

MAN LAND & SEA

a publication by Guam Coastal Management Program



In this issue:

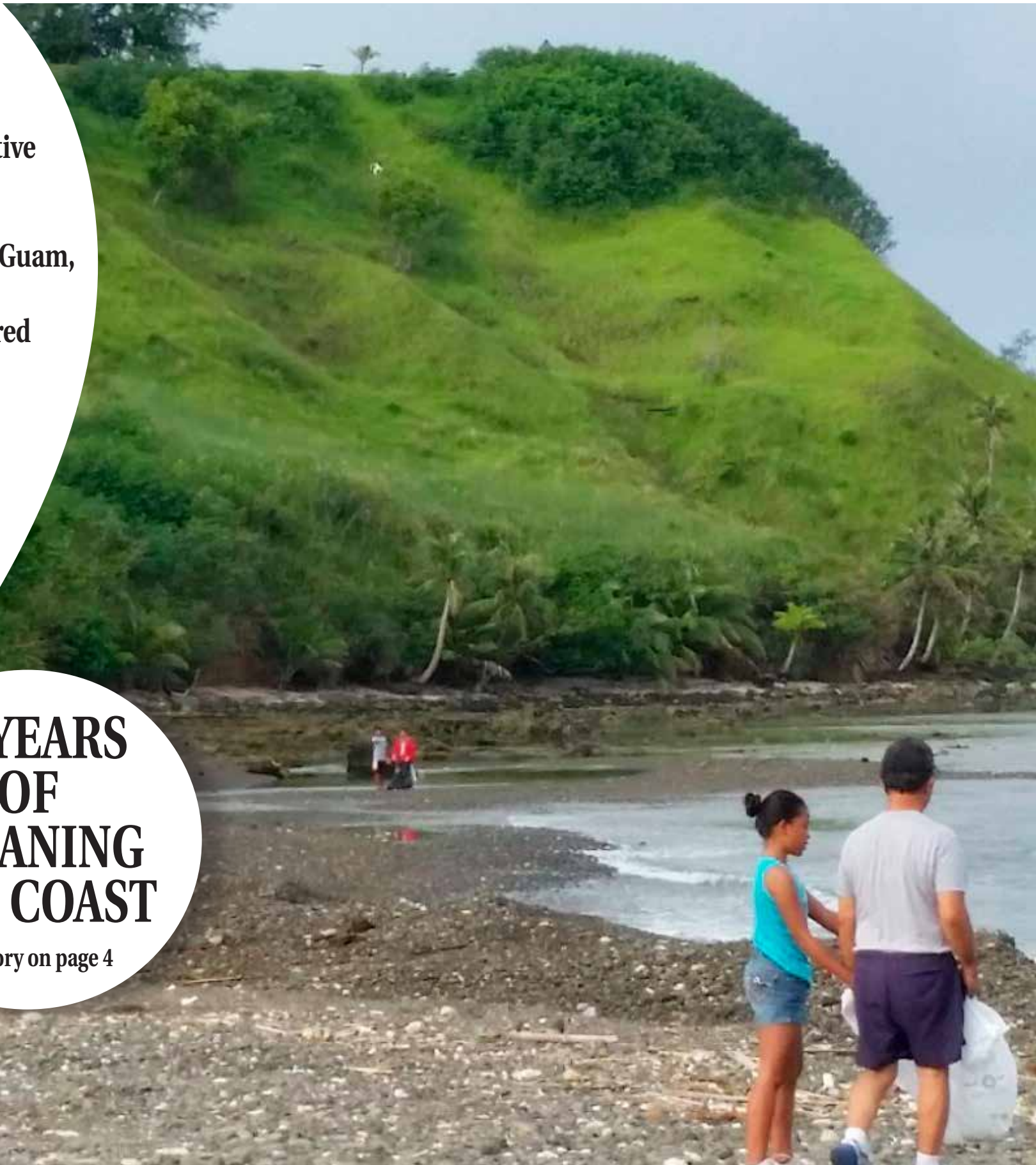
'Every Kid in a Park' Initiative kicks off

23 species in Guam, CNMI under the Endangered Species Act

Protecting native plants of Guam

**21 YEARS
OF
CLEANING
OUR COAST**

See story on page 4



**BUREAU OF
STATISTICS
AND PLANS**

William M. Castro
Director

James T. McDonald
Deputy Director

**GUAM COASTAL
MANAGEMENT
PROGRAM**

Edwin Reyes
Administrator

CONTACT US

P.O. Box 2950
Hagåtña, GU 96932
671.472.4201/2/3

For newsletter information,
please contact Esther Marie
G. Taitague at 671.475-
9671 or email esther.
taitague@bsp.guam.gov
or Edwin Reyes at edwin.
reyes@bsp.guam.gov .

This Man, Land, and Sea
newsletter was prepared
by the Bureau of Statistics
and Plans, Guam Coastal
Management Program using
federal funds, under award
NA15NOS4190004 from the
Office of Ocean and Coastal
Resource Management,
National Oceanic and Atmo-
spheric Administration, U.S.
Department of Commerce.
The statement, findings,
conclusions, and recom-
mendations are those of the
BSP and GCMP, and do not
necessarily reflect the views
of the OCRM, NOAA, or the
Department of Commerce.



Hafa Adai,
Welcome to this
edition of Man
Land and Sea, news
of Guam and her environment. In this
issue we feature natural resource initia-
tives of our network partners from
both local and federal governments
in addition to educational activities
to protect coastal habitat and marine
ecosystems. The Bureau of Statistics

Message from the Director

and Plans recently coordinated the
island's largest cleanup event, which
took place on every shoreline and
even under water. The cleanup event
is important to protect coastal habitat
and nesting grounds for ocean wildlife
like sea turtles and sea birds. More-
over, a clean beach attracts vacation-
ers from around the world, thus help-
ing to sustain Guam's economy. We
also feature the endangered species

list provided by the U.S. Fish and Wild-
life Service, and programs from the
National Park Service and the Guam
Plant Extinction Prevention Program in
hopes that our community can partici-
pate in these opportunities to make
Guam a beautiful place to live in.

Si Yu'us Ma'ase'
William M. Castro

Department of Interior Regional Visit

By: Tricee P. Limtiaco

**Two key members of Depart-
ment of Interior (DOI) visited
Guam after surveying the
recovery efforts of Typhoon
Soudelor on Saipan.**

On October 8-9, 2015, the Office of
Insular Affairs (OIA) Assistant Secretary
Esther Kia'aina and Policy Director Basil
Ottley met with multiple stakeholders
including local and federal government
agencies, university and non-govern-
mental organizations. The importance
of Guam and other U.S. territories to
prepare to respond to the effects of
climate change was highlighted to all
meeting attendees by Assistant Secre-
tary Kia'aina. The Assistant Secretary
expressed her concerns that many insu-
lar areas are already feeling the effects
of progressive climate-induced affects,
such as sea level rise, coral bleaching,
ocean acidification, and saline intrusion
into freshwater systems.

Assistant Secretary Kia'aina welcomed
directors and supervisors of Guam's
natural resources agencies to a round-
table meeting. Participating agen-
cies included the Bureau of Statistics
and Plans (BSP), Department of Land
Management (DLM), Department of
Agriculture (DOAg), and the U.S. Fish and



Department of Interior Assistant Secretary Esther Kia'aina and Basil Ottley, Policy Director met with government officials recently to discuss Guam's natural resources. Resource mangers stressed the need to protect Guam's marine preserves and improve the health of watersheds.

Wildlife Service. The group discussed
several important issues including inva-
sive species, watersheds, conservation
areas, and climate change. Assistant
Secretary Kia'aina stressed the impor-
tance of greater collaboration between
federal and local agencies to achieve
optimum results on projects that benefit
Guam.

OIA provides significant funding for
a variety of programs on Guam that

support efforts to improve management
and reduce threats to the island's natural
resources; research and interdiction of
invasive species (the brown tree snake);
and other projects that support health
and safety programs on island. FY2016
technical assistance program grant
applications that address climate change
vulnerability assessments, adaptation
plans and resiliencies will be given prior-
ity, according to the Assistant Secretary.

War in the Pacific National Historical Park kicks off 'Every Kid in a Park' Initiative

By Razsa Cruz

"Every Kid in a Park" initiative is aimed at providing an opportunity for every fourth grade student (approximately 4 million) across the country to experience national parks in person throughout the 2015-2016 school year.

Over the long term, the goal is to have an ongoing yearly commitment to bring 4th graders to their public lands and waters so that all children have the opportunity to build a connection by the time they are 12 years old. As public lands serve as natural tools for learning, these students will be exposed to and build ownership of their cultural and natural heritage.

The long term goal of this initiative is to inspire, educate, and grow a new generation of environmental ambassadors

and stewards, ready to preserve and protect our public lands. It is closely aligned with the NPS Centennial goal to engage the next generation of park visitors, advocates, and supporters.

All events and park units at War in the Pacific National Historical Park are free (no free entrance) and open to the public. For more information on specific programs, call 671-333-4050 or visit www.nps.gov/wapa for more details and a map of park units.



The long term goal of the "Every Kid in the Park" initiative is to inspire, educate, and grow a new generation of environmental ambassadors and stewards, ready to preserve and protect our public lands.

"Every Kid in a Park" initiative is an important part of the National Park Service's 2016 Centennial celebration, which encourages everyone to Find Your Park.

The War in the Pacific National Historical Park offers numerous opportunities for parents and educators to visit to have their kids and students involved in enlightening, character

building and fun activities around our park. The Reef Ranger, River Ranger, and Jr. Ranger educational programs provide opportunities to get our youths in the great outdoors while learning about this national treasure.

The "Every Kid in a Park" pass is only necessary for park sites that have an entrance fee. This pass will be significant to enter other National Park sites throughout the mainland, Hawaii, Alaska, and other U.S. territories. To learn more about "Every Kid in a Park" initiative and how to receive your free park pass please

visit www.everykidinapark.gov

All events and park units at War in the Pacific National Historical Park are free (no free entrance) and open to the public. Visitors can also hear from a park ranger with the park's cell phone audio tour, available 24 hours a day. Tour stops are located at ten points throughout the park. Dial 866-418-3963 to listen to the tour in English or Japanese.

For more information on specific programs, call 671-333-4050 or visit www.nps.gov/wapa for more details and a map of park units. ▲

Teaching methods: Parks as classrooms workshop

By Jaclyn Zapanta
Balajadia

War in the Pacific National Historical Park and Pacific Historic Parks is proud to announce a new professional development workshop titled, "Teaching Methods: Parks as Classrooms."

The workshop will engage teachers to use parks in Guam as resources for studying a variety of subjects, such as local and national history, marine biology, botany, culture, and

geography. The workshop will take place on November 16 and 17, 2015, from 9:00am to 5:00pm at the T. Stell Newman Visitor Center in Sumay.

Park rangers and the Pacific Historic

Parks Education Team will provide sample lesson plan guides, share opportunities for service-learning, and give guided tours of park sites. The workshop is free of charge. Educators have the opportunity to earn one graduate credit by registering through the University of Guam Professional and International Programs Department. Teachers of all grade levels are

welcome to sign up. More information can be found at www.nps.gov/wapa/learn/education/index.htm. Space is limited to 30 educators.

Learn more about the workshop and how to register at www.nps.gov/wapa or contact the Pacific Historic Parks Education Team at 671-477-7278, extension 1015 or email jbalajadia@pacifichistoricparks.org. ▲

21 YEARS OF CLEANING OUR COAST



Above: Message in the bottle written in Japanese found at the Ypao Site.

Left: Adelup Site Team and volunteers take a quick photo after their cleanup.

Ocean Conservancy celebrated its 30th anniversary of the International Coastal Cleanup which took place on Saturday, September 19, 2015 with more than 6,000 sites in more than 100 countries.

This year marked Guam's 21st annual participation in the International Coastal Cleanup! Guam contributed to a total of 26 sites by adding two new land sites and one new dive site. Twenty-four sites were land-based either right on the coast or inland where there is severe illegal dumping and the other two sites were dive sites conducted by the Micronesian Divers Association and the U.S. Navy.

Preparing for this event was a whole island effort with an all-hands

on deck approach from the Bureau of Statistics and Plans (BSP), Guam Coastal Management as lead coordinator. This event is comprised of volunteers from the federal agencies, local agencies, business sector, military organizations, NGOs, schools, and of course

This year, preliminary data from the transfer station and landfill weighed a total of 19,360 pounds of trash and that is without the total weight of recyclables such as plastic bottles, aluminum cans, metal scraps, etc.

individual volunteers.

The Guam International Coastal Cleanup Committee focused on not only diverting trash from entering our waters, but from decreasing the overall amount of trash going into the island's

landfill by sorting out recyclables and bringing them to recycle centers. **The primary cause of marine debris on our shores are from waste left behind after a party or barbecue**

and we hope beach-goers start taking their trash home as sometimes

we see public receptacles overflowing with trash that ends up on our shores! Additionally, our hope was to educate the community with their direct participation that by seeing all the trash collected will be an indication to stop littering so that one day we would not need this annual event.

Last year, a record number of 4,101 participants came out in support and collected 22,659 pounds of waste or equivalent to 3,513 trash bags! This year, preliminary data from the transfer station and landfill weighed a total of 19,360 pounds of trash and that is without the total weight of recyclables such as plastic bottles, aluminum cans, metal scraps, etc. As we tabulate the data for this year we are hopeful →



Guam International Coastal Cleanup 2015 sites

Governor Ricardo J. Bordallo
Governor's Complex (Adelup Shore)

Agat Mayor's Office
(Collecting trash along Agat Coast)

Ga'an Point - Holy Cross Mount Carmel
Catholic Cemetery (Agat Cemetery)

Anao Conservation Reserve

War In The Pacific National Park, Asan

Apurguan Beach (Dungca's Beach)

Pago Bay Site II -South (Hensa Beach)

Inarajan Bay

Ipan Beach Park

Matapang Park, Naton Beach

Sasahyan Springs (MARBO Cave)

Taogam Conservation
Reserve at UOG Marine Lab

Merizo Pier Park

Nomna Bay

Okkodo Pipeline

Francisco F. Perez Beach Park, Pago Bay

Paseo de Susana

Commissioner Pedro C. Santos Memo-
rial Beach Park, Tepungan Bay, Piti

Taga'chang Beach Park

Talofofo Bay Beach Park

Tanguisson Beach Park

Tarague Beach Park

Umatac Bay Park

Governor Joseph F. Flores Beach Park
(Ypao Beach)

Dive sites

Asan Cut

Agat Cemetery



to have met the same success of reaching volunteers and bringing the issue of "turning the tide on trash".

Shout out to the thousands of volunteers and partners who helped BSP coordinate this event!

Various federal and local Government agencies: Governor and Lt. Governor's Office, National Oceanic and Atmospheric Administration (NOAA), National Park Service, U.S. Coast Guard Auxiliary, Andersen Air Force Base, U.S. Navy, Gershman, Brickner & Bratton- Guam Solid Waste Authority, Guam Department of Parks & Recreation, Department of Public Works, Guam EPA, Mayor's Offices of Agana, Agat, Asan, Chalan Pago, Dededo, Inarajan, Merizo, Piti, Talofofo, Tamuning, Tumon, Harmon, Umatac, Yigo and Yona and University

of Guam, Guam Community College, University of Guam's Center of Island Sustainability, Sea Grant, and Marine Lab, George Washington High School, Okkodo High School.

Various corporate and non-governmental partners: Underwater World, Sea Grill Restaurant, Fisheye Marine Park, I-Recycle Program, Tristar, Trivision Media, Guam Association of Realtors, Lagu Sanitation, Guahan Wastedba Mr. Rubbishman, Trash Co. dba Morrico Equipment, Pacific Waste Systems, Pyramid Recycling, Micronesian Divers Association, K57, Isla63, Island Beautification Task Force, Ayuda Foundation, Eco-Warriors, Marine Mania, and the FSM Women Association of Guam.

Interesting and unusual collection

Guam has seen its fair share of interesting and unusual finds during the

annual International Coastal Cleanup. This year was no different. The most unusual items collected during the event were a life-size Mr. Snuffleupagus head costume from the Sesame Street, a giant rope, and car parts from bumpers to truck bed-liners. Interestingly enough all sites had waste issues; however, on the eastern shores of Guam it was seen to have more toothbrushes and flip-flops or slippers compared to the western coast.

There is a saying one man's trash is another's treasure and in the case of the Ypao site, a message in a bottle written in Japanese turned out to be a wish for the future. Although, there were not real treasures found, the letter brings a hopeful thought that people can hope for a brighter future and that everyone can have a happy life. ▲

Top: Paseo site volunteers sorting out recyclables to take to recycle centers.

Right: Ypao Site Team jumping for joy with a successful cleanup!



US Fish and Wildlife Service protects 23 species in Guam, CNMI under the Endangered Species Act

By Christine Ogura

The U.S. Fish and Wildlife Service (Service) is listing 23 species of plants and animals on Guam and the Commonwealth of the Northern Mariana Islands (CNMI) as threatened or endangered. The Service is not proposing critical habitat for these species at this time.

The Service identified 16 species of plants and animals as endangered, including the Mariana wandering butterfly, Langford's tree snail, and the Mariana subspecies of the Pacific sheath-tailed bat. These 16 species are at risk of extinction because of habitat loss and degradation related to development and other activities, the effects of nonnative species (i.e. through habitat degradation, predation and herbivory), and vulnerability as a consequence of reduced population size and distribution. Seven plant species are identified as threatened, including four species of orchid and a cycad (*Cycas micronesica*).

"These 23 species are facing tremendous challenges with shrinking habitat and the onslaught of invasive species," said Kristi Young, the Service's acting field supervisor for the Pacific Island Fish and Wildlife Office. "Most of these species are known only to Guam and CNMI. It's imperative we continue to work with Guam and CNMI leadership, federal agencies, and our partners to save these important plants and animals."

The Service re-evaluated the proposed status for several plant species based on new data received from CNMI Department of Land and Natural Resources biologists and the public during the comment periods. The Service changed the status of five plants from endangered to threatened because the information revealed that the species were not as diminished as previously thought.

Critical habitat for these species

is not determinable at this time because more time is needed to analyze the best available scientific data to identify areas appropriate for such a designation. The Mariana Islands covered by this listing rule are Guam, Saipan, Tinian, Aguiguan, Rota, Anatahan, Sarigan, Guguan, Alamagan, Pagan, and Asuncion.

Five plants are endemic to the island of Guam – *Eugenia bryanii*, *Hedyotis megalantha* (pao dedu, pao doodu), *Phyllanthis saffordii*, *Psychotria malaspinae* (aplokating, palaoan), and *Tinospora homosepala*.

Eight plants are known from both Guam and the CNMI – *Bulbophyllum guamense* (siboyas halumtanu, siboyan halom tano), *Dendrobium guamense*, *Heritiera longipetiolata* (ufa halumtanu, ufa halom tano), *Maesa walkeri*, *Nervilia jacksoniae*, *Solanum guamense* (biringenas halumtano, biringenas halom tano), *Tabernaemontana rotensis*, and *Tuberolabium guamense*.

One plant, *Cycas micronesica* (fading, faadang), occurs in Guam, the CNMI, Palau and Yap.

Three animals are island endemics – the Guam tree snail (*Partula radiolata*; akaleha, denden) is endemic to Guam, the Rota blue damselfly (*Ischnura luta*, dulalas Luta, dulalas Luuta) is endemic to Rota, and Langford's tree snail (*Partula langfordi*; akaleha, devdev) is endemic to Aguiguan.

The remaining six animals are historically known from both Guam and the CNMI – the Pacific sheath-tailed bat (*Emballonura semicaudata rotensis*; payeyi, paischeey), Slevin's skink (*Emoia slevini*; gualiik halumtanu, gholuuf), the Mariana eight-spot butterfly (*Hypolimnas octocula marianensis*, ababbang, libweibwogh), the Mariana wandering butterfly (*Vagrans egistina*), the humped tree snail (*Partula gibba*; akaleha, denden), and the fragile tree snail (*Samoana fragilis*; akaleha dogas, denden).

The final rule will publish in the Federal Register on Oct. 1, 2015. Comments received on the proposed rule and other supporting information are available at www.regulations.gov. The docket number for this rulemaking is FWS-R1-ES-2014-0038. For more information on these species and the final listing, visit <http://www.fws.gov/pacificislands/>.

The U.S. Fish and Wildlife Service works with others to conserve, protect, and enhance fish, wildlife, plants, and their habitats for the continuing benefit of the American people. For more information, visit www.fws.gov/pacific, or connect with us through any of these social media channels at [facebook.com/USFWSPacific](https://www.facebook.com/USFWSPacific), [flickr.com/photos/usfwspacific/](https://www.flickr.com/photos/usfwspacific/), [tumblr.com/blog/usfwspacific](https://www.tumblr.com/blog/usfwspacific) or twitter.com/USFWSPacific. ▲



Top left: The humped tree snail (*Partula gibba*) Photo by J. Kwon, USFWS

Left: The Rota blue damselfly (*Ischnura luta*) Photo by A. Asquith, USFWS



Kika Campers pointing out "badlands" or signs of erosion on top of Mt. Humuyong Manglo with guest presenter Anna Simeon, BSP Watershed Coordinator.

5 years of Kika Camp

The Guam Coastal Management Program celebrated educating Guam's youth grades 3rd to 7th with its 5th year of Kika Clearwater Summer Camp! Kika Camp is a hands-on environmental education camp jammed with action-packed adventure!

Guam is home to various ecosystems found from ridge to reef. Each day of camp was focused on habitats found in these environments and on the activities and management of watersheds and coral reefs. Kika Camp touched on subjects such as watersheds, marine preserves, conservation areas, limestone forests, native species as well as invasive species. Kika campers jumped right in to the adventure by climbing Mount Humuyong Manglo popularly known as Mt. Lamlam. Campers also immersed themselves in nature walks and field trips to Cocos Island, Anao Conservation area, and the Tumon Marine Preserve to name a few. Kika Camp ran

for two weeks educating 50 students along with capacity-building on environmental education for the AmeriCorps and Center of Island Sustainability chaperone volunteers.

Throughout camp, special guest speakers including conservation officers with the U.S. Fish and Wildlife Service came and talked to the campers on the importance on protecting Guam's native plants and animals. Campers were able to see and hear native birds at Anao Conservation area as well as touch one of the longest recorded brown tree snakes on Guam. The Switzerland group Race for Water talked to the campers about plastic pollution and how it impacts not only our local environment, but the rest of the world and how their odyssey is a race to study plastics all around the world. The campers also interacted with marine biologists at the University of Guam's Marine Lab where they were able to touch marine life and experience the tide pools.

This year's Kika Summer Camp could not have been such a great success without the help from our partners and volunteers! ▲



Campers went on a tide-pool exploration with Andrea Herhberger, Reef Resilience Coordinator. As it was low-tide campers were able to walk the shore and see various species such as crabs, sea-urchin, sea-cucumbers, and fish.



Campers listening to the Race for Water group regarding plastic and marine pollution.

Protecting native plants of Guam

By Else Demeulenaere

Guam's native and endemic plants are disappearing from the wild at an alarming rate. To combat the loss of rare species on-island, the Guam Plant Extinction Prevention Program (GPEPP) was created in partnership with the University of Guam, the Guam Department of Agriculture, Forestry & Soil Resources Division and the Hawaii Plant Extinction Prevention Program (HPEPP). Joseph Mafnas and Justin Santos of the Guam Department of Agriculture, Forestry & Soil Resources Division secured the seed money to set up GPEPP's facilities together with Dr. Mari Marutani and Dr. James McConnell at the College of Natural and Applied Science, University of Guam. Additional support was obtained from the US Fish & Wildlife Service (USFWS), and the Department of Defense (DOD). GPEPP aims to protect wild populations and establish new populations of rare, native plants in Guam. A group of botanical experts from public and private agencies, called the Guam Rare Plant Restoration Group (GRPRG) is an advisory group to GPEPP which helps to prioritize the plants, plan reintroduction and restoration projects with on-site management partners.

GPEPP is conducting surveys to discover the remaining rare plants in their native habitats. Current species recovery efforts are mainly focused on hayun lagu (*Serianthes nelsonii*). Besides this critically endangered tree (only one known adult tree in Guam) fourteen other plants, proposed to be protected under the Endangered Species Act,

were added to GPEPP's priority list. Species-specific conservation actions are in development to recover these rare plants in the wild. In collaboration with Recovery Botanist Ann Marie Gawel (USFWS), Refuge Manager Joe Schwageler, and Wildlife Biologist Jennifer Cruz (Guam National Wildlife Refuge), GPEPP is currently implementing its first reintroduction and monitoring plan at the Guam National Wildlife Refuge. Once founder plants are located in the field, seeds and propagules are collected for seed storage, germination in the nursery or in vitro. Solar powered refrigerators and freezers ensure reliable seed storage, even when power is not available due to outages or natural disasters like typhoons. The propagated seedlings are prepared for outplanting and returned to their native habitats. Outplantings are monitored and protected from weed overgrowth, ungulate herbivory, insects and disease. Fact sheets of Guam's rare plant species are available from GPEPP's website (gpepp.org). For more information contact GPEPP coordinator Else Demeulenaere or Dr. James McConnell, Professor of Horticulture at the University of Guam at 735-2129. ▲



Seed collection of *Psychotria malaspinae* by John Horeg, survey crew leader for GPEPP, University of Guam. Photo by Steven Pillman



Serianthes nelsonii, also known as hayun lagu or tronkon guafi, is found only on Guam and Rota. This tree is the only remaining tree found on Guam. 'Hayun lagu' means northern tree as Guam residents refer to Rota located north of Guam and 'lagu' where a larger population of *S. nelsonii* has been found. 'Tronkon guafi' which means fire tree is commonly used by Rota residents. Photo by Jim McConnell