

Engineering

FaunaGuard

Marine construction activities such as rock dumping, piling, drilling and blasting and large scale dredging operations may hinder marine fauna.

The FaunaGuard is an innovative modular system to protect marine fauna, developed by Van Oord and SEAMARCO (Sea Mammal Research Company, applied research for marine conservation). The FaunaGuard pro-actively repels, dolphins, porpoises, seals, fish and turtles from marine construction and dredging works with specialised (safe) acoustics.

Innovative approach

FaunaGuard

Innovative approach involving:

- Protection of various marine fauna species
- Emission of safe sounds at appropriate time and place
- Scientific approach to guarantee effectiveness
- Project specific design for application
- Continuous monitoring by trained observers once in use

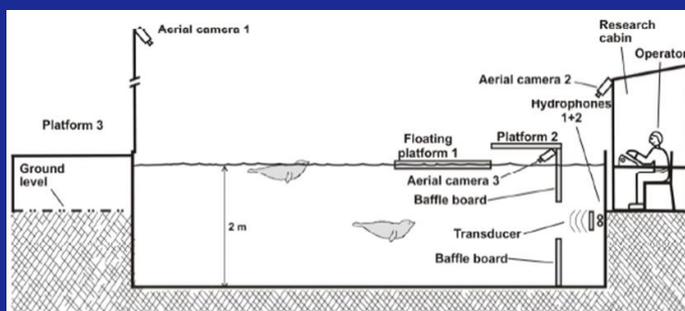




Traditional measures

Traditional mitigating measures involve pausing the activities once animals are observed visually or passive acoustically in the vicinity of the works, and physical measures such as turtle deflectors and active relocation. These methods, though successfully used in practice, have limitations. Visual observations are less effective when marine fauna are not at the water surface, or when visibility is low in general (such as during bad weather or at night). Methods that rely on physical contact may cause stress and impact to the fauna, and are often not allowed.

The FaunaGuard pro-actively repels marine fauna from construction sites with specialised (safe) acoustics, avoiding work delays and physical stress to the animals.



Research

To guarantee the FaunaGuard's effectiveness, Van Oord collaborates with renowned marine research institutes (SEAMARCO, Deltares, TNO, and several universities worldwide). Independent experts in the fields of marine biology and underwater acoustics are involved to determine suitable sounds, and to study their effectivity first under laboratory conditions, followed by tests with wild animals in their natural environment.

Successful experiments have been completed for several fish, porpoises, seals and marine turtles. For example a study with harbour porpoises showed that these animals were deterred to a distance of at least 1000 meters during exposure to the FaunaGuard sounds, and returned again shortly after the device was turned off.

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