

Emissions to water from shipping

Source: BONUS SHEBA project



Emission sources

- Antifouling substances
- Ballast water
- Grey water
- Black water
- Bilge water
- Cooling water
- Propeller shaft lubricants
- Scrubber water
- Tank cleaning

Shipping emits a complex mixture of chemicals to water. A mixture can be more toxic than individual chemicals.



Impacts of emissions to water



EMISSIONS

INVASIVE SPECIES

- can eat, outcompete or parasite on the native species of an ecosystem
- may spread diseases to humans

CONTAMINANTS

- highly toxic compounds which are not always biodegradable can lead to adverse effects on marine environments

NUTRIENTS

- stimulate plankton growth & promote algal blooms
- oxygen is needed to biodegrade plankton which results in bottom water with low oxygen (hypoxia)

ACIDIFICATION

- lowered pH in marine waters threatens many organisms with extinction

Over 600 different chemical contaminants emitted from shipping were identified in BONUS SHEBA project.

