



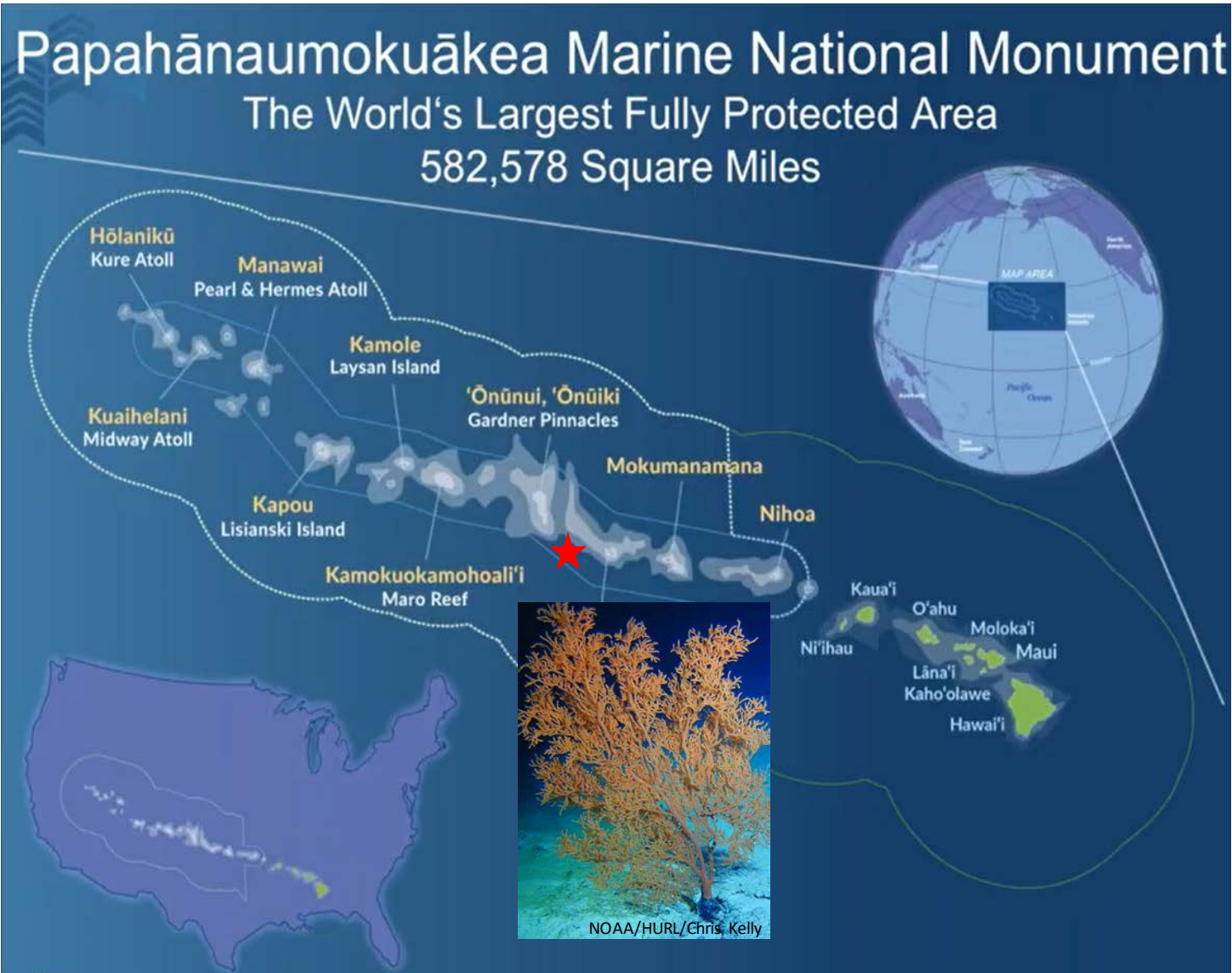
# The Biocultural Importance of Corals in Hawaii

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Narrissa Brown  
Pacific Islands Fish and Wildlife Office



# Corals in Hawaii



Endemism in Hawaii 25-50%



*Porites lobata*



*Porites compressa*



*Porites evermanni*



*Montipora capitata*



*Pocillopora meandrina*



*Pocillopora damicornis*

Less than 80 stony coral species  
Slow growing (*P. lobata* ~1cm/year)



# Coral bleaching in Hawaii

Two coral bleaching events in 2014-15 caused death of 1/3 of Hawaii's corals.

Some areas showed higher levels of bleaching than others

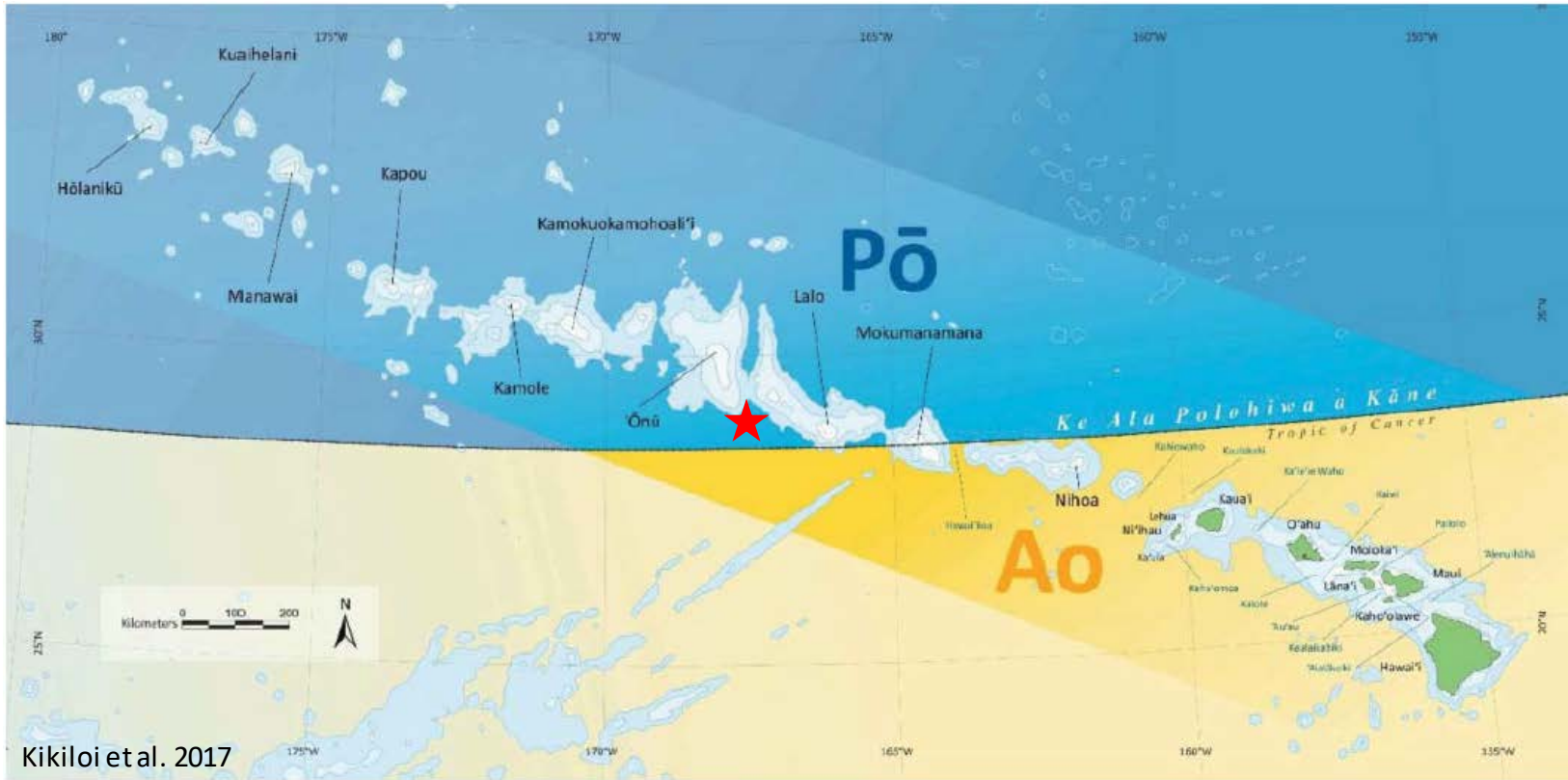


2018 Hawaii bans sale of sunscreens containing either oxybenzone or octinoxate, ban went into effect 1/1/2021



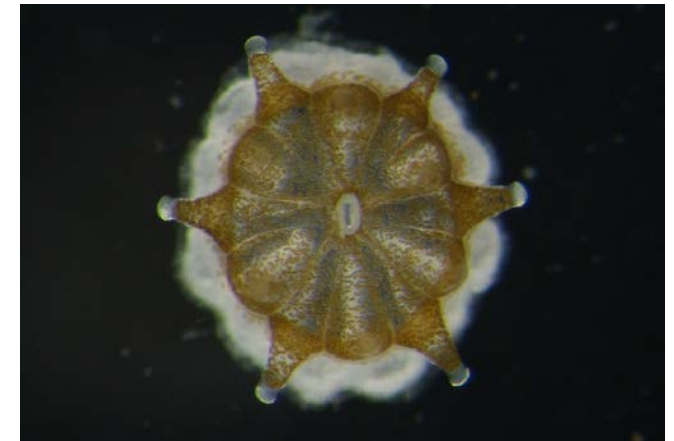


# Corals are the origin of life in Hawaiian culture



Hānau ka 'Ukuko'ako'a, hānau kana, he 'Āko'ako'a, puka"

Born was the 'Ukuko'ako'a (coral polyp/larvae), that one that gave birth to the 'Āko'ako'a (coral head), emerging"



# Hawaiian duality and caring for kupuna





# Economics of Tourism in Hawaii



## Hawaii Tourism Industry (2019)

Source: Hawaii Tourism Authority

Visitor Spending: \$17.75 billion  
State Tax Revenue: \$2.07 billion  
Visitor Arrivals: 10,424,995  
Job Supported: 216,000

Hawaii's nearshore reefs valued at \$863 million per year

Storlazzi et al. 2019, USGS

Total economic value of reefs in Main Hawaiian Islands is \$33.57 billion

Bishop et al. 2011, NOAA





# Covid and effects on Hawaii tourism & environment

Hawaii quarantine required

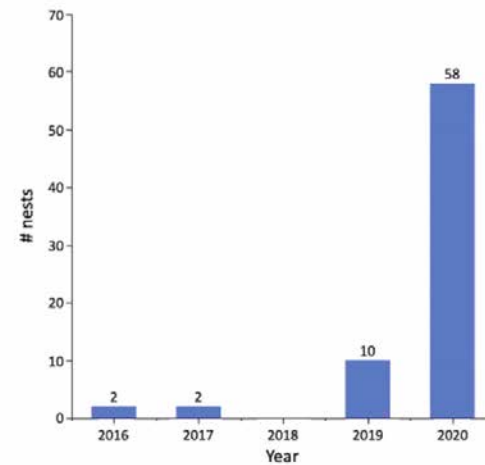
UNEMPLOYMENT  
INSURANCE CLAIMS  
OFFICE

HAWAII NEWSNOW.COM

Unemployment in Hawaii tops 37% as coronavirus shutdown continues



## Number of sea turtle nests on Oahu by year






# Return of tourism in 2021



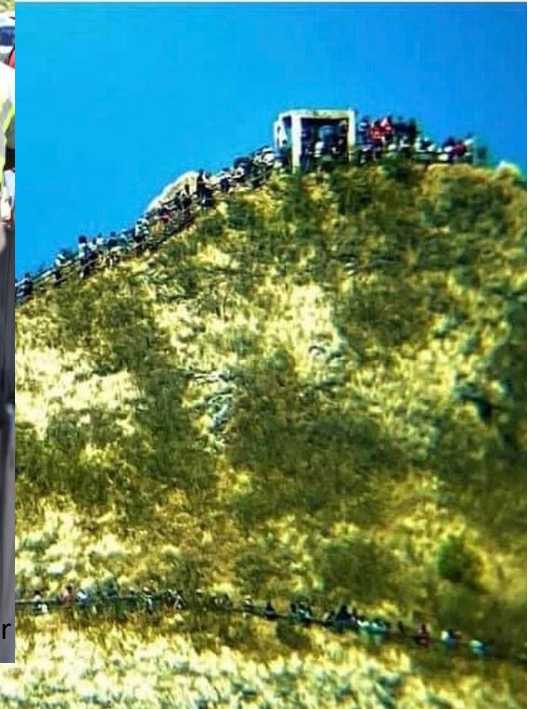
**Curt Cottrell**

17h · 

A walk in the park: Diamond Head State Monument, June 29th. Yeah, tourism has



Matthew Theyer



June 30, 2021



With the return of tourism, so comes the need for management



BIVN file image of Kahalu'u Bay

## Kahalu'u Beach Park To Close For Coral Spawning



Laura Ruminski



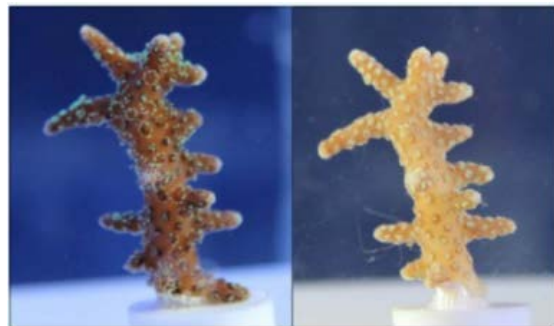
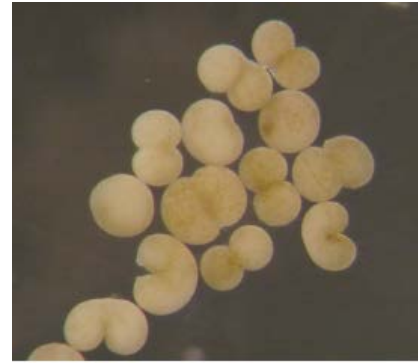
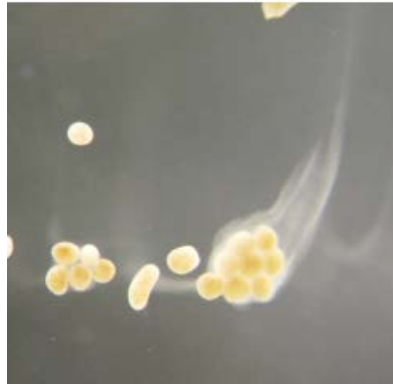
The Kohala Center



93-100% reduction in oxybenzone



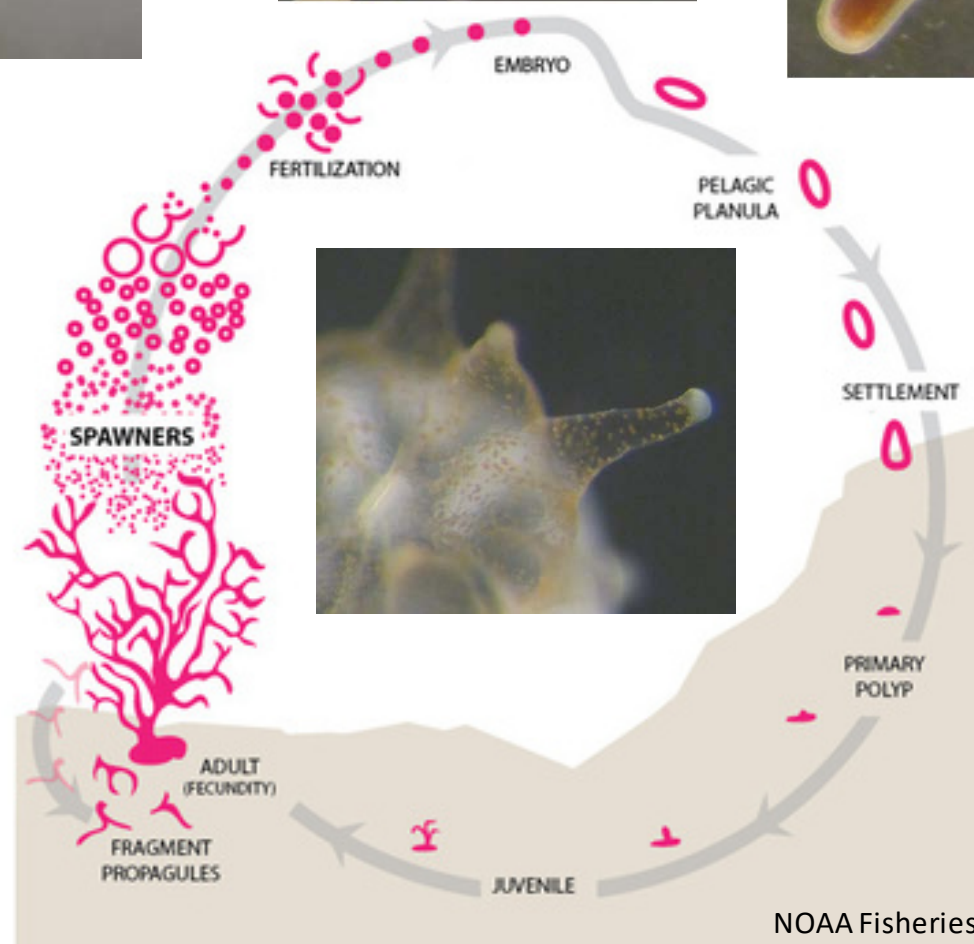
# Coral life stages and how sunscreens can impact each



Time 0

500 ppt  
oxybenzone  
14 days

Haereticus



Downs et al. 2015

NOAA Fisheries



# Loss of corals could threaten other T&E species





# A loss greater than just corals, cultural identity, ancestors







# The Biocultural Importance of Corals in Hawaii

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