



# TURTLE CONSERVANCY



ANNUAL REPORT

2018



## TURTLE CONSERVANCY

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# A WORD FROM OUR FOUNDER

Over the last few decades, technology has significantly transformed how humans interact with the world, and now, it transforms how we protect the world's most endangered species. 2018 was a banner year for technological innovation here at the Turtle Conservancy. In our commitment to conserving the planet's most endangered turtles and tortoises, we began identifying ways to incorporate the latest innovations into our field programs to more effectively solve our most complex conservation challenges.

I'm most excited about the fixed-wing, aerial drone we purchased to help us better understand the geospatial nature of Critically Endangered Bolson Tortoises on our Bolson Tortoise Ecosystem Preserve in Durango, Mexico. The 43,000-acre Preserve's expansive size and lack of roads make it prohibitively expensive and time-consuming for biologists to survey the site on foot, but the drone is capable of collecting high-resolution, aerial photos of the entire site in a fraction of the time. In order to see if the photos could capture discernible images of the tortoise's soil burrows, the TC Bolson Tortoise team conducted a square kilometer survey both on foot and by drone on the Preserve over the summer. We found that the drone images displayed the same number of burrows as the trained biologists located on foot. We have a lot more work to do to really make the most of this tool, but we're excited at the prospect of truly transforming our ability to monitor and conserve one of our flagship species, the Bolson Tortoise.

In addition to our efforts on the Bolson Tortoise Preserve, our team celebrated many successes this year. We made progress in our South African Geometric Tortoise Preserve, reached record numbers with our outreach and education campaigns, and continued important work with captive breeding at our Conservation Center.

I'm thrilled for you to continue reading about the other projects we worked on in 2018, but first I'd like to take a moment to acknowledge our vast community of partners, donors, members and supporters. All of the Turtle Conservancy's work is completed in partnership with other conservation organizations and foundations, and through the generous donations of our members. Thank you for your continued support as we work together to conserve some of the planet's most spectacular and vulnerable species.

Warmly,



Eric Goode





*The Turtle Conservancy is dedicated to protecting threatened turtles and tortoises and their habitats worldwide.*

OBJECTIVES

1

In-Range  
Conservation  
& Land  
Acquisition

2

Captive  
Breeding for  
Conservation

3

Trade  
Interdiction &  
Prevention

4

Outreach  
&  
Awareness

5

Science  
&  
Research



# STAFF



URSULA BRITTON  
TURTLE NANNY



DAPHNE  
GIANT GALAPAGOS  
AMBASSADOR TORTOISE



DD  
CAMPUS SUPPORT DOG



NICHOLAS GOODE  
COMMUNICATIONS  
DIRECTOR



KELLY HERBINSON  
GRANTS COORDINATOR



JUAN HERNANDEZ  
PROPERTY MANAGER



ARMANDO JIMENEZ  
SENIOR KEEPER



JAMES JUVIK  
SENIOR CONSERVATION  
SCIENTIST



ROSS KIESTER  
SENIOR CONSERVATION  
SCIENTIST



JAMES LIU  
DIRECTOR OF  
COMMUNICATIONS



MAX MAURER  
DIRECTOR OF MEMBERSHIP  
AND PUBLIC OUTREACH



JAIRO PASTOR  
ANIMAL KEEPER



PARIS PIÑA  
OFFICE ASSISTANT



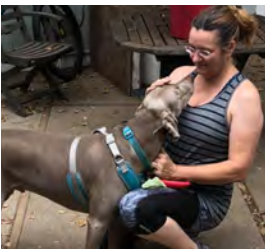
LUKASZ POGORZELSKI  
ENGINEER



MANCI RASMUSSEN  
ANIMAL KEEPER



ANGEL REYES  
OFFICE ASSISTANT



LYNN RIMKUS  
CONTROLLER



NATHANAEL STANEK  
MEDIA MANAGER



PETER PAUL VAN DIJK  
FIELD CONSERVATION  
PROGRAMS DIRECTOR



CARLY WILLIAMS  
PRODUCTION MANAGER



# BOARD OF DIRECTORS



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PRESIDENT & CEO



ANDERS RHODIN  
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JULIAN SANDS



CRAIG STANFORD



FISHER STEVENS



MICHAEL ZILKHA



## HONORARY & ADVISORY BOARDS

The TC is honored to also be associated with several other global turtle experts and conservationists who provide advice and support as needed.

Debbie Behler, Torsten Blanck, Franck Bonin, Jim Breheny, Julie Christie, Don Church, Bernard Devaux, Taylor Edwards, Paul Gibbons, Retha Hofmeyr, Bill Holmstrom, Rick Hudson, John Iverson, Gerald Kuchling, Peter Laufer,





Minh Le, Albert Martínez Silvestre, Vivian Páez, Peter Pritchard,  
Hugh Quinn, Stuart Salenger, Jeff Seminoff, Brad Shaffer, Chris Shepherd,  
Brett Stearns, Andrew Terry, Mercy Vaughn, and Dick Vogt.



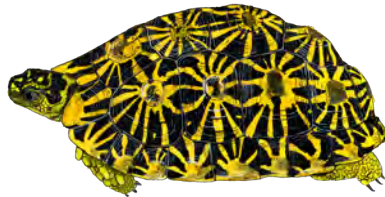
## IN-RANGE CONSERVATION

The Turtle Conservancy is committed to protecting turtles and tortoises in their natural habitat through conservation land acquisition, stewardship and management programs around the world.



## MEXICO

Bolson Tortoise Ecosystem Preserve



## SOUTH AFRICA

Geometric Tortoise Fynbos Ecosystem Preserve



## MADAGASCAR

Ploughshare Tortoise Conservation



# MADAGASCAR

Radiated Tortoise Trafficking Crisis



# NAMIBIA

Conservation Hope for the Nama Padloper



# PHILIPPINES

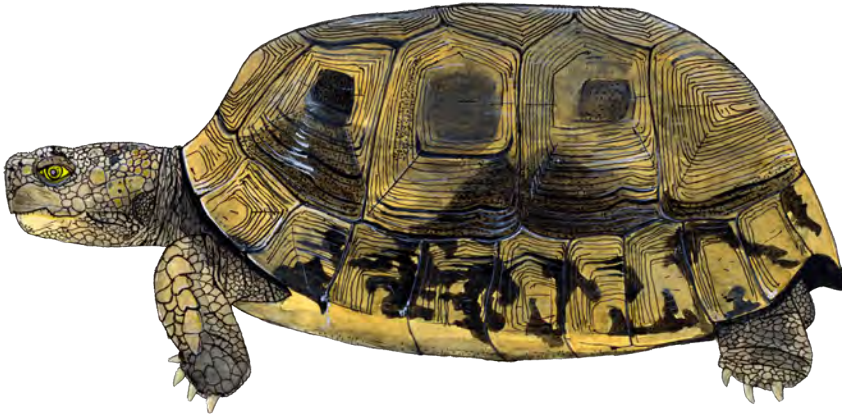
Palawan Forest Turtle Conservation



# UNITED STATES

Terrapin Nesting Project





## MEXICO BOLSON TORTOISE ECOSYSTEM PRESERVE

IN 2016, WITH GRANTS FROM THE LEONARDO DICAPRIO FOUNDATION (LDF), RAINFOREST TRUST AND GLOBAL WILDLIFE CONSERVATION (GWC), THE TURTLE CONSERVANCY (TC) PURCHASED OVER 43,000 ACRES OF CHIHUAHUAN DESERT AND PRIME BOLSON TORTOISE HABITAT IN MEXICO'S BOLSÓN DE MAPIMÍ REGION, CREATING THE BOLSON TORTOISE ECOSYSTEM PRESERVE. THE TC LATER FORMED A MEXICAN CIVIL ASSOCIATION, HABITAT PARA BIODIVERSIDAD (HABIO) A.C., TO MANAGE THE PRESERVE LOCALLY.



## ACTIVITIES IN 2018

The TC and HABIO continued work on several projects in 2018 furthering the mission to conserve Mexico's Bolson Tortoise. The team laid the groundwork necessary to own and manage a nonprofit in Mexico and made progress towards hiring an on-site manager to handle operations and infrastructure on the ground. Perhaps the most exciting development of the year involved enhancing field conservation efforts with cutting-edge drone technology.

Thanks to a grant from the Mohamed Bin Zayed Species Conservation Fund awarded to TC scientist Ross Kiester, the TC purchased a Sensefly eBee, a fully autonomous mapping drone that captures high-resolution aerial photos that simplify the collection and analysis of geospatial data. The drone can be extensively programmed to fly transects or other pre-programmed flight paths and collect photos at regular intervals to ensure the systematic collection of data.

In June 2018, TC staff took the drone to the BTEP to collect data alongside fieldworkers surveying for Bolson Tortoises to see if the drone was capable of detecting tortoise burrows at the same capacity as people.

TC field associates Rosalinda Palomo-Ramos and Mercy Vaughn organized a walking transect survey for the square kilometer (247 acres) surrounding the INECOL desert field laboratory. This area was previously surveyed at varying intensities and for different purposes, and 11 tortoise burrows were known. Surveyors walked transects 10 meters apart and documented a total of 28 recent burrows. These burrows were subsequently viewed using a burrow scope, or camera affixed to the end of a long hose, that can be snaked down the tortoise burrow, allowing the field worker to view the camera footage in real time on a small screen. The majority (23) of the burrows proved occupied by at least one tortoise. This suggests that the Bolson Tortoise population at the BTEP may be larger than initially estimated.

Simultaneously, the field staff programmed the fixed-wing drone to fly in an identical pattern, sweeping the square kilometer in 10-meter spaced transects, capturing photographs along the way. The resulting drone imagery included 968 separate high-resolution photographs that totaled over 8.1 gigabytes of data. Initial analyses on these data confirm that the technology is capable of capturing discernible images of tortoise burrows. We hope to make strides towards creating software that can detect the visual signature of a tortoise burrow in the imagery, which would greatly enhance our ability to locate pockets of Bolson Tortoises residing in regions of the expansive Preserve we simply cannot access. We are looking forward to continuing analysis of these data and are homing in on a plan for future tortoise and vegetation surveys throughout the BTEP using the drone technology as our main tool. We also anticipate using the drone to help monitor cattle and fencing issues that continue to require resources and attention.

Another development in Bolson Tortoise recovery efforts in 2018 involved a change in conservation status for the species. In 2017, TC personnel took the lead in writing the IUCN Red List reassessment for the Bolson Tortoise. This reassessment incorporated extensive new information and data and concluded that the Bolson Tortoise meets the IUCN criteria to be categorized as Critically Endangered, indicating an extremely high risk of extinction in the wild. This reassessment was submitted to IUCN's Red List program on October 7, 2017, and the amended Bolson Tortoise status was formally adopted and published as Critically Endangered in November of 2018.

The TC is looking forward to even more excitement in 2019, as progress has been made towards the purchase of a second Bolson Tortoise conservation area, close to the existing Preserve. The 18,600-acre Guimbalete Ranch hosts a population of Bolson Tortoises as well as a rich variety of other native species, including the endemic Mexican Fringe-toed Lizard (*Uma parapygas*). The TC has received partial funding for the land acquisition and is actively seeking funding for the outstanding balance. This land would be the next link in an envisaged chain of reserves from the coast of Mexico to the Sierras and would be the next step in the TC's regional approach to biodiversity conservation.

Funding and in-kind support: Andrew Sabin Family Foundation, Buhlmann Ecological Services, CONANP, Desert Tortoise Council, Global Wildlife Conservation, INECOL, Leonardo DiCaprio Foundation, Mid-Atlantic Turtle & Tortoise Society, Mohamed bin Zayed Species Conservation Fund, Rainforest Trust, Sundance Biology, Tucson Herpetological Society, Turtle Conservation Fund, and private donors.

## TURNER ENDANGERED SPECIES FUND BOLSON TORTOISE PROJECT

HABIO and TC also work with Bolson Tortoise conservation in the United States by supporting the Turner Endangered Species Fund (TESF), in the research and management of a Bolson Tortoise assurance colony located in New Mexico.

The TESF Bolson Tortoise project team, led by biologists Scott Hillard and Chris Weise, is working to establish free-ranging populations on two ranches in New Mexico to help prevent the extinction of the species in the wild. The team began breeding tortoises with a group of 30 adult Bolson Tortoises donated to TESF in 2006. Hatchlings and juveniles are kept in predator-proof enclosures until they are approximately 100 mm in size, and large enough to be released into a much larger pen with no predator proofing. The animals are raised with native forage and natural water supplies and little to no human intervention, except in the case of extreme drought. The goal is to rear a substantial population of wild tortoises that can be released back into their native range.

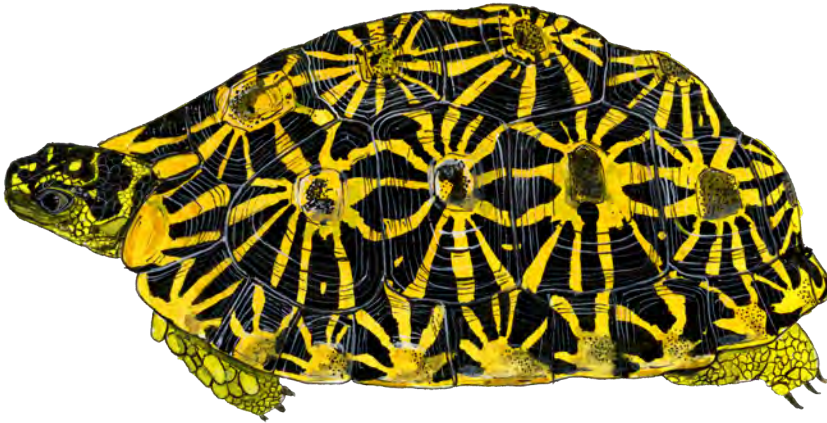
In 2018, 24 of the original founder adult tortoises produced 83 hatchlings. Since 2006, the group has produced 840 hatchlings, 600 of which have survived and continue to thrive on the ranches. Also in 2018, the team conducted studies assessing the sex of hatchlings born from eggs laid naturally on the ranch to ensure that both sexes were being produced from their efforts. They were happy to find that both sexes have been produced from naturally occurring nests on the ranch, alleviating the fear that the particular climate in the area would produce only one sex. The TESF team plans to continue building their robust captive population of Bolson Tortoises in hopes of eventually using them to re-build wild populations.

The TC is incredibly proud to sponsor TESF's efforts in Bolson Tortoise conservation. We hope to continue working in conjunction with the TESF team to bring back an extremely special species in the Chihuahuan Desert of North America.









## SOUTH AFRICA GEOMETRIC TORTOISE FYNBOS ECOSYSTEM PRESERVE

THE TURTLE CONSERVANCY (TC) ALONG WITH THE SOUTHERN AFRICA TORTOISE CONSERVATION TRUST (SATCT), THE LOCAL CONSERVATION AUTHORITY CAPE NATURE, AND OTHER DONORS, HAS DEVOTED MORE THAN A DECADE TO AN EFFORT TO PROTECT THE CRITICALLY ENDANGERED GEOMETRIC TORTOISE (*PSAMMOBATES GEOMETRICUS*). THIS TORTOISE LIVES ONLY IN THE WESTERN CAPE PROVINCE OF SOUTH AFRICA IN THE DIVERSE FYNBOS SHRUB-LAND HABITAT.



Over the past few centuries more than 90% of this habitat, and consequently its tortoise populations, have been destroyed through agricultural and urban expansion. It is estimated that less than 1,000 Geometric Tortoises survive in the wild today, and many of these are confined to isolated habitat patches. In 2014, the TC identified the last substantial fynbos habitat parcel surviving in the Breede River Valley near Cape Town and purchased 800 acres, resulting in the Geometric Tortoise Ecosystem Preserve.

## ACTIVITIES IN 2018

TC scientists Jim Juvik, Ross Kiester and their team continued dedicated efforts on the Preserve in 2018. The team worked towards establishing a more long-term and sustainable Preserve management structure by collaborating with CapeNature and shifting to a formalized Provincial (private) Nature Reserve.

Local Preserve Manager Alwyn Naude Jr. has continued to do a tremendous job ensuring operations at the Preserve run smoothly, and now oversees six, full-time, staff members who work tirelessly on habitat restoration and fire protection efforts critical to the conservation of the tortoises living in the Preserve. This six-member team is made up of local, previously unemployed laborers (marginalized by past petty-crime involvement), giving them a second chance for personal economic empowerment. The team has undergone professional courses, equipment certifications and safety training, and SATCT has provided assistance with opening personal bank accounts and financial management. The team has responded impressively, achieving exceptional results in a multitude of tasks on the Preserve. Notably, the Preserve team made significant headway removing large stands of Port Jackson Acacia, an invasive species that threatens healthy growth of native fynbos flora, which supplies crucial food and cover sites for the tortoises. Additionally, the group improved perimeter and internal firebreaks and expanded fire vehicle equipment access lanes and gates in the Preserve as recommended by regional wildfire experts.

In 2018, Juvik's team conducted a fourth year of tortoise population monitoring using the capture/recapture method. The data confirm our initial impression that the Preserve maintains over 800 Geometric Tortoises, the largest remaining population on the planet.

Juvik and Kiester have also been developing a new biometric identification technology using tortoise shell photographs to create unique identifications for the Preserve's individual tortoises. The team has collected 1,464 tortoise photos that are now being analyzed to develop an image recognition system to better monitor and manage the population.

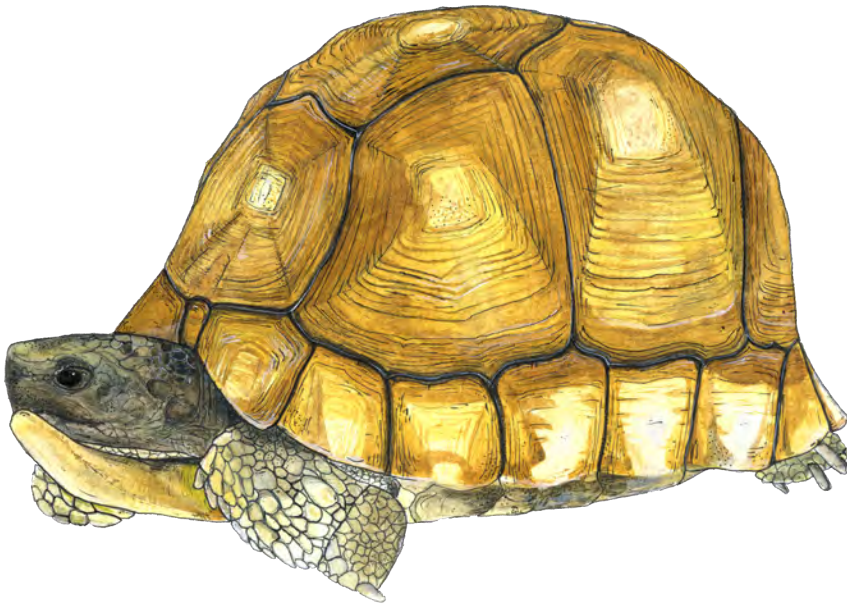
The Preserve reached another milestone in 2018 by serving as a rescue sanctuary for confiscated or salvaged Geometric Tortoises. Areas immediately around the Preserve are utilized for intensive agriculture that can destroy remaining fynbos fragments that house small, isolated Geometric Tortoise populations. With support from CapeNature, landowners have offered to transfer small, at risk populations to the larger Preserve. To date 17 Geometric Tortoises have been relocated from surrounding agricultural lands into the Preserve.

After a lengthy process of governmental approvals to purchase, subdivide and consolidate an adjoining 53 acres of fynbos tortoise habitat into the existing Preserve, final approval from the Cape Department of Agriculture and Worcester Municipal government to legally transfer the property to SATCT is imminent. TC's Geometric Tortoise project team is gearing up to begin infrastructure and restoration projects on the new parcel in 2019.

Funding and in-kind support: CapeNature, Fondation Segré, Matthew Frankel, Mohamed bin Zayed Species Conservation Fund, Rainforest Trust, Brett Sterns and Michael Zilkha.







## MADAGASCAR PLOUGHSHARE TORTOISE CONSERVATION

THE PLOUGHSHARE TORTOISE OR ANGNOKA (*ASTROCHELYS YNIPHORA*) HAS LONG BEEN RECOGNIZED AS ONE OF THE MOST SEVERELY THREATENED TORTOISE SPECIES IN THE WORLD. ITS RANGE IS RESTRICTED TO JUST A FEW HABITAT PATCHES NEAR BALLY BAY IN NORTHWESTERN MADAGASCAR AND LESS THAN 300 ADULT ANIMALS

REMAIN IN THE WILD.





As early as the 1970's, conservation groups focused on the species due to its restricted range, habitat impacts from cattle grazing, and the casual collection of animals as pets. By 1986, Durrell Wildlife Conservation Trust (DWCT) established a dedicated program for Ploughshare Tortoise recovery, leading to the establishment of Baly Bay National Park to protect the remaining wild populations and their habitat. DWCT also established a successful breeding program at Ampijoroa using existing captive animals as founder stock. Captive breeding and re-introduction of captive-bred animals into their natural habitat proved highly successfully until about 2010, when a sudden demand in Asia for Ploughshare Tortoises as pets led to rapidly escalating poaching of wild and re-introduced animals and subsequent illegal trade via a diversity of smuggling routes.

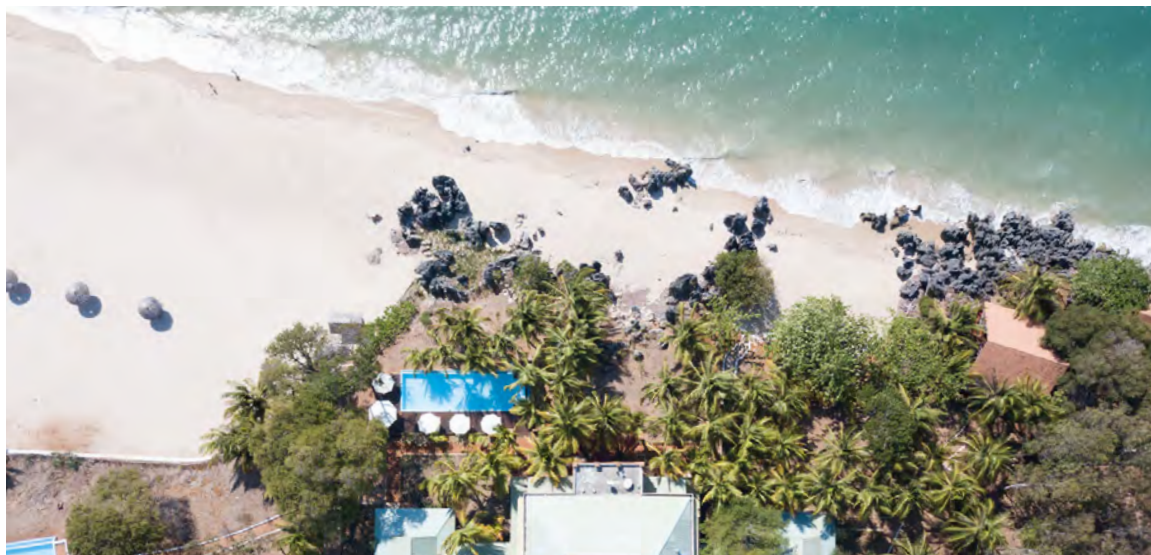
To address this severe increase in threats to the species' survival, the International Angonoka Working Group (IAWG), of which the Turtle Conservancy (TC) is a founding member, held a crisis meeting in June 2016. The group agreed on a radically revised conservation strategy for the species, in addition to maintaining the breeding program at Ampijoroa, managing Baly Bay National Park, and engaging local communities for conservation support.

## ACTIVITIES IN 2018

TC scientists Peter Paul van Dijk, James Liu and Gerald Kuchling traveled to Madagascar at various times in 2018 to continue implementation of the Ploughshare Tortoise conservation strategies outlined in 2016. Among the main goals were building additional captive management enclosures, both in Baly Bay and in other locations in Madagascar, to house a growing number of captive-bred animals needing appropriate facilities while conservationists address the complicated and severe poaching crisis in the tortoise's natural habitat. The TC team worked with long-time partner DWCT on designs and materials purchasing for the upgraded Baly Bay enclosures and visited a number of facilities in the region with potential to function as satellite captive management facilities, to evaluate the sites for the safety and security of the animals.

The TC remains committed to fighting for the conservation of one of the planet's most spectacular and critically endangered species and is dedicated to the implementation of the Ploughshare Tortoise crisis response.

Funding and in-kind support: Andrew Sabin Family Foundation, Association of Zoos and Aquariums, Global Wildlife Conservation, Mohamed bin Zayed Species Conservation Fund, Phoenix Zoo, and United States Fish and Wildlife Service.







## MADAGASCAR RADIATED TORTOISE TRAFFICKING CRISIS

IN APRIL, 10,976 CRITICALLY ENDANGERED RADIATED TORTOISES (*ASTROCHELYS RADIATA*) INTENDED TO BE SOLD ON THE ILLEGAL PET MARKET IN ASIA AND EUROPE WERE DISCOVERED BY LOCAL POLICE IN A PRIVATE RESIDENCE IN TOLIARA, MADAGASCAR. THE ANIMALS HAD LIKELY BEEN HELD FOR OVER SIX MONTHS WITH NO FOOD OR WATER, AND MANY SUFFERED FROM SEVERE DEHYDRATION AND DISEASE FROM THE POOR CONDITIONS.



Most of the seized tortoises were juveniles, likely purchased from villagers for approximately \$3 US and resold for upwards of \$5000 US in Asia and Europe. Annual income for some villagers in Madagascar can be less than \$100 US.

The tortoises were relocated to a rescue center run by French conservation organization SOPTOM (Center for the Observation and Protection of Tortoises and their Habitat), where several international conservation organizations including Global Wildlife Conservation (GWC), Andrew Sabin Family Foundation, Turtle Conservancy (TC), Turtle Sanctuary, Center Emys and Mohammed bin Zayed Species Conservation Fund convened to aid in the rescue effort. The team consisted of four veterinarians, six biologists, a general contractor, and several assistants. Over 500 pounds of medical supplies were donated by the San Diego Zoo and the American Society for the Prevention of Cruelty to Animals (ASPCA).

TC staff including veterinarian James Liu and Nathanael Stanek traveled to Madagascar to aid in the effort, and worked to triage and treat sick tortoises, meet with local government agencies and provide veterinary and logistical recommendations for the group moving forward.

The entire tortoise rescue team accomplished several tasks crucial to the survival of the animals, including:

1. Building four tortoise enclosures encapsulating 800 square meters of spiny forest habitat, providing appropriate cover and security for the animals.
2. Installing roughly 400W of solar panels on the roof of the tortoise village with batteries and an inverter allowing staff to work with diagnostic equipment, building lights, flashlights, and phones.
3. Donating hand tools (shovels, saws, wire cutters, gloves, pliers, screwdrivers, hammers, crowbar, etc.) and large rolls of barbed wire to reinforce the perimeter fence.
4. Examining and treating tortoises for the most common pathologies including chronic wasting disease and stomatitis, in addition to dehydration and starvation.

The Turtle Survival Alliance (TSA) and Wildlife Conservation Society (WCS) have stepped in as leads on this important effort and have since relocated the tortoises to a new facility where the tortoises can be better cared for. Plans for the future release of the healthy animals are being discussed, as well as ways to engage the local population in the conservation of these increasingly rare tortoises.











## NAMIBIA CONSERVATION HOPE FOR THE NAMA PADLOPER

IN 2018, WITH SUPPORT FROM THE TURTLE CONSERVATION FUND (TCF), TC SCIENTIST JIM JUVIK INVESTIGATED THE STATUS OF A LITTLE-KNOWN ENDEMIC NAMIBIAN TORTOISE: THE NAMA PADLOPER (*CHERSOBIUS SOLUS*). THIS ENDANGERED, SMALL, ROCK-DWELLING SPECIES IS RESTRICTED IN DISTRIBUTION TO A SMALL AREA IN THE HYPER-ARID DESERT REGION OF SOUTHERN NAMIBIA.



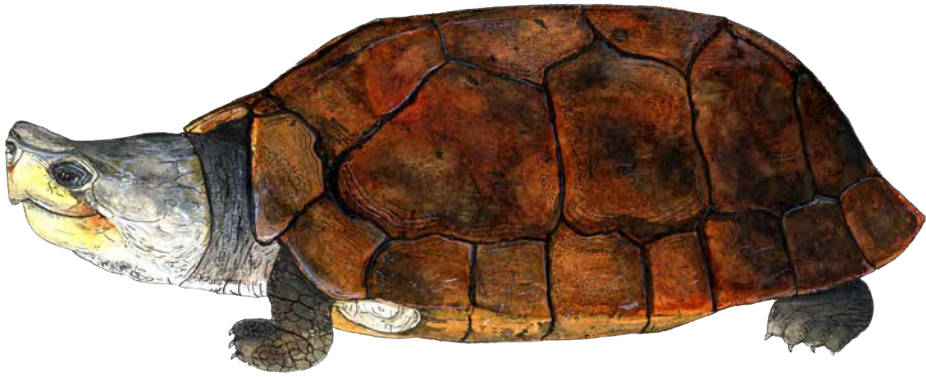
The primary population occurs immediately adjacent to the small village of Aus and is threatened by development activities and overgrazing of domestic animals. On a recent visit to the area, Juvik and his team confirmed an additional population of this tortoise on a protected private nature reserve more than 50 miles from any human habitation or domestic livestock ranching. In 2019, Juvik intends to work with the private reserve owner to monitor and implement improved protective measures for this newly discovered population.



The Nama Padloper, a small 3-4" tortoise, inhabits the hyper-arid desert area of Southern Namibia. The cryptic species spends most of the time under rocks or deep in boulder crevices awaiting rare rain or coastal fog events that support ephemeral desert plant growth. Recent winter observations in the field found this juvenile tortoise active at 39°F, risking severe thermal stress to lick moisture dripping from rocks during a rare fog event.







## PHILIPPINES PALAWAN FOREST TURTLE CONSERVATION

THE PALAWAN FOREST TURTLE (*SIEBENROCKIELLA LEYTENSIS*) IS AMONG THE 25 MOST ENDANGERED TURTLE SPECIES IN THE WORLD AND IS LISTED IN THE IUCN RED LIST AS CRITICALLY ENDANGERED. THE SPECIES IS ENDEMIC TO THE ISLAND OF PALAWAN IN THE PHILIPPINES WHERE IT IS LEGALLY PROTECTED UNDER PHILIPPINE LAW, BUT A LACK OF HABITAT RESERVES AND PARKS PROTECTING THE SPECIES HAS FACILITATED THE ILLEGAL COLLECTION OF THE SPECIES FOR THE PET TRADE, TRADITIONAL MEDICINE AND FOOD.





In 2015, a confiscation of 4,124 illegally traded live turtles (including 3,907 Palawan Forest Turtles, representing a large portion of the entire population) occurred in Palawan. Many of the turtles were subsequently released back into the wild through the efforts of the Katala Foundation (KFI) and international contributors and supporters, including the TC. Reports indicate that the majority of the repatriated animals survived and effectively integrated into the local turtle populations. In 2017, KFI, with support from TC, Rainforest Trust, Global Wildlife Conservation, and the local government, designated 1,890 acres of forestlands as a protected watershed. This effectively created a wildlife protection area directly benefiting the Palawan Forest Turtle. Additionally, 23 acres of land was purchased outright from local farmers to prevent further agricultural development and to restore the original riverside rainforest habitat. This conservation site is also habitat for the most trafficked mammal in the world, the Endangered Palawan Pangolin (*Manis culionensis*).

## ACTIVITIES IN 2018

In 2018, KFI led by scientist Dr. Sabine Schoppe, made significant conservation progress in the Palawan preserve. The team established a substantial forest restoration program, raising and planting seedlings to repopulate the deforested watershed. Preserve guards were hired and trained to prevent further deforestation in the area, which is still a significant environmental risk in Palawan and in the preserve itself. The annual mark-recapture study was completed in December. The team marked 149 Palawan Forest Turtles; 128 of these were residents and 21 were released during the 2015 confiscation event. A population estimate for the entire preserve is currently being analyzed. KFI and Dr. Schoppe continue to make monumental strides for the Palawan Forest Turtle and its habitat, and the TC is proud to support this effort.

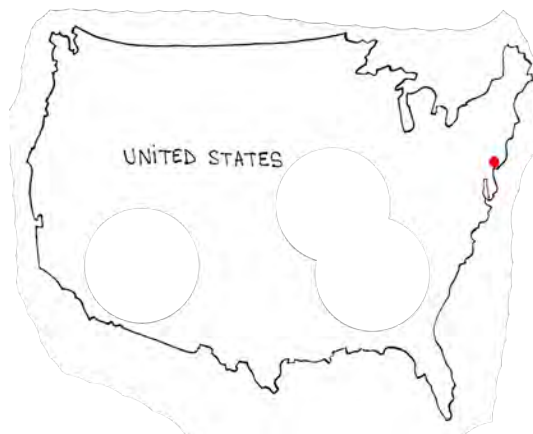
Funding and in-kind support: Global Wildlife Conservation, Rainforest Trust





## UNITED STATES TERRAPIN NESTING PROJECT

THE TURTLE CONSERVANCY IS PROUD TO SPONSOR THE TERRAPIN NESTING PROJECT (TNP), A PROGRAM DESIGNED TO CONSERVE NEW JERSEY'S NORTHERN DIAMONDBACK TERRAPINS SPEARHEADED BY TURTLE CONSERVATIONIST KATHY LACEY. IN ADDITION TO MANAGING TERRAPIN HATCHERIES, THE TNP WORKS TO "RE-BEACH" LOCAL WATERFRONT PROPERTIES BY REPLACING THE CLAY AND DECORATIVE ROCK YARDS WITH NATURAL SAND, CREATING APPROPRIATE NESTING HABITAT FOR FEMALE TERRAPINS.







## ACTIVITIES IN 2018

The Terrapin Nesting Project continues to be a grassroots success story; in 2018, Lacey's team released 4,572 hatchling Northern Diamondback Terrapins into the estuaries of northern New Jersey. The numbers were bolstered this year by adding a new site at Leeds Point, managed by Casey and Chris Leone of the Turtle Room. This new site was adopted after the Leone's noticed that a road cutting directly through terrapin nesting beaches became a death trap for nesting females; many were relegated to nesting in the shoulder of the road or in store parking lots. They implemented Lacey's conservation model including volunteer nest patrols, road signs to educate drivers, and hatcheries to protect nests laid in unsuitable habitat, with extremely positive results. In its inaugural year, the Leeds Point team recorded 287 nesting females, recovered 109 nests, and released 982 hatchlings. Additionally, they only recorded 15 road mortalities, down from over 70 the previous year.

Unfortunately, a large-scale poaching operation based out of Pennsylvania by a man who had over 3,000 terrapins in his home was uncovered over the summer, underscoring the still strong threat of the international pet trade in Northern Diamondback Terrapin conservation. In 2019, the TNP hopes to incorporate microchip tagging into the program to help wildlife authorities better track where poached animals come from.



# CONSERVATION BREEDING CENTER



TC's Conservation Breeding Center, located in Ojai, California, provides expert care for over 35 species of highly endangered tortoises and freshwater turtles. The Center acts as an assurance colony, or last line of defense against extinction, with the ultimate goal of restoring wild populations.

## SUMMARY OF HATCHINGS

In 2018, 154 turtles and tortoises of nine different species were successfully hatched at Southern California Conservation Center.

COMMON NAME	SCIENTIFIC NAME	NO. HATCHED
Pancake Tortoise	<i>Malacochersus tornieri</i>	9
Golden Coin Turtle	<i>Cuora trifasciata</i>	1
Burmese Black Giant Tortoise	<i>Manouria emys phayrei</i>	17
Parrot-beaked Tortoise	<i>Homopus areolatus</i>	2
Burmese Star Tortoise	<i>Geochelone platynota</i>	74
Forsten's Tortoise	<i>Indotestudo forstenii</i>	1
Roti Snake-necked Turtle	<i>Chelodina mccordii</i>	10
Pan's Box Turtle	<i>Cuora pani</i>	5
Radiated Tortoise	<i>Astrochelys radiata</i>	35
<b>TOTAL</b>		<b>154</b>





## UPDATES TO THE CONSERVATION BREEDING CENTER

TC animal and grounds-keepers work around the clock ensuring the collection of endangered turtles and tortoises are provided with the highest standards of safety, security and care. This requires constant maintenance and renovations to the facilities. In 2018, TC staff renovated one of the larger greenhouses, providing new and improved housing for several aquatic species. They also created a new system for housing and caring for new hatchlings, with improved enclosures, water filtration systems and added security. The Bolson Tortoise enclosure also received an update, with improved burrows designed to minimize flooding in big rainstorms, and additional vegetation.





# TRADE INTERDICTION



## US FISH & WILDLIFE SERVICE CONFISCATIONS

The TC supports the USFWS in law enforcement and the seizure of illegally traded turtles and tortoises by providing accommodation for seized turtles and tortoises from the Los Angeles airport and surrounding region. In 2018, the TC assisted the USFWS with nearly 200 seized turtles, including Eastern, Florida, Three-toed, and Ornate Box Turtles, North American Wood Turtles, a Blanding’s Turtle, Spotted Turtles, Chinese Big-headed Turtles, Vietnamese Leaf Turtles, and Four-eyed Turtles. When the TC receives seized turtles, animal keepers immediately triage the animals, rehabilitate them until they are healthy and stable, and then find new homes for the animals based on USFWS requirements, the specific needs of the individual turtles and the overall species conservation plans.





## CITES WORK FOR TORTOISES AND FRESHWATER TURTLES

TC staff contributes significantly to international trade management and policy concerning tortoises and freshwater turtles. The team provides services ranging from identification support to national wildlife enforcement authorities when they encounter unfamiliar turtle specimens in suspect trade shipments, to engagement in the deliberations of the Conservation on International Trade in Endangered Species (CITES) Animals and Standing Committees.

# OUTREACH & AWARENESS

Working to disseminate information about the planet's most endangered turtles and tortoises through media, action and events.



# PUBLIC OUTREACH

## SOCIAL MEDIA

In 2018, the TC continued to forge ahead with its core programs in Education and Outreach. The outreach staff produced three new public service announcements (PSAs) featuring actor Robert Pattinson, comedian Jerrod Carmichael, and philanthropist Sir Richard Branson highlighting the importance of turtle and tortoise conservation. The TC pioneered the use of celebrity personalities to elevate the social consciousness of turtle and tortoise conservation, however, moving forward into 2019 we plan to shift focus towards showcasing those working on the ground for habitat protection and conservation.

TC social media platforms continued to grow in 2018, as staff continued to post regular, original photo and video content about the natural history and conservation of tortoises and turtles on Facebook, Instagram and Twitter. In total, TC retains an audience of over 300,000 users from more than 50 countries. TC video content posted to The Dodo in collaboration with Global Wildlife Conservation and Rainforest Trust, received over two million views. Supporters helped signal boost the TC by using the Facebook birthday donation program to raise funds on our behalf and many shared annual campaign posts, helping significantly with end-of-the-year fundraising. The TC outreach team aims to continue growing a social media platform to further extend the reach of the TC mission.

## EDUCATION

Educating future generations remains a top priority. This past year, the TC partnered with The River Project in New York City in creating a living turtle exhibit at their science education center on Pier 40. The “WetLab” highlights species native to the Hudson River and is free to students and families. The exhibit is visited by over 4,000 students annually, teaching them how terrapins act as keystone species in the wetland communities surrounding New York City.

TC co-founder Maurice Rodrigues also led an effort with Mt. Olive High School in New Jersey to help rehabilitate native turtle species affected by poaching. Confiscated animals were cared for by the extraordinary team of teachers and students, teaching them about the ecology and conservation threats of turtles native to the Northeast.

The TC, in partnership with GWC and Lindblad Expeditions, held its first public field trip to the Galapagos Island in 2018. GWC’s Chief Conservation Officer and TC board member Dr. Russ Mittermeier led travelers on an exploration of the island’s spectacular wildlife. Each ticket directly supported conservation programs. Although we don’t have any specific trips planned for 2019, we hope to continue the program soon, connecting wildlife enthusiasts with some of the planet’s most remarkable locations.



# THE TORTOISE MAGAZINE



*The Tortoise* magazine is an annual publication produced by the TC featuring journalism, artwork and photography that explores international and domestic environmental issues, particularly those related to the world's most endangered turtles and tortoises. This year's issue, Volume 2 Number 3, features articles examining the cattle industry and single-use plastics, two of the leading environmental issues affecting the planet today. The 2018 issue also delves into environmentalism in the current political landscape, explores artwork by Carsten Holler, and celebrates the inspiring legacy of Robert F. Kennedy Jr., and his tremendous, decades-long devotion to environmental causes.

# SCIENTIFIC PUBLICATIONS

## TURTLES OF THE WORLD

Annotated Checklist and Atlas of Taxonomy, Synonymy, Distribution, and Conservation Status (8th Ed.)

### TURTLE TAXONOMY WORKING GROUP

ANDERS G.J. RHODIN, JOHN B. IVERSON, ROGER BOUR, UWE FRITZ, ARTHUR GEORGES, H. BRADLEY SHAFFER, AND PETER PAUL VAN DIJK



CHELONIAN RESEARCH MONOGRAPHS, NUMBER 7



Published by  
Chelonian Research Foundation and Turtle Conservancy



in association with  
IUCN/SSC Tortoise and Freshwater Turtle Specialist Group, Turtle Conservation Fund, Global Wildlife Conservation, Conservation International, and International Union for Conservation of Nature / Species Survival Commission



## CHELONIAN CONSERVATION AND BIOLOGY

International Journal of Turtle and Tortoise Research

Volume 17, Number 2

December 2018



Published by  
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in association with  
IUCN Tortoise and Freshwater Turtle Specialist Group, Turtle Conservation Fund, Global Wildlife Conservation, IUCN Marine Turtle Specialist Group, and International Union for Conservation of Nature / Species Survival Commission



In 2017, the TC entered into a partnership agreement with Chelonian Research Foundation (CRF) to become co-publishers of the long-established, professional scientific turtle journals *Chelonian Conservation and Biology* (CCB) and *Chelonian Research Monographs* (CRM). These publications are the gold standard for academic publications on turtles and tortoises. CCB is a regular twice-a-year peer-reviewed journal publishing articles on biology and conservation of the world's tortoises, freshwater turtles, and marine turtles, while CRM has issued several monographic books concerning particular biological, thematic, or regional aspects of turtle biology and conservation.





# CONSERVATION SCIENCE, RESEARCH & POLICY

The TC advances tortoise and freshwater turtle scientific knowledge through participation in research, scientific advisory groups and scientific publications. Current scientific methodologies are at the heart of each TC conservation program, and we are committed to working towards the highest scientific standards.

TC scientists actively participate in the development of cutting-edge science and technology whenever possible. In 2018, the science team contributed to several initiatives including:

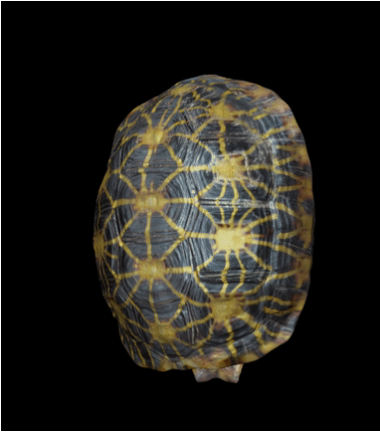
- Development of drone technology used to detect Critically Endangered Bolson Tortoise burrows in Mexico. This technology significantly enhances the team's ability to understand Bolson Tortoise geospatial ecology on the Bolson Tortoise Ecosystem Preserve in Mexico, and lends itself to other conservation applications including vegetation mapping and perimeter fence inspections.
- Experimental research on predator deterrents in South Africa using 3-D printed Geometric Tortoise shells. The Geometric Tortoise program team is devising a system to infuse the fake tortoises with unpleasant tastes and odors that will teach potential predators that Geometric Tortoises do not make good food sources.
- Participation in an assessment of the population genetics of an entire species, the Ploughshare Tortoise, through genetic sampling and analysis of every accessible Ploughshare Tortoise on the planet. The project aims to inform best practices for breeding captive animals to maintain genetic health of the species.

In 2018, the TC was also proud to participate in several tortoise and freshwater turtle scientific and conservation meetings, including:

- The Asian Tortoise and Freshwater Turtle Red List Workshop
- CITES Animals Committee and Standing Committee Meetings
- The Joint TSA / TFTSG Turtle Symposium in Ft. Worth, Texas
- Mexican Land Management Symposium in Alamos, Mexico (hosted by the TC)

The TC also contributed to several scientific publications in 2018. Please see the section "Outreach and Awareness" for more information.

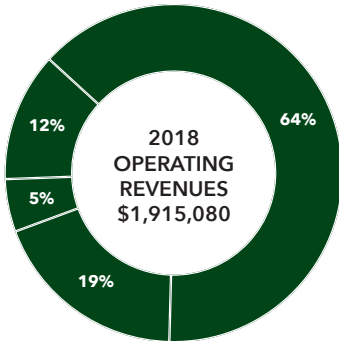




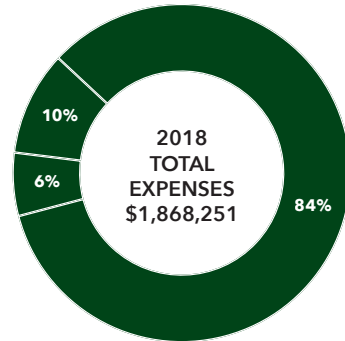
From top to bottom: 3-D printed Geometric Tortoise used in researching predator deterrents in South Africa; an articulated camera equipped scope allows us to study the many inhabitants of the Bolson Tortoise burrow in Mexico; drone technology being developed to detect Bolson Tortoise burrows from the sky; Mexican Land Management Symposium in Alamos, Mexico.



# 2018 FINANCIALS



Individuals	\$ 1,218,255	64%
Corporations	363,127	19%
Government Grants	96,745	5%
Foundations & Institutions	236,756	12%
Investments	197	0.01%



Conservation Programs	\$ 1,568,521	84%
Fundraising	113,113	6%
Administration	186,617	10%

## STATEMENT OF ACTIVITIES

<b>PUBLIC SUPPORT AND REVENUES</b>	<b>2018</b>	<b>2017</b>
Contributions & grants	1,333,838	1,216,065
Special event revenue**	-	817,579
Investment income	197	104
Other revenue*	581,046	280,557
<b>TOTAL PUBLIC SUPPORT AND REVENUES</b>	<b>1,915,081</b>	<b>2,314,305</b>

<b>EXPENSES</b>		
Conservation program expenses	1,568,521	1,422,338
Fundraising expenses (incl. special event expenses)	113,113	606,850
General and administrative expenses	186,617	170,159
<b>TOTAL EXPENSES</b>	<b>1,868,251</b>	<b>2,199,347</b>

<b>CHANGE IN NET ASSETS</b>	<b>46,830</b>	<b>114,958</b>
Net assets at beginning of year	1,482,610	1,367,652
Net assets at end of year	1,529,440	1,482,610

### Notes to Statement of Activities:

\* Includes Insurance Payout for Thomas Fire

\*\* Turtle Ball Fundraising Event

## STATEMENT OF FINANCIAL POSITION

<b>ASSETS</b>	<b>2018</b>
Cash and cash equivalents	\$ 624,881
Inventory	79,410
Prepaid expenses	18,318
Fixed and intangible assets	969,436
Other assets	3,735
<b>TOTAL ASSETS</b>	<b>1,695,780</b>
<b>LIABILITIES AND NET ASSETS</b>	
Payables and accrued liabilities	166,340
<b>NET ASSETS</b>	
Without donor restrictions	1,003,056
With donor restrictions	526,384
<b>TOTAL NET ASSETS</b>	<b>1,529,440</b>
<b>TOTAL</b>	<b>1,695,780</b>

*Data taken from the Turtle Conservancy's 2017 audited financial statements and 2018 draft financial statements.*



# PARTNERS

The Turtle Conservancy is eternally grateful to all of our partners who have helped us realize our mission of protecting and preserving Threatened and Endangered turtles and tortoises. These animals need all the help they can get, and the organizations listed here have joined us on the front lines. We could not do this important work without them.





# Save Turtles. Save the Planet.

Your financial support enables the Turtle Conservancy to accomplish its mission of saving the most endangered turtles and tortoises and their habitats worldwide for the benefit of generations to come.

Please support the Turtle Conservancy and prove that one individual really can change the future for wildlife.



## **DONATE ONLINE**

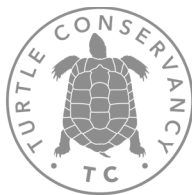
[www.turtleconservancy.org/support](http://www.turtleconservancy.org/support)

## **OR BY MAIL**

Turtle Conservancy  
Post Office Box 1289  
Ojai, California 93024

## **AND FOLLOW US**





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