Hanalei

MOON & TIDE CALENDAR

2016

Papahānaumokuākea Marine National Monument

Hawaiian Islands Humpback Whale National Marine Sanctuary

DAR Hawaii Division of Aquatic Resources

HanaleiWatershedHui

WAIPĀ

Aloha mai!

This calendar was developed through a partnership between the Hanalei community, the Hanalei Watershed Hui, Papahānaumokuākea Marine National Monument, the Hawaiian Islands Humpback Whale National Marine Sanctuary, the Department of Land and Natural Resources Division of Aquatic Resources, and the Waipā Foundation. Traditional Hawaiian knowledge about fish spawning was based on lunar cycles and seasonal changes. Observations provided in this calendar can be used to better care for our reef fish population in Hanalei.

Hanalei Tides

The tides presented in this calendar are the subordinate tide predictions for Hanalei Bay. These predictions are based on harmonic data from Nāwiliwili Bay.

Hawaiian Moon Phases

Many calendars are based on the synodic month, a 29.53 day average orbital period of the moon. In this calendar, the moon phase of Hilo was aligned with the astronomical new moon as determined by the U.S. Naval Observatory. The moon phase of Muku was combined with the Mauli phase where appropriate.

Fishing Season Table

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
 ʻĀholehole	SLH	SLH	SLH	SLH								
 Manini			SLH	SLH	SLH	SLH						
 ʻŌmilu				SLH	SLH	SLH						
 ʻŌpelu				SLH	SLH	SLH	SLH	SLH				
 Akule				SLH	SLH	SLH	SLH	SLH	SLH	SLH		
 Halalū								LH 1	LH 1	LH 1		
 Moi	LH 2	LH 2	LH 2	LH 2	LH 2	X	X	X	LH 2	LH 2	LH 2	LH 2
 Ula					X	X	X	X				
 Ula Papapa					X	X	X	X				
 Kona Crab					X	X	X	X				
 ʻAmaʻama	X	X	X									X

LH 1 Halalū harvesting is limited Aug. to Oct.
State restrictions apply

LH 2 Moi harvesting is limited Sep. to Feb.
15 per day, 11 in. mininum fork length

Terms Used in the Calendar

X **CLOSED SEASON**
These periods of complete harvest restriction are based on current fishing regulations administered by the State of Hawai'i through the Department of Land and Natural Resources, Division of Aquatic Resources.

A complete list of the regulations can be found at: http://dlnr.hawaii.gov/dar/fishing/fishing-regulations/.

During a closed season for a given species, there is a ban on harvesting, possessing, or selling that species.

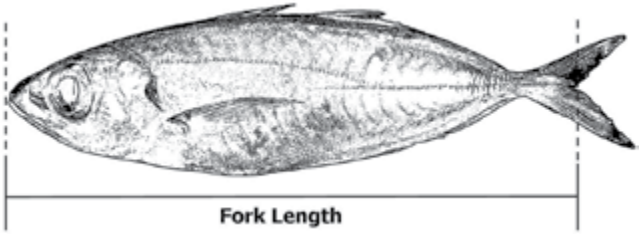
LH **LIMITED HARVEST**
Some species have limited harvest periods, restrictions on harvest method (type of gear), bag limits, and/or minimum sizes.

SLH **SUGGESTED LIMITED HARVEST**
The species listed under suggested limited harvest (**SLH**) in this calendar are meant to inform fishers when peak spawning may be occurring in Hanalei. These periods are based on observations and gonad data collected in Hanalei. SLH is not a part of Hawai'i fishing regulations. Annual variations are likely to occur, so harvest carefully.

GONAD: Reproductive organ, male or female.

L50: Length at which 50 percent of a species population is reproductively mature.

FORK LENGTH: Measured from fish's snout to base of "V" in tail fin. State regulated species are measured in this way.



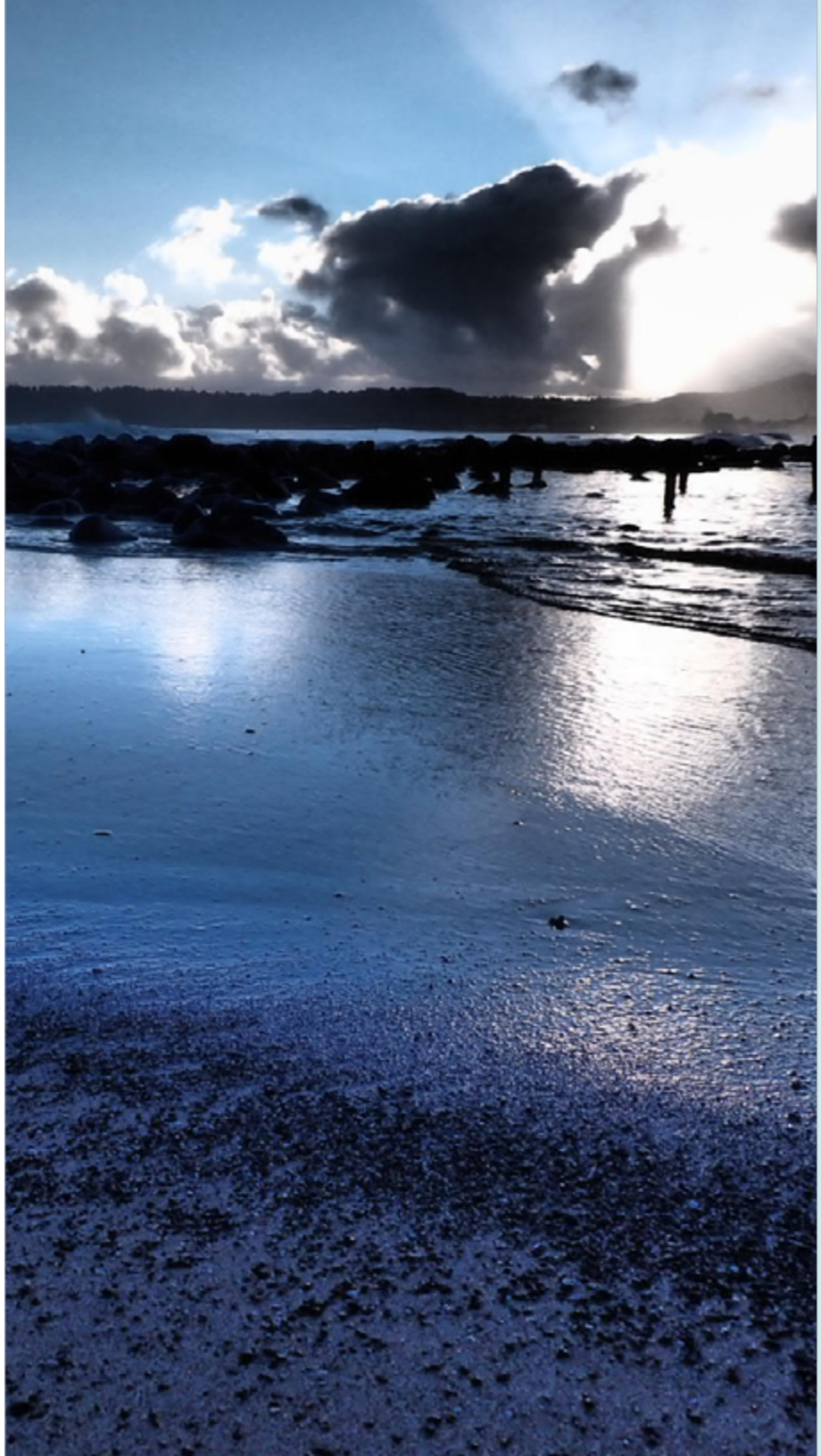
Suggested Limited Harvest

Suggested limited harvest (**SLH**) is not a part of Hawai'i fishing regulations. The species listed under SLH in this calendar are meant to inform fishers when peak spawning may be occurring in Hanalei. This means that harvesting should be minimized or completely avoided to allow fish to reproduce undisturbed. Although data on manini and 'āholehole spawning was collected in Hanalei, slight variations on peak spawning activity is likely to occur from year to year, so be observant. Spawning may also vary significantly at other locations around Kaua'i.

The traditional practice of seasonally restricting the harvest of a specific fishery in Hawai'i was carefully maintained through keen observation. By learning how to better care for our reef fish stocks, communities can help to restore balance by limiting harvests during periods of stock replenishment. Modern fishing tools are very efficient at harvesting fish, so we need to be extra careful when using them.

If you're interested in learning how you can help to contribute information to this project, contact the Hanalei Watershed Hui at:

808-826-1985
hanaleiriver@hawaiian.net



	JANUARY
'Āholehole	SUGGESTED LIMITED HARVEST
Manini	
'Ōmilu	
'Ōpelu	
Akule	
Halalū	
Moi	LIMITED 15/day 11 in. minimum FL
Ula	
Ula Papapa	
Kona Crab	
'Ama'ama	CLOSED

For more info see the full **Fishing Season Table** near the start of the calendar

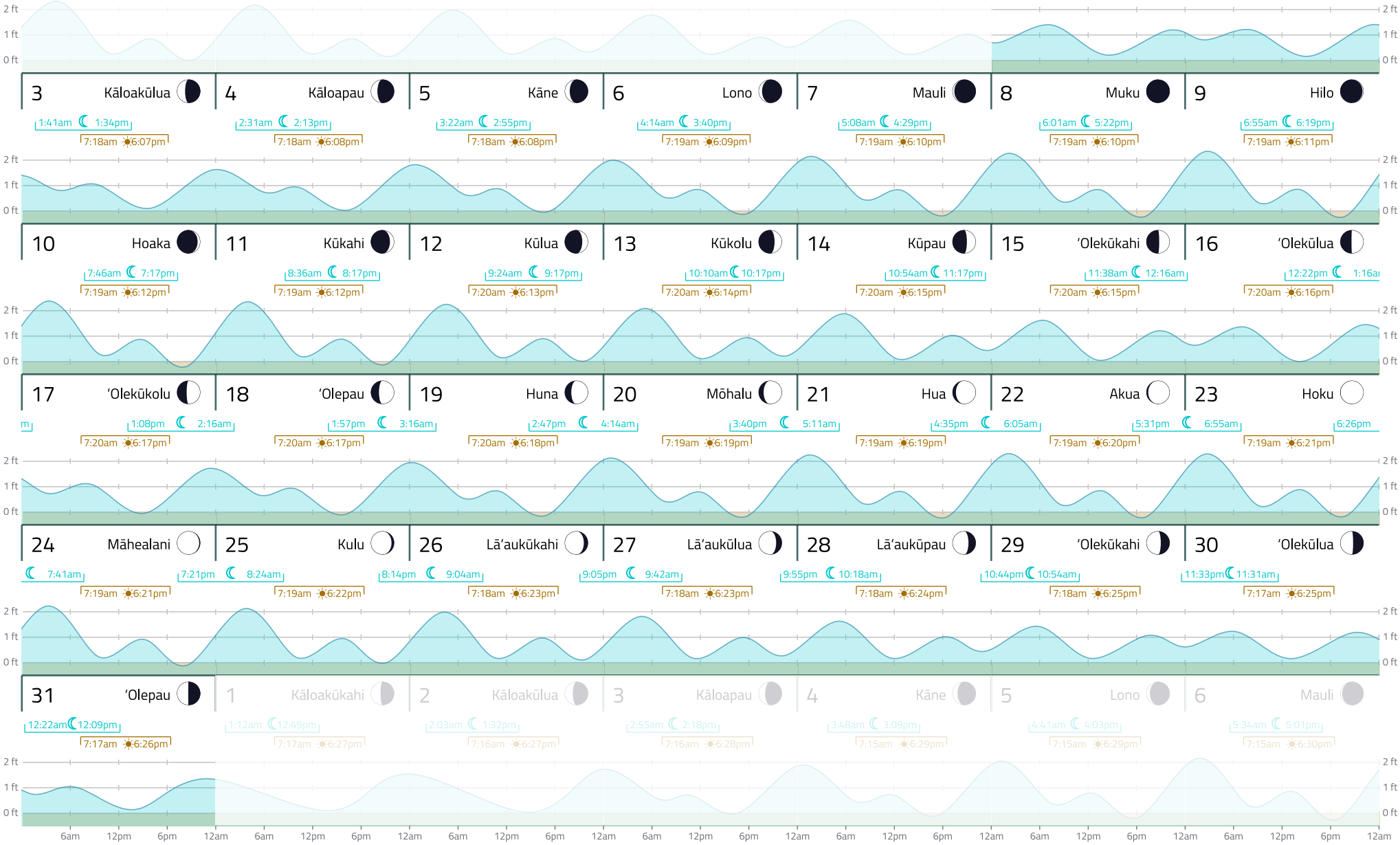
Ianuali

2016

HANALEI TIDE & MOON CALENDAR

JANUARY

Lāpule SUNDAY	Pōʻakahi MONDAY	Pōʻalua TUESDAY	Pōʻakolu WEDNESDAY	Pōʻahā THURSDAY	Pōʻalima FRIDAY	Pōʻaono SATURDAY
27 Lāʻaukūkahi	28 Lāʻaukūlua	29 Lāʻaukūpau	30 ʻOlekūkahi	31 ʻOlekūlua	1 ʻOlepau	2 Kāloakūkahi
					12:04am 12:20pm 7:17am 6:06pm	12:52am 12:56pm 7:18am 6:06pm
3 Kāloakūlua	4 Kāloapau	5 Kāne	6 Lono	7 Mauli	8 Muku	9 Hilo
1:41am 1:34pm 7:18am 6:07pm	2:31am 2:13pm 7:18am 6:08pm	3:22am 2:55pm 7:18am 6:08pm	4:14am 3:40pm 7:19am 6:09pm	5:08am 4:29pm 7:19am 6:10pm	6:01am 5:22pm 7:19am 6:10pm	6:55am 6:19pm 7:19am 6:11pm
10 Hoaka	11 Kūkahi	12 Kūlua	13 Kūkolu	14 Kūpau	15 ʻOlekūkahi	16 ʻOlekūlua
7:46am 7:17pm 7:19am 6:12pm	8:36am 8:17pm 7:19am 6:12pm	9:24am 9:17pm 7:20am 6:13pm	10:10am 10:17pm 7:20am 6:14pm	10:54am 11:17pm 7:20am 6:15pm	11:38am 12:16am 7:20am 6:15pm	12:22pm 1:16a 7:20am 6:16pm
17 ʻOlekūkolu	18 ʻOlepau	19 Huna	20 Mōhalu	21 Hua	22 Akua	23 Hoku
m 1:08pm 2:16am 7:20am 6:17pm	1:57pm 3:16am 7:20am 6:17pm	2:47pm 4:14am 7:20am 6:18pm	3:40pm 5:11am 7:19am 6:19pm	4:35pm 6:05am 7:19am 6:19pm	5:31pm 6:55am 7:19am 6:20pm	6:26pm 7:19am 6:21pm
24 Māhealani	25 Kulu	26 Lāʻaukūkahi	27 Lāʻaukūlua	28 Lāʻaukūpau	29 ʻOlekūkahi	30 ʻOlekūlua
7:41am 7:19am 6:21pm	7:21pm 8:24am 7:19am 6:22pm	8:14pm 9:04am 7:18am 6:23pm	9:05pm 9:42am 7:18am 6:23pm	9:55pm 10:18am 7:18am 6:24pm	10:44pm 10:54am 7:18am 6:25pm	11:33pm 11:31am 7:17am 6:25pm
31 ʻOlepau	1 Kāloakūkahi	2 Kāloakūlua	3 Kāloapau	4 Kāne	5 Lono	6 Mauli
12:22am 12:09pm 7:17am 6:26pm	1:12am 12:49pm 7:17am 6:27pm	2:03am 1:32pm 7:16am 6:27pm	2:55am 2:18pm 7:16am 6:28pm	3:48am 3:09pm 7:15am 6:29pm	4:41am 4:03pm 7:15am 6:29pm	5:34am 5:01pm 7:15am 6:30pm



Gonad Identification

FISHING PONO

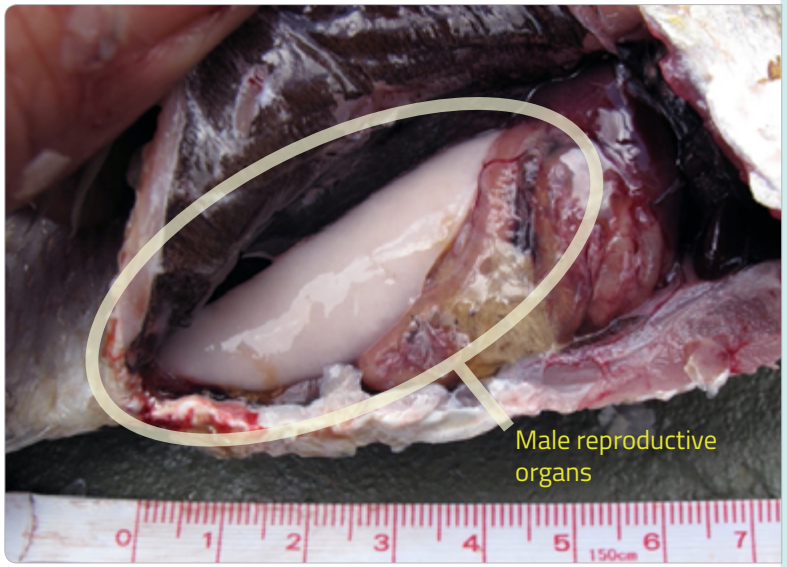
By learning how to identify the reproductive organs in fish, you can track spawning seasons in your area.

When cleaning your catch, look for developed gonads. This can indicate spawning, and harvesting should be limited.

DEVELOPED EGGS are yellowish in color with large blood vessels clearly visible.

UNDER-DEVELOPED EGGS mean fish are most likely not reproducing—this is a good time to harvest. Remember when these seasons occur in your area as each species will spawn at nearly the same time each year.

MALE REPRODUCTIVE ORGANS are also important to identify as they indicate spawning when developed.



	FEBRUARY
ʻĀholehole	SUGGESTED LIMITED HARVEST
Manini	
ʻŌmilu	
ʻŌpelu	
Akule	
Halalū	
Moi	LIMITED 15/day 11 in. minimum FL
Ula	
Ula Papapa	
Kona Crab	
ʻAmaʻama	CLOSED

For more info see the full **Fishing Season Table** near the start of the calendar

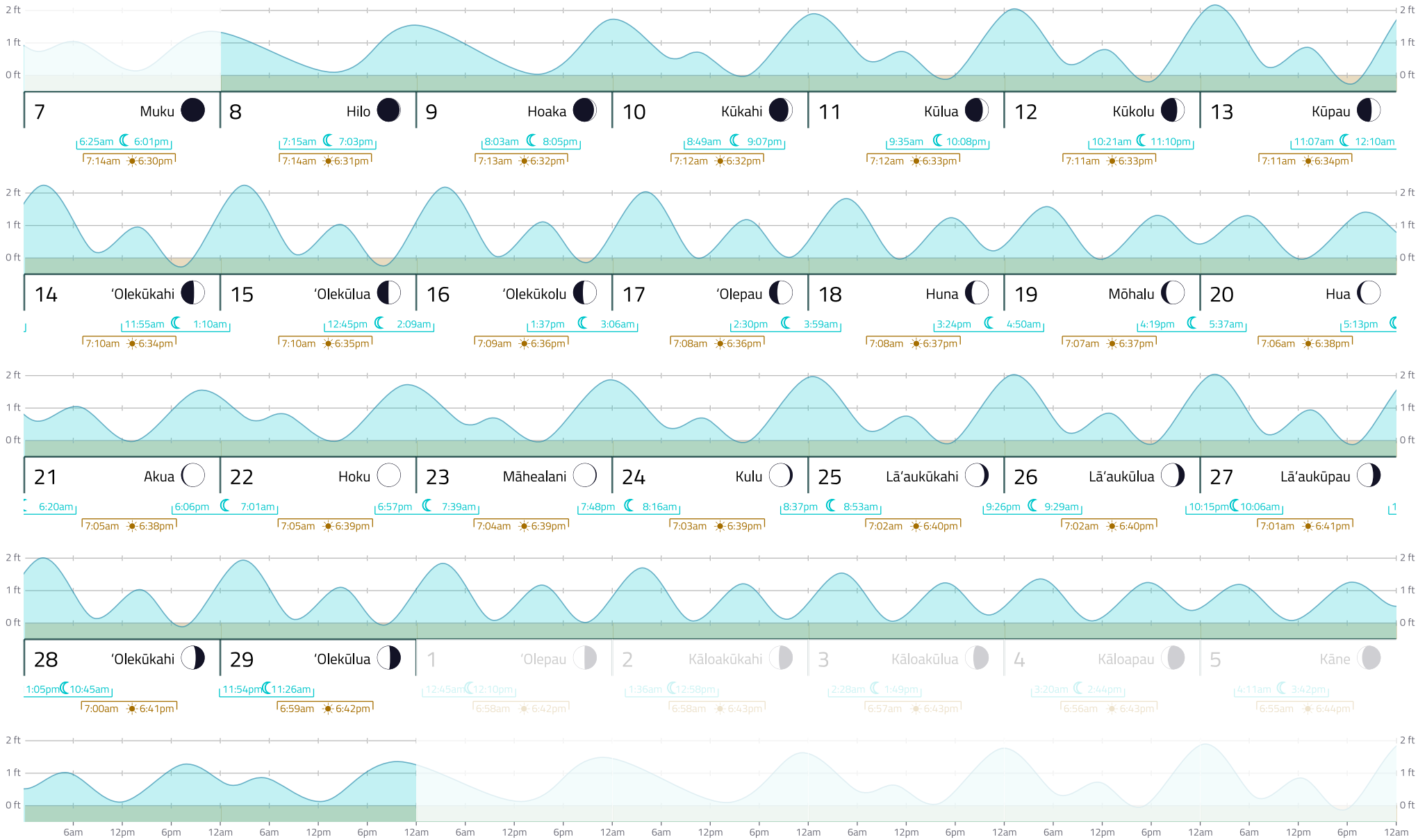
Pepeluali

2016

HANALEI TIDE & MOON CALENDAR

FEBRUARY

Lāpule SUNDAY	Pōʻakahi MONDAY	Pōʻalua TUESDAY	Pōʻakolu WEDNESDAY	Pōʻahā THURSDAY	Pōʻalima FRIDAY	Pōʻaono SATURDAY
31 ʻOlepau 12:22am 12:09pm 7:17am 6:26pm	1 Kāloakūkahi 1:12am 12:49pm 7:17am 6:27pm	2 Kāloakūlua 2:03am 1:32pm 7:16am 6:27pm	3 Kāloapau 2:55am 2:18pm 7:16am 6:28pm	4 Kāne 3:48am 3:09pm 7:15am 6:29pm	5 Lono 4:41am 4:03pm 7:15am 6:29pm	6 Mauli 5:34am 5:01pm 7:15am 6:30pm
7 Muku 6:25am 6:01pm 7:14am 6:30pm	8 Hilo 7:15am 7:03pm 7:14am 6:31pm	9 Hoaka 8:03am 8:05pm 7:13am 6:32pm	10 Kūkahi 8:49am 9:07pm 7:12am 6:32pm	11 Kūlua 9:35am 10:08pm 7:12am 6:33pm	12 Kūkolu 10:21am 11:10pm 7:11am 6:33pm	13 Kūpau 11:07am 12:10am 7:11am 6:34pm
14 ʻOlekūkahi 11:55am 1:10am 7:10am 6:34pm	15 ʻOlekūlua 12:45pm 2:09am 7:10am 6:35pm	16 ʻOlekūkolu 1:37pm 3:06am 7:09am 6:36pm	17 ʻOlepau 2:30pm 3:59am 7:08am 6:36pm	18 Huna 3:24pm 4:50am 7:08am 6:37pm	19 Mōhalu 4:19pm 5:37am 7:07am 6:37pm	20 Hua 5:13pm 7:06am 6:38pm
21 Akua 6:20am 7:05am 6:38pm	22 Hoku 6:06pm 7:01am 7:05am 6:39pm	23 Māhealani 6:57pm 7:39am 7:04am 6:39pm	24 Kulu 7:48pm 8:16am 7:03am 6:39pm	25 Lāʻaukūkahi 8:37pm 8:53am 7:02am 6:40pm	26 Lāʻaukūlua 9:26pm 9:29am 7:02am 6:40pm	27 Lāʻaukūpau 10:15pm 10:06am 7:01am 6:41pm
28 ʻOlekūkahi 1:05pm 10:45am 7:00am 6:41pm	29 ʻOlekūlua 11:54pm 11:26am 6:59am 6:42pm	1 ʻOlepau 12:45am 12:10pm 6:58am 6:42pm	2 Kāloakūkahi 1:36am 12:58pm 6:58am 6:43pm	3 Kāloakūlua 2:28am 1:49pm 6:57am 6:43pm	4 Kāloapau 3:20am 2:44pm 6:56am 6:43pm	5 Kāne 4:11am 3:42pm 6:55am 6:44pm



Manini

L50: 5 inches
Habitat: shallow reef
Feeds on: fine, filamentous algae
Plants named after manini: varieties of kalo, banana and sugar cane

FISHING PONO

Herbivores play an important roll in keeping algae growth in balance. Over harvesting of herbivores can lead to poor reef health.

Kala

L50: 14.8 inches
Habitat: shallow reef
Feeds on: macro algae, limu kala being a favorite
Land counterpart: 'akala

	MARCH
ʻĀholehole	SUGGESTED LIMITED HARVEST
Manini	SUGGESTED LIMITED HARVEST
ʻŌmilu	
ʻŌpelu	
Akule	
Halalū	
Moi	LIMITED 15/day 11 in. minimum FL
Ula	
Ula Papapa	
Kona Crab	
ʻAmaʻama	CLOSED

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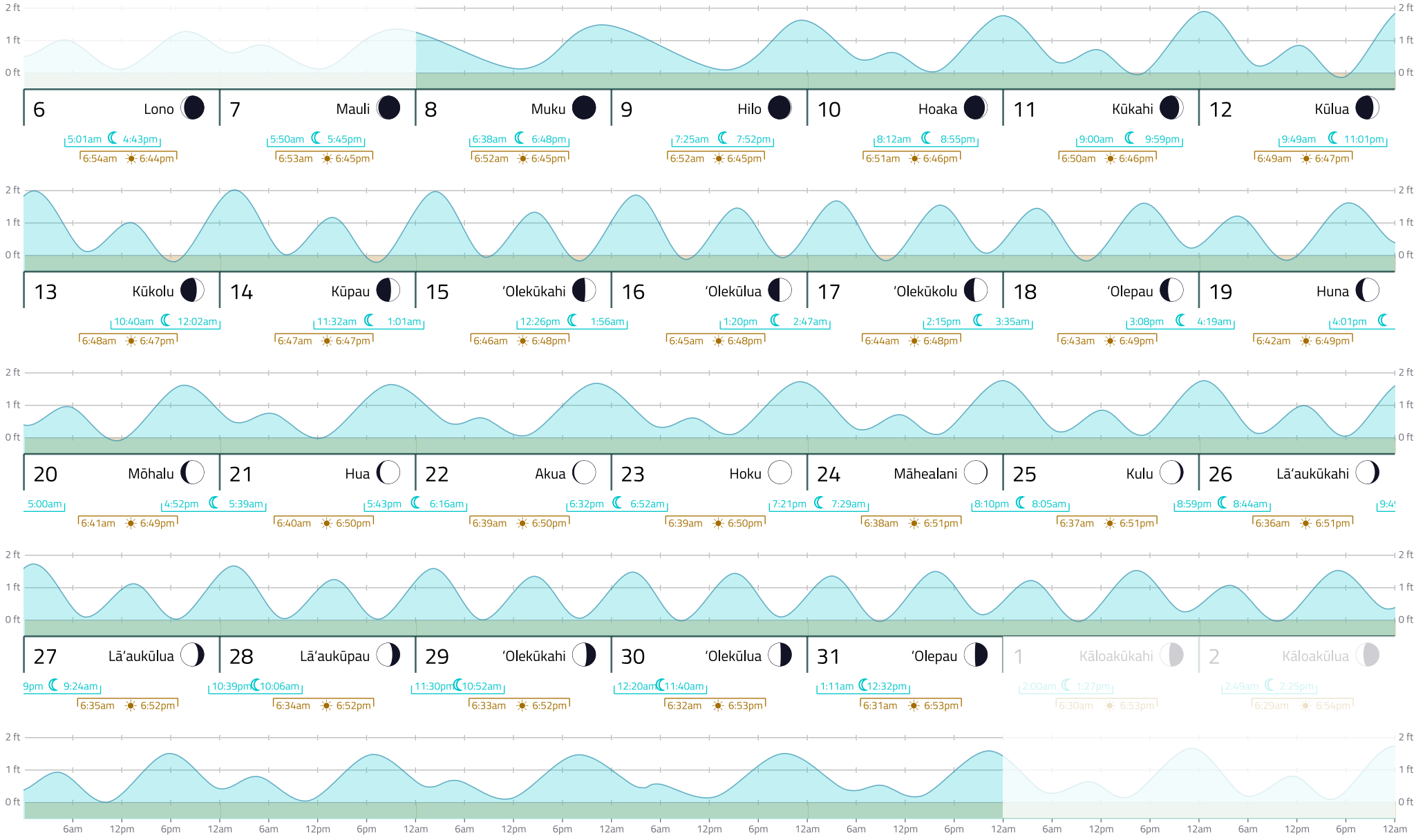
Malaki

2016

HANALEI TIDE & MOON CALENDAR

MARCH

Lāpule SUNDAY	Pōʻakahi MONDAY	Pōʻalua TUESDAY	Pōʻakolu WEDNESDAY	Pōʻahā THURSDAY	Pōʻalima FRIDAY	Pōʻaono SATURDAY
28 ʻOlekūkahi 1:05pm 10:45am 7:00am 6:41pm	29 ʻOlekūlua 11:54pm 11:26am 6:59am 6:42pm	1 ʻOlepau 12:45am 12:10pm 6:58am 6:42pm	2 Kāloakūkahi 1:36am 12:58pm 6:58am 6:43pm	3 Kāloakūlua 2:28am 1:49pm 6:57am 6:43pm	4 Kāloapau 3:20am 2:44pm 6:56am 6:43pm	5 Kāne 4:11am 3:42pm 6:55am 6:44pm
6 Lono 5:01am 4:43pm 6:54am 6:44pm	7 Mauli 5:50am 5:45pm 6:53am 6:45pm	8 Muku 6:38am 6:48pm 6:52am 6:45pm	9 Hilo 7:25am 7:52pm 6:52am 6:45pm	10 Hoaka 8:12am 8:55pm 6:51am 6:46pm	11 Kūkahi 9:00am 9:59pm 6:50am 6:46pm	12 Kūlua 9:49am 11:01pm 6:49am 6:47pm
13 Kūkolu 10:40am 12:02am 6:48am 6:47pm	14 Kūpau 11:32am 1:01am 6:47am 6:47pm	15 ʻOlekūkahi 12:26pm 1:56am 6:46am 6:48pm	16 ʻOlekūlua 1:20pm 2:47am 6:45am 6:48pm	17 ʻOlekūkolu 2:15pm 3:35am 6:44am 6:48pm	18 ʻOlepau 3:08pm 4:19am 6:43am 6:49pm	19 Huna 4:01pm 6:42am 6:49pm
20 Mōhalu 5:00am 4:52pm 6:41am 6:49pm	21 Hua 5:43pm 6:16am 6:40am 6:50pm	22 Akua 6:32pm 6:52am 6:39am 6:50pm	23 Hoku 7:21pm 7:29am 6:39am 6:50pm	24 Māhealani 8:10pm 8:05am 6:38am 6:51pm	25 Kulu 8:59pm 8:44am 6:37am 6:51pm	26 Lāʻaukūkahi 9:4 6:36am 6:51pm
27 Lāʻaukūlua 9pm 9:24am 6:35am 6:52pm	28 Lāʻaukūpau 10:39pm 10:06am 6:34am 6:52pm	29 ʻOlekūkahi 11:30pm 10:52am 6:33am 6:52pm	30 ʻOlekūlua 12:20am 11:40am 6:32am 6:53pm	31 ʻOlepau 1:11am 12:32pm 6:31am 6:53pm	1 Kāloakūkahi 2:00am 1:27pm 6:30am 6:53pm	2 Kāloakūlua 2:49am 2:25pm 6:29am 6:54pm



ʻAmaʻama

Pua ʻama, Pua poʻola: finger sized
Kahaha, Pahaha: hand length
ʻAmaʻama: approx. 8 in.
ʻAnae: greater than 12 in.

Moi

Moi Liʻi: young fish, not reproducing
Mana Moi: 10-11 in., all males
Palā Moi: 11-13 in., undergoing gender transformation
Moi: greater than 13 in., all females

FISHING PONO

Ancient Hawaiian fishermen had different names for different life stages of fish which helped guide when and how they harvested. Understanding these stages supports a sustainable fishery.

	APRIL
ʻĀholehole	SUGGESTED LIMITED HARVEST
Manini	SUGGESTED LIMITED HARVEST
ʻŌmilu	SUGGESTED LIMITED HARVEST
ʻŌpelu	SUGGESTED LIMITED HARVEST
Akule	SUGGESTED LIMITED HARVEST
Halalū	
Moi	LIMITED 15/day 11 in. minimum FL
Ula	
Ula Papapa	
Kona Crab	
ʻAmaʻama	

For more info see the full **Fishing Season Table** near the start of the calendar

‘Apelila

2016

HANALEI TIDE & MOON CALENDAR

APRIL

Lāpule SUNDAY	Pō‘akahi MONDAY	Pō‘alua TUESDAY	Pō‘akolu WEDNESDAY	Pō‘ahā THURSDAY	Pō‘alima FRIDAY	Pō‘aono SATURDAY
27 Lā‘aukūlua	28 Lā‘aukūpau	29 ‘Olekūkahi	30 ‘Olekūlua	31 ‘Olepau	1 Kāloakūkahi	2 Kāloakūlua
9pm 9:24am 6:35am 6:52pm	10:39pm 10:06am 6:34am 6:52pm	11:30pm 10:52am 6:33am 6:52pm	12:20am 11:40am 6:32am 6:53pm	1:11am 12:32pm 6:31am 6:53pm	2:00am 1:27pm 6:30am 6:53pm	2:49am 2:25pm 6:29am 6:54pm
3 Kāloapau	4 Kāne	5 Lono	6 Mauli / Muku	7 Hilo	8 Hoaka	9 Kūkahi
3:37am 3:24pm 6:28am 6:54pm	4:25am 4:26pm 6:27am 6:55pm	5:12am 5:29pm 6:26am 6:55pm	5:59am 6:33pm 6:25am 6:55pm	6:47am 7:38pm 6:25am 6:56pm	7:37am 8:43pm 6:24am 6:56pm	8:28am 9:48pm 6:23am 6:56pm
10 Kūlua	11 Kūkolu	12 Kūpau	13 ‘Olekūkahi	14 ‘Olekūlua	15 ‘Olekūkolu	16 ‘Olepau
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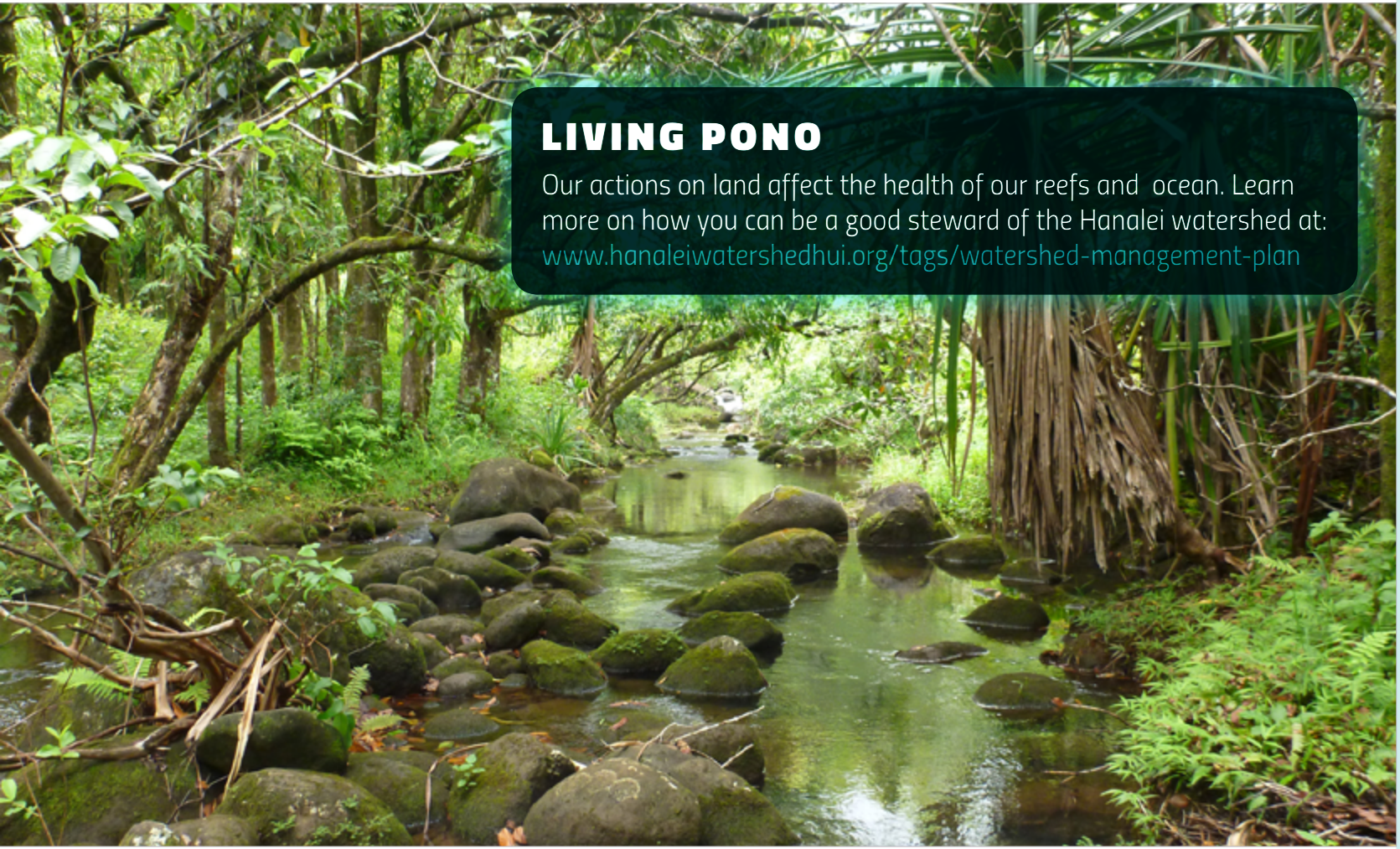
17 Huna	18 Mōhalu	19 Hua	20 Akua	21 Hoku	22 Māhealani	23 Kulu
:40am 3:39pm 4:17am 6:16am 6:59pm	4:29pm 4:53am 6:15am 7:00pm	5:18pm 5:29am 6:14am 7:00pm	6:07pm 6:06am 6:13am 7:00pm	6:56pm 6:43am 6:13am 7:01pm	7:45pm 7:23am 6:12am 7:01pm	8:35p 6:11am 7:01pm
24 Lā‘aukūkahi	25 Lā‘aukūlua	26 Lā‘aukūpau	27 ‘Olekūkahi	28 ‘Olekūlua	29 ‘Olepau	30 Kāloakūkahi
m 8:04am 6:10am 7:02pm	9:26pm 8:49am 6:10am 7:02pm	10:16pm 9:36am 6:09am 7:03pm	11:07pm 10:26am 6:08am 7:03pm	11:56pm 11:19am 6:08am 7:03pm	12:44am 12:14pm 6:07am 7:04pm	1:31am 1:11pm 6:06am 7:04pm

Caring for the Ocean by Restoring the Land

Water quality in Hanalei Bay is greatly influenced by the streams and rivers that feed into it. We can preserve our watersheds by reducing runoff and erosion which help to limit land-based pollution reaching the bay.

The Waipā Stream Restoration Project was initiated in 2011 with the intent of enhancing native fish habitat in the lower segments of Waipā Stream. Blockages were removed and invasive species were replaced with ulu, kukui, hala, coconut, and other useful canoe plants. By improving stream flow and function using these plants that stabilize the banks, water quality is enhanced and soil erosion is reduced. In 2016, the restoration project will be expanded to the ahupua'a scale by including the upper portions of Waipā Stream and associated wetlands.



LIVING PONO

Our actions on land affect the health of our reefs and ocean. Learn more on how you can be a good steward of the Hanalei watershed at: www.hanaleiwatershedhui.org/tags/watershed-management-plan

The stream restoration project has been made possible through funding from the Hawai'i Community Foundation, the National Oceanographic and Atmospheric Administration, the National Fish and Wildlife Foundation, and the U.S. Fish and Wildlife Service, along with significant contributions from thousands of volunteers and participants in Waipā's educational programs.

	MAY
ʻĀholehole	
Manini	SUGGESTED LIMITED HARVEST
ʻŌmilu	SUGGESTED LIMITED HARVEST
ʻŌpelu	SUGGESTED LIMITED HARVEST
Akule	SUGGESTED LIMITED HARVEST
Halalū	
Moi	LIMITED 15/day 11 in. minimum FL
Ula	CLOSED
Ula Papapa	CLOSED
Kona Crab	CLOSED
ʻAmaʻama	

For more info see the full **Fishing Season Table** near the start of the calendar

Mei

2016

HANALEI TIDE & MOON CALENDAR

MAY

Lāpule SUNDAY	Pō'akahi MONDAY	Pō'alua TUESDAY	Pō'akolu WEDNESDAY	Pō'ahā THURSDAY	Pō'alima FRIDAY	Pō'aono SATURDAY
1 Kāloakūlua	2 Kāloapau	3 Kāne	4 Lono	5 Mauli	6 Muku	7 Hilo
2:17am 2:10pm 6:06am 7:05pm	3:02am 3:10pm 6:05am 7:05pm	3:47am 4:12pm 6:04am 7:06pm	4:33am 5:15pm 6:04am 7:06pm	5:22am 6:20pm 6:03am 7:06pm	6:12am 7:26pm 6:03am 7:07pm	7:06am 8:31pm 6:02am 7:07pm
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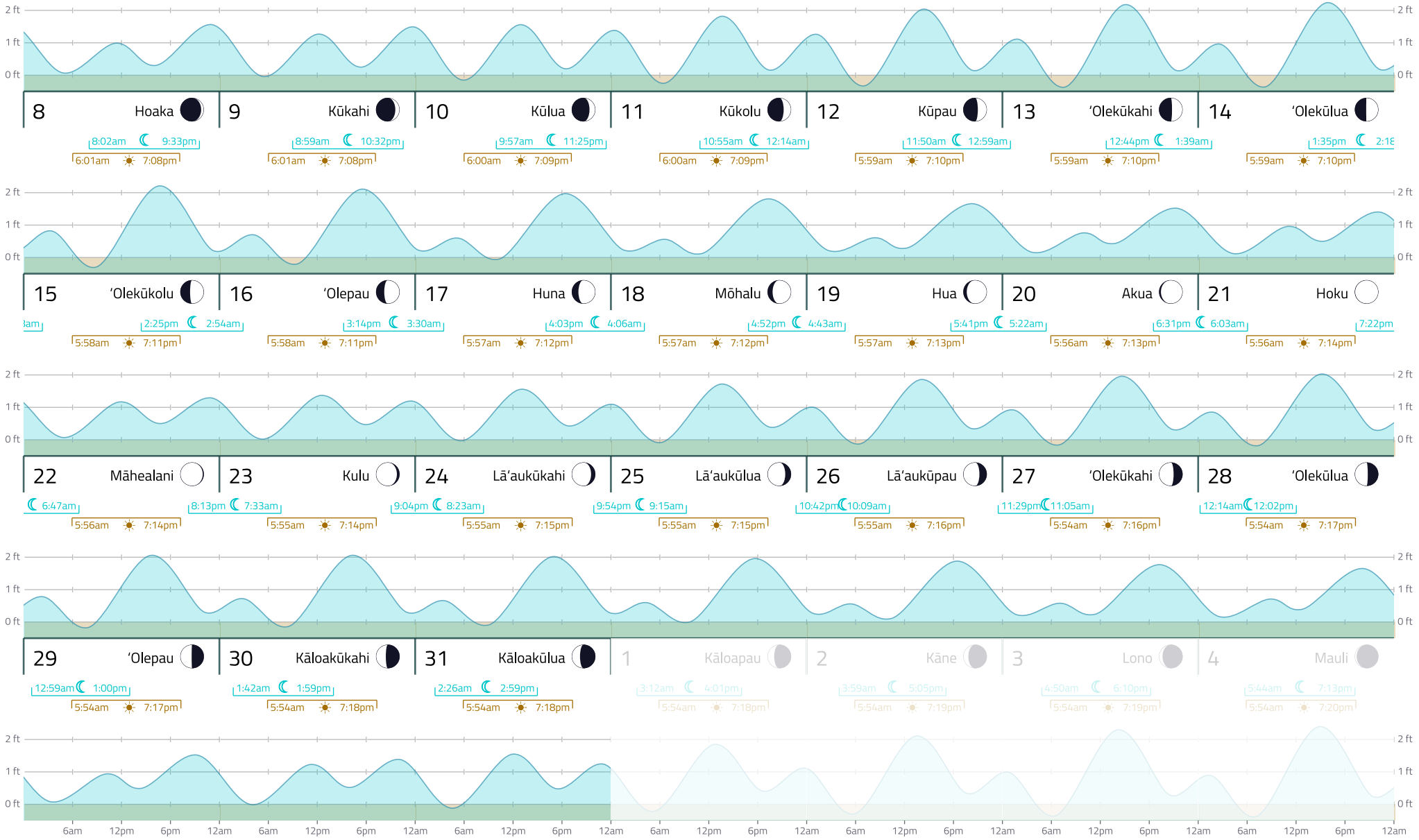
22 Māhealani	23 Kulu	24 Lā'aukūkahi	25 Lā'aukūlua	26 Lā'aukūpau	27 'Olekūkahi	28 'Olekūlua
6:47am 5:56am 7:14pm	8:13pm 7:33am 5:55am 7:14pm	9:04pm 8:23am 5:55am 7:15pm	9:54pm 9:15am 5:55am 7:15pm	10:42pm 10:09am 5:55am 7:16pm	11:29pm 11:05am 5:54am 7:16pm	12:14am 12:02pm 5:54am 7:17pm
29 'Olepau	30 Kāloakūkahi	31 Kāloakūlua	1 Kāloapau	2 Kāne	3 Lono	4 Mauli
12:59am 1:00pm 5:54am 7:17pm	1:42am 1:59pm 5:54am 7:18pm	2:26am 2:59pm 5:54am 7:18pm	3:12am 4:01pm 5:54am 7:18pm	3:59am 5:05pm 5:54am 7:19pm	4:50am 6:10pm 5:54am 7:19pm	5:44am 7:13pm 5:54am 7:20pm



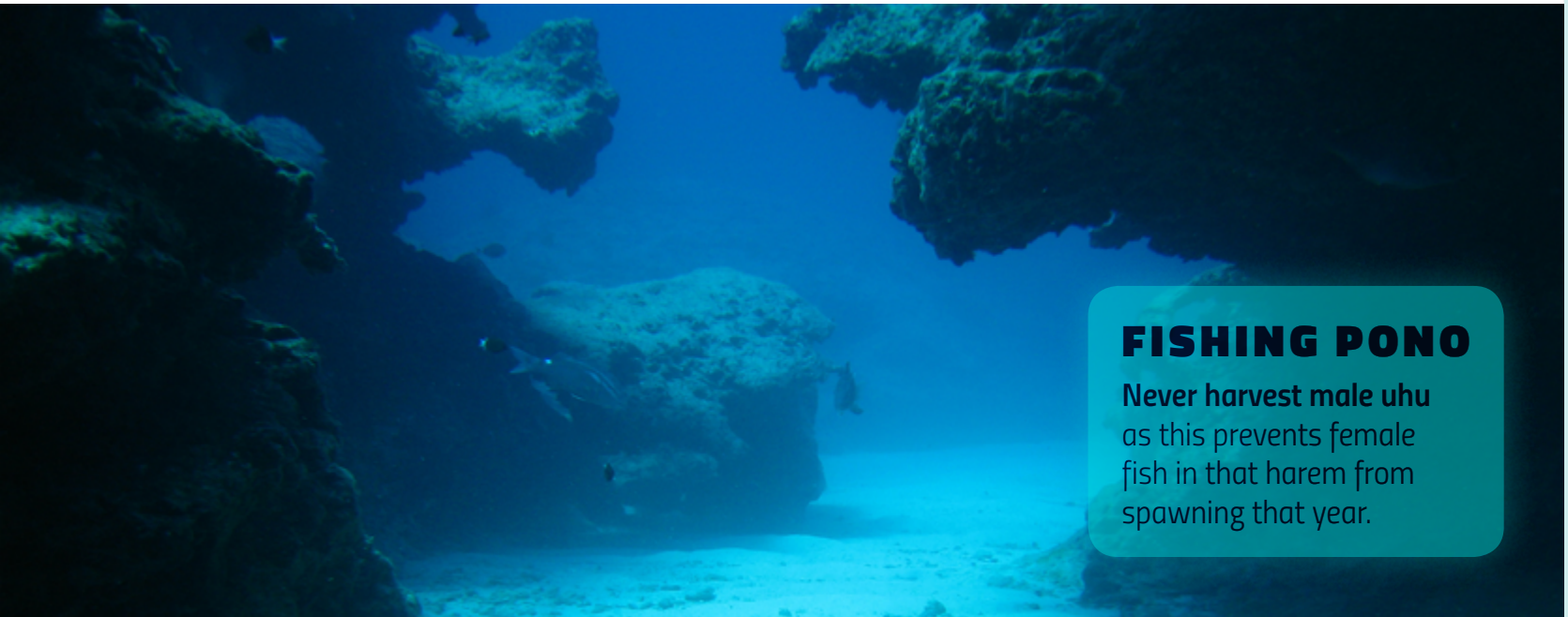
Male

Uhu

Uhu live in family groups called harems, made up of one male (blue-green in color) and several females (brownish-red).

If the male is removed from the harem, the remaining females will not spawn for about a year until the largest female undergoes a gender change and turns into a male.

Female



FISHING PONO

Never harvest male uhu as this prevents female fish in that harem from spawning that year.

	JUNE
ʻĀholehole	
Manini	SUGGESTED LIMITED HARVEST
ʻŌmilu	SUGGESTED LIMITED HARVEST
ʻŌpelu	SUGGESTED LIMITED HARVEST
Akule	SUGGESTED LIMITED HARVEST
Halalū	
Moi	CLOSED
Ula	CLOSED
Ula Papapa	CLOSED
Kona Crab	CLOSED
ʻAmaʻama	

For more info see the full **Fishing Season Table** near the start of the calendar

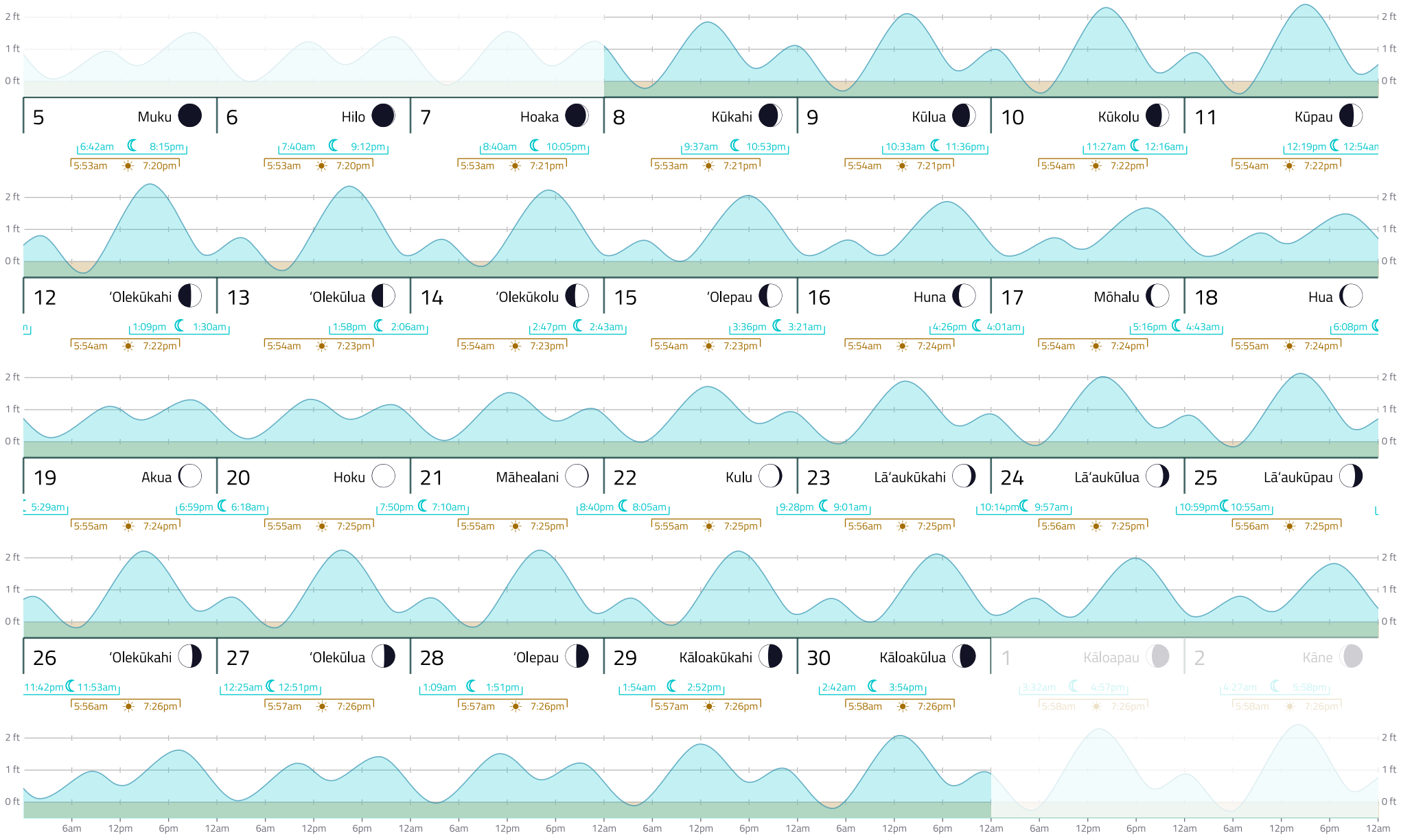
lune

2016

HANALEI TIDE & MOON CALENDAR

JUNE

Lāpule SUNDAY	Pōʻakahi MONDAY	Pōʻalua TUESDAY	Pōʻakolu WEDNESDAY	Pōʻahā THURSDAY	Pōʻalima FRIDAY	Pōʻaono SATURDAY
29 ʻOlepau	30 Kāloakūkahi	31 Kāloakūlua	1 Kāloapau	2 Kāne	3 Lono	4 Mauli
12:59am 1:00pm 5:54am 7:17pm	1:42am 1:59pm 5:54am 7:18pm	2:26am 2:59pm 5:54am 7:18pm	3:12am 4:01pm 5:54am 7:18pm	3:59am 5:05pm 5:54am 7:19pm	4:50am 6:10pm 5:54am 7:19pm	5:44am 7:13pm 5:54am 7:20pm
5 Muku	6 Hilo	7 Hoaka	8 Kūkahi	9 Kūlua	10 Kūkolu	11 Kūpau
6:42am 8:15pm 5:53am 7:20pm	7:40am 9:12pm 5:53am 7:20pm	8:40am 10:05pm 5:53am 7:21pm	9:37am 10:53pm 5:53am 7:21pm	10:33am 11:36pm 5:54am 7:21pm	11:27am 12:16am 5:54am 7:22pm	12:19pm 12:54am 5:54am 7:22pm
12 ʻOlekūkahi	13 ʻOlekūlua	14 ʻOlekūkolu	15 ʻOlepau	16 Huna	17 Mōhalu	18 Hua
1:09pm 1:30am 5:54am 7:22pm	1:58pm 2:06am 5:54am 7:23pm	2:47pm 2:43am 5:54am 7:23pm	3:36pm 3:21am 5:54am 7:23pm	4:26pm 4:01am 5:54am 7:24pm	5:16pm 4:43am 5:54am 7:24pm	6:08pm 5:55am 7:24pm
19 Akua	20 Hoku	21 Māhealani	22 Kulu	23 Lāʻaukūkahi	24 Lāʻaukūlua	25 Lāʻaukūpau
5:29am 5:55am 7:24pm	6:59pm 6:18am 5:55am 7:25pm	7:50pm 7:10am 5:55am 7:25pm	8:40pm 8:05am 5:55am 7:25pm	9:28pm 9:01am 5:56am 7:25pm	10:14pm 9:57am 5:56am 7:25pm	10:59pm 10:55am 5:56am 7:25pm
26 ʻOlekūkahi	27 ʻOlekūlua	28 ʻOlepau	29 Kāloakūkahi	30 Kāloakūlua	1 Kāloapau	2 Kāne
11:42pm 11:53am 5:56am 7:26pm	12:25am 12:51pm 5:57am 7:26pm	1:09am 1:51pm 5:57am 7:26pm	1:54am 2:52pm 5:57am 7:26pm	2:42am 3:54pm 5:58am 7:26pm	3:32am 4:57pm 5:58am 7:26pm	4:27am 5:58pm 5:58am 7:26pm



Ulua

L50: 21-32 inches
Habitat: shallow to deep reef
Feeds on: wide variety of fish and invertebrates

ʻŌmilu

L50: 14 inches
Habitat: shallow to deep reef
Feeds on: small fish and invertebrates

	JULY
ʻĀholehole	
Manini	
ʻŌmilu	
ʻŌpelu	SUGGESTED LIMITED HARVEST
Akule	SUGGESTED LIMITED HARVEST
Halalū	
Moi	CLOSED
Ula	CLOSED
Ula Papapa	CLOSED
Kona Crab	CLOSED
ʻAmaʻama	

For more info see the full **Fishing Season Table** near the start of the calendar

Larger fish in most species produce many more eggs than smaller fish that have just reached reproductive maturity.

Studies have found that a 27-inch ʻōmilu will produce about *4.3 million eggs* while a 14-inch ʻōmilu will produce only 50,000 eggs. Therefore, it takes about **86** smaller ʻōmilu to produce the same amount of eggs!

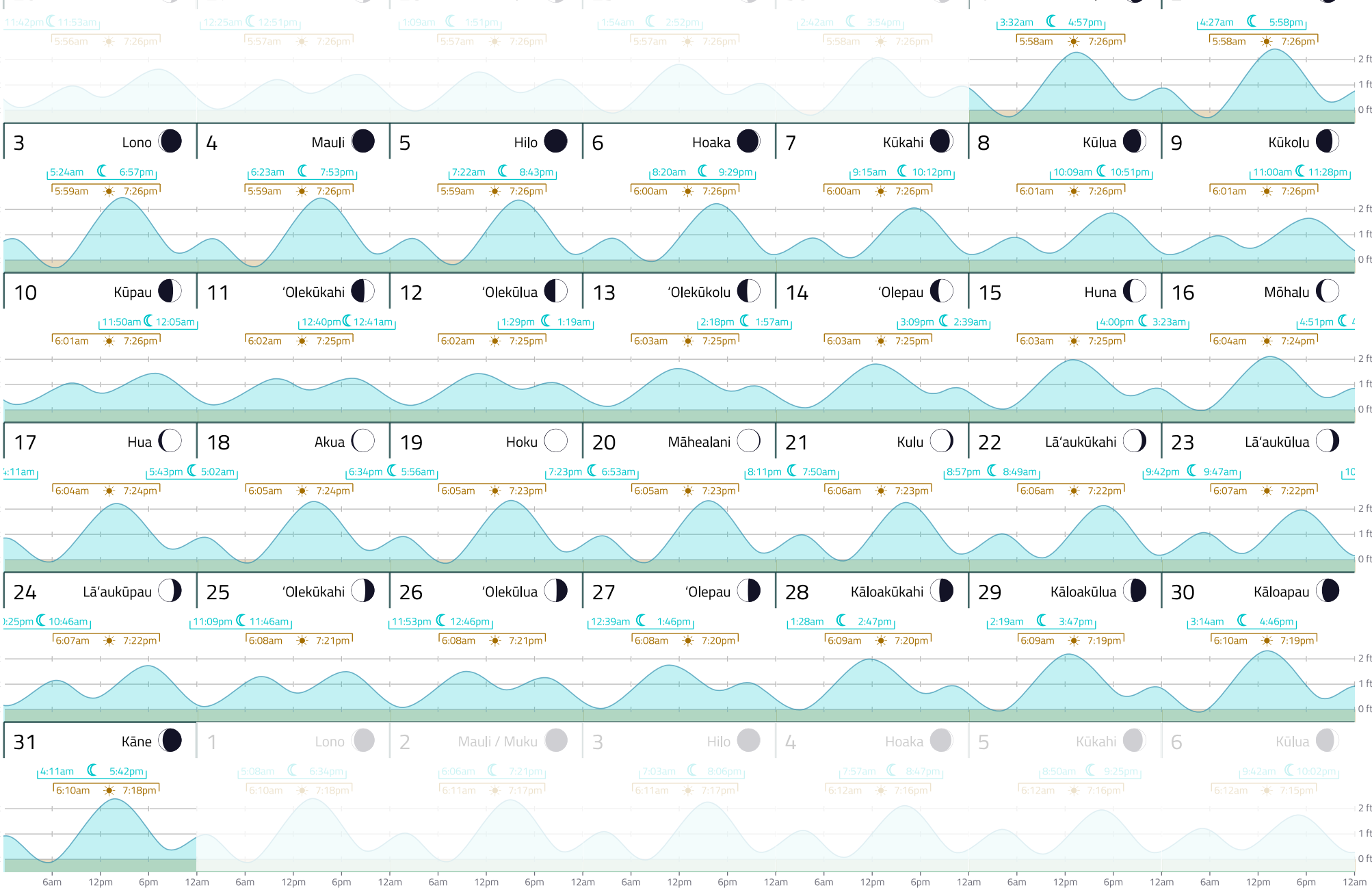
Iulai

2016

HANALEI TIDE & MOON CALENDAR

JULY

Lāpule SUNDAY	Pō'akahi MONDAY	Pō'alua TUESDAY	Pō'akolu WEDNESDAY	Pō'ahā THURSDAY	Pō'alima FRIDAY	Pō'aono SATURDAY
26 'Olekūkahi	27 'Olekūlua	28 'Olepau	29 Kāloakūkahi	30 Kāloakūlua	1 Kāloapau	2 Kāne
11:42pm 11:53am 5:56am 7:26pm	12:25am 12:51pm 5:57am 7:26pm	1:09am 1:51pm 5:57am 7:26pm	1:54am 2:52pm 5:57am 7:26pm	2:42am 3:54pm 5:58am 7:26pm	3:32am 4:57pm 5:58am 7:26pm	4:27am 5:58pm 5:58am 7:26pm
3 Lono	4 Mauli	5 Hilo	6 Hoaka	7 Kūkahi	8 Kūlua	9 Kūkolu
5:24am 6:57pm 5:59am 7:26pm	6:23am 7:53pm 5:59am 7:26pm	7:22am 8:43pm 5:59am 7:26pm	8:20am 9:29pm 6:00am 7:26pm	9:15am 10:12pm 6:00am 7:26pm	10:09am 10:51pm 6:01am 7:26pm	11:00am 11:28pm 6:01am 7:26pm
10 Kūpau	11 'Olekūkahi	12 'Olekūlua	13 'Olekūkolu	14 'Olepau	15 Huna	16 Mōhalu
11:50am 12:05am 6:01am 7:26pm	12:40pm 12:41am 6:02am 7:25pm	1:29pm 1:19am 6:02am 7:25pm	2:18pm 1:57am 6:03am 7:25pm	3:09pm 2:39am 6:03am 7:25pm	4:00pm 3:23am 6:03am 7:25pm	4:51pm 6:04am 7:24pm
17 Hua	18 Akua	19 Hoku	20 Māhealani	21 Kulu	22 Lā'aukūkahi	23 Lā'aukūlua
11am 6:04am 7:24pm	5:43pm 5:02am 6:05am 7:24pm	6:34pm 5:56am 6:05am 7:23pm	7:23pm 6:53am 6:05am 7:23pm	8:11pm 7:50am 6:06am 7:23pm	8:57pm 8:49am 6:06am 7:22pm	9:42pm 9:47am 6:07am 7:22pm
24 Lā'aukūpau	25 'Olekūkahi	26 'Olekūlua	27 'Olepau	28 Kāloakūkahi	29 Kāloakūlua	30 Kāloapau
25pm 10:46am 6:07am 7:22pm	11:09pm 11:46am 6:08am 7:21pm	11:53pm 12:46pm 6:08am 7:21pm	12:39am 1:46pm 6:08am 7:20pm	1:28am 2:47pm 6:09am 7:20pm	2:19am 3:47pm 6:09am 7:19pm	3:14am 4:46pm 6:10am 7:19pm
31 Kāne	1 Lono	2 Mauli / Muku	3 Hilo	4 Hoaka	5 Kūkahi	6 Kūlua
4:11am 5:42pm 6:10am 7:18pm	5:08am 6:34pm 6:10am 7:18pm	6:06am 7:21pm 6:11am 7:17pm	7:03am 8:06pm 6:11am 7:17pm	7:57am 8:47pm 6:12am 7:16pm	8:50am 9:25pm 6:12am 7:16pm	9:42am 10:02pm 6:12am 7:15pm



FISHING PONO

Legal methods of harvesting stream animals is by pole and line, throw net, spear, and crab trap. Lay nets are prohibited.

A Mauka to Makai Connection

Oʻopu , ʻōpae, and hīhīwai were once an important source of food throughout the islands. Their unique life cycle provides insight into ways we can care for these animals by protecting their habitat.

Adult oʻopu lay their eggs in the stream and newly hatched larvae are washed downstream and out to sea. After living as ocean plankton for approximately six months, hinana (post-larvae) return and migrate upstream. This cycle is called "amphidromy". Unlike salmon, oʻopu do not return to the streams where they were born. Some Hawaiian crustaceans and mollusks also have an amphidromous life cycle.

O'opu Alamo'o

O'opu Nakea

	AUGUST
ʻĀholehole	
Manini	
ʻŌmilu	
ʻŌpelu	SUGGESTED LIMITED HARVEST
Akule	SUGGESTED LIMITED HARVEST
Halalū	LIMITED State Restrictions Apply
Moi	CLOSED
Ula	CLOSED
Ula Papapa	CLOSED
Kona Crab	CLOSED
ʻAmaʻama	

For more info see the full **Fishing Season Table** near the start of the calendar

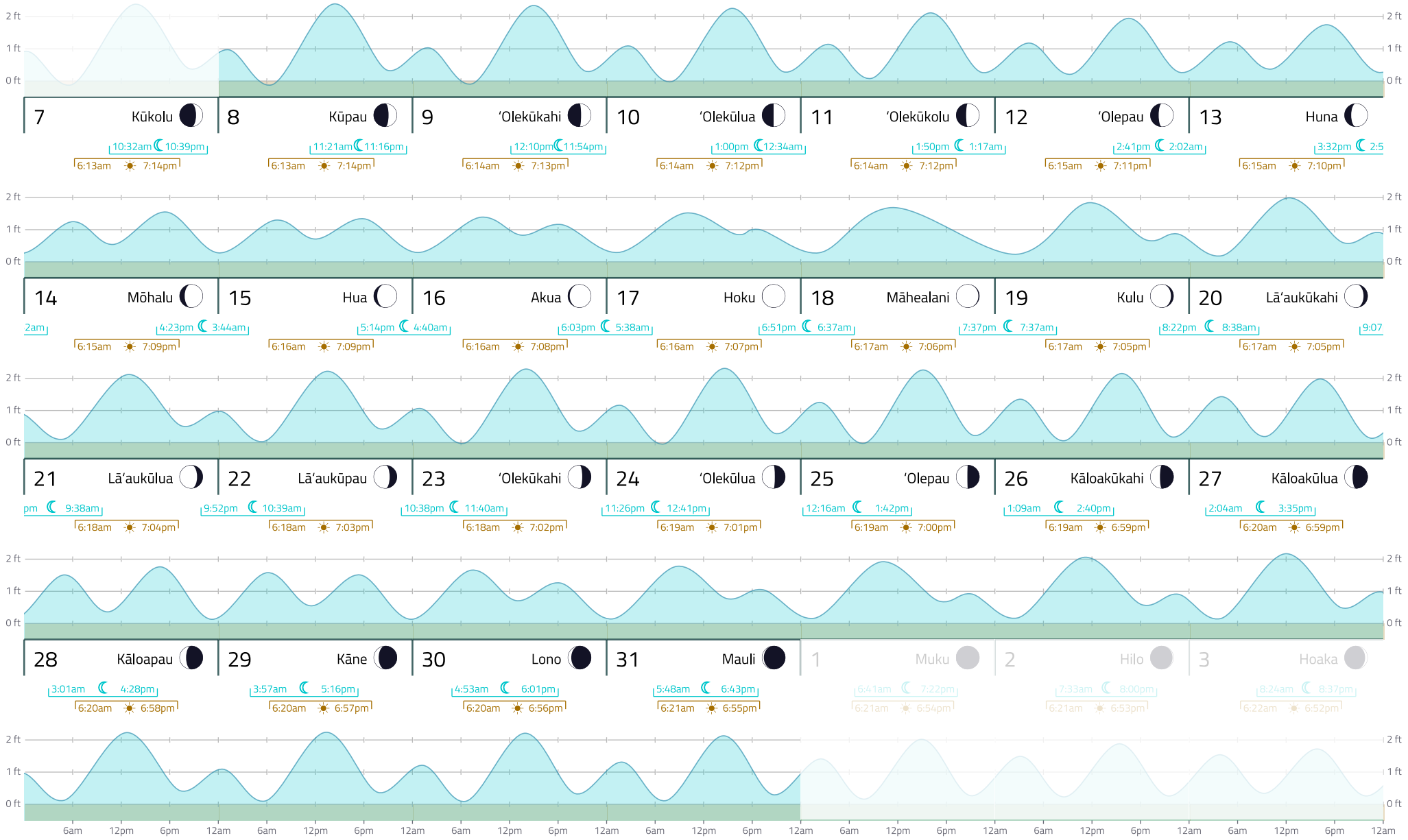
ʻAukake

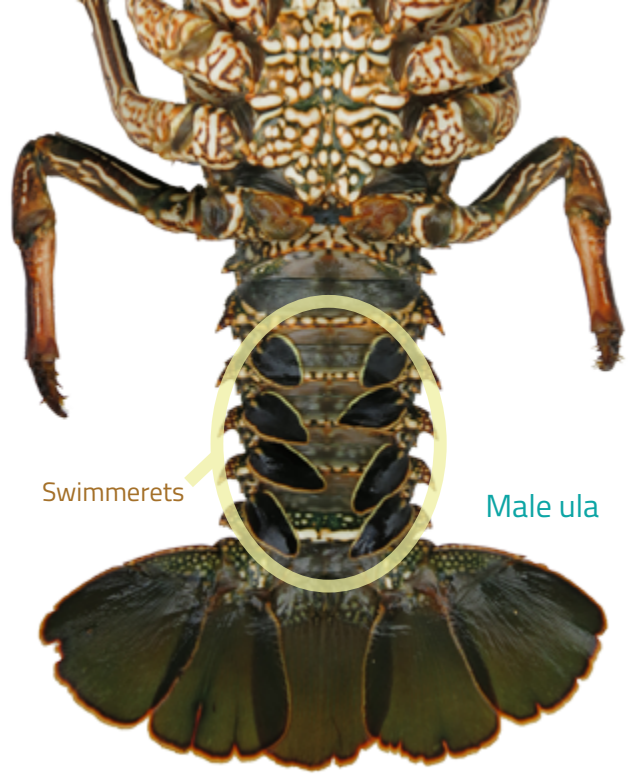
2016

HANALEI TIDE & MOON CALENDAR

AUGUST

Lāpule SUNDAY	Pōʻakahi MONDAY	Pōʻalua TUESDAY	Pōʻakolu WEDNESDAY	Pōʻahā THURSDAY	Pōʻalima FRIDAY	Pōʻaono SATURDAY
31 Kāne 4:11am 5:42pm 6:10am 7:18pm	1 Lono 5:08am 6:34pm 6:10am 7:18pm	2 Mauli / Muku 6:06am 7:21pm 6:11am 7:17pm	3 Hilo 7:03am 8:06pm 6:11am 7:17pm	4 Hoaka 7:57am 8:47pm 6:12am 7:16pm	5 Kūkahi 8:50am 9:25pm 6:12am 7:16pm	6 Kūlua 9:42am 10:02pm 6:12am 7:15pm
7 Kūkolu 10:32am 10:39pm 6:13am 7:14pm	8 Kūpau 11:21am 11:16pm 6:13am 7:14pm	9 ʻOlekūkahi 12:10pm 11:54pm 6:14am 7:13pm	10 ʻOlekūlua 1:00pm 12:34am 6:14am 7:12pm	11 ʻOlekūkolu 1:50pm 1:17am 6:14am 7:12pm	12 ʻOlepau 2:41pm 2:02am 6:15am 7:11pm	13 Huna 3:32pm 2:5 6:15am 7:10pm
14 Mōhalu 2am 4:23pm 3:44am 6:15am 7:09pm	15 Hua 5:14pm 4:40am 6:16am 7:09pm	16 Akua 6:03pm 5:38am 6:16am 7:08pm	17 Hoku 6:51pm 6:37am 6:16am 7:07pm	18 Māhealani 7:37pm 7:37am 6:17am 7:06pm	19 Kulu 8:22pm 8:38am 6:17am 7:05pm	20 Lāʻaukūkahi 9:07 6:17am 7:05pm
21 Lāʻaukūlua pm 9:38am 6:18am 7:04pm	22 Lāʻaukūpau 9:52pm 10:39am 6:18am 7:03pm	23 ʻOlekūkahi 10:38pm 11:40am 6:18am 7:02pm	24 ʻOlekūlua 11:26pm 12:41pm 6:19am 7:01pm	25 ʻOlepau 12:16am 1:42pm 6:19am 7:00pm	26 Kāloakūkahi 1:09am 2:40pm 6:19am 6:59pm	27 Kāloakūlua 2:04am 3:35pm 6:20am 6:59pm
28 Kāloapau 3:01am 4:28pm 6:20am 6:58pm	29 Kāne 3:57am 5:16pm 6:20am 6:57pm	30 Lono 4:53am 6:01pm 6:20am 6:56pm	31 Mauli 5:48am 6:43pm 6:21am 6:55pm	1 Muku 6:41am 7:22pm 6:21am 6:54pm	2 Hilo 7:33am 8:00pm 6:21am 6:53pm	3 Hoaka 8:24am 8:37pm 6:22am 6:52pm





Ula

Only male ula greater than 3¼ inches in carapace length are legal to harvest from September thru April. Here's how to identify males from females:

Female lobsters carry eggs in their swimmerets during spawning season. It can be hard to tell if a lobster is male or female from the top, so that's why spearing is illegal.

Harvesting females is **prohibited**.
Using a spear to harvest is **prohibited**.

More information on determining the sex of lobster as well as various species of crabs can be found at:
http://dlnr.hawaii.gov/dar/fishing/fishing-regulations/marine-invertebrates/how-to-determine-sex-of-regulated-invertebrates/

FISHING PONO

Measure your catch and release females. These regulations are needed because ula are slow-growing animals that are prone to over-harvesting.

	SEPTEMBER
ʻĀholehole	
Manini	
ʻŌmilu	
ʻŌpelu	
Akule	SUGGESTED LIMITED HARVEST
Halalū	LIMITED State Restrictions Apply
Moi	LIMITED 15/day 11 in. minimum FL
Ula	
Ula Papapa	
Kona Crab	
ʻAmaʻama	

For more info see the full **Fishing Season Table** near the start of the calendar

Kepakemapa

2016

HANALEI TIDE & MOON CALENDAR

SEPTEMBER

Lāpule SUNDAY	Pō'akahi MONDAY	Pō'alua TUESDAY	Pō'akolu WEDNESDAY	Pō'ahā THURSDAY	Pō'alima FRIDAY	Pō'aono SATURDAY
28 Kāloapau	29 Kāne	30 Lono	31 Mauli	1 Muku	2 Hilo	3 Hoaka
3:01am 4:28pm 6:20am 6:58pm	3:57am 5:16pm 6:20am 6:57pm	4:53am 6:01pm 6:20am 6:56pm	5:48am 6:43pm 6:21am 6:55pm	6:41am 7:22pm 6:21am 6:54pm	7:33am 8:00pm 6:21am 6:53pm	8:24am 8:37pm 6:22am 6:52pm
4 Kūkahi	5 Kūlua	6 Kūkolu	7 Kūpau	8 'Olekūkahi	9 'Olekūlua	10 'Olekūkolu
9:14am 9:14pm 6:22am 6:51pm	10:03am 9:51pm 6:22am 6:50pm	10:52am 10:30pm 6:23am 6:49pm	11:42am 11:11pm 6:23am 6:48pm	12:32pm 11:55pm 6:23am 6:47pm	1:22pm 12:42am 6:23am 6:46pm	2:13pm 1:32a 6:24am 6:45pm
11 'Olepau	12 Huna	13 Mōhalu	14 Hua	15 Akua	16 Hoku	17 Māhealani
3:02pm 2:26am 6:24am 6:44pm	3:52pm 3:22am 6:24am 6:43pm	4:40pm 4:20am 6:24am 6:42pm	5:27pm 5:20am 6:25am 6:41pm	6:13pm 6:22am 6:25am 6:40pm	6:59pm 7:24am 6:25am 6:39pm	7:45pm 6:26am 6:38pm
18 Kulu	19 Lā'aukūkahi	20 Lā'aukūlua	21 Lā'aukūpau	22 'Olekūkahi	23 'Olekūlua	24 'Olepau
8:27am 6:26am 6:37pm	8:32pm 9:30am 6:26am 6:36pm	9:21pm 10:33am 6:26am 6:35pm	10:12pm 11:35am 6:27am 6:34pm	11:05pm 12:35pm 6:27am 6:34pm	12:00am 1:32pm 6:27am 6:33pm	12:56am 2:25pm 6:28am 6:32pm
25 Kāloakūkahi	26 Kāloakūlua	27 Kāloapau	28 Kāne	29 Lono	30 Mauli	1 Hilo
1:53am 3:14pm 6:28am 6:31pm	2:48am 3:59pm 6:28am 6:30pm	3:42am 4:41pm 6:28am 6:29pm	4:35am 5:21pm 6:29am 6:28pm	5:27am 5:59pm 6:29am 6:27pm	6:18am 6:35pm 6:29am 6:26pm	7:08am 7:12pm 6:30am 6:25pm

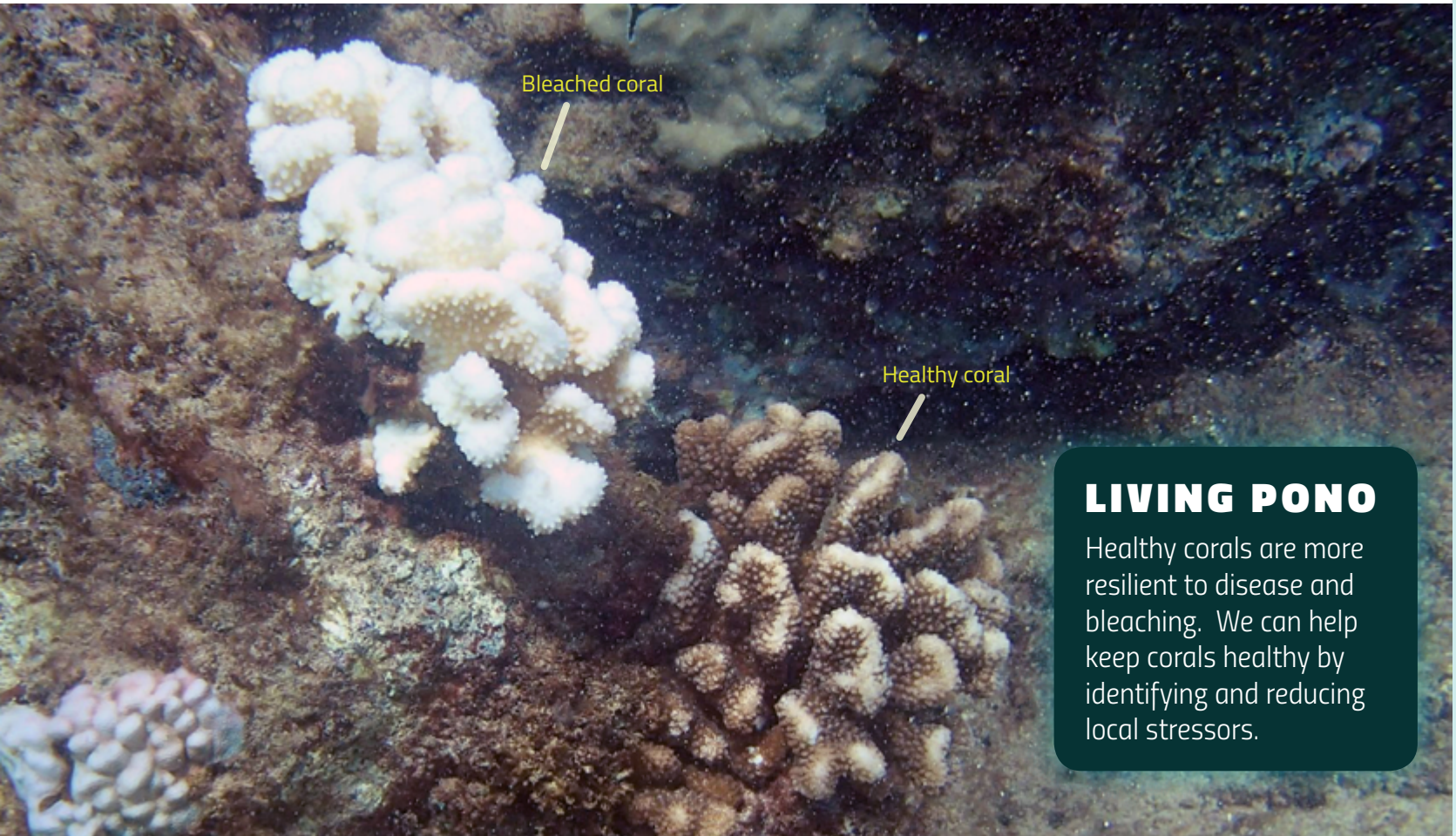
Coral Polyps + Zooxanthellae = Healthy Coral

A healthy, living coral is composed of a colony of coral animals called **polyps** that secrete the coral's hard skeleton and an algae called **zooxanthellae** that live within the polyps' tissues.

When corals are under stress they can expel the symbiotic algae cells, causing colonies to lose their color and appear white. This is called coral bleaching. Corals can starve to death as they get up to 90% of their food from zooxanthellae, however, corals can re-absorb the zooxanthellae and make a complete recovery if the stressor goes away.

In Hanalei and elsewhere in Hawaii, stressors can include: sedimentation, lowered salinity due to flooding and runoff, pollution, and above normal water temperatures. In 2014 and 2015, above average sea surface temperatures caused bleaching of corals in Hanalei Bay and throughout the entire Hawaiian archipelago.

Early detection of bleaching events helps managers assess and monitor the extent and impact of coral bleaching on our reefs. You can help report any bleaching or unusual observations to www.eorhawaii.org.



LIVING PONO

Healthy corals are more resilient to disease and bleaching. We can help keep corals healthy by identifying and reducing local stressors.

	OCTOBER
ʻĀholehole	
Manini	
ʻŌmilu	
ʻŌpelu	
Akule	SUGGESTED LIMITED HARVEST
Halalū	LIMITED State Restrictions Apply
Moi	LIMITED 15/day 11 in. minimum FL
Ula	
Ula Papapa	
Kona Crab	
ʻAmaʻama	

For more info see the full **Fishing Season Table** near the start of the calendar

ʻOkakopa

2016

HANALEI TIDE & MOON CALENDAR

OCTOBER

Lāpule SUNDAY	Pōʻakahi MONDAY	Pōʻalua TUESDAY	Pōʻakolu WEDNESDAY	Pōʻahā THURSDAY	Pōʻalima FRIDAY	Pōʻaono SATURDAY
25 Kāloakūkahi	26 Kāloakūlua	27 Kāloapau	28 Kāne	29 Lono	30 Mauli	1 Hilo
						7:08am 7:12pm 6:30am 6:25pm
2 Hoaka	3 Kūkahi	4 Kūlua	5 Kūkolu	6 Kūpau	7 ʻOlekūkahi	8 ʻOlekūlua
7:57am 7:49pm 6:30am 6:24pm	8:47am 8:28pm 6:30am 6:23pm	9:36am 9:08pm 6:31am 6:22pm	10:26am 9:50pm 6:31am 6:21pm	11:15am 10:36pm 6:31am 6:20pm	12:05pm 11:23pm 6:32am 6:19pm	12:54pm 12:14am 6:32am 6:18pm
9 ʻOlekūkolu	10 ʻOlepau	11 Huna	12 Mōhalu	13 Hua	14 Akua	15 Hoku
1:42pm 1:08am 6:32am 6:17pm	2:29pm 2:04am 6:33am 6:17pm	3:15pm 3:02am 6:33am 6:16pm	4:01pm 4:01am 6:33am 6:15pm	4:46pm 5:03am 6:34am 6:14pm	5:32pm 6:06am 6:34am 6:13pm	6:20pm 6:35am 6:12pm
16 Māhealani	17 Kulu	18 Lāʻaukūkahi	19 Lāʻaukūlua	20 Lāʻaukūpau	21 ʻOlekūkahi	22 ʻOlekūlua
7:10am 6:35am 6:11pm	7:09pm 8:16am 6:35am 6:11pm	8:01pm 9:21am 6:36am 6:10pm	8:55pm 10:24am 6:36am 6:09pm	9:52pm 11:25am 6:37am 6:08pm	10:49pm 12:21pm 6:37am 6:08pm	11:47pm 1:12pm 6:38am 6:07pm
23 ʻOlepau	24 Kāloakūkahi	25 Kāloakūlua	26 Kāloapau	27 Kāne	28 Lono	29 Mauli
12:44am 1:59pm 6:38am 6:06pm	1:39am 2:42pm 6:38am 6:05pm	2:32am 3:22pm 6:39am 6:05pm	3:23am 3:59pm 6:39am 6:04pm	4:14am 4:36pm 6:40am 6:03pm	5:04am 5:12pm 6:40am 6:03pm	5:53am 5:49pm 6:41am 6:02pm
30 Muku	31 Hilo	1 Hoaka	2 Kūkahi	3 Kūlua	4 Kūkolu	5 Kūpau
6:42am 6:27pm 6:41am 6:02pm	7:32am 7:06pm 6:42am 6:01pm	8:22am 7:48pm 6:42am 6:00pm	9:12am 8:32pm 6:43am 6:00pm	10:01am 9:19pm 6:44am 5:59pm	10:50am 10:08pm 6:44am 5:59pm	11:37am 10:59pm 6:45am 5:58pm

Fishing With Natural Lures

Another great way to reduce our impact on the ocean while harvesting fish is to use lures made of natural materials instead of plastics, resin, and rubber which take several hundred years to break down.

While crafting traditional lures made from bone and shell may not be practical for most fishers, using feathers, dried fish skin, and plant materials to tie your own flies is a great way to reduce accidental litter.

FISHING PONO

Using natural materials as substitute for rubber or plastic helps the ocean.

	NOVEMBER
ʻĀholehole	
Manini	
ʻŌmilu	
ʻŌpelu	
Akule	
Halalū	
Moi	LIMITED 15/day 11 in. minimum FL
Ula	
Ula Papapa	
Kona Crab	
ʻAmaʻama	

For more info see the full **Fishing Season Table** near the start of the calendar

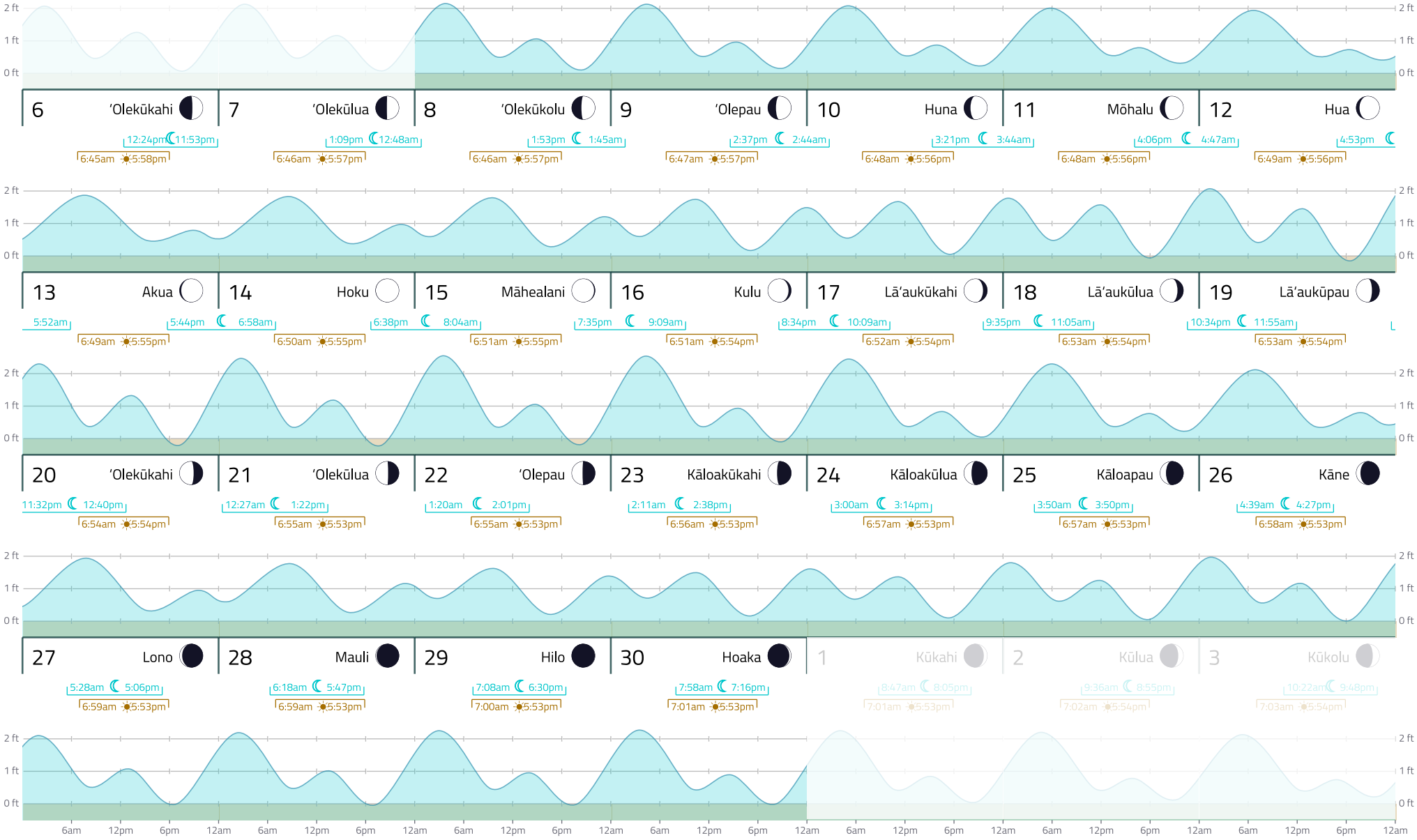
Nowemapa

2016

HANALEI TIDE & MOON CALENDAR

NOVEMBER

Lāpule SUNDAY	Pōʻakahi MONDAY	Pōʻalua TUESDAY	Pōʻakolu WEDNESDAY	Pōʻahā THURSDAY	Pōʻalima FRIDAY	Pōʻaono SATURDAY
30 Muku	31 Hilo	1 Hoaka	2 Kūkahi	3 Kūlua	4 Kūkolu	5 Kūpau
6:42am 6:27pm 6:41am 6:02pm	7:32am 7:06pm 6:42am 6:01pm	8:22am 7:48pm 6:42am 6:00pm	9:12am 8:32pm 6:43am 6:00pm	10:01am 9:19pm 6:44am 5:59pm	10:50am 10:08pm 6:44am 5:59pm	11:37am 10:59pm 6:45am 5:58pm
6 ʻOlekūkahi	7 ʻOlekūlua	8 ʻOlekūkolu	9 ʻOlepau	10 Huna	11 Mōhalu	12 Hua
12:24pm 11:53pm 6:45am 5:58pm	1:09pm 12:48am 6:46am 5:57pm	1:53pm 1:45am 6:46am 5:57pm	2:37pm 2:44am 6:47am 5:57pm	3:21pm 3:44am 6:48am 5:56pm	4:06pm 4:47am 6:48am 5:56pm	4:53pm 6:49am 5:56pm
13 Akua	14 Hoku	15 Māhealani	16 Kulu	17 Lāʻaukūkahi	18 Lāʻaukūlua	19 Lāʻaukūpau
5:52am 6:49am 5:55pm	5:44pm 6:58am 6:50am 5:55pm	6:38pm 8:04am 6:51am 5:55pm	7:35pm 9:09am 6:51am 5:54pm	8:34pm 10:09am 6:52am 5:54pm	9:35pm 11:05am 6:53am 5:54pm	10:34pm 11:55am 6:53am 5:54pm
20 ʻOlekūkahi	21 ʻOlekūlua	22 ʻOlepau	23 Kāloakūkahi	24 Kāloakūlua	25 Kāloapau	26 Kāne
11:32pm 12:40pm 6:54am 5:54pm	12:27am 1:22pm 6:55am 5:53pm	1:20am 2:01pm 6:55am 5:53pm	2:11am 2:38pm 6:56am 5:53pm	3:00am 3:14pm 6:57am 5:53pm	3:50am 3:50pm 6:57am 5:53pm	4:39am 4:27pm 6:58am 5:53pm
27 Lono	28 Mauli	29 Hilo	30 Hoaka	1 Kūkahi	2 Kūlua	3 Kūkolu
5:28am 5:06pm 6:59am 5:53pm	6:18am 5:47pm 6:59am 5:53pm	7:08am 6:30pm 7:00am 5:53pm	7:58am 7:16pm 7:01am 5:53pm	8:47am 8:05pm 7:01am 5:53pm	9:36am 8:55pm 7:02am 5:54pm	10:22am 9:48pm 7:03am 5:54pm



Kūmū

L50: 11 inches
Habitat: shallow reefs and sand patches
Endemic to Hawai'i
Kinolau of Lono

Weke

L50: 6.6-6.8 inches
Habitat: sandy areas near reefs
Feeds on: crabs and shrimps buried in sand
Land counterpart: Wauke

FISHING PONO

Choose to harvest medium-sized fish of each species. Not too big, not too small, but just right!

	DECEMBER
'Āholehole	
Manini	
'Ōmilu	
'Ōpelu	
Akule	
Halalū	
Moi	LIMITED 15/day 11 in. minimum FL
Ula	
Ula Papapa	
Kona Crab	
'Ama'ama	CLOSED

For more info see the full **Fishing Season Table** near the start of the calendar

Kēkēmapa

2016

HANALEI TIDE & MOON CALENDAR

DECEMBER

Lāpule SUNDAY	Pō'akahi MONDAY	Pō'alua TUESDAY	Pō'akolu WEDNESDAY	Pō'ahā THURSDAY	Pō'alima FRIDAY	Pō'aono SATURDAY
27 Lono	28 Mauli	29 Hilo	30 Hoaka	1 Kūkahi	2 Kūlua	3 Kūkolu
5:28am ☾ 5:06pm 6:59am ☀ 5:53pm	6:18am ☾ 5:47pm 6:59am ☀ 5:53pm	7:08am ☾ 6:30pm 7:00am ☀ 5:53pm	7:58am ☾ 7:16pm 7:01am ☀ 5:53pm	8:47am ☾ 8:05pm 7:01am ☀ 5:53pm	9:36am ☾ 8:55pm 7:02am ☀ 5:54pm	10:22am ☾ 9:48pm 7:03am ☀ 5:54pm
4 Kūpau	5 'Olekūkahi	6 'Olekūlua	7 'Olekūkolu	8 'Olepau	9 Huna	10 Mōhalu
11:07am ☾ 10:42pm 7:03am ☀ 5:54pm	11:51am ☾ 11:37pm 7:04am ☀ 5:54pm	12:33pm ☾ 12:33am 7:04am ☀ 5:54pm	1:15pm ☾ 1:30am 7:05am ☀ 5:54pm	1:58pm ☾ 2:29am 7:06am ☀ 5:55pm	2:42pm ☾ 3:31am 7:06am ☀ 5:55pm	3:29pm ☾ 7:07am ☀ 5:55pm
11 Hua	12 Akua	13 Hoku	14 Māhealani	15 Kulu	16 Lā'aukūkahi	17 Lā'aukūlua
4:34am 7:08am ☀ 5:56pm	4:20pm ☾ 5:40am 7:08am ☀ 5:56pm	5:15pm ☾ 6:45am 7:09am ☀ 5:56pm	6:13pm ☾ 7:49am 7:09am ☀ 5:57pm	7:14pm ☾ 8:49am 7:10am ☀ 5:57pm	8:16pm ☾ 9:44am 7:11am ☀ 5:58pm	9:17pm ☾ 10:33am 7:11am ☀ 5:58pm
18 Lā'aukūpau	19 'Olekūkahi	20 'Olekūlua	21 'Olepau	22 Kāloakūkahi	23 Kāloakūlua	24 Kāloapau
:15pm ☾ 11:18am 7:12am ☀ 5:58pm	11:11pm ☾ 11:59am 7:12am ☀ 5:59pm	12:04am ☾ 12:37pm 7:13am ☀ 5:59pm	12:55am ☾ 1:14pm 7:13am ☀ 6:00pm	1:45am ☾ 1:51pm 7:14am ☀ 6:00pm	2:34am ☾ 2:27pm 7:14am ☀ 6:01pm	3:23am ☾ 3:05pm 7:15am ☀ 6:01pm
25 Kāne	26 Lono	27 Mauli	28 Hilo	29 Hoaka	30 Kūkahi	31 Kūlua
4:13am ☾ 3:45pm 7:15am ☀ 6:02pm	5:03am ☾ 4:27pm 7:15am ☀ 6:03pm	5:53am ☾ 5:13pm 7:16am ☀ 6:03pm	6:43am ☾ 6:01pm 7:16am ☀ 6:04pm	7:33am ☾ 6:51pm 7:17am ☀ 6:04pm	8:21am ☾ 7:44pm 7:17am ☀ 6:05pm	9:07am ☾ 8:38pm 7:17am ☀ 6:06pm

If you are interested in learning how you can contribute to this and other projects in Hanalei, please contact the Hanalei Watershed Hui at:

(808) 826-1985 or hanaleiriver@hawaiian.net

*The **Hanalei Moon and Tide Calendar** was made possible through the following partnerships:*

Hanalei Watershed Hui

Papahānaumokuākea Marine National Monument

Hawaiian Islands Humpback Whale National Marine Sanctuary

Hawai'i Division of Aquatic Resources

Waipā Foundation

U.S. Fish and Wildlife Service

Dr. Alan Friedlander, University of Hawai'i at Mānoa

HanaleiWatershedHui

Papahānaumokuākea Marine National Monument

Hawaiian Islands Humpback Whale National Marine Sanctuary

WAIPĀ

REFERENCES

HAR 13-95. Hawaii Administrative Rules Title 13 Department of Land and Natural Resources, Subtitle 4 Fisheries, Part V Protected Marine Fisheries Resources, Chapter 95 Rules Regulating the Taking and Selling of Certain Marine Resources. http://hawaii.gov/dlnr/dar/rules/ch95.pd

Tide Predictions - NOAA Tides & Currents. (n.d.). Retrieved September, 2015, from http://tidesandcurrents.noaa.gov/tide_predictions.html

Sun and Moon Data - U.S. Naval Observatory. (n.d.). Retrieved September, 2015, from http://aa.usno.navy.mil/data/docs/Rs_OneYear.php

Hawaii Coral Reef Strategy. (n.d.). Retrieved October, 2014, from http://www.hawaiicoralreefstrategy.com/index.php/strategy

Eble, J.A. et. al. (2009). "Growth and Reproduction of Hawaiian Kala, Naso unicornis".

Kahā'ulelio, D. (2006). "Ka 'Oihana Lawai'a, Hawaiian Fishing Traditions". Honolulu, HI: Bishop Museum.

Kanaka'ole Kanahele, Pualani, Huihui Kanahele-Mossman, Kalei Nu'uhiwa, and Ku'ulei Higashi Kanahele. Mahina. Hawaii: Edith K. Kanaka'ole Foundation, 2011.

Kumulipo - Translated by Queen Lili'oukalani (1897). Retrieved November, 2015, from http://www.sacred-texts.com/pac/lku/

Longenecker, K., Langston, R., (2008). "Life History Compendium of Exploited Hawaiian Fishes".

Malo, D., Emmerson, N.B. (1971). "Hawaiian Antiquities". Honolulu, HI: Bishop Museum.

Manu, Moke, and Others, (revised 2006). "Hawaiian Fishing Traditions". Honolulu, HI: Kalamaku.

Nishimoto, R.T, et. al. (2007). "Muligids in the Muliwai: a Tale of Two Mullets",

Titcomb, M. (1982). "Native Use of Fish in Hawaii". Honolulu, HI: University of Hawai'i.

Wichman, F.B. (1998). "Kaua'i: Ancient Place Names and Their Stories". Honolulu, HI: Univ. of Hawai'i.

Wichman, F.B. (2006). "Touring The Legends of the North Shore". Līhu'e, HI: Kaua'i Historical Society.