WILDLIFE CONSERVATION SOCIETY
WCS
125 YEARS

POSTCARDS FROM THE FIELD

GALA 2020

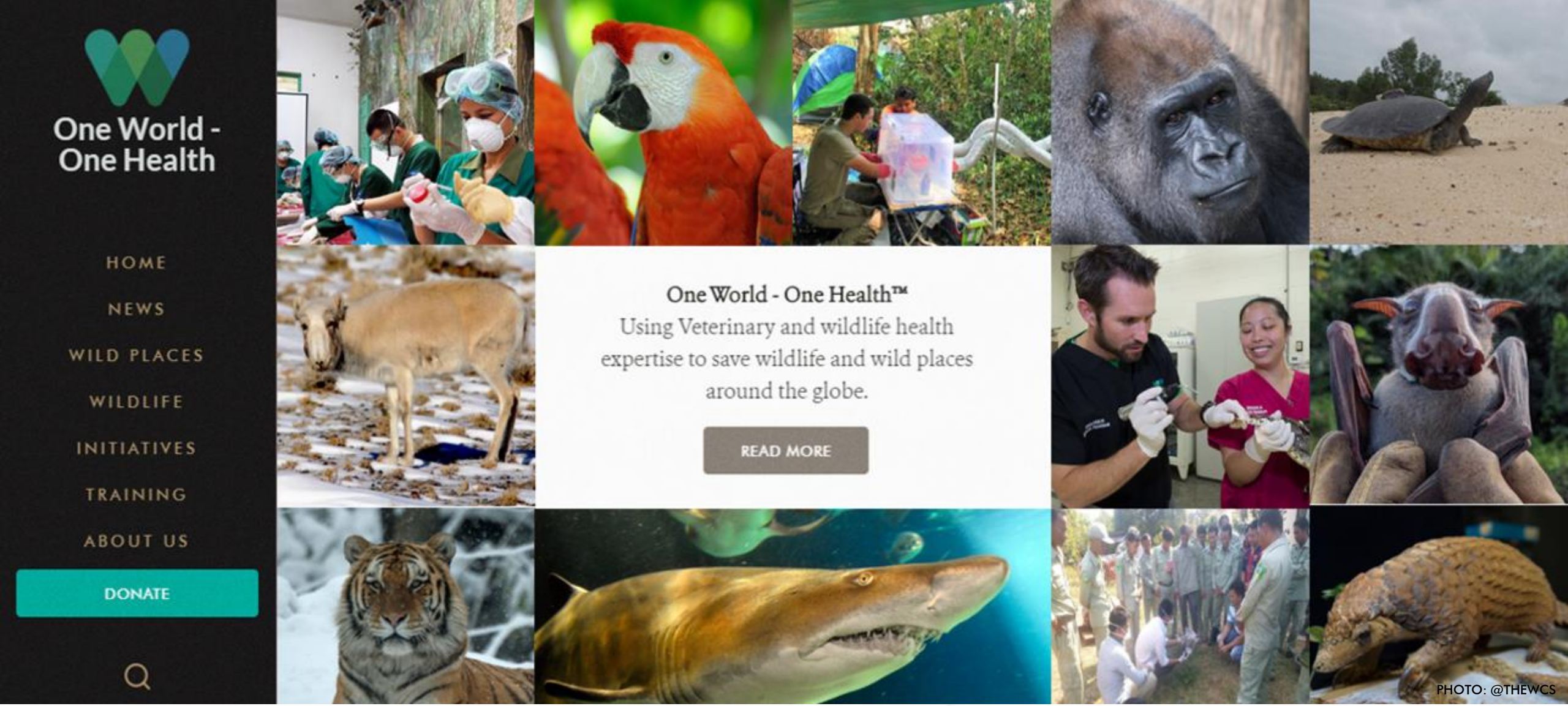
Advancing Conservation with Innovative Technology

PHOTO: LUKE HUNTER@WCS

WCS's Wildlife Health Center is headquartered at the Bronx Zoo. WCS veterinarians provide expert care for 20,000 animals at our four zoos and aquarium in New York; they also partner with colleagues at our global sites to develop cutting-edge tools and technologies, such as our mobile molecular diagnostics lab, and investigate and alleviate threats to wild animal populations.

PHOTO: CHRIS WALZER

WCS is the leading expert on wildlife diseases at the human-wildlife-livestock interfaces, and the only major conservation NGO with an international team of veterinarians and scientists dedicated to disease surveillance, rapid response, local training, and wildlife health research. Here, two of our scientists are safely collecting samples from a live hammer-headed fruit bat.



WCS is also a pioneer in advancing the One World-One Health approach, which recognizes the connection between the health of people, animals, and the environment.

PHOTO: MARTIN DAVIS

Our team at the Bronx Zoo helped identify the West Nile virus, and samples we collected were used to develop the vaccine for it. Our scientists have also worked in Ebola “hot zones” for 15 years to identify disease reservoirs and help reduce risks to local communities and great apes, which are also vulnerable to Ebola.

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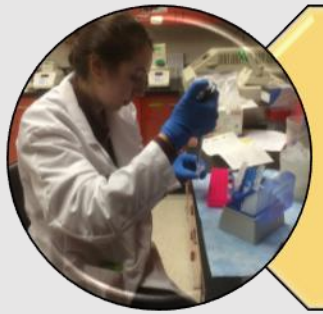
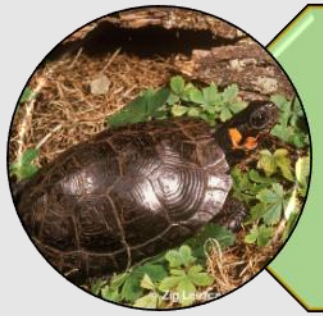


Pathogen testing for the collection and field projects

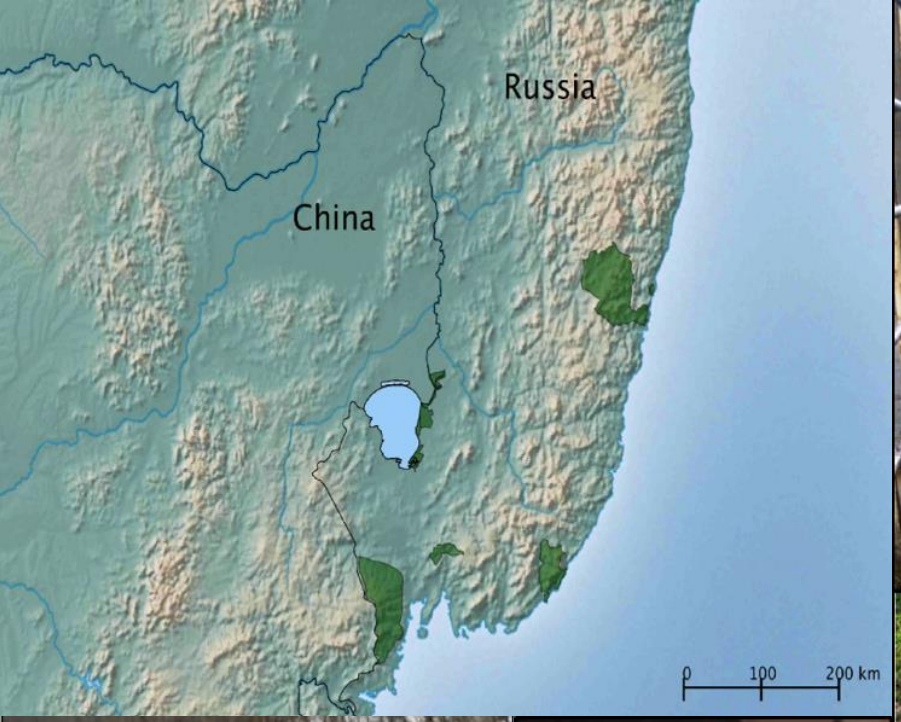
Molecular tools for wildlife trade

(DNA barcoding)



eDNA for Conservation

The WCS Molecular lab is based at the Bronx Zoo Wildlife Health Center. We do pathogen testing, develop portable molecular tools for conservation, and analyze environmental DNA for biodiversity studies and to look for rare and threatened species.



Canine Distemper Virus: an Emerging Disease in Wild Endangered Amur Tigers (*Panthera tigris altaica*)

Tracie A. Seimon,[a] Dale G. Miquelle,[a] Tylis Y. Chang,[b] Alisa L. Newton,[a] Irina Korotkova,[c] Galina Ivanchuk,[c] Elena Lyubchenko,[c] Andre Tupikov,[d] Evgeny Slabe,[e] Denise McAloose[a]

Wildlife Conservation Society, Bronx, New York, USA[a]; Albert Einstein College of Medicine of Yeshiva University, Bronx, New York, USA[b]; Primorskaya State Agricultural Academy, Ussurisk, Russia[c]; Bureau of Forensic Examinations, Ussurisk Department of Health Services, Ussurisk, Russia[d]; Terney County Veterinarian Services, Primorskii Krai, Russia[e]

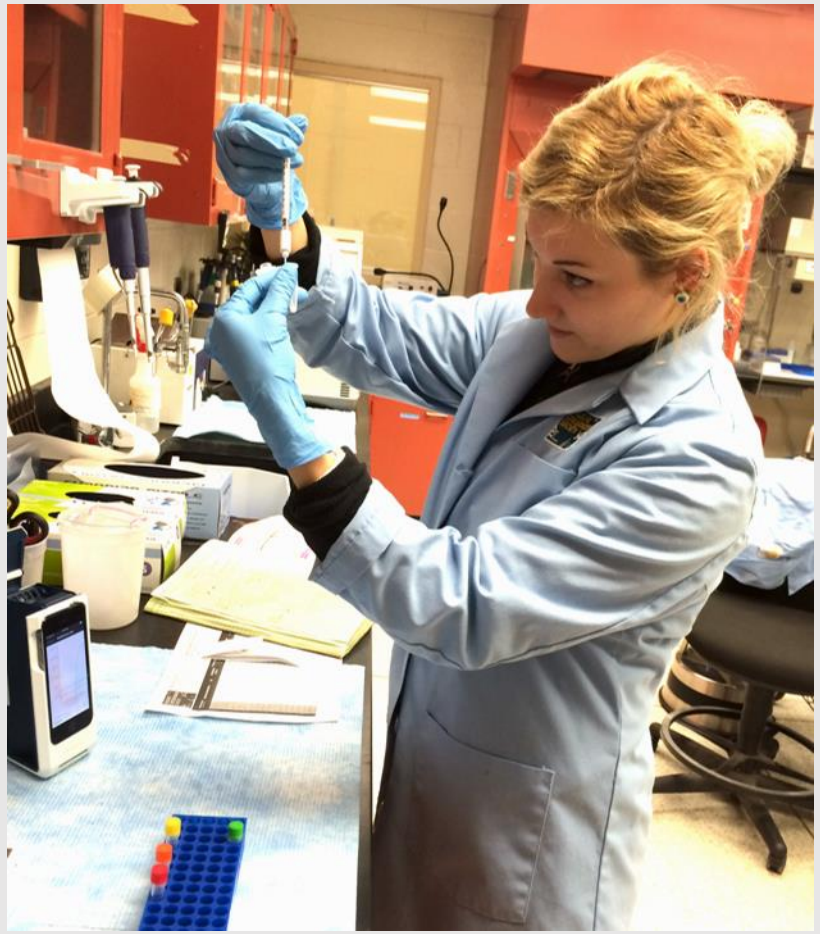
DOI: 10.7589/2017-03-065

Journal of Wildlife Diseases, 54(1), 2018, pp. 000–000

Canine Distemper Virus in a Wild Far Eastern Leopard *Panthera pardus orientalis*

Nadezhda S. Sulikhan,[1,13] Martin Gilbert,[2,3,13,14] Ekaterina Yu. Blidchenko,[4,5] Sergei V. Naidenko,[6] Galina V. Ivanchuk,[7] Tatiana Yu. Gorpenchenko,[1] Mikhail V. Alshinetskiy,[8] Elena I. Shevtsova,[4] John M. Goodrich,[9] John C. M. Lewis,[10] Mikhail S. Goncharuk,[11] Olga V. Uphyrkina,[1] Vyatcheslav V. Rozhnov,[6] Sergey V. Shedko,[1] Denise McAloose,[2] Dale G. Miquelle,[2,12] Tracie A. Seimon[2]. [1]Federal Scientific Center of East Asian

One example of WCS's pathogen-related work is our efforts to build capacity for Canine Distemper Virus (CDV) testing in the Russian Far East to help monitor endangered Amur tigers and Amur leopards. CDV is a significant threat to many endangered carnivore species around the world.



To help increase capacity for testing we developed a portable point-of-care (POC) canine distemper virus genetic test that can be done in the field, literally at the side of a tiger.

We have also developed portable DNA tests to identify Endangered or CITES-regulated sharks to monitor if certain species are appearing in the trade in products like shark fins or dried meat.

PHOTO: DENNIS MELLOW@WCS

And we are now developing a portable DNA test be used to combat the trade in big cat products like bones and teeth.

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National December 30, 2019

Wildlife bones confiscated from two suspects: CCC

Sen David / Khmer Times / Share:

Airport authorities have not determined which animals the bones belong to. Fresh News

The Counter Counterfeit Committee on Saturday reported it recovered nearly 300 kilogrammes of wildlife bones at Phnom Penh International Airport before they were smuggled outside of the Kingdom on Friday.

Between 2008 and 2016 more than 6,000 lion skeletons (70 tons) were shipped to East and Southeast Asia.

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These are examples of what the big cat products look like that are coming through the illegal trade. One the right is tiger bone wine, one of the most expensive products made from the bones of tigers and potentially other big cat species.

PHOTO: CHARLES XU

PHOTO: LUKE HUNTER@WCS

Our goal is to develop a DNA test that can distinguish which big cat species these confiscated products are derived from.

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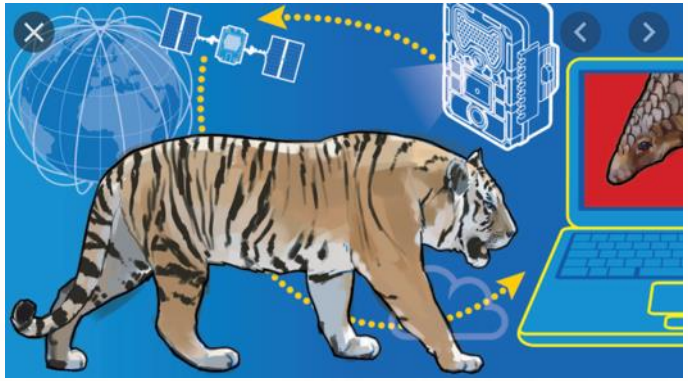
PHOTO: CHARLES XU

PHOTOS: LUKE HUNTER@WCS

Comprehensive monitoring and law enforcement



The portable DNA test kit we will develop will be able to isolate DNA from bones and other products encountered in the trade, and identify all major big cat species. The results will inform law enforcement and also allow conservationists to better understand the magnitude and scale of the trade in big cat bones and other products.

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During Phase 1 of the project we will design the kit, perform the research and development (R&D), validate the kit and manufacture it for deployment.

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During Phase 2 of the project, we will implement, train our partners, scale up the kits and training, with an overarching goal to disrupt the illegal trade in big cat products.