

Lesions observed on by-caught harbor porpoises (*Phocoena phocoena*) along the Belgian and northern France coastline, from 1995 to 2005.

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The multidisciplinary research group MARIN (Marine Animals Research & Intervention Network) investigated the causes of death of marine mammals stranded in the southern North Sea and more precisely along coasts of Belgium and France. All animals are necropsied, sampled and a cause of death identified. Frequently, by-catch diagnosis is based on external lesions. In addition, for comparison with sick animals, by-caught porpoises are considered as being “control” animals for toxicological or biological studies, based on the assumption that they are healthy. As fishermen frequently release net-entrapped animals, by-catch can be only diagnosed on stranded animals for the Belgian and northern France coastline and represent 22% of stranded harbor porpoises (*Phocoena phocoena*). The aim of the present study is to identify lesions on by-caught porpoises and their health status. From 1995 to June 2005, 52 stranded porpoises out of 232 animals were diagnosed as being by-caught. External lesions associated with net-entanglement (net marks, penetration incision into body cavity) were observed in 50%. Internal lesions were subcutaneous hemorrhages (29%), lung edema (63%), lung congestion (54%), lung hemorrhage (10%). Surprisingly, 82% of the animals were mild to severely emaciated and 30% had no evidence of recent feeding. Slight parasitism (respiratory or gastric) was observed in 21%, being severe in 15% with associated acute pneumonia or gastritis. Our study showed that by-catch diagnosis can not be based on external observations only because such lesions are present in just half of the animals and that by-caught porpoises are not always healthy and therefore should not be declared control animals by default. Such considerations should be taken into account in toxicological or biological investigations and confirm the rule of necropsies in multidisciplinary studies on the cause of death of marine mammals.