

What is the impact of OXYBENZONE to coral reefs?



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Hollings Marine Laboratory
331 Fort Johnson Road
Charleston, South Carolina 29412

April 24, 2017

Senator Will Espero
Senate District 19
Hawaii State Capitol
Room 226
415 S. Beretania St
Honolulu, HI 96813

Dear Senator Espero:

I am writing in response to your request for comments on SB1150, an Act to protect Hawai'i's coral reefs from the impacts of sunscreens and cosmetics containing oxybenzone.

I am a NOAA scientist working within the National Ocean Service's National Centers for Coastal Ocean Science. I have over 30 years of experience in molecular and cellular biology, biochemistry and pathobiology, which I have applied to aspects of coral health and disease research for the past 20 years. I am also one of the co-authors of a 2016 peer-reviewed article in *Archives of Environmental Contamination and Toxicology* that examined the toxicological effects of oxybenzone on coral larvae, cultured primary coral cells and measured environmental concentrations in coral reef areas in the Caribbean and at multiple sites in Hawaii.

The preponderance of scientific evidence indicates that oxybenzone is toxic to coral and threatens overall coral reef health by:

- inducing coral bleaching;
- harming or killing coral larvae by inducing gross deformities, DNA damage, and bleaching;
- acting as an endocrine disruptor; and
- bioaccumulating in coral tissue.

In support of this conclusion, I have provide the attached summary of the relevant peer-reviewed literature (Appendix A). As you will see, the research documenting the toxicity of oxybenzone on corals is extensive. While additional research may incrementally add to our understanding of its impacts to additional coral reef species, additional research on the impacts of oxybenzone should not be a prerequisite to management action.

Managing exposure of corals to oxybenzone is a key step in threat-reduction, and is a critical aspect in improving coral reef health now and for the future.

Sincerely,

A handwritten signature in cursive script that reads "Cheryl M. Woodley".

Cheryl M. Woodley, PhD
Coral Health & Disease Program and
Coral Disease & Health Consortium

Ua Maui ke Ea o ka 'Āina I ka Pono

