



PAPAHĀNAUMOKUĀKEA
Marine National Monument

PRESS RELEASE
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CONTACT
Dr. Jean Kenyon
(808) 792-9536
jean_kenyon@fws.gov

PRESS RELEASE

First documented broadcast spawning event for the coral species, *Pocillopora meandrina* (Cauliflower coral) in Papahānaumokuākea Marine National Monument

Fish and Wildlife Service (FWS) workers diving at French Frigate Shoals in the Northwestern Hawaiian Islands, part of Papahānaumokuākea Marine National Monument and the Hawaiian Islands National Wildlife Refuge, have photographed for the first time a spawning event for cauliflower coral (*Pocillopora meandrina*). Cauliflower coral is a common, reef building coral species found throughout the Hawaiian Islands and the Indo-Pacific, but its spawning had never before been documented in the Northwestern Hawaiian Islands.

“The spawning event was spectacular!” reports Fish and Wildlife Service volunteer Lindsey Kramer. She and her colleagues reported that one or two colonies would begin to spawn in an area, and then neighboring colonies would follow. Gray, smoke-like puffs of reproductive materials were ejected from each coral in waves, until the water became a hazy gray. The out-going tide washed the spawning materials away within a few minutes, and the entire event lasted only about 10 minutes across the entire lagoon.

The event occurred at Shark Island, a small, un-vegetated sand island located in the most northwesterly region of French Frigate Shoals, which is the largest atoll in the Hawaiian Archipelago and lies about 500 miles northwest of O’ahu. The first spawning activity was observed on May 19. Three observers monitored 50 coral colonies, and approximately 30% of the observed colonies spawned in a matter of minutes. On May 20, eight observers monitored 70 coral colonies, and 95% of the observed colonies spawned in less than 15 minutes.

While significant coral reef ecosystem research has been conducted in the Northwestern Hawaiian Islands in the past decade by NOAA Pacific Island Fisheries Science Center (PIFSC), the Office of National Marine Sanctuaries (ONMS), and the U.S. Fish & Wildlife Service, the remoteness of the Monument and the difficulty in predicting the pattern and timing of coral reproduction, have made this the first documented spawning event for this species of coral. Observations of such events are possible only with dedicated FWS, NOAA, and state of Hawai’i crews in the field for large portions of the year rather than visiting for a few days. Volunteers like Lindsey live at isolated French Frigate Shoals for six months, without many modern luxuries, and only limited fresh water.



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Dr. Jean Kenyon, a biologist with the FWS' Hawaiian & Pacific Islands National Wildlife Refuge Complex who specializes in corals, said, "most species of corals that spawn reproductive material only do so once a year, so documenting that window of time is important for understanding the species' potential vulnerability to environmental disturbance. Although more than 60 species of stony corals occur in the Northwestern Hawaiian Islands, until now the reproductive timing has only been documented for 3 species found at French Frigate Shoals. The observations made by Lindsey and her team are an important contribution to this little known research area."

Knowing where and when coral reproductive processes take place enables reef managers to minimize human interference with coral reproductive dynamics, as well as understand its role in larger ecosystem function. Coral reef health is an excellent indicator of the health of the surrounding ocean, and research and monitoring of coral ecosystems are helping scientists understand and develop strategies to mitigate the impacts of global climate change, marine debris, and alien or invasive species, three of the primary threats to the Northwestern Hawaiian Islands.

High resolution photographs are available for media use at:

<http://www.flickr.com/photos/usfwspacific/tags/coralspawning/>

Papahānaumokuākea is cooperatively managed to ensure ecological integrity and achieve strong, long-term protection and perpetuation of Northwestern Hawaiian Island ecosystems, Native Hawaiian culture, and heritage resources for current and future generations. Three co-trustees – the Department of Commerce, Department of the Interior, and State of Hawai'i – joined by the Office of Hawaiian Affairs, protect this special place. For more information, please visit www.papahanaumokuakea.gov.



Cauliflower coral spawning, French Frigate Shoals

Spawning cauliflower coral (*Pocillopora meandrina*) within Shark Island lagoon, French Frigate Shoals, part of Papahānaumokuākea Marine National Monument and the Hawaiian Islands National Wildlife Refuge. (Image credit: Paula Hartzell/ USFWS)

