

ADVISORY COMMITTEE ON PROTECTION OF THE SEA

MARITIME AND COASTGUARD AGENCY RESEARCH PROJECT NO: 488

COASTAL SURVEY OF PACKAGED CHEMICAL AND OTHER HAZARDOUS ITEMS 2002/2003

London, October 2003

SUMMARY

Recovery of potentially hazardous materials in coastal waters and on beaches has been a recurring problem for many years as these materials may directly harm the marine environment and pose a potential hazard to health and public safety.

Surveys undertaken periodically since the 1970s by ACOPS and the Keep Britain Tidy Group have shown that these types of materials include packaged dangerous goods lost from ships' cargoes and stores such as drums of chemicals, certain types of ships' garbage including clinical wastes and pharmaceutical products, and munitions and pyrotechnics attributed to former inshore dumping grounds and other sources.

A further assessment of the types and quantities of packaged chemical and other hazardous items recovered on beaches and in coastal waters of the United Kingdom over a typical year was completed between 1 March 2002 and 28 February 2003. The objectives of the project were to identify and quantify the likely sources of such material, determine the extent of risk posed by such material to bathers and other beach users, gather data on the practices employed by local authorities and fire brigades in responding to such incidents, and indicate whether the number of incidents reported has declined in relation to tighter international controls.

Three data collection approaches were employed in order to achieve the objectives of the project. These were a questionnaire survey, direct interviews with interested parties and reviews of other sources of information. Approximately 400 questionnaires were completed by public agencies and 12 secondary reporting organisations. Additional supporting information for the study was provided by NGOs, MCA and the Royal Navy's Superintendent of Diving.

A total of 2,710 items recovered in coastal waters and on beaches was reported during the survey period. The total comprised 13 packages containing dangerous/harmful substances identified in the current edition of the IMDG Code, 160 packages subsequently found to be empty or containing suspected harmless substances or seawater, 179 used syringes and needles, 678 packages of pharmaceutical products and 1,680 munitions or pyrotechnics recovered by Royal Navy Diving Clearance Teams.

Each of the packages filled with dangerous/harmful goods was found to be correctly labelled and marked in accordance with the IMDG Code. All packages were recovered intact and there was no evidence of any leakage of their contents which included three substances belonging to Packing Group 1 (High Danger) and six substances belonging to Packing Group II (Medium Danger). The contents of five packages were also identified as marine pollutants. Respondents indicated that most packages originated from passing ships.

Some significant trends were identified when the 2002/03 survey results were compared with those from previous surveys undertaken during 1982/83 and 1991/92.

For example, the numbers of packages found to contain dangerous/harmful substances declined from 131 reported during the 1982/83 survey to 13 packages reported during the 2002/03 survey. The downward trend was most marked for Class 4.1 Flammable Liquids, Class 5.1 Oxidising Substances and Class 8 Corrosives, for which the total numbers of packages reported in each hazard class category declined by more than 85% between the 1982/83 and 2002/03 surveys. The overall improvements were attributed to the strengthening of controls and enforcement procedures governing the transport of these substances by sea.

Furthermore, the results from the three surveys indicated progressively fewer reported incidents in which seafarers or beach users suffered injuries or other adverse health effects following encounters with packages containing dangerous goods.

Passing ships were also identified as the most likely origin of the 160 packages found to be empty, filled with seawater or containing substances not listed in the IMDG Code as dangerous/harmful goods, including various refined petroleum products or oily wastes. At least 21 packages in these categories were found in a leaking condition.

Comparisons between the 2002/03 survey results and those from previous surveys indicate a downward trend in the total numbers of packages reported for each of the above contents categories. Solutions and mixtures used in the maintenance and general operation of ships, such as solvents, acid cleaning agents, paints and carbon removers, were reported less frequently by respondents in the 2002/03 survey. The most likely explanations for these improving statistics are fewer discharges of certain types of ships' garbage at sea as well as improved and more extensive beach cleaning regimes.

In contrast, there was no evidence from the 2002/03 survey results to suggest any significant reduction in the quantities of clinical waste, primarily used syringes and needles, deposited on beaches throughout the United Kingdom. The available evidence suggested, however, that discharges from ships at sea are no longer a significant source of these wastes. Recent research by EnCams has indicated that drugs-related litter, including used syringes and needles, is increasingly discarded in public open spaces including beaches and that local authorities are taking effective actions to address this problem.

Analysis of Royal Navy statistics indicated further significant reductions in reported finds of six of the eight types of munitions and pyrotechnics. The only exceptions were land service mortar projectiles and hand grenades, and all types of shells. Buoyant mines and torpedoes, or their components, continue to be trawled up in the nets of fishing vessels operating around the UK coastline. The advice and procedures issued by the authorities to fishermen and others in response to such incidents appear to be followed thereby minimising the risks of injuries or fatalities.

Few civilian pyrotechnics, such as date-expired distress signals, were recovered on beaches because large numbers continue to be brought ashore by mariners for correct disposal by the competent authorities.

Following a review of the survey data there was clear evidence to demonstrate that lead bodies and support organisations were fulfilling their respective roles and responsibilities in accordance with the National Contingency Plan, Local Contingency Plans and supporting guidance provided by the Maritime & Coastguard Agency.

Plate 1. Warning sign erected on a Scottish amenity beach.



Plate 2. Package filled with an unidentified corrosive substance.



Plate 3. Unmarked drum leaking contents onto an amenity beach.



Plate 4. Unmarked drum found to contain animal fat.



Plate 5. Expired military pyrotechnic.



Plate 6. Expired military pyrotechnic

