

# REGULATION ON SHIPS NAVIGATION TO REDUCE RISK OF MARINE ACCIDENTS IN FAVOUR OF MARINE AND COASTAL ECOSYSTEMS ON THE AEGEAN COASTS IN TURKEY

Cem Orkun Kiraç<sup>1</sup> \* and Harun Güçlüsoy<sup>2</sup>

<sup>1</sup> Underwater Research Society-Mediterranean Seal Research Group (SAD-AFAG), Ankara, Turkey - afag\_ankara@yahoo.com

<sup>2</sup> Institute of Marine Sciences and Technology, Dokuz Eylül University, Izmir, Turkey

## Abstract

A regulation on ships navigation was put into force in order to reduce risk of marine accidents after a ship grounding on Çavuş Island, SW Turkey. Following the regulation established in February 2001, certain type and size ships are obliged to navigate out of ecologically sensitive marine and coastal areas in Ayvalik, Foça and Bodrum Peninsula on the Aegean coasts of Turkey.

**Keywords :** Coastal Management, Conservation, Pollution, Aegean Sea, Water Transport.

## Introduction

Oil pollution by ship accidents require clean-up when spilled oil comprises persistent oils such as crude oil, fuel oil, heavy diesel oil and lubricating oil [1]. SAD-AFAG completed a field study on endangered Mediterranean monk seals *Monachus monachus* and habitats on the Bodrum Peninsula in 1996 [2] while, interestingly, a heavy but local oil spill was identified on rocky cliffs of Çavuş Island by the first author during the implementation of this project. A sample from the pollution was analyzed by the Ministry of Environment (MoE) who confirmed the pollution was origin of both aliphatic and aromatic hydrocarbons [3]. According to witnesses, a coaster grounded on NW coasts of Çavuş Island in the summer of 1996 and pollution ocured by an oil spill from the ship, possibly bilge comprising high density and aged lubricating oils in a few hundred tons quantity, which seriously affected coasts of Çavuş Island and Gümüşlük, a tourist attraction village at 2nm. distance. The fact that Çavuş Island holds important monk seal caves in whole Bodrum Peninsula with surrounding 21 islands & islets [2] forced SAD-AFAG to take action for an oil spill clean-up operation to save marine and coastal ecosystem with special emphasis to endangered monk seals in the area.

## Methods

SAD-AFAG, the Friends of Bodrum Society and the MoE have completely cleaned both the oil sludge floating on the sea surface & inside a cave and cliffs & cobble beach on Çavuş Island. 137 tons of oil sludge was collected via labor intensive cleaning methods and dumped into a suitable terrestrial dumping site in 1997 [4]. After clean-up was completed, SAD-AFAG deemed necessary to bring a permanent solution to reduce the risk of further marine accidents. First an analysis was made among SAD-AFAG members and a gap was identified on environmental safety; there was no regulation to let ships avoid to navigate in the narrow waterways near coasts where also biological diversity is rich and/or endangered species inhabit. Therefore, SAD-AFAG proposed Undersecretariat for Maritime Affairs (UMA), the competent maritime authority, to regulate the navigation of ships prohibiting routing through coastal waters between mainland and adjacent islands on Ayvalik, Foça and Bodrum Peninsula in 08.02.1999.

## Results

The proposal of SAD-AFAG was thoroughly examined by UMA comparing similar and successful examples in the world. After having the opinions from the relevant organizations, it was finally evaluated affirmatively and the Navigation, Hydrography and Oceanography Dept. (NHOD) announced the new regulation on "areas to be avoided by ships". According to this regulation, *navigation is prohibited within the indicated bounded areas for cargo vessels greater than 300 GRT and all vessels carrying dangerous goods in order to avoid risk of pollution and damage to environment*. This interprets that navigation between the mainland and adjacent islands in Ayvalik, Foça and Bodrum Peninsula marine areas is restricted for the purpose of protecting marine life with special emphasis to endangered monk seals and their habitats. It was published in the NHOD's journal *Denizcilere İlanlar (Announcements to Mariners)* in 10.02.2001 [5] and the marine areas to be avoided by ships were plotted onto the relevant navigation charts.

## Discussion

Maritime traffic increased %169 in 2004 compared to 1970 worldwide and trend is increasing [6]. In spite of all measures taken, marine incidents shall continue to happen, however, precautionary actions such as under-

standing the risks and designing the navigational regulations in certain ecologically sensitive marine zones shall reduce the risk of marine incidents. Basic navigational regulations, Traffic Separation Schemes (TSS), Vessel Traffic Management and Information Systems (VTMIS) and Automatic Identification System (AIS) are effective tools. In the maritime areas given in this article, the application of "areas to be avoided by ships", as a basic navigational regulation, is unique in its category in Turkey and no ship accidents resulting in oil pollution happened in these marine areas since the regulation was in effect in 2001.

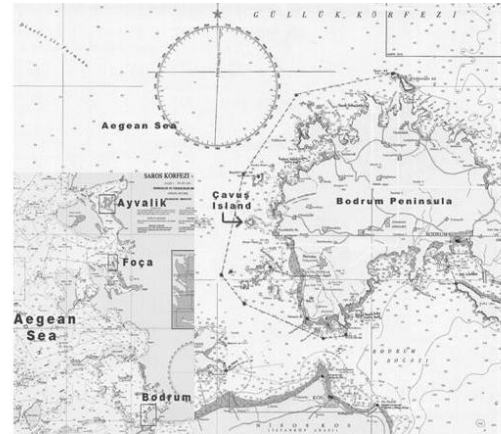


Fig. 1. The marine areas where regulation is applied on Aegean Sea coasts of Turkey (inset) and the marine area to be avoided by ships indicated with the dotted line at Bodrum Peninsula.

## References

- 1 - IOPC Fund. 2000. Claims Manual. International Oil Pollution Compensation Fund 1992. June 2000. London, United Kingdom: 1-32.
- 2 - Kiraç C.O. and N.O. Veryeri. 1996. Status Survey of the Mediterranean Monk Seal *Monachus monachus* Around the Bodrum Peninsula, Southwest Turkey. Research Project Final Report to UNDP/GEF, Turkey. SAD-AFAG. ISBN 975-6908-00-9. December 1996. Ankara: 1-21+Annex.
- 3 - Anonymous. 1996. Report on analysis on type of pollution from Çavuş Island. Turkish Ministry of Environment, General Directorate of Environmental Pollution Prevention and Control. October 1996. Ankara: 1-2.
- 4 - Kiraç C.O. 1998. Oil Spill at Çavuş Island; A Clean-up Operation to Save Monk Seal Habitats at Gümüşlük, SW Turkey. In: Johnson W.M. (ed.), *The Monachus Guardian*, In Focus. Vol. 1(1). May 1998. IMMA Inc. Canada. <http://www.monachus-guardian.org/mguard01/01infocu.htm>
- 5 - Anonymous. 2001. Denizcilere İlanlar, Sayı No. 6. Seyir Hidrografi ve Oşinografi Dairesi Başkanlığı Yayınları. 10 Şubat 2001. Çubuklu, İstanbul.
- 6 - United Nations. 2005. Review of Maritime Transport, 2005. United Nations Conference on Trade and Development. United Nations Publications. Geneva, Switzerland: 1-110+Annex.