

Fisheries Mismanagement in the Mediterranean: A Greek Tragedy

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Editorial

One of the main objectives of fisheries management is the reduction of fishing capacity and effort at a global scale [1], since the global fishing fleet is at least twice higher than should have been to allow for fish stock replenishment [2], and locally, in cases where overexploitation is evident [3]. The (trawl and purse-seine) fishers and the fisheries officials in Greece do not share the same views with the majority of scientists. Here, I will present two cases of fisheries mismanagement in Greek waters that were recently uncovered.

According to the Greek laws, purse seiners are allowed to operate from the 1st of March to the 15th of December each year excluding two days before, during, and two days after the full moon, i.e. they operate ca. 240 days per year. Similarly, the trawlers are allowed to fish between October and May (inclusive) each year, i.e. 240 days per year. Recently, the purse-seine fishers in several areas of northern Aegean Sea, where the vast majority of anchovy (*Engraulis encrasicolus*) and sardine (*Sardina pilchardus*) catches are collected, were given permission to operate during the full moon in international waters (=6 nautical miles from shore in the Aegean Sea), thereby increasing their fishing effort by 45 days per year (=20% effort increase per vessel). Trawl fishers preceded their purse-seine colleagues by 2-3 years [3]. They were the first to discover a legal window to get licences for fishing in international waters during the summer. Hence their effort was increased by 30 to 60 days per year, i.e. to a total of 300 days, which averages around 20% effort increase per vessel. It has been estimated that over 20 trawlers (7% of total trawler fleet that numbers around 300 vessels) and at least 30 purse-seiners (10% of the Greek purse-seiner fleet that numbers around 290 vessels) operate in excess of their nominal fishing effort. This practically means that almost all vessels harboured along the northern Aegean coastline (including the Islands of Thassos and Samothraki) operate in excess of their nominal fishing effort.

There are no 'international' fish in the Aegean Sea, nor 'Greek' or 'Turkish' fish. There are no borders in the sea. Most stocks move across territorial waters of Greece and Turkey, including the international waters in-between. Fish movements and migrations depend on oceanography, not politics. By operating during the no-fishing season, the Greek trawl fishers catch the same fish a few months earlier than they used to. Only that these fish are smaller in size and they are called 'international fish'. Apart from the obvious ecological loss through growth overfishing that is applied upon most stocks, fishers and fisheries officials just do not understand the economic loss they are causing. They do not seem to realize that the undersized fish that will be caught during the summer months would have formed the majority of the catches –but at a larger somatic length and biomass– a few months later, i.e. during the actual fishing season. Hence, the profit per trip would have been higher.

Trawl fishers are lobbying a lot and have been greatly benefited by the Greek Ministry of Agriculture, which released the trawling management plan in early 2014. In this management plan, the fishing effort of trawlers is reduced by two weeks per year (around 5% reduction on the potential fishing days): one week at the end of December (in Christmas holidays of a Christian orthodox country where people tend to consume fish during the spring and summer months; not to mention heavy winters) and one week at the end of May. At the same time the management plan for trawlers includes measures for small-scale coastal fishers (!) by banning the fishing of hake (*Merluccius merluccius*) for them in February each year. Given the recent stock assessments of demersal fish [4] and the overall status of stocks [5] in the Mediterranean, a decent management plan would precautionary reduce the fishing effort of trawlers by 30% (by operating only during weekdays), 25% (by operating from October to March), or even 10% (by excluding May). Instead, the official bodies choose convenience overfishing because they find it more convenient to risk eventual collapse of fish stocks than to risk social and political conflicts [6].

Such a short-sighted idiosyncrasy has also been recently reported in Turkey, the fleet of which exploits the same stocks with the Greek fleet, where urgent management measures are required to save Turkish fisheries from collapse [7]. It seems that the large-scale fisheries are lobbying across countries and at all levels of bureaucracy and that the authorities have not learned their lessons from the economic crisis that was caused by the greedy bank managers and hit the entire society. A fisheries crisis that will be caused by greedy fishers and incompetent bureaucrats will hit resources and ecosystems [8]. A Greek tragedy on the way?

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