

# 2020 ANNUAL REPORT



CONSERVATION CENTERS  
FOR SPECIES SURVIVAL

*Assuring a future  
for wildlife*

2020





Photo courtesy of the Smithsonian Conservation Biology Institute

# Letter from the CEO

Dear Friends,

2020 was the year we lost legendary conservation biologist and C2S2 founder Dave Wildt. To the world, Dr. David Wildt was the Smithsonian Conservation Biology Institute Head of the Center for Species Survival, pioneer of endangered species reproductive biology, instrumental in saving the giant panda from the brink of extinction, and so much more. To me, Dave was my mentor, hero, and friend. In the midst of this great loss and through all the challenges 2020 brought, Dave's vision remained our north star, enabling C2S2 to advance our mission even under difficult conditions.

Dave wasn't daunted by the seemingly impossible, nor dismayed by the trappings of the status quo. He believed that people from different perspectives could work together toward a common goal in unprecedented ways. Dave's legacy includes the creation and implementation of ground-breaking initiatives like the Cheetah Sustainability Program and the Source Population Alliance (SPA). These innovative programs have demonstrated their success in growing and strengthening endangered species populations - including 196% growth of the original four SPA target species populations since the Alliance's inception - and are collaborative models designed to be scaled to prevent extinction of a wide range of threatened species.

Dave's monumental impact is seen in his legion of mentees leading in conservation science around the globe. Dave would dryly call this 'capacity building' but I like to think of it as 'Dave's Global Conservation Army' working to bring his bold vision for species survival to fruition.

We enter 2021 with optimism for the advancement of C2S2's collaborative conservation. Thank you to everyone in Dave's Global Conservation Army and Team C2S2. Your commitment to this critical work and your continued support makes all the difference.

With gratitude,

Katy Palfrey, CEO



Dave and Katy at Austin Savanna

## Contents

02 Letter from the CEO	13 North American Species
03 C2S2 Members	19 Program Champions
05 About C2S2	21 Capacity Building
07 Source Population Alliance	23 Board & Leadership
09 Cheetah	27 Supporters
11 Southern Black Rhino	28 Financial Report



# C2S2 Members

*Leading conservation efforts through global collaboration*

C2S2 members are a powerful network of global conservation leaders. C2S2 Conservation Centers and Affiliate members are indispensable in the battle against mass species extinction. What makes our members stand out is their tireless efforts to improve conservation methods by continuously testing and implementing innovative approaches, even if it means going against conventional methods. They think outside the box and are not afraid to stand firm in the face of skepticism - making our work possible.

## Conservation Centers

Conservation Centers are large conservation facilities with a land base of at least 500 acres. These institutions have a conservation history, a focus on scientific research, and are dedicated to species breeding and management, especially in naturalistic surroundings with natural group sizes and minimal public disturbance.



## Affiliate Members

Affiliate Members include accredited zoos and conservation-minded ranches committed to sustainability and conservation as a priority. Each Affiliate participates in one or more of C2S2's programs or initiatives, and a representative from the Affiliate institution serves on C2S2's Advisory Board.





# About C2S2

Conservation Centers for Species Survival (C2S2) is a science-based global initiative taking collective action to save animals from extinction. By bringing together the resources and expertise of conservation breeding centers as well as conservation-minded zoos and private landowners, we are achieving the necessary leverage to build large-scale, sustainable populations of endangered species in secure havens. Given continued threats to critical habitats, an assurance population secured today is the best bet for many species' long-term survival.

## Mission

To provide leadership in studying and creating self-sustaining, secure populations ex situ (in human care) and in situ (in the wild) of some of the world's most endangered species.

## Purpose

The Conservation Centers for Species Survival (C2S2) cooperatively applies collective resources for the survival of threatened species with needs-large areas, natural sizes, minimal public disturbance, and research.





# Source Population Alliance



*Optimizing resources through a unique public/private sector alliance*

The Source Population Alliance (SPA) is a group of private landowners, Conservation Centers, and zoos who dedicate their unique resources to creating sustainable populations of wildlife that serve as dependable reservoirs for the conservation and use of animals in human care and in the wild.

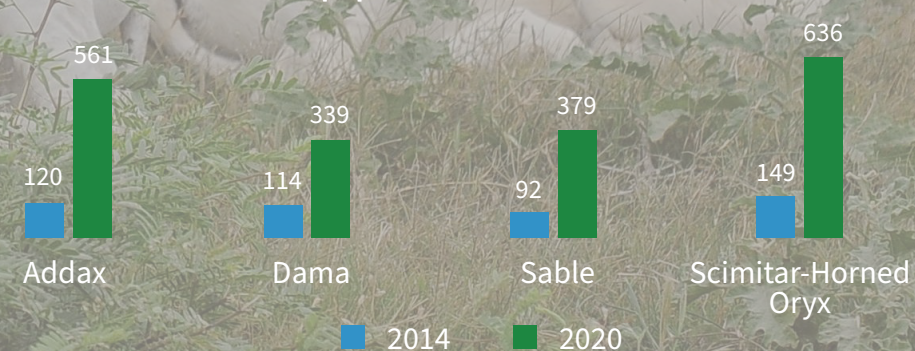
The Source Population Alliance, comprised of 37 participants, experienced another year of tremendous growth, with total animal counts for its endangered species expanding to record levels. For the initial four species (addax, dama gazelle, sable antelope, and scimitar-horned oryx), the population has grown to a total of 1,915 animals, an increase of 303% from the original 475 animals added when the SPA was formed in 2014. For the other six species added in 2018 (Arabian oryx, mountain bongo, roan antelope, Grevy's zebra, banteng, anoa), the total population has increased by a remarkable 54% in just two years, bringing the total animal count to 2,588 animals from the original 1,684.

In early 2020, staff from SPA institutions participated in the release of fifteen addax back into their native habitat at the Ouadi Rimé-Ouadi Achim Game Reserve (OROAGR) in Central Chad, a project that was sponsored by the Government of Chad (GOC), the Environment Agency of Abu Dhabi (EAD), and the Sahara Conservation Fund (SCF). It marks the first time in over forty years that addax have roamed this landscape! The newly reintroduced animals produced four calves in 2020, and another twenty five addax from the nearby captive herd are planned to be subsequently released in the near future to bolster the existing population.

The SPA also expanded its work with the Asian Wild Cattle Specialist Group (IUCN), including an agreement to support the long-term sustainability of the Asian Wild Cattle (AWC) ex-situ population in North America and Australia. SPA leadership will assist with coordination and leadership of Asian Wild Cattle projects and provide technical expertise for in-situ conservation activities including population monitoring, protection of species, and detection, capture, translocation, and captive breeding of wild specimens. Additionally, staff from SPA participant institutions will help raise awareness about conservation of AWC species via production of education materials, promotions, and the training of local educators including online husbandry training from SPA animal care experts to on-the-ground zoo staff in Indonesia.

On the genomics front, with the help of the Smithsonian Conservation Biology Institute (SCBI), the SPA continued its leadership in this pioneering field. To date, 350 animals from the three species that had already been sequenced (dama gazelle, sable antelope, scimitar-horned oryx) have been tested from multiple SPA facilities. It also added a fourth species, the mountain bongo, to the list of species that are sequenced and will be tested going forward, helping ensure that these herds avoid inbreeding and retain valuable genetic traits that are vital to survival both in ex-situ populations and in the wild.

SPA Metapopulation Increase 2014 - 2020



**196%**  
population increase



# Cheetah

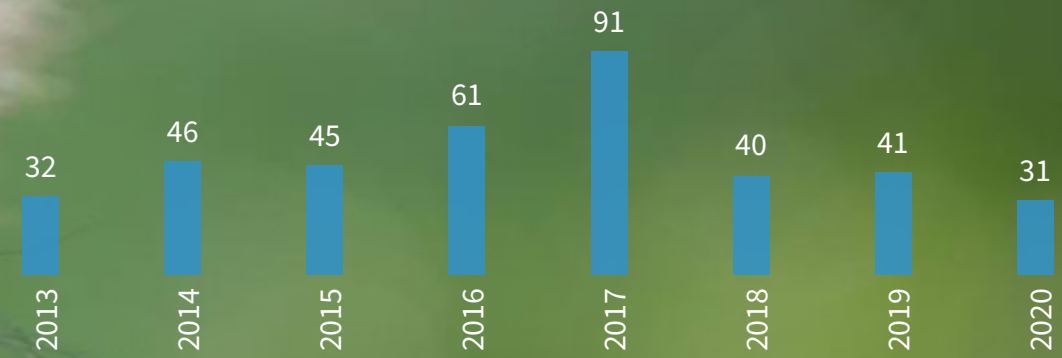
*Sustaining a declining cheetah population through critical partnerships*

The cheetah's natural habitat once spanned nearly the entire continent of Africa and parts of Asia. Today, cheetah populations have drastically declined and have disappeared from approximately 90% of their historic range. Using an innovative collective approach, C2S2 and partners are building a healthy and sustainable cheetah population in North America to contribute to the conservation of the species in the wild.

As the first effort in a series of steps to form the Cheetah Sustainability Alliance, C2S2 worked with leaders from the Association of Zoos and Aquariums (AZA) and the Zoological Association of America (ZAA) in 2020 to begin the process of merging their respective cheetah studbooks with the international studbook in order to perform a comprehensive analysis on the lineage and relatedness of the global ex-situ population. The results of the analysis on the combined data will be useful in making more informed pairing/breeding recommendations for better management in maintaining sustainable captive populations, while ensuring the availability of healthy, viable individuals for the ultimate goal of one day reintroducing them back into the wild to rebuild native populations.

## Breeding Centers Coalition (BCC)

The BCC includes 10 cheetah breeding centers, five of which are C2S2 members: Fossil Rim Wildlife Center, Omaha's Henry Doorly Zoo and Aquarium, Smithsonian Conservation Biology (SCBI), The Wilds, and White Oak Conservation. In 2020, 21 cheetahs bred, with nine individuals breeding for the first time. Five BCC facilities and one non-BCC facility produced 29 cubs in nine litters and two successful foster events occurred. The BCC completed its second round of facility evaluations this year and continues annual planning meetings to maintain an updated facility database and make the best possible fit of specific cheetahs with each holding facility.



BCC Cub Production 2013 - 2020

## Cheetah Birthing Kit Pilot



Inspiring a unique way to celebrate Mother's Day in May 2020, C2S2 launched the cheetah birthing kit pilot - a fundraiser wholly dedicated to supporting both mother-raised and hand-raised cheetah cubs with necessary health care. Intending to offset a portion of the approximately \$500,000 annual cost of raising and caring for cheetahs across breeding facilities, the initiative offered two levels of sponsorship - the Essentials Cheetah Birthing Kit and the Super Plus Cheetah Birthing Kit, providing deworming treatments, vaccines, microchips and formula. The cheetah birthing kit pilot exceeded its fundraising goal in the inaugural year, directly contributing to cheetah conservation by ensuring the health of cubs in human care.



# Southern Black Rhino

*Conserving a magnificent armored giant using reproductive technology*



C2S2, in partnership with the International Rhino Foundation (IRF), continued its leadership of the Southern Black Rhino Sustainability Program (SBRSP). With only 5,500 black rhinos remaining in the wild today and the species under constant siege from the dual threats of poaching and habitat loss, the SBRSP is expanding its efforts to increase the North America and Australia ex-situ populations in order to maintain a viable insurance population.

To this end, in partnership with SCBI, C2S2 was instrumental in bringing on board an assisted reproductive scientist to the SBRSP, Dr. Parker Pennington, who will supervise and implement strategies for increasing the size of the current ex-situ population. This will include recommendations for the pairing of potentially compatible southern black rhinos, diagnosing reproductive pathologies in both males and females, performing hormonal treatments on otherwise reproductively viable females, banking sperm of males and ovaries of deceased females, and eventually (as the technology matures) performing artificial insemination in southern black rhinos who have not shown the ability to breed naturally.

These services will be made available to all of the eighteen current SBRSP facilities, and C2S2 is actively soliciting new facilities to the program to create additional capacity for holding and breeding southern black rhinos with the goal of greatly expanding the current population of roughly three dozen individuals. Along with these efforts, C2S2 is supporting the importation of new southern black rhinos to facilities in North America and Australia who are currently in South Africa and potentially at risk. This will increase the ex-situ population and simultaneously bring in new bloodlines and help bolster current breeding efforts.

Efforts funded by the IRF to analyze the genomics samples taken from individuals in the SBRSP population also continued, led by Dr. Klaus Koepfli of SCBI. The results of this analysis will be instrumental in making future breeding recommendations to ensure the sustainability and viability of the SBRSP ex-situ population as well as the retention of valuable genetic traits in future generations. Participating C2S2 facilities include Austin Savanna, Disney's Animal Kingdom, Fossil Rim Wildlife Center, Fort Worth Zoo, Tanganyika Wildlife Park, and White Oak Conservation.



# American Red Wolf

The red wolf was declared extinct in the wild in 1980, and despite the reintroduction of a small population several years later, remains the world's most endangered wolf. C2S2 is advancing collaborative conservation efforts for this iconic species, with the collective mission of reintroducing a healthy population of red wolves into their native habitat. Participating C2S2 facilities include Endangered Wolf Center, Fossil Rim Wildlife Center, Fort Worth Zoo, North Carolina Zoo, and ZooTampa at Lowry Park.

Thank you to our film sponsors:

### Alpha Pack Leaders:



### Beta Wolf Partners:



### Wolf Guardians:

AAZK Little Rock Chapter, AAZK Omaha Chapter, Northeastern Wisconsin Zoo, Wolf Haven International, Zoo Knoxville

The North American Species Initiatives provide a model to advance scientific understanding and conservation strategies of priority native species. C2S2 provides support and collaborative opportunities to grow projects focused on species of local and regional importance, such as the American red wolf and loggerhead shrike.

## Resilience: Story of the American Red Wolf

The urgency of advancing red wolf conservation was amplified with the release of *Resilience: Story of the American Red Wolf*, which C2S2 launched in collaboration with Endangered Wolf Center and Running Wild Media. The film is a free conservation education tool that inspires people of all ages to find a voice in advocating for this critically endangered species and embark on continued learning opportunities to contribute to conservation efforts. *Resilience: Story of the American Red Wolf* was met with acclaim and accepted into the Wildlife Conservation Film Festival and Carrboro Film Festival. It is currently available to view at no cost on C2S2's website, redwolfresilience.org, and the WaterBear Network. The film's wide reach expands the network of red wolf allies, supports educational outreach, and emphasizes the dire need for immediate action to save the species.





## U.S. Fish & Wildlife Service Recovery Challenge Grant

There are fewer than 20 red wolves remaining in the wild, making conservation breeding efforts paramount to the species' survival. The U.S. Fish and Wildlife Service (USFWS) determined that a minimum of 400 captive red wolves are necessary to ensure the continued survival of the species. To achieve this, the USFWS awarded C2S2 Recovery Challenge Grant funds in 2019 toward the construction of about 10 new red wolf breeding enclosures large enough to accommodate up to 15 red wolves within two years.

Since the inaugural year of the grant in 2019, the USFWS has awarded C2S2 two total rounds of funding each in the amount of \$257,000, which C2S2 sub-grants to conservation facilities through a peer-review process.



**Fossil Rim Wildlife Center (\$50,000)** completed the construction of three new red wolf yards that can be used for breeding pairs or opened up as a larger space in 2020.



**Endangered Wolf Center, (50,000)** is building two secluded breeding enclosures in the red wolf's native habitat, which can be used as a pre-release site.



**ZooTampa (\$13,820)** is constructing one new red wolf enclosure adjacent to the current enclosure at the institution.



**Trevor Zoo (\$18,759)** is constructing one off-exhibit fenced area to accommodate more than one pair of breeding wolves.



**Saint Louis Zoo (\$50,000)** is developing approximately 20 acres of its land into a conservation habitat for 24 red wolves to live and breed in a natural setting.



**Brookgreen Gardens (\$51,483)** is building two new red wolf enclosures for both breeding and exhibiting.

The Recovery Challenge Grant provided by the USFWS and C2S2 has resulted in increased conservation breeding capacity and represents a shared commitment to ensuring a sustainable future for the red wolf.



# Loggerhead Shrike



## Loggerhead Shrike Recovery Program

The Loggerhead Shrike Recovery Program is a multi-faceted initiative that includes population monitoring, habitat assessment, land stewardship, and conservation breeding and release efforts. C2S2 Member organizations African Lion Safari, Nashville Zoo, and SCBI comprise three of the four loggerhead shrike breeding centers that participate in the conservation breeding and release program coordinated by Wildlife Preservation Canada. Since 2000, the program has released over 1,300 young to augment the wild population.

In the 2020 field season, there were 66 total birds in the conservation breeding population, 61 of which were breeding adults. Twenty-three fledglings were produced and seven of those were released into the Carden core breeding area in Ontario. Of the 10 fledglings born at SCBI, one was hand-reared to be used as an outreach and education ambassador. In the wild, at least 24% of all loggerhead shrikes detected returning to Ontario breeding grounds were captive-bred and 41 young were confirmed to have fledged.

## Conservation Planning

In collaboration with the IUCN Species Survival Commission Conservation Planning Specialist Group (CPSG), the Loggerhead Shrike Working Group began planning a Population and Habitat Viability Assessment this year with a goal of developing a Full Annual Cycle Model for the endangered northeastern subspecies. Led by CPSG and the Canadian Species Initiative, a joint endeavor by African Lion Safari and Wildlife Preservation Canada, this science-based, participatory, multi-stakeholder process will be used to develop an international recovery plan for the Eastern Loggerhead Shrike, ensuring the conservation breeding program fully supports conservation efforts in the wild. This project is being funded by BluEarth Renewables, a solar power company that monitors shrike activity on their lands in Ontario, Canada.

## Increasing Release Enclosures

C2S2 member facilities are contributing to increased release capacity of the Napanee field site in Ontario, one of two release sites in the conservation breeding program where wild populations of loggerhead shrike can reliably be found. The Nashville Zoo donated \$5,000 to cover material costs for one new enclosure, and African Lion Safari received funding from the Stephen L. McDonough Family Wildlife Conservation Fund in the amount of \$8,891 to cover material and associated costs for the second enclosure. The additional enclosures at Napanee bring the total at each of the two core release sites to four cages, providing vital space to captive-bred release activities.

The wild loggerhead shrike population has declined by 76% since the 1960s and the northeastern population of loggerhead shrike, considered a unique subspecies, is in critical danger of extinction. The multi-faceted conservation breeding and release program has shown to have a stabilizing effect on the wild population of this migratory species in the Napanee and Carden Limestone Plains in Ontario - the only two remaining cores with a confirmed breeding population in the northeast.



# Program Champions

Program Champions are leaders in their fields and lead C2S2's species projects and sustainability programs. These Champions guide collaborative conservation efforts and provide invaluable insight into species-specific research and management.

Photo courtesy of Graham S. Jones, Columbus Zoo and Aquarium

## Adrienne Crosier, Ph.D.

Cheetah Program Champion | Smithsonian National Zoo

A pioneer in her field, Dr. Adrienne Crosier, is the manager of the cheetah reproductive and research program at Smithsonian's National Zoo and Conservation Biology Institute and heads the Association of Zoos and Aquariums' Species Survival Plan Program for Cheetahs. Dr. Crosier's expertise is instrumental in the survival of the species, as she collaborates closely with zoos and conservation institutions worldwide to ensure genetic diversity of the cheetah population. Her interest in developing and utilizing assisted reproductive technologies (ART) has led to scientific breakthroughs in cheetah reproduction. One of her most significant achievements came in February 2020 at the Columbus Zoo in Ohio. Under Dr. Crosier's leadership, two healthy baby cheetahs were born via in vitro fertilization to a surrogate mother for the first time ever. This historic achievement was a continuation of Dr. Dave Wildt's foundational work in cheetah reproductive technologies. The cubs represent a hopeful future for cheetah populations in both human care and the wild, and have special namesakes - Dave and Adrienne. Dr. Crosier's accomplishments and innovative research shine a light on sustaining robust cheetah populations and provide key guidance to future conservation initiatives.



Photo courtesy of Graham S. Jones, Columbus Zoo and Aquarium



## Amy Chabot, Ph.D.

Loggerhead Shrike Program Champion | African Lion Safari

Dr. Amy Chabot is the Research and Conservation Programs Coordinator at African Lion Safari (ALS), co-founder of the Canadian Species Initiative (CSI), and a dynamic leader in loggerhead shrike recovery initiatives. Serving as an advisor to the Eastern Loggerhead Shrike Recovery Team and the coordinator of the international Loggerhead Shrike Working Group, Dr. Chabot has played a pivotal role in the continuing effective efforts to stabilize the wild loggerhead shrike population in Ontario through conservation breeding and release programs. This year was marked with significant progress in recovery efforts largely due to Dr. Chabot's innovative approaches. She facilitated the planning of the Population and Habitat Viability Assessment workshop to establish science-based targets for loggerhead shrike recovery and led the Loggerhead Shrike Working Group to implementing its first ever virtual meeting over the course of several weeks. Additionally, Dr. Chabot was an integral part of ALS receiving the Stephen L. McDonough Family Wildlife Conservation Fund award to increase release capacity in Ontario and co-authored two loggerhead shrike research manuscripts accepted for publication. Dr. Chabot's influential achievements in loggerhead shrike research and management creates a promising future for a healthy wild loggerhead shrike population.

## Regina Mossotti

Red Wolf Program Champion | Endangered Wolf Center

Regina Mossotti, Director of Animal Care and Conservation at Endangered Wolf Center (EWC), is a fearless wildlife advocate and passionate leader committed to protecting endangered canids and other threatened species. Regina sits on the Association of Zoos and Aquariums' (AZA) Species Survival Plan (SSP) Management Teams for the red wolf, Mexican wolf, and African painted dog, and is a member of the AZA Annual Conference Program Committee. As an expert in her field, Regina is an influential educator who encourages an understanding of the red wolf's important ecological role in the wild. In 2020, Regina's extensive background in red wolf management was critical in the release of *Resilience: Story of the American Red Wolf* and in securing Recovery Challenge Grant funding to increase breeding capacity at EWC for the rarest wolf in the world. In addition to her role in red wolf recovery efforts this year, Regina participated in an important effort to survey the Mexican wolf population, and notably, led a historic collaboration between organizations to fly nine Mexican wolf pups to Arizona to be fostered by three separate wild packs. Regina's purposeful leadership and advocacy has resulted in meaningful progress in red wolf recovery efforts, giving the species a promising opportunity to thrive well into the future.



Photo courtesy of Endangered Wolf Center



# Capacity Building

Providing opportunities to advance global conservation efforts

A global network of determined and scientifically sound conservation organizations powerfully impacts the capacity to save species in decline. With support from donors and organizations such as the U.S. Fish and Wildlife Service, C2S2 provides grant opportunities and funds to members and non-member partner organizations to support their contributions to critical conservation efforts.

## Stephen L. McDonough Family Wildlife Conservation Fund

Conservation allies Stephen and Denise McDonough graciously established a C2S2 donor-advised fund (DAF) to bolster the wildlife conservation efforts of C2S2 members and their global partners. Through the Stephen L. McDonough Family Wildlife Conservation Fund, Stephen and Denise have committed to donating \$250,000 over five years, with \$25,000 for administration, \$100,000 for C2S2 Conservation Centers, and \$125,000 for international conservation partners to enhance their efforts in the species' ranges. 2020 was the inaugural year of the grant with three awardees: African Lion Safari, Friends of Wildlife, and World Parrot Trust.

### C2S2 Conservation Center Awardee



**African Lion Safari (\$8,891)** was granted the award to double the release capacity of loggerhead shrike into the wild at the Napanee release site in Ontario and provide professional development opportunities for animal care professionals to participate in releases.

### C2S2 International Conservation Partner Awardees



**Friends of Wildlife (\$12,500)**, Global Partner of SCBI, was awarded funds to raise awareness and policy support for banteng conservation in Myanmar, working with local communities and partners to protect a species that is decreasing at an alarming rate.



**World Parrot Trust (\$12,500)**, Global Partner of African Lion Safari, was granted funds to support efforts to release healthy populations of blue-throated macaws back into their natural habitat in Bolivia, as well as build aviaries and develop outreach programs with a local partner.

## Stephen McDonough, M.D.

*Wildlife advocate and C2S2 Advisory Board Member*

Stephen McDonough is an animal lover who has been providing support to C2S2 since its formation. Residing in North Dakota as an esteemed pediatrician and avid wildlife photographer, Stephen is C2S2's only individual member. During his longtime friendship with late C2S2 founder, Dr. Dave Wildt, Stephen traveled the world - from China to visit the pandas to Indonesia to see rhinos - to experience C2S2's conservation initiatives in action. Stephen's passion for conservation can be seen through his photographer's lens - visit [dakotareflections.com](http://dakotareflections.com) to view his stunning photos - and in his commitment to advancing C2S2's mission.



C2S2 is grateful to Stephen and his family for their contributions that provide members and non-members the opportunity to expand their critical work to save species at risk of extinction.



# C2S2 Founder Tribute: David Wildt, Ph.D. (1950-2020)

Dr. David (Dave) Wildt, C2S2's late founder, was a pioneer, trailblazer, and prolific leader in conservation science. Dave spent his early years surrounded by animals and participating in 4-H and Future Farmers of America. He received his bachelor's degree in animal science from Illinois State University in 1972 and his master's degree in animal husbandry from Michigan State University in 1973. Dave also completed his doctoral studies at Michigan State University, studying physiology and animal husbandry. He began his scientific career researching reproduction in livestock and companion animals and becoming well-versed in the use of assisted reproductive technologies, such as artificial insemination and embryo transfers, in those species. In 1983, Dave joined Smithsonian's National Zoo and shifted the focus of his research to endangered species. There he embarked on his remarkable odyssey into conservation biology, leaving an indelible mark on this world.

Leading one of the world's most regarded research programs centered on comparative reproductive biology and wildlife conservation at Smithsonian Conservation Biology Institute (SCBI), Dave spearheaded collaborative efforts to develop reproductive technologies that were pivotal in advancing management and conservation of endangered species. The interdisciplinary conservation efforts led by Dave and his teams resulted in groundbreaking scientific discoveries, including the first-ever births of offspring via artificial insemination from a variety of species - cheetahs, scimitar-horned oryx, and the Przewalski's horse, to name a few. His team brought black-footed ferret populations back from the brink of extinction and he played an integral role in improving the management of pandas in human care through a joint American and Chinese initiative. These achievements promoted the genetic and reproductive health of threatened species, a mission which was bolstered by Dave's concept of Genome Resource Banks (GRB) - a means to collect and store biomaterials for endangered and rare species such as the tiger, cheetah, and giant panda. GRB paved the way for historic accomplishments such as the birth of two healthy cheetah cubs to a surrogate mother years later.

Dave, an unmatched visionary, played an indispensable role in the founding of Conservation Centers for Species Survival (C2S2) in 2005 and in its growth thereafter. Uniting conservation facilities with private landowners, C2S2 introduced a novel approach to large herd management and the use of collaborative research and resources to provide assurance populations for threatened species. Dave applied genomic technologies to the Source Population Alliance (SPA), which provides large herds with ample pastures of naturalistic land and has proven to be a valuable way to ensure the genetic diversity of ungulates. To date, C2S2 members have contributed to saving some of the world's rarest animals.

Dave's legacy lives on across disciplines, facilities, species, and people. A respected leader, Dave provided mentorship to aspiring scientists and conservationists and was a consistent source of influence and support. His career transformed the field of wildlife reproduction and his trailblazing energy extended to all corners of the globe. From the recovery of endangered species to his love for his family, colleagues, and mentees, Dave's immeasurable impact is recognized and treasured.





# C2S2 Leader Tribute: Danny Morris (1954-2020)



For over four decades, Danny Morris called Omaha's Henry Doorly Zoo & Aquarium home. Beginning his esteemed career as a zookeeper in 1973, Danny's ardor for protecting wildlife and advancing conservation touched every part of the zoo. After holding roles including supervisor of Cats and Bears, supervisor of Aquarium and Reptiles, curator of Aquarium and Reptiles, Animal curator, and senior zoological curator, Danny's career at the Zoo culminated in his position as Chief Operating Officer (COO). In his capacity as COO, Danny made a powerful impression on the Zoo, cultivating its growth. His active leadership was reflected in his involvement in interactive animal programs, employee mentorship, and construction projects. During his tenure, Danny assisted with the design and construction of four major exhibits at the Zoo: Lied Jungle, Desert Dome, Suzanne and Walter Scott Aquarium, and African Grasslands. He retired in 2017 after devoting 44 years of his life to improving the lives of people and animals at the Zoo - and beyond.

Danny's fierce passion for conservation, especially small carnivores, had a global reach. He was affiliated with several conservation groups including the Felid Taxon Advisory

Group (TAG), the Small Carnivore TAG, and the Pangolin, Aardvark, and Xenarthra TAG. Danny was also a Species Survival Plan management group member for the clouded leopard, jaguar, snow leopard, De Brazza's monkey, and Houston toad. Danny was an integral participant in C2S2 programs and served as a member of the C2S2 Advisory Board, working alongside Dr. Dave Wildt to implement and sustain cooperative efforts to save some of the world's rarest species at a large scale.

Danny Morris passed on July 14, 2020. His enduring impact continues in the physical structure of Omaha's Henry Doorly Zoo & Aquarium and radiates throughout conservation initiatives worldwide. Danny is survived by his wife, Dr. Cheryl Morris, Vice President of Conservation at Omaha's Henry Doorly Zoo and Aquarium.

C2S2 is grateful for Danny's contributions to C2S2's formation and long-term success.



Dave and Danny

# Board & Leadership

C2S2's Board of Directors and Advisory Board is composed of experts in conservation biology, reproduction, reintroduction science, animal care and management, and natural resource management from the C2S2 Conservation Centers and allies.

## Board of Directors

*Consists of representatives from each C2S2 Conservation Center and select individuals of relevant expertise*

- Mike Takacs (Chairman/ President), African Lion Safari- Hamilton, ON, Canada
- James Gregory, (Treasurer), Austin Savanna- Austin, TX
- Dan Cassidy, Omaha's Henry Doorly Zoo- Omaha, NE
- Budhan Pukazhenth, B.V.SC, Ph.D., Smithsonian Conservation Biology Institute- Front Royal, VA
- Jan Ramer, DVM, The Wilds- Cumberland, OH
- Kelley Snodgrass, Fossil Rim Wildlife Center- Glen Rose, TX
- Roger Sweeney, North Carolina Zoo- Asheboro, NC
- Lauren Zarama, InKemia Green Chemicals- Houston, TX

## Board Observers

*Additional representatives from each C2S2 Conservation Center*

- Dan Beetem, The Wilds- Cumberland, OH
- Amy Chabot, Ph.D., African Lion Safari- Hamilton, ON, Canada
- Justin Gregory, Austin Savanna- Austin, TX
- Holly Haefele, DVM, Fossil Rim Wildlife Center- Glen Rose, TX
- Paul Marinari, Smithsonian Conservation Biology Institute- Front Royal, VA
- Gareth Morgan, African Lion Safari- Hamilton, ON, Canada
- Cheryl Morris, Ph.D., Omaha's Henry Doorly Zoo and Aquarium- Omaha, NE
- Nucharin Songsasen, Ph.D., DVM, Smithsonian Conservation Biology Institute- Front Royal, VA

## Advisory Board

*Includes representatives from C2S2 Affiliate Members, individuals critical to the founding of C2S2, and program leads*

- Evan Blumer, Oso Mono Ltd- Gahanna, OH
- Nick Boyle, Taronga Conservation Society Australia- New South Wales, Australia
- Nicole Cavender, Ph.D., The Morton Arboretum- Lisle, IL
- Peter Clark, Monarto Safari Park- Monarto, SA, Australia
- Adrienne Crosier, Ph.D., Smithsonian Conservation Biology Institute- Front Royal, VA
- Joe deGraauw, Nashville Zoo- Nashville, TX
- Gina Ferrie, Ph.D., Disney's Animal Kingdom- Lake Buena Vista, FL
- Mike Fouraker, Fort Worth Zoo- Fort Worth, TX
- Sara Hallager, Smithsonian National Zoo- Washington, DC
- Larry Killmar, ZooTampa at Lowry Park- Tampa, FL
- Dwight Lawson, Oklahoma City Zoo- Oklahoma City, OK
- John Lukas, Wildlife Conservation Global/Okapi Conservation Project- Jacksonville, FL
- Stephen McDonough, MD - Bismarck, ND
- Regina Mossotti, Endangered Wolf Center- Eureka, MO
- Mandi Schook, Ph.D., Disney's Animal Kingdom- Orlando, FL
- Steve Shurter, White Oak Conservation- Yulee, FL
- Tiffany Soechting, Natural Bridge Wildlife Ranch- San Antonio, TX
- Brandon Speeg, White Oak Conservation- Yulee, FL
- Virgil VanTrease, BSBA, Eagle Wealth Management, LLC- St. Louis, MO

## C2S2 Staff

*C2S2's staff brings to the table diverse backgrounds and ardent dedication to wildlife conservation.*

- Katy Palfrey | Chief Executive Officer
- Lee Burton | Programs Manager
- Angelina Casillas | Programs Coordinator



# Supporters

C2S2 is sincerely grateful to our supporters for making our work possible! Thank you to the following facilities, institutions, foundations, and individuals who provided financial and in-kind support in 2020.

## Angel | \$250,000 and up

- Stephen & Denise McDonough
- United States Fish & Wildlife Service

## Benefactor | \$100,000 to \$249,999

- Mark Paul Terk Charitable Trust and Glenn Staack
- Konstantin Nikolaev
- Judy & Sean Palfrey
- Smithsonian Conservation Biology Institute and National Zoological Park

## Steward | \$50,000 to \$99,999

- African Lion Safari
- Austin Savanna
- Fossil Rim Wildlife Center
- Omaha's Henry Doorly Zoo and Wildlife Safari Park
- The Wilds  
White Oak Conservation

## Patron | \$25,000 to \$49,999

- Center for the Conservation of Tropical Ungulates
- Bradford Clements
- Columbus Zoo and Aquarium
- Disney's Animal Kingdom
- Houston Zoo
- North Carolina Zoo
- Taronga Conservation Society Australia
- ZooTampa

## Sponsor | \$5,000 to \$24,999

- Arkansas Zoological Foundation
- Dallas Zoo
- Fort Worth Zoo
- Fresno Chaffee Zoo
- Eastman Foundation
- Endangered Wolf Center
- Horne Family Foundation
- Little Rock Zoo
- Moffat Foundation
- International Rhino Foundation
- Monarto Zoo
- National Zoological Gardens of South Africa
- Natural Bridge Wildlife Ranch
- Nashville Zoo
- Oklahoma City Zoo
- Katy Palfrey
- Philadelphia Zoo
- Point Defiance Zoo & Aquarium
- Saint Louis Zoo
- Scovill Zoo
- Smoke Rise Foundation
- Virgil Van Trease
- Michael Weisser

## Friend | \$1,000 to \$4,999

- 4-F Exotics
- 8 Bar 8 Ranch
- AAZK Little Rock Chapter
- AAZK Omaha Chapter
- Akron Zoological Foundation
- Arkansas State University
- Bamberger Ranch
- Bear Creek Exotics
- Birmingham Zoo
- Brevard Zoo
- Camp Creek Wildlife
- Cross Bar C Ranch
- Cypress Creek Ranch
- Dickerson Park Zoo
- Game Creek Ranch
- Gimbel Foundation
- Griffin Point Ranch and Hayden Kelly
- Hatada Ranch
- Hemker Park Zoo
- Norman & Dale Kahn
- Knoxville Zoo
- Wilson Conservation Trust
- Lion Country Safari
- The Living Desert Zoo and Gardens
- McCombs School of Business University of Texas Austin
- Micanopy Zoological Preserve
- Northeastern Wisconsin Zoo
- Northern Piedmont Community Foundation
- Pat O'Neil
- John Palfrey & Catherine Carter – Vanguard Charitable Trust
- Red Wire Wildlife Ranch
- Red Wolf Coalition
- Roger Williams Zoo
- Rough Hollow Preserve
- S03 Ranch
- Safari Enterprises and Larry & Toni Johnson
- Eben Scanlon
- Safari West
- Six Flags Great Adventure Safari
- Stewards of Wildlife Conservation
- Tanganyika Wildlife Park
- Ten Triple X Ranch
- Tres Changos Ranch
- Triple C Ranch
- Wildlife Conservation Center
- Wolf Haven International

# Financial Overview

## Revenue

Grants.....	\$261,000
Major Gifts & Annual Fund.....	\$220,865
Membership & Program Income.....	\$142,750
Sponsorships.....	\$19,096
<b>Total Revenue.....</b>	<b>\$643,711</b>

## Expenditure

Programs.....	\$322,428
Operations.....	\$111,776
Fundraising.....	\$67,659
<b>Total Expenditures.....</b>	<b>\$501,862</b>

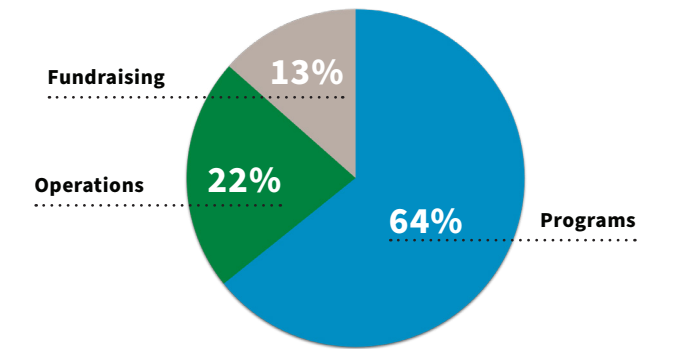
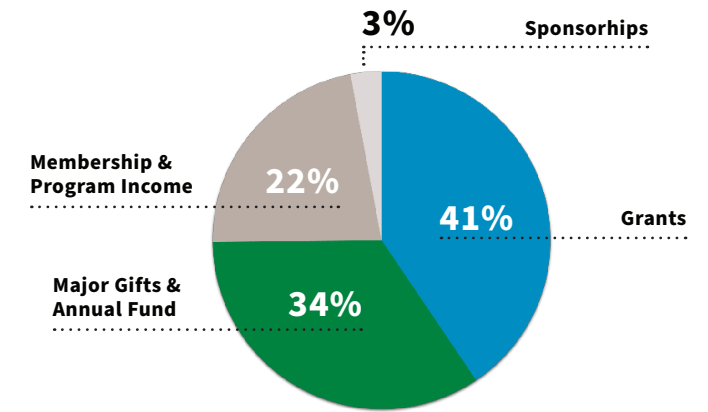


Photo courtesy of White Oak Conservation





Conservation Centers for Species Survival  
701 Brazos Street 16th Floor | Austin, TX 78701  
conservationcenters.org



Photo courtesy of Taronga Western Plains Zoo

