



DATE: 30 October 2015
TO: SAS, Directors
FROM: Ed Diebold
SUBJECT: Summary of Riverbanks Conservation Support Fund activity for Fiscal year 2014-2015 (i.e., total of the 1 December 2014 and 1 June 2015 funding cycles)

In 1996, the Riverbanks Zoological Society Board of Directors approved the establishment of the Riverbanks Conservation Support Fund with the objective of providing assistance to carefully selected conservation initiatives originating both from within and outside of Riverbanks.

This is the twentieth year of existence for the Riverbanks Conservation Support Fund. This year the availability of funding was announced on the Riverbanks Web Site. Twice annual grant submission deadlines were as follows:
1 December 2014 and 1 June 2015.

Grant awards, including Field Conservation Associates grants are summarized below:

1 December 2014 Deadline

- 1) \$5000 to Ashley Campbell of Florida Atlantic University and Dr. Stesha Pasachnik of the Fort Worth Zoo/ Institute for Conservation Research and San Diego Zoo Global for their project titled, "Conserving Roatan's Spiny-tailed iguanas, *Ctenosaura oedirhina*: long term monitoring and health and fitness assessments."

The specific conservation/management objectives of this project are to:

- Continue morphometric and demographic mark-recapture surveys.
 - Conduct health and fitness evaluations focusing on parasite load, stress, behavior, and predation risk.
 - Better understand the effects of anthropogenic factors on the species.
- 2) \$4300 to Brad Lock, Curator of Herpetology at Zoo Atlanta for his project titled, "Conservation of the Critically Endangered alligator lizard *Abronia*

campbelli in eastern Guatemala through Habitat Restoration and Community Forest Management.”

The specific conservation/management objectives of this project are to:

- Create the first ever community managed forest in the area (10,000 trees) germinated at a project nursery and planted by the local community. The native, fast growing species of trees will be used as a resource for sustainable collection of firewood for cooking and heating.
- Expand the current habitat restoration program to all 7 farms in the valley (8,000 trees).
- Conduct awareness and conservation education programs in all 12 communities surrounding the habitat of *Abronia campbelli*, reaching 2600 school children per year.
- Build capacity and conduct skill development workshops for adults and children.

- 3) \$4450 to Briana Abrahams for her project titled, “Movement Patterns and Conservation Genetics of Endangered African wild dogs (*Lycaon pictus*) in Northern Botswana.”

The specific conservation/management objectives of this project are to:

- Determine the current genetic structure of northern Botswana’s African wild dog population.
- Relate landscape structure to observed movement patterns and gene flow.
- Identify any current natural and anthropogenic barriers within the study system that limit population gene flow.
- Create a Wild Dog Conservation Working Group among local stakeholders.

- 4) \$5086 to Dr. Cheryl Knott and Cathryn Freund of the Gunung Palung Orangutan Conservation Program for their project titled, “Saving Orangutans One Classroom at a Time: Conservation Education in Remote Communities near Gunung Palung National Park, Indonesian Borneo

The specific conservation/management objectives of this project are to:

- Generate increased local awareness about the threats to orangutans and their forest habitat and greater environmental empathy.
- Reduce orangutan poaching, decrease the risk of human-orangutan conflict, and reduce rates of forest encroachment, including illegally logging and deforestation for small-scale agriculture.
- Engage communities living in the GPNP buffer zone as forest guardians.

- Empower local people with high-quality environmental knowledge in order to make a difference to the long-term conservation of the orangutans and the forest.
- 5) \$775 to Dr. Stacy Lindshield and Giselle Narváez Rivera of Iowa State University and the Monkey Bridge Project for their project titled, “Bridging the Forest Gap: evaluating crossing structures for Neotropical primates.”

The specific conservation/management objectives of this project are to:

- Improve existing crossing structures for primates in southeastern Costa Rica.
 - Test for preference in four competing crossing structure designs (twisted liana, parallel lianas, ladder, and horizontal net) in a multi-species study group of monkeys residing in a wildlife sanctuary in southeastern Costa Rica.
- 6) \$4740 to Jennifer Grigg of the University of Bristol and Dr. Richard Sherley of the University of Exeter for their project titled, “An investigation into the effect of spatial management of South African fisheries for African penguin *Spheniscus demersus* populations in the Western Cape.”

The specific conservation/management objectives of this project are to:

- Compare African penguin foraging parameters as measured by foraging trip duration and efficiency, breeding success and chick body condition before and during small-scale closures to fishing around Robben Island and the implementation of spatial management in the sardine fishery.
 - Gain a comprehensive assessment of whether either or both fisheries management activities positively influence penguin fitness.
 - Determine whether African penguin foraging parameters are influenced by the introduction of spatial fisheries management.
 - Establish whether foraging parameters and demographic parameters for hand-reared birds are comparable to their wild counterparts.
- 7) \$3715 to Dr. Karen DeMatteo of the St. Louis Zoo’s Wild Care Institute for her project titled, “The next step for carnivore conservation in Misiones, Argentina: establishing a biological corridor.”

The specific conservation/management objectives of this project are to:

- Secure participation of land owners in the biological corridor.
- Expand incentive programs for land owners that participate in the corridor.

- Reach out to local communities, businesses, and schools with the aim of making corridor participation a source of pride versus a sacrifice.
 - Use a detector dog to locate scats from five carnivores in the three core areas of the corridor.
 - Teach the skills and knowledge of handling a detection dog to an Argentinean student.
 - Have at least two Argentinean students complete their thesis using genetic analyses of the collected prey scats.
 - Generate summaries of the results from the Corridor Action Plan, detection dog surveys, and re-evaluation of the corridor.
- 8) \$5000 to the Turtle Survival Alliance (TSA) for operating support of the Turtle Survival Center (TSC) in Cross, South Carolina.

The specific conservation/management objectives of this project are to:

- Establish captive assurance colonies for carefully selected species of critically endangered turtles.
- Provide emergency veterinary back-up for the Turtle Survival Center, as needed and as is practical.

1 June 2015 Deadline

- 9) \$3229.20 to Dr. Zach Farris and Asia Murphy of Virginia Tech for their project titled, "Red ruffed lemurs, fosa and the future of a new ecotourism site in the largest protected area complex in Madagascar."

The specific conservation/management objectives of this project are to:

- Assure the future of this ecotourism site for the benefit of wildlife and local villagers, in addition to aiding WCS in their continued mission to conserve biodiversity in the Masoala-Makira landscape and laying the groundwork for a feral cat trap and removal program.
- Determine via camera trap and line transect surveys the trends in occupancy and site use by native wildlife and feral cats through the years.
- Determine whether red-ruffed lemurs are still present and estimate their numbers via line transects and distance sampling.
- Determine via camera trapping the numbers of fosa present at the site and whether it is a mating site.

- 10) \$4500 to Denise Thompson of Oklahoma State University and Dr. Day Ligon of Missouri State University for their project titled, "The Influence of Social Interactions and Physiology on Reproductive Success of the Alligator Snapping Turtle."

The specific conservation/management objectives of this project are to:

- Determine how contact patterns, activity, physiological state, and genetics influence reproductive success in a species of conservation concern.
- Determine the processes shaping reproductive success at both individual and population levels in a closed population of alligator snapping turtles.
- Quantify the loss of genetic diversity between parents and offspring.

11) \$4000 to Erin Poor and Dr. Marcelle Kelly of Virginia Polytechnic and State University (Virginia Tech) for their project titled, "Connecting the stripes: Identifying landscape connectivity of tigers in central Sumatra."

The specific conservation/management objectives of this project are to:

- Collect and analyze tiger scat to quantify genetic connectivity among tiger populations in central Sumatra.
- Quantify habitat change using landscape modeling under different projected development scenarios.
- Keep the growing human population safe while developing a management plan to increase the central Sumatran tiger population.

12) \$4384 to Ian Singleton and Shaina Irwin of Conservation Lower Zambezi for their project titled, "'Nzou' Environmental Education Project, Lower Zambezi, Zambia."

The specific conservation/management objectives of this project are to:

- Improve the level of interest and knowledge of the value of the environment in the areas surrounding the Lower Zambezi National Park through engaging with 52 schools and at least 1,900 school pupils.
- Increase community engagement in wildlife conservation through strengthened conservation clubs.
- Monitor the take up and engagement levels of local school pupils in environmental education and conservation initiatives.

13) \$4900 to Dr. Lesley Bulluck, Cathy Viverette and Jessie Reese of Virginia Commonwealth University for their project titled, "Linking breeding and winter habitat for migratory Prothonotary Warblers to help prioritize protection of tropical mangrove forests."

The specific conservation/management objectives of this project are to:

- Develop an atlas of migratory connectivity for prothonotary warblers by performing stable isotope analysis on feather samples.
- Compare mangrove habitat quality by measuring individual condition of migratory and resident birds captured in coastal mangrove forests.
- Provide biological justification and guidance for the protection of mangroves across Central and South America.
- Make available the results of the connectivity atlas for researchers and land managers
- Contribute findings to the Prothonotary Warbler Conservation Plan.

14) \$4300 to Paula Leticia Perrig and Dr. Jonathan Pauli of the University of Wisconsin – Madison for their project titled, “Multitrophic links in the high Andes: importance of the puma-vicuña interaction for the conservation of Andean condors.”

The specific conservation/management objectives of this project are to:

- Explore the space-use overlap and behavioral interactions among condors, pumas and vicunas to understand how strongly interconnected dynamically these species are.
- GPS track Andean condors concurrently with pumas and vicuñas.
- Investigate and monitor puma kill sites to understand the importance of biomass provided by predators to scavengers.
- Examine if there is a relation between the availability and distribution of carrion with condor food and habitat use to understand how tightly linked pumas and condors are, and how climate, topography and habitat type (e.g., plains vs. canyon vs. meadows) influence condor selection and use of carcasses on the landscape.
- Evaluate differences in habitat use between sexes, providing insight on the mechanisms that lead to the observed skewed adult sex ratio in the species.

15) \$5000 to Rosana Paredes and Susana Paredes for their project titled, “Seabird tracking for delineating MPAs boundaries.”

The specific conservation/management objectives of this project are to:

- Determine the foraging ranges of two breeding seabirds, the endangered deep-diving Humboldt penguin and the main guano-producing seabird and intermediate-diving Guanay cormorant using GPS tracking.
- Determine the main times and locations of feeding occurrences for both species using diving locations (GPS and time-depth recorders combined) and kernel density analysis.

- Produce an animated video with data, maps and footage from the field for public display Punta San Juan MPA, and the nearby village, Marcona, and posted online at the Punta San Juan Project website.

16) \$3722 to Dr. Tracey Tuberville of University of Georgia's Savannah River Ecology Laboratory, Dr. Betsie Rothermel of Archbold Biological Station, Dr. Kelly Zamudio of Cornell University and Nicole White of the University of Georgia for their project titled, "Mating system and male reproductive success in a high-density gopher tortoise population."

The specific conservation/management objectives of this project are to:

- Genotype potential breeders and offspring from the 2015 cohort at up to 10 microsatellite markers.
- Assign parentage of offspring to individual candidate breeders.
- Examine the influence of individual traits (e.g., size, age) and behavioral characteristics (e.g., reproductive effort, "centrality" in population) on individual reproductive success.
- Qualitatively compare the social dynamics of tortoises in our high-density gopher tortoise population with previous studies of low-density populations.

17) \$2000 to Will Dillman of the South Carolina Department of Natural Resources for his project titled, "Gopher Tortoise Survey Initiative for South Carolina."

The specific conservation/management objectives of this project are to:

- Identify and assess the status and management of all Gopher Tortoise populations in South Carolina, to better understand the distribution, abundance, and conservation status of this species.
- Conduct baseline population survey data using pilot surveys and the approved Line Transect Distance Sampling (LTDS) method for appropriate SCDNR owned and/managed properties and other public and private lands of appropriate size will be provided and allow for categorization of each population.
- Focus and guide conservation measures and resource allocation for the species.
- Identify areas that may be used as potential recipient sites for Gopher Tortoise relocations and/or population augmentation.

18) \$209 for ComPOOst program operational expenses.

19) \$500 to the South Carolina Wildlife Federation Scholarship Program.

The specific conservation/management objective of this project is to:

- Distribute educational grants to full-time students pursuing environmental education at South Carolina schools of higher education.
- Undergraduate and graduate students are eligible, based on their performance in academia and in related community activities.
- Special attention is paid to a student's leadership and volunteer experience when determining winners of these scholarships.

20) \$2869 for Riverbanks Field Conservation Associates (FCA) Program.

In July-August 2014 Maggie Wagoner traveled with professors Dr. Brian Arbogast of the University of North Carolina-Wilmington and Travis Knowles of Francis Marion University to participate in the camera trapping studies of the mammalian biodiversity of Ecuador's Sumaco National Park (SNP). Professor Dr. Arbogast and Knowles' project was funded by the Riverbanks CSF in the 31 March 2103 cycle.

A total of \$72,679 in grants was distributed during fiscal year 2014-2015 (i.e., a combination of the 1 December 2014 and 1 June 2015 funding cycles). Note that grants awarded during the 1 June deadline were distributed during the first part of fiscal year 2015-2016, but have been included in this summary for the sake of consistency with previous year's summaries.

The July 15-August 4 Field Conservation Associates Program expedition to Ecuador's Sumaco National Park by Casey Lown and Karyn Wheatley will be included in the 2015-2016 CSF summary.

This brings the total support granted by the Riverbanks Conservation Support Fund to \$661,230 since its inception and the CSF has now funded 198 projects in 36 countries around the globe.

Select projects funded by the Riverbanks Conservation Support Fund are featured in the *Conservation Corner* section of the Riverbanks Magazine.