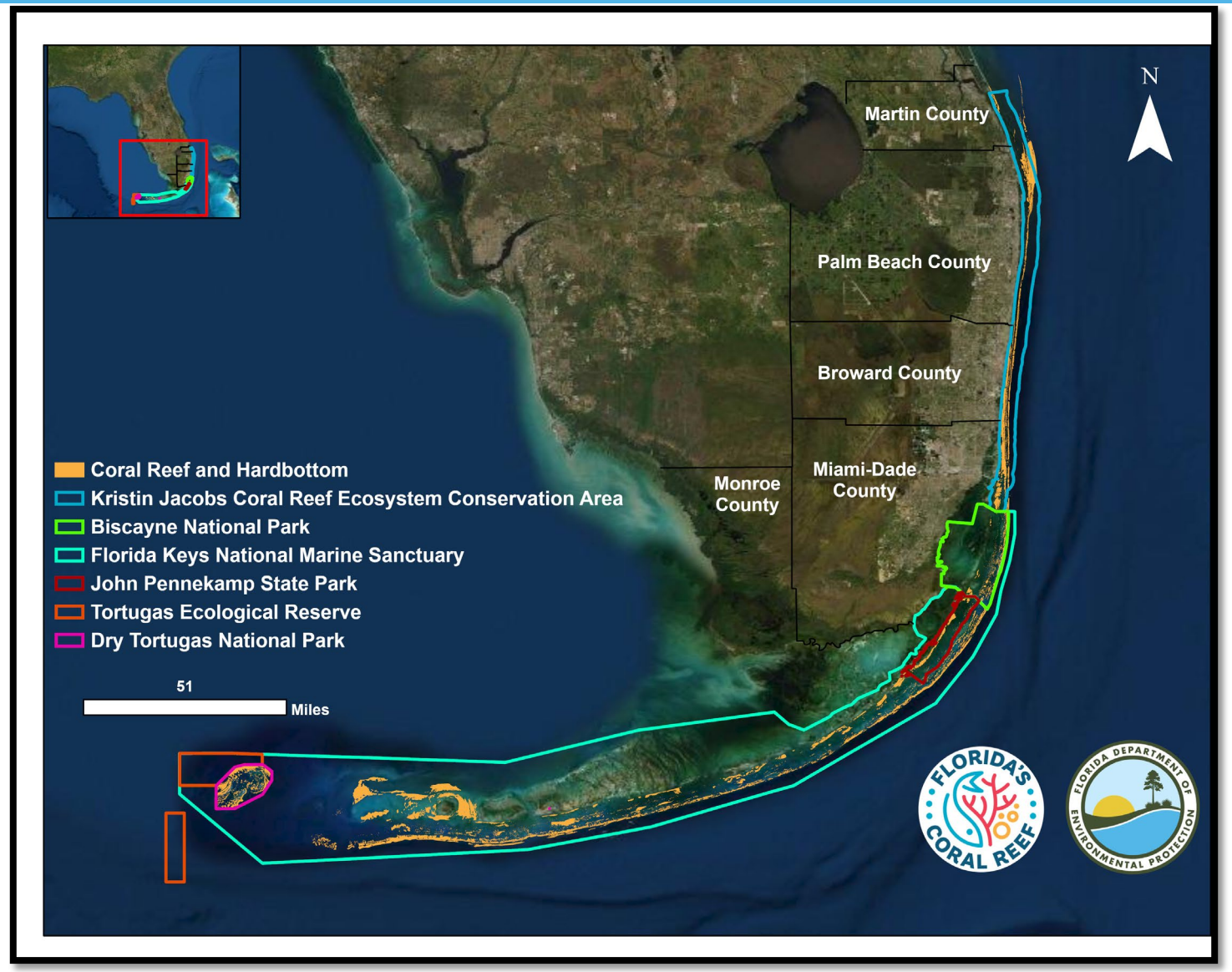
SEAFAN BLEACHWATCH OBSERVER TRAINING

Taylor Tucker
Coral Reef Conservation Program
Florida Department of Environmental Protection
Webinar

FLORIDA'S CORAL REEF

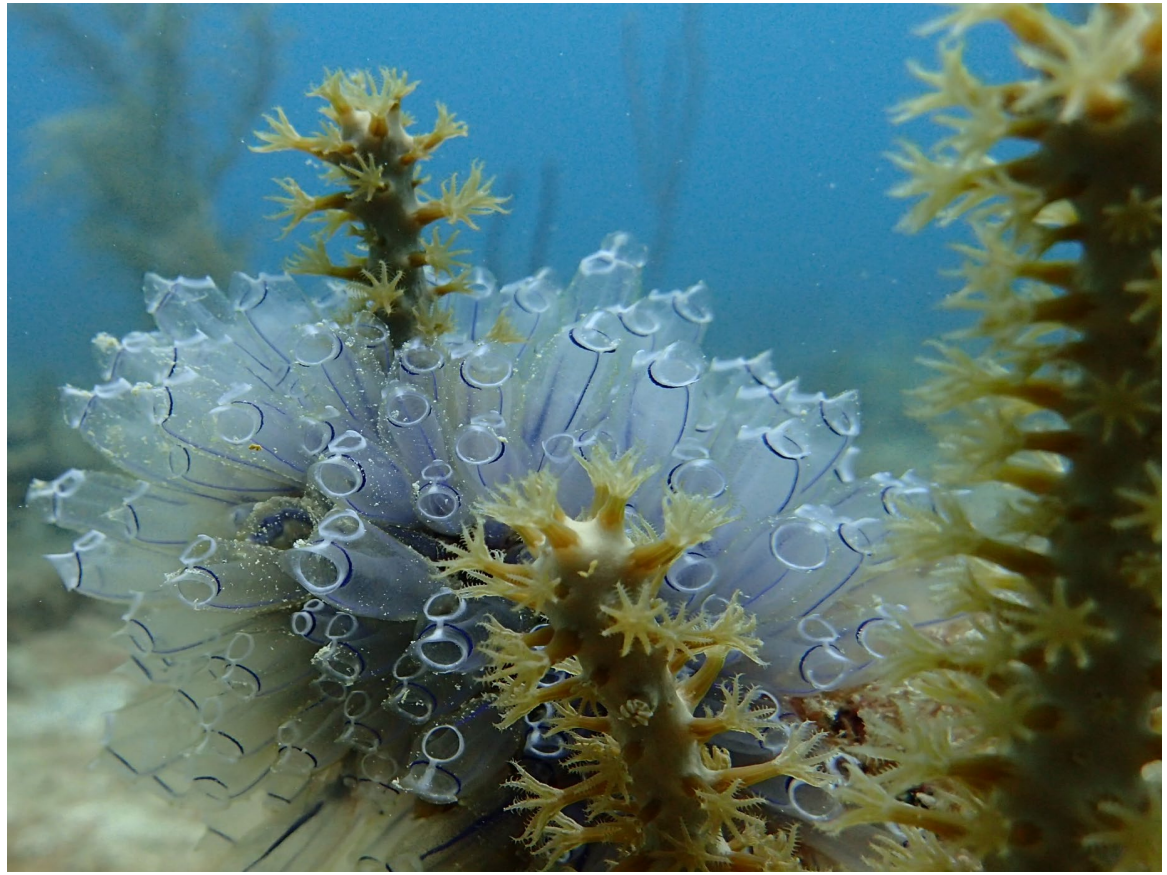


FLORIDA'S CORAL REEF

FLORIDA'S CORAL REEF

Soft (Octo-)Corals:

- > 60 species identified in Southeast Florida.
- Outnumber stony corals in cover, density and diversity.



FLORIDA'S CORAL REEF

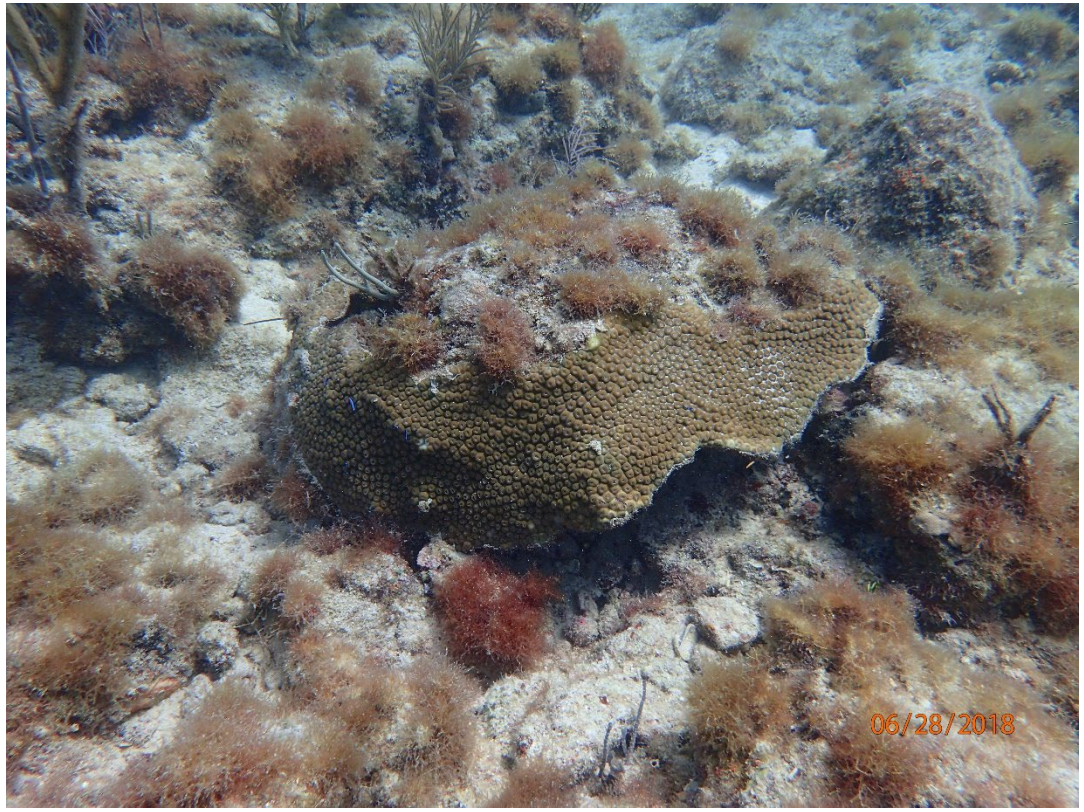
Sponges:

- > 200 species identified in Southeast Florida.
- Outnumber stony corals in cover, density and diversity.

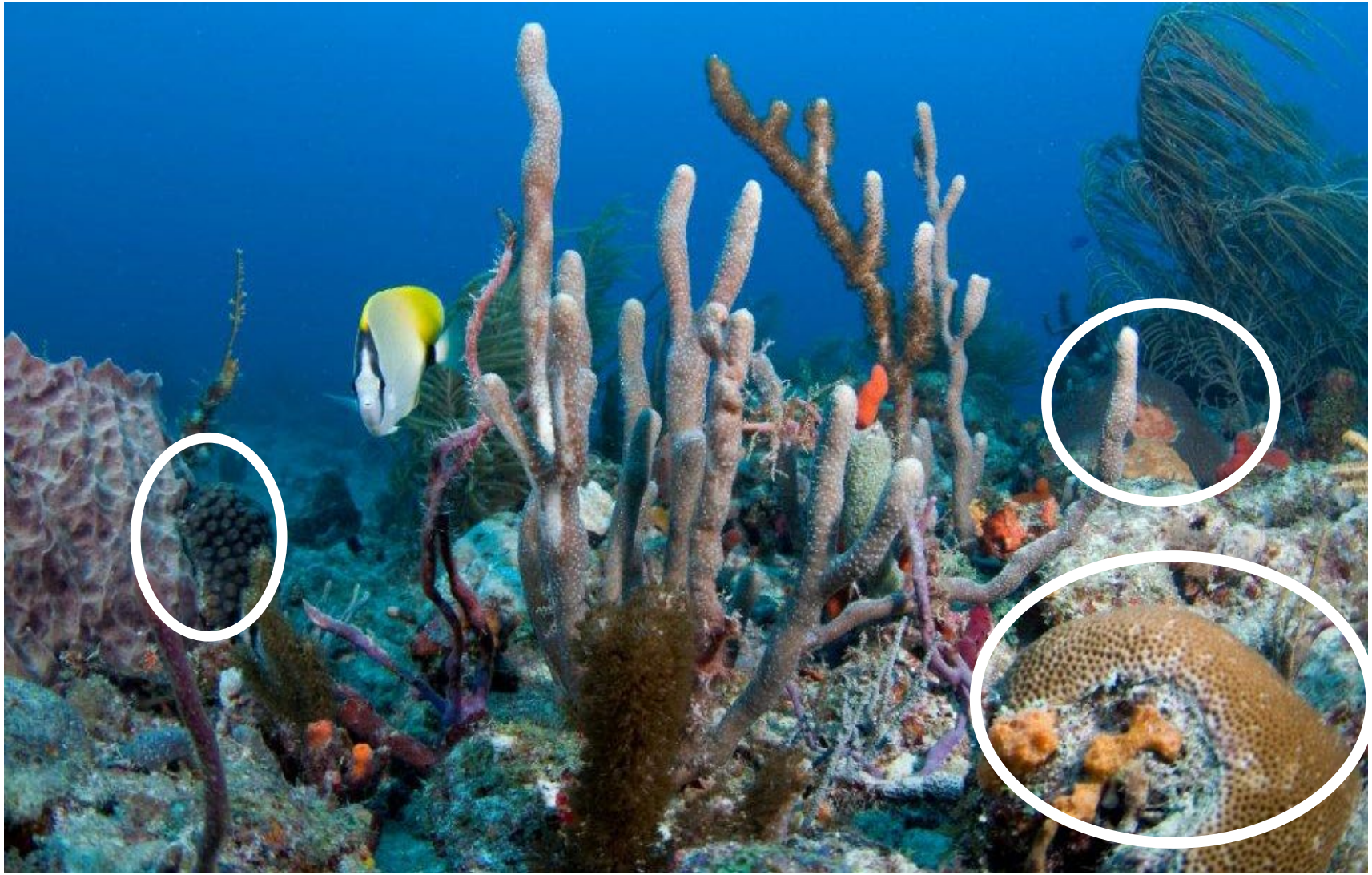
FLORIDA'S CORAL REEF

Macro, Turf and Crustose Coralline Algae:

- Macro and turf cover has increased over last few years on Southeast Florida reefs.
  - Crustose coralline algae encourages settlement of coral larvae.



WHAT ARE STONY CORALS?



TRAINING OVERVIEW

- Coral Anatomy
- What Is Coral Bleaching?
- Coral Disease in Florida
- SEAFAN and the BleachWatch Early Warning Program
- Your Contribution – How to Report

CORAL ANATOMY 101

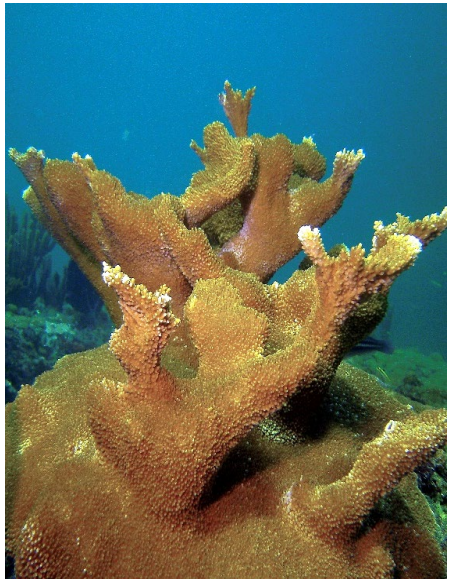
Kingdom: Animalia

Phylum: Cnidaria

Class: Anthozoa

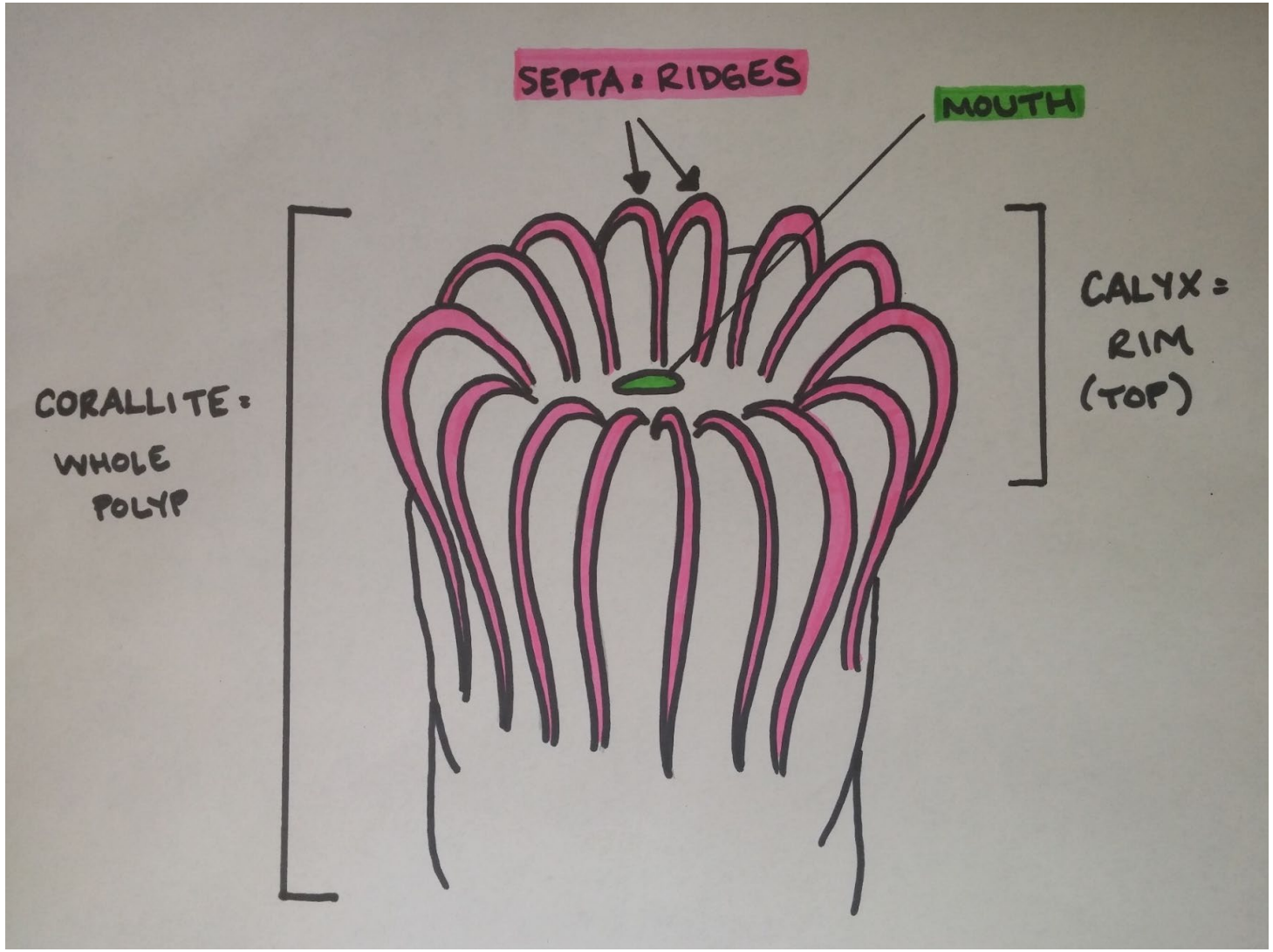
Order: Scleractinia (stony)

Alcyonacea (soft)

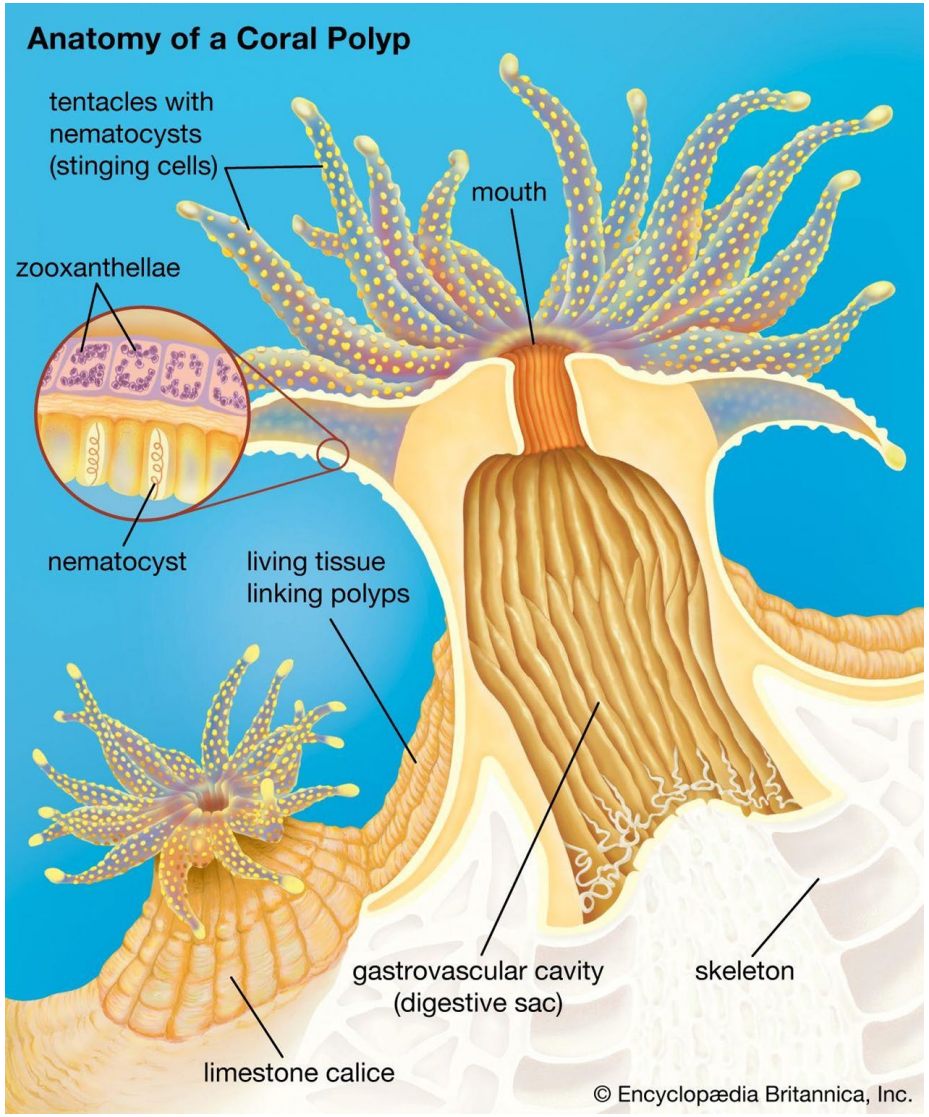


CORAL ANATOMY 101

CORAL ANATOMY 101



CORAL ANATOMY 101



Two Feeding Methods:

- Filter feeding (nematocysts).
- Symbiotic relationship (zooxanthellae).

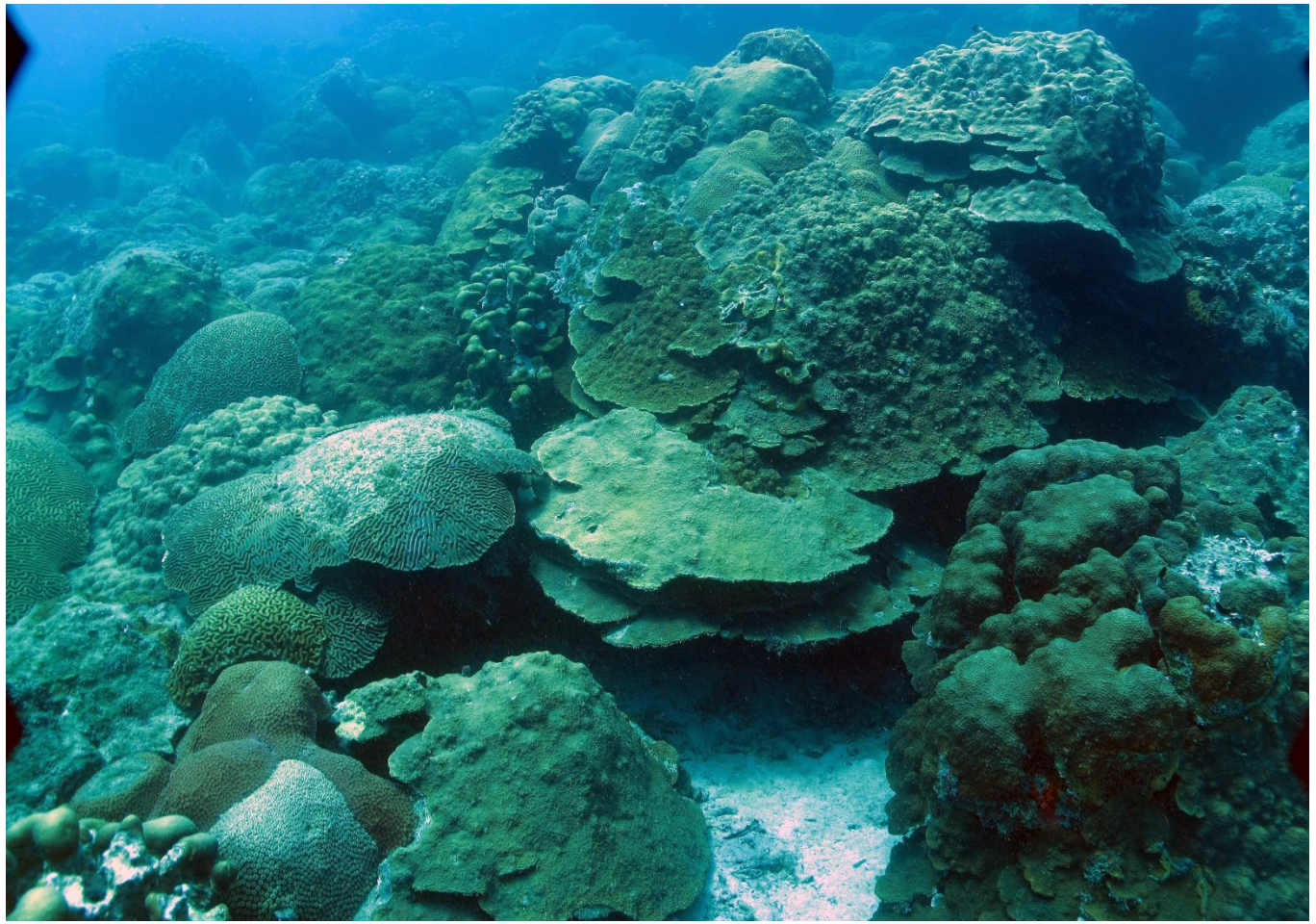
CORAL ANATOMY 101

Zooxanthellae Provide:

- 90% – 95% of nutrients.
- Normal “healthy” coloration of corals.

CORAL ANATOMY 101

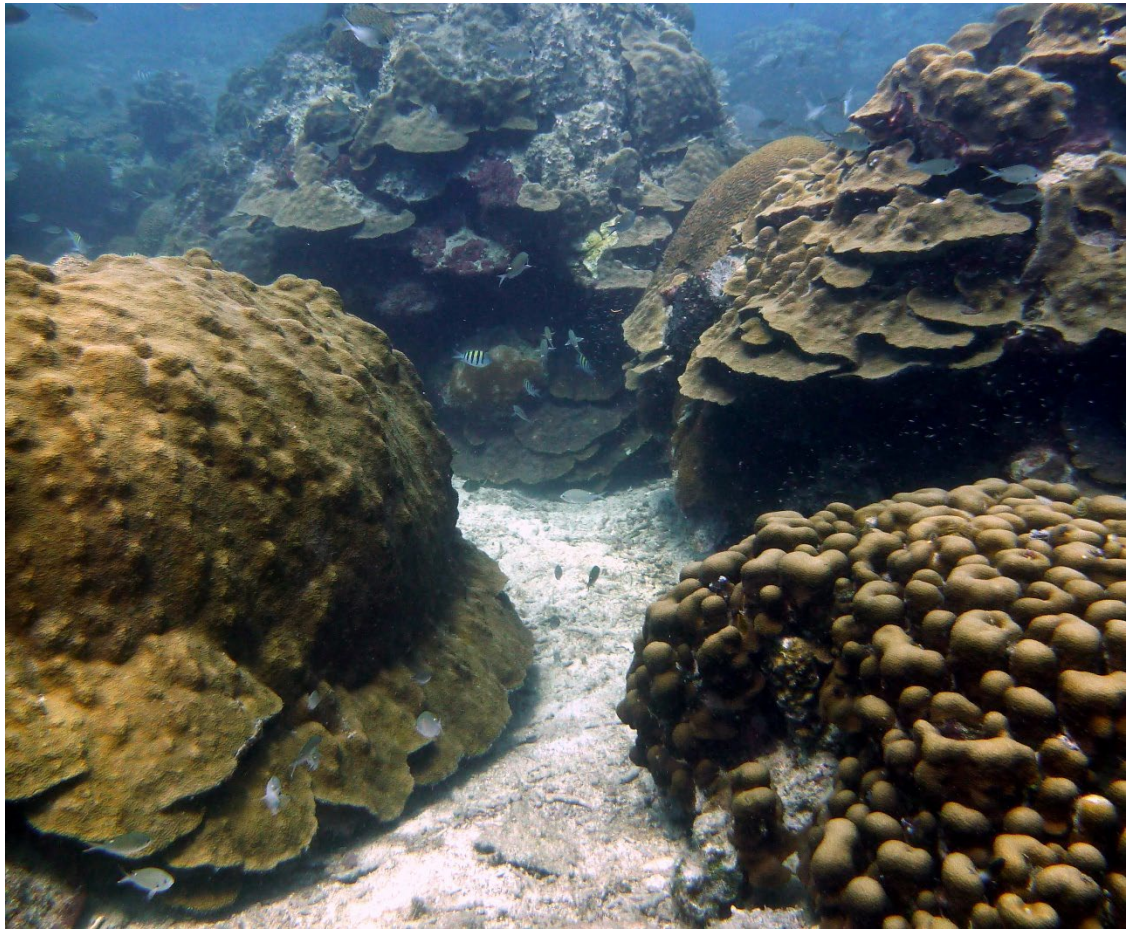
COLOR

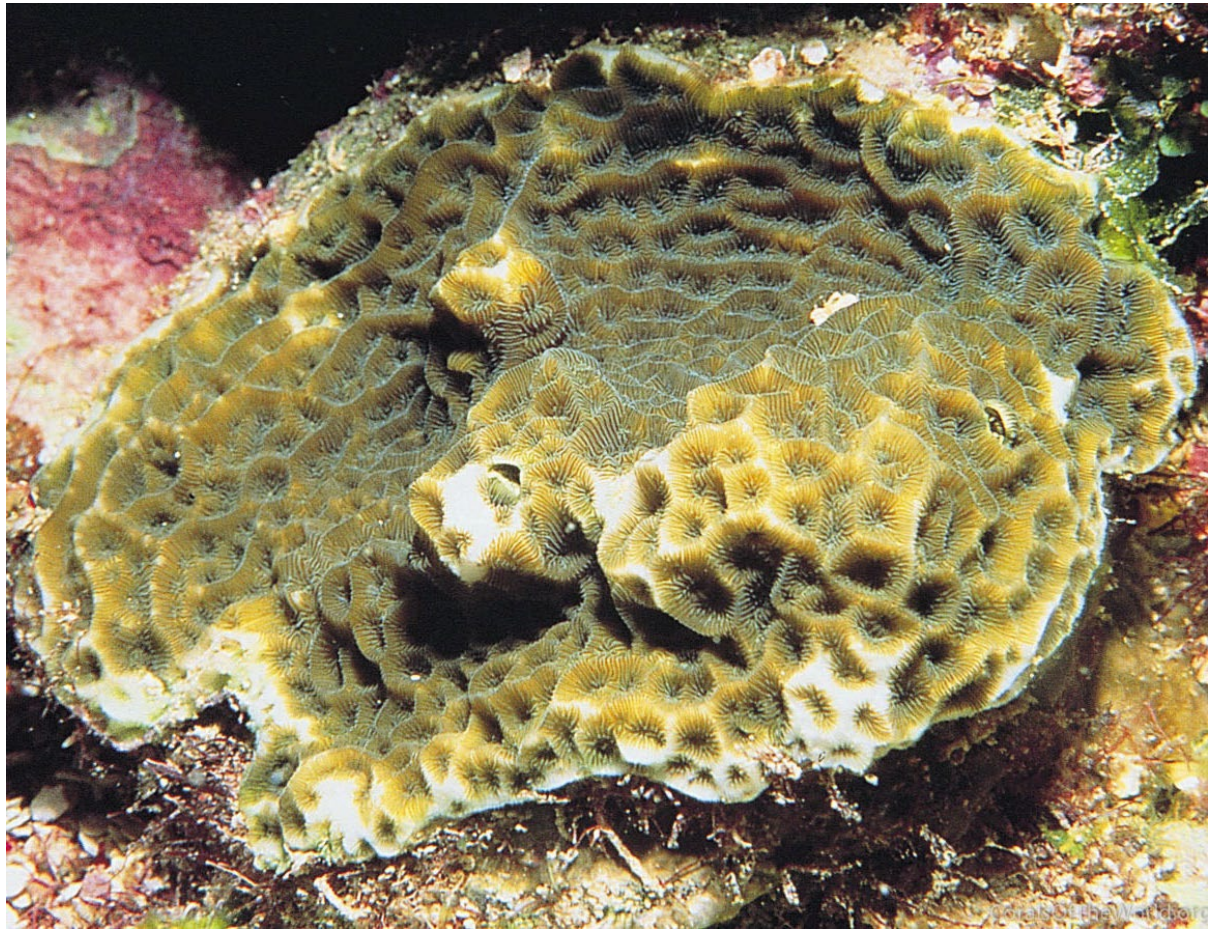


Source: FWRI

CORAL ANATOMY 101

COLONY SIZE





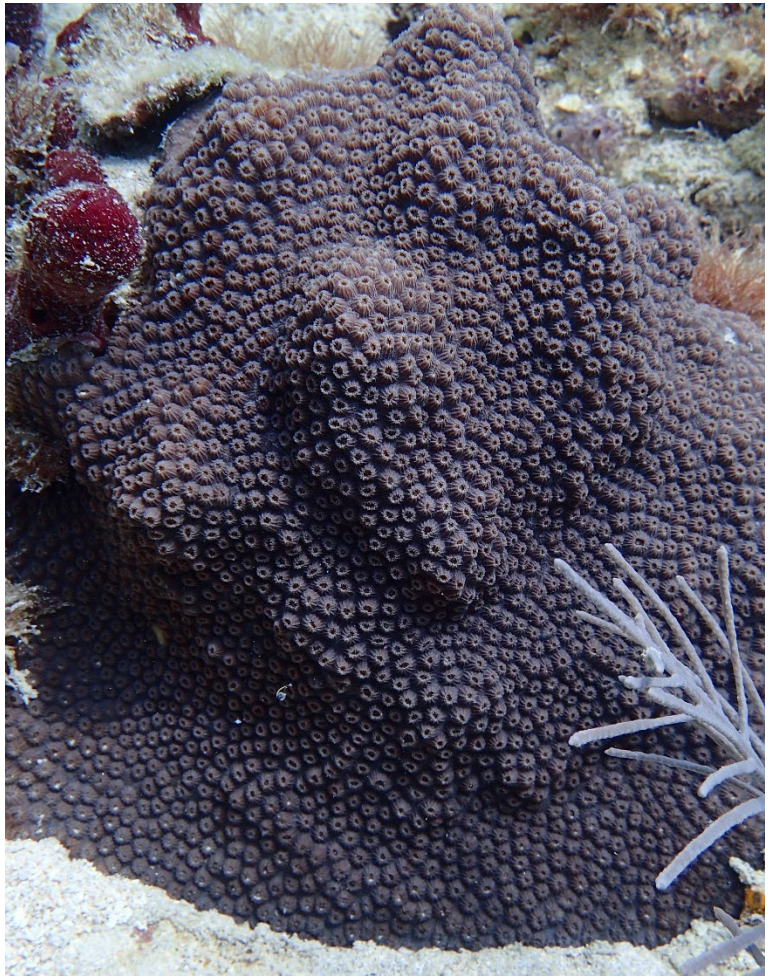
Source: FWRI

CORAL ANATOMY 101

POLYP SIZE

CORAL ANATOMY 101

CORALLITE STRUCTURE



CORAL ANATOMY 101

RIDGE STRUCTURE

TRAINING OVERVIEW

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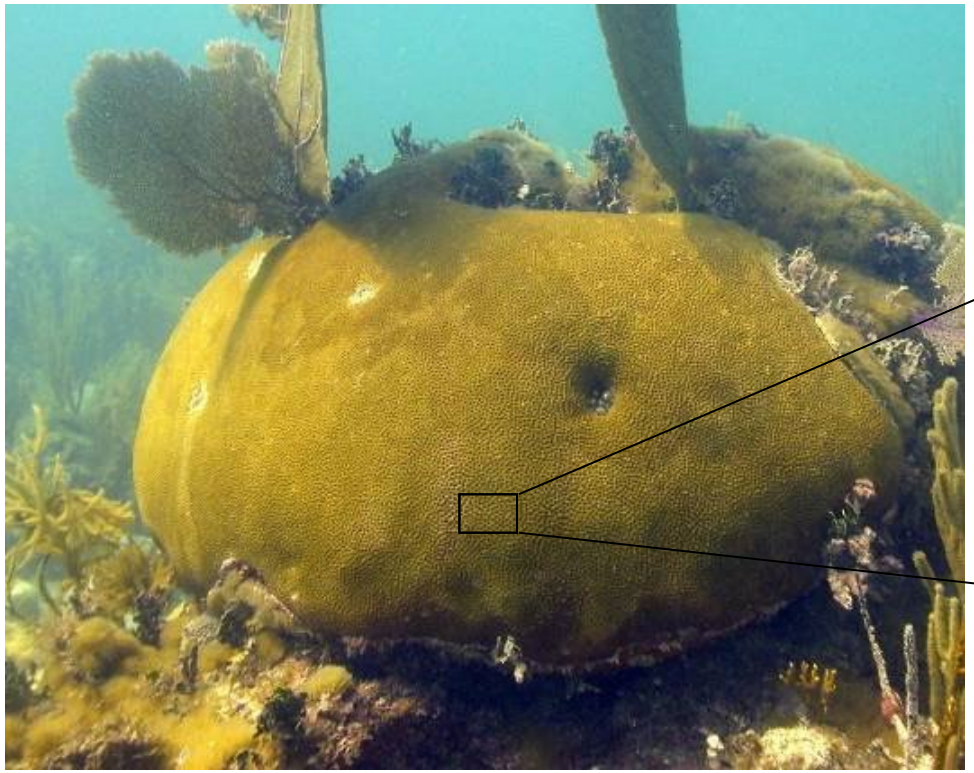
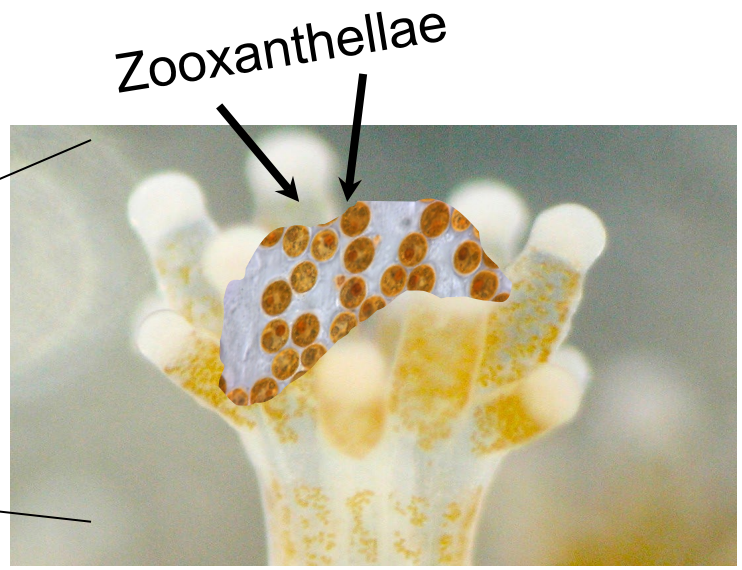
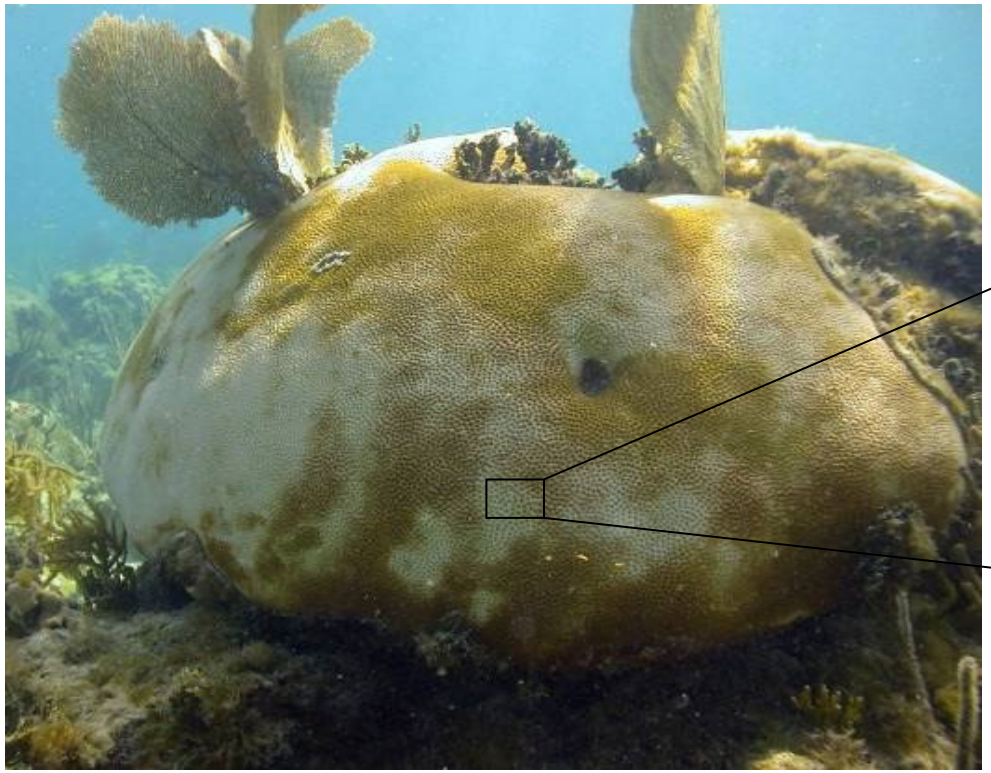
CORAL BLEACHING





Healthy Coral

CORAL BLEACHING



Partially Bleached Coral

Stress

Pollution, Low Oxygen, Salinity, Sedimentation, Disease, Temperature

CORAL BLEACHING

Healthy

Pale/Partially Bleached

Fully Bleached

CORAL BLEACHING

IS A BLEACHED CORAL DEAD?

Bleached Coral

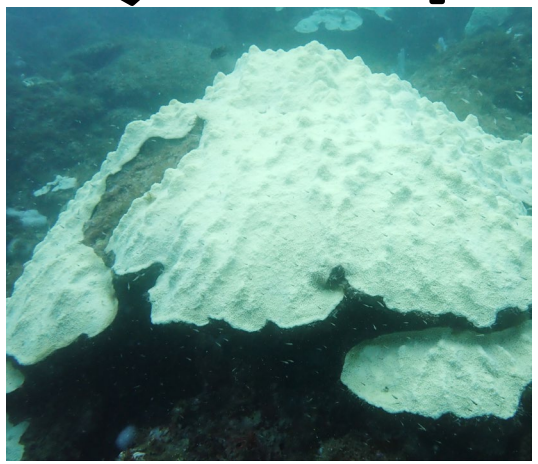
No.

A bleached coral is still alive.

CORAL BLEACHING

Water Temperature Increases

Prolonged Temperature Stress



Healthy Coral

Bleached Coral

Dead Coral

Water Temperature Returns to Normal

CORAL BLEACHING

Healthy Coral

Bleached Coral

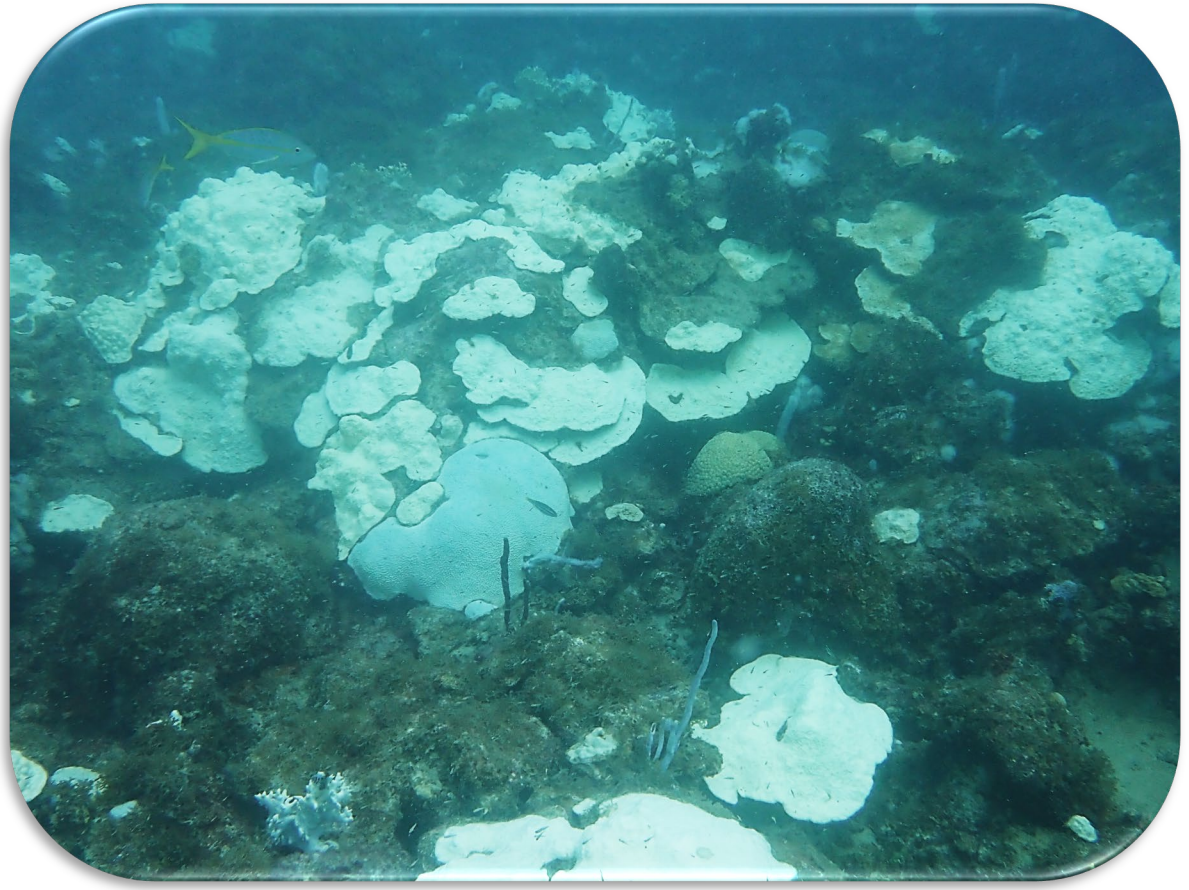
Dead Coral

Is the coral resilient?

CORAL BLEACHING

LONG-TERM EFFECTS

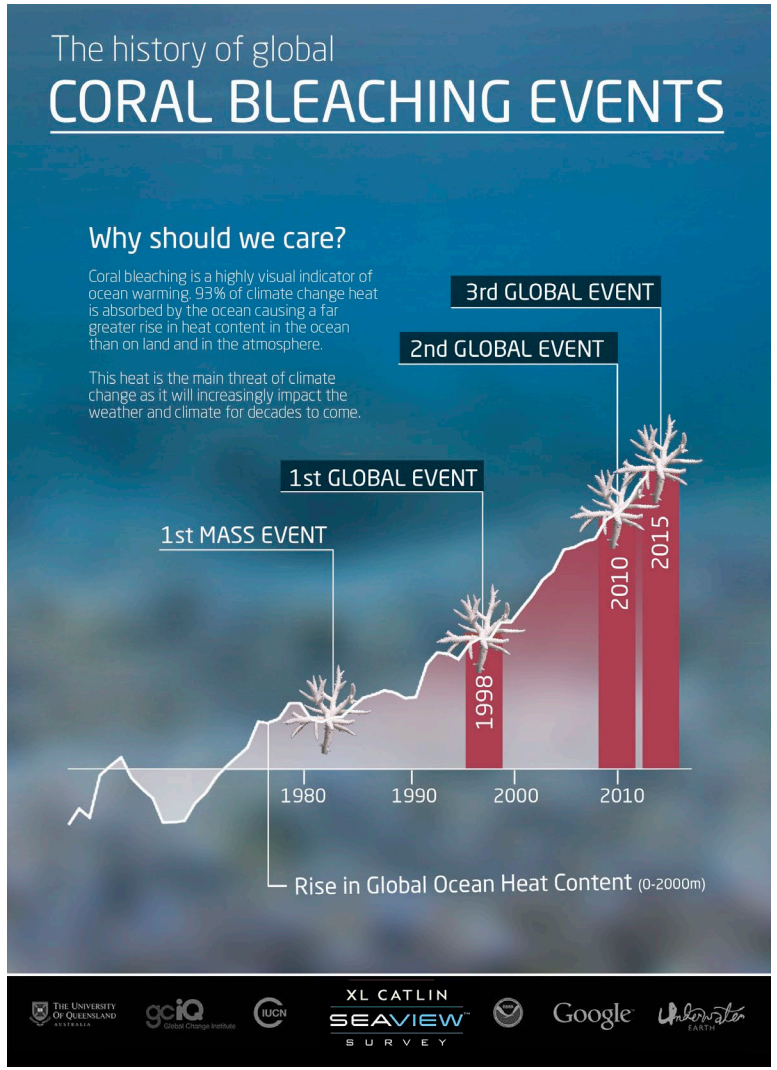
- ↓ Reproduction
- ↓ Coral growth
- Loss of habitat

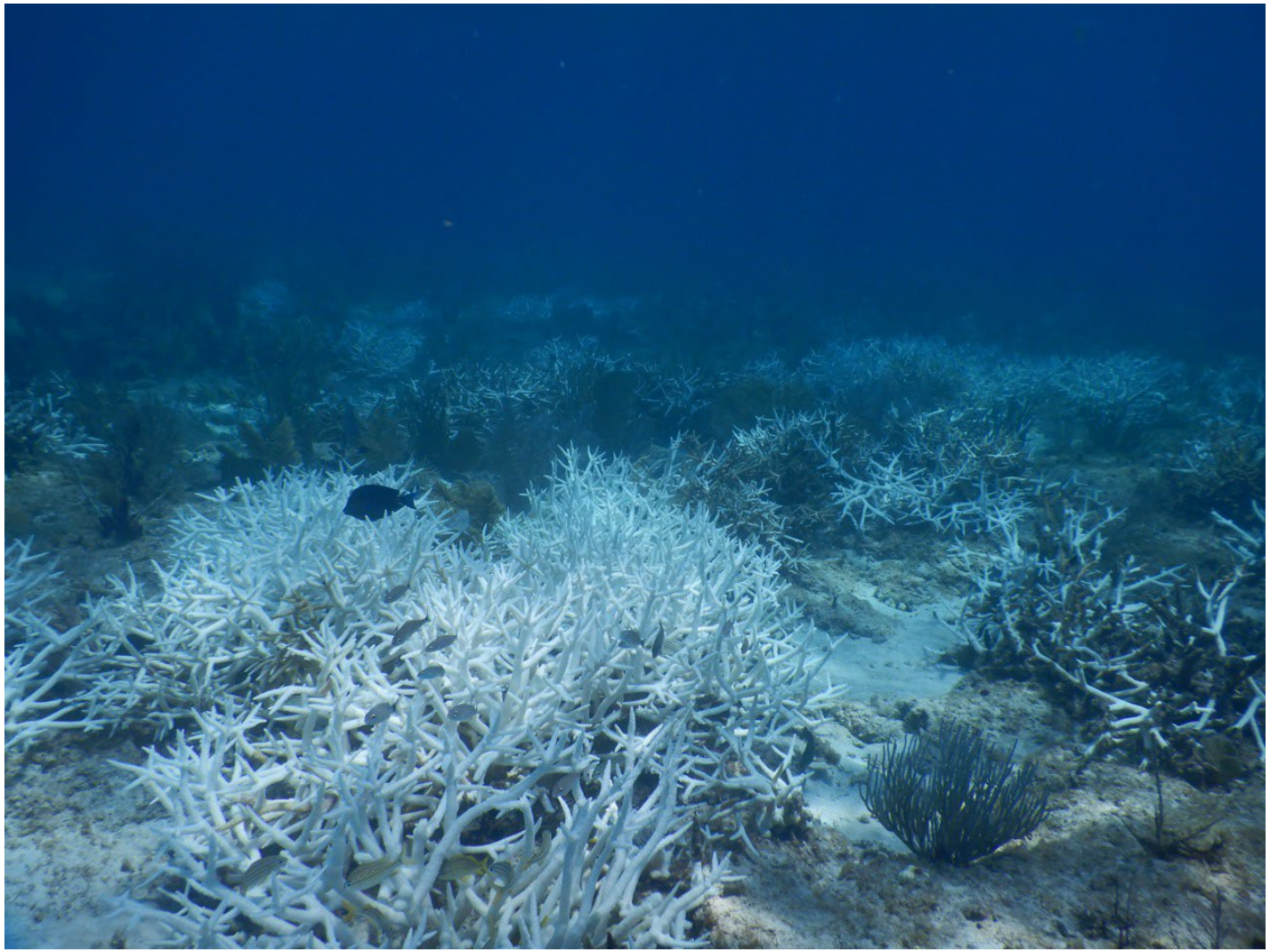


- Susceptible to Disease
- Susceptible to Predation
- Susceptible to Death

CORAL BLEACHING

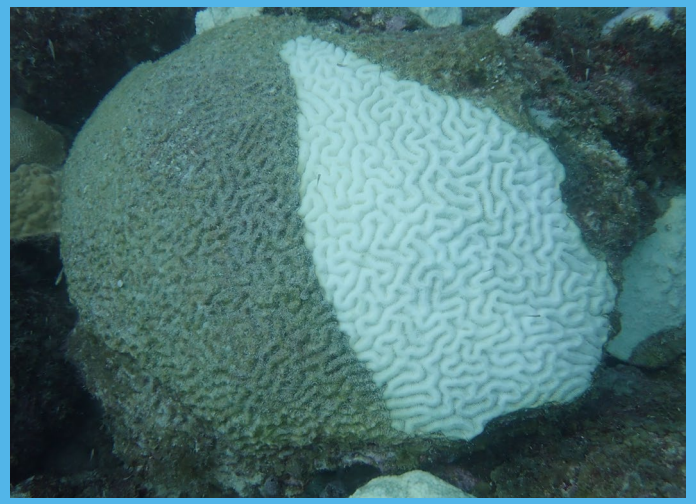
SEVERE MASS-SCALE EVENTS

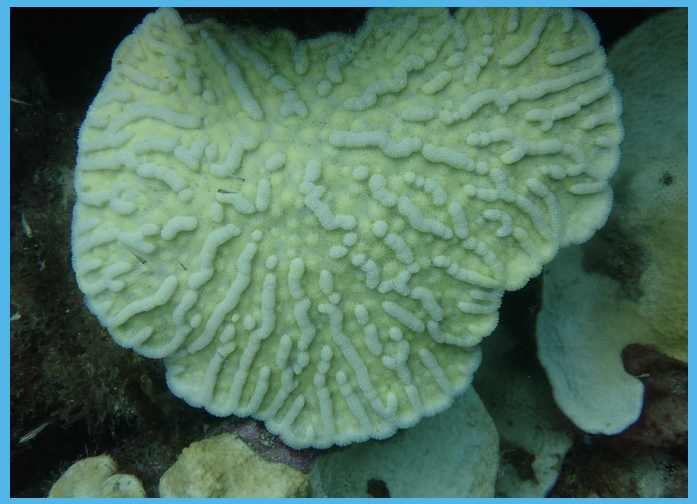


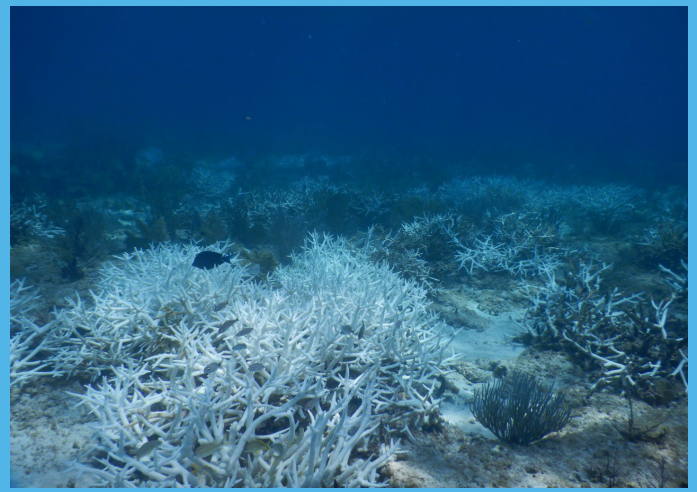


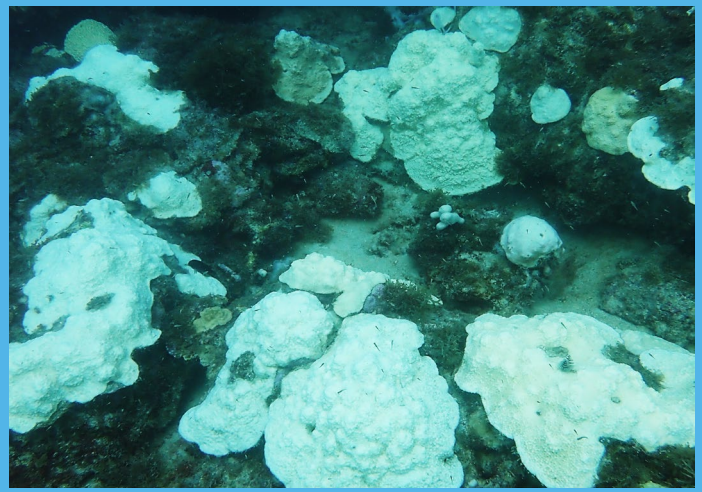
CORAL BLEACHING

ACROSS SPATIAL SCALES









CORAL BLEACHING

ACROSS SPATIAL SCALES

Brain Coral, Healthy and Bleached

Mound/Boulder Coral, Partially Bleached

CORAL BLEACHING

NOT BLEACHING

White tips are new growth.

CORAL BLEACHING

NOT BLEACHING

Areas with large chunks or long trails are predation marks by parrotfish and fire worms.

QUIZ QUESTION #1

HOW DO CORALS FEED?

A. Using their tentacles.

B. Using their teeth.

C. Through a symbiotic relationship.

QUIZ QUESTION #2

T/F: A BLEACHED CORAL IS DEAD.

A. True.

B. False.

QUIZ QUESTION #3

HOW DO STONY CORALS GET THEIR COLOR?

A. Genetic inheritance.

B. Zooxanthellae.

C. Light reflectance.

TRAINING OVERVIEW

- Coral Anatomy
- What Is Coral Bleaching?
- **Coral Disease in Florida**
- SEAFAN and the BleachWatch Early Warning Program
- Your Contribution – How to Report

CORAL DISEASE

WHAT CAUSES IT?

- Bacteria
- Virus
- Fungus

CORAL DISEASE

IDENTIFICATION

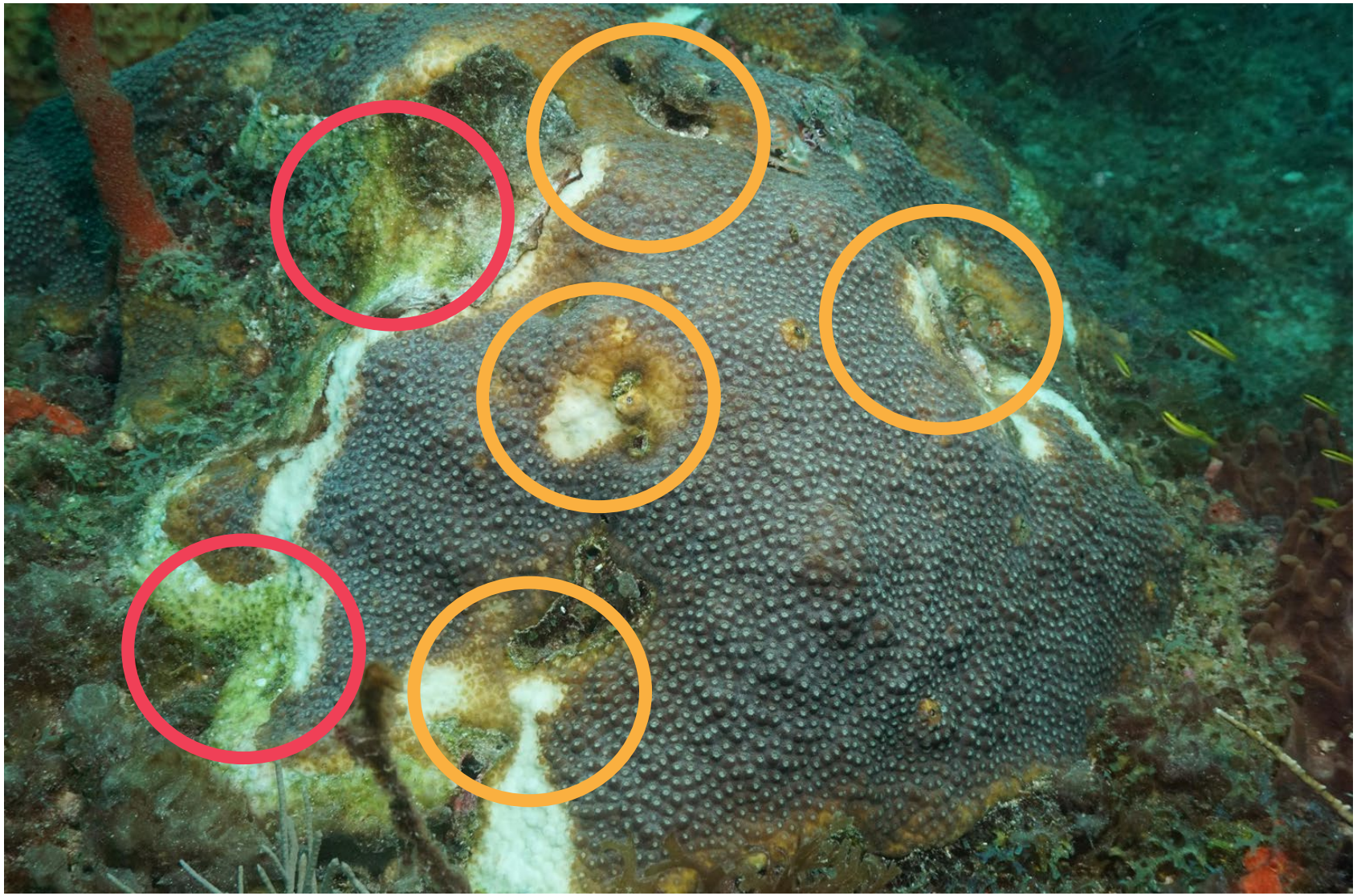
CORAL DISEASE

BLEACHING VS. DISEASE

Healthy **Bleaching** **Tissue Loss**

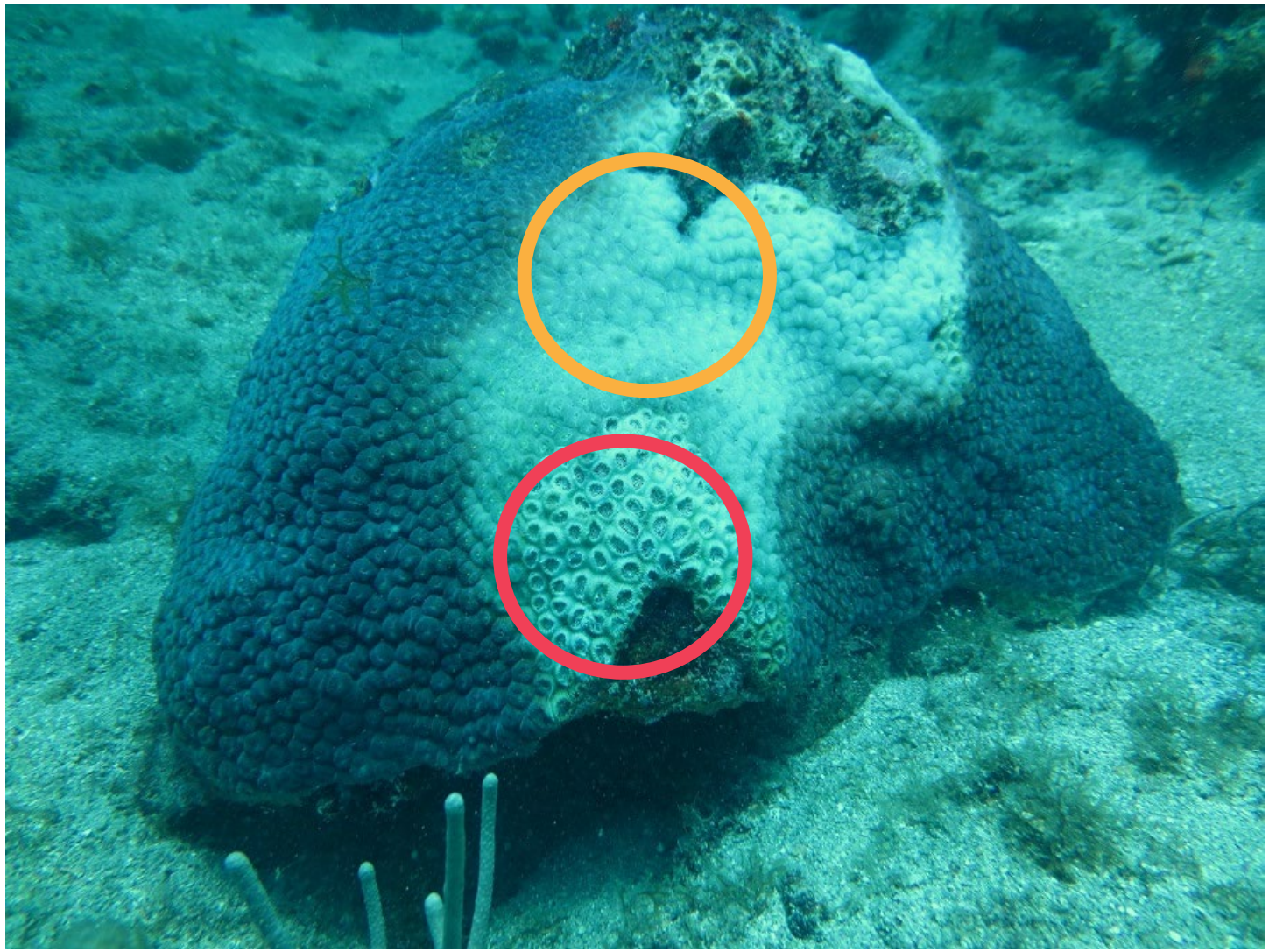
CORAL DISEASE

BLEACHING VS. DISEASE



CORAL DISEASE

MORTALITY

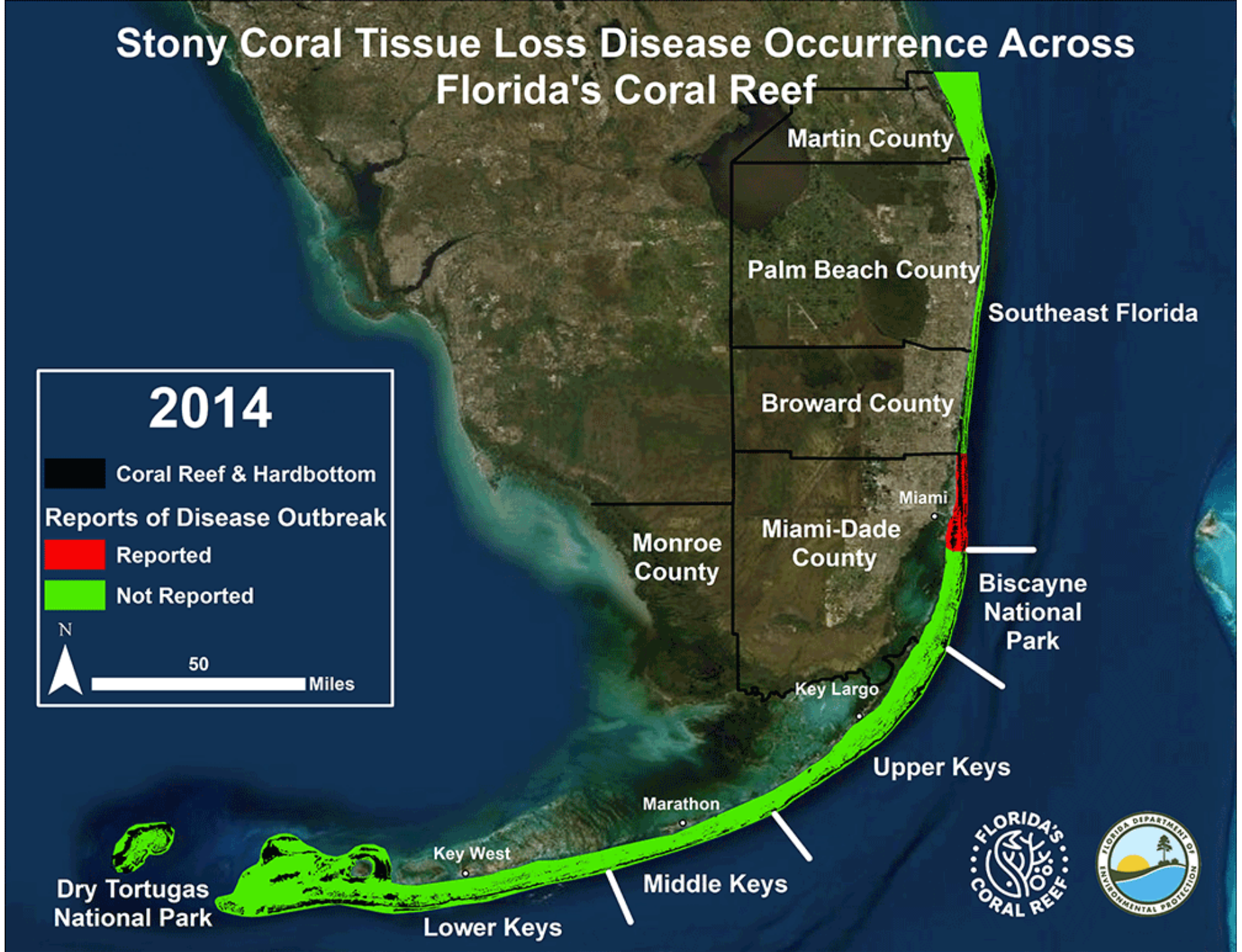


CORAL DISEASE

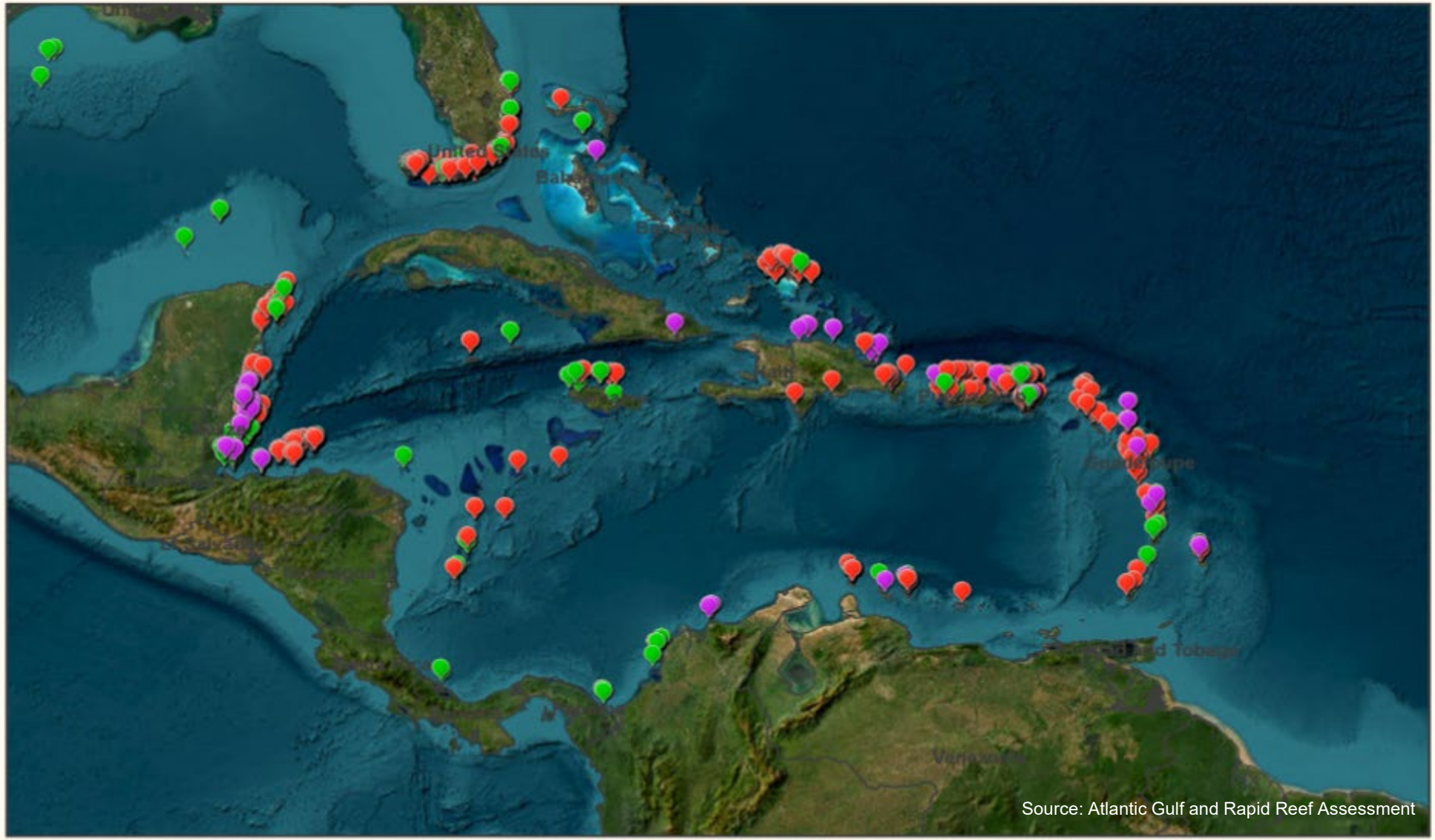
STONY CORAL TISSUE LOSS DISEASE (SCTLD)

Stony Coral Tissue Loss Disease Outbreak

2014 – Present


Stony Coral Tissue Loss Disease Occurrence Across Florida's Coral Reef
Martin County
Palm Beach County
Southeast Florida
Broward County
Miami
Miami-Dade County
Monroe County
Biscayne National Park
Key Largo
Upper Keys
Marathon
Middle Keys
Key West
Lower Keys
Dry Tortugas National Park
2014
Coral Reef & Hardbottom
Reports of Disease Outbreak
Reported
Not Reported
N
50
Miles

Stony Coral Tissue Loss Disease (SCTLD)



November 15, 2023

1:18,489,298

0 150 300 600 mi

0 240 480 960 km

Earthstar Geographics

CORAL DISEASE

SCTLD

Source: FWC/FWRI

Brown = living tissue.

White edge = disease margin.

Yellowed/greenish = Dead skeleton with turf algae.

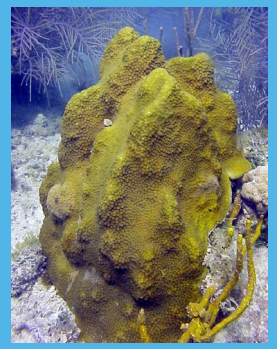
***Unknown origin!**

CORAL DISEASE

SCTLD

Pillar coral

Lobed star coral



Boulder star coral

Staghorn coral

Rough cactus coral

Mountainous star coral

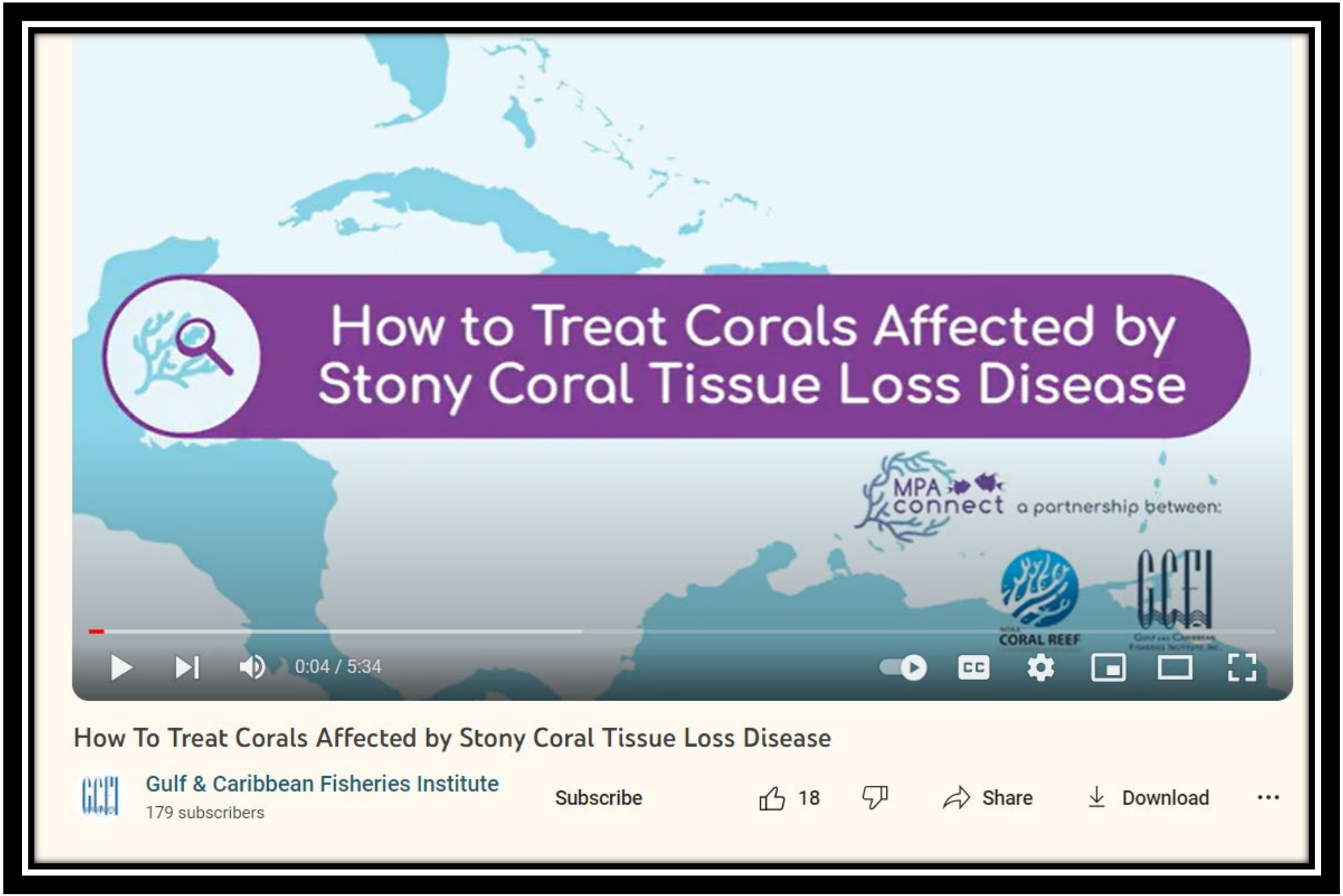
Elkhorn coral

CORAL DISEASE

SCTLD

Source: FWC/FWRI

Symmetrical brain coral disease progression.


How to Treat Corals Affected by Stony Coral Tissue Loss Disease
MPA connect
a partnership between:
CORAL REEF
0:04 / 5:34
How To Treat Corals Affected by Stony Coral Tissue Loss Disease
Gulf & Caribbean Fisheries Institute
179 subscribers
Subscribe
18
Share
Download

CORAL DISEASE

DISEASE REPONSE PARTNERS

CORAL DISEASE

DISEASE REPONSE

Funding has been provided and allocated by the Florida State legislature, NOAA, EPA, and other sources to support disease response.

Priority coral disease response activities have included:

- Strategic sampling and analyses to understand how disease affects corals.
- Intervention experiments to assess treatment effectiveness.
- Coral rescue efforts to preserve genetic diversity.
- Restoration trials to determine where corals can be out-planted.
- Caribbean-wide information sharing.
- Improvement of reef condition.

Source: Blue Reef Diving Explore Centers

TRAINING OVERVIEW

- Coral Anatomy
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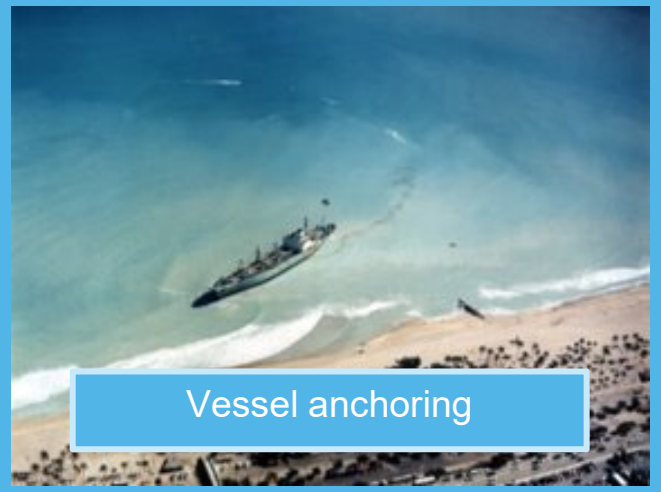
LOCAL STRESSORS

High density population



Vessel anchoring

Invasive species

Coastal construction

Pollution & runoff

Recreational diving

SOUTHEAST FLORIDA ACTION NETWORK

SEAFAN

SEAFAN

Southeast Florida Action Network

We're All Connected ~ Keep It Protected

A community-based reporting and response program for marine incidents affecting southeast Florida's coral reef ecosystem.

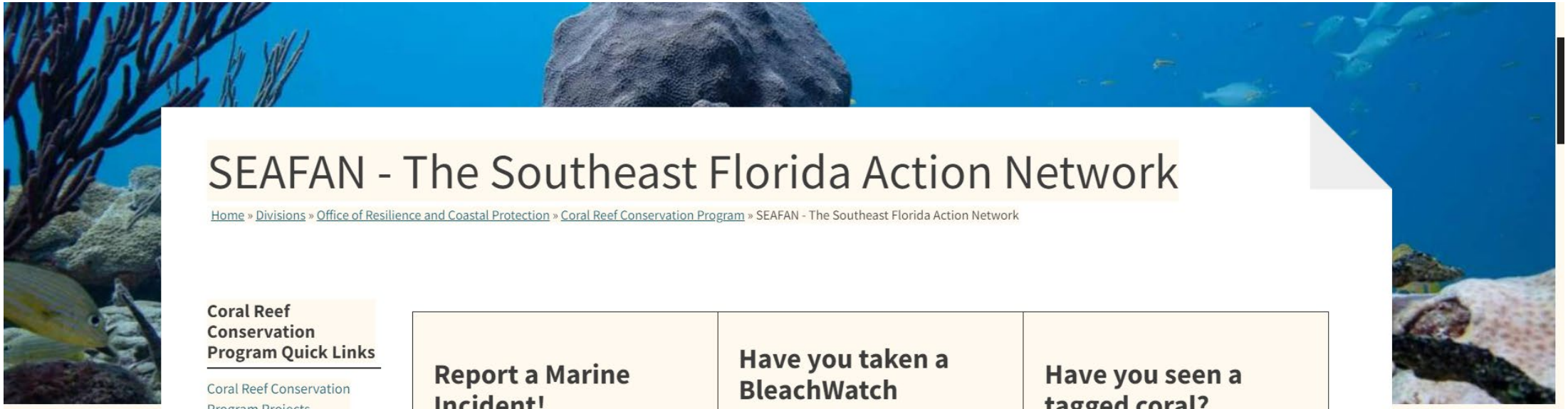
SEAFAN

See a marine incident ?
REPORT IT !

www.SEAFAN.net/report

1-866-770-SEFL (7335)

www.SEAFAN.net



SEAFAN - The Southeast Florida Action Network

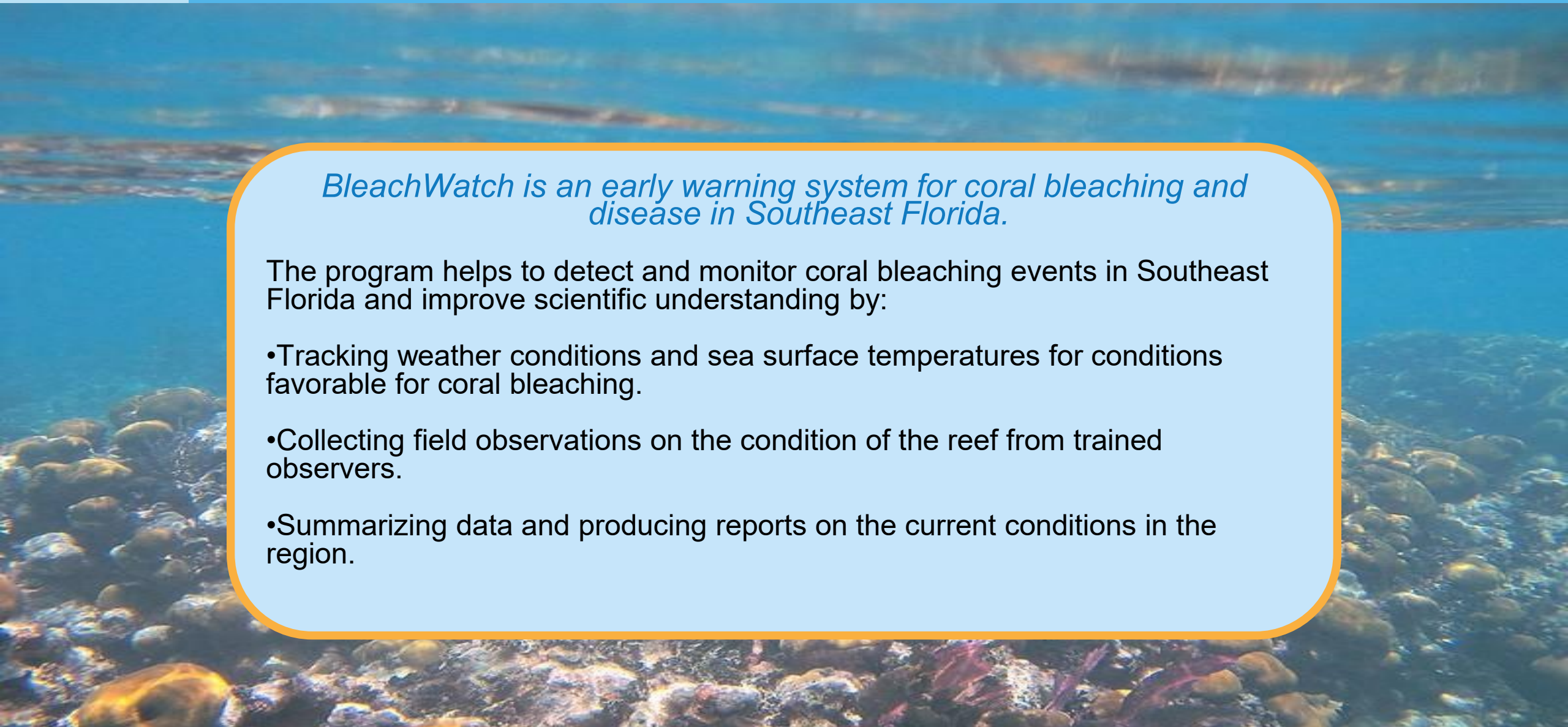
Home » Divisions » Office of Resilience and Coastal Protection » Coral Reef Conservation Program » SEAFAN - The Southeast Florida Action Network

Coral Reef Conservation Program Quick Links

- Coral Reef Conservation Program Projects
- Coral ECA
- Southeast Florida Coral Reef Initiative (SEFCRI)
- SEFCRI Technical Advisory Committee
- Awareness and Appreciation Focus Area
- Fishing, Diving and

Report a Marine Incident!	Have you taken a BleachWatch Training?	Have you seen a tagged coral?
SEAFAN Call the SEAFAN hotline at 866-770-SEFL (7335) or **Submit a Report Online**	**BleachWatch** If you are a trained BleachWatch observer **Submit a BleachWatch Report** to detect and monitor coral bleaching and disease in Southeast Florida.	Divers and snorkelers in Southeast Florida and the Keys can assist in monitoring the effectiveness of experimental treatments on diseased corals. Submit a report to the Citizen Science Photo Submission Form.

BLEACHWATCH



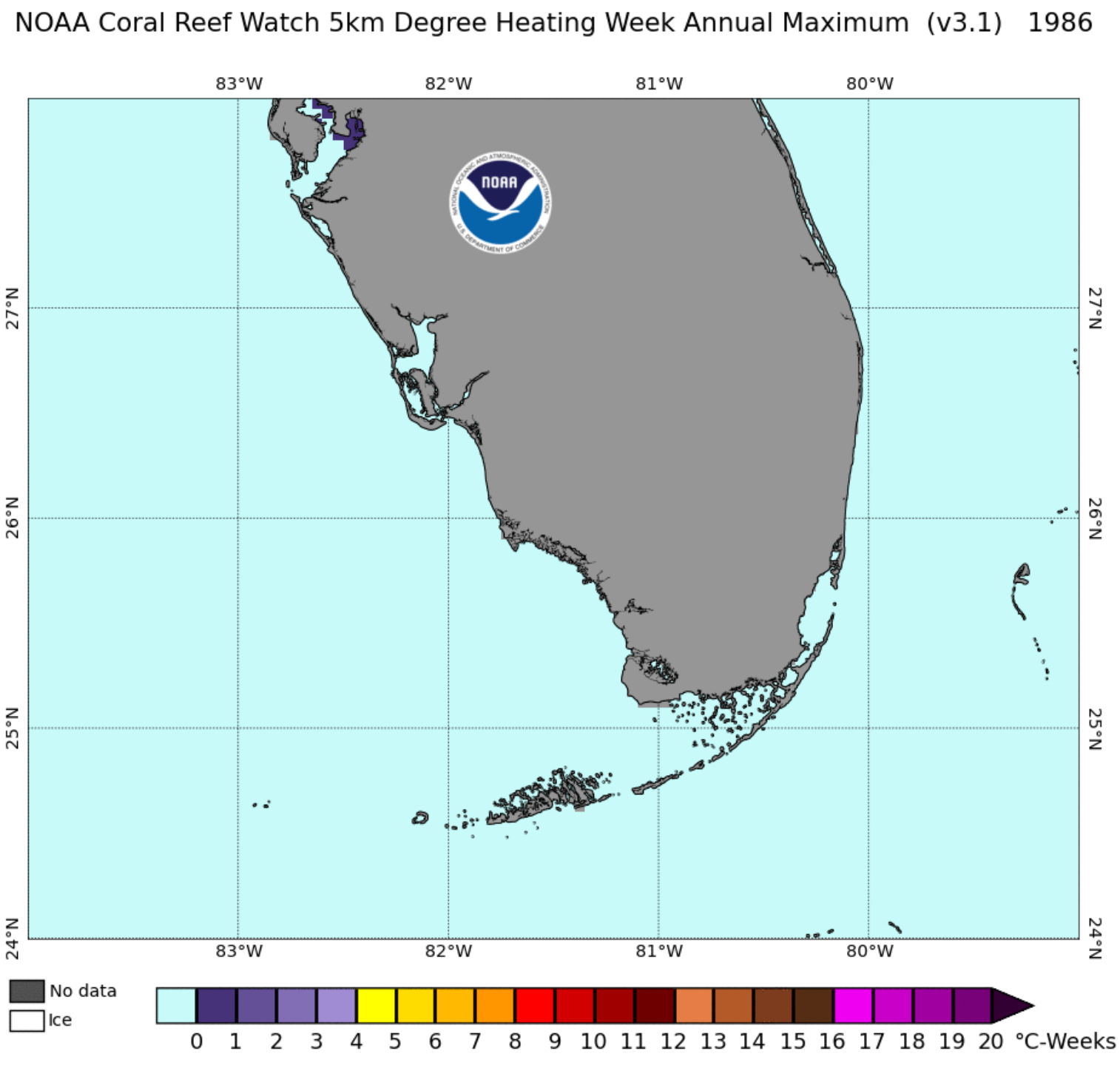
BleachWatch is an early warning system for coral bleaching and disease in Southeast Florida.

The program helps to detect and monitor coral bleaching events in Southeast Florida and improve scientific understanding by:

•Tracking weather conditions and sea surface temperatures for conditions favorable for coral bleaching.

•Collecting field observations on the condition of the reef from trained observers.

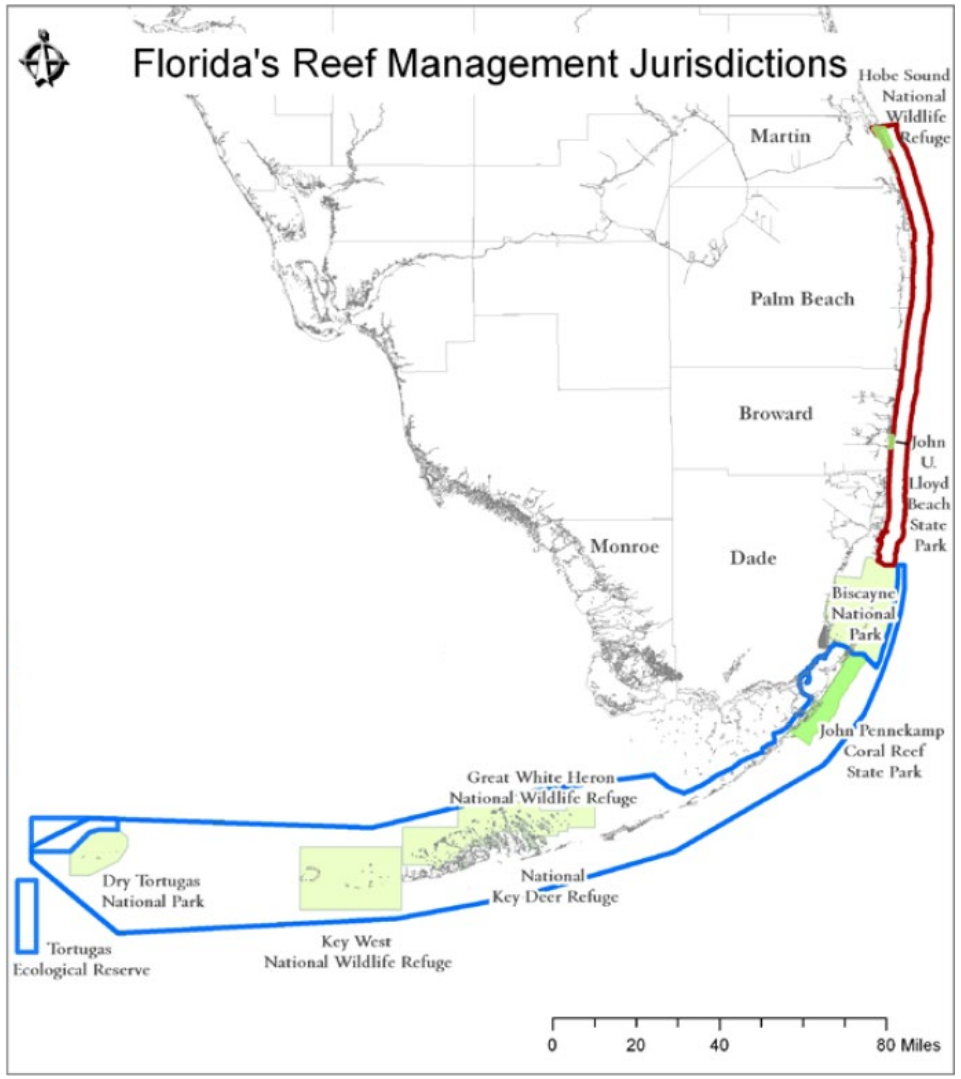
•Summarizing data and producing reports on the current conditions in the region.



Source: NOAA Coral Reef Watch

BLEACHWATCH

HISTORY



Kristin Jacobs Coral Reef Ecosystem Conservation Area
Florida Keys National Marine Sanctuary
Federal Park or Refuge
State Park

Coral ECA BleachWatch

Florida Keys BleachWatch

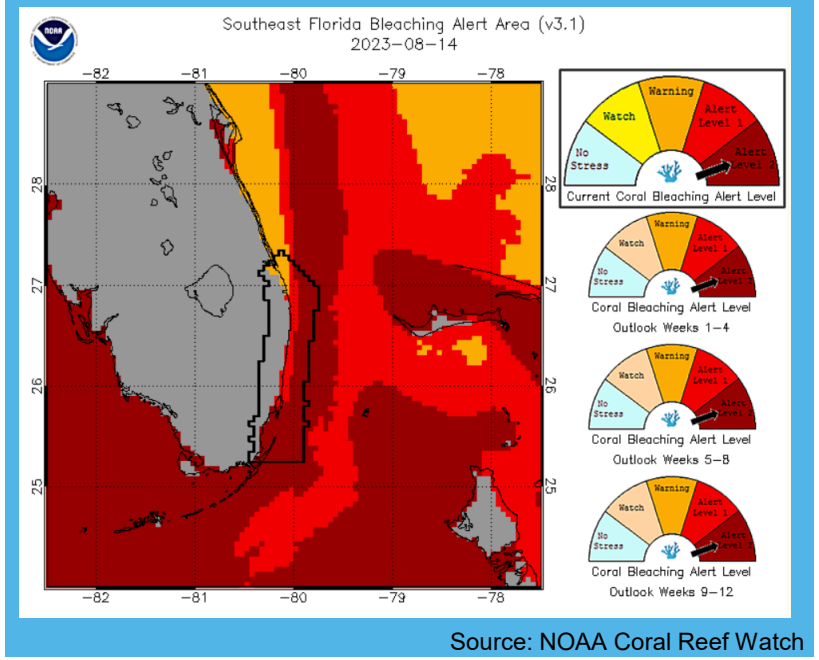
BLEACHWATCH

PROGRAM OBJECTIVES

Environmental Monitoring

Involve Citizen Scientists

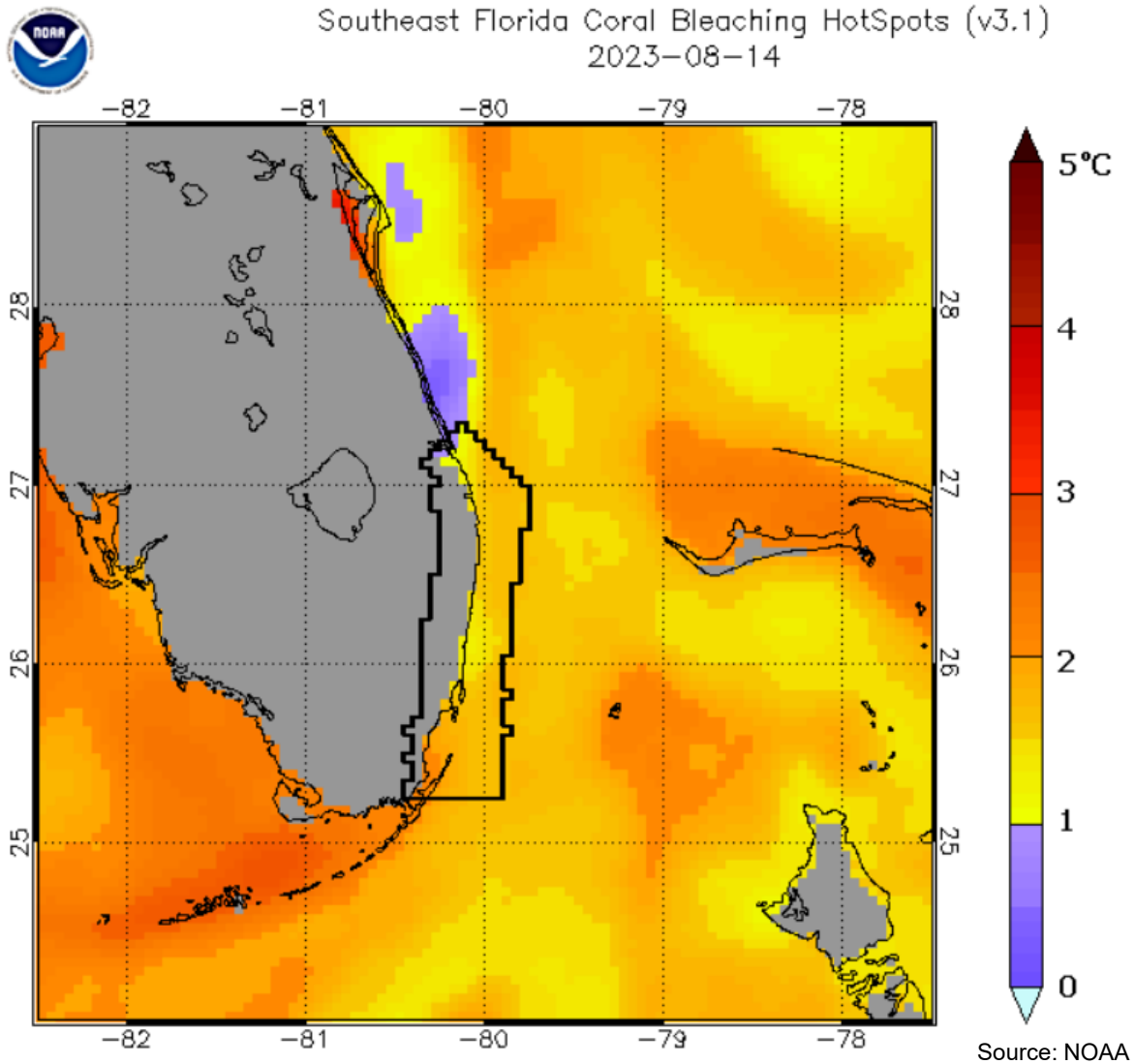
Issue “Current Conditions” Reports



Source: NOAA Coral Reef Watch

BLEACHWATCH
ENVIRONMENTAL MONITORING

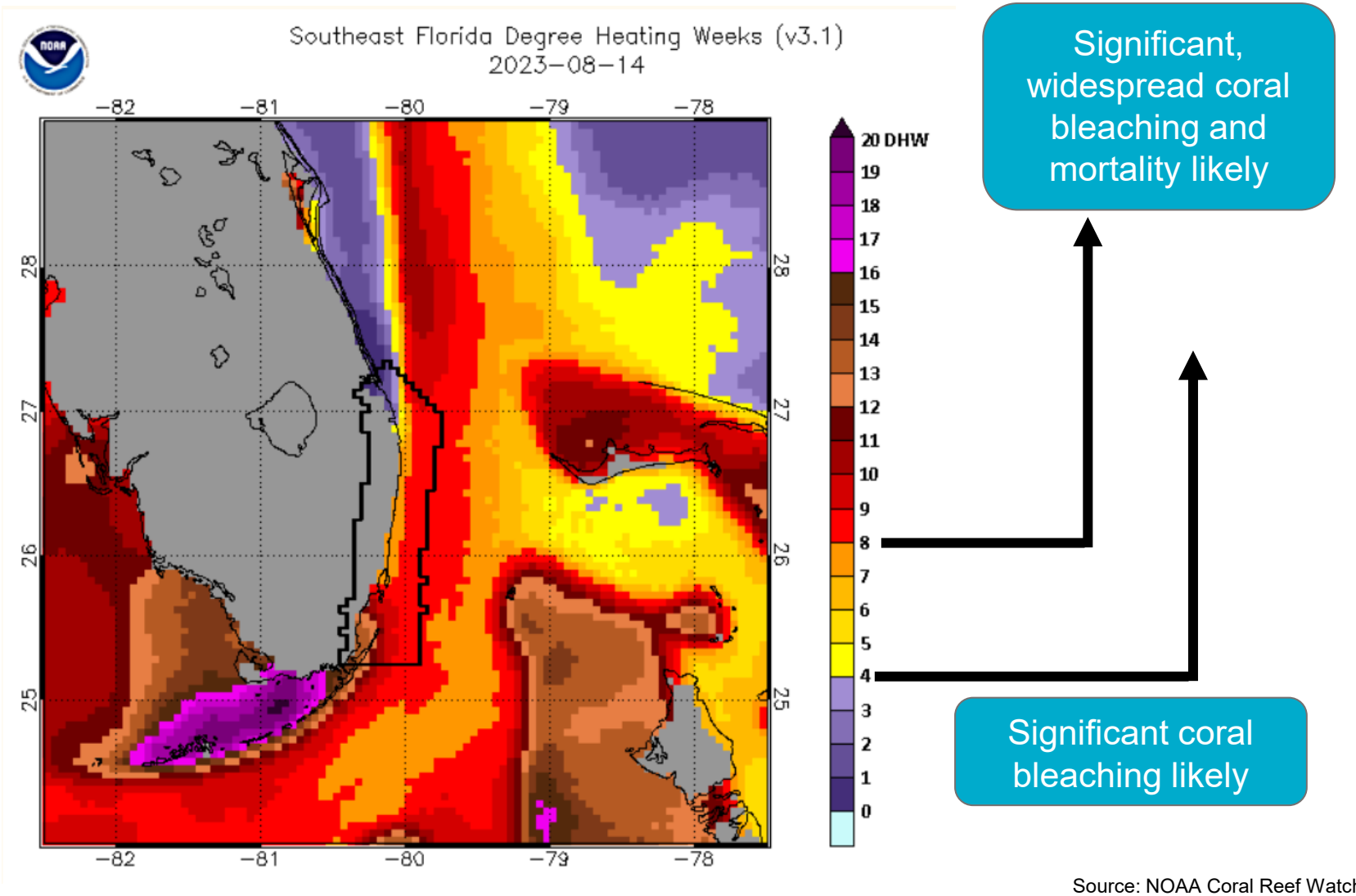
High Temperatures
(Hot Spots)



Source: NOAA Coral Reef Watch

BLEACHWATCH
PROGRAM OBJECTIVES

Extended Time
(Degree Heating Weeks)



Source: NOAA Coral Reef Watch

BLEACHWATCH PROGRAM OBJECTIVES

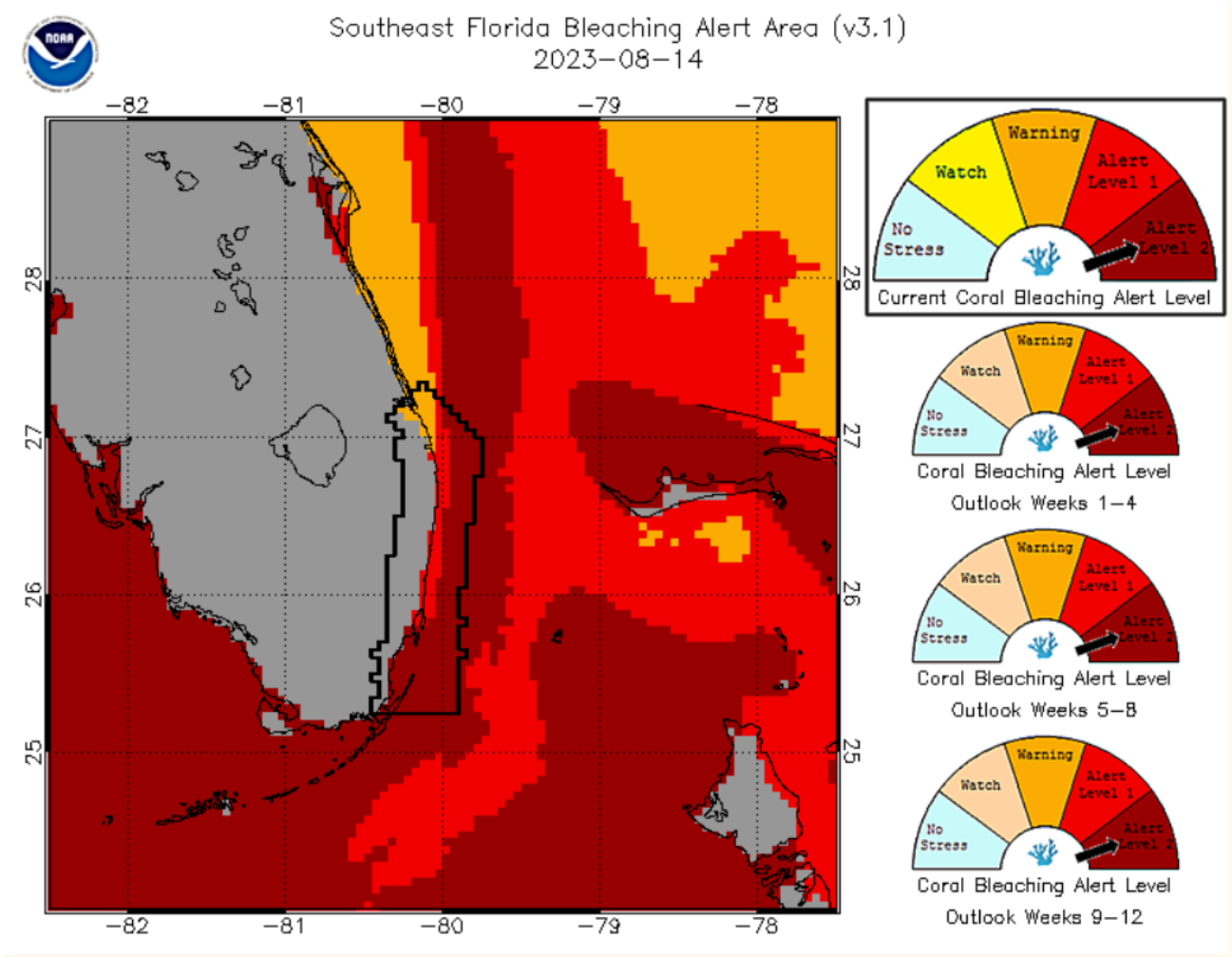
High Temperatures
(Hot Spots)

+

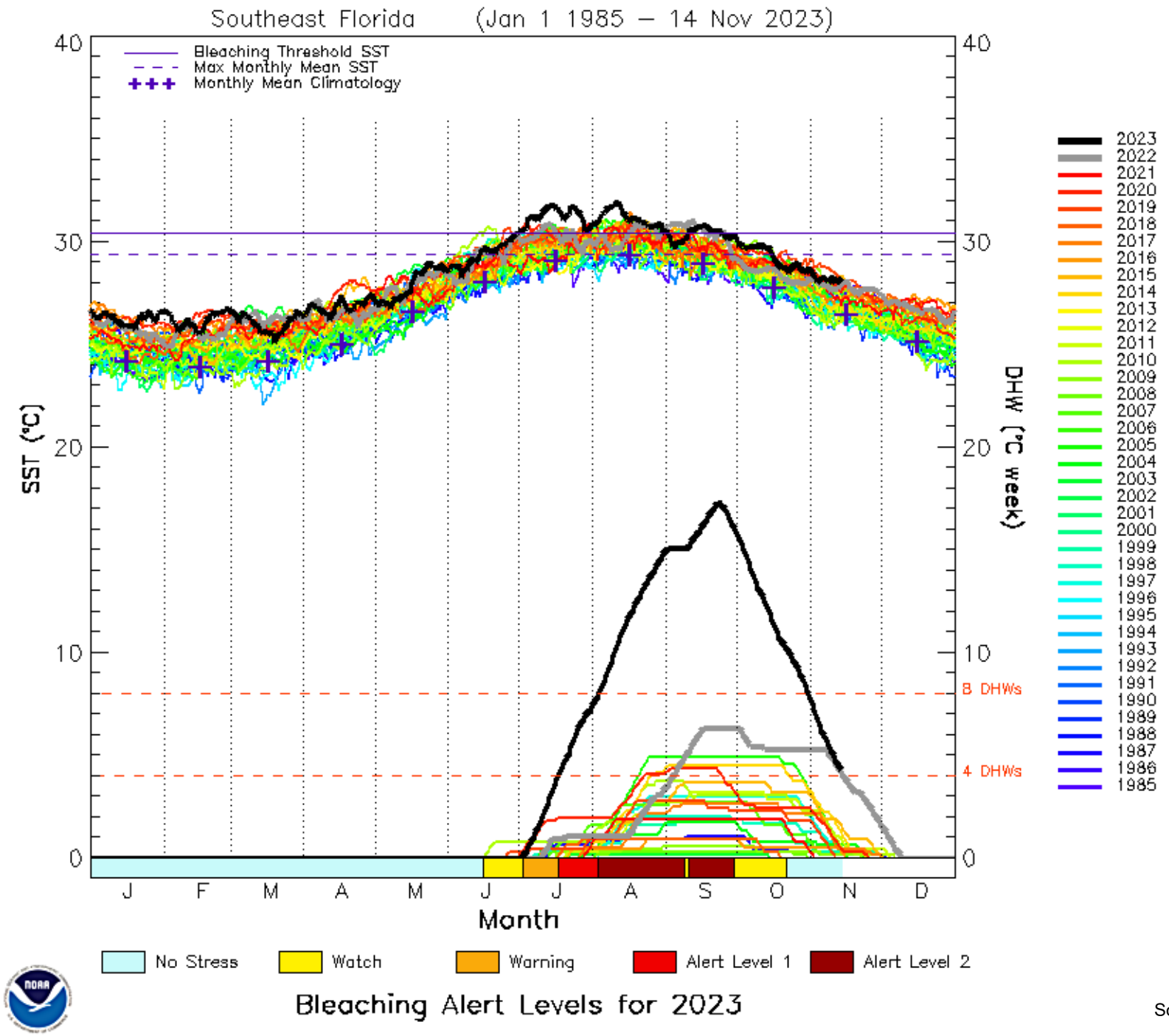
Extended Time
(Degree Heating Weeks)

=

Bleaching Alert Areas



Source: NOAA Coral Reef Watch



Source: NOAA Coral Reef Watch

BREAK

TRAINING OVERVIEW

- Coral Anatomy
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HOW TO REPORT

TRAINING MATERIALS

All Available Online!

1. Program Overview.
2. Bleaching Fact Sheet.
3. Disease Fact Sheet.
4. Datasheet.
5. Datasheet Instructions.
6. Coral Condition ID Guide *(booklet).*
7. Coral Cheat Sheet (*beginner level).*

www.SEAFAN.net/BleachWatch

HOW TO REPORT

Florida Department of Environmental Protection
Coral Reef Conservation Program

SEAFAN BleachWatch Program

BleachWatch Data Sheet

Online Forms: www.SEAFAN.net/BleachWatch

A. OBSERVER INFORMATION: **Date of Visit:** _____ **Time:** _____

Name: _____ Email: _____

Phone: _____ Organization (*if applicable*): _____

Observer Category (*circle*): Resident Visitor Tourism Commercial Education Research Government NGO

HOW TO REPORT

B. SITE INFORMATION: **Latitude:** N 25 40.450 **Longitude:** W 80 50.920

Site Name/Location: Emerald Reef Depth Range: (*ft* / *m*): 20 Min. 25 Max.

County (*circle*): Miami-Dade (Broward) Palm Beach Martin Other: _____

Environmental Conditions (*Optional*): Wind Speed (*circle*): (0–5 kts) 5–10 kts 10–15 kts 15–20 kts 20+ kts

Air Temp.: 95 Water Temp. (*Surface*): 84 Water Temp. (*Bottom*): 87 Underwater Vis. (*ft* / *m*): 30

Cloud cover (*circle*): (Clear) Partly Cloudy Mostly Cloudy Overcast

HOW TO REPORT

Did you observe signs of BLEACHING?	Did you observe signs of DISEASE?
☐ **YES** – Please continue with Section C *and* D ☐ **NO**	☐ **YES** – Please continue with Section D ☐ **NO**

Continue To Next Section

Finished!

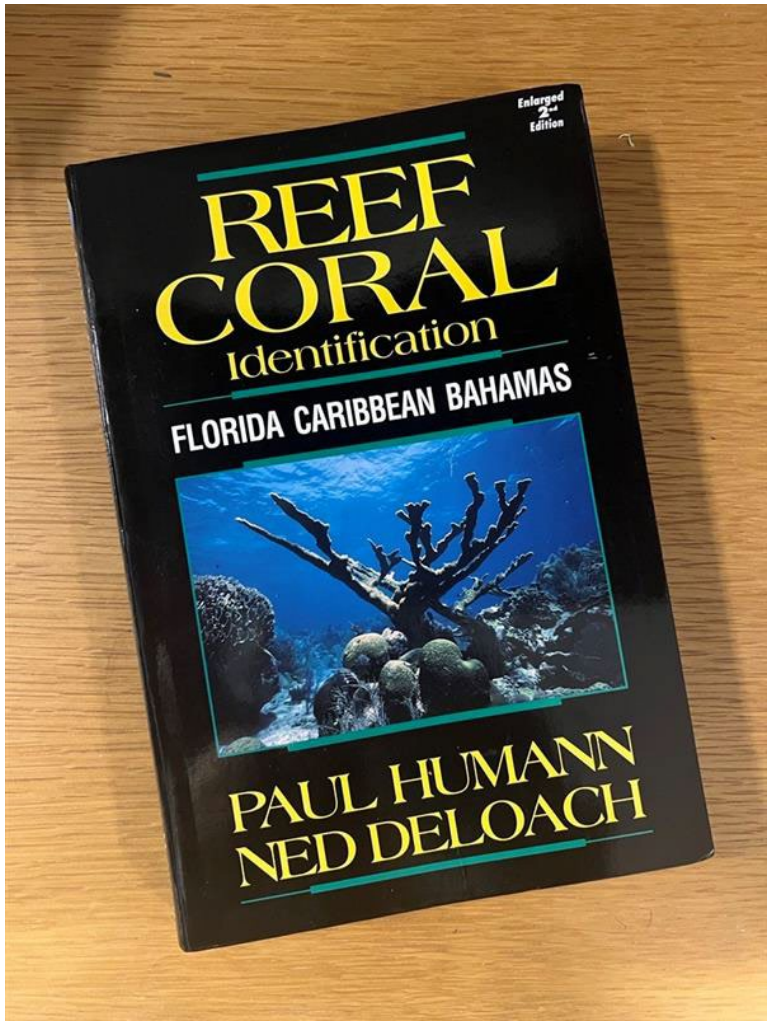
HOW TO REPORT

Types of Corals

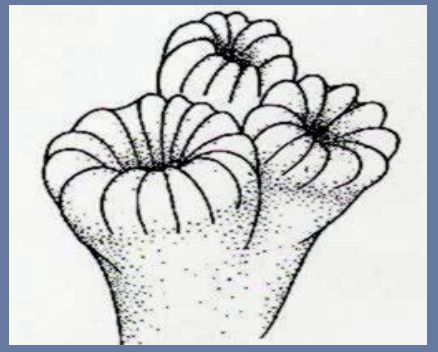
C. BLEACHING AND DISEASE OBSERVATIONS: *Single (S) - 1 Few (F) - 2-5 Many (M) - 5+*

	Bleaching:				**Disease:**				
	No Stress	Paling	Partial Bleaching	Bleached	Black Band	Tissue Loss (white)	Growth Anomaly	Other*	*Other observations/further description (i.e. lesion pattern, color, speed of progression, etc.)
Brain	☐	☐	☐	☐	☐	☐	☐	☐	
Branching	☐	☐	☐	☐	☐	☐	☐	☐	
Fleshy	☐	☐	☐	☐	☐	☐	☐	☐	
Flowering/Cup	☐	☐	☐	☐	☐	☐	☐	☐	
Leaf/Plate/Sheet	☐	☐	☐	☐	☐	☐	☐	☐	
Mound/Boulder	☐	☐	☐	☐	☐	☐	☐	☐	

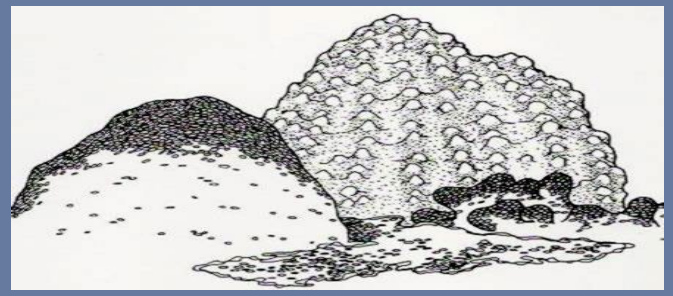
CORAL IDENTIFICATION



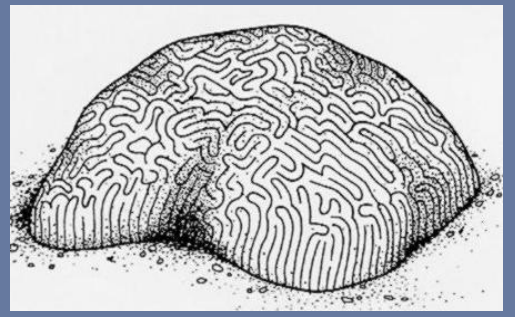
CORAL IDENTIFICATION



Flowering & Cup

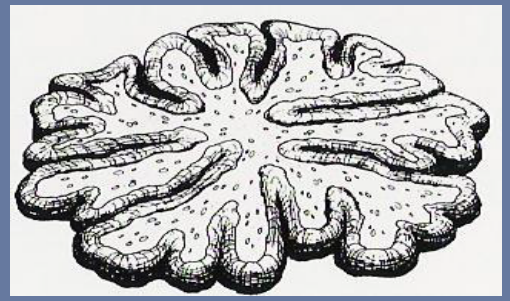


Encrusting, Mound & Boulder

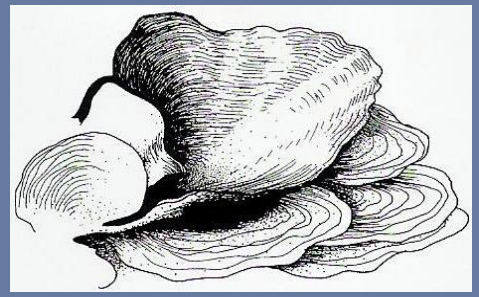


Brain Corals

Branching & Pillar



Fleshy Corals

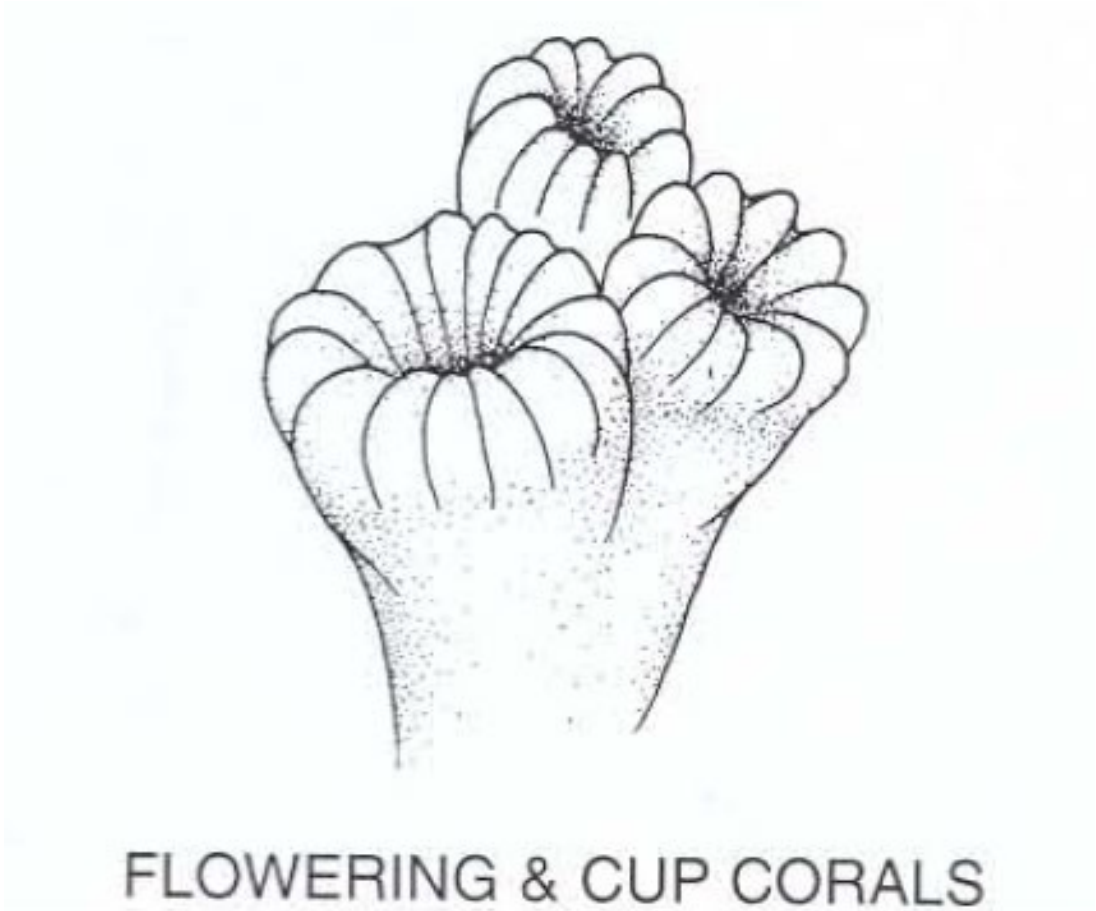


Plate, Leaf & Sheet

Drawings courtesy of Reef Coral Identification

CORAL IDENTIFICATION

FLOWERING & CUP CORALS



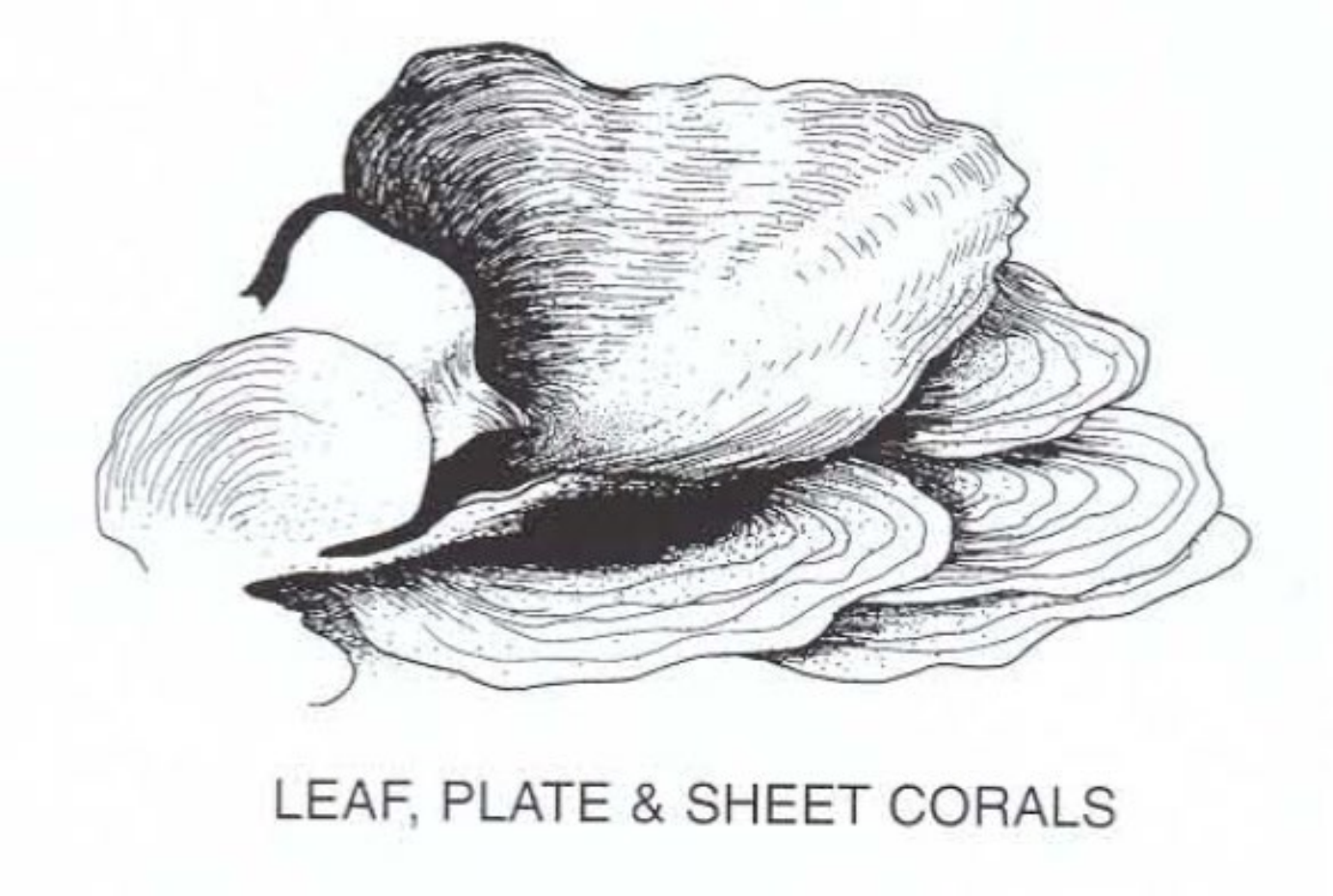
CORAL IDENTIFICATION

FLOWERING & CUP CORALS

Smooth Flower Coral

CORAL IDENTIFICATION

LEAF, PLATE & SHEET CORALS



LEAF, PLATE & SHEET CORALS

CORAL IDENTIFICATION

LEAF, PLATE & SHEET CORALS

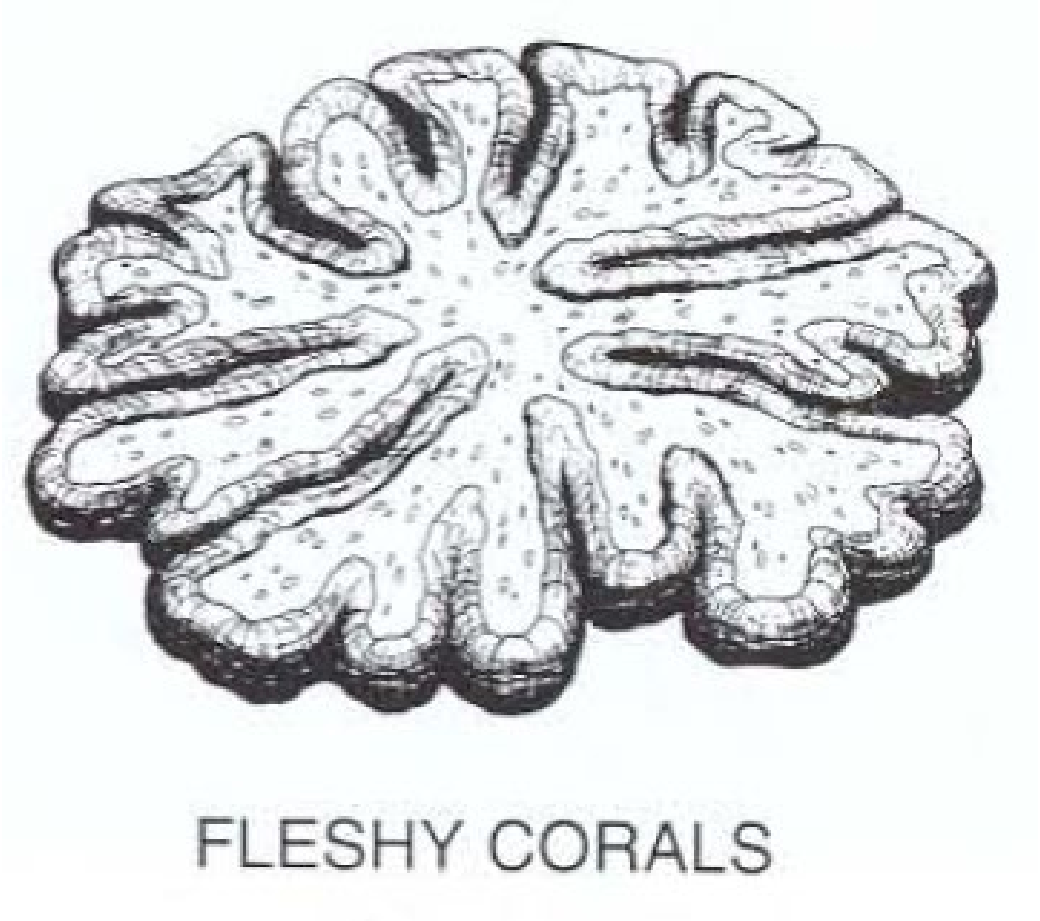
Lettuce Coral

Fragile Saucer Coral

Whitestar Sheet Coral

CORAL IDENTIFICATION

FLESHY CORALS



CORAL IDENTIFICATION

FLESHY CORALS

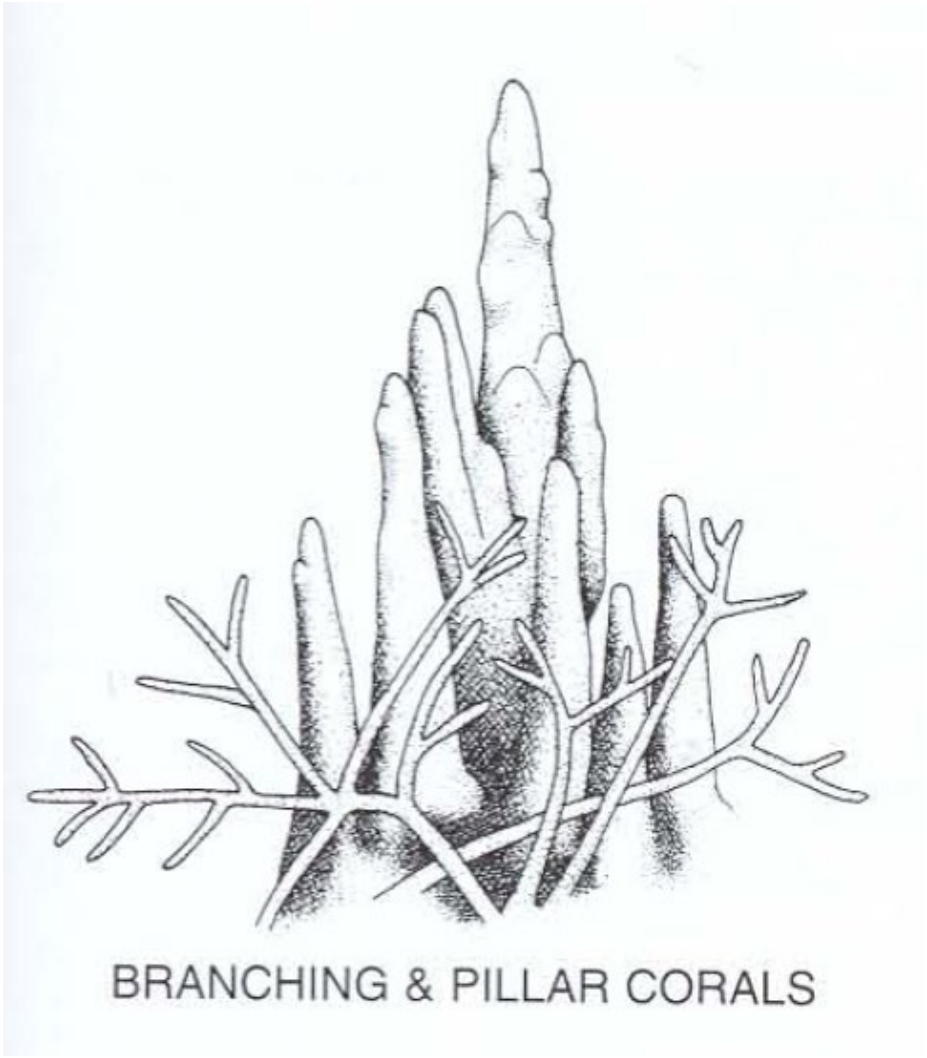
Spiny Flower Coral

Mushroom Coral

Cactus Coral

CORAL IDENTIFICATION

BRANCHING AND PILLAR CORALS



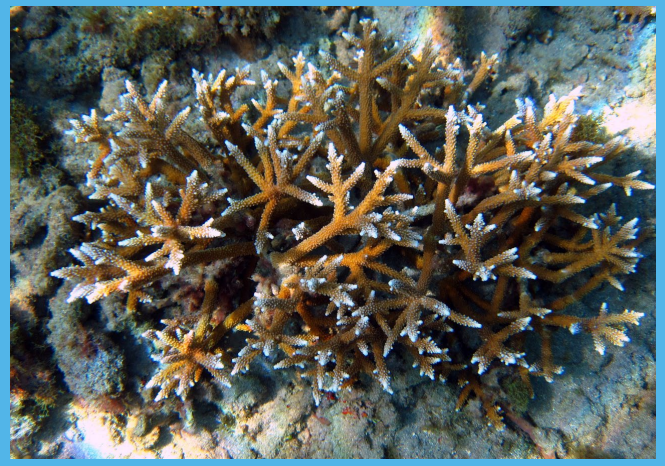
CORAL IDENTIFICATION

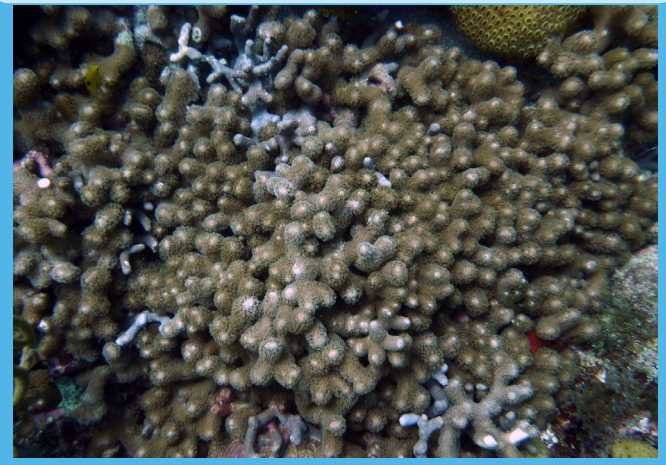
BRANCHING AND PILLAR CORALS

Staghorn Coral

Elkhorn Coral

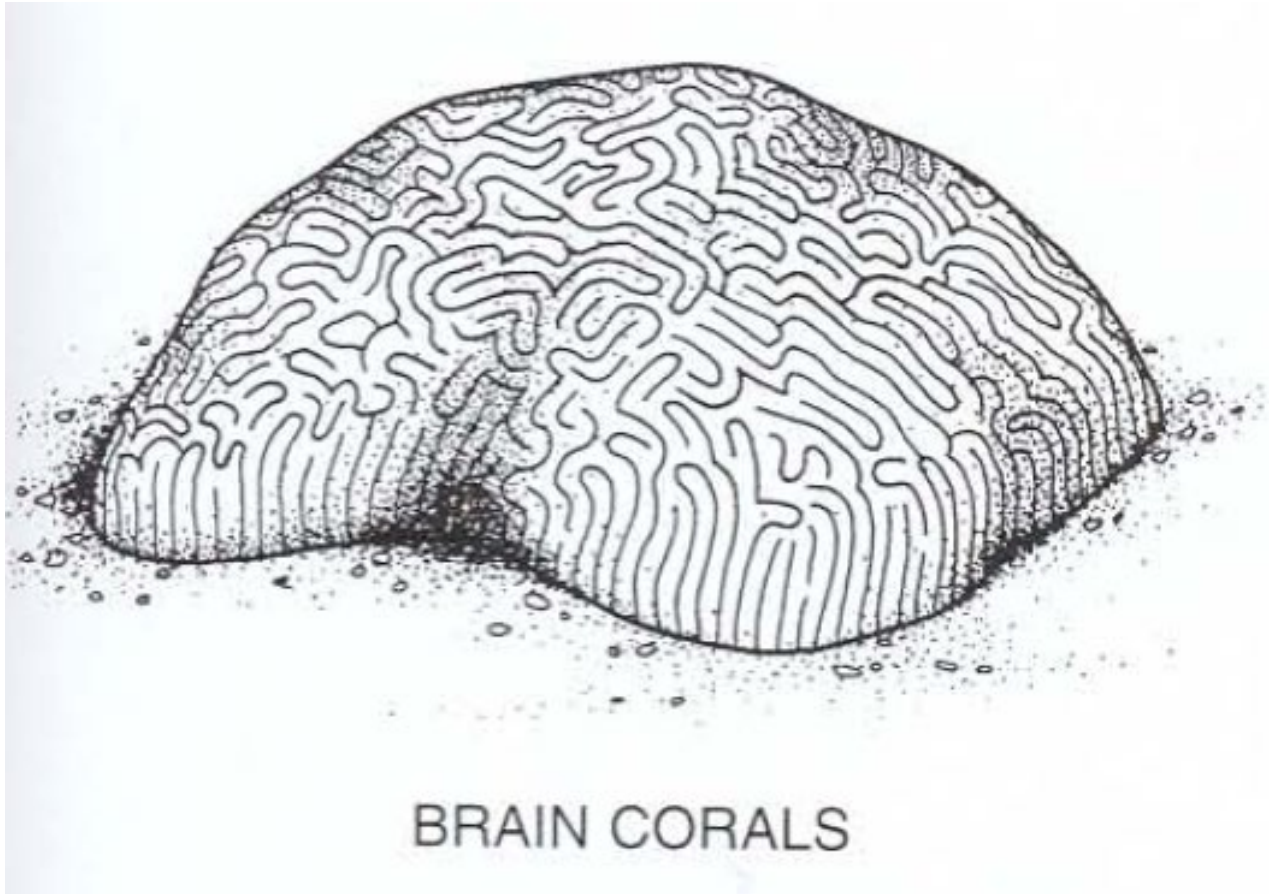
Pillar (above) and
Finger (below) Coral





CORAL IDENTIFICATION

BRAIN CORALS



BRAIN CORALS

CORAL IDENTIFICATION

BRAIN CORALS

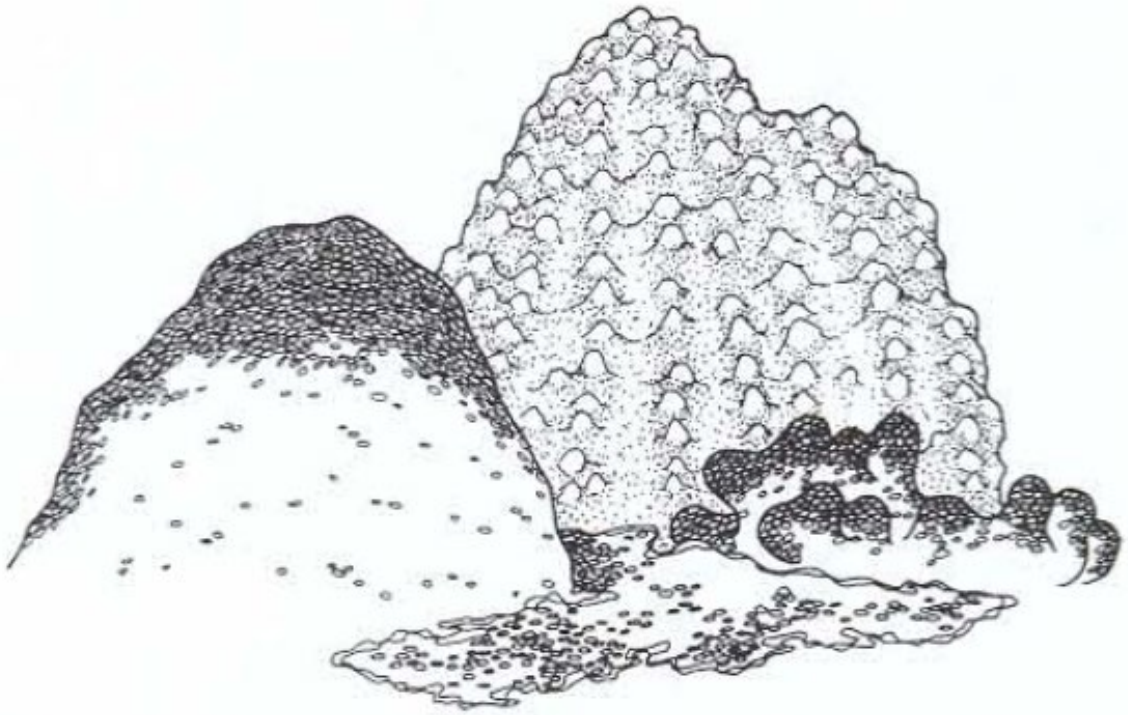
Boulder (above) and
Symmetrical (below) Brain Coral

Knobby Brain (above) and
Maze (below) Coral

Grooved Brain Coral

CORAL IDENTIFICATION

ENCRUSTING, MOUND AND BOULDER CORALS

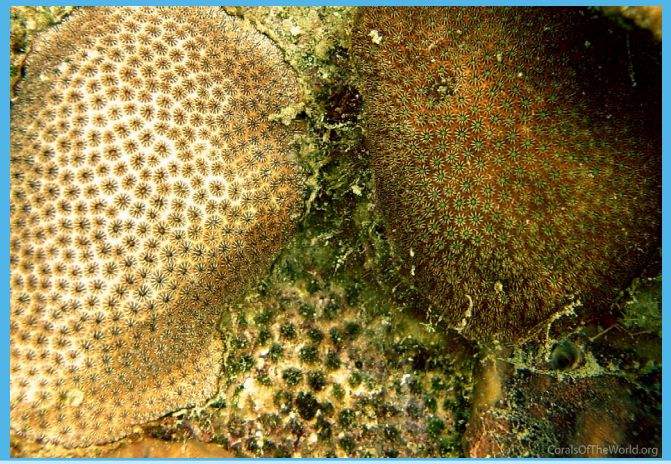


ENCRUSTING, MOUND & BOULDER CORALS

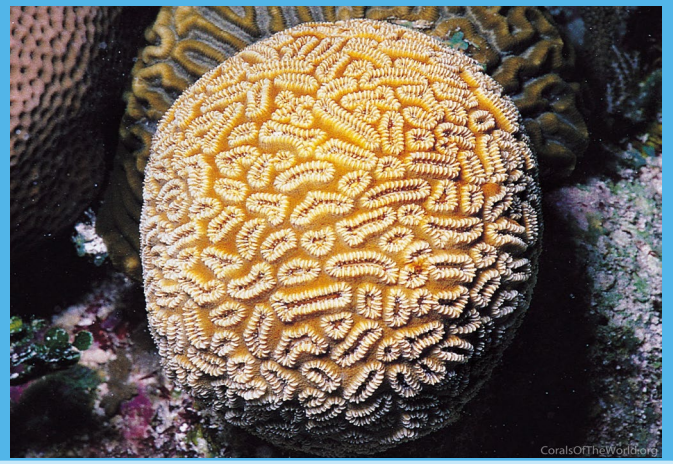
CORAL IDENTIFICATION

ENCRUSTING, MOUND AND BOULDER CORALS

Ten-Ray Star Coral



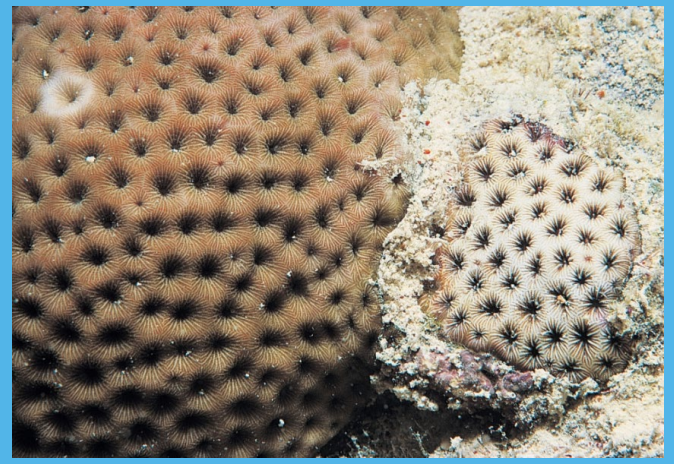
Blushing (above) and
Smooth (below) Star Coral



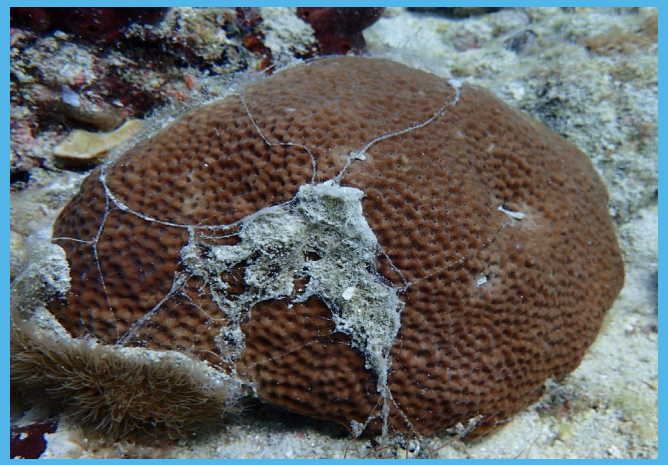
Elliptical (above) and
Great (below) Star Coral

CORAL IDENTIFICATION

ENCRUSTING, MOUND AND BOULDER CORALS



Massive and Lesser Starlet Coral



Mountainous (above) and
Lobed (below) Star Coral

Boulder Star (above) and
Mustard Hill (below) Coral

HOW TO REPORT

BLEACHING

BLEACHING

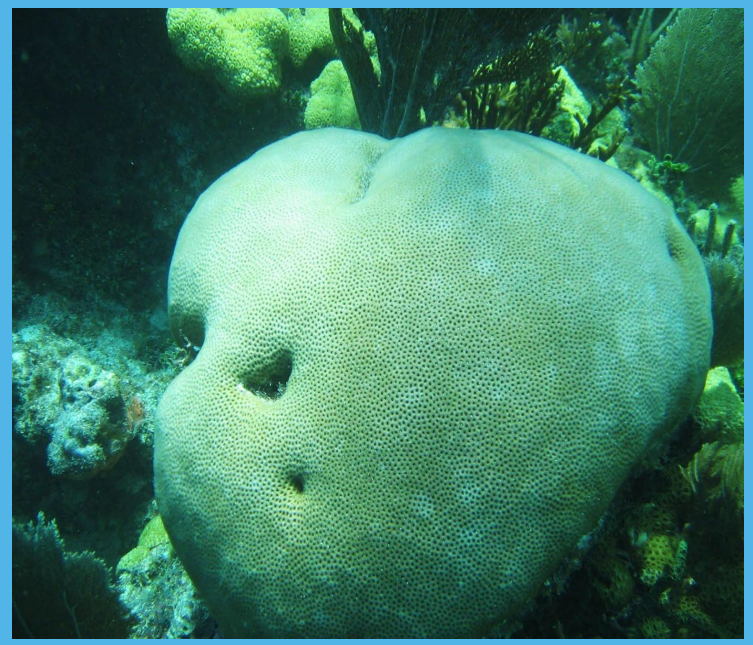
C. BLEACHING AND DISEASE OBSERVATIONS: *Single (S) - 1 Few (F) - 2-5 Many (M) - 5+*

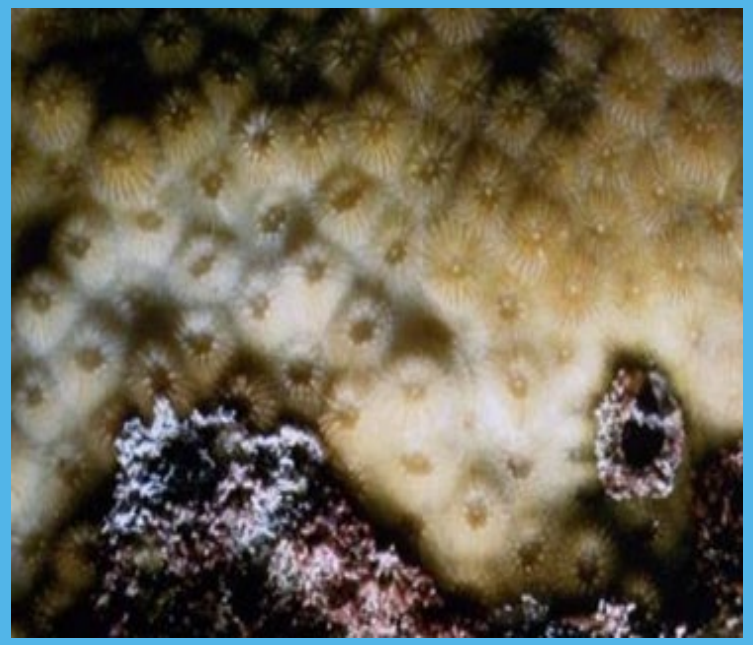
	Bleaching:				Disease:				
	No Stress	Paling	Partial Bleaching	Bleached	Black Band	Tissue Loss (white)	Growth Anomaly	Other*	*Other observations/further description (i.e. lesion pattern, color, speed of progression, etc.)
Brain	☐	☐	☐	☐	☐	☐	☐	☐	
Branching	☐	☐	☐	☐	☐	☐	☐	☐	
Fleshy	☐	☐	☐	☐	☐	☐	☐	☐	
Flowering/Cup	☐	☐	☐	☐	☐	☐	☐	☐	
Leaf/Plate/Sheet	☐	☐	☐	☐	☐	☐	☐	☐	
Mound/Boulder	☐	☐	☐	☐	☐	☐	☐	☐	

HOW TO REPORT

BLEACHING

Paling





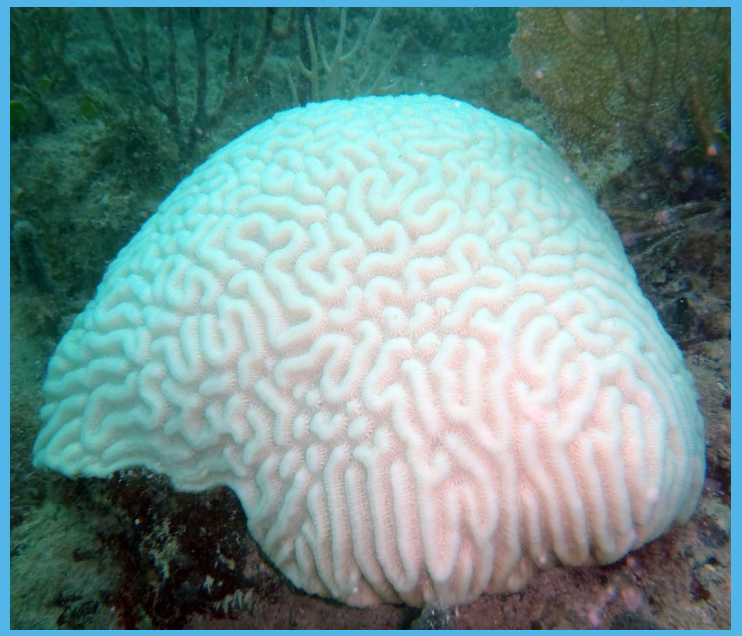
HOW TO REPORT

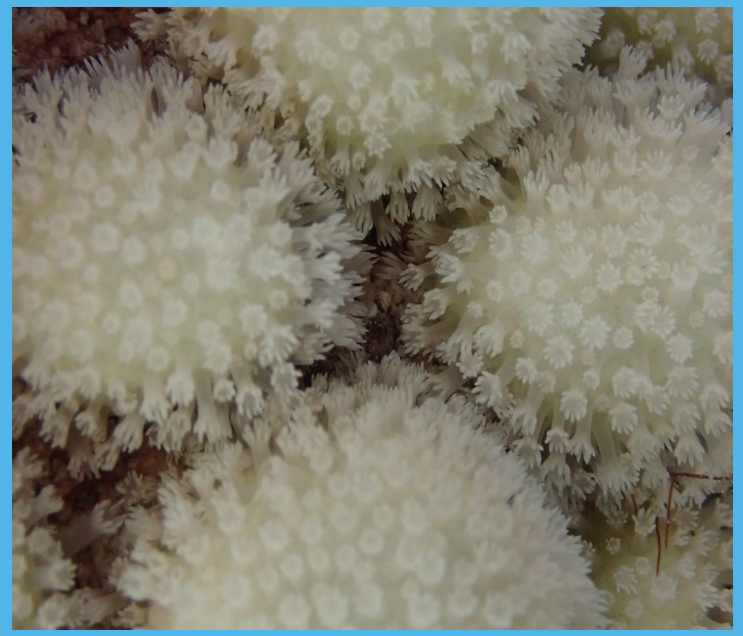
BLEACHING

Partial Bleaching

HOW TO REPORT
BLEACHING

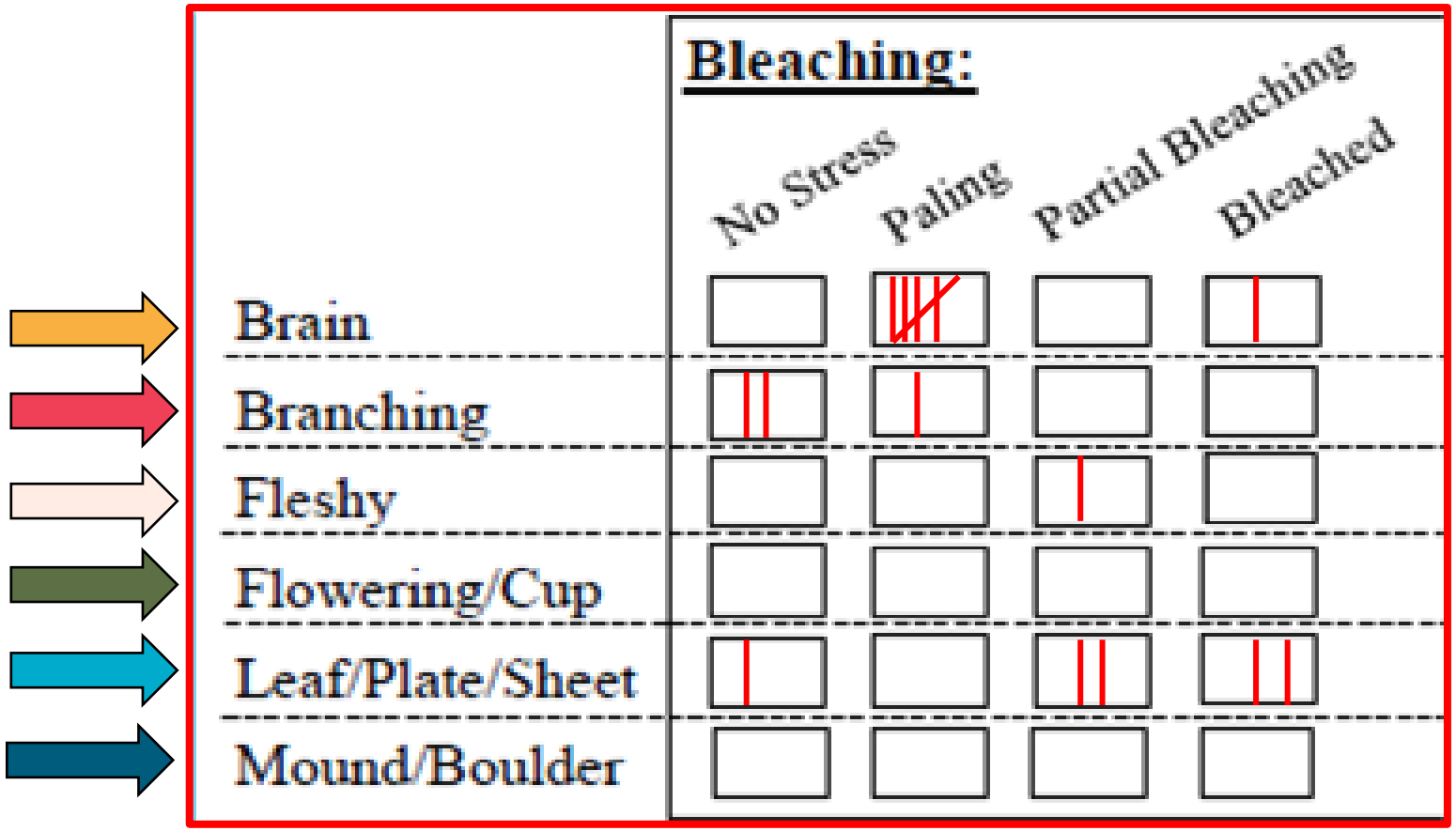
Full Bleaching



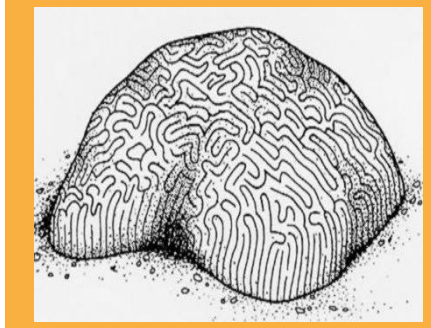


HOW TO REPORT

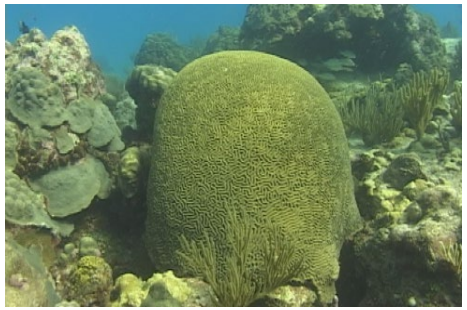
BLEACHING



HOW TO REPORT
BLEACHING



Brain Corals



No stress (Healthy)

None (0) | Single (1) | Few (2-4) | Many (5+)

Paling

None (0) | Single (1) | Few (2-4) | Many (5+)

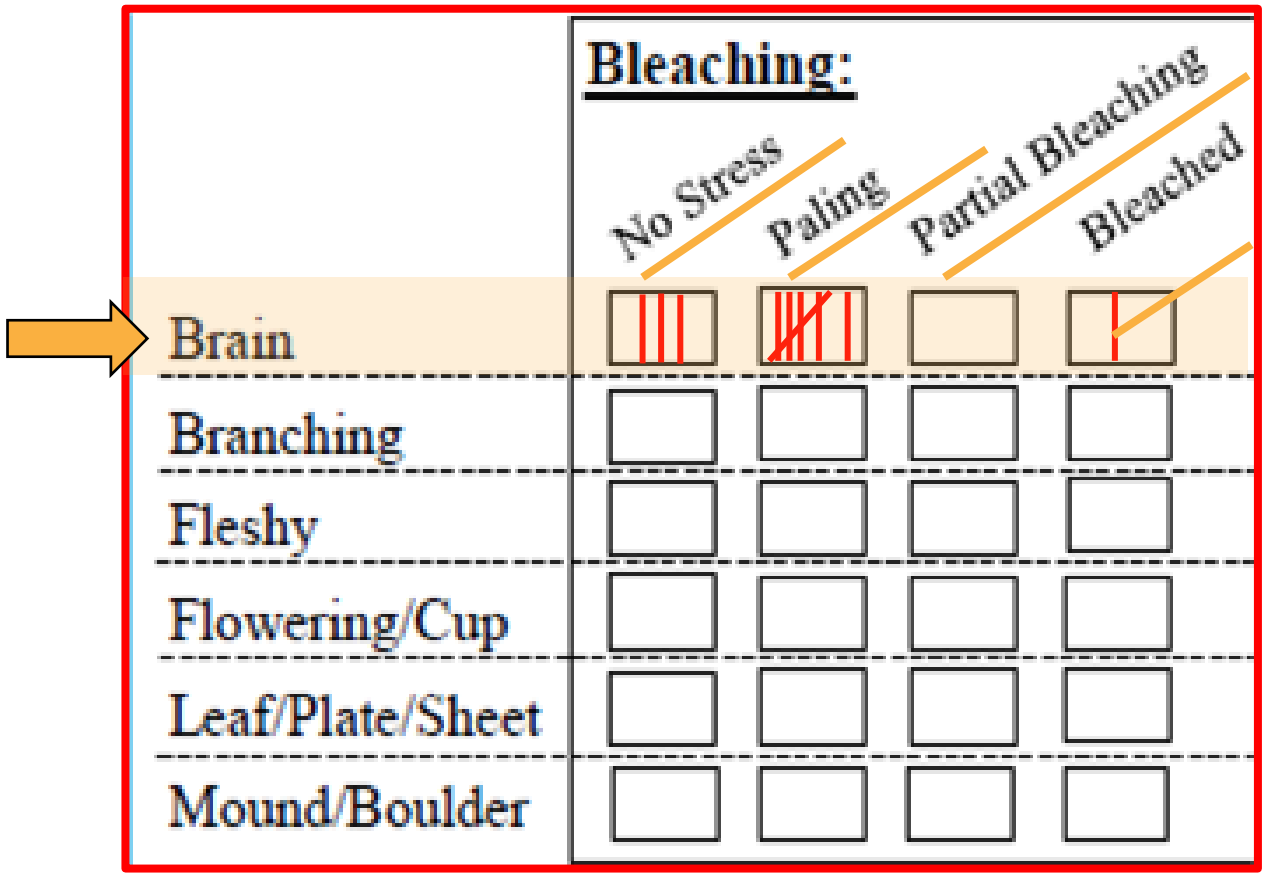
Partially Bleached

None (0) | Single (1) | Few (2-4) | Many (5+)

Bleached

None (0) | Single (1) | Few (2-4) | Many (5+)

HOW TO REPORT
BLEACHING



No stress (Healthy)

None (0) — Single (1) — **Few (2-4)** — Many (5+)

Paling

None (0) — Single (1) — Few (2-4) — **Many (5+)**

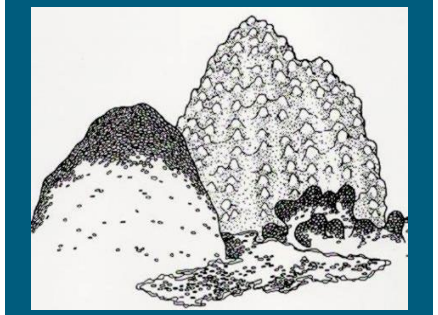
Partially Bleached

None (0) — Single (1) — Few (2-4) — Many (5+)

Bleached

None (0) — **Single (1)** — Few (2-4) — Many (5+)

HOW TO REPORT
BLEACHING



Mound, Boulder and Encrusting

No stress (Healthy)

None (0) — Single (1) — Few (2-4) — Many (5+)

Paling

None (0) — Single (1) — Few (2-4) — Many (5+)

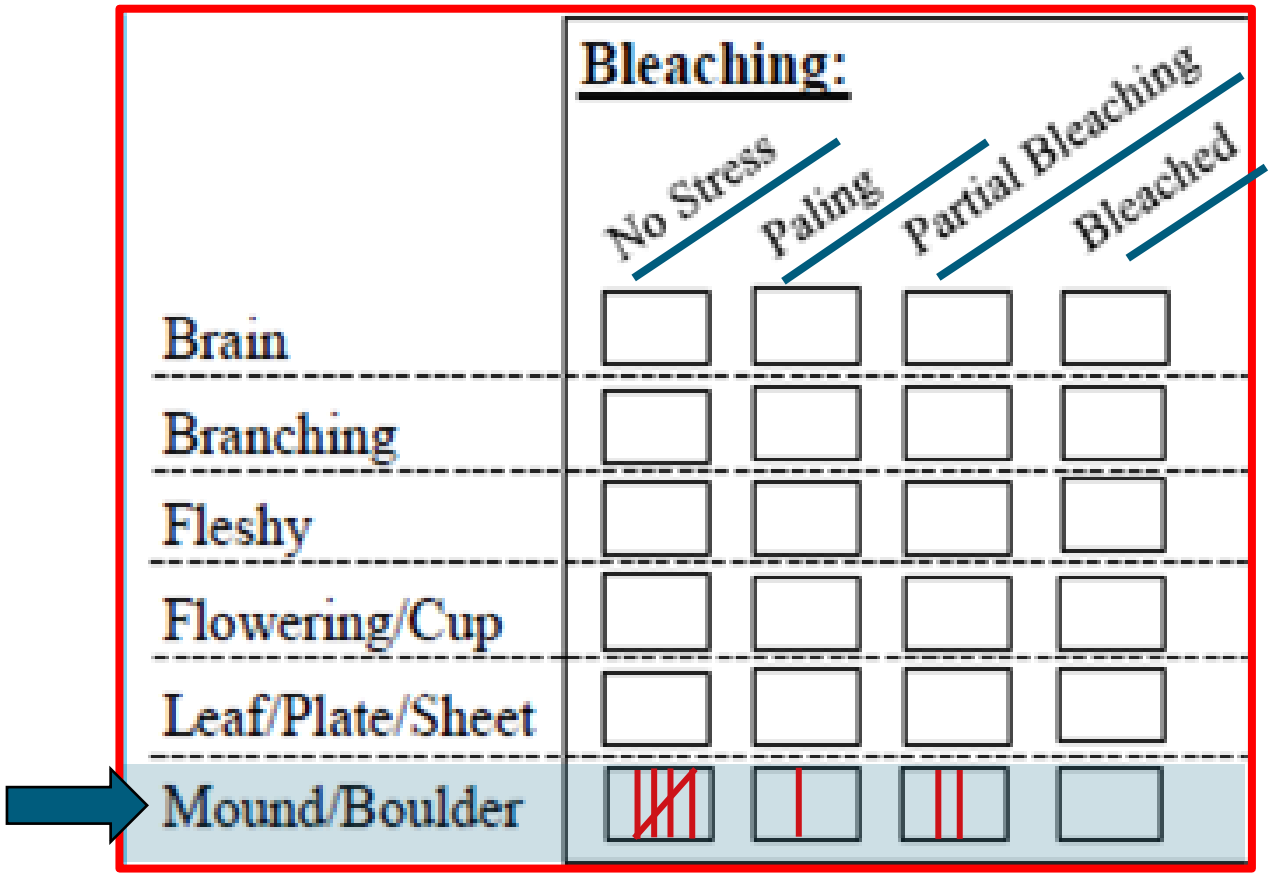
Partially Bleached

None (0) — Single (1) — Few (2-4) — Many (5+)

Bleached

None (0) — Single (1) — Few (2-4) — Many (5+)

HOW TO REPORT
BLEACHING



No stress (Healthy)

None (0) — Single (1) — Few (2-4) — **Many (5+)**

Paling

None (0) — **Single (1)** — Few (2-4) — Many (5+)

Partially Bleached

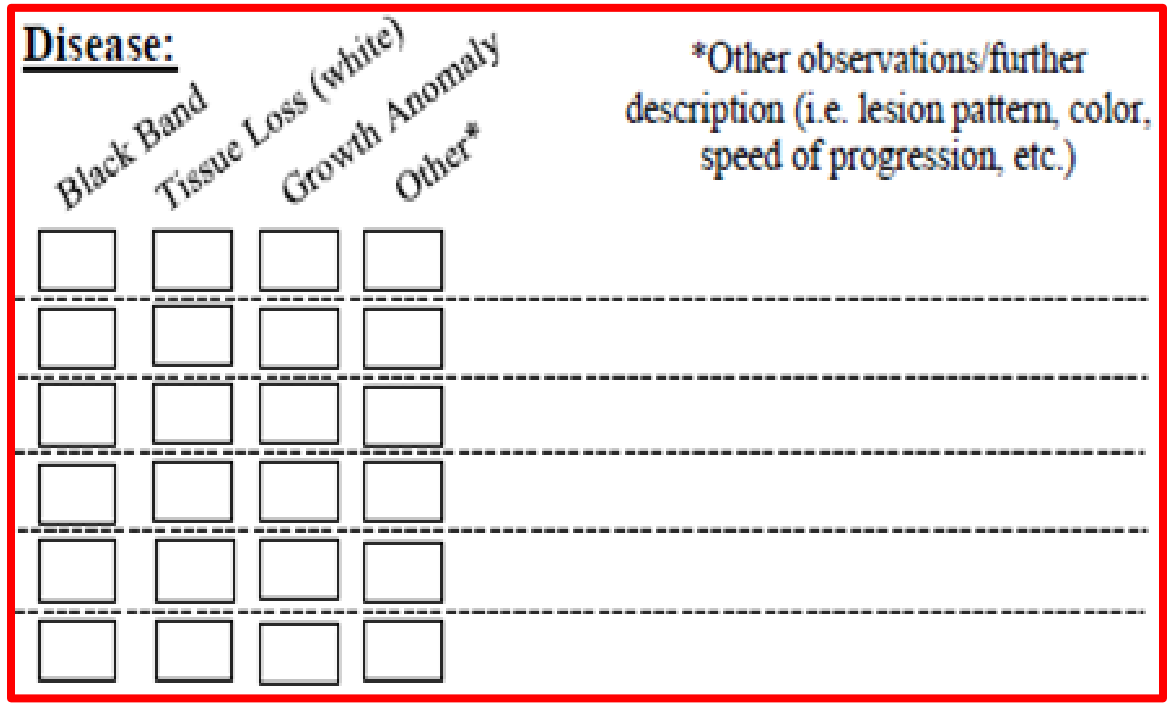
None (0) — Single (1) — **Few (2-4)** — Many (5+)

Bleached

None (0) — Single (1) — Few (2-4) — Many (5+)

HOW TO REPORT

DISEASE



Disease:

Black Band	Tissue Loss (white)	Growth Anomaly	Other*	*Other observations/further description (i.e. lesion pattern, color, speed of progression, etc.)
☐	☐	☐	☐	
☐	☐	☐	☐	
☐	☐	☐	☐	
☐	☐	☐	☐	
☐	☐	☐	☐	
☐	☐	☐	☐	

Black Band Disease

Tissue Loss (White)

Growth Anomaly

Other/Unknown

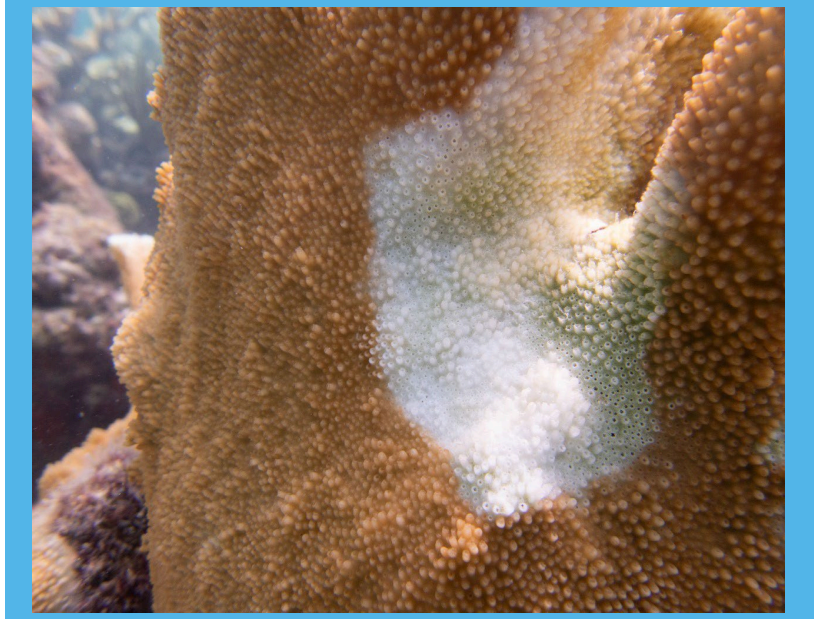
HOW TO REPORT

DISEASE

Black Band

Tissue Loss

Source: USGS



HOW TO REPORT

DISEASE

Growth Anomaly

Other/Unknown

Source: Eyes of the Reef

Source: Caribbean Reef Life

HOW TO REPORT

DISEASE

Disease:	Black Band	Tissue Loss (white)	Growth Anomaly	Other*	*Other observations/further description (i.e. lesion pattern, color, speed of progression, etc.)
Brain	☐	☐	☐	☐	
Branching	☐	☐	☐	☐	
Fleshy	☐	☐	☐	☐	
Flowering/Cup	☐	☐	☐	☐	
Leaf/Plate/Sheet	☐	☐	☐	☐	
Mound/Boulder	☐	☐	☐	☐	

HOW TO REPORT

DISEASE

Single, Linear

Multiple, Irregular

Single, Circular

HOW TO REPORT
OVERALL OBSERVATIONS

D. OVERALL OBSERVATIONS:

What was the overall severity of bleaching over the entire site? *(Please check one)*

___ Pale (light color) ___ Partially bleached ___ Fully Bleached ___ Dead with algae

What percent of overall coral cover was **BLEACHED** at the site? *(Please check one)*

___1 – 10% ___11 – 30% ___ 31 - 50% ___51 – 75% ___76 – 100%

What percent of overall coral cover was **DISEASED** at the site? *(Please check one)*

___ 1 – 10% ___11 – 30% ___ 31 - 50% ___51 – 75% ___76 – 100%

Check if you saw bleaching on:

____ Fire Coral (Hydrocoral)

____ Palythoa (Zoanthids)

____Gorgonians (Soft Coral)

Overall Severity of Bleaching

*Select *one* response

HOW TO REPORT
OVERALL OBSERVATIONS

D. OVERALL OBSERVATIONS:

What was the overall severity of bleaching over the entire site? *(Please check one)*

___ Pale (light color) ___ Partially bleached ___ Fully Bleached ___ Dead with algae

What percent of overall coral cover was **BLEACHED** at the site? *(Please check one)*

___1 – 10% ___11 – 30% ___ 31 – 50% ___51 – 75% ___76 – 100%

What percent of overall coral cover was **DISEASED** at the site? *(Please check one)*

___ 1 – 10% ___11 – 30% ___ 31 – 50% ___51 – 75% ___76 – 100%

Check if you saw bleaching on:

____ Fire Coral (Hydrocoral)

____ Palythoa (Zoanthids)

____Gorgonians (Soft Coral)

% of Live Coral Bleached

*Select *one* response

HOW TO REPORT

OVERALL OBSERVATIONS

Category (0)
Absent

Category (1)
1%-10%

Category (2)
11%-30%

Category (3)
31%-50%

Category(4)
51%-75%

Category (5)
76%-100%

HOW TO REPORT
OVERALL OBSERVATIONS

D. OVERALL OBSERVATIONS:

What was the overall severity of bleaching over the entire site? *(Please check one)*

___ Pale (light color) ___ Partially bleached ___ Fully Bleached ___ Dead with algae

What percent of overall coral cover was **BLEACHED** at the site? *(Please check one)*

___1 – 10% ___11 – 30% ___ 31 – 50% ___51 – 75% ___76 – 100%

What percent of overall coral cover was **DISEASED** at the site? *(Please check one)*

___ 1 – 10% ___11 – 30% ___ 31 – 50% ___51 – 75% ___76 – 100%

Check if you saw bleaching on:

____ Fire Coral (Hydrocoral)

____ Palythoa (Zoanthids)

____Gorgonians (Soft Coral)

% of Live Coral Diseased

*Select *one* response

HOW TO REPORT
OVERALL OBSERVATIONS

D. OVERALL OBSERVATIONS:

What was the overall severity of bleaching over the entire site? *(Please check one)*

___ Pale (light color) ___ Partially bleached ___ Fully Bleached ___ Dead with algae

What percent of overall coral cover was **BLEACHED** at the site? *(Please check one)*

___1 – 10% ___11 – 30% ___ 31 – 50% ___51 – 75% ___76 – 100%

What percent of overall coral cover was **DISEASED** at the site? *(Please check one)*

___ 1 – 10% ___11 – 30% ___ 31 – 50% ___51 – 75% ___76 – 100%

Check if you saw bleaching on:

__X__ Fire Coral (Hydrocoral)

____ Palythoa (Zoanthids)

__X__ Gorgonians (Soft Coral)

Other Bleaching Indicators: Non-Stony Corals

*Multiple responses

HOW TO REPORT

OTHER BLEACHING INDICATORS

Fire Coral (*Millepora spp.)*

- Hydrocoral (not a stony coral).
- Has stinging polyps.
- Encrusting.

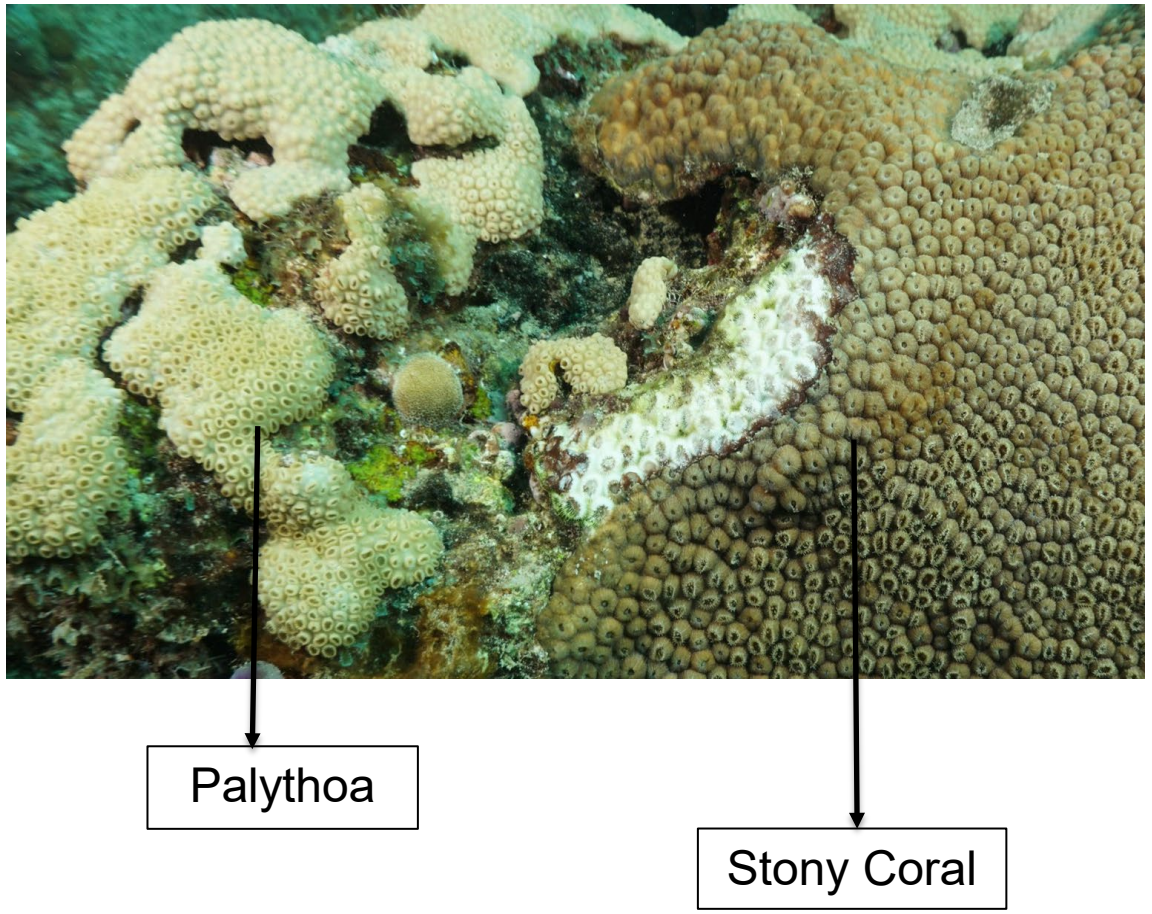
Source: Divers Alert Network

HOW TO REPORT

OTHER BLEACHING INDICATORS

Zoanthid (*Palythoa spp.)*

- Zoanthid (not a stony coral).
- Similar to anemones.
- Encrusting.



HOW TO REPORT

OTHER BLEACHING INDICATORS

Gorgonians

(Sea fans, sea rods, sea whips, etc.)

- Octocoral (not a stony coral).
- Branching OR encrusting.
- MANY different species.

HOW TO REPORT

OVERALL OBSERVATIONS

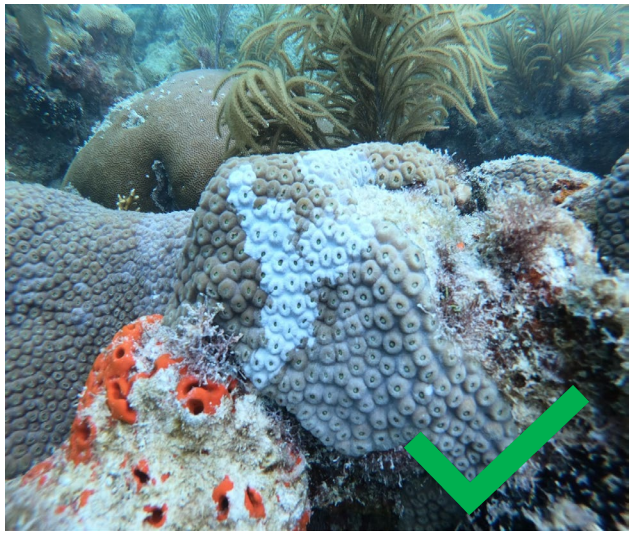
E. NOTES: *(Specific species of coral affected, other observations about the site)*

- Specific species of coral (e.g., Great Star Coral).
- Any details describing photos.
- Disease descriptions.
- Other SEAFAN observations (e.g., marine debris, lionfish, etc.

HOW TO REPORT

SUBMIT PHOTOS

- Sharp and in-focus.
- White-balanced.
- 1 photo of colony and 1 close-up of polyps/lesion (not of the entire reef).
- Maximum 10 photos per report.



TRAINING OVERVIEW

Next Steps

NEXT STEPS

GO OUT AND DIVE, REMEMBER TO REPORT!

SUBMIT ONLINE AT:
www.SEAFAN.net/BleachWatch

NEXT STEPS

VISIT THE DEP AND FCR WEBSITES

www.FloridasCoralReef.org

www.SEAFAN.net/BleachWatch

SEAFAN BleachWatch Program

CURRENT CONDITIONS REPORT #20231009

OCT. 9, 2023

Summary: Based on climate predictions and field observations, the ongoing threat for severe heat stress that causes mass coral bleaching in the Kristin Jacobs Coral Reef Ecosystem Conservation Area (Miami-Dade to Martin counties) is DECREASING.

Bleaching Alert Area

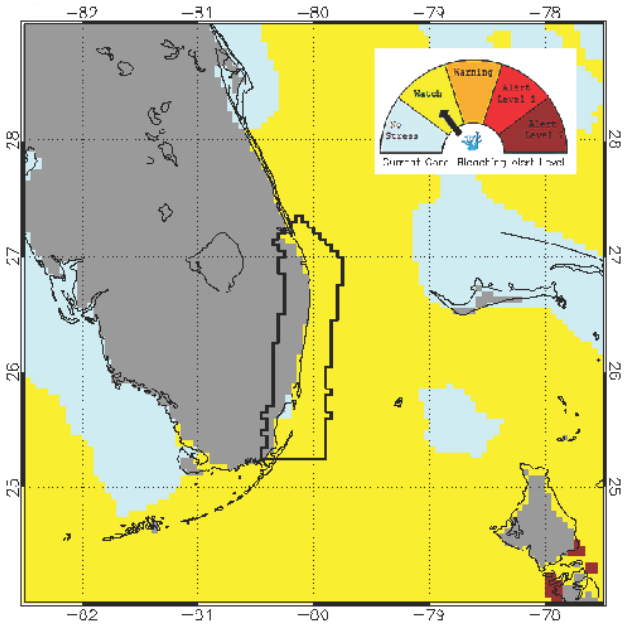


Figure 1. NOAA Coral Reef Watch Bleaching Alert Area for 10/9/2023

HotSpot

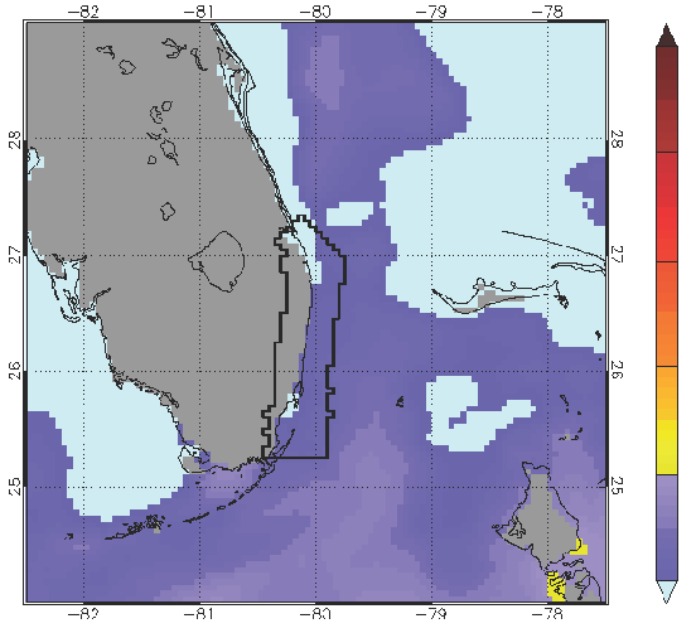


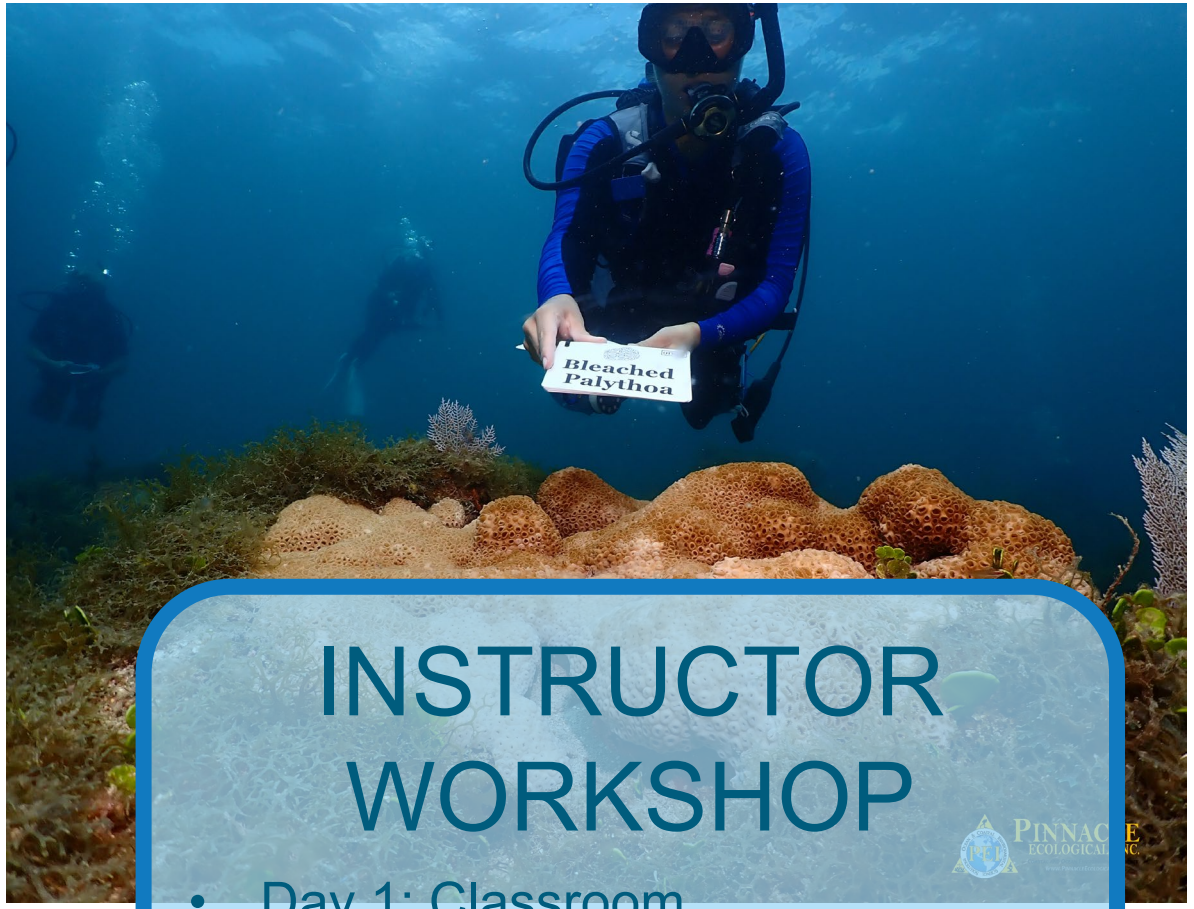
Figure 2. NOAA Coral Reef Watch Bleaching HotSpots for 10/9/2023

NEXT STEPS

ADDITIONAL TRAINING OPPORTUNITIES

IN-WATER TRAINING

- Classroom (free).
- In-Water (2-tank dive; charter fees apply OR shore dive).



INSTRUCTOR WORKSHOP

- Day 1: Classroom.
- Day 2: In-Water (2-tank dive OR shore dive).

TRAINING OVERVIEW

Coral Review Questions

REVIEW

For each review picture, please note:

1. TYPE OF CORAL (Brain, Branching/Pillar, Leaf/Plate/Sheet, Fleshy, Flowering/Cup, Mound/Boulder/Encrusting)

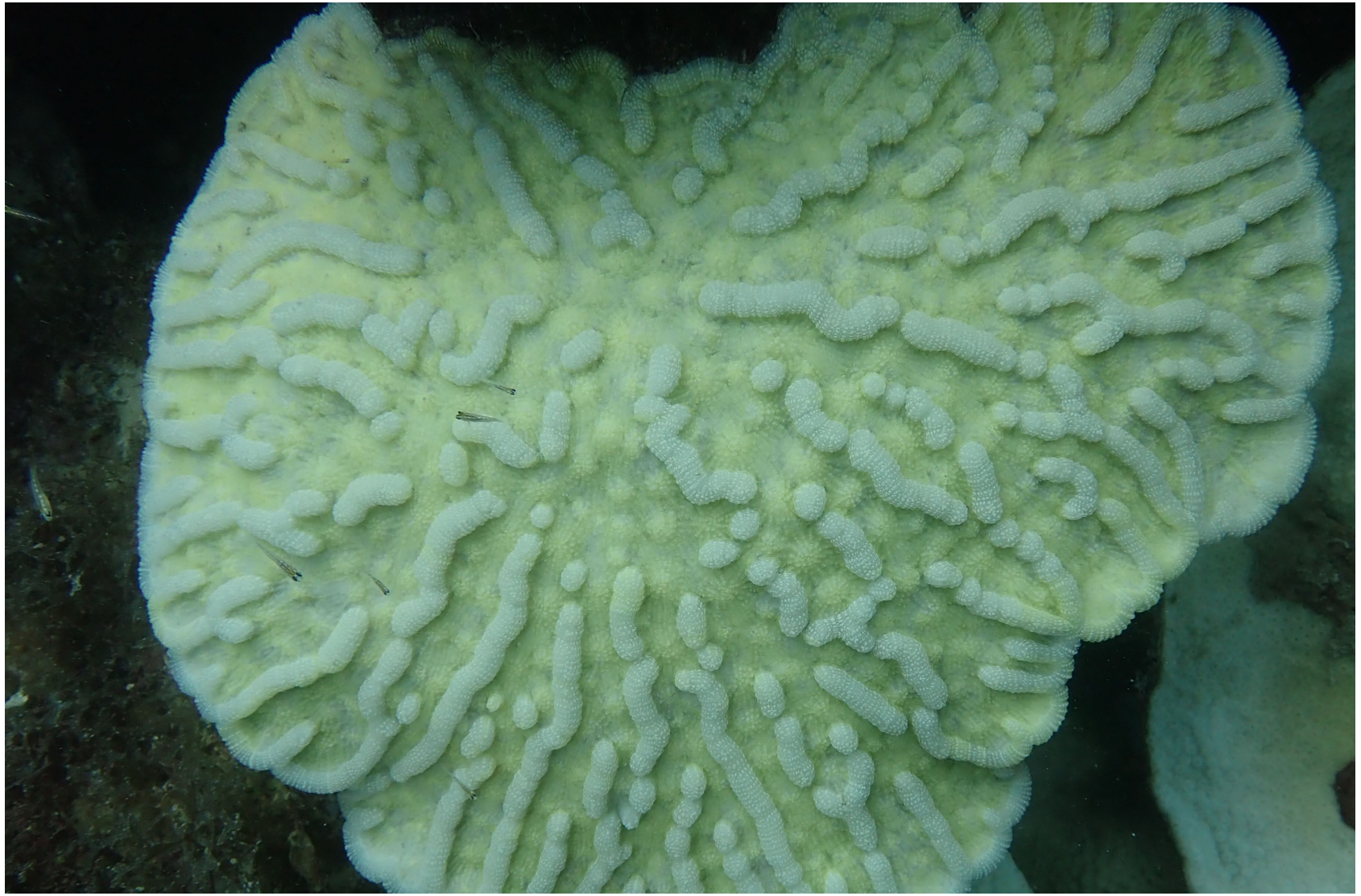
2. CONDITION (healthy, bleaching severity, disease type, dead with algae)

REVIEW #1

REVIEW #2

REVIEW #3

REVIEW #4



REVIEW #5

REVIEW #6

REVIEW #7

REVIEW #8

REVIEW #9


Source: FWRI


Source: FWRI

REVIEW #10

REVIEW

Now we will review the answers for each question:

1. TYPE OF CORAL (Brain, Branching/Pillar, Leaf/Plate/Sheet, Fleshy, Flowering/Cup, Mound/Boulder/Encrusting)

2. CONDITION (healthy, bleaching severity, disease type, dead with algae)

REVIEW #1

Type: Brain

Condition: Tissue Loss Disease (SCTLD)

REVIEW #2

Type: Branching/Pillar

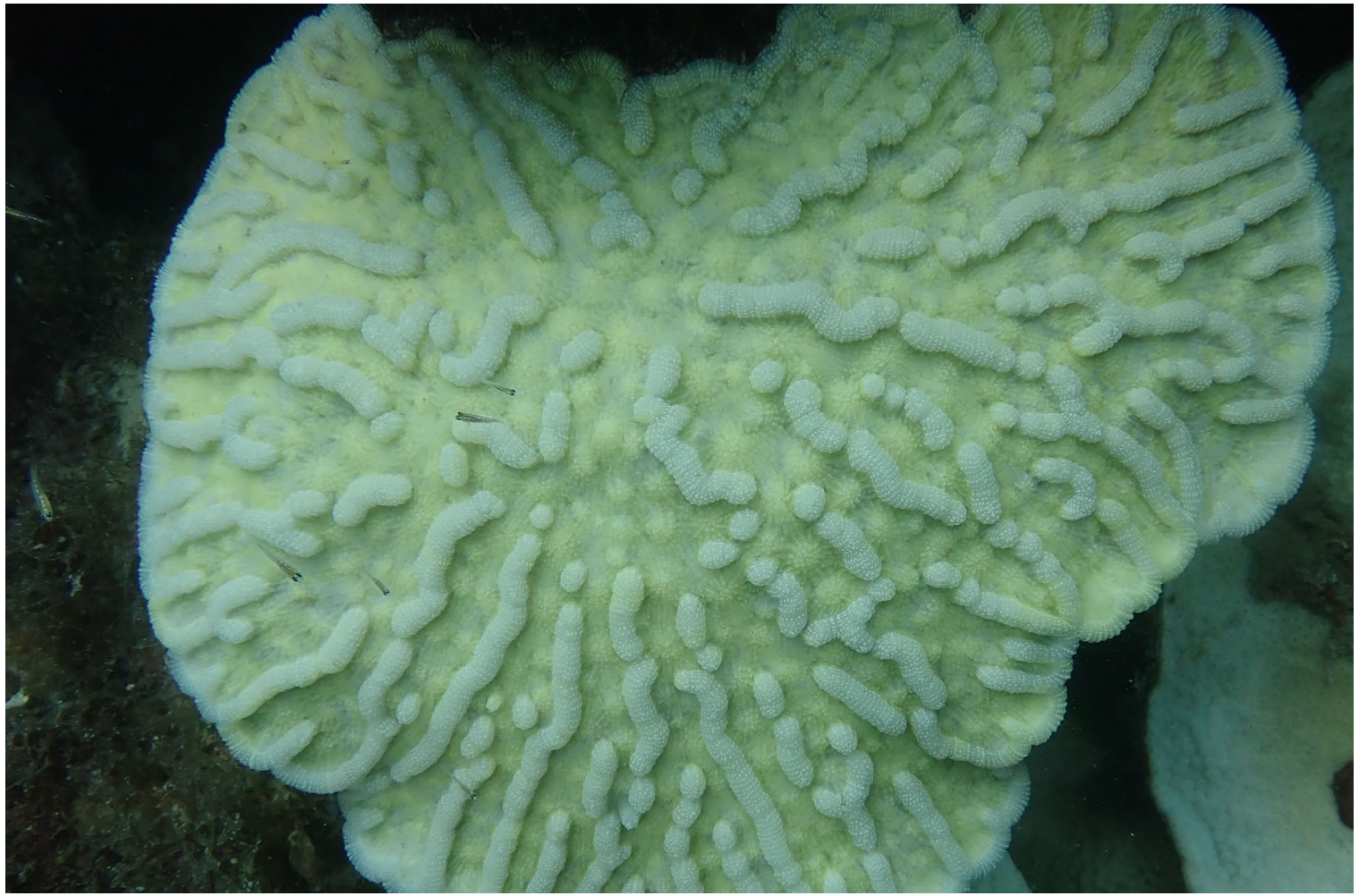
Condition: Partial Bleaching

REVIEW #3

Type: Brain

Condition: Black Band Disease

REVIEW #4



Type: Fleshy

Condition: Bleached

REVIEW #5

Type: Flowering/Cup

Condition: Healthy

REVIEW #6

Type: Branching/Pillar

Condition: Healthy

REVIEW #7

Type: Brain

Condition: Dead with Algae

REVIEW #8

Type: Leaf/Plate/Sheet

Condition: Healthy

REVIEW #9

Type: Brain

Condition: Tissue Loss Disease (SCTLD)

REVIEW #10

Type:
Mound/Boulder/Encrusting

Condition: Paling

THANK YOU

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Florida Department of Environmental Protection

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