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**Incorporating Nature and Culture into the Daily Management of
Papahānaumokuākea Marine National Monument**

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Abstract:

Papahānaumokuākea Marine National Monument (PMNM) is one of the world's largest marine protected areas at 1,508,870 square kilometers. Inscribed as a UNESCO World Heritage site in 2010 for its outstanding natural and cultural significance, PMNM is a place of deep cosmological significance to Kānaka Maoli (Native Hawaiians) with a revered kinship connection. The laws that established PMNM as well as the current management practices emphasize the integration of Western and Native Hawaiian values and practices. This framework provides opportunities for cultural perspectives to be integrated into all management decisions. Foundational elements of integration include formal co-management agreements for governance, and structured opportunities for Native Hawaiian community involvement. PMNM is cooperatively managed by the National Oceanic and Atmospheric Administration (NOAA), the U.S. Fish and Wildlife Service (FWS), the State of Hawai'i, and the Office of Hawaiian Affairs (OHA). Although OHA has acted as a co-manager since PMNM's inception, a crucial milestone was a 2017 Memorandum of Agreement, which elevated OHA to Co-Trustee status. Building upon these foundational elements, co-managers have developed practices and conventions that enable integration of diverse management perspectives. These integrative approaches are groundbreaking and may have global relevance, as similar models are rare elsewhere.

Keywords

Indigenous Management, Co-Management, Large-Scale Marine Protected Areas, Collaborative Management, Hawaiian knowledge and values

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Introduction

The vast Pacific Ocean, also known as the region of Oceania, was crossed by voyagers who gave shape to the Polynesian Triangle, an area anchored by three groups of islands: Hawai‘i in the north, Rapa Nui (Easter Island) to the southeast; and Aotearoa (New Zealand) in the west (Finney 1977). Ancient Polynesians navigated by the art of wayfinding, using observations of natural features such as the sun, stars, ocean swells, winds, clouds, seabirds, and the reflections in the sky of distant, aquamarine waters in the atolls (Finney 1993; Kyselka 1987). More than a thousand years ago, wayfinding Polynesians discovered the Hawaiian Islands, which are among the world’s most remote island groups (Howe 2007). Throughout this history, the ocean is what connects people to place and sustains a way of life.

The worldview of Native Hawaiian people embraces the entire archipelago of Hawai‘i which for nearly 1,500 miles (2,400 kilometers) extends from the east where the sun rises and the islands begin their volcanic origin from the ocean, to the west where the sun sets and the islands return to their source. This genealogy of islands is divided by the Tropic of Cancer, ke ala polohiwa a Kāne – the sacred glistening black path of Kāne the god of the sun and of procreation. This path divides Hawai‘i into two regions called Pō and Ao – night and day, dark and light, realm of the spirit and realm of the living - the dualities of Hawaiian cosmology (Beckwith 1951; Kikilo 2010). The northern three-quarters of the Hawaiian archipelago make up the islands and atolls known as Papahānaumokuākea Marine National Monument (Papahānaumokuākea or PMNM). PMNM has a significant role in preserving, maintaining and revitalizing the tangible and intangible heritage of Hawaiian culture, its diverse cultural expressions and the environmental ethics of indigenous Hawaiian people.

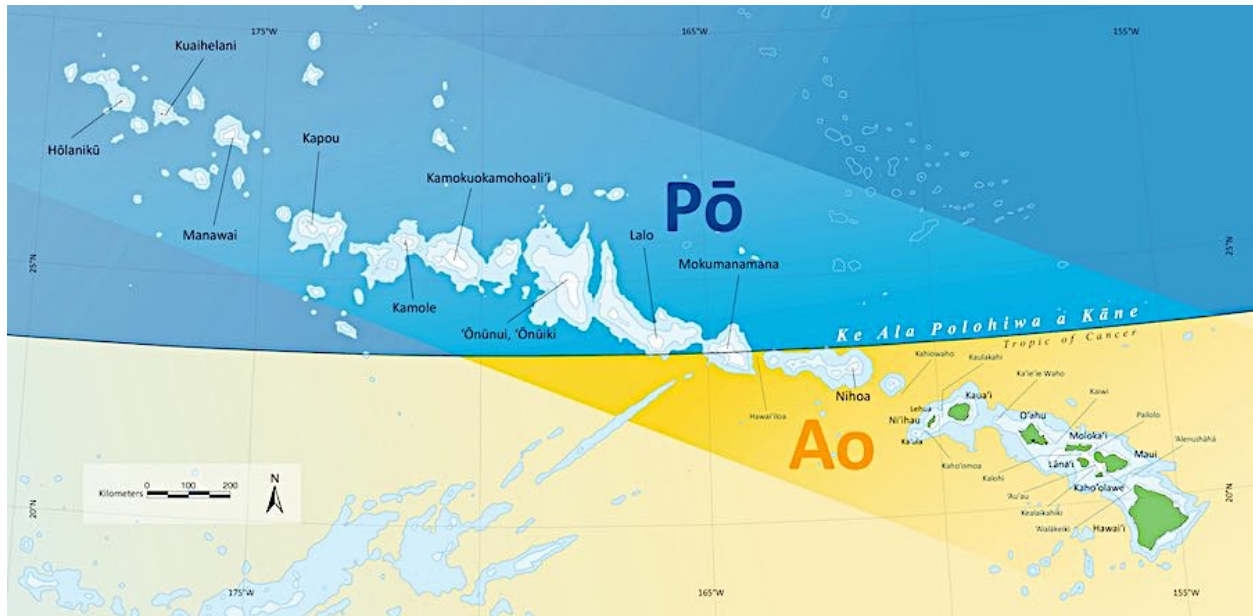


Figure 1. Pō and Au.

Papahānaumokuākea Marine National Monument is one of the world’s largest marine protected areas at 582,578 square miles (mi²) or 1,508,870 square kilometers (km²). The originally designated area, encompassing nearly 140,000 mi² (362,000 km²) of ocean and including the Northwestern Hawaiian Islands, was inscribed as a UNESCO World Heritage site in 2010 for its outstanding natural and cultural significance to the heritage of mankind (UNESCO 2010). It was also the world’s first cultural seascape, recognized for its continuing connections to indigenous people (Kikiloi et al 2017).

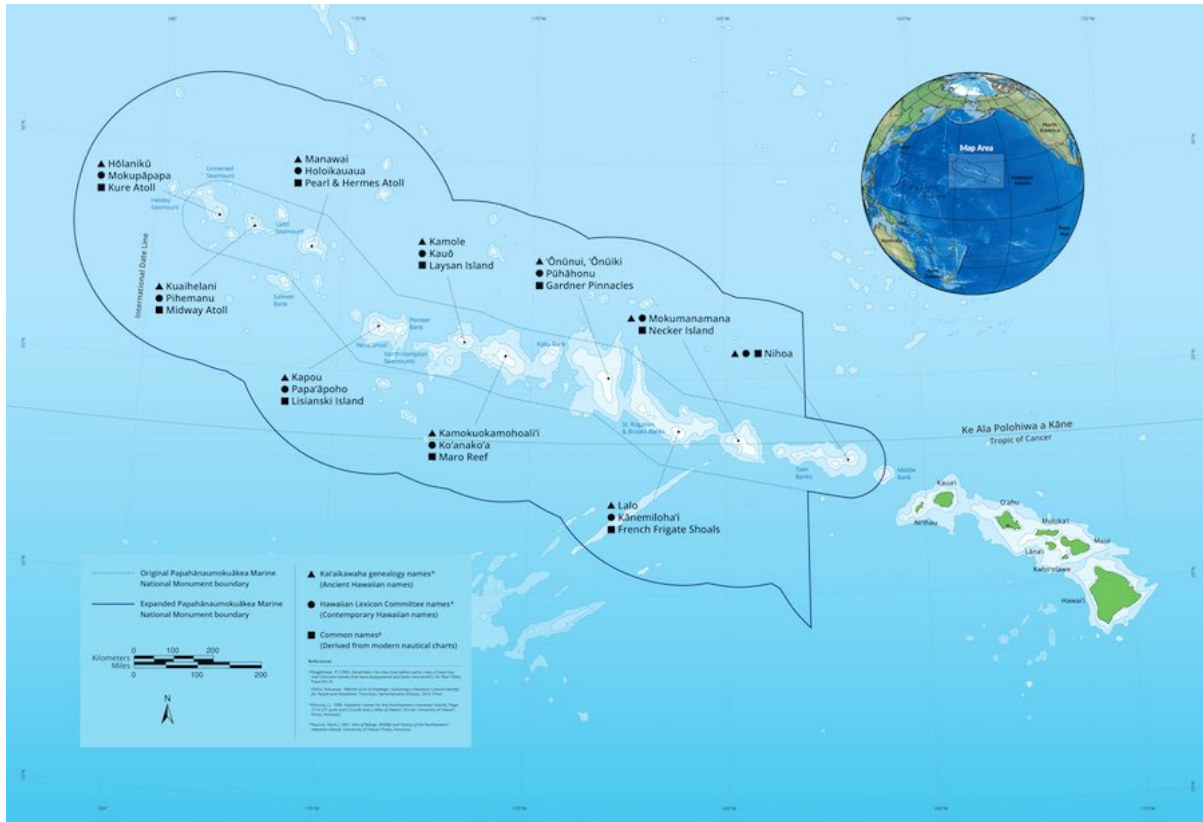


Figure 2. Map of Papahānaumokuākea Marine National Monument.

As one of the largest World Heritage sites globally, the World Heritage Committee recognized that Papahānaumokuākea’s management structure was unique among large-scale MPAs in that all forms of use, including non-extractive use, are regulated and highly restricted across the site’s 1,200 nautical mile (2,222 km) expanse. (UNESCO 2010). PMNM is co-managed by the National Oceanic and Atmospheric Administration (NOAA), the U.S. Fish and Wildlife Service (FWS), the State of Hawai‘i, and the Office of Hawaiian Affairs (OHA). Collectively these agencies comprise the Co-Trustees and work through the Monument Management Board to co-manage the day-to-day activities in PMNM.

Integration

Papahānaumokuākea’s establishing laws and current management practices emphasize the integration of Western and Native Hawaiian values and practices. This principle is reflected in the Papahānaumokuākea motto: ‘where nature and culture are one’ and operationalized through

continuing efforts by managers to increase integration in all aspects of management. Native Hawaiian community involvement has been a priority for the management agencies and is delineated in two sections of the Papahānaumokuākea Management Plan.

Cornerstone elements of integration include formal co-management agreements for the governance of Papahānaumokuākea, and structured opportunities for Native Hawaiian community involvement. Through this integration, cultural practitioners engage in multiple areas of management, research and education. As discussed below, this involvement also led to the final naming of the site.

The name Papahānaumokuākea is reflective of the region’s natural and cultural heritage and its future as a vast, sacred, protected and procreative place. The name was given to the region by a group of Native Hawaiian cultural practitioners and kūpuna (elders) a year after the area was designated as a national marine monument. The name specifically relates to the creation story (the mo‘olelo), contained within the Kumulipo: which tells of Papahānaumoku (a mother figure who is personified in the earth) and Wākea (a father figure who is personified in the expansive sky). These two figures, either together or separately, are responsible for the creation or birthing of the entire archipelago, and they are the most recognized ancestors of the Native Hawaiian people (Beckwith 1951, Malo 1951). The preservation of these names, together, as Papahānaumokuākea, strengthens Hawaii’s cultural foundation and grounds Hawaiians to an important part of their historical past. Taken apart, “Papa” (earth mother), “hānau” (birth), “moku” (small island or land division), and “ākea” (wide) bespeak a fertile woman giving birth to a wide stretch of islands beneath a benevolent sky, the dramatic imagery of which is on full display in the region (Papahānaumokuākea n.d.).



Figure 3. Papahānaumokuākea's name evokes abundance and the procreative forces of earth, sea, and sky. *Painting by Solomon Enos.*

Advocates in Protection

Throughout the formative history of PMNM, Kānaka Maoli (Native Hawaiians) have led effective advocacy and protection initiatives for this sacred place. The Native Hawaiian community's role as advocates in management of this vast seascape dates back to 2000, when President Clinton designated the Northwestern Hawaiian Islands (NWHI) Coral Reef Ecosystem Reserve (CRER). In 2006, what became known as Papahānaumokuākea Marine National Monument was created by President George Bush, again with support from Kānaka Maoli. The area of the Monument was increased in 2016 by President Barack Obama after several Native Hawaiian community leaders advocated for expanded protection. The Native Hawaiian community members helped to build relationships with the overall community and increase the support for this region. Their advocacy was one of the factors in the final expansion decision.

This community continues to give voice to and provide support for the management and protection of Papahānaumokuākea.

A Formal Co-Management Agreement is Crucial

As discussed earlier, Papahānaumokuākea is co-managed by four Co-Trustees. When the Marine National Monument was first established in June of 2006, this designation was an overlay over two FWS National Wildlife Refuges, a State of Hawai‘i Wildlife Refuge and Marine Refuge and the NWHI Coral Reef Ecosystem Reserve. Each agency had its own set of regulatory priorities, culture, and separate jurisdictional and management oversight. Additionally, there were multiple permit arrangements, with different permits required depending on whose jurisdiction was being accessed.

Presidential Executive Order 13178, which established the NWHICRER in 2000, clearly articulated that the jurisdiction of the State of Hawai‘i was not to be diminished and that the agencies were to work with the Native Hawaiian community. In 2006, the enabling authorities for the establishment of PMNM mandated that the federal agencies work together to manage this site. However, no formal process for implementing these mandates existed. The solution for assuring cooperative conservation was to set up a formal structure and agreement for co-management among all parties.

To ensure that all agencies were in accord regarding the structure and the process for achieving cooperative conservation, a formal memorandum of agreement (MOA) was drafted and ultimately approved by the most senior representative of each agency. The MOA not only established which line-agencies were to be engaged in the day-to-day management through a Monument Management Board (MMB), but also who in each agency was the next tier of arbitrator through a Senior Executive Board (SEB), should there be an instance where consensus between agencies was not possible. Since there are seven agencies involved in the day-to-day management of the site via the MMB, there was also a need to describe and clearly articulate the process of dispute resolution. Specific roles and responsibilities of each group were clearly

delineated, providing a well-defined operational framework for co-management. Another mechanism created to enable cooperative management was the PMNM joint permit process, whereby all agencies must review each permit prior to its issuance, and the approved permit is jointly signed to indicate consensus.

The first MOA was signed in December 2006, within six months of PMNM's establishment, due to the high level of interest by both the Governor of Hawai'i and the President of the United States to make this unique co-management structure work. OHA was named to the MMB, but was not given full recognition as a Co-Trustee in this original MOA. As OHA's engagement and involvement in PMNM management activities grew, their desire to have representation in all levels of decision-making for PMNM also grew. In 2015, the Governor of Hawai'i petitioned the U.S. Secretaries of the Departments of Commerce and the Interior, requesting they consider revising the 2006 MOA to include OHA as a 4th Co-Trustee. This happened at nearly the same time as a prominent group of Native Hawaiian leaders was petitioning the President, asking him to consider expanding the protections for PMNM.

During the public dialog on expansion, many of those who advocated for the larger area of protection also advocated for OHA to become a 4th Co-Trustee. While the mechanisms to expand PMNM and to elevate OHA's status are different, the two were considered by many in the Native Hawaiian community to be closely connected. President Obama issued a memorandum to the U.S. Secretaries of Commerce and the Interior on the same day that he signed the Proclamation expanding PMNM, instructing them to revise the 2006 Co-Trustee MOA within 90 days and to consider the inclusion of OHA as the 4th Co-Trustee.

Through the signing of a second memorandum of agreement in January 2017, OHA was elevated to Co-Trustee status, which was an important milestone for the Hawaiian community. The signing of this formal agreement sent a clear message that Kānaka Maoli have a valued and necessary role and voice in all levels of co-management of a place sacred in their worldview. OHA is a public trust agency, created with a mandate to better the conditions of both Native

Hawaiians and the Hawaiian community in general (OHA n.d.). OHA was formally recognized as a Monument Co-Trustee because of: (1) its existing role as a co-manager since 2006; (2) its history of support for Native Hawaiian cultural initiatives and access to the region; (3) its ability to engage and connect the Hawaiian community with management decisions (Kikiloi, et. al 2017); and 4) strong political and community support for an elevated role and status in management. With the elevation of OHA to Co-Trustee status, the Native Hawaiian community is more empowered and has a say in all levels of decision-making in the management of Papahānaumokuākea. OHA's role as a Co-Trustee allows them to provide a cultural perspective on all levels of decision-making.

PMNM MANAGEMENT STRUCTURE



Figure 4. The elevation of OHA to Co-Trustee status expands its participation to all levels of management.

Structured Opportunities for Engagement

Structured opportunities for the Native Hawaiian community to inform the management of PMNM are supported by co-management agencies. In addition to the management decision-making and input from OHA, the Native Hawaiian community plays an advisory role in management through the Native Hawaiian Cultural Working Group (CWG). This body advises OHA and through OHA provides guidance to the Monument Management Board. Many of the co-managing agencies of Papahānaumokuākea also attend the CWG's meetings to deepen their understanding of cultural perspectives and the potential impact of management activities.

In addition, NOAA's Office of National Marine Sanctuaries (ONMS) has a NWHICRER Advisory Council, in which three of the 15 seats are dedicated for Native Hawaiian representatives and one of these three is reserved for a Native Hawaiian elder (Papahānaumokuākea. n.d). These representatives also sit on the CWG and thus bring their perspective to the NWHICRER Advisory Council. The NWHICRER Advisory Council input to ONMS is also considered in management decision-making. Through providing resources and staff time to engage these groups, and by attending their meetings co-managers strengthen relationships with the Native Hawaiian community. These connections engender new tools and methods for improving management practices, allow for a greater understanding of Native Hawaiian values and practices, and perpetuate the application of traditional knowledge across the Hawaiian Archipelago.

Papahānaumokuākea has a rigorous permitting process. All actions in PMNM require a permit and applications for permits are reviewed for both their biological and cultural benefits to the place. Select members of the CWG review permit applications in concert with the Office of Hawaiian Affairs and provide their recommendations to OHA. All reviewer comments are considered, compiled and provided to an applicant for response prior to a permit being approved. The actions of the agencies are reported back to the advisory bodies annually so there is an understanding of what permitted actions were approved. While significant (either biological or cultural) objections to permitted activities are rare, if significant concerns are raised, there is

either a decision by the co-management agencies to deny access, or else consultation (between the applicant and the Native Hawaiian community or between the applicant and the co-management agencies) is facilitated so that an agreement can be reached. Once a permit is issued the permittee is additionally required to attend a cultural briefing about the place, thereby incorporating and safeguarding the cultural importance of place through access training as well as through the permit review system.

While consensus on permits is the norm, there are instances where the dialog required to reach agreement has been lengthy. Agency policies and laws can and often do conflict with indigenous approaches and for a few of the islands with limited land mass, there are often difficult choices that must be made. On Nihoa Island there are over 88 cultural sites, including ceremonial, residential, and agricultural features. Mokumanamana Island has over 52 cultural sites, including ceremonial and temporary habitation features (Emory 1928; Kikiloi 2012). Many of these features are being undermined by burrowing and nesting birds, or overgrown by native plants, some rare and protected. Crafting management decisions that allow for compromise in these situations is neither a quick nor an easy process, requiring significant effort in consultation and collaboration .

In another example, Galapagos sharks at French Frigate Shoals (Lalo or Kānemiloha‘i) have learned to prey on Hawaiian monk seal pups because of human influence. Hawaiian monk seals are critically endangered and Galapagos sharks are pan-tropical, and not threatened (NOAA-NMFS n.d.). However, sharks are culturally important to Native Hawaiians. One proposed management action to lessen the mortality of monk seal pups was to cull some of the sharks. This proposed management action met with significant opposition from the Native Hawaiian community and it has taken years of consultation and several different approaches to work through concerns and approach a compromise. Even so, this activity is one that requires ongoing dialog and new ways of thinking and action.

Additionally, supported by OHA, a subset of CWG members formed a nomenclature subcommittee that collaborates with researchers to synthesize perspectives and recommend Hawaiian names for new species and new geological features (such as seamounts) that are discovered in PMNM. Whereas, within a Western science perspective, researchers are primarily focused on the physical and chemical characteristics of a species (e.g. color, shape, size), within the indigenous perspective cultural practitioners are interested in many other factors that connect the species to place. These might include where it was found, what habitat it was associated with when found, what else was in the area, the depth, temperature and light penetration of the water, and other aspects (‘Auamo n.d.). This process is iterative and thus lengthy, but it assures that new discoveries and their Hawaiian names are embraced by both the Western scientist and the indigenous culture.



Future generations of this species (*Acrocephalus familiaris kingi*) have received the name ulūlu niau from the PMNM Native Hawaiian Cultural Working Group. In the Hawaiian language, the word “niau” means “moving smoothly, swiftly, silently, and peacefully; flowing or sailing thus.” Photo: Robby Kohley – American Bird Conservancy/USFWS

Figure 5. Ulūlu Niau

The NWHI has a rich legacy of observation and study by Native Hawaiians, scientists and historical users, such as the military, fishers, and other industries (Wiener & Wagner, 2013). These accounts vary in regard to time scales and methods, but taken together, they offer a unique resource for better understanding the natural variability and cycles of climatic conditions, ecosystems, and species within PMNM (Wagner and Polhemus, 2016).

Another example is the development of a Native Hawaiian plan for Papahānaumokuākea that strives to blend indigenous perspectives and a Western planning approach. The Papahānaumokuākea Native Hawaiian Plan establishes a framework for Native Hawaiian access, research, customary use, and traditional practice within the NWHI. Over the years, many workshops were held with the Native Hawaiian community to gain their valuable insights and recommendations on how best to approach this task. Several drafts of this plan have been produced; each successive version incorporating additional indigenous perspectives, including foundational cosmologies (mo‘olelo) and ancestral data, as well as new synthetic approaches for making this information useful for managers. Out of these iterations, an innovative methodology has emerged that will meet the needs of the Hawaiian community and agency managers, once completed. The plan is an emerging model that utilizes indigenous Hawaiian knowledge and worldview to inform conventional planning approaches and desirable outcomes.

Lessons Learned

Integration is enabled through a combination of formal and informal mechanisms encompassed within the co-management model. Foundational elements of integration include formal co-management agreements for governance and structured opportunities for Native Hawaiian community involvement.

Building processes that allow for structured engagement mark an initial step toward establishing a shared understanding for managing PMNM within the context of co-management. However, it is only the first step in a journey that requires ongoing commitment, trust, and open-mindedness

to achieve a truly integrated approach for navigating Papahānaumokuākea through an uncertain future.

Agency policies and laws can and often do conflict with indigenous approaches. There also tend to be differences in the ways indigenous cultures and Western scientists generate knowledge, which create challenges for facilitating a shared understanding (Bohensky and Maru 2011). Additionally, each management agency working in Papahānaumokuākea has its own regulations, its own policies and its own lexicon for management. It took several years for each agency to build understanding and appreciation for the management ‘language’ the others spoke. Developing a more complete, shared understanding of management outcomes and approaches took additional time. This complex co-management environment complicates the task of merging Western values and ways of thinking about management with the more holistic indigenous approach to management. Although while seemingly opposite worldviews are sometimes articulated, co-managers have found that if they can reach a common understanding of the desired goals and agree on shared values, they are often able to work through how to accomplish a task and contextually blend multiple perspectives.

Co-management is not easy. It takes time, a willingness to understand diverse perspectives and a process to resolve conflicts when agency policies are at odds with one another. The original 2006 MOA brought all agencies to the table to begin this dialog but the process of convening and synthesizing diverse management perspectives is ever evolving. Having regularly scheduled meetings and dedicating adequate time to address needed policies, procedures and a process to effectively co-manage have been key to success. In the event of an impasse, the MMB has the ability to elevate issues to the SEB thus allowing a way forward in the rare instances where discussions are mired and operations potentially affected.

The PMNM co-management structure and the mechanisms that have evolved from it provide a potential global model for management. Combining multiple management approaches builds resilience by challenging the worldview of Western management agencies, and by considering

the integration of diverse perspectives. Papahānaumokuākea is a region where two seemingly opposite ways of thinking-spiritual and scientific, indigenous and western-can learn to coexist, to find common cause, to learn to work collaboratively, to care for a place unique in the world, and to inspire the next generation. (UNESCO 2010). Management decisions are carefully weighed in an attempt to harness and revitalize the spiritual significance of PMNM while also considering agency policies and mandates in relation to management activities. Through learning together and sharing responsibility (kuleana) for protecting the place, the agencies seek common ground and work towards a common understanding of each other's values and philosophies.

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Biographical Notes

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Alyssa Miller, Ph.D. is a NOAA affiliate and the Planning and Policy Specialist for Papahānaumokuākea Marine National Monument. She has conducted planning and evaluation for PMNM management since 2011. Her prior work includes planning for coastal and marine programs and projects, environmental policy review, and community-based resource management. She attended the University of Hawai‘i on an East-West Center grant, earning a Master’s degree in Urban and Regional Planning and a Ph.D. in Geography.