



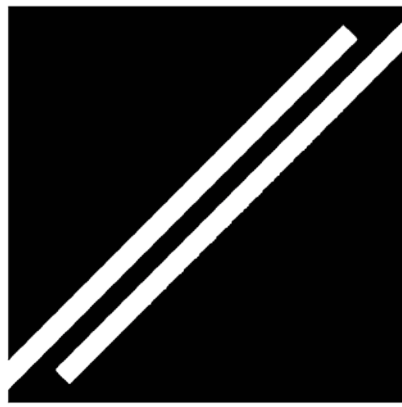
L&L

LIVE & LIFE
IN PALMAS

OCTOBER | NOVEMBER | DICIEMBRE 2020 VOL 12 NUM 3

RENEW & REMODEL IT'S TIME





Raul A. Zurinaga Porrata
Architect

Lic. 7386

Tel. (787) 501-5057

E-Mail : rzurinaga@gmail.com

PO Box 19809
San Juan, PR
00910-1809



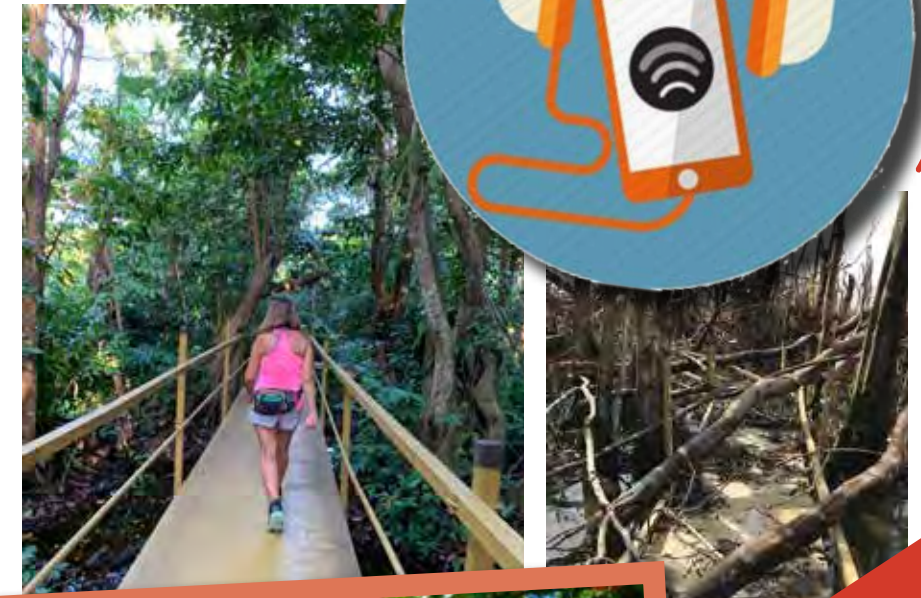
THE PTEROCARPUS FOREST

By Roberto Soto Acosta

Three years after being thoroughly devastated, Palmas' unique Pterocarpus Forest has made a tremendous comeback and is "back in business" as a natural refuge and a place for passive recreation, scientific investigation and environmental education.

People have begun to visit the Forest in increasing numbers while students and professors from the University of Puerto Rico have begun invaluable studies of water quality. As part of the environmental education component, central to the Forest's mission, the Friends of the Forest, are about to launch the beta version of the "Pterocarpus Forest Tour App", with which visitors and non-visitors alike will be able to learn more about this rare natural gem, its functions, and the flora and fauna that make it such a wonderful place today. With the app, visitors will also be able to see sights and hear sounds that they might otherwise miss.

By mid-October, the Forest visitor will be able to download the "Tour App" to his or her Android or Apple iPhone and take a virtual tour of the Forest (the Tour will also be available, online to anyone around the world interested in visiting the Forest). The tour will consist of video and audio, available in Spanish and English, and 16 clearly marked "stops" (paradas) within the Forest related to the App content.



**EDUCATING
OURSELVES
ABOUT
NATURE'S
ABILITY TO
BOUNCE
BACK**



VIAS
30th Anniversary

CAR RENTAL
of Puerto Rico

**OPEN 24
HOURS**

"De aquí como el coquí"



Isla Verde: 787-791-4120 / 791-4995

Dorado: 787-796-6404 / 796-6882

Humacao: 787-852-1591 / 850-3070

Palmas del Mar: 787-223-3448

www.viascarrental.com | info@viascarrental.com



The App and is, we believe, one of the first applications of its kind involving any type of forest preserve in Puerto Rico and in the Caribbean, perhaps even ahead of some cultural institutions like museums and churches, where such tour guides are a mainstay. In the case of the Forest, however, it proved quite challenging, and therefore took considerably longer than we had anticipated. Developing the application involved scientific research, photography and repeated visits to the ever-changing Forest landscape.

Perhaps the most significant lesson learned from the development of the application is the dynamism involved in the life of the Forest, how quickly the face of the Forest can change, and how continuously, as it recovers from Irma and María three years ago this month.

Where at the outset we chose as interesting, educational stops areas showing exotic, invasive plants made possible by the loss of the Forest's canopy and creation of sunlit, barren spaces, we were soon confronted by unprecedented growth in dense foliage. Many of the invasive species, such as cattails, were hardly visible along the trail, having retreated toward the edges of the Forest, out of sight of visitors, as the canopy regrew. Where we wanted to illustrate natural "recycling" through visuals of fungi decomposing fallen trees, our tree host began to disappear by the time we returned to film the spot – and may be just a memorial site by the time of your next visit!

Similarly, where we sought to show tropical fish in the Forest's waters, we would now also encounter turtles who'd migrated, during the recent rainy season, from the pond to the interior of the Forest. And who'd return to the pond once the Forest's dry season approached.

Keeping up with nature has proven to be a formidable, wonderful, enlightening challenge. To be sure, the Forest Tour App 1.0 of necessity will be updated to continue showing the dynamic changes in the Forest's flora, fauna and as well as its undergrowth, canopy and levels of water. While some of these are cyclical and to be expected, others are part of the process of rebirth and regrowth that has been ongoing for the past three years.

With the Governor's announcement this past Thursday, allowing more activities on Sunday, the Bosque de Pterocarpus will resume its 7-day a week availability to the public, from 6am to 6am. Visitors are asked to please continue to observe the health-related precautions still in effect.

The Pterocarpus Forest and the bilingual Tour App are both the result of time-consuming effort made possible by the generous support of Board members of Friends of the Forest as well as generous Palmas and other Island residents, and institutional supporters. For additional information about the Forest, or to support our ongoing



After hurricane Maria completely destroyed



SCAN the QR code to watch a video of the forest the day after María



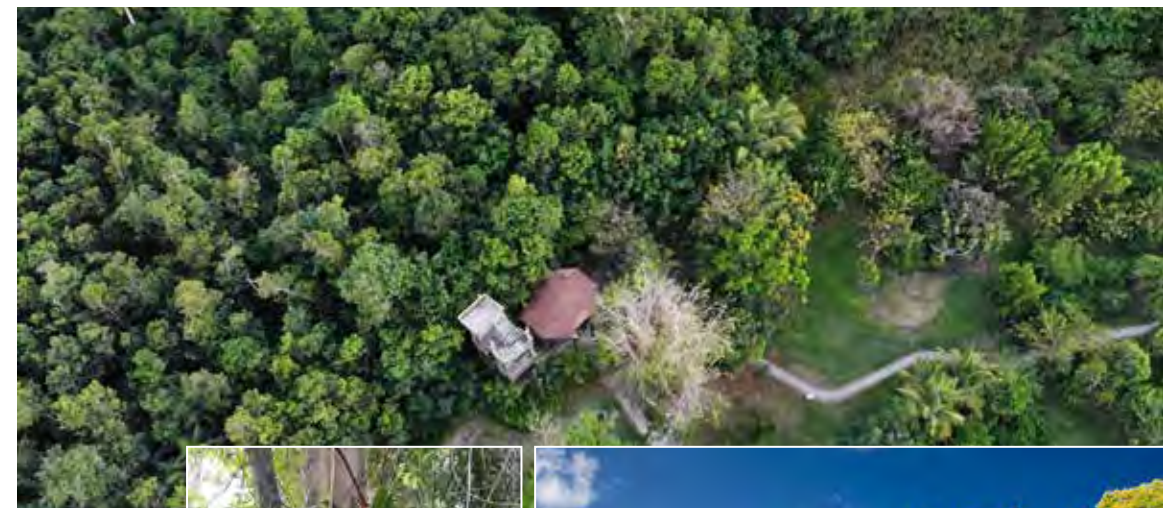
An Osprey (Pandion haliaetus) overlooking the destroyed forest



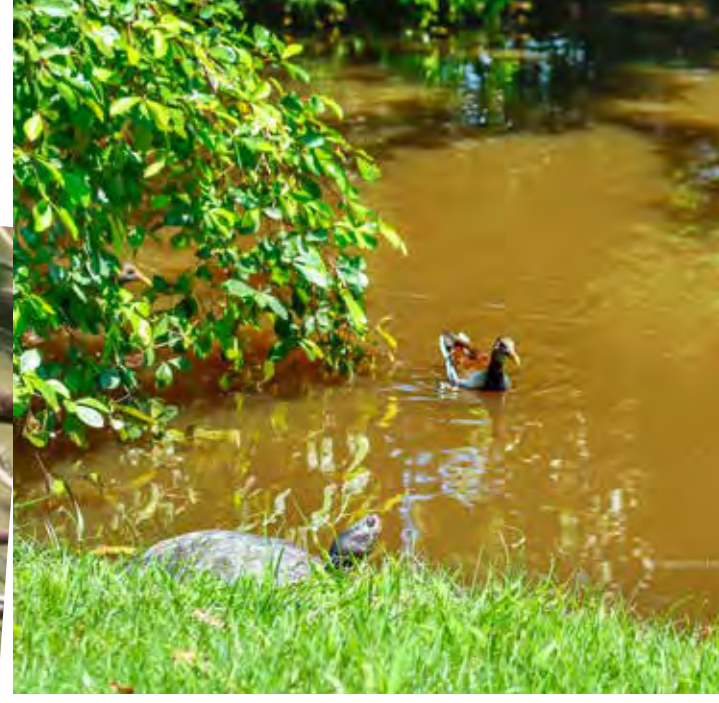
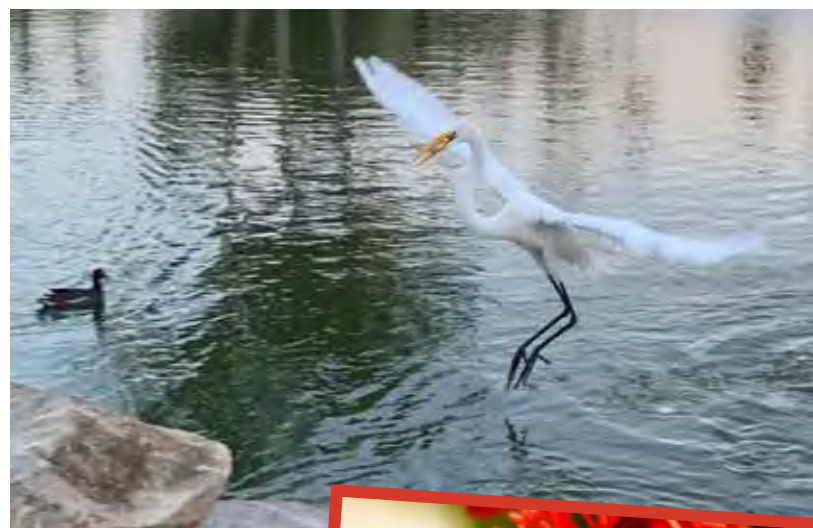
The Pterocarpus Forest in Palmas del Mar , 50.2 acres (51.7 cuerdas) of protected forest

educational efforts on-site and through social media, please visit pterocarpus.org as well as our page in Facebook <https://www.facebook.com/PterocarpusPR/>.

The Friends of the Pterocarpus Forest (a/k/a PHA Pterocarpus Forest, Inc.) is a volunteer group that has been involved in the restoration, preservation and promotion of the Forest since December 2010. Donations to the Friends are tax-deductible under §501(c)(3) and §1101.1 of the federal and state tax codes, respectively. Consult your tax advisor for details about the benefits of a contribution under your particular circumstances.



¹ The nonprofit corporation charged with the Forest's maintenance and development.



In a discovery of remarkable importance for ecology, a group of local scientists identified two species of Puerto Rican lichens (*Coenogonium dimorphicum* and *Coenogonium portoricense*) totally unknown to science until a few years ago. They were found in a patch of the Forest. These findings highlight the important role that the Forest plays in research, as well as the role of the entire Palmas community in the conservation of species and natural resources. Photo by the USDA Internet (https://data.fs.usda.gov/research/pubs/iitf/IITF_GTR_46.pdf)



At last count, before Hurricane María, the Forest served as habitat to 44 species of flora, including more than 25 species of native trees, and 52 species of fauna, of which 13 are considered native or endemic to Puerto Rico, some found only in this part of Puerto Rico. Of the 52 species of fauna, there are 37 families, including insects, amphibians, reptiles and crustaceans, among others. Some of the rare species that can be found in the Forest are the Whistling Coquí (Coquí Pitito), the Northern Waterthrush (Pizpita de Mangle) and the Puerto Rican Hummingbird (Zumbador puertorriqueño).



I am in Puerto Rico on holiday. Where my wife and I stay, there is a small Pterocarpus forest on property. The forest exists as a preservation effort by the community. An ancient tree native to the island, the Pterocarpus has been known from antiquity to have mystical and medicinal properties. Natives call its sap, 'dragon's blood.'

Like taking showers, forest bathing can be hot and steamy, but not in Puerto Rico. The climate is temperate. Unlike when I'm showering at home, there are all kinds of critters bathing with me. They are not really bathing; they live here. None seem offended when I bathe. Whenever I forest bathe, the critters are always discrete as we properly expect when we bathe. Most critters remain well out of sight. Salamanders are the exception; they're voyeurs; they eye me the whole time I undergo my bathing ritual.

I don't bathe in the conventional sense — buck naked as at home, under running water with soap, basically cleaning up. When forest bathing, I walk very slowly, fully clad while remaining especially alert. I'm not watchful for fear of predators, but eager to hear messages. You see, the forest speaks, but only in a still small voice. It's barely audible.

Forest bathing is more ritualistic than any showering or even the legendary Saturday night bath. Every step is intentional. It's a way of keeping one's ear to the ground to listen what the forest and its inhabitants are saying.

I begin this bath by sitting on a bench at the forest entrance. The bench overlooks a pond where I see a turtle surfacing. I sit quietly for five minutes. Trees sway in the breeze. An iguana lounges lazily on a grassy patch. He's sunning himself while a white egret stands indifferently close by. Except for trees, everything is still.

I enter the forest, walking on a boardwalk, inches above the dark waters of the swamp. The walk extends three quarters of a mile. The boardwalk sways slightly like a rope bridge. The forest soon swallows me up. The water is dark and filled with detritus. It has a distinctive smell — dank, a little like the crawlspace under my house; this smell is slightly sulphurous, but oddly pleasing. It's earthy, something like the smells around where I live, on Maryland's Eastern Shore. There, the marshes at low tide exude this singular smell.

A WALK IN THE

by George Merrill

There are two sounds that prevail as I bathe, both welcoming. One is the soft and hushed cooing of doves and the other, the chirpy and exuberant peeps of the coqui, the charming little frog that lives on the island. Coquis are often heard, but seldom seen.

All around me the Pterocarpus trees grow, some large, all with their distinctive root systems. The roots extend out from the base of the tree like fans. Natives say the roots look like hens' feet. The tree achieves stability, not by digging in deeper, but by spreading its roots outward into the shallows of the swamp. For achieving stability, like these trees, experience teaches many of us that reaching out for strength frequently works better than just digging in deeper.

Speaking of reaching out, I come upon gossamer threads of spider webs, one after the other, stretched across the boardwalk's railings. I see one after the other, each, about twenty strides apart. I'm the one that must gently undo their night's work as I walk by — I don't like to — but I do it as reverently as I can. Putting webs aside tells me I am the first one to walk the forest that day. I'm sure not all the forest's inhabitants welcome forest bathers. We just make more work for them.

Forest bathing is well known to the Japanese. It is one of the ancient practices related to the Shinto religion and today is called 'shinrin-yoku.' It's predicated on knowing that our own healing necessarily connects us to the community of life. Our disconnect from nature today — inner and outer — is considered a significant factor in the prevailing ennui that our culture suffers. The phenomenon is beginning to be identified as epidemic. As nature is continually violated in the consumerist culture we live in, there's a growing awareness of how fundamental our relationship to nature is and how it contributes to our mental health and spiritual awareness.

I think that our casual use of metaphors in language and the images that appear in the decorative arts are drawn mostly from the natural world. Awareness of the depths and beau-

ty of things is expressed in metaphors and in the designs appearing in art.

M. Amos Clifford is the founder of the Association of Nature and Forest Therapy Guides and Programs.

He writes: "Forest bathing can have a remarkably healing effect. It can also awaken in us our latent but profound connection with all living things . . . It is a gentle meditative approach to being with nature and an antidote to our nature-starved lives that can heal our relationship with the more-than-human human world."

The cellular reaction that vegetation has to our bodies and to our prevailing attitudes and feelings is well established and scientifically verified. Plants don't like people with an attitude. It stunts their growth.

My walk in the Pterocarpus forest was not my first. However, it was the first in which I brought attention to all my senses as I bathed my way along its path; the sounds, the smells, the sights, the colors, the shades of light, the scampering critters and the breezes as they rose and fell. I would say that before, I just walked the forest and thought it was a pretty place. This time, by inviting all my senses into the experience, I felt a part of it. I suppose I'm describing that feeling of intimacy and connection that poets describe.

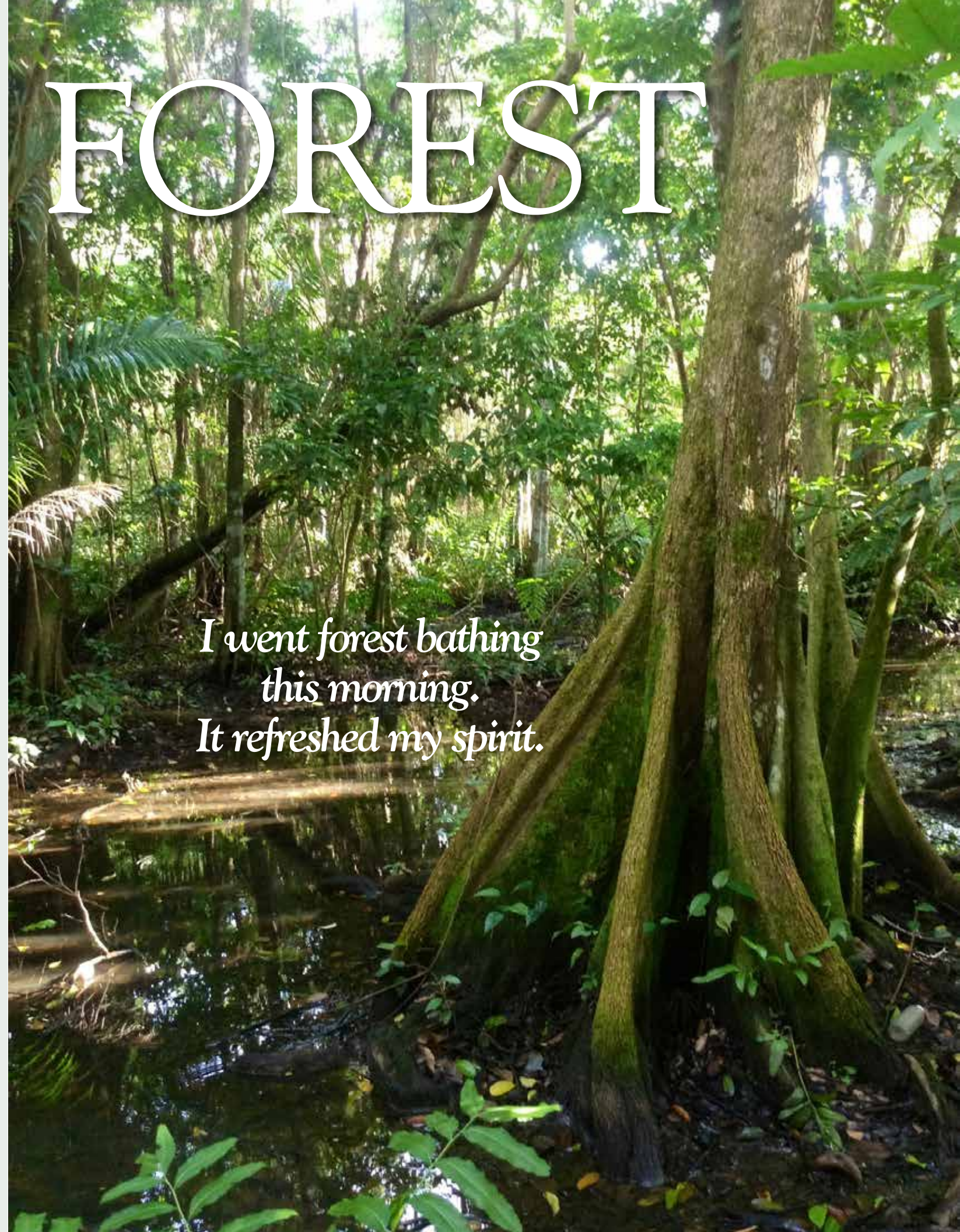
At the end of the path, I walk out of the forest into a clearing. A bench sits there. It's surrounded by tall Royal Palms. They don't seem to belong right here. They're too showy. I take a seat on the bench for a few minutes to process my experience. About twenty feet away there's a huge iguana. He slowly raises and lowers his head, as if performing some form of ancient ritual prayer, exposing a large pelican-like pouch under his neck. He's a fearsome, primal looking creature, but I take comfort in knowing that iguanas are vegans.

When I took time to listen to the earth that day, by means of the Pterocarpus forest, what did I hear it say to me?

Come back!

FOREST

*I went forest bathing
this morning.
It refreshed my spirit.*





No.	FECHA	HORA	ESPECIE	SEXO	EDAD	LONGITUD	ANCHO	ALCANTURA	OTROS
1	10/01/2018	08:30	Chelonia mydas	M	1	18°04'56.4"N	65°47'49.0"W	11 m	
2	10/01/2018	09:15	Caretta caretta	F	1	18°04'56.4"N	65°47'49.0"W	11 m	
3	10/01/2018	09:45	Chelonia mydas	M	1	18°04'56.4"N	65°47'49.0"W	11 m	
4	10/01/2018	10:15	Caretta caretta	F	1	18°04'56.4"N	65°47'49.0"W	11 m	
5	10/01/2018	10:45	Chelonia mydas	M	1	18°04'56.4"N	65°47'49.0"W	11 m	
6	10/01/2018	11:15	Caretta caretta	F	1	18°04'56.4"N	65°47'49.0"W	11 m	
7	10/01/2018	11:45	Chelonia mydas	M	1	18°04'56.4"N	65°47'49.0"W	11 m	
8	10/01/2018	12:15	Caretta caretta	F	1	18°04'56.4"N	65°47'49.0"W	11 m	
9	10/01/2018	12:45	Chelonia mydas	M	1	18°04'56.4"N	65°47'49.0"W	11 m	
10	10/01/2018	13:15	Caretta caretta	F	1	18°04'56.4"N	65°47'49.0"W	11 m	
11	10/01/2018	13:45	Chelonia mydas	M	1	18°04'56.4"N	65°47'49.0"W	11 m	
12	10/01/2018	14:15	Caretta caretta	F	1	18°04'56.4"N	65°47'49.0"W	11 m	
13	10/01/2018	14:45	Chelonia mydas	M	1	18°04'56.4"N	65°47'49.0"W	11 m	
14	10/01/2018	15:15	Caretta caretta	F	1	18°04'56.4"N	65°47'49.0"W	11 m	
15	10/01/2018	15:45	Chelonia mydas	M	1	18°04'56.4"N	65°47'49.0"W	11 m	
16	10/01/2018	16:15	Caretta caretta	F	1	18°04'56.4"N	65°47'49.0"W	11 m	
17	10/01/2018	16:45	Chelonia mydas	M	1	18°04'56.4"N	65°47'49.0"W	11 m	
18	10/01/2018	17:15	Caretta caretta	F	1	18°04'56.4"N	65°47'49.0"W	11 m	
19	10/01/2018	17:45	Chelonia mydas	M	1	18°04'56.4"N	65°47'49.0"W	11 m	
20	10/01/2018	18:15	Caretta caretta	F	1	18°04'56.4"N	65°47'49.0"W	11 m	

Luis Crespo

18°04'56.4"N 65°47'49.0"W
maps.google.com

Latitud: 18.08232
Longitud: -65.79695
Altitud: 11 m
Precisión: 9 m
<http://maps.google.com/?q=18.08232,-65.79695>
C Park.

ProNidos in Action at Palmas Del Mar

Turtle Patrolling... duties & challenges

By Amaryllis Alsina

ProNidos is the name of the turtle patrol group of volunteers at Palmas del Mar who on a regular basis, and under the guidance of biologist Luis Crespo, patrol the beaches to identify turtle nesting and hatching activities as well as potential threats to the habitat. The two turtle species that commonly nest at the beaches around Palmas are the Leatherback and Hawksbill turtles.

Discovering turtle nesting activities during the early morning patrolling walks on the beach is exciting and rewarding. Getting up early in the morning with a special purpose is motivating. It also provides the volunteers with the opportunity to enjoy the gorgeous sunrises that perhaps many do not get to see often. The volunteers are always showing their enthusiasm and commitment to the effort. Supporting the Habitat Conservation Plan is an important contribution to the Palmas Del Mar community.

Patrolling requires close observation of the environment as one walks along the beach to identify turtle tracks, nesting or signs of nest eclosions. Identification of tracks and nests can be challenging since it is not always obvious. The tracks may not be as distinct or may be discontinuous or may have been partially erased by footsteps, rain or waves. It is also possible that when a turtle comes out of the ocean with the intent to nest, something in the environment may force her back into the water without nesting. In which case the tracks represent only a crawl or an attempt to nest. Even when there is an actual nest, it's location is not always obvious since the turtle may go through various nesting attempts and sometimes wonder around the area in order to find a good nesting location. It is surprising on how



creative the turtle gets in the process!

The ability to identify genuine tracks and real nests requires training and experience and a monitoring only permit from the Department of Natural Resources. Volunteers are trained by the biologist and gain expertise in the process of patrolling the beach. When the volunteer identifies any tracks or potential nesting activities pictures are taken and the location is identified with coordinates and recorded. The biologist then confirms the observed activity and provides the official record of the event. A log of all activities is maintained to be able to track nests and hatchings. The confirmed nests are marked and protected with stakes and caution tape to prevent damage. These barriers can not be disturbed and any manipulation of these is illegal and a federal violation. During the patrolling walks, these nests are also examined for signs of eclosion. The most fulfilling part of the effort is having successful hatchings! This is how this dedicated group of people contribute to preservation of the turtle species.

Thus the Turtle Patrol volunteers assist in identifying nesting and hatching activities. Any actions taken beyond the initial identification of the event are performed by the biologist who has the knowledge and necessary state and federal agency permits. Statistics are reported on all observations and outcomes. This is important to understand how the habitat is behaving and to know if the conservation efforts are being successful. The biologist submits reports to local and federal agencies on an annual basis.

Unfortunately, patrolling does not always presents positive outcomes. At times those who visit our beaches do not follow the recommendations of habitat conservation efforts and as volunteers we must report, and if possible resolve, some of these threats. At times we find ourselves removing objects left behind or picking up trash or filling up holes in the sand or restoring a barrier around a nest.

Additionally, at Palmas beaches we have observed horseback riding which is a prohibited activity at turtle nesting beaches and a violation of state and federal laws as well as a violation of a special ordinance from Humacao. If you ride horses at Palmas, please keep in mind protection of the turtle habitats and the importance of respecting the law.

There are also predators, natural (i.e., ghost crabs, night herons) or introduced by humans (i.e., mongooses, wild pigs, dogs), that may dig out a nest and eat or damage the eggs. Recently a nest at the Candelero beach was observed to be predated by a mongoose. As volunteers, signs of predation of nests also have to be noted and reported.

ProNidos was established to support conservation of the turtle habitats part of the Palmas community and happily continues to support this effort on a regular basis.



The turtle exited the water and immediately returned to the ocean. Tracks are in the shape of a semi circle with no evidence of movement inland, only a crawl, no nesting.



A hatched nest with evidence of eclosion. The open chamber can be observed.



Turtle tracks can be observed inland as the turtle exits and enters the water. Hawksbill turtles nest close to the vegetation.



One of the beautiful sunrises observed during the early morning patrolling walks.