January 2018

the Wild ANIMAL HEALTH FUND

A Program of AAZV

Annual Report

FY2017

Veterinarians in South Africa invite village children to watch testing for tuberculosis on wildlife species like warthogs.

Dear Friends,

From the photo above, you can see that projects of the Wild Animal Health Fund (WAHF) have a wide range of benefits not only for zoo animals and wildlife, but also for the next generation of scientists. This is just one example that we thought you would like to see. In this second Annual Report, we will share and report on the 2017 grants, provide updates on completed projects and highlight the financials that make up the WAHF, a program of the American Association of Zoo Veterinarians (AAZV).

Each year, WAHF grants help zoo and wildlife veterinarians worldwide conduct groundbreaking research. And each year, findings from these studies provide crucial information to improve the quality of life for zoo animals and wildlife. It's with this information that better diagnostic techniques, cures, prevention of illness, and management of pain can be incorporated into better healthcare for the animals.

Thank you for your support and past investment in the WAHF. Your sustaining investment has the ability to make tangible differences that will reach zoo animals and wildlife around the globe.

Sincerely,
Robert Hilsenroth, DVM
Executive Director, AAZV

There is a disease that deer in zoos and in the wild can get called babesiosis, and it's often fatal. There is a vaccine to prevent the disease, but it has not been tested or licensed for deer. The researchers are investigating the dosages and frequency of administration needed to allow the vaccine to protect deer.

MISSION STATEMENT for the WILD ANIMAL HEALTH FUND

Our mission is to raise funds and apply those funds to critical research and studies that optimize the health, welfare and prevention of extinction of zoo animals and wildlife around the world.

WAHF Grant Applications:

Year	Number of Applications	Total Requested Grant Funds	Number of Grants Funded	Total of Grants Funded
2012	28	$232,061	6	$49,067
2013	40	$309,162	8	$64,800
2014	48	$418,936	8	$75,064
2015	41	$319,074	11	$80,862
2016	43	$349,793	9	$80,000
2017	44	$378,611	10	$93,551

"I have not heard of your organization until now, but I am so happy that I did! I have always believed very strongly in helping animals, and they need our help now more than ever. I am so glad to know that there is an organization dedicated to improving the health and quality of life for wild animals." – Anonymous Donor

More people than ever are sharing our story, spreading our mission and raising awareness about the importance of our work. Leading the movement for better health for zoo animals and wildlife isn't easy, and we couldn't do it without you. Thank you!

Every gift from the smallest to the largest makes a difference in the promise of better animal health. In 2017, we awarded 10 outstanding research grants that advance zoological medicine for the zoo animals and wildlife around the world. See the list below to get an idea of the undertakings in 2017.

2017 Grants

1. Development and application of novel tools to assess the threat of tuberculosis in African Rhinoceros (*Diceros bicornis, Ceratotherium simum*)

   Location: Stellenbosch University, Cape Town, South Africa

2. Pilot study for the establishment of reference values for protein capillary zone electrophoresis in tortoises and turtles

   Location: Laboklin & Co. KG, Laboratory for Clinical Diagnostics, Germany

3. Investigating aspects of chelonid herpesvirus 5 in green and loggerhead sea turtles (*Chelonia mydas*), (*Caretta caretta)*

   Location: Florida Atlantic University and Harbor Branch Oceanographic Institute

4. Cardiac disease in Western lowland gorillas (*Gorilla gorilla gorilla*): Comparative assessment of B-type naturiuretic peptides from urine, capillary serum, and venous serum samples

   Location: University of Wisconsin-Madison and Milwaukee County Zoo

5. Nutrient analysis of whole fish for zoo animal nutrition and its changes with different thawing methods during a storage time of six months

   Location: University of Zurich, Switzerland

6. Validating dried blood spot cards to measure persistent organic pollutants in grey seals (*Halichoerus grypus*): A new tool for wildlife health assessments.

   Location: University of Connecticut, Storrs, Department of Pathobiology and Veterinary Science

7. An In-Depth Assessment of the Vitamin D and Calcium Status of Captive Asian Elephants (*Elephas maximus*) in a Northern Temperate Climate

   Location: Cornell University and Rosamond Gifford Zoo in Syracuse, NY.

8. Pharmacokinetics of imidocarb dipropionate following a single intramuscular injection in white-tailed deer (*Odocoileus virginianus*)

   Location: University of Guelph, Ontario, Canada; WCVM, Saskatchewan, Canada

9. Investigating the early and late infection events in the pathogenesis of Dolphin Morbillivirus and Phocine Distemper Virus in dolphins and pinnipeds and their association with SLAM and Nectin-4 receptors

   Location: University of California Davis, School of Veterinary Medicine

10. Assessment of productivity of topically applied novel vaccines against rabies in bats

    Location: University of Wisconsin – Madison, School of Veterinary Medicine

"What makes a virus lethal to marine mammals? We need to know.

But studying natural infections in a controlled environment is just not possible in wildlife.

With your support, science can gain the upper hand on diseases. That is what these studies strive to do, and we invite you to be part of it." – Rob Hilsenroth, Executive Director

"We truly appreciate the funding from AAZV and are excited to soon have meaningful results to share with the greater zoo and wildlife community."

– Michele Miller, DVM, Ms, MPH, PhD, Dipl ECZM

The above statement reflects the thankfulness of the researchers when their projects are approved for funding. Their research plays an integral role in solving health cases and boosting the research to eliminating diseases in zoo animals and research.

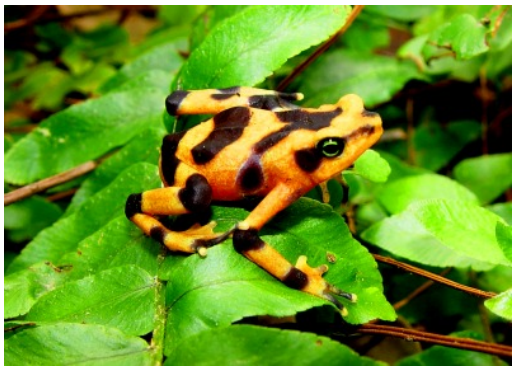
Completed Project in 2017

Saving the Golden Frog

The critically endangered Panamanian golden frog has been increasingly under pressure due to fungal organisms (chytrid), which has been contributory to frog declines around the globe. With the frog being such a small animal, treatments directed against the pathogen are tricky indeed and usually require that the animal bathe in an antifungal solution. However, it is unknown how much is needed in the bath and for how long the frog should soak. Because of an existing refuge colony established at the Maryland Zoo, golden frogs are available to take their spa treatments under the watchful eyes of the veterinary team.

As expected, this team has determined the prescribed bath to target the fungus and not adversely affect the frogs. The results of this study will contribute important and novel information to the scientific zoological community, as well as provide practical and clinical implications for the safe and effective treatment of this fungus and other fungal infections in amphibians.

In addition, this result hits a gold mine for many more delicate frog species!



The Wild Animal Health Fund makes it possible!

"Thanks again for the grant and for the help to improve a conservation medicine initiative in Brazil." – stated Lillian Catenacci, DVM, PhD Candidate, upon completing her funded project.

Completed Project in 2017

Monkeys, mosquitoes, and humans, oh my!

The term "One Health" is pretty trendy right now, but it is really the very simple concept that problems and questions of health in any species should be approached with a broad perspective that incorporates the linkages among animals, humans, and our shared environment. This study focused on the mosquito-borne viruses in Brazil's high diversity Atlantic Forest. Such viruses as Zika in golden-headed lion tamarins, yellow-breasted capuchins, maned sloths, humans, and mosquitoes was studied to learn how common they are and how likely it is that they will travel between animals and humans, as well as how human-modified environments affect their ability to spread.

In addition to the effective diagnostic technique to detect selected viruses in mosquitos and animal blood samples, this project set a foundation to combat future outbreaks in Brazil. Training courses were established in Brazil to monitor future outbreaks; 11 community meetings were held and outreach education activities were performed, and presentations were given at One Health Conferences. Publications were distributed to spread the results to colleagues around the world.

From top left: Outreach in schools on science day; Undergraduate in lab at Evandro Chagas Institute; Community visit with lab results; Training course with graduate students at University of Bahia State; Kit for distribution to people responsible for collecting biological samples in the field.

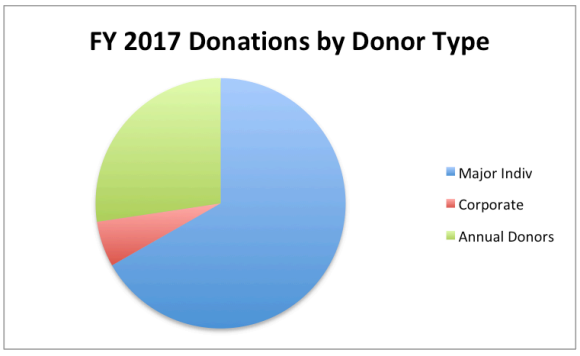
Zoo animals and Wildlife

Of the 52 WAHF funded projects, the following species have benefitted from at least one or more approved grant.

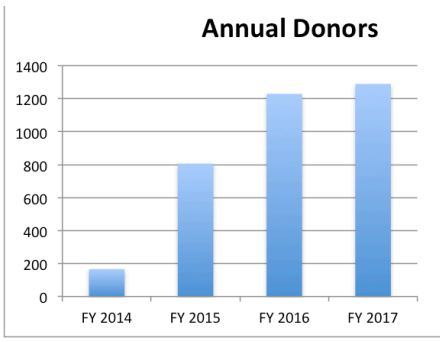
Amazon Parrot
American Horseshoe Crab
American Kestrel
Asian Elephant
Bat
Bearded Dragon
Black Rhino
Dolphin
Elephant Seal
Fur Seal
Golden Frog
Gorilla
Green Sea Turtle
Green Sea Urchin
Grey Seal
Hermann's Tortoise
Iberian Mountain Lizard
Island Fox
Lemur
Lion
Loon
Manatee
Mountain Chicken Frog
Narwhal
Orangutan
Peafowl/Peacock
Penguin
Pygmy Hippo
Red Blood Python
Red River Hog
Red Tailed Hawk
Sea Lion
Sea Otter
Sloth
Triatoma,"Kissing Bug"
Turtle
Warthog
Warty Pig
White Ibis
White Rhino
White-tailed Deer
Whooping Crane

FINANCIAL INFORMATION

It is important that you know that 100% of annual contributions received by the Wild Animal Health Fund go directly to funding the research projects. Absolutely zero dollars from these donations go toward any operational overhead for the Wild Animal Health Fund. We know this is unlike most other charities and the members of AAZV will continue to underwrite the operations going forward.

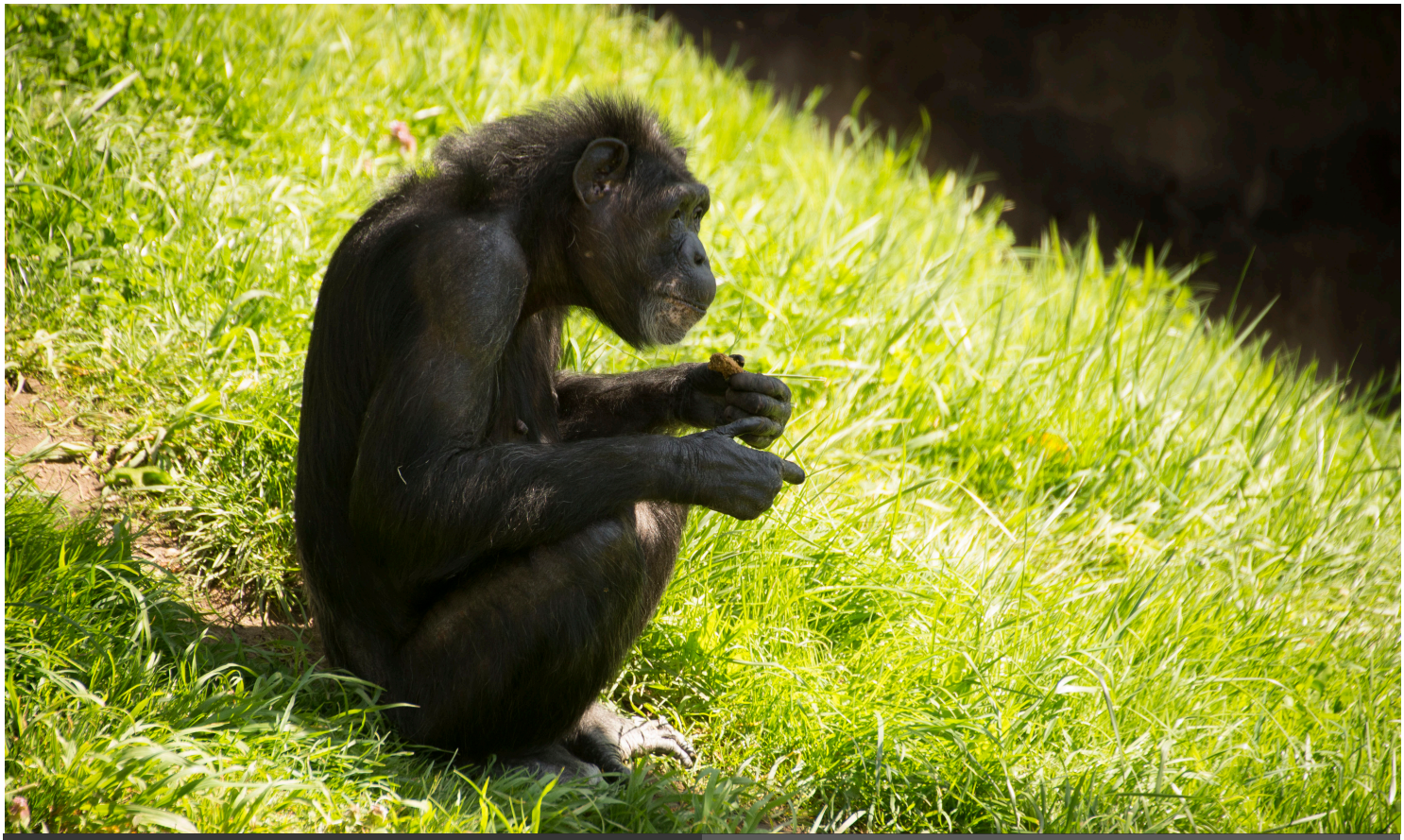


For FY 2017, we funded $93,550 in WAHF approved grants. Total received donations were $93,363 by the type of donors noted in the chart. We are budgeting for $110,000 for the 2018 WAHF approved portfolio of grants. It is our goal to fund at least 10 times this amount in the near future to increase the impact for zoo animals and wildlife, and to prevent extinction.



For the WAHF to make a real impact on animal health, we have to attract and retain donors. While it would be nice for a Facebook post or YouTube message to go “viral”, we will continue to do tried and true marketing techniques to raise more money for the WAHF Research Grants.

The best proven method of attracting new donors is by renting prospecting lists and delivering by direct mail. However, this type of advertising is costly, labor intensive, and must resonate with target audiences and inspire people to take action. AAZV covers 100% of the cost for the direct mail appeals. We would like to have 5000 annual donors within the next four years. – But you can also help by sharing this report with your friends and family.



Wild Animal Health Fund

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