

# (Re)Building Trust With Indigenous Communities: Reflections From Cultural Brokers

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## Abstract

Indigenous people are often hesitant to participate in research projects because they lack trust in researcher intentions. In this article, we explore the critical role that Indigenous boundary spanners play in research conducted with Indigenous communities through our research on oceans and human health. Our analysis centers around five principles where Indigenous boundary spanners significantly influence the research process. Centering work around 'ohana (family), being intentional around where to collect data, approaching the work with humility knowing that the community are the experts, cultivating team members' knowledge of community through conversations, and challenging assumptions within the institution are all aspects of research that must be considered when working with Indigenous communities. Including Indigenous community members and Indigenous scholars as part of teams can improve these aspects of research and begin the process of (re)building trust with Indigenous communities.

*Keywords: Indigenous, relationship building, trust, community-engaged research*



Indigenous communities have endured numerous waves of researchers entering uninvited into their communities, extracting information, and leaving without providing sufficient benefits to the community. These ethical issues came to a head in the infamous Havasupai case where, unbeknownst to the Havasupai participants, researchers at Arizona State University used blood drawn to study diabetes for a variety of mental and physical disorders beyond the scope of the original study. The Havasupai community not only did not know about these additional studies, but received neither compensation nor any benefits from these studies. "Helicopter researchers" like these perpetuate the historical power imbalances that persist in the Indigenous-settler relationship ("Tackling Helicopter Research," 2022).

Native Hawaiians have a growing reluctance to participate in research due to prior negative experiences. Some have said they felt like "guinea pigs"; others have shared that their views were misinterpreted or they sensed they were exploited to advance the

researcher's career (Braun & Tsark, 2008; Fong et al., 2003; Matsunaga et al., 1996; Santos et al., 2001). These feelings are often steeped in a recognition that they were not consulted in the research process, from study design to the implementation of findings (Fong et al., 2003). The differences in perspectives, approaches, and priorities can lead to conflicts between researchers and the Native Hawaiian community members unless the research team addresses these issues through trust-building activities (Matsunaga et al., 1996).

One elegant solution is to engage more Indigenous researchers. As more Indigenous people receive graduate and even doctoral degrees, this option has allowed communities to engage institutions of higher education from a place of deepened equity. Moreover, as more Indigenous researchers enter academia, the potential to expand research opportunities in different disciplines increases. These opportunities are facilitated by Indigenous boundary spanners who are often coupled, with one centered in the community and the other in academia. Both,

however, are fluid actors who support the broader goal of the community.

## Background

### Rise of the Indigenous Researcher

From the early years of the United States when researchers attempted to justify discriminatory policies based on phrenology to deficit-based research that focused on the ways Indigenous communities are not living up to the standards of settlers (Guilliford, 1996; Hyett et al., 2019; Poskett, 2021), research on Indigenous people has always captured the settlers' imagination. Today, there has been a concerted effort to focus on strengths-based research that explores areas of improvement in ways that contextualize problems and articulate solutions in terms of Indigenous resilience. Boundary spanners play a critical role in ensuring equitable engagement between Indigenous communities and institutions of higher education (Hatch et al., 2023). Many successful collaborations have had one or more knowledgeable individuals who make themselves available to the project. Indigenous boundary spanners often have a braided identity that enables them to understand both the Indigenous community and the academic desires of researchers. The boundary spanners have developed these identities through prolonged interaction during their educational journey or through bridgers who link the individual to other projects or activities (Long et al., 2013).

Indigenous voices have largely been absent in the research literature, in part due to the dearth of Indigenous PhDs (Bastien et al., 2023; Jones & Jenkins, 2008; Minthorn, 2022; Shay et al., 2023). In 2004, only 6.6% of the faculty at the University of Hawai'i were Native Hawaiian (University of Hawaii, 2004); today, the number of Native Hawaiian faculty has nearly doubled to 12.0% across all University of Hawai'i campuses (University of Hawaii, 2023). Indigenous faculty and PhD students often engage in the boundary-spanning activities that support the (re)building of trust. The rise of Indigenous researchers has not only resulted in challenging the deficit-based research frame, but also pushes forward decolonial and Indigenized research methods (Bishop, 2005; Lowman & Barker, 2010; Smith, 2012).

As Indigenous wahine (women) scholars, the authors have taken on the role of ad-

vocate. We consider ourselves part of the Native Hawaiian community, individually and through our 'ohana (family), but acknowledge that our experiences differ from those of many community members, as both authors spent part of their childhood on the U.S. continent or internationally. Despite having spent years away from the Hawai'i, we have rediscovered our place on this 'āina (land). We are dedicated to working with the Hawaiian community and are open to being guided toward topics that the community values. One of the authors primarily sits in an institution of higher education as a faculty member while the other primarily sits within the community as an advocate, though we move interchangeably when needed. This mutual trust and understanding at an individual level enables project development that centers balanced power and reciprocity, which then embeds respect within the form of the project itself. Designing projects in this context facilitates the cultivation of these values among the project stakeholders and hopefully beyond the project.

### Community-Engaged Research

Community engagement often helps improve research through "partnerships and coalitions that help mobilize resources and influence systems, change relationships among partners, and serve as catalysts for changing policies, programs, and practices" (CDC, 1997, quoted in Clinical and Translational Science Awards Consortium, 2011, p. 7). Using this approach provides greater opportunities to build trust and respect between communities and academic researchers. Engaged approaches incorporate methods to collapse divides between communities and institutions, specifically by including people with a multiplicity of types of economic and political power (Hardy et al., 2020). Indigenous leaders and communities have called for research designs that are developed "with" instead of "on" people in ways that provide opportunities for "counter-storytelling" (Mitchell, 2018). This fundamental shift in conceptualizing research design with Indigenous communities has had a transformative impact on how research is and can be done.

Under the larger umbrella of community-engaged research sits community-based participatory research (CBPR; Holkup et al., 2004), which is particularly suited for research with Indigenous communities. CBPR is a flexible approach that treats the

community as the unit of engagement and seeks to elevate community partners to the status of coresearchers (Israel et al., 2012). Trust can be rebuilt by incorporating action-based advocacy, engaging the community in topic identification, collaborating on the research design, and increasing capacity within the community (Blumenthal, 2011). Although CBPR is often the goal of community-engaged research, it is difficult to implement without preexisting community relationships that often take years to develop (Wilson et al., 2018). Thus, our project incorporated community-engaged research methods with the eventual goal of developing strong relationships with the community that would enable us to move toward a CBPR model.

Overlaid upon the community-engaged method was our commitment to Indigenous and decolonial research methods. Decolonial research methods incorporate the active removal of colonial structures within research, whereas Indigenized research methods integrate Indigenous concepts and methods into the research design (Evans et al., 2020). Critically decolonized research methods consist of transforming colonized views while holding alternative knowledge in pursuit of inquiry (Thambinathan & Kinsella, 2021). Thus, removing traditionally strict structural processes represents a decolonial approach to conducting research. Moreover, incorporating a fluid storytelling approach allowed us to Indigenize the research process and honor the experiences of participants. These approaches were used regardless of the ethnicity of participants, which further decolonized the research design and situated the work squarely within the Indigenous community.

### **Remaining Challenges**

Despite these efforts and improvements, challenges remain. Research involving Indigenous peoples has historically suffered from unequal power relations, wherein Indigenous communities are treated as passive subjects rather than active, self-determining storytellers and collaborators. Because the general narrative frames Indigenous communities as suffering from disparities, many researchers seek out Indigenous communities to conduct disparities research. However, they are often ill-prepared to enter into this endeavor with the cultural humility required to conduct meaningful and respectful research that supports the community (Worthington &

Worthington, 2019). Moreover, Indigenous communities desire reciprocity from their contribution and respect for the self-determination that their communities embody (Thambinathan & Kinsella, 2021). Building mutual trust and respect is thus fundamental to the work of an Indigenous boundary spanner.

As Indigenous researchers and boundary spanners, we were committed to performing research through open dialogue and critical inquiry. “Open dialogue” refers to our efforts to create spaces that are safe for mutual exchange and honest discussion, and “critical inquiry” points to our conscious awareness of navigating complex issues of power and knowledge. This reciprocal inclusivity was also carried over into the research team. As a research team that included Indigenous and non-Indigenous researchers, we made sure open dialogue and critical inquiry played a pivotal role not only in the relationship between researcher and participant but among the research team members. Beyond trust and mutual respect, both the research participants and the Indigenous researchers observe an anticolonial understanding and accountability. This approach often presents itself through seeking guidance and reiterative feedback loops (Taha, 2018), as was the case in our work.

In the face of a growing number of Indigenous researchers and advocates, we share our experience working on a large systems mapping project exploring the community’s relationship with the ocean. This article, grounded in our position as Indigenous researchers and advocates, will explore how Indigenous boundary spanners emphasize relationality when working within Indigenous communities. We will first detail the design, implementation, and initial findings of our Oceans and Human Health Systems Mapping project, before reflecting on themes that emerged throughout the project related to conducting community-engaged research. Finally, we share lessons learned that can be transferred to other projects with Indigenous communities.

### **Summary of Oceans and Human Health Systems Mapping**

Research on oceans and their connection to human health has seen increased interest in recent years, aligning with the United Nations’ declaration in 2017 of the Decade of

Ocean Science for Sustainable Development. Scientists across the globe heeded this call by tackling critical issues related to climate change, habitat destruction, food systems decline, and recreational impacts. Although great diversity of topics exists, a significant amount of the literature is deficit-based and fails to incorporate Indigenous communities, many of whom are disproportionately impacted by changes to oceans. In order to develop a line of research that takes into account the needs and desires of our host Indigenous community, our research team developed a systems mapping research project designed to engage the Native Hawaiian and other Indigenous Pacific Islander communities that reside in the Hawaiian archipelago as a step toward the construction of a unified research agenda on oceans and human health.

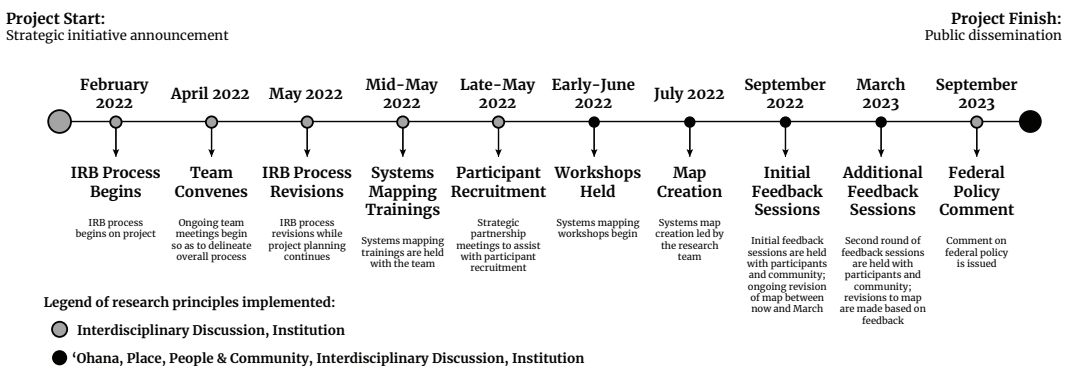
Guided by the vision that “people and oceans thrive together through their shared kuleana (responsibility/privilege) to promote collective well-being,” we crafted our framing question. The term “kuleana” was intentionally used because it embodies the Hawaiian belief that it is a privilege to undertake one’s responsibility. The framing question, “What helps or hinders island inhabitants’ relationships with the ocean?” was posed to participants at the initial systems mapping workshops as well as in the follow-up sessions. To honor the host culture, we translated our framing question in ‘ōlelo Hawai‘i, “Pea ka pilina o ke kai?” to ground our sessions in place.

Our study used systems thinking to explore

the causal factors affecting Hawai‘i Island inhabitants’ relationship with the ocean and, in turn, the ocean’s effects on human health. Systems mapping is a qualitative systems thinking research approach that collects stakeholder community members’ experiences to visually depict a system (Reid et al., 2020; Sterman, 2002). Causal loop diagramming was utilized to visualize the complex interactions that underlie human health related to the ocean (Nash et al., 2022; The Omidyar Group, n.d.). Participants identified factors that impacted their relationship to the ocean, dynamics that perpetuate or change behavior, and key points within the system that can inform collective decision-making through a leverage analysis (Purtle, 2018).

Our adapted systems mapping process involved three phases: (1) systems mapping workshops, (2) map creation, and (3) feedback sessions where the first phase (systems mapping workshop) could be broken down into four steps: (1) identifying forces, (2) articulating causes and effects, (3) creating causal loops, and (4) sharing results with the group. A total of eight sessions with 136 participants and seven feedback sessions with 32 participants were held. In alignment with traditional Hawaiian ‘ike (knowledge), the oceans were considered part of the land. This definition broadened our systems map, creating a holistic and inclusive map that covered many things that may, at first glance, appear to be beyond the scope of the research question. Our overarching findings indicate that when the ‘āina is healthy, the

**Figure 1. Timeline of Project Activities**





health and well-being of humans follows. Figure 1 shows our Timeline of Project Activities.

Systems maps tend to have a core story or story that underlies the map. Our core story consists of three interlocking loops: (1) ‘ohana, (2) privatization, and (3) ea (self-determination). The ‘ohana was the basic unit that transmitted knowledge of oceans for subsistence, spirituality, and recreation down through the generations. Although the privatization of land through colonization and capitalism has severed some of that strong pilina (relationship; connection) between people and place, some Native Hawaiians have maintained that connection. Historical trauma or the cumulative psychological and emotional wounding over one’s lifespan and across generations stemming from the remnants of colonization have accumulated among Native Hawaiians. These remnants include unsustainable tourism and militarism, which have indelibly altered the ecosystems and disrupted the socioeconomic landscape. Despite the deeply disturbing historical events that ultimately dispossessed the Indigenous community, Native Hawaiians have continued to pass down ‘ike kupuna (traditional knowledge) and mālama ‘āina (care of the land), which highlights the resilience of this community. Refocusing policy efforts on mālama ‘āina, culturally informed resource management, and sustainability may increase ‘āina momona (abundance), which lies at the center of our

system map and represents a shared vision of the past and of future goals.

### Considerations for Indigenous Research

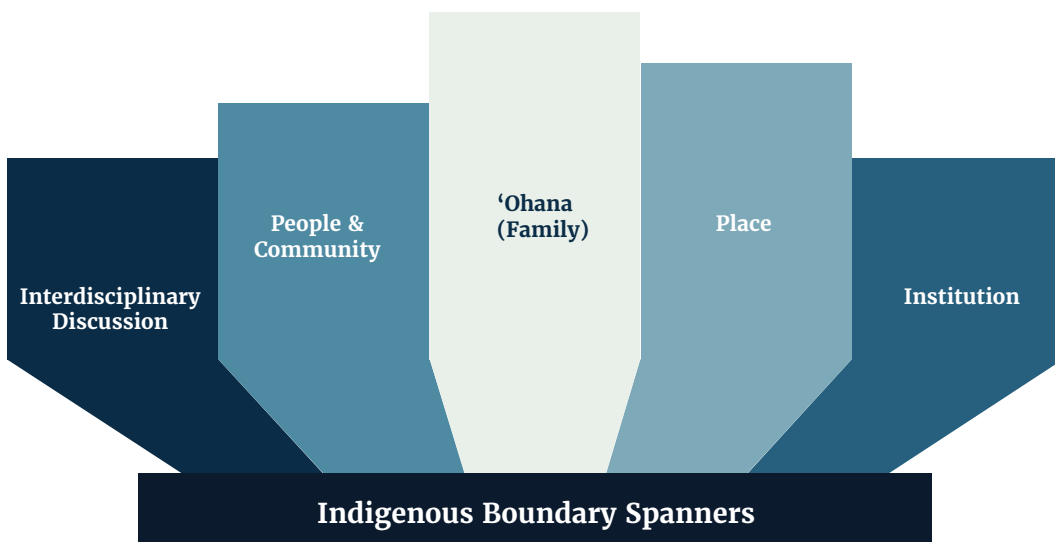
The Oceans and Human Health Systems Mapping project consisted of an interdisciplinary team of researchers in fields ranging from public health to marine biology to psychology. Despite the diversity of disciplines represented, the ethnic communities that the researcher team represented were more homogeneous. The inclusion of the two Indigenous author boundary spanners and one graduate assistant greatly facilitated participant recruitment and overall community engagement. Systems mapping sessions that included the Indigenous boundary spanners received more positive feedback from community members compared to the other sessions. In other words, the Indigenous boundary spanners lent their legitimacy to the project and influenced the use of five separate but overlapping principles that should be considered in future research efforts. See Figure 2 for the five dimensions of Indigenous boundary spanning.

#### Principle 1: ‘Ohana

For us and our children.

‘Ohana was a guiding principle throughout this project. Not only did it appear in numer-

Figure 2. Dimensions of Indigenous Boundary Spanning



ous causal loops in the systems map, it was an element that we discussed as part of the design process. Because Native Hawaiians are 'ohana-centered, incorporating 'ohana in the recruitment of participants and other aspects of a research project was beneficial. For example, health interventions that focus on the 'ohana rather than the individual have been successful in Hawai'i (Mau et al., 2010; Miyamoto et al., 2019). In our project, we utilized 'ohana to help spread the recruitment call and accepted 'ohana into our sessions. One valuable aspect of allowing 'ohana to join our sessions was that we naturally obtained an understanding of how oceans and human health impacted participants in a variety of generations. These discussions also facilitated cross-generational dialogue that allowed participants to gain new perspectives simultaneously with the research team.

Within the workshop sessions many participating families described their experiences with historical and cultural trauma. Stories connected back to the overthrow of the Native Hawaiian government by agents of the U.S. government and were brought into the present through discussions of the sustained colonization of Hawaiians. Participants connected colonization to the school system, increased participation in the military, and, in some cases, the adoption of Christianity. This insight explained that the ongoing colonization of Hawai'i stemming from the overthrow of the Hawaiian monarchy indelibly changed the value system and dislocated the 'ohana from its centered place. Given this context, the Indigenous boundary spanners brought forth a trauma-informed approach to ensure that participant stories were honored and respected. Seeing the salience of the lived trauma that was expressed, the research team readily agreed to the adoption of this approach, which allowed for safety and connection to be established within the storytelling space and across participant storytellers.

The quote “for us and our children” speaks to a Hawaiian participant’s shared hopes of seeing water treatment processes and subsequent water quality on their island improving over time so that their children and grandchildren may thrive. In the context of Hawaiian perspectives on caring for water, this quote reflects the ancestral and intergenerational connection to protecting and preserving natural resources, especially water, for present and future generations.

It also signifies a need and commitment to safeguarding access, quality, and sustainability of water and underscores the urgency of protecting water resources from exploitation, contamination, and overuse. For the participant and others, access to clean water requires pono (good and righteous) stewardship and consideration of the environmental, cultural, and social impacts of water management decisions on 'ohana and 'ohana to come.

### Principle 2: Place

*He 'āina ke ali'i, he kanaka ke kama'āina. #531 (Pukui, 1983)*

The land is a chief; man is its servant. (Interpretation: Land has no need for man, but man needs the land and works it for a livelihood.)

As an archipelago with expansive ocean space between islands where the majority of Hawai'i's total population is located on O'ahu, it was important to the team to ensure equitable representation of place in this project. To avoid contributing to power inequities by focusing only on densely populated locations, our team traveled to various locations on O'ahu and Hawai'i Island, in addition to offering virtual sessions. The diversity of location also served as a means to contextualize stories heard in the sessions.

### *Hawai'inuiākea School for Hawaiian Knowledge*

On O'ahu, sessions were held on two University of Hawai'i (UH) campus locations, including Hawai'inuiākea School for Hawaiian Knowledge at the University of Hawai'i Mānoa. Although UH as a whole is not synonymous with research ethics, Hawai'inuiākea, a beloved center of Hawaiian Knowledge, was an endeavor endorsed by the Hawaiian community. Established as a separate college in 2007, its historical roots trace back to 1921 when 'ōlelo Hawai'i (Hawaiian language) was first offered. In 1970 Hawaiian Studies was established under Liberal Studies; however, it wasn't until the 1980s, when a group of students uncovered an ancient 'auwai (open channel irrigation) alongside Mānoa stream near the edge of campus, that collective efforts began to restore this 'āina for the study of Hawaiian language and culture.

Hawai'inuiākea, located in the ahupua'a (land division) of Waikiki, was known to

be a productive farming area, especially for kalo (taro). The traditional name of the 'auwai was Kānewai or waters of the god Kāne. Today, the Hawai'inuiākea School of Hawaiian Knowledge comprises Kawaihuelani (Hawaiian Language), Kamakūokalani (Hawaiian Studies), and Ka Papa Lo'i 'o Kāneawai (Wetland taro farming program). The building itself incorporates Hawaiian design elements, including a covered open-air space that is used as a hālau (technically school, but often used in reference to hula) and overlooks a traditional hale (house), the lo'i (terraced irrigation system used to grow kalo) and 'auwai making it an appropriate, calming, and trusted space for community members.

#### *University of Hawai'i West O'ahu*

Similarly, the second site on O'ahu, University of Hawai'i West O'ahu (UHWO), was located on a UH System campus. UHWO is the newest campus in the University of Hawai'i System and is located in a part of the island that has a high Native Hawaiian population. UHWO is Indigenous-led, with one of the first Native Hawaiian chancellors and nearly 30% of the student body identifying as Native Hawaiian. Moreover, UHWO prides itself on embodying UH's call to be a Hawaiian place of learning.

The UHWO campus is located in the ahupua'a of Honouliuli, the largest ahupua'a on O'ahu. This area was once known for its productive coastline and home to numerous fishponds. Honouliuli borders Pu'uloa (Pearl Harbor), which is prized by the U.S. military for its strategic location and over the years has brought significant development throughout this area. This development brought both water diversions and pollutants to this area. In alignment, UHWO is the fastest growing campus in the UH system and serves high numbers of Native Hawaiian and Pacific Islander students, making it a trusted space for the Native Hawaiian community.

#### *Lili'uokalani Trust's Kīpuka Kona, Kailua-Kona*

Place was also intentional for the sessions held on Hawai'i Island. Lili'uokalani Trust's Kīpuka Kona site in the ahupua'a of Keahuolū in Kailua-Kona (also called Kona) was identified as a location that the community trusted. Lili'uokalani Trust was established by Queen Lili'uokalani, who saw her people decimated by death and disease. Upon her death a trust was established for

the betterment of orphaned and destitute Hawaiian children. Since 1909, Lili'uokalani Trust has provided supportive services to Hawaiian 'ohana across the islands.

Historically, in Kailua-Kona—a unique living area because of its volcanic landscape and dry, leeward weather—villages thrived along the entire coastline of Hawai'i Island, also called Moku 'o Keawe. Villagers sometimes had several living areas within their ahupua'a, which they inhabited at varying times of the year according to seasonal farming and fishing cycles. The landscape appeared dry, but in fact many sources of water from within caves, springs, and underground streams supported the people and their crops. Keahuolū, a sacred ahupua'a in Kona, was a highly desired location because fish were abundant, the weather mild most of the year, and the ground fertile. Queen Lili'uokalani later inherited the land, which is now stewarded by Lili'uokalani Trust and served as the site of one of our sessions.

#### *Arc of Hilo, Hilo*

The Arc of Hilo, a nonprofit organization, has been providing people with disabilities support to lead productive, community-driven lives since their establishment in 1954. Hilo is located in the ahupua'a of Pi'ihonua, known for its verdant and dense forests and freshwater springs. Native practitioners often gathered forest-plant resources here, and many would travel to the upper regions of this ahupua'a to Mauna Kea to worship, gather, and be in sacred and safe spaces (Maly & Maly, 2004).

The Pi'ihonua region is located within the Wailuku and Alenaio watershed areas. Watershed areas capture rainfall and atmospheric moisture from the air and allow the water to drip slowly into underground aquifers or enter stream channels and eventually the ocean. The Wailuku watershed area measures 252.2 square miles and collects into several major streams and tributaries that are considered perennial streams, including Wailuku River. Wailuku River and its tributaries Kapehu, Waiau, and Pakaluahine flow through Lower Pi'ihonua. Like Kapolei where UHWO sits, several stream diversions exist in the Wailuku watershed area (Department of Hawaiian Home Lands, 2017).

#### *Kamehameha Schools' Laehala, Keaukaha*

Finally, in line with the reflective nature of the project, the team held a postsession re-

flection at Laehala, located in the ahupua‘a of Waiākea and currently being stewarded by Kamehameha Schools as part of a larger effort to preserve the significance of this wahi pana and wahi kupuna (storied and sacred place). Kamehameha Schools, established by Princess Pauahi upon her death, created educational opportunities to improve the capacity and well-being of Native Hawaiians.

Laehala is an important historical and cultural site that includes the ocean access that the team was able to utilize to connect with the spaces that we hoped to better understand. Historical cultural sites command mindful and respectful conduct, as they are the places that Native Hawaiian ancestors walked. The presence of the research team in this wahi required specific protocol, including oli (chant), pule (prayer), and centering mālama ‘āina (caring for the area). This near-ocean site provided a safe harbor for reflection and the beginning stages of postsession analysis.

For Hawai‘i Island sessions, in particular, it was important for the team to engage places that are rural and remote, allowing for a variety of perspectives to reflect diversity in place. Place continues to be an unequivocal focal point in the identity processes for many Indigenous communities, including Native Hawaiians (Kana‘iaupuni et al., 2021). To connect with this relationship-driven culture, the research team worked to build pilina (relations) with the places where these gatherings occurred. This reciprocal relationship can be seen in the ‘Ōlelo No‘eau (Native Hawaiian proverb) above, *He ‘āina ke ali‘i, he kanaka ke kama‘āina* or “The land is a chief; man is its servant.” This ‘Ōlelo No‘eau is a reminder of the kuleana (responsibility, privilege) we have as people to serve ‘āina, as well as the reassurance that in return, the ‘āina will care for, feed, and provide for our needs.

### Principle 3: People and Community

We is ‘āina (land). We is wai (water).  
We is all forms of kinolau (embodiment of the Gods). We is kōnaka (human). We is pō (darkness; realm of the Gods). We is huge. We is here.

—Native Hawaiian participant,  
systems mapping project

In adopting a strengths-based approach to oceans and human health, we understood

that Native Hawaiians already both knew the challenges that exist and held the solutions to improving the relationship between oceans and human health. Based on this principle, a major goal of this project was to include the community in the development of a research agenda on oceans and human health for future collaborative work. As part of the process of (re)building trust with the Native Hawaiian community, our hope was to use the systems mapping project to begin new dialogues, expand and deepen existing relationships, and gain a shared vision for future research. Therefore, the design of this research project needed to reflect the community and meet the community where they were, physically, emotionally, and spiritually.

We also understood that Native Hawaiians may be hesitant to participate not only because of a lack of trust, but also because many of our engaged community members are asked to participate in many different projects. Thus, clarity in our goals and the ability to articulate them to the community was critical. To honor participants’ time, a makana (gift) or research incentive along with a meal was provided. Moreover, to ensure that our results were useful to the community, we engaged in nonacademic dissemination, including writing op-eds and commenting on federal regulations, in addition to sharing our results back to the community for their use.

Community organizing principles were utilized to ensure that reciprocal relationship-building was prioritized. Mobilization started within known networks so those networks could, in turn, cast a more expansive ‘upena (net) to others. Making connections in this way became an effective approach to seeking active participation of willing contributors. Participants were more apt to join the conversations when they knew who was on the research team and/or who was invited to join the working sessions and research process. The community recognized who needed to be present for the session to be valuable and used the recruiting process as a way to ensure the legitimacy of the design. As a result, the research team facilitated the development of pathways for participants to engage in this research project and continue to collaboratively advocate for improvements to oceans and human health.

A critical point in the research process was the dissemination of the draft maps, which



included several rounds of virtual and in-person feedback opportunities from participating storytellers. These feedback loops facilitated timely course corrections and deepened trust with the community. They also surfaced the realities of a geographically dispersed and culturally diverse community and research team. Although never fully finalized, once these maps had received the community's review, they could be leveraged with those in positions of power and influence, including government leaders, to help identify opportunities to provide ongoing support, promote joint problem-solving, and strengthen communication with these communities.

As reflected in the previous quote from a Native Hawaiian participant, Native Hawaiians have a deep and profound interconnectedness with *‘āina* and *wai* (water), rooted in our cultural, spiritual, and traditional practices. *‘Āina* and *wai* are considered members of the *‘ohana*, and people are considered land and water masses themselves (Antonio et al., 2023; Harden, 2020). Despite ongoing acts of colonialism against our people, community, and places, the participant emphasized our resilience and resistance against seizure and alteration. This was a declaration of our ongoing presence and continued connectedness to Native Hawaiian people and community to come.

#### Principle 4: Interdisciplinary Discussions

*E ala! E ala! E kuilima! #258* (Pukui, 1983)

Up! Together! Join hands!  
(Interpretation: A call to come together to tackle a given task.)

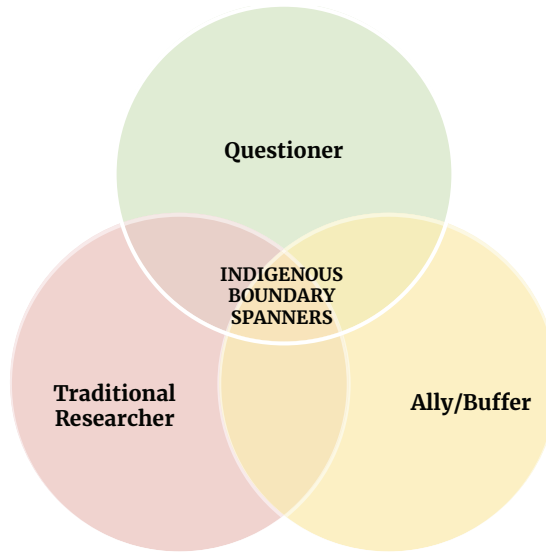
The co-PIs on this project were intentional in selecting scholars, graduate students, and community members to participate with the goal of curating an interdisciplinary team that could reach a variety of communities, including the Native Hawaiian community. This intentionality extended to the systems mapping workshops, where we grouped attendees based on any information we had on the participant, such as their industry or employer, where they lived, and whether they were Native Hawaiian. We also ensured that facilitators for these small groups were culturally and educationally aligned with the participants. For example, if a group included several scientists, we assigned a facilitator who also was a scientist. Doing

so ensured that the facilitator would be equipped to understand and facilitate the discussion. Similarly, in groups that had several Native Hawaiian cultural practitioners or advocates, we assigned a Native Hawaiian facilitator who would be able to engage with that group.

Because of the general distrust that exists between the Native Hawaiian community and researchers, we found that the larger group sessions that were facilitated by Native Hawaiian members of the research team ran more smoothly. These sessions produced results that tended to move beyond superficial sharing and reflected deeply personal stories and experiences. In fact, at one session a participant shared how, after witnessing how the session unfolded, he actively decided to be vulnerable and share fully. Not only is this one of the greatest compliments any researcher can receive, but it indicates that (re)building trust in the community can occur under the right circumstances.

Additional team members also embodied boundary spanner roles. One non-Indigenous scientist ally often adopted the role of a buffer in team meetings. This individual was able to translate values expressed by Indigenous team members into terms that other Western-trained scientists understood. Moreover, her role as a faculty member who was firmly embedded in the scientific community boosted the legitimacy of concepts that arose for team members who were still struggling with the Indigenous methods. Similarly, our lead facilitator and trainer acknowledged his role as supporter and ally in the process. Rather than impose his ideas or interpretations of the sessions, he contributed to our discussions solely via questions. Through this methodology, team members were able to reach our own intrinsic conclusions and benefit from the process of working through our experiences and biases. See Figure 3 for the roles of team members.

To honor participants' willingness to share, our research design incorporated a variety of modes of dissemination. In addition to the traditional dissemination at academic conferences and through peer-reviewed publications, we intend to develop policy briefs, comment on proposed regulations, provide testimony, and share information through editorials. Moreover, because we viewed this information as coming from the community, we provided the systems map to the public

**Figure 3. Roles of Team Members**

for their use, enabling them to modify and update as needed. Providing data ownership back to the community is an integral element in Indigenous data sovereignty. We therefore sought a community organization that could become the caretaker of the systems map, so that ownership would be transferred to the community itself.

#### **Principle 5: Institution**

*E lawe i ke a'ō a mālama, a e 'oi mau ka na'auao.* #328 (Pukui, 1983)

Take what you have learned and apply it and your wisdom will increase.

One critical space that we operated within was the academic institution where we often found ourselves trying to balance the desires of the community with risk-averse institutional rules. For example, to engage with the Native Hawaiian community, our research methodology had to be flexible, allowing us to nimbly move between different communities while still maintaining legitimacy. However, institutional review boards (IRBs) have standardized rules that are guided by a positivist understanding of research. In order to meet the institutional standards such as ensuring that participants understood the purpose of our research, what they were required to do, and any potential benefits and risks, our consent forms were quite lengthy. Additionally, we were required to write at a sixth grade reading

level to ensure that participants could understand the consent form, which made it difficult to define certain Hawaiian terms. The Native Hawaiian community, however, is more concerned with the intentions of the researcher, the relationship of the researchers with the community, and what will be done with the research findings, types of information that are not required on consent forms. We did our best to create consent forms that included information the community cared about, but the resulting forms were quite off-putting because of all the additional mandatory information and lack of 'ōlelo Hawai'i.

Other institutional rules made it difficult to host Native Hawaiian and local participants. In many Indigenous communities it is inappropriate to host someone and not feed them (Lassetter, 2011), yet institutional rules made the purchasing of food either impossible or quite arduous. Moreover, even when we were able to purchase food for participants, we were not allowed to feed our staff and volunteers, which is in contradiction to Hawaiian values. Similarly, to honor participants' time, incentives were provided; however, due to administrative challenges, we opted for an item rather than the cash or gift cards that participants prefer. The challenges associated with hosting and cultural protocols that show participants that they are valued and respected are not new. Many researchers have called for revising ethics regulations to better meet the needs of communities that they work in (Riley et al.,

2023; Steigman & Castieden, 2015). Working collaboratively with a community organization less restricted by administrative rules may be one way to help researchers fulfill such cultural expectations.

Finally, under an Indigenous research paradigm, the relationship does not end when the funding source ends, which can create challenges. Due to grantor rules and award periods, often there is little funding available for disseminating findings, especially back to the community. Because academic institutions value conference presentations, faculty can apply for a variety of funding sources supporting dissemination at academic conferences; similar sources are rarely available for community dissemination. Alternative funding sources that recognize the value of dissemination to the community are needed to support community-engaged research and (re)build trust in Indigenous communities.

Additionally, throughout our meetings we kept returning to how to define certain Hawaiian terms in English. Translations are always difficult, but because language embodies ways of knowing and Hawaiian ways of knowing are profoundly divergent from Western ways of knowing, these translations had become quite complicated. In order to ensure that our work aligned with the meanings of participant storytellers, additional follow-up conversations were needed. Again, funding timelines often do not allow for unanticipated deep exploration that may be required when translating Indigenous knowledge.

Although this project was not the first to identify and articulate these challenges, we hope that the institutions that we are part of will consider reevaluating the policies that subconsciously reinforce Western-focused approaches. Like the 'Ōlelo No'ēau cited earlier, when applying collective knowledge, we can increase our wisdom and move forward together. See the Appendix for a checklist for collaboration with Indigenous communities.

## Conclusion

As Indigenous boundary spanners, we inherently work to ensure that greater research accountability is built into the research process. However, we can perform this work only when we are included in the research process as community members or Indigenous scholars, or ideally as both. Empowering community members to har-

ness the potential of the oceans and human health systems map stands as a cornerstone of our work, particularly as Indigenous boundary spanners. Systems maps are invaluable tools for communities seeking to understand and address complex challenges, as they provide a visual representation of interconnected elements within a system and offer a holistic view of community dynamics. Including Indigenous boundary spanners will ensure that the research process aligns with Indigenous values and ultimately will result in deeper understanding of concepts while supporting the (re) building of bridges in these communities.

Continuing our research relationship within Native Hawaiian communities, we propose an advanced phase that involves conducting a comprehensive leverage analysis embedded within the dynamic systems map, coupled with an engagement initiative specifically targeting Indigenous youth. By integrating a leverage analysis within the systems map, we aim not only to understand the intricate interconnections and leverage points within the system but also to identify strategic opportunities for impactful interventions. Simultaneously, reaching out to Indigenous youth serves a dual purpose: infusing diverse perspectives into our research while fostering an inclusive research space that empowers the next generation to meaningfully contribute to solutions of these complex societal problems. This combined approach enriches our research framework and nurtures a more comprehensive, collaborative, and Indigenous-values-centered research process.

As Indigenous boundary spanners, we maintain a commitment to disseminating research results that extends beyond scholarly circles to embrace a broader audience, including community, legislators, and policymaking bodies. Engaging the community in this way ensures ongoing transparency as the research evolves, promotes trust between the research institution and Indigenous communities, and encourages active participation in the implementation of our research findings. Simultaneously, our outreach to legislators and policymakers seeks to provide evidence-based guidance and supply decision makers with the knowledge necessary to shape impactful policies that resonate with our communities and address pressing societal challenges. This multifaceted approach is an attempt to bridge the gap between research and

actionable change within Native Hawaiian communities.

Although Indigenous boundary spanners are crucial to the success of collaborative, community-based projects, the role is not often formally recognized (Hatch et al., 2023). Working with Indigenous boundary spanners may add a layer of complexity, but this investment of time, energy, and expertise

often yields results that prove more impactful and meaningful in the communities we all seek to serve. We challenge researchers to consider the impact of Indigenous boundary spanners and the critical role they play in community-engaged and community-based participatory research and to include them as resources, accordingly.



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## Institutional Review Board Statement

The Oceans and Human Health Strategic Initiative was conducted according to the guidelines of the Declaration of Helsinki and approved by the Institutional Review Board of the University of Hawai‘i Mānoa (protocol number 2021-01063 originally approved on 02 February 2022). Informed consent was obtained from all participants in the underlying study.

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## Appendix. Checklist for Collaboration with Indigenous Communities

For those who are considering doing research in collaboration with Indigenous communities, we suggest engaging in the five previously mentioned research principles in the following ways:

### **Principle 1: 'Ohana**

- Center work around 'ohana (family).

### **Principle 2: Place**

- Be intentional around where to collect data, as place and space is important.

### **Principle 3: People & Community**

- Focus on the strengths and resilience of Indigenous communities and contextualizing community problems.
- Value and practice community-engaged approaches with the goal of moving towards community-based research approaches
- Prepare to enter into the research with the cultural humility required to conduct meaningful and respectful research that supports the community, knowing that the community are the experts.
- Work with communities to seek guidance and provide reiterative feedback loops throughout the process — from design to roll-out.

### **Principle 4: Interdisciplinary Discussions**

- Build a research team that reflects varying perspectives, backgrounds, and expertise.
- Recognize the balance of power and place reciprocity at the center of evaluation design and research.
- Cultivate research team members' knowledge of community through open dialogue.

### **Principle 5: Institution**

- Support the hiring of more Indigenous researchers. This honors practices, values, and beliefs related to Indigeneity and works to provide legitimacy to the project.
- Seek Indigenous boundary spanners, as they play a critical role in ensuring equitable engagement between Indigenous communities and institutions of higher education.
- Cultivate mutual trust and understanding between Indigenous boundary spanners and within the community.
- Commit to Indigenous and decolonial research methods, including fluid storytelling.
- Challenge administrative assumptions within the institution.