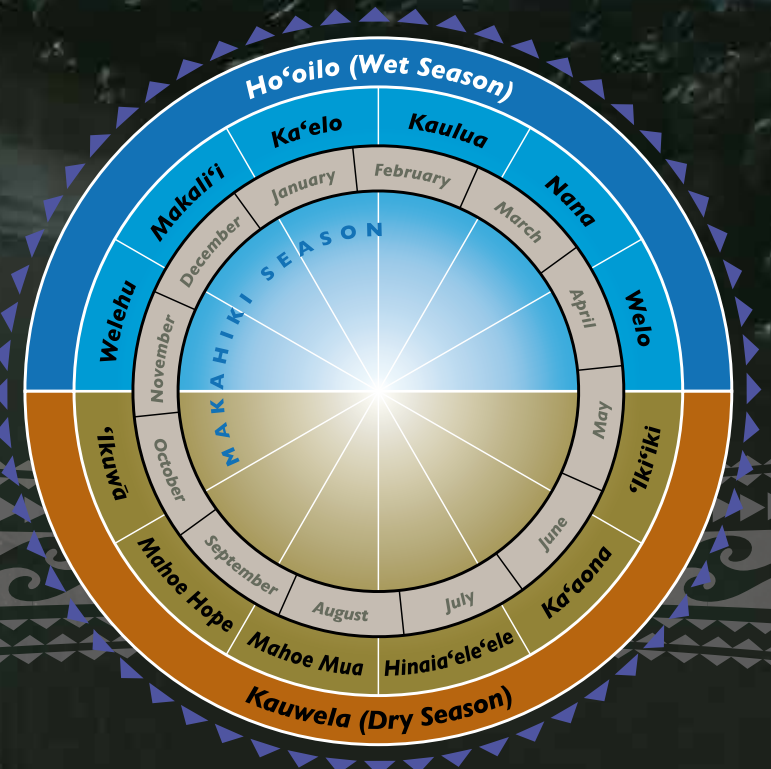


# 2015

*Hawaiian Lunar Calendar*




## Loko I'a Observation Log


Date: \_\_\_\_\_ Malama (Hawaiian Lunar Month): \_\_\_\_\_  
 Time: \_\_\_\_\_ Pō Mahina (Hawaiian Moon Phase): \_\_\_\_\_


### Notable Weather Activity:


Wind: \_\_\_\_\_  
 Rain: \_\_\_\_\_  
 Clouds/Cloud Cover: \_\_\_\_\_  
 Other: \_\_\_\_\_


### Fauna Activity/Observations:


 Mullet  
 Pua'ama (Fingerling): \_\_\_\_\_  
 Kahaha (Hand Length): \_\_\_\_\_  
 'Ama'ama (8 inches): \_\_\_\_\_  
 'Ana'e (12 inches +): \_\_\_\_\_


 'O'opu: \_\_\_\_\_


 Āholehole: \_\_\_\_\_


 Puhi: \_\_\_\_\_


 Mosquito Fish: \_\_\_\_\_

 Ōpae: \_\_\_\_\_

 Hapawai/WI: \_\_\_\_\_

 Manu: \_\_\_\_\_

 Honu: \_\_\_\_\_

 'A'ama: \_\_\_\_\_

The Hawaiian lunar calendar is one of the best examples of place based learning. Every district of each island compiled knowledge through observation of the natural cycles and seasons of the environment and the activities of living organisms within the environment. Over time, tried and improved practices were incorporated to efficiently fish, farm and work with the natural rhythms of the environment in a sustainable manner.


This observation log was created so that the observer can begin to record and compare correlating activities with the environment, season, plant, animal and fish activities with the lunar phase and the lunar month. Learning the lunar cycle assists us in reconnecting ourselves with our environment.

Each data log requires the observer to record the date, time, lunar month and lunar phase. Weather activity is also noted to begin to observe climate and seasonal changes. Growth processes and cycles among the listed animal, fish and plants are pertinent to begin to see the correlating activities. Please note that the observation log lists common organisms at Hale o Lono fishpond at Keaukaha. Each district will have slight to dramatic differences. Please make adjustments accordingly.




## Loko I'a Observation Log


### Flora Activity/Observations:


 Niu: \_\_\_\_\_


 Hala: \_\_\_\_\_


 False Kamani: \_\_\_\_\_

 Kupukupu: \_\_\_\_\_

 Naupaka: \_\_\_\_\_

 Milo: \_\_\_\_\_

 La'i: \_\_\_\_\_

 Laua'e: \_\_\_\_\_

 Laukahi: \_\_\_\_\_

 Limu: \_\_\_\_\_

**Notable Water Activity:**  
 Ht \_\_\_\_\_ft  
 High/Rising:  
 Low/Falling:

Salinity: \_\_\_\_\_  
 Water flow: \_\_\_\_\_

Other Parameters: \_\_\_\_\_

Evidence of Possible Correlations in Growth Processes & Cycles: \_\_\_\_\_

Copies of the Loko I'a Observation Form can be downloaded at <http://www.wpcouncil.org/wp-content/uploads/2013/04/Loko-Ia-Observation-log.pdf>.

A publication of the Western Pacific Regional Fishery Management Council pursuant to NOAA Award NA14NMF4520236.

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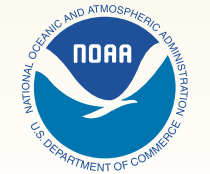
ISBN 978-1-937863-25-8

Cover photo of Kō'ie'ie Fishpond, Maui, courtesy of Hawaiiansupaman@hawaii.rr.com

Cover graphic depicting the Hawaiian lunar cycle, © 2010, Western Pacific Regional Fishery Management Council

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# About This Calendar

This 2015 Hawaiian Lunar Calendar features fishponds, which are a significant cultural, architectural and aquaculture feature in the Hawaiian Islands. It is estimated that up to 1,000,000 native Hawaiians lived in the islands in 1778, at the time of first Western contact with the arrival of Capt. James Cook. If this is accurate, then fishponds played a major role in providing nutrition to the people.

By 1890, three years before the Kingdom of Hawai'i was overthrown, the population of the islands had been reduced to 90,980. Of these 40,622 were pure or part Hawaiians; 7,495 were Hawaiian nationals; and 41,873 were aliens of other nationalities (Hawaii Census 1890). Among the 90 to 95 percent of the native population that disappeared were the knowledgeable people needed to actively manage these complex aquaculture systems. The foreigners filled many of the abandoned *loko i'a* (fishponds) and *lo'i* (kalo patches).

While somewhat extensive studies have been conducted on Hawaiian fishponds, much is unknown. John Cobb, in 1901, identified 99 fishponds in commercial production on Kaua'i, O'ahu, Moloka'i and Hawai'i. He estimated the total output at 680,000 pounds: 486,000 pounds of *'ama'ama* (mullet) and 194,000 pounds of *awa* (milkfish). Estimated yield ranged from 400 to 600 pounds per acre.<sup>1</sup> In 1989, the *Hawai'i Fishpond Study* identified 370 Hawaiian fishponds on O'ahu, Moloka'i and Hawai'i.<sup>2</sup>

Today, there is renewed interest in Hawaiian fishponds and maybe a rediscovery of the cultural and spiritual elements of fishpond culture in addition to the aquaculture, agricultural and economic potential Hawaiian fishponds represent.

The Western Pacific Regional Fishery Management Council has been supportive of these efforts. In 2005, Paepae O He'eia was one of the first projects to receive funding through the Council's Western Pacific Community Demonstration Project Program (CDPP). The funding helped to re-establish and manage Loko I'a O He'eia, including the development of three educational programs that served 3,000 students annually, creation of six pens ranging from ¼ to ¾ acre each, outreach efforts, and training in cultural and scientific methods for assessing water quality. The Council also supported efforts by Maunalua Fishpond Heritage Center to receive funding for Kalauha'iha'i fishpond from the Marine Education and Training (MET) program. The CDPP and MET are both grant programs established in the Magnuson-Stevens Fishery Conservation and Management Act. In 2011, the Council partnered with Ke Ana La'ahana Public Charter School to produce the 2011–2012 Hawaiian Lunar Calendar, which featured the students'

stewardship of Hale O Lono fishpond. As part of this project, the Council converted the observational worksheet used by the students (see above) into an online observation log for potential use by fishpond managers and educators throughout Hawai'i. In 2014, the Council contracted with ALU LIKE, Inc., to test, improve and promote the electronic observation log and associated Loko I'a website. The project included consultation with Hui Mālama Loko I'a (a network facilitated by the non-profit organization Kua'āina Ulu 'Auamo) and three fishponds participating in a broodstock hatchery project; presentation of the Loko I'a website at the 2014 Hui Mālama Loko I'a Conference; and purchase of water quality equipment and supplies used at a water quality training workshop for Hui Mālama Loko I'a. The website was modified based on findings from these endeavors, and the Council will be transferring rights to it to ALU LIKE, Inc., and Hui Mālama Loko I'a.

This 2015 Hawaiian Lunar Calendar features some of the Hui Mālama Loko I'a fishponds as well as information about the types of fishponds being restored in Hawai'i today and the primary fish that are raised in them.

In the traditional Hawaiian calendar, the months were determined by the 29.5-day cycle of *mahina* (moon). The moon cycle was divided into three 10-day periods known as *anahulu*. The first 10-day period was called *ho'onui* (growing bigger), beginning on the first crescent visible by the naked eye. The second *anahulu* was *poepoe* (round or full); and the last *anahulu* was *emi* (decreasing).

Each day is named for the lunar phase visible by the naked eye that day or night until the next moon is visible. The QuickPhase Pro version 3.3.5 program and the HM Nautical Almanac.<sup>3</sup> Office ([astro.ukho.gov.uk/websurf](http://astro.ukho.gov.uk/websurf)) were used as guidance for calculating the moon phases.

The names of the moon months and phases may vary by island and *moku* (district). This calendar uses the moon phases of O'ahu listed in the *Hawaiian Almanac* by Clarice Taylor.<sup>3</sup>

The 2015 Hawaiian Lunar Calendar was produced by the Western Pacific Regional Fishery Management Council with special thanks to Brenda Asuncion of Kua'āina Ulu 'Auamo, Alii, Hale O Lono, He'eia, Kalāhuipua'a, Kaloko, Kō'ie'ie, Loko Ea and Waikalua Loko for their contributions and to Eric Woo Design and its staff for the layout and design. Project coordinators for this year's calendar include Sylvia Spalding and Charles Ka'ai'ai from the Western Pacific Regional Fishery Management Council and Kimi Makaiau from ALU LIKE, Inc.

<sup>1</sup>Keala G. 2007. Loko I'a. Honolulu: University of Hawaii. p4.

<sup>2</sup>DHM Planners Inc. and Bernice Puahi Bishop Museum. 1989. *Hawai'i Fishpond Study: Islands of O'ahu, Moloka'i and Hawai'i*. Honolulu: DHM Planners.

<sup>3</sup>Taylor C. 1995. *Hawaiian Almanac*. Honolulu: Mutual Publishing.

# Types of Hawaiian Fishponds\*



## Loko Wai

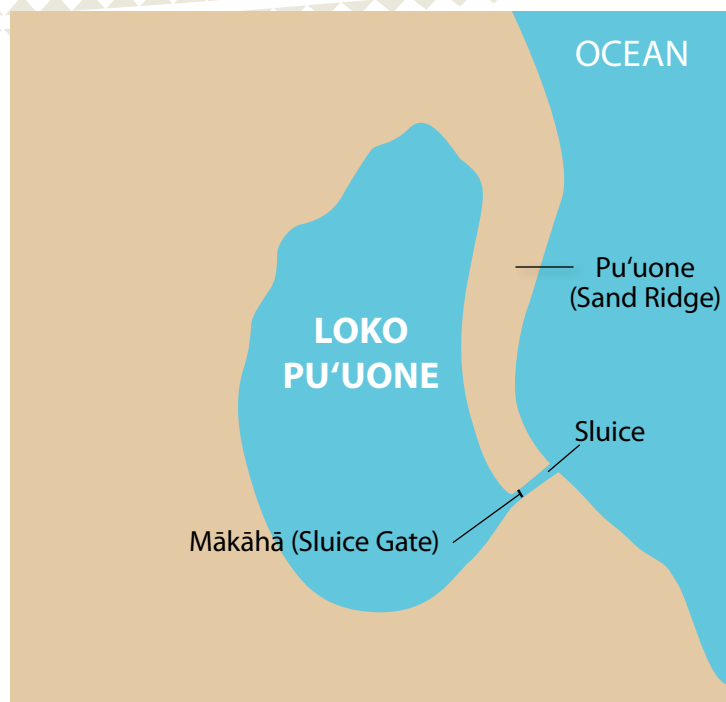
Located inland, *loko wai* (freshwater ponds) are typically made by digging out natural depressions, lakes or pools. Stream water flows into the ponds through *auwai* (ditches or channels). Various *ʻoʻopu* (gobies) are commonly found in these ponds. Other species include *āholehole* (flagtail), *ʻamaʻama* (mullet), *awa* (milkfish), *awa ʻaua* (ladyfish), *ōpae* (prawns and shrimp) and *weke* (goatfish).

Sources:

Project Kāhea Loko. 2003. Honolulu: Pacific American Foundation. <http://lokokuapa.pbworks.com/w/page/18785653/Types%20of%20Hawaiian%20Fishponds>

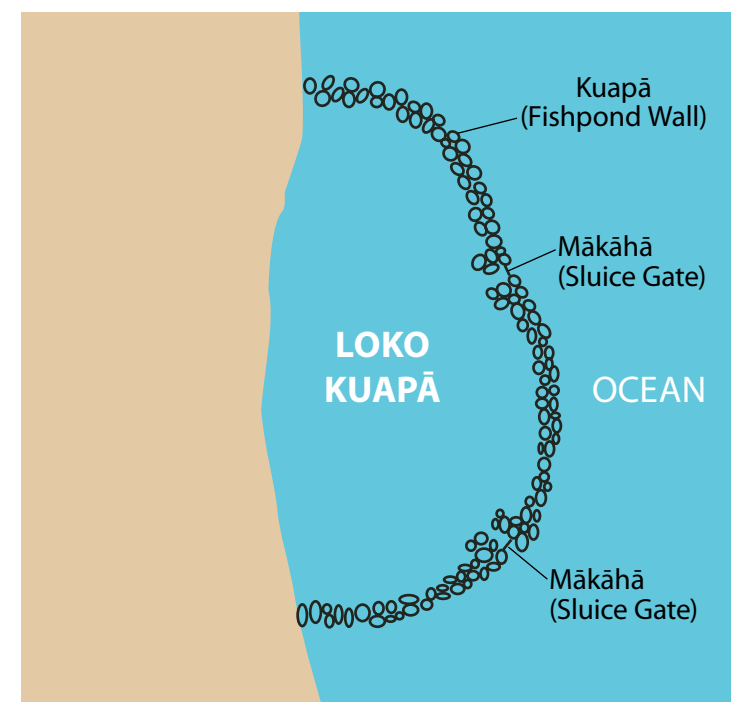
Keala, Graydon et al. 2007. *Loko Iʻa: A Manual on Hawaiian Fishpond Restoration and Management*. Honolulu: University of Hawaii.

\* Most of the current fishpond work in Hawaiʻi is occurring at these types of fishponds, which are three of the six identified traditional fishpond types.



## Loko Puʻuone

*Loko puʻuone* are isolated shore fishponds. Water is kept in the ponds by a *puʻuone* (sand dune, sandbar, coastal reef structure, etc.). *Loko puʻuone* contain mostly *wai kai* (brackish water). *Wai* (fresh water) flows into the pond from springs or streams. *Kai* (salt water) flows in through *auwai kai* (opening dug to connect the pond to the sea). A *mākāhā* (wooden sluice gate) allows small fish to enter the pond to feed but prevents them from leaving after they grow too large to slip between the gate's gaps. Fish able to handle salinity fluctuations thrive in this estuarine environment. They include *āholehole*, *akule* (big-eyed scud), *ʻamaʻama*, *awa*, *awa ʻaua*, *kākū* (barracuda), *moi* (Pacific threadfin), *nehu* (Hawaiian anchovy), *ōʻio* (bonefish), *ʻoʻopu* (goby), *ʻoʻopu hue* (puffer fish), *ōpae* (prawns and shrimp), *palani* (eye-striped surgeonfish), *papaʻi* (crabs), *pualu* (yellowfin surgeonfish), *weke*, and *pāpio* or *ulua* (jack or trevally).

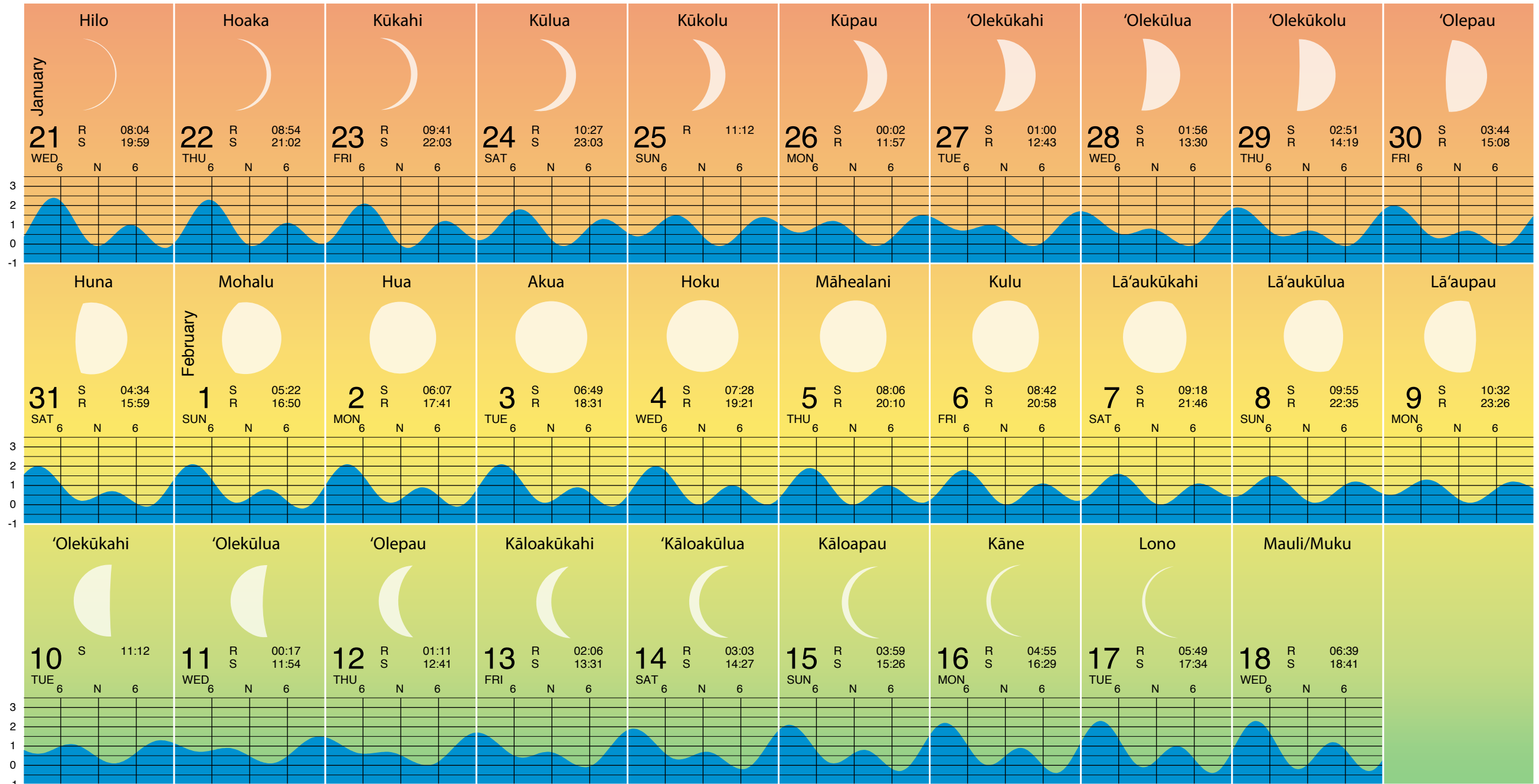


## Loko Kuapā

*Loko kuapā* are coastal fish ponds typically built over a reef flat and with walls constructed of lava rock and coral rubble. They usually have one or two *auwai* used mainly for water flushing and inflow, depending on the tides, as well as for harvesting and stocking. A *mākāhā* allows small fish to enter the pond to feed, but prevents them from leaving after they grow too large to slip between the gate's gaps. Fish found in these ponds include *āholehole*, *akule*, *ʻamaʻama*, *awa*, *awa ʻaua*, *hīnālea* (wrasse), *kāhala* (amberjack), *kākū*, *kala* (unicorn fish), *kūmū* and *moana* (goatfish), *manini* (convict tang), *moi*, *nahawele* (mussel), *nehu*, *ōʻio*, *ʻoʻopu hue* (puffer fish), *ōpae*, *palani*, *papaʻi*, *pāpio* (jack or trevally), *pualu*, *puhi* (eel), *uhi* (mother of pearl), *uhu* (parrotfish), *ulua* and *weke*.

# Kaulua

Januāri 21 - Pepehuāri 18, 2015



Observations \_\_\_\_\_

\_\_\_\_\_

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# 'Ama'ama



Mullet. Photo courtesy of Hale O Lono.

Kaihuopala'ai was famous. It is now known as Honouliuli, so-called after the foreigner came to rule that area. Kaulu and Apoka'a, husband and wife, were keepers of the fish in ancient times. They bore children: Laniloa (*keikikane*), Awawalei (*kaikamahine*) and two supernatural children, an eel and a young 'ama'ama. From this 'ama'ama child came all the 'ama'ama of Kaihuopala'ai. Laniloa went to La'ie in Ko'olauloa and married there. His sister married Mokueo and lived in Kaihupala'ai, and all the people born to them owned the 'ama'ama.

At La'ie, Laniloa longed to see his sister. He went to visit his sister and parents and asked for some fish. They agreed, and the mullet divided themselves into two groups: a group that stayed and a group to travel. Laniloa's sister, 'ama'ama, took human form and walked along the shore stopping on the way, and 'anae holo (traveling mullet) followed her. Each year, the 'anae holo migrated from Honouliuli to La'ie. Where they stopped, people harvested some of them and then the 'anae holo moved on. After spending some time at La'ie, the mullet returned to Honouliuli. When they returned from their travels the 'anae holo was then called 'anae pali. Their travels had changed them. They were plump. While the 'anae holo was white in color, the 'anae pali had darker scales, their gills were red, and there were traces of red at the sides of the mouth. Honouliuli was famous for their mullet.

Mullet (*Mugil cephalus*) was an important food fish for native Hawaiians and were eaten at all stages of growth, raw and cooked. The *pua 'ama* (*pua*, *po'olā* or *'o'olā*) were up to finger length in size. *Kahaha* was from finger length to hand length in size. 'Ama'ama were hand length to 12 inches in size. 'Anae were over a hand length and half the forearm in size (over 12 inches).

The State of Hawai'i manages this species with a closed season during peak spawning (December 1 to March 31) and size limits (not less than 11 inches in length).



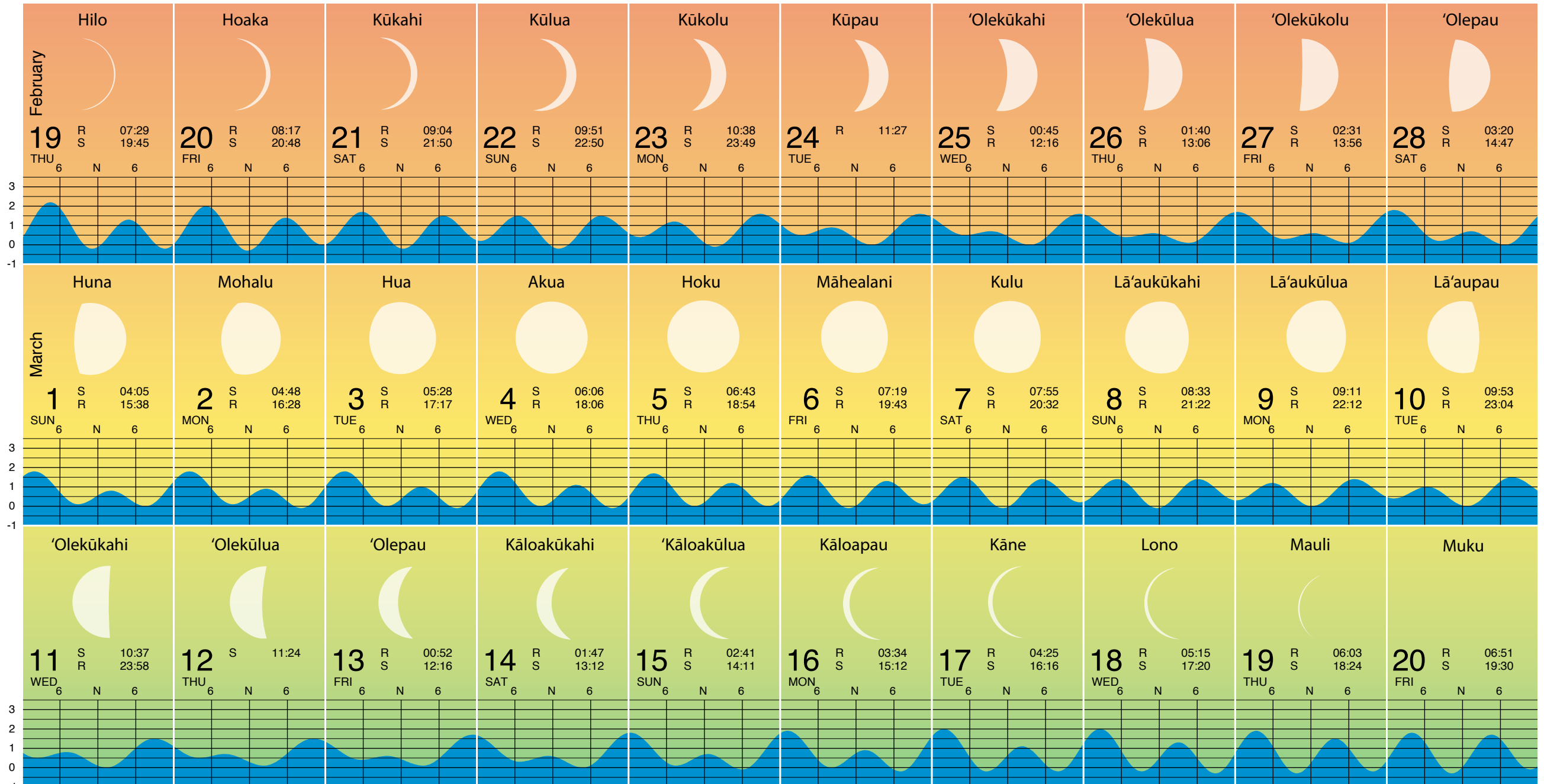
Mullet. Photo courtesy of Hale O Lono.



Kahaha (mullet from finger length to hand length).

# Nana

*Pepehuahi 19 - Malaki 20, 2015*



Observations \_\_\_\_\_

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# Awa



Locally caught awa. Photo courtesy of Tyler Ciccone.

Along with mullet, *awa* (milkfish; *Chanos chanos*) is a fish of traditional Hawaiian fishpond culture.

There were three adjoining fishponds in Kalihi: Pahouiki, Pahounui and Apili. Pahouiki was the smallest at 14 acres in size. It was open, through two *mākāhā* (sluice gates); to Pahounui, 26 acres in size. Pahounui was not open to Apili, 28 acres in size. Apili was “famous for the superior

flavor of its fish, particularly the *awa*, which, eaten raw, is esteemed a rare treat by native epicures.”<sup>1</sup>

John Cobb reported in 1890 that 263,000 pounds of *awa* was harvested. He reported the total catch from fishponds in Hawai‘i as 682,464 pounds. The catch from O‘ahu fishponds was 560,283 pounds. The main fish from these ponds were ‘ama‘ama, *awa* and *āholehole*. He noted that the main method of harvest from fishponds were gill nets catching 404,537 pounds of fish followed by dip nets, seines and scoop nets.<sup>2</sup>

Today, the State of Hawai‘i minimum size for catching *awa* is 9 inches.



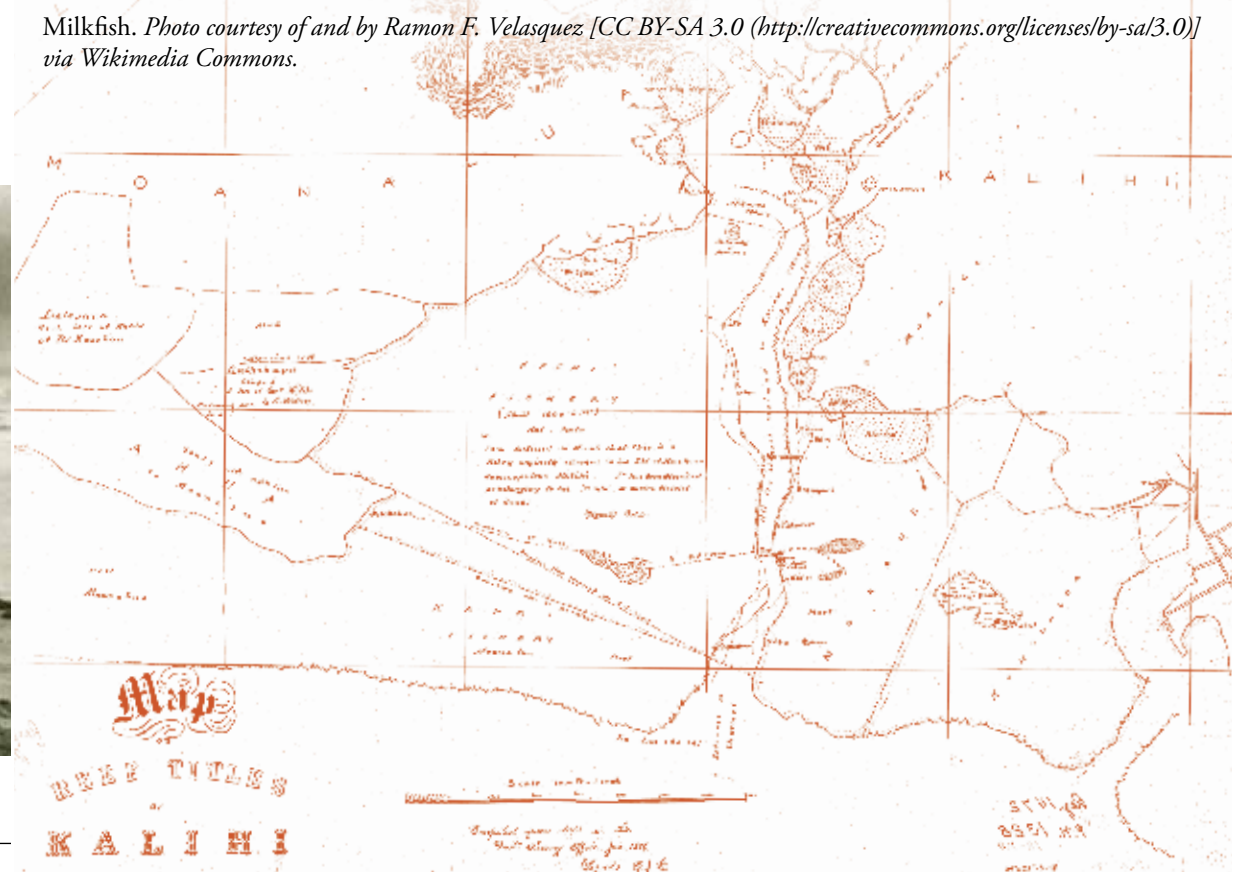
Aerial view from 1928 showing the fishponds of Ke‘ehi and Kalihi in the foreground, before they were filled in and construction built over them. Photo by Eleventh Photo Section, A.D. Luke Field, Territory of Hawai‘i.

<sup>1</sup> Sterlin E and C Summers. 1978. Sites of O‘ahu. Honolulu: Bishop Museum. p323.

<sup>2</sup> Cobb J. 1903. “The Commercial Fisheries of the Hawaiian Islands.” In: Bulletin of the United States Fish Commission, Pt. II. pp715–765.



Milkfish. Photo courtesy of and by Ramon F. Velasquez [CC BY-SA 3.0 (<http://creativecommons.org/licenses/by-sa/3.0/>)] via Wikimedia Commons.

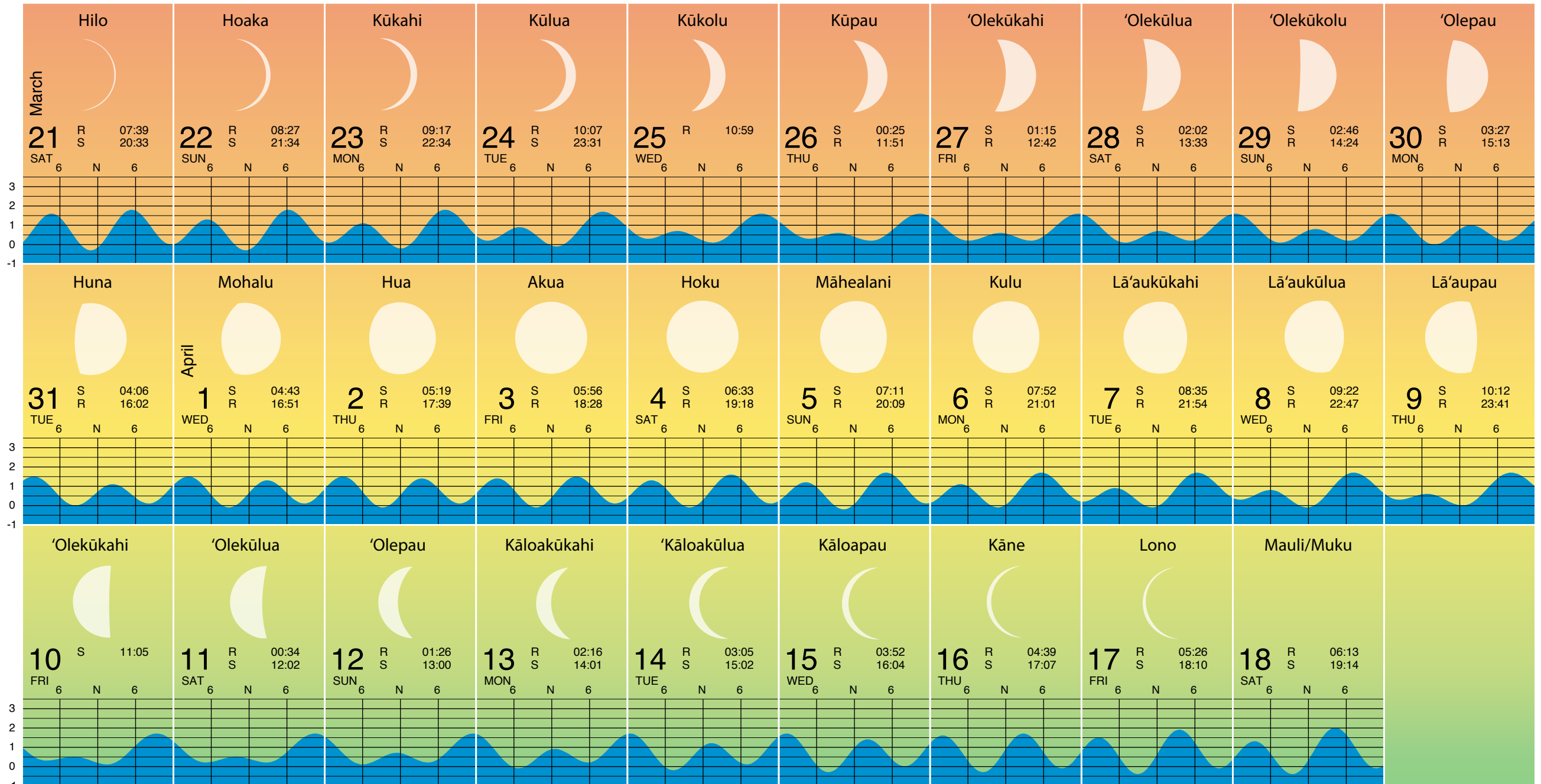


Registered map #1472 “(circa 1886) shows the former locations of the many fishponds and fisheries of Kalihi and Ke‘ehi. Map courtesy of the State Survey Office (DAGS Land Survey Division).



# Welo

Malaki 21 - Apelila 18, 2015



Observations \_\_\_\_\_

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# Āhole

Like *'ama'ama* and *awa*, *āhole* (flagtails; *Kuhlia xenura* and *K. sandvicensis*) have been important food fish in Hawai'i that are cultivated in fishponds. When young, the fish is called *āholehole*.

Coastal *āhole* abundance is dependent on the availability of habitat as shown in studies conducted at Mo'omomi, Moloka'i.<sup>1</sup> Seasonal sand movement covers and uncovers holes in the reef and bench areas along the coast. *Āhole* will shelter in the exposed reef holes and leave when the sand covers the shelter.

*'Ama'ama*, *awa* and *āhole* are ideal candidates for fishpond culture. Post-larval the three species are omnivorous. Ontogenetic changes in each species as they mature make them forage at different places in the water column and benthos. *'Ama'ama* (and the adult phase, *'anae*) forage on the bottom as herbivores and detritivores; adult *awa* depend on benthic algae for forage; and *āhole* forage in the mid to top of the water column as omnivores. All three species are tolerant of fresh water.

Many fishponds are associated with a source of fresh water. Fresh water and nutrients contribute to primary food production, e.g., the production of edible algae and fauna that is important for species growth and reproduction. The healthy environment allows cultivation of other species, such as *limu* (edible seaweed), *pāpā'i* (crabs), *pūpū* (shells), *i'a* (fish) and, even, *honu* (Hawaiian green sea turtle).

The State of Hawai'i minimum size for *āhole* is 5 inches.

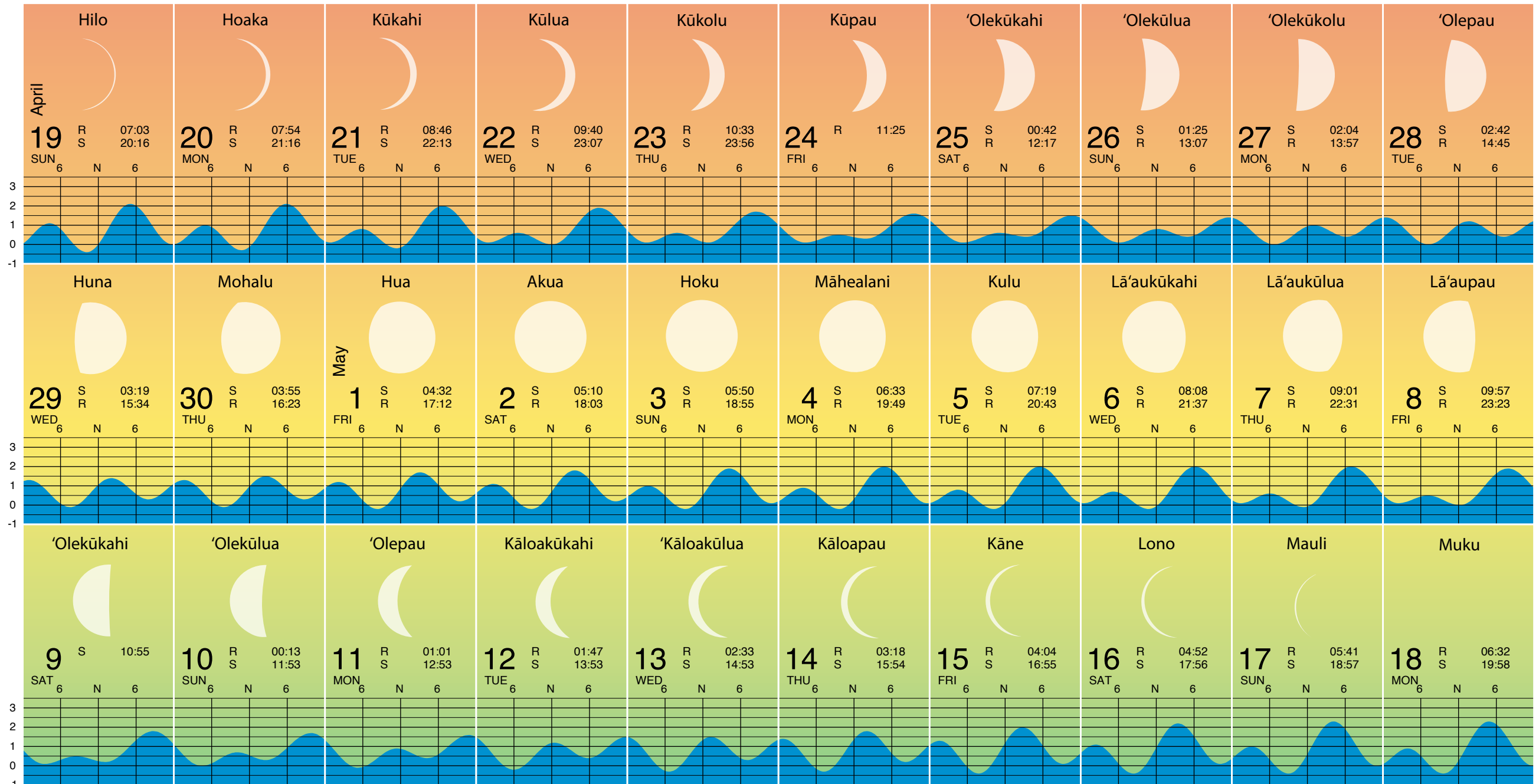


The diet of āholehole primarily consists of algae and tiny crustaceans. The fish spends most of its day grazing on rocks. Photos courtesy of Hale O Lono.

<sup>1</sup>Poepoe K. et al. 2003. "The Use of Traditional Hawaiian Knowledge in the Contemporary Management of Marine Resources." In: Putting Fishers' Knowledge to Work Conference Proceedings. August 27-30, 2001. Fisheries Centre Research Reports, Vol. 11, No. 1. p 333.

# Ikuiki

April 19 - Mei 18, 2015



Observations \_\_\_\_\_

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# Loko Ea Fishpond

**Ahupua'a: Kawaihoa**

**Moku: Waialua**

**Mokupuni: O'ahu**

The loko i'a (fishpond) traditionally named Loko Ea can be found in the quaint town of Hale'iwa on O'ahu's North Shore. Loko Ea is a 400-year-old, 7-acre *loko pu'uone* (inland, sand dune fishpond) located in the *ahupua'a* of Kawaihoa, an area known for its profusion of freshwater springs and flowing streams. It is one of two existing fishponds in the moku of Waialua and was famous for its delicious and abundant stock of *'ama'ama* and *āholehole*. Mālama Loko Ea Foundation is the community based nonprofit organization currently leading the restoration efforts at Loko Ea.

The public is invited to schedule educational field trips or to visit Loko Ea every third Saturday of the month for community workdays.

**Contact: Mālama Loko Ea Foundation**

**Mailing Address: P.O. Box 553 Hale'iwa, HI 96712**

**Phone: (808) 637-3232**

**Email: [info@lokoea.org](mailto:info@lokoea.org)**

**Website: [www.lokoea.org](http://www.lokoea.org)**



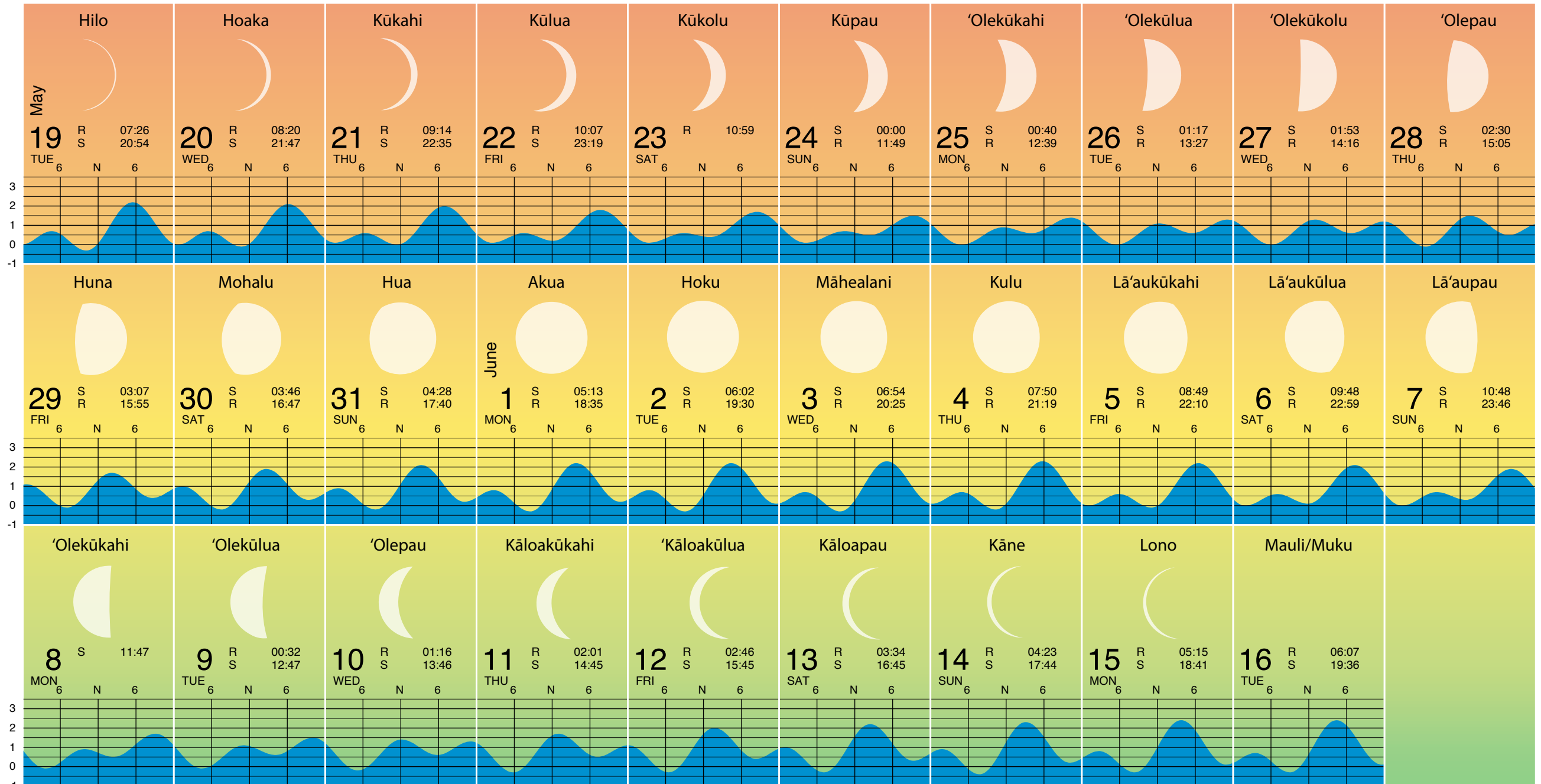
MĀLAMA  
LOKO EA FISHPOND



Photos courtesy of Mālama Loko Ea Foundation.

# Ka'aoana

Mei 19 - June 16, 2015



Observations \_\_\_\_\_

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# He'eia Fishpond

**Ahupua'a: He'eia**

**Moku: Ko'olaupoko**

**Mokupuni: O'ahu**

He'eia Fishpond is an 88-acre 800-year-old *loko i'a kuapā*. Paepae o He'eia has been stewards of the fishpond since 2001. Paepae o He'eia's mission is to implement the values and concepts from the model of a traditional fishpond to provide physical, intellectual and spiritual sustenance for its community. To date, Paepae o He'eia has restored half (3,500 feet) of the fishpond's 1.3-mile (7,000-foot) long wall. A huge endeavor in 2015 will be to close the "Makai Break," an 80-foot long *puka* (hole) in the fishpond's wall that was created by a flood in 1965. The closing of this *puka* through the Pani ka Puka fundraising campaign will enable the fishpond to be productive once again.

**Contact: Paepae o He'eia**

**Mailing Address: P.O. Box 6355, Kane'ohe, HI 96744**

**Physical address: 46-077 'Ipuka Street, Kane'ohe, HI 96744**

**Phone: (808) 236-6178**

**Email: [admin@paepaeoheeia.org](mailto:admin@paepaeoheeia.org)**

**Website: [www.paepaeoheeia.org](http://www.paepaeoheeia.org)**



**Paepae o He'eia**

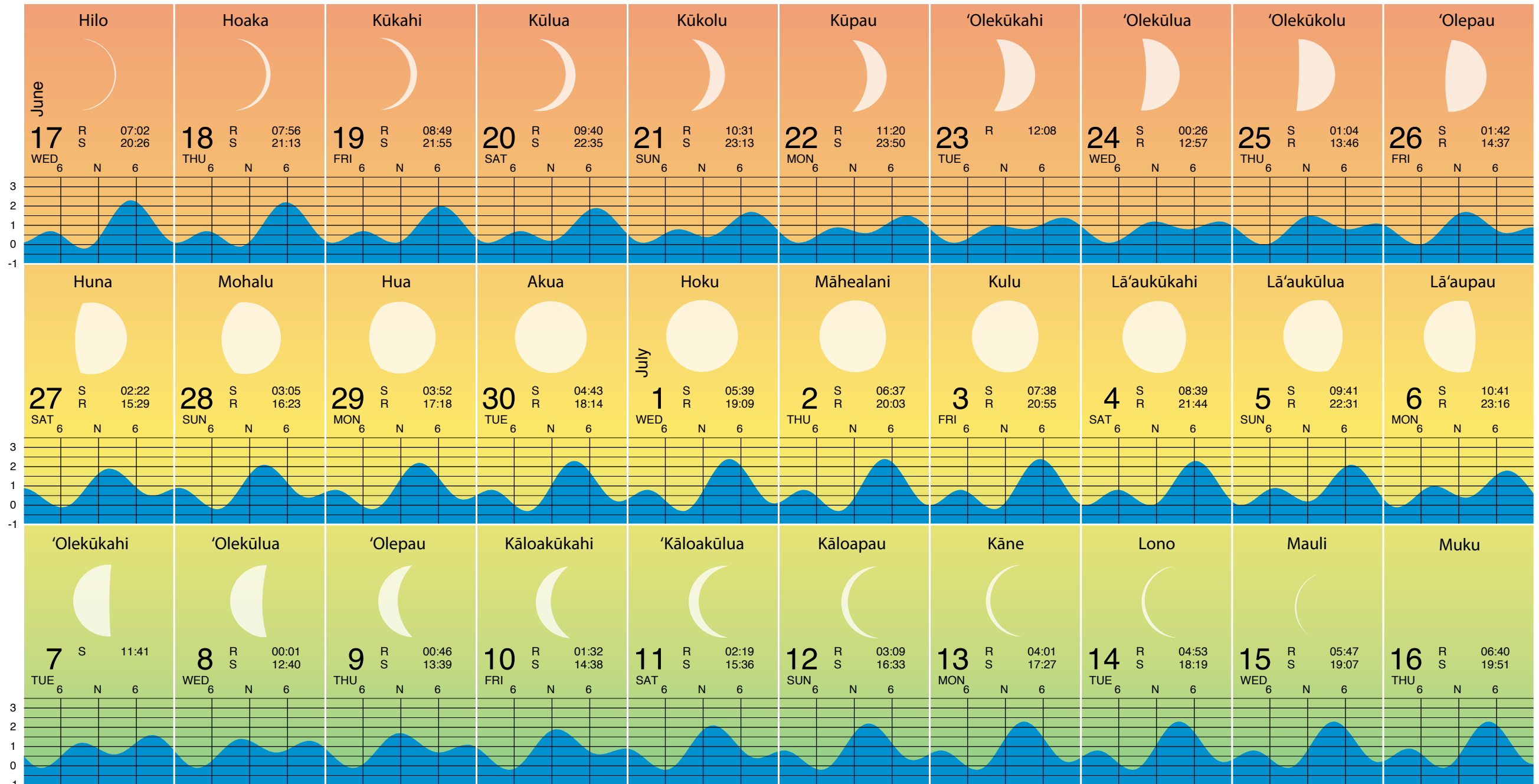
*He'eia Fishpond, He'eia O'ahu*



Moku of O'ahu. Map courtesy of Island Breath.

# Hānani'e'e'e'e

June 17 - July 16, 2015



Observations \_\_\_\_\_

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# Waikalua Loko

Ahupua'a: Kane'ohe  
Moku: Ko'olaupoko  
Mokupuni: O'ahu



Ku Ula Kai. All photos courtesy of Waikalua Loko.

From the old stone walls of the Waikalua Loko fishpond to the verdant walls of the magnificent *pali*, the Kane'ohe *ahupua'a* holds clues to a rich cultural and natural heritage. As educators in this awe-inspiring place, the Waikalua Loko Fishpond Preservation Society (WLFPS)

helps to provide students with opportunities to discover and embrace that heritage and carry forward the practices that will help them to live more in harmony with the land and sea today.

The vision of WLFPS is of stewards perpetuating the legacy of Hawaiian fishponds. Its mission is to restore, preserve and beautify the Waikalua Loko fishpond and adjoining area to educate students and the community about ancient and modern fishpond practices in the context of the *ahupua'a*.

**Contact: Waikalua Loko Fishpond Preservation Society**  
**Phone: (808) 392-1284**  
**Email: [Rosalyn.dias@gmail.com](mailto:Rosalyn.dias@gmail.com)**  
**Website: [www.waikalualokofishpond.org/](http://www.waikalualokofishpond.org/)**

## Waikalua Loko I'a



*Kia 'I Loko*



'Ohana – generational lineage



Piko – I kū mau mau

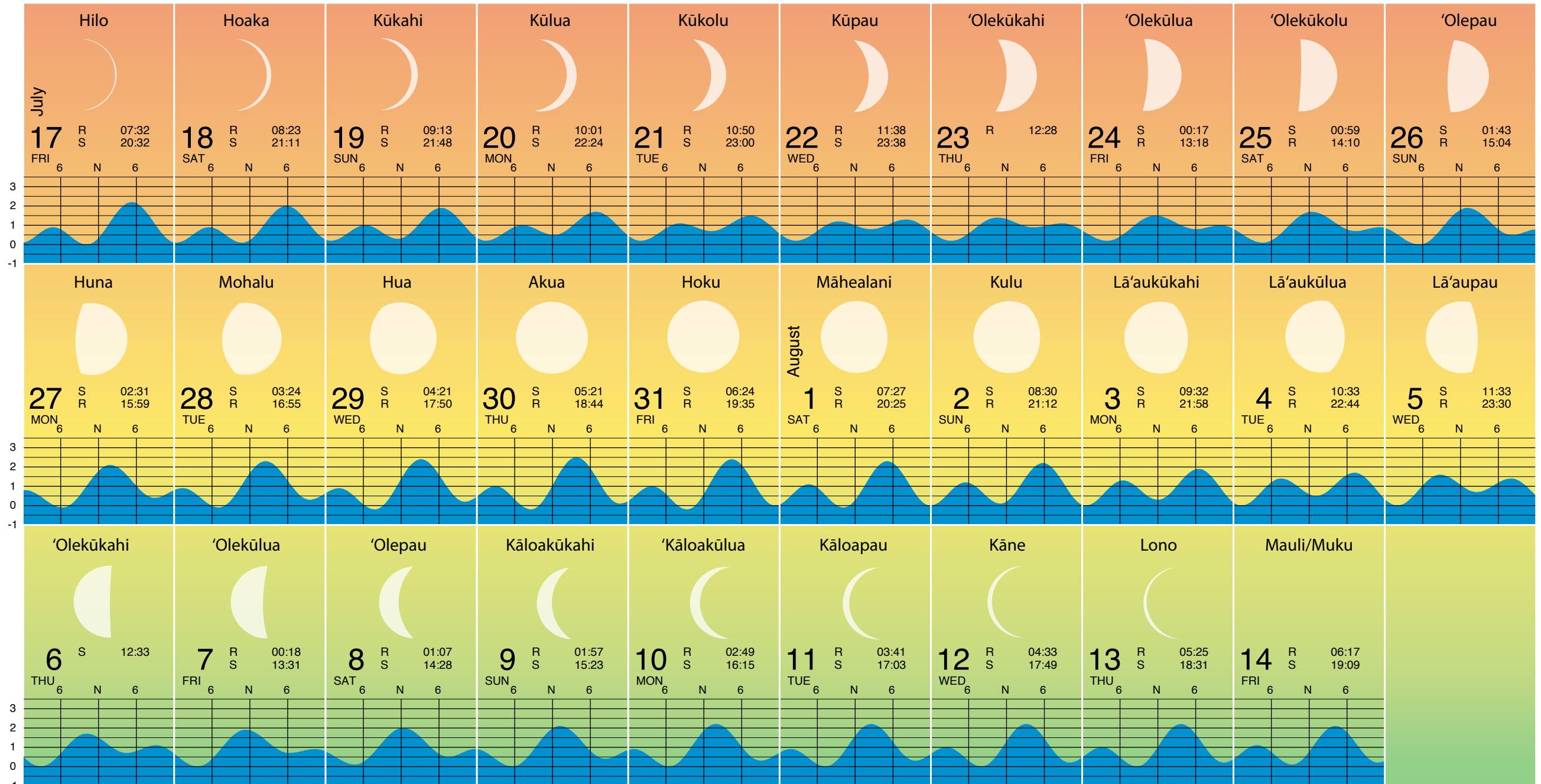
Mākāhā – integrity and ingenuity





# Makoe Mua

Iulai 17 - Aukake 14, 2015



Observations \_\_\_\_\_

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[www.wpcouncil.org](http://www.wpcouncil.org)

# *Alii Fishpond*

**Ahupua'a: Makakupaia**

**Moku: Kawela**

**Mokupuni: Moloka'i**

Alii Fishpond is one of two ancient Hawaiian fishponds on the island of Moloka'i cared for by the 501(c)3 nonprofit Ka Honua Momona International. Ka Honua Momona's mission is to be a model of sustainability *mauka a makai*.

**Contact: Ka Honua Momona International**

**Phone: (808) 553-8353**

**Email: [kahonuamomona@gmail.com](mailto:kahonuamomona@gmail.com)**

**Website: [www.KaHonuaMomona.org](http://www.KaHonuaMomona.org)**

*A model of sustainability  
mauka a makai*

**KA HONUA**



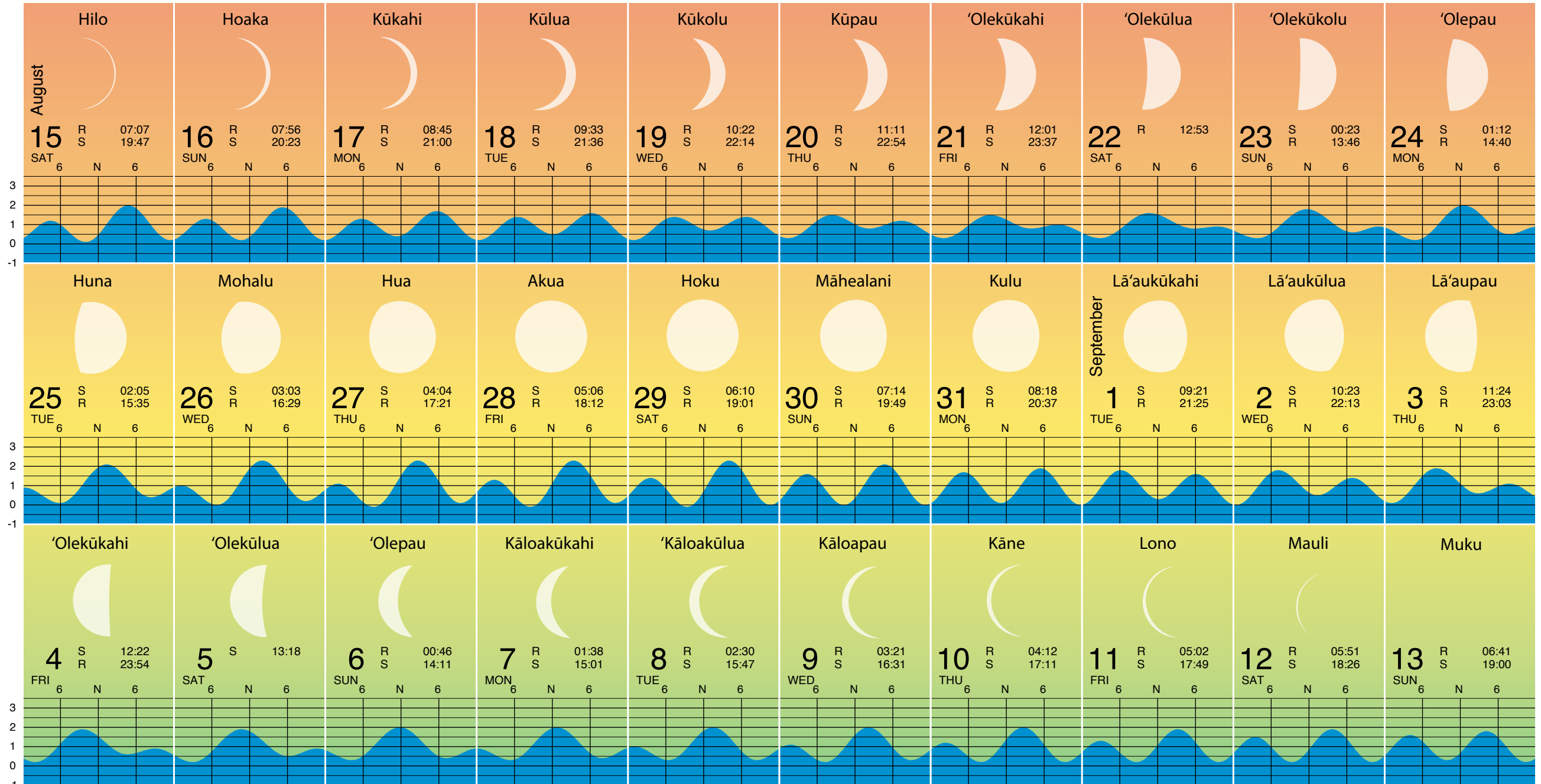
**MOMONA**

*Molokai, Hawaii*



Moloka'i moku map. Map courtesy of Island Breath.

# Mahoe Hope 'Aukake 15 - Kepakemapa 13, 2015



Observations \_\_\_\_\_

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# Kōie'ie Fishpond

**Ahupua'a: Ka'ono'ulu**

**Moku: Kula**

**Mokupuni: Maui**

'Ao'ao O Na Loko I'a O Maui values the importance of traditional Hawaiian fishponds and believes in revitalizing and preserving Kōie'ie Fishpond for future generations to enjoy its historical, cultural, archaeological, educational and recreational purposes.

Built over 400 years ago and repaired by some of Hawai'i's most notable chiefs, including Kamehameha the Great, Kōie'ie Fishpond in South Maui has withstood many tests of time. Today, 'Ao'ao O Nā Loko I'a O Maui is working with Maui's communities to revitalize this ancient Hawaiian *loko i'a*. The non-profit 501(c)(3) organization is also using this *loko kuapā* as a tool to educate Maui's communities about its importance within our Hawaiian culture and natural environment. Overall, the organization's long-term goal is to preserve and perpetuate Maui's Hawaiian fishponds, beginning with Kōie'ie, so that future generations will also be able to enjoy them as we do today.

**Contact: Joylynn Paman**

**Mailing Address: P.O. Box 1371, Kihei, HI 96753**

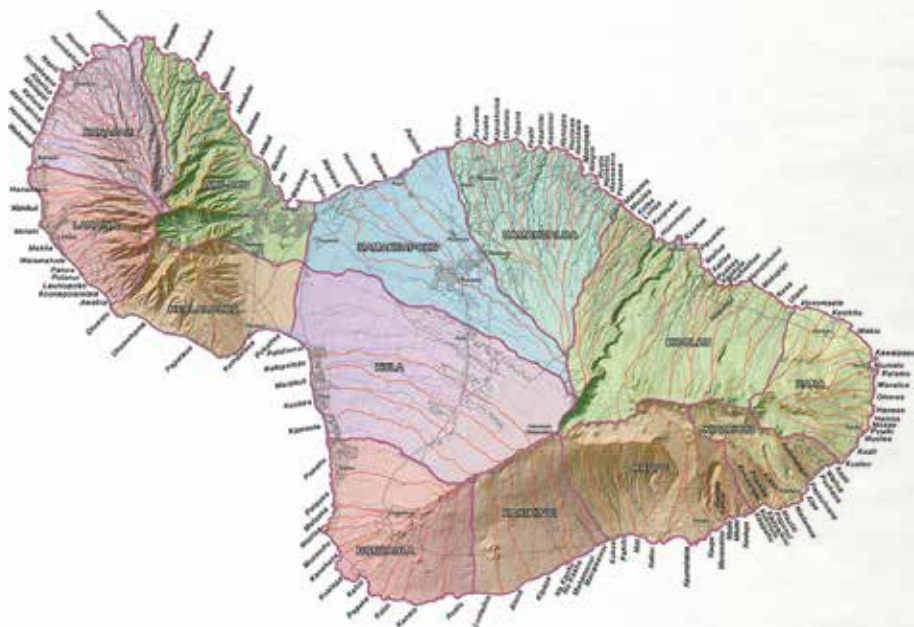
**Fishpond Location: In front of Kalepolepo Park in North Kihei, Maui, Hawai'i.**

**The nearest address is 726 South Kihei Road, Kihei.**

**Phone: (808) 359-1172**

**Email: [koieie@mauifishpond.com](mailto:koieie@mauifishpond.com)**

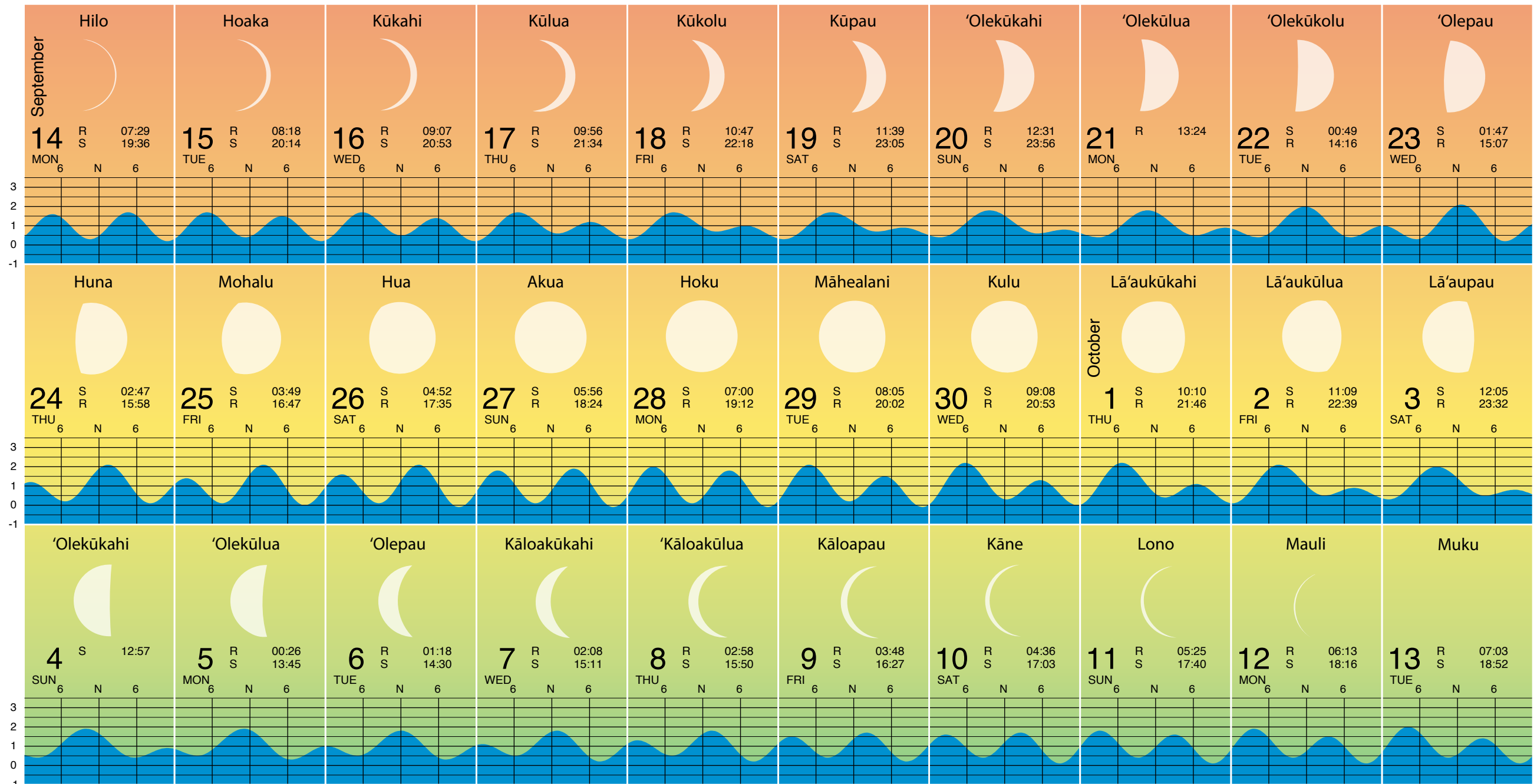
**Website: <http://mauifishpond.com>**



Maui moku map. Map courtesy of Island Breath.

# Ikuwā

## Kepakemapa 14 - 'Okakopa 13, 2015



Observations \_\_\_\_\_

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# Kaloko Fishpond

Ahupua'a: Kaloko

Moku: Kona

Mokupuni: Moku O Keawe



Kaloko Fishpond is one of three fishponds within the Kaloko-Honokōhau National Historical Park, which was created through the efforts of the Native Hawaiian community in 1978 to preserve, interpret and perpetuate traditional

Hawaiian activities and culture. Kaloko has been described as the widest and most massive *kuapā* in Hawai'i.

Peter Keka, master mason, led work on the *kuapā* for nearly 12 years. Uncle Peter was born and raised in the Kona area and remembered working on the *kuapā* as a youth.

The Kaloko *kuapā* is exposed to both winter and summer high surf. Maintenance of the *kuapā* will be instrumental to the life of the fishpond. The Hawaiian Legacy Program was developed by the National Park Service so that younger generations could have an opportunity to learn from *kūpuna*, like Uncle Peter, the traditional Hawaiian skills and trades to perpetuate cultural knowledge and environmental understanding to *mālama* the unique resources of Hawai'i.

**Contact: Superintendent, Kaloko-Honokōhau National Historical Park**

**Mailing Address: 73-4786 Kanalani St. #14, Kailua-Kona, Hawaii 96740**

**Phone: Hale Ho'okipa Visitor Contact Station (808) 326-9057**

**Email: [www.nps.gov/kaho/contacts.htm](http://www.nps.gov/kaho/contacts.htm)**

**Website: [www.nps.gov/kaho](http://www.nps.gov/kaho)**



High surf. Photo courtesy of National Park Service, Tyler Paikuli-Campbell.



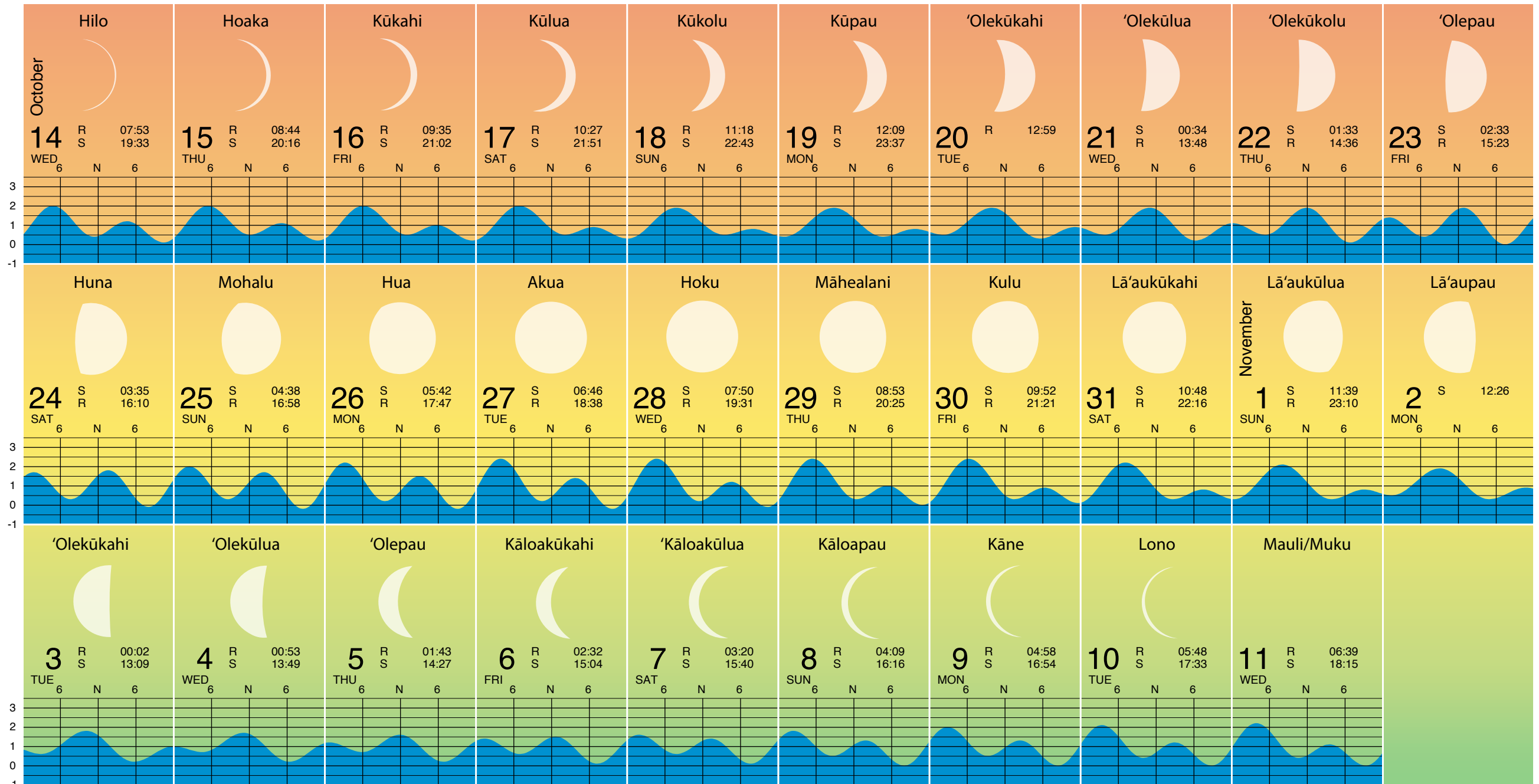
Kaloko. Photo courtesy of National Park Service, Adam Johnson.



Uncle Peter. Photo courtesy of National Park Service, Tyler Paikuli-Campbell.

# Weleleu

'Okakopa 14 - Nowemapa 11, 2015



Observations \_\_\_\_\_

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[www.wpcouncil.org](http://www.wpcouncil.org)

# Loko I'a Kalāhuipua'a

**Ahupua'a: Waimea**

**Moku: 'Okana O Kohala**

**Mokupuni: Moku O Keawe**

Nestled along the South Kohala coast is the royal 'ili kūpono of Kalāhuipua'a. The ancients who settled this area, highly valued the six major brackish water ponds, Waipuhi, Kahinawao, Hope'ala, Manokū, Ka'ai'ōpio and the largest, Kalāhuipua'a. These 11 acres of ponds were stocked with 'ama'ama and awa, fish of which were kapu and reserved for visiting ali'i (royalty). Through a succession of enlightened stewardship, Mauna Lani Resort continues to preserve Kalāhuipua'a and its spirit of place for future generations.

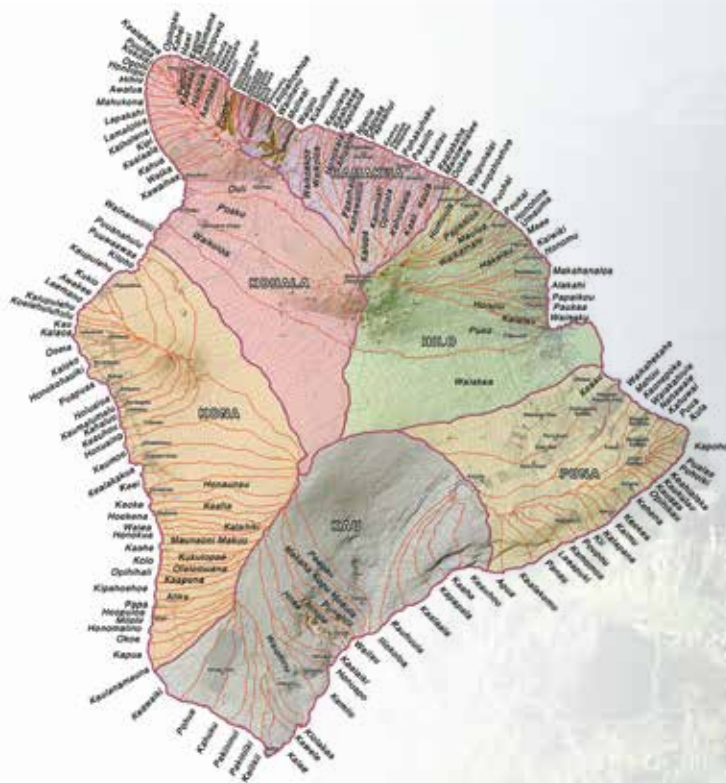
*“The land can be said to contribute to the life of the spirit ....  
You must protect your lands, natural beauty and spirit of  
place if you are to retain and sustain your own spirit.”*

— Kenneth Brown, Past Chairman and Descendant Guardian

**Contact: Pi'i Laeha or Danny Akaka**

**Phone: (808) 885-6622**

**Email: [plaeha@maunalani.com](mailto:plaeha@maunalani.com) or [dakaka@maunalani.com](mailto:dakaka@maunalani.com)**

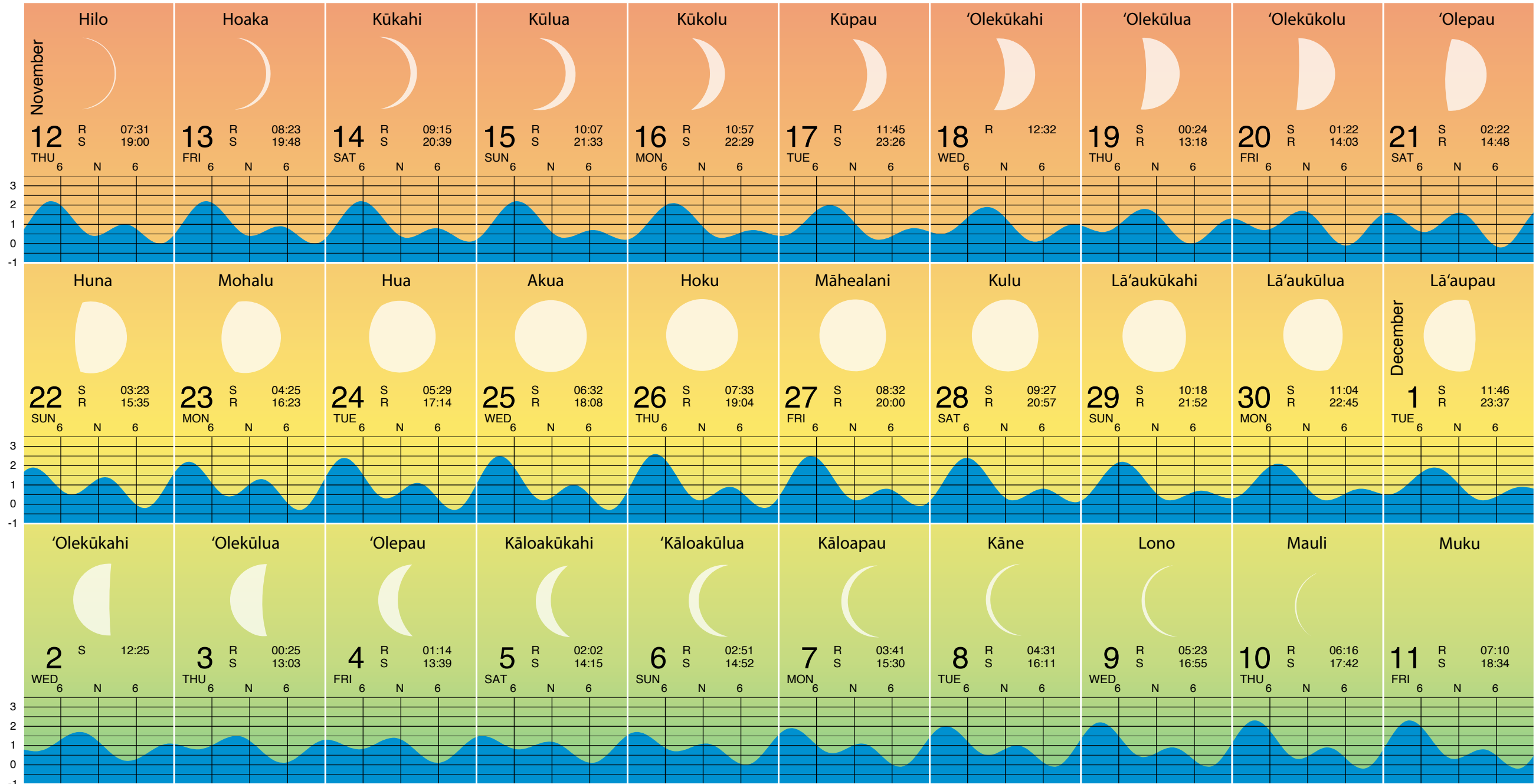


Moku map of Moku O Keawe. Map courtesy of Island Breath.



# Makali'i

Nowemapa 12 - Kēkēmapa 11, 2015



Observations \_\_\_\_\_

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[www.wpcouncil.org](http://www.wpcouncil.org)

# Hale O Lono

**Ahupua'a: Honohononui**

**Moku: 'Okana O Hilo**

**Mokupuni: Moku O Keawe**

Hale O Lono is a *loko i'a kuapā* managed by the Edith Kanaka'ole Foundation utilizing traditional Hawaiian resource management practices. The site is primarily used to educate students of all ages from pre-school through college in the practices of *kia'i loko* (fishpond management) and *mahi i'a* (fish farming). In addition to serving as a natural learning laboratory for student groups, the Edith Kanaka'ole Foundation began piloting a *kia'i loko* apprenticeship program this year, training 4th through 9th grade students. The main fish stock in this brackish water pond is *'ama'ama* (striped mullet). Other predominant species include *'āholehole* (Hawaiian flagtail), *ōpae* (shrimp) and *o'opu* (goby).

High surf during winter months routinely damages the outer rock wall of Hale O Lono, but recent natural phenomena negatively impacted the entire system of Hale O Lono. The 2010 tsunami from Chile caused severe structural and ecological damage to Hale O Lono, breaking the outer *pā* in multiple locations, destroying *mākāhā*, bringing in substantial mud and debris and several invasive species, including *kākū*, *ōmilu*, mangroves and invasive limu species. Fortunately, the 2011 tsunami from Japan caused minimal structural damage to the *loko*, which was still in the processes of recovery. Hurricane Iselle in 2014 knocked down several large trees and caused significant damage to the outer *pā* resulting in an almost total loss of fish stock. Hale O Lono is once again in the process of system recovery.

**Contact: Edith Kanaka'ole Foundation or Roxane Stewart**

**Phone: (808) 961-5242**

**Email: [roxane@edithkanakaolefoundation.org](mailto:roxane@edithkanakaolefoundation.org)**

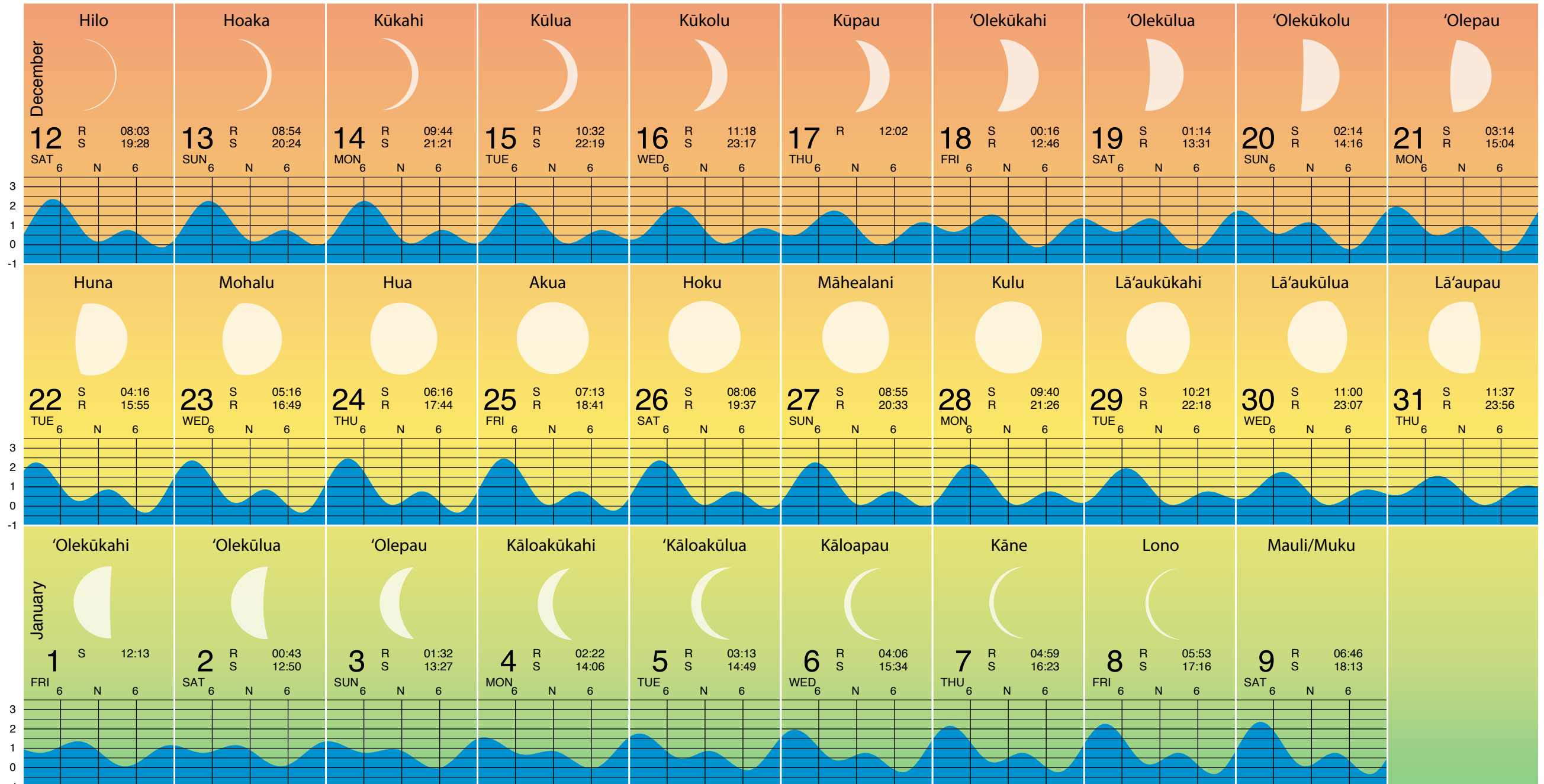
**Website: [www.edithkanakaolefoundation.org](http://www.edithkanakaolefoundation.org)**



*Photos courtesy of Hale O Lono.*

# Kāwele

*Kekemapa 12, 2015 - Ianuali 9, 2016*



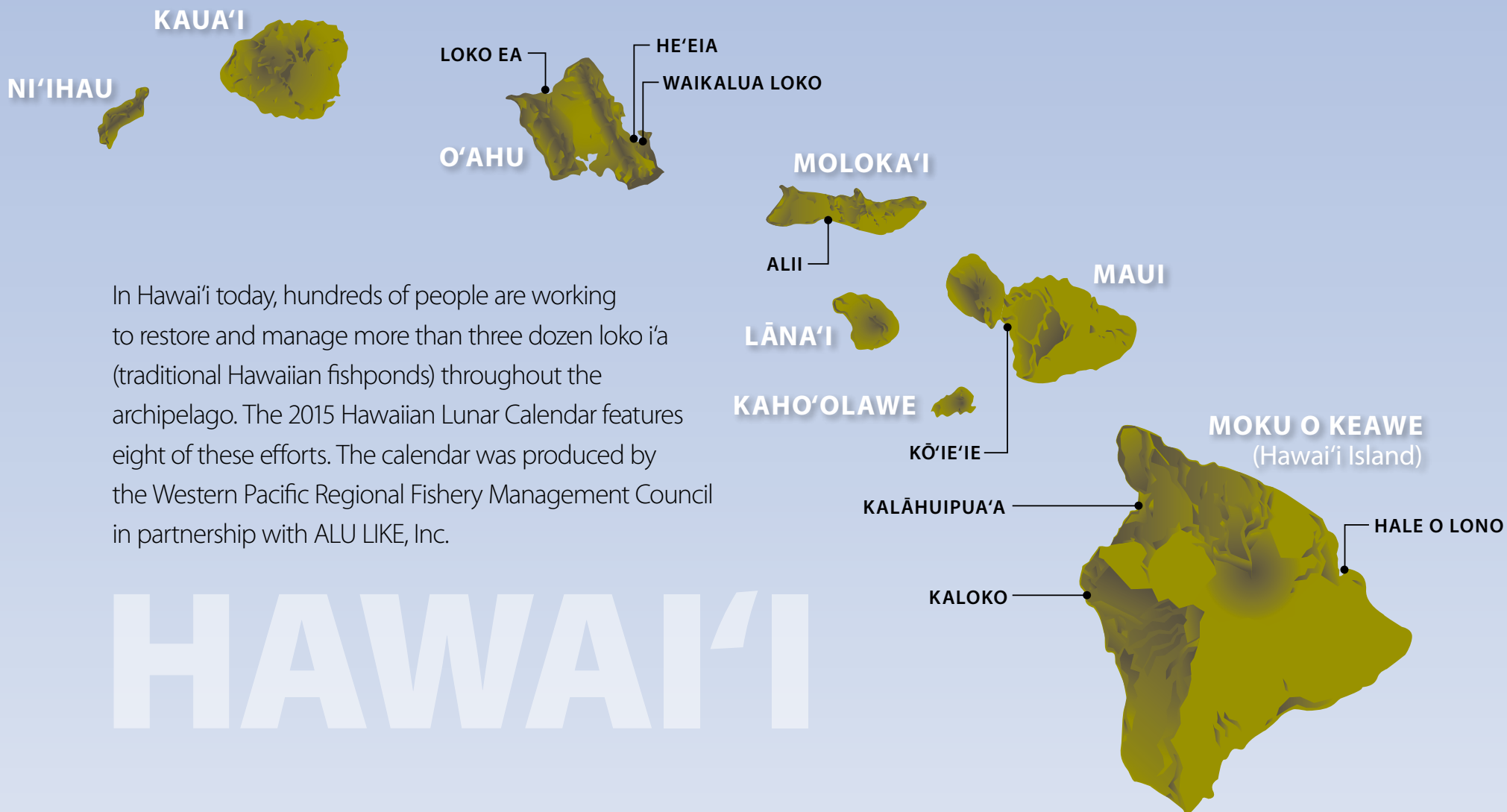
Observations \_\_\_\_\_

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[www.wpcouncil.org](http://www.wpcouncil.org)



In Hawai'i today, hundreds of people are working to restore and manage more than three dozen loko i'a (traditional Hawaiian fishponds) throughout the archipelago. The 2015 Hawaiian Lunar Calendar features eight of these efforts. The calendar was produced by the Western Pacific Regional Fishery Management Council in partnership with ALU LIKE, Inc.

# HAWAII

## About the Western Pacific Regional Fishery Management Council

The Western Pacific Regional Fishery Management Council is a federal instrumentality created by Congress in 1976 to manage federal fisheries in Hawaii and other US Pacific Islands. The Council has worked with communities in Hawai'i, American Samoa, Guam and the Commonwealth of the Northern Mariana Islands since 2006 to produce traditional lunar calendars to promote ecosystem-based fisheries management, support indigenous fishing and management practices, and enhance community involvement in the fisheries management decision-making process. If your organization is interested in working with the Council on a calendar, please contact us at [info.wpcouncil@noaa.gov](mailto:info.wpcouncil@noaa.gov).



## About ALU LIKE, Inc.

ALU LIKE, Inc., is a nonprofit organization that has assisted Native Hawaiians in their efforts to achieve social and economic self-sufficiency for nearly 40 years. Incorporated in 1975, ALU LIKE, Inc. remains committed to the vision and mission of our founders. Its mission is to kōkua Hawaiian Natives who are committed to achieving their potential for themselves, their families and communities. For more information, contact ALU LIKE, Inc., at (808) 535-6700.

