

Project Title: Ka Wai Hāpai: Co-Creating Controlled Vocabularies For Social Justice

The University of Hawai'i (UH) System - represented by a cooperative of library faculty from 3 of its campuses, and collaborating with Indigenous Hawaiian communities - requests \$249,999 from the IMLS National Leadership Grant to support this proposal for a 2-year Project grant that aligns with the Community Catalysts project category. The mission of *Ka Wai Hāpai: Co-Creating Controlled Vocabularies for Social Justice* is to increase equity for, and improve the well-being of, Indigenous communities, with a specific focus on Indigenous Hawaiian communities. *Ka Wai Hāpai* strives to increase and improve intellectual access to Hawaiian collections and materials, and support Indigenous and other marginalized communities in related work. *Ka Wai Hāpai* will do this by: 1) co-creating foundational components of an Indigenous Hawaiian knowledge organization system; 2) co-creating 'Ōlelo Hawai'i (Indigenous Hawaiian language) controlled vocabularies for Hawaiian collections and materials; 3) documenting and sharing activities, outcomes, and processes throughout the life of the project.

1. Statement of National Need

Ka Wai Hāpai targets the underserved Indigenous Hawaiian communities that continue to experience the harmful effects of colonial trauma. Current dominant library systems, like the Library of Congress Subject Headings (LCSH), are based in worldviews and epistemologies that can directly oppose those of Indigenous peoples, thus perpetuating harms to these Indigenous Hawaiian communities. For example, in the LCSH, the culturally rich practice of hula - historically reserved for those who dedicated their lives to the occupation since early childhood - is reduced to the subject term "Hula (Dance)." Similarly, Hawaiian religion is often categorized as "mythology" because it does not conform to a Judeo-Christian worldview.

Though progress has been made through adding many Hawaiian place names, personal names, and subject headings to the Library of Congress Subject Headings (particularly noteworthy is the work of Ruth Horie to revise the subject heading from "revolution" to "overthrow" for the 1893 hostile overtaking of the Hawaiian Nation from Queen Lili'uokalani), there is an increasing recognition that such incremental and ad hoc improvements are inadequate in addressing the core issues with full representation and social justice for Indigenous Hawaiian communities. Quite simply, these efforts are based within a system that has a different belief system and view of reality, and whose rules are oftentimes incompatible with, or contrary to, the way that Indigenous Hawaiian knowledge is constructed, understood, and sought for.

To this end, in the last 6 years, several significant projects have identified the need for knowledge organization systems (like library catalogs) that center Indigenous Hawaiian worldviews, values, language, and ways of knowing. *Ka Wai Hāpai* Principal Investigator and Project Director Shavonn Matsuda's MLISc thesis, "Toward a Hawaiian Knowledge Organization System: A Survey on Access to Hawaiian Knowledge in Libraries and Archives" (2015), concluded that, "A Hawaiian KOS consistent with Hawaiian epistemologies is needed to ensure that Hawaiian knowledge in libraries and archives is accessible to the Hawaiian community." This need for an Indigenous Hawaiian knowledge organization system and embedded controlled vocabularies (like subject headings) was further articulated by the *E Na 'auao Pū, E Noi 'i Pū, E Noelo Pū: Research Support for Hawaiian Studies* report (2019). Three of our project team members were authors on this report, which included recommendations to "develop, implement, and manage controlled vocabularies and other descriptive and discovery tools that better represent Indigenous Hawaiian worldviews and improve access for Hawaiian Studies scholars into the future." The report also centered the importance of 'Ōlelo Hawai'i (Indigenous Hawaiian language) as "the medium in which Hawaiian knowledge is both created and perpetuated."

Responding to this need, in 2018 two of our project team members led *Lau Ā Lau Ka 'Ike: Knowledge Overflowing*, an IMLS Native Hawaiian Services Grant project that developed culturally appropriate approaches to co-creating controlled vocabularies with Indigenous Hawaiian communities. *Lau Ā Lau Ka 'Ike* found that 'Ōlelo Hawai'i controlled vocabulary terms facilitated better access to materials by Indigenous Hawaiian communities. Consequently, the workflow defined in *Lau Ā Lau Ka 'Ike*, and its accompanying

recommendations for implementation, are being applied here in *Ka Wai Hāpai*, as outlined later in section 2.2 **Project Phase Activities And Timelines**.

Moreover, *Lau Ā Lau Ka 'Ike* identified a need for an Indigenous Hawaiian cultural and technical framework to support the co-created controlled vocabulary terms. This is especially evident when attempting to apply those terms to existing cataloging standards and formats, as these standards don't recognize or support the culturally-informed relationships embedded in the vocabularies. For example, while we are able to identify the term "Hāna" (a land division on the island of Maui) as necessary to include in a controlled vocabulary of Hawai'i place names, we are unable to display - in existing standards - the relationships Hāna has to other land divisions. This disadvantages Indigenous Hawaiian communities who value, clearly understand, and engage with Hāna (and land, in general) based on genealogical and spatial relationships. Hence, *Ka Wai Hāpai* will address this need not only for controlled vocabularies, but also for the knowledge organization systems that support and structure the understandings and relationships of those vocabularies.

In addition to meeting a community need, *Ka Wai Hāpai* will address a growing national need for social justice and diversity, equity and inclusion (DEI) work within the library profession as libraries reckon with their histories of perpetuating inequalities of those they claim to serve. Over the last year, several American Library Association chapters have produced statements condemning racism, while the national council recently passed a resolution condemning white supremacy and fascism as antithetical to library work (American Library Association 2021). Statements, however, are not enough. In order to begin to repair the damage done within our organizations and institutions, librarians have to interrogate every aspect of our work, including the intellectual infrastructures and values that underpin our profession (Olson 1998). Adler (2016) asserts that libraries committed to social justice work must "actively seek ways to remedy the inequities in access to and production of knowledge through categories developed in the guise of a neutral, objective point of view."

To this end, *Ka Wai Hāpai* will build off of existing projects - like Ngā Upoko Tukutuku: Māori Subject Headings, the Homosaurus, the Brian Deer Classification, and The Mashantucket Pequot Thesaurus of American Indian Terminology Project - that appropriately represent specific groups' values, and beliefs, thus rejecting harmful past practices that subjugated these groups under monolithic systems. These projects advance the ideas that a single system cannot fit every context and that true representation requires specialized, dedicated work. These projects also demonstrate the importance of centering collaboration with the communities represented in and by these systems. Of particular note is the leadership of Indigenous language and cultural experts, alongside cataloging experts, in the Māori Subject Headings working group, led by Whina Te Whiu (a consultant on *Ka Wai Hāpai*). The general workflow and order of activities in *Ka Wai Hāpai* have been patterned after the process set forth by the Māori Subject Headings working group for creating a theoretical framework and file structures for subject heading terms.

Finally, though controlled vocabularies are the result of concerted, collaborative, and conscientious discussion (Sandy and Bossaller 2017), the complexity of the process is often not broadly visible, as the products thereof are generally confined to summary articles in peer-reviewed journals, or are siloed in institutional systems. Thus, there is also an important need for more robust examples of documented processes for engaging with Indigenous or marginalized communities to build systems and vocabularies that align with their worldviews, values, languages, and ways of knowing. Small Indigenous-serving institutions that lack the resources, or large institutions that may not know how to start this work, could use a clear example to follow. Our goal, then, is to support Indigenous and other marginalized communities in related work, through the open, transparent documentation and sharing of project activities, outcomes, and processes at all stages.

2. Project Design

2.1 VISION, MISSION, GOALS, AND OBJECTIVES

Ka Wai Hāpai means both "the carried waters" and "the pregnant waters." These two imageries form the **metaphorical frame** for this project, which seeks to carry knowledge - intergenerationally - in appropriate

containers so as to support the thriving, healthy well-being of Indigenous and other marginalized communities. To accomplish our **mission** of increasing equity for, and improving the well-being of, Indigenous communities - with a specific focus on Indigenous Hawaiian communities - the goals and objectives of *Ka Wai Hāpai* are:

Goal 1: Increase and improve intellectual access to Indigenous Hawaiian collections and materials

Objective 1: Co-create components of an Indigenous Hawaiian knowledge organization system

Objective 2: Co-create controlled vocabularies for Indigenous Hawaiian collections and materials

Goal 2: Support Indigenous and other marginalized communities in related work

Objective 3: Document and share activities, outcomes, and processes throughout the life of the project

As the **vision** and intent of this project are centered around co-creation, there is an intentional focus on community engagement across the project's life span, as well as a concerted effort towards building a community of practice around knowledge organization and social justice. Thus, *Ka Wai Hāpai* includes multiple instances of the following activities: 1) community consultations, 2) Indigenous knowledge organization roundtables, and 3) ongoing documentation and dissemination.

1) *Community consultations:* *Ka Wai Hāpai* will intentionally select 12 consultants who appropriately represent two target communities: 1) **Indigenous Hawaiian practitioners and researchers** (e.g. 'Ōlelo Hawai'i speakers, hula practitioners, Indigenous Hawaiian academics); 2) **knowledge organization practitioners** (e.g. catalogers and metadata specialists) working with Indigenous and other marginalized populations nationally and internationally. Consultants fill an essential role in meeting Objectives 1 and 2 above, sharing critical learnings and feedback and ensuring that we address the needs and experiences of their respective communities. The project team will engage the 12 consultants in 3 rounds of individual consultations, cumulatively totaling 36 community consultations over the project life span. Meetings with local consultants will take place in-person, on 3 islands, while other community consultations will take place virtually. Each community consultation will be approximately 2 hours in duration. For details about the purpose of each round of community consultations, see section **2.2 Project Phase Activities and Timelines** below. For details about the recruitment of consultants, see section **2.5 Strategic Partnerships** below.

2) *Indigenous knowledge organization roundtables:* Where community consultations provide space for in-depth conversations, the purpose of these Indigenous knowledge organization roundtables will be to provide space for broader engagement with the two target communities. In this way, these roundtables fill an essential role in meeting Objectives 1, 2, and 3 above. *Ka Wai Hāpai* will host 2 virtual roundtables - each 1 day in duration - focused on Indigenous knowledge organization work. These roundtables will spotlight 2-4 projects and/or communities engaged in Indigenous, decolonial, or critical knowledge organization work. The roundtables will also host open discussion sessions for attendees to workshop and identify barriers and supports for related work. Announcements and registration information for the roundtables will be shared on various digital communication platforms (e.g. project website, emails to professional listservs, social media). Four members of the project team have previous experience hosting public convenings around Indigenous and Pacific librarianship. At the November 2020 instance of a virtual Indigenous Hawaiian librarianship symposium organized by members of the project team, there were almost 200 attendees from across the U.S, Canada, Aotearoa New Zealand, Australia, and the United Kingdom. We anticipate attendance at the roundtables to be similar. One of our strategic partners (i.e. Nā Hawai'i 'Imi Loa) will offer promotion and logistical support for the 2 roundtables. For details about the activities for the two Indigenous knowledge organization roundtables, see section **2.2 Project Phase Activities and Timelines** below.

3) *Ongoing Documentation and Dissemination:* An important aspect of the design of *Ka Wai Hāpai* is our commitment to the open, transparent documentation and sharing of project activities, outcomes, and processes at all stages, so as to provide for accountability and support other communities undertaking similar work. To meet Objective 3 above, and to engage communities outside of the State of Hawai'i, project documentation generated across all 4 phases of *Ka Wai Hāpai* will be disseminated via several channels, including but not

limited to: project website; project blog on project website (updated monthly); emails to community and professional local, national, and international listservs; and presentations at community and professional convenings. The project team plans to present at 3 national professional convenings (e.g. the International Conference of Indigenous Archives, Libraries, and Museums and the Annual Meeting of the Association for Information Science and Technology), the audiences of which align with the target communities of *Ka Wai Hāpai*.

Note about COVID-19 preparedness: The project team plans to convene in-person for some activities, e.g. bi-yearly in-person project team meetings and local community consultations. Face-to-face, in-person communication is a core component of Indigenous Hawaiian knowledge exchange practices. However, the project team is prepared to move such activities to virtual environments if needed for health and safety reasons.

2.2 PROJECT PHASE ACTIVITIES AND TIMELINES

Applying the workflow defined by the aforementioned *Lau Ā Lau Ka 'Ike Project*, *Ka Wai Hāpai* comprises 4 phases over 2 years (August 2021-July 2023): **Phase 1: He Ui, He Nīnau** (Shaping); **Phase 2: He Waipuna** (Emerging); **Phase 3: He Wai, E Inu** (Carrying); **Phase 4: He Wai, E Mana** (Reciprocating).

Phase 1: He Ui, He Nīnau (Shaping): August 2021-May 2022, 10 months. "He Ui, He Nīnau" can be understood as "A Question, A Query." The activities and outcomes produced in this phase ultimately shape the direction of the remaining aspects of the project. By the end of this phase, the project team and target communities will co-create foundational components of an Indigenous Hawaiian knowledge organization system (**Activity 1.7**). Those foundational components include: 1) a theoretical (or metaphorical) framework for the system; 2) protocols and conventions for access to, and engagement with, the system; 3) a prioritized list of facets or fields (e.g. place / location, creator, cultural practice) to include in the system; 4) technical rules for how those facets or fields are individually and collectively structured and related (e.g. hierarchical vs. distributed associations, one-to-one vs. one-to-many relationships).

This phase begins with the first round of community consultations (**Activity 1.3** below), during which consultants will share best practices in their respective areas of expertise. Findings from the community consultations will be supplemented by research of both Indigenous Hawaiian worldviews and knowledge organization practices (**Activity 1.4** and **1.5**) via activities like an in-depth literature review and attending professional conferences. The project team will continue investigations into Indigenous Hawaiian worldviews and knowledge organization practices by hosting the first of two virtual Indigenous knowledge organization roundtables (**Activity 1.6**). The specific activities included in this phase are:

- 1.1 Convene 1st in-person project team meeting
- 1.2 Hire graduate research assistant and create project website
- 1.3 Recruit consultants and host 1st round of community consultations
- 1.4 Research Indigenous Hawaiian worldviews
- 1.5 Research Indigenous knowledge organization practices
- 1.6 Convene 1st Indigenous knowledge organization roundtable
- 1.7 Co-create knowledge organization system components
- 1.8 Convene 2nd in-person project team meeting

Phase 2: He Waipuna (Emerging): March 2022-August 2022, 6 months. "He Waipuna" can be understood as "A Spring of Water." During this phase, with foundational components of an Indigenous Hawaiian knowledge organization system having taken shape, the controlled vocabularies can start to emerge.

During the second round of community consultations (**Activity 2.1**), consultants will evaluate and test drafts of the foundational components of an Indigenous Hawaiian knowledge organization system. This review process will help to ensure that the system is both culturally and technically sound. Consultants will also help to identify the domains (e.g. subjects) for which to create controlled vocabularies to be used in the Indigenous Hawaiian

knowledge organization system. Then, through collaborative elicitation techniques used in the aforementioned *Lau Ā Lau Ka 'Ike: Knowledge Overflowing* project, consultants and the project team will co-create 100 'Ōlelo Hawai'i controlled vocabulary terms (**Activity 2.2**) and co-create templates for the accompanying bi-lingual ('Ōlelo Hawai'i + English) authority records (**Activity 2.3**). These templates will outline the required and desirable components of the authority records. The templates will also provide instructions for how to use and complete said components. After the templates are co-created, the project team will create 75 (of an eventual 100) bi-lingual ('Ōlelo Hawai'i + English) authority records (**Activity 2.4**). The specific activities included in this phase are:

- 2.1 Host 2nd round of community consultations
- 2.2 Co-create 100 'Ōlelo Hawai'i controlled vocabulary terms
- 2.3 Co-create bi-lingual templates ('Ōlelo Hawai'i + English) for authority records
- 2.4 Create 75 bi-lingual ('Ōlelo Hawai'i + English) authority records
- 2.5 Convene 3rd in-person project team meeting

Phase 3: He Wai, E Inu (Carrying): September 2022-February 2023, 6 months. "He Wai, E Inu" can be understood as "Here is Water, Come Drink." In this phase, the project team will attempt to carry, intergenerationally and in appropriate containers, Indigenous Hawaiian ways of knowing via the application of 'Ōlelo Hawai'i controlled vocabularies.

As part of a pilot test, the project team will apply the controlled vocabularies to ~25 representative items in the University of Hawai'i System's Hawaiian and Pacific Collections in various existing platforms (e.g. Ex Libris Alma, DSpace, CONTENTdm). The project team will select items for inclusion in the pilot test according to priorities set by community consultants. The purpose of this pilot test will be to evaluate the functionality and feasibility of the methods and procedures for applying the controlled vocabularies. Findings from the pilot test will help to improve the controlled vocabularies and the processes for application of them. The project team will then create 25 additional bi-lingual authority records, resulting in a total of 100 bi-lingual authority records to accompany the 100 'Ōlelo Hawai'i controlled vocabulary terms co-created in Phase 2. Finally, the project team will apply the controlled vocabulary terms to a larger scale (200) of representative items in the University of Hawai'i System's Hawaiian and Pacific Collections. Records for these items will thus be enhanced with subject terms that better align with Indigenous Hawaiian ways of knowing, which will increase and improve intellectual access to said items. The specific activities included in this phase are:

- 3.1 Pilot test application of controlled vocabulary terms
- 3.2 Create additional 25 bi-lingual authority records
- 3.3 Apply controlled vocabulary terms to 200 representative items

Phase 4: He Wai, E Mana (Reciprocating): March 2023-July 2023, 5 months. "He Wai, E Mana" can be understood as "Here is Water, Be Powerful." In this phase, the project team will aim to reciprocate the generous gifts of time and energies shared by consultants and other members of the two target communities throughout the life of the project by sharing back final project findings. Ultimately, these activities and resulting outcomes are intended to increase equity for, and improve the well-being of, the target communities.

The project team will spend most of this phase drafting recommendations for co-creation workflows and conventions for Indigenous knowledge organization systems and Indigenous language controlled vocabularies (**Activity 4.1**). After an initial synthesis of the findings from Phases 1-3, the project team will share drafts of the recommended co-creation workflows and conventions with the target communities in multiple ways. The final round of community consultations will take place, providing an opportunity for consultants to share verbal feedback about the cultural and technical rigor of the products (**Activity 4.2**). The project team will also solicit feedback from more members of the target communities via an online evaluation survey to selected community and professional email listservs (**Activity 4.3**), and via presentations and focused discussions at the second Indigenous knowledge organization roundtable (**Activity 4.4**). All of this feedback will be incorporated into

final versions of the project's reports for co-creation workflows and conventions, which will be published on the project website and deposited in the University of Hawai'i's open access digital institutional repository (**Activity 4.6**). The specific activities included in this phase are:

- 4.1 Draft recommended co-creation workflows and conventions
- 4.2 Host 3rd round of community consultations
- 4.3 Administer online evaluation survey of project outcomes
- 4.4 Convene 2nd Indigenous knowledge organization roundtable
- 4.5 Convene 4th in-person project team meeting
- 4.6 Publish recommended co-creation workflows and conventions

2.3 REQUIRED RESOURCES: KEY PERSONNEL

Shavonn Matsuda (35% time for 24 months), Principal Investigator and Project Director. Shavonn is a Librarian at the University of Hawai'i Maui College. Shavonn will lead this *Ka Wai Hāpai* project and will supervise the administrative operations to ensure the project accomplishes its goals and objectives in a timely and fiscally responsible manner.

Annemarie Paikai (30% time for 24 months), Project Team Lead - Hawaiian Language. As the Hawai'i-Pacific Resources Librarian at Leeward Community College, Annemarie will help to oversee the project budget, and will lead in the creation of 'Ōlelo Hawai'i controlled vocabularies and accompanying bi-lingual ('Ōlelo Hawai'i and English) authority records.

Keahiahi Long (30% time for 24 months, provided at no-cost to project), Project Team Lead. Keahiahi is the Librarian for the Kamakakūokalani Center for Hawaiian Studies. Keahiahi will oversee day-to-day project activities and the creation of the project website, and will manage the project's Graduate Research Assistant (GRA).

Margaret Joyce (10% time for 24 months, provided at no-cost to project), Metadata Specialist. Margaret is the Hawaiian Materials Cataloging/Metadata Librarian at the main research library at the University of Hawai'i at Mānoa, creating original records for the materials in the Hawaiian Collection. Margaret will oversee the technical functionality and viability of the Indigenous Hawaiian knowledge organization system and controlled vocabularies.

Eleanor Kleiber (10% time for 24 months, provided at no-cost to project), Evaluator. Eleanor is a Pacific Specialist Librarian at the main research library at the University of Hawai'i at Mānoa. Eleanor will oversee annual and final evaluations of project activities and will be the primary liaison with UH Mānoa's Hamilton Library departments (e.g. Office of the University Librarian, Hawaiian and Pacific Collections, Systems Department, and Cataloging Department).

2.4 REQUIRED RESOURCES: FUNDING SUMMARY

In total, we are requesting \$249,999 in funding support from this IMLS grant program, including: \$95,450 for salary and wages; \$49,618 for fringe benefits; \$31,687 for inter-island and conference travel; \$5,687 for project website, research and training materials, and meeting and other supplies; \$3,290 for a Digital Communication Specialist to help design and develop website and effective communication tools; \$22,600 for community consultations and Indigenous knowledge organization roundtables; and \$41,667 for indirect costs.

2.5 STRATEGIC PARTNERSHIPS

The project will be well-supported by strategic partnerships with both institutional organizations and community stakeholders. Each partner strategically supports specific aspects of the project design so that we are able to leverage intellectual, human, and financial resources towards the successful achievement of our goals and objectives. The institutional organizations will provide structural support for the creation, maintenance, and

long-term sustainability of the Indigenous Hawaiian knowledge organization system and controlled vocabularies. Community stakeholders will provide cultural and technical expertise, and will ensure that the project appropriately represents and responds to the needs of the target communities.

Institutional groups include the University of Hawai'i's Hamilton Library and Kamakakūokalani Center for Hawaiian Studies, and Nā Hawai'i 'Imi Loa. Hamilton Library, the main research library at the University of Hawai'i, will provide assigned work time for two key project personnel at no cost to the project. Hamilton Library will also provide technical support from its Cataloging Department and Systems Department, as well as access to its Hawaiian and Pacific Collections.

The Kamakakūokalani Center for Hawaiian Studies at the University of Hawai'i is one of four departments that make up the Hawai'i inuiākea School of Hawaiian Knowledge, which is the only college of Indigenous knowledge in a Research I institution in the United States. Kamakakūokalani will provide assigned time for one of the key project personnel, as well as a Graduate Research Assistant, at no cost to the project.

Nā Hawai'i 'Imi Loa, the Native Hawaiian Library Association, is a professional association dedicated to advancing Hawaiian librarianship. Nā Hawai'i 'Imi Loa is deeply connected to Indigenous library networks around the world, having partnered with leaders from the United States, Canada, and Aotearoa New Zealand on a number of projects. Nā Hawai'i 'Imi Loa will provide promotion and logistical support for the 2 Indigenous knowledge organization roundtables. Nā Hawai'i 'Imi Loa will also provide general communication support by sharing project activities on its existing electronic communication channels (e.g. electronic newsletters and social media accounts) and by committing to the long-term maintenance of the project website beyond the close of the project.

Community stakeholders come from the two target communities mentioned earlier: 1) Indigenous Hawaiian practitioners and researchers; 2) knowledge organization practitioners. These two target communities are represented by the 12 consultants on this project. Criteria for consultants representing Indigenous Hawaiian practitioners and researchers includes expert knowledge of Indigenous Hawaiian practices and ways of knowing, particularly in the areas of: 'Ōlelo Hawai'i; land and natural resource management; genealogy; politics, law, and nation building; creative expression (e.g. hula and song). At this time, 5 Indigenous Hawaiian practitioners and researchers have committed to serving as consultants on *Ka Wai Hāpai*: Kumu Hula Maelia Loebenstein Carter (Ka Pā Hula O Kauanoē O Wa'ahila), Professor and Dean of Arts and Sciences Kahele Dukelow (University of Hawai'i Maui College), Associate Professor Kekoa Harman (University of Hawai'i at Hilo), Ka Hikina O Ka Lā Director Dr. Hōkūlani Holt-Padilla (University of Hawai'i Maui College), and Dr. Kalei Nu'uhiwa.

Criteria for consultants representing knowledge organization practitioners includes significant previous work in the research and development of knowledge organization systems and/or controlled vocabularies for Indigenous and/or marginalized communities. At this time, 3 knowledge organization practitioners have committed to serving as consultants on *Ka Wai Hāpai*: Metadata Strategies Head Sharon Farnel (University of Alberta), Assistant Teaching Professor Dr. Sandra Littletree (University of Washington), and Whina Te Whiu (Former Project Manager for the Māori Subject Headings working group).

Having established relationships with the two aforementioned target communities, key project personnel have generated a preliminary list of experts who could serve as the remaining consultants. Recruitment for consultants will be done at the start of the project.

2.6 INDICATORS OF SUCCESS

Goal 1: Increase and improve intellectual access to Indigenous Hawaiian collections and materials
<i>Objective 1: Co-create components of an Indigenous Hawaiian knowledge organization system</i>

Indicator of success	Data	Data Source	Data Collection Frequency
1) Culturally and technically rigorous foundational components of an Indigenous Hawaiian knowledge organization system	1) Feedback noting that components are both culturally appropriate and technically viable	1) Documentation from community consultations 2) Responses to post-event evaluation surveys of Indigenous knowledge organization roundtables 3) Responses to online survey of recommended co-creation workflows and conventions administered in Phase 4	1) Three times total (community consultations documentation) 2) Two times total (Roundtable event surveys) 3) Once (in Phase 4) (online survey responses)

Objective 2: Co-create controlled vocabularies for Hawaiian collections and materials

Indicator of success	Data	Data Source	Data Collection Frequency
1) 100 culturally and technically rigorous controlled vocabularies (including 'Ōlelo Hawai'i terms and their bi-lingual authority records)	1) Feedback noting that controlled vocabularies are both culturally appropriate and technically viable 2) 200 enhanced records for items in University of Hawai'i collections	1) Documentation from community consultations 2) Responses to post-event evaluation surveys of Indigenous knowledge organization roundtables 3) Responses to online survey of recommended co-creation workflows and conventions administered in Phase 4 4) Edit histories for records in University of Hawai'i catalog	1) Three times total (community consultations documentation) 2) Two times total (Roundtable event surveys) 3) Once (in Phase 4) (online survey responses) 4) Monthly during Phase 2 and Phase 3 (edit histories)

Goal 2: Support Indigenous and other marginalized communities in related work

Objective 3: Widely share project documentation, workflows, outcomes throughout the entire project

Indicator of success	Data	Data Source	Data Collection Frequency
1) Increased engagement over life of project with stakeholders from Indigenous and other marginalized communities involved in related work	1) Engagements on website 2) Engagements on social media 3) Engagements from listserv emails	1) Website traffic analytics 2) Social media analytics 3) Email management tool analytics 4) Responses to post-event evaluation surveys of Indigenous knowledge organization roundtables	1) Monthly (website traffic, social media, and email analytics) 2) Two times total (comments received at roundtables)

3. Diversity Plan

The design, implementation, and intended impact of *Ka Wai Hāpai* is powerfully, unreservedly Indigenous and, uniquely, Hawaiian. At the core of *Ka Wai Hāpai* is the co-creation of foundational components of an Indigenous Hawaiian knowledge organization system in ‘Ōlelo Hawai‘i. In order to increase equity for, and improve the well-being of, underserved Indigenous Hawaiian communities, this project design prioritizes direct and sustained collaboration thereto and centers Indigenous Hawaiian worldviews, values, languages, and ways of knowing. This community will be represented by project consultants, who will be consistently engaged at each phase of the project, ensuring that the unique needs and experiences of Indigenous Hawaiian communities are appropriately addressed. Additionally, the project will intentionally engage other Indigenous and marginalized communities via selection of knowledge organization consultants (from the U.S., Canada, and the Pacific), the Indigenous knowledge organization roundtables, and ongoing documentation and dissemination. Both the processes and outcomes of *Ka Wai Hāpai* are a shared commitment and responsibility with these communities, aligning *Ka Wai Hāpai* with IMLS' stated interest "to maximize its public value" with a "focus on underserved populations." Furthermore, the project team itself models collaboration between Indigenous leadership and non-Indigenous allies. Collectively, the team represents a diversity of interests, experience, skill sets, and personal and professional networks. Some of us serve primarily undergraduate and community college students, while others focus on graduate and faculty level research support. The team also has a range of statuses within our academic institution and this project is an opportunity for those with tenure/higher rank to intentionally use their academic status to support colleagues not yet tenured/promoted.

4. National Impact

4.1 SYSTEMIC CHANGE AT COMMUNITY AND NATIONAL LEVELS

Ka Wai Hāpai at once directly empowers Indigenous Hawaiian communities and informs national discussions about social justice within the library profession. This project will further our field's commitment to "invest in policies and partnerships that address barriers to accessing museum and library collections, programs, and information" (Institute of Museum and Library Services 2018). Co-creating foundational components of an Indigenous Hawaiian knowledge organization system and controlled vocabularies that center Indigenous Hawaiian worldviews, values, language, and ways of knowing are efforts to reduce harmful systemic practices and increase access to library collections for this historically underserved population. Ultimately, *Ka Wai Hāpai* has been designed so as to increase equity for, and improve the well-being of, Indigenous Hawaiian communities. Thinking more broadly, other Indigenous and marginalized communities could also benefit from this work, as *Ka Wai Hāpai* will illustrate how underserved communities can participate in knowledge organization practices and assert their identities and worldviews in transforming the management of materials representing, and created by, them.

By modeling ethical and just co-creation practices, this project also strives to serve as a catalyst for furthering systemic change within our profession as relates to social justice work. This project will fill an important gap in current professional practice, as there exists an acute lack of documentation about processes and workflows for co-creating Indigenous knowledge organization systems and controlled vocabularies. The recommended workflows and conventions of *Ka Wai Hāpai* could serve as examples for other institutions to rethink their habits for how they organize, describe, and provide access to their library collection, especially for underserved populations that are represented in their collections. *Ka Wai Hāpai* will significantly add to the growing national expectation that all libraries engage in the work of intentional inclusivity.

4.2 ADAPTABILITY

Ka Wai Hāpai will formally solicit feedback from several audiences beyond the target communities. Other communities and stakeholders engaging in similar work will be invited to review the project's processes and

outcomes at multiple instances throughout the project, i.e. at the two Indigenous knowledge organization roundtables and via the online evaluation survey of recommended co-creation workflows and conventions administered in Phase 4. Additionally, *Ka Wai Hāpai* has already secured, and will continue to recruit, consultants who represent Indigenous communities beyond Hawai'i. In deep ways, then, the project will respond to the values and beliefs of these communities. These feedback loops are built into the project design to ensure that diverse perspectives are incorporated in the development of project deliverables.

4.3 DISSEMINATION TO TARGET COMMUNITIES

The design of *Ka Wai Hāpai* features a deep commitment to the open, transparent documentation and sharing of project activities, outcomes, and processes at all stages. Appropriately, Goal 2 of *Ka Wai Hāpai* is to "Support Indigenous and other marginalized communities in related work," and Objective 3 is to "Widely share project documentation, workflows, outcomes throughout the entire project." We achieve this, primarily, through the three engagement strategies discussed above in section 2. **Project Design:** 1) community consultations, 2) Indigenous knowledge organization roundtables, and 3) ongoing documentation and dissemination.

The community consultations will be structured to ensure that *co*-creation with Indigenous Hawaiian communities of project workflows and outcomes includes a heavy emphasis on *co*, hence the inclusion of three rounds of consultations during the period of performance. The two Indigenous knowledge organization roundtables will specifically target an audience that will leverage both the project team's and the consultants' established networks as relate to the two target communities. Finally, ongoing documentation and dissemination of project workflows, outcomes, and findings will be actualized via the project website (for which we will hire a digital communication specialist to design and develop), the project blog (updated monthly), and presentations at professional convenings (e.g. the International Conference of Indigenous Archives, Libraries, and Museums and the Annual Meeting of the Association for Information Science and Technology, the audiences of which align with the target communities of *Ka Wai Hāpai*). At the conclusion of *Ka Wai Hāpai*, all project outcomes (e.g. foundational components of an Indigenous Hawaiian knowledge organization system, controlled vocabulary terms, bi-lingual (‘Ōlelo Hawai‘i and English) authority record templates, workflows) will be publicly available on the project website, and final project reports will be deposited on the University of Hawai‘i's open access digital institutional repository.

4.4 SUSTAINABILITY

The purpose and outcomes of *Ka Wai Hāpai* align with the University of Hawai‘i's commitment to be the world's leading Indigenous-serving institution. In this vein, our strategic partner, Hamilton Library, strives to be a Hawaiian Place of Learning. At the completion of the project, Hamilton Library commits to sustaining and building on the project goals, and working with librarians in the University of Hawai‘i System to build the project's recommended workflows and vocabulary terms into their collective work. Because Hamilton Library has one of the largest collections of Indigenous Hawaiian material in the world, this project has the potential to be truly transformative in how Indigenous Hawaiian communities and others think about, discover, and use its collections. Hamilton Library's Cataloging Department does the majority of the original cataloging within the UH system and their descriptive records are used by libraries throughout the U.S. and the world. Hamilton Library's Systems Department serves the library information technology needs of all UH Libraries, and will be a critical partner for later projects that focus on building the infrastructure to host the Indigenous Hawaiian knowledge organization system. Other strategic partners, the Kamakakūokalani Center for Hawaiian Studies and Nā Hawai‘i ‘Imi Loa - as institutions representing Indigenous Hawaiian communities - will provide ongoing, sustained engagement with, and accountability to, these communities, ensuring that the systems created are just, supported, and appropriate. Specifically, the Kamakakūokalani Center for Hawaiian Studies will apply the controlled vocabularies created during *Ka Wai Hāpai* to its collections, while Nā Hawai‘i ‘Imi Loa will maintain the *Ka Wai Hāpai* project website in perpetuity, as appropriate to the needs of the target communities.

University of Hawai'i System
Ka Wai Hāpai: Co-Creating Controlled Vocabularies for Social Justice
Schedule of Completion

		2021					2022						2023												
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Phase 1: He Ui, He Nīnau		Shaping																							
1.1	Convene 1st in-person project team meeting																								
1.2	Hire GRA, create project website																								
1.3	Recruit consultants and host 1st round of community consultations																								
1.4	Research Indigenous Hawaiian worldviews and epistemologies																								
1.5	Research Indigenous knowledge organization practices																								
1.6	Convene 1st Indigenous knowledge organization roundtable																								
1.7	Co-create knowledge organization system components																								
1.8	Convene 2nd in-person project team meeting																								
Phase 2: He Waipuna							Emerging																		
2.1	Host 2nd round of community consultations																								
2.2	Co-create 100 'Ōlelo Hawai'i controlled vocabulary terms																								
2.3	Co-create 'Ōlelo Hawai'i + English templates for authority records																								
2.4	Create 75 bi-lingual ('Ōlelo Hawai'i + English) authority records																								
2.5	Convene 3rd in-person project team meeting																								
Phase 3: He Wai, E Inu													Carrying												
3.1	Pilot test application of controlled vocabulary terms																								
3.2	Create additional 25 bi-lingual authority records																								
3.3	Apply controlled vocabulary terms to 200 representative items																								
Phase 4: He Wai, E Mana													Reciprocating												
4.1	Draft recommended co-creation workflows and conventions																								
4.2	Host 3rd round of community consultations																								
4.3	Solicit feedback from more members of target communities																								
4.4	Convene 2nd Indigenous knowledge organization roundtable																								
4.5	Convene 4th in-person project team meeting																								
4.6	Publish recommended co-creation workflows and conventions																								
Ongoing																									
5.1	Create monthly blog posts documenting project activities																								
5.2	Presentations at professional convenings																								
Year 1												Year 2													



DIGITAL PRODUCT FORM

INTRODUCTION

The Institute of Museum and Library Services (IMLS) is committed to expanding public access to digital products that are created using federal funds. This includes (1) digitized and born-digital content, resources, or assets; (2) software; and (3) research data (see below for more specific examples). Excluded are preliminary analyses, drafts of papers, plans for future research, peer-review assessments, and communications with colleagues.

The digital products you create with IMLS funding require effective stewardship to protect and enhance their value, and they should be freely and readily available for use and reuse by libraries, archives, museums, and the public. Because technology is dynamic and because we do not want to inhibit innovation, we do not want to prescribe set standards and practices that could become quickly outdated. Instead, we ask that you answer questions that address specific aspects of creating and managing digital products. Like all components of your IMLS application, your answers will be used by IMLS staff and by expert peer reviewers to evaluate your application, and they will be important in determining whether your project will be funded.

INSTRUCTIONS

If you propose to create digital products in the course of your IMLS-funded project, you must first provide answers to the questions in **SECTION I: INTELLECTUAL PROPERTY RIGHTS AND PERMISSIONS**. Then consider which of the following types of digital products you will create in your project, and complete each section of the form that is applicable.

SECTION II: DIGITAL CONTENT, RESOURCES, OR ASSETS

Complete this section if your project will create digital content, resources, or assets. These include both digitized and born-digital products created by individuals, project teams, or through community gatherings during your project. Examples include, but are not limited to, still images, audio files, moving images, microfilm, object inventories, object catalogs, artworks, books, posters, curricula, field books, maps, notebooks, scientific labels, metadata schema, charts, tables, drawings, workflows, and teacher toolkits. Your project may involve making these materials available through public or access-controlled websites, kiosks, or live or recorded programs.

SECTION III: SOFTWARE

Complete this section if your project will create software, including any source code, algorithms, applications, and digital tools plus the accompanying documentation created by you during your project.

SECTION IV: RESEARCH DATA

Complete this section if your project will create research data, including recorded factual information and supporting documentation, commonly accepted as relevant to validating research findings and to supporting scholarly publications.

SECTION I: INTELLECTUAL PROPERTY RIGHTS AND PERMISSIONS

A.1 We expect applicants seeking federal funds for developing or creating digital products to release these files under open-source licenses to maximize access and promote reuse. What will be the intellectual property status of the digital products (i.e., digital content, resources, or assets; software; research data) you intend to create? What ownership rights will your organization assert over the files you intend to create, and what conditions will you impose on their access and use? Who will hold the copyright(s)? Explain and justify your licensing selections. Identify and explain the license under which you will release the files (e.g., a non-restrictive license such as BSD, GNU, MIT, Creative Commons licenses; RightsStatements.org statements). Explain and justify any prohibitive terms or conditions of use or access, and detail how you will notify potential users about relevant terms and conditions.

The goals of the project are to create foundational components of an Indigenous Hawaiian knowledge organization system (e.g. theoretical / metaphorical framework, facets, controlled vocabulary terms). We also aim to document this process. Documentation including reports, frameworks, models, guidelines, and updates will be open under a Creative Commons license and available online.

A.2 What ownership rights will your organization assert over the new digital products and what conditions will you impose on access and use? Explain and justify any terms of access and conditions of use and detail how you will notify potential users about relevant terms or conditions.

We will not assert any ownership rights of digital products created. Our goal is to be transparent in our process, and we intend for our digital content to be freely available to others who wish to pursue related work.

A.3 If you will create any products that may involve privacy concerns, require obtaining permissions or rights, or raise any cultural sensitivities, describe the issues and how you plan to address them.

We are aware that some of the discussions we will have with our consultants may involve culturally sensitive matters. We will abide by their wishes as to how much of their contribution they feel comfortable sharing openly and in what format e.g videos, photos, transcripts or abstracts. We will not put information our consultants do not want shared outside of these discussions in our content, so that we may respect their wishes, while providing the most free use of our resources. By foregrounding the discussion of sensitivities, our resulting documentation will be freely available.

SECTION II: DIGITAL CONTENT, RESOURCES, OR ASSETS

A.1 Describe the digital content, resources, or assets you will create or collect, the quantities of each type, and the format(s) you will use.

We will create a project website that will host a publicly-available blog, which will provide updates on the process and progress of our project. In the later phases of the project we will update the website, detailing the framework, terms, and authorities that we have created, their relationships, and how we have applied them to our test collection. In the final phase of the project we will create guidelines and reflections that will also be shared on the website. Any public presentations on the project given by team members will also be included on the website.

A.2 List the equipment, software, and supplies that you will use to create the digital content, resources, or assets, or the name of the service provider that will perform the work.

Our project website (and web pages, images, blogs, controlled vocabulary terms, and downloadable files therein) will be hosted on the Weebly website hosting platform. Our project website will be connected to the Na Hawaii Imi Loa (NHIL) website (www.nahawaiiimiloa.com). NHIL is a non-profit professional association dedicated to advancing Hawaiian librarianship. NHIL has committed to hosting our project website beyond the end of the project. Content will be created by project team members in collaboration with our consultant community. The University of Hawaii at Manoa Systems Department has committed to providing technical support or this process.

A.3 List all the digital file formats (e.g., XML, TIFF, MPEG, OBJ, DOC, PDF) you plan to use. If digitizing content, describe the quality standards (e.g., resolution, sampling rate, pixel dimensions) you will use for the files you will create.

Our website will be in HTML format with downloadable PDFs of project documentation. Controlled vocabulary terms hosted on the website will also be available for download, collectively, in CSV and XLSX files. The blog content may include photos and videos in TIFF, JPEG, and MPEG formats. This will be original content created by the project team in collaboration with our consultants. No existing content will be digitized.

Workflow and Asset Maintenance/Preservation

B.1 Describe your quality control plan. How will you monitor and evaluate your workflow and products?

Under the supervision of the Project Director, the project team members will collaboratively review content before making it available via the website and the blog. For the stand-alone PDF, CSV, and XLSX documents created, the Project Director and project team will extensively review material before publishing it in its final form.

B.2 Describe your plan for preserving and maintaining digital assets during and after the award period. Your plan should address storage systems, shared repositories, technical documentation, migration planning, and commitment of organizational funding for these purposes. Please note: You may charge the federal award before closeout for the costs of publication or sharing of research results if the costs are not incurred during the period of performance of the federal award (see 2 C.F.R. § 200.461).

The blog and website will be preserved and maintained on the Weebly platform by our strategic partner, Na Hawaii Imi Loa. Copies of downloadable files (e.g. project documentation available as standalone PDF, CSV, and XLSX files) will also be preserved in the University of Hawaii's institutional digital repository, which will ensure continued access.

Metadata

C.1 Describe how you will produce any and all technical, descriptive, administrative, or preservation metadata or linked data. Specify which standards or data models you will use for the metadata structure (e.g., RDF, BIBFRAME, Dublin Core, Encoded Archival Description, PBCore, PREMIS) and metadata content (e.g., thesauri).

Metadata will be embedded on the website/blog for access and discovery according to standards set early in the project. Standalone documents produced will be added to the institutional repository within a Dublin core metadata structure using FAST and LCSH subjects for description. Administrative and preservation metadata will be created through ingest. Metadata on both these platforms will be designed to provide context on our overarching goal of a community-centered knowledge organization system.

C.2 Explain your strategy for preserving and maintaining metadata created or collected during and after the award period of performance.

Metadata will be preserved through the continued preservation of the project website by our strategic partner, Na Hawaii Imi Loa, and contribution to the University of Hawaii's institutional digital repository as indicated in B2.

C.3 Explain what metadata sharing and/or other strategies you will use to facilitate widespread discovery and use of the digital content, resources, or assets created during your project (e.g., an API [Application Programming Interface], contributions to a digital platform, or other ways you might enable batch queries and retrieval of metadata).

Discovery and use of our content will be promoted through our freely searchable website and documentation both on the project website and in the institutional digital repository. This will supplement the community engagement and outreach efforts of the project which will alert members of our target communities of our efforts.

Access and Use

D.1 Describe how you will make the digital content, resources, or assets available to the public. Include details such as the delivery strategy (e.g., openly available online, available to specified audiences) and underlying hardware/software platforms and infrastructure (e.g., specific digital repository software or leased services, accessibility via standard web browsers, requirements for special software tools in order to use the content, delivery enabled by IIIF specifications).

Our content (including blog posts, frameworks, visualizations / models, authority records and terms) will be openly available online via standard web browsers. Anyone with interest in Hawaiian knowledge or knowledge organization with access to the internet will be able to access it. Final project documents will also be available on the University of Hawaii's open access institutional digital repository.

D.2. Provide the name(s) and URL(s) (Universal Resource Locator), DOI (Digital Object Identifier), or other persistent identifier for any examples of previous digital content, resources, or assets your organization has created.

Materials created for this project will be hosted on the project website, which will be created once project activities have begun. The University of Hawaii's open access digital institutional repository - which will host final project products - can be found at <https://scholarspace.manoa.hawaii.edu/>.

SECTION III: SOFTWARE

General Information

A.1 Describe the software you intend to create, including a summary of the major functions it will perform and the intended primary audience(s) it will serve.

N/A

A.2 List other existing software that wholly or partially performs the same or similar functions, and explain how the software you intend to create is different, and justify why those differences are significant and necessary.

N/A

Technical Information

B.1 List the programming languages, platforms, frameworks, software, or other applications you will use to create your software and explain why you chose them.

N/A

B.2 Describe how the software you intend to create will extend or interoperate with relevant existing software.

N/A

B.3 Describe any underlying additional software or system dependencies necessary to run the software you intend to create.

N/A

B.4 Describe the processes you will use for development, documentation, and for maintaining and updating documentation for users of the software.

N/A

B.5 Provide the name(s), URL(s), and/or code repository locations for examples of any previous software your organization has created.

N/A

Access and Use

C.1 Describe how you will make the software and source code available to the public and/or its intended users.

N/A

C.2 Identify where you will deposit the source code for the software you intend to develop:

Name of publicly accessible source code repository:

N/A

URL:

N/A

SECTION IV: RESEARCH DATA

As part of the federal government's commitment to increase access to federally funded research data, Section IV represents the Data Management Plan (DMP) for research proposals and should reflect data management, dissemination, and preservation best practices in the applicant's area of research appropriate to the data that the project will generate.

A.1 Identify the type(s) of data you plan to collect or generate, and the purpose or intended use(s) to which you expect them to be put. Describe the method(s) you will use, the proposed scope and scale, and the approximate dates or intervals at which you will collect or generate data.

N/A

A.2 Does the proposed data collection or research activity require approval by any internal review panel or institutional review board (IRB)? If so, has the proposed research activity been approved? If not, what is your plan for securing approval?

N/A

A.3 Will you collect any sensitive information? This may include personally identifiable information (PII), confidential information (e.g., trade secrets), or proprietary information. If so, detail the specific steps you will take to protect the information while you prepare it for public release (e.g., anonymizing individual identifiers, data aggregation). If the data will not be released publicly, explain why the data cannot be shared due to the protection of privacy, confidentiality, security, intellectual property, and other rights or requirements.

N/A

A.4 What technical (hardware and/or software) requirements or dependencies would be necessary for understanding retrieving, displaying, processing, or otherwise reusing the data?

N/A

A.5 What documentation (e.g., consent agreements, data documentation, codebooks, metadata, and analytical and procedural information) will you capture or create along with the data? Where will the documentation be stored and in what format(s)? How will you permanently associate and manage the documentation with the data it describes to enable future reuse?

N/A

A.6 What is your plan for managing, disseminating, and preserving data after the completion of the award-funded project?

N/A

A.7 Identify where you will deposit the data:

Name of repository:

N/A

URL:

N/A

A.8 When and how frequently will you review this data management plan? How will the implementation be monitored?

N/A