

Caribbean Fishery Management Council  
Outreach and Education Advisory Panel Meeting  
June 3 and 4, 2020

# Presence of Stony Coral Tissue Loss Disease in Puerto Rico

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*In support of*  
NOAA National Marine Fisheries Service



**NOAA**  
**FISHERIES**

# What is “Stony Coral Tissue Loss Disease” (SCTLD)

- A disease that is affecting over 20 species of hard corals (reef building) in the Caribbean.
- Unknown origin, suspected to be caused by a bacterial pathogen.
- Characterized by multiple lesions



# What is “Stony Coral Tissue Loss Disease” (SCTLD)

- Differs from other diseases in that
  - It persists throughout the seasons.
  - Attacks over 20 species, whereas other diseases attack specific species (i.e. white band attacks 2 species)
- Differs from bleaching in that a coral can recover from bleaching, but with SCTLD mortality is 100% without intervention.



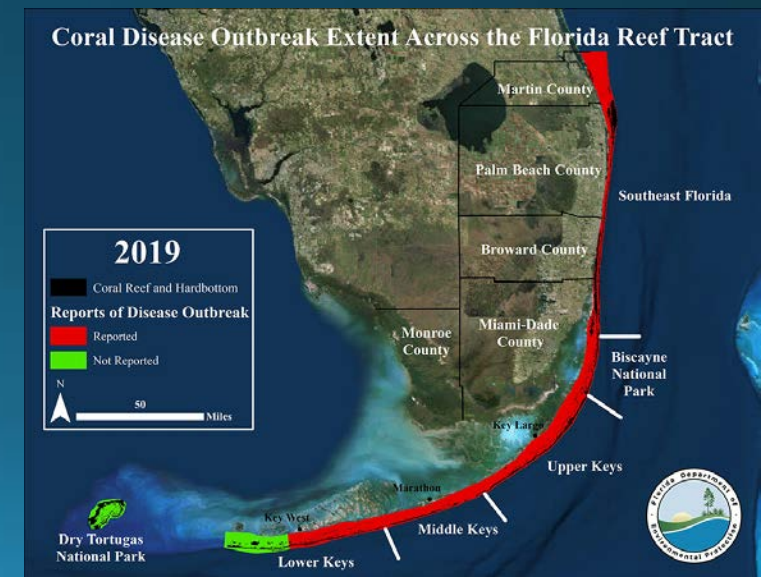
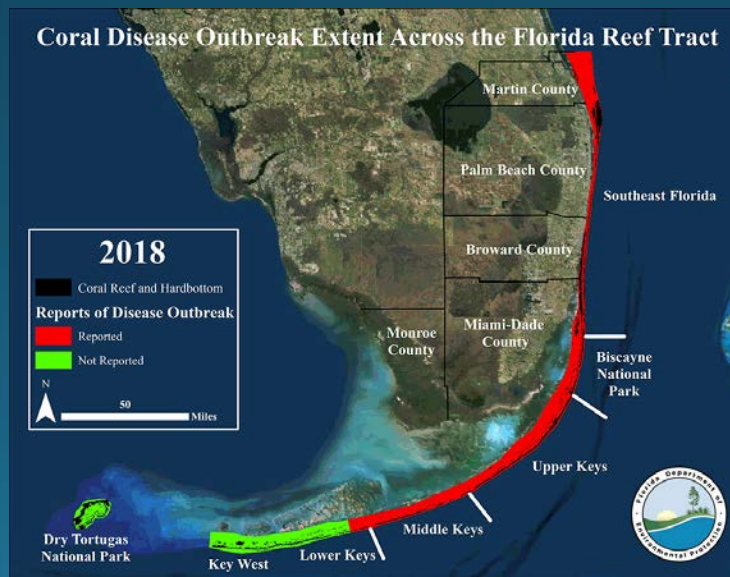
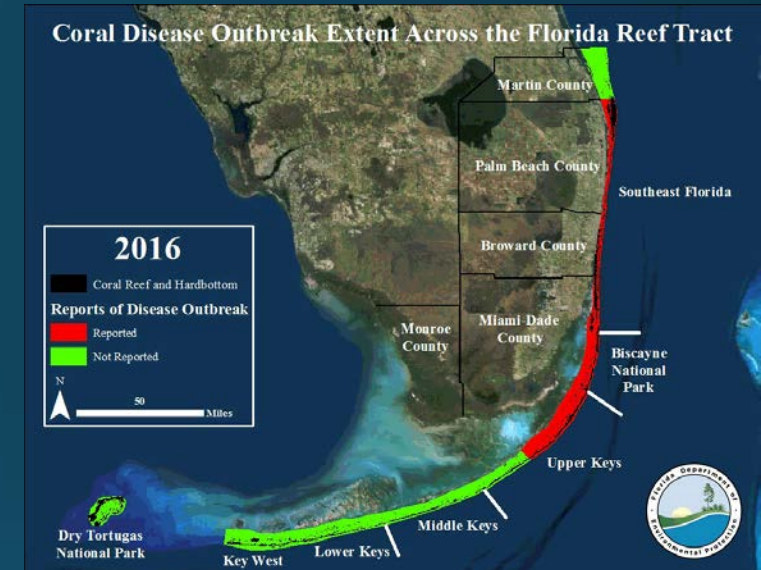
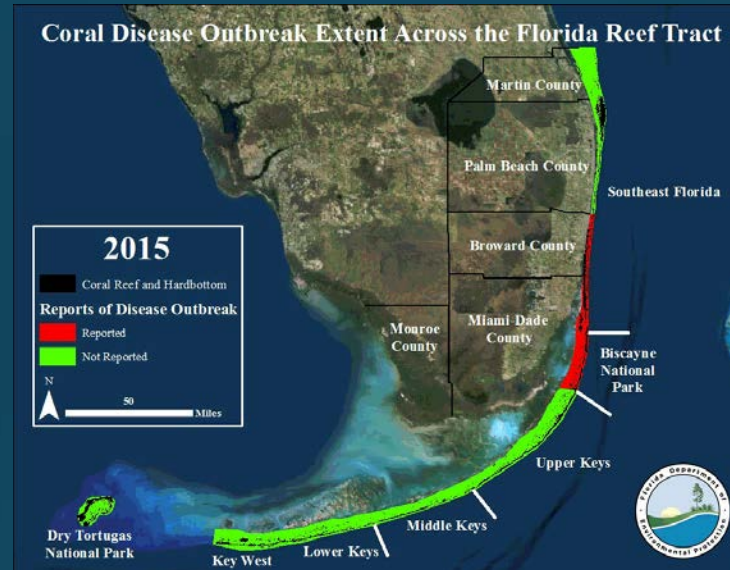
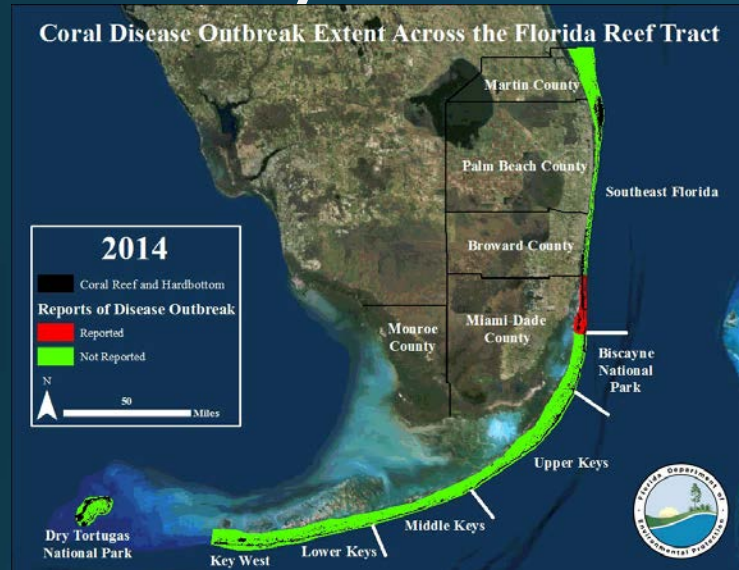


# What is “Stony Coral Tissue Loss Disease” (SCTLD)

- High mortality rate.
  - Corals die between 1 week to 2 months, depending on species and size.



# Stony Coral Tissue Loss Disease





## Map\_SCTLD\_Caribbean



June 1, 2020

1:18,489,298

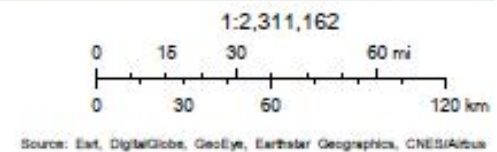
0 150 300 600 mi  
0 245 490 980 km

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus

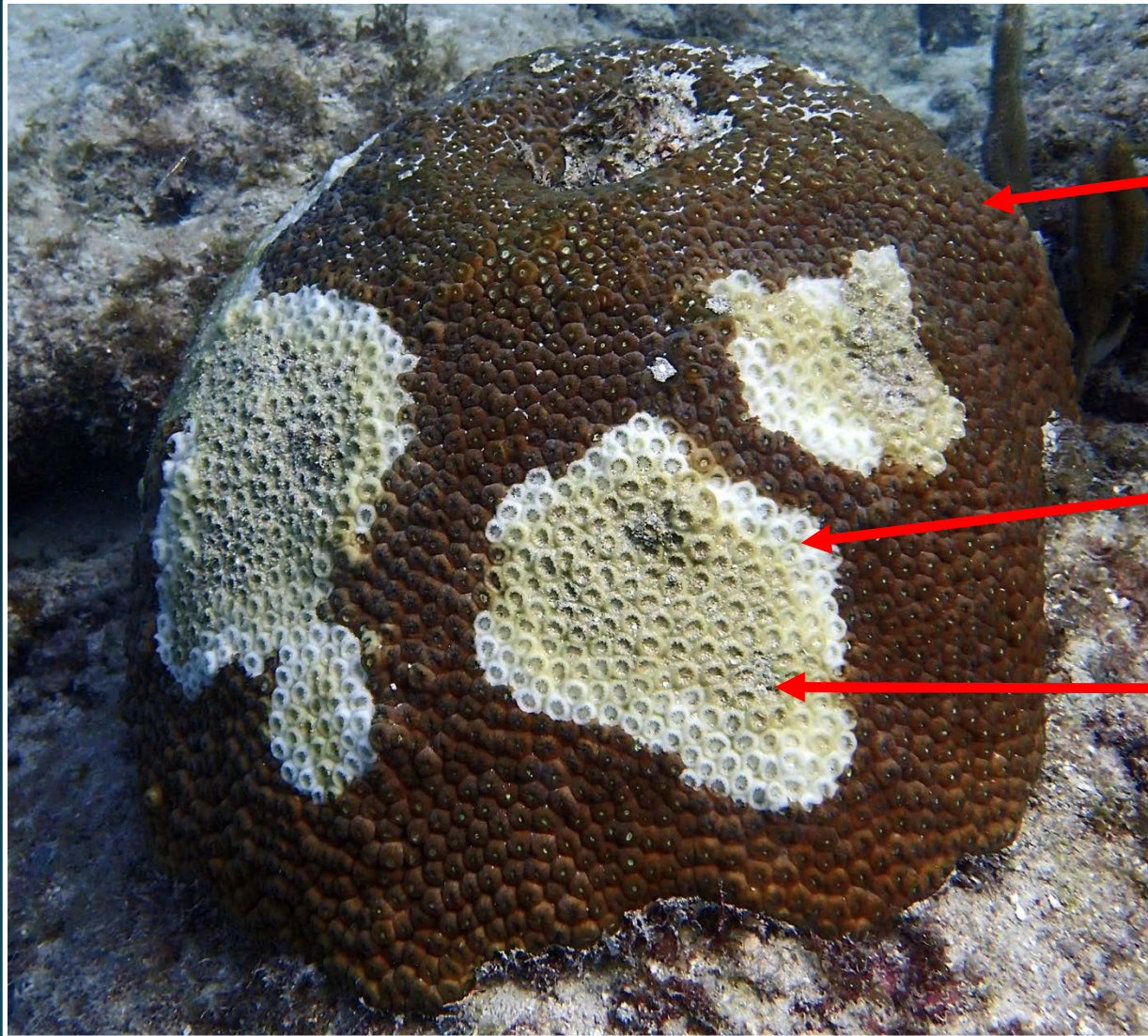
Map\_SCTLD\_Puerto Rico



June 1, 2020







Brown=  
Live tissue

White margin=  
Infected area

Dead coral with  
algal  
colonization





Photo 1. Coral cerebro gigante (*Colpophyllia natans*)  
y Coral cerebro común (*Pseudodiploria strigosa*)  
(Foto por Edwin Hernández)



Photo 2. Coral cerebro común (*Pseudodiploria strigosa*)  
(Foto por Edwin Hernández)



Photo 3. Coral pilar (*Dendrogyra cylindrus*)  
(Foto por el Edwin Hernández)



# Highly Susceptible Species:

*Colpophyllia natans* (boulder brain coral)

*Dendrogyra cylindrus* (pillar coral)\*

*Dichocoenia stokesii* (elliptical star coral)

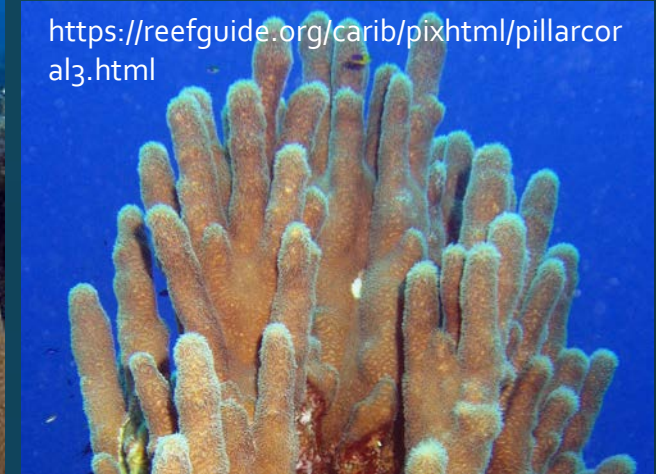
*Diploria labyrinthiformis* (grooved brain coral)

*Eusmilia fastigiata* (smooth flower coral)

*Meandrina meandrites* (maze coral)

*Pseudodiploria strigosa* (symmetrical brain coral)

*Pseudodiploria clivosa* (knobby brain coral)





# Intermediately Susceptible Species:

*Orbicella annularis* (lobed star coral)\*

*Orbicella faveolata* (mountainous star coral)\*

*Orbicella franksi* (boulder star coral)\*

*Montastraea cavernosa* (large-cup star coral)

*Solenastrea bournoni* (smooth star coral)

*Stephanocoenia intersepta* (blushing star coral)

*Siderastrea siderea* (starlet coral)

*Agaricia agaricites* (lettuce coral)



# Intermediately Susceptible Species:

*Agaricia* spp. (plate/saucer corals)

*Mycetophyllia* spp. (cactus coral)\*

*Madracis auretenra* (pencil coral)

*Favia fragum* (golfball coral)

*Helioseris cucullata* (sunray lettuce coral)

*Mussa angulosa* (spiny flower coral)

*Scolymia* spp. (disc coral)

*Isophyllia* spp. (sinuous cactus coral; rough star coral)





# How does SCTLD affect the fisheries?

- No data on SCTLD and fisheries, however...
- An assessment on long-term impacts of the 1998 wide scale bleaching event in the Indian Ocean, where coral declined up to 90% in some areas, found that the bleaching event had little impact on fishery biomass, indicating no effect on fishery yields; however, size structure of the fish communities changed. There was an observed decline in smaller fish and an increase in larger fish.

Fish were being lost due to natural mortality and fishing, but were not being replaced by juveniles.

# What's being done

## Surveys



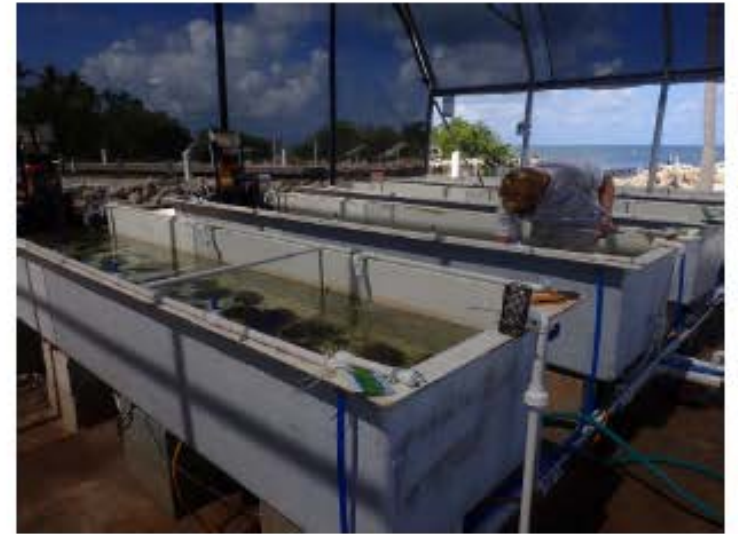
## Intervention/Treatment





# What's being done

## Coral Rescue



Photos: Stephanie Schopmeyer, FWC

# How you can help

- Decontaminate dive gear
- Avoid swimming from a contaminated area to an unaffected area.
- Avoid touching corals.
- Keep dive equipment or gear off of corals.

The white areas on the coral reef near Flat Cay, St. Thomas, are areas of disease.

Photo by Marilyn Brandt



<http://www.coralesdelestep.com/single-post/2019/02/02/Deadly-New-Disease-Attacking-VI-Corals-Right-Now>



# How you can help

- Alert DNER's Coral Program of suspicious sightings.

Email:

[programadearrecefesdecoral@gmail.com](mailto:programadearrecefesdecoral@gmail.com)

Phone:

**(939) 438-3123**

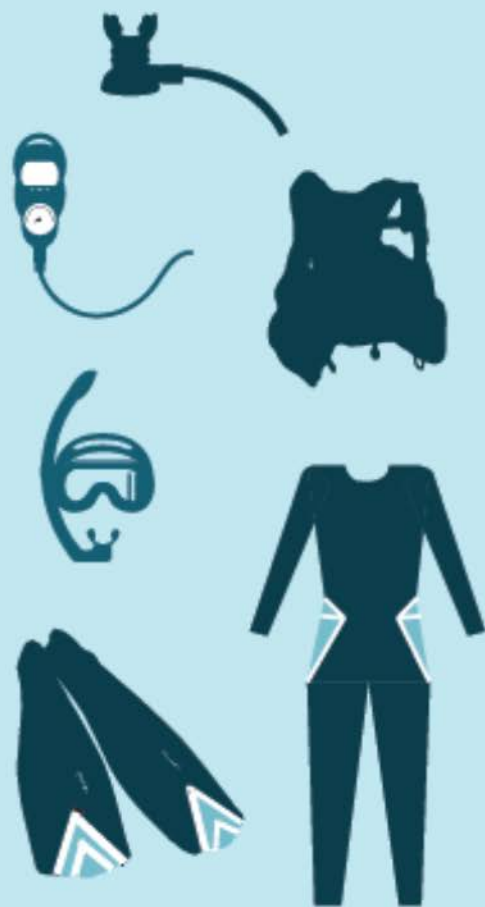
The white areas on the coral reef near  
Flat Cay, St. Thomas, are areas of disease.  
Photo by Marilyn Brandt



<http://www.coralesdelestep.com/single-post/2019/02/02/Deadly-New-Disease-Attacking-VI-Corals-Right-Now>



## Guía para desinfectar equipo de buceo



¡Mantén nuestras islas sanas!

1



Remoja todos los equipos durante 10 minutos en una solución de cloro de casa al 1%

USE INMEDIATAMENTE DESPUÉS DE MEZCLAR

COLORO (tazas)	AGUA (galones)
~1.0	5
~1.5	10
~2.5	15

¡No olvides remojar las vejigas internas del BCD!

2



Enjuaga todos los equipos en agua dulce

(e.g., en un cubo de 5 galones)

Descarta adecuadamente la solución desinfectante que acabas de utilizar a través del fregadero o la ducha. ¡Recuerda que el cloro se descompondrá en el sol!

3 SECA AL AIRE



Permite que el equipo se seque al aire completamente



# For more information

- Atlantic and Gulf Rapid Reef Assessment (AGRRA),

<https://www.agrra.org/coral-disease-outbreak/>

- Reef Resilience Network

<https://reefresilience.org/managing-for-disturbance/managing-coral-disease/stony-coral-tissue-loss-disease/#>

[https://reefresilience.org/wp-content/uploads/ONLINE-SCTLD-Infographic\\_22-02\\_19.png](https://reefresilience.org/wp-content/uploads/ONLINE-SCTLD-Infographic_22-02_19.png)

