

## Animal Care and Life Support Monthly Report

NOVEMBER 2018:

- 1) Red Tide recap: **We do not believe we ever pulled in *Karenia brevis* and we did not see any evidence of negative impacts on our animals.** Each morning when there were local reports of red tide our 1micron filter bags were microscopically examined and our towers repeatably inhaled to look for any airborne irritant symptoms as a rudimentary indicator. As extreme precaution during periods of suspected higher risk (mostly from airborne effervescence from the beach) our filter feeding organisms were switched to artificial sea water to ensure they didn't pass on any bioaccumulated toxins to the animals we feed the filter feeders to (brine shrimp filter feed → seahorses eat brine shrimp). The source water was only turned off once for 16hrs.
- 2) Our power alarm for the pump house had a battery failure two weeks ago which required the device be sent back to the manufacturer (in FINLAND). Luckily the repair was covered by the company warranty and the device was promptly repaired and sent back. I should have it reformatted and installed by the end of this week. This alarm provides key staff with a text message for power outages and restorations specific to the ocean pump house.
- 3) Following our discharge heavy season out of the St. Lucie inlet we have been battling excessive macro algae growth in the GFL which led to a population increase of shrimp-like invertebrates (amphipods). These little guys are thriving and as a result they are going through their life cycle unchecked which has led to daily molting (shedding of outer layer). Basically this means the GFL surface has a thin layer of shells floating at the whim of the wind, occasionally clumping in the feeding area along with floating algae - which isn't very aesthetically pleasing, though not at all harmful to the animals. I am hopeful that with the new deck coming off the building we can install hidden pumps/ powerheads under the decking to encourage surface flow away from wall and back over the weir keeping the GFL much "cleaner" looking. You will see this addressed in my tactical goals.
- 4) We have begun target training a juvenile barracuda in our life support building – we hope to have the animal trained to a degree that predator behavior is overridden (no promises!) if we feel confident in its progress it would move to the turtle pool first to be trained along with our sea turtles (different target of course) then hopefully one day moved to the main lagoon, where we already have our nurse sharks and stingrays target trained. This training practice ( known as operant training: requested behavior = reward) allows us to have better control of the care of certain species so their nutritional needs are met while also engaging in their own care as a form of stimulation.
- 5) After struggling for some time to figure out how I would provide the quarantine systems for the seagrass expansion project with the water amount they requested (50gpm flow through) we believe we came up with a solution that will work best for all involved. Instead of sourcing their water (for the quarantine system) from the GFL, they will instead use the water that comes from the Ray Tank and Life support systems drains. This water has much more stable temperatures in both the winter and summer months. The amount of water they needed would have resulted in impacts to the GFL that we want to avoid. This reconfiguration results in less trenching and smaller pumps are needed to supply the water, translating to lower electrical costs overall. This also allows us to get one more use out of our water before it makes its way through the mangrove swamp and we all know how precious our water is.

*Thank you to all of the Board Member who came last night. Without our Board as advocates to our mission and liaisons to new potential supporters I do not think our campaign would be achievable. Thanks for the many things you do to keep us moving forward.*

**Brittany Biber**

Director of Animal Care and Life Support

