

# The Effect of Hurricane Irma on FWC's Sponge Nurseries and a Near-Shore Sponge Community



FKNMS Advisory Council

October 2018

William C Sharp

Fish & Wildlife Conservation Commission

Fish & Wildlife Research Institute

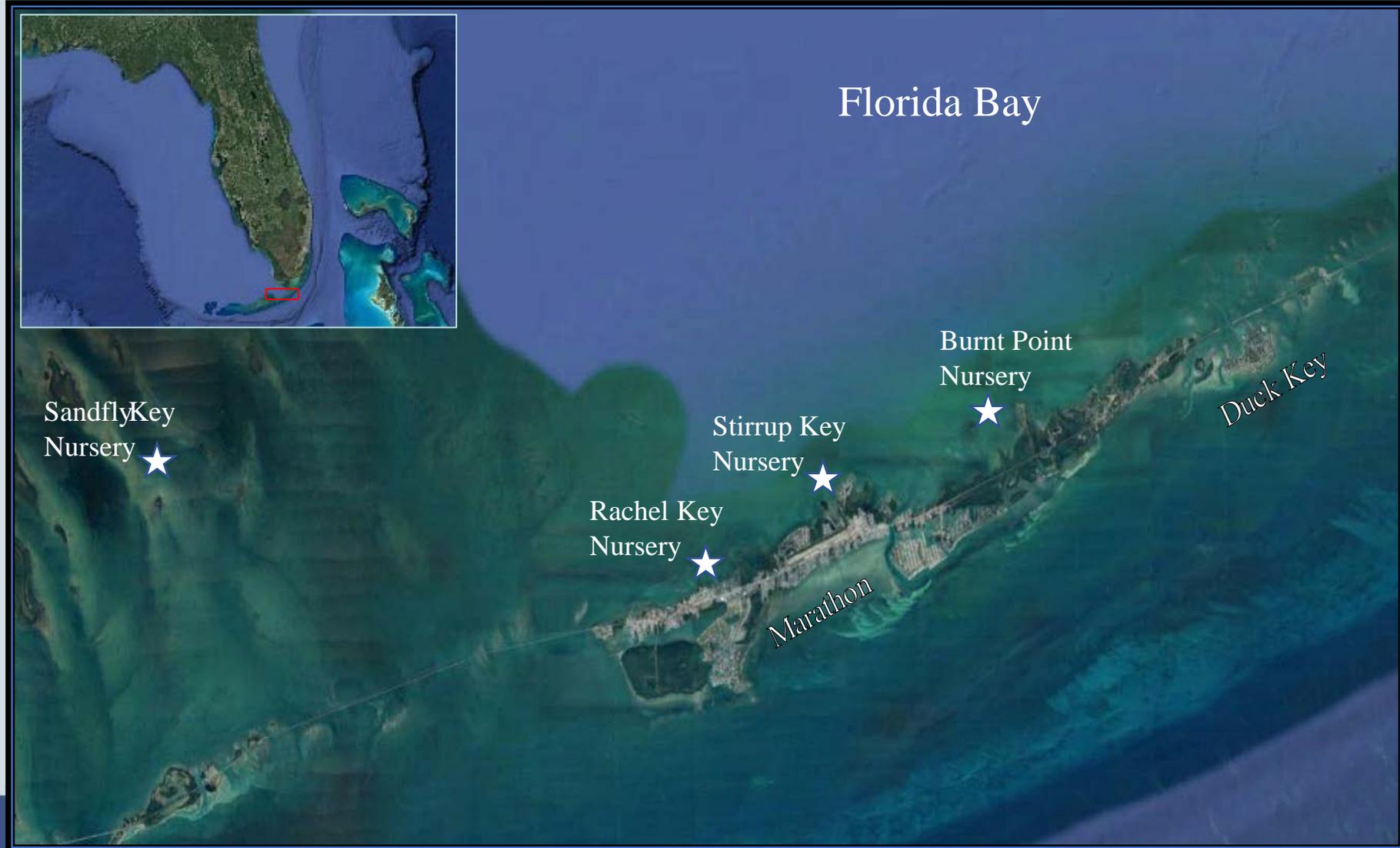


# Sponge Restoration Efforts – The Need

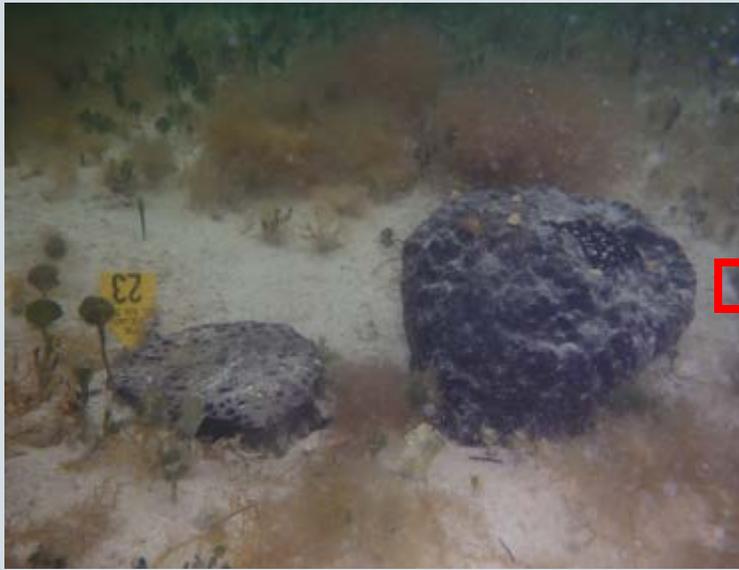
- Periodic cyanobacteria blooms have plagued Florida Bay since early 1990s
- Result in loss of nearshore sponge community that has been slow to recover
- Inspired efforts to restore sponge community on experimental scale



# Sponge Restoration Efforts – Scaling Up



# Sponge Propagation Process



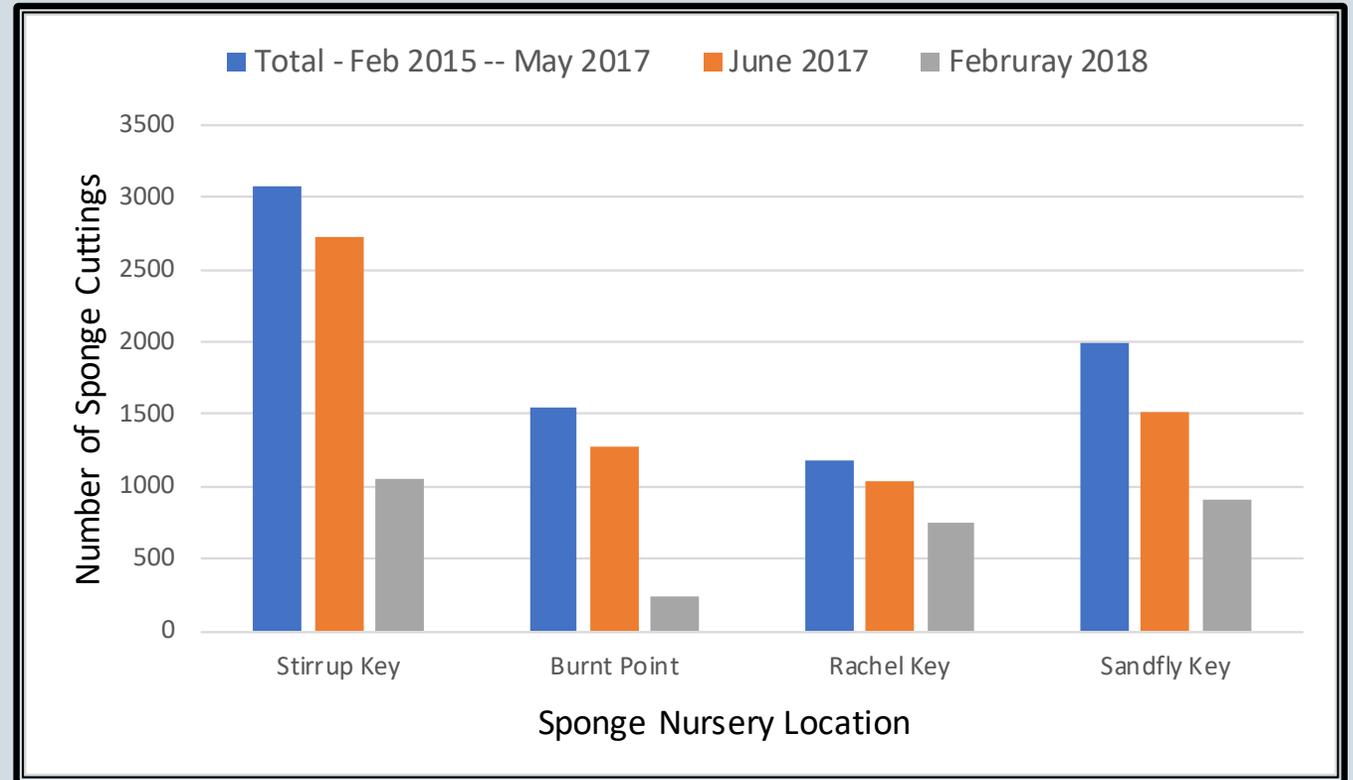
# May 2017

- Nearly 8,000 Sponge Cuttings



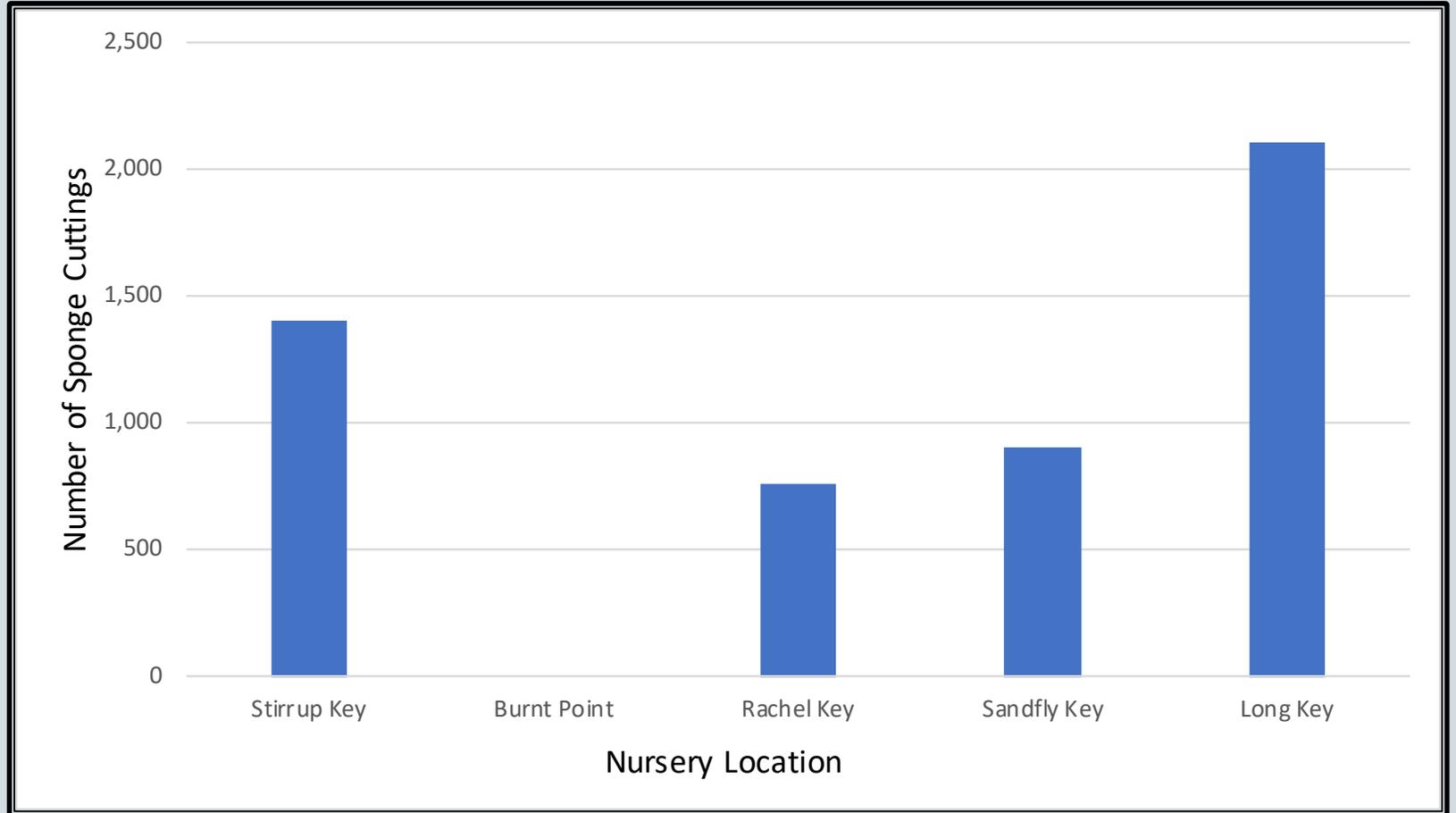
# Sponge Nurseries After Irma

- June 2017 Survival Rate = 84%
- Post-Irma Survival Rate = 40%; 3,000 cuttings



# Sponge Nurseries -- Rebuilding

- Discontinued Burnt Point Nursery
- New Nursery in Long Key Bight
- Approximately 5,000 Cuttings as of May 2018
- Propagating Again Starting Fall 2018



# Burnt Point Natural Sponge Community



# Burnt Point Pre-Irma

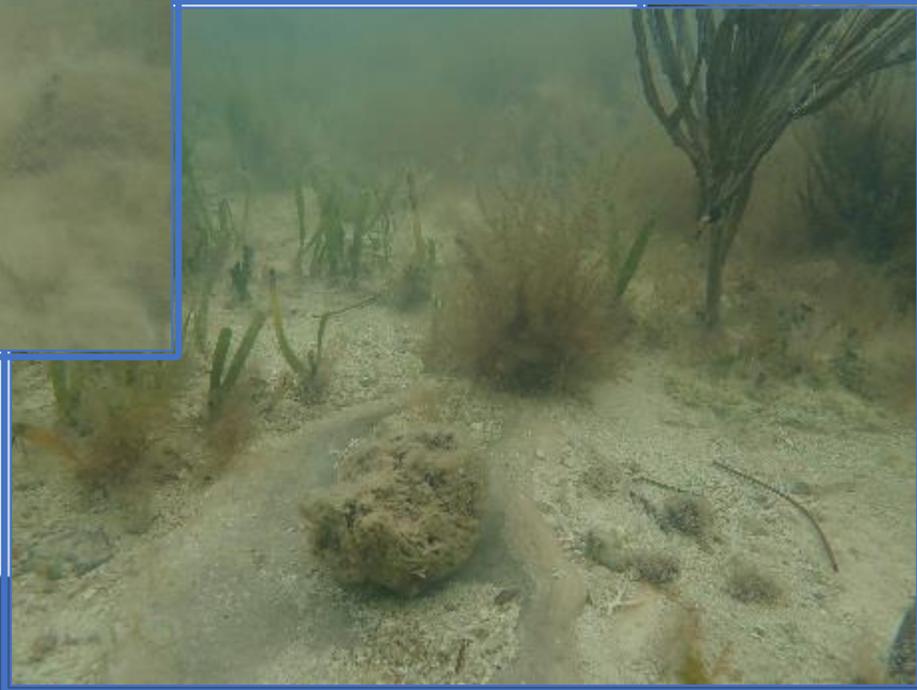


# Sponge Biomass Estimation

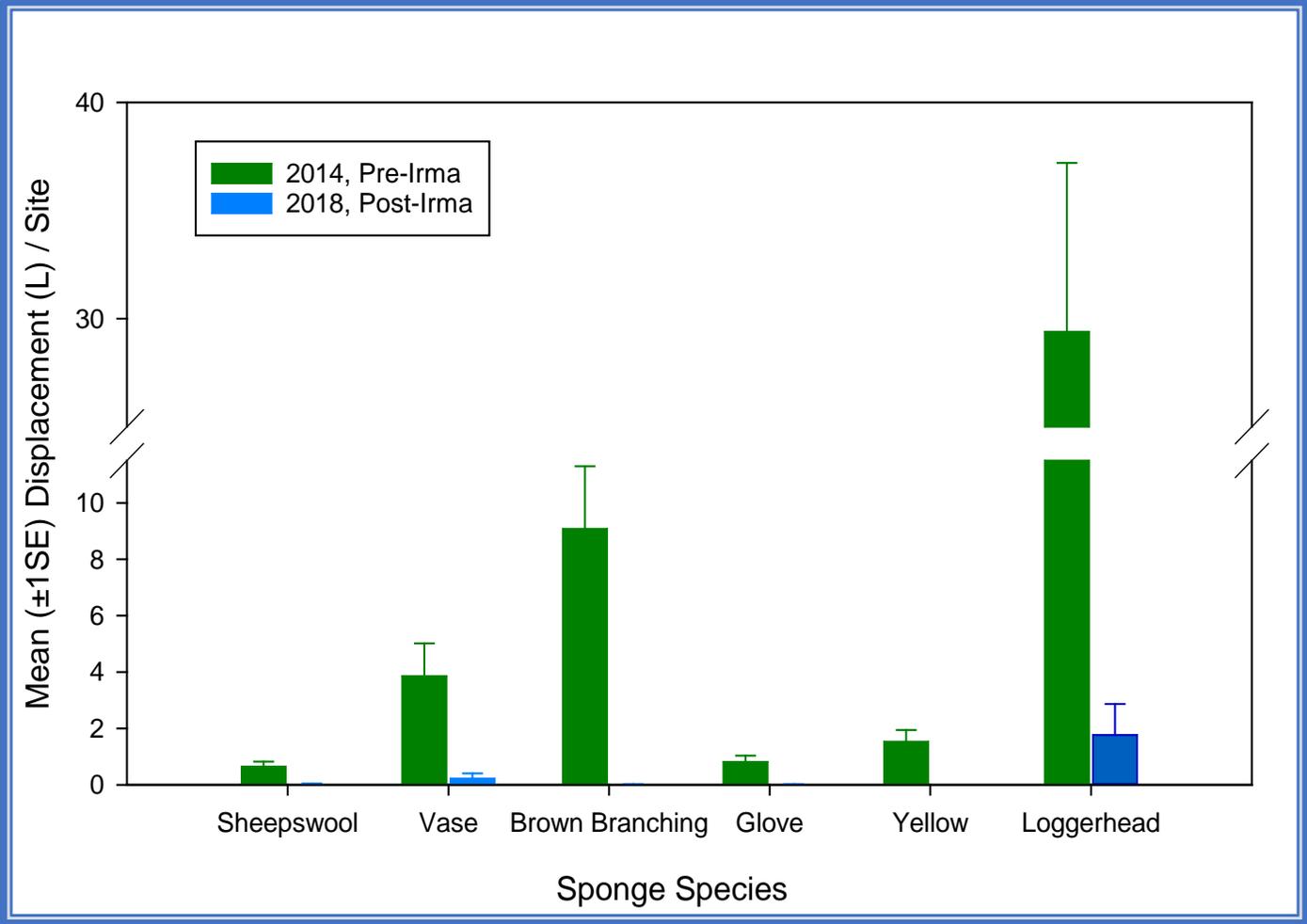
- All sponges identified to lowest taxonomic level possible; measured to estimate volume
- Sponges  $> 10$  cm diameter
  - 3 2 x 25-m strip transects
- Sponges  $< 10$  cm diameter
  - 12 1-m<sup>2</sup> quadrats
- Seagrass quantified by Braun-Blanquet rapid assessment method



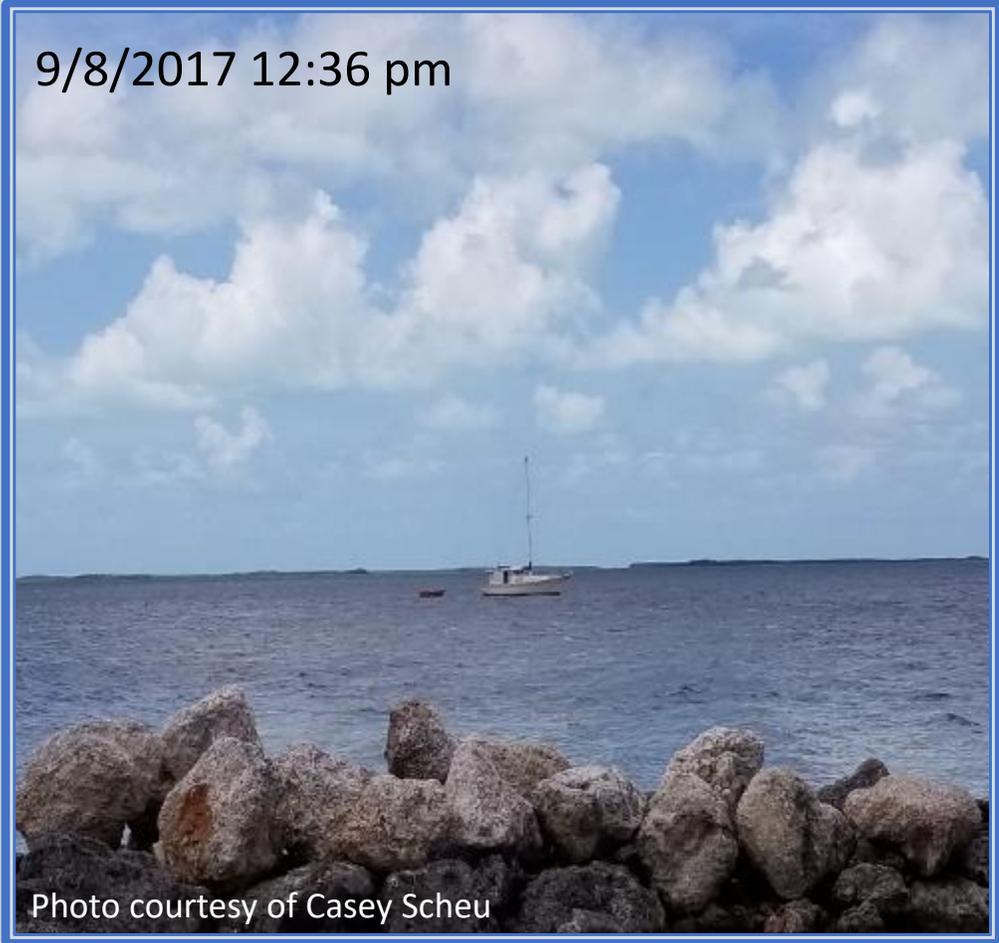
# Burnt Point Post-Irma



# Burnt Point Sponge Biomass



# Hurricane Irma Storm Surge Effect



# Upcoming Sponge Restoration Activities

- 2019: Restore Sponge Community on the East Side of Burnt Point
- Minimum of 5,000 Sponges of 6 Species

