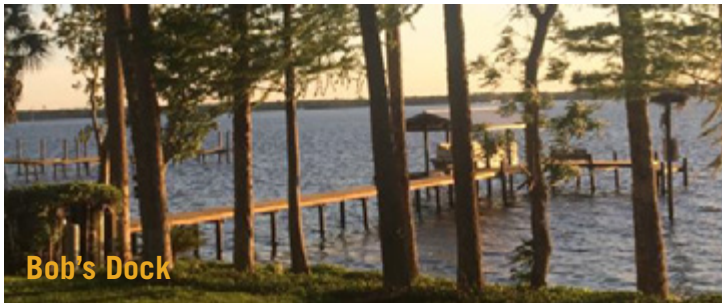
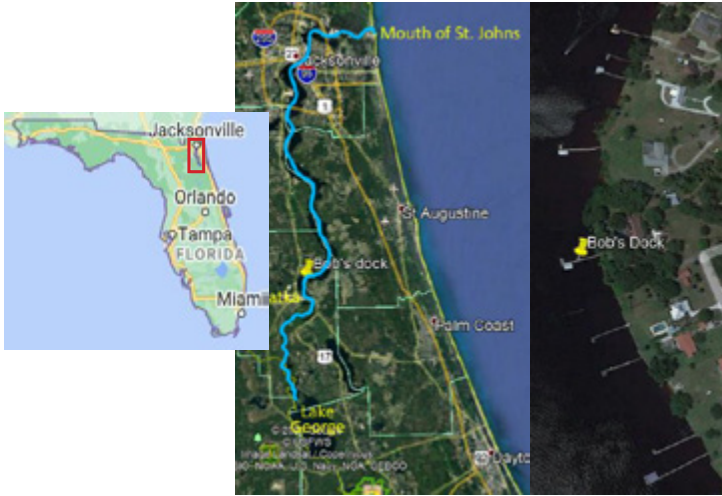


The unprecedented complete loss of SAV in the tidal freshwater St. Johns River, Florida

by Robert Virnstein

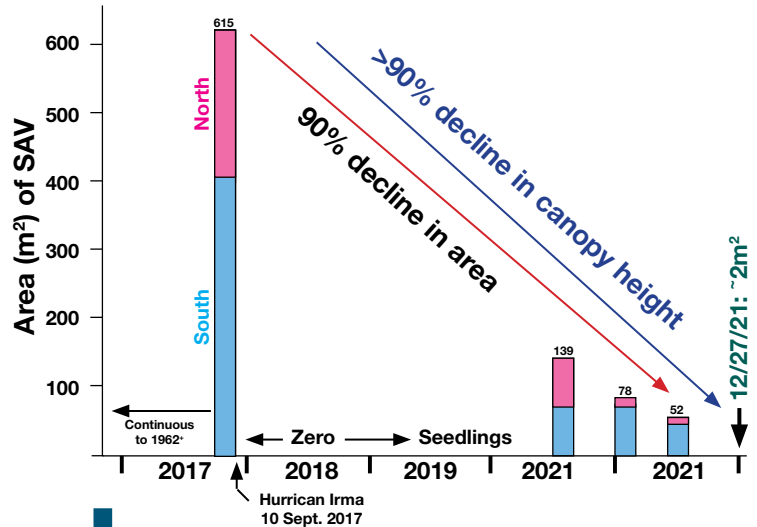
STUDY LOCATION

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



DATA:

Area (m²) 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.



Gainesville, FL

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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)

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