

Internship Final Report - Conservation Leadership Programme



Developing Leadership in the Conservation of Endangered Bird on Ometepe Island Nicaragua

Host country: Nicaragua (Ometepe Island Biosphere Reserve) October 9th to April 9th

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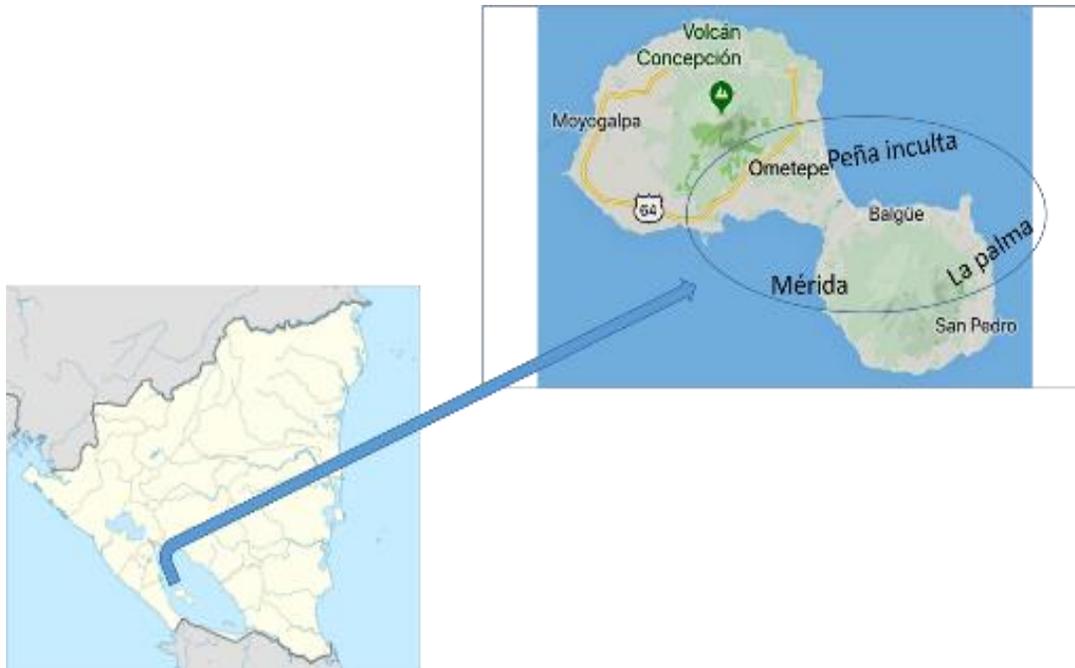
Conservation Leadership Programme

The Ometepe Island is one of the three biosphere reserves that Nicaragua has, with its 276 km² it has three protected areas: The Volcano Madera's National Park, the La Peña Inculca Rio Istian Wildlife Refuge and the Concepcion volcano Nature Reserve. all of them have very important bird populations, of which the YNP is in a bearable category due to many factors such as: Forest fires, the cutting of forests, the illegal looting of wild species and above all the loss of habitat due to the advancement from the agricultural border. For this research work a methodological process of collecting information from the field was worked out to know the trees that favour the nesting and diet of the species, as well as ideas to develop actions to restore the habitat. This work had as results the classification of a determined number of trees that favour nesting, showing the results of the two nesting seasons, for each tree a code was given that will be used for future research. In addition, a list was made of trees with their nutritional value which favour the YNP diet; Based on fieldwork, ideas for restoring the home were developed. This will mark the beginning of a large work in conjunction with the Biosphere Reserve communities, schools and environmental groups.

Introduction

Ometepe Island was declared by UNESCO as a "Biosphere Reserve" in 2010, due to its geographical position, the climate is regulated by the two volcanoes that it possesses and also because it is at the transition point between the humid region of the Caribbean and the dry region of the pacific. Ometepe is considered a unique place in all of Nicaragua in terms of biodiversity of flora and fauna. 8 ecosystems in a small area of 276 square km makes Ometepe a refuge for many threatened species

The CLP study was carried out at 4 points in the Biosphere Reserve, which are: the "La Peña Inculca" Wildlife Refuge located in the community of Santo Domingo and the other three points located in the Madera's Volcano National Park: Bague, Merida and La Palma, as I mentioned before in a small place of 276 square kilometres we have two different seasons of reproduction of the YNP and different patterns of nesting behaviour, these places have been monitored for 7 years by the LOCO research group (observers observing and conserving Ometepe), which later became part of a more solid group such as the Biometepe cooperative, who is a local partner of FFI in the conservation work, which together with ONE EARTH COSERVATION have been the fundamental support to develop the conservation work and studies about this specie.in addition to this work we have as background the research work on illegal trafficking of YNP by of an intern of the CLP program. Key support partners for the internship work included: FFI Nicaragua Coordinator, Angelica Valdivia from whom I received unconditional support and availability, the Biometepe field research team and local community members



Main goal

The main objective of the internship was: to strengthen the conservation capacity of a local leader, with a focus in research project on the nesting behaviour of the Yellow Napped Parrot (*Amazonia Auropalliata*) during the two seasons, and the proposal of restauration plan of species' habitat in the Ometepe Island Biosphere Reserve, Nicaragua.

Conservation methodology

The methodology process to determinate the tree species that favour the nesting and the diet of the YNP, this work was made with the help of the people from the communities that know very well the area and the behaviour of the specie. Additional I had the help from the Biometepe cooperative investigation group, these one of the objectives important for the study also is a very important fact in the conservation plan of the YNP (*Amazonia auropalliata*) in the Ometepe Biosphere Reserve.

In this CLP study, a research protocol and a schedule of activities were followed that were designed at the beginning of the study to follow a methodological order when collecting field data and the development of activities that would help the restoration of the species. threatened. As a background, field visits were carried out to collect data on the trees that favoured the YNP diet. Then the field visits were carried out in the company of the research

team of the Biometepe cooperative to observe the nesting behaviour of the species where it consists of three main parts.

Nest identification monitoring: in this period of time we carry out an observation of the behaviour of the YNP when choosing a tree with the cavity that provides the necessary conditions for nesting, dedicating a time of two to three days minimum in pairs suspicious so that when we climb we have a 70% chance that the nest is positive. In the first year and having the knowledge to expand and achieve a higher percentage in subsequent years. Also we had this result because last dry season we had a big fire Wood that maen les food because many trees burnded so the perrot clean the cavity but did not layed , it is worth mentioning that this bird is very intelligent and this activity is not easy because it tries to avoid its predators and this includes us.

The escalation: this process is the most difficult, that is why we carry out this activity with great methodological care since it is somewhat risky for the research team, as well as for the chicks, taking around 2 months to complete this activity 2 weeks in the Peña Inculca Life Refuge in the first stage and 6 weeks in the Maderas Volcano National Park in the second stage. In this activity the research team evaluated many things before climbing a tree for nest verification: tree condition and position, wind, cavity position difficulty, cavity height, swarm of bees, or other insects causing injury , health of the climber, psychological condition of the climber, and signs of activity of the species in the cavity and in the tree (scratch broken branches, bite of the cavity etc.). In this process, we managed to discard many trees that did not meet the parameters in this way, to protect the life of the research team.

[Patrolled and design de strategies de restoration of the specie.](#)

At this point of the investigation, patrolling and safeguarding of the nesting points of the species were carried out since the looting of chicks for illegal trade is very common. The most important thing of this research is that in the design of restoration of the species, we demonstrate that the YNP is essential for the ecosystem, since it is an expert bird in seed deamination, so all you have to do is follow up on the trees that will be born in the rainy season as a result of deamination. areas where habitats have been devastated by fire and the clearing of forests for the sale and use of wood. In addition to this, awareness has been raised for property owners where this species is used to sleeping since it does so at certain points within the community, proving to be a very social bird that is worth preserving its roosts. Another strategy that was developed was a reforestation program on the roosting route to the nesting points so that they have enough food in the breeding season and increase the chances of reproduction of the species, another design is the alliance with producers who reforest areas with trees that are consumable for the species as well as a community nursery for reforestation of the farms and lastly the continuous work of sensitizing the general population of the biosphere reserve by demonstrating that it is an essential species for the balance of the ecosystem and to demonstrate Our YNPs need us as much as we need them.

Research outputs and results

The possibility because we have two times of reproduction responds to a not very rare pattern but precise and it is the sufficient amount of food available for the young of the chicks in the two seasons.

The first season (September to October) occurs in the Peña Inculca Wildlife Refuge, we have the presence of two trees in large numbers, one is the URA CREPITAN that produces a seed very rich in protein, but toxic that only some animals species can eat and BROSIMUN ALICASTRUM that produces a fruit with high calcium concentrations which compacts the diet of the species, in addition to these trees' species, there are others that will be added in an appendix table.

In the second season (January to April) occurs in the Madera's National Park, there is a large number of trees in the dry and cloud forest that produce fruits and seeds before the rainy season favouring the YNP reproduction, this is the common season throughout their range of motion of the specie.

Iven the Biosphere Reserve is a small and the species is the same place the two groups of parrots are different follow the patrons from their parents to nest in their season that born

The most important trees that favour the diet of the YNP in the Madera's National Park breeding area are: MILKARA CHICLE, MANGUIFERA INDICA and TERMINALIA OBLONGA (this is also one of the most important trees for nesting) but there is a list of trees that compact the diet and will be shown in the appendices with their common name, scientific name, nutritional value, distribution radius with respect to the nesting point, which part of the tree they consume and time foraging.

There is an important fact found in the investigation and is, that only exist a reduced number of trees that favour the good nesting condition of YNP, these trees have a very strict selection and have to have the following conditions: have a degree of difficulty when being scalded by predators from the ground, safety from air predators, adequate depth, warm for the incubation and one position that water do not introduced inside producing external parasite. This makes it vulnerable to looting since upon finding the aforementioned conditions it returns year after year to the same cavity and also have a very hight competition for other species of bird and mammals that look for good cavity to breed.

The most common trees that offer a good nesting condition in the Wildlife Refuge are URA CREPITAN (spiky tree difficult for natural predators and looters) STERCULIA APETALA (slippery and very tall tree difficult for natural predators and looters). And in the Madera's National Park the most important trees are TERMINALIA OBLONGA (very slippery and tall tree difficult for natural predators and looters) and ENTEROLOBIUM CYCLOCARPUM (very massive tree and soft bark difficult for predator and difficult to climb for looters) in the appendix is a work tables of trees that favour nesting condition of YNP from both areas the Wild Life Refuge La Peña Inculca Rio Istian and the National park will also be presented with their common name, scientific name, depth of the cavity, diameter of the tree's circumference, height of the cavity, active or not active this year and the comments.

Also in this research it was found that no matter that the Ometepe Biosphere Reserve is a small island and the parrots are the same species, both groups follow a different reproduction pattern based on the food available, which means that the group of parrots from the Volcan Madera's National Park never arrives at the Peña Inculca wildlife refuge and the group of parrots from the La Peña Inculca Rio Istian Wildlife refuge never arrive at Madras National Park to reproduce.

Short- and long-term impact achievement

This investigation helps me to have shore and long-term achievement to work with group interesting to work in the conservation of the environment from the Ometepe Biosphere Reserve, which is very important for the conservation of this specie and many species that are losing the ecosystems where they live.

I present two very important actions of short-term impact of the internship in the organization, among them are:

1. The internship has allowed me to empower myself with information about the species and has served to motivate others to conserve not only this specie but also biodiversity in general.
2. Government institutions and communities now have a benchmark to develop knowledge, empower others in the protection and conservation of the species.

Long-term activities

1. Make population counts throughout the Biosphere Reserve.
2. Make long-term reforestation plans, setting annual goals and planting native trees that feed birds, especially those that are in danger of extinction such as YNP.
3. Empower communities to strengthen YNP protection, surveillance and conservation.
4. Continue to monitor the behaviour of the species for at least one or two years to create a solid document to serve as a reference.
5. The number of chicks successfully flying in the biosphere reserve has not yet been reported to IUCN, but the data can be obtained through copyright.
6. Create a YNP Conservation Network in the Pacific of Nicaragua.

Impact in relation to main objective

1. Improved my capacity for YNP conservation: I have the necessary tools to coordinate all the activities proposed in this research.

I feel very good because, as I mentioned before, this opportunity gave me the tools I need to coordinate with conservation leadership to the different groups that are.

2. The results obtained allow me a better vision to determine the next steps in the conservation of the species.
3. My scientific training has improved and I am committed to continuing with many efforts to make the habitat restoration plan a reality.

conclusion

The YNP is a species that has been threatened due to many factors, which is why this internship of the Conservation Leadership Program has helped to have a better perception regarding conservation leadership work since it needs leaders who are willing to coordinate. Activities that help to give it a big job in restoring the ecosystems that house our severely threatened species in our Ometepe Island Biosphere Reserve. In addition, this shows everyone and commit to taking our responsibilities with our world. I belong to the Biometepe cooperative, a local FFI partner committed to conservation, therefore I feel a great commitment to launch the projects, in addition to helping others who have leadership to become a conservation leader and, in this way, achieve much success. on this issue. I have

a clear vision to live in the Ometepe Island Biosphere Reserve and continue to belong to this cooperative therefore I will apply my knowledge in the restoration of the habitat not only for this bird but for all the birds and animals as they are my passion and this is also your home opportunity certain species in extinction village.

Thanks

I want to show my sincere thanks to the CLP program and all its staff for giving me this opportunity to belong to this program. Similarly I want to thank the FFI host program for being the link to accomplish great things. In addition, I want to thank my tutor Angelica Valdivia who was always close to me to help me and encourage me by giving me the work strategies. I also want to thank the Biometepe cooperative and also its research team and the office support team that were always willing help. Finally I want to thank the community people who were always with me transmitting local knowledge of the species. Thank you all.

Appendix

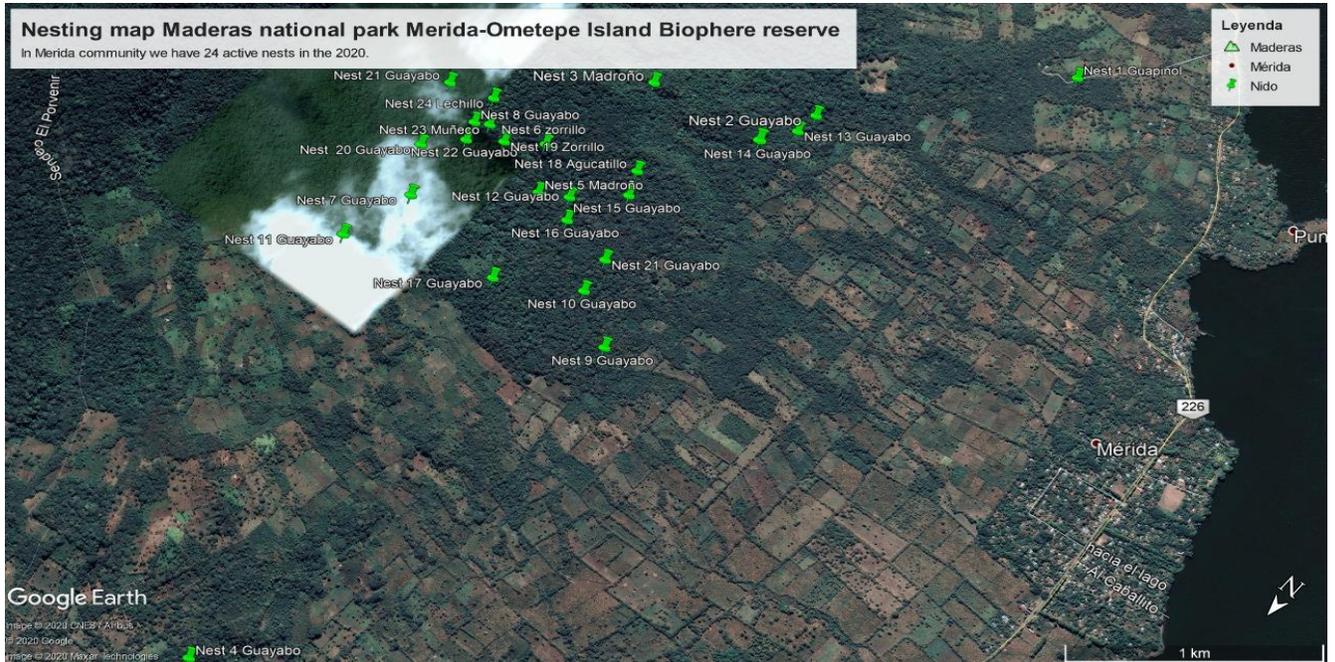
Nesting Map of Wildlife Refuge Santo Domingo.

GPS point of each nest in the area.

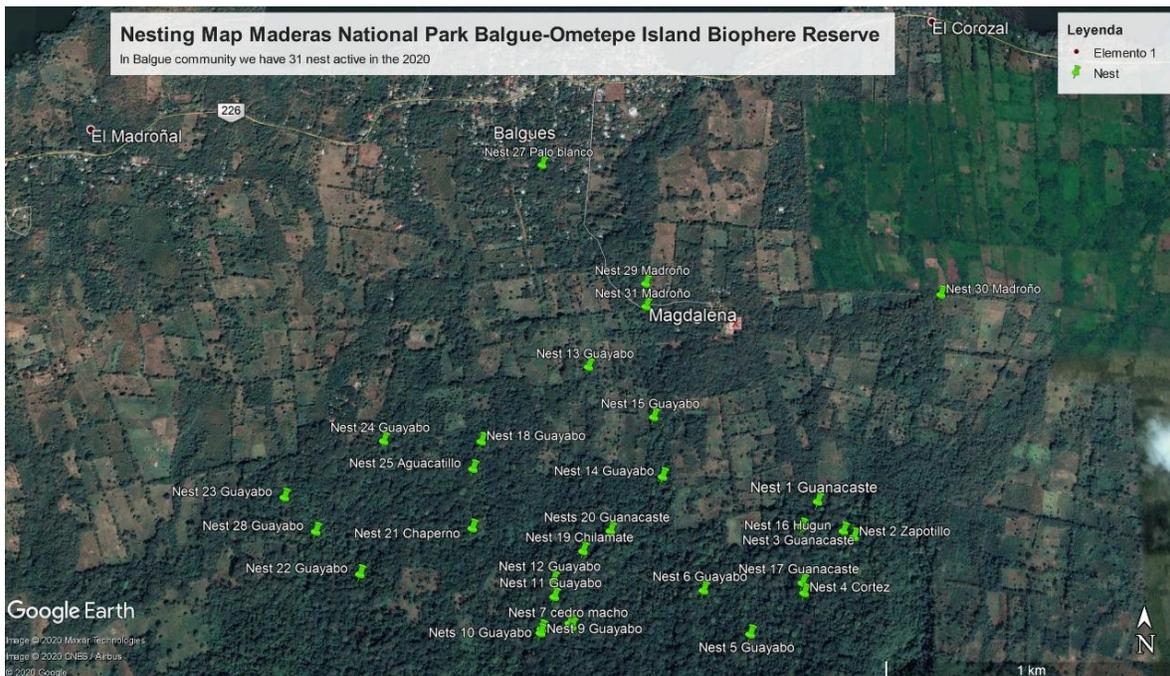


Nesting Map of Merida National Park

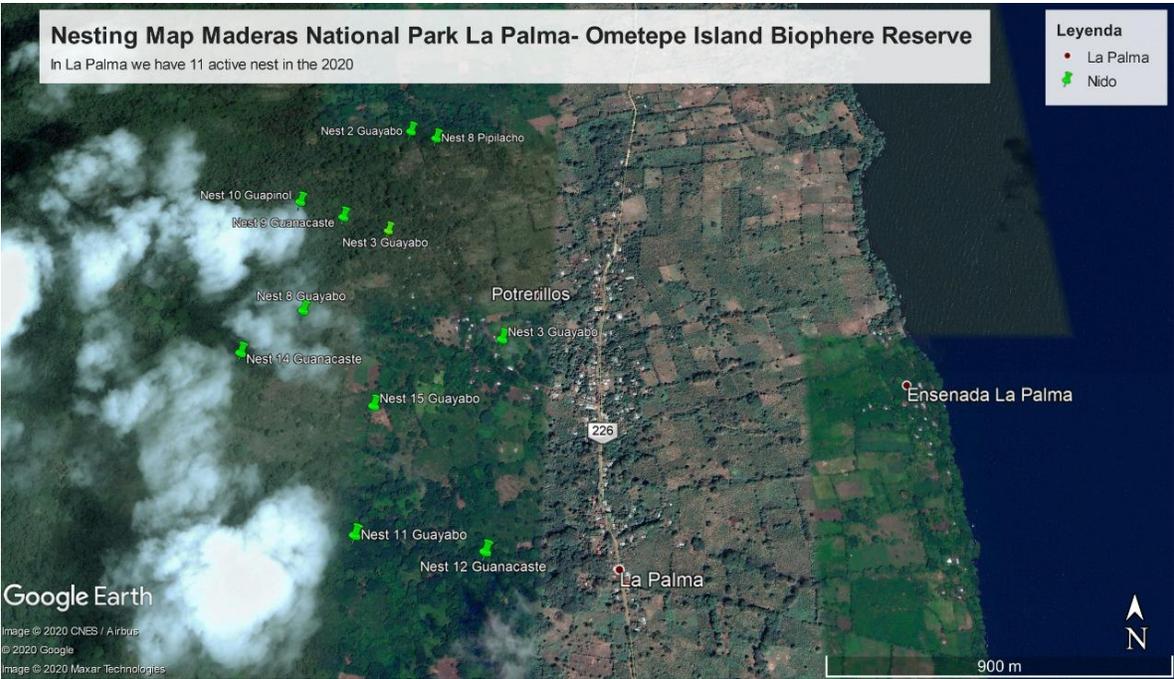
GPS points of each nest in the area



Nesting map of Balgue Community Madera’s National Park
GPS points of each nest in the area



Nesting Map of LA Palma Community Madera’s National Park.
GPS of points of each nest in the area.



Identification Nest Form Peña Inculta Wildlife Refuge

IDENTIFICATION NEST FORM, FROM WILDLIFE REFUGE LA PEÑA INCULTA								
CODE	TREE SPECIE	CAVITY DEEP	TREE DIAMETER	HEIGHT CAVITY	NEST CONDITION	ACTIVE :YES/NO	GPS	OBSERVATION
PAG1	Albizia saman	74 cm	3.24 M	12.00 M	good	YES	0657020-1273486	poucheed before that we climbed, because we found fether and small like an active nest.
PSP2	sterculia apetala	85 cm	13.2 m	12.48	great	yes	0657326-1273422	two healty chicks
PSP3	sterculia apetala	80 cm	11.20 m	23.00 m	great	yes	0657413-1273343	two failed eggs, because we think that couple is old
PUJ4	Ura Crepitans	70 cm	4.60 m	7.62 m	no good	no	0657468-1272781	one failed egg, because the cavity was wet.
PB05	brossimum alicastrum	29 cm	3.70 m	15.42 m	good	yes	0657238-1273245	two unhealty chicks because the cavity was wet, so we applied medicene and put staff to dry the cavity
PUJ8	Ura Crepitans	40 cm	3.80 m	18.67 m	great	yes	0657337-1272987	two failed eggs, because predator
PUJ9	Ura Crepitans	12 cm	3.00 m	13.74 m	great	yes	0657360-1272848	one chick in the nest living with a black iguana
PUJ12	Ura Crepitans	50 cm	3.74 m	13.85 m	good	yes	0657471-1272936	one chick and one faild egg.
PUJ14	Ura Crepitans	40 cm	4.00 m	18.10 m	good	no	0657418-1273021	signal of perrot activity but did not lay eggs.
PUO15	brossimum alicastrum	100 cm	4.30 m	16.60 m	good	no	0657449-1273290	perrot close and inside the cavity but no active this year.
PUJ16	Ura Crepitans	64 cm	4.30 m	13.00 m	good	yes	0657349-1273290	two healty chicks
PUJ18	Ura Crepitans	60 cm	2.66 m	19.10 m	ok	yes	0657173-1273081	one healty chick
PUJ23	Ura Crepitans	33 cm	5.90 m	21.75 m	great	no	0657270-1272542	no active at all and african bees close to the cavity.
PUJ25	Ura Crepitans	50 cm	3.8 m	10 .10 m	great	yes	0657129-1273357	failed eggs
PUJ27	Ura Crepitans	58 cm	3.90 m	16.20 m	good	yes	0657171-1272785	Two healty chicks
PUJ28	Ura Crepitans	40 cm	4.20 m	21.17 m	good	no	0657283-1273059	cavity prepered but not used
PST29	Sideroxylo n capiri	94 cm	3.30 m	16.10 m	great	yes	0657341-1272616	two healty chicks and really great cavity
PUJ30	Ura Crepitans	68 cm	6.50 m	19.00m	great	no	0657191-1273195	we found that the perrots had competition for the cavity with other animal
PUJ41	Ura Crepitans	27 cm	4.30 m	17 .75 m	good	no	0656315-1273829	we found eggs pieces but from last year.
PUJ44	Ura Crepitans	80 cm	2.40 m	15.8 m	good	yes	0657301-1273336	two healty chicks in very deeo cavity.
PUJ45	Ura Crepitans	110 cm	8.10 m	21.40 m	good	no	0657207-1273358	the cavity was prepared but no used
PAG46	Albizia saman	29 cm	2.8 m	6.30 m	good	no	0656748-1273173	cavity with perrot small but any signal of active nest
PSP47	sterculia apetala	105 cm	7.00 m	10.00 m	ok	no	0656909-1273138	we saw the perrot get in the cavity many time but di not find any active signal
PUJ 48	Ura Crepitans	83 cm	4.20 m	14 .67 m	good	yes	16p 0656990-1273111	one healty chick
PUJ49	ura Crepitans	60 cm	4.00 m	11.40 m	good	no	16p 0657381-1272683	piece of dead wood in the meddle of the cavity
PUJ50	Ura Crepitans	120 cm	3.00 m	5,30 mts	ok	no	16p 0657209-1272502	
PCG51	cecropia Peltata	58 cm	80 cm	7.10 m	great	yes	16p 0657283-127215	This nest had three chicks and was pouched
PUJ52	Ura Crepitans	35 cm	3.30 m	19.50 m	ok	yes	16p 0657312-1272549	one healty chicks

Identification Nest Form Merida, Maderas Volcano National Park.

IDENTIFICATION NEST FORM- BALGUE COMMUNITY -MADERAS NATIONAL PARK									
code	tree specie	deep cavity	Tree Diameter	Cavity Height	nest condition	active	GPS	observations	
MBAC1	Albizia adinocephala	12 cm	2.36 mts	19.8 mts	good	no	0661665-126	they prepare the nest, but did not put eggs	
MBTG4	Terminalia Oblonga	80 cm	4 m	12.48m	great	yes	0662072-126	one chick in side	
MBTG5	Terminalia Oblonga	75 cm	4.76 cm	14.63 m	great	yes	0662312-126	three healthy chicks	
MBTG7	Terminalia Oblonga	21 cm	5.50 m	21.85 m	great	no	0661909-126	they were close of the cavity many time but did not lay egg	
MBTG8	Terminalia Oblonga	25 cm	2.30 m	17.7m	no good	yes	0662481-126	three unhealthy chicks, we clean the cavity and chicks	
MBSG11	Sterolobium syclocarpum	83.cm	4 m	13.70 m	great	yes	0662840-126	Two healthy chicks	
MB?G14	Inga edulis	23 cm	2.80 m	8.90 m	good	no	0661656-126	copie of perrot visiting the cavity but did not lay eggs because angree ants	
MBOA18	ocotea tenera		2.90 m	12.13 m	great	no	0662284-127	perrot inside of the cavity when we climbed the tree, but the cavity was super deep	
MBTG20	Terminalia Oblonga	60 cm	2.70 m	8.50 m	great	yes	0662624-126	one chick in side	
MBTG23	Terminalia Oblonga	48 cm	4.62 m	17.45 m	great	yes	0660990-126	one chick in side	
MBTG24	Terminalia Oblonga	34 cm	4.81 m	14.00 m	great	no	0661279-126	we saw the perrot inside three time, but did not lay eggs	
MBTG25	Terminalia Oblonga	65 cm	3.47 m	12.53 m	great	no	0661336-126	we saw perrot close the cavity but when we climbed the tree was an owl nesting.	
MBPZ27	Puteria Sapota	63 cm	2.30 m	8.7 m	great	yes		eaten for the predators	
MBCC29	Cerdrela Odorata		2.50 m	15.53 m	not good	no	0662009-126	smell like purqus spin	
MBJ30	Spondias mombin	98 cm	2.24 m	13.08 m	great	yes	0662002-126	Two healthy chicks	
MBTG31	Terminalia Oblonga	22 cm	6.48 m	14.15 m	not good	yes	0661911-126	Two healthy chicks	
MBEG32	Esterolobium Cyclocarpum	12 cm	3.5m	14.9 m	good	no		any signal of active nest	
MBTG33	Terminalia Oblonga	23 cm	6.36 m	14.29 m	good	yes	0662835-126	three healthy chicks	
MBTG 34	Terminalia Oblonga	18 cm	4.90 m	20.10 m	great	yes	0661685-126	three healthy chicks	
MBTG37	Terminalia Oblonga	45 cm	3.89 m	14.55	great	yes	0661122-126	Two healthy chicks	
MBCM38	calycophyllum candidissimum	45 cm	2.13 m	8.13 m	great	yes	0662270-126	pouched nest	
MBCM39	calycophyllum candidissimum	1.00 m	1.67 m	11.84 m	great	yes	0663379-126	Two healthy chicks	
MBCM40	calycophyllum candidissimum	30 cm	2.45 m	12.00 m	good	no	0662286-126	no signal of active nest	
MBTG41	Terminalia Oblonga	110 cm	3.60 m	10.07 m	not good	no	0661053-126	we saw activity of the perrot but was not signal of active nest.	

Identification Nest Form La Palma, Maderas Volcano National Park.

IDENTIFICATION NEST FORM LA PALMA MADERAS NATIONAL PARK								
codigo	Especies de arboles	Profundida	Diametro	Altura de la cavidad	Condicion del nido	active nest	Puntos GPS	observaciones
MPTG2	Termilia Oblonga					yes	066701-1267165	we could not climed the tree, bcause was a wasps nest and the tree was almost dead, but we monitored the nest many days.
MPTG3	Termilia Oblonga	50 cm	2.40 m	12.21 m	good	no	0666662-1266791	the nest was prepered, but was not used
MPLP8	lagerstroemia speciosa	130 cm	2.55 m	13.5 m	great	yes	066787-1267138	one chick and two faded eggs
MPEG9	enterolobium Cyclocarpum	98 cm	3.65 m	9.77 m	great	yes	0666515-1266836	we found three eggs but faded
MPHG10	Hymenaea courbaril					yes	066372-1266891	we could not climbed the tree, because the tree was dead.
MPTG11	Termilia Oblonga	88 CM	1.74 M	12.78 M	great	yes	0666657-1265827	Two healty chicks
MPEG12	enterolobium Cyclocarpum	70 cm	4.76 m	12.81 m	great	yes	0667616-1265785	Two healty chicks
MPTG13	Termilia Oblonga					YES		we could not climed the tree, bcause was a dead branch , but we monitored the nest many days.
MPEG14	enterolobium Cyclocarpum	80 cm	6.22 m	15.23 m	great	yes	0666264-1266368	Three healty chicks
MPTG15	Termilia Oblonga	60 cm	2.36 m	14.00 m	great	NO	0666430-1266505	we saw perrot inside, they prepered nest, but did not used

Foraging Form of Yellow Napped Parrot- Peña Inculta Wildlife Refuge

Foraging of the YNP Life Refuge La Peña Inculta										
#	Commun Name	Cientific Name	Family	Fruits, seeds, and flower	Nutrition Facts	Distance in Ration	place	foraging Place	Condition of the Foraging Place	Competition for the Foraging Place
1	Jabillo	Hura crepitans	Euforbiaceas	seeds	Proteine and calcium	5 km	Peña Inculta	morning and afternoon	good	Non
2	Caw Tree	Brosimum Alicastrum	Moraceas	Fruits.	Calcium	5 km	peña Inculta	morning and afternoon	good	Monkeys, birds, Iguana, squirrel and bats.
3	Trompet Tree	Cecropia peltata	Cecropiaceas	fruto	Vitamine E and Proteine	10 Km	Peña Inculta and places around it	morning and afternoon	good	Monkeys, birds, Iguana, squirrel and bats.
4	Oange	Citrus	Rutaceas	fruto	Vitamina C	10 km	alrededor de la Peña Inculta	tarde	bueno	Humans and other Psitcidos.
5	Trema	Trema Micrantha	Ulmaceae	fruits and Flowers.	Vitamine E and Proteine	10 km	places around La Peña Inculta	morning and afternoon	bueno	Bats, other Psitcidos, birds and Squirrel.
6	Panama	sterculia apetala	Malvaceae	seeds	Fiber and Proteine	5 km	Peña Inculta	morning and afternoon	bueno	ninguna
7	Sour Orange	citrus Aurantium	Rutaceas	seeds	Vitamina C	10 km	places around La Peña Inculta	afternoon	bueno	Humans and other Psitcidos.
8	Moringa	Moringa Oleifera	Moringaceae	Flowers	Iron, vitamine C, E, Calcium etc	10 km	places around La Peña Inculta	morning and afternoon	bueno	birds and Iguanas
	Lemon	Citrus x Limon	Rutacea	Fruits	Vitamina C	10 km	alrededores de la Peña Inculta	afternoon	bueno	humans and other Psitcidos
10	Mandarine	Citrus x Tangerina	Rutacea	Fruits	vitamina C	10 km	places around La Peña Inculta	afternoon	bueno	humans and other psitcidos
11	tiguilote	Cordia Alba	Boraginaceae	Flowers and Fruits		10 km	places around La Peña Inculta	morning and afternoon	bueno	bats, birds and other psitcidos
12	chilamate	Ficus spp	Moraceae	Flowers		10 km	places around La Peña Inculta	morning and afternoon	bueno	Non
13	spanish Cedar	Cedrela Odorata	Meliaceae	Flowers		5km a 10 km	La Peña Inculta and places around.	morning and afternoon	malo	squirrel
14	Neem	Azadirachta Indica	meliaceae	Fruits		10 km	places around La Peña Inculta	morning and afternoon	bueno	Bats, Bell bird and Black Head Trogon
15	mango	Manguifera Indica	Anacardiaceae	Flowers and Fruits	carbohidratos, proteina, sodio etc.	10 km	alrededores de la peña inculta	all day	bueno	Humans, other Psitcidos, monkeys, iguanas and squirrel

Foraging form of YNP diet at the Madera's National Park.

#	Commun Name	Cientific Name	Family	Friut, seed and flower	Nutrntion Facts	Distnace in Ratio	Place	foreging Time	Foreging condition plae	competition for the foreging place.
1	chicle tree	Manilkara Chicle	Euforbiaceas	Fruit	calorias	5 km	in the national park	Morning and aft	good	Monkey, birdsand squirrel
2	Guacimo	Guazuma Ulmifolia	Sterculiceae	fruit	Calsio	5 km	in the national park	Morning and aft	good	mokeys, birds,and bats.
3	Trompet Tree	Cecropia peltata	Cecropiaceas	Fruit and Flowers	Vitamine E and proteine	10 Km	in the communities and national park	Morning and aft	bad	Monkey,bird, Black iguana,squirril and bats.
4	ORANGE	Citrus	Rutaceas	seed	Vitamina C	10 km	alrededor de la Peñ	afternoon	good	Humans, otros pccitasidos
5	Yellow Elder	Tecoma Stans	Binoniaceae	fruit	proteine and fiber	10 km	and the communities and the national park	all day	good	oher pccitasidos
6	avocado	Persea Americana	Lauraceae	fruit and flowers	vitamine A,B and E	M	in the communities	Morning and afternoon	good	human, squerril and other birds
7	Sour Orange	citrus Aurantium	Rutaceas	seeds	Vitamina C	5 to 10 Km	in the communities	afternoon	good	Humans and other pccitasidos.
8	Nance	Byrsonima Crassifolia	Malpighiacea	flowers	Vitamine E	5 to 10 km	in the communities	Morning and afternoon	good	birds, black iguana and other Pccitasidos
	Lemon	Citrus x Limon	Rutacea	seeds	Vitamina C	5 to 10 km	in the coomunities	afternoon	good	Humans and other Pccitasidos
10	Mandarine	Citrus xTangerina	Rutacea	seeds	vitamina C	10 km	in the coomunities	afternoon	good	humans and other pccitasidos
11	tiguilote	Cordia Alba	Boraginaceae	Fruit and Flowers	Vitamine E and proteine	10km	in between the communities and the national park	Morning and afternoon	good	Bats,birds and other pccitasidos.
12	Chilamate	Ficus spp	Moraceae	Fruit and Flowers	vitamine D	15 km	Alrededores de la p	Morning and afternoon	good	Birds, bats and monkeys.
13	Spanish Cedar	Cedrela Odorata	Meliaceas	Fruit	proteine and fiber	10km	in between the communities and the national park	Morning and afternoon	bad	Squirrel
14	Neem	Azadirachta Indica	meliaceae	fruit	proteine and vitamine E	5 to 10 km	between the communities and national park	Morning and afternoon	good	Bats, Bell Bird and black head trogon
15	Mango	Manguifera Indica	Anacardiaceae	Fruit and Flo	carbohidrats, proteine, sodium etc.	5 to 10 km	in the communities	all day	good	Humans, other Pccitasidos, monkeys black iguana, birds and squierrel.
16	Trema	Trema Micrantha	Ulmaceae	flowers and Fruit	vitamine E proteine	5 km	in the national park	all day	good	birds, black iguana and other Pccitasidos
17	Guanacaste	Enterolobium Cyclocarpum	Fabaceae	Seeds	Proteine	5 km	in the national park	Morning and afternoon	good	Other Pccitasidos
18	stinking Toe	Hymenaea Coubaril	Fabaceae	Seeds.	proteine	5 km	in the national park	Morning and afternoon	good	Non
19	Guayabon	Terminalia Oblonga	Combretaceae	Seeds.	Proteine	5 km	in the national park	Morning and afternoon	good	Birds
20	Ecuador Laurel	Cordia Alliadora	Boraginaceae	Flower and fruit	Proteine and vitamine E	7 km	communities and natinal park	Morning and afternoon	good	birds.
21	Tamarind	Tamarindus Indica	Fabaceae	Seeds.	Vitamine C and B, calcium and Iron	7 km	in the communities	Morning and afternoon	ok	Humans and other Pccitasidos
22	Guava	Psidium Guajava	Myrtaceae	Friut	Vitamine A, C, Calcium and Phosphorous	5 km	in the communities	Morning and afternoon	good	Squrril, humans, birds and monkey
23	Little Avocado	Ocotea Tenera	Lauraceae	Fruit	vitamine A, B and E	5 km	in the national park	Morning and afternoon	good	Big birds.
24	Lancewood	Calycophyllum candidissimum	Rubiaceae	Seeds.	proteine and fiber	7 Km	in the communities and national park	morning and afternoon	good	birds
25	Jobillo	Astronium Graveolens	Ana cardiaceae	flower	fiber and proteine	7 km	in the communities and national park	Morning and afternoon	ok	monkeys and birds
26	Rain Tree	Albizia Saman	Fabaceae	Flowers and fruits	Proteine and Calcium	7 km	in the communities and national park	Morning and afternoon	good	bird and Iguana
27	Quick Stick	Glicicidia Sepium	Fabaceae	Flowers	proteine and fiber	7 km	in the communities and national park	Morning and afternoon	good	Iguana and some birds

Work done in January February and march



Monitoreador: Adonis López

General

In January, February and March, monitoring began in the Madera's Volcano National Park in exactly three communities: Mérida Balgue and La Palma. I am working on the verification of nests that were active in previous years in the Merida community, of which almost 100% show signs of being active except for a nest that parrots laid a dry trunk last year and this year it fell apart from the verification work has been done in search of new nests which the team from the Merida community have found a good percentage.

Facts

In the verification program in January I was working 6 days a week. These days I agreed with the monitoring coordinator to see the areas that were going to be covered and the strategies that were going to be implemented so that I could coordinate the work with the community and thus the monitoring of the month of January it was a success.



In addition, I was making field expedition to see the nesting behaviour of the LNA, in which I managed to see a different behaviour of the species in the three communities where the monitoring is being carried out, at the time they visited the cavity, also as regards to the species of trees they chose and the degree of difficulty of access to the cavity when nesting.



I also did a survey of the feeding points and routes, as well as the trees on which the species feeds and the trees that it prefers to feed its chicks, also the coincidence of the fruit season with the chick season. In these observations, I made very good findings, regarding the trees of loquat of mountain, guayabon of mountain, avocado, mango among others.



In addition, I have visited the roosting points and observed the behavior of the species that changes greatly because in the month of January only the male was returning to sleep and it was very late which means that it is the incubation season and the female is it remained in the nest while the male kept watch late and when there was almost no light he returned to the roosts





Collecting information about diet of YNP



Working with community people checking the area that need restoration in Merida-National Park



Tecoma Stans Fruit one of the favorite fruit of YNP



Universities and Farmer finding the way to make tourism and protect the YNP



Hymenaea Coubaril fruit, hard fruit that only YNP can eat



YNP foraging flower in Gliricidia Sepium tree. 5:30 AM



Fruit of Manilkara Chicle eaten by YNP



YNP foraging seed on Gliricidia Sepium 5:50 PM



Perrot fogarín in Guazuma Ulmifolia



Perrot fogarín in Enterolobium Cyclocarpum



Collecting information about the diet of YNP In La Palma Madera's National Park.



Milkara Chicle fruit eaten by parrot 6:00 am



YNP getting inside of the cavity nest



YNP getting out of cavity nest



YNP chicks in a cavity nest La Palma- Madera's National Park



Three healthy chicks of YNP in the cavity nest MeridaMaderas National Park. One week left to fly. 06/04/ 20- 7:15 AM



Two healthy chicks of YNP in the cavity nest Wildlife Refuge Peña Inculca December 2020.



Three eggs of YNP in the cavity nest Balgue -Maderas National Park.



Climbing team working in Merida- Madera's National Park



Cheeking the chicks and collecting dates of the nesting time in the wildlife Refuge Peña Inculta



Climbing tree with nest in Merida Madera's National Park



Taking measures of a chick in the Wildlife Refuge Peña Inculta



Working in climbing trees with nest in La Palma Madera's National Park



Working in monitoring of the nest. Mérida team Maderas National Park

OSERVACION DE ARBOL FORMULARIO

Nido: 39 Fecha: 21/05/20 Lugar: La Madronada Finca Hoguena Cuchillas

Actividad: Nada Posible Probable 100% Seguro Fallado

Razón de Observación: Verificado GPS: 0663379-1267839 Especies Arbol: Madroño

Tiempo: (Viento, calor, % nublar) Nublado 25% Hora: 6:30 am

Persona Escribiendo: Nelson Cuantos Personas Observando: 4 Armando Maira Malva Emerson

Historia de Nido: Años Anterior: Nueve

Evidencia de Saqueo Años Anterior? Si (No) Que evidencia:

Padres en Cavidad Este Año? Si (No) No Hembra duerme el noche en nido este Año? Si (No) No

Padres en Cavidad Hoy? Si (No) Padres Alrededor Hoy? Si (No) Compartimento: Cantos es de otro nido

Puede Escalar? Si (No) No Arbol Subido? Si (No) No Puede Ver Piso Cavidad? Si (No) No

Quien Subió: Emerson Problemas de Escalar:

Evidencia Saqueo este año? Si (No) Que Evidencia:

Evidencia de Otra Depredadores Alrededor? Si (No) No

Condición de Entrada de Cavidad: (Mordidos) Golpes Otra un poco profundo

Condición de Cavidad: (Seco) Poco Húmedo Muy Húmedo Lodo Agua Otra

Contenidos de Cavidad: (Humas) Insecto Fragmentos de Huevo Otras especies

Foto de Cavidad: Si (No) Cámara de Quien: LOGO Muestra de Material Nido: Si (No) No

Numero Huevos in Nido: 0 Condición/Posición de Huevos en Nido: =

Numero de Pichones en Nido: 2 Edad de Pichones: 7 semanas

Condición de Pichones en Nido: Cuidado con buenas condiciones Bue espacio

Pichones Bajaron al Suelo? Si (No) Porque sí/no? No hay tiempo

Acciones en árbol, nido, o con pichones: Se escalo y se tomaron fotos y medidas del árbol

Ancho cavidad: 20 cm Altura: 18 m Profundidad cavidad: 1 m Altura Cavidad: 11.8 m

Circunferencia árbol: 167 cm Altura árbol: Dirección entrada: hacia arriba

Acciones Futuras/Comentarios: Este nido está ubicado a lo orillo de un camino donde pasa mucho gente y es muy conocido 100% vulnerable a ser saqueado.

Example of processing information from the field paper.



Guarding the nesting area with the police. Merida-Madera's National Park.



End of 9 km over the nesting area Merida-Madera's National Park



End of 7 km, guarding with the police La Palma-Madera's National Park



Merida team, we found poachers trying to get chicks from the nest.



Example of pouched nest from this year Merida-Madera's National Park.

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- ❖ elchicoometepe@gmail.com.
- ❖ Lezama et al. 2004 Wiendenfeld et al 1999

Comments

Throughout this 6 month it was very interesting to work on data collection and the development of strategies that would help to restore the ecosystems of the Ometepe Island Biosphere Reserve, giving an opportunity for recovery not only of our endangered species if not of all birds. This work made me very excited since I am someone who is passionate about birds and working to lead the conservation of these birds is something that undoubtedly gave my life and heart. I am currently working with the authority of the Ministry of Environment and Natural Resources (MARENA) to prepare an official document of the data and results obtained during the internship. Also, I am looking for support from the FFI host program to do a Second data survey in the following two nesting seasons and see if there is a variable in the nesting and feeding behaviour of the species and the document that, I am making is valid. I have the feeding and nesting tables in excel, I sent them a photo, but if you need the documents, I can send them to you.

I hope the information you sent them is helpful and if you need more information, I will be available. I hope this is not a goodbye if not a see you soon.