

Urgent Change in Management Measures Required to Save Turkish Fisheries from Collapse

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Short Commentary

Since the 1960s, the Black Sea ecosystem has experienced dramatic changes. Most noticeable is the almost complete absence of larger pelagic fish due to overfishing in the 1960s and 1970s. After the removal of these larger pelagic fish and the associated predation pressure, there was a rapid growth in populations of smaller pelagic fish, especially anchovy (*Engraulis encrasicolus*) and sprat (*Sprattus sprattus*), which comprised 75% of Turkish Black Sea reported catches in the 2000s [1].

Although of much less value (only roughly one third of catches are used for human consumption, the rest being sent for fish meal and fish oil processing), anchovy catches sustained purse seine fisheries for some time. But each year, this fishery is worsening and the future looks grave. According to one concerned local scientist, the 2010-2011 fishing season brought catches of 240,000 t of anchovy, the 2011-2012 season only 200,000 t, and the 2012-2013 season only 126,000 t [1]. While there are still some anchovy, there are about 10 times more fishers than before. With local stocks apparently decimated, the Turkish anchovy season has shrunk from 3 months to just 30 days per year over the last decade, and much of Turkish fishing effort and capacity has shifted (uncontrolled) from Turkish waters to Georgian waters, leaving no safe place for regional stocks. Without a system of total allowable catches and quotas, each vessel takes as much fish as they can carry. Sadly, in the 2012-2013 season, over 40% (by weight) of the 60,000 t of anchovy caught in Georgia were undersized (too small even for fish meal and oil processing) and were hence discarded (GFCM 2013). There is incredible wastage occurring, as these fish should have been allowed to grow and generate higher catches. In the 2013-2014 fishing season, most industrial commercial vessels returned to port 2 months before the end of the commercial season as there were no fish left to catch. Scientific advice and effective government regulation are urgently needed along with the incorporation of local knowledge from the fishers to secure a future for the fisheries.

While there are national fisheries rules and regulations on paper, they have been utterly ineffective at halting the decline of this stock and the runaway growth of fishing capacity and effort. In recent years, catches have been dominated by juvenile fish of the key commercial species, a clear sign of 'growth overfishing' [1,2]. The industrial sector is begging for the introduction of catch limits for each major commercial stock, which they feel is the only way to ensure jobs (and fish) in the future, but so far to no avail.

There is little published on the declining state of Turkey's fisheries, except some species-specific stories in local newspapers. One sign of overfishing may be reflected in a recent change in dolphin behaviour. Since the late 2000s, dolphins have begun biting through gillnets, eating the fish caught by these nets, and sometimes getting themselves tangled up, drowning in the process. Before one set of fishing nets would endure for approximately 15 years, but now, many small-scale fishers must replace their nets every 3-4 months due to dolphin damage.

Both the large- and small-scale fisheries appear to be on the brink of collapse and require an urgent shift in management, one that fosters the entire ecosystem and its inhabitants. And yes, it will mean cuts in allowable catches, likely substantial. And yes, many fishers may lose their jobs or livelihoods. But it comes down to this, do Turkish fishers and the Turkish society want healthy and sustainable fisheries for future generations, or only short-term (and increasingly negligible) profit now?

Effective management needs to embed this fishery in an ecosystem-based management setting, which requires that fishery managers balance the demands of all resource users. Given Turkey's massive over-capacity and excessive fishing effort in both industrial and small-scale fisheries, Turkey's fisheries management and resource policy are at a difficult crossroad: continue to conduct business as usual and further impair and damage an ecosystem already under severe strain from excessive and uncontrolled human impacts, or apply controls on all sectors of fisheries in an attempt to stop the decline and start rebuilding stocks. Only the second path can lead to fisheries that are sustainable and embedded in a well-functioning and productive ecosystem. Only such fisheries can guarantee a future for all.

References

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