



PAPAHĀNAUMOKUĀKEA  
Marine National Monument

*A World Heritage Site*

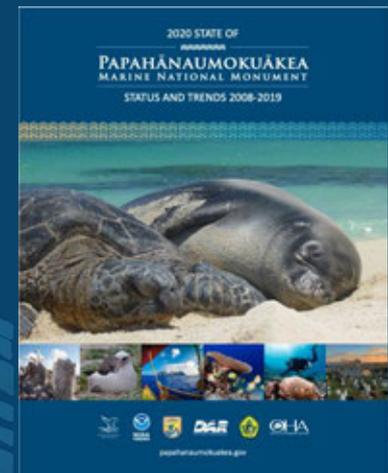
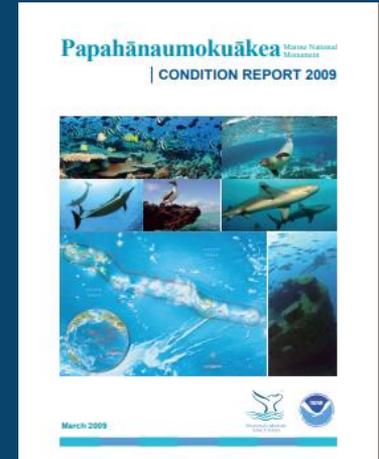
State of the  
Papahānaumokuākea Marine National Monument  
Findings of Status and Trends 2008-  
2019

Oct 22, 2020



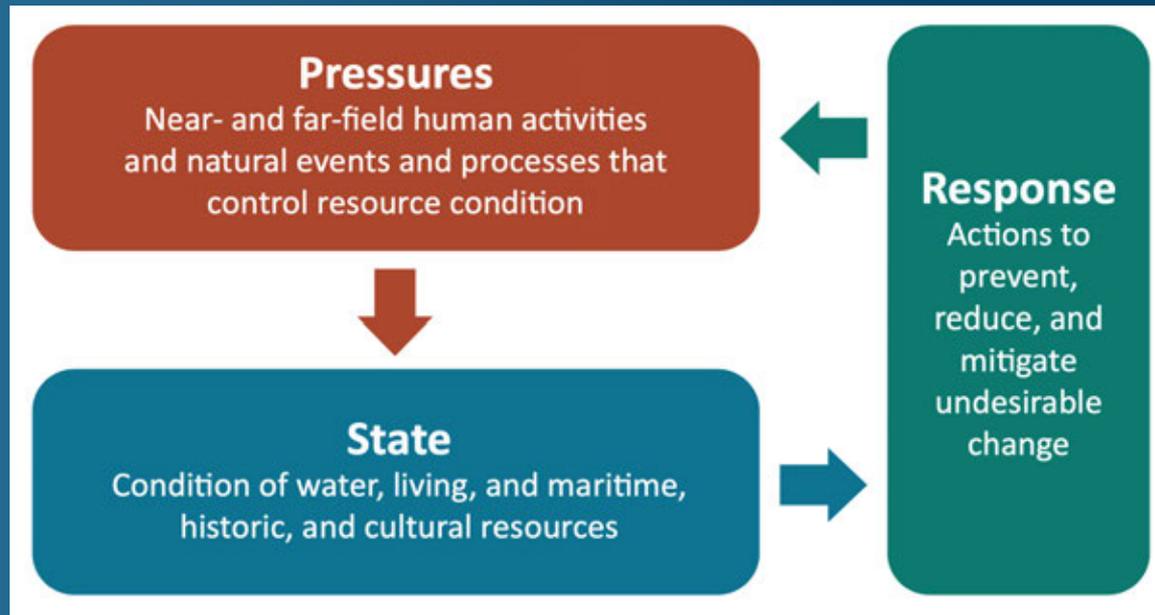
# State of the Monument Report

- 2008-2019
- Site History
- Pressures
- State of Resources
  - Physical Environment
  - Living Resources
  - Heritage Resources
- Response to Pressures



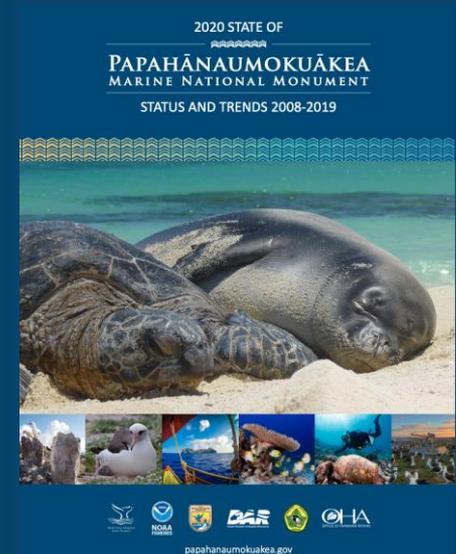
# State of the Monument Report

## Findings of Status and Trends 2008-2019



# Project Development

- 10 Year Time Series
- 2006 Designation Boundary
- 23 Assessments
- 12 Question Areas
- ~40 Subject Matter Experts
- 6 Editors
- 3 Peer Reviewers
- 10 ONMS Staff
- Coordination - Experts, MMB, Peer Review



# State of the Monument Report

## Findings of Status and Trends 2008-2019

### PHYSICAL RESOURCES

- Climate
- Habitats
- Water Quality
- Contaminants

### LIVING RESOURCES

- Marine Biodiversity
- Terrestrial Biodiversity
- Historically Targeted Species
- Terrestrial Non-indigenous Species
- Marine Non-indigenous Species

### KEY SPECIES

- Hawaiian Monk Seal
- Sea Turtles
- Reef Fish
- Shallow Water Corals
- Deep Sea Corals
- Seabirds
- Endemic Land Birds
- Endemic Terrestrial Plants

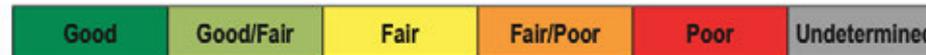
### HERITAGE RESOURCES

- Maritime
- Historic
- Native Hawaiian

# State of the Monument Report

## Findings of Status and Trends 2008-2019

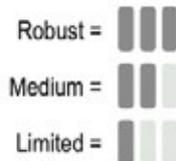
### Status:



### Trends:

- ▲ = Conditions appear to be improving
- = Conditions do not appear to be changing
- ▼ = Conditions appear to be declining
- ? = Undetermined trend
- N/A = Question not applicable

### Evidence Score:



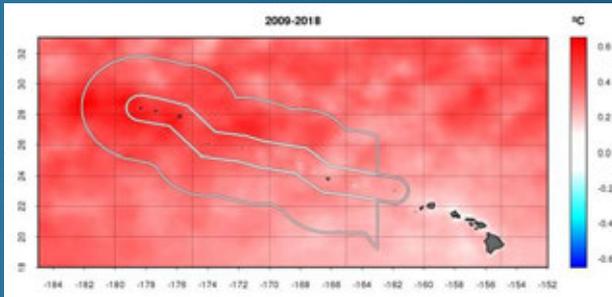
### Example:



This symbol indicates the condition was rated "fair" with "medium evidence" and "declining conditions."

# Summary of Physical Resources

## Climate Conditions



## Water Quality



## Habitats



## Contaminants



# Summary of Living Resources

## Hawaiian Monk Seals



## Shallow Water Corals



## Green Turtles

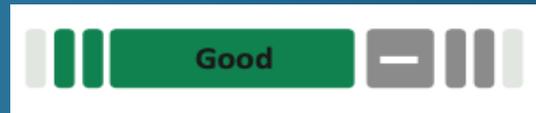


## Deep Sea Corals



# Summary of Living Resources

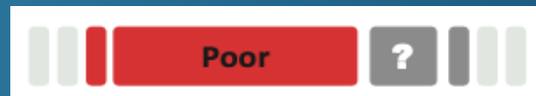
## Reef Fish



## Seabirds



## Endemic Land Plants



## Endemic Land Birds



# Summary of Heritage Resources

## Maritime Resources



## Historic Resources

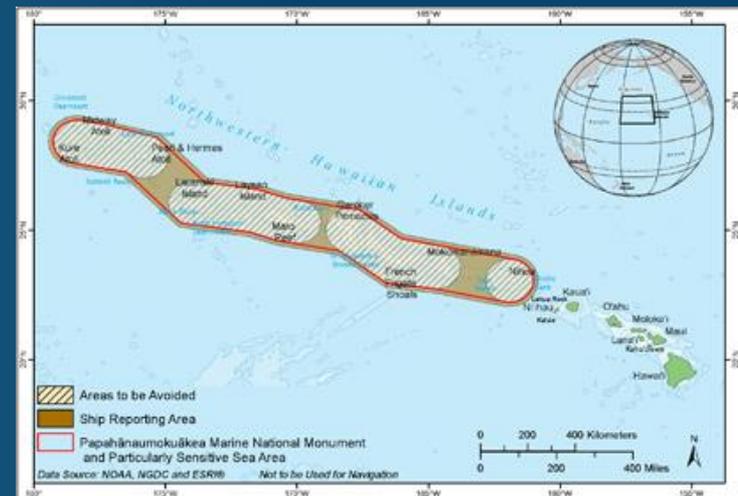


## Native Hawaiian Archaeological Resources



# Management Responses

- Rigorous permitting process
- Stringent biosecurity protocols
- No discharge zones designated
- No commercial fishing allowed
- Internationally designated as a PSSA
- Ongoing conservation measures
- Continued documentation of heritage resources (historic, maritime and cultural)



Report Available Now  
[www.papahanaumokuakea.gov](http://www.papahanaumokuakea.gov)

2020 STATE OF  
PAPAĀNAUMOKUĀKEA  
MARINE NATIONAL MONUMENT  
STATUS AND TRENDS 2008-2019



[papahanaumokuakea.gov](http://papahanaumokuakea.gov)

**National marine sanctuary offices and visitor centers closed to the public; waters remain open**  
NOAA's national marine sanctuary [offices and visitor centers](#) are closed to the public while the waters remain open for responsible use in accordance with CDC guidance and local regulations. More information on the response from NOAA's Office of National Marine Sanctuaries can be found on [www.papahanaumokuakea.gov](#).

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## New report reveals insights into the condition of natural and cultural resources of Papahānaumokuākea

*Continued active management efforts necessary to combat human and natural effects*



PAPAĀNAUMOKUĀKEA MARINE NATIONAL MONUMENT

Papahānaumokuākea Marine National Monument is the single largest conservation area in the U.S., encompassing an area of 582,578 square miles of the Pacific Ocean—an area larger than all the country's national parks combined.

Home to the highly endangered Hawaiian monk seal, threatened green sea turtles, and many species found nowhere else on Earth, the complex and highly productive marine and island ecosystems of the monument are significant contributors to the biological diversity of the Hawaiian Archipelago and surrounding ocean.

Papahānaumokuākea has spiritual significance in Hawaiian cosmology. Cultural sites found on the islands of Nihoa and Mokuamanamana are on both National and State Registers for Historic Places. Mokuamanamana has one of the highest densities of sacred sites in the Hawaiian Archipelago.

The monument is also home to a variety of post-Western-contact historic resources, such as those associated with maritime heritage, the Battle of Midway, and 19th century commercial whaling.

# Communications



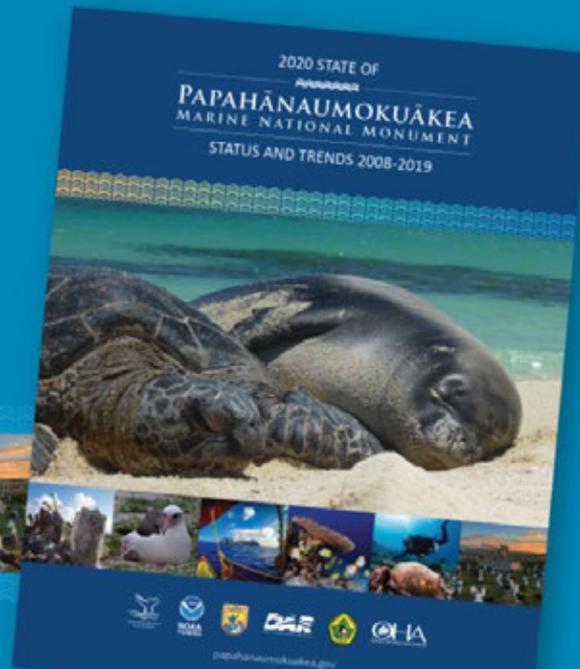
PAPAHĀNAUMOKUĀKEA  
Marine National Monument

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STATUS AND TRENDS 2008-2019



2020 State of Papahānaumokuākea Marine National Monument Released

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## PAPAHĀNAUMOKUĀKEA Marine National Monument



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## Papahānaumokuākea Marine National Monument

2020 State of the Monument Report

### Abstract

Papahānaumokuākea Marine National Monument is the single largest conservation area under the U.S. flag, encompassing an area of 582,578 square miles of the Pacific Ocean—an area larger than all the country's national parks combined. Home to the highly endangered Hawaiian monk seal, threatened green turtles, and many species found nowhere else on earth, the complex and highly productive marine ecosystems of the monument are significant contributors to the biological diversity of the ocean.



Nihoa as seen from aboard the Polynesian voyaging canoe Hikianalla. Image: Brad Ka'aleleo Wong/OHA

Download the 2020 State of Papahānaumokuākea  
Marine National Monument Report

### 2020 Papahānaumokuākea Report

[Status and Trends Tables](#)

### Past Reports

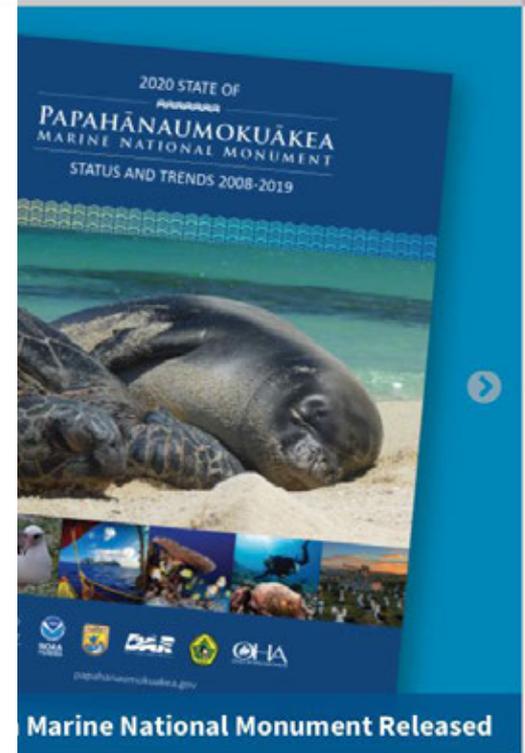
[2009 Condition Report](#)

### Additional Resources

New report reveals insights into the condition of natural and cultural resources of Papahānaumokuākea

Papahānaumokuākea Marine National Monument 2020 State of the Monument Report: Status and Trends 2008-2019 Overview

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Marine National Monument Released

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## PAPAHĀNAUMOKUĀKEA Marine National Monument



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National Oceanic and Atmospheric Administration  
U.S. Department of Commerce



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## Papahānaumokuākea

2020 State of the Monument Report

### Abstract

Papahānaumokuākea National Monument, the U.S. flag, encompasses the country's most threatened green productive marine diversity of the ocean.

## State of the Monument

A new NOAA report reveals insights into the condition of natural and cultural resources of Papahānaumokuākea.

Go There



TIDES AND CURRENTS



NAUTICAL CHARTS



HARMFUL ALGAL BLOOMS



OUR OCEAN ECONOMY



HURRICANE RESPONSE



EDUCATIONAL RESOURCES



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## PAPAHĀNAUMOKUĀKEA



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### Papahānaumokuākea

2020 State of the Ocean Report

### Abstract

Papahānaumokuākea U.S. flag, encompassing the country's most threatened green productive marine diversity of the ocean.



Nihoa as seen from aboard the Polynesian voyaging canoe Hikianalia. Image: Brad Ka'aleleo Wong/OHA



National Oceanic and Atmospheric Administration  
U.S. Department of Commerce

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OUR WORK

## Sanctuaries

Discover the coastal and marine places that NOAA's National Ocean Service works to protect.



NOAA

PHOTO - Focus area\_sanctuaries\_swimming turtle - 1440x600 - Landscape (NOAA)

LATEST FEATURES //



New Hawaii marine monument report: 'An unrivaled reef ecosystem' >



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TIDES AND CURRENTS



NAUTICAL CHARTS



HARMFUL ALGAL BLOOMS



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## PAPA HĀNAUMOKUĀKEA



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OUR WORK



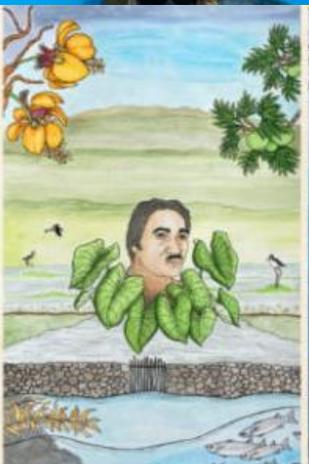
**27<sup>TH</sup> HAWAI'I CONSERVATION CONFERENCE**

# Ola Ka 'Āina Momona

MANAGING FOR ABUNDANCE

**HAWAI'I CONSERVATION ALLIANCE**

Hawai'i Conservation Alliance FOUNDATION



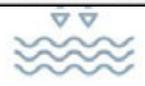
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TIDES AND CURRENTS



NAUTICAL CHARTS



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OUR OCEAN ECONOMY



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 National Oceanic and Atmospheric Administration  
U.S. Department of Commerce  
OUR WORK

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27<sup>TH</sup> HAWAII CONSERVATION CONFERENCE

Ola Ka 'Aina  
Momona



MOKUPĀPAPA  
DISCOVERY CENTER  
THIRD THURSDAY BY THE BAY



TIDES AND CURRENTS



NAUTICAL CHARTS



HARMFUL ALGAL BLOOMS



OUR OCEAN ECONOMY



HURRICANE RESPONSE



EDUCATIONAL RESOURCES





# Summary of Living Resources

## Marine Biodiversity



## Terrestrial Biodiversity - Kure Atoll



## Marine Non-indigenous Species



## Terrestrial Non-indigenous Species



# Summary of Living Resources

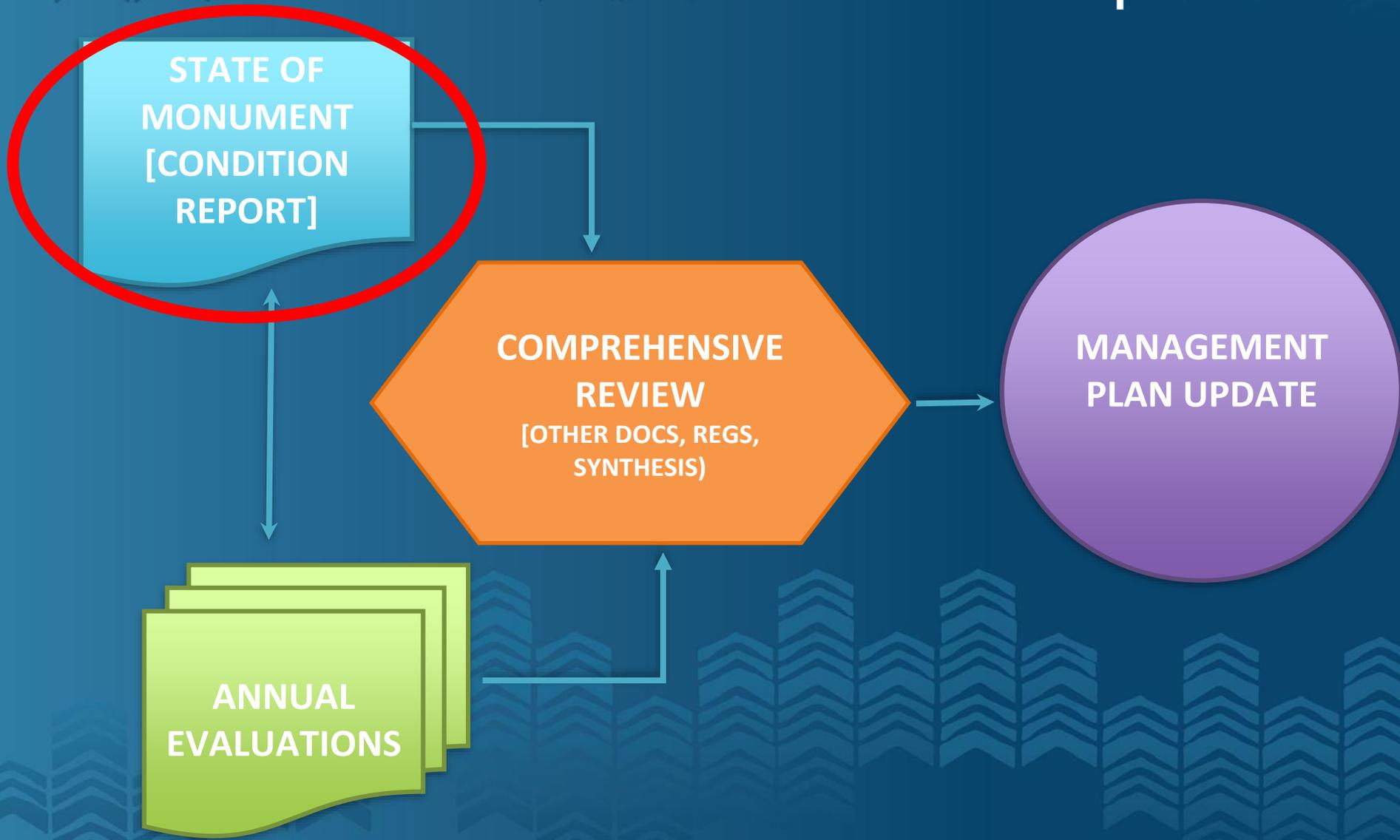
## Reef Fish



## Historically Targeted Species



# State of the Monument Report



STATE OF  
MONUMENT  
[CONDITION  
REPORT]

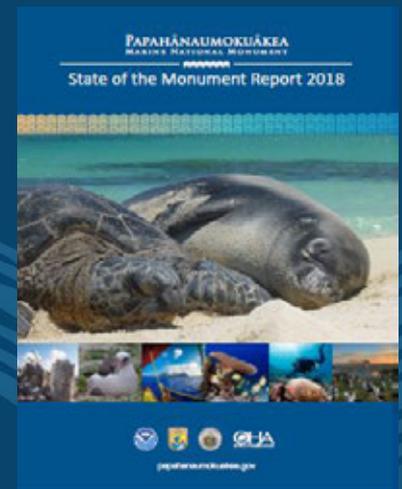
COMPREHENSIVE  
REVIEW  
[OTHER DOCS, REGS,  
SYNTHESIS]

MANAGEMENT  
PLAN UPDATE

ANNUAL  
EVALUATIONS

# State of the Monument Report

- MMB Product
- Founded on Condition Report
- Expanded to meet PMNM Needs
- 2012-2014 MMB Agency planned
- 2014 Tetra Tech Facilitation
- 2014-2015 State of Hawaii
- 2016 + ONMS



# Timeline of Development



**1<sup>st</sup> Draft Completed - Nov 2019**

**Expert/MMB Review - Dec & Jan 2020**

**Peer Review - Mid Feb & Mid March 2020**

**Final Draft - April & May 2020**

**Final Formatting - June 2020**

**NOAA Clearance - 3 months?**

**Disseminate - Printing, Web, HCC etc.**

# Process

1. Individual interviews and email follow up with experts
2. Updates as events have unfolded (East Island, coral bleaching, Rapture Reef, invasive algae etc.)
3. Editing of text and original writing by ONMS team
4. Upcoming reviews with experts in tandem with MMB

# State of Resources – Physical Environment

1. Have recent, accelerated changes in climate altered water conditions and how are they changing?
2. What are the area and distribution of abiotic habitat types and how are they changing?
3. What is the water quality condition of nearshore and inland waters and how is it changing?
4. What are the known contaminant concentrations in Monument habitats and how are they changing?

# State of Resources – Living Resources

5. What is the status of biodiversity and how is it changing?
6. What is the status of historically targeted fish stocks and how is it changing?
7. What is the status of non-indigenous species and how is it changing?
8. What is the status of key species and how is it changing?

# State of Resources – Historic & Cultural

9. What is the integrity of known maritime archaeological resources and how is it changing?
10. What is the condition\* of known historic resources and how is it changing?
11. What is the condition of known Native Hawaiian archaeological resources and how is it changing?
12. Do known historic and archaeological resources pose an environmental hazard and how is this threat changing?

# Example: Marine Biodiversity

## »» LIVING RESOURCES

### 5. What is the status of biodiversity and how is it changing?

#### »» Marine Biodiversity



#### Status

Marine biodiversity is assessed as Good with medium evidence on the basis that the marine ecosystem in the monument reflects near-pristine conditions with limited human influences and promotes ecosystem integrity.

The expansive systems of coral reefs in the monument support a dynamic assemblage of marine species. Up to 25% of the shallow-water organisms found in the Hawaiian Islands are endemic. Studies on gene flow and biogeography indicate that migration and larval transport for coral reef organisms occurs from the southeastern to the northwestern Hawaiian Islands (Toonen et al., 2011).

| # | QUESTION                                                  | RATING             | STATUS DESCRIPTION                                     | INDICATORS                                          | MANAGEMENT CONSIDERATIONS                             |
|---|-----------------------------------------------------------|--------------------|--------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------------|
| 8 | What is the status of key species and how is it changing? | Hawaiian Monk Seal |                                                        |                                                     |                                                       |
|   |                                                           |                    | The reduced abundance of selected keystone species has | Monument populations increased by 2% from 2013–2017 | Monitoring populations for demographic trends as well |

MENT  
TIONS

| # | QU                                                         |
|---|------------------------------------------------------------|
| 5 | What is the status of biodiversity and how is it changing? |

| # | QUESTION                                                  | RATING             | STATUS DESCRIPTION                                                                                                                                                                                                                                                                       | INDICATORS                                                                                                  |
|---|-----------------------------------------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|
| 8 | What is the status of key species and how is it changing? | Hawaiian Monk Seal |                                                                                                                                                                                                                                                                                          |                                                                                                             |
|   |                                                           |                    | The reduced abundance of selected keystone species has caused, or is likely to cause, severe declines in some, but not all, ecosystem components and reduce ecosystem integrity; or, selected key species are at substantially reduced levels, and prospects for recovery are uncertain. | Monument populations increased by 2% from 2013–2017. Site-specific trends in population have been observed. |

Hurricane Walaka.