

ENVIRONMENTAL BULLETIN

A collection of social media posts from the previous
months (October 2021 – January 2022)

November 2021-February 2022

Marine Corps Base Hawaii Environmental Compliance & Protection Division (ECPD)



Naupaka plant. PC: Karen Bryan



Earth Day Every Day



Weed Warriors Volunteer Event

Posted: October 04, 2021

SgtMaj called 📞 He wants you to volunteer for Weed Warriors this weekend!



Weed Warriors Volunteer Event



Saturday, 9 Oct., 0800 – 1130
Nu'upia Ponds Wildlife Management Area

Contact Dain Christensen, at (808) 257-7129 or dain.christensen@usmc.mil for more information.

Please come out to help the Environmental Natural Resources team remove invasive plants and trees. Your help is need to control highly invasive vegetation that are encroaching on MCBH's shorelines and wetlands. Letters of Appreciation will be issued to all active duty personnel.

Meet at MCBH Pacific War memorial parking lot across from the H-3 Passhouse by 0745.

MCBH will provide gloves, tools, and a place to refill water bottles. Volunteers should bring a water bottle and sunscreen. Closed-toed shoes are REQUIRED. Long pants and long sleeved shirt recommended. Minimum age to participate is 14 years old, and parent or guardian must be present. Waivers of liability must be completed by all non-military participants.

26 Likes 9 Comments 2 Shares

Malama Na Honu Volunteers

Posted: October 10, 2021

Here's a selfie with LCpl Sanchez, members of our S-4, S-5 and volunteers from Malama Na Honu as they conduct research on the honu nests on MCBH. Thank you to all the volunteers (many of whom are military dependents) who help us protect our resources!

-CO



229 Likes 2 Comments 8 Shares

Base Wide Clean-up Week

Posted: October 14, 2021

Help MCBH units keep our installation clean by taking part in the Base Wide Clean-up Week. Many hands make small work!



**Operation
“Malama Ka Aina”**
To care for and protect



**Base Wide Clean-up Week
18 – 22 October 2021**

**As units aboard MCBH execute
Operation “Malama Ka Aina,”
base residents are encouraged to
do their part in keeping our
installation and community clean.**

What you can do to help

- Pick up trash in yards and on sidewalks as you move around base.
- Call Ohana Military Communities at (808) 839-8700 to address cleanliness issues within base housing.

32 Likes 5 Comments 4 Shares

Carrying the Tradition

Posted: October 28, 2021



U.S. Marines with Marine Corps Base Hawaii take part in the “Makahiki” tradition by carrying the “Lono” forward on its journey.

“Makahiki” is the Hawaiian new year and season of peace, which incorporates the carrying of the “Lono”, starting at Mokapu Peninsula, home of MCBH. MCBH takes pride in honoring the continuous relationship and traditions of the local community.

(U.S. Marine Corps photos by Cpl. Shane Linder)



235 Likes 3 Comments 9 Shares

Protecting Turtles at MCBH

Posted: October 29, 2021

Protecting Turtles at MCBH 🐢



If you're fortunate enough to spend some time in the ocean surrounding Marine Corps Base Hawaii, there's a good chance you'll spot a Hawaiian green sea turtle or two out for a swim. Once captured for their eggs, shells, and meat, the sea turtle population began to decrease many years ago. Thanks to the Endangered Species Act of 1973, this sea turtle became a protected animal and many of the practices that led to their population decline stopped.

Today, Hawaiian green sea turtles are both a threatened and protected species and because of this, scientists with Marine Corps Base Hawaii are spending significant time and resources to facilitate their nesting in order to increase their odds of survival.

"Turtle nesting is from May to November," said Dain Christensen, a biological science technician with the MCBH Environmental Compliance and Protection Division. "MCBH has a significant portion of the island's sea turtle nesting."

This year alone MCBH has had 31 possible nests, and the environmental team on base works diligently with the U.S. Fish and Wildlife Service, the National Oceanic & Atmospheric Administration, and Malama Na Honu, a non-profit organization for sea turtles, to locate, monitor and protect these nests.

"When a nest is discovered, we set up a high visibility perimeter around it," said Christensen. "This is to ensure that everyone is aware, with signage, that it's a sea turtle nest."

Through the Endangered Species Act, capturing, harming, or getting too close to a sea turtle is punishable under federal law.

"Our goal is to ensure that we manage the nests so that they are successful and that they are not impacted by recreation or the military mission," said Keith Roberts, a natural resources manager with MCBH. "We watch the nests for 70 days, and at the 50 day mark, we prepare for the hatching to start."

Occasionally, complications with the nest may occur, and that's when the base environmental team steps in to lend a helping hand.

Through careful excavation of the site, permitted scientists working with MCBH Environmental division attempt to rescue any stranded live hatchlings that cannot make their way out of the nest chamber.

"Another reason we excavate is to collect [biological] data," explained Roberts. "We try to get an understanding of the success rate, genetics, mortality, and size of the nest."

Data that is collected helps the environmental team determine more efficient ways to manage sea turtle nests and is also added to a Hawaiian Islands database to help support ongoing research efforts.

During the hatching process, baby sea turtles use natural sources of light such as the moon to guide them to the ocean. Since, coastal lights from sources like porches, windows, and driveways can oftentimes confuse and disorient the baby sea turtles, the environmental team at MCBH has tried to raise awareness about making small changes like turning off all non-essential outdoor lights, closing blinds, and installing turtle-friendly lighting to help prevent confusing the baby sea turtles. By darkening the coastline, more sea turtle hatchlings will find their way out to sea as they are supposed to do instead of being disoriented and moving inland which leads to an inevitable death.

MCBH takes their role of protecting the natural wildlife and landscape of Oahu very seriously. The environmental team on base is proud to protect such an iconic and beloved animal here in Hawaii.

*All excavations are conducted under one of two permits: One from the Pacific Islands Fish and Wildlife Office (Permit #: FWSPIFWO-26) and another from NOAA's Pacific Islands Fisheries Science Center (Permit #: TE-72088A).

(U.S. Marine Corps story by Lance Cpl. Isaiah Hill and photos by Cpl. Brandon Aultman) 270 Likes 8 Comments 29 Shares



DASN Visits MCBH

Posted: November 02, 2021

Karnig Ohannessian, the Deputy Assistant Secretary of the Navy, visits Marine Corps Base Hawaii to discuss current environmental topics such as natural resources, environmental planning, training area preservation, and interagency coordination.

(U.S. Marine Corps photos by Lance Cpl. Isaiah Hill)

49 Likes 2 Comments
1 Share



Don't Fall Out

Posted: November 17, 2021



Don't fall out!

September through December is "Fall Out Season" for Wedge-tailed Shearwaters. This is when the seabird learns to fly. Juvenile Wedge-tailed Shearwaters often fall after getting disoriented by urban lights.

How can you help?

- Turn off all non-essential exterior lighting
- Inform the base environmental division of live and dead birds during fallout season.

If you encounter an injured bird on base, contact Base Environmental at 808-285-6464 / 808-257-7131 / 808-257-7000 or PMO at 808-257-2123.

27 Likes 1 Comment 6 Shares

Need an LOA?

Posted: November 29, 2021

Well you're in luck because we need volunteers for Weed Warriors

A photograph of a woman wearing a grey t-shirt, a black face mask, and gloves, using a tool to remove invasive vegetation. The background is a green overlay with text and a logo.

Weed Warriors Volunteer Event

Saturday, 11 Dec., 0800-1130
Camp H. M. Smith

Contact Dain Christensen, at dain.christensen@usmc.mil, (808) 257-7129 or Lance Bookless at lance.bookless1@usmc.mil, (808) 257-7000 for more information

Please come out to help the Environmental Natural Resources team remove invasive plants and trees.

Your help is needed to control highly invasive vegetation!

Letters of Appreciation will be issued to all active duty personnel.

Meet at the top of Halawa Heights Rd, intersection of Palaialii Place. Parking available at Hele Mauna Place and Aiealani Place side streets.

MCBH Environmental will provide gloves and tools. Minimum age is 16 years old. Parent or guardian must be present. Waivers of liability must be completed by all participants unless active duty service member.

Turtle Island

“Hana Hou!” The Hawaiian Airlines Magazine Posted: January-February 2022
Story by Catherine Lo Griffin

For the first time in living memory, Hawaiian green sea turtles are nesting on O`ahu’s shores.

On a midsummer’s eve on Mōkapu, the windswept peninsula in Kāne‘ohe that’s also home to Marine Corps Base Hawai‘i (MCBH), biological science technician Dain Christensen and a few of his colleagues are preparing to release some rescued sea turtle hatchlings along the southeastern coastline.

It’s just after dusk, and the researchers are processing genetic samples by the parking lot—conveniently, the National Oceanic and Atmospheric Administration scientists have a portable centrifuge that runs on solar and fits in a truck. While the machine spins, a shadowy mass hauls itself out of the ocean and crawls up the beach.

It is a Hawaiian green sea turtle—a female, and a big one at around 250 pounds. Behind her the lights of Kailua town twinkle in the distance. She surveys the narrow, white-sand beach abutted by eroded dunes and drags herself across the sand toward Christensen and his colleagues. Then for some reason—maybe spooked by cars or voices—she retreats back into the dark sea.

Less than an hour later, when the research team—collaborators from the US Fish and Wildlife Service, NOAA and community nonprofit Mālama na Honu—carries the hatchlings down the beach to release them, they’re surprised to see that the same female has emerged again and found a spot to her liking. Swiping her back flippers in a controlled, deliberate manner, she digs her nest.

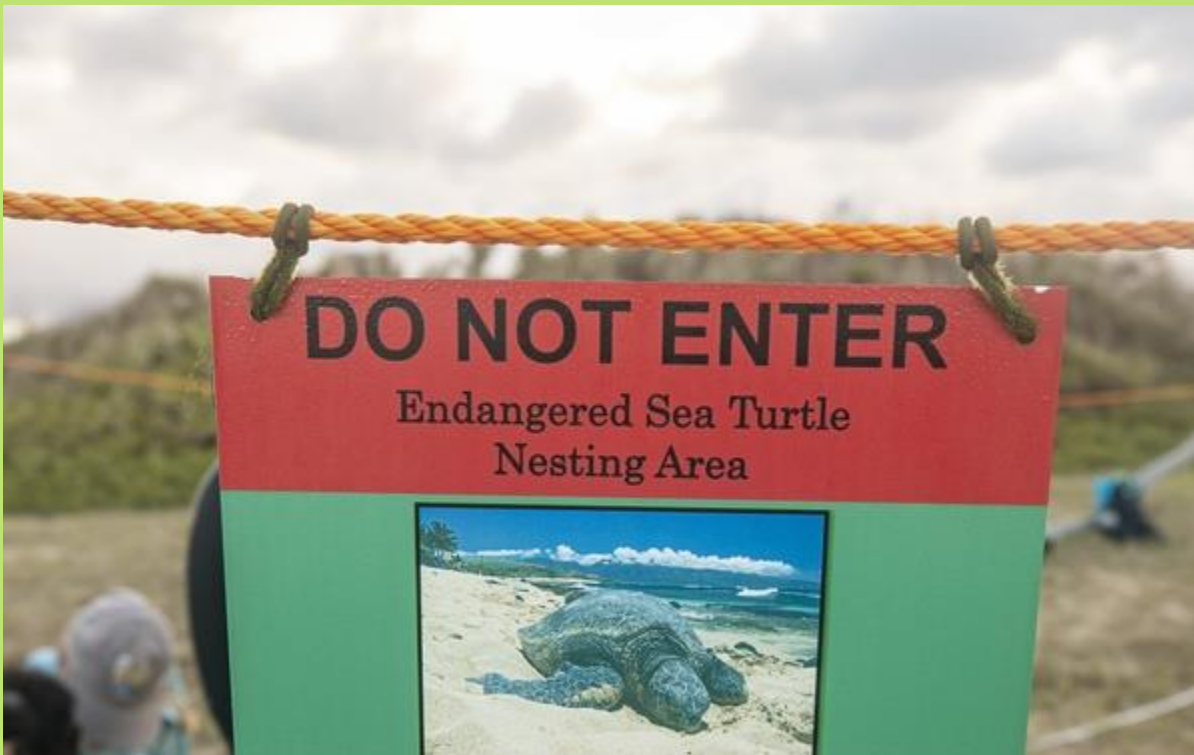


For endangered Hawaiian green sea turtles (*Chelonia mydas*), life begins with a mad dash to the ocean. Hatchlings dig their way out of nests buried in the sand and scramble to the shoreline. Photo by Lance Cpl. Brandon Aultman

“When a female digs out the chamber, she’s very precise,” says Christensen. “The hole goes straight down, anywhere from forty to one hundred centimeters. Sometimes it’s very deep. This is a sensitive time—if you were to come up and scare her before she deposits her eggs, she’ll just shoot back into the water. But once she starts depositing those eggs, she falls into a trance. That is what allowed us to get up close to her to get a tissue sample, mark her carapace and count the eggs.”

About a half-hour and seventy-four eggs later, she packs the chamber with sand using her hind flippers. Then, to camouflage the nest, she flings sand with her front flippers to form a mound. The entire process takes about two hours. Christensen remembers that night as one of the most incredible events he has experienced since joining the MCBH natural resource team. “She was so big but so gentle with her nest.”

To see a honu (sea turtle) dig a nest on any beach in the main Hawaiian Islands is remarkable because 90 percent of Hawaiian green sea turtle nests are found 750 miles away at Lalo, or French Frigate Shoals, a coral-rich atoll in the Northwestern Hawaiian Islands, part of the Papahānaumokuākea Marine National Monument. Among these safe, sandy islets is a low-lying, eleven-acre finger of sand called East Island, where approximately half of all nesting green sea turtle females lay their eggs. In October 2018, Hurricane Walaka submerged East Island, wiping out this nesting ground. Now, East Island is a sliver of shifting sand that’s a quarter to a half of its original area. Different sections disappear under high tides, inundating nests—a problem that will be exacerbated by sea-level rise. In 2021, NOAA scientists spotted recently emerged hatchlings during an afternoon survey of East Island, providing evidence that, for now at least, turtles are still nesting there.



Sign at Kāneʻohe Marine Corps Base Hawaiʻi warns beachgoers to stay clear of turtle nests. Photo by Lance Corporal Samantha Sanchez

The other good news is that in the past two years, an unprecedented number of nests have turned up on the main Hawaiian Islands. Along the seven miles of coastline managed by the Marine Corps—including the Marine Corps Training Area Bellows in Waimānalo, where a cluster of nests was found in 2020—nests have been discovered in places where they have never before been documented. Prior to 2019 only a handful of nests had been recorded on base in any given year. As of September 2021 there are thirty-one and counting.

There's much speculation about why. The MCBH natural resource team believes that human-free beaches could be one reason. "Maybe it was more suitable for the sea turtles to nest here when the beaches were shut down during COVID-19. Less foot traffic also may have allowed for better detection—it was easier to spot very distinct tracks, body pits and mounds," Christensen says. "Also, we might notice an increase in nesting because we're monitoring more. That's the case across all bio-logical data collection—as soon as you look for it, you see more of it."

MCBH plans to ensure the shorelines it manages remain friendly to nesting turtles and their hatchlings. Major Jeffrey Hart, director of the Environmental Compliance and Protection Division, talks about the importance of balancing competing mandates. "As a Marine, I know that Marines have a mission to accomplish, and they need to be ready to train and deploy worldwide at a moment's notice," he says. "As the environmental compliance director, I have to make sure that they are ready to do that while being good stewards and maintaining compliance with all state and federal regulations. Because, ultimately, we are on this land, and we have a duty to protect it, preserve it and enhance it."



After emergence, the odds are stacked wildly against the hatchlings. If they aren't picked off by predators on the way to the sea, they must survive what's known as "the lost years" in the open ocean before they're spotted again as platter-size juveniles. Photo by Lance Cpl. Brandon Aultman

After two months of incubating in the sand, it's time for the "main emergence" —the moments (it could take days) when the hatchlings break open their eggshells, collectively clamber out of the sandy pit and make a run for the ocean. The odds are wildly stacked against them: If they aren't picked off by predators on the way to the sea, they must survive what's known as "the lost years" before they're spotted again as platter-size juveniles. Christensen estimates that only one in a thousand baby turtles makes it to adulthood: Crabs, fish and birds all eat them. Fishing lines entangle them. Pieces of plastic might choke them. Boats run them over. In the past they were also harvested for their meat and eggs—and still are in many parts of the world. That's not the case in the United States, though, where green sea turtles are listed as threatened under the Endangered Species Act. (Of the eleven distinct population segments of green sea turtles in Hawai'i, three are endangered and eight are threatened.)

On September 1, 2020, during her daily survey walk, Karen Bryan, a volunteer with Mālama na Honu, spotted tiny divots —baby turtle tracks—in the sand where the research team had watched the female lay her eggs. Most of the tracks ran down to the water, but some of them led inland, toward Kailua. “For millions of years, sea turtles have gone toward the brightest horizon when they hatch,” says MCBH natural resource manager Keith Roberts. These babies, he explains, can be led astray by white and blue lights that look like moonlight reflecting off the surface of the ocean. “In the last hundred years we’ve loaded our shorelines with artificial lighting. It’s brighter than the moon in some instances, and it changes where the sea turtles go after they hatch.”

Green sea turtles travel hundreds of miles from their hatching beach to their foraging grounds, where they feast on algae that produces the green color in their fat. When they reach sexual maturity at 25 to 30 years old, females return to the beach where they were born to nest.

The same issue affects hatchlings born on other developed coastlines. Some wander toward the floodlights of oceanfront homes; others veer haplessly toward beach bonfires. Because nesting activity on the main Hawaiian Islands was formerly minimal, residents don’t have much experience with protecting nests and hatchlings. The natural resource managers at MCBH have been working to mitigate the problem of misorientation, which also causes fatalities to seabirds like petrels and shearwaters.

At known nesting sites, silt barriers can be set up to corral the hatchlings and keep them from migrating inland, explains Chris Frantz, deputy director of the base’s Environmental Compliance and Protection Division. The bigger problem, he points out, is protecting undetected nests. To that end, staff and volunteers who are monitoring the beaches for nesting activity at night take note of light sources. They then reach out to residents, asking them to close curtains and switch off lights that aren’t in use. Frantz’s team also plans to install turtle friendly lighting—ambers, oranges and reds—and simply reduce and dim lighting. “If we can turn off three out of seven streetlights and still provide a safe, travelable road, that’s great,” Frantz says.

A day later the research team returns to excavate the nest, collect data and rescue any struggling hatchlings. From behind a staked-off area, Sheldon Plentovich, US Fish and Wildlife Service coastal program manager for Hawai‘i and the Pacific Islands, leads the effort, pulling out the empty, leathery shells one by one. (FWS oversees sea turtle conservation on land; in the ocean it’s governed by NOAA Fisheries.) Meanwhile, Debbie Herrera, Mālama na Honu education and volunteer coordinator, scribbles observations in a journal: clutch size, hatching success, emergence success, hatchling entrapment and potential threats. At this nest she notes ‘aki‘aki grass with invasive yellow crazy ants around the nest, and nylon rope and plastic marine debris inside the nest.

Fifty meters away, Christensen shares bits of green sea turtle trivia with a dozen spectators who are there as part of MCBH’s outreach program. He explains that these herbivores travel hundreds, even thousands of kilometers to their foraging grounds in nearshore waters, where they feed on algae that produces the green color in their fat for which they’re named. When they reach sexual maturity at around 25 to 30 years old, the females mate with multiple males and lay eggs belonging to multiple fathers in the same clutch. Christensen carries over some of the excavated shells for the audience to study.

One of the eggs houses a tiny turtle that hadn’t fully developed embracing a round yolk sac. Some of the turtles pipped—poked a hole in their shell—but never made it out. Of the seventy-four eggs, sixty-four hatchlings emerged successfully, Plentovich reports. It’s always sad to encounter the ones that didn’t make it, she says, but it’s equally heartening to rescue the ones that otherwise wouldn’t have survived because they were stuck in fishing line, debris or plant roots. “When we place them in the sand, they know exactly what to do. They lift their heads and then put everything they have into their walk to the ocean, driven by cues we don’t fully understand,” she says. “I’ve seen it over a hundred times now, and it never gets old. It fills me with joy, inspiration, wonder and concern for the future of that little hatchling and the species in general.”

Five other nests were found in this section of Fort Hase Beach, and Plentovich believes they were all dug by the same mother. Females nest every eleven to fourteen days during nesting season. So far this year, the average

clutch has eighty-four eggs. Every two to four years, the mothers tend to return to the beach where they were born to repeat the process—so there’s a good chance this honu will come back to this spot in 2023.

It’s also possible she has been here before. In the late 1990s, turtles that had been hatched and reared in captivity were released as juveniles along O’ahu’s Windward coast. NOAA scientists can compare tissue samples from these turtles to those collected from hatchlings at Bellows and Fort Hase in 2020 and 2021. “NOAA is working on putting together a genealogical tree showing who’s related to whom. It’s possible we are seeing some of those sea turtles from twenty-five years ago come back to nest here, which is exciting,” Christensen says. “If they come back again next year, we’ll be ready.” **HH**

For more ECPD information visit: <https://www.mcbhawaii.marines.mil/Offices-Staff/S-4-Installations-Logistics/Facilities/Environmental/>