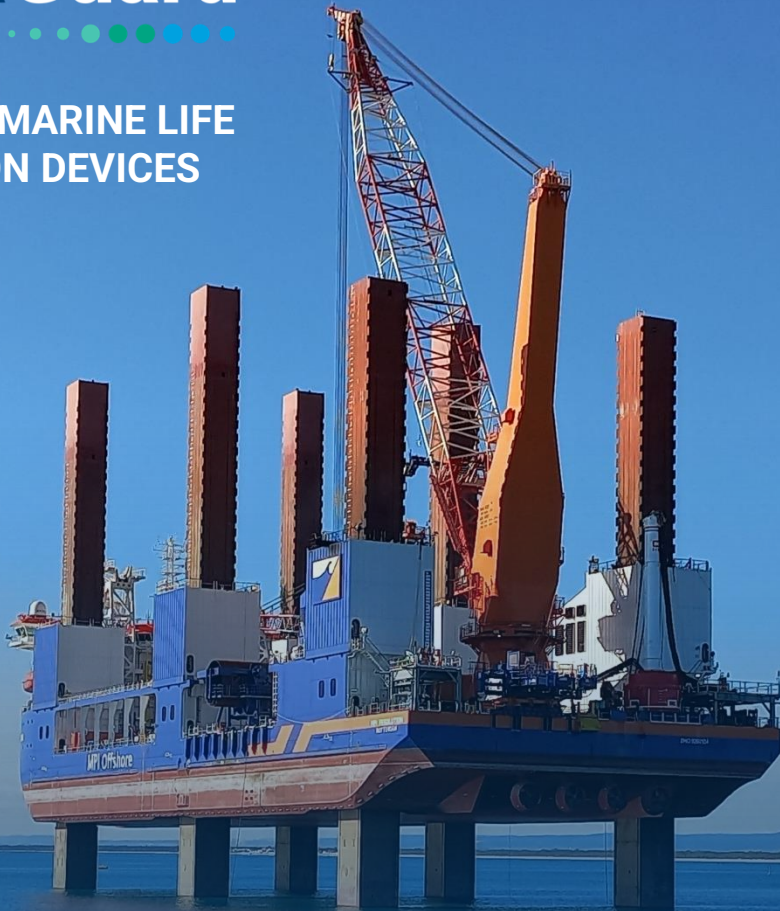


FaunaGuard



OFFSHORE MARINE LIFE
PROTECTION DEVICES



For more info contact:

Twan Kolkert

T: +31(0)6-233 283 10

E: twan.kolkert@oceanhealth.world



About FaunaGuard

FaunaGuard is an acoustic device that safely and temporarily guides away various species of marine fauna, using specialized underwater acoustics.

The philosophy of FaunaGuard is to make optimal use of the hearing capabilities of the various target species and focus sounds using modern acoustic techniques.

This is achieved via an innovative modular system of sound emitting equipment, whereby each module's sounds are based on the hearing range and sensitivity of a specific target species such as fish, turtles, seals or porpoises.

What does it mean?

FaunaGuard is a welfare-focused acoustic protection system, preventing marine wildlife from serious physiological harm.

It minimizes acoustic impact on local marine life induced during construction activities, such as pile driving in offshore wind farms.

It allows for safe levels of sound to be used and minimizes the chances for delay in construction due to observed fauna species.

FaunaGuard provides a solution for meeting strict environmental regulations during marine construction activities.



How it works

- Makes optimal use of behavioural effects in marine fauna, induced by sound patterns
- Sounds are only within functional hearing range of each specific target species
- Considers directional hearing abilities of marine fauna
- Applies random inter-pulse intervals to reduce habituation
- Sound profiles exist of tones including harmonics, sweeps and impulsive sounds
- Uses low volume sounds to reduce risk of threshold shift (PTS, TTS)
- Sound levels are slowly ramped up giving marine fauna time to swim away

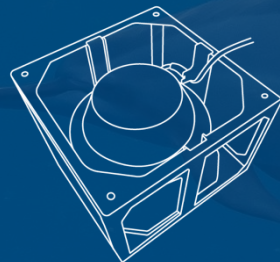
Availability

FaunaGuard has been successfully deployed on numerous projects around the world since 2010. In a strategic partnership, Ocean Health and Ace Aquatec will make multiple modules available to the market whilst continuing to develop new hardware and software for new modules, as we believe this is the best thing to protect marine life.

FaunaGuard modules are available for specific species – fish, seals, porpoises, turtles – to create temporary exclusion zones around your project site.



FISH / TURTLE MODULE



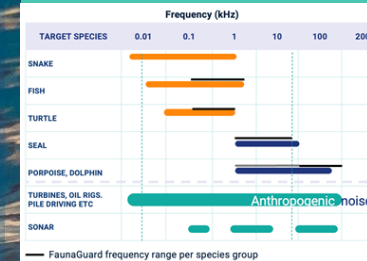
SEAL MODULE



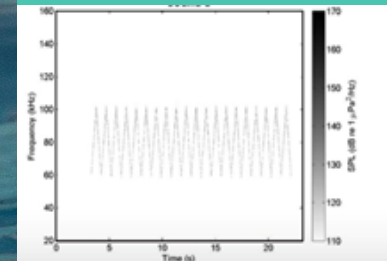
PORPOISE MODULE

Module	Frequency	Max. SPL	Observed efficacy
Turtle	200-1000Hz	186.5 dB	TBC – R&D module
Fish	200-1500Hz	186.5 dB	500m
Seal	1-20kHz	174.1 dB	500m
Porpoise	60-150kHz	165.0 dB	1000m

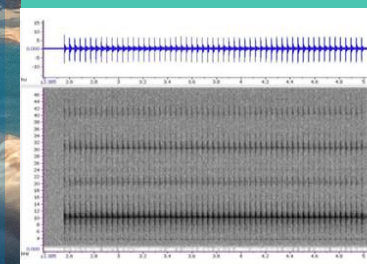
Species-specific approach



Sound type and quality



Safe volume output



Safe volume output

