



The Italian fisheries and aquaculture sector

Landing obligation for small pelagics may have little impact

The Mediterranean fisheries sector is characterised by a wide diversity of species, fishing gear, and vessels. It is a significant part of the European fisheries sector. In terms of vessels the Mediterranean fleet accounts for 46% of the number, 22% of the tonnage, and 34% of the engine power of the EU fleet. In terms of landings the Mediterranean fleet is responsible for only 12% of EU landings or about 500,000 tonnes a year on average. The Mediterranean fleet's landings are dominated by Italy, which lands just under half the total, with Spain, the country with the next biggest landings, accounting for 20%.



Fisheries in the Mediterranean are characterised by the use of different gears to catch a range of species at various times in the year. Here, different nets can be seen in the foreground and background.

In 2013 the size of the national Italian fleet declined 2% to 14,139 vessels of which 12,603 were active, and there was a decrease both in fishing activity and in production. The fleet had a combined gross tonnage of 154 thousand GT and a total power of 1,145 thousand kilowatts. In comparison, in 2012 the fleet had 14,433 vessels, a gross

tonnage of 166 thousand tonnes and a total power of 1,176 kilowatts. The biggest segment within the national fleet is the small-scale fleet which made up about two thirds, or 8,513 vessels, in 2013. However, the small-scale fleet comprises vessels under 12 m in length and typically less than 2 GT on average, so the total gross tonnage of this fleet

segment is 16 thousand tonnes or just 9% of the total fleet. The small-scale fleet typically uses passive gears such as long lines, set nets, pots, and traps. The number of days at sea after decreasing by 12% to 1,033 thousand in 2012, declined further to 986 in 2013, a drop of 5% according to the 2014 Annual Economic Report (AER) on the

EU Fishing Fleet by the Scientific, Technical and Economic Committee for Fisheries (STECF).

Further fall in weight, value of Italian landings

The weight of landings fell significantly in 2013, for the fourth consecutive year, to 171 thousand tonnes, a



decline of 13% compared with the year before. The decrease in production did not however trigger an increase in prices. On the contrary overall income from landings declined to EUR813m a fall of 12%. Employment fell by 2% in 2013 to 20,261 full time equivalents (FTE). The decline in production volume and value can be attributed to several factors. Increased production costs, of fuel in particular, led to changes in fishing zones as skippers tried to reduce the distance they had to travel to conserve fuel. New restriction imposed by the Mediterranean Regulation 1967/2006 affected mesh sizes, distance from the coast, and the minimum size of several species, also contributed to decreases in activity and lower production. Moreover, new inspection and control regulations and stricter enforcement all along the production chain from capture to final sale also had an impact on fishing operations, though this mainly affected the trawler segment. In volume terms catches of European anchovy were the most important followed by European hake, deep water rose shrimp and swordfish. However, in value, the European anchovy was worth EUR75.6m, hake EUR74.4m, deep water rose shrimp EUR55.7m, and swordfish, EUR45.7m.

High fuel prices take their toll

The Italian fleet is most active in the Tyrrhenian Sea where the Sicilian fleet operates and in the Adriatic where the Apulian fleet has its fishing grounds. The five most important segments of the national fleet in terms of the value of landings are the under 6 m and the 6-12 m vessels using passive gear; as well as the 12-18 m, 18-24 m and 24-40 m vessels using trawls or seines to target demersal species. Of these it is the vessels less than 6 m that are the most profitable of any of the 23 fleet segments that

constitute the national fleet. Vessels in the 24-40 m length category, some 200 vessels based mainly in Mazara del Vallo, Sicily's (and Italy's) biggest port, operate mainly in the Sicilian channel. This segment is among the hardest hit by the high fuel prices as well as by the loss of traditional fishing grounds off Libya and Tunisia.

Fishermen pessimistic about their sector

The recent performance of the Italian fleet has been coloured by the fall in both landings and prices. The bleak economic picture of some segments of the fleet is reflected in a more pessimistic outlook amongst fishers. Nino Accetta, president of Federcoopesca in Sicily, says that his members, 80% of whom belong to the small-scale fishery, are overburdened with regulations crafted in Brussels that fail to take into account local conditions. Rules that may be suitable for large fishing vessels are not necessarily appropriate for small ones, he points out. It is also unfair that all fleets fishing in the Mediterranean are not equal, those from the EU are subject to more restrictions than those from other countries, for example in the use of driftnets. As restrictions have increased over the years, the small-scale fishers in particular have been voluntarily decommissioning their vessels and leaving the fishery. Over the last decade the fleet has decreased by 40%, says Mr Accetta, increasing the problem of unemployment especially in the south. In addition, the next generation sees no potential in the sector and are choosing other avenues, which leads to a further hollowing out of the sector.

Discards can have positive and negative impacts

The performance of the fishing fleet is likely to be further affected



Nino Accetta, president of Federcoopesca in Sicily

by provisions of the Common Fisheries Policy (CFP) that are due to enter into force from 1 January 2015. Specifically, the landing obligation and ban on discards. Discarding refers to the practice of returning fish to the sea, whether alive or dead. Apart from the immediate issues associated with discarding (it is a waste of resources) fish, researchers have found that discarding can also lead to changes in the ecosystem, for example, by causing the proliferation of scavengers, and thereby altering food webs. Continuous discarding can also have an impact on the diversity and abundance of benthic species. It also affects the quality of fisheries data, which in turn influences scientific advice and thereby the efficiency of fisheries management. However, other scientists have found that discarding may also have positive impacts such as by increasing the productivity of ecosystems, creating other trophic interactions, and by providing food for several bird species. The Mediterranean has a large variety of around 300 fish species, but only a small fraction (10%) is sold regularly, an occasional market exists for about 30% depending

on sizes and current demand, and 60% is consistently discarded.

The landing obligation makes it mandatory for the fisher to land all the fish that is caught, and also determines that it will be counted against his quotas. Undersized fish that is landed may not be used for human consumption, but can be converted to fishmeal and fish oil, or used in the cosmetic or pharmaceutical industries. The landing obligation should contribute to more reliable catch data and it is expected to give fishers an incentive to improve gear selectivity. It will be phased in fishery by fishery between 2015 and 2019 for all commercial fisheries, that is, catches of species managed by quotas/catch limits or minimum landing sizes. In the Mediterranean no fishery apart from bluefin tuna is managed by quotas.

Italian fleet the most important in the Mediterranean

Italy, by some accounts, has the highest catches of any EU nation in the Mediterranean. The fleet uses a number of different kinds



of gears. According to the report, "The state of Italian marine fisheries and aquaculture," published by the Ministry of Agriculture, Food and Forestry, in Italy bottom trawl nets refer to all bottom trawling devices including common otter trawls, beam trawls, and bottom pair trawls. While common otter trawls are used by fleets in the Adriatic and the Mediterranean, twin trawls and *rapido* trawls (that are a kind of beam trawls) are used only in the Adriatic. Bottom trawls allow large volumes of valuable species to be fished. However, their use is characterised by heavy fuel consumption as the vessel must have a powerful engine to be able to overcome the resistance of the seabed and pull the gear quickly (in the case of the *rapido* nets 7-8 knots) through the water.

Alessandro Lucchetti, a fisheries expert at CNR-ISMAR, the Italian Institute of Marine Science and recently engaged on a European Research project on discards in the Italian small pelagics (anchovies and sardines) sector, says that discards relate only to the species which have a minimum landing size (MLS). The amount of these fish of the target species that appear in the catch is not that high in Italy. Occasionally in the small pelagics fishery the fishermen will discard their catch for commercial reasons (for example, the lack of a market), but this is seldom. In the demersal fishery too there is some catch of undersized target specimens, but it is mainly in certain periods and certain areas, and the amount is negligible compared with the total catch. For example, in Italian trawl fisheries for hake the catch of undersized individuals is due to the presence of nursery areas for this species in some Italian geographical sub-areas where there are large numbers of

juveniles. Again, for the red mullet and other species a huge amount of juveniles are present in coastal waters in late summer; this is the reason why ministry decrees each year extend the width of the area closed to bottom trawling to 6 miles from the coast, until the end of October (normally it is 3 miles). In any case, the landing obligation for demersal fish only comes into force in 2019, which means there will be time get a more accurate picture of the situation.

Landing obligation may have unexpected consequences

Dr Lucchetti points out three aspects of the landing obligation which could have unforeseen consequences. Firstly, there is still some ambiguity about what constitutes discards in the Mediterranean. Currently, fish under the minimum landing size (MLS) is illegal and considered discards. However, fish that is above the MLS, yet is damaged or for which there is no market, can also be returned to the sea. Since it is above the MLS it may not be considered discards and may therefore not be covered by the discard ban (it could potentially be sold), meaning that the fisher is not obliged



Alessandro Lucchetti, a fisheries expert at CNR-ISMAR, the Italian Institute of Marine Science



Manila clams, smooth clams (pictured), striped Venus, oysters, cockles, and mussels are just some of the bivalve species that are farmed or fished in Italy.

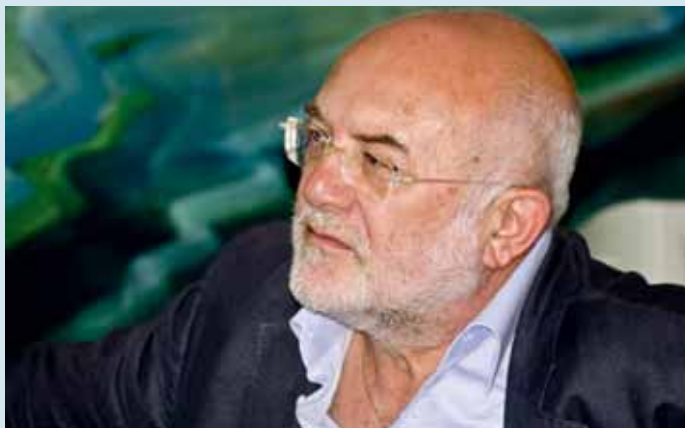
to land it. This could undermine the aim of this regulation in the Mediterranean. Secondly, the fish below the MLS that are landed cannot be used for human consumption, but may be used for the production, for example, of fishmeal and fish oil. In the pelagic fishery this may create a market for undersized fish and provide fishermen with an incentive to catch them, which in turn could lead to over-exploitation, a concern that some fisheries associations also share. This apprehension is also voiced in a report produced for the European Parliament: The obligation to land all catches - Consequences for the Mediterranean. The authors suggest that a discard ban may result in an increase in catches of juveniles as there are no quotas to count these catches against, and there is therefore no incentive to avoid catching them. Developing a market for this fish may in fact even encourage fishers to target juveniles. Finally, another potential problem Dr Lucchetti mentions is the material landed that cannot be commercially exploited. Disposing of this will need to be done rapidly and effectively given the warm climate and the potential impact on the important tourist industry, and this will entail a cost to be borne.

For both demersal and pelagic fisheries Dr Lucchetti thinks that the proportion of undersized fish

in the total catch for most of species which have a MLS will probably be less than 5% (with the exception of hake) and will so fall under the threshold at which this fish will need to be landed. In general he feels that the new regulation is unlikely to introduce significant changes to the current situation in the Italian fisheries sector.

Association works with researchers to find uses for discard fish

The use of multiple gears that fishers use at different times of the year to target different species makes fisheries more sustainable, says Giovanni Basciano, vice-president of the Sicilian branch of AGCI Agrital, the General Association of Italian Cooperatives, because the fishing effort is directed at many different resources rather than concentrating on a few. He thinks that a possible consequence of the discard ban could be a reduction in sustainability as fishers will use fewer fishing gears and less species will be targeted putting more pressure on a few resources. To avoid this, the association, together with researchers, is studying different alternatives for the utilisation of the non-commercial fish caught that will be brought on shore, based on the characteristics of the species and the vessel/gear type. This covers a wide spectrum,



Giovanni Basciano, vice-president of the Sicilian chapter of AGCI Agrital, the General Association of Italian Cooperatives

from the production of fishmeal and fish oil to more sophisticated products such as those of interest to the cosmetic or pharmaceutical industries. Since catches have been declining, increasing the value of the catch is one of the ways profitability of the fleet can be restored. Both Mr Basciano and Mr Accetta mention that better marketing with emphasis on the Sicilian provenance of their fish, its quality and sustainability, should be used to sell the fish at a premium. In addition, Mr Basciano thinks that there should be more opportunities for the fishers to sell their catch directly to the consumer bypassing the other links (wholesale, retail) in the supply chain, so as to give the fisher a better price for his fish.

The issues faced by demersal and pelagic fishermen are different from those confronting the tuna industry. Italy has a long history of fishing for large pelagics of which bluefin tuna is probably the most important with a fishery tradition dating back to prehistoric times. Today the bluefin tuna fishery together with fisheries for other tuna and tuna-like species in the Atlantic and the Mediterranean are regulated by ICCAT, the International Commission for the

Conservation of Atlantic Tunas. The quota for Italy in 2014 of just under 2,000 tonnes was the same as it was in 2013. Other big pelagics that are targeted by the Italian fleet in the Mediterranean include swordfish, albacore, and smaller species such as bonito, and skipjack tuna. The majority of the catches of bluefin tuna is with purse seines with some also being caught with longlines and tuna traps. The national fleets authorised to fish bluefin tuna are mainly concentrated in the regions of Campania (purse seines), Sicily (longlines), and Sardinia (tuna traps), says Paolo Pignalosa, director of Oceanis, a fisheries consultancy, and most of the fish caught is fattened for export to Japan, though a small volume is available fresh on the Italian market. The fishery used to be conducted all the year around, but today there are seasonal closures that stringently restrict the fishery. Mr Pignalosa considers that these restrictions need to be revisited by the members of ICCAT, who should enter into a dialogue to find a balance between the sea, the ecosystem, farms, and fishermen, that better reflects the status of the stock and will bring back some of the jobs that have been lost with the decline of the fishery.

Albacore and swordfish important fisheries too

Albacore is caught today primarily with albacore longlines, though drift nets used to be the most commonly used gear until their ban in 2006. Albacore is fished mainly in southern Italy in the spring and autumn with some catches also in summer. Swordfish too is fished with longlines, which have evolved over the years as traditional surface longlines were substituted with the deep longline, a development which resulted in the catch of swordfish spawners, which has had an indeterminate impact on the stock. The smaller pelagics bonito, skipjack etc. are usually caught by artisanal fisheries using longlines and hand lines. Large pelagics fisheries are also found in the Adriatic, the southern Italian seas, off Sardinia and in the Tuscany-Liguria area.

Dredgers the most profitable fleet segment

The Italian clam fishery is an important activity in the fisheries sector. Clam fishing today is carried out mostly by hydraulic dredgers in the northern and central parts of the Adriatic. In 2012 there were 702 vessels (5% of the total Italian fleet) between 12-18 m in length. This industry supported about 1.6% of the workforce or 330 full time positions, and had a landing value of EUR52m or 6% of total landings. The vessels are equipped with dredging units with which they dredge for bivalves particularly clams. In 2012 landings amounted to about 22,000 tonnes or 11% of total Italian landings. With a net profit margin of 15% the dredging fleet has one of the highest margins of all the fleet segments. The dredgers are found concentrated on the Adriatic coast with the greatest numbers found in the provinces

of Marche, and Veneto. There are several species of bivalve that are targeted by the dredgers. According to data from the FAO, the production of bivalves in Italy stems from capture fisheries as well as from harvesting farmed bivalves. Farmed production is led by the Mediterranean mussel (*Mytilus galloprovincialis*), volumes of which amounted to 79,000 (est.) tonnes in 2012, a 17% increase since 2008. Manila clam or Japanese carpet shell (*Ruditapes philippinarum*) with an estimated production of 30,000 tonnes in 2012 is the next most important species in terms of production, however the value of production at USD151m is almost double that of the value of the Mediterranean mussel at USD77m. The Manila clam is farmed in the Venetian lagoon, an area where Mediterranean mussels are also farmed on longlines. Farmed grooved carpet shell (*Ruditapes decussatus*) volumes in 2012 are estimated at 1,600 tonnes with a value of USD8,300. In terms of capture fisheries it is the striped venus (*Chamelea gallina*) that dominates production with 20,000 tonnes in 2012 corresponding to the average of the last five years, followed by the smooth clam (*Callista chione*) with 1,700 tonnes.

The dredge fisheries are typically organised into consortia



Paolo Pignalosa, director of Oceanis, a fisheries consultancy



Trout production has stagnated in Italy for the last few years. Processors are adding more value to the fish by creating ready-to-cook products.

of fishermen that work together both with the administration and research organisations to ensure the sustainable exploitation of the resource. While the general rules are laid down by the central administration a consortium may lay down stricter regulations covering for example the gear, daily quotas, restocking, market policies, as well as control and sanctions. While members of the consortium are familiar with the day to day state of the stock the cooperation with

research institutes provides an independent long term assessment of the stock situation. A consortium manages its areas, closing some down while they are restocked, and monitoring the production so that harvests are commensurate with the stock as well as with the demand from the market. Despite these controls the system is not fool-proof as researchers have found that some clam stocks in the Adriatic are showing signs of overexploitation.

Freshwater farms face constraints to expansion

While bivalve farming is a well-established activity with a long tradition, Italy also has a thriving freshwater fish farming sector producing mainly trout, but also char, sturgeon and eel. Fish farms are mainly located in the northern part of the country in the Veneto, Friuli Venetia Giulia, Trentino Alto Adige, Lombardy, Emilia-Romagna and Piedmont regions, while a few farms can also be found in the Umbria and Marche regions in central Italy. Production of rainbow trout, estimated by the FAO at 34,000 tonnes in 2012, dominates the total freshwater production. Sea trout with 1,500 tonnes, sturgeons with 850 tonnes, and eel at 450 tonnes are the other most-produced species. While production of rainbow trout is several times higher than the production of other species, in the five years up to 2012 output of this species has stagnated, while the other species have generally shown more impressive growth trends. Eel volumes, for example, over the same period increased 15%,

while sturgeon production grew by 136%, both however from a much lower base. The reasons for the lack of growth in the trout industry are many and varied. They include an excess of red tape, a lack of sites, competition from imports, and high costs. Companies are seeking to add greater value to their production rather than simply increasing volumes. Creating markets for new products is not easy, but is probably the only way forward and will create an industry that is more resilient and better able to compete in an increasingly crowded market.

The Italian fisheries and aquaculture sector is spectacularly diverse in terms of the species fished and farmed, the environments they grow in, and the products they become. While some sectors may not be doing as well as they might it seems there are always companies that are bucking the trend, creating new products, finding new markets, or improving their quality. This variety and dynamism are sure to drive the sector forward, despite the constraints it faces.

European Commission launches sustainable fish guides for Italy



On 23 October the European Commission released new Italian seafood guides as part of its “Inseparabile” campaign to help consumers make more sustainable choices when purchasing seafood products. The “Inseparabile” concept encourages consumers to be curious and aware of the fish they eat, and make decisions to support sustainable fishing, and the safe consumption of seafood. The information guides were developed jointly with the World Wildlife fund (WWF) and will be distributed throughout Italy, at fish markets and other points of sale. The theme of one guide is “Che pesci pigliare – No ai pesci sotto taglia!” (“Choose your fish – No fish

smaller than the legal size!”), which will help to educate and inform consumers about acceptable minimum fish sizes among other things. The European Commission also released a guide entitled “Pesce Ritrovato” at an event Salone del Gusto in Turin, which aims to make consumers more aware about making sustainable choices in every season and getting in touch with when and where different fish species are harvested. The European Commission is committed to safe and sustainable fisheries management across Europe and campaigns like, “Inseparabile” can contribute to sustainable catch and consumption of fish throughout European waters.