



A new report exposes the hidden costs of trawling in the Mediterranean

Summary

The new study, carried out by the ENT Foundation and MedReAct, analyses key hidden externalities of bottom trawling in the Western Mediterranean Sea – in other words, it focuses on costs which are not usually reflected in the reported net income of this fisheries. These include government financial transfers to the fleet in the form of fuel tax exemptions and subsidies, as well as the climate change direct emissions cost generated by trawlers. These aspects influence the real viability of the fleet, as well as the sustainability of fish stocks.

As the study shows, if these factors are taken into account, the bottom trawling sector is clearly unprofitable – and when other non monetarised costs are added such as the biodiversity cost due to bycatch and impacts on vulnerable ecosystems, loss of opportunity revenues due to overfishing, unreported labour costs or indirect climate-induced costs, among others, this sector becomes even more uneconomic

According to the study, in 2018 the net profit of the EU's Western Mediterranean trawl fleet was about **€34 million**. However, the **€96.4 million** it received in fuel tax exemptions and subsidies, the sector in fact made a loss of around €64 million. If the climate impact it causes is monetized, the costs increase by an additional **€13.2 million**. In total, if these hidden costs of trawling are included, the apparently profitable sector in fact makes an annual loss of almost **€77 million**.

The simple fact is that the trawling sector, as it is today, would not be economically viable if fuel tax exemptions and subsidies were removed and if it were fully integrated into the EU's Emissions Trading System, as happens with many other industries.

These externalities must be addressed, not just for ecological and economic reasons, but to help level the playing field with other fishing practices which cause less environmental harm. Given the poor state of Mediterranean fish stocks and marine habitats, trawl fisheries represent not only an uneconomical use of common resources but is accelerating the ecological crisis of the Mediterranean Sea. Significant steps need to be taken to reduce its externalities, in line with the objectives of the EU Green Deal.

The authors recommend the immediate adoption of an extensive combination of conservation measures. These include a significant reduction in fishing pressure, and a wider implementation of marine protected areas and no-take zones to reduce trawling externalities.

The report goes on to call for transitional public funding to support an urgent and radical shift towards low-impact fishing, and stronger and more effective environmental measures in fisheries management. Without them, the fishing industry will not be capable of responding to the growing environmental and social challenges of the 21st century.

Key data

(Data shown is for Italy, Spain and France unless otherwise stated)

Landings and profits

Total net profit of the EU trawl fleet in the Western Mediterranean in 2018: **€34 million***

By country

Italy

- Landings: 20,000 tonnes
- Gross value of landings: €120 million
- Net profit: €18 million

Spain

- Landings: 27,000 tonnes
- Gross value of landings: €167 million
- Net profit: €17 million

France

- Landings: 8,000 tonnes
- Gross value of landings: €25 million
- Net profit: -€1 million

* In general, the study shows that the largest trawlers (18-24 m and >24m segments) produce the worst economic results.

Government financial transfers (fuel tax exemptions and subsidies)

Total fuel tax exemptions of the EU trawl fleet in the Western Mediterranean: **€93 million**

By country

- Italy: €49 million
- Spain: €38 million
- France: €6 million

Total operative and investment subsidies from European funds to the EU trawl fleet in the Western Mediterranean: **€3.4 million**

By country

- Italy: €2.5 million
- Spain: €0.8 million
- France: €0.1 million

Government financial transfers and net profit

Total net profit of EU trawler fleet in the Western Mediterranean minus government financial transfers: **-€64 million**

By country

- Italy: -€34 million
- Spain: -€22 million
- France: -€8 million

Carbon cost (direct emissions)

The report also quantifies greenhouse gas emissions from the trawl fleet and monetizes them using EU Emissions Trading Scheme values. This allows an estimation of the social cost of carbon produced by the trawl sector.

Between 2013-2018, the EU trawl fleet in the Western Mediterranean consumed a total of **1.2 billion litres of fuel**, producing approximately **3.3 million tonnes of CO2 equivalent emissions**. During this period, Italy increased its fuel consumption and associated emissions by 40%, whereas Spain and France reduced theirs by 7% and 13% respectively.

Taken together, these CO₂-eq emissions are some 326,000 tonnes above what is allowed under the countries' annual emissions allocation, with Italy's total being by far the biggest:

- Italy: 262,000 tonnes CO₂-eq
- Spain: 24,000 tonnes CO₂-eq
- France: 40,000 tonnes CO₂-eq

Depending on the reference value used for carbon, at the time of the study (March 2021) the total cost of the emissions from the EU trawl fleet in the Western Mediterranean ranged from €2.5 million to €21.8 million, with a middle value of **€13.2 million**.

By country:

- Spain: €0.2 million to €1.6 million (middle value €1 million)
- France: €0.3 million to €2.7 million (middle value €1.6 million)
- Italy: €2 million to €17.5 million (middle value €10.6 million)

Final result: the true cost of trawling

When government financial transfers (€96.4 million) and the hidden cost of the climate impact it generates (€13.2 million) are subtracted from the €34 million net profit raised from landings revenues, **the EU's Western Mediterranean trawl fleet runs with a net deficit of around €77 million**.

Supplementary information

Western Mediterranean fleet data (FAO figures)

- There are 1,985 registered trawlers >15m (10.8% of total fleet).
- Italy, Spain and Algeria have the largest national trawl fleets, followed by Morocco and France.
- Trawlers provide the equivalent of 13,026 full-time jobs (18% of total), generate annual revenues of €423 million (41% of total) and a gross added value of €94 million (36% of total).

Other costs

Trawling has other hidden costs which are harder to quantify but which are nonetheless significant. They are called Opportunity Costs and some of them can be summarized under the following headings:

Overfishing

Overfishing is uneconomical and involves a wasteful use of marine living resources.

Most fish stocks in the Mediterranean are overfished. Scientists agree that a sharp reduction in fishing mortality in the short term would improve the long-term status of most commercial fish stocks, especially demersal species (those that live on or near the seafloor). There is a growing consensus that current fishing practices in the Mediterranean prevent the biological recovery of the ecosystems - and that a significant reduction of bottom trawling would put stocks on the road to recovery.

Discards

Discards contain many different marine species including commercial, non-commercial and sometimes-commercial species - and regardless of their market value, they are all important to the ecosystems in which they live.

Discarding is the practice of throwing unwanted catch overboard, dead or alive. Bottom trawling is one of the least selective fishing methods in use today, and causes high mortality in juveniles and non-target species, reducing both commercial stocks and wider marine biodiversity. Of the 300 species caught in Mediterranean bottom trawl fisheries, only 10% are consistently traded, while 60% are always discarded. The annual percentage of discards generated by the trawl fleet in the Western Mediterranean ranges from 15-40% of the total catch - or between 10,503 tonnes and 39,679 tonnes of marine species each year. Whether they are commercial or not, all these species are important for the ecosystems in which they live, so this is a significant externality that needs to be acknowledged.

Bycatch of vulnerable species

Incidental catch is one of the main drivers of extinction risk for many vulnerable Mediterranean species.

Sea turtles and numerous species of sharks and rays are among the vulnerable species caught as bycatch by the trawl fleet - in fact, bottom trawlers are responsible for more than 90% of the elasmobranch bycatch in the Western Mediterranean. As above, these species are essential for the well-functioning of the ecosystems.

New economic uses for biodiversity

The loss of marine biodiversity decreases opportunities to find new biologically-derived applications, and thus reduces and compromises potential option values, for e.g., future economic opportunities and the potential development of health therapies.

The study also references some findings related to blue biotechnology, specifically the pharmaceutical field. It has been shown that the direct impact of trawling on certain ecosystems produces a loss of species that could be of biotechnological interest: among others, a study by García-de-Vinuesa et al. (2021) in the Blanes area (NW Mediterranean) showed that “14% of the species discarded by trawlers in the crinoid bottoms produce molecules with some type of bioactive potential”, but that “68% of these species have a medium-high vulnerability to trawling.”

Vulnerable Marine Ecosystems (VMEs)

Bottom trawling can have a significant impact on vulnerable marine ecosystems (VMEs), but to date this externality has been ignored.

Bottom trawling impacts benthic communities. In some cases, such as for coralligenous habitats or seagrass beds, the impacts are such that these habitats can take decades to recover; often may even be irreversible. Studies have shown that trawling can destroy sensitive habitats and decrease species diversity, which can also then affect commercial fish stocks. There is a lack of comprehensive information on VMEs in the Western Mediterranean, but this certainly doesn't mean they're not present: trawling is very likely causing irreversible damage to key benthic ecosystems which should be under protection. While it's impossible to express this in an exact financial figure, the impact of losing VMEs is clearly socially and economically significant.

Original source:

Campos Rodrigues, L., Mascarell, Y., Ortega, M., and Senni, D. (2022). Exposing the hidden costs of trawling in the Western Mediterranean. Fundació ENT & MedReAct.