2022 Annual Report

C2S2

Innovative large-scale species recovery

CONSERVATION CENTERS FOR SPECIES SURVIVAL

"A global trusted network saving species through collaboration, science, and managed care."

CONSERVATION CENTERS FOR SPECIES SURVIVAL

The Conservation Centers for Species Survival (C2S2) values scale: large properties and substantial wildlife populations managed collaboratively among private and public partners to achieve conservation goals. We provide a range of services including identifying and analyzing wildlife management challenges, developing species recovery and habitat restoration plans, and facilitating and assisting with implementing recovery efforts. C2S2 is a driving force, aligning partnerships and leading a network of experts, to create, plan and implement programs and projects to save species.

Contents

As conservation organizations navigate new challenges facing wildlife populations, new opportunities continually emerge. As 2022 ends, C2S2 is thankful for our partner organizations comprising Conservation Centers for Species Survival. This year, the C2S2 Board and volunteers, representing our organizational partners, stepped up significantly with their time, talent and skills to lead our conservation efforts and manage our species survival programs. Both of us have recently assumed the role of Board Chair and Executive Director, and we look forward to working with our collaborative network as we focus our efforts in 2022 and going forward.

We are honored to work with the C2S2 team to help find multidisciplinary solutions to help recover wildlife populations. Together we can accomplish good things for the world's diverse and threatened species.

Steve Shurter
C2S2 Board Chair

Adam Eyres
Interim Executive Director

Programs

Members of the C2S2 network have recovered some of the rarest species on the planet, from the black-footed ferret to the scimitar-horned oryx to Attwater's prairie chicken. Our collaboration represents decades of experience in wildlife management, recovery management, and reintroduction programs and more than 100,000 dedicated acres of large, naturalistic areas for species conservation.

Source Population Alliance

The Source Population Alliance (SPA) is a program of C2S2, representing private landowners, conservation centers, and zoos who dedicate their unique resources to creating sustainable populations of wildlife. Together, SPA participants create large 'metapopulations' of threatened species by combining human-managed smaller populations in the U.S., Canada, and Australia. The metapopulation serves as a resource for potential reintroduction projects, insurance populations and research.

The common goal of SPA participants is to contribute to self-sustaining populations of selected species by: (1) producing more funds for conservation, management, scientific research, and sustainable populations, (2) improving awareness, and (3) returning populations to their native habitat.

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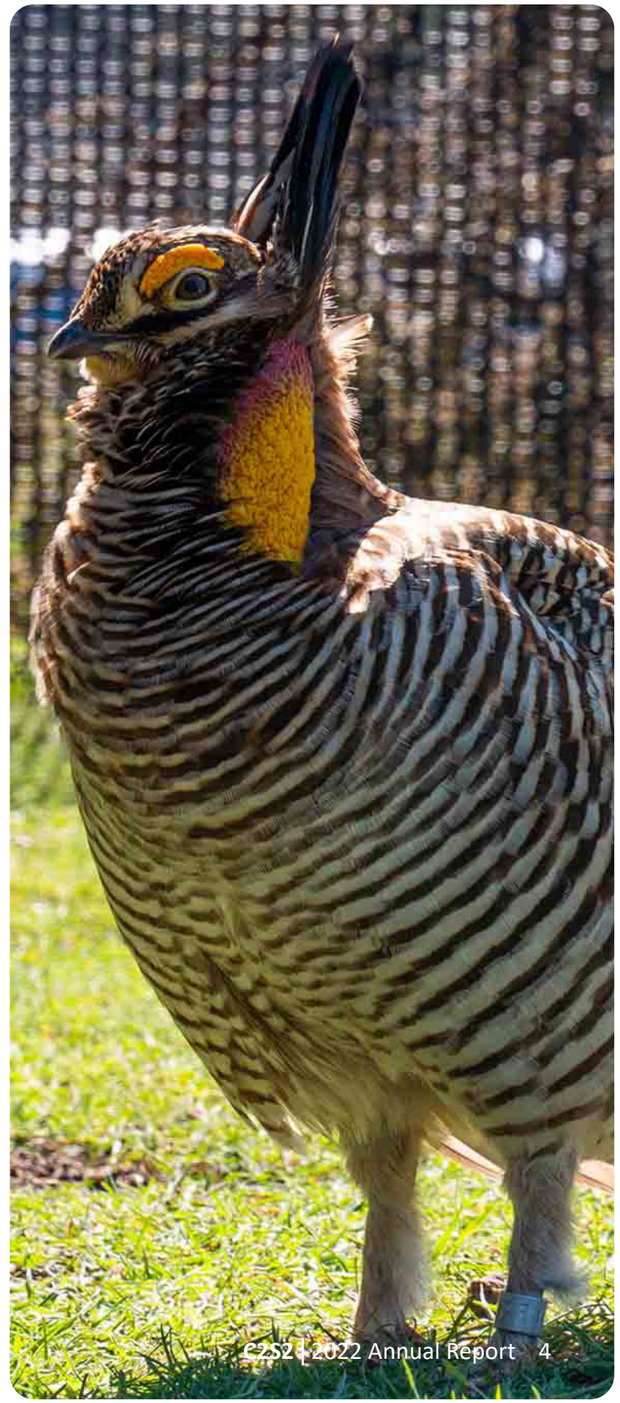
Attwater's Prairie Chicken

Attwater's prairie chickens are native to the coastal prairies of Texas and Louisiana. Because these prairies are sprawling grasslands broken up by small forests, they can vary in wetness depending on proximity to river deltas. Attwater's prairie chickens are perfectly adapted to live amongst the tall grasses found along the coast. For instance, their striped pattern helps them blend in and hide from predators, and the climate of their habitat is perfect to produce their diverse food sources: grass roots, flower petals, seeds, and insects like grasshoppers.

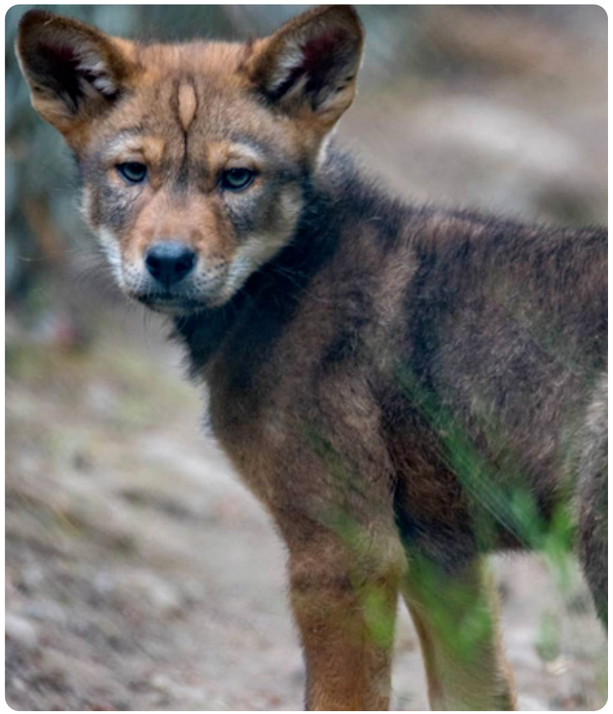
The Attwater's prairie chicken once had a thriving population, but in the span of a little over 30 years, habitat loss reduced wild numbers from nearly one million to less than 9,000. By 2003, numbers were down to less than 50. Captive breeding programs have been created by facilities like Fossil Rim Wildlife Center (FRWC) in an effort to rebuild the wild population to sustainable numbers, but the journey has not been easy. These little birds are highly susceptible to changes in what little habitat they have remaining, so they often fall victim to various unavoidable natural disasters. In 2016 and 2017, flooding from spring rains and Hurricane Harvey destroyed an entire generation of Attwater's eggs and drowned over 30 birds. After this, their wild population dwindled to only a little over 10 birds. Since then, reintroductions programs have helped to bolster the wild population and there are now thought to be up to 50 birds in the wild.



Red Wolves

As an apex predator, the red wolf enhances diversity, balance, and stability of the plants and animals in their native ecosystems.

C2S2 partners play a key role in leading, coordinating, and implementing initiatives in support of the US Fish & Wildlife Service's Red Wolf Recovery Program. Our Affiliate Member, the Endangered Wolf Center, was one of the first facilities to breed red wolves in captivity in 1981. Since then, more than 40 facilities have joined together to grow the conservation breeding program including participation and space, identifying and increasing progress with husbandry and research priorities, supporting reintroduction efforts, and conducting positive outreach for this misunderstood species.



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Cheetah

C2S2 cheetah managers are taking the lead in the development of a much needed, collaborative population management strategy for the cheetah. A global One Plan approach involves linking cheetah populations and managing them according to a globally agreed set of goals and actions while building upon and respecting existing regional processes. It is an appropriate strategy for species where the outcomes resulting from a multi-regional alliance demonstrate greater sustainability or conservation deliverables than a single–region approach. This would include identifying and connecting significant populations in the wild and in breeding facilities worldwide, across borders and regional zoo associations, as well as determining the genomics of the global population, and developing a global collaborative management plan.

Loggerhead Shrike

The loggerhead shrike is a songbird that has experienced one of the most drastic declines of any North American landbird – 7 out of 10 shrike have been lost from populations across the species range. Found only in North America, the species is unique for its raptor-like beak and foraging habits. Three C2S2 Conservation Centers are partnering to ensure the species does not go extinct in eastern states and Canadian provinces. African Lion Safari, Nashville Zoo and the Smithsonian Conservation Biology Institute work together with academic, government and non-government partners to breed shrike that are released in Ontario, where a remnant of a unique subspecies is on the brink of extinction. The population of less than two dozen breeding pairs in the wild is augmented annually with young shrike from conservation breeding centers.

Since 2003, when releases first began, more than 1300 young shrike have been released into the wild. These birds are migrating to southerly wintering areas and returning to breed, both with wild pairs and each other. Today, captive bred shrike represent 40% of the wild population. African Lion Safari staff lead the North American Loggerhead Shrike Working Group and efforts to develop an international full-annual life cycle conservation plan for the critically endangered migrans subspecies in collaboration with the IUCN's Conservation Planning Specialist Group. This conservation breeding program is the first, worldwide, to work with a migratory songbird and is the model for C2S2's songbird initiative.

Southern Black Rhino

C2S2 is partnering with the International Rhino Foundation (IRF) to establish a viable Southern black rhinoceros assurance population that focuses on breeding, research, exhibition, and (if possible and appropriate) the ultimate reintroduction of animals to the wild.

The objectives of the Southern Black Rhino Sustainability Program (SBRSP) are to:

- Develop a long-term, global *ex situ* management plan and its linkage potential to the species living in nature.
- Continue supporting on-the-ground conservation and protection of wild populations.
- Recruit global partners to hold or breed animals.
- Continue to advance husbandry and knowledge of the species.

Genomic assessment of the existing *ex situ* population is a priority with mitochondrial sequencing and whole genome sequencing analysis for baseline assessment of the population being conducted by the Smithsonian Conservation Biology Institute and funded by IRF.

Member Highlights

Conserving Aridland Antelope in Chad, Africa

Fossil Rim Wildlife Center (FRWC) has been working with SaharaConservation (formerly the Sahara Conservation Fund) since 2008. It's a great match because FRWC has worked with many Saharan and Sahelian species including scimitar-horned oryx, addax, dama gazelles, ostrich, aoudad, and cheetahs for nearly five decades.

In 2010, during a trip to Niger with several stakeholders involved in Saharan/Sahelian conservation, many conversations about how to begin reintroducing scimitar-horned oryx back into the wild occurred. Over the course of the next six years this became a reality due to the work of SaharaConservation and the commitment of the Environment Agency—Abu Dhabi (EAD), as well as many technical advisors, including FRWC.

C2S2

The first reintroduction of scimitars happened in 2016 with 25 animals being transported from Abu Dhabi to Chad via an Ilyushin cargo plane. FRWC staff, along with staff from SPA, were able to be involved, helping with the collaring of the animals that were housed in their large pre-release pens at the base camp. Fossil Rim also helped through a project done at FRWC with our collection of captive scimitar-horned oryx that was used to aid in determining the best fit for collars, the best company to work with, and a health and welfare assessment of the animals who wore the collars.

While collaring the animals, staff also drew blood, took measurements, photographed teeth, and did an overall health assessment of each of the animals that were run through the chute. Additionally, the EAD, Source Population Alliance, and FRWC staff worked with the local staff at the base camp for capacity building in working with the animals in the pens and working lanes—including the drop floor chute (*left*).

The scimitar project has seen over 200 animals released back into Chad, and their numbers are now over 500 through very successful breeding and recruitment in the wild.

Through the success of the scimitar project, FRWC started working with addax reintroductions as well. In 2020 a group of addax were moved from the holding pen at the base camp to a remote temporary boma closer to addax habitat. FRWC was involved in that move, including helping with the release (both into the boma, and into the wild), and subsequent monitoring of the animals. Another group of addax has been released since, and there are nearly 60 addax roaming freely in Chad now.

The most recent project that FRWC has had opportunities to participate in is the capture and subsequent captive breeding and release of dama gazelles. During the addax move in 2020, FRWC staff helped SaharaConservation, the government of Chad and the EAD in tracking, catching and moving a small group of wild dama gazelles to the base camp.

It was determined through biologic sampling, that there was a very genetically diverse group of dama gazelles living in the northwest section of Chad. There were probably only a few animals, and therefore, the opportunity for their reproductive success was low. A helicopter and capture specialist were hired to try to catch those few animals. As it turned out, we were able to capture three individuals, all females. Although it was excellent to have three females with reproductive potential, we still needed a male to make a breeding herd. Through the good relationships formed over the last decade we were able to get government permission almost immediately to capture a wild male from the Ouadi Rime- Ouadi Achim Reserve (OROA). Thus the captive population of dama gazelles commenced in Chad.

***Top left**: Julie Swenson holds a sedated gazelle in Salal, Chad.*
***Top right**: Julie Swenson handles dama gazelles in the helicopter en route to the OROA Base Camp.*
***Bottom right**: Helicopter pilot Hoho Andrew and Adam Eyres posing with the helicopter used for dama capture in Chad.*

Interestingly, there are a number of wild damas in the reserve and some of them have decided that the pens, and their occupants (*below*), are intriguing. Over the months that the captive herd has been in the pens, several wild damas have been passively captured and are now part of the breeding program. It is hoped that in the fall of 2023 there will be a release of some of these captive born damas into OROA.

We are confident that C2S2 will continue this relationship well into the future. Since dama gazelle necks are different (slender) from a scimitar-horned oryx, FRWC is preparing to evaluate the safety and efficacy of new collars in tieir dama gazelles. This study will be similar to the one that was conducted on scimitar-horned oryx.

We look forward to all of the opportunities that will come our way in the future for continuing to make the conservation of species the number one priority of C2S2.

"When we try to pick out anything by itself,
we find it hitched to everything else in the universe."
- John Muir

Whooping Cranes at White Oak

Named for their loud distinctive call, whooping cranes are the tallest bird in North America, standing up to five feet tall, and having a wingspan of up to eight feet! They are shy and secretive birds and are sometimes confused with herons, egrets, or sandhill cranes. Whooping cranes do not nest or roost in trees but prefer shallow water where they build large nests. They are famous for performing lively courtship dances and unison calls. Adult pairs usually raise one chick each season.

Today, in order to continue the practice of not having all of the '(crane) eggs in one basket', White Oak, the Smithsonian Conservation Bilogy Institute and African Lion Safari have taken in some of the cranes. Having a species as endangered as the whooping crane housed in more than one facility insures against any kind of catastrophic loss. There are currently five breeding pairs of whooping cranes at White Oak.

The Giraffes of Natural Bridge Wildlife Ranch

Giraffes have become a focal species at Natural Bridge Wildlife Ranch (NBWR). In 2013, the 9th known set of living giraffe twins were born at the Ranch and the news literally spread across news outlets worldwide. In the US, the story was featured on GMA and on the jumbotrons of Times Square. "That amazing blessing gave the Wildlife Ranch the opportunity to bring focus to the little known devastating decline in wild populations of giraffes, as there are 3 ½ times as many wild elephants in Africa than giraffes.", said Tiffany Soechting, vice president of NBWR. The twins were the 22nd and 23rd baby Reticulated Giraffes born at NBWR and the latest baby born being the 47th baby born since opening to the public in 1984. Currently, NBWR has built two herds that consist of 18 giraffes.

When the twins were born, a local filmmaker created a documentary that started with the story of the twins and built into the silent extinction giraffes are facing. The documentary was featured on NatGeo Wild and helped create stronger connections and friendships with giraffe conservationist across Africa and the world. "These alliances shined a light on the need of creating an NGO that would connect and support the work being done in the fields of research, education and awareness creation of the plight of wild giraffes.", stated Tiffany Soechting.

Save The Giraffes was co-founded by Tiffany and is based at NBWR. With NBWR being open to the public and hosting visitors from all over the world, they use the opportunity to kindle the passion of this giant majestic species in need.

Affiliate Highlight

Taronga Western Plains Zoo

The Taronga Park Zoo and Western Plains Zoo have been members of C2S2 for many years and continue to participate with the SBRSP, recently celebrating the birth of their 16th southern black rhino calf via a world first reproductive hormone treatments.

The zoo had many successes in 2022 and is dedicated to conservation initiatives in Australia and beyond. Here are some recent highlights. Taronga Western Plains Zoo announced their most successful breeding season to date with 17 critically endangered Plain's-wanderer chicks successfully hatching this year. The chicks were hatched from clutches of eggs laid by six pairs of adult birds within the conservation breeding program. These adult Plain's-wanderers represent highly valuable genetic lines as wild founders, resulting in robust and diverse offspring that will play an important role in the survival of this unique and extremely threatened species in the wild. The Recovery Program has released four cohorts since 2021 with another in the early stages of planning.

Taronga Western Plains Zoo has recently established a new conservation breeding program for Chuditch (Western Quoll) and in it's first year, the program had major breeding success across it's four founding pairs. Just nine months after program establishment, 15 Chuditch were released to support the reintroduction of the species in the Vulkathunha-Gammon Ranges in South Australia, where this species was previously extinct.

Taronga Western Plains Zoo Sanctuary has established a 110ha feral predator exclusion zone that is home to a thriving population of free ranging Bilbies with a flourishing population. Bilbies bred within the Sanctuary have since been translocated to the Sturt Desert in New South Wales, 100 years after the Bilby was declared extinct in NSW . In 2022, bilbies from the Sanctuary were also translocated to the Australian Wildlife Conservancy's Newhaven site, supporting the reintroduction of the species in the Northern Territory.

Spotlight

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Grasshopper Sparrows

They say it takes a village, and sometimes more than one village, to make a difference. That's the case with a tiny bird that has been at the center of a multi-organizational project for the last five years. In 2017, White Oak Conservation's Avian Team, in partnerships with other organizations, took on the daunting task of breeding for recovery a small remnant population of Florida grasshopper sparrows, a critically endangered avian species found in dry prairie habitats of south-central Florida.

First described in 1902, by 2017 there were only about 15 breeding pairs left in the wild due to habitat degradation and loss. White Oak began working on a recovery program in partnership with the Florida Fish and Wildlife Commission and the US Fish & Wildlife Service. That same year, sparrows were brought in from the wild and housed in predator resistant structures, and in 2019, the first sparrows were released. To date, over 650 birds have been re-introduced from White Oak and two other facilities.

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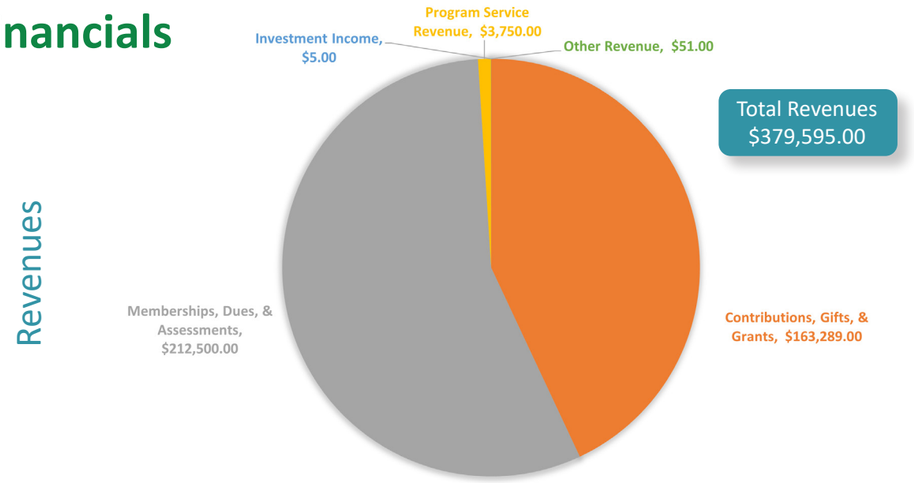
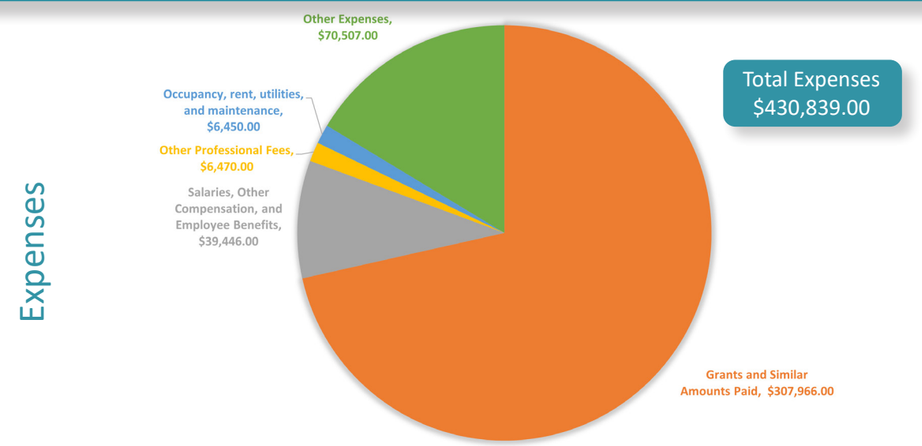
2022 Financials





***Conservation Centers for Species Survival** recognizes and extends our sincere thanks to our individual and corporate donors for their valuable contributions in support of our programs and operations.*

Conservation Centers

African Lion Safari · White Oak Conservation · Fossil Rim Wildlife Center · Natural Bridge Wildlife Ranch · Omaha's Henry Doorly Zoo & Aquarium · Smithsonian's National Zoo & Conservation Biology Institute · The Wilds

Affiliate Members

Endangered Wolf Center · Monarto Safari Park · Nashville Zoo · Oklahoma City Zoo · Taronga Conservation Society Australia · Zoo Tampa at Lowry Park

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C2S2 is not your typical conservation non-profit. We are a results-oriented organization that uses scientifically-driven approaches to save critically endangered species. We lead our research teams as they develop the next generation of scientific tools to ensure that wild species can survive and flourish as their habitats shrink. We work with private landowners, conservation-minded zoos, and Conservation Centers that together manage over 100,000 acres of naturalistic space to build large-scale, sustainable populations of endangered species. Our success in increasing the cheetah population by an unprecedented percentage demonstrates that our methods are key to restoring self-sustaining populations and healthy ecosystems.

Be part of a passionate community determined to ensure a future where wildlife thrives. **Your donation helps fund the most urgent and innovative conservation efforts put in place to protect and restore vital species populations.**

"It's not whether the animals will survive.
It's whether man has the will to save them."
Anthony D. Williams

Source Population Alliance

4-F Exotics
8 Bar 8 Ranch
African Lion Safari
Bamberger Ranch Preserve
Bear Creek Exotics
Camp Creek Wildlife
Cross Bar C Ranch
Cypress Creek Ranch
Fort Worth Zoo
Fossil Rim Wildlife Center
Game Creek Ranch
Griffin Point Ranch
Hatada Ranch
Hemker Park Zoo
Lion Country Safari
The Living Desert Zoo & Gardens
Micanopy Zoological Preserve
Monarto Zoo
Natural Bridge Wildlife Ranch
Oklahoma City Zoo
Rancho Sabino Grande/ Spitfire Exotics
Rough Hollow Preserve
Safari Enterprises
Six Flags Great Adventure Safari
Smithsonian Conservation Biology Institute
Tanganyika Wildlife Park
Taronga Conservation Society
Ten Triple X Ranch
The Wilds
Triple C Ranch
White Oak Conservation
Wildlife Conservation Center
Zoofari Parks (Gulf Breeze Zoo Alabama Safari Park, Texas Safari Park, Virginia Safari Park)
Anonymous Participant

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