

KUA–LAKO–MO‘O: a methodology for exploring Indigenous conceptualisations of nature and conservation in Hawai‘i

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Abstract. Biocultural conservation is an approach to conservation that wields the relationships between a culture and the natural world to strengthen conservation efforts. Hawaiian biocultural frameworks are complex but can be initially explored by a methodological approach that we term KUA–LAKO–MO‘O, which links native species and ecosystems to (1) the pantheon of Oceanian deities, to which all elements of the environment are associated, (2) the rich biocultural applications (i.e. material culture) that emerged from centuries of life in the islands, and (3) the oral histories that weave knowledge of biodiversity and ecosystem function into everyday life, ethics, and sustainable existence. This methodology can be applied to primary *kānaka ‘ōiwi* (Native Hawaiian) sources held within the world’s largest printed archive of an oceanic Indigenous culture. The results of such an approach can reveal conceptualisations of, and relationships to, nature held within an Indigenous culture. The ongoing revitalisation of the intellectual, philosophical, ethical, and spiritual perspectives of *kānaka ‘ōiwi* in the course of the contemporary Hawaiian Renaissance can inform biocultural conservation efforts and transform conservation biology in Hawai‘i by embracing a biocultural approach and putting humanity and nature back on a path of coprosperity. This methodology could be applied anywhere people have forged deep, long-standing relationships with their environments for similar results.

Keywords: biodiversity conservation, conservation tools, environmental management, environmental sustainability, ethnobotany, Hawaii, human impact, Indigenous communities.

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Introduction

Conservation, as a discipline of practice, has been devoted to the prevention of loss of natural resources in the face of actual and potential direct and indirect impacts of certain human actions. It requires the recognition of valued resources at risk, study of the factors involved that threaten the viability and long-term persistence of those resources, and actions taken to minimise threats and enhance viability (e.g. [CMP 2020](#)). However, much can be learned from the approaches to conservation within the context of Indigenous resource management – particularly in island systems with limited resources – that have maintained native habitats and biodiversity as a part of the core functions of Indigenous social–ecological systems ([Winter et al. 2018a, 2020a](#)). During the second half of the 20th century, when it was recognised that the needs of expanding human populations (e.g. urbanisation and increasingly extractive practices) was increasingly destroying natural areas along with the biological diversity associated with those places, the primary tool of

conservation was protected area designations, where human activities would be curtailed so that sensitive natural areas and populations could persist. This approach was exclusionary by design, with the explicit goal of preventing human presence and impacts; the end results of such approaches often fall short of overall conservation goals ([Laurance et al. 2012](#)).

Biocultural conservation recognises that there are complex relationships between people and biodiversity, and that not all interactions with people are negative and undesirable (e.g. [Winter et al. 2018a](#)). Where such relationships are in place, and arguably sustainable for both people and biodiversity, biocultural conservation seeks to include human presence and activities, sustaining these dynamic and interdependent social–ecological systems. Maintaining these long-standing human–nature interrelationships, often spanning centuries, is becoming more commonly viewed as a conservation strategy to enhance biodiversity protection, and as a model for more sustainable human presence at a global scale (e.g. [Berkes 2018](#); [Leoni et al. 2018](#); [Winter et al. 2020c](#)).

This approach represents a transformation within conservation via inclusion of Indigenous perspectives that have lain largely dormant until recently.

Moreover, a rapprochement between conventional and Indigenous knowledge systems towards a coproduction of knowledge and models of comanagement of resources is gaining ground as a way to preserve both biological and cultural diversity in the world (e.g. see Winter *et al.* 2020b). Through history, there have been various levels of this kind of knowledge interaction, though a colonising hegemony in economics and politics has tended to peripheralise and relegate the value of Indigenous and local knowledge frameworks (Soh 2019).

The best-known intersection of conventional science-based approaches with Indigenous knowledge is the discipline of ethnobiology – the exploration of uses of plants and animals in a particular cultural context. The best-known subdiscipline of ethnobiology is ethnobotany, which focuses on examining relationships between people and plants with applications for solving problems in the realms of conservation and sustainability (e.g. Prance *et al.* 2007). We owe much of our current richness of crop diversity, dyes, spices, fibres and medicines to historical ethnobotanical explorations. Because of the colonial history of commodification of nature, such disciplines as ethnopharmacology remain extremely active today, and have been a mainstay among the value-based arguments for conservation of nature, pointing at medical treatments derived from obscure or rare species from localities outside of mainstream civilisation.

During the ‘Age of Exploration’ (e.g. Smith 1992) cultural use of biota by Indigenous and local cultures was most often documented as ‘Material Culture’, the physical artifacts of a particular region’s people, overlapping those artifacts derived from living species (e.g. plants used for fibre, wood, dyes, etc.) alongside, or in combination with, those derived from abiotic materials, such as stone, metal, and minerals. Related to, but generally held separate from, ethnobiology has been epistemological explorations in the realm of comparative anthropology; documenting the cosmogony and worldview aspects of human connections with nature via oral and written histories. It has been argued of any culture that its conception of the creation and nature of the universe defines the relationships that people forge with the elements of the world around them, and that there are many themes held in common among regional and global epistemologies (e.g. Beckwith 1951; Sturtevant 1978; Leoni *et al.* 2018).

While low population sizes have been suggested as the main factor for the sustainability of Indigenous societies (e.g. Garnett *et al.* 2018), Hawai‘i’s small size juxtaposed with its ecological richness and its history of sustaining a large human population in the context of Indigenous resource management (Ladefoged *et al.* 2009; Gon *et al.* 2018; Kurashima *et al.* 2019) offers great potential to gain an understanding about the links between biological and cultural diversity, and how a cultivation of those connections contributes to the development of a complex human society that can sustain a thriving human population. Thus, Hawai‘i stands as an exemplar for the exploration of perspectives about biocultural conservation (Gon *et al.* 2018). The Hawaiian archipelago and the Indigenous social–ecological system that developed therein, therefore, can be viewed as a microcosm of the world, and a potential model for global sustainability, if key perspectives of Hawaiian biocultural

frameworks, such as intimate reciprocal relationships between people and their living environment, are embraced more widely (Gon and Winter 2019; Winter *et al.* 2020a).

Exploring biocultural frameworks in Hawai‘i becomes the focus of this paper: How can a non-Indigenous researcher or conservation practitioner better understand a Hawaiian biocultural approach and the cultural connections that developed in Hawai‘i between people and environment? What methodological approach can facilitate the exploration of Hawaiian biocultural relationships?

Methodological Approach

We approach the study of these cultural connections through the lens of three major Indigenous (Native Hawaiian) themes, that we express in the shorthand *KUA*, *LAKO*, and *MO‘O*. In our treatment, we use these three Hawaiian words:

- (1) *KUA* – the traditional contraction of *akua*, the Hawaiian word for deity or spiritual being
- (2) *LAKO* – the Hawaiian word for enrichment or provision; prosperity
- (3) *MO‘O* – the base meme denoting a succession, e.g. *mo‘okū‘auhau* (a genealogical lineage), *mo‘olelo* (a story line), or *mo‘omeheu* (continuity of practice through generations)

Together, the three reflect our advocacy for building foundations of biocultural competency by placing information gleaned from Hawaiian language sources into a framework that allows for (1) an epistemological exploration of how, from ancient times, the deities of the Hawaiian pantheon were associated with specific plants and animals, (2) a fuller appreciation of the material expressions of culture derived from native Hawaiian species, and (3) exploring the foundational nature of native species in Hawaiian philosophy, knowledge, values, and ethics. These three elements of exploration are not mutually exclusive, but exploring each individually can offer very specific insights on the values of native biodiversity and ecosystems from a social–ecological context that supports a strong and ongoing relationship between people and the living elements of their places, and how doing so in an emergent fashion can revive an environmental ethic and philosophy of sustainability and co Prosperity of people and nature.

The approach advocated here arose from the research of the authors consulting thousands of pages of a vast and underutilised resource of written materials in the Hawaiian language newspapers of the 19th and early 20th century (1834–1948). They have been described as the largest written archive of Indigenous Oceanian knowledge in the World (Arista 2019), comprising the equivalent of approximately 1.5 million pages (A4 page size, 12 pt typescript) of Hawaiian language text. Some of the material that has already been digitised and translated represents foundational sources in Hawaiian knowledge (e.g. Kamakau 1964; Malo 1923; Keauokalani 2007, etc.). Even more continues to be digitised, or at least provided in untranslated Hawaiian transcript (e.g. the Papakilo Database: Office of Hawaiian Affairs 2020) or as images of the original newsprint pages, not yet converted by OCR or manual transcription, also untranslated. In these pages lie traditional stories, descriptions of places,

people and their activities, chants and songs, and other written accounts that provide sometimes very specific details of place, time, people, and environment that can be utilised to explore the worldview of Hawaiian society, details on the ethnobiological utility of key plants and animals in a wide range of environments, and the relationships between people and environment as depicted in the settings, descriptions, and even the poetic metaphors involving native biota and environments.

Whatever their source, searches through both manual and digital archives can be filtered in several key ways:

- (1) names of **species** (this requires dual fluency in Hawaiian nomenclature and standard Linnaean nomenclature),
- (2) names of **deities** both major and minor (which number in the hundreds, if not thousands), and the biota associated with them,
- (3) the named **narrative modalities** through which Hawaiian knowledge was shared, e.g. as *ka'ao* (legends, epic stories), *mo'olelo* (stories, tales, histories), *mele* (songs, poetic compositions), *oli* (chants, prayers and ceremonial pieces), or *kanikau* (dirge chants frequently linking people to place and environmental details),
- (4) words associated with **societal practices** such as *mahi'ai* (farming), *lawai'a* (fishing), *lapa'au* (healing/medicinal practice), *kahuna* (religion and specialised practice), *ali'i* (government and chiefly leadership), etc.
- (5) names of **places**, which frequently indicated species and natural features that characterised them, and which link geography to any biota mentioned.

Each of these primary search methods yields insights on bodies of subsidiary nomenclature involved. For example, searches for *kahuna* might frequently be associated with either specific named ceremonies, distinct named classes of *heiau* (temples of worship), mention of plants or animals involved as offerings, etc., and these in turn can be the focus of search, yielding additional potential biocultural references.

This perspectives paper cannot provide an exhaustive explanation of the results of the methodological approach, but our discussion below provides some examples of the kind of information gleaned by exploring the three major themes above.

Discussion

The three themes are each expanded upon briefly below to indicate the nature of biocultural significance within each context, and how the details of the three elements of *kua*, *lako* and *mo'o* enhance understanding of the relationship of people to nature from a Hawaiian perspective. Wielding this perspective toward a modern conservation ethic is a route to transformation of conservation via collaborative knowledge production and collaborative conservation practice that embraces community values and teachings.

KUA: Hawaiian gods and conceptualisations of nature

'Nature' is conventionally perceived in the discipline of conservation as something that exists separate from humanity, yet no word for this concept exists in the Hawaiian language (Pukui and Elbert 1986), which indicates that Indigenous conceptualisations of nature differ from those held by conventional

conservationists. *Kānaka 'ōiwi* perspectives hold that 'aumākua (ancestral spirits) can take the forms of many different native plants and animals, and these many forms (called *kinolau*) are physical manifestations of ancestors, and thus are held sacred. Indeed, *kinolau* are not restricted to family 'aumākua, but to all the *akua* (deities) broadly recognised in Hawaiian culture. Here we share a few general characterisations of the *kinolau* of the major Hawaiian *akua* to understand the value that *kānaka 'ōiwi* place on nature. The traditional pantheon of Hawai'i is dominated by two major female *akua* and four major male *akua* and that collectively embody the broader cosmogonic components of the Hawaiian universe:

- (1) *Hina* – femininity, nurturing, balance, calm
- (2) *Papa/Haumea* – motherhood, procreation, source of life, steadfastness
- (3) *Kū* – leadership, governance, rigour, permanence, independence – hot summer season (*Kauwela*)
- (4) *Lono* – peace, dependence, relaxation, forgiveness, transience – cool winter season (*Ho'oilō*)
- (5) *Kāne* – freshwater, sunrise, life, creation
- (6) *Kanaloa* – seawater, sunset, death, afterlife

Even in the broadest characterisation above, it is clear that balancing aspects and cyclical dynamics are reflected in the things sanctified in Hawaiian society. Reciprocal roles between the masculine and feminine were embodied in the balance between *Kū* and *Hina*, and the cyclical nature of the seasons is reflected in the alternation between the period of *Kū* and the period of *Lono*, which also reflects the alternations between war and peace. The dualism between the brothers *Kāne* and *Kanaloa*, for example, are representative of the dualisms between the land's fresh water and the ocean's salt water, and between sunrise and sunset. Thus, their realms of influence in space and time, taken together, comprise all phenomena of land, sea, and sky over the cycle of the year. In the precontact past, the *akua* also extended strong influence on human behaviour. While there are many examples of the *kinolau* of the various Hawaiian *akua*, we provide some examples for the major *akua*, *Kū*, that demonstrate how the nature of this particular *akua* ties them to their physical manifestations.

Animal kinolau of Kū

The *kinolau* of *Kū* reflects his nature as the Hawaiian god of war, governance, and persistent leadership. As in many cultures, raptors, such as 'io, our endangered Hawaiian hawk (*Buteo solitarius*) are embodiments of the fierceness of *Kū*. Likewise, our Hawaiian owl, *pueo* (*Asio flammeus*), is explicitly named as one of the *kinolau* of an 'aumākua of warriors named *Kūkauakahi*. 'Īlio (dog) forms are also strongly associated with *Kū*, and so the dog of the sea, 'īlio kai, the endangered Hawaiian monk seal (*Neomonachus schauinslandi*) can also be considered a *kinolau* of *Kū*. Another major domesticated bird, the *moa*, or jungle fowl (*Gallus gallus*) is associated with *Kū*, via the aggressive behaviour of roosters. *Kū* is also a major god of fishing, and in that form, *Kū'ula* (red *Kū*), certain red fish are considered his *kinolau*, such as the 'āweoweo (*Priacanthus meeki*), and certain seabirds; some of which are specifically tied to *Kū* via their names, such as the white fairy tern *Manu-o-Kū* (*Gygis alba*) literally 'Bird of *Kū*' because fishermen could steer

toward aggregations of this and other seabirds flocking above schools of fish.

Plant kinolau of Kū

Because Kū is rigorous, upright, and persistent, all of the tallest and hardest trees of Hawaiian forest are *kinolau* of Kū. Perhaps the best known of these is *koa* (*Acacia koa*), one of our best known endemic hardwoods. The word *koa* refers to the tree, but also to a warrior, and demonstrates the direct connection of the tree to the god of warfare. The tree *kinolau* of Kū also includes the dominant tree of our watersheds, ‘ōhi‘a *lehua* (*Metrosideros polymorpha*), whose red flowers also represent the blood of warfare. It also includes trees now extremely endangered, such as *mēhamehame* (*Flueggea neowawraea*), one of the hardest of Hawaiian woods, and also one of the tallest emergent trees of the canopy.

Understanding all of the *kinolau* of the major Hawaiian gods is beyond the expectations of any but the most devoted students of Hawaiian religion, but a working recognition of the significance of native plant and animal species as *kinolau* of *akua* and therefore bearing sacred status can help reinforce respectful behaviour toward them in conservation work, respect not otherwise typically afforded to non-human cohabitants of our environment.

The kini akua

The Hawaiian pantheon is far larger than just the major deities discussed above, but is typically characterised around the male deities using the Hawaiian numeration system, one that is based on 4×10^n (Kanepuu 1867; Hughes 1982). This has been expressed narratively as: ‘the four, the 40, the 400, the 4000, the 40 000, the 400 000 gods’ (Beckwith 1951). Each of these are represented by very specific *kinolau* corresponding to both native and Polynesian-introduced taxa. The overall inference of this is that every living plant and animal in the Hawaiian universe serves as a physical manifestation of a deity, and is, therefore, a focus of conservation in the context of ‘Indigenous resource management’ (IRM; *sensu* Winter *et al.* 2018a, 2020a). Indeed, as there were also deities associated with climatic processes (e.g. manifestations of clouds, winds and rains), geological features (e.g. boulders, mountains and freshwater features), and astronomical phenomena, it stands to reason that the Hawaiian worldview would associate a deity to every natural feature and process in the universe around them. The reason for the 4×10^n -based multiplication of gods can be seen in the names of this multitude. Many, if not most, of them take on the name of one of the primary gods, then adds a descriptive addition; here, for example, are some of these named deities that specifically evoke plants or animals: Kū‘io‘iomoa [Kū of the chirping chickens], Hinakauluhenuihikoloiuka [Hina great tangled mats of uluhe fern crawling in the uplands], Kānepua‘a [Kāne the pig], Lonoika‘ōwāli‘i [Lono in the ‘ōwāli‘i fern].

Perhaps the most important aspect of this association of the uncountable natural phenomena of the world to the uncountable *kini akua* is the conclusion that these *akua* are not just a quaint animistic religious feature of Hawaiian society, but are actually the manner in which an extremely diverse and complex biological and ecological setting was described and valued in a

Hawaiian worldview. Taking the *kini akua* system beyond an anthropological exercise and into a potential for sharing as a source of ecological knowledge is the transformational element that this Hawaiian Indigenous perspective provides to conservation. As such, the sacred designations of biodiversity, geological features, as well as climatic phenomena is the mechanism for conservation in the IRM system employed in Hawai‘i (Winter *et al.* 2018a).

LAKO: Hawaiian ethnobiology and material culture

Both the Hawaiian sources as well as the published scientific literature indicate that the very rich ecosystem diversity of the Hawaiian Islands provided for a diverse biocultural relationship, with native species providing for all needs of human existence, augmented by a Polynesian-wide suite of plants and animals that accompanied Hawaiian voyagers on their canoes (Abbott 1992; Krauss 1993; Winter *et al.* 2018b).

However, most of the attention has been on the pan-Pacific species of primarily food plants and animals, such as *kalo* (taro), ‘uala (sweet potato), ‘ulu (breadfruit), etc. for plants; and *pua‘a* (pigs), ‘īlio (dogs), and *moa* (chickens) for animals. There has been a general neglect of the endemic Hawaiian species of biocultural conservation concern, with a few notable exceptions, such as the endemic nettle, *olonā* (*Touchardia latifolia*), which provides one of the strongest plant-based fibres in the world, and which was a fundamentally important source for fishing lines and nets, and other cordage needs (e.g. MacCaughey 1918; Kallstrom 2014). It is important to note that this extremely important endemic plant was managed in the context of Indigenous agroecosystems, and its cultivation was possible only when native ecological function was maintained in the system (Handy *et al.* 1972). Other endemic plant species that provided for a wide variety of material and other biocultural relationships number in the hundreds, and the recovery of the knowledge related to their uses is in need of systematic revitalisation via the archive of Hawaiian language sources reflecting oral tradition.

As an example, there are many specific Hawaiian terms used in the application of ethnobiology. There are no less than 20 terms for different parts of the classic Hawaiian *hale* (house) that were all constructed of different species of plants (Summers 1988). Searching for those specific terms in archive searches reveals which species were utilised for specific parts, and, in doing so, provides information for the most commonly utilised species that grew in various localities. Furthermore, given the philosophical foundation of Hawaiian IRM, which dictates that only commonly available taxa can be readily harvested (Winter *et al.* 2018a), we can infer that the species listed in 19th century descriptions were common at the time, although some are rare and endangered taxa today.

Aside from the documentation of the utility of native species as a justification for their conservation, rediscovery of the diversity of Hawaiian species that are the hallmark of the islands’ past sustainable resource management can demonstrate the value of biodiversity for continued human quality of life today. Moreover, aside from a listing of useful species, the context of the information tying localities and habitat descriptions to each of the species can help us recreate models for the restoration of many of the ecosystems that had been disrupted and destroyed after Western contact in the late 18th century led

to changes that supplanted a sustainable island social–ecological system with one of economic commodification of nature and disconnection of ecosystems from land (Gon and Winter 2019; Soh 2019).

Taking advantages of the Indigenous biocultural perspectives can transform conservation by linking practice to species, species to localities, and the societies of specific localities and regions to the underlying relationships between people and their surrounding living landscapes.

MO'O: Nature in Hawaiian relationships and ethics

The way that Hawaiian oral histories describe the character of people is strongly tied to the natural world. For example, the aesthetics of Hawaiian featherwork, restricted to the highest-ranking leaders, at once makes featherwork a symbol of leadership, ties their high societal rank to the forested regions where the birds for featherwork were collected – a forested region that itself was considered the realm of the gods (*wao akua*). This kind of biocultural connection emerges in the system of land management based on hierarchical nested sets of land units called *ahupua'a* and *moku* that facilitated a management of species connectivity and population dynamics to maintain species abundance (Winter *et al.* 2018a). In this context, the interface to IRM would be the protection and management of *kinolau* of *akua* via sociocultural institutions (religious, systems of leadership training, traditional learning systems, etc.), and the system of *kapu* (sacred restrictions) that governed all human behaviour, which were themselves tied to natural cycles, such as the *kaulana mahina* (lunar cycles and proscriptions) (see Kealiikanakaoleohailani *et al.* 2018; Winter *et al.* 2018a, 2020a).

Moreover, the integration of native species and ecosystems into Hawaiian society is reflected by the manner in which these are expressed in oral histories. Human relationships with each other and with the living world as ancestral to people is expressed via genealogical expressions called *mo'okū'auhau*, typically rendered in the stating of paired ancestors – parents, grandparents, great-grandparents, etc., stated forward from even the deep past in legendary times. But the deepest of such *mo'okū'auhau* also serves as the most often cited Hawaiian cosmogonic description, the *Kumulipo*, a chant of over 1000 lines which takes us from the creation of the world and all life forms that precede even the Hawaiian gods, and finally leads to the lineages of people (Beckwith 1951). Thus, cosmogony and genealogy are combined in a work that asserts that all life is related (human and the biota that surrounds us).

Just as the *Kumulipo* is an epic cosmogonic and genealogical rendering of all life in Hawai'i, the *mo'olelo* [historical narratives] of Hawai'i are numerous and include some long and complicated accounts that can take its characters across the archipelago and in so doing describe the environments and societal conditions that existed in those places at the time the *mo'olelo* were originally told. Observations of landmarks, topography, weather and climatic conditions, living species, and areas of traditional agriculture or other human practice were frequently recorded in these *mo'olelo*, and thanks to the continuity of both Hawaiian presence and Hawaiian names, such descriptions can be made geospatially explicit today (Gon *et al.* 2018; Gon and Winter 2019).

These *mo'olelo* frequently also described *mo'omeheu*, or intergenerationally transferred practice and associated knowledge, such as monthly and seasonal patterns of fishing or agriculture, even relatively obscure distinctions between, say, collection of edible seabirds along the coast versus collection of ones from subalpine nesting areas, reflecting periods of *kapu* on one kind of collection versus the other (e.g. see Fornander 1890).

Related to *mo'olelo*, and often extracted from them, *'ōlelo no'eau* (Hawaiian proverbs) highlight relationships, moral lessons, and ethical stances. And although the proverbs themselves often had straightforward literal translations that point to natural phenomena, they typically have much deeper, multilayered meaning (*kaona*) than the superficial translations suggest (Pukui 1983).

For example, the well-known *'ōlelo no'eau*:

Pua ka wiliwili, nanahu ka manō

When the wiliwili tree flowers, the sharks bite refers to a correlation between the seasonal blooming of the endemic tree *wiliwili* (*Erythrina sandwicensis*) and the increased aggressiveness of sharks during their mating season (which overlaps). The practical utility is that one need not enter the water to anticipate an increased risk of shark attack. However, the *kaona* (deeper symbolic meaning) takes the attractive flowers of the *wiliwili* as the beauty of a girl flowering into maturity, and the sharks become the aggressive male suitors vying over her. You can even generalise it further to anything attractive that people might aggressively desire, like a space becoming available in a busy parking lot!

The beauty of Hawaiian archival sources is that the *mo'olelo* of places, the *'ōlelo no'eau* that arise from them, the *kanikau* (dirge chants) that celebrate the lives of loved ones that passed; all of these were prolifically shared for posterity in the Hawaiian language newspapers by Hawaiians across the archipelago, with each island providing their regional knowledge of places and the living elements thereon.

Conclusion

As the recognition of the utility of Hawaiian knowledge, values, and perspectives becomes more commonplace in our conservation endeavours in Hawai'i, we observe growing efforts to glean information relevant to conservation from living Hawaiian cultural sources as well as from the large existing and potential Hawaiian language archives being made more broadly available today. While we assert that a basic level of fluency in *'ōlelo Hawai'i* (Hawaiian language) is required to fully take advantage of those sources, we also suggest that the process of information extraction is also vitally important, to optimise the quality as well as the quantity of relevant information.

The three major themes we described in this perspective piece (*kua*, *lako*, and *mo'o*) are avenues allowing a researcher to view the information in the context of Indigenous worldview, ethnobiological material culture, and the Indigenous intellectual, spiritual, and ethical significance of native species and ecosystems. This will not only help integrate the knowledge into the social–ecological framework in which they were originally developed, but in turn offer the foundations of potential rediscovery of the strong human–nature relationships that resulted in

Hawaiian culture's high sustainability and self-sufficiency. In doing so, the Indigenous knowledge that informs conservation may also be more strongly influenced by the context of the values and practices that created coprosperity of people and nature in precontact Hawai'i.

The lack of a word for 'nature' in the Hawaiian language is not evidence for a lack of value in Hawaiian culture for the native biodiversity and natural ecosystem function at the heart of contemporary conservation efforts. To the contrary, the Indigenous practice of imparting sanctified designations (*kua*) upon the plethora of biodiversity and the dynamics of ecosystem function was a method to convey the intrinsic value of these things and existential value they had for Hawaiian society. The exercise of practicing material culture and perpetuating biocultural relationships (*lako*) conveys the links between Indigenous identity and native biodiversity. The intergenerational knowledge transfer (*mo'o*) links the viability of the connections between past, present, and future generations to the vitality of native habitats and associated biodiversity. As such, employing a methodology of KUA-LAKO-MO'O as a framework for understanding, reviving and revitalising Indigenous conceptualisations of, and relationships with, nature in the context of contemporary cultural renaissances – such as the current Hawaiian Renaissance – can transform conservation biology in such a way as to put us on a path towards re-establishing coprosperity in both humanity and nature.

Conflict of interest

The authors declare no conflict of interest.

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