
APPENDIX G:

Social Impact Assessment

Earthplan

**A&B Proposed water lease for
the Nāhiku, Ke`anae, Huelo, and
Honomanū License Area
Social Impact Assessment**

**Prepared for Wilson Okamoto Corporation
By Earthplan
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Contents

- 1. Background and Introduction..... 1**
 - 1.1. Report Preparation and Description 1
 - 1.2. The Proposed Action and Objectives 2
 - 1.3. The Role and Purpose of Social Impact Assessments..... 4

- 2. Profile of the Existing Community 6**
 - 2.1. Study Area Description 6
 - 2.1.1 Maui Island 6
 - 2.1.2 Study Area..... 8
 - 2.2. Population Trends and Density 12
 - 2.3. Selected Demographics..... 15
 - 2.3.1 Race..... 15
 - 2.3.2 Age 16

- 3. Major Forces for Change..... 18**
 - 3.1. County of Maui 2030 General Plan: Countywide Policy Plan ... 19
 - 3.2. Maui Island Plan..... 22
 - 3.3. Population Forecasts..... 24

- 4. Preliminary Community Issues..... 27**
 - 4.1. November 2018 Focus Group Sessions..... 27
 - 4.1.1 Approach and Session Process 27
 - 4.1.2 Focus Group Sessions and Profiles 29
 - 4.1.2.1 Overview 29
 - 4.1.2.2 Profile of the November 2018 Focus Groups . 29
 - 4.1.3 Focus Group Issues 39
 - 4.1.3.1 Relationship to A&B, EMI, EMI Aqueduct System, and Proposed water lease 39
 - 4.1.3.2 How Changes May Affect Participants Personally or Other People They Know 42
 - 4.1.3.3 Balance in Water Resource Allocation 45

4.1.3.4	“One Thing”.....	48
4.2.	April 2019 Follow-Up Community Interviews.....	57
4.2.1	Purpose and Approach.....	57
4.2.2	Profile of Those Interviewed	58
4.2.3	Interview Process	61
4.2.4	Interview Findings	63
4.2.4.1	Involvement and Participation in East Maui water lease Application	63
4.2.4.2	Positive Aspect of Updates and Changes	64
4.2.4.5	Potential Problems and Challenges Related to Project Updates	67
4.2.4.4	Suggestions to Address Potential Problems and Challenges	74
4.2.5	Analysis of Follow-Up Interviews.....	75
 5. Potential Social Impacts.....		77
5.1.	Overview of Social Environment.....	78
5.1.1	Maui Island	78
5.1.2	Study Area Communities	81
5.1.2.1	Upcountry	81
5.1.2.2	East Maui.....	86
5.2.	A&B Relationship in Social Context	89
5.2.1	Historic Perspective.....	89
5.2.1.1	The Sugar Industry	89
5.2.1.2	Plantation Camps and Community Building...	91
5.2.2	Current State	93
5.2.2.1	CWRM IIFS Decision	93
5.2.2.2	Diversified Agriculture Replaces Sugar Mono Crop	97
5.2.2.3	New Landowner	97
5.3.	Potential Social Impacts	100
5.3.1	Overall Community	100
5.3.1.1	Potential to Realize Public Policies	100
5.3.1.2	Sustainable and Local Agriculture.....	101

Contents

5.3.2 Affected Groups 102

 5.3.2.1 East Maui 102

 5.3.2.2 Ha'ikū and Huelo Downstream Residents and
Farmers 103

 5.3.2.3 Local Farmers and Ranchers 103

 5.3.2.4 Upcountry Domestic Users 104

6. Recommended Mitigation 105

 6.1. Core Working Group 105

 6.2. Ke'anae-Wailuanui Reconciliation..... 106

References 107

Tables and Figures

Figure A: Maui Island Census Tracts	9
Figure B: Maui Island Census-Designated Places (CDP)	11
Figure C: Maui Island and Maui District Population, 1990 to 2010.....	12
Table 1: Maui Island and District Population Changes, 1990 to 2010.....	13
Table 2: 2010 Residential Density and Household Size for Study Area and Maui Island, 2010	14
Table 3: Race, Study Area and Total Maui Island, 2010.....	16
Table 4: Age in Study Area CDPs, 2010.....	17
Table 5: Population Forecasts for Maui County, 2030	24
Table 6: Population Forecasts for Maui Island Community Plan Areas, 2030	25
Table 7: Upcountry Community Associations Participants	30
Table 8: Ranchers and Farmers.....	32
Table 9: Mālamalama Maui	33
Table 10: Huelo and Ha'ikū.....	34
Table 11: Environment and Sustainability.....	36
Table 12: Ke'anae / Wailuānui – Ko'olau Moku	37
Table 13: List of People Interviewed and Their Affiliations	58
Figure D: Maui Island Moku	78

1. Background and Introduction

In 2001, Alexander & Baldwin, in conjunction with its subsidiary East Maui Irrigation Company, Limited (hereafter collectively referred to as A&B) requested that the State offer a lease at public auction for the right, privilege and authority to enter and go upon State-owned lands for the purposes of developing, diverting, transporting and using government-owned waters. The requested lease term is for 30 years, and the lease area would allow the use of government-owned waters from the Nāhiku, Ke'anae, Huelo, and Honomanū License area (hereafter referred to as License Area). This report contains a Social Impact Assessment, or SIA, on the proposed action. It is summarized in and appended to the EIS.

1.1. Report Preparation and Description

This Social Impact Assessment was prepared by Earthplan, whose owner Berna Cabacungan Senelly managed all aspects of the project and served as focus group facilitator, interviewer, researcher, analyst and writer.

This section describes the proposed action and the purpose and scope of SIAs. Section 2 provides a profile of the existing community in terms of a brief overview of Maui Island and the Study Area, population trends and selected demographic characteristics.

Section 3 discusses major forces for change, as provided for in Maui plans and policies that are particularly relevant to this SIA, as well as population forecasts.

Section 4 presents preliminary community issues raised in focus groups and interviews conducted for this study. Section 5 identifies potential social impacts in terms of an overview of the social environment, A&B's relationship in the social context, potential social impacts and recommended mitigation.

1.2. The Proposed Action and Objectives

A&B is seeking the issuance of long-term (30-year) water lease by the Hawai'i State Board of Land and Natural Resources (BLNR) that will enable the awarded lessee the "right, privilege, and authority to enter and go upon" the License Area for the "purpose of developing, diverting, transporting, and using government owned waters" through the EMI Aqueduct System. Pursuant to statute, all state water leases must go to public auction before the leases can be issued.

There are four objectives of the proposed action:

1. Preserve and maintain the EMI Aqueduct System

The EMI Aqueduct System comprises of approximately 388 separate intakes that control diversions through sluice and radial gates. The system consists of 24 miles of ditches and 50 miles of tunnels. This is a gravity flow system driven by higher elevation diversions in the wet, eastern part of Maui. The EMI Aqueduct System collects water from approximately 50,000 acres, of which 33,000 acres are owned by the State, and approximately 17,000 acres are privately owned, previously by EMI and A&B and now by Mahi Pono (herein collectively referred to as the "Collection Area"). The System is designed to be able to collect all of the streams' base flow, or water flowing in normal conditions. A stream's total flow includes base flow and additional water from rain and storms.

2. Continue to meet Upcountry Maui domestic and agriculture needs

The Upcountry Maui Water System serves the domestic needs of the following communities:

Kula	Waiohuli
Pukalani	'Ulupalakua
Makawao	Kanaio
Ha'ikū	Olinda
Hāli'imaile	Ōma'opio
Waiakoa	Kula Kai
Kēōkea	Pūlehu

Background and Introduction

Maui County Department of Water Supply, or MDWS, has taken water from the Wailoa Ditch based on a series of contracts with A&B. Only one MDWS water treatment facility, the Kamole-Weir Water Treatment Facility, relies on water directly from the EMI Aqueduct System. However, the same contract also allows the MDWS access to other surface water sources on lands previously owned by A&B, and now owned by Mahi Pono, that feed the MDWS' two other water treatment facilities in Upcountry Maui. The existing Kula Agricultural Park (KAP) and the future 262-acre expansion of the KAP rely on water directly from the EMI Aqueduct System as well.

- The Kamole-Weir Water Treatment Facility relies on water directly from the EMI Aqueduct System through the Wailoa Ditch, which diverts water from several streams. The average daily production at this facility is 3.6 Million Gallons Per Day (MGD), and has a maximum capacity of 6 MGD.
- The Pi'iholo Water Treatment Facility relies on water conveyed through the Lower Waikamoi (Kula) Flume, which diverts water from various streams on Mahi Pono's Ha'ikū Uka Watershed, which is then diverted into the Pi'iholo Reservoir. Its average daily production at this facility is 2.5 MGD; it has a maximum capacity of 5 MGD.
- The Olinda / Upper Kula Water Treatment Facility relies on water conveyed through the Upper Waikamoi (Kula) Flume, which diverts water from various streams on Mahi Pono's Ha'ikū Uka Watershed, which is then diverted to the Waikamoi Reservoir and the Kahakapao Reservoir. The average daily production is 1.6 MGD at this facility; it has a maximum capacity of 2 MGD.

At Kula Agricultural Park, water from the EMI Aqueduct System is provided as follows:

- The EMI Aqueduct System serves the 420 acres of the Kula Agricultural Park via Reservoir 40. The KAP comprises 31 farm lots, ranging from seven to 29 acres. The water is not treated and comes from the same diversions that serve the Kamole-Weir Water Treatment Facility. Current consumption is estimated at 548,191 gallons per day, or gpd. However, approximately 1.5 MGD must be provided to the KAP reservoir to produce the current amount of consumption.

- The EMI Aqueduct System will also serve the 1.0 MGD needs of the 262-acre expansion of the KAP, though efficiency improvements to the existing reservoir and water delivery system.

3. Continue to serve Nāhiku below Hāna Highway

MDWS also provides 20,000 to 45,000 gpd to Nāhiku via a development tunnel directly from the EMI Aqueduct System. MDWS serves approximately 40 water meters located makai of Hāna Highway.

4. Continue to provide water for agricultural purposes in Central Maui.

This includes approximately 30,000 acres of agricultural cultivation lands, of which the majority is currently fallow but is planned for new diversified agricultural operations to be undertaken by Mahi Pono LLC, that can be irrigated by waters conveyed by the EMI Aqueduct System.

1.3. The Role and Purpose of Social Impact Assessments

A Social Impact Assessment is a study of how a proposed action or plan affects the human environment. While there are many facets to the human environment, the social context is basically framed by relationships. The social aspects of an area relate to people living and interacting with other people. Social impact analysis explores how changes in the physical environment of a community or neighborhood caused by a proposed land development may affect the neighborhood as a social environment.

Social Impact Assessment, hereafter referred to as SIA, became a recognized subfield of research and policy application, with the passage of the U.S. National Environmental Policy Act (NEPA) legislation in 1969. It is an interdisciplinary, inter-professional field of social science knowledge and application. SIAs draw sometimes from social science, but other times from organizational development, political analysis, or journalism. Its primary function has to do with the development and disclosure of social information relevant to informing the decision-making process and/or designing management actions to deal with problematic social outcomes of a proposed project.

Background and Introduction

The goal of SIAs is to predict the social effects of a policy, program or project while still in the planning stage, before those effects have occurred. The overall framework for SIAs is anticipatory research, which seeks to place the expectation and attainment of desired outcomes on a rational and reliable basis.

Commonly identified uses of SIAs include:

Understanding the ability of a community or group to adapt to changing conditions - In identifying social consequences of a proposed action, cause-and-effect relationships are complex. Different people and different communities react differently to similar events. An important function of SIA is therefore to obtain and analyze the necessary information about community organization and likely responses to changing conditions. As such, the non-project social scenario is as important as the with-project scenario because it provides the analyst with a realistic social context for the proposed action.

Defining the problems or clarifying the issues involved in a proposed change Frequently, opposition to or support for a proposed project can only be understood and addressed when the proponent is aware of cultural tendencies, underlying issues, vested interests, and misperceptions. The SIA is the basis for defining and clarifying project or program issues in a systematic approach within the EIS framework.

Illuminating the meaning and importance of anticipated change - An important objective of SIAs is to determine what meaning a probable impact would have for a community and its residents. Whereas a certain impact may have relatively low social significance in some communities, it may be given more import or significance in other settings or communities.

Identifying mitigation opportunities or requirements - Another function of SIAs is to explore how a proposed action can cause the least adverse and most beneficial impacts, and to identify responses from the community and affected persons. SIA information can be crucial in determining if and what mitigation is necessary, what mitigation alternatives exist, and which mitigation strategies are most likely to work.

2. Profile of the Existing Community

This section establishes the social context for this project. Section 2.1 provides an overview of the history of Maui Island that helped to shape the current social environment. Also included in Section 2.1 is an identification of the Study Area communities.

Section 2.2 presents population trends and residential density. Selected demographic information is presented in Section 2.3.

2.1. Study Area Description

2.1.1 Maui Island

Early Hawaiians used a system of land distribution that did not include private ownership. A common land division within the Native Hawaiian land-use system was the ahupua'a, which were divisions typically running from the mountains towards the oceans, or mauka to makai. Each division was administered by an ali'i, or chief. In each ahupua'a, people were separated into distinct classes, from chief to laborer, and each class had clear responsibilities in maintaining the self-sufficiency of the ahupua'a.

Soon after the arrival of Captain Jean-Francois de Galaup, the first outsider to land in Maui in 1786,¹ Maui Island was transformed by missionaries, trade and goods from Westerners, and the whaling industry. The major population centers were the towns of Hāna, Makawao, Wailuku, and Lahaina. Diversified agriculture rapidly expanded during the 1840s and 1850s to support the transient and resident population.

Two significant changes came about with the arrival of Westerners. First, the host people had no resistance to Western diseases, and the island's population decreased dramatically. Between 1831 and 1878, the population reduced from 35,062 to 12,109, a 65 percent decrease, even with the in-migration of newcomers.

¹ County of Maui Department of Planning, **Maui Island Plan: Island of Maui, General Plan 2020**, p. I-6

Profile of the Existing Community

The second significant change was landownership. Kamehameha III instituted the Māhele, or land division, in 1848 after much pressure from Westerners frustrated with the ahupua'a system. A Land Commission reviewed land claims and decided ownership rights. As part of the Māhele, the Kuleana Act of 1850 allowed the Land Commission to award small parcels of land to commoners for subsistence.²

Hawaiian commoners were accustomed to a land tenure system of a self-sufficient ahupua'a and communal subsistence economy. The concept of land ownership was truly foreign to them, and this unfamiliarity, coupled with legal and logistical constraints, resulted in large amounts of land intended for Hawaiians under the ownership of foreign entities. Many Hawaiian families were often required to leave the lands they had cultivated for generations and had to move to towns.³

Sugarcane cultivation started between 1836 and 1861, but planters had a difficult time surviving until the 1850 Masters and Servants Act allowed plantation workers from foreign countries. Further, the 1876 Hawaiian Reciprocity Treaty permitted duty free admission of Hawaiian sugar in the United States. Sugar plantations thrived with these boosts in workers and change in trade practices.

The Hāmākua Irrigation Ditch delivered water from the East Maui's watersheds to the dry Central Maui plains; this ensured a reliable source of water. As the physical landscape changed, so did the social environment. The sugar industry brought in workers from Asia, Europe, South and Central America and the South Pacific Islands. The multiple and often ethnic-based plantation camps were communities unto themselves with housing, schools, stores, churches, recreational facilities, clinics and services such as police, fire and community centers.

In 1890, Dwight D. Baldwin established the Ha'ikū Fruit and Packing Company and thus the pineapple industry took hold. By 1930, more than 28 percent of the island's cultivated fields were in pineapple. Today, there is only limited pineapple cultivation remaining on Maui.

² *Ibid*, p. I-7

³ *Ibid*, p. I-7

Profile of the Existing Community

By the end of World War II, mechanization was transforming sugar and pineapple industries. Labor unions played an increasingly major role in how plantations operated. Plus, job opportunities became more diversified, workers were buying their own homes, and plantation camps were coming to an end. The last sugar cane haul at the Pu'unēnē sugar mill operated by Hawaiian Commercial & Sugar Company occurred on December 12, 2016.

As the agricultural industry continued to evolve, Maui again experienced a population decline. From 1940 to 1960, 24 percent of Maui residents moved elsewhere. In the meantime, tourism emerged as the new economic force, and with it came resort destinations and new towns. The population rebounded, as fewer Maui residents moved away and in-migrants moved in to work or retire, thereby increasing the demand for housing. Between 1960 and 2010, Maui's population increased over 300 percent, from 35,717 to 144,444 persons.⁴

2.1.2 Study Area

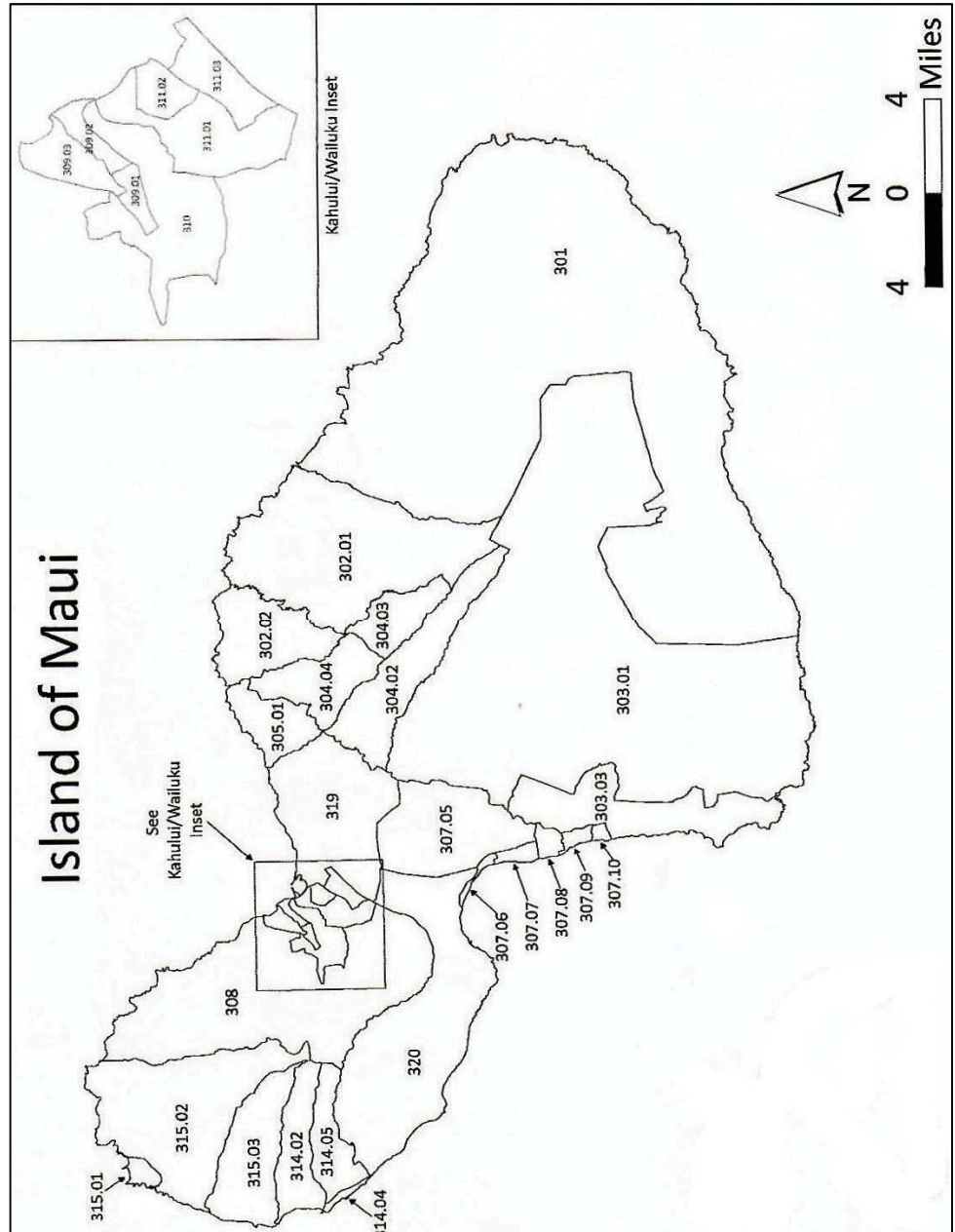
From a social perspective, the implications of the continued diversion, and transporting of waters from one area to another extend well beyond irrigation flumes and drainage ditches. These actions are seen through the lens of community values and have to do with feelings about past actions, cultural and environmental values, expectations for the future of the water, reliance on an established potable water supply, livelihoods and businesses, and more.

The Study Area for this project includes the geographic regions that are affected by the proposed action and comprises a portion of the Hāna District located in East Maui, and the Makawao District, which occupies the central portion of the island.

Statistical information includes Census Tract information collected by the U.S. Bureau of the Census. The U.S. Decennial Census occurs every 10 years, in years ending in zero, to count the population and housing units for the entire United States. Figure A depicts Maui Island's Census Tracts, or CTs.

⁴ County of Maui Planning Department Long Range Division, **Maui Island Plan: Island of Maui, General Plan 2030**, pp 1-11 1-12 (County of Maui: 2012)

Figure A: Maui Island Census Tracts



Profile of the Existing Community

In addition to census data, this report includes information collected for census-designated places, or CDPs. A CDP is a concentration of population defined by the United States Census Bureau for statistical purposes only. CDPs have been used in each decennial census since 1980 as the counterparts of incorporated places, such as self-governing cities, towns, and villages, for the purposes of gathering and correlating statistical data.

The boundaries of a CDP have no legal status. Criteria established for the 2010 Census require that a CDP name "be one that is recognized and used in daily communication by the residents of the community," and recommend that a CDP's boundaries be mapped based on the geographic extent associated with inhabitants' regular use of the named place.

It is noted that CT and CDP information do not directly coincide because CDPs focus on a smaller, concentrated areas than a CT. Nevertheless, CDPs provide insight on characteristics of a contained community. Figure B depicts Maui Island CDPs.

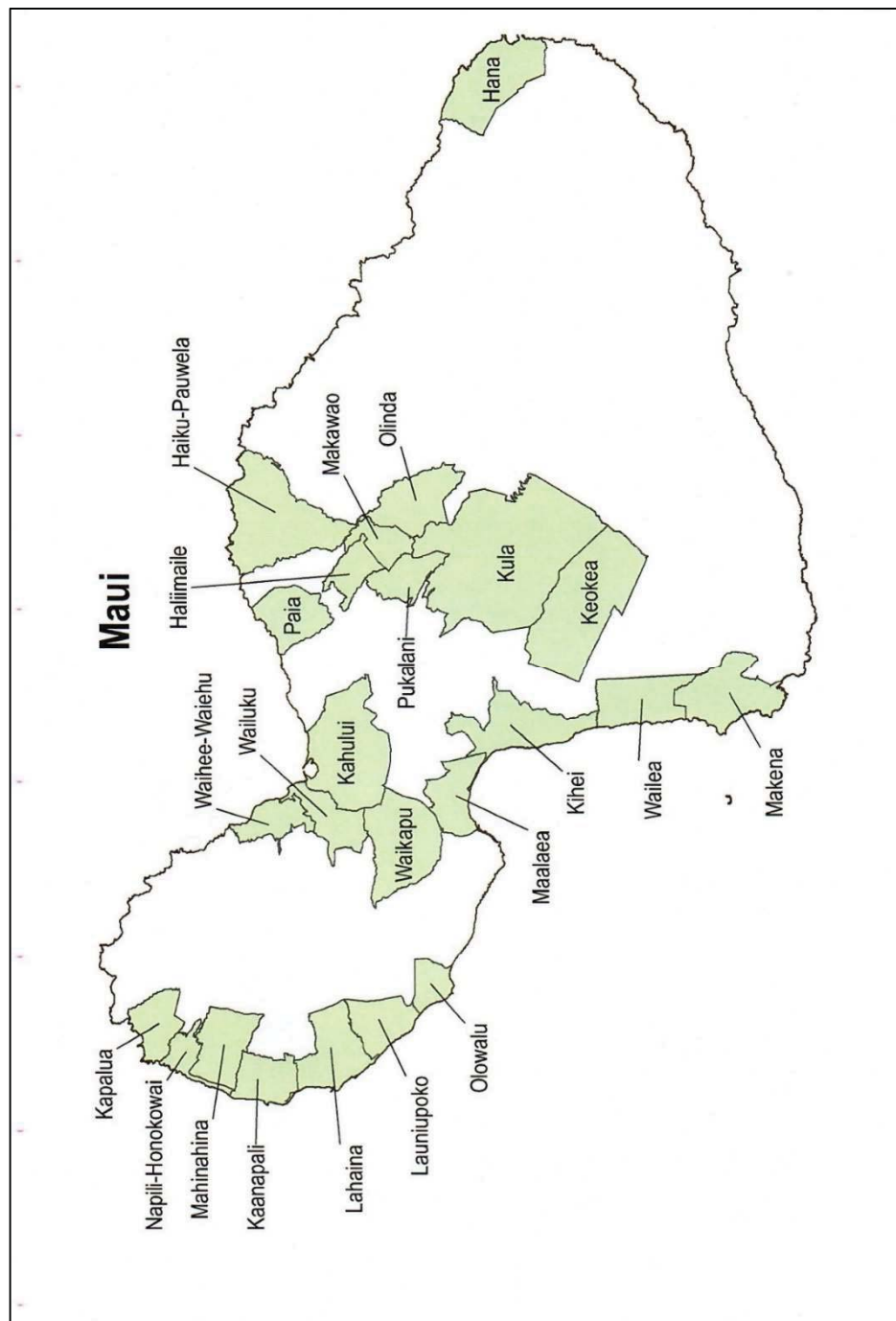
In the **Hāna District**, Kea'nae, Wailuānui and Nāhiku are included in the Study Area. CT 301, which comprises the Hāna District, is larger than these communities and includes the Hāna CDP which is not part of the Study Area. Information presented for these communities was extracted as the net value between the Hāna CT 301 and the Hāna CDP.

The **Makawao District** includes the following Study Area communities generally from north to south:

- Huelo, which is part of CT 302.01 and the Ha'ikū-Pa'uwela CDP
- Ha'ikū, which is part of CT 302.01 and CT 302.02, and the Ha'ikū Pa'uwela CDP
- Hāli'imaile, which is part of CT 304.04 and Hāli'imaile CDP
- Olinda, which is part of C 304.03 and Olinda CDP
- Kula, which is part of CT 303.01 and Kula CDP
- Pukalani, which is part of CT 304.02 and Pukalani CDP
- Makawao, which is part of CT 304.03 and Makawao CDP
- Kēōkea, which is part of CT303.01 and Kēōkea CDP

It is noted that the Makawao District also includes makai communities that are not in this Study Area, including Pā'ia, Kihei and Makena, and information is clarified when appropriate.

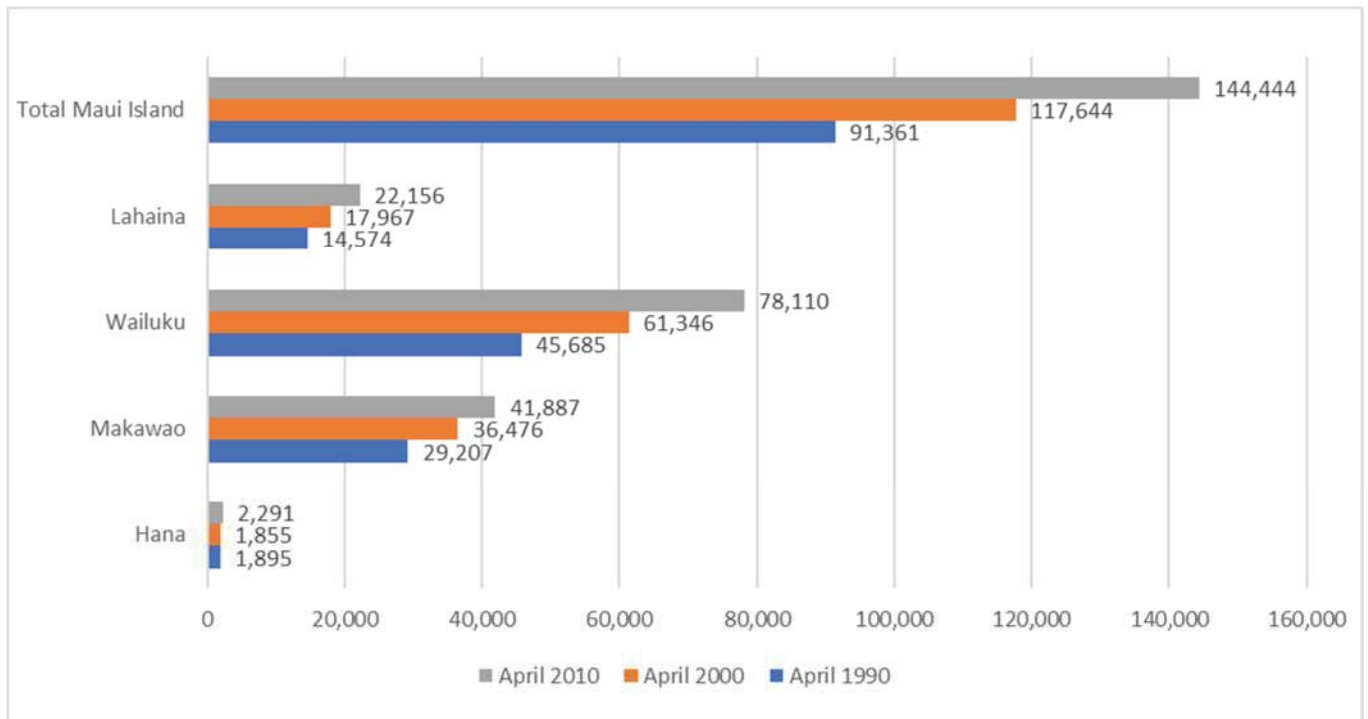
Figure B: Maui Island Census-Designated Places (CDP)



2.2. Population Trends and Density

Decennial Census information is used in this report to present accurate trends of how Maui Island has changed in a 30-year period, from 1990 and 2010, as illustrated in Figure C.

Figure C: Maui Island and Maui District Population, 1990 to 2010



Note: The Makawao District includes the Study Area, as well as the makai Kihei region, which is not part of the Study Area. Only a portion of the Hāna District is included in the Study Area.

Source: Maui County Data Book: 2015, Table 1.3.3 Resident Population by County and District

Profile of the Existing Community

Table 1 presents 1990 to 2010 population changes for Maui Island and its districts in terms of percentage.

Table 1: Maui Island and District Population Changes, 1990 to 2010

Maui Island Districts	Year			Percent Change		
	1990	2000	2010	1990 to 2000	2000 to 2010	1990 to 2010
Hāna	1,895	1,855	2,291	-2%	24%	21%
Makawao	29,207	36,476	41,887	25%	15%	43%
Wailuku	45,685	61,346	78,110	34%	27%	71%
Lahaina	14,574	17,967	22,156	23%	23%	52%
Total Maui Island	91,361	117,644	144,444	29%	23%	58%

Note: The Makawao District includes the Study Area, as well as the Pā'ia and Kihei region, which are not part of the Study Area. Only a portion of the Hāna District is included in the Study Area.

Source: Maui County Data Book: 2015, Table 1.3.3 Resident Population by County and District

Unlike the rest of the island, the Hāna District experienced a population decrease, albeit slight, in the 1990s. Hāna's population rebounded in the 2000s by 24 percent, and there was a net increase of 21 percent from 1990 to 2010. This was the lowest level of increase over the two decades compared to other Maui Island Districts. While the Hāna District is larger than the East Maui portion of the Study Area, it is highly likely that Ke'anae, Wailuānui and Nāhiku experienced population changes consistent with district-wide trends.

The Makawao District experienced levels of growth lower than the Districts of Wailuku and Lahaina. Nevertheless, its population increased by over 40 percent between 1990 and 2010, and much of this growth can be attributed to increased urbanization in Upcountry Maui as well as continued urbanization of the Kihei region, which is not part of this Study Area.

Profile of the Existing Community

Table 2 shows that the Hāna District is geographically the largest CT in the Study Area. The Hāna District covers 214 acres of Maui Island's 772 acres, or 28 percent. Hāna's 2010 population of 2,291 persons made up two percent of Maui Island's 144,444 residents. The combination of a large land region and low population translates into a significantly low residential density of 10.7 persons per square mile. While this CT is larger than the East Maui portion of the Study Area, it is highly likely that Ke'anae, Wailuānuī and Nāhiku have comparable residential density and household sizes with the overall region.

Table 2: 2010 Residential Density and Household Size for Study Area and Maui Island, 2010

Population Density and Households	Study Area								Study Area Total	Remaining Maui Island	Maui Island Total
	Hāna District	Makawao District (Partial)									
	Hāna CT 301	Huelo CT 302.10	Ha'ikū CT 302.02	Kula CT 303.01	Pukalani CT 304.02	Makawao CT 304.03	Hāli'imaile CT 304.04	Makawao District (Partial) Subtotal			
Resident population	2,291	2,453	7,635	8,013	8,652	3,269	5,609	35,631	37,922	106,522	144,444
Percent of Total Maui Island	2%	2%	5%	6%	6%	2%	4%	25%	26%	74%	N/A
Land area in square miles	214.03	45.60	14.25	166.91	17.85	7.27	10.52	262.40	476.43	295.56	771.99
Percent of Total Maui Island	28%	6%	2%	22%	2%	1%	1%	34%	62%	38%	N/A
Residents per square mile	10.70	53.80	35.00	48.00	484.60	449.90	533.30	135.79	79.60	360.41	187.11
Households	823	1,013	2,908	3,189	3,064	1,225	1,918	9,396	10,219	39,996	50,215
Persons per household	2.78	2.42	2.63	2.51	2.82	2.67	2.92	3.79	3.71	2.66	2.88

Sources: **Maui County Data Book: 2015** 1) Table 1.3.4 Population Density by Census Tract, Maui County; 2) Table 1.3.5 Resident Population and Households by Census Tract, Maui County.

Note that only a portion of the Hāna CT 301 is in the Study Area.

The Makawao District portion of the Study Area encompasses 270 acres, or 35 percent of the Island. The District's 38,312 persons accounted for 27 percent of Maui residents.

In terms of residential density, there were 141.86 residents per square mile in the Makawao District, which is lower than the island-wide residential density of 187.11 residents per square mile.

While the residential density in several Makawao Districts was higher than that of the overall Maui Island, Makawao's density was offset by the low resident-per-square mile counts in the Ha'ikū (35 persons) Kula (48 persons) and Huelo (53.8 persons) CTs. The highest residential density was in the Hāli'imaile CT, where there were 533.3 persons per square mile.

In 2010, in the Makawao District portion of the Study Area, the Pukalani CT had the largest residential population of 8,652 persons, followed by the Kula CT with 8,013 residents. The lowest population was in Huelo CT, with 2,453 residents.

2.3. Selected Demographics

2.3.1 Race

The Census Bureau defines race as a person's self-identification with one or more social groups. An individual can report as White, Black or African American, Asian, American Indian and Alaska Native, Native Hawaiian and Other Pacific Islander, or some other race. Census respondents may report multiple races.

Key highlights in how Ke'anae, Wailuānui and Nāhiku residents identified their race in the 2010 Census are hereby summarized and depicted in Table 3.

- The proportion of Native Hawaiians and Pacific Islanders, at 25.8 percent, is significantly high when compared to the Makawao District (8.3 percent) and Maui Island (9.5 percent).
- These communities also had the third highest proportion of White residents in the Study Area, at 42.8 percent.
- The "Two or More Races" category also ranked third among Study Area communities.
- The proportion of Asians, at 2.1 percent, is the lowest in the Study Area, and significantly low compared to Maui Island's 29.7 percent.

Profile of the Existing Community

Table 3: Race, Study Area and Total Maui Island, 2010

Race	Kea'nae Wailuānui Nāhiku	Makawao District (Partial) CDPs								Total Study Area	Remaining Maui Island	Total Maui Island
		Ha'ikū - Pa'uwela	Hāli'imaile	Kēōkea	Kula	Makawao	Olinda	Pukalani	Makawao District (Partial) CDPs			
Native Hawaiian and Pacific Islander	25.8%	7.1%	11.8%	25.6%	4.2%	8.4%	3.2%	9.5%	8.3%	8.8%	9.7%	9.5%
Asian	2.1%	8.1%	35.0%	8.7%	16.3%	15.9%	7.6%	23.9%	15.8%	15.4%	34.3%	29.7%
White	42.8%	59.4%	20.5%	29.0%	56.3%	38.2%	71.1%	33.2%	45.9%	45.8%	31.6%	35.1%
Black or African American	0.4%	0.3%	0.1%	0.7%	0.5%	0.4%	0.2%	0.4%	0.4%	0.4%	0.6%	0.6%
American Indian and Alaska Native	0.5%	0.5%	0.1%	0.6%	0.4%	0.6%	1.3%	0.3%	0.5%	0.5%	0.4%	0.4%
Some Other Race	1.1%	1.1%	2.5%	0.7%	1.2%	1.0%	0.8%	1.8%	1.3%	1.3%	2.4%	2.1%
Two or More Races	27.4%	23.4%	30.0%	34.7%	21.2%	35.5%	15.8%	30.9%	27.8%	27.8%	20.9%	22.6%

Source for Makawao District: **Maui County Data Book: 2015**, Table 1.3.6
Summary Characteristics of Persons by Race Census Designated Places, Maui
County

For Ke'anae, Wailuānui and Nāhiku, information was extracted as the net value
between the Hāna CT 301 and the Hāna CDP.

In the Makawao District, there are distinctions as well.

- There tended to be high proportions of Whites in this District. Notably, Olinda (71.1 percent), Ha'ikū Pa'uwela (59.4 percent), and Kula (56.3 percent) all have higher proportion of Whites compared to the 35.1 percent reported for the overall Maui Island. The Makawao District as a whole had 45.9 percent White, compared to 35.1 percent island-wide.
- When compared to Maui Island, the Makawao District had a lower proportion of Native Hawaiians and Pacific Islanders (8.3 versus 9.5 percent) and Asians (15.8 versus 29.7 percent).

2.3.2 Age

In the Study Area, the highest proportions of youngsters under 18 years of age were in Kēōkea at 26.2 percent, followed by Makawao, Pukalani and Hāli'imaile at 24 percent.

Profile of the Existing Community

Table 4: Age in Study Area CDPs, 2010

Age	Kea`nae Wailuānui Nāhiku	Makawao District (Partial) CDPs						
		Ha`ikū - Pa`uwela	Hāli`imaile	Kēōkea	Kula	Makawao	Olinda	Pukalani
Population	1,056	8,118	964	1,612	6,452	7,184	1,084	7,574
Under 18	21.0%	23.0%	24.0%	26.2%	20.0%	24.2%	18.7%	24.0%
18 to 24	5.6%	7.0%	7.6%	7.0%	5.2%	8.1%	5.2%	7.3%
25 to 44	22.2%	28.3%	28.4%	25.4%	20.7%	27.0%	26.3%	25.1%
45 to 64	39.1%	32.7%	26.7%	30.1%	39.1%	29.9%	36.3%	31.3%
65 and older	12.1%	9.0%	13.4%	11.3%	15.0%	10.8%	13.6%	12.4%
Median age	n/a	39.6	37.9	38.7	47.7	38.4	44.9	40.5

Source for Makawao District: **Maui County Data Book: 2015**, Table 1.3.7
Population by Age Group and Gender Ratio Census Designated Places, Maui County
For Ke'anae, Wailuānui and Nāhiku, information was extracted as the net value
between the Hāna CT 301 and the Hāna CDP.

The CDPs with the highest elderly group of 65 years and older are Kula (15.0 percent), Olinda (13.6 percent) and Hāli'imaile (13.4 percent).

Of note are the age groups that are typically in the work force. These age groups are the 25 to 44 and 45 to 64 age groups. The Olinda CDP had the highest proportion of workforce with a combined 63 percent, followed by the Ha'ikū-Pa'uwela CDP workforce at 61 percent, and Kula CDP at 60 percent.

In terms of median age, the Kula CDP had the highest median age at 47.7 years. The lowest median age was found in the Hāli'imaile CDP at 37.9 years.

3. Major Forces for Change

This section identifies forces for social change in the Study Area that are independent of the proposed project. The purpose of this discussion is to extend the baseline information on the social environment by exploring the type of change directed by relevant public policies and plans. These policies and plans have been developed by the public sector with extensive community input and review. They provide good indications of community vision and expectations.

It is noted that the intent of discussing public policies and plans in this SIA is different than the EIS section on "Compatibility with Land Use Plans and Policies, Required Permits and Approvals." The framework of the EIS discussion is directed at to the proposed action, namely that the State offer a lease at public auction for the right, privilege and authority to enter and go upon State-owned lands for the purposes of developing, diverting, transporting and using government-owned waters.

From an SIA perspective, the implications of the continued diversion, and transporting of waters from one area to another extend well beyond public auctions, leases, irrigation flumes and drainage ditches. These actions are seen through the lens of community values and have to do with feelings about past actions, cultural and environmental values, expectations for the future of the water, reliance on an established potable water supply, livelihoods and businesses, and more. This SIA discussion on public policies and plans therefore extend beyond water lease - related policies and plans to reflect perspectives shared in focus group sessions and interviews conducted in the SIA process. Sections 3.1 and 3.2 discuss, respectively, the Maui County General Plan and Maui Island Plan. Section 3.3 presents population forecasts.

3.1. County of Maui 2030 General Plan: Countywide Policy Plan

The Maui County Charter requires that its General Plan recognize and state the major problems and opportunities concerning the needs and development of the County and the social, economic and environmental effects of such development. The 1990 General Plan was approved by the County Council in 1991. Given the significant socio-economic, demographic, and physical changes in the last decade, Maui County prepared a comprehensive Policy Plan to 2030 that provides the basis for updating the Maui Island Plan and the nine Community Plans.

Adopted in March 2010, the County of Maui 2030 General Plan provides broad goals, objectives, policies, and implementing actions that portray the desired direction of the County's future. The Plan articulates a vision statement and core values for 2030, describes current conditions, identifies guiding principles and identifies goals, objectives, policies and implementing actions to realize the vision and based on the following core themes:

- A. Protect the Natural Environment
- B. Preserve Local Cultures and Traditions
- C. Improve Education
- D. Strengthen Social and Healthcare Services
- E. Expand Housing Opportunities for Residents
- F. Strengthen the Local Economy
- G. Improve Parks and Public Facilities
- H. Diversify Transportation Options
- I. Improve Physical Infrastructure
- J. Promote Sustainable Land Use and Growth Management
- K. Strive for Good Governance

One can say that all of these Plan policies are integral and pertain to the proposed water lease. This SIA focuses on those policies and objectives that are especially relevant to the social environment in terms of the proposed long-term (30-year) water lease, the related Commission on Water Resource Management's (CWRM) Interim Instream Flow Standard (IIFS) Decision and Order and community issues identified in Section 4. Policies and objectives within this specific context are as follows:

Goal A: Protect the Natural Environment

Objective 1: Improve the opportunity to experience the natural beauty and native biodiversity of the islands for present and future generations

Policy c. Restore and protect forests, wetlands, watersheds and streams flows, and guard against wildfires, flooding and erosion.

Policy d. Protect baseline stream flows for perennial streams, and support policies that ensure adequate stream flow to support Native Hawaiian aquatic species, traditional kalo cultivation and self-sustaining ahupua'a.

Objective 2: Improve the quality of environmentally sensitive, locally valued natural resources and native ecology of each island.

Policy i. Restore watersheds and aquifer-recharge areas to healthy productive status, and increase public knowledge about the importance of watershed stewardship, water conservation, and groundwater protection.

Objective 3. Improve stewardship of the natural environment.

Policy b. Improve communication, coordination, and collaboration among government agencies, nonprofit organizations, communities, individuals, and land owners that work for the protection of the natural environment.

Goal B. Preserve Local Cultures and Traditions

Objective 1: Perpetuate the Hawaiian culture as a vital force in the lives of residents.

Policy a. Protect and preserve access to mountain, ocean, and island resources for traditional Hawaiian cultural purposes.

Policy c. Promote the use of ahupua'a and moku management practices.

Objective 1: Emphasize respect for our island lifestyle and our unique local cultures, family and natural environment.

Policy a. Acknowledge the Hawaiian culture as the host culture, and foster respect and humility among residents and visitors toward the Hawaiian people and their practice.

Policy d. Recognize the interconnectedness between the natural environment and the cultural heritage of the islands.

Goal F. Strengthen the Local Economy

Objective 2: Diversify and expand sustainable forms of agriculture and aquaculture.

Policy b. Prioritize the use of agricultural land to feed the local population, and promote the use of agricultural lands for sustainable and diversified agricultural activities.

Policy e. Support ordinances, programs, and policies that keep agricultural land and water affordable to farmers.

Policy j. Encourage healthy and organic farm practices that contribute to land health and regeneration.

Policy k. Support cooperative and other types of nontraditional and communal farming efforts.

Goal I. Improve Physical Infrastructure

Objective 1: Improve water systems to assure access to sustainable, clean, reliable, and affordable sources of water.

Policy c: Ensure a reliable and affordable supply of water for productive agricultural uses.

Policy e. Retain and expand public control and ownership of water resources and delivery systems.

Policy f. Improve the management of water systems so that surface water and groundwater resources are not degraded by overuse or pollution.

Policy g. Explore and promote alternative water-source development methods.

Policy h. Seek reliable long-term sources of water to serve developments that achieve consistency with the appropriate Community Plans.

3.2. Maui Island Plan

The Maui Island Plan sets the direction for the future based on the vision, principles and objectives set forth in the General Plan. Its contents are specific to the island and are based on an extensive three-year dialogue with the community. The Maui Island Plan provides policy direction for the development of land, the extension and improvement of transportation services and infrastructure, the development of community facilities, the expansion of Maui's economic base, the provision of housing, and the protection of natural and cultural resources. The Maui Island Plan was adopted and took effect in December 2012.

Key highlights of the Maui Island Plan include

- A Directed Growth Management Plan that establishes future growth areas and enables predictable development
- Protection of Maui's small towns and rural character
- Protection of designated affordable housing
- Protection of watersheds and coastal resources
- Identification of transit corridors
- Economic diversification
- Integration of land use and infrastructure planning

As with the Maui County General Plan, goals, objectives and policies are synergistic. This study focuses on those topics that are specifically relevant to the social environment in terms of proposed long-term water lease, the CWRM IIFS Decision and Order and issues raised in study focus groups. These are as follows.

Watersheds, Streams and Wetlands

One of the challenges cited in the plan and related opportunities, is diversion and damming. It was noted that these actions affect the overall watershed by compromising the vitality of its flora and fauna.

Objective 2.3.6 is to "Enhance the vitality and functioning of streams, while balancing the multiple needs of the community." Policies that are particularly relevant to this SIA include:

- 2.3.6.c Respect and participate in the resolution of native Hawaiian residual land and water rights issues (kuleana lands, ceded lands, and historic agricultural and gathering rights).
- 2.3.6.e Work with appropriate agencies and stakeholders to establish minimum stream flow levels, promote actions to support riparian habitat and the use of available lo'i, and maintain adequate flows for the production of healthy kalo crops.

Expand Diversified Agriculture Production

When the Maui Island Plan was adopted, HC&S, a former A&B subsidiary, was still operating the sugar plantation in Central Maui. With the closure of the plantation, goals, objectives and policies related to diversified agriculture become even more relevant to the proposed action and this SIA.

The Maui Island Plan stated that, "For agriculture to flourish in Central Maui, reliable and affordable supplies of water will need to be made available to the region. Without an adequate supply of affordable water, farmers may be reluctant to invest capital in agricultural production."

While all of the diversified agriculture goals, objectives and policies are relevant to this SIA, those that were repeated themes in focus groups and interviews for this SIA are as follows:

- Policy 4.3.1.a: Strive to substitute food/agricultural product imports with a reliable supply of locally-produced food and agricultural products.

Policy 4.3.1 c: Encourage growing a diverse variety of crops and livestock to ensure the stewardship of our land while safeguarding consumer safety.

Objective 4.3.2: Maintain or increase agriculture's share of the total island economy

Policy 4.3.2.c: Encourage the continued viability of sugar cane production, or other agricultural crops, in central Maui and all of Maui Island

3.3. Population Forecasts

The Maui County Planning Department developed a socio-economic forecast in preparation for the General Plan Update. The forecast serves as a planning tool to predict future growth scenarios, and is based on projections developed by the State Department of Business, Economic Development and Tourism.

The model in this forecast is not designed to predict short-term economic cycles. Rather, it provides estimates of long-term trends. Actual conditions will diverge on a short-term basis within the long-term time frame.

The baseline forecast incorporates historical information and forecasts growth in population and jobs. Table 5 contains population forecasts for 2030 for the county and its islands.

Table 5: Population Forecasts for Maui County, 2030

	Estimated 2005	2030 Forecast	Percent change	Annual average growth rate
Maui County	140,050	189,298	35.2%	1.2%
Maui Island	129,471	175,147	35.3%	1.2%
Molokai	7,127	8,036	12.8%	0.5%
Lanai	3,452	4,676	35.5%	1.2%

Source: County of Maui, **County of Maui General Plan 2030**, Table 2: Resident and Visitor Population Estimates for 2005 and Forecasts for 2030, March 2010.

It is forecasted that the population of Maui County will increase approximately 35 percent between 2005 and 2030, with an average annual growth rate of 1.2 percent. This implies a decrease in the historical annual rate of growth of 2.5 percent between 1990 and 2000.

Within Maui Island, population growth in the different regions is forecasted to increase at different rates, as shown on Table 6.

Table 6: Population Forecasts for Maui Island Community Plan Areas, 2030

Community Plan Area	2010	2030 Forecast	Percent change	Annual average growth rate
West Maui	22,156	36,058	62.7%	2.0%
Kīhei-Mākena	27,244	46,896	72.1%	2.2%
Wailluku-Kahului	54,443	64,853	19.1%	0.7%
Makawao-Pukalani-Kula	25,198	29,635	17.6%	0.7%
Pā'ia-Ha'ikū	13,122	14,040	7.0%	0.3%
Hāna	2,291	3,149	37.5%	1.3%
Total Maui Island	144,454	194,631	34.7%	1.2%

Source: County of Maui, **Maui Island Plan (December 2012)**, Table 1-2: Community Plan Area Population 2000-2030.

The Study Area includes communities in the three community plan areas and the following summarize population forecasts:

- *Makawao – Pukalani – Kula*:⁵ This area is expected to grow by 17.6 percent between 2010 and 2030, which translates into 0.7 percent annually. This is a continuation of strong growth that occurred Upcountry in the 1990s, though not as rapid.
- *Pā'ia – Ha'ikū*: This area's population is projected to increase about seven percent, which would amount to 0.3 percent a year.

⁵ The Makawao – Pukalani – Kula Community Plan Area is part of the Makawao District designated by the U.S. Census Bureau. The Makawao District includes several other communities, as discussed in Section 2.1.2.

Major Forces for Change

- *Hāna*: As shown in Table 1, the population in Hāna decreased slightly in the 1990s, and experienced a slight increase by 2010. Some growth is projected to occur between 2010 and 2030. Note that while the growth rates are higher than the other two community plan areas, the actual increase in numbers is less than 1,000 persons.

4. Preliminary Community Issues

Impacts are changes that may occur as a result of the implementation of a proposed action, plan or policy. Issues are reactions and opinions. Issues can change over time, as people's priorities and values change.

Issues analysis helps decision-makers identify and analyze community concerns about a proposed action. It differs from statistical surveys, the latter of which is designed to focus on frequency of reactions. Polls are valuable because they tell us about the opinions of the majority or the minority. The survey instrument is not conducive to dialogue, however, and the personalized reasons for the opinions expressed are not evident, or need to be inferred from responses.

In contrast, the only time we refer to the quantity of opinion in issues analysis is where there is significant difference of number or a distinct trend.

This section describes and summarizes the November 2018 focus group session in Section 4.1, and the April 2019 interviews in Section 4.2.

4.1. November 2018 Focus Group Sessions

4.1.1 Approach and Session Process

To encourage interaction and active discourse, a focus group structure was used to optimize input. Focus groups are essentially focused interviews with a group of people.

Focus group settings can enhance community dialogue about critical topics in several ways. Focus groups allow the facilitator to share common information with several people at a time. They also allow interaction between participants whereby they can share their own views, learn how others feel, and discuss reactions in a comfortable setting.

The focus group structure in this study was designed to encourage a comfortable setting in which the proposed long-term water lease was described to establish a common level of information. Each group was relatively homogenous in that group participants shared common backgrounds and/or common interests. Presentations and questions were common to all groups to allow for collective analysis.

Each session was facilitated by Berna Cabacungan Senelly of Earthplan. She opened each session with a description of the sequence of topics and activities, as follows:

- Self-introduction: Each person was invited to say where they live and why they were interested in participating.
- The facilitator provided a three-part overview that summarized the following:
 - The proposed action upon which the Environmental Impact Statement is based, including four objectives.
 - The EMI Aqueduct System, in terms of overall distance, collection infrastructure, Collection Area, and State License Area.
 - Key findings of the CWRM IIFS Decision and Order dated June 20, 2018.⁶
- Participants in each group were then asked four questions:
 - What is your **relationship** to anyone or anything related to Maui A&B, EMI, the EMI Aqueduct System, and any part related to the proposed long-term water lease?
 - How do you believe **changes** (namely proposed long-term water lease and CWRM IIFS Decision and Order) affect you personally, others in this focus group and people you know?
 - Do you think water resource allocation should be **balanced**? If so, how? If not, why?
 - What **one thing** do you personally want the reader of the social impact assessment to read?

⁶ While the CWRM Decision and Order is not the subject of the EIS and this SIA, it is nevertheless relevant to social environment because of implications related to stream users and water quantity.

4.1.2 Focus Group Sessions and Profiles

4.1.2.1 Overview

Participants targeted for focus group participation were based on how the proposed long-term water lease might affect their interests, interest and participation in previous lease- and water-related events, such as the CWRM proceedings, media coverage and participation in the scoping meetings subsequent to the issuance of the EIS Preparation Notice.

To invite participants and organize the sessions, the facilitator contacted organizational and community leaders in these interest groups. To the extent possible, times and dates were set for the convenience of the groups. Except for one meeting, the initial contacts offered to invite participants in their network or provided contact information. Further, except for one meeting, the initial contacts arranged venues. The facilitator provided refreshments and paper and pens for notetaking.

During the sessions, participants were asked to hold questions and discussions until after the three-part presentation. They generally did this, although there were instances in which information was clarified and expanded. While participants sometimes strongly expressed their views with passion, the overall tone of the sessions was always respectful and supportive of each other.

Assistance in preparing for and conducting the focus groups was provided by Dawn Freels, an independent contractor and Pukalani resident.

4.1.2.2 Profile of the November 2018 Focus Groups

Seven focus groups were conducted, as follows:

- Two focus groups with Upcountry Community Associations, including Kula, Pukalani and Makawao Community Associations
- Farmers and ranchers
- Mālamalama Maui (a two-year community project to use arts and culture)
- Huelo / Ha'ikū residents and farmers

Preliminary Community Issues

- Environment and sustainability
- Ke'anae and Wailuānui (Ko'olau Moku) residents, farmers and cultural practitioners

Collectively, 64 people signed in at the seven focus groups. The actual number of participants is higher because some who arrived after the session started did not sign in. Four people participated in two sessions to share their views from different perspectives.

While there were often common views and interests that spanned the focus groups, each group tended to have a “personality” of sorts. Participants had interests common to that group and expressed their views within that context.

This section identifies participants in each group and themes that tended to emerge within the group. It is intended to share general impressions of each group and does not elaborate on specific comments and issues. Discussions regarding collective opinions and issues are presented in Section 4.1.3.

Upcountry Community Associations

The focus group with members of the Kula and Pukalani Community Association was convened on November 12, 2018 at 6:00 PM at the Kula Community Center. A separate session was held with the Makawao Community Association on November 13, 2018 at 5:00 PM at Makawao Elementary School. Participants are listed in Table 7.

Table 7: Upcountry Community Associations Participants

Name	Affiliation
Kula and Pukalani Community Associations	
Dawn Freels	Pukalani Community Association
Gina Flammer	Kula Community Association
Dick Mayer	Vice President, Kula Community Association Vice Chair of Maui Island Plan
Heather Mueller	Kula Community Association
Doug Sheehan	Kula Community Association
Makawao Community Association	
Jeremy Baldwin	Makawao Community Association
Duane Hamamura	President, Makawao Community Association

A common theme with these residents was the continuation of reliable water service to Upcountry residents, businesses and farmers. There was general appreciation for water provided by the EMI Aqueduct System.

While participants understood their relationship with the EMI Aqueduct System, they believed that not all Upcountry communities are served equally by the system. They said that the EMI Aqueduct System supports the two water treatment plants for Kula, including Olinda / Upper Kula and Pīiholo Water Treatment Plants only in times of drought. They believe there needs to be clarification on the actual Upcountry dependence on the EMI Aqueduct System.

Another theme, expressed primarily in the Kula / Pukalani focus group, was that water is a public trust, and should not be controlled by a single private corporation. They suggested a restructuring of public utilities to include a water utility that would be administered similar to the current electricity in the public utility structure. Further, profit made from use of this public trust should be invested in public need. They strongly advocated for lease restrictions that would prohibit using water for private development projects.

It was also discussed that, with the conversion of A&B to a real estate investment trust, participants believed that water for agricultural uses is inconsistent with a company whose primary purpose is real estate.

It is noted that these Upcountry residents felt that East Maui agricultural and cultural practitioners should have the water they need for their activities. They understood the need for flowing cold water in kalo cultivation.

One person was very concerned about making any change to the system unless it was really needed. He said that the system has worked well for over 100 years, and that any change should be carefully studied to make sure that the modifications are necessary and make sense.

Ranchers and Farmers

A focus group with farmers and ranchers was held on November 12, 3:30 PM at the Kula Community Center. Participants are listed on Table 8.

Table 8: Ranchers and Farmers

Name	Affiliation
Brendan Balthazar	Diamond B Ranch
John Dobovan	Hawaii Farmer's Union United, Haleakala Chapter Founder of Kula Haven Farms (trout and watercress)
William G. Jacintho	President, Maui Cattlemen's Association Co-Owner, Beef and Blooms (Hawaii's First Certified Organic Ranch)
Annette Niles	AKN Ranch
Pam Shingaki	Farm manager at Kula Agricultural Park, Maui Agricultural Research Center, University of Hawaii College of Tropical Agriculture and Human Resources

This group stressed that water from the long-term water lease should be allocated to agriculture first, and that the priority should be for local farmers, ranchers and flower growers who are actively in production, as determined by tax status.

They tended to oppose mono crops that would not be produced by local farmers. They noted that coffee production for Starbucks was recently cited in the media as a possibility; this was not consistent with local farming. Also, it was noted that pongamia orchards, an alternative being considered by A&B, would bring invasive species to the area and is poisonous for cattle. They believed that A&B's recent conversion of sugar lands to ranch lands was an effort to lower taxes because of lower production value. They reported that these lands continue to have sugar cane and are not used for ranching.

They were supportive of East Maui kalo and agricultural efforts; this was consistent with support of local agriculture.

This group strongly advocated for quantification of water under the water lease. They felt that a long-term lease without indications of how the water would be specifically used would be irresponsible. They suspected that, while some of the water might be reserved for the 23,000 acres of Important Agricultural Lands, there may be less restrictions on water use of the remaining 10,000 acres of the 33,000 acres in Central Maui. They speculated that these lands could eventually be used for non-agricultural uses.

Participants wanted to see a cap on potable water for Upcountry needs, though they stressed that residents should get water they need. When that cap is reached, alternative sources such as wells should be used.

Mālamalama Maui

A focus group with Mālamalama Maui was held on November 15, 1:00 PM at Sacred Gardens in Makawao. Participants are listed in Table 9.

Table 9: Mālamalama Maui

Name	Affiliation
Jeannine Bourque	Mālamalama Maui The Seeking Root
Melinda Caroll	Mālamalama Maui When We Shine
Loxley Clovis	
Daniel Collins	Akaku Media
Rebecca Rhapsody	Mālamalama Maui
Lehua Simon	Mālamalama Maui

Mālamalama Maui is a two-year community project that uses arts and culture to help residents to “creatively make the place they live in.” This group collaborates and partners with community groups to engage their networks to use arts and culture in defining agriculture, with a focus on the Central Maui Valley lands that are proposed to receive water under the long-term water lease. The three types of partners that work with Mālamalama Maui include youth education, civic engagement and farmers.

Preliminary Community Issues

Central to participants' comments was a strong emphasis on collaboration and peacemaking. They seek to engage in meaningful partnerships with educators, environmentalists, farmers, and others who are interested in seeking mutually beneficial solutions. Participants reported that Mālamalama Maui recently helped to convene an interactive roundtable that included A&B, EMI, Maui Tomorrow, farmers and others interested in water issues. They felt that there was a lot of polarization at this meeting, and that there remains a lot more work to be done to have productive conversations.

Participants noted past corporate practices are no longer relevant in current times and as the community plans for the future. They felt that A&B, like other large agricultural companies, made their profits from colonialization and industrialization. However, resource stewardship of public resources is shifting. The community is increasingly adamant about being part of the decision-making process and "behind close door agreements" no longer work.

Hence, for participants, the decision on a long-term water lease is not just between the State and BLNR. They believe that the community needs to have a meaningful say in how much water is allocated, who uses the water, and how the water is used.

Huelo and Ha'ikū

A focus group with residents and farmers from Huelo and Ha'ikū was convened on November 15, 2018, 6:00 PM at Hale Akua in Huelo. Table 10 lists participants.

Table 10: Huelo and Ha'ikū

Name	Affiliation
Bodhi Be	Wailele Farms at Twin Falls
Neola Caveny	
Diane Dahl	Farm Owner
Lucienne deNaie	President, Ha'ikū Community Association
Jen Yasho Friedlander	
Robbie Friedlander	
Don Grantham	
Moke Kahiamoe	
Char O'Brian	'Aina First
Dana Ollech	Honopou Road Association – Ohana
Megan Loomis Powers	Farmer
Jill Richards	
Lynn Scott	
Ernest Shupp	President, T.A.R.O.
Jette Slater	
Doug Stone	Kailua HOA

Preliminary Community Issues

Name	Affiliation
Ute Viole	Wailele Farms, Inc. at Twin Falls

Most of these participants live in the Huelo watershed area owned by the State of Hawai'i. They generally live downstream of the EMI Aqueduct System and many live and farm in areas adjacent to streams that were the subject to the CWRM's recent IIFS decision. .

As landowners and farmers downstream of the EMI Aqueduct System, two major concerns emerged among participants. First, many reported that that EMI Aqueduct System is not maintained in a manner that was safe for people in the area and located downstream. Focus group participants said that portions of the ditch area are so overgrown with vegetation that people visiting the area are injured if they stumble upon or fall into ditches and flumes that are not readily visible. Two bridges on State land often flood in this wet season, and people cannot drive to their residences until the water level subsides. It was felt that the bridges are unsafe because of lack of maintenance.

Also, people who visit popular areas in the State Forest Reserve, such as Twin Falls and area trails, are subject to overgrown landscaping and flash flood conditions. Participants noted that neither EMI nor the State has participated in maintenance of the EMI Aqueduct System and trails in this area, even though this area attracts residents and visitors alike.

Also, participants said that EMI personnel do not notify residents in the area when the gates open to allow downstream flow. The sudden onrush of stream water has endangered several people who happened to be in/near the stream at that time.

It was noted that, with the closing of the sugar plantation, the low level of maintenance has deteriorated even further given the reduction of EMI staffing to, reportedly, about eight people.

A second major concern with this group is fairness in how they, as a community, have been treated in two ways. First, they reported of the 25 streams in the petition before CWRM, only three streams in the Huelo watershed were considered kalo streams and designated for full flow.⁷ While they agreed with such designation in other watersheds, they felt more streams in their area should have been considered.

⁷ The purpose of this section is to summarize focus group participants' comments. The number of streams focus group participants cited was their impression and may not reflect the CWRM petition.

Another fairness related concern raised by the group is that residents and farmers in Huelo and Ha'ikū have very limited rights to watershed streams. Except for those whose properties have deeds allowing stream water access via pipes, most cannot access stream water. They cannot use the water for agriculture or domestic uses. Participants noted that they are off the electricity grid, and they are very interested in using stream flow for hydroelectricity. It was reported that there have been drought times in which residents had to truck in water even though they live next to streams. It was also said that those who were fortunate to have wells on their property share their water with neighbors during these times.

Environment and Sustainability

A focus group comprising people interested in the environment and advocate sustainability principles was held on November 16, 2018 at 11:30 AM in the Maui Beach Hotel Molokai Room. Table 11 lists participants.

Table 11: Environment and Sustainability

Name	Affiliation
Lucienne deNaie	Member of Executive Committee, Sierra Club Maui Chapter
William Jacintho	President of Maui Cattlemen's Association Former teacher in Agriculture and Natural Resources at Maui Community College
Char O'Brian	'Aina First
Rob Parsons	Mayor's Office of Economic Development County Liaison, East Maui Watershed Partnership
Albert Perez	Executive Director, Maui Tomorrow
Rob Weltman	President of Executive Committee, Sierra Club Maui Chapter

A theme of this group was process in various forms. Participants felt it was highly inappropriate for the applicant of a long-term 30-year water lease to prepare the EIS that discloses impacts. They believed that this precludes other lessees, and implies that the water lease will be issued. Participants believe that DLNR should prepare the EIS, and prospective lessees would then be asked to demonstrate how their applications are consistent with EIS findings and analysis.

Preliminary Community Issues

Another process-oriented theme was management. Participants stressed that it is highly irresponsible for the State to hand over long-term management of a public trust to a for-profit corporation.

Further, they believe that day-to-day management of the EMI Aqueduct System needs to be restructured. Currently, it is reported that the public has very limited access to the system as EMI maintains locked gates. System upkeep is unknown and they suspect much of the EMI Aqueduct System is in disrepair. Participants have asked for maps and the State has not responded. They believe that the State should have its own maintenance monitoring system, and allow responsible community members access for community-based monitoring. Such community access should also allow for cultural practice.

Another theme for this group was the type of agriculture that the water would support. They felt that a display produced by A&B that illustrated possible diversified agriculture was neither credible nor sincere. Participants noted that media coverage indicated that A&B has a potential agricultural partner. However, participants noted that there is no indication if this is real. Further, this group believes any agricultural activities supported by a State water lease should be local-based and not threaten the social environment with chemicals, downwind spraying and incompatible or potentially harmful crops, such as pongamia.

Ke'anae, Wailuānui – Ko'olau Moku

A focus group was held with residents, farmers and cultural practitioners on November 16, 2018 5:00 PM at the Ke'anae School. Table 12 lists participants. Note that several people arrived after the session started and every effort was made to have them sign in; some may not have done so.

Table 12: Ke'anae / Wailuānui – Ko'olau Moku

Name	Affiliation
Ume Binstock	Ha'ikū
Loxley Clovis	
Jesse Davenport	
Avi Elkayam	Nā Moku 'Aupuni 'O Ko'olau Hui
Joe Gardner	Nā Moku 'Aupuni 'O Ko'olau Hui
Hea	Nā Moku 'Aupuni 'O Ko'olau Hui
Blasé Kaauamo	
Josyah Kaina	Hana
Kaleikauwaka	Nā Moku 'Aupuni 'O Ko'olau Hui
Kane Kanakaole	

Preliminary Community Issues

Name	Affiliation
Jerome Kekiwi, Jr. Junior	Nā Moku 'Aupuni 'O Ko'olau Hui
Isabella Keegan	Hana
Michael Krupuick	Nā Moku 'Aupuni 'O Ko'olau Hui Resident Owner
Katelynn Oliveira Rebecca Rhapsody	Hana
Khadya Striegel Kili`ohu Thomas	Kawaiianu o Hāloa
Kimberly Thomas Jonathan Wakzakpol	
Edward Wendt	Nā Moku 'Aupuni 'O Ko'olau Hui
Mahealani Wendt	Nā Moku 'Aupuni 'O Ko'olau Hui

The prevalent theme in this focus group was the foundational impact of generational change and legacy. Participants shared an inherent personal angst that permeated ethnic identities and communal cultural practices.

This focus group repeatedly cited instances of multiple 'ohana (family) generations that had to deal with the transition from full stream flow to EMI stream diversions. Participants stressed that wai (water) is life, the starting point for Hawaiian culture in all forms, including food, soft fiber, medicine. The wai from streams contain food sources and fed kalo patches and agricultural activities. In the past, keiki (children) played in streams and intimately learned about nature and the ecosystem. Participants personally experienced these activities and it pained them that their ability to pass this legacy on to their children and grandchildren has been hindered by EMI stream diversions.

Kupuna participants noted that getting water back in the steams has been occurring over decades, starting with their own kupuna. Several people said, "We are weary of this fight." Further, this group was unique in having many young people; they acknowledged the sacrifices of their kupuna and are prepared to fight for their children, again stressing the multi-generational effect of water leases in East Maui.

Another perspective that was a common theme is the natural order of the environment. It was often noted that Hawaiian cultural practices are based on using the environment in its natural state. As one person said, "We are servants of nature." They described the ahupua'a land system and the 'auwai (ditch/canal) that fed their agricultural fields in a systematic way.

They stressed that the flow of streams into the ocean has also been an integral part of cultural resources. Stream fish, shrimp and mollusks need the interaction between streams and nearshore waters and this allows for healthy ecosystems and productive food gathering.

Without exception, participants in this focus group wanted to see streams restored and diversion structures entirely removed. While they felt that releasing the kalo streams as initially done by A&B in 2016 and as now required under the IIFS decision is a step in the right direction, they believed that continued stream diversions in this area need to end.

4.1.3 Focus Group Issues

This section summarizes topics raised by participants in response to the common four questions (see Section 4.1.2.2).

4.1.3.1 Relationship to A&B, EMI, EMI Aqueduct System, and Proposed water lease

Many participants, regardless of their focus group, lived in an Upcountry community. All acknowledged their dependence on domestic water that are part of the EMI Aqueduct System. They hoped that the EMI Aqueduct System would continue reliable service. They also believed that not all Upcountry communities are served equally by the EMI Aqueduct System. Some communities receive water from the EMI Aqueduct System only in times of drought. As several said, "It is the exception, not the rule." There was no mention that EMI is contracted to operate the two water treatment facilities not located in the State watershed areas.

They distinguished between EMI Aqueduct System as a water source, and MDWS as the operator of treatment and transmission activities. Participants were aware that there were almost 2,000 Upcountry properties that are still not metered. It was felt that the cost of connecting to the MDWS system was too expensive. In addition to the reported \$6,000 for a water meter, a property owner must pay for connection to the main line and other appurtenant requirements. Depending on distance and physical conditions, these costs are more like \$20,000, which is not affordable for many people.

Many participants knew EMI employees in the past. They noted that in the past, relationships between EMI and the community were much more amicable. Some employees used to release water to help downstream residents and farmers. They notified residents of gate openings in a timely manner. Two participants had unique relationships with A&B. One is President of the A&B Sugar Museum; the other, a descendent of one of the company's founders.

Community Interaction

Often, when participants talked about A&B and its subsidiaries, they distinguished between the company in the past and what it has become today. This section summarizes instances that help to define their relationship with the company today.

Interest in land leases: Participants, particularly ranchers and farmers, expressed interest in leasing land from A&B. Frustration was shared about previous efforts of local farmers in negotiating leases with the company. Reportedly there has been a policy of a minimum of a thousand acres, which most local ranchers and farmers could not afford. One person described a situation in which he was willing to lease a large tract, then sublease affordable portions to other farmers; this was not permitted.

Lack of community engagement: It was noted that the community hears about A&B's activities mostly through the media or the "coconut wireless." Participants pointed out several news articles regarding possible land sales and agricultural partners published just prior to the focus group sessions.

Participants believe that A&B is not interested in an active relationship with the community. Their impression of the aforementioned round table (see Mālamalama Maui focus group) was that company representatives did not seem interested in people's suggestions and opinions.

Further, East Maui residents repeated several times that the company has not made contact or met with their communities for a couple of years, and have not been reaching out as it has in the past.

Lack of community access and oversight: Participants advocated for community access to the EMI Aqueduct System on State lands. They said that they have been asking the State for maps of the EMI Aqueduct System and that these requests have not been answered. They said that EMI maintains locked gates on State land, and this prohibits public access on public lands. Participants have been seeking access to 1) observe and monitor the EMI Aqueduct System handling of water, a public trust, and 2) engage in cultural practices. They were willing to limit access to responsible parties. Reportedly, such requests have not been permitted by the company.

Some believed that the portion of EMI Aqueduct System on State land is owned, at least in part, by the State. This means it is not private property and that community access to the EMI Aqueduct System should be allowed.

Divisiveness: Participants in each group supported local water users. East Maui supported Upcountry use of water and Upcountry likewise supported East Maui residents and their rights to stream water for cultural purposes. All groups supported local farmers and their right to water in the water lease. Participants wanted to see Central Maui be a place for a wide diversity of successful agricultural activities operated by Maui farmers.

Participants said that A&B is trying to create the impression that East Maui is trying to take away the water from others, including Upcountry residents. Participants reported that there has been a brochure circulated by labor unions that claimed that if East Maui gets their water, people will lose jobs and Upcountry's water supply will be threatened. East Maui participants related this divisiveness to corporate arrogance, willing to divide families for its own profit.

Legal Proceedings

The relationship between many participants and A&B has been defined by contentious proceedings in the legal system. For many years, CWRM has received petitions on behalf of Native Hawaiians to restore certain East Maui streams. They have been joined by environmentalists. CWRM issued its IIFS Decision and Order in June of 2018.

Several focus group participants were engaged in the petition requesting IIFS, as the petitioner, the petitioner's representative and expert witness. Although some components have been resolved, participants involved in these proceedings continue to be wary of A&B's objectives and plans.

During the focus group sessions, Sierra Club members said that they are requesting a contested case hearing on A&B's request for time extensions on a revocable water use permit, a temporary permit in lieu of a long-term lease. BLNR subsequently rejected this request.⁸

4.1.3.2 How Changes May Affect Participants Personally or Other People They Know

Need Credible Basis for 30-Year water lease Application

Participants said that it is difficult to identify how specific changes will affect the community because they do not have information to gauge the extent of change a 30-year water lease to a single entity would bring. They questioned the basis for requesting a long-term water lease, especially considering that A&B appears to be out of the agriculture business when it became a Real Estate Investment Trust. It was stressed that more information is needed on how the water would be used for agriculture in Central Maui. Specific questions included:

- How much water is A&B currently actively using? For what purposes?
- How much water is A&B diverting but not using? In other words, how much diverted water is being wasted / dumped?
- How much water is being stored by A&B?
- How much water does A&B realistically need for Central Maui and specifically for what agricultural purposes?

⁸ Perry, Brian. "BLNR denies contested case for A&B water leases." *The Maui News* December 8, 2018.

Participants also stressed that the amount of water from the EMI Aqueduct system serving Upcountry Maui, which was identified as 6 MGD, is a very small portion of the total water being diverted. They believe that Upcountry water needs should be put in perspective of the overall water quantity that would be made available with a 30-year water lease. Answering the aforementioned questions would provide the community a realistic sense of scale and need.

Suspicion that 30-Year Water Lease Will Eventually Support Urbanization

Without answers to the above questions, participants suspected that eventually water from State lands will be used to urbanize at least a portion of A&B land holdings. They cited that only 23,000 acres of Maui A&B's 33,000 Central Maui acres are designated Important Agricultural Lands (IAL). While it may be difficult from a land use entitlement perspective to convert these lands for urban uses, conversion of the remaining 10,000 acres may be a more feasible opportunity. Participants strongly felt that the water lease agreement should spell out specific uses allowed and what happens if A&B vacillates from the agreement.

If unforeseen urbanization did occur, participants were very concerned that the area's infrastructure would be significantly impacted. They did not believe that such development would be curtailed by public agencies and public officials interested in increased tax revenues.

Long-Term Water Lease Will Continue Unresolved Issues

East Maui participants noted that, while CWRM fully or partially restored certain streams, stream restoration is still unresolved. Many want to see more streams restored to their natural state and the removal of diversion structures was advocated for all fully restored streams.

Further, for Huelo and Ha'ikū participants, the recent CWRM IIFS Decision and Order just scratched the surface of stream management in their area. Maintenance and management of the EMI Aqueduct System continue to be major issues, as well as water and stream rights for those live and farm in the State watershed areas.

Change in Upcountry Water System

Participants doubted that MDWS could adapt to changes if EMI were to curtail or discontinue providing water and services as is currently occurring. They said that MDWS is already experiencing difficulty in maintaining the Upcountry Water System now, and that any challenge would likely not be met.

Residents were concerned that if domestic water was limited in any way, then MDWS would need to pump water from wells. This would be more costly than receiving water from the EMI Aqueduct System and MDWS would likely pass this cost to the water users. Likewise, well development would also cost money and water users would end up paying through water fees.

Maintenance of the EMI Aqueduct System

Regardless of changes in stream diversion and restoration, participants believed that the EMI Aqueduct System infrastructure is not being maintained or managed. There were stories of the need for better maintenance, including downstream scouring in flooding conditions, dry streams with only intermittent release from gates, and washed out bridges.

One recollection is of a site visit with County officials of the EMI Aqueduct System. The road was so overgrown that vehicle almost drove into the ditch. When one person exited the vehicle, he stepped into the ditch and water reached his knees.

Another instance of ineffective stream management is related to mosquitos, which became more prevalent during times when stream flow was low due to diversions. The population of mosquito fish, which ate the mosquitos, eventually decreased as the ponds dried up. Additionally, the population of toads, which also controlled mosquitos, decreased with EMI's increased spraying of Roundup, a chemical weed killer.

Participants reported that EMI staffing has decreased to eight people and they were not hopeful that maintenance and management would improve in the near future.

4.1.3.3 Balance in Water Resource Allocation

Water is a Public Trust

Participants said that King Kalākaua agreed to have A&B construct the EMI Aqueduct System provided that the people are not harmed in any way. It was noted that A&B has been diverting streams for over a hundred years and participants did not believe that the company has lived up to its agreement of taking care of the people. The diversion of public water for private purposes has had significant impact on the Hawaiian community.

Participants in several focus groups stressed that water is a public trust, as provided for in Article XI of the Hawai'i State Constitution. For them, balance meant that the State needs to control water for the public good, and not relinquish such a large amount of water to a profit-driven corporation for three more decades.

Suggestions to create a true balance of water resource allocation included:

- DLNR should be preparing the EIS, since it is responsible for stewardship. The EIS would then be the benchmark for evaluating water lease applications. Allowing one prospective lessee to prepare the EIS was considered a travesty by some. It assumes that the applicant is the only lessee and precludes other options that might be more beneficial in the public interest.
- Establish a new publicly-owned water utility, similar to the electric utility. The water utility was envisioned as a non-profit entity that would be governed by an independent commission. The public utility would maintain the infrastructure for a public service, and work could be contracted out to qualified companies. EMI, for example, might be contracted to maintain the EMI Aqueduct System.
- Further balance in the utility scenario is to use proceeds from the water utility to meet public need, such as affordable housing and education. The determination of areas public need and funding recipients would be made by a consortium of public agencies, non-profit groups, and community leaders.

Regardless of how change occurs, participants strongly felt that there needs to be a paradigm shift on how water, as a public trust, is managed. As one person summarized, "It is poor public policy to have a public trust relying on a private corporation."

Support for Sustainable Local Agriculture

Balance for many was creating an environment where local agriculture is fully supported. With the closing of the last sugar plantation, participants believed that there is an opportunity to fully diversify and support local farmers, ranchers and flower growers in Central Maui and Upcountry Maui. They described a “robust local agriculture” that would significantly reduce importing food. This balance included motivating prospective young farmers to invest time and energy in local food production.

Participants envisioned an agricultural environment that would improve the physical environment with practices that minimize chemicals and utilize responsible tilling practices that avoid air quality impacts and sedimentation. It was noted that sustainable agriculture helps to sequester carbon and control climate change.

Further, it was constantly reiterated that support for local farmers in Central Maui does not deter from support for East Maui farmers and cultural practitioners.

In this context of sustainable agriculture with local farmers, participants felt that the agricultural alternatives raised by A&B so far were inconsistent. They said mono crops produced by an outside corporation would continue the “industrialization of agriculture.”

Hawaiian System of Water Use in Agriculture is Balance

Participants cited the Hawaiian system of ahupua'a watershed management as a sophisticated and successful balance of using natural resources in an efficient and reliable manner. The practice of allowing full mauka to makai stream flow provided for a healthy ecosystem, where it provided a reliable source of water that circulated through 'auwai (ditches) leading to lo'i (taro fields), orchards and other crop lands.

Using ahupua'a watershed management principles would require changes in how people think about and use water. Water conservation needs to be taken seriously on both a personal and community level. This implied that giving a private corporation access to large quantities of water every day, for yet unknown uses, over a 30-year period would be inconsistent with the basic principles of ahupua'a watershed management.

Need for More Farmers in East Maui

Participants in several focus groups pointed out that, while East Maui participants now have full stream flow in several streams, there is another problem that was brought about by stream diversions in the past. As streams dried up, the availability of constant flows of cooling stream water decreased significantly. The reduced ability to grow kalo, feed families, sell produce and economically survive caused many families to make difficult decisions. Parents had to drive long distances every day for employment and families were broken up for long periods of time. Eventually, many families decided it was best to move to other areas, another island, or even leave Hawai'i. Some likened this significant effect as "cultural genocide."

This exodus, while painful from personal and community perspectives, also meant that there were less and less people who know how to grow kalo. Focus group participants reported that, in valleys that supported dozens of people, now support "a dozen, if you're lucky."

East Maui participants described current efforts to clear land and restore kalo fields, one at a time. It is often a communal endeavor, where people help each other out.

This is not enough, however. Participants said that a few people are returning, or considering returning, but it is a slow process.

A somewhat related aspect is the need for restoration and reparations. Participants advocated some form of reparation for East Maui residents and farmers who have negatively impacted by stream diversions for over a century.

Still Need Resolution for Downstream Users in Watershed Areas

While participants living in Huelo and Ha'ikū supported stream restoration in Ke'anae, they stressed that there is still much to be done to balance conditions and public rights in the Huelo Watershed Area. As previously discussed, downstream users reported that the lack of ongoing EMI Aqueduct System maintenance continues to cause environmental degradation and public safety hazards.

They said that there is little, if any, communication between EMI and watershed residents and farmers, and there seems no possibility of near-term interaction. Huelo participants pointed out interaction, whenever that occurs, will need accurate information about system conditions and correct maps with accurate stream locations and identification. A participant cited a map of a portion of the Huelo watershed that depicted inaccurate stream locations and identification.

Also unresolved is fair and equitable access to streams and their resources. These participants expressed much frustration that, unless their property deeds specify stream access, they cannot use stream water in any way even in drought conditions. Further, visitors who hike trails and visit Twin Falls are exposed to unsafe conditions due to lack of adequate ditch management. They reported that efforts to work with the State and EMI on these issues have thus far been unsuccessful.

4.1.3.4 “One Thing”

At the end of each focus group, participants were asked to share one thing that they personally wanted the reader of this SIA to read. The facilitator had announced at the beginning of each meeting that the meetings were being recorded. In this portion of the focus groups, she committed to replicate their comments as closely to verbatim as possible. This section lists “one thing” from each group.

Upcountry Community Associations (Kula, Pukalani, Makawao)

- From a historical perspective, the proof is in the pudding. EMI has been running this very efficiently for over a 100 years. We're playing with something that we don't know what the new outcome might be. Say another company takes over and they have no clue on what's going on. We lose this valuable resource that's been here for a long time. We've seen history and what they can do. Why would we want to change it? If it's not working, not good, not efficient, I'm all for changing it. But I'm not for changing just for the sake of changing. If you take this water away from EMI, what will happen. I hate to see all this water go to the ocean. That's going backwards. I agree with water for shrimp, for taro farmers. But I'd like to see some numbers. What are we talking about? The problem is we have no way to hold the water. If we had reservoirs, and this water came cranking out of the other side of the island every day, we wouldn't have a problem with water at all. We just can't store it. That's what we need to look at. The County should

Preliminary Community Issues

buy cheap land from EMI and put in reservoirs. The whole system is already set up.

- Number one thing is we need a lot more information. We should look at other islands and see what they did with similar systems. Information about what a public utility would look like and how that process might happen. On maintenance, it's already changed – how could other entities would maintain the system is really important. Information about ways this public utility could be used by the public. Who owns the current infrastructure?
- I don't think a private company should own a public good. Thirty years is a long time. If A&B is a for profit company owned by shareholders, how can we give them the lease? What if they go belly up? It may not be in their best interest to own the EMI system. If they sell big chunks of land to other people, that's a huge unknown. Need to go through a public entity.
- Too many people don't trust A&B and EMI to do what they're going to do.
- A&B is no longer an agricultural company. It's a real estate trust. In fact, A&B is not allowed to operate EMI anymore. As a REIT, can only buy, sell, lease land. Cannot legally operate an agricultural operation. That's why they're going to other companies to lease their land and do agriculture. I don't trust a real estate company to look out for the best interest of Maui. Therefore, I'm very leery of giving lease to real estate company short term or long term. Nor do I even know if a real estate company can operate the irrigation system. They would have to hire or set up a new company that would lease from A&B. Real legal issues that need to be addressed in EIS to see if they're allowed to have the water lease. There are laws that govern what a REIT can do. Whole series of legal issues that need to be addressed. If they sell Maui lands, can they transfer water lease and rights? Most of these decisions are made in Honolulu. They think of us as a third world country.
- I would like to see fairness so people get the share they need. We need this water. I don't see opposition from my end as far as trying to get that water fairly.
- Historically, Central Maui was desert. Man transformed that. People are all over the map of what man's impact should be. You fly in and see green – that is two thumbs up. Too easy for me to respect that there are different opinions. Not everybody has embraced our history. We are diverse now. Activists often have disproportionate impact on land use and water. A&B has been tone deaf to us because all power on Oahu. For example, proposed development for Hāli'imaile was to connect Makawao to Pukalani.

That does not make sense. Hāli'imaile could be so much more in and of itself.

Farmers and Ranchers

- The future of our food supply is in the hands of our farmers. I do not want to see Central plains become another Mililani which happened on Oahu. Complete disaster.
- Make sure the 33,000 acres stay in agriculture production. If you want water, stay in ag production. If you want for development, that's a different story.
- Would like to see A&B follow through with all of the commitments they made in public in keeping 33,000 acres in active ag. With that, the water is essential. Cannot do anything without that water. Whether livestock, row crops, flowers. They always say diversified ag. I object to another single crop like sugar, another coffee plantation. Want to see opportunities for local farmers.
- Find a reasonable balance in system. How much water is left in the streams to be used? DHHL has first pick. They have a percentage due them. Maybe 10 percent in Kēōkea area. What are their future needs? IAL is next priority. That should have committed water. HC&S / A&B has dibs on water. I don't know how that plays out. Really bothers me that Kula 1800 has a reserve. I don't know where that came from. That is 1,800 acres of private property originally owned by Maui Land and Pine. That is a lot (almost 25 %) of the 1.5 MGD. The next water available is MDWS. Finding the proper balance means 1) what is available to begin with, 2) what is committed, 3) what is left, 4) what are future plans as in Maui Island Plan
- Now all quasi. Everybody says we need the water for this; we need the water for that. So how much water do we really have once you take care of kalo and habitat? After that then. A&B has to figure out how much water is for the farmers.

Mālamalama Maui

- Water is the most important matter in my life. Without water, there is no life. Looking closely at history, A&B's history, the legal standing of the water, and the current situation, reveals that continuing to allow A&B to divert the public's water out of dozens of watersheds will continue to have significant negative social and environmental impacts for the island of Maui.

Preliminary Community Issues

- Because of everything that was done, A&B wants to use water as detrimental to the people. For me, as a Hawaiian, I feel all my ancestors will come for this land. For 140 years, these other people were able to come and rape the land, the people and our culture. Our culture is the solution to the destruction that has occurred. Spiritually, sacredly, I know whoever wants to buy the land they have so much work if they do not do this the right way. Spirits, ancestors that come against them.
- I want to remind whoever is analyzing this should know that this island is a living being, without whose help and full thrive ability, cannot continue to sustain the life it has. As our population grows, this is an opportunity to change perspective of restoration. And about seeing these living systems that are dependent on our stewardship and how we manage ourselves.
- This is an opportunity for forward thinking. Let the past inform the future. The perspective and paradigm that man knows future – that time is ending quickly. Please choose methods that honor how nature does things. We can't think that we know best. We only have one chance. Once we f*** up we cannot turn back.
- My one thing is access. The sugar industry had access to large amount of water. It was gifted to them at the detriment of others. Access for people for traditional hunting trails, to waterfalls, to water supply, to beauty. We don't know the numbers and what will be grown there. The know quantities, e.g. what kalo needs, should be determined so we know what we have access to.
- What keeps coming to mind is this imbalanced idea that we can put a price on water. To me, that means we are putting a price on life. How much does a raindrop cost? That is the wrong way to go about it. We should let it flow from sky, down the mountains, and wherever it needs to go.

Huelo and Ha'ikū

- A professional engineering firm needs to come in, assess situation, and estimate how much it would cost to modernize the system and upgrade for public trust. We can pay that bond back by user fees. A Public Utility Commission can regulate. I have seen this done in Norway.
- Native cultural rights and ecology. The first one, Hawaiian rights, should be first. Always.
- Eminent domain – A&B should be forced to sell at a high price so their stockholders don't suffer. There should be a bond. The land

Preliminary Community Issues

that controls the water should be in public hands. A&B shouldn't lose money, but their stocks should be frozen at current level and land should be bought out by eminent domain. Should be selling back to County or State.

- A&B has not a good track record. Pineapple fields saturated with plastics. Damage in massive amounts. Destroying in massive amounts. Cannot grow on pineapple fields. Has to go to public trust.
- We need to consider the origination of water and maintain that origin. Include people who were there, the nearshore and ocean.
- The water belongs legally to people. People who live in these valleys should have a voice and a say in the legal conversation of the water.
- I want that everything that has been said in the past 19 years, and in this meeting, is not just put in a report but something is really done about it.
- Public water is not private. Largest private water company in the world.
- It is absolutely ridiculous that we have been beating our head against a brick wall for close to 20 years! The Waiahole Ditch case that showed water is a public trust.
- Follow through on enforcement.
- In a community, you don't destroy what nurtures the life of the land. Their history is destruction of land for profit. Now it is way diminished from what it is now. Pollution. Public trust may be the way to go. Needs enforcement. Land, water, air. Everything has to be enforced by law. Land is sacred, water is sacred. What they are planning to do may them make a lot of money, but it will be all exported. The land will not be nurtured. There will be chemicals. They will take water and sell it. Will be destructive to all generations that come after. That is a crime. They are destroying the life opportunities of us and our descendants.
- We need impartial enforcement.
- Let streams flow as they should. I'm not for privatization.
- We need to take what sustains us seriously. We are making up for a hundred years of abuse. Now the area is destabilized with

Preliminary Community Issues

invasive species because areas were left dry. Mountain to the sea flow and a consortium of all interests should be at the table.

- The system should be efficient and publicly managed for the benefit of all. Those who live on the stream and have cultural practice and rights should be on top of the consideration / justice. The communities that live along the stream should be recognized and have rights to enjoy the uses of the streams. And we need to dedicate ourselves to a management system that includes those who live in lease area as well as those who want use of water. I personally believe we should abandon parts of the system. We should have an engineering company evaluate portions that do not work. We need to take care of the watershed in partnership with A&B – joint and fully participate.

Environment and Sustainability

- There is an unavoidable conclusion that public resources have to be managed by public, not by a corporation.
- We need to know what's available after things are in place. We need to know future needs and figure out the possibilities. If there is not enough water, then we allocate and find more sources.
- We don't even know what's available. The system was built at a time when the Model T was invented. Lowry Ditch built in 1890s, before cars were invented. We don't know what's available because we don't know what we have. If it were repaired, and we know what's available and then we can make a decision.
- By not having good impartial inventory, this feeds into the risk of ditch not being managed, and liability. We need an analysis of the entire system because of the risk of failure. Lining is inconsistent. The conditions of watershed mauka of these ditches need to be evaluated. At Iao, the big rains scour the whole area and the native species are much less likely to slide.
- Take care of watershed so there's water enough for everybody to share through cooperative management and monitoring and support communities in the watershed, as well as those outside the watershed.

Ke'anae / Wailuānui – Ko'olau Moku

- I don't know anything in life that is so heartbreaking than the theft of water.

Preliminary Community Issues

- I want to know if sale is contingent on obtaining water. If it is, we're wasting our time here. If this sale goes through, they will get water by hook or by crook.
- What they should do is release all this wai. Then use all the water on the other side, the wells, even gray water at the sewage treatment plant. They're shooting down over 60 MGD in Kahului. This 80 to 90 MGD they want does not exist right now. They're down to 20 million. Their wells can produce millions of gallons every day. All of this has to be accounted for before they can come in and take more water. Remember the County and whoever else wants to take water from us, we have never challenged them. Not at all. And let us keep it that way because that is the public trust.
- Do what's right for us, the people. Too many generations we've been fighting. I don't want to see my son have to fight. It started from my great grandmother to me.
- We're going to keep fighting. We're cannot give up. We have to do it for this next generation. Our tutus taught us how to do this, how to live this life. Why do we have to change because of their greed? That's not happening.
- This school had 63 students at one time. Water impacted our community because our families had to move to town for employment. The remaining children go to school in Hana. Generations are impacted. This is cultural genocide.
- EMI took too much already. Pau already.
- Not only should A&B not get the water, but they should be responsible for paying all families for harms and for broken up. Fathers forced to work in construction and now not in a great place because their families were broken and changed. Not only should they not get water, but they should have to pay restitution and pay for people to clean streams. If they release water now, will bring invasive species. Need to come clean streams
- When they clean, take out invasive species.
- My generation has to go outside to support our families. We can't stay on the land because we have no water. We have to drive to Napili or Lahaina or Wailuku for construction jobs to support our families. We as one choose to have this EIS not conducted by A&B. We prefer someone else conduct this EIS.
- If you release the water, A&B has to deal with me and all these people.

Preliminary Community Issues

- Water is the most important matter in life. Without water, there is no life. Looking closely at island history, particularly ahupua'a land management system, A&B history is putting shareholder profits above the maka'āina and environment. Continuing to allow A&B to act as a broker of the public's water will continue to have a significant negative environmental impact for the island.
- I come from a place full of war, where water is gold (Israel). A&B needs to come and apologize. After they can sit at table and help people recover. Not just one year but generations. When I moved here, my kids asked where do I go to school. I told them the school is closed. Kids bussed one hour every day each way. That's too much. You took water. You took life. Bring us back our water, our life.
- If you take an analytical perspective of history, the answers lie in reconciliation. There have been a couple of overtures by bigshots. Mr. Benjamin, the CEO of A&B and the Governor asked to come here and apologize, to ask for forgiveness. We presented their request to community and they said "NO WAY! You return our water and we can talk about it." For me personally, I believe that peacemaking is part of our values. As long they persist in taking our resources it is difficult to find forgiveness. If they continue their efforts, it doesn't feel that their efforts are sincere. I don't know how our community can make amends for something so deep, for desecrating the land, people, the children, the kupuna, the resources, lost opportunities. I don't know if that's possible.
- That is the history. For these people to sit here and listen, it's the people, it's the lifestyle.
- The history of the last 140 years has been the reality. We are in a moment that could create change. Sugar is no longer a thing. The future of that land has not been settled. A&B, it is not your right, it is not your privilege, it is not your authority to take this water. By putting this in the statement of lease shows how clueless you are in Maui. It is your responsibility and privilege to help make right what you have done.
- Most of you were not raised in this school. I went here till 6th grade, then went to Kamehameha, then Maui High, then military. I never forgot my lifestyle here. I tried to bring my kids here but nothing for them here. My mom fought her own brother who worked as boss for EMI. They would fight because she said he is taking water for o'opu, hihiwai. My mom was opihi lady. She went from Maka'iwa to Kaupo. I was the bag boy.

Preliminary Community Issues

- I have seen a Hawaiian from this area nail an EMI employee with the cane knife. I seen them marching here, taking water, when I got back from Vietnam. What do you think I wanted to do to them physically? I like hurt um. But Hawaiian style, kupuna have the voice. We stay on the sidelines, humble. They put fear in our kupuna. That's why I stick this out. A&B throw them (kupuna) out the window. That's how I feel. No mercy. They had no mercy for us. I was Taro Farmer of the Year 1977. I watched water disappear. You don't know what I went through. I was small and I watched a kupuna with a cane knife split um open. Why? Wai. Our community was threatened many times in these 30 years. We never called police. We took care of ourselves. Our way. You are in a tough situation. You got to write like you said. I hope you write in mana.
- They raped the land for too long. This is our birthright. Our bodies are made from water. We can't live without water.
- A&B brainwashed people to think that they are in control of water. They were never in control. The EIS is being left to you (earthplan) to explain our views. We are always taught that we need to leave places better than how we left it. When they return the water, they need to clean up the irrigation systems and make it the best that it supposed to be. Wai is rich and plentiful. No money can repay what has been taken.
- What's gonna happen if this does go through? What will happen if they keep taking and taking? Money can't keep buying water. Do we start growing clouds? This is all about nature. They are destroying everything. What if there's nothing left? The big cities are taking from these small communities. Does not make sense.

4.2. April 2019 Follow-Up Community Interviews

4.2.1 Purpose and Approach

After the November 2018 focus group sessions were convened, A&B sold a significant portion of its Central Maui land holdings and related agricultural businesses to Mahi Pono. The subject lands and businesses are integral to the need for a long-term (30-year) water lease for the License Area.

To gauge how community issues may be affected by the change in ownership and agricultural operations, interviews were conducted with a cross section of key community leaders. In April 2019, interviewer Berna Cabacungan Senelly of Earthplan, contacted community leaders who helped convene the November 2018 focus groups and other community leaders who may provide insight not represented in the focus groups.

It is noted that these interviews were not intended to be statistically analyzed. Rather, they were intended to stimulate discussion about recent changes. Interviewees were informed that their comments would be presented and analyzed as an aggregate, and that no comments would be attributed to specific individuals.

Potential interviewees were contacted by phone and asked to participate in these follow-up interviews. All agreed to be interviewed. They were also informed that they may bring up to two other people to their interviews. Three people were interviewed by phone, and all others were interviewed at locations of their choosing.

4.2.2 Profile of Those Interviewed

Eighteen people were interviewed and are identified in Table 13. Affiliations are provided so that the reader has an idea of the types of perspectives that may influence interviewees' responses. Each person was informed that, while their affiliations would be listed to indicate areas of interest, they are speaking as individuals and not on behalf of their organizations or companies. They chose which networks and organizations to include.

Table 13: List of People Interviewed and Their Affiliations

Name	Affiliation
Alika Atay	Farmer, Pauwela Consultant and Sales, Hawaiian Indigenous and Natural Farming Former Maui County Councilmember
Brendan Balthazar	Owner, Diamond B Ranch Board member, Maui County Farm Bureau Board member, Maui Cattlemen's Association Member of Agricultural Working Group (informal group of farm owners who work on various agricultural issues)
Sandy Baz	Managing Director, Maui County Board member, Maui Native Hawaiian Chamber Foundation Group leader, King's Cathedral Former Budget Director, Maui County Former Director, Maui Economic Opportunity
Faith Chase	Hana resident Secretary and Board member, Hawaii Farmers Union United, Maui-Mauna-Kahalawai-Chapter Board member, Hawaii Organic Farming Association
Lucienne deNaie	Huelo resident and subsistence farmer President, Ha'ikū Community Association Vice President, Maui Tomorrow Conservation Chair, Sierra Club Secretary and Board member, Malama Hamakualoa Project (267-acre resource area) Board member, Ha'ikū Living Legacy Steering Committee member, Faith Action for Community Equity (FACE)
Gina Flammer	President, Kula Community Association Executive Assistant for Maui County Councilmember Shane Sinenci

Preliminary Community Issues

Name	Affiliation
Alex Franco	President, Maui Cattle Company, LLC (provides slaughterhouse, marketing and other services to seven ranches) Board member, Maui County Farm Bureau Former president, Hawaii Cattlemen's Council
Bev Gannon	Chef and restaurateur, Hali'imaile General Store
William G. Jacintho	President, Maui Cattlemen's Association Co-Owner, Beef and Blooms (Hawai'i's first Certified Organic Ranch) Retired Educational and Academic Support Program, assigned to Agricultural Program, University of Hawaii Maui College
Dawn Lono	Farmer and Owner, Ohana Lei and Flowers Board member, Hana Business Council Member, Hana School Community Council Executive Assistant, Maui County Councilmember Shane Sinenci
Dick Mayer	Vice President, Kula Community Association Coordinator, Alliance of Maui Community Associations Former Vice Chair of Upcountry Community Planning Advisory Committee Former Vice Chair, Maui Island General Plan Advisory Committee Professor Emeritus, Geography and Economics, Maui Community College Reviewer of Environmental Impact Statements, University of Hawai'i Environmental Center
Char O'Brien	Huelo resident
Albert Perez	Executive Director, Maui Tomorrow
Mark Sheehan	Owner and farmer, organic farm in Ha'ikū Real Estate Broker Board member, Maui Tomorrow Board member, Shaka Movement Board member, Sustainable Action Fund for the Environment
Lehua Simon	Grant Writer, Organizer and Coordinator of Malamalama Maui (two-year [2017 – 2018] community-based project funded by Art Place America to promote arts and partnerships in agricultural initiatives)
Mike Spaulding	Real estate broker, Michael Spaulding Realty Board member, Na Hale o Maui (a non-profit organization that acquires or develops affordable housing) Advisory Board member, Trust for Public Land Board member, Hawaii Preparatory Academy

Preliminary Community Issues

Name	Affiliation
Tony Takitani	Chair, Hawaiian Host, Inc.
Mahealani Wendt	Resident and farmer, Wailuanui Community Advocate, East Maui Nā Moku 'Aupuni 'O Ko'olau Hui Former Executive Director, Native Hawaiian Legal Corporation

Collectively, those interviewed represent a broad cross section of community interests and involvement. Further, almost all interviewed indicated multiple affiliations. The following presents a profile of those interviewed.

- Nine of those interviewed participated in the November 2018 focus group sessions. The other nine people were invited by initially-contacted interviewees or were referred to the interviewer as possible interests that may not have been represented in the focus group sessions.
- Eight people are actively involved in farming and ranching. Some are subsistence farmers, while others raise flowers and livestock in businesses they own. Several have leadership positions in organizations that support ranching and farming.
- Eight people are business owners or executives. Their businesses are related to real estate, a restaurant, flowers, livestock and macadamia nuts.
- Eight people are active in community organizations that advocate for and address various community needs and interests. Their efforts are related to the community planning, resource management, the arts, education, religion, affordable housing and economic opportunity.
- Six people are community leaders in geographic-specific organizations in Ke'anae, Hana, Hā'ikū, and Kula.
- Three people are part of Maui County's public sector, and one is a former Maui County Councilmember.
- Three people are in leadership roles in environmental and sustainability organizations.

4.2.3 Interview Process

Those interviewed were initially asked to share their affiliations and any involvement or participation in the East Maui Water applications thus far.

The interviewer followed with an overview of significant changes that occurred since November 2018, and highlighted the following:

- The EIS purpose and intent remains the same.
- A&B sold land and related agricultural operations to Mahi Pono. The change in ownership involved 41,000 acres in Central Maui and EMI watershed land, as well operations involving Kulolio Ranch, Central Maui Feedstocks and a 250-acre trial of energy crops. In addition, Mahi Pono now owns 50 percent of the EMI Irrigation Aqueduct System and is the managing partner of the system. The former sugar mill site was not included in the purchase.
- Mahi Pono is a joint venture of Pomona Farming, LLC, and PSP Investments. A brief description of both was provided.
- It was noted that Mahi Pono extended employment to EMI employees and the A&B farm team. Almost all employment offers were accepted. It was noted that Mahi Pono's leadership team includes several people local to the Maui community.
- Mahi Pono is working on two farm plan alternatives, both of which involve 31,177 acres⁹ and 1) tropical fruit and nut crops, 2) coffee and specialty crops, 3) diversified agriculture and 4) irrigated and unirrigated pasture lands. The diversified agriculture component includes community agriculture on lease land near the former sugar mill. Common support facilities such as a processing plant would help to support local farmers. Assumptions upon which the two farm plans are based are as follows.¹⁰
 - Available water in Farm Plan based on IIFS allocations
 - Surface water = 61.78 MGD
 - Brackish groundwater = 15.44 MGD (assume 25 percent of surface water to maintain appropriate salinity level)

⁹ This acreage does not include lands west of Veterans Highway, which would be irrigated by West Maui water sources.

¹⁰ The interviewer noted that the following information was provided by Mahi Pono, and she stressed that these numbers are preliminary and are subject to change as studies progress.

- Total = 77.22 MGD
- Available water in Farm Plan based on no stream diversion from State land
 - Surface water = 22.54 MGD (assume 25 percent of surface water to maintain appropriate salinity level)
 - Brackish groundwater = 5.64 MGD
 - Total = 28.18 MGD
- Based on these assumptions, it was estimated that there would be an approximate 65 percent decrease from what would be available based on IIFS allocations and no stream diversion from State lands. While most farm components would correspondingly and significantly decrease in acreage, acreage for unirrigated grass-fed cattle would double, from 11,000 to 22,000 acres. It was further noted that, with no stream diversion from State lands, approximately 9,577 acres of unirrigated cattle lands would be unproductive for agriculture. Alternative uses would need to be explored and would not include urban development.
- Mahi Pono's interim farm plan for 2019 and 2020¹¹ was also summarized for interviewees, and included:
 - 1,675 acres of citrus planted
 - 350 acres of coffee
 - 250 acres cleared for community ag park
 - 1,275 acres of avocado and macadamia nut
 - Approximately 550 acres of diversified row crops and tropical fruits

Those interviewed were then asked the following questions:

- What do you believe are positive aspects of project updates, if any?
- What do you believe are potential challenges and problems of project updates, if any?
- Please share suggestions that will help address the challenges and problems you identified.

¹¹ This information has since been superseded by a further refined and updated farm plan prepared by Mahi Pono.

4.2.4 Interview Findings

4.2.4.1 Involvement and Participation in East Maui water lease Application

Almost all of those interviewed were involved or participated in the East Maui water lease efforts and application in some way, as follows:

- Interviewees were involved in filing CWRM petitions, serving as expert witnesses and researchers. Several conducted research for their own edification and to develop organizational and personal positions. Many indicated that, while they may not have actually participated in legal proceedings, they closely monitored the process over many years.
- Many monitored the legislative session and various legislative bills over the years. Interviewees testified before the State Legislature in support of and opposing bills that would allow short-term revocable water leases for entities such as A&B. During the general time frame of these follow-up interviews, Hawai'i State House Bill 1326 (House Draft 2), which would allow seven-year revocable Water Permits for various agricultural and energy entities, was being considered. Interviewees testified for and against this measure.
- One person had participated in a Cultural Impact Study interview on this EIS, and another helped to convene a round table session on the East Maui long-term water lease.
- Two people lease land from A&B, and one has catered food for company events.
- Several people had recently met with Mahi Pono officials, and some reported participation in three group meetings in which Mahi Pono representatives were present.
- Two people had no previous participation on East Maui water lease efforts.

4.2.4.2 Positive Aspect of Updates and Changes

Strong Desire for Continued Agriculture in Central Maui

Those interviewed stressed that they wanted to see agriculture as a major land use on Central Maui. Several mentioned that the greenery experienced is an integral part of what makes Maui special. They said the green landscape is visually pleasing when driving along the coast and on mauka – makai highways. Interviewees talked about how they look forward to seeing this landscape as fly over the fields on the way to the airport.

It was often pointed out that this green landscape is a major attraction for visitors from aerial and at-grade perspectives.

Interviewees pointed out the agriculture needs to re-establish a major role in Maui's economy. With the loss of the sugar industry, they were concerned that agriculture might be replaced by less desirable economic alternatives, namely more urban development. They did not want to see undeveloped Central Maui lands populated by residential communities and business complexes.

Those interviewed saw the potential for supporting businesses that supply the agricultural industry, such as irrigation, fertilizer, equipment, and so on. Local food vendors and restaurants would also have access to locally grown food, the supply of which is currently limited.

Further, the continuation and promotion of agriculture encourages young people and future generations to consider farming as a way of life. Interviewees appreciated that Mahi Pono is reaching out to local educational institutions to develop agricultural programs.

Optimism that Mahi Pono Would be Able to Bring Environment Friendly Large Scale Diversified Farming

Interviewees tended to be optimistic, albeit cautiously for some, that the new owner may be able to constructively address previous community concerns about the East Maui long-term water lease. Further, they hoped that the contentious and divisive nature that often characterized A&B's efforts to secure a long-term water lease would evolve into a working relationship with the community to resolve past issues.

This optimism was based on direct interactions with Mahi Pono's officials, as well as their understanding of Pomona Farming, LLC, practices and operations. Several interviewees said that they personally met with Mahi Pono representatives, and three group meetings with Mahi Pono were reported, including the Alliance of Community Associations, Ha'i-kū and Huelo residents, and the Board of Nā Moku 'Aupuni 'O Ko'olau.

In these interactions, interviewees and their networks shared information with Mahi Pono officials regarding the need to use regenerative agricultural practices to ensure long-term farming viability. They stressed the need to rebuild soil that has been negatively impacted by a century of sugar cultivation and related damage to soil fertility. Section 4.3.4.4 provides more information regarding suggestions for regenerative agriculture.

Interviewees were heartened that Mahi Pono has publicly, and in one-on-one meetings, stated that no GMOs would be used in its agricultural operations. They were impressed with the Mahi Pono Farm Manager and his reported commitment that he would employ eco-friendly and Best Management Practices in Mahi Pono's agricultural operations. They also reported that he has been very receptive to suggestions and ideas on eco-friendly agriculture.¹²

A key positive aspect noted by interviewees is the wide variety of crops being discussed in farm plans and crop plans presented by Mahi Pono. They liked that one crop would not dominate the agricultural landscape. They noted that previous A&B discussions of possible monocrops were problematic because these crops, such as coffee, would dominate Maui's agricultural environment, only to be largely exported.

Recognition of Need for Water to Support Agriculture

Though interviewees had different ideas about the source of and how much water would be needed for future agriculture, there was consensus that Central Maui agricultural activities will need water to remain economically viable. As one person stated, "Everything stands on water."

¹² The Mahi Pono Farm Manager cited by interviewees resigned after interviews were conducted. Source: <https://www.mauinews.com/news/local-news/2019/05/general-manager-of-mahi-pono-resigns/>

Opportunity to Re-Evaluate Ways to Achieve Balance Among Water User Groups

“Balance” was a frequent theme among interviewees. They acknowledged that various groups need water originating from East Maui State watershed lands, and felt that users should have access to water they truly need. Of note is that, regardless of one’s own interest in the East Maui long-term water lease, no one wanted water withheld from other groups.

While it was noted that large scale agriculture is necessary to create a critical mass, it was also stressed that this scale of agriculture should be balanced by supporting individual livestock ranchers, small farmers and local businesses. Interviewees liked the community agricultural component proposed by Mahi Pono. They felt that, while it would provide land for small farmers, the consolidation of support, such as processing, equipment and marketing, would help lower costs for local farmers.

There was disagreement as to the source of water and how the water is allocated. Further, interviewees sometimes felt that A&B’s efforts towards a long-term water lease was self-serving and divisive. Nevertheless, people were hopeful that this contentious environment was coming to an end with the new owner. Those interviewed expressed willingness to explore options regarding water if community needs, such as local farming / ranching, food self-sufficiency, and so on, can be met.

Interviews also said that future agricultural activities would use “half the A&B water usage” and felt that this is good progress towards keeping more water in streams.

Opportunity for Food Self-Sufficiency and Reduction of Food Import

Those interviewed hoped that future Central Maui agricultural activities would help Maui and Hawai‘i become increasingly food self-sufficient. As an island state, Hawai‘i is dependent on imported food and vulnerable to limitations on the quality of this food and transportation disruptions. They hoped that the potential large scale agricultural operations and production with the new ownership of Central Maui lands would provide food supply for Maui and Hawai‘i that can lead to food self-sufficiency.

Interviewees encouraged agricultural production that would include the local market as a major target, thereby increasing the potential for food self-sufficiency. They wanted to see a variety of crops catering to the local market, and suggested produce such as dryland taro, avocado, guava, sweet potato, macadamia nuts, and popular vegetables such as bok choy and eggplant. They also hoped that Maui restaurants, supermarkets and food vendors could acquire local foods that would be fresh, affordable and a constant supply.

Those interviewed expected that some of the agricultural produce would be exported as a necessary financial strategy. Interviewees wanted to see a healthy balance between allocating a portion of agricultural products for Maui food self-sufficiency and exportation for profit.

4.2.4.5 Potential Problems and Challenges Related to Project Updates

What if Mahi Pono Does Not Have Access to Enough Water to Support Its Farm Plan?

Without exception, those interviewed wanted Mahi Pono to succeed. This is based on what they had heard, learned and discussed with Mahi Pono thus far. While they still have concerns and cautions, their bottom line was that the new ownership and messages they have heard so far represent a possible positive outcome to what has been a contentious and difficult fight over the private use of stream water from State-owned watershed lands in East Maui.

The new ownership and related ramifications imply a future that had not been previously envisioned, a future that could possibly achieve acceptable community objectives, realize viable diversified agriculture in Central Maui, support food self-sufficiency, help local ranchers and farmers, and revive agriculture as a viable economic stimulus for Maui.

Hence, a problem for those interviewed is a scenario where these positive attributes may not be realized because Mahi Pono would not be able to implement its farm plan because of insufficient water resources. For them, the only alternatives they could envision was dry fallow land or urban development, neither of which were desirable.

Initial Optimism was Tempered by Legislative Proceedings Related to State water leases

In the time frame during which interviews were being conducted, Hawai'i State House Bill 1326 (House Draft 2) was being considered. This bill would have granted a seven-year extension for Revocable (water) Permits issued by the Board of Land and Natural Resources. This bill would provide a process whereby the BLNR could consider extending A&B/EMI's existing Revocable Permits, , as well as Revocable Permits for water held by other agricultural and energy entities across the State of Hawai'i. Some of those interviewed testified in support of this bill.¹³

Other interviewees believed that this bill was introduced to allow A&B yet another extension of its Revocable (water) Permit. They did not believe that another extension was warranted, and felt that the legislative effort current in April 2019 was another A&B effort to continue an "illegal" permit. To illustrate their frustration with this legislative action, interviewees gave various accounts of the history of the East Maui long-term water lease, which is summarized as follows:

- It was noted that the first Revocable Permit was issued in 1986 and has been renewed several times over the years.
- Interviewees said that, in 2005, Judge Hifo ruled that an EIS is required to pursue a long-term water lease. They pointed out that an EIS is only now being prepared.
- They indicated that, in 2016, Judge Nishimura ruled that these Revocable Permits were invalid.
- Those interviewed said that, in June 2016, the Hawai'i State Governor signed Act 126, Relating to Water Rights, into law. This law allowed three consecutive one-year holdovers "until the pending application for the disposition of water rights is finally resolved." This holdover period ends on December 31, 2019.
- Hawai'i State House Bill 1326 (House Draft 2) would have extended the period of consideration another seven years.

¹³ As of this writing, the bill did not pass, and is not expected to be pursued during the 2019 Legislative Session.

Those who are optimistic about Mahi Pono's vision, but critical of legislative attempts to extend Revocable (water) Permits, felt that A&B had enough time to rectify the situation and apply for a long-term water lease.

They were disappointed that legislative proceedings were occurring at the same time that Mahi Pono was reaching out to and meeting with various community members and small groups. Further, interviewees felt that Mahi Pono's representatives were not forthcoming and transparent about their attempts to lobby in support of House Bill 1326.

For those who experienced this disappointment, they have become cautious about the new landowner's motivations and integrity. As one person said, "We went from being cautiously optimistic to cautiously skeptical." Another person asked, "Is this just same old, same old?"

Interviewees stressed that they want Mahi Pono to succeed. They want to believe the messages they have received from company officials. For them to maintain this optimism, they believe that Mahi Pono needs to "walk the talk," meaning they need to see commitments in writing and actual work being done that reflects Mahi Pono's stated intentions.

Board of Land and Natural Resources Responsibility and Accountability

Those interviewed felt that the ongoing delays in a long-term water lease for East Maui State watershed streams is due, in large part, to the State not having the staffing and appropriate process to accept, review and issue long-term water leases.

They also believed that the State DLNR has not been monitoring the condition of the EMI Aqueduct System in a timely fashion. One person said the DLNR was to have installed stream gauges 20 years ago and has yet to do so.

Public Trust, Need for More Information on Water Needs, and Amount of Time Needed to Secure Proper Permits

As expressed in the November 2018 focus groups, many felt that, as a public trust, stream water from State watershed lands should not be diverted for private purposes. Those interviewed cited the requirement for A&B to rebate Mahi Pono up to \$62 million of the purchase price if the EMI Aqueduct System cannot deliver water sufficient to support Mahi Pono's agricultural activities.¹⁴ They felt that this is akin to "one corporate entity selling a public trust to another corporation."

Interviewees wanted to see information about how much water is actually needed to carry out Mahi Pono's farm plan. The farm plan based on full access to IIFS allocation suggests that all of the available State watershed stream water would be used. They questioned whether all of this water is needed and asked for crop-specific water allocations.

It was pointed out that State watershed stream water used in the EMI Aqueduct System is one of four sources of water that can be used to support. Other sources reportedly include water from watershed lands owned by EMI, Central Maui water wells on lands now owned by Mahi Pono and the West Maui Ditch System.

Those interviewed questioned whether Mahi Pono and EMI needed the entire seven years called for in Hawai'i State House Bill 1326 (House Draft 2).¹⁵ It was suggested that, regardless of whether the bill passes, Mahi Pono should estimate the amount of time needed to obtain a long-term water lease and proactively work with the community on their farm plan and proposed lease terms.

¹⁴ A&B is required to rebate Mahi Pono \$31 million of the purchase price if the EMI Aqueduct System cannot "deliver irrigation water sufficient" for Mahi Pono to implement its farming plan, also known as a Productivity Loss Event. If A&B hasn't corrected the problem a year after the first event, it will owe an additional \$31 million to Mahi Pono. If Mahi Pono doesn't have the appropriate state water lease rights after five years, it will receive another \$31 million back from A&B.

Source: <https://mauitime.com/news/business/mahi-pono-purchase-agreement-lots-of-legelese-with-a-few-tasty-nuggets/>

¹⁵ This bill did not pass in the 2019 Legislative Session.

Concern that Agricultural Exportation May Take Precedence Over Local Market

Those interviewed wanted to believe that Mahi Pono will seek a healthy balance between out-of-State exportation and meeting local consumption need, helping to promote food self-sufficiency and supplying local food vendors and restaurants.

They were concerned that a significant portion of future agricultural efforts will support exportation to off-island markets for profit. Major exportation, they believed, would also siphon profit away from the local community.

Use of Chemicals

Interviewees were pleased that Mahi Pono representatives publicly stated that no GMO crops would be grown on their land. Those interviewed were unclear, however, about the extent to which chemical pesticides, fertilizers and soil additives would be used in agricultural operations. They urged Mahi Pono to share this information with the community.

Moreover, those interviewed felt the use of chemicals would further “kill the soil” and is contrary to regenerating the soil and organic farming practices. It was noted that chemicals used even in the short-term time frame may detract from Mahi Pono’s qualification to qualify for organic farming status.

EMI Aqueduct System Conditions

An issue often raised in the November 2018 focus group sessions was the reportedly poor condition of the EMI Aqueduct System. Interviewees also discussed this topic from the perspective of reducing water losses. They said that the reduction of water losses would reduce the amount of water required for agricultural operations.

These interviewees wanted to know how Mahi Pono will ensure that continued use of the EMI Aqueduct System will be monitored and operated for efficient use of water, which is valued as a public trust, an integral environmental resource, and essential for healthy ecosystems.

Labor Source

Interviewees appreciated that many agricultural jobs would result when Mahi Pono's farm plan is implemented. They were concerned, however, that, with the current low unemployment rate, several deterrents may make it difficult to fill new employment positions.

One problem, they noted, is the current lack of affordable housing. Interviewees said that the housing market intended for Maui's local working population is typically filled by retirees moving to Maui who can afford the average-priced homes. This results in keeping housing costs high and pricing out local buyers. Maui residents therefore have difficulty in finding affordable housing that will allow them to remain on Maui.

Another problem cited was high labor costs and unionization. These present economic challenges to many businesses operating in and starting up on Maui. One person felt that unionization and high labor costs may be economic deterrents in establishing Best Management Practices, the requirements of which exceeds minimal industry standards.

Interviewees wanted to see these challenges addressed so that there is an optimal labor supply to support Mahi Pono's Farm Plan.

Lack of Clarity on How Individual Ranchers will be Incorporated in Mahi Pono's Farm Plan

Interviewees appreciated that Mahi Pono intends to support local farmers by leasing various acreage levels to small farmers and providing common support, such as processing, equipment and management. It is noted that none of the interviewees indicated that they were personally involved in crop farming activities that may be part of the community farming program, nor did they know anyone who had been approached with this opportunity.

Those interviewed were concerned that such an offer has yet to be discussed with those engaged in small-scale livestock farming, including cattle, pigs, sheep, goats and horses. They distinguished between ranches and ranchers, the latter of which are typically individuals and families who raise livestock often on leased land.

It was understood that Mahi Pono now owns Kulolio Ranch, a 5,500-acre parcel which is leased by Maui Cattle Company for grass-fed cattle operations. Maui Cattle Company serves several large ranches by consolidating “finishing,” and coordinating other services such as a slaughterhouse.

While interviewees were supportive of these operations, they also hoped that Mahi Pono would work with independent livestock ranchers and incorporate them in Central Maui operations.

Need for Pono with East Maui Native Hawaiian Community

Interviewees pointed out that, even though the CWRM IIFS decision restored several streams in East Maui, the social and cultural effects of historical and significant stream diversions have yet to be rectified. This belief was reiterated several times in the November 2018 focus groups, and expressed by those interviewed.

While there has been interaction between Mahi Pono and East Maui residents, there still needs to be acknowledgement of past wrongs and a “path to healing” that will allow residents and the new landowner to have a constructive relationship.

Those interviewed understood that Mahi Pono is not responsible for whatever occurred during A&B’s tenure. Mahi Pono inherited a legacy that developed for over one hundred years. Nevertheless, to move forward as an integral part of the Maui community, Mahi Pono needs to “make pono” with East Maui so that everyone can move forward. One person said, “There needs to be apology, repentance and reparation.”

Need for Consistent and Transparent Communication

Interviewees appreciated interactions with Mahi Pono thus far, but noted that many statements have been verbal, and there has been little, if any, commitment in writing or through action. They felt that the company’s challenge is to continue community dialogue with progressively tangible evidence in writing that Mahi Pono will follow through on verbal commitments. Further, interviewees felt that Mahi Pono needs to connect with as many people as possible to balance information from the “vocal opposition.”

4.2.4.4 Suggestions to Address Potential Problems and Challenges

Regenerative Agriculture

Interviewees shared information with Mahi Pono regarding the significant contribution of agriculture on climate change. It was noted that agriculture is responsible for a significant portion of greenhouse gas emissions, and is therefore a main contributor to climate change. They explained that regenerative agriculture integrates farm management practices to systematically improve soil health. Healthy soil would improve crop yields and resistance to pests.

It was pointed out that regenerative agriculture reduces water use through the selection of crops that adapt well to local climate. If done properly, this practice can decrease reliance on agricultural chemicals, including fertilizers and biocides. Regenerative agriculture also integrates livestock that are humanely raised into crop production.

Conduct an Engineering and Biological Audit of Entire EMI Aqueduct System

Interviewees stressed that the community does not know the condition of the EMI Aqueduct System, and they suspect that neither DLNR nor EMI have a full understanding of its condition. It was suggested that an audit of the entire system be conducted to assess what needs to be repaired to reduce water losses and improve functionality. It was stressed that, if Mahi Pono conducts such an audit and invests in system improvements, benefits would extend to both company needs, the environment and communities near the system. "It would be a different conversation," as one person put it.

Water Management Plan

Related to interviewees' requests for water allocation information and an EMI Aqueduct System audit, it was suggested that Mahi Pono integrate this information in an overall Water Management Plan. The Plan should outline improvements to the EMI Aqueduct System, propose how the watershed rainforests would be protected and maintained including brush fire prevention, and relate water needs to specific crops.

Invest in Maui

Those interviewed wanted to see Mahi Pono become an integral part of the Maui community. They suggested various ways to invest in the well-being and future of Maui, including:

- Provide land for or facilitate affordable housing for agricultural employees. One person suggested “tiny houses” on 500 acres of Mahi Pono land or on land that the company secures for this purpose. Another person suggested that Mahi Pono find ways to collaborate with non-profit associations and Maui County to provide affordable housing for low-income families.
- Invest in improving Central Maui water and wastewater systems.
- Facilitate ways to help local farmers and ranchers conduct their agricultural activities on Mahi Pono lands.
- Actively facilitate internship programs and educational activities that will help young people learn about agriculture, food self-sufficiency, and resource stewardship.

Expand Communication Efforts

Interviewees suggested that Mahi Pono expand its communication efforts by: 1) convening community-wide forums to present information and solicit feedback and 2) organizing an impartial Citizens Advisory Committee that would evaluate Mahi Pono’s proposals, provide feedback and present recommendations.

4.2.5 Analysis of Follow-Up Interviews

Discernible Shift in Focus from Past to Future

There has been a shift in attitude from the November 2018 focus group sessions and the April 2019 interviews. Previous focus group sessions emphasized a context based on a past characterized by contentious legal proceedings, confrontational history between A&B and the community, and frustration about the lack of constructive dialogue about the East Maui long-term water application.

The context of the April 2019 interviews was based on change – in ownership, farms plan options and near-term proposals.

The change in context shifted the focus from feelings entrenched in the past to one that looked toward future possibilities.

Two Prevalent Themes – Hope and Balance

With a focus on future possibilities, interviewees tended to express hope that with the new owner, things could be different. They note that diversified agriculture options have become more specific. They believe that the new owner embraces environmental stewardship and sustainability. They appreciate that Maui farmers and local crops are integral in Mahi Pono's farm plan.

Those interviewed also renewed their hope that there is an opportunity for balance of water users and water uses. While balance was encouraged in focus group sessions, people at that time felt frustrated that divisiveness and contention discouraged dialogue about balance.

Community Willingness to Work with Mahi Pono and with Each Other

Many of those interviewed had met with Mahi Pono officials individually and in group settings. They were willing to continue constructive dialogue and encouraged settings conducive to general public participation.

Credibility and Accountability

Though optimistic, albeit cautiously for some, those interviewed felt that to proceed in a positive and constructive manner, they need proof of commitments that have been verbally expressed. Their trust in the new landowner is dependent on actions or written commitments.

Some felt that their questions have not been answered, and understand that it might be too early for specific answers regarding crop-based water allocation, proportion business targeting local market, and so on. Nevertheless, they feel that these answers will give them a better sense of corporate credibility.

5. Potential Social Impacts

As discussed in Section 1, the overall framework for SIA is anticipatory research, seeking to place the expectation and attainment of outcomes on a rational and reliable basis. Commonly identified uses of SIA include:

- Understanding the ability of a community or group to adapt to changing conditions
- Defining the problems or clarifying the issues involved in a proposed change
- Illuminating the meaning and importance of anticipated change
- Identifying mitigation opportunities or requirements

From an SIA perspective, the proposed action is distinct from typical changes analyzed in an SIA context. First, the fundamental proposed action, which includes a long-term water lease, does not change conditions that have occurred in the past. The proposed action is in many respects a continuance of an action that has occurred for over a hundred years with the primary change being the amount of water that can be diverted per the IIFS Decision and Order, and the change in the manner of agricultural use of the Central Maui fields.

Second, while the fundamental action and the proposed use of the water are in some respects unchanged, implementation conditions are very different from past practices in terms of use and user. The original leases were intended to primarily support sugar cultivation by A&B. The sugar plantation closed in 2016. The current proposed use of the future leased water is diversified agriculture, the components of which have been surmised, but not determined. Also, after the initial focus group meetings, A&B sold most of the lands that would be served by the water lease, to a farming company with a diversified agricultural plan for these lands. Hence, the user of the leased water changed from A&B to the new owner; the operation of EMI will change as well.

This section begins the discussion of potential social impacts with a description of the social environment in Section 5.1. This is followed by an overview of the relationship of A&B to this social environment, in terms of historic and current conditions in Section 5.2. Section 5.3 presents potential social impacts and recommended mitigation.

5.1. Overview of Social Environment

5.1.1 Maui Island

Early Hawaiians arrived in at least three waves from southern Polynesian islands. They developed a complex and effective land tenure system with the island of Maui divided into twelve districts or moku, each with several village communities. When used as a term of traditional land tenure, a moku is similar to a political district. Figure D depicts moku of Maui, which is still referred to by residents with generational ties to the island.

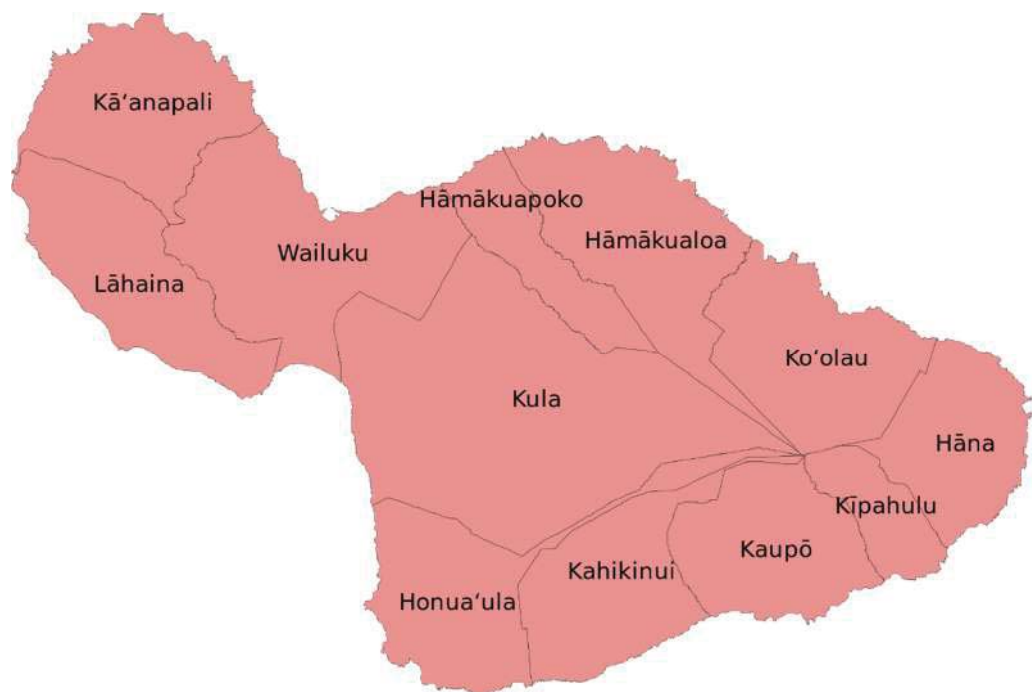


Figure D: Maui Island Moku

Source: Available at

https://commons.wikimedia.org/wiki/File:Historic_Mokus_of_Maui_Map.svg

Each moku was partitioned into smaller portions of land that extended from the mountain to the ocean. Within an ahupua'a, tenants were granted kuleana for home sites and kalo patches. All the chiefs and tenants held land in trust and owed the king a land tax and labor that could be called for at any time.

Potential Social Impacts

Irrigation water, which was diverted from streams through ditches, or 'auwai, to kalo and other agricultural fields, was carefully regulated. There were rules setting allowed diversion times. No more than half of the stream water could be diverted into the 'auwai.

Construction of the 'auwai was organized by the chief. Day-to-day management was the responsibility of the appointed agent, or konohiki. Hawaiian water rights were assigned to plots of taro land, or lo'i. The quantity of water allocated to each rights holder was proportional to the amount of labor furnished for construction of the 'auwai

Until the 15th century Maui comprised three chiefdoms: Wailuku, Lele (Lahaina), and Hāna. Eventually all West Maui was consolidated at Wailuku, with Hāna remaining an independent chieftaincy. West Maui and East Maui permanently merged about 1550 when King Pi'ilani married the daughter of Ho'olae, the 6th Ali'i Nui of Hāna. From that time until conquest, Maui was ruled by a single joint royal family. Pi'ilani and his successors were known for the peace and prosperity that followed. They constructed a roadway that circled the island along its coast; remnants of which still exist.

The first outsiders visited Maui in the late 1780s.¹⁶ Soon, missionary work, the whaling industry, and flourishing trade of diverse goods brought Americans and Europeans to the island.

By the mid-1800s, most of Maui's population lived in the towns of Hāna, Makawao, Wailuku and Lahaina due to the arid and inhospitable nature of the rest of the island. As noted in Section 2, the Hawaiian population decreased significantly due to no resistance to Western diseases, namely influenza, tuberculosis and smallpox.

The distribution of people and settlement patterns was altered dramatically with the Māhele established by King Kamehameha III in 1848. It established a land commission that adjudicated land claims. Hawaiians had been living for hundreds of years with the self-sufficient ahupua'a land tenure system and communal subsistence. In this scenario of cultural unfamiliarity and legal and logistic constraints, foreign acquisition of lands intended for Native Hawaiians occurred at an unprecedented scale.¹⁷

¹⁶ County of Maui Department of Planning, **Maui Island Plan: Island of Maui, General Plan 2020**, p. I-6

¹⁷ *Ibid*, p. I-7

Potential Social Impacts

Hawai'i was moving through many economic and demographic shifts in the late 1800s following the intensification of Western commerce, including the continued drift of rural populations toward town centers, which made water a highly contested and protected resource on islands such as O'ahu where these demographic trends were most pronounced. This is largely because water had to be diverted from distant watersheds to support growing cities. The legality surrounding watershed catchment was continuously challenged for leaving too little water for residents where streams were diverted by the government. Regardless of the dismay this may have caused, the costs of abandoning water catchment had to be carefully balanced by the Kingdom, since much more than the municipal water supply hung in the balance.

By developing and using water for sugar cultivation, Hawai'i moved steadily through this transition because it always had something that it could trade. At first the Orient traded for Hawaiian sandalwood. Then the whaling fleet needed crew and provisions. There was California Gold Rush market and newcomers wanted land. These commodities all became available. Both the markets and the resources, however, were limited, and before long they were "used up." Unless it developed a new commodity, Hawai'i ran the risk of becoming a political and economic non-entity, a backwater nation. This did not fit the vision that the monarch, the resident haole, or the people had for the future of the kingdom.

The prospect of growing sugar in Hawai'i was very appealing to the Kingdom as it would provide a renewable economic base. This view was further exemplified in 1876 by "An Act to Aid the Development of the Resources of the Kingdom" in which eminent domain rights reserved for public purposes, such as water, could be applied by the government to private enterprises for the development of sugar. Along with the Reciprocity Act of 1876 that allowed the duty-free export of Hawaiian sugar to the mainland U.S., the groundwork had been set for the start of the industrialization of sugar in Hawai'i.

Pineapple cultivation took hold in the 1890s and became Maui's second largest industry. Cattle ranching was formalized in the 1800s when King Kamehameha III summoned vaqueros of Mexican Spanish descent from Vera Cruz to teach Hawaiians how to handle horses and herd cattle. Cattle ranching quickly flourished under the hands of the Hawaiian cowboys, or paniolo. Multiple ranches were located on the less-fertile upper elevation lands that were left uncultivated. Cattle ranching grew to Maui's third largest industry next to sugar and pineapple.

With the in-migration of laborers for plantations came a significant diversification of people and cultures. World War II added another dimension of change in Maui. The war brought new immigrants and significant investment infrastructure to serve the military, including roads, harbors and airports. The war-years military population on Maui reached approximately 200,000 persons and outnumbered local residents four to one.

Significant changes for the sugar and pineapple industries occurred after World War II. As these industries were becoming more mechanized, labor unions were increasing their influence in the work place and among union members. Eventually, plantation camps were closed as workers found other employment opportunities, and private landownership became more available.

As the economic landscape evolved so did the physical landscape. New towns attracted plantation workers with increasing prosperity, as well as returning military personnel eligible for low-interest loans enacted through the GI Bill of 1944. Kahului and Wailuku became the center of commerce, as well as the center of the island's population. The growth of these areas was envisioned and guided by the first General Plan prepared in 1962 and County-initiated planning initiatives continue to shape the island's future.

The visitor industry emerged as the island's major economic engine. Hotels dotted coastal areas in West Maui, and Kā'anapali was the first resort destination in Hawaii. Its collective hotels, restaurants, shopping center and golf course set a statewide precedent that led to the subsequent development of Wailea and Kapalua.

5.1.2 Study Area Communities

5.1.2.1 Upcountry

Upcountry Maui comprises four major towns, including Kula, Pukalani, Makawao and Ha'ikū, and several smaller communities.

Kula

Kula, which means "open meadow," is the largest Moku in Maui, and diverse in landscape and weather.

Potential Social Impacts

Lower Kula communities such as Waiakoa, Pulehu, Ōma'opio, and Kēōkea each have distinct ethnic histories. As the first immigrants, Portuguese and Chinese, fulfilled their sugarcane plantation contracts many settled in Kula and became vegetable farmers. In the late 19th century they produced potatoes for shipment to California's Gold Rush. Later the Japanese followed them into the fertile farming area.

The farming tradition continues today producing a wide variety of vegetables including its well-known onions, cabbage, tomatoes, and cauliflower from small farms. There are many flower farms producing a wide variety of proteas and cut flowers. Almost all the carnations used for lei are grown in Kula.

Along the old lower Kula road there are few businesses but there is one notable landmark, the Holy Ghost Catholic Church with its octagonal shape. Built by the Portuguese in 1894, its turret can be seen from lower Central Maui.

The junction of Haleakala Highway with Kula Highway in Pukalani marks the northern edge of Upper Kula. The upper road, Kekaulike Avenue, or State Highway 377, wanders through eucalyptus groves and green pastures. In the late spring Blue Jacaranda displays beautify the slopes. Upper Kula surrounds Kekaulike Avenue. Beyond the Kula Lodge the road swings upward to Haleakala National Park.

Along Kekaulike Avenue, there is little commercial development except the Kula Botanical Gardens and Ali'i Kula Lavender Farm. Small farms take advantage of fertile soil, filtered sunlight and mild weather.

According to the U.S. Census Bureau, Kula CDP residents numbered almost 6,500 persons in 2010.

Kēōkea is also located within the Kula Moku. Chinese settlers are credited with founding the town of Kēōkea during the height of the sugarcane boom in the 19th century. By 1900, roughly 700 immigrants known as the Hakka forced out of their homeland in the Pearl River Delta, settled on the edge of Kula in Kēōkea after completing their labor contracts and choosing not to return to China. They made up a quarter of Maui's Chinese population at the time. Many became farmers raising vegetables.

They served a key but, largely unknown role in the California Gold Rush, transporting wagonloads of potatoes down to the Kīhei coast for shipments to California miners and railroad workers. The return ships brought miner's soiled clothes for hand laundering. This was a vital connection between Maui and California.

Potential Social Impacts

The Chinese past in Kēōkea is evident in today's make-up of this small community. The well-preserved wooden and currently active Episcopal Church, St. John's Church, was founded by the Chinese. Off what was known as "Old Chinatown Road", a narrow passage more drive-way than street, is the Kwock Hing Society Building, the first two-story structure erected in Upcountry Maui, a refuge that once provided assistance to Chinese sugar cane laborers.

Kēōkea also is known as the adopted home of the Dr. Sun Yat-sen, revolutionary of the Qing Dynasty. Sun Yat-Sen sought refuge with his family after his failed attempts to reform China, returning to his brother Sun Mei's ranch that stretched for thousands of acres near Kēōkea known as "Kula Chinatown."

The U.S. Census Bureau estimated that approximately 1,600 people live in Kēōkea in 2010.

Makawao

In 1845, King Kamehameha III granted commoners in Makawao the right to own land, a right previously only held by ali'i or chiefs. The Māhele, three years later, established a policy of private land ownership throughout the kingdom.

Open spaces, cool seasonal temperatures and ample rainfall enabled wheat growing in Makawao during the 1850s. That was replaced by sugar in 1857 when H. A. Spencer started the East Maui Sugar Plantation. Tong Akana started the Pi'iholo Plantation in the 1870s. The most notable of Makawao's sugar industry started in 1869 when Henry P. Baldwin and Samuel T. Alexander purchased a twelve-acre homestead to raise sugar cane. They later expanded their holdings with the 559-acre Bush Ranch in the Sunnyside area.

There was some wheat planting in the 1850s to supply the California Gold Rush market but that faded as cattle ranching started dominating the open spaces. Haleakala Ranch of 30,000 acres almost surrounds the Makawao area. By the 1930s no acre of sugar cane could be found on the Ranch.

Pineapple was a later development on Haleakala Ranch in the 1930s but most acreage was devoted to thousands of head of cattle.

Ranching was a source of year-round employment for Hawaiians and Chinese who first populated the area. More immigrants, Japanese and Portuguese, started their own farms or worked on ranches surrounding Makawao. By the 1920s and 30s the town had general stores, a theater, a meat market, slaughterhouse, two service stations, a harness shop and three blacksmiths. The T. Komoda Store and Bakery remains today.

Makawao has maintained a paniolo ambiance with older store front buildings and its fourth of July Makawao Rodeo and Parade.

According to the U.S. Census Bureau, the Makawao CDP, which is a portion of the Makawao District, was home to approximately 3,300 people in 2010.¹⁸

Pukalani

Pukalani is a suburban community comprising several neighborhoods. The first neighborhood is Pukalani Terrace, built in the early 1970s. The most recent development is Kualono Upcountry Living, a 49-lot subdivision. Kua'Āina is a 3 6-unit subdivision is in its pre-sale stage. Kulamalu Hale is a 56-unit apartment complex that was funded by the Affordable Housing Program.

Commercial services in Pukalani cater to both neighborhood and regional customers. The Pukalani Terrace Center is Upcountry's main shopping center located on Pukalani Street. Kulamalu is a new mixed-use commercial center along Kula Highway.

The Mayor Hannibal Tavares Community Center & Upcountry Pool is a recreational resource serving all of Upcountry. This 20-acre complex includes various athletic fields and a swimming pool. The 160-acre Pukalani Golf Course, Upcountry's only golf course, was built in 1980.

The U.S. Census Bureau indicates that 7,574 people resided in Pukalani in 2010.

¹⁸ Section 2.1.2 explains the different geographic designations.

Ha'ikū / Huelo

The Ha'ikū district has a long agricultural history of sugar and pineapple plantation development. During the 19th century, the tops of the ridges between the many gulches were cleared and planted in pineapple and sugar cane. Two sugar mills were in operation in the Huelo area, and a mill was located at Ha'ikū, on the makai side of Pu'u-o-'Umi (Ha'ikū Hill).

George Douglas started the Ha'ikū Sugar Plantation in 1858. The first Ha'ikū Sugar Mill was erected in 1861 on the east side of Maliko Gulch. Products were stored there and shipped by schooner to Honolulu. The Ha'ikū Mill was successful for about eighteen years until the soil was exhausted and the mill moved to the west side. The completion of the Hamakua Ditch, in 1879, by Henry P. Baldwin and Samuel T. Alexander made possible utilization of richer lands outside the rain belt.

A commercial landing was built at Ho'olawa, primarily for transporting milled sugar to Honolulu. During the 1880s the Pacific Navigation Company ran three trips each week between Honolulu and Ha'ikū, bringing 100 tons of sugar per week to Honolulu. As soon as the railroad line from Kahului to Ha'ikū was completed, commercial transportation by water from this area ceased.

D.D. Baldwin inspired the organization of the Ha'ikū Pineapple Company. He experimented on his farm in Ha'ikū, with numerous costly varieties. He eventually confined his cultivation to a variety called Smooth Cayenne. In 1901, his first plantings at his Ha'ikū farm were so successful that Maui's first pineapple company, Ha'ikū Fruit & Packing Company, Ltd. was formed. In 1904, Ha'ikū Fruit & Packing Company, built a successful can-making plant and cannery in Ha'ikū.

World War II brought Maui into focus as a Naval, Marine and Seabees training and operations center for the Pacific. Maui was the largest training grounds for naval air groups in the United States and was the rehabilitation center for the wounded and those on R&R. The most famous of them, the Fourth Marine Division, is remembered at their old headquarters site, Camp Maui, with Ha'ikū park and community playground.

During the 1970s two-and-a-half-acre lots legally known "agricultural subdivisions" are seen with large homes. The largest parcels are open to competitive bids of state lands for growing pineapple or other agricultural uses.

A well-known landmark is the Door of Faith Road, which brings you to the Kaulanapueo Church in Huelo. This historic Protestant church was established in 1853 and is still used for worship, with services in the Hawaiian language.

Twin Falls is a popular local and visitor destination featuring hiking trails and several lower and upper waterfalls. Access to this area is via Wailele Farm, a 39-acre tropical plant and fruit farm. Although there is no fee for access to the falls, farm tours and nature hikes are available for a fee.

5.1.2.2 East Maui

The Study Area East Maui communities comprises the Koʻolau Moku, which encompasses several ahupuaʻa. The following discussion focusses on Keʻanae and Wailuānui, as well as Nāhiku.

Keʻanae / Wailuānui

Keʻanae is reported to have been an active agricultural community historically and during pre-contact times. Its lands have been used intensively for wetland kalo cultivation. The need for kalo significantly declined as Native Hawaiian populations declined with the arrival of western disease. The result was unattended loʻi in the Keʻanae area.

A new market emerged, however, in the second half of the nineteenth century, with the increased market for rice due to the increase of Chinese laborers on sugar plantations in Hāna. When their labor contracts were completed, Chinese immigrants grew rice, with the advantage of a pond field irrigation system already in place in Keʻanae. They leased former loʻi lands from Hawaiian owners for rice cultivation in Keʻanae and Wailuānui .

The Chinese farming community flourished in Keʻanae, and with an increase in population came the construction of buildings necessary for production and housing related to the rice plantations, as well as the establishment of socially-related organizations. Rice farming declined sharply after 1910 and ceased by 1935.

Of significance, around 1920, many Hawaiians returned and began commercially cultivating taro on Keʻanae Homesteads. Due to its important cultural and historical significance, the Keʻanae Peninsula taro complex has been designated as a State Inventory of Historic Places, or SIHP.

Potential Social Impacts

A major influence in social environment for Keʻanae and Wailuānuī has been the development of roadway infrastructure. In 1912, a narrow road and bridges were completed that connected Kailua to Nuaʻailua Bay near Keʻanae, and by 1915, other contractors had built a road connecting Hāna to Keʻanae. In June 1925, the grand opening of the Kailua-to-Keʻanae portion of the Belt Road was celebrated by a procession of automobiles to Keʻanae.

The Keʻanae Protestant Church on the Keʻanae peninsula, also referred to as Keʻanae Congregational Church or Keʻanae Church, is designated as an SIHP. It was dedicated in 1860 and completed in 1863. Of note, this was the only structure left standing on the peninsula when an April 1946 tsunami hit this coastline.

The Keʻanae School was built in 1912 and subsequent additions expanded the original building. Due to decreasing enrollment, the school closed in 2005 and Keʻanae students travel every day to schools in Hana.

It is estimated that in 2010, Keʻanae – Wailuānuī – Nāhiku was home to 1,056 residents.

Nāhiku

The Archaeological Literature Review and Field Inspection for the Proposed Lease for the Nāhiku, Keʻanae, Honomanū, and Huelo License Areas for this EIS (Cultural Surveys 2018) indicates that studies of historic land use refer to flat and terraced lands within Koʻolau Moku were intensively and continuously used for wetland taro cultivation or loʻi agriculture from the pre-Contact era through the present day.

East Mauiʻs experience with the growth of early sugar was two-fold. First, Samuel T. Alexander proposed a massive construction project to bring mountain water from East Maui streams to their plantations to the west along the slopes of Haleakalā. In July 1877, the first water began flowing out of East Maui through the EMI Aqueduct System.

Potential Social Impacts

At the same time, Hāna and the undeveloped slopes of East Maui were described as one of the last natural environments that offered the potential for commercialized agriculture, including sugar, coffee and rubber plantations. In 1898, large parcels of land in Nāhiku were sold, and the Nāhiku Sugar Company was formed. Water rights for the Makapipi watershed were jointly shared between the sugar company and multiple homesteaders who collectively formed the body of the company's sugar growers. Sugar cultivation in Nāhiku was dependent on local farmers because a significant portion of the cultivated land was deeded to the same farmers who had water rights.

For a brief period, A&B acquired Nāhiku Sugar Company in 1899. Even with this financial backing, profits declined and by mid-1900, development work on the plantation ceased.

The Nāhiku Sugar Company completed the construction of a landing for the Territorial Government of Hawai'i in 1901 and constructed rail lines for a derrick at the landing. There is no record of the use of locomotives on the rail lines that were constructed. The construction of the landing at Nāhiku placed the plantation owners in additional financial hardship and House of Representatives deferred the landing's construction cost to the government.

In 1902 local homesteaders petitioned their congressional representation not to grant additional water rights to the Nāhiku Sugar Company that would infringe on the already established rights of local farmers who had since had a falling out with the Company. It is noted that water rights and land were shared from the start, so when local homesteaders refused to plant additional cane for the mill in response to a perceived threat to their individual water rights, the Nāhiku Sugar Company petitioned for additional water rights from neighboring watersheds in inaccessible gulches to the northwest to supplement the shortage. Since the initial licenses were upheld, and the homesteaders' rights protected, the Nāhiku Sugar Company was forced to increase cultivated land or cease the plantation.

When the founding homesteaders ceased their relationship with the sugar company, it put the company at risk of collapse due to insufficient land and water access for continued cane cultivation.

In 1902, a merger was planned with the Hāna Sugar Plantation by which the plantation would pay an annual rental of \$4,500 over a 26-year lease which included water rights. In 1904, A&B bought the remaining stock in the Nāhiku Sugar Company. After a brief boom with an unsuccessful rubber plantation, all the former sugar plantation land at Nāhiku was acquired by HC&S and EMI under the parent corporation of A&B.

Today, A&B supplies MDWS approximately 20,000 to 45,000 GPD of water, dependent on weather conditions, directly from the EMI Aqueduct System that is serviced to Nāhiku through a development tunnel in the Ko'olau Ditch near Makapipi Stream.

5.2. A&B Relationship in Social Context

The role and relationships between A&B and the social environment evolved over a hundred years and influenced land use, the economy, the natural environment and many people and cultures. Section 5.2.1 provides an historic perspective and Section 5.2.2 describes the current conditions that are part of the overall framework in which the proposed water lease is being considered.

5.2.1 Historic Perspective

5.2.1.1 The Sugar Industry

Sugar cane was brought to Hawai'i by early Polynesian voyagers before European contact. It was cultivated in a land system described in Section 5.1.1 and used for centuries before it was grown commercially.

Around 1869, two young men, Samuel Thomas Alexander and Henry Perrine Baldwin, sons of pioneer missionaries, started a sugar business on twelve acres of Bush Ranch in the Sunnyside area of Makawao. In 1870, they paid \$8,000 for an additional 559 acres, marking the birth of what would become Alexander & Baldwin, Inc., or A&B.¹⁹

¹⁹ C. Allan Jones, and Robert V. Osgood, *From King Cane to the Last Sugar Mill* (University of Hawaii Press, 2015), p. 31.

Potential Social Impacts

By 1876, the partners had expanded their sugar acreage and began to seek a reliable source of water for their crop. Alexander devised an irrigation system that would bring water from the windward slopes of Haleakalā to Central Maui to irrigate 3,000 acres of cane on their lands as well as neighboring plantations. Baldwin oversaw development of Alexander's vision which became known as the Hamakua Ditch. Within two years the ditch was complete. This system would later become a model for similar Hawai'i irrigation projects.

Over the next 30 years, the two men became agents for nearly a dozen plantations. They eventually expanded their plantation interests by acquiring Hawaiian Commercial & Sugar Company (HC&S).

Seven constructed water catchment / diversion ditches plus various tunnels, flumes, intakes, reservoirs, inverted siphons, a solar powered radio telemetry system to monitor ditch flow, and other devices comprise the EMI Aqueduct System, which was formed in 1908.²⁰ The ditches, in the order in which they were built, are: Old Hamakua, Ha'ikū, Manuel Luis / Lowrie / Center, Ko'olau, Kauhikoa, New Ha'ikū, and Wailoa.

Water collection begins at roughly the 1,300-foot elevation and is ultimately delivered to Central Maui, covering a linear distance of 25 miles from the ditch system's western to eastern extent. Historically, an estimated 60 billion gallons per year at roughly 165 million gallons per day (MGD) was collected and delivered to Central Maui. Built at a time when Hawai'i was still an independent kingdom, the EMI Aqueduct System was the first of its kind both in the Pacific and on the U.S. West Coast.

Upon completion of the major ditch features, the EMI Aqueduct System collects the runoff water from the Collection Area that is approximately 50,000 acres, of which EMI owned approximately 17,000 acres and the State of Hawai'i owns approximately 33,000 acres.

In addition to supplying A&B's former sugar cane plantations with water, the EMI Aqueduct System also supplies the MDWS with an estimated 2 billion gallons of potable water per year for domestic and agricultural purposes from the Collection Area.

²⁰ *Ibid*, pp 110 -113.

The sugar industry suffered many challenges and in 2015, A&B reported an operating loss of approximately \$30 million in agribusiness. It was difficult to sustain such losses, and the Pu'unēnē Sugar Mill harvested its final harvest in December 2016.²¹

5.2.1.2 Plantation Camps and Community Building

In addition to its reshaping of the sugar industry by redirecting abundant stream water from East Maui, A&B also significantly contributed to the social fabric of Maui due to its immigrant labor force and by providing its workers with a communal environment.

A&B supplemented the local Maui labor force with immigrant workers permitted under the 1850 Masters and Servants Act (see Section 2.1). Immigrants arrived by the thousands from China, Japan, the Philippines, the Portuguese Islands of Madeira and the Azores, Puerto Rico, Korea, and Spain.

There were 25 camps housing workers in the 1940s. These camps were located near the Pu'unēnē and the Pā'ia Sugar Mills. The camps were communities. Collectively, they contained churches, public schools, Japanese-language schools, two hospitals, theaters, swimming pools, a gymnasium and child care nurseries.

By 1951, the plantation employed 11,000 people, many with families. Plantation workers were reportedly increasingly comfortably housed, well paid with field wages high compared to sugar workers in Florida, Louisiana and Puerto Rico. While camps were generally ethnically organized, such as Japanese camps, Filipino camps, Chinese camps, Portuguese camps, and so on, workers often mingled in recreational, religious and social activities.

Through its subsidiary HC&S, A&B provided medical care to its workers. It renovated Pu'unene Hospital, which operated until 1956, after which time worker patients were sent to the Central Maui Memorial Hospital. Plantation doctors joined to open the Maui Clinic in 1959 to serve patients covered by the company's medical plan.

²¹ "End of an era: Hawaii's last sugar mill wraps up final harvest," **Star Advertiser**, December 12, 2016.

Potential Social Impacts

The plantation established recreational facilities, such as the F.F Baldwin Park in Pu'unene. These facilities were managed by community association and were eventually dedicated to Maui County or reverted to cane land. Often, plantation camps sponsored baseball teams, boxing leagues and bowling tournaments, as well as scouts programs.

A memorable story is the Three-Year Swim Club. Coach Soichi Sakamoto, a teacher at Pu'unene School, taught plantation children how to swim in the irrigation ditches. The steady flow of ditch water was used to help develop new techniques to train swimmers in the Three-Year Swim Club to compete in the Olympics. When the F.F. Baldwin Park opened in 1936, the swimmers practiced the community pool and easily beat their competition. Although World War II would interrupt their progress toward the Olympics, the swimmers won Hawai'i and Mainland competitions. In the 1948 Olympics in London, one of the club members captured gold medals in two swimming events.

After World War II, it was increasingly clear that plantation camps were becoming a thing of the past. The agriculture industry was becoming more mechanized and the demand for workers lessened significantly. The rise of unionization required increased compensation and benefit plans. Plus, the economy offered many people more options in employments, options less rigorous than field and mill jobs.

As plantation camps deteriorated and were closing, the demand for single-family housing became more evident. HC&S prepared a plan for the sugarcane fields around the Kahului Harbor. It called this area "Dream City," which was a large-scale master planned community comprising single family homes, businesses, schools, churches and parks.

The intent was to offer home ownership for plantation workers and other residents. Fee simple house and lot packages were offered between 1950 and 1963. The first owners moved into their house in July 1950. The Kahului Shopping Center was built in 1951. Dream City homes originally purchased for less than \$9,000 in the 1950s currently sell for between \$590,000-\$650,000.

This urbanization significantly changed the physical landscape in the Kahului and Wailuku area by centralizing a major portion of Maui's population, its commerce activities and government services. It also altered the social environment irrevocably by replacing the 25 plantation camps with a consolidated and integrated planned development.

5.2.2 Current State

5.2.2.1 CWRM IIFS Decision

As earlier discussed, the proposed action is different from typical SIA subjects, which generally deal with a change, whether it is public policy, land use development or infrastructure systems. The proposed action is a continuation of the use of water from State-owned land through an existing system that has been operational for over a century. Yet, the circumstances of the use and users of this water have changed dramatically. These changes need to be clearly articulated to analyze possible social impacts in its proper context.

There are three fundamental changes from A&B's previous long-term leases and subsequent revocable permits as hereby discussed.

Commission on Water Resource Management Decision and Order

On June 20, 2018, the State of Hawai'i Commission on Water Resource Management (CWRM) issued its Findings of Fact, Conclusions of Law, and Decision and Order (D&O) setting Interim Instream Flow Standards (IIFS) for the East Maui Streams that had been the subject of IIFS petitions that evolved through several CWRM proceedings since May 2001.

In setting IIFS, CWRM is required to weigh the importance of the present or potential instream values with the importance of the present or potential uses of water for non-instream purposes, including the economic impact of restricting such uses.²²

In setting the IIFS for these East Maui streams, CWRM prioritized the instream uses that allowed the stream species to flourish, traditional and customary native Hawaiian rights, both appurtenant and gathering rights, to be actively practiced, and non-municipal domestic uses to be supported.

CWRM also recognized that there are streams for which restoration of flow would not result in significant biological or ecological gains and that the water may be better used for non-instream uses. For those streams, a connectivity flow to allow for movement of instream biota would be sufficient.

²² HRS § 174C-71(2)(D)

CWRM recognized that there is significant value in the non-instream uses which include municipal use, such as domestic and agricultural use. The value of the non-instream uses goes beyond mere economic value to the users. It supports uses that range from households, schools and hospitals to small truck farms and large agricultural concerns. It also assures the continued presence of agriculture in central Maui, a value which has been incorporated by the community through its inclusion in the Maui Island Plan/General Plan 2030, the Countywide Policy Plan, and the various Community Plans.

In explaining the IIFS decision stream by stream, CWRM generally described the following categories of streams.

- **Conveyance of Water to Kalo Growing Areas for Community Use**

CWRM ordered that all diversions on the following streams cease to allow for all water to flow to the taro growing areas or for community and non-municipal domestic uses: Honopou, Huelo (Puolua), Hanehoi, Pi'ina'au, Palauhulu, Waiokamilo, Wailuānui, Ohia, Waianu, Kualani, and Makapipi.

- **Water for Streams With High Biological Value**

Hawai'i's streams support a unique variety of native fish, shrimp, mollusks and insects that live a diadromous lifecycle. This is characterized by "two runs," one to the ocean as newly hatched larvae and subsequent return from the ocean to fresh water as juveniles. The best scientific evidence currently available indicates that 64 percent of median base flow (BFQ50) generally represents the flow necessary to restore 90 percent of the habitat in a stream (H90). Absent any physical barriers to upstream or downstream migrations or interruptions in connectivity, the H90 flow is believed to provide suitable conditions for growth, reproduction, and recruitment of native stream animals as well as protection of traditional and customary native Hawaiian gathering rights, which are affected by the size of native animal populations in a stream.

Potential Social Impacts

CWRM expects that the restoration of flows to streams that are spread out geographically will provide greater protection against localized habitat disruptions, will produce a wider benefit to estuarine and near-shore marine species, and will result in improved comprehensive ecosystem function across the entire East Maui watershed. CWRM identified the following streams as having the potential to benefit greatly from restoration of flow to a minimum H₉₀ level based on the biological diversity and habitat that already exists under diverted conditions: Pi'ina'au, Wailuānui, Honomanu, Waikamoi, Nua'ailua, East Wailuaiki, Kopiliula, and Waiohue. Restoration of these streams should allow the stream species to flourish and reproduce, benefiting not only the natural environment but also allowing for better opportunity for the exercise of traditional and customary native Hawaiian rights.

Additionally, CWRM ordered full restoration of West Wailuaiki Stream and Honomanu Stream. West Wailuaiki presents a unique research opportunity to collect valuable information regarding the impact of full restoration of a stream versus habitat restoration H₉₀. East and West Wailuaiki lie in close proximity to each other with similar biological values and similar habitat and biota, and the study of these two streams in combination with one another should provide information regarding the impact, if any, of full restoration versus habitat restoration. Honomanu Stream, despite having several diversions on it, has a high biological rating with a potential for high natural habitat gains with the restoration of flow to the dry reaches. Thus, CWRM ordered that Honomanu Stream should have full streamflow restoration below the Lower Kula Ditch diversion, which provides water for the MDWS system that is used for domestic and agricultural uses.

- **Water for Streams That Have Barriers to Biological or Ecological Improvements**

Other streams, because of the geomorphology of the stream or the presence of groundwater input through the presence of streams, are gaining streams and no additional release of water past the diversions are believed necessary to maintain habitat below the diversions at this time. To allow for the movement of biota, CWRM ordered that there be a minimum connectivity flow across the diversion structures to allow for passage of biota upstream. This minimum connectivity flow would be twenty percent (20%) of the instream flow. Streams that are set at connectivity flow are: Kapaula, Pa'akea, Pua'aka'a, Puohakamoa, Ha'ipua`ena, Nua'ailua, Waiaaka, and Hanawi.

- **Non-instream Use of Water for Municipal and Agricultural Uses**

CWRM acknowledged that in the context of a proceeding to set IIFS, it does not have the authority to determine how much water may be used for non-instream use for municipal and agricultural uses. That authority lies with the BLNR in issuing a water lease pursuant to HRS § 171-58, subject to the IIFS set by CWRM. Recognizing that the non-instream uses, especially municipal use, are valued uses, CWRM set the IIFS to allow MDWS to continue to divert water through its Upper and Lower Kula pipelines. In not requiring full restoration of all streams, CWRM has allowed some streams to continue to be diverted so that BLNR may continue to license the diversion of water not needed to meet the IIFS from those streams for non-instream use. The available water would also include freshets and stormwater which are not included in the calculation of the IIFS.

CWRM recognized that the EMI Aqueduct System remains a valuable asset that delivers non-instream public trust benefits, such as drinking water, as well as other reasonable and beneficial uses. The reduction in diversions does not, by itself, compromise the structural integrity of the EMI Aqueduct System so long as it continues to be maintained as a single coordinated system. CWRM considered factors that contribute to the operational capacity of the existing EMI Aqueduct System by allowing some water diversions from streams in the higher elevation eastern portion of the watershed.

Further, CWRM recognized that the water that may be licensed by the BLNR from the petitioned East Maui streams may not be sufficient to satisfy the full implementation of A&B's Diversified Agricultural Plan. It expected that a sufficient amount of non-instream water would be available to provide the initial phase of allowing lands already designated as Important Agricultural Lands in central Maui to be developed for diversified agriculture.

5.2.2.2 Diversified Agriculture Replaces Sugar Mono Crop

The original water leases were issued to support thousands of acres of sugar cultivation. Sugar operations provided predictable employment, and its process from field to cane burning to processing was generally understood by local residents. And though cane burning was bothersome for some, the cane fields provided a green backdrop appreciated by residents and visitors alike. Sugar cultivation ceased with the 2016 closure of the sugar mill.

The current proposed water lease is intended to support diversified agriculture, a departure from the mono crop nature of sugar. A&B presented possible diversified agricultural ventures, including forestry crops, livestock, pasture-fed dairy operations, biogas feed crop, beverage crops, orchard crops including pongamia, and mechanized harvested crops. However, these options were presented as possibilities, not as firm and exact plans. Further, more specific information regarding diversified agriculture has been developed by the new landowner and is presented in the next section.

5.2.2.3 New Landowner

Effective January 1, 2017, A&B converted to a real estate investment trust, or REIT. The move was intended to operate commercial real estate business within the REIT structure, and continue to operate active real estate development for sale projects, diversified agricultural activities and materials and construction business through a taxable REIT subsidiary.²³

²³ "Hawaii Real Estate Platform Through Real Estate Investment Trust (REIT) Structure," available at <https://www.prnewswire.com/news-releases/alexander--baldwin-to-strengthen-hawaii-real-estate-platform-through-real-estate-investment-trust-reit-structure-300485020.html>

On December 20, 2018, A&B announced that it sold approximately 40,000 acres of former HC&S lands for \$262 million to Mahi Pono for the purposes of cultivating a variety of food and energy crops. This was to ensure the continued agricultural use of these Central Maui lands, the preservation of green open space in Central Maui, and a consistent and long-term source of revenue for the local economy. Mahi Pono will also partner in the ownership and management of the EMI Aqueduct System.²⁴

Mahi Pono is a joint venture of Pomona Farming, LLC, and PSP Investments. Pomona Farming, LLC, is a California-based agricultural group. This global investment and food branding company manages 93,000 acres of farmland. PSP Investments is one of Canada's largest pension investment managers and services Canadian public service, Armed Forces and Royal Canadian Mounted Police and Reserve Force.

A&B sold land and related agricultural operations to Mahi Pono for \$262 million. The change in ownership involved 41,000 acres in Central Maui and EMI watershed land, as well operations involving Kulolio Ranch, Central Maui Feedstocks and a 250-acre trial of energy crops. Additionally, Mahi Pono now owns 50 percent of the EMI Irrigation Aqueduct System and is the managing partner of the system. The former sugar mill site was not included in the purchase.

Mahi Pono extended employment to EMI employees and the A&B farm team. Almost all employment offers were accepted. Mahi Pono's leadership team includes several people local to the Maui community.

At the time of this writing, Mahi Pono is working on two farm plan alternatives, both of which involve 31,177 acres²⁵ and include

- tropical fruit and nut crops
- coffee and specialty crops
- diversified agriculture, including land set aside for community agriculture near the former sugar mill, and
- irrigated and unirrigated pasture lands.

²⁴ "A&B agreement with Mahi Pono launches new era of agriculture on Maui: Former HC&S lands to be repurposed as diversified agriculture farms, available at https://www.prnewswire.com/news-releases/ab-agreement-with-mahi-pono-launches-new-era-of-agriculture-on-maui-300769828.html?fbclid=IwAR1GS_AOvwID67UlfzfiBhp5BsPOBI2S6_py3AUIPGafEzYqcUr-ABkWIjZ8

²⁵ This acreage does not include lands west of Veterans Highway, which would be irrigated by West Maui water sources.

Assumptions upon which the two farm plans are based are as follow.

- Available water in Farm Plan based on IIFS allocations
 - Surface water = 61.78 MGD
 - Brackish groundwater = 15.44 MGD (assume 25 percent of surface water to maintain appropriate salinity level)
 - Total = 82.35 MGD
- Available water in Farm Plan based on no stream diversion from State land
 - Surface water = 22.54 MGD (assume 25 percent of surface water to maintain appropriate salinity level)
 - Brackish groundwater = 5.64 MGD
 - Total = 28.18 MGD²⁶

Based on these assumptions, it was estimated that there would be an approximate 65 percent decrease in available water. While most farm components would correspondingly and significantly decrease in acreage, acreage for unirrigated grass-fed cattle would double, from 11,000 to 22,000 acres. Further, with no stream diversion from State lands, approximately 9,577 acres of unirrigated cattle lands would be unproductive for agriculture. Alternative uses would need to be explored and would not include urban development.

Mahi Pono recently announced its 2019 crop plan²⁷ for approximately 1,500 to 2,000 acres in Central Maui. The first crops to be planted include: avocados, bell peppers, potatoes, papaya, guava, lilikoi, white pineapple, oranges, mandarin oranges, lemons, limes, coffee and macadamia nuts, as well as cover crops such as alfalfa. Mahi Pono's long-term plans will include scaling up citrus fruit, coffee and grass-fed beef.

For 2019, EMI estimates its water deliveries to be approximately 30-35 million gallons per day (MGD). The total amount includes water used by approximately 35,000 Upcountry Maui residents served by the Maui County water system, Mahi Pono, and other water users served by EMI. This level of water use remains well within the amount of water available under the CWRM IIFS decision.

²⁶ At the time of this writing, there have been updated iterations of crop plans and related water implications. From an SIA perspective, the estimated numbers are important in terms of scale and magnitude. The differences that occurred in this time frame do not indicate significant change in magnitude that would change the social context.

²⁷ This crop plan is an update of what was presented in the April 2019 interviews and discussed in Section 4.2.3.

Further, EMI has completed work on 29 diversion structures in the EMI Aqueduct System and has secured permits to modify or permanently abandon another 30 diversions, with the approval of the additional remaining eleven diversions under review by CWRM.²⁸

5.3. Potential Social Impacts

5.3.1 Overall Community

The larger community, including Maui Island residents and those who are not directly affected by the proposed water lease may experience social impacts by the proposed action. This section identifies possible social impacts on the general population.

5.3.1.1 Potential to Realize Public Policies

Public policy helps to establish a framework for community expectations for the future. Section 3 provides an overview of public intent for:

- The natural environment, including restoring wetlands and watersheds and stream flows
- Stewardship of the natural environment
- Protecting cultural access to mountain, ocean and island resources for traditional Hawaiian cultural practices
- Diversifying and expanding sustainable agricultures to feed the local population and support local farmers, and
- Ensuring a reliable and affordable supply of water.

These public policies help to articulate common goals and objectives that private and government sectors can coordinate and implement. They provide a benchmark of the community's aspirations and an expectation for the future.

²⁸ Source: Mahi Pono, "MAHI PONO ANNOUNCES 2019 MAUI CROP PLAN: The plan covers approximately 1,500 – 2,000 acres to be planted this year, May 8, 2019

By itself, the proposed action has tested the community's ability to trust that public policy will be realized. A long-term water lease to access State watershed streams, without assurances of a viable future for sustainable diversified agriculture, support for local farmers, efficient water transmission, Upcountry Maui domestic and agriculture water supplies and environmental stewardship, can be perceived mostly as just benefitting a private for-profit entity.

The introduction of Mahi Pono and its attendant vision, agricultural focus, and stated objectives regarding environmental responsibility and sustainability, diversified agriculture, and support for local farmers shifts the paradigm from an uncertain future to a possible scenario that may realize, at least in part, community values and vision embodied in public policy.

The possibility that these policies may come to fruition has positive social value. It can guide community expectations towards a more hopeful future. This possibility can encourage people to be willing to reach across the table to opposing views, to build bridges that connect rather than divide.

5.3.1.2 Sustainable and Local Agriculture

In focus groups and interviews, people shared certain values about agriculture. They tend to feel that the time for mono crops is past, that mono crops tend to be exported and profits benefit big companies and off-island economies.

There was consensus that diversity is the way of the future. Diversified agriculture presents a tapestry of farming landscapes, increases opportunities for local products, and provides possibilities for a variety of scales, from small family ranches and farms to corporate agricultural operations.

There was also a desire to increase food self-sufficiency for the island community. The local market should be integral for future agricultural efforts, thereby ensuring that Maui will have a reliable and accessible food supply.

In and of itself, a long-term water lease does not ensure that these values regarding agriculture and food supply can become reality. The context for the long-term water lease has expanded, however, to include a new landowner whose business is agriculture and who claims to embody these values.

If Mahi Pono's stated vision and farm plan objectives are implemented, then this would have a positive effect on the social environment. Viable diversified agriculture, agricultural products that cater to local market and eateries, support for local farmers and ranchers, and food self-sufficiency will contribute positively to quality of life and social well-being.

5.3.2 Affected Groups

5.3.2.1 East Maui

East Maui residents, farmers and cultural practitioners have been advocating for the reduction of stream diversions and the return of full stream flows. Focus group participants and interviewees stressed that previous water leases have had significant impact on their culture, social well-being and generational ability to thrive in East Maui.

While the recent CWRM decision addresses or mitigates that impact to some degree, the proposed long-term water lease would still affect streams in their area. The proposed action is viewed as a continuation of taking East Maui water to support a private for-profit company. The proposed action is not seen by focus group participants as part of a solution, but rather as an extension of past wrongs. Focus group participants vowed to continue to oppose the proposed water lease, and advocate the removal of all diversion structures from the kalo and community streams designated for full restoration. They also noted that East Maui streams have been flowing well since sugar cultivation ceased. They were very concerned that once active steam diversion resumes, stream flow in the majority of East Maui streams will be lessened and again restricted.

EMI has indicated that it is modifying or removing several diversion structures to complete restoration of diverted streams that have been designated for full flow. This has positive social value for East Maui because it represents progress in stream restoration. Stream restoration addresses physical mitigation and will support cultural and food gathering practices.

In follow-up interviews, there was hope that Mahi Pono would address problems with physical infrastructure by improving stewardship of the EMI Aqueduct System. It was stressed, however, that, while physical and environmental mitigation is crucial, there is still a fundamental need to rectify social, cultural and emotional impacts that have developed for over one hundred years. Although Mahi Pono did not cause these impacts, the company has inherited a legacy that is generational and needs to be addressed to help these East Maui community move forward.

5.3.2.2 Ha'ikū and Huelo Downstream Residents and Farmers

For Ha'ikū and Huelo residents and farmers downstream of the EMI Aqueduct System, the proposed water lease is often perceived as a continuation of what they have been experiencing for many decades. Focus group participants and interviewees cited problems with the management of the EMI Aqueduct System in terms of both diversion activities and infrastructure condition.

In addition, the proposed action is considered a continuation of restrictions on their ability to access and use stream water on their properties.

5.3.2.3 Local Farmers and Ranchers

The effect of the proposed water lease on Maui-based farmers, ranchers and flower growers will depend on whether they can participate in future diversified agriculture in Central Maui. Thus far, there has been discussion regarding setting aside land for local farmers and eventually creating support facilities and services intended to provide means to reduce costs for individual farms. Little or no mention has been made regarding including livestock farmers in Mahi Pono's farm plan.

For Upcountry Maui farmers in the current and 262-acre expansion of Kula Agricultural Park, the effect of the proposed action will depend on how much water they can receive if the water lease is granted. There is a current allocation for the Kula Agriculture Park and the 262-acre expansion.

For East Maui farmers, the proposed water lease would continue to divert water from streams not designated for full restoration, although some are mandated to have partial restoration to support the stream habitat. When active diversion resumes, it is expected that an overall decrease in stream flow will occur in East Maui when compared to current conditions, but there will be an overall increase in stream flow compared to when sugar was fully operational in Central Maui.

5.3.2.4 Upcountry Domestic Users

The effect of the proposed action on Upcountry Maui domestic water users will depend on how much water will be released from the EMI Aqueduct System for MDWS use. If Upcountry Maui water needs exceed its water allocation, other sources of water will need to be developed. The cost of well development and pumping is expected to result in increased water fees.

6. Recommended Mitigation

6.1. Core Working Group

As discussed in Section 1.3, the SIA process and studies are about relationships, between people, the environment, government, businesses and so on. Two areas of mitigative measures are recommended for consideration, should the proposed water lease be granted by the BLNR. These measures are intended to establish an ongoing working relationship between the community, Mahi Pono and EMI, and related public agencies, as well as continue resolution with East Maui communities.

Consensus

It is recommended that interest groups, or stakeholder groups, are clearly defined so that there is recognition of who will be affected by the proposed water lease. Groups should include geographic communities, environmental, agriculture and business interests, and public agencies. Each group would be encouraged to reach consensus on their own needs, concerns, opportunities and possible solutions.

A starting point for identifying stakeholder groups could be interviewees and focus group participants and their networks.

Collaboration

It is recommended that interest groups are equitably represented in a "Core Working Group" that would serve as a forum for exchanging ideas and collaborative efforts, as well as provide feedback and suggestions to Mahi Pono. Each member of the Core Working Group would be expected to reach out to their own networks to extend the discussion beyond the Core Working Group. While there would likely be strong differences in perspectives and opinions, the Core Working Group would need to find ways to establish core principles, common ground and manageable solutions.

Transparency

The fundamental value that will help bring people to the same table is trust. The proposed action has elicited skepticism and distrust over many decades, and these feelings prevent willingness for participating in mediation and collaboration. While developing trust among the various groups will be challenging, the first step is transparency. Being open about intent, plans and activities can begin to establish credibility and open the door to dialogue. Given people's willingness to participate in focus groups and interviews for this SIA, it is believed that key community leaders would be willing to collaborate if there is trust and transparency.

6.2. Ke'anae-Wailuanui Reconciliation

East Maui residents have a unique relationship with the proposed action. While impacts are first and foremost culture-related, they are also entrenched in a social context that is the basis for this mitigation recommendation.

The social impact of diverting water is generational, one that has affected livelihoods, family cohesion, the ability to integrate with environment for food gathering and recreation, resource stewardship, and personal connections or disconnections with values inherent in their lifestyles.

For the Ke'anae – Wailuanui community to move past historical impacts, there needs to be established a point of departure. Mitigation needs to go beyond the physical restoration of streams. It needs to address the social context and include apology and reconciliation. This needs to be done within a cultural foundation that binds the community together, and key players, including Mahi Pono, public agencies and elected officials. The manner and forum for this process should be defined by cultural leaders integral with the process.

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