

The Rufford Small Grants Foundation

Final Report

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

We ask all grant recipients to complete a Final Report Form that helps us to gauge the success of our grant giving. 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. 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	Cherie Chenot-Rose
Project title	American crocodile, <i>Crocodylus acutus</i> , Population and Habitat Viability Assessment and Conservation in Ambergris Caye, Belize
RSG reference	12180-2
Reporting period	September 2012 to September 2013 Final Report & Extension Request
Amount of grant	£6000
Your email address	acesnpo@hughes.net
Date of this report	September 9, 2013

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
American crocodile Population status Ambergris Caye (A.C.)		X		I would like to complete three more surveys at various times of the year before I yield a definitive population status. I do not recommend population extrapolations for status in this region.
American crocodile Health status A.C.		X		Pending water sampling findings and conclusions from scute tissue samples.
American Croc Size Distribution A.C.		X		Again, while data have been collected and are available, I would like to conduct more surveys for more accurate data.
American crocodile status nearby cayes (Northern and Sandbore Cayes)		X		Results were published in the IUCN-SSC Crocodile Specialist Group (CSG) Newsletter 32(1) 7-10 pp. Jan-March. I would also still like to survey nearby Caye Caulker.
American crocodile Habitat viability via water quality tests and nesting availability		X		Water sampling is currently in progress and some results are available; however, I would like to complete more tests at various times of the year.
Increased public croc awareness, and protected wildlife and habitat conservation		X		This research has significantly increased public awareness in regard to crocodiles and their conservation. However, education is always on going.
American crocodile Management Plan	X			This will be up to the CSG after my presentation at the May 2014 meeting.
American crocodile nesting habitat protection in A.C.	X			While this has been discussed with the Belize Forest Department, do to the fact private lands are involved; habitat protection in A.C. is complicated.
Publication in a scientific journal	X			My decision is that the CSG Newsletter is the best place for my research results to be published at this time.

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

Due to the emergency heart illness of my father, escalated by the facts that I am an only child and living kidney donor to my father, I had to make several unplanned trips to the United States for prolong periods of time this past year. This has unfortunately delayed some of my research.

However, I still have sufficient RSGF funds to fully complete the proposed project by the end of American crocodile mating season in Ambergris Caye, February 2014. Currently I am writing an article on my RSGF research findings for publication in the next IUCN-SSC Crocodile Specialist Group (CSG) Newsletter, deadline September 19th, 2013.

Additionally, a broken boat propeller, and an exceptionally wet, but needed, rainy season have caused surveying and water sampling delays. With a new prop and the “Sea acutus” now splashed, I am currently water sampling and surveying for this years hatchling season (June-August 2014), which ended later than predicted.

And finally, the export of the crocodile scutes were delayed due to securing CITES permits; however, all 40 samples are now safe in the United States with Dr Frank Mazzotti. While I did make an error in the initial budget due to a mistake in currency conversion (I plain forgot to convert BZD to USD for the cost of testing the samples), the first 20 scute tissue samples are currently being tested. I have written three outside funding requests to cover the remaining fees; one of which I did not secure, and the other two are still pending.

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

Initially, I would have answered this question by stating that the most important outcome of this research is a meticulous American crocodile population survey on which to base a self-sustainable, American crocodile management plan, as opposed to utilising extrapolated data from an impermanent surveys. However, after water sampling particular lagoon areas and finding high levels of contaminants (i.e. mercury and total coliform bacteria), I now believe that the most important outcome will be the final results from sampling the quality of the island’s open water systems. Since this is the case, the status of the American crocodile population is now secondly important.

The third most important outcome, to me, will be ever increasing awareness of the local people about Belize’s wildlife laws protecting threatened species, such and the crocodilians; and the important rule of balance that crocodiles, and other apex predators, play in the country’s ecosystems. This increase in understanding will eventually lead to the need for less enforcement, which is a major hurdle for Belize. One can protect the all the wetland habitats in the country but if people are still senselessly killing crocodiles out of fear or poaching, then the crocodile population is still doomed. One fears what they don’t understand; thus, increased understanding lessens fears.

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

In Ambergris Caye, local communities have steadily gained a better understanding of why crocodiles are important in Belize’s ecosystems; and hence, have become more involved with my research by informing me of crocodile sightings, problematic crocs, and illegal crocodile activities, such as poaching and possession of live crocs, skulls, meat, and teeth. Benefitting from a better understanding of the animal, the locals are living in less fear and learning how to live more safely with this apex predator. Additionally, the direct feeding of crocodiles here on the island as an illegal tourist attraction has pretty much ceased altogether and the tour guides are learning the value that crocodiles play to tourism in the respect of viewing them in the wild rather than creating a dangerous situation for both the crocodiles and more importantly the people. I also post public warnings when I know of a dangerous crocodile, such as one that takes pets regularly, roaming in a

certain neighbourhood. This gives the locals the opportunity to tie up their pets for a night or two until we either relocate the crocodile or it moves out of the area on its own.

An indirect benefit from which the entire country's welfare is affected, is that locals are heeding warnings about tossing food wastes into the waters around their homes. Most of the country's populace now understands that this attracts crocodiles indirectly and, a side benefit, other than no crocs under the house, is less polluted waters as well.

Finally, awareness of the water quality testing results in and around the island is going to hopefully make residents, and the Government of Belize, understand the need of proper infrastructure and waste disposal. Ambergris Caye is the number one tourist destination in the country, and was voted "The Best Island in the World" by Trip Advisor's 2013 Traveler's Choice. If the water quality tests continue to yield levels of Total Coliform Bacteria that propose a potentially serious contamination problem, and the mercury levels are consistently 0.67 ppm, as found in Boca Del Rio, people will eventually be given notice to not consume fish, crab, shrimp, or lobster, for more than one meal a week. At the least, they can consider themselves warned.

In relation to the American crocodiles, people on the island and in many communities on the mainland in Belize City District are now working together, mainly via social media, to protect this threatened species. Just last week, there was a Facebook post by locals concerned about a flatbed truck carrying a crocodile on the back in a culvert. The posted picture actually made it to the current IUCN/SSC-CSG Vice Regional Chair of Latin America, Marisa Tellez, who, by the way, was initially trained by my non-profit organisation, the American Crocodile Education Sanctuary (ACES). In actuality, the photograph was of ACES's truck, and my husband Vince, releasing five rehabilitated freshwater Morelet's crocodiles back into the wild at a location determined by the Belize Forest Department. The whole affair made me proud, and I realised that together we are all making a difference. ACES just received a generous donation of magnetic truck decals with our logo.

5. Are there any plans to continue this work?

Yes, I plan on continuing monitoring the American crocodile population and its habitat, as long as financially possible. Also, as requested per the Belize Forest Department, ACES will be training an emergency response team of San Pedro Police Officers to respond to crocodile and other wildlife calls on the island. This training is scheduled to take place September 17th and 18th 2013. Additionally, a local volunteer (coincidentally of British descent) who has been working with me for 3 years is already trained in the proper protocols of safe crocodile handling and official scientific data collection, to continue my research beyond my years.

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

Currently, I publish some crocodile sighting data via a private Facebook page. I do this to inform some of the local community on the location of large populations of adult crocodiles. This is sensitive information because I also do not wish this information to fall into the hands of the poachers. If there is a specific problematic crocodile in a known location, I do post a public warning for the safety of people and pets.

From this round of RSGF funding, a research article has been published in the IUCN-SSC Crocodile Specialist (CSG) Newsletter 32(1), a copy of which was submitted to the Belize Forest Department

and RSGF. This article's significance is that it is the first documented American crocodile population status of Northern and Sandbore Cayes, which are, located just a few miles from the largest recorded nesting area of the species in Belize, Turneffe Atoll.

I am currently compiling an article to be published in the next IUCN-SSC CSG Newsletter, on the American crocodile status in Ambergris Caye based on my nesting season surveys. The deadline for publication is September 19th 2013. I will also submit this to the BFD and RSGF. All publications, once released, are also posted for public viewing on my website AmericanCrocodileSanctuary.org and numerous other social media links, such as LinkedIn, FaceBook, and Google. Press releases are also sent to all Belize media sources. Again, media links can be found on my website.

MOST IMPORTANTLY, I will submit a complete report compiled from all of my RSGF research, for approval of presentation, by me, at the 23rd CSG Working Meeting to be held at McNeese State University, Lake Charles, Louisiana, USA, on 26th- 30th May 2014. Then, at the IUCN-SSC CSG Steering Committee meeting to be held during that conference, on 25th May 2014, I intend to request their assistance to determine an essential, updated, American Crocodile, *Crocodylus acutus*, Management Plan for Belize, addressing the ever-increasing croc-human conflicts in Ambergris Caye.

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

Funding from RSGF has been utilised thus far over the course of one year (September 2012 to September 2013). Since monitoring the American crocodile population in Belize is a continuous project, the personal setbacks are just delays. In fact, at the present moment, the unusual heavy rains are setting me back a little bit more by making obtaining water samples in the field difficult without ruining the sensitive colorimeter or contaminating the samples with precipitation. All fieldwork has delays in one way or another. I do however apologise that the larger part of my unanticipated delays this year were personal and not technical. I do intend to proceed and successfully complete this extremely important project.

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.

Exchange rate on Sept 9, 2013: 1 £ (GBP) = 3.12 BZD – Please note that only funds requested from RSGF are in the budget below; donated items from original budget are noted in parenthesis ().

Item	Budgeted Amount	Actual Amount SPENT	Difference Remaining	Comments
Golf cart fuel - surveys Boat fuel and oil - surveys	2535	346 spent	2189	One survey route completed, three more routes to do, one currently being conducted
Equipment - rope, tape, batteries, etc.	250	131 spent	119	Will be utilised
Record supplies	100	100	0	Upfront costs

40 Scute tissue samples – only 20 tests Next 20 will be 962 £ applying for funding	1000	962 spent	38	My mistake in currency conversion during initial budget estimate – only 20 samples have been tested
Mercury and coliform tests and importation	845	936 spent	-91 over	Price increased from the time of application to the time of ordering the tests
25 ID microchips	60	114 spent	-54 over	Shipping was more than anticipated
Educational printables	580	0	580	In the making
Equipment maintenance	630	630	0	New prop 192 £ and Golf cart maintenance 438 £
RSGF TOTAL	6000	3219 spent	2781 remains	
25 ID microchips	60	114	-91 over	Donor covered additional costs
Colorimeter w/ water tests and refractometer	1020	1020	0	
Other Secured	1080	1134 spent	91 over	this part of the budget was cover by the private donor.

Please note that 45 £ was lost in the exchange rate, deposit was 5955 £

9. Looking ahead, what do you feel are the important next steps?

The most important next steps are: to protect American crocodile nesting habitat in the southern area of Ambergris Caye where the highest concentration of crocodiles are residing; to establish a wildlife rescue facility on the island; and to implement a full time official, Belize Forest Department, Wildlife Officer in Ambergris Caye for the enforcement of poaching, illegal wildlife pet trade activities, and deliberate feeding of wild crocodiles, all of which are prevalent and directly effecting the self-sustainability of the wildlife in Ambergris Caye, Belize.

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

Yes, the RSGF logo appears on my website's Research page and Partner page at AmericanCrocodileSanctuary.org. The logo also appears on ACES 2012 Annual Report that is available online and was distributed to all of ACES's supports and partners.

My American crocodile research funded by RSGF is mentioned in both newspaper articles below, which were in print and are still available online:

<http://www.sanpedrosun.com/environment/2013/02/21/lighthawk-helps-with-environmental-flight-missions-in-belize/>

<http://www.sanpedrosun.com/environment/2012/02/07/lighthawk-takes-aces-over-northern-ambergris-caye/>



More importantly, RSGF received acknowledgement as funders of the research in my published research article that appeared in the CSG Newsletter 32(1) 7-10 pp. Jan - March.

Additionally, I did mention that my research was funded by RSGF during the filming of a TV show with Nat Geo host, Martyna Wojciechowska, called "Women at the End of the World," which is scheduled to air Sunday, September 15, 2013, in Poland on TVN, and then all over Europe. I am not sure how the program was edited, but I am hopeful they will include that my research is funded by RSGF.

11. Any other comments?

Thank you for your trust, patience, and continuous support of my research with American crocodiles. Together we are making a difference in Belize and taking a bit out of extinction!

I am requesting the permission to keep the remaining 2781 £ of funding to finish the proposed project and provide another Final Report by March 2014. Thank you for the consideration.