

Nicole Haynes McCoy
23069 Bonito Lane, Cudjoe Key, FL 33042
305-432-7828
Nicole.McCoy@gmail.com

January 22, 2019

Members of the Key West City Commission
Mayor of Key West
1300 White Street
Key West, Florida 33040

Dear Members of the Key West City Commission,

My name is Nicole McCoy and I am a 6-year full-time resident of the lower Florida Keys. I am an avid diver and free diver, and I am desperately worried about the health of our coral reef system. I am also an environmental economist with a PhD from Colorado State University, meaning I am both an economist and a scientist. Economists study human behavior and decision-making. Environmental economists study the impact of environmental policy on human behavior and evaluate policy effectiveness and efficiency. I frequently tell my students that “intentions are not outcomes.” Supporting a policy because it has noble intentions does not automatically lead to a desired outcome, and can often result in unintended, undesirable consequences.

The text of the sunscreen ordinance states that its purpose is “...to preserve marine ecosystems, including coral reefs...” In order to accomplish this purpose it is necessary to (1) to reduce the amount of oxybenzone and octinoxate in our waters (which will hopefully reduce one source of stress on our reef system), and (2) to educate sunscreen users such that whether they are here in the Florida Keys or are visiting other beaches, islands, reef systems, etc., consumers will be less likely to use products containing these two chemicals. A ban on the sale of sunscreen containing oxybenzone and octinoxate *might* have a small marginal impact on (1), but it will not accomplish (2), and therefore will not achieve the overall purpose of the ordinance.

A ban on sales means removing sunscreens containing these chemicals from sales shelves in Key West. It does nothing to inform potential users (especially tourists) *why* they cannot get their favorite sunscreen when they pop into a store to purchase it. Furthermore, a sunscreen sales ban comes at an *unnecessary* cost in terms of enforcement/administration of the policy, in addition to the costs to sunscreen users who may use less sunscreen, purchase it from outside Key West, etc.

I say *unnecessary*, because I am proposing alternatives comprised of signage, separation, and science that I believe will more effectively and efficiently reduce the amount of these two chemicals that enter our waters, as well as educate consumers, which will further reduce the use of oxybenzone and octinoxate through voluntary action. Consumers are allowed to make their own informed decisions regarding what sunscreen best fits their particular situation, which is likely more palatable and much less controversial to the diverse representation in this community.

Signage. Most stores place the majority of their sunscreens in one location, and in the Florida Keys, there are a lot of sunscreens. However, a consumer has to sort through an enormous variety to differentiate reef-safe from other kinds of sunscreen. If a consumer doesn't know what they are looking for other than "sunscreen," they have no way to make an informed decision about chemical usage.

Therefore, one option would be to ask (or require, if necessary) stores to place visible signage¹ that clearly differentiates "REEF SAFE" from "NOT REEF SAFE" sunscreens (for example). There could be some small verbiage associated with the signs that briefly explains what each of these means². This way, someone who wants "NOT REEF SAFE" makes a clear and visible (to others) choice.

Moreover, this option incentivizes consumers to actively engage in pro-environmental behavior by demonstrating to those around them that the consumer is making a choice to support the reef system. Even more educational opportunities flow when someone's family member or friend asks, "What is this sunscreen? Does it work?" Furthermore, when consumers leave our island and head out to other beaches/islands, they will know the difference between the kinds of sunscreens and may seek out reef-safe sunscreen even in locations where non-reef-safe sunscreen is readily available.

Separation. Second, stores often situate sunscreens towards the front of the store for customer convenience. This is handy for people who are making a very quick stop before heading out to the beach, reef, etc. However, the sales ban's intent is to make non-reef safe sunscreen more difficult to obtain, and we can do that without a ban. Ask (or require) stores to place "non reef-safe" sunscreens at the back of the store or in a less-visible location. Those people who don't know what they are looking for will be more likely to simply buy the sunscreen that is handiest, which will be reef-safe. Those people

¹ Many peer-reviewed, scientific studies have evaluated the effectiveness of information provision (such as signage) and the use of social norms on pro-environmental behavior. I would be happy to provide a list should you like more information.

² I would venture that there are several organizations around Key West who would be more than happy to design the signage.

who *do* know what they are looking for and cannot find it at the front of the store will need to look for it. This works well for locals who know they want the “non reef-safe sunscreen.” Keep in mind that for consumers to know that they want the “non-reef safe” sunscreen means that they have at least thought about the choice and are making an informed decision based on their own unique circumstance (perhaps they are not going anywhere near the water, or perhaps there is a reason they cannot use mineral-based sunscreens).

Science. Additionally, I would advocate the use of science to evaluate the effectiveness of any new policy related to this issue; otherwise how do you know if the policy is achieving its objectives? Data could be collected in the year prior to and those following the policy change to see if the new policy is having a desired impact on (1) chemicals entering our waters, (2) and consumer education/behavior.

Perhaps there are research scientists and/or students interested in collecting data on the prevalence/concentrations of these two chemicals in our waters and accumulation in corals. We could learn whether the policy has elicited a behavioral change by surveying residents and visitors about their choice of sunscreen, which could be compared to sunscreen sales data in Key West and the lower Keys.

Finally, this letter made two suggestions, and there are very likely other (non-ban) options that could work well but haven’t yet been discussed. I hope that my suggestions will encourage the community to consider more collaborative approaches in addressing how we can best protect our reef system.

Sincerely,



Nicole Haynes McCoy, PhD

cc: Jim Scholl, City Manager