MINOUW

Case study results

3.4b - trammelnet fishery, Catalonia

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SUMMARY

A guarding net affixed to the footrope of the trammel net has revealed effective in reducing unwanted catches in some Mediterranean trammel net fisheries, for instance the caramote prawn fishery of Tuscany. Generalizing the adoption of this simple technology could be a step forward the reduction of unwanted catches, so that trammel net fisheries reduce their impact on the diversity of coastal bottoms as well as aligning these fisheries with the objectives of the Common Fishery Policy. The experiment consisted in deploying a control trammel net of 1500 m with no modification, as routinely used by local fishers, and a similar trammel net fitted with a 2.5 meshes high, single net panel on the footrope. The sampling consisted in 10 effective days fishing with the two nets simultaneously and took place between 2 and 23 March 2017 using a local fishing vessels working on traditional fishing grounds on standard fishing conditions. The trammel net fishery examined was targeting the cuttlefish. The configuration tested constitutes a viable solution to reduce unwanted catches in trammel net fisheries. This reduction has two immediate implications: from the socio-economic point of view, sorting times are decreased, while durability of the net is increased. From an environmental perspective, the reduction in the unwanted catches contributes to biodiversity conservation and the reduction of the impact of fishing gear on sea bottoms. This study provides further evidence on the benefits of the guarding net for discards reduction.

CASE STUDY RESULTS

Type of intervention

Using guarding net.

Aim of the experiment

To establish whether la guarding net can be used to improve size or species selectivity in trammel nets.

Main activities carried out

A guarding net affixed to the footrope of the trammelnet has revealed effective in reducing unwanted catches in other Mediterranean trammel net fisheries, for instance the caramote prawn fishery of Tuscany. Generalizing the adoption of this simple technology could be a step forward the reduction of unwanted catches, so that trammelnet fisheries reduce their impact on the diversity of coastal bottoms as well as aligning these fisheries with the objectives of the CFP.
The experiment consisted in deploying a control trammel net of 1500 m with no modification, as routinely used by local fishers, and a similar trammel net fitted with a 2.5 meshes high, single net panel on the footrope. The sampling consisted in 10 effective workdays fishing the two nets simultaneously and took place between 2 and

23 March 2017 using a local fishing vessels working on traditional fishing grounds on standard fishing conditions.
The trammelnet fishery examined is the métier targeting the cuttlefish (Sepia officinalis), commonly practiced by Mediterranan small scale fishers.
Catches were identified, measured, categorized (commercial, discards and reason for discarding) and the statistical differences among the different configurations were tested by means of linear mixed models, considering the two sampling vessels as random effects. Differences in standardized (kg/100 m net · h) catches of commercial species were assessed. Unwanted catches (N/100 m net · h) were tested separately by category (D: catches under minimum landing size of regulated species; K1: bitten or otherwise damaged catches of commercial species; K2: species routinely discarded of no commercial value).

Main results

- The trammelnet deployments with guarding net produced 32% higher catches of commercial species and, in the case of the target cuttlefish, as much as 95% higher.
- The amount of unwanted catches in deployments with guarding net were 6% (i.e. ca. 1/4 of the amount produced by the standard configuration).

Discussion of the results

Small scale fishing gear are assumed to have little ecosystem impact, when compared with towed demersal fishing gear. However, certain deployments of trammelnets, such as the case of the cuttlefish métier discussed here, can produce significant amounts of unwanted catches. For instance, the standard configuration tested here produced 19% discards in weight on average (21% in number of individuals). Unwanted catches are commonly discarded, but with the entry in force of the Landings Obligation, unwanted catches of regulated species will need to be brought to land, and used for non-human consumption purposes.
Our results show that discards can be significantly reduced in trammelnet fisheries targeting cuttlefish by the simple adoption of a guarding net attached to the footrope of the trammelnet. The total amount of unwanted catches can be reduced to 25% of the standard configuration (about 10 indiv / 100 m h compared with 40 indiv / 100 m h). The largest reduction in unwanted catches were for damaged individuals of commercial interest (reduction by half) and non-commercial epifaunal invertebrates (reduction by two thirds, approximately).
In addition to the reduction in unwanted catches, an important increase in the catch of the target species was documented. Together with the reduced sorting times and improved durability of the trammel net, this solution provides clear economic benefits to fishers.

How practical is it for a fisherman to implement this improvement, technically and financially?

The guarding net on the footrope of trammelnets is easy to adopt and can be wholly recommended for small scale trammel net fisheries. Its production and fitting is simple. Its price is about 600 €

Is there sufficient evidence to support wider adoption of the method/technology?

Yes, the evidence produced here together with results from other study areas show that the adoption of the guarding net can be generally recommended

CONCLUSION

The configuration tested constitutes a viable solution to reduce unwanted catches in trammelnet fisheries. This reduction has two immediate implications: from the socio-economic point of view, sorting times are decreased, while durability of the net is increased. From an environmental perspective, the reduction in the unwanted catches of epifaunal invertebrates contributes to biodiversity conservation and the reduction of the impact of fishing gear on sea bottoms.

ADDITIONAL RELEVANT RESOURCES OR LINKS

Metin C., Gökçe G., Aydın İ., Bayramiç İ. 2009. Bycatch reduction in trammel net fishery for prawn (Melicertus kerathurus) by using guarding net in İzmir bay on Aegean coast of Turkey. Turk. J. Fish. Aquat. Sci. 9: 133-126.

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Sartor P., Silvestri R., Sbrana M., Voliani A., Rossetti I., Bulgheri G. 2007. Sperimentazione di accorgimenti tecnici per la riduzione dello scarto nella pesca con reti da posta lungo il litorale livornese. Biol. Mar. Mediterr. 14 (2): 360-361.

The MINOUW Consortium

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Beneficiaries:

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