A close-up, low-angle shot of a shark's open mouth, showing rows of sharp, yellowish teeth. The shark's skin is a mottled brown and grey. The background is a clear blue sky with some white clouds. The text is overlaid on the left side of the image.

Predators are clever
and determined.
So are we.

ACE
AQUATEC

CageGuard – US3, RT1 & online portal

Our CageGuard system of US3 and RT1 deterrents broadcasts randomised soundwaves at mid and low frequencies to produce long term results with no drop-off in impact, due to habituation.



US3



RT1

ID	Software	Status	Name	Mode	SoundRate	TimeCycling	ActiveTimes	Screens	FatScreens	Remove
US3 T:5915 P:2403	T:4.08 P:23 D:1.6	MAINS PWR STATUS OK	CAGE 1	Scramming	26	PerScreen	00:00	5541	33	
US3 T:5976 P:2411	T:4.08 P:24 D:1.6	MAINS PWR STATUS OK	CAGE 2	Scramming	26	PerScreen	00:00	7538	1	
US3 T:5977 P:2405	T:4.08 P:25 D:1.6	DISCONNECTED BATTERY PWR STATUS OK	CAGE 3	Scramming	48	PerScreen	00:00	5588	0	
US3 T:5979 P:2409	T:4.08 P:26 D:1.6	MAINS PWR STATUS OK	CAGE 4	Scramming	26	PerScreen	00:00	11503	0	

CageGuard online portal

Your problem:

Morts and stress caused by **predators impact profitability and fish quality**. You've tried acoustic deterrents that worked, at first, but effectiveness declined after about 6 months due to predator deafness or habituation.

Our solution:

Install a combination of **US3** and **RT1** acoustic deterrents, then monitor them remotely with the **CageGuard online portal**. This targets the hearing range of seals, sea lions and sharks, but alternates frequencies to avoid deafening or habituation.

The innovation behind the solution:

The **wide frequency spread** (1-2kHz and 10-20kHz) and **randomised soundwaves** prevents habituation or deafness to particular frequencies. Other deterrents typically have a continuous narrow frequency sound that loses effectiveness.

CageGuard solution components

US3

Mid frequency deterrent producing our patented randomised sound waves between 10-20kHz.



Has the range to protect a single cage in conjunction with an RT1.

Electric fish

Developed to look like a fish mort at the bottom of a cage. Predators are drawn in and when they try to eat it they receive a shock that conditions them to avoid the cage.



Online portal

Our online portal lets you monitor and control deterrents from anywhere in the world. We can also remotely update deterrents with new software instead of in-person installations.



RT1

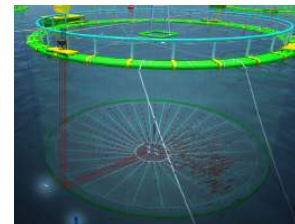
The RT1 operates at a lower 1-2kHz sound frequency and, when used in conjunction with the US3, covers the full predator hearing range. It has a longer range than the US3 due to lower sound frequency.



Electric net

The electric net is made of 56 electrode strings and is attached to the outside of your existing net.

The voltage deters predators while doing no harm to fish in the cage.



Support

We have a global network of support staff who ensure the effectiveness of your deterrents is never compromised.

Customer success stories

Dougie Shaw
Site Manager



"Its so important to have a real deterrent and so far we've had zero mortalities attributed to seals. The web portal is accessible from the shore and gives us total control over each individual unit. This is a huge improvement on any other systems I have used in the past."

Hazel Wade
Area Manager



"CageGuard deterrents are a real benefit to us, with site managers able to log on and make adjustments or fault find in real time to ensure the best possible protection against seal attacks. The online records are also helpful during audits like RSPCA Assured. We really appreciate the innovative work Ace Aquatec do to minimise negative interactions between seals and salmon farms."

Richard Darbyshire
Regional Manager



"We have worked with Ace Aquatec for a number of years to reduce the impact seals have on our Orkney farms. Their system has survived some severe winter storms, and the fact that we can monitor remotely is an added bonus."

Customers around the globe

MOWI



 **Scottish Sea Farms**

 **Loch Duart**

Grieg Seafood

Cooke
New Zealand King Salmon



 **SANFORD**



Aquaculture UK

Innovation Award - 2016



- Winner for innovative acoustic deterrents
- Currently shortlisted for 2018 Aquaculture Supplier of the Year and Innovation Award

Aqua Nor

Innovation Award - 2017



- Winner for innovative electric stunning technology
- First non-Norwegian winner of the award

Queen's Award for

Enterprise - 2018



- Winner for consistent success in technology innovation and for the contribution our products have made to the Scottish economy



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Contact us to find out more about how we can help you achieve your goals.

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