

Overview of the available information on the fisheries for small-pelagic fish in Maltese waters

E. Muscat*

Abstract

The Malta Centre for Fisheries Sciences in collaboration with the FAO Fishery Department and the FAO-COPEMED Regional Project has developed a National Statistical System, the Catch and Effort Assessment Survey for Small-Scale Fisheries.

The Catch and Effort Assessment Survey is restricted to vessels under 10 metres in length, representing more than 92 per cent of the Maltese fishing fleet. The objectives of this Survey are to provide monthly catch and effort estimates for Malta and Gozo by fleet typology, gear used and species caught. The data are also used in scientific analyses and fish-stock assessments.

The major small-pelagic species caught in Maltese waters by vessels under 10 metres in length are: *Aphia minuta*, *Atherina presbyter*, *Boops boops*, *Sardina pilchardus*, *Spicara flexuosa*, *Scomber japonicus* and *Trachurus* spp.

Data collected between January and September 2003 on small-pelagic fishes landed in the major Maltese fishing ports, by various fishing gears, are presented in tabular and graphical formats.

1. Introduction

The fishing industry in Malta is mainly artisanal, with the majority of fishing vessels (more than 92 percent) being less than 10 metres in length. Only the larger vessels operate on the high seas.

At the end of October 2003, the total number of registered fishing vessels was 2,252. Small-scale vessels (under 10 metres in length) totalled 2,074, with the majority (1,498) registered as part-time. There were 297 registered full-time vessels, with the remaining 279 being registered as market fishermen.

The fishing gears used in Malta are: demersal trawls, lampara nets, purse-seines, pelagic and demersal longlines on the high seas, inshore longlines, trammel nets, traps, gill nets, trolling lines, surrounding nets and “kannizzati” (fish-attracting devices).

Small-pelagic species are mainly caught by lampara nets and traps (bogue traps). A small number is also caught by trammel nets.

* Malta Centre for Fisheries Sciences, Fort San Lucjan, Marsaxlokk, Malta. Tel.: +356 21 650 933, Fax: +356 216 59380, e-mail: eric.muscat@gov.mt

2. Materials and methods

Catch and effort estimates for the small-scale fishing fleet were obtained using a sampling scheme (Coppola et al., 2003) carried out in six representative sampling ports, three in Malta and three in Gozo. Surveys were carried out in these six ports every other month between January and September 2003.

The sampling days were limited to six consecutive fishing days per month per port. In the Malta stratum, monitoring and sampling were undertaken for 8 hours per day for the first three fishing days and over 24 hours per day for the remaining three fishing days.

In the Gozo stratum, monitoring and sampling were undertaken over 8 hours per day during all the six consecutive days. Each month, the sampling frame per port was adjusted according to the number of operational vessels.

Catch and effort estimates were produced on a monthly basis, by stratum, by vessel and gear used and by species. The fishing area/zone for each sample taken was also recorded. At the end of each month the stratum estimates of production and effort were summed up by a time- and area-raising factor to obtain an estimate for the Maltese islands.

3. Results

a) Gear used by small vessels

As shown in Figure 1, the majority of small-scale registered vessels, almost 45 per cent, use set bottom longlines as their main fishing gear. Another 17 per cent use trammel nets. Trolling lines are used by about 15 per cent of the vessels and more than 8 per cent use traps.

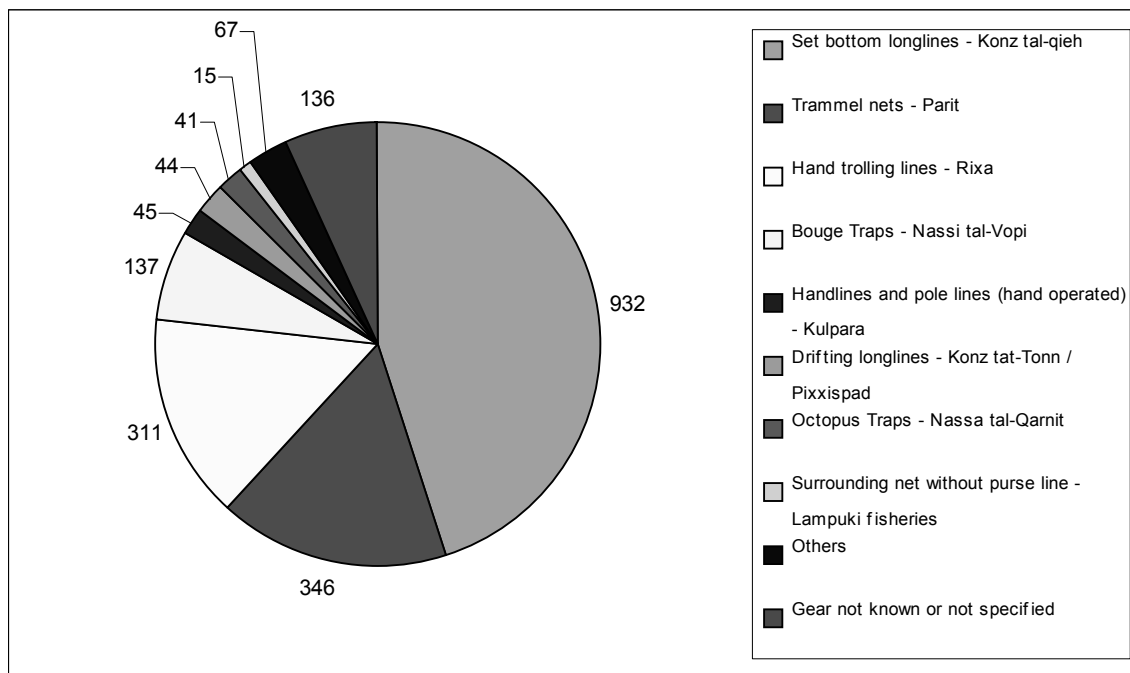


Figure 1. Main fishing gear used by small-scale fishing vessels

b) Operational registered fishing vessels

Of the 2,074 registered small-scale vessels, the actual number of operational vessels each month was about 1,400. The number of vessels that go out fishing every day is much less and during the sampling period only about 20 per cent of the activity for each given day was observed.

c) Catches recorded during sampling months (January–September 2003)

The small-pelagic fish species caught in the Maltese waters are: *Boops boops*, *Spicara* spp., *Scomber japonicus* and *Trachurus* spp.

During the sampling months, it was noted that small-pelagic species were mainly caught by traps and trammel nets, with the exception of May, for which, 9.5 per cent of the catches by trolling lines consisted of *Trachurus* spp. The rest of the troll catches were composed of other migratory species.

Boops boops, recorded as being caught by traps, from January to September 2003, amounted to or 88 per cent of total catch, as shown in Table 1. Figure 2 summarizes the estimated average daily catches for the five sampling months.

Table 1. Data collected during the sampling period for catches by traps

Month	Total Catch by Octopus/Bogue Traps kg	<i>Boops boops</i> kg
January	59,826	58,451
March	1,371	40
May	3,518	2,789
July	4,336	1,910
September	2,871	144
Totals	71,922	63,334
Total percentage catch	100%	88%

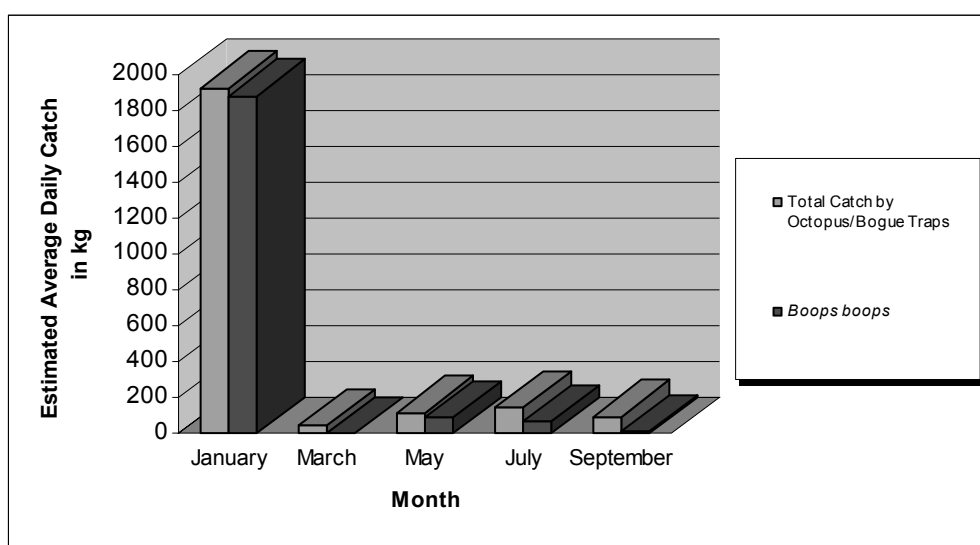


Figure 2. Estimated average daily catches by traps.

Data collected during the sampling period show that only 6.12 per cent of catches by trammel nets consisted of various small-pelagic species, as shown in Table 2. Figure 3 summarizes the estimated average daily catches during the five sampling months.

Table 2. Data collected during the sampling period for catches by trammel nets

Month	Total Catch by Trammel Nets (kg)	<i>Boops boops</i> (kg)	<i>Trachurus spp</i> (kg)	<i>Spicara spp</i> (kg)	<i>Scomber japonicus</i> (kg)	Total Catches of Small-Pelagics (kg)
January	6,586	550				550
March	10,514	374	193	203		770
May	8,973	278	272			550
July	9,785	431	226			657
September	7,571	11			119	130
Totals	43,429	1,644	691	203	119	2,657
Total percentage catch	100%	3.79%	1.59%	0.47%	0.27%	6.12%

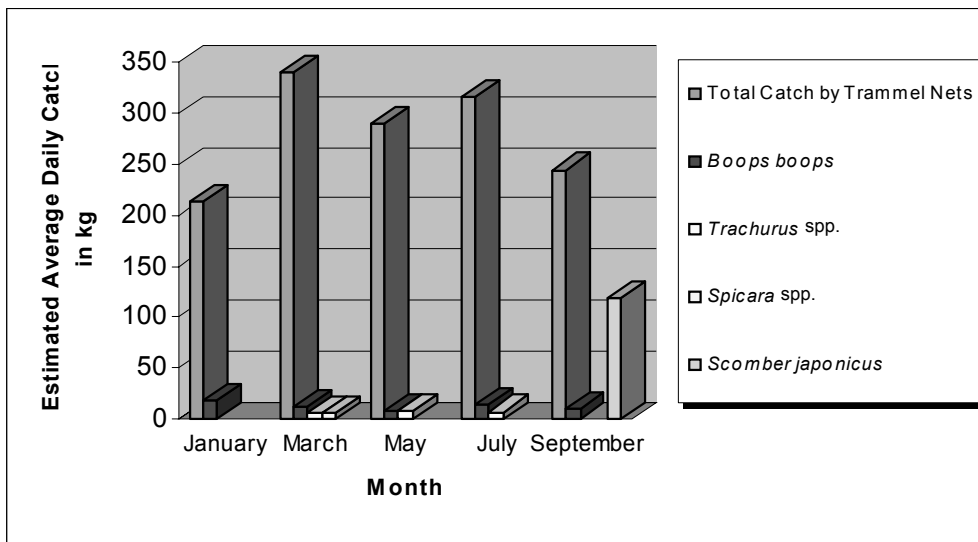


Figure 3. Estimated average daily catches by trammel nets

d) Operational statistics on fishing gears

Statistics related to gear used in catching small-pelagic species during the sampling period are listed in Table 3.

Table 3. Gear dimensions and fishing time

	Gear		
	Trammel Nets	Bogue Traps	Trolling Lines
Average fishing time	14 h 29 min	10 h 16 min	5 h
Average length of net	130 m		
Average height of net	1.3 m		
Average number of pots		5.8	
Average number of hooks			2.5

e) Spatial distribution of fishing effort using bogue traps and trammel nets

Figures 4 and 5 give rough estimates of the spatial distribution of the fishing effort by bogue traps and trammel nets, respectively, for small-pelagic species, by vessels operating from the six sampling ports.

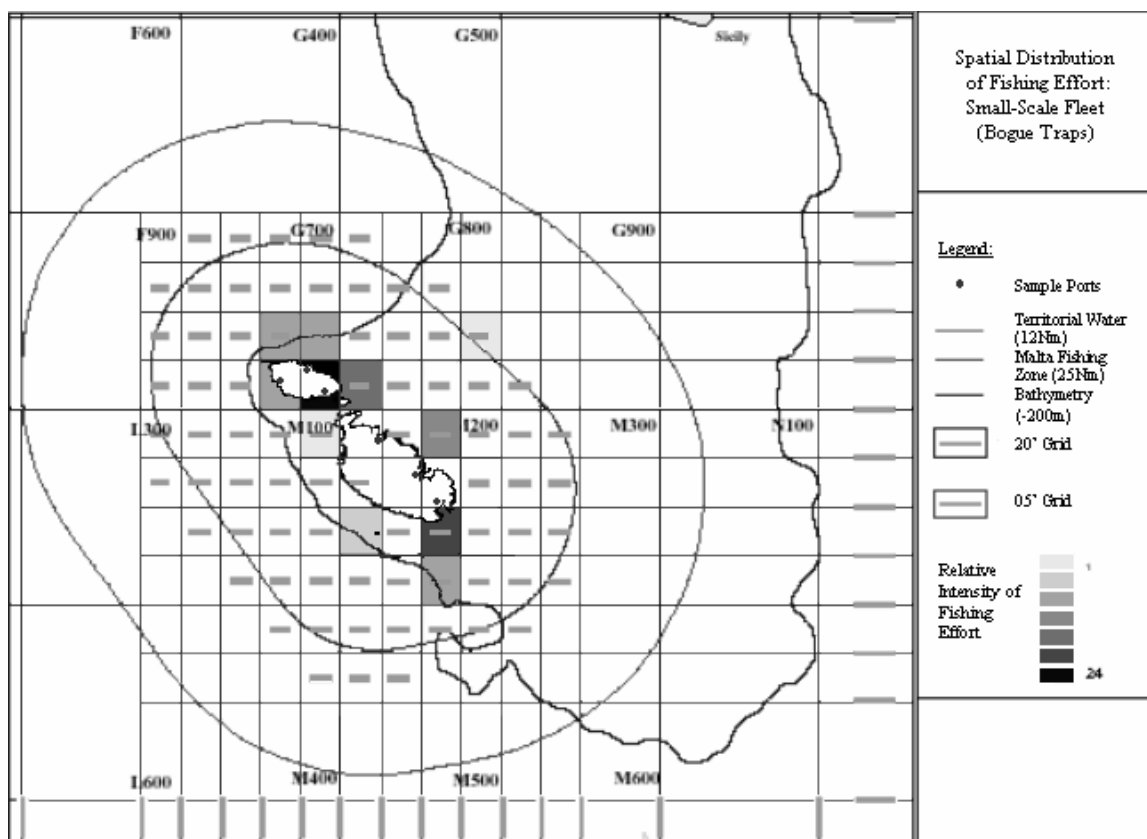


Figure 4: Spatial distribution of fishing effort by vessels operating with bogue traps.

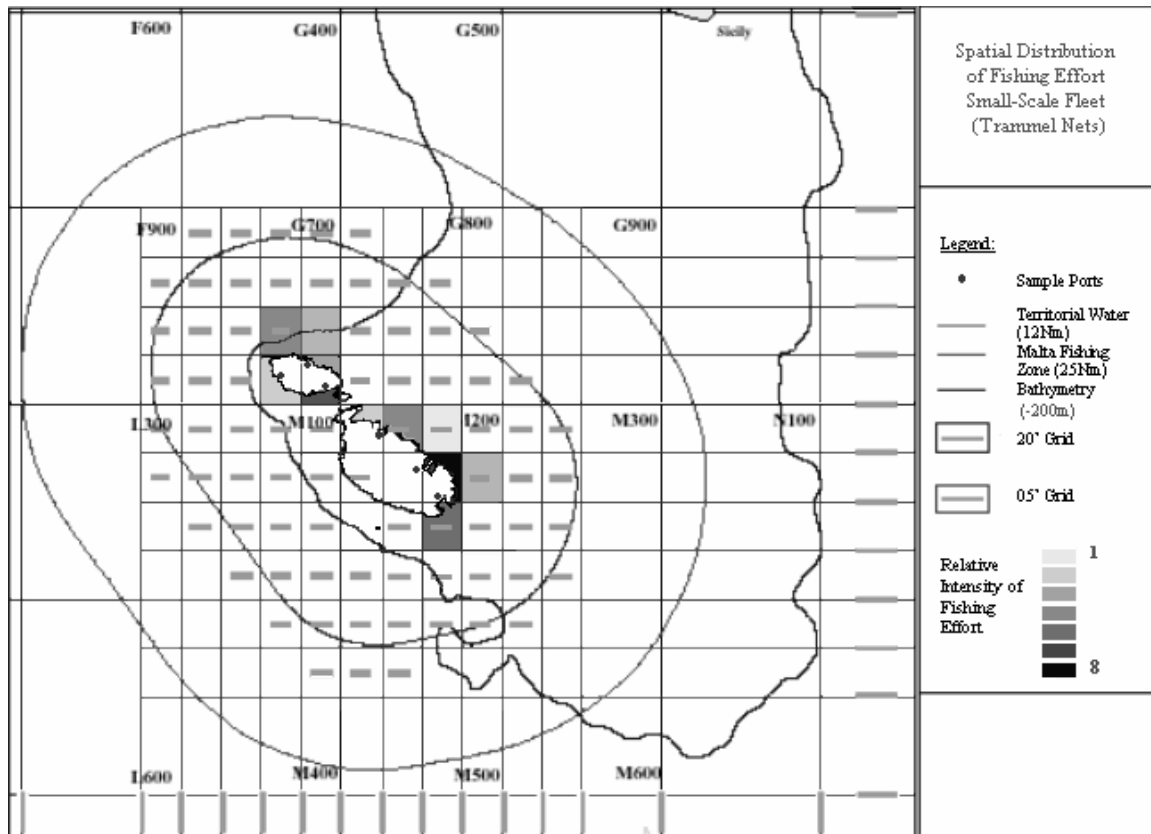


Figure 5. Spatial distribution of fishing effort by vessels operating with trammel nets.

4. Conclusion

Data presented in this report were collected during the catch and effort assessment survey applied to the registered small-scale fishing fleet. In the sampled ports, no registered vessel less than 10 metres in length uses a lampara net.

Up to a few years ago, fishing with a lampara net was a very important part of the total national fishing effort. Landings of *Scomber japonicus*, *S. scombrus*, *Trachurus trachurus*, *T. mediterraneus*, *Boops boops*, *Alosa alosa*, *Sardina pilchardus* and *Engraulis encrasicolus* were quite abundant. However, nowadays, lampara fishing effort has become insignificant.

At present, only two larger vessels (over 10 metres in length) and another two small-scale fishing vessels, operating from other ports than those sampled, are registered to operate using lampara gear. Small-pelagic fish landings by vessels using lampara nets were not covered by this report.

The data collected show that the most abundant small-pelagic fish species caught in the Maltese waters is *Boops boops*.

5. References

Camilleri, M., Muscat E., Coppola S.R., Spinelli, M., De Rossi F., Scalisi M. (Feb 2003). *MaltaStat, National Fisheries Statistical System, Databases User's Guide, Part 2., Catch and Effort Assessment Survey (CAS).*, Food and Agriculture Organization of the United Nations, Rome