THE BAHAMAS
CORAL INNOVATION HUB

CORAL SPAWNING PREDICTIONS

THE BAHAMAS 2023

Co-authored by Natalia Hurtado, Silia Woodside, & Lily Haines

THE BAHAMAS CORAL INNOVATION HUB

The **Bahamas Coral Innovation Hub** is a center for development, implementation and dissemination of **scalable coral restoration techniques** to help counteract coral reef decline. The research facility **based at Cape Eleuthera Island School,** hosts a network of integrative people, such as coral scientist, conservation managers, local stakeholders, students and educators from around the world. Located in South Eleuthera in The Bahamas, the Hub is a collaboration between the **Perry Institute for Marine Science (PIMS), the Cape Eleuthera Institute (CEI) and The Nature Conservancy (TNC).**

The Hub is **led by Research Scientist Natalia Hurtado** who has been compiling the coral spawning predictions for The Bahamas since 2020, based on previous and current observations the predictions have been accurate with identified peak dates for mass spawning in The Bahamas. The information is meant to help local scientist, grassroots nonprofits, dive organizations and volunteers to work together with larval propagation techniques to **enhance sexual coral reproduction of corals**.

Research scientist
Natalia Hurtado

Within this booklet, we intend to show **examples of key Caribbean coral species spawning** to help divers train their eyes to these stunning events. To share observations and/or questions don't hesitate to get in touch with our scientist on site **(nhurtado@perryinstiute.org)**.

SPAWNING ZONES
for The Bahamas

1 Bimini, Grand Bahama, The Abacos, The Berry Islands, Andros, Nassau & Paradise Island

2 Eleuthera & Harbour Island, The Exumas, Ragged Island, Long Island, Musha Cay, Cat Island, Conception Island, Port Nelson

3 San Salvador, Acklins & Crooked Islands, Mayaguana, Inagua Islands, Little Inagua Island

ZONE 1: BIMINI, GRAND BAHAMA, ABACO, BERRY ISLANDS, ANDROS, NASSAU, PARADISE ISLAND

ZONE 2: ELEUTHERA, HARBOUR ISLAND, EXUMA, RAGGED ISLAND, LONG ISLAND, MUSHA CAY, CAT ISLAND, CONCEPTION ISLAND, PORT NELSON

ZONE 3: SAN SALVADOR, ACKLINS & CROOKED ISLANDS, MAYAGUANA, INAGUA ISLANDS, LITTLE INAGUA

DATES AND SUGGESTED DIVE TIMES

Highlighted dates when spawning is possible likely or very likely

CORAL SPECIES **Common name** / Spawning window BS: Before Sunset, AS: After Sunset Scientific name / Days After Full Moon - Peak	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER
	15th 16th 17th 18th	15th 16th 17th 18th	13th 14th 15th 16th	5th 6th 7th 8th 9th 10th 11th 13th 14th 15th 16th	3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th 13th 14th	3rd 4th 5th 6th 7th 8th 9th 10th 11th	3rd 4th 5th 6th 7th 8th 9th 10th 11th
	10 11 12 13	10 11 12 13	10 11 12 13	2 3 4 5 6 7 8 10 11 12 13	2 3 4 5 6 7 8 9 10 11 12 13	5 6 7 8 9 10 11 12 13	5 6 7 8 9 10 11 12 13
Grooved brain coral / 0 - 70 min BS *Diploria labyrinthiformis* / 10,11,12,13	18:25 - 19:35 18:15 -19:25 18:05 - 19:15	18:40 - 19:50 18:30 - 19:40 18:20 - 19:30	18:55 - 20:05 18:45 - 19:55 18:35 - 19:45	18:55 - 20:05 18:45 - 19:55 18:35 - 19:45	18:40 - 19:50 18:30 - 19:40 18:20 - 18:30	18:10 - 19:20 18:00 - 19:10 17:50 - 19:00	17:40 - 18:50 17:30 - 18:40 17:20 - 18:30
Great star coral (0 - 35 min AS) *Montastraea cavernosa* (5,6,7,8)				20:05 - 21:05 19:55 - 20:55 19:45 - 20:45	19:55 - 20:55 19:45 - 20:45 19:35 - 20:35	19:30 - 20:30 19:20 - 20:20 19:10 - 20:10	18:55 - 19:55 18:45 - 19:45 18:35 - 19:35
Boulder brain coral (30 - 60 min AS) *Colpophyllia natans* (5,6,7,8)							
Elkhorn coral (80 - 160 min AS) *Acropora palmata* (2,3,4,5)				21:25 - 22:45 21:15 - 22:35 21:05 - 22:25	21:15 - 22:35 21:05 - 22:25 20:55 - 22:15		
Staghorn coral (140 - 190 min AS) *Acropora cervicornis* (Highly unpredictable 3,4,7,8?)				22:25 - 23:15 22:15 - 23:05 22:05 - 22:55	21:15 - 23:05 22:05 - 22:55 21:55 - 22:45		
Mountainous star coral (210 - 270 min AS) *Orbicella faveolata* (5,6,7,8)					23:05 - 00:25 22:55 - 00:15 22:45 - 00:05	22:40 - 00:00 22:30 - 23:50 22:20 - 23:40	22:05 - 23:25 21:55 - 23:15 21:45 - 23:05
Lobed star coral (190 - 260 min AS) *Orbicella annularis* (5,6,7,8)							
Great star coral (late) (190 - 240 min AS) *Montastraea cavernosa* (5,6,7,8)					22:55 - 23:55 22:45 - 23:45 22:35 - 23:35	22:30 - 23:30 22:20 - 23:20 22:10 - 23:10	21:55 - 22:55 21:45 - 22:45 21:35 - 22:35
Symmetrical brain coral (215 - 260 min AS) *Pseudodiplora strigosa* (5,6,7,8)							
Smooth flower coral (180 - 230 min AS) *Eusmilia fastigiata* (6,7,8,9)							
Blushing & Smooth star coral (210 - 240 min AS) *Stephanocoenia intersepta & Solenastrea bournoni* (6,7,8,9)							

TIPS

- Most of the species listed are hermaphroditic broadcast spawners, meaning their polyps release BOTH eggs and sperm contained in gamete bundles. Gonochoric species such as *Montastrea cavernosa* are also listed, meaning these colonies release EITHER eggs or sperm.

- Predictions are based on previous observations in The Bahamas, Caribbean and the northern Caribbean.

- For monitoring dives, it is recommended to dive on the highlight dates, but spawning may occur the day before and/or after.

- Adjust personal watch with the local time.

- Find a shallow area (max. depth: 50 feet/15 meters) with high coral cover, plan your dives and follow bottom times respecting no-decompression times and diving rules.

- It is possible to observe other reef creatures, such as soft corals, brittle stars, sea urchins, Christmas tree worms, sea cucumbers, etc. releasing gametes; please note all spawning observations.

- For any questions or to submit spawning observations (location, date, time & species) in The Bahamas, please contact Natalia by email at nhurtado@perryinstitute.org

HERMAPHRODITIC CORAL SPAWNERS

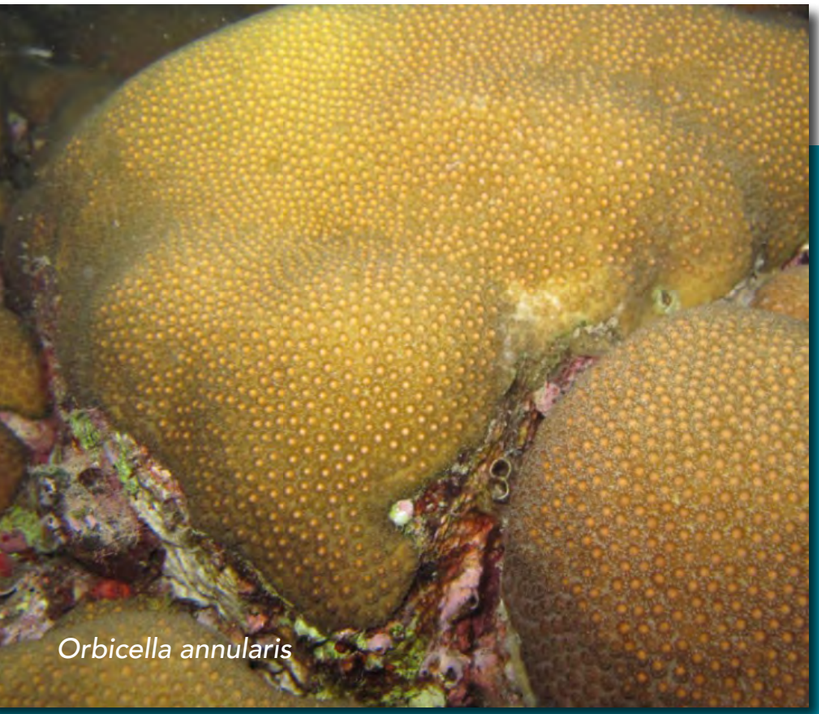
Acropora palmata

Eusmilia fastigiata

Diploria labyrinthiformis

HERMAPHRODITIC CORAL SPAWNERS

Colpophyllia natans



Orbicella annularis

Don't forget to record spawning of all reef creatures, including brittle stars (pictured)

Orbicella faveolata

GONOCHORIC CORAL SPAWNERS

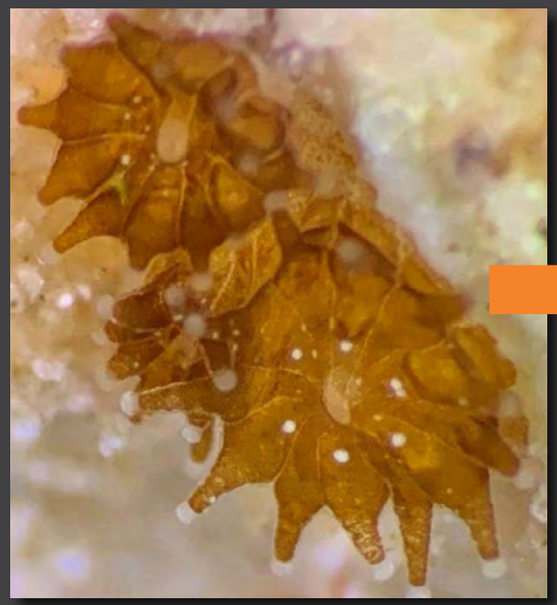
Stephanocoenia intercepta (male)

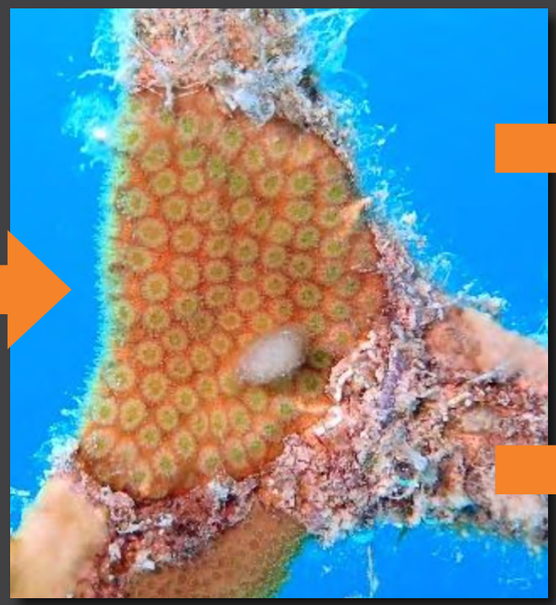
Montastrea cavernosa (male)

Don't forget to record spawning of all reef creatures, including sea cucumbers (pictured)

Solenastrea bournoni (female)

O. FAVEOLATA FROM SPAWN TO JUVENILE





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THANK YOU!

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Photos: Natalia Hurtado (CEI/PIMS): Cover, EFAS, DLAB, CNAT, OFAV, Brittle start, SINT, MCAV, SBOU, Tiger tail sea cucumber, OFAV (recruit & juveniles), ACER; Dr, Valeria Pizarro (PIMS): OANN; Will Greene (PIMS): Diver with APAL; Dr. Craig Dahlgren (PIMS): APAL