

3. MONITORING THE MARINE ENVIRONMENT

3.2 Pollution

3.2.2 Anthropogenic matter

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As in the previous years, surface investigations and trawl catches demonstrated that the areas of intensive fishery and navigation were the most polluted.

Plastic prevailed among floating man-made garbage and distributed along the main currents (Figure 2.2.2.1). These pollutants were probably brought into the Barents Sea by ocean currents. So, the main plastic concentration in the surveyed area was observed between 69° and 74°N and between 25° and 45°E – the area being under the influence of the North Cape and Murman Currents. Plastic might be brought further northwards and eastwards by the Novaya Zemlya and Kolguev-Pechora Currents. Floating timbers were observed in all investigated areas. Metal, rubber and paper were observed among floating garbage sporadically.

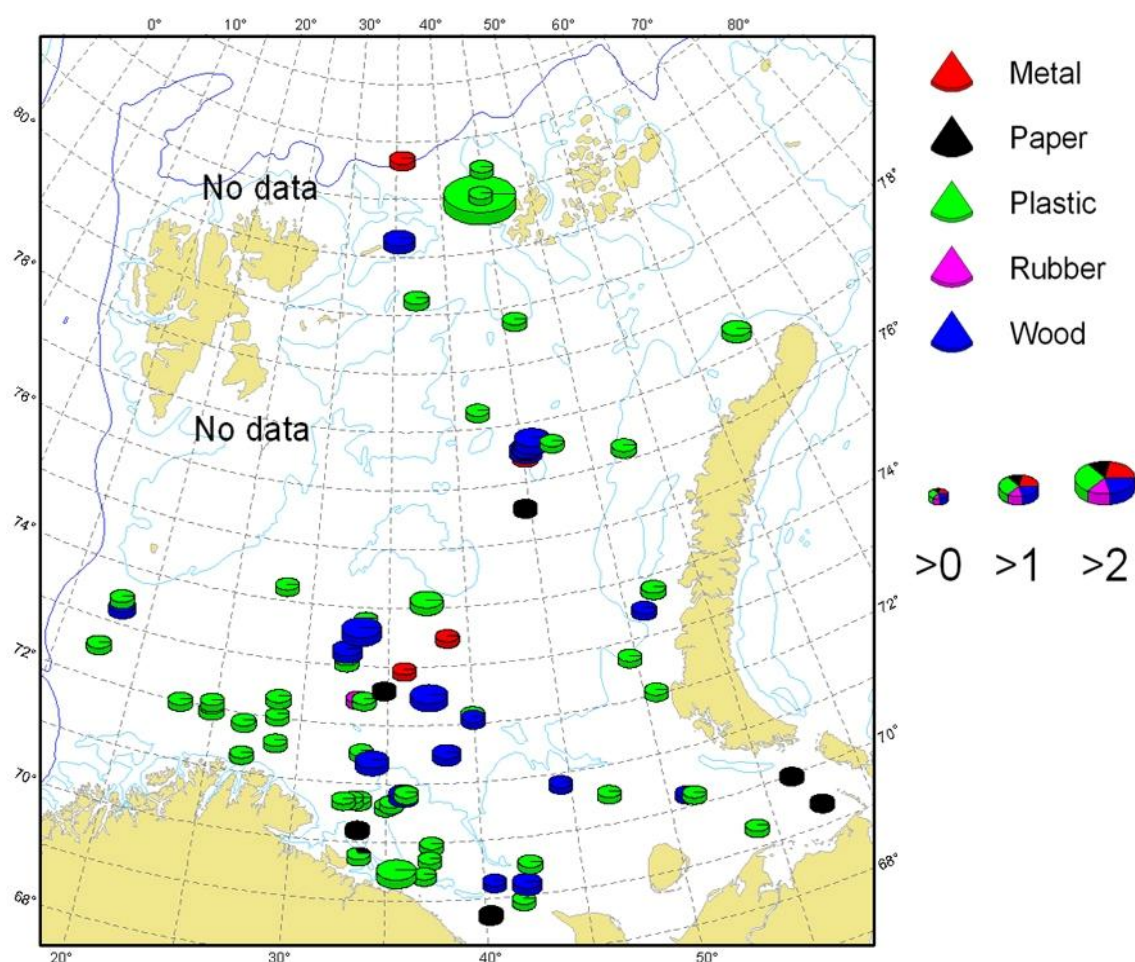


Figure 3.2.2.1. Type of observed anthropogenic matter (m^3) at the surface in the Barents Sea in 2013

As in 2010-2012, plastic prevailed among man-made garbage in trawl catches (Figure 3.2.2.2). Matter was observed in bottom trawls more frequently than in pelagic trawls, where garbage occurred mainly in the central Barents Sea. Moreover, pelagic trawl catchability is low for small density polymer materials so the amount of the anthropogenic garbage in the Barents Sea may be larger than that observed.

The occurrence of plastic in the bottom trawl catches increased in the northwest and southeast, which correspond to the directions of the main currents. It should be noted that a small amount of plastic was in trawls in the northeast, where wood prevailed. The wood might be brought to the area by ocean currents from the eastern seas because of the timber-rafting from the Siberian rivers, as well as it might be lost from ships. The wood was also observed in the southwest Barents Sea. This phenomenon is observed annually.

Other types of anthropogenic matter (metal, paper, rubber, textile, glass) were observed in the trawl catches sporadically.

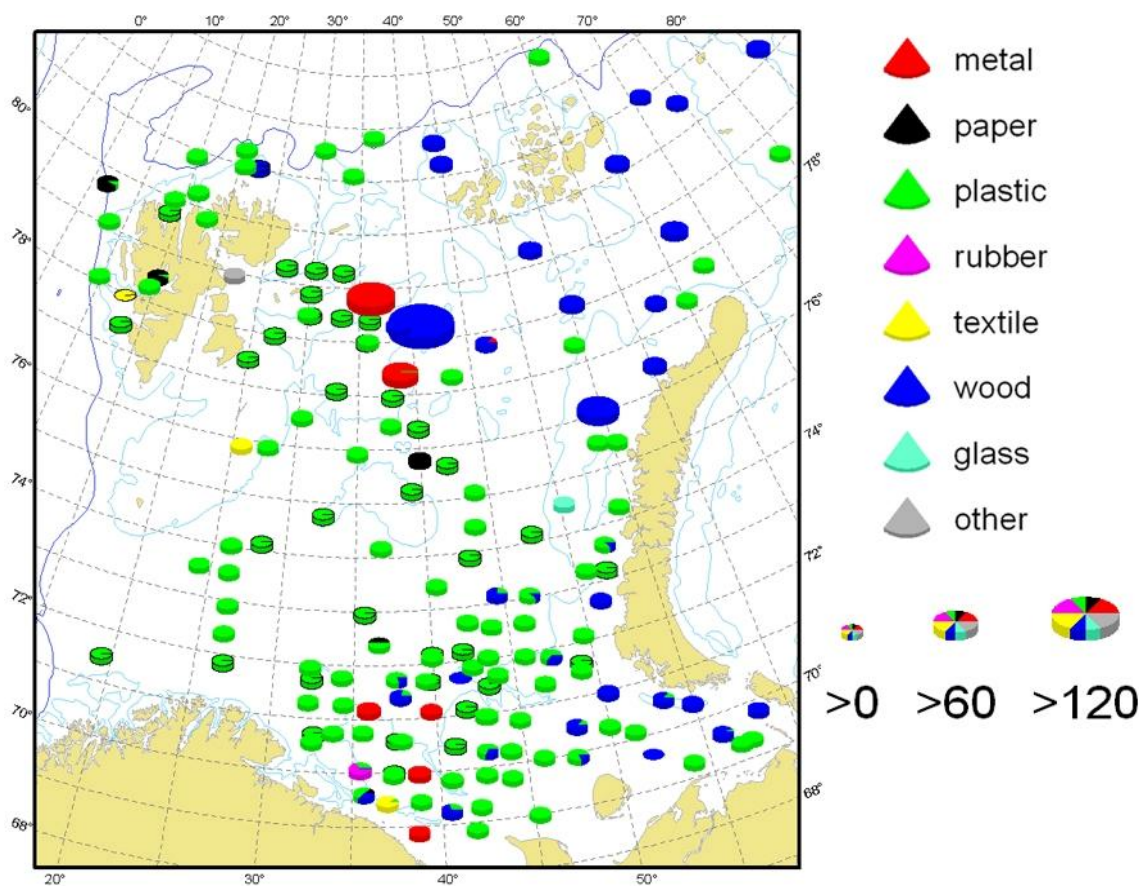


Figure 3.2.2.2 Types of garbage collected in the pelagic and bottom trawls (g) in the Barents Sea in 2013. Legend: symbols with contours show garbage in pelagic trawls, symbols without contours show garbage in bottom trawls.

Potential dangerous for the environment objects were seldom presented in the observations (Figure 3.2.2.3). In the majority of cases only inactive objects were found, which do not effect on the environment directly harmful. On the other hand, big lumps of threads, lines and nets, which might be dangerous for sea organisms, were found (Figures 3.2.2.4, 3.2.2.5).



Figure 3.2.2.3 Potential dangerous for the environment objects were seldom presented.



Figure 3.2.2.4 Lump of thread which cod was tangled in.



Figure 3.2.2.5 Fishing line in the intestines of 0-group Atlantic wolffish.