MAUI HIKINA – E HOʻOPONOPONO ʻĀINA (EAST MAUI – RESTORING BALANCE TO THE LIVING ENVIRONMENT)

Kumu Pono Associates LLC
Historical & Archival Documentary Research · Oral History Interview Studies · Researching and Preparing Studies from Hawaiian Language Documents ·Māhele ʻĀina, Boundary Commission & Land History Records ·Integrated Cultural Resources Management, Preservation & Interpretive Program Development

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Prepared for

- East Maui Water Authority (Aha Wai O Maui Hikina)

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Native Hawaiians have always celebrated the legacy of their biocultural landscape in mele (chants and later songs). The ancient mele below, honoring the kinolau (myriad body forms) of the akua (gods – creative forces of nature), provide us with a glimpse into the healthy landscape that was known to the people of old. Mele are an expression of the respect and stewardship practices of the landscape that sustained the people. The mele below, composed in ca. 1780, is just one of such chants which identify some of the wahi pana (storied and sacred places) and natural attributes of Maui Hikina. It was later published by Native Hawaiian historian S. M. Kamakau in 1867[1], and translated by Mary Kawena Pukui in 1961 as found in "Ruling Chiefs of Hawaiʻi."

...He ua i pono—e—pono ia ua.	Let the rain fall, for rain is good.
A he ua i halaka, he mahala,	It patters down, it pelts down,
Pehi hewa i ka nahele	It crushes the forest growth,
Kuaʻoa kanikani i ka pua lehua.	It sprinkles musically on the lehua.
Ua lehua, he lehua hala,	The lehua trees blossom, the
Ua i ka lehua o Kailua.	When the rain comes to the lehua of
Lehua maka konunu i ka wai,	The lehua petals are heavy with
Konunu oha'ha'.	Heavy, heavy and full-blown.
Halana makapehu wale no kie ia,	They know not the pangs of thirst
Pehu, ua mae ka maka mua o ka hinalo hoʻi.	That wilt the first-blown pandanus bloom.
Hoʻi ka ua ma Hanehoʻi,	The rain returns by way of Hanehoʻi,
Ma ka lae o Puʻumaile i Hoalua,	Along the brow of Puʻumaile to Hoalua,
Ma kahakua o Puʻukoaʻe,	Over the ridge of Puʻukoaʻe,
Ma ke alo pali o Huelo.	Before the face of the cliff of Huelo.
Ua poha' Kaumealani,	There it pours down on Kaumealani,
U a ko ia e ka pua nui	The rain that brings out the full-blown
Hukia aku la lilo i kai	And draws them close down to the shore.
Lilo aku la ua i ka moana,	The rain goes out to sea,
He maka o Hawini ia ua,	It falls on Hawini like teardrops,
He ua ʻalo ma ka lae,	It passes along over the capes,
Nihi pali nihi lae,	It creeps by the cliffs and capes,
Nihi i ka lae o Mokupapa.	Creeps by the cape of Mokupapa.
Hele wale ka ua a kipa wale,	The rain comes uninvited,
Ka ua peʻe hala huna kai o—	The rain that hides in the hala
O–huna lauki.	Whose fine drops water the ti plants.
Huna ke kupa i ka hala mua a kau.	The native-born hides away the first hala
U-u-e ua wahia e ka ua o ka hoʻoilo.	And weeps over the stormy rains
E ke kuawa kahi o ke kau	Oh! for the light summer showers
Nana i hoʻoko'o nei ka pua!	That brought forth the blossoms!
Aui ka pua noho laolao i ke ka,	The blossoms droop with stem
Aui e noho e na pua polo peʻa;	The blossoms hang wilted and uncared-

[1] *Nupepa Kuokoa*, Pepeluari 23, 1867:1.

Pala ka‘ao, ka‘ao ka pola,
Loli helele‘i ahu ilalo;
Loli ka‘ao ka hala me ka hinalo.
O ka hala o ka ‘ohi‘a lana i ka wai
I ka‘i ke kahawai o Kakipi,
Ilina iluna o ka mau‘u kuku’,
I ka pua po‘o o ka mau‘u pu‘uko‘a
I kahi a maua e hele ai,
Me ku‘u wahine i ka ua hala
o Kulo—li,
A 'oia loli ke ala iho ma ka lau,
Lauhala—e a ke ‘o‘i‘o‘ina ‘oe i
Ko'olahale,
‘Ike aku i ka mahina hiki‘alo‘alo
One ku a ki‘i i ke kaha o Malama.
Malamalama ke one kea ke hele ia,
Kipa ke alanui mauka o Waiakuna,
He kuna—e.
Me he kuna kuhe la ke oho o ke kukui,
1 ka ho‘olu‘u lupekolo ia e ke hau
A lipo a‘ele‘ele i ka waokoa.
He‘ele‘ele ko ke kukui noho malu,
He lena ho‘i ka lau o kekahi kukui
O ke kukui aku i waho i ka la,
I ka ua ia e ka ua ‘ulalena.

The fruit clusters, ripened above,
Mildew and fall in heaps to the ground;
Both fruit and flowers are mildewed.
The hala fruit and the mountain apples
And are washed down in the stream
Washed up on thorny weeds,
Up on the flowers of coarse grasses
Where we two have wandered,
My wife and I, to the rain-wet hala grove
of Kuloli,
Fragrant among the leaves,
The hala leaves over the resting
place at Ko‘olahale,
Where we watched for the belated moon
To rise over the cinder cone of Malama.
The white sands are plainly to be seen if
Over the upland trail of Waiakuna
Winding like the fresh-water eel.
The kukui leaves look dark like the kukui-
When overshadowed by the twining hau
Deep in the dusky koa forest.
Dark are the leaves of the kukui in
The leaves are pale yellowish green
In the full light of the sun,
Watered by the rainbow-tinted rain…[2]

[2] Kamakau, S.M. 1961, p. 114-115. Ruling Chiefs.

EXECUTIVE SUMMARY ~ SYNTHESIS

INTRODUCTION: ‘AHA WAI O MAUI HIKINA’S MANDATE IN HISTORICAL CONTEXT

This executive summary is intended to provide a thematic synthesis of the foundational research, oral history, and archival review conducted for the *Maui Hikina Biocultural Landscape Technical Report* (See Appendix A), prepared to support the work of the ‘Aha Wai o Maui Hikina (East Maui Water Authority). While it draws from the extensive documentation presented in the body of the report and its appendices, this summary is not intended as a substitute for the full document, nor does it exhaust the scope or depth of the technical report. Rather, it is meant as a tool for the Water Authority and its staff to contextualize the grounding cultural, historical, and ecological values that inform place-based water management decision-making for the biocultural landscapes of Nāhiku, Keʻanae, Honomanū, and Huelo. Readers are strongly encouraged to engage the primary sources, oral histories, and detailed Māhele ‘Āina testimonies included in the appendices to better inform restoration and planning decisions.

The Mandate of the ‘Aha Wai o Maui Hikina

Established by the voters of Maui County and formalized in the Maui County Charter (2022 Revision, §8-19.5), the ‘Aha Wai o Maui Hikina is tasked with the investigation, acquisition, management, and control of water collection and delivery systems in East Maui (*Figure 1*). This includes, but is not limited to, the legacy water license areas of Nāhiku, Keʻanae, Honomanū, and Huelo. The board is authorized to appoint a regional director, review and approve a watershed management plan, evaluate implementation progress annually, recommend appropriations, and guide the development of both operating and capital improvement budgets. Perhaps most significantly, the board is required to hold regular public meetings in the region it serves, underscoring the deeply community-centered nature of its work.

This kuleana (privilege, responsibility), based on a legal, cultural, and spiritual framework, must be understood within the broader history of East Maui, a history shaped by generations of kānaka (people) who cultivated the land and regulated water through systems that predated the modern ditch infrastructure by centuries. The board’s responsibilities are not merely administrative. They rest on a deeper foundation: a recognition that water in Maui Hikina has always been managed through relationships, between people and place, between upland and lowland, between kūpuna (ancestors) and moʻopuna (descendants). This report hopes to contribute to that foundation.

To support the board’s planning and oversight responsibilities, this report was commissioned to address several interrelated priorities identified by ‘Aha Wai o Maui Hikina:

1) The Maui Hikina biocultural landscape prior to, and in the early phase of water extraction for economic purposes;
2) The region of forest growth, water flow and traditional Hawaiian adaptive management of the living environment — mai ka piko o ke kuahiwi, i ke kahawai a me ka ‘āina kula, a i ke kai pōpolohua a Kāne (from the mountain summits, to the streams and the open lands, and to the dark depths of Kāne’s ocean);
3) Traditional practices and specific actions in caring for the watershed;

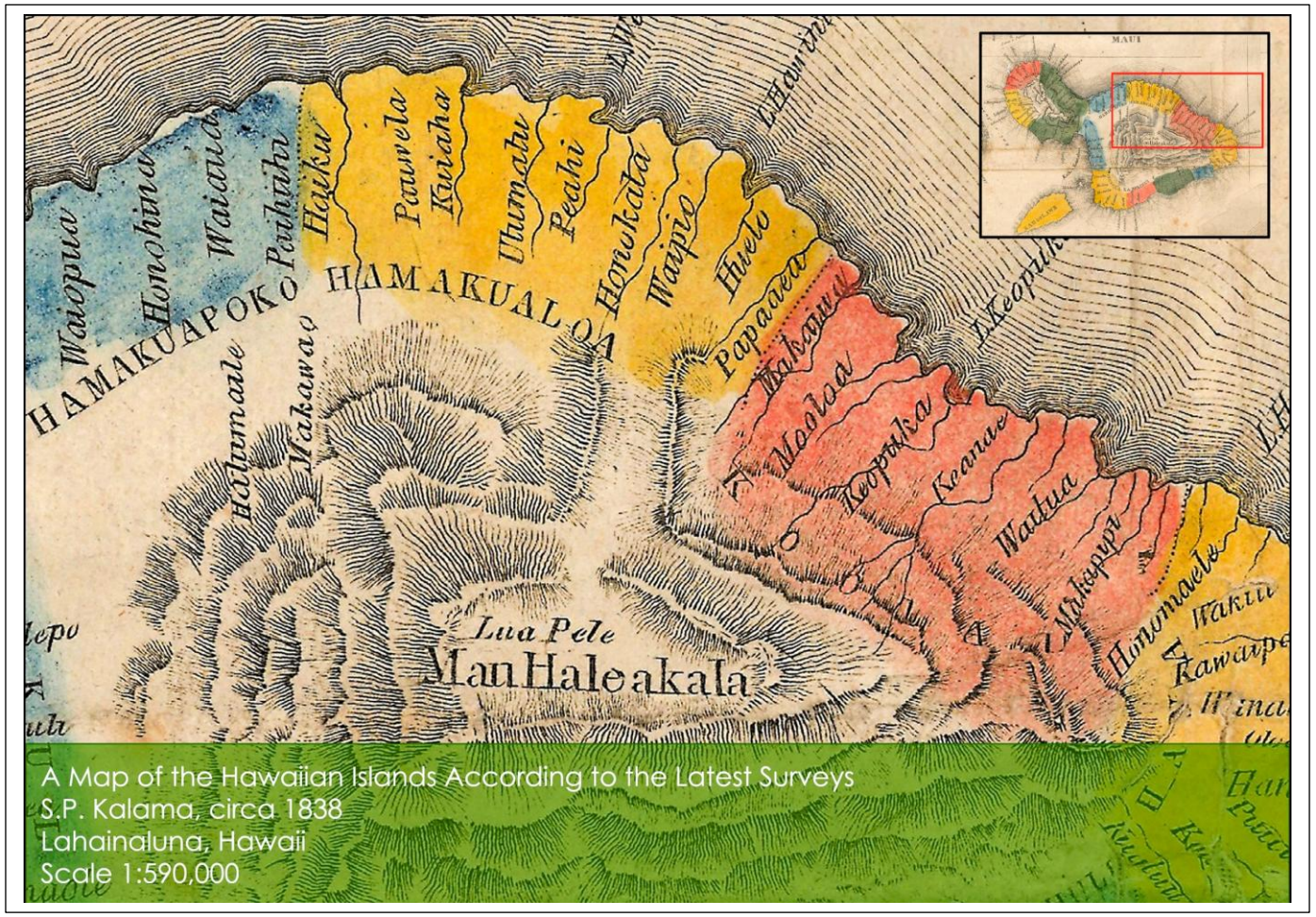

Figure 1. Portion of S. P. Kalama's 1838 Map of the Hawaiian Islands – Detail of the Moku (Districts) of Maui Hikina, the Stewardship Region of the 'Aha Wai o Maui Hikina. (Royal Geographic Society, https://rgs.koha-ptfs.co.uk/cgi-bin/koha/opac-detail.pl?biblionumber=4076, accessed 7/26/2025.)

4) Population trends—how many people were in the community and where they resided; and
5) History of commercial water development and community impacts and documentation of residents' attitudes, advice to government authorities, and resistance to the granting of the license to private interests.

Research Scope and Method

The summarized material is drawn from decades of archival and oral history research conducted by Kepā and Onaona Maly of Kumu Pono Associates LLC, whose work has contributed to state and federal preservation planning, legal testimony, land claims documentation, and biocultural restoration efforts across the Pae ʻĀina (Hawaiian Islands). This report builds specifically on a 2001–2002 series of oral history interviews with elder kūpuna and kamaʻāina (residents) of Maui Hikina, whose testimonies were recorded, transcribed, reviewed, and released for perpetuation. These were supplemented by review of native and English-language documentary records, including land claims, boundary commission testimonies, maps, and government communications from the early 19th century onward.

The analysis provided does not attempt to extract or repackage cultural knowledge for technical convenience. It does, however, seek to uplift ʻike kūpuna (ancestral knowledge) and ʻike kamaʻāina (local knowledge) as valid and instructive in the necessary crafting of a water management plan that honors East Maui's legacy and living community.

Why a Biocultural Approach Matters

Unlike conventional watershed assessments that focus solely on physical infrastructure and ecological metrics, this report takes a biocultural approach. This framework recognizes that natural and cultural resources are not distinct; they are interdependent and inseparable. East Maui's streams, forests, and fisheries are not just natural features, they are genealogical, economic, and spiritual kin. Restoring the flow of water is, in this view, synonymous with restoring relationships: between the people and the land, and between governance and accountability.

The authority to regulate and restore water in East Maui does not begin with the County Charter. It begins with centuries of land-based knowledge, customary practice, and social organization rooted in ahupuaʻa stewardship and konohiki governance. As such, the work of the ʻAha Wai o Maui Hikina is not a new endeavor, it is a continuation and contemporary embodiment of older systems of care that are apparent in the archival records that document the structures of resource use that maintained abundance across generations.

We also recognize that these decisions are not being made in isolation. Maui Hikina is not a dot on a map; the waters that flow from these lands ripple across communities, ecosystems, and generations. While the kuleana of this authority is centered on Nāhiku, Keʻanae, Honomanū, and Huelo, the repercussions of choices made, culturally, ecologically, and socially will be felt throughout the island, and potentially across the Pae ʻĀina. This is the scale of responsibility the ʻAha Wai o Maui Hikina carries.

MAUI HIKINA AS A BIOCULTURAL LANDSCAPE

“He aliʻi ka ʻāina, he kauwā ke kanaka.”
(The land is chief, the people are its servants.)[3]

Maui Hikina has long been recognized by kānaka ʻōiwi (Native Hawaiians) not merely as a geographic region, but as a living system in which land, water, forest, and people functioned as interdependent kin. In the Hawaiian worldview, resources were not managed in isolation, but as part of an intricate web of relationships governed by kapu (sacred restrictions), kuleana, and the seasonal rhythms of nature. It is in this spirit that we refer to Maui Hikina as a biocultural landscape: a place where cultural practices were inseparable from ecological processes, and where governance was rooted in observation, ceremony, and reciprocal care.

The full technical report incorporates extensive translated archival sources, including moʻolelo (stories) and mele (chant, song) from 19th-century Hawaiian language newspapers, as well as selected references from early ethnographers and government land records. These sources help readers understand the cultural meaning of East Maui’s named places and document the logic and relationships that guided traditional stewardship. Many moʻolelo, such as those referencing akua (gods), ancestors, and elemental forms tied to specific streams or mountains, are rooted in this region and support the continuity of place-based knowledge systems. As the report notes, this archive is not exhaustive, but it is foundational.

Readers will encounter terms such as moʻo, kūkulu, and wao not simply as geographic descriptors, but as cultural categories that convey how Hawaiians understood landscape in layered and spiritual terms. Moʻo may refer to lizard-like water spirits or the ridges used in agriculture, but also to the succession of relationships between people, place, and water. Wao denotes the interior forest zones, differentiated by elevation, moisture, and spiritual governance. Kūkulu implies the framework or pillars upon which a place, and its people, stand. These are not metaphorical constructions; they are embedded in settlement patterns, land usage, the chants, and the stories that have been passed down to describe Maui Hikina.

For example, in place names such as Kaʻāpahu and Kapehu, or references to named winds like Kealaikahiki and Kaiwelu, the cultural memory of Maui Hikina remains alive in the language of the land itself (See Appendix A – Technical Report, Place Names). These names encode orientation, observation, and responsibility. The full report draws attention to these relationships, not as nostalgia, but as evidence of a biocultural governance system that preceded the arrival of western property regimes.

This section also responds to the directive of the ʻAha Wai o Maui Hikina to describe the watershed landscape prior to water extraction, including regions of forest growth, water flow, and types of resources managed. In pre-contact times and well into the 19th century, the upper forests were maintained as wao akua and wao nahele, where cutting was restricted, where cloud forest regeneration was observed and protected. Stream corridors were identified by name and tied to specific ʻohana responsibilities. Loʻi systems were integrated along gradient terraces with water returns built in. Freshwater sources were not diverted beyond their systems, and the health of the lower ecosystems were understood to depend on this continuity of flow.

[3] M. K. Pukui. 1983, # 531. ʻŌlelo Noʻeau.

Biocultural Landscapes: A Living Geography

Stretching across the windward slopes of Haleakalā from Huelo to Hāna, Maui Hikina encompasses the ahupuaʻa of Nāhiku, Keʻanae, Honomanū, and Huelo, among others. These land divisions extend from the ocean to the summit, traversing cloud forests, rain-fed gulches, cultivated loʻi kalo (irrigated taro patches), and coastal fisheries. In the pre-contact and early post-contact periods, each ahupuaʻa functioned as a self-regulating unit, with resources distributed across ecological zones. The wao akua, wao nahele, wao lāʻau, and uplands supplied timber, birds, fiber, and water; the wao kānaka, kula uka, and lowlands supported loʻi, dryland gardens, and dwellings; the kula kai and nearshore ocean provided fish, salt, and transportation.

Streams such as Waiaʻōlohe, Piʻinaʻau, Palauhulu, Honomanū, and others once flowed year-round from mauka to makai. Through intricate irrigation systems, water was not simply diverted—it was allowed to circulate, cool, cleanse, and feed both cultivated systems and estuarine ecosystems. This flow was understood as a reflection of the health of the land and the efficacy of human stewardship. As one kūpuna observed, water flowing to the sea was not "wasted water"—it was a sign that the land was alive and functioning as it should (See Appendix B – 2001-2002 Oral History Interviews).

Ahupuaʻa Governance and Customary Stewardship

Konohiki, the headman of an ahupuaʻa, regulated access to land and water resources in each land division assigned to them. Their authority rested on deep empirical knowledge of place and the reciprocal responsibility to balance communal use with sustainability*. Access was not a right given freely but earned through continued stewardship and contribution to the well-being of the land and its health*. Konohiki were tasked with monitoring spawning cycles, rainfall patterns, forest cover, and the behavior of both people and animals. When a certain resource, such as water, was scarce, restrictions were imposed. When abundance returned, so too did access. This dynamic governance system was oral, participatory, and constantly responsive to environmental feedback.

This system has continued, seen in practices of mālama ʻāina (caring for the land) which are still embedded in everyday life. Families cleared ʻauwai (irrigation canals) together, rotated fallow cycles of loʻi kalo, replanted after harvest, and maintained buffer zones along stream banks. Kapu were seasonal and site-specific, not only spiritual but ecological. The forest was entered only at certain times and gathering followed protocols to ensure regeneration. The belief that the forest was the realm of akua (gods), and that humans entered as guests, reinforced both reverence and restraint. In areas where traditional agriculture is still prevalent, these communal activities are maintained and passed down through the generations.

The entire watershed system was managed with the understanding that health in one zone affected the whole. A blocked ʻauwai ma uka (upland) would damage loʻi ma kai (seaward). A depleted forest would reduce streamflow. These interconnections are not theoretical, they were lived, observed, and addressed across generations. This ethic of comprehensive, relational management remains intrinsic to the people of Maui Hikina. What contemporary planners might now call "watershed-based governance" is, for kamaʻāina, simply the continuation of ancestral practice. (*Figure 2*)

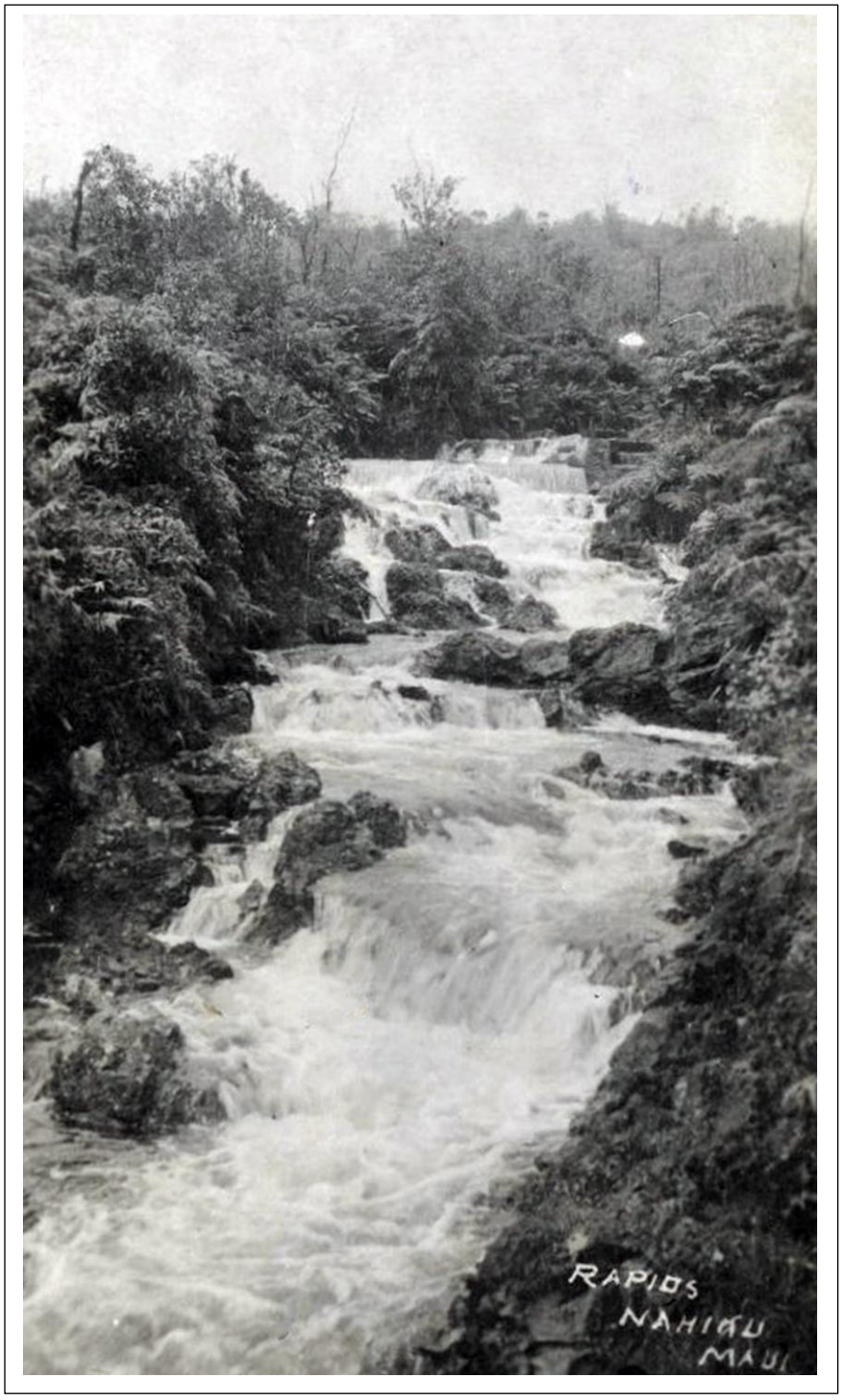

Figure 2. The Kahawai At Nahiku, Maui, ca. 1909.
(BYU MSSH, F. Call Collection)

Resource Richness

Prior to the construction of the East Maui Irrigation (EMI) system in the late 19th century, the region supported dense populations engaged in diversified subsistence. Loʻi kalo were extensive in Keʻanae (*Figure 3*), Piʻinaʻau, Honomanū, and other lowland areas. ʻUlu (breadfruit), maiʻa (banana), wauke (paper mulberry), ʻuala (sweet potato), kō (sugar cane), kī (ti), and kukui (candlenut) were cultivated in upland garden plots. The wao nāhele was the source of important resources such as ʻiliahi (sandalwood), olonā (a shrub used for cordage), and manu (birds), as well as spiritual access sites such as heiau (place of worship) and wai kapu (See Appendix A – Synthesis of Kuleana Claims).

Figure 3. Keʻanae Peninsula. December 1903, Registered Map No. 2238; overlayed on ESRI World Imagery (Map compiled by Richard Mather). Identifying Natural and Manmade Features, Kuleana and Grant Lands.

Streams were habitats for endemic species like the ‘o‘opu (gobies), ‘ōpae (freshwater shrimp), and hīhīwai (freshwater snail), as well as feeding grounds for estuarine fisheries. The cumulative management of these systems reflected an understanding of species lifecycles and hydrologic timing. For example, kūpuna noted that the warming of stream water due to diminished flow directly harmed native fish and rotted taro in the lo‘i, a firsthand observation of what we now term ecosystem stress (See Appendix B – 2001-2002 Oral History Interviews).

Kumu Pono’s 2001–2002 interviews with kūpuna and kama‘āina residents of Maui Hikina consistently affirm that the streams once ran continuously from the uplands to the sea and that forest health was visibly stronger even within the lifetimes of individuals born in the early 20th century. Changes in weather patterns, stream behavior, and forest composition were all recorded in living memory, linked to the broader story of diversion and development.

A Foundation for Restoration

To speak of Maui Hikina as a biocultural landscape is not metaphor. It is a recognition that knowledge systems embedded in place and passed down through families are not only valid but vital to any contemporary restoration effort. The physical structure of the land, its ridges, valleys, and waterways, has not changed so drastically that these relationships cannot be reactivated. However, doing so requires more than ecological restoration; it requires governance that understands place not only as a resource, but as a relative.

The ‘Aha Wai o Maui Hikina, in taking up their mandate, enters into this lineage. To care for this landscape today is to acknowledge the systems that maintained it before water was extracted, and to ask: What would it mean to restore the flow, not just of water, but of cultural understanding and responsibility?

TRADITIONAL SYSTEMS OF WATER AND RESOURCE MANAGEMENT

“Ua lehulehu a manomano ka ‘ikena a ka Hawai‘i.”
(The knowledge of the Hawaiian people is vast and innumerable.)[4]

He Waiwai Ka Wai – Water as Wealth, Law, and Kin

In the Hawaiian worldview, wai (fresh water) is more than a resource to be manipulated and extracted. Wai is cosmologically connected to the people, a source of law, and the foundation of abundance. “Kānāwai”[5] is an ancient word for “law” and evokes the relationship and importance of “wai” in life. “Kānāwai” has been interpreted as that which pertains to water, with rules, laws and rights being founded in the stewardship of wai. Thus, wai was not governed through extraction, but through “ho‘okaulike,” a balancing of use with resource needs, regeneration, and authority with accountability.

The recognition of wai as kin is rooted in language, belief, and practice. As Mary Kawena Pukui explained:

> The kupuna, the grandparents and ancestors, are those who stand at the spring, literally the source of water... The Hawaiian word for a spring of water is pūnāwai... The Hawaiian word kupuna may be translated as — ku (standing at) puna (the source of water); ku-puna are those who stand at the source of water. This has deeper meaning... our elders are those who stand at the source of knowledge... and they in turn, pass their waiwai on to their ‘ohā, keiki, mo‘opuna, and on down the generations, from piko to piko.[6]

In this framing, wai is both literal and symbolic: the giver of life, the transmitter of knowledge, and the conduit of generational wealth. It is no surprise, then, that water was believed to be a direct gift of Kāne “i ka wai ola, Kāne”, deity of the water of life. This belief placed water within a divine continuum and made its management a sacred act as much as a practical one.

These ancestral and theological principles underpinned a social order in which water was not privately owned but communally protected. Water had kapu (sacred restrictions), kuleana (responsibility), and mana (spiritual force). To manage water well was to honor one’s genealogy; to mismanage it was to disrupt not only ecological balance, but ancestral continuity.

Konohiki Governance and Ahupua‘a Authority

Every ahupua‘a had designated leadership, most prominently, as mentioned previously, the konohiki was entrusted by ali‘i to oversee allocation of land, water, fishing rights, and forest access. Konohiki were not merely bureaucrats; they were kilo maka‘āinana, keen observers of seasonal cycles, rainfall, lunar patterns, and ocean behavior. Their decisions were grounded in kilo (direct observation), and enforced by collective memory and ritual, not written ordinance.

Access to water was not unrestricted. Water use within the ahupua‘a was regulated under the authority of the konohiki and ali‘i, who determined access to land, streams, and fisheries. This authority was grounded in the understanding that the health of natural resources was tied

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4 M. K. Pukui. 1983, # 2814. ‘Ōlelo No‘eau.
5 M. K. Pukui & S. H. Elbert (1981:119).
6 Paraphrased from ‘ike shared by M. K. Pukui, pers. comm.

to observance of kapu and reciprocal relationships. Flows were regulated to ensure continuity of use and abundance. As noted in the report, tenants were granted access to water, cultivation areas, and gathering zones based on residency, contribution, and adherence to customary practice. Konohiki communicated decisions to restrict or reroute water through oral announcements or communal gatherings, often tied to seasonal conditions. ʻAuwai could be opened or closed depending on the needs of the loʻi and the availability of streamflow. The cultural protocol was one of reciprocity, not entitlement. Management of water was integrated into broader systems of resource control, whereby streams fed loʻi, which in turn supported coastal abundance, and all were governed under a unified structure of konohiki oversight.

As the report documents, the konohiki also regulated access to nearshore and freshwater fisheries. Fishponds and stream mouths were subject to kapu that prohibited certain forms of harvest during spawning seasons or when resources had not sufficiently regenerated. This was not merely an act of control; it was a manifestation of accountability to the resource itself. Fish were not counted as yield, they were considered part of the abundance of the land, to be cared for accordingly. The regulation of water access, fishing seasons, forest gathering, and farming cycles was not arbitrary but reflected detailed knowledge of ecological and lunar timing that ensured continued abundance (See Appendix A – Hawaiian Land Use and Resource Management Practices).

Mālama ʻĀina Practices Across the Watershed

Management in the Hawaiian system was inherently hands-on and relational, while also being seasonally responsive. Caring for the watershed required intense physical labor, coordinated timing, and a shared responsibility that was understood by not only the ʻohana unit but the community, as well. Some of the practices that are relayed in the report include:

- ʻAuwai clearing and repair - this was a communal event, done by hand with coordination across parcels. Maintaining water flow and preventing blockage ensured that all loʻi received equal share.
- Loʻi kalo rotation and aeration - prevented disease and allowed soil to regenerate. Farmers knew when to rest a patch, when to deepen or widen, and how to shift planting zones with seasonal shifts.
- Seasonal movement - supported resources like ʻuala, kō, and wauke production by facilitating movement between lower and upper cultivation areas.
- Streambank integrity and erosion control - maintained with vegetation buffers and careful planting along banks. This protected not just the loʻi, but the aquatic life that fed downstream fisheries.
- Forest entry protocols - limited harvests of wauke, olonā, and medicinal plants to specific times, with replanting and observation required before returning.

Many of these practices are still remembered by elder residents in their descriptions of how the land was cared for in their childhood and how those routines were part of their families' daily rhythm. The ethic of mālama ʻāina was embedded in cultural practice, not ceremonial abstraction, but material, observable care.

Resource Zonation and Functional Ecology

Hawaiians have long understood the landscape that we now describe as a watershed to be part of a vertically integrated biocultural system. Each wao (environmental zone), from the

summit regions of the mountains to the depths of the ocean, was named, managed, and respected as part of a larger continuum. These zones were not simply physical areas but carried distinct functions, names, and relationships. For example, wao akua referred to the sacred upland forests associated with spiritual retreat and rain generation, while wao kānaka encompassed the forest zones where people gathered resources and conducted temporary cultivation.

Kula uka supported the dryland planting of ʻuala and kō, while the kahawai and ʻauwai formed the vascular system of this entire network, circulating fresh water and nutrients. These waters ultimately fed kula kai—the coastal fisheries and nearshore ecosystems that received the cumulative benefits of responsible upland management. Management practices were carefully aligned with these zones. Farmers and gatherers understood where to plant, fish, and harvest not merely by elevation, but by observing patterns of soil behavior, wind, rain, and seasonal cues. This interdependence meant that damage or neglect in one zone would reverberate throughout the system. The ecological knowledge embedded in this practice was transmitted generationally, forming the backbone of Hawaiian stewardship.

This integrated Hawaiian worldview, referred to as the honua ola or living earth, frequently runs counter to the fixed boundaries and categorical systems preferred in western management frameworks. *The tidy little "dot on the map" makes it easy to dissociate less-tangible parts of the landscape—the beliefs, customary practices, living culture, traditions and access—from the larger part of the landscape.* In words familiar to those who engage in traditional cultural properties studies, these other facets of the landscape are "contributing features" of a larger biocultural landscape that is comprised of both tangible and intangible cultural assets.[7]

Nā Wao a me nā Māhele o ka Honua
(Environmental Zones and Division of the Earth)

A discussion about the honua ola and wahi inoa, must also include the intimate and sophisticated Hawaiian science of designating land divisions. Indeed, a whole class of kahuna – kuhikuhi puʻuone (experts in the nature, topography and spirit) of the honua (earth) existed. These kahuna developed native terms and land management customs that extended from the ocean depths to the heavens. It is important for contemporary readers to know that in the Hawaiian mind all aspects of the land—*all natural and cultural resources (biocultural environment) are interrelated, and that all are culturally significant*. Thus, when speaking of Maui Hikina, its integrity and sense of place depends on the well-being of the whole entity, not only the part of it that was convenient to the western colonizers. These wao are evidence of the detailed knowledge that Hawaiians had—and which some maintain—for the honua ola.

Acknowledging the relationship of one wao to another is rooted in traditional land management practices and values. Indeed, just as place names tell us that areas are of cultural importance, so to, the occurrence of a Hawaiian nomenclature for environmental zones tells us that there was an intimate relationship between Hawaiians and their environment.

The Native Hawaiian tradition of Ka-Miki (in *Ka Hoku o Hawaii*, 1914-1917), provides readers with a detailed discussion on Hawaiian land divisions and environmental zones as passed down from the kūpuna of the authors at the time. One portion of the moʻolelo (tradition)

[7] For background, see National Register Bulletin 36 (Little, et al., 2000) and National Register Bulletin 38 (Parker & King, 1990).

named the environmental zones from mountain peaks to the sea. Please note, we have added diacritical marks to these texts to assist with pronunciation.

1	Ke kuahiwi	1	The mountain
2	Ke kualono	2	The region near the mountain top
3	Ke kuamauna	3	The mountain top
4	Ke ku(a)hea	4	The misty ridge
5	Ke kaolo	5	The trail ways
6	Ka wao	6	The inland regions
7	Ka wao ma‘u kele	7	The boggy rain belt region
8	Ka wao kele	8	The rain belt region
9	Ka wao akua	9	The distant area inhabited by gods [Where the cloud cover moving through the forest along the mountain slopes conceals the actions of the gods and goddesses who walk the earth.]
10	Ka wao lā‘au	10	The forested region
11	Ka wao kānaka	11	The region of people [Where resources are safely collected in the uplands.]
12	Ka ‘ama‘u	12	The place of ‘ama‘u [Upland Sadleria fern region, and where upland agricultural activities might occur.]
13	Ka ‘āpa‘a	13	The arid plains
14	Ka pahe‘e	14	The place of wet land planting
15	Ke kula	15	The plain or open country
16	Ka ‘ilima	16	The place of ‘ilima growth [A seaward, and generally arid section of the kula.]
17	Ka pu‘eone	17	The dunes
18	Ka po‘ina nalu	18	The place covered by waves [shoreline]
19	Ke kai kohola	19	The shallow sea [shoreline reef flats
20	Ke kai ‘ele	20	The dark sea
21	Ke kai uli	21	The deep blue-green sea
22	Ke kai pualena	22	The yellow [yellow sun reflecting– sea on the horizon]
23	Kai pōpolohua-a-Kāne-i-Tahiti.	23	The deep purplish black sea of Kāne at Tahiti.[8]

These zones were not managed in abstraction; they were lived and maintained through deeply rooted social structures that ensured knowledge and responsibility were distributed across the community.

Community Structure and Embedded Knowledge Systems

The zoned landscape of Maui Hikina was mirrored by a social structure that embedded knowledge, responsibility, and observation within families and kin groups. Knowledge was held and passed through ‘ohana, and transmitted by observation, apprenticeship, and everyday interaction with the ‘āina. Kūpuna guided land-use decisions not only through instruction but through example, shaping a culture of learning by doing—cleaning ‘auwai, planting, harvesting, observing wind and rain, and noting seasonal rhythms.

[8] “Kaao Hooniua Puuwai No Ka-Miki…” *Ka Hoku o Hawaii*, Kepakemaba 21, 1916 (Maly, translator).

As James Keolaokalani Hūʻeu, Jr., of Keʻanae (*Figure 4*), a historian and expert in the places names of the area who took part in an oral history program in 2001, recalled, loʻi were planted in a rotation to ensure a year-round supply of kalo. Families knew where to find other forest resources like hāpuʻu (fern), ʻohe (bamboo), iholena (native banana variety), ʻieʻie (climbing screwpine), and kōpiko (a native tree), carefully tending them where they were found to ensure their future use. Water, and the resources it nurtured, were not just passive, but actively engaged with. Wai, especially, was monitored, adjusted, and even allowed to rest. “Actually, you no need plenty water to raise the taro,” he noted. “As long as you can damp, only you got to work harder.” Water was used not only to nourish, but to suppress weeds, allowing farmers to focus their energy where it was most needed.

Figure 4. Kupuna James Keolaokalani Hūʻeu, Jr., a local historian and expert on the many place names of the area, accompanied Kepā on a field visit along the ditches of EMI. Picture (KPA1462) courtesy of Kepā Maly, November 20, 2001.

Traditional cycles included hoʻomaha—the practice of resting the land between plantings—and made use of springs as well as streams. The system was not static. It adapted to local conditions, used diversified sources, and integrated indicators like limu growth, fish behavior, and plant health. It also extended beyond the kalo grown in the loʻi. ʻOʻopu, ʻōpae, and pūpū thrived in these systems, and the health of the stream reflected the health of the community.

Even the landscape itself mirrored social relations. ʻOhana lived in both upland and coastal regions, exchanging dryland and irrigated crops, marine and forest resources. As Hūʻeu described, families from Piʻinaʻau and Kahoʻokuli would kuapo (exchange) with those living in lower Keʻanae. This pattern of residence and resource-sharing reinforced relationships across elevation and ecosystems. It was not only a matter of food security, it was a way of life, rooted in reciprocity and kuleana.

These knowledge systems are vividly preserved in the oral histories included in this report. From accounts of maintaining streambeds and clearing overgrowth, to the naming of places like Waikani and Waiakuna, we hear the lived science of stewardship. The story of a manō ʻaumakua raised in a stream and returning to protect his descendants speaks to a worldview where natural and familial systems are entwined. These are not merely moʻolelo, they are archives of environmental governance.

In order to succeed in restoring water flow and resource equity the ʻAha Wai o Maui Hikina must draw from this living memory. The knowledge exists, not only in records, but in the bodies and voices of those who have never stopped being stewards.

Documented in the Māhele: Records of Continuity

Records, however, are important to a full understanding of the legacy and continuity of Maui Hikina's land and water systems, acting as evidence that pre-existing systems of care did not vanish at the onset of foreign contact. During the period of the Māhele ʻĀina (1848–1855), native tenants across Maui Hikina submitted land claims grounded in continued use and customary stewardship. The Māhele process, initiated by Kamehameha III, was intended in part to formalize and protect the rights of makaʻāinana to the lands they already occupied and cultivated (See Appendix A – The Māhele ʻĀina and Kuleana Holdings).

It is important to note, however, that not all claims were awarded. Of the more than 450 land claims submitted across Hāmākua Poko, Hāmākua Loa, and Koʻolau, only 276 were awarded. The remainder were not denied due to lack of use, absence of cultivation, or lack of legitimacy, but often because of procedural barriers, sickness, discouragement, or poor communication with the commission. Even in the cases of the claims that were denied or reduced, the descriptions themselves serve as a snapshot of traditional land use, affirming the lived reality of the applicants. These numbers, along with the hundreds of pages of testimonies included in this report, provide abundant evidence that these systems remained active and coherent, part of the lived experience of the stewards of Maui Hikina. The claims and maps generated through this process offer a rare and detailed window into how land and water were being used at mid-century.

That these records were chosen for reproduction in full is not incidental—they serve as foundational evidence of governance by relationship and practice. They confirm that traditional biocultural practices persisted, and that residents of Maui Hikina were intentionally documenting their rights, responsibilities, and resource use even as foreign governance systems advanced. Claims from East Maui describe extensive loʻi kalo complexes, ʻuala and kō in kula lands, house sites adjacent to ʻauwai, and access to forest and shoreline resources; clear evidence of living systems that had adapted, not abandoned, their ancestral foundations (See Appendix A – Synthesis of Kuleana Claims).

Some examples:

- LCA 5195B to Kiko at Keʻanae lists loʻi kalo in use alongside ʻauwai and kula lands for sweet potato.
- LCA 3241 to Kahele at Honomanū identifies a cultivated area with both taro patches and native forest resources nearby.

- LCA 3865 to Kalei at Nāhiku includes multiple loʻi, a house lot, and forest access—though only part was awarded.
- LCA 5118 to Kaualeleiki at Haʻikū includes a mala of ʻieʻie at his plot in Hanawana.
- Testimonies frequently describe “pōʻalima” lands, indicating organized communal agriculture systems that maintained relationships with the konohiki. (*Figure 5*)

Figure 5. The ʻIeʻie, or Climbing Screwpine, Whose Aerial Rootlets are Used for Hīnaʻi (Baskets), Mahiʻole (Helmets), and Hīnaʻi Hīnalea or ʻOʻopu (Fish Traps), Persists on the Landscape of Maui Hikina. Photo Taken Along the Ditch Trail During a Field Visit in 2001, Shows the Perseverance of Resources Mentioned in the Land Claims of the Māhele ʻĀina. Picture (KPA1460) courtesy of Kepā Maly, November 2002.

These records are not simply historical artifacts, they are guideposts. They form an essential bridge between older systems of konohiki governance and today’s efforts to reestablish localized water management. At the same time, it is critical to recognize that the absence of a particular term or resource in the written claim does not mean the absence of its use or presence in daily life. In Hawaiian cultural and legal context, presence was proven through relationship and use, not enumeration. The notion that everything must be listed is a foreign legal expectation that did not reflect how kānaka understood their rights and responsibilities. Certain elements, such as hale, trail access, or rights to stream water, were so fundamental and expected to be understood, not necessarily itemized. The legal framework imposed during the Māhele period did not always align with the lived assumptions of native tenants, whose relationships to ʻāina and wai were embedded in generational knowledge rather than contractual language.

The cumulative effect of these shifting systems, legal, ecological, and political, was not only a matter of documentation. Over time, the erosion of access to water, land, and customary

governance contributed directly to the destabilization of rural communities. To fully understand the stakes of water governance today, it is necessary to examine how these changes coincided with population loss across Maui Hikina.

Population Decline and the Disruption of Water Systems

The historical relationship between population density and water availability in Maui Hikina offers critical insight into the long-term consequences of water loss and land alienation. Historical records from the 19th century often failed to organize population counts by traditional districts such as Hāmākua Loa or Koʻolau. Instead, population statistics were often recorded by missionary station locations. In the case of East Maui, the Haʻikū mission station served as the administrative and religious center for much of Maui Hikina. As such, figures attributed to Haʻikū likely encompassed a broader area, including the surrounding Hāmākua-Koʻolau region. Some areas may also have fallen under the Wailuku station. For this reason, reported counts for Haʻikū provide a reasonable approximation of regional population at the time, though they should be read with this context in mind.

When viewed through this lens, the 1836 *Missionary Herald* account becomes especially instructive: it reported that areas with ample streamflow and intensive wetland taro cultivation, such as Haʻikū and Hāna, supported thousands of Native Hawaiians. These places were sustained by perennial streams and ʻauwai systems, allowing for year-round loʻi production and continuous food supply. By 1853, however, population numbers had begun to decline, particularly in regions increasingly affected by water diversion and agricultural restructuring.

The 1853 census recorded 2,800 people across Hāmākua Poko, Hāmākua Loa, and Koʻolau, suggesting that these regions retained relatively stable populations where water infrastructure and loʻi cultivation remained intact. Coulter emphasized that areas with irrigated taro lands were most densely populated, while the kula (dryland) zones—despite their wider acreage—were less attractive due to the labor intensity and unpredictability of rainfall. Later records from 1866 and 1884 demonstrate a continued depopulation trend, particularly in districts undergoing commercial transformation or where stream flow was compromised.

While epidemics and disease undeniably devastated the Hawaiian population—with contemporary sources estimating the loss of up to 190,000 people from major outbreaks between 1803 and 1853, settlement patterns remained stable where loʻi and stream-fed agriculture were maintained. As leases expanded and water was diverted toward plantation agriculture, particularly after the Māhele and throughout the late 19th century, many native families found themselves displaced not only by demographic catastrophe but by the loss of subsistence systems that had long anchored them to place.

The cultural and ecological infrastructure of Maui Hikina, its taro patches, forest trails, and stream-fed terraces, was not simply disrupted by natural causes. The depopulation that followed must be understood within the dual context of public health crises and systematic loss of water access. This history should inform current watershed management planning by reminding us that where wai ceased to flow, people ceased to remain. For today's stewards, understanding where communities once thrived helps guide where restoration efforts may be most meaningful.

Toward Reinstating Practice

The preceding sections highlight patterns of population, land use, and resource management that were deeply tied to water availability. The archival and oral history materials compiled in this report provide the ʻAha Wai o Maui Hikina with documentation that connects traditional stewardship to the specific places and practices that once sustained dense, intergenerational communities. In considering future watershed priorities, these materials are intended to guide decision-making by identifying both the historical locations of practice and the conditions under which they thrived.

The ʻAha Wai o Maui Hikina in seeking to craft a management plan rooted in place, will not need to invent new systems. These systems already exist in the memory of the land, the knowledge of the kūpuna, and the archival record. What is needed now is a decision-making process that honors these foundations. By understanding the logic and layout of traditional management, today's stewards can restore not only water flow, but the structure of care that made that flow possible. This is not a call to replicate the past, but to move with it, grounded in place, accountable to community, and guided by knowledge systems that have already proven their worth.

COLONIALISM – TRANSFORMATIONS OF LAND AND WATER USE

"I ka wā ma mua, ka wā ma hope."
(The future is in the past.)[9]

The landscape and governance of Maui Hikina have undergone multiple phases of transformation since the early 19th century, with significant implications for watershed health, water access, and the continuity of customary practices. This section traces the shift from konohiki-managed systems grounded in generational stewardship to the commercial appropriation of water for plantation agriculture, focusing especially on the cumulative effects of private interests in the Nāhiku, Keʻanae, Honomanū, and Huelo regions. The historical record is clear: the disruption of traditional systems was not merely ecological, but also cultural and political, and it was met with sustained resistance by kamaʻāina who recognized the long-term impacts of diversion and exclusion.

From Konohiki Stewardship to Privatized Tenure

The transition from collective to individualized land tenure was formalized through the Māhele ʻĀina (1848–1855), a period during which King Kamehameha III and his advisors sought to legalize land rights for aliʻi, makaʻāinana, and the government. While intended in part to secure the holdings of Native Hawaiian tenants, the process often favored those with access to legal counsel, monetary resources, and the ability to navigate complex legal procedures. Makaʻāinana were required to file claims, present testimony, and appear before the Land Commission to secure title to lands they and their ancestors had long occupied. Many did, and the resulting claims in Keʻanae, Honomanū, and Nāhiku include descriptions of loʻi, kula lands, hale, and access to water and forest resources.

Yet many claims were not awarded, due to procedural missteps, absence during hearings, or structural barriers to proof. In these cases, the loss of title did not indicate the absence of residence or use. As discussed previously, the assumption of access to water, hale, and gathering zones was embedded in cultural norms and not always explicitly listed. The legal framework had shifted, but the customary framework had not disappeared.

The problem was compounded by the conduct of some aliʻi and konohiki. As documented in the report, certain chiefs actively discouraged their tenants from filing kuleana claims. Kamakau (1961:403) and J.S. Green (1846) both describe instances where aliʻi instructed hoaʻāina not to submit testimony, thereby undermining their access to secure title under the very system designed, in part, to protect them.

Following the Māhele, many large parcels, particularly in the uplands and forest zones, were claimed by the government and subsequently leased to commercial enterprises. This shift created the conditions under which water could be diverted at scale, often without the knowledge or consent of the communities most directly affected.

The full technical report includes detailed archival records from the Māhele ʻĀina, including Land Commission Awards, native testimonies, and maps; lease records from the Territorial period; and translated Hawaiian-language newspaper articles that document both customary

[9] A saying used by Akoni Akana, Former Executive Director of The Friends of Mokuʻula.

practices and community responses to land and water dispossession. These sources provide a layered view of how native tenants experienced and responded to the legal and ecological disruptions of the 19th and early 20th centuries.

The East Maui Irrigation System and Commercial Diversion

By the late 19th century, plantation agriculture, especially sugarcane cultivation, required vast quantities of water. Entrepreneurs including Samuel T. Alexander and Henry Perrine Baldwin initiated the construction of an extensive system of ditches, flumes, and tunnels to capture and redirect streamflow from East Maui's rain-rich windward slopes to the drier central plains of Maui. (*Figure 6*)

Figure 6. Photograph ca. 1895 depicting the Maui Ditch Gate & Crew. (Hawaii State Archives, PP-50-7-025.)

The East Maui Irrigation (EMI) system, begun in 1876 and expanded rapidly thereafter, diverted water from dozens of streams in the ahupuaʻa of Nāhiku, Keʻanae, Honomanū, and Huelo. These diversions were engineered with significant financial and technical resources, often overriding community concerns and ecological consequences. Streams that once fed loʻi, estuarine fisheries, and family water supplies were reduced to a trickle or went dry entirely.

The construction of the EMI system marked a profound rupture for kamaʻāina communities in East Maui. Although the EMI system was praised in business and agricultural circles as a feat of engineering and economic development, for kamaʻāina communities it devastated traditional water systems that had operated since time immemorial. These traditional water systems—

integrated, responsive, and regulated by communal need, were overridden by a large-scale diversion infrastructure designed to serve commercial agriculture regulated through corporate control and commodified access. This shift prioritized extraction over reciprocity, severing the relationships that had sustained stream health and community abundance. The impacts were not limited to agriculture. As streamflow diminished, taro yields dropped, native aquatic species declined, and spiritual practices connected to flowing water were interrupted, and often demonized.

Community Impacts and Resistance

The historical record documents that residents of Maui Hikina voiced their concerns early and persistently. Testimonies preserved in the 2001-2002 oral history interviews, as well as government records, reflect a deep unease with the diversion of water and the lease of public lands to private plantation interests. Kūpuna recalled not only the physical impacts, dry streams, failing kalo, abandoned terraces, degraded fisheries, but the spiritual and moral consequences of losing connection to flowing water.

One resident of Keʻanae recounted how the reduction of streamflow had "killed the valley," not only economically but culturally. Others spoke of attempts to appeal to government officials, write letters, and hold meetings, often with little response. One such appeal came in the form of a written petition dated September 12, 1881, submitted by J. W. Kehuhu and twelve other Native Hawaiian residents of Honomanū, Keʻanae, and Wailua. (*Figure 7*) Addressed to the Commissioners of Crown Lands, the petition explicitly urged the government not to grant water rights from their lands to Claus Spreckels and his growing sugar empire at Kamaʻomaʻo. The petitioners warned that doing so would result in harm to the makaʻāinana living in these communities:

> "…*Do not dispose any of the water-rights (pono wai) of the Crown Lands (ʻāina lei aliʻi), those being from Honomanu, Keʻanae, Wailua, to the millionaire (Claus Spreckels) of Kamaʻomaʻo. Because, if any of the water-rights of the above described Crown Lands are disposed of, then, the King's subjects, living on said lands, will be troubled. That which has been done by the millionaire with the waters of other lands is known, and because of these known troubles, we beg you to put an end to the taking of water*…"[10]

This letter is among the earliest surviving documents from Maui Hikina that explicitly objects to corporate water diversion. It underscores that concerns over water access were not isolated grumblings, but organized expressions of political will, rooted in firsthand experience and grounded in kuleana to place.

These community concerns mirrored those in neighboring districts. A letter from Waikapū dated November 23, 1866, describes similar tensions. Writing to the Commissioners on Ways and Water Privileges, an official warned:

> "There is going to be much trouble in Wailuku respecting Water as the Plantation is taking all the water from the natives, and I am sorry to say the natives will, if it continues become very short of Kalo for Food…"[11]

[10] Hawaiʻi State Archives, Interior Department Box 55 – Water Maui & Molokaʻi, 1866–1887; Maly, trans.
[11] Hawaiʻi State Archives, Commissioners on Ways & Water Privileges.

Figure 7. Wailua, Koʻolau, Maui. December 1903, Registered Map No. 2234; overlayed on ESRI World Imagery (Map compiled by Richard Mather). Identifying Natural and Manmade Features, Kuleana and Grant Lands.

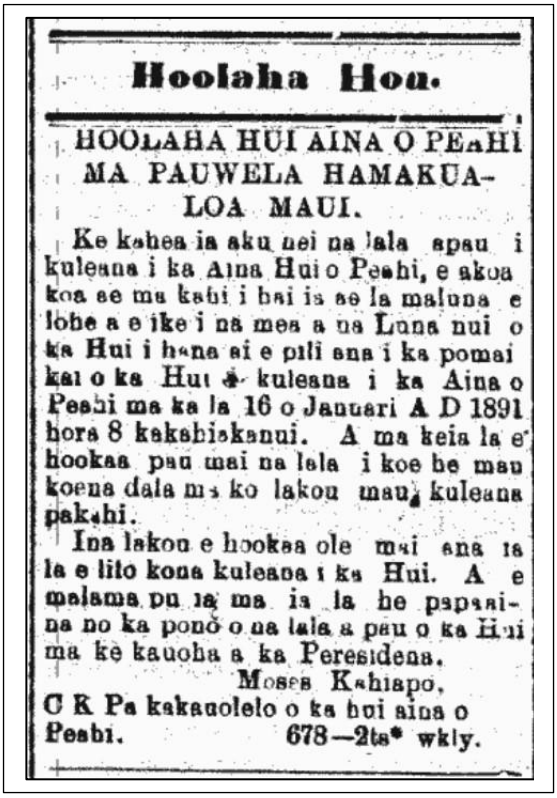
Though written outside the bounds of Maui Hikina, the letter reflects the broader arc of dispossession observed across the island. It further affirms that Native Hawaiians recognized the impact of corporate water extraction early, and resisted its encroachment through both formal petition and communal testimony. The archival record makes clear that community resistance was not simply reactionary. It was deliberate and organized, grounded in generational commitments to place. This context helps explain why the leasing of crown and government lands in the upper elevations, once understood as communal access zones, was widely perceived as a betrayal, or at least an abandonment, by institutions once expected to safeguard local interests.

Collective Resistance: The Rise of Hui Kūʻai ʻĀina

In the decades following the Māhele, many native tenants found themselves dispossessed, not because they lacked claims to the land in a cultural sense, but because they had been unable to successfully navigate the procedural and legal framework imposed by the new system. Filing a claim with the Land Commission required not only knowledge of the process, but also access to agents, timing, and sufficient familiarity with the legal language and expectations of Western land tenure. This form of legal literacy, not necessarily tied to English fluency, created a structural barrier for many hoa ʻāina.

In response to these barriers and the increasing consolidation of land under foreign or corporate control, Native Hawaiians throughout Maui Hikina organized collectively into hui kūʻai ʻāina, land purchase associations formed for the purpose of acquiring land in common. These hui became crucial mechanisms of resistance and adaptation, allowing Hawaiians to pool resources, assert collective rights, and reclaim some measure of self-determination in landholding (Figure 8).

One of the earliest examples in East Maui was the Hui Kūʻai ʻĀina o Ulumalu, reportedly formed around 1883. Though ultimately short-lived, its land fell into the hands of commercial interests by the late 1880s, it set a precedent for organized, native-led land acquisition.



Hoolaha Hou.

HOOLAHA HUI AINA O PEAHI MA PAUWELA HAMAKUA-LOA MAUI.

Ke kahea ia aku nei na lala apau i kuleana i ka Aina Hui o Peahi, e akoa koa ae ma kahi i hai ia ae la maluna e lohe a e ike i na mea a na Luna nui o ka Hui i hana ai e pili ana i ka pomai kai o ka Hui a kuleana i ka Aina o Peahi ma ka la 16 o Januari A D 1891 hora 8 kakahiakanui. A ma keia la e hookaa pau mai na lala i koe he mau koena dala ma ko lakou mau kuleana pakahi.

Ina lakou e hookaa ole mai ana ia la e lilo kona kuleana i ka Hui. A e malama pu ia ma ia la he papaina no ka pono o na lala a pau o ka Hui ma ke kauoha a ka Peresidena.

Moses Kahiapo.
G K Pa kakauolelo o ka hui aina o Peahi. 678—2ts* wkly.

Figure 8. A newspaper clipping from Ko Hawaii Pae Aina dated December 27, 1890. Calling all Members of the Hui Aina of Peahi to a Meeting on January 16, 1891 (Notice by Moses Kahiapo, President and G. K. Pa, Secretary)

A more enduring effort was led by Moke Kahiapo in Peʻahi around 1890. After acquiring a parcel through foreclosure, Kahiapo subdivided the land and sold shares exclusively to Hawaiians, forming the Hui Kuai Aina o Peahi (Land Purchase Association of Peahi). Members cultivated dryland crops such as ʻuala, kalo, and sugarcane, and established house lots and

schools, asserting both economic and cultural continuity on the land. The events of the rise and fall of this hui are accounted in the full report (See Appendix A – Emergence of The Hui Kuia Aina).

Perhaps the most deliberate and structured effort came with the Huelo Hui, established in 1896. When 1,459 acres of foreign-owned land became available, local Hawaiians organized to purchase it in shares, intentionally excluding non-Hawaiians. This hui operated as a true land cooperative, with written bylaws, elected officers, and mechanisms for internal governance. This action must be considered one of the most forceful expressions of Native Hawaiian assertion of rights in East Maui. However, due to the lack of funding to purchase the land, by 1897, non-Hawaiians were authorized to become members and were offered to purchase some of the 70 shares. Importantly, the Huelo Hui lands included parts of the Spreckels Ditch. (*Figure 9*) In 1898, one of the members, Akanaliilii, gave the lands and water rights to J. K. Smythe for a term of twenty years, without the consent of the other members. Beginning in 1899, further shares were sold to the Hawaii Commercial & Sugar Company (HC&S), continuing the alienation of the hui lands until more ownership was in the hands of corporate entities than native ‘ohana. At the time of a special meeting held in September of 1924, discussing the partitioning of the hui lands, HC&S had 45 shares, Kahului Railroad Company had 5 shares, and H. A. Baldwin had 3 shares, totaling nearly 85% of the hui shares (See Appendix A – History of The Hui Aina o Huelo).

Although they were disbanded or partitioned due to internal and external pressures, these hui were successful as political statements. They asserted Native rights in the face of colonial systems and demonstrated a willingness to use available legal tools to resist dispossession. Though the hui did not endure as economic endeavors, their legacy remains critical for understanding how East Maui communities navigated the post-Māhele landscape with both resilience and agency.

Lessons for Present Governance

The history of land and water use in Maui Hikina offers critical insight for the present work of ‘Aha Wai o Maui Hikina. The transition from konohiki stewardship to private diversion was not simply technological or economic—it was structural and relational. It displaced a system rooted in observation and responsibility with one driven by extraction and export.

Today, the challenge is not merely to repair infrastructure or reallocate flow, but to restore the principles that governed water long before its commodification. This includes reaffirming the community’s right to participate in decisions, honoring the testimony of kūpuna, and recognizing that land and water management must be relational rather than transactional.

The story of Maui Hikina is not one of loss alone. It is also a record of resilience—of families who stayed, remembered, replanted, and resisted. As the board considers its kuleana, it may look to this history not only for caution, but for guidance.

Figure 9. Hāmākualoa – Haʻikū Plantation Co. (ca. 1890) overlayed on ESRI World Imagery (Map compiled by Richard Mather). Identifying Natural and Manmade Features, Kuleana and Grant Lands.

ORAL HISTORY PERSPECTIVES FROM MAUI HIKINA

“Hō mai ka ‘ike nui, ka ‘ike iki!”
(Grant knowledge of great things, and of the little things!)[12]

As illustrated by the information relayed by Kupuna Hūʻeu in the above section, the oral traditions and testimonies shared by kūpuna of East Maui are not anecdotal. They are repositories of knowledge that speak to observation, generational change, and the values embedded in land and water care. In the context of the ʻAha Wai o Maui Hikina, these oral histories serve not only as cultural memory but as evidence—documenting the lived experience of water use, diversion, resistance, and regeneration across more than a century.

The oral history interviews conducted by Kepā and Onaona Maly capture detailed recollections from long-time residents of Keʻanae, Wailuanui, Honomanū, Huelo, and neighboring ahupuaʻa. All of the kūpuna interviewed were born before statehood, raised on family land, and actively participated in the maintenance of ʻauwai, loʻi, native forest systems, streams and fisheries. Their accounts are first-hand and their experiences are now reflected in the generations that have followed, some of which are actively participating in the mandates of the ʻAha Wai o Maui Hikina.

One common theme that emerges throughout the oral histories is the role of observation in water management. Kūpuna remembered how streamflow patterns shifted with the seasons, how loʻi were cleaned and fed on rotation, and how family members would track rainfall and adjust planting or harvesting practices accordingly. Several speakers noted that water was never wasted: once a loʻi was fed, overflow was returned downstream or used in a subsequent plot. Timing was important; so was respect. Families knew how much water they could take, and when to step back. Konohiki enforcement was not necessary when practice was continuous.

Equally consistent were recollections of disruption. The testimonies document the slow drying of streams once diversions increased, especially after the expansion of the EMI system. Some kūpuna remembered swimming in streams that no longer exist. Others recalled the sound of the water as it moved through the valley—and its absence after flumes replaced natural flows. A sense of grief accompanies these observations, not only for the environmental loss, but for the disconnection and the inability to teach younger generations in the same way.

Yet even in grief, there is resistance. Residents spoke about writing letters, testifying at hearings, and joining collective petitions. They described the cultural protocols that accompanied access to the forest, to gathering zones, and to the uplands. Several noted that even when streamflow diminished, families kept the loʻi open, hoping for return.

Notably, many kūpuna were also genealogists, chanters, or land stewards. Their testimonies are filled with the names of places, winds, rains, and ʻohana. They provide maps of memory that supplement and sometimes surpass cartographic records. For example, place names such as Puaʻakaʻa, ʻŌpūnui, and Hoʻolawaiki were identified in relation to water function, family kuleana, and traditional pathways.

[12] An ancestral saying shared by M. K. Pukui, pers. comm.

In accordance with the directive from ʻAha Wai o Maui Hikina to document population trends and where people resided, these oral histories, like the land award claims before them, give voice to families who remained in the region despite economic pressure. The interviews speak to multi-generational residency in Keʻanae, Wailuanui, Honomanū, and adjacent areas. They provide details on housing, planting, schooling, and spiritual practices, all shaped by the condition and availability of wai.

Readers of the full report will find extensive excerpts, cited by name and date, which underscore how oral testimony is not just remembrance, but a governance archive. These are the records that tell us what was, what was lost, and what remains possible.

STREAM HISTORIES AND KULEANA

“Ola i ka wai a ka ‘ōpua.”
(There is life in the water from the clouds.)[13]

In East Maui, streams are not just waterways; they are named, remembered, and relationally maintained. The valleys of Nāhiku, Keʻanae, Honomanū, and Huelo contain dozens of stream systems, each with its own character, seasonality, and cultural function. The technical report documents the histories of individual streams such as Waianu, ‘Ōpūnui, Palauhulu, and Wailuanui, connecting those histories to land claims, oral accounts, and stewardship protocols that governed water use for generations. Many of these streams originate in wao akua, where rainfall and cloud forest absorption sustain consistent flow. The water then descends through zones of agricultural use—primarily loʻi systems—before reaching estuarine and nearshore habitats. This connectivity was long understood by residents, who monitored stream health not only in their own plots but throughout the system.

The report includes detailed accounts of stream-specific ‘auwai, some of which were engineered generations ago and are still remembered by name. For example, the ‘auwai of Waianu fed numerous loʻi across Keʻanae and was maintained through coordinated family work. When sediment clogged the intake, residents walked up the valley with tools, often guided by those who would kilo and monitored rainfall and stream conditions.

In testimonies gathered from kūpuna, streams are described as lifelines, not only for plants and people, but for ancestral continuity. Access to water was part of one’s kuleana. With that access came responsibility: to clean, to rotate, to share. In some accounts, when families failed to clean their section of the ‘auwai, they were publicly reminded or temporarily restricted from use until balance was restored. Proof of communal governance and enforcement.

The stream names themselves encode knowledge. The name Waianu, for example, translates as “cool or pleasant water,” and reflects not just temperature, but feeling and experience. ‘Ōpūnui suggests abundance or swelling, possibly in relation to rainfall. These names are not accidental; they convey intergenerational observations and understandings of stream behavior.

Streamflow records and survey maps from the Territorial period document the magnitude and timing of diversions that began to affect these systems. Oral history and land claim records both describe how multiple families shared access to a single stream, often through ‘auwai that passed through multiple Kuleana parcels. This interdependence meant that flow management required communication, not just engineering. Kuleana, in this context, was not a legal term but a lived one. It was defined by work, relationship, and memory. Families knew where their water came from, who shared in its use, and what their obligations were in return. (*Figure 10*)

In the current moment, stream restoration efforts must be attentive not only to flow volume or ecological targets, but to the restoration of this type of kuleana. As emphasized throughout the report, many of the families who still reside in these valleys carry knowledge of stream use patterns, ‘auwai alignments, and planting schedules tied to specific flows. The goal is not to

[13] M. K. Pukui. 1983, # 2482. ‘Ōlelo Noʻeau.

return to the past, but to uphold the integrity of relationships that sustained both water and people.

Figure 10. The roadside intake of Kopiliula Ditch taken during the field visit with Kupuna James Keolaokalani Hūʻeu, Jr.
Note: There is no Overflow from Diversion
Picture (KPA1469) courtesy of Kepā Maly, November 2001.

Figure 10. The roadside intake of Kopiliula Ditch taken during the field visit with Kupuna James Keolaokalani Hūʻeu, Jr. Note: There is no Overflow from Diversion Picture (KPA1469) courtesy of Kepā Maly, November 2001

LEGAL AND POLICY FRAMEWORKS AFFECTING EAST MAUI WATER

“Nakeke nā Iwi o Hua i ka Lā”
(The Bones of Hua Rattle in the Sun)[14]

Understanding water governance in Maui Hikina requires engaging not only with customary knowledge and historical practice, but also with the legal instruments that have shaped access and control over time. The technical report provides a synthesis of key statutes, policies, and court decisions relevant to East Maui’s water systems, highlighting the often-fractured jurisdictional landscape in which Native communities have had to operate.

Historically, large-scale water diversion was enabled through government leases and agreements that did not adequately consult or compensate local residents. The earliest diversion infrastructure in East Maui was constructed during the Kingdom era, but expansion intensified under the Republic and Territorial governments, particularly through the formation of the East Maui Irrigation Company and its associated leases of government lands.

These leases, many of which remained in effect into the late 20th century, granted private companies the right to divert water from multiple streams across East Maui. They were often issued with minimal environmental review or public process. Over time, these diversions became institutionalized, even as their impacts on streamflow, agriculture, fisheries, and cultural practices became increasingly evident.

Beginning in the 1990s, community groups and legal advocates initiated challenges to the legitimacy of those leases, arguing that they violated both environmental laws and the constitutionally protected rights of Native Hawaiian practitioners. The report references decisions from the Hawai‘i Supreme Court affirming that water is a public trust resource and that the state has a duty to protect traditional and customary practices dependent on water flow.

Among the most significant legal landmarks is the 2000 *Waiāhole* decision, which clarified that water resources must be managed for the benefit of the public, not merely for economic exploitation. While that case originated on O‘ahu, its legal reasoning has been repeatedly cited in East Maui water disputes.

Additionally, the State Constitution (Article XI, Section 7 and Article XII, Section 7) affirms that the state must protect traditional and customary rights exercised for subsistence, cultural, or religious purposes. These rights are not extinguished by private landownership and must be considered in the allocation and permitting of water use.

The report also notes the ongoing relevance of contested case hearings, environmental assessments, and water lease renewals managed by the Board of Land and Natural Resources (BLNR). These processes are not merely bureaucratic, they are contemporary battlegrounds in which questions of access, equity, and stewardship continue to be contested.

In this legal context, the authority of ‘Aha Wai o Maui Hikina to investigate, acquire, and manage water delivery systems takes on added weight. It is an opportunity to rebalance the scales—to ensure that cultural relationships to water are not merely recognized in principle but

[14] Coming from the upper slopes of Haleakalā above Maui Hikina, this saying was spoken as a warning to those who failed to respect biocultural resources and the people of the land. See Appendix A - Technical Report for a full recounting. M. K. Pukui. 1983, # 1811. ‘Ōlelo No‘eau.

reflected in policy and implementation. The challenge will be to navigate these frameworks without losing sight of the values that pre-date them: kuleana, kapu, and mālama.

GOVERNANCE PATHWAYS AND RECOMMENDATIONS

“Maikaʻi ka hana a ka lima, ʻono nō ka ʻai a ka waha!”
(*When the hands do good work, the mouth eats good food!*)[15]

The restoration of East Maui's watershed systems is not simply an ecological or engineering task, it is also a governance challenge. For ʻAha Wai o Maui Hikina to fulfill its kuleana as outlined in the Maui County Charter, it must operate within a complex matrix of legal precedent, community expectation, and cultural obligation. The executive summary and full technical report offer more than historical context; they outline specific pathways, drawn from the voices and experiences documented in the report, through which the board may engage its responsibilities.

1. Ground Policy in Place-Based Knowledge

The most effective water governance models begin with the places they intend to serve. This means recognizing and upholding the integrity of individual ahupuaʻa—Nāhiku, Keʻanae, Honomanū, and Huelo—not as arbitrary units, but as living systems with historical and ecological coherence. Decision-making must be grounded in the specific stream systems, loʻi complexes, and cultural practices that characterize each region.

Recommendation: All watershed planning and review documents should include a section that reflects local oral history, traditional land use, and place-name analysis. These should not be relegated to appendices but serve as guiding content in management plans.

2. Center the Voices of Kamaʻāina

The people who live in Maui Hikina, and whose families have stewarded its lands and waters for generations, must be seen as experts. The full report includes direct testimony from kūpuna who have maintained loʻi, cleared ʻauwai, and protested stream diversions. These voices are not supplemental, nor is the information they impart anecdotal; they are foundational to any just restoration process.

Recommendation: Establish a formal advisory council composed of residents from the four license areas, with representation from traditional practitioners, loʻi farmers, and cultural lineages associated with specific streams or valleys.

3. Use Customary Systems as Templates for Modern Infrastructure

Traditional systems of water management in Maui Hikina were finely tuned to seasonality, streamflow, and community need. These systems, although sometimes dismissed as pre-modern, offer lessons for contemporary infrastructure design. ʻAuwai with built-in overflow, loʻi with cascading flow-through, and rotational access models are still ecologically viable.

Recommendation: Require all restoration and infrastructure proposals to include an assessment of how customary knowledge systems could inform design and operation. This includes consultation with kūpuna and kilo familiar with historical water behavior.

[15] Pers. comm., Daniel Kaopuiki, Sr.; Lānaʻi, 1970

4. Reassert the Public Trust Doctrine and Customary Rights

Legal precedent in Hawai‘i is clear: water is a public trust resource, and Native Hawaiian traditional and customary practices must be protected. However, these rights are often overlooked or minimized in bureaucratic process. ‘Aha Wai o Maui Hikina has both a legal and cultural mandate to foreground these rights in its decisions.

Recommendation: Develop internal policies that require all proposed actions—leases, diversions, repairs—to be reviewed for their impacts on traditional and customary practices, with a presumption in favor of those practices when in conflict with private or corporate use.

5. Document and Monitor Stream Behavior as Cultural Indicator

Monitoring is often understood as a technical exercise—measuring flow rate, turbidity, or sedimentation. But in East Maui, stream health is also a cultural indicator. The sound of water, the presence of ‘o‘opu or hīhīwai, the species in the muliwai—these are ways in which families have long read the state of their watershed.

Recommendation: Establish a biocultural monitoring program that tracks both ecological and cultural indicators, integrating kilo knowledge into data collection.

6. Plan for Intergenerational Stewardship

The report documents not only past practices but a pattern of generational knowledge transmission. This is a resource that must be cultivated. As younger generations are called into stewardship roles, they must be given tools, access, and opportunity to learn from elders and practitioners.

Recommendation: Fund intergenerational programming that supports kilo training, ‘auwai workdays, and apprenticeship opportunities in water system repair and management—linking traditional practice with modern workforce development.

7. Recognize Interconnected Impacts

Maui Hikina is not a dot on the map. While the work of ‘Aha Wai o Maui Hikina is concentrated in specific ahupua‘a, the effects of restoration, diversion, or degradation ripple across the island and the Pae ‘Āina. Restoration is not a localized repair—it is a statement about the kind of island future being built.

Recommendation: Collaborate with other watershed and cultural governance entities island-wide and statewide to share data, practices, and mutual accountability, especially in light of cumulative impacts on stream systems and marine ecosystems.

CONCLUSION – ENDURING KULEANA

“Nawai hoʻi ʻole ke akamai i ke ala hele i hehi ʻia na kuʻu mau kūpuna?”
(Who would not be smart in traveling the path of my ancestors?)[16]

This report is not a call to return to the past, but to remember what the past made possible. Maui Hikina sustained abundance—of food, of water, of knowledge—because its people lived in relationship with the land and with each other. That relationship was not incidental. It was structured, practiced, and continually reaffirmed through work, protocol, and presence.

The interruption of that system—through land privatization, water diversion, and external control—was not simply the result of modernization. It was a political and economic shift that devalued ancestral knowledge in favor of profit. But that knowledge was never lost. It was retained in loʻi that continued to be planted, in ʻohana that refused to leave, and in the words of kūpuna who insisted that the streams could run again.

The challenge that we face today, when speaking of *ka wai ola a Kāne*—the life-giving waters of Kāne that flow from Maui Hikina—is putting into action that which is good, and which will sustain the generations that follow us.

ʻAha Wai o Maui Hikina stands at a pivotal moment. It has the authority, granted by charter and charged by community, to shift the direction of East Maui’s water future. But that authority must be exercised with the humility and integrity that define kuleana. It must be grounded not only in regulatory compliance, but in cultural competency. Not only in infrastructure, but in insight.

This executive summary, and the full technical report that follows, are offered as tools. They are not prescriptive blueprints. They are maps of relationship—between people, between places, and between generations. The work ahead is to restore what those relationships made possible: flowing streams, fed loʻi, clean oceans, and thriving and sustainable communities.

In doing so, the board will not only fulfill its mandate. It will take its place among the line of those who stood at the spring—who stood at the source—and chose to protect it.

He Pule No Ka Wai a Kāne a me Kanaloa
A Prayer for the Waters of Kāne and Kanaloa

He Mele no Kane	**The Water of Kane**
He ù-i, he ninau:	A query, a question,
E ù-i aku ana au ia oe,	I put to you:
Aia ihea ka wai a Kane?	*Where is the water of Kane?*
Aia i ka hikina a ka La	At the Eastern Gate
Puka i Hae-hae;	Where the Sun comes in at Haehae;
Aia i-laila ka Wai a Kane.	*There is the water of Kane...*
...E ù-i aku ana au ia oe,	One question I put to you:
Aia i-hea ka Wai a Kane?	Where is the water of Kane?

[16] Adapted from a statement made by Liholiho Kamehameha II (ca. 1822). (ref. M. K. Pukui. 1983, # 2301. ʻŌlelo Noʻeau).

Aia i ke kua-hiwi, i ke kua-lono,	*Yonder on mountain peak, on the ridges steep,*
I ke awawa, i ke kaha-wai;	*In the deep valleys, where the rivers sweep;*
Aia i-laila ka Wai a Kane.	*There is the water of Kane.*
E ù-i aku ana au ia oe,	This question I ask of you:
Aia i-hea ka Wai a Kane?	Where, pray, is the water of Kane?
Aia i-kai, i ka moana,	Yonder, at sea, on the ocean,
I ke Kua-lau, i ke anuenue,	In the driving rain, in the heavenly bow,
I ka punohu, i ka ua-koko,	In the piled-up mist-wraith, In the blood-red rainfall,
I ka alewa-lewa;	In the ghost-pale cloud-form;
Aia i-laila ka Wai a Kane.	There is the water of Kane...[17]

‘Āmama, ua noa, a lele wale aku lā!

[17] “Unwritten Literature of Hawaii, The Sacred Song of the Hula” (Emerson, 1909:257-259.)

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