## PAPAHĀNAUMOKUĀKEA WONDON WON

MARINE NATIONAL MONUMENT

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## FOR MORE INFORMATION

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## Remote Islands Monitoring/Assessment Cruises Lead to Discovery, Best Practices and Shifts in Thinking

(Honolulu, HI) With coral reefs around the world in decline and threatened by global climate change and its impacts, including coral bleaching and ocean acidification, the shallow reefs of Papahānaumokuākea Marine National Monument provide a unique opportunity to learn how coral reef ecosystems function without major human intervention. The Northwestern Hawaiian Islands Reef Assessment and Monitoring Program (NWHI RAMP) began in 2000, as a multiagency effort to document and understand the coral reef ecosystems of those remote islands and atolls. Just a few months after the return of the first NWHI RAMP cruise, the Northwestern Hawaiian Islands Coral Reef Ecosystem Reserve was established by Presidential Executive Order, which then called for increased scientific research and assessment and long-term monitoring of resources in the Northwestern Hawaiian Islands.

Dr. Alan Friedlander, with the Hawai'i Cooperative Fisheries Research Unit and a fisheries ecologist at the University of Hawai'i, was an expedition team member on the 2000 NWHI RAMP cruise. He said, "I think places like the Northwestern Hawaiian Islands...provide a real window into the past of what marine systems look like, prior to human contact. So they give us the opportunity to see what we have lost...gives us a great opportunity to see where we've been and where we can potentially go as a result of better management practices."

NOAA's Pacific Islands Fisheries Science Center collaborates with NOAA's Office of National Marine Sanctuaries, through Papahānaumokuākea Marine National Monument, to conduct NWHI RAMP cruises annually, in close consultation with Monument co-trustee agencies U.S. Fish and Wildlife Service and the Hawai'i Department of Land and Natural Resources.

Dr. Jim Maragos, a coral reef biologist with the Fish and Wildlife Service, was one of the first NWHI RAMP chief scientists. He believes the multiagency, multijurisdictional and interdisciplinary approach to these missions, bringing together the best field resources, is "a key way to provide scientific support for developing management schemes and plans to spare Northwestern Hawaiian Island coral reefs from the degradation suffered by most other coral reefs in the world."

## **PLEASE CONTACT**







Dan Dennison NOAA 808.694.3930 Barbara Maxfield USFWS 808.792.9531 Cori Kane State-DLNR 808.397.2646 Ten years of NWHI RAMP cruises have involved thousands of dives, terrestrial and marine surveys, rapid ecological assessments, video surveys, sampling, impact assessments and oceanographic observations. Dr. Randy Kosaki, the chief scientist and NOAA Deputy Superintendent for Papahānaumokuākea Marine National Monument said, "While resource assessment data collection started in the NWHI in the mid 1970s, the focus of that research, and the questions asked have turned 180 degrees. The thinking used to be, what's here that we can catch, eat, and sell, to what's here that is special, unique, or deserving of extra protection." This shift in thinking happened ten years ago with the first NWHI RAMP multi-agency cruise."

Dr. Peter Vroom, NOAA's chief scientist on the just completed 2010 NWHI RAMP cruise said, "I've been actively involved on NWHI RAMP cruises since 2002, and it's a great experience being able to return to the same reefs year after year because I feel like I know the reef systems well, and can notice whether significant changes to the areas we survey are occurring." The NWHI RAMP cruises are an essential part of the NOAA Coral Reef Conservation Program's Pacific RAMP, which supports comparable biennial surveys of the other U.S. coral reef ecosystems in American Samoa, Guam, the Northern Mariana Islands, and the Pacific Remote Islands Marine National Monument.

Yearly reef assessment and monitoring cruises prompted a shift in thinking about the impacts of climate change on remote, isolated ecosystems like those of the NWHI. Kosaki said, "Ten years ago, we were thought to be "immune" to thermally-driven coral bleaching because the NWHI are in high latitude, cooler waters. Now it is well understood that it is not absolute temperature that drives bleaching, but rather warming relative to average temperature for that region that causes bleaching. The lesson driven home by a 2002 mass bleaching event in the NWHI was that even though they are remote, they are not immune to global-scale changes in climate." (See companion release for further details on 2010 coral bleaching status).

Research scientists involved in the past decade of NWHI RAMP cruises to Papahānaumokuākea Marine National Monument believe that the more they discover, the more they realize how little they know, and how much more there is to discover in the spirit of protecting and preserving what is widely considered one of the last, intact and nearly pristine coral reef ecosystems on the planet.

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. Papahānaumokuākea was designated as a UNESCO World Heritage Site in July 2010. For more information visit: <a href="www.papahanaumokuakea.gov">www.papahanaumokuakea.gov</a>

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