Pondzilla Floating Tape Grass Experiment

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Introduction

Species: *Valisenaria americana*

The Lee County Hyacinth Control District (LCHCD) manages all public water bodies for invasive aquatic vegetation in Lee County, Fl. One of LCHCD's main treatment areas is the city of Cape Coral and it's roughly 400 miles of canals. Valisenaria Americana, Eel grass, is a very beneficial native species that provides excellent habitat and nutrient filtration, however each year the blades break off at the beginning of fall forming large reafts of floating vegetation that can impede navigation. Harvesting was attempted but proved to be an ineffective strategy at removing the floating plant material so alternative strategies were sought. After reading about PondZilla, we began a series of experiments and real world application to test the product.

Experiment 1

Date: 8/23/19

Setup: 50 foot turbidity barriers deployed in half circles along shoreline. Diameter 25 ft. One experimental, one control. Water samples taken inside corralled area and just outside of the sedimentation barrier for both Experimental and Control areas.

Total Area of treatment/control = $\frac{\pi r^2}{2} = \frac{(\pi)(12.5)^2}{2} = 245\ ft^2$

Chemicals used:

- Pondzilla (Enzyme catalyst) = $\left(\frac{245\ ft^2}{43560\ ft^2}\right)$(5 gal/acre)(128 fl oz) = 3.5 fl oz
- Komeen (Chelated Copper) = (0.75 ppm)(2 ft)(3.34) = 5 gal/acre ↑ = 3.5 fl oz
- Tribune (Diquat) = 1.4% or 1.0 fl oz
- Water = 128 fl oz

Date: 8/26/19

Results: Approximately 95%-98% (BEST GUESS) of the floating tape grass had sunk to the bottom, leaving the surface clear of almost all plant material in the experimental plot. All floating material remained unchanged in the control plot. Water samples taken inside corralled area and just outside of the sedimentation barrier for both Experimental and Control areas.

Before

After

Experiment 2

Date: 8/26/19

Setup: 50 foot turbidity barriers deployed in half circles along shoreline. Diameter 25 ft. One experimental, one control. Water samples taken inside corralled area and just outside of the sedimentation barrier for both Experimental and Control areas.

Total area of treatment/control: 245 ft^2

Chemicals used:

- Pondzilla (Enzyme catalyst) = $\left(\frac{245\ ft^2}{43560\ ft^2}\right)$(8.5 gal/acre)(128 fl oz) = 6 fl oz
- Komeen (Chelated Copper) = (0.75 ppm)(3.5 ft)(3.34) = 8.5 gal/acre ↑ = 6 fl oz
- Water= 128 floz

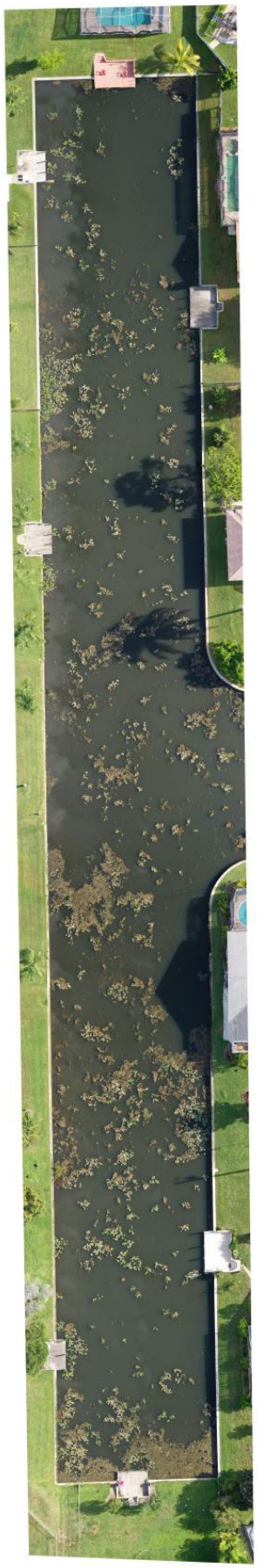
Date: 8/29/19

Results: Almost all floating tape grass had dropped out within 3 days. Surface was clear of plant material and water was clear enough to see the tape grass on the bottom of the corral. All floating material remained unchanged in the control plot.

Before

After

Large scale Applications: (Mixture # 2)



Experiment 3

Date: 9/6/19

Setup: One 50 foot turbidity barrier was deployed across the corner of a canal intersection creating a triangle with seawall on 2 sides. Posts were hammered into the ground close to the seawall to create sealed ends so that plant material cannot move in or out of the experimental area.

Total area of treatment: 575 ft^2

Chemicals used:

Pondzilla (Enzyme catalyst) = $\left(\frac{575\ ft^2}{43560\ ft^2}\right)(8.5\ gal/acre)(128\ fl\ oz) = 14\ fl\ oz$

Results: No immediate change was seen. After a week of no change a second application at the same rate of Pondzilla was performed. After another week, approimatly 60% of the plant material remain in the roped off area. A third application was performed with the mixture in experiment 2 and all remaining plant material dropped out within 2 days.

Before (After missing)

Conclusion

Both canal treatments were very successful at sinking the tapegrass and proved to be an effective solution to get rid of the floating vegetation impeding navigation channels. Results were achieved much faster in conjunction with a chelated copper herbicide.