

Physical and other impacts

Underwater Noise

Green (June 2004) states that the main source of noise from shipping is the ship's propeller. It produces a loud hiss which dominates the low frequencies below 600 Hz in busy shipping lanes. Some whales rely on low-frequency for communication over large distances; these frequencies are the same as those occupied by shipping. It is documented that icebreakers cause avoidance reactions in narwhales, belugas and walrus. Some scientists are concerned that shipping may have population impacts on these species. Long-term chronic noise has the potential for permanent damage to the hearing system of marine mammals. Green (June 2004) cites one scientist who found a third of all stranded cetaceans he studied to have some form of auditory damage.

It is estimated that there has been an approximate doubling (3 dB increase) of background noise per decade since 1950s in some ocean areas where sufficient measurements support such analysis. Commercial shipping is the most probable source of that increase (OSPAR, 2009e). Details on underwater noise pollution and on the introduction of noise by shipping are documented in the OSPAR Background Document on noise (OSPAR, 2009e) and the OSPAR noise impact assessment (OSPAR, 2009f).

The 58th Session of the IMO Marine Environmental Protection Committee in 2008 agreed to the development of a new work programme agenda on minimising the introduction of incidental noise from commercial shipping operations in the marine environment to reduce the potential adverse impacts on marine life.

Strikes of Cetaceans

Concerns about the risk of ship strikes with cetaceans have been raised through the international forums. Collisions with ships are known to kill whales, especially larger species and those inhabiting waters with high shipping volumes. Collisions between whales and vessels have been recognised as a threat to some vulnerable cetacean populations and as such raise concerns about conservation and animal welfare as well as the possibility of an environmental incident resulting from a damaged vessel.

The development of faster and larger ships, and increased traffic, has led to increasing concern about the risk associated with ship strikes.

At the 58th Session of the IMO Marine Environmental Protection Committee in 2008, the Committee agreed to the development of a guidance document for minimising the risk of ship strikes with cetaceans.

Apart from certain species and areas there has been concern expressed about the inadequacy of information and statistics on ship strikes and it has been identified that there is a need for further data to be gathered so the extent of the problem can be assessed properly.

➔ *Go to full QSR assessment report on the impact of shipping on the marine environment (publication number 440/2009)*