



Review

Small-scale driftnets in the Mediterranean: Technical features, legal constraints and management options for the reduction of protected species bycatch



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ABSTRACT

The illegal use of driftnets targeting large pelagic species, such as swordfish and bluefin tuna, continues to be reported in some Mediterranean countries and to cause concern due to the high risk of bycatch of protected species (chiefly marine mammals and sea turtles). In May 2014, the European Commission announced its intention to adopt a universal moratorium on driftnet fishing in EU waters. However, driftnets have been used for decades throughout the Mediterranean by countless, inshore small-scale artisanal fleets to catch small pelagic species like anchovy, sardine, and mackerel. This study was devised to collect detailed information on the technical characteristics of the small-scale driftnets used in the Mediterranean, describe the features of each net type, and identify the technical and management changes that may enable their preservation. Data analysis indicated that i) use of thin yarns and a mesh opening of less than 80 mm (or 70 mm according to a stricter approach) would allow the survival of most traditional *métiers* while preserving sensitive and protected species; ii) the requirement to carry on board a single gear type should be included in the regulatory framework; and iii) driftnet use within 3 miles of the coast would greatly reduce the risk of interactions with sensitive species.

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1. Introduction

Driftnets are passive nets targeting pelagic species that can drift and operate on the sea surface or in the water column (European Commission, 1992; Caddell, 2010). They have been used for decades by numerous, small-scale artisanal fleets based at several mooring places along the coasts of the Mediterranean without raising major environmental concerns. In the late 1970s–1980s, the introduction of hydraulic winches, the availability of new netting materials, and the possibility to build larger boats induced a radical change, where small-scale driftnet (SSD) fisheries using nets with small mesh sizes and moderate total length primarily targeting pelagic schooling species such as anchovy (*Engraulis encrasicolus*), sardine (*Sardina pilchardus*), mackerel (*Scomber spp.*, *Trachurus spp.*), and saddled sea bream (*Oblada melanura*) were converted to fisheries using large mesh size nets with a much greater overall length and height targeting mainly large migratory species, such as swordfish (*Xiphias gladius*), bluefin tuna (*Thunnus thynnus*), and albacore (*Thunnus alalunga*). At the end of the 1980s, the intensive use of large pelagic driftnets (like “spadara” in Italy and “thonaille” or “courantille volante” in France) began to cause environmental concern, both due to the accidental catch of vulnerable and threatened species of large vertebrates like pelagic sharks, cetaceans, monk seals and sea turtles (Di Natale, 1990; Di Natale, 1995; Northridge, 1991; Bănaru et al., 2010; Di Natale and Notarbartolo di Sciara, 1994; Di Natale et al., 1995; Tudela et al., 2004) and to the overexploitation of target species, notably swordfish.

In the early 1990s, two United Nations General Assembly (UNGA) resolutions (UN, 1989; 1991) led to the adoption of strict driftnet legislation in the EU. As a result, driftnets longer than 2.5 km are banned in EU waters since 1992, except in some specific areas (EEC, 1992), and from 1998 all driftnets, irrespective or size, are prohibited when intended for the capture of highly migratory species such as bluefin tuna, tuna-like species, swordfish, and large and medium-sized pelagic species in general (Council Regulation (EC) No 894/97 of April 29th 1997, amended by Council Reg. no. 1239/98 and Council Reg. no. 809/2007).

Nonetheless, illegal drift netting by EU fishing vessels has continued to be reported, generating criticism on EU compliance with international obligations (Oceana, 2009; WDCS et al., 2009; EJF, 2007; Caddell, 2010; NMFS, 2012). In April 2013, the

European Commission published a Roadmap reviewing the EU driftnet fisheries regime and launched two studies (“Identification and characterisation of the small scale driftnet fisheries in the Mediterranean, DRIFTMED” and “Study in support of the review of the EU regime on the small-scale driftnet fisheries”) as well as a public consultation on SSDs (closed in September 2013; http://ec.europa.eu/dgs/maritimeaffairs_fisheries/consultations/driftnet/index_en.htm), to provide an overview of the sector, assess the impact of driftnets on prohibited and protected species, and establish whether and how EU rules on SSD fisheries should be changed.

In May 2014, the European Commission announced its intention to adopt a universal moratorium on driftnet fishing in EU waters, to minimise the impact of fishing on the survival of endangered or threatened species protected by EU legislation (EU European Commission, 2014). Fishermen associations considered the proposed blanket ban as an unnecessary and disproportionate measure, and have suggested that regionalising decision-making in this area would help efficiently achieve environmental goals (MEDAC, 2014; Masters, 2014).

The debate is further complicated by the lack of technical specifications allowing the distinction of gillnets (fixed nets) from legal driftnets in relation to species targeted and net length. A key problem is to distinguish legal from illegal gear. Existing regulations base the distinction only on net length (maximum 2.5 km) and species caught. If the driftnet catches the species listed in Annex VIII of Council Regulation (EC) No 894/97 (large pelagic species) it is illegal, otherwise it is legal provided it is shorter than 2.5 km. The regulatory definition of driftnet does not help solve the problem. According to Council Regulation (EC) No 809/2007 of 28 June 2007, a driftnet is “any gillnet held on the sea surface or at a certain distance below it by floating devices, drifting with the current, either independently or with the boat to which it may be attached”. Therefore a driftnet is simply a gillnet (with a single netting panel; EC Reg. 1967/2006) drifting freely with the current. Unfortunately, such a general definition prevents a clear distinction of a gillnets from a driftnets on the basis of their technical features.

The situation seems to be particularly entangled in Italy, where the law recognises two types of driftnets. The “spadara”, a high-seas driftnet, is now banned by all international bodies active in the Mediterranean, the EU and Italian law. The “ferrettara” was

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