

KA PA‘AKAI ANALYSIS
for the
EXISTING HONOKŌHAU STREAM DIVERSION
in the Ahupua‘a of Honokōhau and the Moku of Ka‘anapali,
Honokōhau Aquifer System,
Lahaina Aquifer Sector

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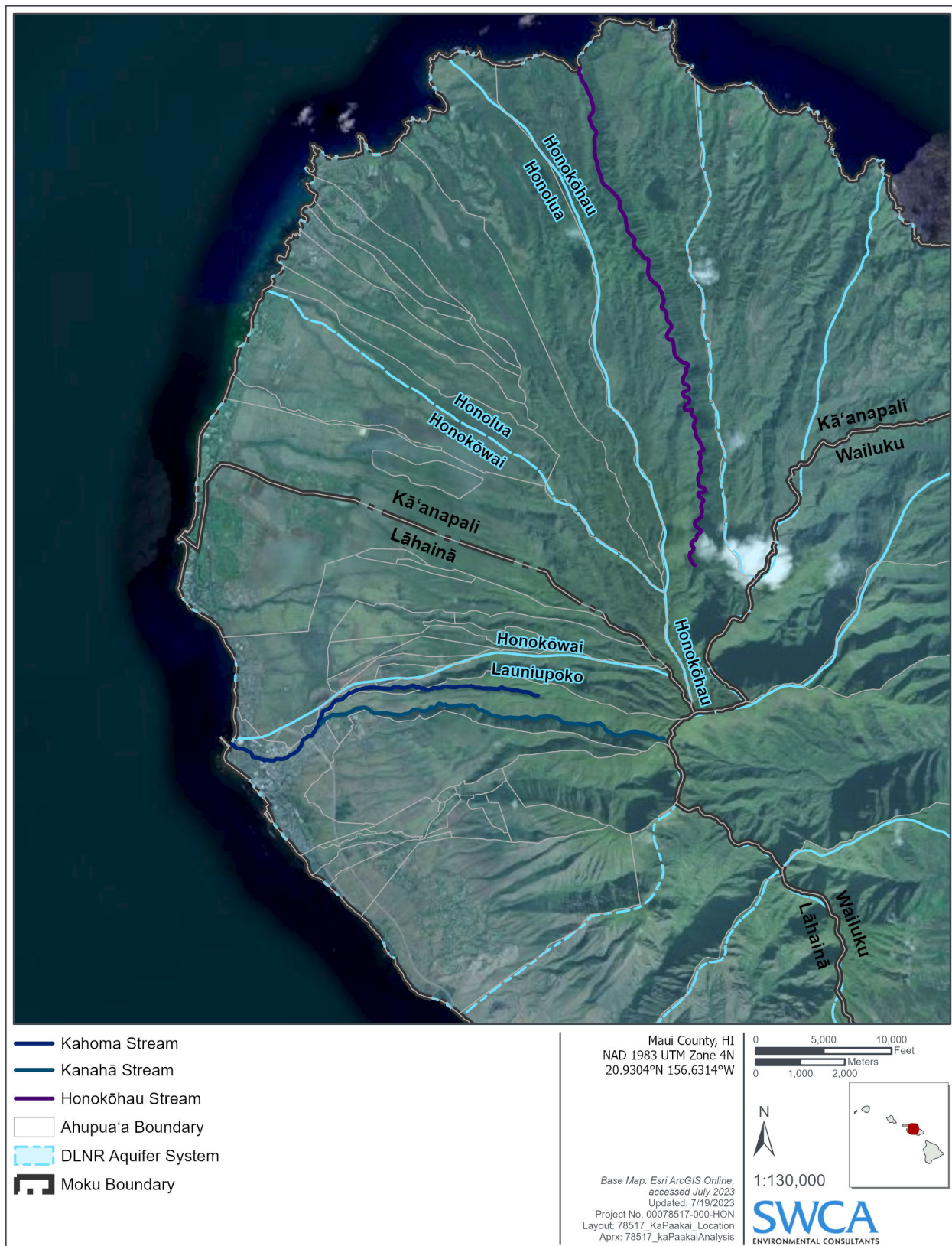
INTRODUCTION

Maui Land and Pineapple Company Inc. (MLP) conducted and prepared this Ka Pa‘akai Analysis to support its Surface Water Use Permit Application (SWUPA) for the existing Honokōhau Stream diversion located within the ahupua‘a of Honokōhau, in the moku (district) of Ka‘anapali. The Honokōhau Stream diversion rests within the Honokōhau Aquifer System and is part of the larger Lahaina Aquifer Sector. (Figure 1)

In 2022 the Hawai‘i Department of Land and Natural Resources (DLNR), Commission on Water Resources Management (CWRM) designated the Lahaina Aquifer Sector as a Surface and Ground Water Management Area. As a result of this designation, MLP is required to submit water use permit applications to CWRM for its existing and proposed water sources within the Lahaina Aquifer Sector. At this time, MLP has no proposed water sources for which it is submitting water use permit applications.

The following Ka Pa‘akai Analysis has been prepared to support the permit application for MLP’s existing Honokōhau Stream diversion. The analysis focuses on identifying the cultural, historic and natural resources within the Honokōhau Aquifer System that are valued by Native Hawaiians, the extent to which traditional and customary rights and practices were and are conducted in the area, how those rights and practices have been and may be impacted by the existing water use of the Honokōhau diversion, and what feasible actions will and may be taken by MLP to reasonably protect these constitutional rights of Native Hawaiians.

The ahupua‘a of Honokōhau has a rich history of traditional and cultural use, and current residents, kuleana and appurtenant rights holders continue to value and practice those protected rights. While the current cultural practitioners conduct their traditional practices on a smaller scale than that of their ancestors, they have hopes of expansion. Community members have expressed an interest in increasing traditional subsistence agriculture to provide greater food security. Kalo farmers have communicated the need for more reliable water flow to maintain and expand their fields and are seeking direct communication with the water system’s management. Some community members have collectively offered to teach and help implement consistent data collection and documentation of the water quality and of the natural resources present within the streams. MLP is committed to greater outreach to and collaboration with the community and rights holders impacted throughout the Honokōhau Aquifer System as we continue to ground ourselves in our kuleana of stewardship throughout this ahupua‘a that we are grateful to be a part of.



**Figure 1: West Maui Mountains aquifer systems map within the Lahaina Aquifer Sector
 (with permission of SWCA Environmental Consultants)**

ENVIRONMENTAL SETTING

The Honokōhau aquifer system, or hydrologic unit, rests on the north slope of Pu‘u Kukui, which is the summit of Mauna Kahālāwai (the West Maui Mountains). The hydrologic unit begins at the 5,788-foot peak of Pu‘u Kukui and covers 11.46 square miles as it descends to the coastline. Established and managed by MLP and its nonprofit partners since 1988, the approximately 8,660-acre Pu‘u Kukui Watershed Preserve encompasses much of this aquifer system, from the peak to 480 feet above sea level along Honokōhau Stream. (Figure 2)

The Preserve includes rainforests, bogs and shrublands dominated by native species, with at least 36 species of rare plants and eight endangered species under its protection. Nine native tree and freshwater snails, three native forest birds (‘apapane, ‘amakihi and ‘i‘iwi), endangered yellow-faced bees, the endangered and threatened ‘ua‘u (Hawaiian petrel) and nene, and the endangered ‘ōpe‘ape‘a (Hawaiian hoary bat) may find shelter in the expansive conservation area. The native vegetation and forest also protect the mountain’s soils from eroding and act like an absorbent sponge that soaks in heavy rains and slowly squeeze the water into streams and groundwater aquifers.

The preserved wilderness that covers the summit of Mauna Kahālāwai is the source of much of the rainfall and fog drip that recharges the Honokōhau aquifer. The northeasterly tradewinds push the warmer air from the moist ocean and coastal regions up the windward flank of the mountains to their cooler peak environments, where the air cools and moisture condenses into either fog that gets captured by the trees and shrubs (creating fog drip to the soil below) or rain, which falls more actively. The mean annual rainfall on Pu‘u Kukui is approximately 362 inches, as measured since 1928 by MLP and USGS station 380.0. (DLNR CWRM 2019c: 12) More than one-third of the monthly precipitation in Honokōhau’s upper watershed (above 2,000 feet) comes from fog drip. (Id: 13) All of this is important to the recharge of aquifers and to maintaining streamflow.

Streamflow varies with water availability based on weather and other natural conditions, terrain that shapes the stream bed’s angle and floor, and influxes from groundwater and diversions. Descriptions of various portions of a stream include the terms “gaining” or “losing”, which refer in part to natural interactions between ground and surface water. This includes areas where the ground- and surface-waters interact, either adding to the stream with springs or taking from the stream through seepage. “A common misconception is that flow restoration from diversions is immediately followed by continuous flow downstream from the point of release all the way to the coast (analogous to turning on a faucet); however this is not always the case.” (DLNR CWRM 2019d: 11)

Maui Land & Pineapple Co. Pu'u Kukui Watershed Preserve

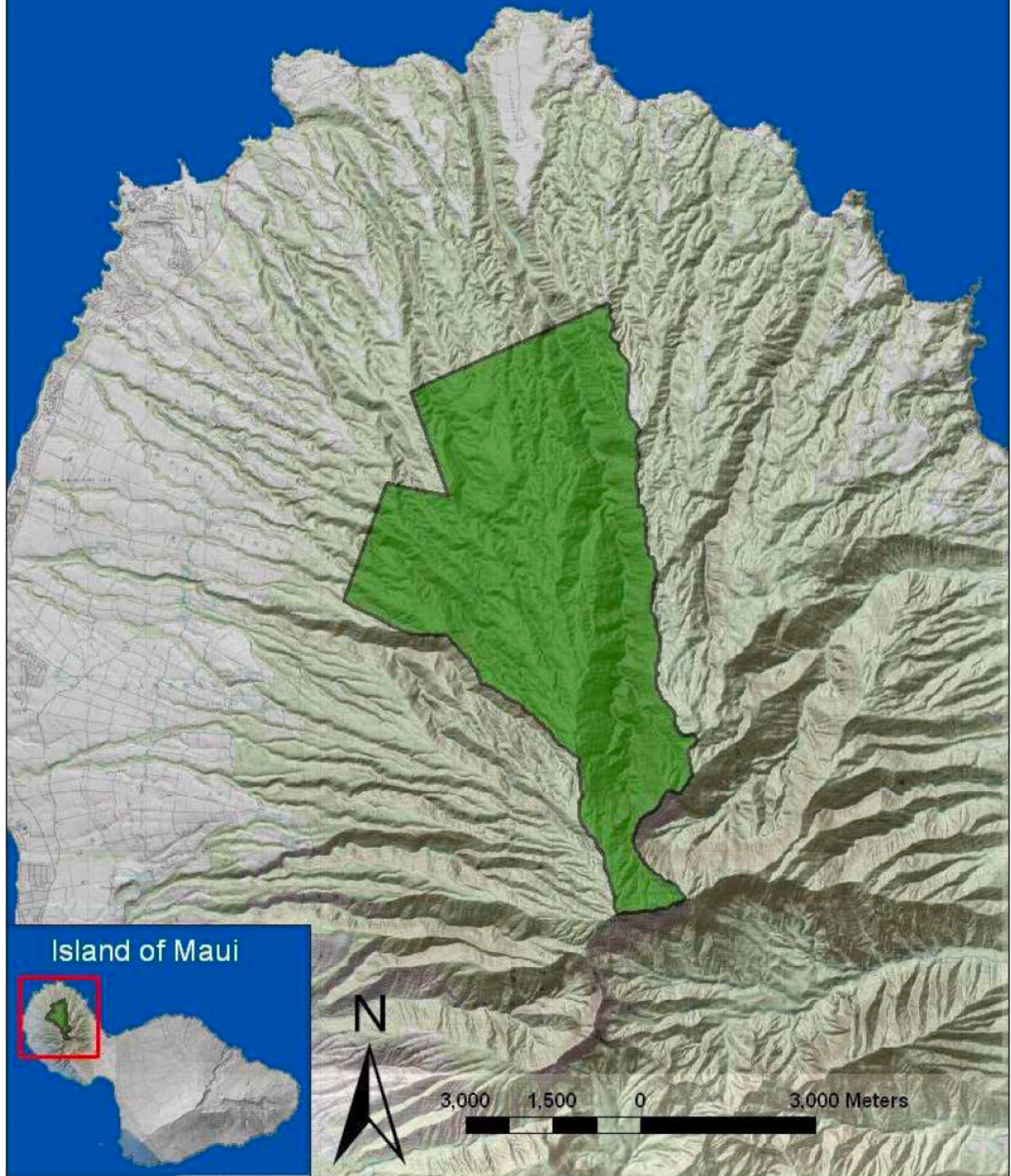


Figure 2: Pu'u Kukui Watershed Preserve

For example, Honolua Stream mostly loses water below its diversions because its flow does not include access to the same groundwater storage systems as nearby Honokōhau Stream. Precipitation provides Honolua's main recharge, and that additional water will first seep into the ground, creating a "losing" section of the stream. "In some cases, flow will become continuous only after enough water has infiltrated the streambed and raised the water table, allowing base flow to be maintained by equilibrium with sub-surface flow." (Id.) Both Honokōhau and Honolua streams have gaining and losing sections. Honolua Stream mostly loses water as it flows from the location of the abandoned diversions to the ocean (Id.), and "the stream naturally runs dry during periods of extremely low rainfall." (Id., at 18) Honokōhau Stream, on the other hand, mostly gains water below its diversions because the stream accesses high-elevation dike-impounded groundwater that releases via springs that were "improved" by the construction of tunnels. (Id., at 11)

Climate and rainfall changes have been documented in West Maui, showing a significant decline of rainfall during the dry season and increased flooding from more extreme storm events, which do not recharge aquifers and can damage infrastructure and stream valleys, during the wet seasons. Modeling remains uncertain and requires more data collection and study.

Non-native grasses and crop species dominate the lower half of the Honokōhau hydrologic unit. The upper reaches of the watershed hold most of its existing native plants, such as 'ōhia forests, shrubland, bogs and some "native dry cliff vegetation." (DLNR CWRM 2019c: 16)

BRIEF DIVERSION AND USGS DATA BACKGROUND

The Pioneer Mill Company and other firms that merged into what is now MLP jointly funded the construction of the Honokōhau Ditch, diverting water from Honokōhau and Honolua watersheds for sugar and pineapple fields in 1904, then moving the diversion's intake from a 700-foot elevation to its current location at the 825-foot elevation in 1913. (Figure 3) Since Pioneer Mill closed in 2000 and Maui Pineapple Company shuttered in 2009, MLP continues to use diverted water to supply non-potable irrigation needs for the Kapalua Resort area's landscaping and golf courses as well as for some diversified agriculture.

When the Hawai'i Water Code became law in 1987, it required that all stream diversions and wells be registered with CWRM by May 31, 1989. (HRS § 174C) In compliance, MLP registered its diversions on Honokōhau and Honolua streams and its Kapalua Wells. Diversion 768 (Kaluanui Intake – Inactive since 2005) in the Honokōhau hydrologic unit and Diversion 769 (Honolua Intake – Inactive since 2005) in the Honolua hydrologic unit are no longer

operational. Diversion 770 (Aotaki Weir) in the Honokōhau hydrologic unit requires the SWUPA to which this Ka Pa‘akai Analysis is attached.

In 2007, the United States Geological Survey (USGS) and the Office of Hawaiian Affairs (OHA) produced a Scientific Investigations Report that provided data, described the distribution and availability of base flows, and analyzed the freshwater needs of lo‘i kalo (flooded kalo or taro fields). (DLNR CWRM 2019c: 80) The report included descriptions of lower Honokōhau Stream, which had groundwater gains between the USGS long-term continuous gaging station 1662000 at the 870-foot elevation, at Diversion 770 (825-foot elevation) and downstream to the ocean. (Id. At 29) In 2006, MLP filed petitions to amend the instream flow standard for both Honolua and Honokōhau streams. In 2014, the USGS published another Scientific Investigations Report (2014-5087) that included the streamflow availability of Honolua Stream under natural low-flow conditions. The above data informed the CWRM process in developing the IIFS and are referenced in the below analysis.

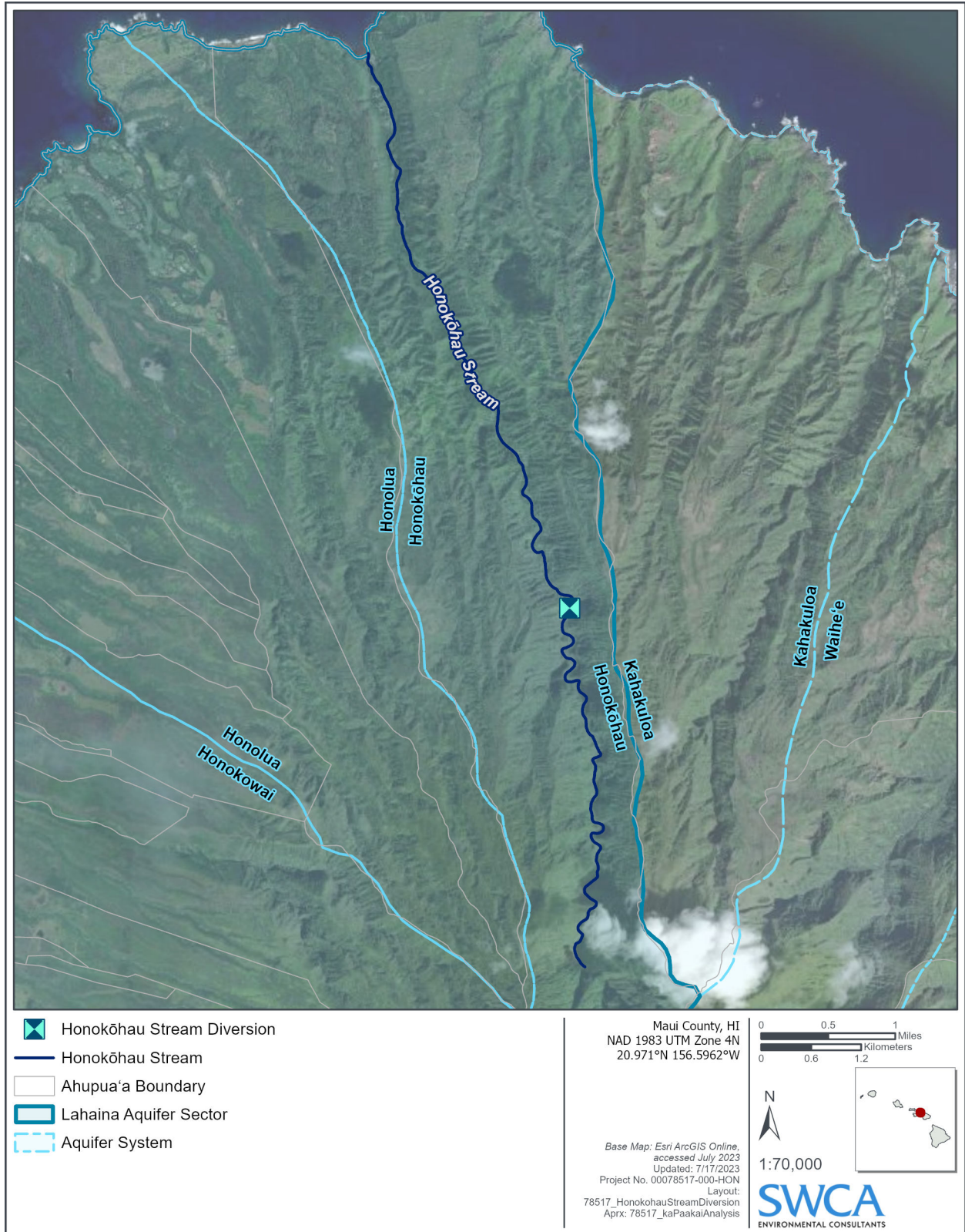


Figure 3: Map of Location of Existing Honokōhau Stream Diversion (with permission of SWCA Environmental Consultants)

KA PA‘AKAI ANALYSIS

Upon publication of the designation of Lahaina Aquifer Sector as a Surface and Ground Water Management Area, existing water users had one year to file their Water Use Permit Applications (WUPA). Upon review of these applications, each of which must include a Ka Pa‘akai Analysis, CWRM may issue permits for existing reasonable and beneficial uses that are within the public interest and consistent with governmental land use plans. (HRS §§ 174C-49 (a), 174C-5050 (c))

The Hawai‘i Supreme Court established the process of the Ka Pa‘akai Analysis in its 2000 decision Ka Pa‘akai O Ka ‘Aina v. Land Use Commission, 94 Hawai‘i 31, 7 P.3d 1068. The prescribed process of analysis helps decisionmakers and resource stewards effectuate the constitutional protections found in Article XII, Section 7, which reads:

The State reaffirms and shall protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes and possessed by ahupua‘a tenants who are descendants of Native Hawaiians who inhabited the Hawaiian Islands prior to 1778, subject to the right of the State to regulate such rights.

The Hawai‘i Supreme Court had also previously clarified that Article XII, Section 7 was not to be narrowly construed because the intentions of the drafters at the 1978 Constitutional Convention were to protect “the broadest possible spectrum of native rights”. (Pele Def. Fund v. Paty, 73 Haw. 578, 619-20, 837 P.2d 1247, 1271 (1992) (quoting Stand. Comm. Rep. No. 57, in 1 Proceedings of the Constitutional Convention of Hawai‘i of 1978, at 640 (1980)).

Keeping the above in mind when considering proposed actions, the relevant government agency then has the affirmative duty to acquire, review and assess the following information:

- (1) the identity and scope of “valued cultural, historical, or natural resources” in the petition area, including the extent to which traditional and customary native Hawaiian rights are exercised in the petition area;
- (2) the extent to which those resources – including traditional and customary native Hawaiian rights – will be affected or impaired by the proposed action; and
- (3) the feasible action, if any, to be taken by the [agency] to reasonably protect native Hawaiian rights if they are found to exist (Ka Pa‘akai at 46-47, 7 P.3d at 1083-84, internal footnotes omitted).

Next, MLP follows the above process of the Ka Pa‘akai Analysis. We offer descriptions of historic and current Native Hawaiian practices that include natural and cultural resources within the Honokōhau hydrologic unit for which we are submitting our SWUPA. We provide quotes and summaries from recent testimonies of how those resources and the Native Hawaiian community have been affected by the existing Honokōhau Stream diversion. MLP also commits to feasible actions to address the comments of current traditional cultural practitioners and the current and future care of the natural and cultural resources within the Honokōhau ahupua‘a. Each of the following three subsections address the above elements of the Ka Pa‘akai Analysis process, in order.

FIRST ELEMENT: IDENTITY AND SCOPE OF CULTURAL, HISTORIC AND NATURAL RESOURCES, AND THE EXTENT OF NATIVE HAWAIIAN RIGHTS BEING EXERCISED

Natural resources are cultural resources:

After exploring and settling Hawai‘i, the northernmost point of the Polynesian Triangle, Native Hawaiians evolved within this archipelago, becoming a distinct people indigenous to the isolated ecosystems of Hawai‘i. Their ecosystem-based and adaptive resource management strategies continue to resonate, their genealogical connections to the natural elements of the islands make them careful stewards, and the length and depth of their ancestral knowledge continues to expand through cultural practice and consistent resilience within their natural and social environments. In part because of this, all natural resources are cultural resources to Native Hawaiians, particularly if those resources are endemic or native to the place or if they originated from those many, original inter-archipelagic voyages (i.e., canoe plants). MLP respects the Native Hawaiian worldview and will keep it in focus throughout the Ka Pa‘akai Analysis and during resource management decision-making.

Ahupua‘a management:

The traditional terms of moku and ahupua‘a, which many land managers continue to reference, originated to delineate land and resource management areas. For example, the Honokōhau watershed is within the Honokōhau Ahupua‘a and Ka‘anapali Moku. These are not just map names, but terrestrial signposts that often – as in Honokōhau – extend from the top of a watershed out to the fishing areas of the sea. The kuleana (right and responsibility) of managing and stewarding the resources within an ahupua‘a required consistent environmental and social awareness and knowledge.

Hawai‘i has several amphidromous species of fish that migrate between fresh and salt water during different points of their life cycles, directly exemplifying the importance of ahupua‘a-based management. Most Hawaiian amphidromous species spawn in fresh water, then the larvae flow downstream into the ocean and develop until they return to the freshwater to grow to full maturity and spawn. These species require the connectivity and comingling of fresh and seawater. They need connectivity upstream to water that is deep and cold enough for them to thrive and spawn, and connectivity downstream to ensure that their larvae are flushed to an area clean enough to provide proper food sources. Many of these amphidromous species crawl as much as swim, so they need natural stream bottoms (rather than modified and smoothed ones), enough stream water flow to attract their upstream migration, but not so much that they cannot

maneuver against the flow. These native fish have similar streamflow needs to that of native mollusks and crustaceans.

The health of these native species relies upon continuous streamflow, and various species inhabiting the stream and just offshore along the coastline need various flow strengths. In 2003, before a then-damaged Diversion 770 had been restored, natural resource surveys were conducted along Honokōhau Stream, and then again after the diversion had been restored, in 2005. (DLNR CWRM 2019d: 16). Analysis of that data showed that “restoration of as little as 1.5 cfs (1.0 mgd), in combination with natural pulse flood events, provided sufficient habitat and connectivity for new recruits of o‘opu alamo‘o (*Lentipes concolor*), o‘opu nakea (*Awaou stamineus*), and ōpae kala‘ole (*Atyoida bisulcata*) to return to the stream above Diversion 770.” (Id.) This means that the fish (o‘opu) and crustaceans (ōpae) were able to navigate the diversion as well as the stream itself. In 2019, additional surveys documented “new recruits and reproductive-size adults of o‘opu alamo‘o, o‘opu nakea, o‘opu nopili (*Sicyopterus stimpsoni*), and ōpae kala‘ole.” (Id.)

It is understandable why fresh water is considered such a valuable natural and cultural resource that, according to Native Hawaiian customary law, must be shared: no one can own it. The Hawaiian word for “wealth” is waiwai, a duplication of the Hawaiian word for “water”, wai. (Pukui and Elbert 1986: 380)

The mixing of freshwater with kai (nearshore ocean waters) also supports a fragile ecosystem. Freshwater flows flush bacteria and other contaminants downstream and are necessary for the lifecycle of limu and other marine life. As mentioned above, several native amphidromous species require wai and kai connectivity for successful life cycles. Many species of nearshore limu (seaweed) do as well. Native Hawaiians often look to limu as beacons of the health of the nearshore and upstream ecosystems and as traditionally gathered and cared for food sources.

The kai and moana (deep sea) continue to provide several varieties of fish as major protein sources for customary and present Native Hawaiian subsistence fishing. The West Maui coast was renowned for its marine resources, although no traditional fishponds are recorded or used in this ahupua‘a. Other traditional practices along the Honokōhau ahupua‘a’s shoreline and in its deep sea include surfing, diving, canoe paddling and voyaging.

Kilo:

The traditional and cultural practice of kilo, or purposeful observations of natural phenomena, continue to be used for farming, fishing, voyaging, assessing natural resources,

gathering la‘au lapa‘au (medicinal plants), as well as gathering plants and animals for sustenance. This deep awareness of and alertness to the physical realm of their environment can also take Native Hawaiians to a deeper understanding of ancestral knowledge, practice and spiritual experiences. All of the above builds respectful, reciprocal relationships with land, sea and people that can help practitioners teach, learn and practice other traditional skills.

Native Hawaiians then and now understand and respect the interconnectedness of the environment and the reciprocal nature of caring for what cares for us. Anchored in the belief that Native Hawaiians are related to every natural element of Hawai‘i means that traditional resource management incorporates caring for the resources as family members.

Kalo farming:

For example, kalo, the Hawaiian name for taro, is both a foundational food plant and culturally believed to be the younger brother of Native Hawaiians. To many, these cultural connections are sacred. Reconnecting with cultural and natural resources as one’s ancestors once did provides invaluable learning opportunities and chances to innovate and expand upon experiential knowledge, which adds to an extensive baseline of ecological knowledge. Those traditional knowledge holders can collaborate with the much shorter records of those practicing western scientific studies if trusted relationships can be built.

Historically, the five valleys north of Lahaina along the flanks of Mauna Kahālāwai supported extensive agriculture. E.S. Craighill Handy, Elizabeth Green Handy and Mary Kawena Pukui report in *Native Planters in Old Hawaii: Their Life, Lore, and Environment* (1972) that Honokawai, Kahana, Honokahua and Honolulu “had extensive lo‘i lands in their valley bottoms, where terraces rose tier on tier in symmetrical stone-faced lo‘i.” (Handy and Handy: 494). The fifth valley, Honokōhau, “which is watered by a large rivulet flowing from far back in the mountains, had the most extensive system of lo‘i along this coast. (Id.) Honokōhau Ahupua‘a supported more than 1,000 lo‘i across more than 50 acres.

After construction of the Honokōhau Ditch, lo‘i cultivation continued in the valley. In 1940, E.S. Craighill Handy described Honokōhau valley as, “watered by a large rivulet the flow of which never ceases, even today when much of its water is piped off in the upper valley – was, and still is, an area of intensive cultivation of wet taro in flooded terraces. In 1931 a larger proportion of the patches were under taro cultivation in Honokohau than anywhere else on Maui with the exception of Kahakuloa.” (Handy, *The Hawaiian Planter, Vol. 1: His Plants, Methods, and Areas of Cultivation*: 106). Just three years later, however, in the section of West Maui that had so recently contained the most lo‘i kalo “commercial planting and exhaustion of the soil had

brought in root-rot and some of the large lo‘i were abandoned, and some were planted in rice.” (Handy and Handy: 494).

As of 2019, instead of more than 50 acres, approximately 5.15 acres of the Honokōhau valley were recognized kuleana parcels, and 3.5 acres included lo‘i kalo. (DLNR CWRM 2019d: 21) The Honokōhau Valley Association restores kalo patches with groups of volunteers who actively learn the full process of kalo production, which has traditionally been a community-based practice.

Historic Resources:

As in most parts of Hawai‘i, pre-contact Hawaiian populations centered around West Maui’s streams and coastal resources. Therefore, most archaeological sites and features within the Honokōhau ahupua‘a are related to farming and habitation, with some fishing features and burials. The terracing and ‘auwai systems are extensive in the middle reaches of Honokōhau Stream, with po‘owai (a traditional diversion for a stream) and heiau also in the hydrological unit. (DLNR CWRM 2019c: 82)

SECOND ELEMENT: DEMONSTRATE EXTENT TO WHICH THOSE RESOURCES HAVE BEEN AND WILL BE AFFECTED OR IMPAIRED BY THE EXISTING WATER USE

The Hawai‘i Water Code (Code), Chapter 174C, Hawaii Revised Statutes (HRS), provides the methods by which CWRM (also, the Commission) may adopt interim instream flow standards (IIFS), and the Hawai‘i Supreme Court described those standards as “the primary mechanism by which the Commission is to discharge its duty to protect and promote the entire range of public trust purposes dependent upon instream flows.” (Waiahole I: 94 Hawai‘i 97, 148, 9 P.3d 409, 460).

The Hawai‘i Constitution, Article XI, Section 1 states, “All public natural resources are held in trust by the State for the benefit of the people. Article XI, Section 7 explains that Hawai‘i “has an obligation to protect, control, and regulate the use of Hawai‘i’s resources for the benefit of its people.” Out of that, the Public Trust Doctrine’s four priority water uses include:

- (1) Water used for traditional and customary practices,
- (2) Water reserved and used by the Department of Hawaiian Home Lands,
- (3) Water for domestic uses, and
- (4) Water in its natural state.

The Code defines “Instream flow standard” as the “quantity or flow of water or depth of water which is required to be present at a specific location in a stream system at certain specified times of the year to protect fishery, wildlife, recreational, aesthetic, scenic and other beneficial instream uses.” (HRS § 174C-3, Definitions). Instream use is defined as “beneficial uses of stream water for significant purposes which are located in the stream and which are achieved by leaving water in the stream.” (Id.) The definitions continues to include the following quoted examples of instream use, among others, that are of particular interest in a Ka Pa‘akai Analysis:

- Maintenance of fish and wildlife habitats;
- Maintenance of ecosystems such as estuaries, wetlands and stream vegetation;
- Aesthetic values such as waterfalls and scenic waterways;
- Maintenance of water quality;
- The conveyance of irrigation and domestic water supplies to downstream points of diversion; and
- The protection of traditional and customary Native Hawaiian rights. (Id.)

Non-instream use also applies to this Ka Pa‘akai Analysis because lo‘i kalo often require stream water to be temporarily diverted through ‘auwai (irrigation ditches) to keep cool, fresh water moving across the lo‘i, and because the water that is the subject of the relevant SWUPA is

being diverted in part to provide an existing, beneficial use for domestic and agricultural purposes. The Code further defines “non-instream use” as stream water that is used outside of the natural stream channel for domestic, agricultural and industrial purposes. (Id.)

As noted in previous sections of this analysis, some written record of the general change in Honokōhau Ahupua‘a after the ditch was employed exists, but stream data taken before and after the diversions, a current assessment of the general environment, and the voices of the people of the place who interact with the existing natural resources start to paint a clearer picture of what currently exists.

Stream data:

USGS has a long-term, continuous record gaging system at 875-foot elevation along Honokōhau Stream (station 1662000). (DLNR CWRM 2019c: 29) From 1914 to 2019 (most recent date of available reports) at that station, the median total flow has been 15.5 million gallons a day (mgd), and the low total flow has been 8.4 mgd. (DLNR CWRM 2019d: 20). Between that gaging station and the Aotaki Dam (Diversion 770), two development tunnels and a spring help the stream to gain surface flow between 3.4 mgd (median total flow) and 2.3 mgd (low total flow). (Id.) Then, from a 600-foot elevation to the 340-foot elevation of McDonald’s Dam, there is a gain in surface flow of at least 1.4 mgd. (Id.) CWRM staff also reported that between December 2018 and October 2019, their continuous-record gaging station at McDonald’s Dam showed a surface flow of 18.3 mgd (median total flow) and 12.6 mgd (low total flow). (Id.)

The 2007 USGS/OHA wetland kalo study documented that lo‘i kalo require a continuous flow of water to maintain an optimal water temperature of 77°F. (DLNR CWRM 2019c: 80) If the temperature is much cooler, kalo growth slows, and if it is much warmer, root rot is triggered. In his public testimony, Wili Wood described the heartbreak of root rot and other diseases and negative impacts from too little, too warm or too much water:

[T]here’s been many occasions where we’ve lost entire patches, entire lo‘is, due to insufficient and inconsistent water flow. And you know, it’s really heartbreaking to see all the community get together to do all this work and to see the patch spoiled right before the harvest. And you know, we still have to get in there and harvest that. We still have to get the community together and everybody comes and puts in that work. And as we’re pulling out these big kalo, you can stick your finger right through it. (DLNR CWRM 2019a: 9)

Collaboration with Community:

Sy Feliciano testified that he had witnessed o‘opu “stress out” in dry sections of the stream between the Aotaki dam to the Taro gate because high water could clog the Aotaki gate, keeping water from the system for about two miles until the Taro gate let water back into the system. (Id. at 3). He said that he had asked CWRM’s hydrologist, “‘How many days does it take for the fish to start dying?’ And he said, ‘maybe like four days maximum.’” (Id.). Sy Feliciano suggested that meant that the diversion managers needed to be able to monitor the system and respond to issues in less than four days.

Several community members offered that they could be part of an observational and data collecting team. For example, Kanoelani Steward found discrepancies in Honokōhau’s Instream Flow Standard Assessment tables listing species found in the stream valley: “[Y]ou guys indicate nākea, ‘alamo‘o, and nōpili, but you guys fail to mention that ‘ōpae kuahiwi was also sighted.” She also said that ‘o‘opu nōpili had been left out. (Id. at 13) She offered, with a specific example of Honolua Stream, where she had partnered with Pu‘u Kukui Watershed to do survey work, but potentially also for Honokōhau Stream, to:

train[] the community and other people, and giving them... empowering them to be able to collect this data and to hand it over to you guys, because you guys definitely don’t have the capacity to monitor all year round. And so, definitely finding not just people from the community, but even the educational programs helps get the teachers involved to teach it to the kids, ‘cause we do go up there to Honolulu to do surveys and everything, and so we also have knowledge of what types of fish are in the stream.

She urged Commission staff “to try to be more creative in accounting for all of our native stream organisms, because it is definitely protect[ed] as one of the instream uses.” (Id.)

Another testifier noted that “there’s roughly around 23 keiki in Honokōhau and 19 of keiki are Kula Kaiapuni keiki. They’re keiki ‘ōlelo Hawai‘i. They’re keiki aloha ‘āina, they’re keiki who are learning their culture, their history, their heritage, and the water is very important to them.” (Id.)

And, yet another testifier advocated that the community should be able to help maintain the system. “We should be able for go up there and if Taro gate is plugged or closed, we should be opening ‘em up.” (Id. at 15)

Lo‘i kalo impacts:

Several of the above-referenced kalo farmers provided written and oral testimony to CWRM staff in September and October 2019 (DLNR CWRM 2019a) and to the Commissioners in November 2019 (DLNR CWRM 2019e), all before the worldwide COVID-19 pandemic. Even in 2019, testifiers spoke of the desire for food security and independence and for the ability to open more lo‘i if there was consistent and reliable water flow at the correct temperature. Almost everyone who testified requested more water from the stream.

For example, Tamara Paltin testified on September 9, 2019 that:

we need to have a big framework for growth for more lo‘i in Honokōhau. I think it was last month, we opened up one more lo‘i within three hours and it was a big group effort. So I think it would be a mistake to look at three acres or whatever is currently there I think that you may need to plan for exponential growth of more lo‘i, because, to me, the way that I see things going, that’s the trend of things. (DLNR CWRM 2019a: 6)

One Honokōhau landowner who raises kalo in the valley testified that “now, there’s not many farmers, but when I was growing up, the whole valley was taro. Will we have enough water when more of these younger generation go back to their land and raise taro...?” (Id. at 2). Ka‘apuni Aiwohi, whose family goes back generations in the valley, testified that their family did not have enough water to farm on her heritage lands. (Id. at 5). A woman who had married into a multigenerational Honokōhau family that still lives in the valley spoke for the generations of other kuleana families that had to leave after the diversion: “My husband and his ‘ohana have been there for generations. His great-grandfather was a kalo farmer in Honokōhau.” (Id. at 13)

Wili Wood, who also lives with his family in the valley, stated that he had been “restoring and planting lo‘i since 2005, with the help of volunteer groups, schools such as Pūnana Leo, Ke Kula Kaiapuni, and Kahana Canoe Club, for example. We have donated hundreds and hundreds of pounds of kalo to these schools and clubs for their fundraisers.” (Id. at 9). He estimated that the valley then held approximately three acres of lo‘i, and he suggested that more would be planted if there was enough consistent water. “There’s plenty families up there. There’s a lot of people that would love to get back on their land, but the water is just not there. And when it is there, sometimes it’s too high. And then it’s too low the next day.” (Id.)

Infrastructure maintenance:

They also testified about the need for better management of the ditch and its diversions and gates, particularly in response to the number of extreme storm events that have damaged the water system and the resources downstream. Darryl Aiwohi testified about a recent storm that

caused so much water to be released that it stripped lo‘i of their kalo and their soil, down to hard rock. (Id. at 2). Tamara Paltin said of water system managers, “They gotta maintain the systems, you know, not just leave it, oh, this is broken, oh, this is not working. If you want to take it, you gotta take care of it.”

A parallel sentiment was the need for end users of the diverted water to do so conservatively and respectfully. Testifiers often called for irrigators to use the water more efficiently: not watering their landscaping during midday sun, planting native plants that require less water, and using agricultural land for agriculture. They also advocated for using R-1 water (recycled graywater), especially for residential or resort landscaping to prevent unwanted chemicals or elements from getting into the groundwater or agriculture.

Water wasting complaint:

On April 23, 2019, residents of Honokōhau, Ka Malo o Kahālāwai and the West Maui Preservation Association filed a water wasting complaint with CWRM against MPL and the Ka‘anapali Land Management Company for wasting water from the Honokōhau Ditch. The complainants included lo‘i kalo farmers of land along the Honokōhau Stream and others who exercise “traditional and customary practices of fishing, surfing, canoe paddling, and diving in nearshore waters where the wasted water meets the ocean.” (DLNR CWRM 2019d: 32) The complaint further alleges that the “wasted water is warmer and its periodic intrusion may interfere with reef and other nearshore ecosystems and water quality, both of which are necessary for cultural resources for members’ traditional and customary practices and recreation.” (Id.)

According to the complaint, the remnants of Hurricanes Lane and Olivia hit West Maui in August and September 2018, damaging Diversion 769 on Honolua Stream and Diversion 770 on Honokōhau Stream, rerouting the water around the dam, causing flooding and damaging property throughout the valley as well as removing flow from many lo‘i kalo. Also in September 2018, MLP’s ditch operator died, stalling necessary repair work and communication with the community.

When CWRM staff and the Maui County mayor went on a site visit led by community and MLP representatives approximately a year after the storm event, they found that the intake structure on Diversion 769 was gone and the sluice gate on Diversion 770 was inoperable because of damage. Furthermore, the Taro Gate through which MLP released water back into Honokōhau Valley from Honokōhau Ditch was blocked by debris and natural sediment.

In November 2019, based on the above information and what the CWRM staff described and listed as nine “requests in the form of a complaint or petition to protect stream resources in the subject area” since 1995, staff requested that CWRM establish an IIFS to protect instream uses of water and require repairs and upgrades to Diversion 770. (Id. at 8, and Table 3, p. 9 for a list of seven complaints pertaining to Honokōhau Stream and two pertaining to Honolulu Stream between 1995 and 2019.) CWRM staff also described several informal requests and reports focusing on “lack of streamflow and its effect on traditional and customary gathering practices, the cultivation of *lo‘i kalo*, and recreational uses of the stream. Without reliable municipal water supply, many households in the valley rely on the stream for domestic uses as well.” (Id.)

Public testimony at the Nov. 20, 2019, CWRM meeting mainly focused on the complaint issues. Among additional requests were that MLP seek other options for their water use than stream diversion, that a remote-operated gate should include monitoring of possible wastage (DLNR CWRM 2019e: 29-30), and that a water advisory committee be formed, made up of kuleana owners and other stakeholders. They suggested that this advisory committee could update CWRM on conditions of the stream and traditional and cultural users. (Id. at 31) Many testifiers noted a lack of communication from MLP as well as a lack of involvement with the community. They spoke of historic and current dissatisfaction, as of 2019, with the maintenance of the water system and the seeming lack of interest by MLP in their community and its needs and concerns.

Gretchen Asano, a former resident of Honokōhau whose house was destroyed by the flood after Hurricane Olivia, alleged to the Commissioners:

Why is there an extreme negligence from a major land owner and such a disconnect between the land owner and people who live at Honokōhau, I don’t know. You’re encouraging them to talk to our community and there’s plenty of opportunity for that to happen. We appreciate the Hui Watershed and their restoration projects; we have a good relationship with them; but there was a very obvious play after the flood and we didn’t see anybody.... (Id. at 34).

Other testimony addressed the impacts of warmer water from the flooded system entering the stream and nearshore ecosystems. Those impacts can compound other effects on the coastal and marine environments, such as tourism, sedimentation and infestations of invasive species.

CWRM Staff noted that it should be possible to resolve the formal complaint should be able to be resolved through repair and maintenance tasks. Pertaining to the Honolulu hydrologic unit, staff recommended clearing the remnants of non-functional Diversion 768 and 769 and

abandoning these diversions. Pertaining to the Honokōhau hydrologic unit, staff recommended repairing Diversion 770 to pre-flood functionality and then installing an automated gate that could be moved remotely. Staff also requested more real-time data collection of the amount of water diverted at Diversion 770 and the water replaced into Honokōhau Stream. MLP's attorney stated that MLP had received insurance proceeds for the flood damage that would be used to restore the gate at Diversion 770 and then to contract and engineer the design and erection of an automated gate. (Id. at 39)

The Commission unanimously approved that MLP shall in the interim repair the damaged intake at Diversion 770 before replacing it with one that can be remotely operated, ensure proper functioning and water delivery from the Taro Gate, and create a plan and then implement the provision of "real-time metering of each distribution point from the Honokōhau ditch and provide the real-time data to CWRM". (DLNR CWRM 2019d: 27-28, and DLNR CWRM 2019e: 39-40)

THIRD ELEMENT: FEASIBLE ACTIONS TO BE TAKEN TO REASONABLY PROTECT NATIVE HAWAIIAN RIGHTS

MLP appreciates the concerns voiced by community members, current residents, kuleana and appurtenant rights holders, as well as the volume of suggestions made, and the care shown for Honokōhau Valley. We humbly accept the reasonable criticism offered on past management of the water system and seek to show that we have not only listened, but we also have heard the voices and words of the Native Hawaiian community that has a generational kuleana to this ahupua‘a and its cultural and natural resources. We report below on advancements that have been made since the testimony and comments were offered back in 2019, and we provide commitments to continue to improve our stewardship of the resources and our relationships with the community. All of the following are feasible actions MLP has, can and will take to reasonably protect Native Hawaiian Rights.

Ahupua‘a management:

MLP honors the Native Hawaiian traditions and knowledge of ahupua‘a-based resource management and continues to strive to steward in that manner. We remain focused on preserving the aquifer and surface waters of the Pu‘u Kukui Watershed because the quantity and quality of the ground and surface waters depend heavily on the health and recharge of the watershed. We also have been extending that watershed protection ma kai, adding to our conservation lands in the ma kai section of the ahupua‘a. We now manage 1,000 acres of conservation land ma kai of the preserve and have put an additional 3,000 acres in a conservation easement in the coastal and riparian areas ma kai of the upland watershed preserve.

The Living Pono Project, a nonprofit partner of MLP’s, holds this conservation easement, which has linked the management areas ma uka and ma kai, intentionally following the ahupua‘a model. This will enable “holistic decision making and better protection of natural resources, with increased community outreach opportunities to accessible lands.” (DLNR DOFAW 2023: 10) We look forward to learning from the traditional and cultural practitioners of this ahupua‘a about what they have learned through their generations of kilo in the area, and we will share what we have learned and are learning about this vast amount of interconnected resources. MLP seeks to restore and perpetuate both the environment and the related traditional and cultural practices within a healthy environment.

Fortunately, on April 14, 2023, the Board of Land and Natural Resources unanimously authorized additional 2:1 matching funding to manage the watershed, which is part of the Natural

Area Partnership Program, for Hawai‘i Fiscal Years 2024-2030. These critical funds from DLNR, combined with philanthropic contributions to MLP’s nonprofit partners, The Living Pono Project and The Nature Conservancy Hawai‘i, will help to ensure the perpetuation of native ecosystems, endangered and endemic species and ongoing access to clean fresh water.

In our approved Management Plan for the Pu‘u Kukui Watershed Preserve for Fiscal Years 2024-2030, we describe how we will strive to use culturally appropriate methods to help improve and protect one of Hawai‘i’s largest privately owned natural preserves and the rest of the ahupua‘a. The Management Plan confirms MLP’s commitments to continue to:

1. Respond to the threat of invasive ungulates by maintaining existing deer fencing and deploying more fencing to eventually eliminate ungulate activity in the preserve;
2. Reduce and remove non-native weed species that have displaced native vegetation over large areas;
3. Restrict access to the preserve area “to minimize human impacts and protect public safety” (DLNR DOFAW 2023: 11);
4. Plan koa, ‘a‘ali‘i, ‘ōhia and other native forest vegetation to capture additional rainfall and fog drip and increase the ongoing percolation into the aquifer.
5. “Track biological and physical resources in the watershed and evaluate changes in those resources over time,” and “provide logistical support to approved research projects that will improve management understanding of the watershed’s resources” (Id. at 29)
6. Prevent rare species extinction in the watershed;
7. Partner with the community on projects focusing on preserving and enhancing native plants and animals, particularly in the ma kai conservation areas “to preserve and enhance native plant and animal communities, protect nearshore waters from land-based pollutants, [and] increase community stewardship of coastal lands and ahupua‘a connectivity.” (Id. at 11);
8. Assist in the long-term management of the native ecosystems of West Maui through continued active participation in the Mauna Kahālāwai Watershed Partnership; and
9. Provide adequate workers and equipment to meet the plan’s goals.

None of the above goals is possible in isolation within the ahupua‘a or without management partners, including the community. Please note that MLP also a founding member of the Mauna Kahālāwai Watershed Partnership (previously known as the West Maui Mountains Watershed Partnership) and an involved member of the West Maui Ridge2Reef, both of which focus on collaborative, ahupua‘a-based entities.

Water System management:

As required and intended, MLP hired a maintenance contractor after the Nov. 20, 2019, CWRM meeting, and then changed to the present contractors, Hawaii Water Service Company (HWS). HWS is contracted to maintain the access trails to the water system and to help manage the 110-year-old ditch that needs constant maintenance and repair to maximize its efficiency. Under their oversight, the Honokōhau Ditch continues to provide reliable, beneficial uses while ensuring protections of the public trust resource of Maui's fresh water and its necessity for kalo farming and a healthy valley and nearshore marine ecosystem.

In 2020, Diversion 770 was completely repaired to effectuate better standards than before the 2018 floods. Our contractors installed a new bar screen section, strengthened the corners around the bar screen and improved the catwalk over the bar screen. They also repaired the valve for the bypass diversion that goes around the dam. As stated by MLP at the Nov. 20, 2019 CWRM meeting, MLP engaged Akinaka & Associates, LTD to design the automatic gate that was requested. Preliminary designs have been completed.

The Taro Gate was cleared of major debris, including large rocks that had been inside the water stilling area and behind the gate. HWS actively uses the Taro Gate to release water back into the stream. The Taro Gate is surrounded by pine trees and up against a mountainside. It was installed there and designed to release water down a natural tributary to prevent erosion downstream. The trough and weir structure at the gate can only handle the release of 4 cfs or 2.153 mgd. That design also intentionally protects the natural tributary of Honokōhau Stream, and those downstream of Taro Gate, from excessive water release and erosion, with sediment and debris carried downstream.

The main staff member who maintains the access trails hikes those trails every two weeks and has a tracking log for each access, documenting any issues he finds, attaching photos to the report. He also reports on any landslides; provides basic, on-going cleanup of the Diversion 770 bar screen and the Taro Gate; and reads and notates the data on the gage. HWS has a full record of these reports and data sets that can be shared with the community and CWRM. While community members had hoped for real-time reporting from the Taro Gate, because of its location, a signal cannot be sent from that deep in the valley.

Collaboration with community:

Last year, in an effort to build a more collaborative and responsive working relationship with the stream users and residents, an HWS staff member held quarterly meetings with interested community members. He encouraged them to contact HWS with any concerns or

issues, which they do. He also reported on the status of the infrastructure and access trails upstream. This year, most of the communication has been via email, and the quarterly, in-person meetings will resume shortly.

MLP intends that a more consistent and reliable relationship will continue to grow into a formalized working group with mutual respect and trust. We will assure that there is a regular exchange of information and ideas. A new natural resources manager has recently been hired by MLP and is coordinating with HWS to build a steady relationship and solid lines of communication, which will help to support lo'i kalo farmers, appurtenant rights holders, traditional and cultural practitioners, and residents of the ahupua'a.

Learning from written and oral testimony that many of the ahupua'a's traditional practitioners, educators and children want to be proactively involved has been inspiring for the new management at MLP. This will build on the network of community collaboration being built by the management of the Pu'u Kukui Watershed Preserve, including the example offered during public testimony by Kanoelani Steward, who already as worked with the preserve on community engagement projects and habitat surveys. Her suggestion to connect with multi-generational community and education groups provides hope for on-the-ground training of present and future resource stewards.

MLP looks forward to many productive conversations that will share ideas about how to make the water system more efficient and how to best work together to obtain and share reliable and consistent data about our shared environment, ma uka to ma kai. Together with cultural practitioners we will seek to employ a blend of traditional kilo methods, western scientific data sets and historic information to make informed resource management decisions. This inclusive methodology will enable more transparency and information about data collected about water quality and quantity throughout the system. It will also provide for better outreach and education about the connection between preservation and conservation with the continued enjoyment of fresh water.

Ocean, coastal and lo'i kalo support:

The consistent (every two weeks) checks, reports and maintenance of the access trails and ditch have greatly diminished wastage from the aging ditch system. Through these methods, MLP also seeks to stop warmer water intrusion into the streams, lo'i kalo and nearshore marine environments. Being more involved in ma kai resources survey and management, and working with the ahupua'a's community and education groups, and the traditional and cultural users of the area helps us to more quickly learn about and respond to any higher water temperatures and

levels of water discharge from ma uka. We seek to strengthen and expand these partnerships also engender better and more timely communications about issues and solutions, particularly if there are weather-related flooding issues that may also discharge additional sediment that could negatively impact the limu and reefs.

By improving communication and trust with the lo‘i kalo farmers, appurtenant rights holders, residents and other traditional and cultural practitioners of the stream valley and coast, MLP and its contractors intend to create reliability and efficiency in the system. Two-way communication should enable faster response times during weather events and possible infrastructure complications. Much of the 2019 testimony related a desire for the ability to open more lo‘i kalo and feed more people with their native foods. The COVID-19 pandemic that followed further expanded the interests of many local and Native Hawaiians to return to localized agriculture for food and health security, as well as continued cultural revitalization. MLP supports these goals and seeks to collaborate on additional feasible actions through regular meetings and discussions with rights and stakeholders.

Shared responsibility of end-users:

MLP concurs with community members that we all need to seek ways to be more responsible in our water use. Currently, because the aquifer and precipitation sources for water in these ahupua‘a mostly originate within the Pu‘u Kukui Watershed Preserve, and because we agree that everyone who has the privilege to use and enjoy that water should share in the responsibility of caring for it, we envision that all end-users who consume diverted and pumped water from the Honokōhau and Honolulu hydrologic units will share equally in the perpetual care for this resource. MLP also agrees with comments from the community and CWRM members (DLNR CWRM 2019e: 25, 27) that the operation and management of the ditch and diverted water system should occur at a high level, and that the cost of this ongoing care be borne by the end-users, to ensure perpetual funding and care of the 110-year-old infrastructure.

Also, while County R-1 water (recycled graywater) is not available in our area, MLP commits to exploring ways to recycle and improve efficiency by the end users of the diverted stream water. We will work with landscapers to assure that they are not irrigating during the peak evaporation times of high sun and explore ways to collaborate on landscaping with more native and drought-resistant plants that require less water and help rebuild West Maui’s once robust and diverse native ecosystem. Presently, non-potable water needs for the Kapalua area are only met by water diverted from Holokōhau and Honolulu streams, and we look forward to brainstorming with Native Hawaiians and other community members to innovate additional,

feasible and beneficial uses of our shared resources and coordinated methods of outreach and education for the diversion's and wells' end users.

Historic Resources:

Furthermore, should MLP, its contractors or its management partners learn of or make any inadvertent discoveries of historic properties in the area, the procedures required in Hawaii Administrative Rules § 13-280 will be followed.

SUMMARY

After identifying traditional and customary practices – in historic and present times – exercised within the ahupua‘a of Honokōhau, determining if and how those practices have been or might be affected by the existing use of the Honokōhau Stream diversion, and finding several feasible actions that we can take to reasonably protect the rights of Native Hawaiians to continue their cultural practices, MLP looks forward to continuing to improve our sustainable stewardship of the area’s natural resources. This has been an educational and inspirational exercise.

MLP respects and honors Hawai‘i’s duty, as affirmed by the Hawai‘i Constitution, to “protect all rights, customarily and traditionally exercised for subsistence, cultural and religious purposes” for Native Hawaiians, subject only to the government’s “right to accommodate competing interests.” (Haw. Const. Art. XII, § 7, and Flores-Case ‘Ohana 2023). After reviewing past and current statistics and hearing and reading the words of Native Hawaiians who are currently practicing customary and traditional activities in Honokōhau valley, many of whom seek an expansion of their activities and of their ability to collaborate with resource managers, we see opportunities to learn more about this ahupua‘a and its community and to build respectful relationships. MLP’s new management commits to engaging humbly and to striving to work together toward a balanced use of the area’s natural resources to support traditional and cultural uses, agriculture, housing for local residents and a healthy economy.

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2019c *Instream Flow Standard Assessment Report, Island of Maui, Hydrologic Unit 6014, Honokohau.*

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