

Petition to establish
Ulupalakua
American Viticultural Area, Maui, Hawaii



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Petition to Establish “Ulupalakua” American Viticultural Area

Introduction

This petition proposes the establishment of a new American Viticultural Area (AVA) to be called “Ulupalakua” located in the southeastern section of the island of Maui, Hawaii [figs.1-5]. The proposed AVA comprises 70 acres and is not within or proximal to any other AVA’s. There are 16 acres under vine with varieties including Gewurztraminer, Chenin Blanc, Viognier, Grenache, Malbec and Syrah [fig.2]. Currently 5 acres are prepared with trellising and irrigation for vineyard expansion over the next 5 years. Three other separate blocks averaging 2 acres each are been surveyed for future plantings within the proposed AVA. There is one vineyard in the proposed AVA known as Ulupalakua Vineyards owned by Maui Wine LLC. There are no wineries within the proposed AVA, however the fruit from the vineyard is processed at a nearby winery. There is potential in expanding plantings by other entities as one of the winery owners has stated “(w)e are also studying the possibility of buying grapes from other upcountry landowners who have expressed an interest in planting...” [ref.1]. The proposed AVA lies on the southwest slope of the 10,000-foot Mt. Haleakala Volcano which feature a series of four bench-land areas contrasting it from the surrounding steep rocky topography and soils. The following sections of this petition offer evidence of the name, boundaries and distinguishing features of the proposed AVA with maps and a boundary description in support.

Name Evidence

The name of the proposed AVA is “Ulupalakua”. The name translates from the Hawaiian language as “Breadfruit ripened on the back”. Local folklore credits the names origin with the story of how the island’s king would request his favorite fruit the breadfruit to be carried to his home in west Maui. By the time the pickers had harvested the then un-ripe fruit and walked from far east Maui, the fruit had ripened at the area that came to be called Ulupalakua [app.1]. The area’s historical ties with royalty extended as another article notes that “Tedeschi winery (now known as Maui Wine) on the grounds of the Ulupalakua Ranch, (was) a favorite cool-climate getaway for Hawaiian King Kalakaua in 1874. [app.2]. The modern agricultural history of the area began around 1845 when the Torbert family leased the ground to establish a cattle ranch to supply beef for the local whaling ships [app.3]. Over the years sugar cane crops and a sugar mill were established although the emphasis on cattle ranching expanded. Ownership changed hands twice between 1886 and 1922 when the Baldwin family purchased the ranch, then known as the Rose Ranch and officially named it Ulupalakua Ranch to honor the lands history [app.3]. A map of the Ulupalakua Ranch show that the proposed AVA lay within the stated boundaries of the ranch [fig.3].

A 1924 USGS quadrangle map shows the Ulupalakua name as a town, road and the name of the Quadrangle map [fig.4] while the 1995 Quadrangle map lists the Quadrangle as Makena but still lists the area/town as Ulupalakua [fig.5]. A road sign at the town of Keokea heading south also lists Ulupalakua as a town mileage marker [fig.6]. As the area grew in population with the increase in agriculture and ranching activity a church and cemetery were built which reference the proximity to the winery that utilizes the fruit from the vineyard in the proposed AVA (app.4,5). The USGS Geographical Names Information System GNIS; [http:// geonames.usgs.gov/index.html](http://geonames.usgs.gov/index.html) lists Ulupalakua as a school and a populated place and no other part of the United States has the same name for another location. A google maps search for “Ulupalakua” yields a “Ulupalakua Scenic Overlook” which is located north of the

town of Ulupalakua just as the proposed AVA is located as well [fig.7]. Ulupalakua and the proposed AVA location are referenced together with the winery in the directions section of a rental website between Keokea's "Grandma's and the Tedeschi Winery is the larger area called Ulupalakua" showing the name Ulupalakua extends beyond the confines of just the town [app.6]. Ulupalakua is cited as a wine region in a wine article by wine searcher website further showing its history as a wine growing area. [app.7].

Boundary Evidence

The boundary for the proposed Ulupalakua AVA was devised to contain the bench-lands and gently sloped loamy soils that comprise the area which contrast from the steeper, more rugged and mountainous terrain that surround the proposed AVA in all directions. The northern boundary is marked by a ravine which to the north of the slopes increase and contain many drainage and erosional features not ideal for viticulture. The eastern boundary meets a residential area and highway which to the east of the elevation again rises more steeply. The southern boundary features another ravine which to the south is comprised of rugged exposed volcanics of a composition which is not ideal for vineyard establishment. The western boundary is marked by an increase in slope and drainage and erosional features making for less than ideal viticultural activity. There are no other AVA's in the area that overlap or touch the proposed Ulupalakua AVA. The proposed Ulupalakua AVA boundary follows a series of lines between points marked on the relevant USGS maps which follow elevation contours and topographical features such as ravines and volcanic rock exposures [figs. 2,4,5].

Distinguishing Features Affecting Viticulture

Topography

The proposed Ulupalakua AVA is located on south-western slope of the Mt. Haleakala Volcano. The topography of the proposed AVA varies from elevations of 1560 feet in the western sections to 1850 feet in the east. With the use of calculations taken from the 1924 and 1995 Quadrangle topographical maps from the USGS and Google maps the following information was determined (figs.4, 5, 8): Within the proposed AVA the slope average around 10% and are oriented to the south-west at approximately 238°. There are four distinct benches with 0-5% slopes separated by steeper sections which further distinguish the area from its more rugged surroundings. The land to the east and west of the proposed AVA are steeper and average 17% for slope in both areas and are primarily oriented towards about 275°. The land to the north and south average about 15% and are also oriented at about 275°. Due to the steeper surrounding elevations many erosional ravines have formed around the proposed AVA resulting in a more stable environment for growing vines. The lack of steeply sloped terrain minimizes the risk of erosion, allows vineyard owners more options to space vines and orient rows, and facilitates safe agriculture. The less steep, open terrain also allows vineyards within the proposed AVA to receive uniform amounts of sunlight, rainfall, and temperature-moderating cloud cover which originate from the influence of the 10,000-foot Mt. Haleakala. Overall the proposed Ulupalakua AVA comprises relatively flat topography than the surrounding areas making an ideal situation for viticulture.

Soils

The geology and soils are dominated by the shield building eruptions that created Mt. Haleakala. The alkali lava flows from 860,000 years ago and consequential post-volcanic erosional activity resulted in the soils that now overlay the volcanic bedrock. There are two soil types within the proposed AVA which are both fertile volcanic ash soils known as isothermic humic haplustands. 80 percent of the soils within the proposed Ulupalakua AVA are from the Kula Loam. These soils are derived from weathered basic igneous rock are well-drained and moderately rapid in permeability. The top soil is typically 8 inches deep with subsoils reaching around 4 feet before reaching andesite and basalt bedrock [app.8]. The remaining 20 percent of the soils in the proposed AVA are comprised of the lo series. The lo series is a silt loam that gradually acquires more clay deeper in the soil. The topsoil is about 10 inches and subsoils reach the basalt and andesite bedrock after around 4 feet of depth [app.9]. Soil nutrient levels within the proposed AVA are adequate to produce healthy vines and fruit without promoting excessive growth [figs.9,10]. These soils being fertile, well drained and free of most root disease issues due to the isolation of the island make the proposed Ulupalakua AVA well-suited for viticulture. The soils to the south of the proposed AVA change to the Kula very rocky loam [fig.11]. The Kula very rocky loam as the name implies are rough soils consisting of large volcanic rocks and boulders which would not be suitable for viticulture passes. To the west of the proposed AVA is a continuation of the Kula Loam but as shown in Figure 11 there are many erosional features which have scoured much of the suitable top soil making again for poor condition for viticulture. The uniformity of the soils within the proposed Ulupalakua AVA results in a greater consistency in growing conditions for vineyards than can be found to the west and the south of the area.

Climate

The climate of the proposed AVA has long been known as suitable for farming. Prior to the 1800's, early agricultural efforts by Hawaiians established fields for taro and sweet potato in the region [app.3]. "Modern agricultural began on what is now Ulupalakua Ranch lands in 1845, that era lasting until 1856 when Linton L. Torbert, active member of the Royal Hawaiian Agricultural Society, farmed potatoes and corn, primarily to supply island merchant ships and to ship to California to fuel that regions 'gold rush' era and on (d)irection from King Kamehameha III planted sugar cane. For three decades (1856-1886), ex-whaling captain, James Makee farmed sugar cane and other crops. This early entrepreneur even planted cotton to take advantage of the Union blockade of southern ports during the Civil War" [app.11].

Viticulture in Hawaii and on Maui has roots back into the early 1800's when with "... cuttings from plants brought to Oahu in the early 1800's by Spanish horticulturist, Don Francisco de Paula Marin, Portuguese settlers with a sense of adventure and an obvious love of the fermented grape, established small vineyards and wineries on Maui and Hawaii..." [ref.2]. Marin did use the grapes to produce wine with a small crop quoted to have produced 38 gallons in 1815 and an increase to 1330 gallons in 1826 [ref.3]. Pre-prohibition wineries were established and reference the use of grapes grown on Maui [app.12]. One winery continued production in Hawaii on the island of Maui into the post prohibition era but when the price of beef increased the vineyards were pulled out for the use of grazing lands [ref.4]. In the 1970's interest was resumed as Emil Tedeschi and the new owners of the Ulupalakua Ranch, the Erdman's, decided to plant vineyards within the proposed AVA. Experiments with the help of U.C. Davis explored over 150 varieties and several years of research [ref.5]. Graham Hornel Pata declared "(t)here's a little bit of Australia, of India and of California up there on the southwest slopes of Maui's magical mountain, the Haleakala volcano..."[ref.2]. Emil Tedeschi quoted "the similarities between Napa

and Ulupalakua. Both have a hot spell and a coolness every day...We're protected by the mountains, don't have mildew problems...the soil drainage is good, and the soil itself is the volcanic type" [ref.6].

While most people would consider Hawaii to be hot, the elevation and proximity to Mt. Haleakala keep the area much cooler than the land below. A Napa wine article noted that "(m)ornings and late afternoons tend to be cool at these elevations" [ref.7]. While another article noted "(u)p here, you get pines instead of palms. The scent of lavender instead of the smell of the sea. A landscape whose white picket fences and strands of barbed wire might remind people of the Texas hill country or Santa Barbara or eastern Virginia except the slopes always go up, up, up. 'It was 39 degrees the other night,' said John Davis, a teacher who moved from the beachside resort of Kihei to Kula. 'Living by the ocean, you forget what it is like to be cold. Up here, you can wear long pants and pajamas and sleep under blankets at night'" [ref.8]. Adding to the regions colorful history is an ode to the mild weather in a song written in 1947 by John P. Watkins "... famous Ulupalakua, the pangs of the cold evening air" [app.1].

Within the proposed Ulupalakua AVA rainfall is generally 30 inches annually and temperatures are affected by 300 days of annual cloud cover generated by the orographic effect of 10,000-foot Mt. Haleakala volcano located to the east [ref.9 and fig.12]. The average temperature drops 3.5F for every 1000 feet of elevation gained [ref.10]. As the elevation changes quickly to the east and west of the proposed AVA there is a temperature difference between those areas and the AVA. The trade winds on the island typically arrive from the North-East, but due to the unique position of the AVA relative to the mountain of West Maui and the blocking effect of Mt. Haleakala, the wind direction bends such that the wind arrives from the North-east. This north-easterly wind flows over the dry low-lying isthmus that separates east and west Maui bringing drier air and dropping the humidity compared to most other areas on the island [fig.13]. The proposed AVA is located within a subtropical dry forest climatic zone [fig.14]. The characteristics of the climatic zone include unique temperatures, humidity and evapotranspiration ratios compared to the other climatic zones found outside the area of the proposed AVA [fig.15]. Temperature averages range from a high of 88° F and low of 63° F within the proposed AVA [fig.16]. The area to the north (Keokea), shows differences in temperatures and rainfall [fig.17]. The area to the south does not have much data on weather due to its remoteness but the high winds are well known, and a wind farm is located there to take advantage of the constant high winds [ref.11]. The average precipitation to the west (Makena Bay) and to the East (PoliPoli Springs) vary greatly as the elevation and proximity to the Haleakala summit influence not just temperature but also rainfall [fig.18]. The orographic effect of Mt. Haleakala influences much of the climate as described in figures 20 and 21. The typical wine grape harvest season is from June through August where the lowest precipitation occurs, and the maximum temperatures are well within parameters for quality wine grapes [fig.16]. While Maui may seem an unusual location for viticulture, the proposed AVA has an advantage because of its unique position between the orographic effect driving afternoon cloud cover and the bending of the trade-winds across the arid isthmus resulting in low rainfall, relatively low humidity with light consistent winds which allow for conditions to hold off mildew and rot. The cloud cover and lack of extremes in temperature also protect the ripening fruit against sunburn and heat stress. These localized conditions along with the long-standing history of grape growing and viticulture of the islands are evidence of the merit of the proposed Ulupalakua AVA.

Written Boundary Description

Note: The location descriptions do not include Township and Range as the BLM has not established that system for mapping in Hawaii. Therefore, the mapping coordinates will be given in degrees, minutes and seconds. The northern portion of the proposed boundary begins at $156^{\circ} 24' 12''$ W by $20^{\circ} 40' 23''$ N and follows the edge of a ravine in the east direction from roughly 1560 feet up to 1800 feet elevation for approximately 2000 feet. At this point the soil series changes to the lo series. The location is $156^{\circ} 23' 53''$ W by $20^{\circ} 40' 22''$ N. The eastern boundary follows the soil profile intersection and runs south along the 1800 foot elevation contour for approx. 400 feet until $20^{\circ} 40' 18''$ N where the boundary then runs east by south-east for approx. 800 feet until it meets Hiway 37 at approx. 1850 feet elevation at $156^{\circ} 23' 45''$ W by $20^{\circ} 40' 16''$ N. The eastern boundary then follows Hiway 37 meandering south for approx. 650 feet reaching the northern side of a ravine running east-west at $156^{\circ} 23' 45''$ W by $20^{\circ} 40' 12''$ N at 1850 feet elevation. The southern boundary of the proposed AVA meanders west for approx. 2700 feet along the northern edge of the ravine at $20^{\circ} 40' 11''$ N and the elevation gradually drops to 1560 feet at $156^{\circ} 24' 15''$ W by $20^{\circ} 40' 12''$ N. The western boundary then runs along the 1560 foot elevation contour for 1300 feet until it reaches the northern boundary thus completing the boundary description. Map figures 1-4 show the proposed AVA boundaries drawn in or located with an arrow.

References-Bibliography-Web sources

[ref.1] Pardee Erdman in the Star Bulletin-(August 21, 1986)-Maui Champagne Gaining Stature in Bubbly World

[ref.2] Pata, Graham Hornel (circa 1980) "Chateau Ulupalakua-Maui Wine is very Special"

[ref.3] Love, K.; Paull, R.E. (2014) Growing Grapes in Hawai'i. College of Tropical Agriculture and Human Resources

[ref.4] <https://vineadvisor.com/maui-wine-ulupalakua-vineyards>

[ref.5] Martin, Leslie (January 1983). Wine Country, pgs 29-30

[ref.6] Morgan, Barbara (March 5th, 1978) Sunday Today: The Sunday Star-Bulletin and Advertiser. pgs C-1 and C-6.

[ref.7] http://napavalleyregister.com/business/maui-winemakers-make-a-splash-with-pineapple-wines-and-island/article_48281276-094c-5fec-80d9-18be5666b9cf.html

[ref.8] <http://www.oeregister.com/2010/03/07/the-odd-upside-of-maui/>

[ref.9] <https://mauitime.com/news/ulupalakua/>

[ref.10] <https://treelinebackpacker.com/2013/05/06/calculate-temperature-change-with-elevation/>

[ref.11] <http://www.chron.com/news/article/PRN-Shell-WindEnergy-and-Ulupalakua-Ranch-1554103.php>