection Service, and in recent years there have been continued public education campaigns aimed at the final consumers of fish and shellfish, with regard to the need to conserve marine resources. Particular attention has been paid to campaigns exhorting people not to purchase under-size fish/shellfish and protected species.

Galician Fishing Activity in the Northwest Atlantic

Traditionally, Galician boats have worked fishing grounds over large parts of the globe. This tradition continues to this day. However, changes in the geopolitical situation and increasing awareness of the need to conserve fish stocks have meant that the Galician fleet is much smaller than it used to be. The recent years, have witnessed the loss of traditional fishing grounds and the reduction of fishing activity forced by international conservation measures. This has resulted in a dramatic reduction in the number of fishing vessels operating from Galicia: from the 81 cod fishing vessels operating in Spain (mostly based in Galicia) in 1979, only 22 are still in operation. As to the freezer-trawler fleet, also based mostly in Galician ports, the reduction has also been dramatic: from 217 vessels in 1989 to only 84 today. Inevitably, the reduction of fishing vessels has been accompanied by negative consequences in terms of employment and economic activity.

In fact these fleet reductions have led to economic and job losses, particularly in coastal areas where the dependence on fisheries is greatest. In this context, it is worth noting that the structural policy of the European Community has allowed the necessary reductions in fleet capacity. At the same time it has attenuated the inevitable socio-economic hardships that it entails. This fact demonstrates that this policy, often subject to simplistic criticism outside Europe for producing "over-capacity through subsidies", can indeed contribute to adapt fleet capacities, if and when, utilised within the objectives of the Community's Multiannual Guidance Programmes.

The presence of Galician fishing boats in the Northwest Atlantic dates back to the 16th century, with documentary evidence of fishing expeditions to the Grand Bank of Newfoundland from as early as 1561.

The treaty signed between Britain and Spain in 1713, in Madrid and Utrecht, recognised the right of the Spanish fleet to fish in these waters. Subsequently, in the middle of the current century, fishing activity in this area came under the jurisdiction of the International Commission of North Atlantic Fisheries (ICNAF).

In 1952, the Galician fleet fished to within 3 miles of the Canadian coast, this being the limit of Canada's territorial waters. In 1972, in view of the successive extensions of Canadian jurisdiction, Spain and Canada signed a fishing agreement that detailed a phasing-out of Spanish fishing activity in the area, as had in fact been happening since before 1970. This agreement laid down transitional periods as regards the application of the new territorial limits to Spanish fishing vessels; specifically, fishing was to be permitted in the Gulf of St. Lawrence until 31 July 1976, and in Canadian territorial waters between the 3rd and 12th parallels until 31 December 1978.

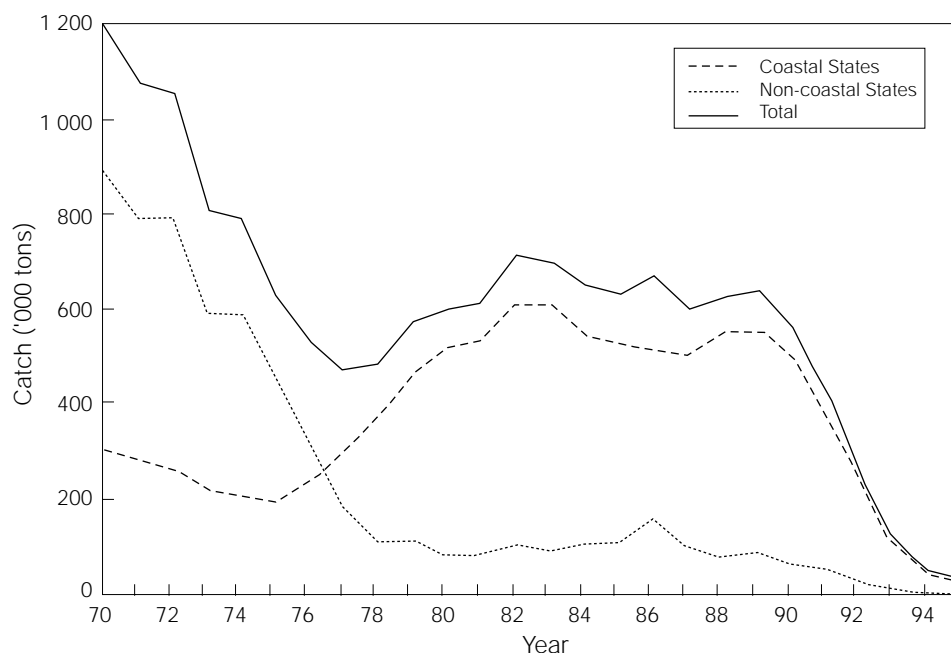
In 1976 (i.e. prior to Canada's decision to extend its jurisdiction to 200 miles), Spain and Canada negotiated a new agreement, in accordance with the recommendations of the Third UN Conference on the Law of the Sea. This agreement ceased to be binding in 1983, following the fisheries dispute between Spain and Canada in 1982.

Since that time, the only parts of the Grand Bank fished by Spanish boats have been two small areas, known as the Nose and the Tail, which lie outside Canada's 200-mile limit and which together make up only 7% of the total area of this fishing ground.

Galician vessels have suffered, probably more than anyone else, the geopolitical changes brought about by the declaration of the EEZs in 1977. Today, Galicia suffers the effects of the tension that this new "world fishing order" still generates. Some questions have to be posed. Firstly, what is the real contribution of the Galician fleets to the present state of affairs? Secondly, what is the role they can play in the capture fisheries of the future?

As to the contribution of ocean-going fleets to the current situation of fisheries resources in the world, these fleets, in my opinion, have been treated very unfairly. There are some illustrative examples. Here in the Northwest Atlantic, the most publicized example of a stock collapse is without doubt Atlantic cod. Here we have heard in recent years how the collapse of traditional groundfish fisheries has been blamed on "foreign over-fishing".

Figure 1 shows the historical catches of cod in the Northwest Atlantic since 1970 (FAO Fishery Statistics Yearbook). The declaration of the EEZs of Coastal States in 1977 produced a radical change in the



fishing pattern of this resource. The increase in Coastal States catches inverted the decreasing trend and, for the last 19 years, Coastal States have been responsible for a large majority of total catches.

Of course simplistic interpretations of these data should be avoided. It is clear that all participants in this fishery have a responsibility for the current situation. The fishing pressure on a stock is the combined effect of all fishing fleets exploiting the resource. The possible causes, such as overfishing or environmental changes, has been extensively discussed in scientific literature and news media. The extent to which fishing was a determining factor, all involved, share the blame. Coastal States have, as they participated in the fishery, their large share of the responsibility. Overall, it should be noted restricting fisheries to restore the resources causes significant socio-economic hardships in the fishing communities, whether they are in the Coastal States or have ports of "foreign" fleets.

As to the question of the role that long-distance fishing fleets may play in the future of capture fisheries, the Galician government is convinced that these fleets will still be essential in the years to come, in spite of recent difficulties. An allegation, which has become common place in recent times is that fishing by large, industrial vessels is in itself detrimental to the conservation of marine resources. This idea is generally biased by incomplete considerations. There are some elements which are worth considering in this discussion, for example in many fish species the breeding areas are close to the shore, and generally inaccessible by large vessels. In contrast, local fleets very often concentrate their activity on these shallow coastal breeding grounds, and these local fleets sometimes include non-professional fishermen, who have been responsible for not-so-non-professional level of catches .

In some cases, the adequate exploitation of certain resources require large vessels capable of fishing further ashore and in deeper waters where the adult fish tend to concentrate. These resources can not be adequately exploited by small coastal boats. Ultimately, fish conservation is a function of the total fishing mortality exerted on a stock; it doesn't matter whether a ton of fish has been removed by one large vessel or by ten small ones. In other words, there is no scientific basis to say that fishing by large vessels is worse for resource conservation than doing it with many smaller units.

In spite of this, long-distance fishing vessels are suffering tremendous pressure from Coastal States. For example, the control exerted in NAFO fisheries has recently reached disproportionate levels both in terms of costs and the intensity of the inspections. The control exerted over certain vessels of this fishery is unmatched by any other fishery, and cannot be explained by only conservation reasons.

As a final conclusion, the Galician government considers that the Galician fishing activity in the high seas is both a viable economic activity and a historical and legal right that can and must be preserved. Galician fishermen have the tradition, the know-how and the determination to continue an activity that is part of a way of life. In addition, Galician-built fishing vessels and Galician skippers are contributing to the development of the fishing industry in a number of countries and will continue to do so.

It is important for Galicia to underline that this activity must be carried out in the context of the balance of rights and obligations established by the United Nations Convention on the Law of the Sea. Galician fishermen are fully prepared to honour the obligations derived from its provisions, and at the same time, they should not be expected to give up their legitimate right to fish under international law.
