



Ahupua'a O Anahola · Moku 'Okuna O Ko'olau · Mokupuni O Manōkalanipō



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### About This Calendar



This Hawaiian lunar calendar features the work of students who attend the Kaiāulu Anahola after-school program in the ahupua'a of Anahola, moku 'okana of Ko'olau, mokupuni of Kaua'i. Under the guidance of Kumu Kamealoha Smith and Mikala

Shofner, part of their science and Hawaiian language curriculum focused on the restoration of destroyed and neglected areas of Anahola Bay. Based on surveys and community feedback, the restoration of marine resources is critical to the survival of traditional practices including subsistence fishing and Hawaiian language use.

The students began their training by learning about the traditional Hawaiian lunar calendar. The students studied the moon phases, the months and the seasons in Hawaiian. For most students, this was the first time they studied the Hawaiian cycle of moons as it pertains to the ocean and land resources.

Students recorded their daily and nightly observations of the moon phases and changes in the weather. They also learned about Hawaiian place names, traditional fishing practices and water quality testing. Some of their findings are included in this calendar. The students gathered information based on the standardized calculation of the Hawaiian lunar month placements recorded in *Hawaiian Antiquities* written by Davida Malo (1793-1853). However, this calendar also features the traditional Kaua`i names as recorded by J.M. Poepoe (1906) and N. Emerson (1898). The calendar also features information on traditional fishing knowledge from *Ka Hana Lawai'a* (Kumu Pono Associates, 2003/2004).

The calendar was produced by the Western Pacific Regional Fishery Management Council, a federal instrumentality created by Congress in 1976 to manage federal fisheries in the US Pacific Islands. The Council coordinator for this project was Sylvia Spalding, under the leadership of Executive Director Kitty Simonds and in consultation with Council contractor Kalei Nu'uhiwa, who provided the Kaua'i



lunar month calculations and worked directly with Kaiāulu Anahola. The tide charts are for Nawiliwili. They were produced by Barry Smith (University of Guam, retired) from data provided by the NOAA Center for Operational Oceanographic Products and Services (http://tidesandcurrents.noaa.gov).



#### Ho'olauna (Introduction)

Prior to Western contact, Hawaiians recognized two classes of food, 'ai (vegetables from the 'āina, or land) and i'a (fish from the *kai*, or *sea*). In traditional times the 'ai was always accompanied by tasty i'a. I'a was eaten raw, dried or cooked.

'Ono (delicious) and maika'i loa (very good) are words used to describe just how much Hawaiians are thankful for these makana (gifts) from the sea. Hawaiians often celebrated the 'ono of the i'a through song, chant and stories.

Anahola, like other communities around Hawai'i, are looking to strengthen accountability for the health and long-term sustainability of its marine resources through revitalizing local fishing traditions and practicing culturally appropriate resource management.



## Welehu Hilinamā

November-December 2012







#### Halaulani, The Anahola Muliwai

According to one *kūpuna* (elder) the name of the *muliwai* (estuary) where the Anahola river meets the ocean is called Halaulani. In one of our local *mo'olelo* (traditional stories), 'A'a Hoaka, the name appears as 'Olali-moe-one-o-Halaulani (the delectable shallow-water fish). In the *mo'olelo*, Kahala was 'ono for that fish when she was ready to give birth to her daughter, whom she named Nalehuaolulupali.

The *muliwai* in Anahola is a place where the waters from *mauka* (mountain areas) meet the waters of the bay. The quality of the water is a tremendous concern to all who use this area to fish, swim, paddle and surf. Kaiāulu Anahola students have been collecting data and testing the water quality in the *muliwai* for its pH, alkalinity and ammonia quantities. Preliminary conversations with others indicate that runoff and silt gather at the *muliwai*. Negative impact on the ecosystem is visible.

After major storms, branches and other debris clog up the *muliwai* making the water murky. At one time a natural filter of *hau* (*Hibiscus tiliaceus*) would have cleaned out the *muliwai*; however, it doesn't seem to be intact today.







### December 2012-January 2013 Makali'i Hilinehu

	Hilo	Hoaka	Kūkahi	Kūlua	Kūkolu	Kūpau	'Olekūkahi	'Olekūlua	ʻOlekūkolu	'Olepau
	<b>D</b> Wed 12	Thu 13	<b>Fri 14</b> <sup>6</sup> N 6	<b>Sat 15</b> 6 N 6	<b>Sun 16</b> <sup>6</sup> № 6	Mon 17 6 N 6	<b>Tue 18</b> 6 N 6	<b>Wed 19</b> 6 N 6	<b>Thu 20</b> <sup>6</sup> N 6	<b>Fri 21</b> 6 N 6
2 1 0										
	Huna	Mohalu	Hua	Akua	Hoku	Māhealani	Kulu	Lā'aukūkahi	Lā'aukūlua	Lā'aupau
	Sat 22	Sun 23	Mon 24	Tue 25	Wed 26	Thu 27	Fri 28	Sat 29	Sun 30	Mon 31
2	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6
0 -1	ʻOlekūkahi	ʻOlekūlua	'Olepau	Kāloakūkahi	'Kāloakūlua	Kāloapau	Kāne	Lono	Mauli	Muku
	nuary									
	<b>Tue 1</b>	<b>Wed 2</b> 6 N 6	<b>Thu 3</b> 6 N 6	<b>Fri 4</b> 6 N 6	<b>Sat 5</b> 6 N 6	<b>Sun 6</b> 6 N 6	<b>Mon 7</b> <sup>6</sup> N 6	<b>Tue 8</b> 6 N 6	<b>Wed 9</b> 6 N 6	<b>Thu 10</b> 6 N 6
2 1 0										





#### Nalu (Waves) in Anahola Bay

Kā'elo (Hilioholo) coincides with the beginning of the Kaiāulu Anahola lunar calendar project in 2011. Kā'elo is mentioned as the time of year when the waves are the best for surfing.

The Kaiāulu Anahola students observed people surfing in three areas: Aliomanu, Kanahawele and Halaulani. The students had a keen interest in understanding the relationship between Kā'elo and surfing.

Kanahawele was observed as being the most popular area. According to some surfers, it is the best place to surf. Kanahawele is mentioned in the story A'a Hoaka as the place where *ali'i* (chief) Kalalea and his best friend Palikoa would surf.

Three types of waves occur in Anahola during the Ho'oilo (cool, rainy) season. They are 'ale ni'au (waves that are formed when ocean waters are stirred up by the wind), 'ale kualono (long swells that break in lines) and nalu halehale (called a "tube" by modern-day surfers).



### Kā'elo Hilioholo

January-February 2013







#### Manawa 'Ino, The Storms of March 2012

On March 5, 2012, the *Honolulu Star-Advertiser* reported "the closure of Kuhio Highway, the evacuation of Anahola residents, and numerous other road closures, floods and landslides." Kaua'i County was under a severe thunderstorm watch that was in effect most of the night. Traffic from all over the island was diverted. Two *kumu* (teachers) from the project went to Anahola that night to survey the storm and take video footage as the storm hit Anahola Bay.

For weeks following the storm, large debris dominated the landscape of Anahola Bay. Debris and an incredible amount of tree stumps littered the '*aekai* (shorelines) of Anahola. The community cleaned the beach for an entire day. The long-time residents knew exactly what to do after a storm of that magnitude.





### Kaulua Hilionalu

February-March 2013







#### 'Ilioholoikauaua, Sila Hawai'i, Special Visitors

In April 2012, Kaiāulu Anahola students had the opportunity to play host to two Hawaiian monk seals, when a mother and her pup hauled up in an area called Kua'ehu in Aliomanu, the neighboring ahupua'a. Monk seals are known to come ashore quietly and give birth. This was the first time in a long time for our area.

We were fortunate to see the pup grow over the next few weeks, moving from one area of the beach to another. At night when we would come back to see the seals, they would be gone and then the next morning they would return. The mother and her pup left after a few weeks, and we haven't seen either since.

We celebrated the arrival of our special visitors by writing about our *huaka'i* (field trip) in our Anahola children's story, 'O Anahola, Ku'u Kulāiwi.







### **Nana** Hukipau









#### Kāheka, The Tide Pool of 'Aliomanu

Kua'ehu point is one of several important *wahi pana* (celebrated or sacred places) in 'Aliomanu, the ahupua'a that neighbors Anahola to the north. According to legends, Kua'ehu was a *kupuna* (elder), very knowledgeable in the area of navigation. He would observe the stars and ocean patterns and report what he learned to the *ali'i* (chief) Kapaopao. Today Kua'ehu serves as one of the places where people enter the ocean to go deep-sea fishing.

At Kua'ehu, a *kāheka* (tide pool) opens to the ocean. There is always wave action just outside the *pōhaku* (stones) that serve as the main walls for the *kāheka*. Where the *kāheka* connects to the ocean, we observed a variety of plants and animals, including small *manini* (surgeonfish), *āholehole* (flagtails), *loli* (sea cucumber), *'opihi* (limpets) and an occasional appearance of *puhi* (eels).

The two most common fish in the *kāheka* are the *pāo'o* (*Zebra blenny*) and the *'o'opu ohune* (tide pool goby). The *pāo'o* is said to sit at the bottom of the ocean ready to dart quickly. Our studies indicate that our *kāheka* has these fish but not in large quantities.





### Welo Ikuā

	Hilo	Hoaka	Kūkahi	Kūlua	Kūkolu	Kūpau	ʻOlekūkahi	'Olekūlua	'Olekūkolu	'Olepau
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	Wed 10	Thu 11	Fri 12	Sat 13	Sun 14	Mon 15	Tue 16	Wed 17	Thu 18	Fri 19
2	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6
1 0 _1										
	Huna	Mohalu	Hua	Akua	Hoku	Māhealani	Kulu	Lā'aukūkahi	Lā'aukūlua	Lā'aupau
	Sat 20	Sun 21	Mon 22	Tue 23	Wed 24	Thu 25	Fri 26	Sat 27	Sun 28	Mon 29
2	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6
1 0										
-1	'Olekūkahi	'Olekūlua	'Olepau	Kāloakūkahi	'Kāloakūlua	Kāloapau	Kāne	Lono	Mauli	Muku
	Tue 30	Are Wed 1	Thu 2	Fri 3	Sat 4	Sun 5	Mon 6	Tue 7	Wed 8	Thu 9
	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6
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#### 'Imu Kai (Underwater Fish Trap)

A summary of a prayer that appeared in a 19th century Hawaiian language newspaper illustrates the important role that fishing played in traditional times.

#### He Mooolelo no ka Lawaia ana

Ua akamai kekahi poe kanaka Hawaii i ka lawaia, no ia mea, ua kapa ia lakou, he poe lawaia. O ka makau kekahi mea e lawaia ai. O ka upena kekahi, a o ka hinai kekahi.

#### A Story of Fishing

Some of the people of Hawai'i were very knowledgeable about fishing, and they were called fisher-people. The hook was one thing used in fishing. The net was another, and the basket trap, another.

According to many who live in Anahola and neighboring communities, the only way to positively impact our marine resources is to change the way we behave in the ocean. Teaching our students traditional ways of fishing is a pertinent goal of Kaiāulu Anahola, so we built an *'imu kai* (underwater fish trap).

The *'imu kai* is not necessarily an Anahola traditional fishing practice, but it is a practice we can use to teach kids about some aspects of traditional fishing. Under the direction of the *kumu* (teachers), the students had a chance to gather *pōhaku* (stones), build the underwater fish house and monitor the fish in the *'imu kai*.

We made the *'imu kai* by piling stones into a mound. Like *'imu kai* of the past, seaweed grew on the stones and attracted fish. The fish trap was loosely built so water flowed through it and the fish sometimes hid inside it. According to some traditional sources, *wahine* (women) would *mālama* (care for) the *'imu kai*. The *wahine* would catch both fish and eel for *mea'ai* (food). The *'imu kai* was meant to be temporary and would be disassembled after a period of time.

We built our *'imu kai* in June 2012 and repaired it each time we held classes at the beach. We were challenged by people who knocked over the rocks because they didn't know what the structure was and by strong currents pulling the rocks apart.





## May-June 2013

### **Ikiiki** Welehu

	Hilo	Hoaka	Kūkahi	Kūlua	Kūkolu	Kūpau	'Olekūkahi	'Olekūlua	'Olekūkolu	'Olepau
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	Thu 9 Star	Fri 10	Sat 11	Sun 12	Mon 13	Tue 14	Wed 15	Thu 16	Fri 17	Sat 18
	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6
2 1 0										
-1	Huna	Mohalu	Hua	Akua	Hoku	Māhealani	Kulu	Lā'aukūkahi	Lā'aukūlua	Lā'aupau
	Sun 19	Mon 20	Tue 21	Wed 22	Thu 23	Fri 24	Sat 25	Sun 26	Mon 27	Tue 28
	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6
2 1										
0										
	'Olekūkahi	ʻOlekūlua	'Olepau	Kāloakūkahi	'Kāloakūlua	Kāloapau	Kāne	Lono	Mauli	Muku
				e (						
	Wed 29	Thu 30	Fri 31	Sat 1	Sun 2	Mon3	Tue 4	Wed 5	Thu 6	Fri 7
	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6	6 N 6
2 1										
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#### Aku (Katsuo) Cultural Exchange

In June, Kaiāulu Anahola students and staff welcomed Keiko Takano of Ocean Foods Cooking School from Kanagawa, Japan. Community members donated *aku* (skipjack tuna, or katsuo in Japanese) to our after-school program for this international exchange with Keiko-sensei (teacher). Keiko-sensei used traditional dressings of miso, sesame and ginger to prepare fresh aku in sashimi (sliced raw fish) style. Keiko-sensei compared the importance of miso and other traditional ingredients to our sacred plant, the kalo (taro). Keiko-sensei demonstrated use of every part of the aku including the bones to create Japanese soups and other Japanese delicacies for our students and staff. In addition to this, we had an opportunity to learn about the Japanese *katsuo* fishing culture.





June-July 2013







#### Papa Iki, The Anahola Coral Reef

Anahola has at least one prominent coral reef bordered by Kahala Point and Kanahawele. We are doing research to find out the traditional name for this reef. For our studies, we referred to it as Papa Iki (small reef). Based on observations, we know that the reef has at least one channel on the Kanahawele side, which allows fish to enter the bay.

According to *kūpuna* (elders) the reef was once much larger and had more fish. The community used to gather to *hukilau* (fish by using a large net near the shoreline, which many people pulled together). The fish were so plentiful that everyone in the community received some after the *hukilau*. Others say that Anahola was traditionally known as the fish refrigerator.

Today, Papa Iki has ongoing problems with its health, and area residents attribute this to a number of factors. At a global level, studies attribute gill nets, marine debris and ocean acidification as the main factors that negatively impact the health of reefs. Marine debris includes man-made objects disposed in the ocean and toxic run-off from the `āina.

To *mālama* (care for) the 'apapa (reef) in Anahola, we follow this code of conduct:

- Don't touch live coral.
- Don't step or walk on live coral.
- Don't take chunks of coral as souvenirs.
- Don't use bleach or other toxins to catch fish.



# Hinaia'ele'ele

uly-August 2013







#### Nā Mea Kanu (Native Plants)

According to experts, for plants to survive near the ocean, they must be able to live in poor soil with lots of salt and wind and very little rainfall. Along the Anahola shoreline, we identified six native plants—*naupaka kahakai* (beach *naupaka*), *niu* (coconut), *lauhala* (pandanus), *la'i* (Hawaiian ti plant), *milo* (*Thespesia populnea*) and *hau* (*Hibiscus tiliaceus*). Non-native plants such as false *kamani* and ironwood dominate the beach landscape.

Most people in the area attribute the lack of variety of native coastal plants to land degradation and the introduction of foreign plants.





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## Hilinaehu Hinaia'ele'ele

August-September 2013







#### Kia'i Kai One (Caretakers)

As *kia'i kai one* (caretakers) at Anahola, it is the *kuleana* (responsibility) of each *haumana* (student) to know a lot of information about Anahola Bay and to learn about aspects of the bay in the Hawaiian and English languages. The study is grounded in both Hawaiian and Western world views. Students were tasked with learning how to *malama* (care for) the bay based on the 'Ōlelo Nō'eau (proverb) "*Ma ka hana ka 'ike*" (We learn by doing). This means, in part, to build one's knowledge from direct experience in the *kai* (sea), working the land (in or around the *kai*) with one's hand and discussing one's experience. By the end of the training, students should be able to

- Incorporate the basic principles associated with the Hawaiian lunar calendar into their individual life as an essential cultural practice;
- Learn to express different simple phrases in the Hawaiian language as they relate to the Hawaiian lunar calendar;
- Apply principles of the Hawaiian lunar calendar to planting, fishing and monitoring coastal marine vegetation and fishing populations;
- Understand the different careers one might pursue in the field of ocean resource management in which traditional Hawaiian knowledge is an essential component of the job's function;

- Assist *kumu (teachers)* with collecting information for a Hawaiian calendar; and
- Educate visitors to Anahola Bay about what they are learning.

Our hope is to continue to supplement classroom learning with project-based learning so *kia'i* in training have a place to apply what they learn in class to real-world situations in places like Anahola Bay.





### Hilinamā Māhoemua

September-October 2013







#### **Keauhou (New Beginnings)**

When Kaiāulu Anahola introduced culture- and project-based learning to students, there was almost no written information about Anahola to reference. Nothing had been written about our ahupua'a in Hawaiian for more than 100 years. We thought a book about the various *wahi pana* (sacred and/or celebrated places) in Anahola and a lunar calendar could give us the baseline information we needed to build our understanding and appreciation of traditional fishing and marine resource knowledge.

Students at Kaiāulu Anahola started collecting information of the *wahi pana* for the Anahola book in February 2012. The students involved in this project were all elementary school students from Kawaikini Hawaiian Immersion Public Charter School located in Puhi. The students came to Kaiāulu Anahola three days a week in the Spring semester.

'O Anahola! 'O Anahola! 'O ko'u moku e noho ai. 'O ko'u 'āina e noho ai. 'O ko'u kulāiwi e noho ai. 'O Anahola! 'O Anahola! Mai Kalalea a Papaloa. Mai nā kuahiwi kualapa o Makaleha a ka hono'o Anahola!

Anahola is the district where we live, the land where I live, my homeland. Anahola starts from Kalalea until the reef called Papaloa, from the ridges of Makaleha until the bay of Anahola.

Now we have a book and a lunar calendar we can use as a base to study about the ahupua'a of Anahola and the larger *moku* (district) of Ko'olau.



Ke Kaiaulu o Anahola Bilingual Educational Outreach Program

<u>U Anahola</u>

### **Ikuā** Māhoehope

October-November 2013







www.wpcouncil.org

Kaiāulu Anahola is a project funded by the Office of Hawaiian Affairs and the Castle Foundation. The project is dedicated to utilizing the Hawaiian language for diverse marine resource curricula. The goal is to provide job skills and career guidance as a means to better prepare and encourage *'opio* (youth) for the work in marine science, ocean resource management and other related careers where they can incorporate both Western academic education and native traditional knowledge. The Western Pacific Regional Fishery Management Council has worked with communities in Hawaii, American Samoa, Guam and the Commonwealth of the Northern Mariana Islands since 2006 to produce traditional lunar calendars to promote ecosystem-based fisheries management and support indigenous fishing and management practices. In Hawaii, the Council is a strong supporter of the traditional Aha Moku system of natural resource management, which recognizes the traditional *moku* (district) as the basis for cultural and community consultation, adaptive management, education, generational knowledge and a code of conduct. More information on the Council and the Aha Moku system can be found at *www.wpcouncil.org* and *www.ahamoku.org*. If your moku is interested in working with the Council on a calendar, please contact us at *info.wpcouncil@noaa.gov*.



Kamealoha Hanohano-Smith, Mikala Shofner, Adam Prall, Uncle Vern Kauanui, Jazzes-Lindsey Loulani Tiohionalani Kaionanapuaopi'ilani Self, Jordon Kana`i Guererro, Auntie Amanda Kaleiohi, Napua Jeffries, Kawaikini Public Charter School, Castle Foundation, Office of Hawaiian Affairs and Kapa`a High School Hawaiian Language Class

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