

PROJECT DETAILS

THE PROJECT

In 2015, Florida Legislators approved an appropriation of \$1.6 million to fund an innovative pilot project to remove *Lyngbya* and restore the natural habitat. Managed by a not for profit community group of volunteers called Save Crystal River, Inc., the project kicked off these restoration efforts September of 2015 in a 3.4 acre test site within canals that feed Kings Bay.

The project involved three steps:

1

REMOVE

Lyngbya and many feet of decayed organic material



2

RESTORE

Native Grass using protective cages



3

MAINTAIN

Native Grass Protection



THE PROJECT STEPS

The Pilot Project:

Step 1: *Lyngbya* Removal

The algae was removed through specially designed vacuum equipment. The suctioned material was transported through vacuum tubes into a mechanical separator located on shore. The water was filtered out and returned to the canal, and the algae was dried and transported to an offsite non profit agricultural facility to be used as a soil additive.



Manatee-friendly modified “suction barges” with mechanical and hand-held hoses were used to remove *Lyngbya* but not the natural sediment.



The Triflo Mechanical Dewatering System separates the sediments, while fine mesh filters remove and clean the water, which is returned to the canal.



Mechanical separator

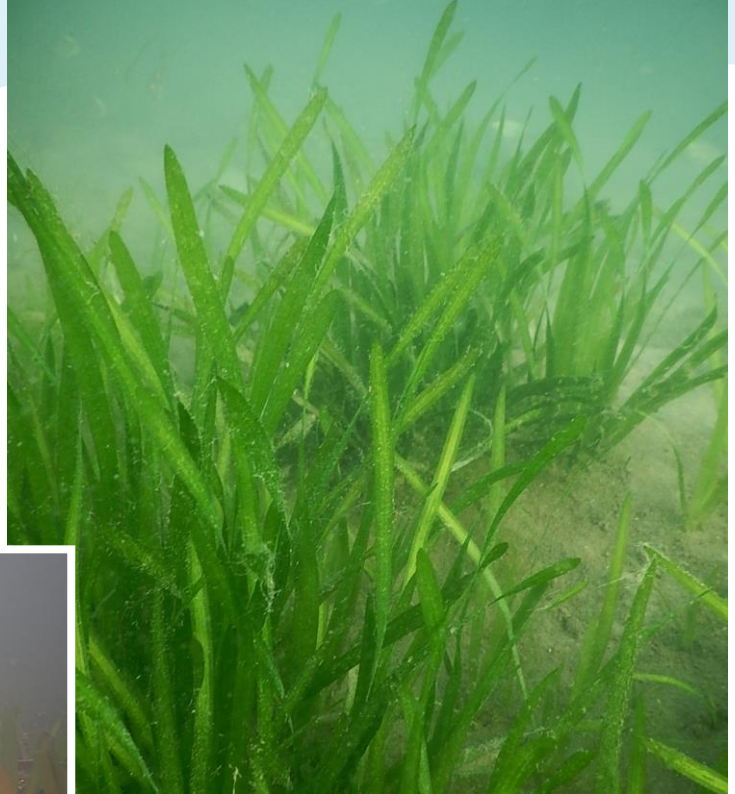
Fact

Over 8,000 cubic yards of *Lyngbya*, 90% of phosphorous and 40-70% of nitrogen, key nutrient sources for algae growth polluting our waters was removed.

THE PROJECT STEPS

Step 2: Restoring the Natural habitat

Once the *Lyngbya* was removed, aquaculture specialists planted tape grass — a natural, native habitat for fish and crabs. Tape grass is also a good source of nutrition for manatees, turtles, waterfowl, crayfish and snails. The tape grass (*Vallisneria americana*) was grown in aquaculture facilities until its root structures were developed, then transplanted in peat pots and placed in the water on the canal floor.



Tape grass growth in only two (2) months



Tape grass planted underwater shows oxygen bubbles produced by grasses

Fact

The tape grass selected for the project was created by the University of Florida and nicknamed “Rock Star” because of its impressive performance in the battle against *Lyngbya*. This grass outcompetes *Lyngbya* for available nutrient resources.

THE PROJECT STEPS

Step 3: Maintain restored habitat

Tape Grass Protection. What makes this project so unique is that all the newly planted tape grass is surrounded by **manatee friendly specially designed patented** “exclusion cages”, which prevents herbivores from eating it before it has a chance to take root.

Once plantings are thriving, the cages will be easily removed **and used for future Kings Bay Restoration Project(s)**.



Specially designed, patented exclusion cages designed to protect newly planted tape grass

Fact

Over 360 patented exclusion cages protecting 1,800 “Rock Star” grasses