

On Mon, Jan 17, 2022 at 10:13 p.m. Randy Edwards wrote:

Commissioner Crane:

I just read in the Anna Maria Sun about the deliberations about providing \$50,000 for clam restoration funding.

First of all, I commend you for being diligent and careful. As a Ph.D. marine scientist with 50 years of experience, I can tell you that, although this request has good intentions, it is very unlikely to have much or any positive impact on protecting and conserving the bay. This is particularly true with regard to any impacts on reducing red tide or improving water quality in Sarasota Bay or Tampa Bay.

First of all, 20,000 clams would filter an infinitesimally small volume of the bays. Their filtration effect would be so small, compared to the volume of water in the bays, to be totally insignificant and would have no meaningful positive impact.

Second, what most non-ecologists do not understand is that filtration by filter-feeding organisms does not solve the overriding problem, which is that of too much nutrients, mainly nitrogen, going into the bays. When a filter feeding organism – like a clam, oyster, sponge, sea squirt, etc. – filters out plankton from the water, about 90% of that filtrate is deposited as poo and falls to the bottom, where it is broken down by microorganisms that release the contained nitrogen fertilizer back into the water and fertilize the water to allow more plankton (or red tide) to grow/bloom. The other 9 or 10% is excreted by the clam or other organism, and also fertilizes the water to make more algae or red tide grow. So in the long run, just planting more clams or other filter-feeders does next to nothing to improve water quality.

However, it would be nice and environmentally beneficial to have more clams in the bay, because they might make the ecosystem better (but not solve the nutrient problem). I must point out however, that there have been other projects to plant clams into the bays over the last decade (ask Rusty Chinnis of LBK), but there has been no indication that they regenerate and increase the clam populations in the bays. Thus, \$50,000 would likely be pouring money into a hole into which money has already been poured into with no meaningful results.

Thus, I suggest that you and your fellow commissioners carefully consider spending this funding when there are many other ways to spend it and that have much more and more likely positive effects. Ask the promoters of this request about the other clam projects. Ask if the clams have been increasing because some have been planted. I am sure they can't say that they have, based on any scientific data.

As for having someone from Mote testify about the issue, I suggest that doing that would not provide anything objective. Mote has been receiving \$3 million every year to work on red tide, so anyone from Mote would be anxious to embrace anything that might look like progress is being made – even if it is not. So far, Mote has shown no results from those \$millions.

Therefore, I suggest that you obtain objective, unbiased scientific input and opinion, before your city pours more money into the clam hole. I would make myself available to explain all of this to your fellow commissioners, but I am not at all soliciting an appearance before the commission. I have nothing to gain from it, and it would just subject me to a lot of static from those who have financial self interest in clam planting (Hesterberg), clam culture (Hemmdl0 and from those who unwittingly, but with good intentions (Chiles, Collins, Chinnis), have been made to believe that it is a great idea. However, for the good of the bays, I would do what I can to help your Commission understand the issue scientifically. FYI, the question is what better could be

done with the \$50,000 by the City of AMI, it would be far better to invest it in reducing stormwater nitrogen runoff to the bay.

Sincerely and scientifically yours,

Dr. Randy E. Edwards, Ph.D.

Mote Marine Lab, US Geological Survey and University of South Florida, Retired
Manatee County, Fl.