BRIDGING SCIENCE AND MANAGEMENT in the Pacific Remote Islands Marine National Monument

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INTRODUCTION

The Pacific Remote Islands Marine National Monument (PRIMNM), one of the Marine National Monuments managed by NOAA and U.S. Fish and Wildlife Service, was established in 2009 and later expanded in 2014. Spanning the central Pacific, the seven islands and atolls protected under the Monument - Baker, Howland, Jarvis, Johnston, Kingman, Palmyra, and Wake - are relatively uninhabited and support intact and unique coral reef ecosystems. Although not subject to direct human pressures, the marine communities face threats from climate change. Since 2000, NOAA has conducted monitoring surveys in the PRIMNM spanning biological, chemical, and physical parameters. These data are used by scientists and managers to better understand coral reef ecosystem health. Due to the recent designation of the PRIMNM, the data collected was not synthesized prior to this project. The newly synthesized data will inform managers in their creation of a management plan. Agencies must foster effective communication between all stakeholders in order to successfully manage large-scale marine protected areas such as the PRIMNM. Therefore, to better protect and preserve this Monument, it is important to have effective communication between scientists, managers, and the public. This study is an effort to bridge the gaps identified between all stakeholders.

ECOSYSTEM HEALTH

The PRIMNM faces well when compared to other islands in the U.S. Pacific, often having higher coral cover and fish biomass.

Objectives

Communicate ecosystem health to resource managers
Identify public perceptions and increase awareness of Pacific Marine National Monuments

APPROACH

Overview Booklet

1. Obtained all NOAA cruise data collected since 2000
2. Determined PRIMNM ecosystem health metrics
3. Cleaned, filtered, and synthesized metrics data

OVERVIEW BOOKLET

An overview booklet was created to communicate ecosystem health to PRIMNM managers. Three different levels of synthesis were conducted: Pacific-wide comparisons, Monument comparisons, and unique Island highlights.

Coral Reef Condition Index

Survey

15 questions
763 respondents

A multi- metric coral reef condition index was developed to better understand overall ecosystem health. Each metric was equally weighted.

CONCLUSION

Our findings indicate that the biological communities within the PRIMNM are relatively healthy; however, climate change poses a threat. Our survey revealed that the American public is largely unaware of their role as a stakeholder in federal marine conservation in the Pacific. To effectively manage large-scale marine protected areas, such as the PRIMNM, it is essential for agencies to foster effective communication between scientists, managers, and the public. This will aid in the continued support for the PRIMNM and other critical marine habitats around the world.

ECOSYSTEM HEALTH

Monument Comparison

From our survey, we identified the public's baseline understanding of marine protected areas, threats to our oceans, and overall ocean health. Five communication materials were then developed to target the awareness gaps identified through survey analysis.

PUBLIC PERCEPTIONS

94%
49%
23%
23%
49%
have never heard of the Pacific Remote Islands Marine National Monument;
are unaware of benefits offered by marine protected areas;
have never heard of a Marine National Monument;
believe climate change poses little to no threat to coral reefs;
believe climate change poses little to no personal impact on the ocean;

Island Highlight: Jarvis

During the 2015-2016 El Niño, Jarvis surpassed the coral bleaching threshold for all consecutive weeks. This led to a 98% decrease in live coral cover.

Island Highlight: Jarvis

98% INTEGRITY

42% INTEGRITY

50% INTEGRITY

42% INTEGRITY

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FURTHER INFORMATION

For further information on our project and to view our communication materials, visit our website: www.pacificoceanocean绉备.com