Encounters with Chemical and Conventional Munitions 2012

Policy Issue: OSPAR Framework for Reporting Encounters with conventional and chemical munitions in the OSPAR maritime area (OSPAR Recommendation 2010/20).

Policy Objective: To promote the reporting of encounters with conventional and chemical munitions by fishermen and other users of the sea in order to make informed decisions on the management of dumpsites

Background

Following World Wars I and II large amounts of munitions were dumped in the OSPAR maritime area. Dumped munitions included conventional munitions such as bombs, grenades, torpedoes and mines as well as phosphorus incendiary devices and chemical munitions containing, for example, mustard gases. Dumped chemical and conventional munitions are causing environmental and safety vconcerns in many parts of the world, including in the OSPAR maritime area. Historical records on the quantities of munitions dumped and their location is limited and of dubious accuracy.

What is the Problem?

Encounters with conventional or chemical munitions pose a great threat to human health, as well as a potential threat to aspects of the marine environment. In 2005, three fishermen lost their lives in the southern part of the North Sea when a World War II bomb exploded on board their fishing vessel after having been hauled aboard in their nets. Chemical agents are composed of a variety of substances. Potential for persistence, bioaccumulation and/or toxicity (PBT) are of particular concern in the marine environment. Marine dumped chemical munitions react differently in water depending on the agent they contain. Nerve agents and many other agents hydrolyze, or break down and dissolve once they come into contact with water, and are therefore rendered harmless in a relatively short period of time. Mustard gas, however, is insoluble in water and most injuries have occurred when fishermen have come into contact with mustard gas. Phosphorous devices also present long term problems. If disturbed, these positively buoyant devices may float to the surface and represent a real risk to the seafarers and to the general public should they be washed ashore.

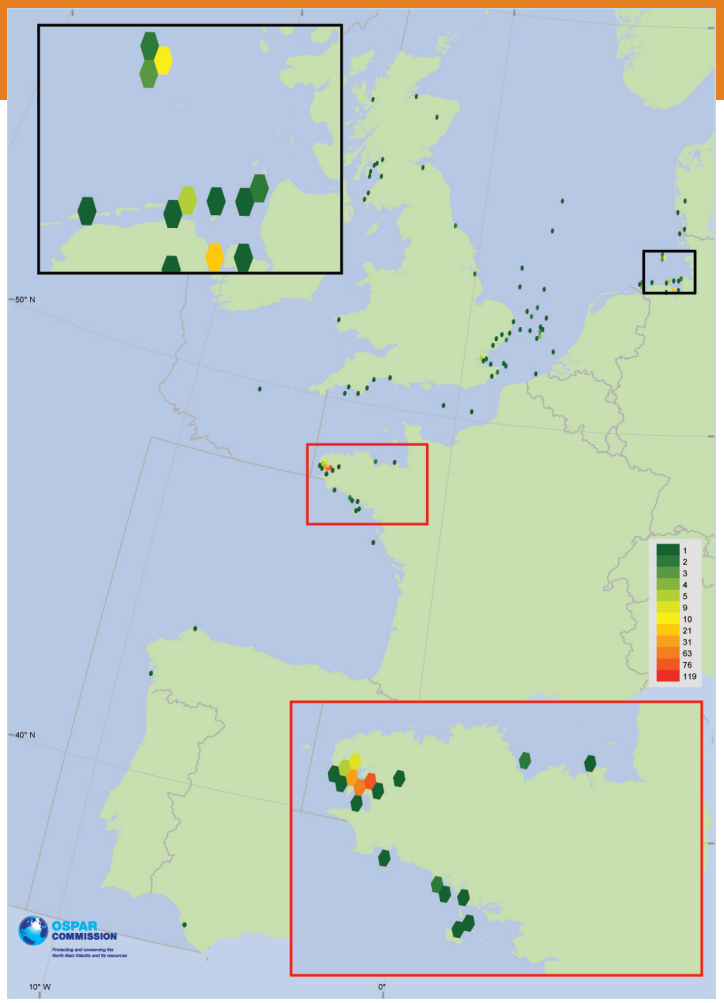

Figure 1: Clustering of munition encounters, 2012

Implications

Dumped munitions, and in particular the disturbance of dumped munitions by seabed activities is an important issue and should be addressed. It is essential that details of the locations of all munitions dumpsites, and areas where clusters of encounters are detected on the seabed be identified.

There are serious safety risks associated with the clean-up of dumpsites, as well as increased risk of dispersing hazardous substances. The most common management practice is to leave munitions on the seabed and allow them to disintegrate naturally. However, where clusters have been identified Contracting Parties should consider whether any other management options are appropriate.

The decision to permit marine based activities such as sand and gravel extraction, pipe and cable laying and wind farm construction should consider information about the location of known dumpsites and the density of munitions encounters. Where appropriate, risk assessments should be carried out.

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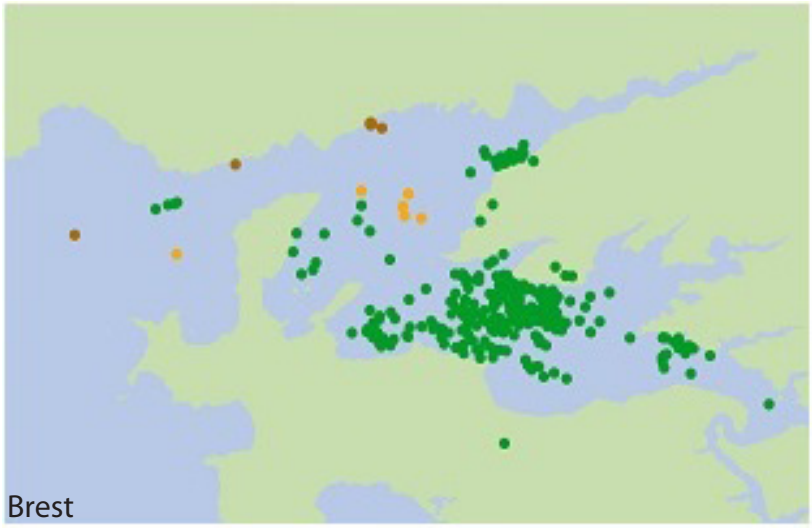

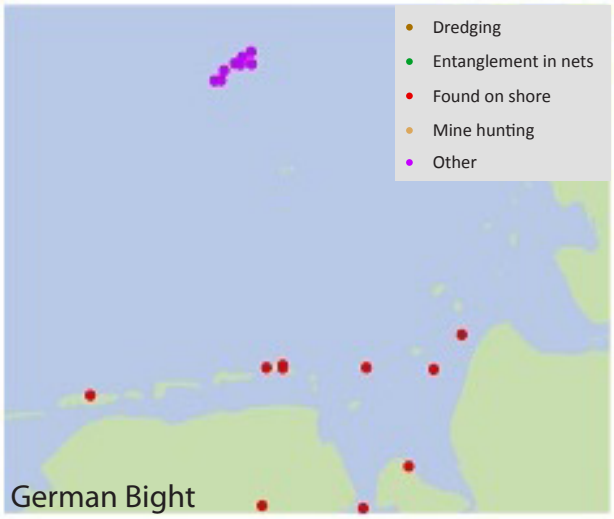

Figure 2: Areas with high munition encounters, 2012

Encounters with Munitions

More than 3500 encounters with munitions have been reported between 1999 and the end of 2012 in line with Recommendation 2010-20; nearly 1900 of these since the last assessment in 2008. Where there is an increase in numbers of reported encounters, this has coincided with incidents resulting in injury or death. Analysis of encounter data has indicated clusters along the NW French coast and NW German coast, shown in Figure 1. Of the encounters, the predominant types are entanglement in nets, found on shore and other. Reporting has identified the southern North Sea as the area of highest risk of encountering munitions and that fishing is the activity during which munitions are most likely to be encountered. There were 465 encounters in 2012 however there is no obvious trend in the number of encounters reported over time.

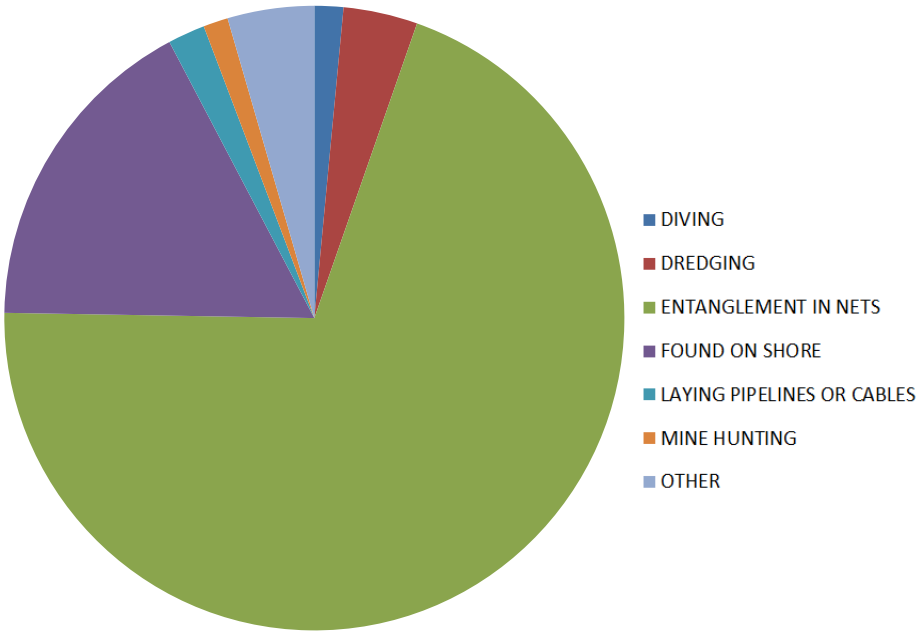

Figure 3: Encounters by type, 2012

2012 Data

The two main clusters identified in 2012 relate to 'entanglement in nets' in Brest Harbour (due to entanglement in fishing nets, during shellfish fishery); and 'other' in the German Bight (due to a dedicated unexploded ordnance survey), as detailed in Figure 2. With regards to the total number of encounters in 2012, entanglement in nets is by far the most common type of encounter. Figure 3 includes over 300 incidences of entanglement in nets this highlights the importance of communicating the risks of munitions as well as their safe handling to fisherman.

Further Actions

OSPAR developed a framework for developing national guidelines for fishermen on how to deal with encountered conventional and chemical munitions (Agreement 2004-09). Contracting Parties should ensure these are developed nationally to help reduce the risk to fisherman.

Sources of data and information:
H. Sanderson, P. Fauser, M. Thomsen and P. B. Sorensen. 2007. PBT screening of chemical warfare agents (CWAs). J Haz. Mat. Vol: 148, Pages: 210-215.
OSPAR, 2003b. OSPAR framework for reporting encounters with marine dumped conventional and chemical munitions. OSPAR Commission, London. Recommendation 2003/2.
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OSPAR Overview of past dumping at sea of weapons and munitions in the OSPAR Maritime Area – 2010 update.