A RESTORATION AQUACULTURE APPROACH TO WATER QUALITY

Matthew DePaolis
University of Florida/Florida Sea Grant, Gainesville, FL, USA

Coastal water quality issues are becoming commonplace in Florida. Harmful and massive algae blooms are exacerbated by warming waters and increased levels of nutrients entering nearshore waters. Controlling the influx of pollutants into waterways has proven difficult, so it is necessary to reduce nutrient concentrations from eutrophic waters after it has been contaminated. Human engineered solutions to this issue tend to be complicated and expensive. However, nature has long provided a mechanism to remove excess nutrients from water systems through conversion into biomass. Bivalves, macro-algae, and sponges all serve to extract excess nutrients from water that can then either be sequestered within the system or removed altogether. By purposefully farming organisms to bank nutrients, the pollutants can be removed from a system resulting in cleaner water.

While this may seem like a straightforward solution, establishing an aquaculture operation is expensive. Due to the contaminated nature of the water, the end product will be unfit for human consumption. Without the ability to sell the product produced, an aquaculture farm is not able to sustain itself. In order for water quality restoration aquaculture to be viable, it is necessary to create a market for the end product: the removed nutrients from a system. This presentation will review Florida's nutrient credit trading system, other state systems where polluters can buy 'credits' that are traded in a marketplace, as well as other potential solutions that may be better suited for Florida. By requiring polluters to account for their true costs they are not able to offset their expenses on the general population and will help fund the cleaning and protection of Florida waters. Restoration aquaculture-based solutions are able to scale and adapt to the unique challenges of the different of Florida waters, and the creation of a market would ensure long term success.

PRESENTER BIO: Matt is the inaugural Coastal Policy Analyst at the University of Florida Center for Coastal Solutions, housed in the College of Engineering. After receiving a concurrent J.D./Masters' of Marine Biology from the University of Oregon, he returned to Florida, where he has previously conducted research and worked at Mote Marine.