

The Rufford Foundation

Final Report

Congratulations on the completion of your project that was supported by The Rufford Foundation.

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. The Final Report must be sent in **word format** and not PDF format or any other format. We understand that projects often do not follow the predicted course but knowledge of your experiences is valuable to us and others who may be undertaking similar work. Please be as honest as you can in answering the questions – remember that negative experiences are just as valuable as positive ones if they help others to learn from them.

Please complete the form in English and be as clear and concise as you can. Please note that the information may be edited for clarity. We will ask for further information if required. If you have any other materials produced by the project, particularly a few relevant photographs, please send these to us separately.

Please submit your final report to jane@rufford.org.

Thank you for your help.

Josh Cole, Grants Director

Grant Recipient Details	
Your name	Alvaro García Olaechea
Project title	Interpretation center and wildlife conservation in the Noroeste Biosphere Reserve, Peru
RSG reference	19484-1
Reporting period	One year
Amount of grant	£4920
Your email address	a.garcia.olaechea@gmail.com
Date of this report	Dec 30 th 2017

1. Please indicate the level of achievement of the project's original objectives and include any relevant comments on factors affecting this.

Objective	Not achieved	Partially achieved	Fully achieved	Comments
Construction of the interpretation center				Even though we had some delays due to construction permits and the abnormal and devastating floods in northern Peru that left broken roads and uncommunicated towns. We gladly open the visitor center in December.
Workshops				While working on the interpretation centre, we conducted three workshops in the Rica Playa school and one in a small park ranger checkpoint.
Volunteer Program				Thanks to this grant we leverage for funds to complement the volunteer programme and also pay for two honours thesis projects.
Bird inventory				
Mammal inventory				

2. Please explain any unforeseen difficulties that arose during the project and how these were tackled (if relevant).

Regarding the building of the interpretation centre, we had some delays due to construction permits. Once we got them, the normally dry and arid environment from northern Peru was flooded because of the intense and unusual rains that occurred between March and May 2017. As a result, many roads were broken and the towns were cut off, making impossible the transportation of some materials and the beginning of the workshops. However, in the meantime we started with the mammal and bird inventory.

3. Briefly describe the three most important outcomes of your project.

Interpretation centre for the Biosphere Reserve: We are glad and thankful to have finished the interpretation centre. This centre is located in the buffer zone of the Noroeste Biosphere Reserve and is informing tourists and local people about biodiversity as well as keeping conservationists and student's presence in the reserve. Currently, it has informative posters with relevant information about the reserve, natural history information of the wildlife and its relevance to the environment, two specimens showing bone differences between Sechuran fox

(*Lycalopex sechurae*) and Molina's hog-nosed Skunk (*Conepatus semistriatus*), information about endangered species and how to differentiate between venomous and non-venomous snakes. We also started a collaboration with the local NGO Flora y Fauna Peru, which focus is the design of educational materials for children and adults for wildlife conservation and are going to help in future workshops and materials (see Appendix).

Biodiversity monitoring: For the small mammal inventory we used Sherman, Victor and Tomahawk traps, and used mist nets and echolocation recorders. We captured and released 40 bats from three species: fraternal fruit-eating bat (*Artibeus fraterculus*), Pallas's long-tongued bat (*Glossophaga soricina*), and Pallas's mastiff bat (*Molossus molossus*). In total, we registered 12 species of bats (Table 1). Also, we captured one species of rodent, *Aegialomys baroni*, and one vulnerable species of marsupial: *Marmosa phaea*. Also, with camera trapping and sightings 16 other species of medium to large-sized mammals. We also registered 63 species of birds in the area near the centre (Table 2). The greatest highlights are new species records, the pampas cat (*Leopardus colocolo*) was found for the first time within the reserve and in its buffer area, making this locality the northern most record for its dry forest distribution. Also, thanks to several methods used for registering bats we recorded a greater diversity of Molossidae through echolocations. New records were for bats: western mastiff bat (*Eumops cf. perotis*), Peale's free-tailed bat (*Nyctinomops aurispinosus*), broad-eared free-tailed bat (*Nyctinomops laticaudatus*), big free-tailed bat (*Nyctinomops macrotis*), big crested mastiff bat (*Promops centralis*), and Brazilian free-tailed bat (*Tadarida brasiliensis*).

Community engagement: We had several informal talks with members of the Rica Playa community and three workshops directed to adults, children and the authorities. From our questionnaires to investigate how much people learned with the workshops and the visit to our centre, 90% of the interviewees learned at least something new. 80% of the people answer correctly the questions related to endangered species and number of birds and reptiles in the area. However, we also realised that most people did not recognize the main threats to wildlife, such as hunting and mining. Thus, in our next workshops we will keep the same amount of time focusing on endangered species and also add some extra time and slides for wildlife threats.

4. Briefly describe the involvement of local communities and how they have benefitted from the project (if relevant).

Local men were involved in the construction of the interpretation centre and they also helped as local guides during biodiversity monitoring. Furthermore, women and men participated in the workshops where they explained their needs and expectations from us.

We formed a collaboration with the ecotourism association "Rica Playa" and our undergraduate thesis students are currently working with them. Also, we are identifying the best trails with higher potential to be used as hiking places and developing a maintenance plan.

5. Are there any plans to continue this work?

Yes, our two undergraduate thesis students will continue volunteering for the interpretation centre while they also do fieldwork to identify the factors affecting the activity and abundance of medium to large mammals.

We also plan on having more courses, directed to biology students that will help research in the area and also help pay for maintenance costs of the center, such as water and electricity.

6. How do you plan to share the results of your work with others?

We have started an Instagram and Facebook account where we are constantly informing about the project. Also, this month we started giving presentations to the local authorities and universities to raise awareness about the dry forest unique ecosystem and its importance. Now that the interpretation centre is finished, we will advertise it on our website and social media, so more people can go to visit it and learn about the biodiversity of north-western Peru.

7. Timescale: Over what period was The Rufford Foundation grant used? How does this compare to the anticipated or actual length of the project?

We used the funds obtained from the Rufford Foundation from October 2016 to December 2017 (14 months). This reflects the time we were planning on using the funds except for a few months of delay at the beginning.

8. Budget: Please provide a breakdown of budgeted versus actual expenditure and the reasons for any differences. All figures should be in £ sterling, indicating the local exchange rate used.

Item	Budgeted Amount	Actual Amount	Difference	Comments
Interpretation Centre	4164	5950	-1786	We spent more than the initial budget because of the flood related problems that added costs to our logistics budget. Fortunately, we received local donations from friends and colleagues to pay for this.
Environmental Education	223	170	+53	
Bird Inventory	497	497	0	
Small mammals inventory	672	750	-78	We needed extra funds to replace some rodent traps that were stolen in the study area.

Medium and large mammals inventory	1161	1161	0	
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9. Looking ahead, what do you feel are the important next steps?

The most important next step is to make our presence in the surrounding villages of the biosphere reserve even greater. We have been in contact with authorities and municipalities have taken interest in our work. Thus, we will continue with environmental education and workshops. Our partnership with Flora y Fauna Peru will expedite this process because they are already working on colouring books and children presentations to complement ours. Thus, our education and research efforts will continue.

Another important next step would be to evaluate how free-ranging cattle are affecting native species, and which potential diseases they might be spreading. Gladly, we have started to study changes in mammalian community with two undergraduate thesis that will help direct future studies by identifying most vulnerable species. Currently, we believe that because of free-ranging dogs, the most vulnerable species for further study are wild cats and foxes.

10. Did you use The Rufford Foundation logo in any materials produced in relation to this project? Did The Rufford Foundation receive any publicity during the course of your work?

Yes, in the interpretation we have designed several informative posters each using the Rufford Foundation logo. These posters will be kept for local and tourist engagement in wildlife conservation. We will also use these posters in our website, and social media pages. We will acknowledge the Rufford foundation support in any media report and publication that will present in the future.

11. Please provide a full list of all the members of your team and briefly what was their role in the project.

Alvaro García Olaechea: I coordinated the full project, I was in charge of the large mammal inventory, and participated in two workshops.

Cindy Hurtado: She participated in the small and large mammal inventory and gave talks to the local community about rodents and large mammal importance for the maintenance of the forest. She also trained Viviana Neira (local biology student) in the use of rodent and camera traps for large mammal inventory.

Zoila Vega Guarderas: She helped organize and participated in the workshops given to local students and general public. She also helped coordinate the construction of the interpretation center.

Jaime Pacheco: Field biologist in charge of bat monitoring.

Edgar Rengifo Field biologist in charge of small mammal monitoring.

Lucero Horna: Field biologist in charge of bird monitoring.

Viviana Neira: Is one of our current volunteers and thesis student looking at abundance changes of mammals in response to habitat disturbance. She also participated of the bird monitoring.

Jilson Rivera: Is one of our current volunteers and thesis student looking at activity pattern changes of mammals in response to habitat disturbance.

12. Any other comments?

We are truly thankful for the opportunity and confidence in this project. I was a lot of effort, but we achieved most of our objective and with this first step you permitted us to work towards conservation of our amazing reserve.



Descripción y hábitat

Es un mamífero de tamaño mediano, común en la desierto de Sechura y en el bosque seco del noroeste del Perú.

Comportamiento

Es principalmente solitario, pero se le puede encontrar en grupos pequeños. Y, aunque son nocturnos, es posible que pueda estar activa en horas del día.

Alimentación

Es una especie omnívora que puede variar su dieta conforme varía la disponibilidad de alimento. Se alimenta de frutos, roedores, pequeños reptiles, aves e inclusive de escorpiones. En algunas localidades y temporadas se alimenta principalmente del fruto del algarrobo.

Reproducción

Las crías nacen entre octubre y noviembre, y pueden tener hasta cuatro individuos por camada.



Mapa de distribución
Residente permanente

Familia: Canidae. Zorros, lobos, coyotes.

Estado de conservación: Casi Amenazada.

CA

Alimentación: Omnívoro, principalmente frutos y roedores.

Comportamiento: Generalmente nocturno y solitario.

Beneficios

El zorro de Sechura puede actuar como dispersor de semillas cuando se alimenta principalmente de frutos; siendo el único mamífero mediano que cumple este rol en el desierto de Sechura. Además, actúa como un controlador de roedores y puede disminuir la presencia de plagas.

Zorro de Sechura

(*Lycalopex sechurae*)





Macho de zorro de Sechura



Huella de zorro de Sechura



Juvenil y hembra de zorro de Sechura



Heces de zorro de Sechura






Appendix

Table 1: Mammal species registered in the Noroeste Biosphere Reserve

Common Name	Species
Common Opossum	<i>Didelphis marsupialis</i>
Little Woolly Mouse Opossum	<i>Marmosa phaea</i>
Northern Tamandua	<i>Tamandua mexicana</i>
Howler monkey	<i>Alouatta palliata</i>
Guayaquil Squirrel	<i>Simosciurus neboxii</i>
Yellowish Aegialomys	<i>Aegialomys baroni</i>
Western Mastiff Bat	<i>Eumops cf. perotis</i>
Mastiff Bat	<i>Molossus sp.</i>
Pallas's Mastiff Bat	<i>Molossus molossus</i>
Peale's Free-tailed Bat	<i>Nyctinomops aurispinosus</i>
Broad-eared Free-tailed Bat	<i>Nyctinomops laticaudatus</i>
Big Free-tailed Bat	<i>Nyctinomops macrotis</i>
Big Crested Mastiff Bat	<i>Promops centralis</i>
Brazilian Free-tailed Bat	<i>Tadarida brasiliensis</i>
Serotine Bat	<i>Eptesicus sp.</i>
Black Myotis	<i>Myotis cf. nigricans</i>
Pallas's Long-tongued Bat	<i>Glossophaga soricina</i>
Fraternal Fruit-eating Bat	<i>Artibeus fraterculus</i>
Pamas cat	<i>Leopardus colocolo</i>
Ocelot	<i>Leopardus pardalis</i>
Margay	<i>Leopardus wiedii</i>
Puma	<i>Puma concolor</i>
Crab-eating Raccoon	<i>Procyon cancrivorus</i>
Sechuran fox	<i>Lycalopex sechurae</i>
Tayra	<i>Eira barbara</i>
Neotropical Otter	<i>Lontra longicaudis</i>
Striped Hog-nosed Skunk	<i>Conepatus semistriatus</i>
Peccary	<i>Pecari tajacu</i>
Red Brocket	<i>Mazama americana</i>
White-tailed Deer	<i>Odocoileus virginianus</i>

Table 2: Birds species registered in the Noroeste Biosphere Reserve.

Common name	Species
Pale-browed Tinamou	<i>Crypturellus transfasciatus</i>
Amazilia Hummingbird	<i>Amazilia amazilia</i>
Short-tailed Woodstar	<i>Myrmia micrura</i>
Ecuadorian Trogon	<i>Trogon mesurus</i>
Great Egret	<i>Ardea alba</i>
Snowy Egret	<i>Egreta thula</i>
Cocoi Heron	<i>Ardea cocoi</i>
Burrowing Owl	<i>Athene cunicularia</i>
Gray-cheeked Parakeet	<i>Brotogeris pyrrhoptera</i>
Pacific Parrotlet	<i>Forpus coelestis</i>
Southern Beardless-Tyrannulet	<i>Camptostoma obsoletum</i>
Fasciated Wren	<i>Campylorhynchus fasciatus</i>
Crested Caracara	<i>Caracara cheriway</i>
Turkey Vulture	<i>Cathartes aura</i>
Black Vulture	<i>Coragyps atratus</i>
Golden-olive Woodpecker	<i>Colaptes rubiginosus</i>
Croaking Ground-Dove	<i>Columbina cruziana</i>
Eared Dove	<i>Zenaida auriculata</i>
West Peruvian Dove	<i>Zenaida meloda</i>
Streak-headed Woodcreeper	<i>Lepidocolaptes souleyetii</i>
Scarlet-backed Woodpecker	<i>Veniliornis callonotus</i>
Groove-billed Ani	<i>Crotophaga sulcirostris</i>
White-tailed Jay	<i>Cyanocorax mystacalis</i>
Lineated Woodpecker	<i>Dryocopus lineatus</i>
American Kestrel	<i>Falco sparverius</i>
Pearl Kite	<i>Gampsonyx swainsonii</i>
Harris's (Bay-winged) Hawk	<i>Parabuteo unicinctus</i>
Peruvian Pygmy-Owl	<i>Glaucidium peruanum</i>
Gray-breasted Wood-Wren	<i>Henicorhina leucophrys</i>
Ringed Kingfisher	<i>Megaceryle torquata</i>
Long-tailed Mockingbird	<i>Mimus longicaudata</i>
Amazonian Motmot	<i>Momotus momota</i>
Short-tailed Field Tyrant	<i>Muscigralla brevicauda</i>
Rufous Flycatcher	<i>Myiarchus semirufus</i>
Baird's Flycatcher	<i>Myiodynastes bairdii</i>

Streaked Flycatcher	<i>Myiodynastes maculatus</i>
Pacific Elaenia	<i>Myiopagis sublancens</i>
Social Flycatcher	<i>Myiozetetes similis</i>
House Sparrow	<i>Passer domesticus</i>
Ecuadorian Piculet	<i>Picumnus sclateri</i>
Hepatic Tanager	<i>Piranga flava</i>
Tropical Gnatcatcher	<i>Polioptila plumbea</i>
Brown-chested Martin	<i>Progne chalybea</i>
Vermilion Flycatcher	<i>Pyrocephalus rubinus</i>
Saffron Finch	<i>Sicalis flaveola</i>
Sulphur-throated Finch	<i>Sicalis taczanowskii</i>
Necklaced Spinetail	<i>Synallaxis stictothorax</i>
Tumbes Swallow	<i>Tachycineta stolzmani</i>
Collared Antshrike	<i>Thamnophilus bernardi</i>
Blue-gray Tanager	<i>Thraupis episcopus</i>
Common Tody-Flycatcher	<i>Todirostrum cinereum</i>
House Wren	<i>Troglodytes aedon</i>
Plumbeous-backed Thrush	<i>Turdus reevei</i>
Tropical Kingbird	<i>Tyrannus melancholicus</i>
Rufous-collared Sparrow	<i>Zonotrichia capensis</i>
Tumbes Sparrow	<i>Aimophila stolzmanni</i>
Elegant Crescentchest	<i>Melanopareia elegans</i>
Pale-legged Hornero	<i>Furnarius leucopus</i>
Yellow-rumped Cacique	<i>Cacicus cela</i>
Thick-billed Euphonia	<i>Euphonia lanniirostris</i>
White-edged Oriole	<i>Icterus graceannae</i>
Peruvian Meadowlark	<i>Sturnella bellicosa</i>
Scrub Blackbird	<i>Dives warszewiczi</i>

Interpretation Center



The process of building the Interpretation Center in Rica Playa town.



Interpretation Center built in Rica Playa town, in the buffer zone of the Noroeste Biosphere Reserve



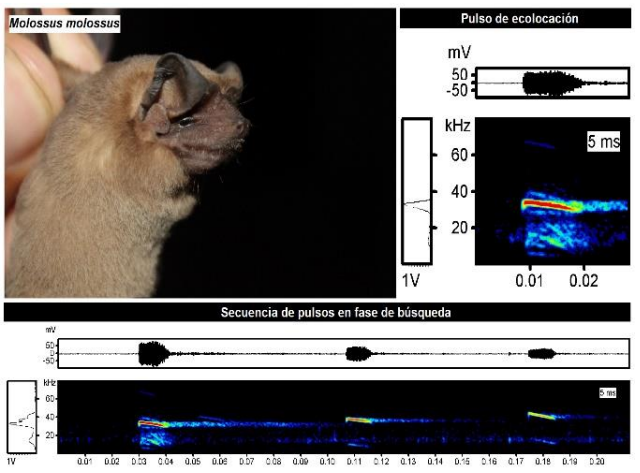
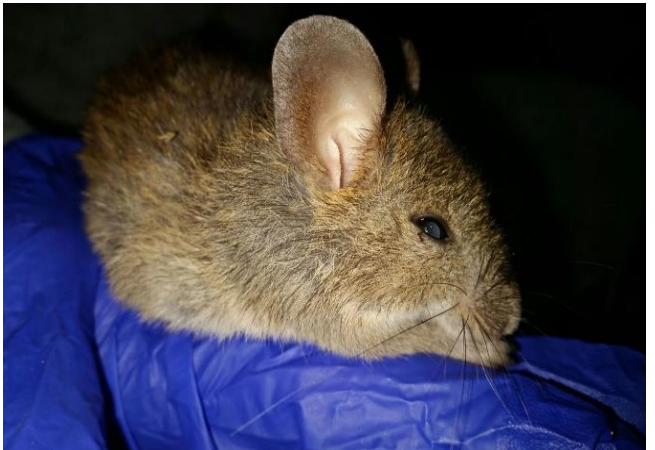
Some posters displayed on the Interpretation Center

Community engagement



Workshops conducted during the project to schoolchildren and adults

Biodiversity monitoring





Some mammals and birds registered during the surveys