



# IMarEST Emerging Marine Trends

## Issue 6 - Sunscreen

*An environmentally friendly way to protect ourselves on holiday?*

Holidaymakers all over the world are responsible for large concentrations of sunscreens entering the oceans every year and [there are claims](#) that even small concentrations of the wrong types can cause huge damage to marine life. Certain chemicals such as oxybenzone, commonly found in sunscreens, are toxic to the algae that provide nutrients to corals. Death of these algae causes a loss of colour (coral bleaching) and an increased chance of coral death. Sunscreens also affect reproduction in fish, so their populations do not recover as quickly after humans have fished in a certain area.

A major problem is that the UV-absorbing ingredients in sunscreens can stay in the ocean and in animals for a long time, allowing them to be passed along the food chain to predators such as dolphins and birds. However, there is a potential solution that we can all take to help solve this problem.

[Shinorine](#) sunscreen is a 'green' sunscreen that can be made using naturally-occurring active ingredients that absorb the sun's UV rays. It biodegrades quickly in the environment, helping to avoid problems with the harmful ingredients lingering in the oceans. It is also now possible to [mass produce shinorine in the laboratory](#), where previously this was a highly inefficient process.

While this looks like a very promising solution, there are a number of concerns surrounding sunscreen and coral reefs. Firstly, there has been some scepticism of the extent to which normal sunscreens are damaging to coral reefs and this is still an area of active research for scientists. Many believe that governments are clinging on to the solution as an 'easy-win' for appearing to tackle environmental issues. This could be acting as a smokescreen, diverting their attention away from the wider and potentially more damaging issues surrounding climate change, such as ocean acidification and rising ocean temperatures.

Furthermore, should the effect of chemicals such as oxybenzone be as damaging as has been claimed, and shinorine be adopted as a more eco-friendly alternative, there are still unknowns about the effects it will have on marine wildlife. As such, a considerable amount of research is still required.



## How can you help?

Last year saw the 3<sup>rd</sup> International Year of the Reef (IYOR). IYOR 2018 was a year-long campaign of events and initiatives hosted by governments and non-governmental organisations (NGOs) from around that world to enact change and strengthen long-term collaborations for coral reef conservation. You can find out more about IYOR and the successes of last year on their [website](#).

In support of IYOR2018, the IMarEST produced a 'help save coral reefs' infographic, detailing ten easy ways that you can help preserve them. We also produced a dedicated coral reef webpage with even more resources on how you can get involved with the plight of coral reefs.

Please visit our [coral reef web page](#), download the infographic and share it with family, friends and work colleagues to help save our precious reefs.

**HELP SAVE CORAL REEFS**

[www.imarest.org/corals](http://www.imarest.org/corals)

Coral reefs contain staggering biodiversity, provide food for millions of humans, protect and create land, supply natural medicines and are intrinsically beautiful. They are vital for life on Earth and are currently in grave danger of completely dying out. We can't let this happen. There are practical steps you can take to saving this crucial part of our planet.

“ Coral Reefs, one of the major ecosystems on the planet, and essential to human life, are vanishing at an unprecedented rate. The main cause of coral death is coral bleaching, caused by global warming – the result of increasing levels of carbon-dioxide, a greenhouse gas. The largest source of greenhouse gases from human activities is from burning fossil fuels for electricity, heat, and transportation. The window to save coral reefs is quickly closing due to the earth's rapidly changing climate. We are witnessing the death of the single largest living organism on earth. ”

**Professor M James C Crabbe** IMarEST  
Supernumerary Fellow, Wolfson College, Oxford University

**1** Be conscious of your energy consumption – lower your heating or air-con, use LED bulbs or renewable energy sources, eat less meat and dairy.

**2** Eat sustainably sourced seafood.

**3** Watch a film or read a book on climate change – when you educate yourself about coral reefs, you can help others understand their importance.

**4** Avoid sunscreens and cosmetics containing oxybenzone, proven to damage reefs.

**5** Join one campaign to help protect reefs or counter the effects of climate change.

**6** Scientists urgently need to know which reefs bleached in the last 3 years and which did not. If you can help, contact 50 REEFS.

**7** Don't pour chemicals into waterways, excess fertilizer can increase growth of algae which block sunlight from reaching coral reefs.

**8** Volunteer for beach or reef clean-ups. Or get involved in protecting your local watershed.

**9** When you are boating, do not drop anchors or chains near coral reefs as it can damage them.

**10** Don't give corals as presents, they take decades to grow... leave them on the reef.

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INTERNATIONAL YEAR OF THE REEF 2018

CREDIT: THE REEF SOCIETY, CALVIN ANDREW SPURVEY

