Most of the Eelgrass Has Disappeared in the Lower St. Johns River

The St. Johns River estuary is in trouble.

An unprecedented amount of submersed vegetation has been lost from just south of Jacksonville through Palatka and Lake George. The dramatic decline occurred in 2017 following Hurricane Irma and subsequent storms. Because of decreased water quality conditions, causing loss of light to the bottom, eel grass and other plants have not been able to recover.

Eel Grass
(*Vallisneria americana*)

Why is Eelgrass Important?

- Underwater grasses are needed for baby fish to hide and grow.
- This estuary provides fish and shellfish for the St. Johns and Ocklawaha rivers.
- Grasses are vital to fishing and commercial shell fishing industries.
- Submerged vegetation is essential for manatee survival.

What Scientists Conclude

- 99% of submersed aquatic vegetation has been lost
- Approximately 90% of the plants are eelgrass.
- The primary reason is light not reaching plants on the bottom. Saltwater intrusion has also contributed.
- Increased runoff of dark water and nutrients promote algal growth which shades eelgrass.
- Grasses are not recovering after 2017 Hurricane Irma and other storms. The few remaining submersed plants are not growing.

Potential Solutions

- A cooperative effort by agencies and non-governmental organizations.
- Reduction of fertilizers, septic tanks, sewage disposal, and saltwater intrusion along the entire river.
- Breaching the Rodman/Kirkpatrick Dam would provide more than 150 million additional gallons a day of clearer, freshwater to the entire St. Johns River.
- Maintaining natural buffers along the shorelines.

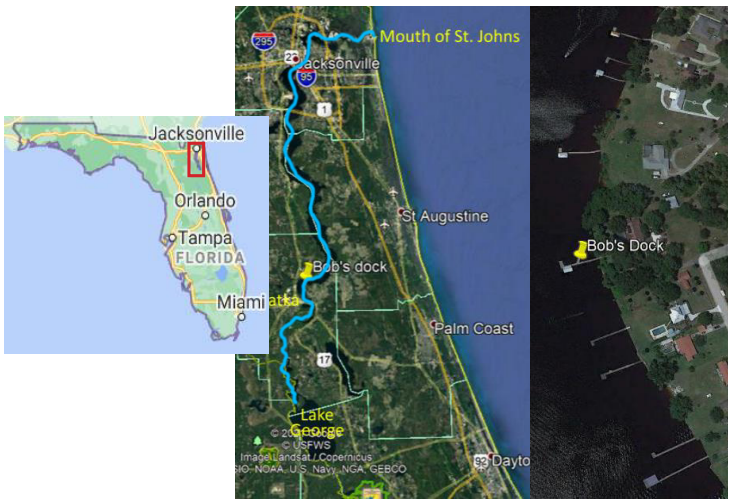
To learn how you can help go to stjohnsriverkeeper.org/ocklawaha/

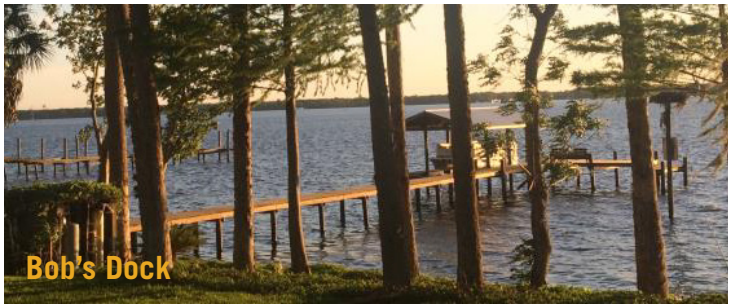
The unprecedented complete loss of SAV in the tidal freshwater St. Johns River, Florida

by Robert Virnstein

STUDY LOCATION

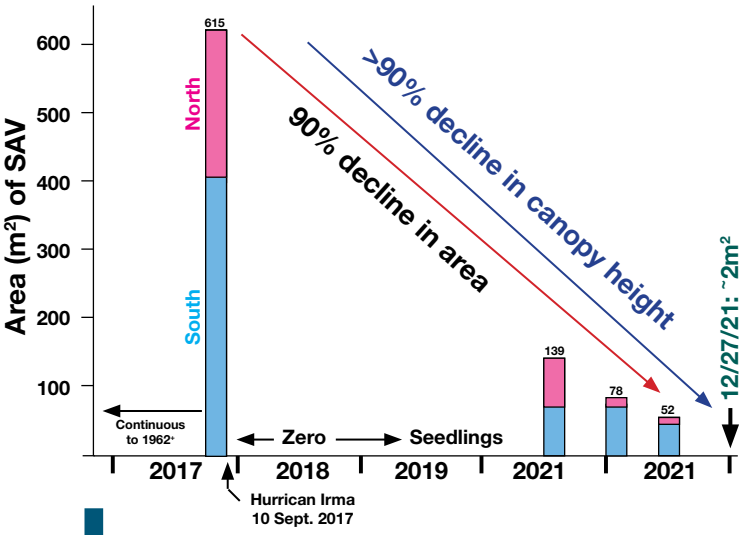
The 180-km tidal portion of the 500-km long St. Johns River





DATA:

Area (m^2) of SAV* south and north of the dock along 70 m of shoreline versus time, based on remote sensing and crawling around.



BIOMASS:

10% area remaining x 10% plant height = 1% of biomass remaining.

SEQUENCE OF EVENTS:

Prior to 2017: Dense *Vallisneria americana* (Val) beds had persisted for at least 55 years.

10 September 2017: Hurricane Irma.

2017-2019: Zero Val.

Spring, 2019: Val seedlings appeared.

2019-present: Only small(4-6 cm tall) Val seedlings in shallow water.

CONCLUSION:

1. A major (99%) loss of SAV. Attribute to light attenuation, not the 2017 hurricane itself. Similar pattern at 6 other sites along 125 km of the River.
2. SAV has not recovered in over 4 years.
3. Only tiny plants in shallow water now; no canopy.
4. Seed bank unknown.
5. A cooperative, non funded effort can do a lot.

*SAV = Submersed aquatic vegetation (eelgrass)

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"You can observe a lot by just watching." (Yogi Berra)