



Restoring Resilience

Update on Florida Reef Tract

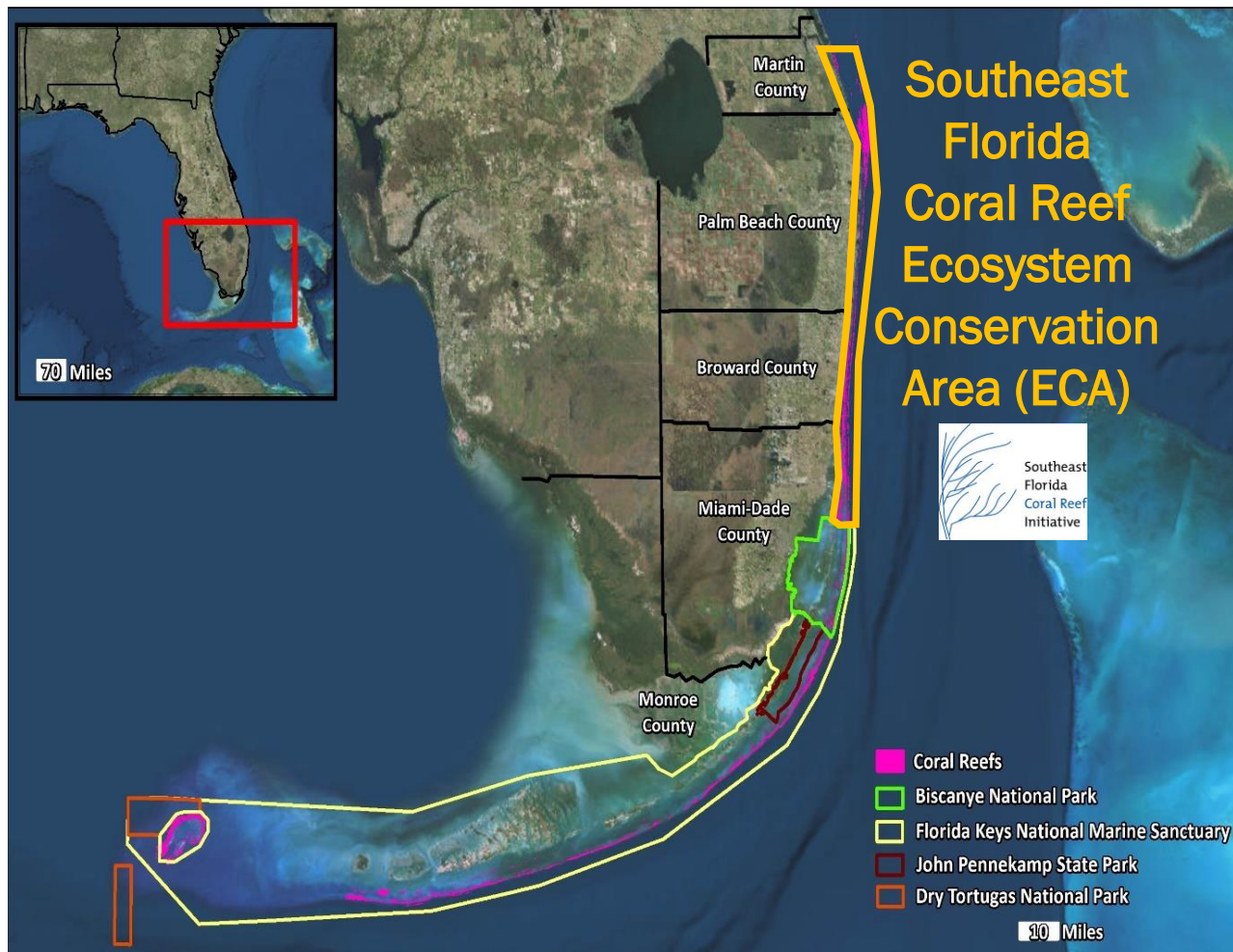
Coral Disease Outbreak Response Efforts

Joanna C. Walczak, SE Regional Administrator
Office of Resilience & Coastal Protection – SE Region



Florida's Coral Reefs

Florida Reef Tract

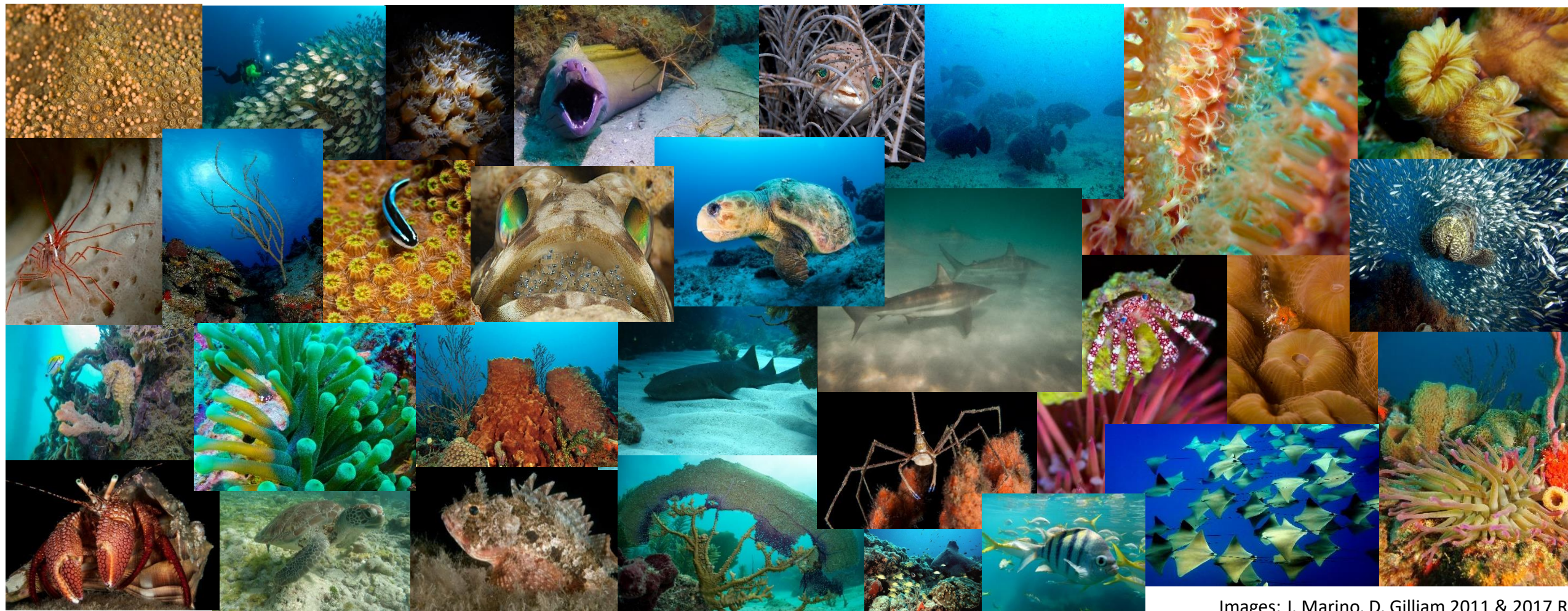


Images: DEP, D. Gilliam, NOAA



Florida's National Treasure

Ecologically Diverse



Images: J. Marino, D. Gilliam 2011 & 2017 Re



Coastal Resilience

Economically Essential

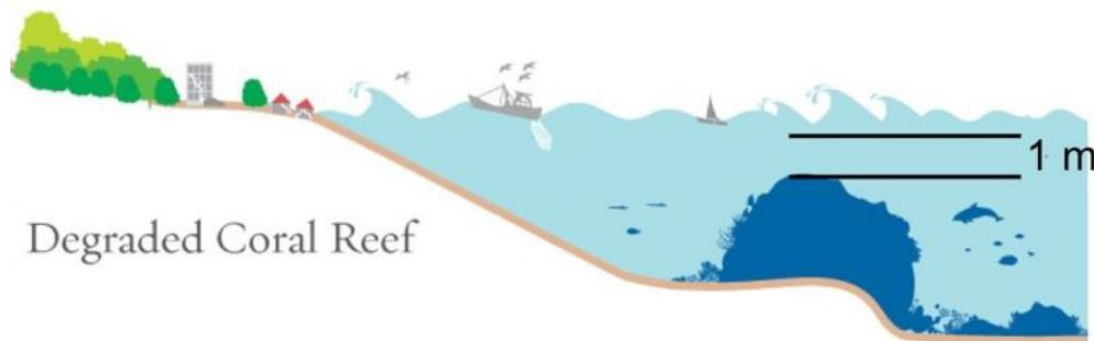
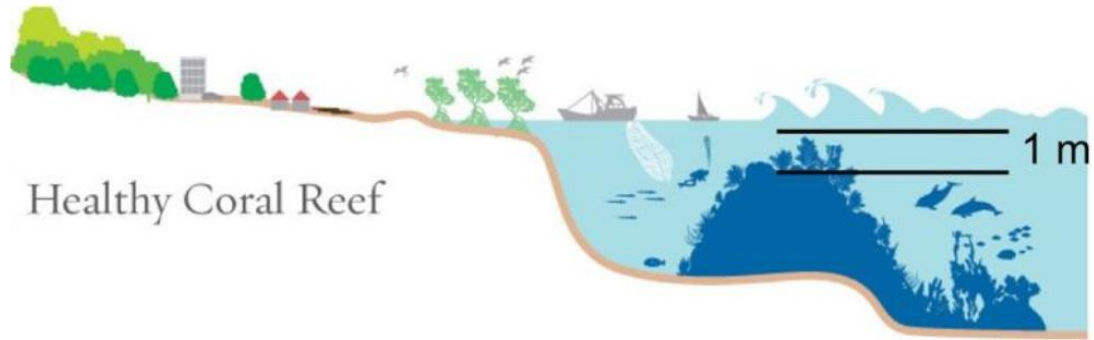


Illustration by Dawn Witherington



Economically Essential

Coastal Protection, Fishing, Tourism



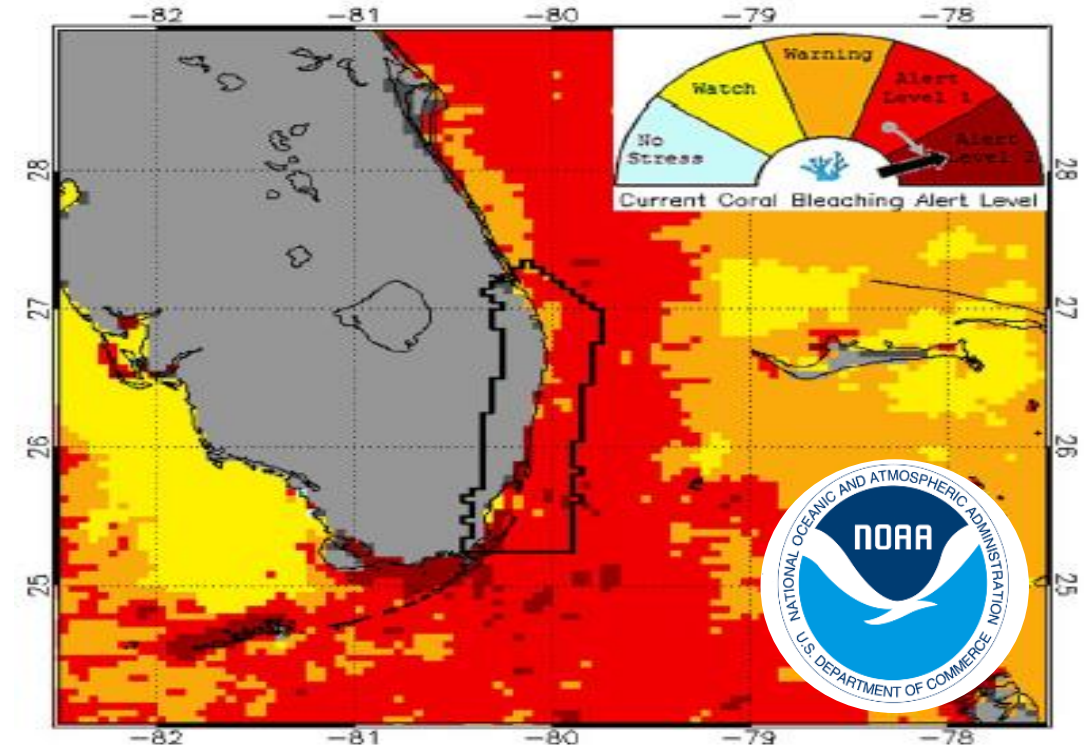
Images from: Mapping Ocean Wealth





Global Stressors

Increased frequency & severity of extreme thermal events
(hot & cold)



Ocean (& coastal)
acidification

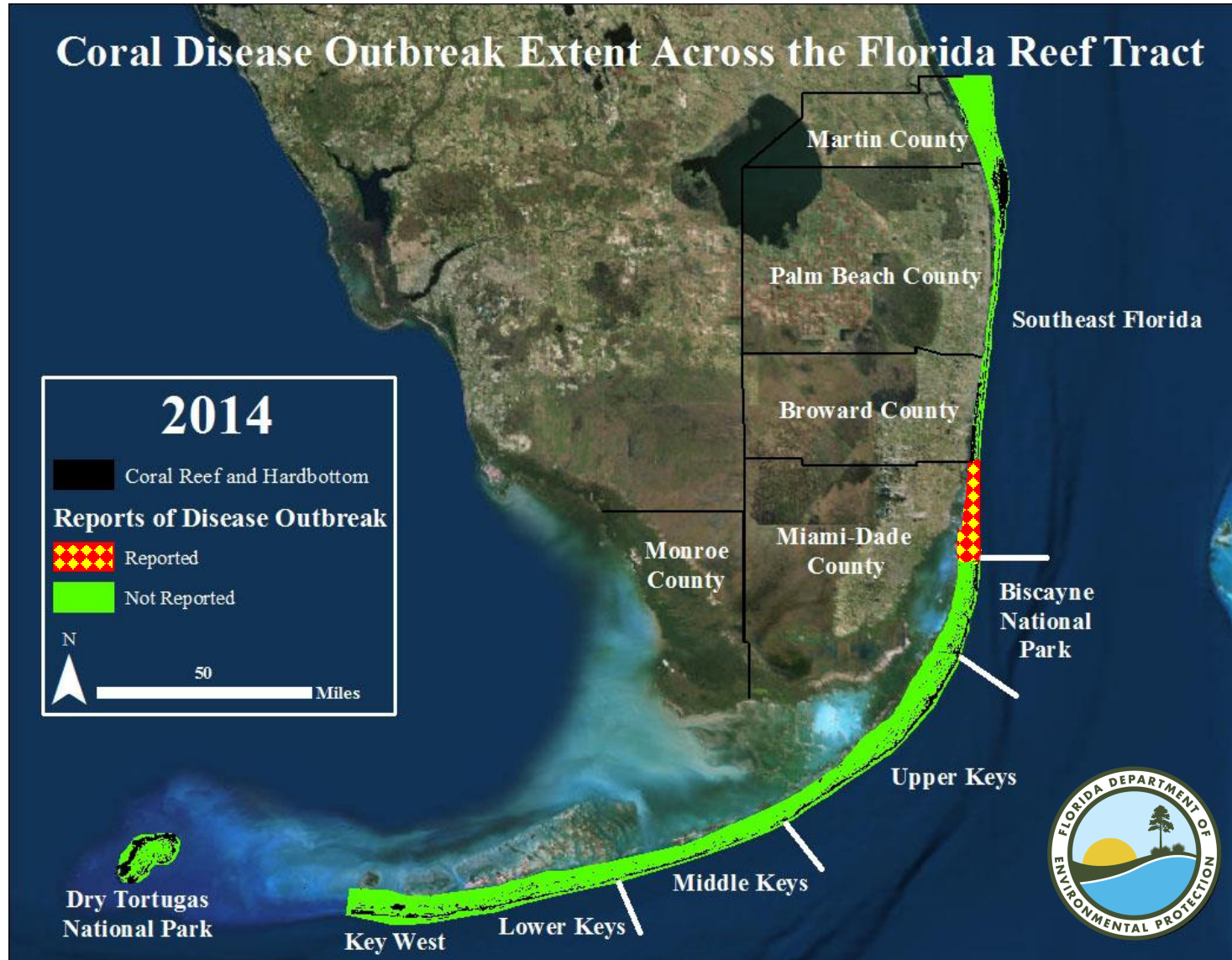


Local Stressors



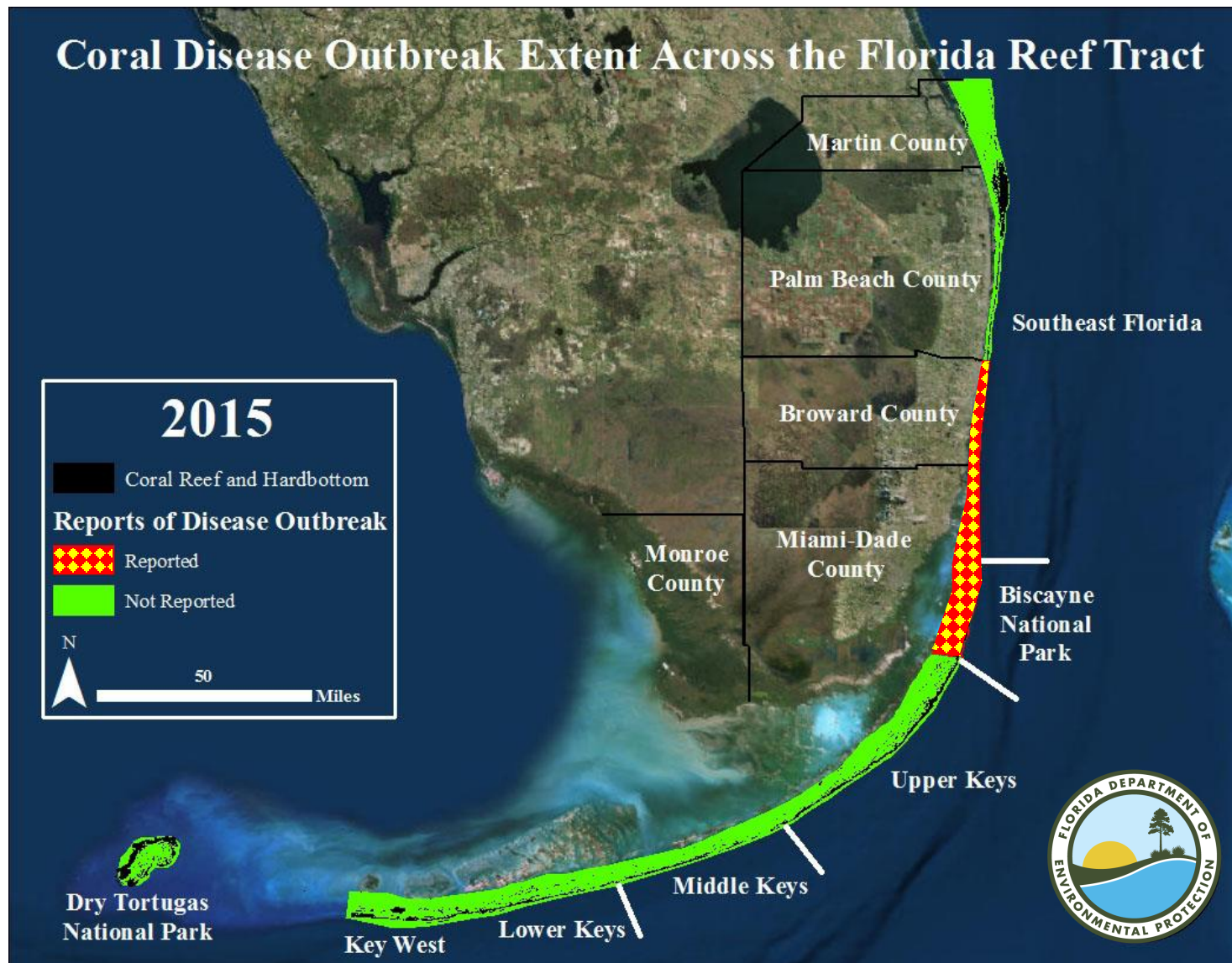


Florida's Coral Disease Outbreak



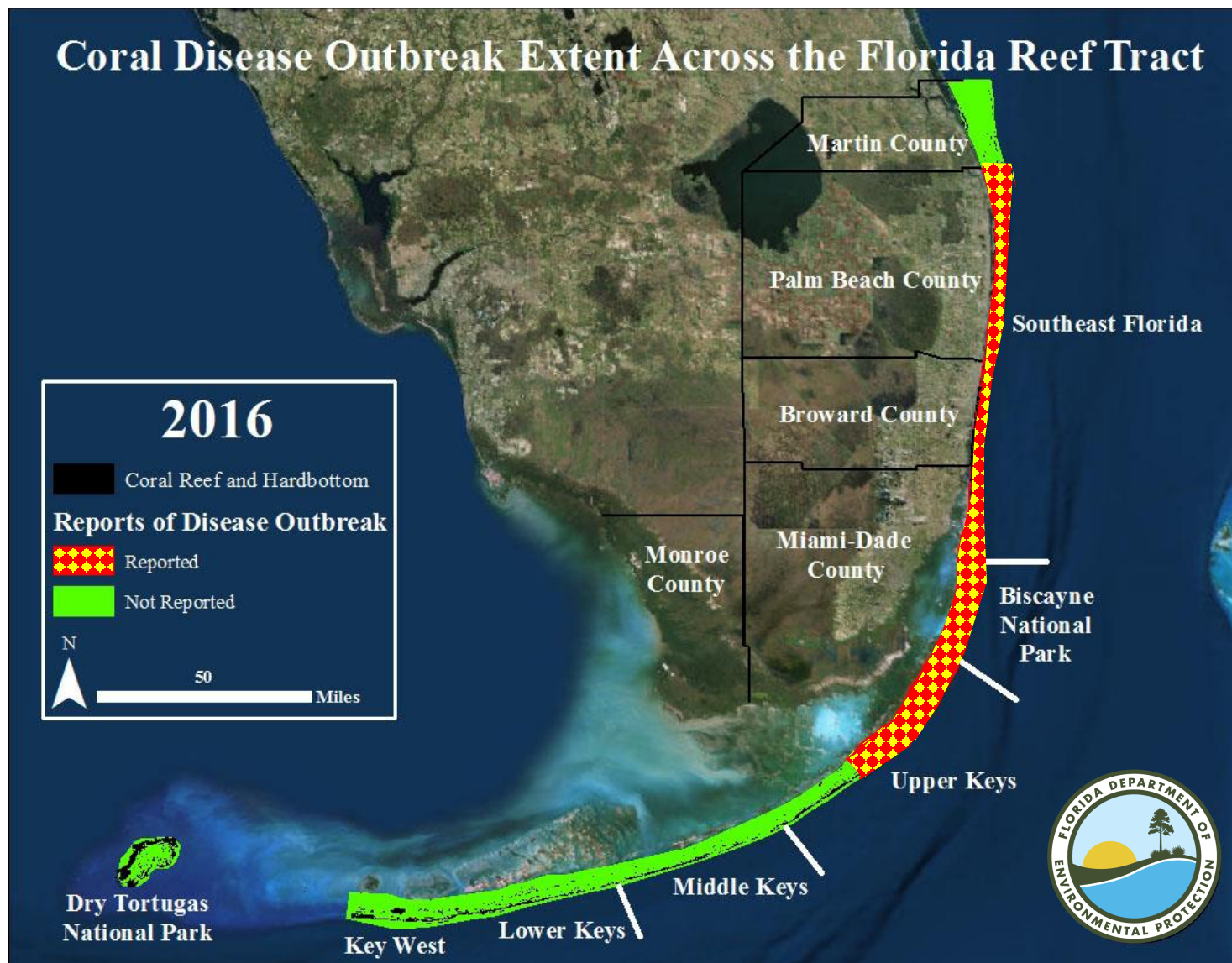


Florida's Coral Disease Outbreak



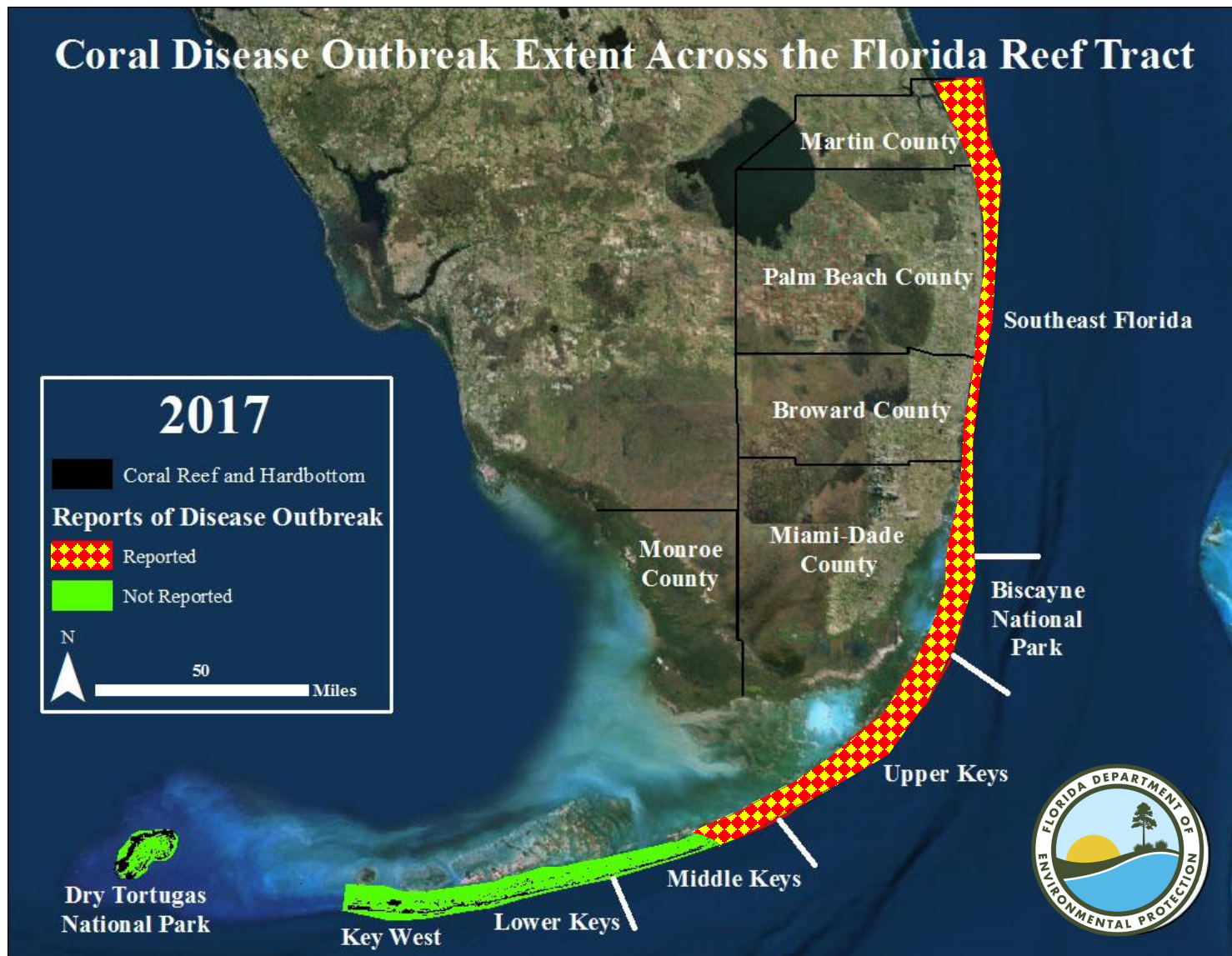


Florida's Coral Disease Outbreak



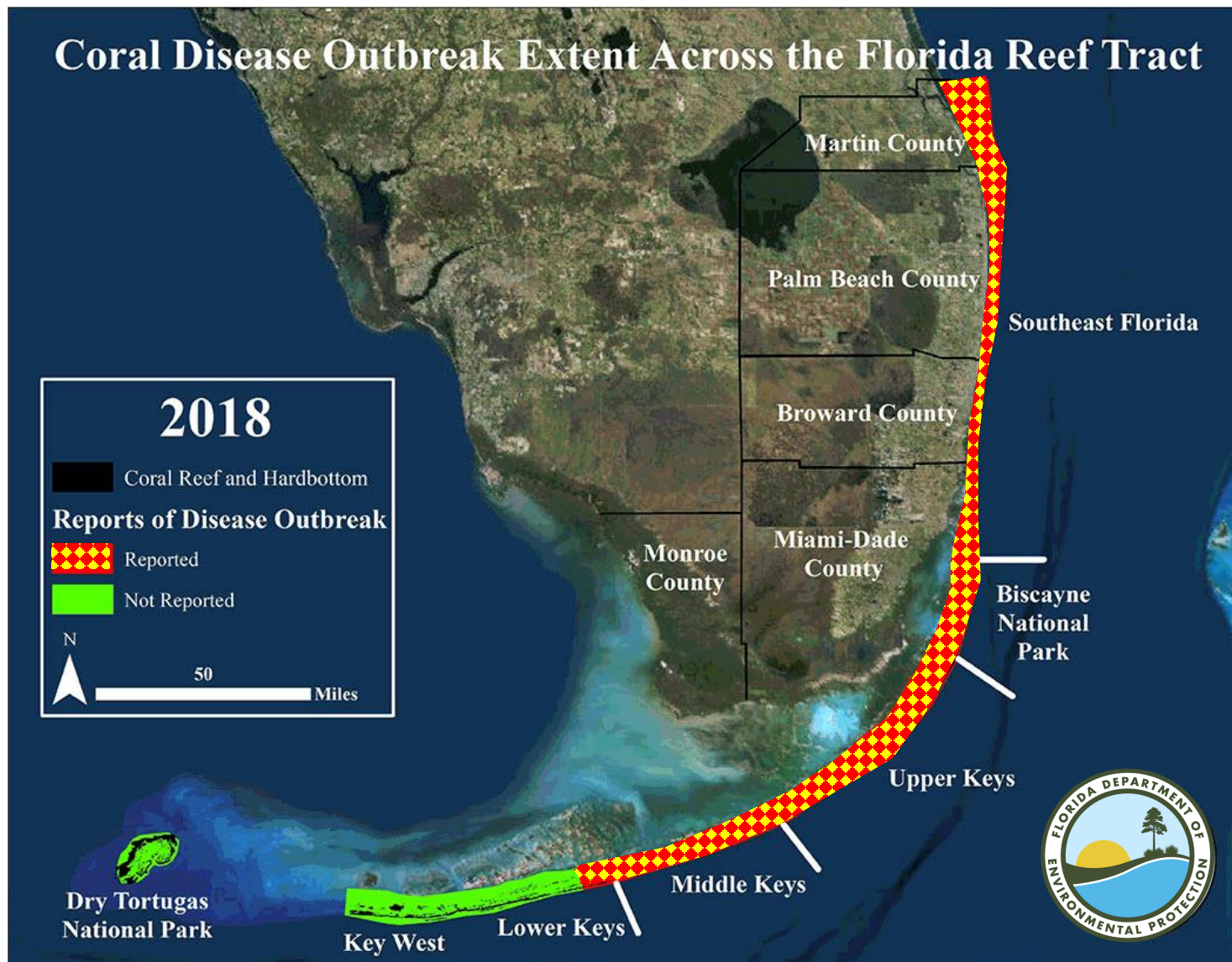


Florida's Coral Disease Outbreak



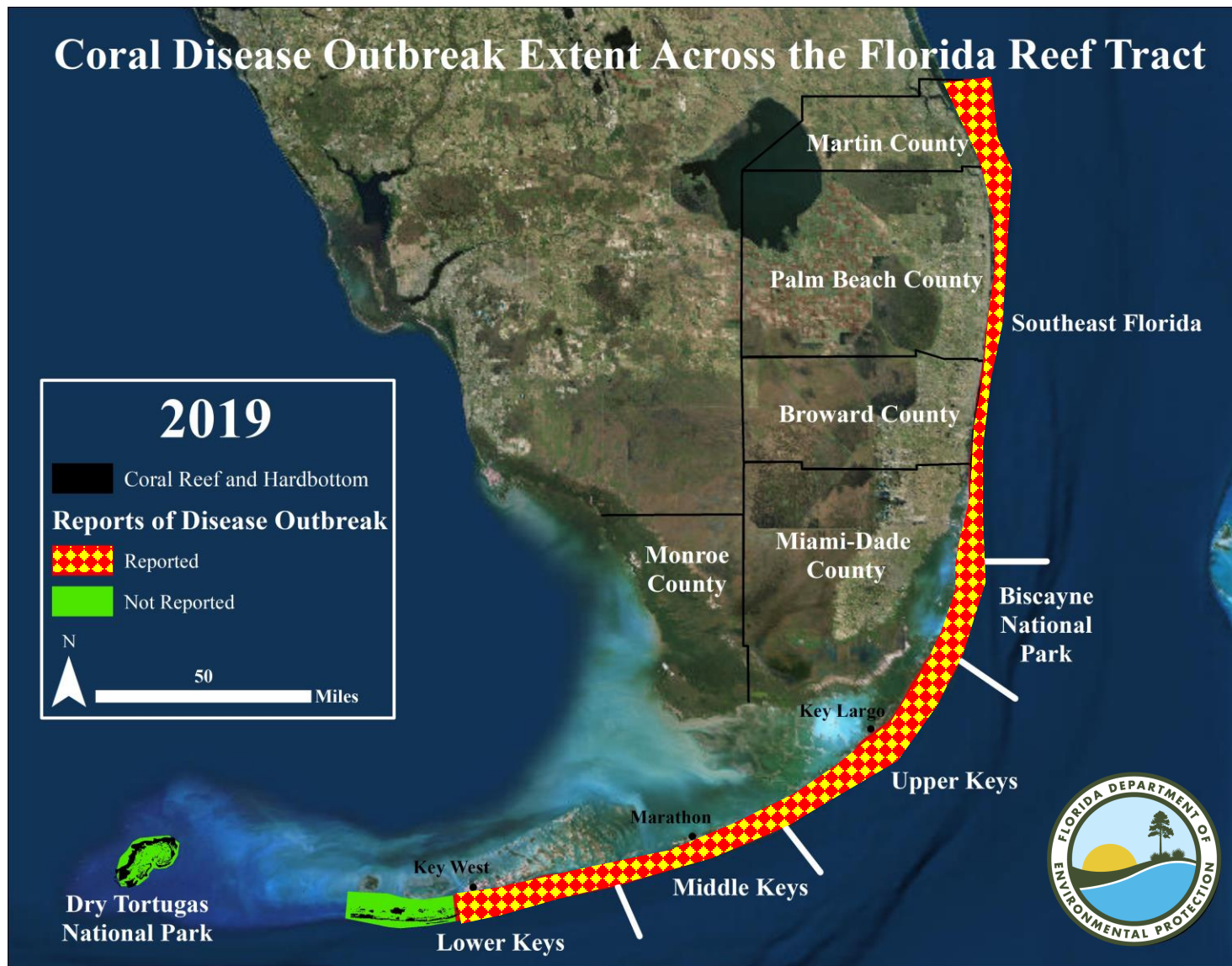


Florida's Coral Disease Outbreak





Florida's Coral Disease Outbreak





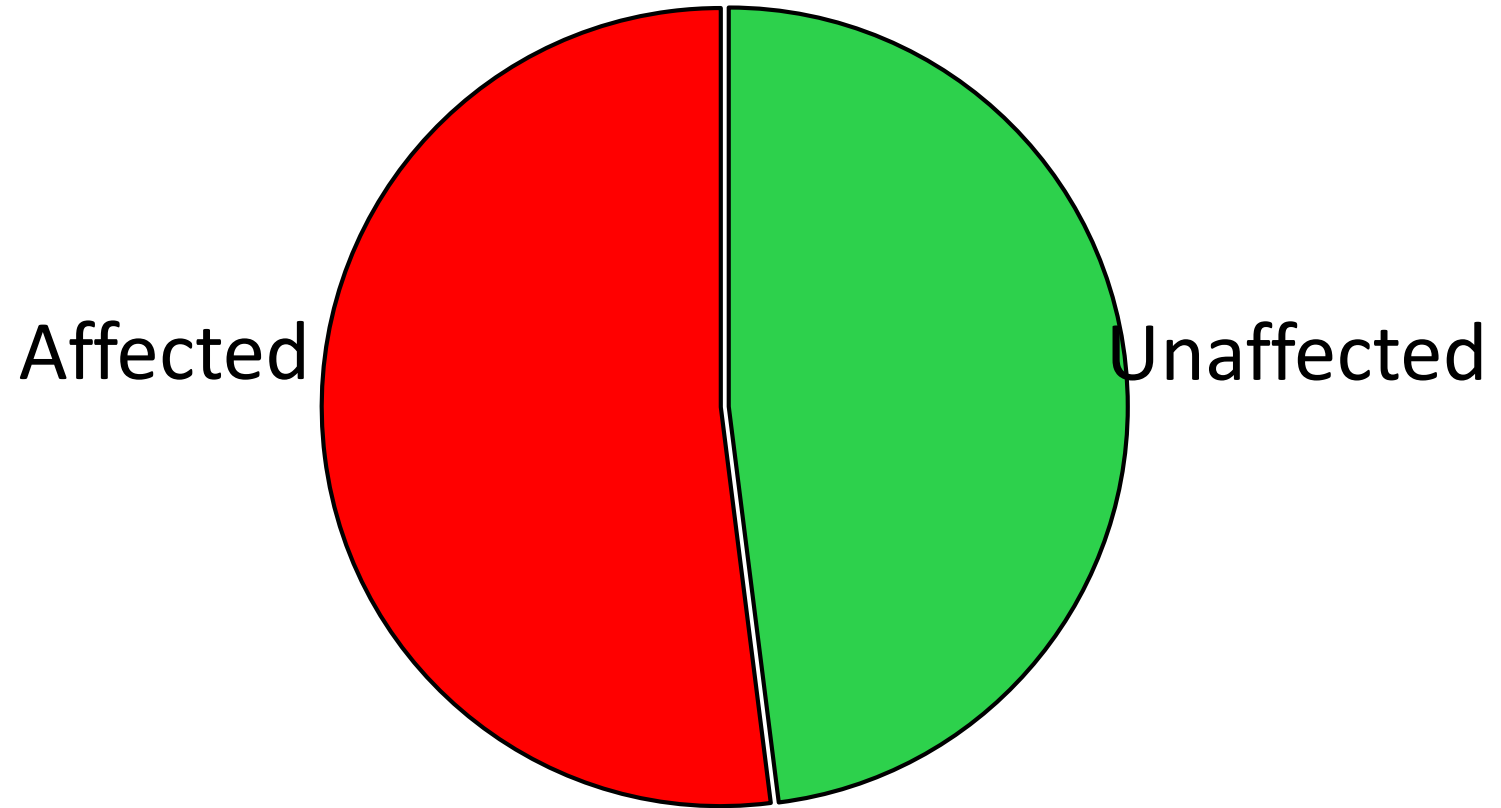
Stony Coral Tissue Loss Disease





Coral Species Affected

More than half
of Florida's reef-
building coral
species are
susceptible





Levels of Disease Within Species

Florida's "Normal"
= 2% to 3%





Levels of Disease Within Species

Very High
= 66% to
100%
(in certain species)





Florida's Coral Disease Outbreak

Progresses Rapidly





Florida's Coral Disease Outbreak





Florida's Coral Disease Outbreak

Reported effectively dead (<5% alive) in December 2015





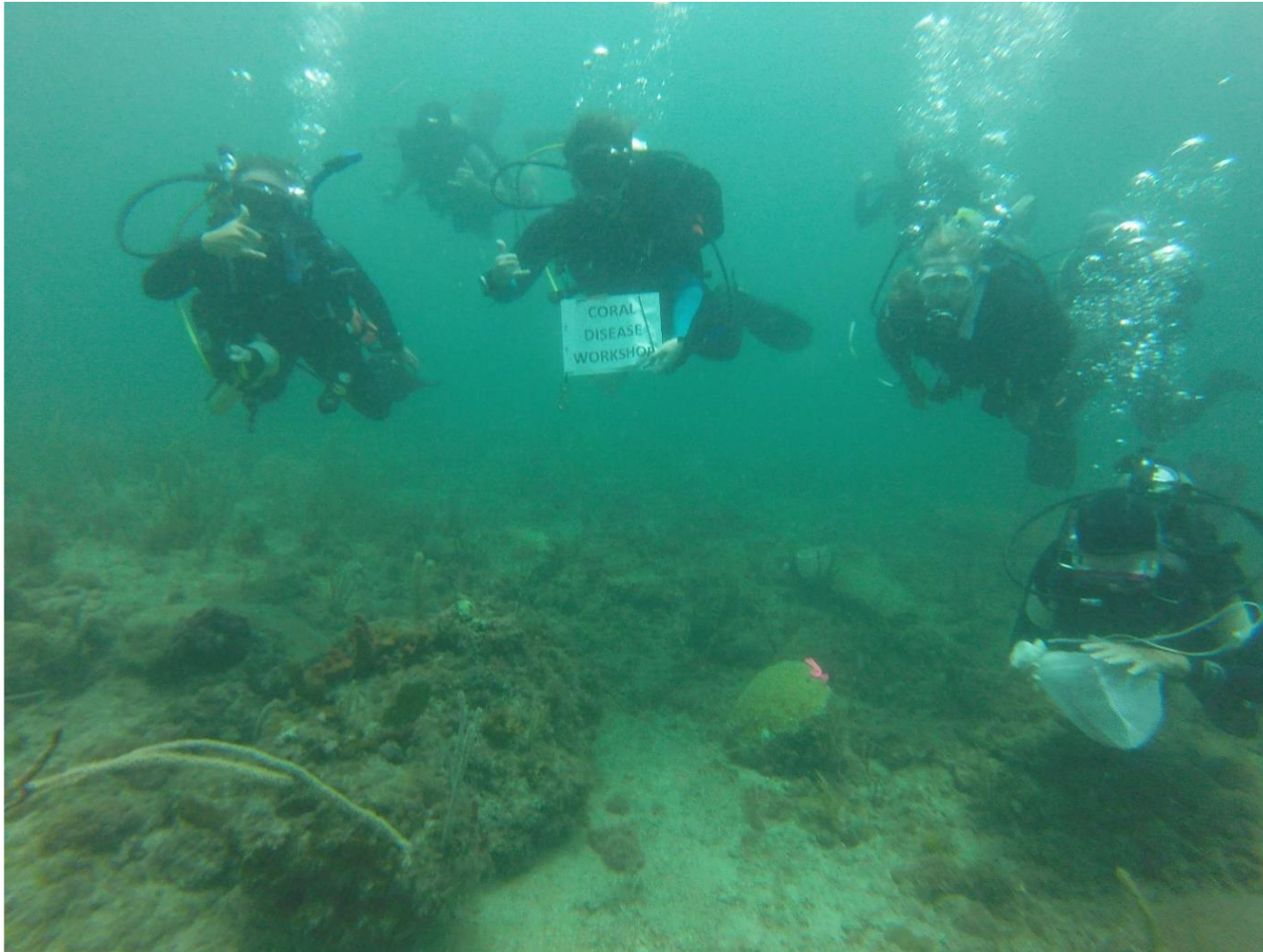
Disease Response Partners

Coordinated Multi-Faceted Response Effort





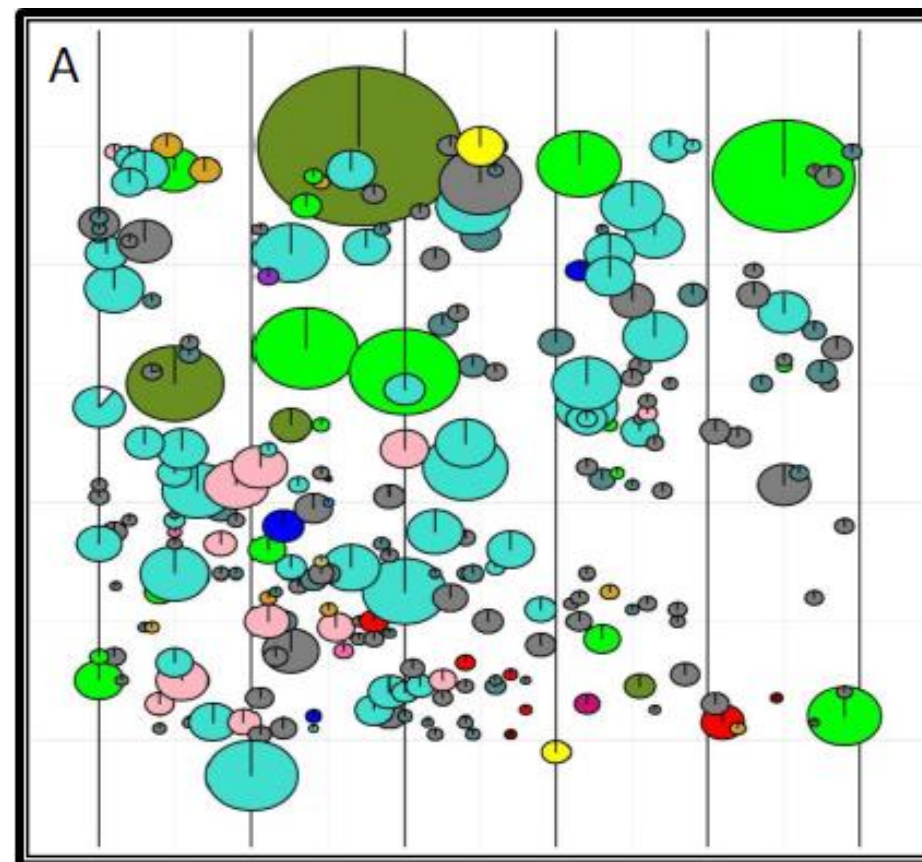
Disease Identification Training





Disease Surveys & Monitoring

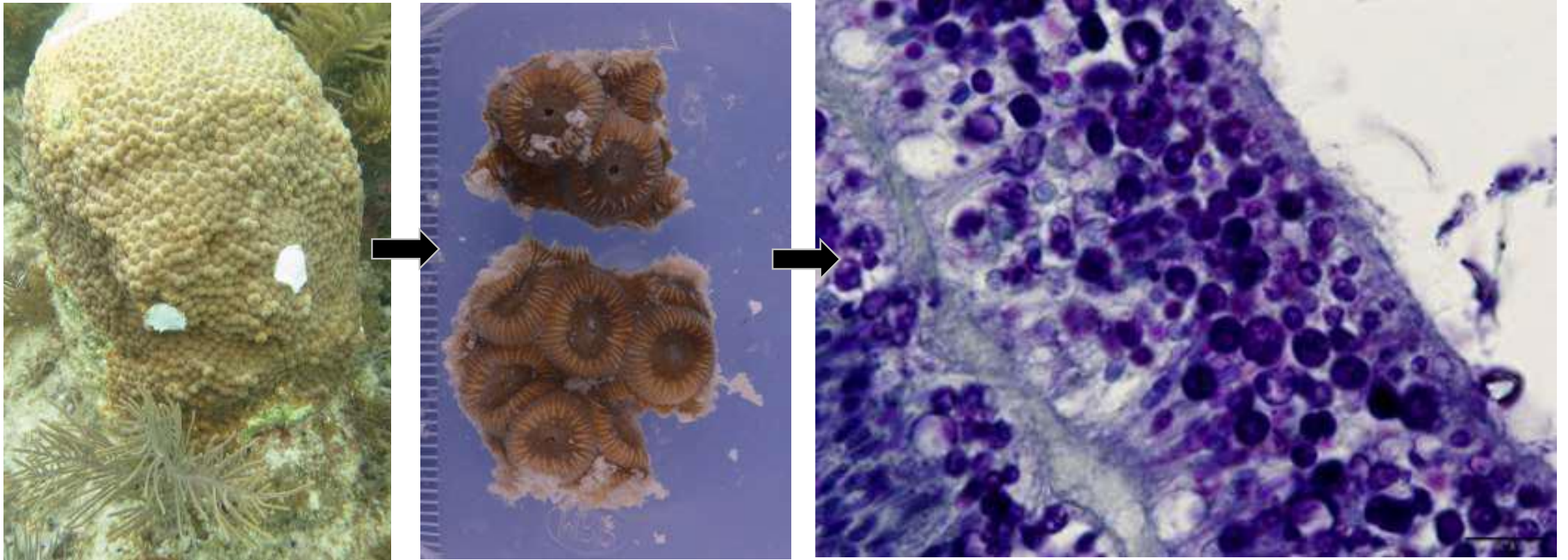
Distribution, Prevalence, Severity, and Associated Impacts





Search for the Pathogen

Identify Potential Pathogen(s) and Characterize the Disease(s)



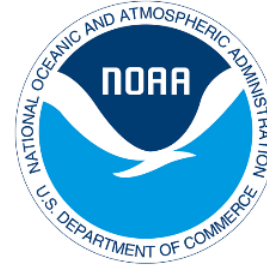


Technical Expert Workshops

November 2017 and July 2018

3-Day Coral Disease Technical Workshops

- Intervention action framework
- Coral rescue
- Restoration trials
- Community engagement
- Recommendations for response capacity and restoring ecosystem resilience



July Workshop Participants.

Photo: FDEP



Coral Rescue

Rescue Healthy Corals to Preserve Genetic Stock



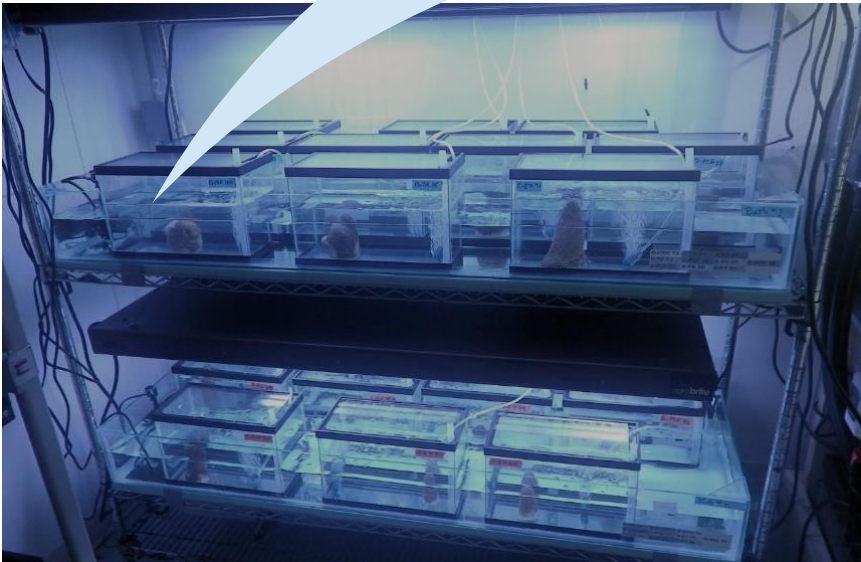


Innovative Disease Intervention

Treating Lesions on Priority Corals

**Laboratory trials
(Research &
Development)**

**Small-scale
field trials**

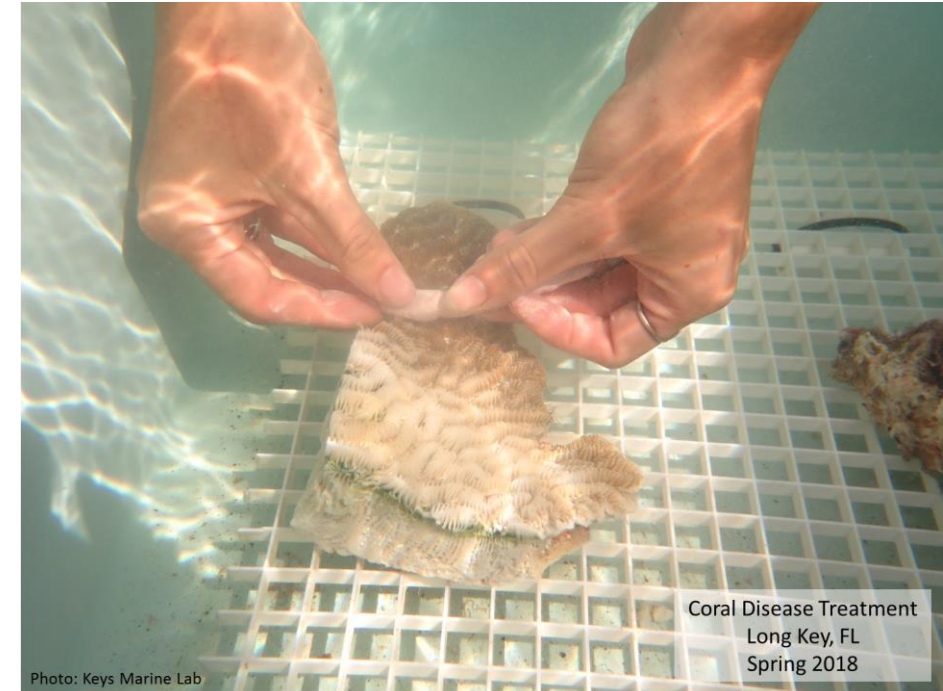




Legislative Funding – FY 17-19

DEP-funded \$3 million+ in coral disease projects:

- Surveillance and monitoring
- Spatial modeling
- Lab-based treatment trials
- Sample collection
- Pathogen isolation experiments
- Water quality monitoring for new coral reef Ecosystem Conservation Area (ECA)



FloridaDEP.gov/rcp/coraldisease

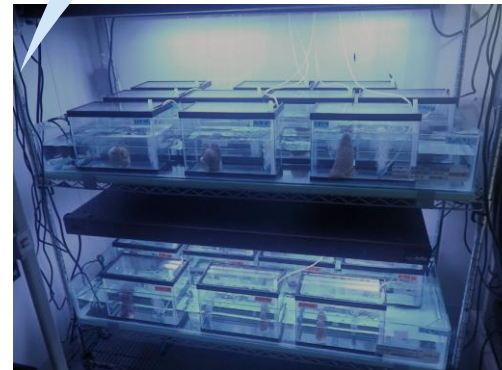


Legislative Funding – FY 19/20

DEP is funding \$4+ million in additional coral disease response projects:

- Intervention and coral rescue
“Strike Teams”
- Land-based infrastructure support for rescued wild corals
- Locating and propagating survivors
- Restoration Trials

FWC and Mote received an additional \$1.1 million for other coral-related projects



Laboratory trials
(Research & Development)

Small-scale
field trials

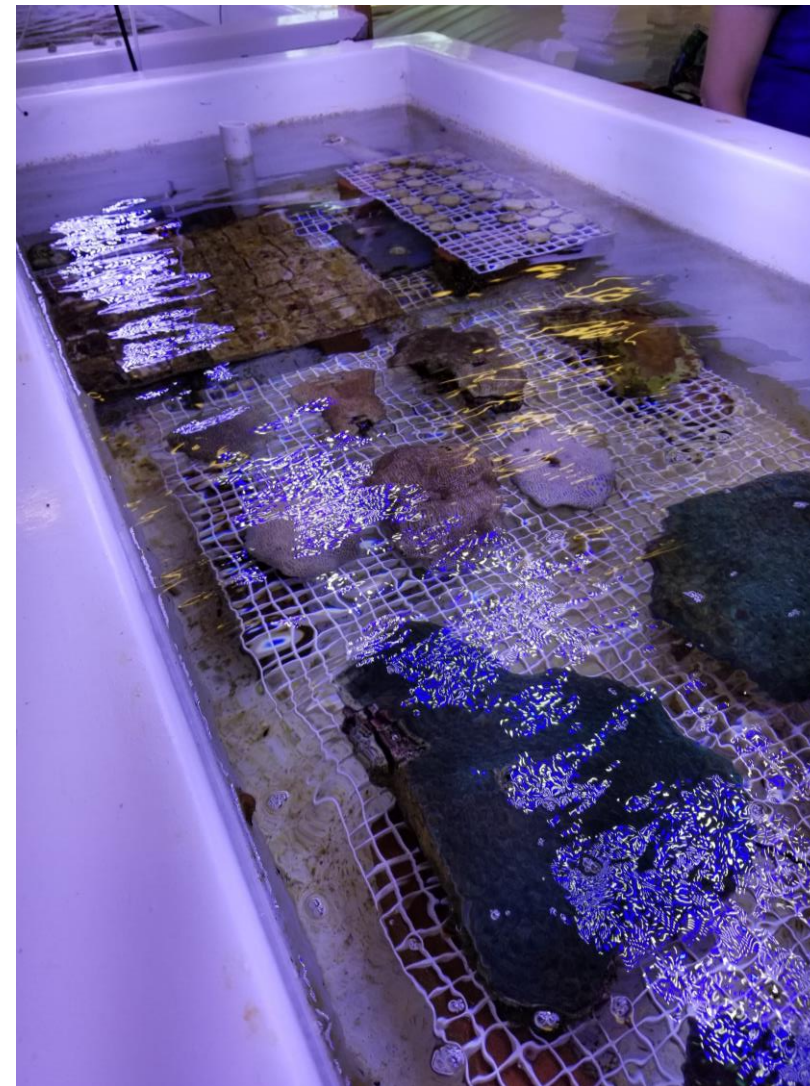
Larger-scale
field
application





Restoring Resilience

Restoration Trials





Restoring Resilience

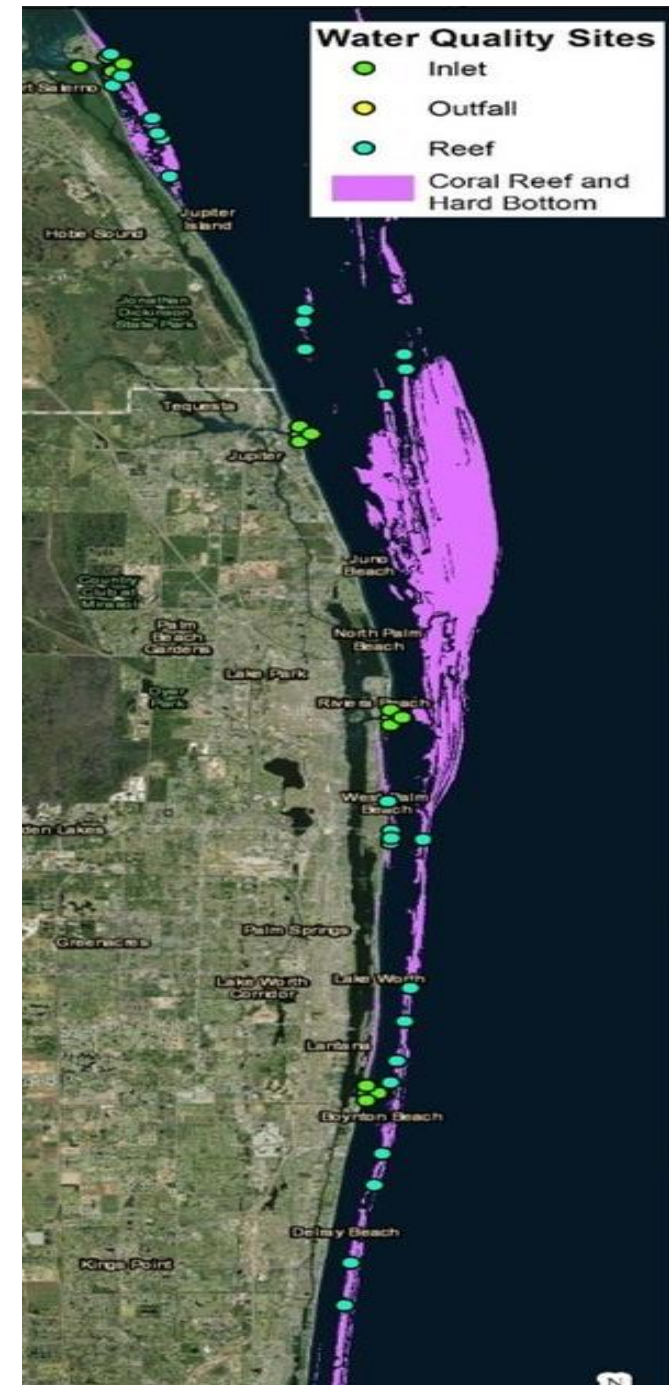
Coral Reef Water Quality Monitoring

Sampling began September 2017 at inlets, wastewater outfalls, and reef sites

- 115 sites monitored monthly from Miami to Stuart
- 9 inlets in 4 counties and 105 miles of coastline
- 132,000+ data points generated annually

Pilot Project is looking for:

- Potentially harmful levels of nutrients
- Indicators of freshwater sources
- Sedimentation/turbidity





Restoring Resilience

Short Term:

**Enhance
Disease
Response
Capacity**

=

Triage



Long-term:

**Reduce Local
Stressors &**

**Restore
Environmental
Conditions**

=

**Resilient
Reefs**



Thank you!



Joanna C. Walczak
Joanna.Walczak@FloridaDEP.gov