

CETACEAN MORTALITY ALONG THE CROATIAN COASTLINE

MARTINA DURAS GOMERCIC<sup>1,4</sup>, ANA GALOV<sup>2</sup>, TOMISLAV GOMERCIC<sup>3</sup>, HRVOJE LUCIC<sup>1</sup>, SNJEZANA VUKOVIC<sup>1</sup>, DARINKA SKRTIC<sup>1</sup>, SNJEZANA CURKOVIC<sup>1</sup>, and HRVOJE GOMERCIC<sup>1</sup>

<sup>1</sup>Department of Anatomy, Histology and Embryology, Faculty of Veterinary Medicine, University of Zagreb Heinzelova 55, Zagreb, Croatia; <sup>2</sup>Division of Biology, Faculty of Science, University of Zagreb, Rooseveltov trg 6, Zagreb, Croatia;

<sup>3</sup>Department of Biology, Faculty of Veterinary Medicine, University of Zagreb, Heinzelova 55, Zagreb, Croatia;

<sup>4</sup>Corresponding author (e-mail: martina.gomercic@vef.hr)

Systematic research on cetacean mortality in the Croatian waters of the Adriatic Sea was initiated through the Faculty of Veterinary Medicine, Zagreb in 1990, five years prior to the legislative protection of cetacean species in this region. A total of 173 cetacean strandings were recorded till January 2008. An attempt was made to investigate every stranding report received, but 22 carcasses were not examined because of, e.g. difficult field and weather conditions. Post-mortem examinations were performed on 151 cetacean carcasses consisting of 120 bottlenose dolphins (*Tursiops truncatus*), 17 striped dolphins (*Stenella coeruleoalba*), nine Risso's dolphins (*Grampus griseus*), three Cuvier's beaked whales (*Ziphius cavirostris*), and two fin whales (*Balaenoptera physalus*).

The post-mortem examination included determination of species, sex, body mass, external measurements and a pathological dissection according to a standard protocol. Tissue samples of each necropsied cetacean were stored frozen or preserved in 10% formalin and 90% ethyl alcohol solution in the cetacean tissue bank for further morphological, genetic and toxicological analyses. The age of necropsied bottlenose dolphins and striped dolphins was estimated by counting growth layer groups in dentine, while in other species radiological analysis of epiphiseal fusion of pectoral fin bones was used for age class estimation. Skeletons of the examined cetaceans were stored as well. During the study period the most often recovered cetacean species was the bottlenose dolphin which is also considered the only resident marine mammal in the Adriatic Sea. The striped dolphin was the most often encountered non-residential species. From the geographical point of view the bottlenose dolphin carcasses were evenly distributed along the Croatian coast, whereas the non-residential species were more often recovered in the Southern Adriatic. August is the most fatal month for the bottlenose dolphin. On the other hand, none of the non-residential specimens was recovered during late summer/early autumn months when the human activities in the Adriatic Sea are the most intense. The mortality among the bottlenose dolphin sexes is equally distributed, while in striped dolphins and Risso's dolphins male carcasses were recovered predominantly. The highest mortality in bottlenose dolphins is recorded in the newborns. The newborns are found dead only from April till August. Our findings indicate that these months represent the calving season of the bottlenose dolphin in the Adriatic Sea.

Out of 151 post-mortally examined cetacean carcasses in total, 62 carcasses were in advanced state of decomposition, mummified or represented only by the skeletal remains. In the other 89 specimens non-fatal and fatal conditions (parasitism, trauma, congenital defects, neoplasia, etc.) were determined, which were induced by human activities in 51 (57.3%) cetaceans. By-catch is the most often human induced fatal condition and was determined in 33 cetacean carcasses.

Long-term and systematic investigations of the cetacean mortality provide the important data on their distribution, abundance and health status, as well as threats to their health and survival. The obtained results should prove valuable for the conservation and management of these endangered and protected animal species.

HOSTED BY:

Croatian Veterinary Institute

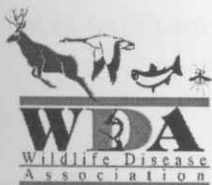


Copyright ©

BOOK OF ABSTRACTS of the

8th CONFERENCE of the  
**ewda** 

EUROPEAN WILDLIFE DISEASE ASSOCIATION  
ROVINJ - CROATIA  
2-5 October, 2008



SCIENTIFIC PROGRAMME  
SUPPORTED BY:

**Oie**

Organisation  
Mondiale  
de la Santé  
Animale

World  
Organization  
for Animal  
Health

Organización  
Mundial  
de Sanidad  
Animal