CBSG Annual Report 2012

Saving threatened species by increasing the effectiveness of conservation efforts worldwide
OUR MISSION

CBSG’s mission is to save threatened species by increasing the effectiveness of conservation efforts worldwide.

By:

• developing innovative and interdisciplinary methodologies,
• providing culturally sensitive and respectful facilitation,
• promoting global partnerships and collaborations, and
• fostering ex situ contributions to species conservation,

CBSG transforms passion for wildlife into effective conservation.
This past year marked the end of the IUCN Species Survival Commission’s (SSC) 2009-2012 quadrennium. As a Specialist Group within the SSC, CBSG was privileged to be a part of a number of inspiring quadrennial events. A highlight was the World Conservation Congress in Jeju, South Korea, where Simon Stuart was re-elected to lead the SSC and where the Species Strategic Plan was adopted. This plan maps the SSC’s role in achieving the globally recognized Aichi Targets, set in 2010 at the Convention on Biodiversity conference, and will guide CBSG’s work for the next four years.

The next two quadrennia will be defining for us, as they align with the eight years remaining in the Decade of Biodiversity—the time set for achieving the Aichi targets. There are several targets to which CBSG is committed to contributing, but none is as central to our mission as Target 12: By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained. The work described in this Annual Report illustrates this commitment.

One example is CBSG’s One Plan approach to species conservation planning: the development of management strategies and conservation actions by all responsible parties for all populations of a species, whether inside or outside their natural range. We are actively promoting this approach so that resulting integrated conservation plans benefit from the full suite of tools available to ensure the future of threatened species in the wild.

Target 12 cannot be achieved unless the grave threat of climate change is urgently addressed. Climate change is undermining our conservation efforts as well as putting species not previously considered threatened at risk of extinction. Reports from the Intergovernmental Panel on Climate Change and a recently published paper by Foden et al. confirm this and acknowledge that reducing greenhouse emissions will reduce climate change-driven extinctions. CBSG has responded to this crisis with an initiative (see p.10-11) to engage the zoo and aquarium community in sending a strong message to the world’s leaders to enact policy to get and keep atmospheric levels of CO₂ back to a “safe” 350 ppm. One powerful component to this movement is divestment from fossil fuel companies. Specifically, we are asking zoos and aquariums to move money that is currently invested in the fossil fuel industry and reinvest it in companies that reflect their conservation mission. CBSG has committed to divesting the reserve funds of our non-profit support entity, the Global Conservation Network, and we encourage zoos and aquariums worldwide to participate in the movement by joining us in this and a variety of other meaningful activities.

It’s clear that we are facing daunting challenges. The SSC’s Strategic Plan and the Aichi Targets provide us a broad framework for action. CBSG’s responsibility is to remain focused on our mission of species conservation while reflecting the sense of urgency these challenges demand. I believe that as individuals our task is the same: to dedicate ourselves to doing what we can to ensure a livable future for all the species that share this planet. And, as Bill McKibben, founder of 350.org, says, what could be more rewarding than knowing that you are doing every day the most important work there is to do?

Thank you for your continued commitment to CBSG and to the future of our planet and all the species with which we share it.

Dr. Onnie Byers, Chair
WHAT WE DO

CBSG provides species conservation planning expertise to governments, Specialist Groups, zoos and aquariums, and other wildlife organizations.

Using expert facilitation and the application of science-based planning tools, CBSG works collaboratively to save endangered species by increasing the effectiveness of species conservation efforts worldwide.
CONFRONTING A NEW THREAT TO WESTERN POND TURTLES

Western Pond Turtle Facts
- Turtle hatchlings leave the nest when they are about 20-25mm long, leaving them prone to predation.
- A head-start program keeps young pond turtles in controlled conditions until they are large enough to avoid predation. While this process may take two to three years in the wild, growth is much faster in the captive environment.
- Western pond turtles are long lived (40+ years) and reproduce slowly. Losing an adult means a loss of as many as 30 years of hatchling production.

"With today’s significant financial and time constraints on staff, the PHVA provided an especially efficient method for reaching consensus on prioritized, needed strategic actions." —Fred Koontz, Seattle’s Woodland Park Zoo

The Situation
Habitat fragmentation and voracious predation by invasive bullfrogs have dramatically reduced the abundance of western pond turtles (Actinemys marmorata) throughout their range from Washington’s Puget Sound to the northern reaches of the Baja California peninsula. For more than 20 years, local zoos have implemented a head-start program in which wild turtle eggs are brought into controlled conditions and the hatchlings are reared over winter. They are returned to the wild when they are large enough to escape hungry bullfrogs. More recently, a new danger has emerged in both wild and zoo environments: a potentially fatal disease that damages the shell of adult turtles.

The Process
At the invitation of the Recovery Team coordinating conservation activities in Washington, CBSG facilitated a PHVA workshop for the state’s western pond turtle population. Key objectives for the workshop included an evaluation of the current status of both the species and the conservation program, as well as a clarification of the state Recovery Team’s future research and management agenda. Workshop participants created a detailed “threat map” of the diverse biological and institutional challenges to species conservation. Analysis of detailed demographic simulation models via a population viability analysis (PVA) revealed the critical importance of adult survivorship to long-term species viability.

The Results
A number of key management actions were identified and prioritized through the PHVA process. The results of the population viability simulation modeling reinforced the importance of mitigating the threat of hatchling predation by invasive bullfrogs. Moreover, the PVA results emphasizing the importance of adult survivorship stimulated the group to begin urgently coordinating a research program to evaluate the epidemiology, prevalence, and impacts of the emerging ulcerative shell disease. The workshop discussion highlighted the need for improved information sharing among stakeholders, resulting in the formation of a set of thematic subgroups to address research questions and management recommendations.
The wattled crane (Bugeranus carunculatus) is an IUCN globally Vulnerable species with a rapidly declining population. In South Africa, the species is considered nationally Critically Endangered, having undergone dramatic declines in both numbers and range. Isolated from larger populations further north in Africa, the South African population currently consists of about 260 birds restricted mainly to the province of KwaZulu Natal. This long-lived and slow-breeding species has suffered extensively from loss of key wetland nesting habitat, poisoning, and power line collisions. CBSG has supported wattled crane conservation since our first involvement in 2000 by conducting a PHVA workshop for wattled cranes in South Africa.

The Process
The 2000 PHVA resulted in the formation of the Wattled Crane Recovery Programme (WCRP), a coalition of five partners from the in situ and ex situ communities dedicated to conserving this species in South Africa. WCRP partners include Ezemvelo KwaZulu Natal (eKZN) Wildlife, Endangered Wildlife Trust, Johannesburg City Parks and Zoo, the African Association of Zoos and Aquaria (PAAZAB), and eKZN Crane Foundation. Considerable conservation progress led to a PHVA review in 2009 and a WCRP meeting in 2012 to document progress and focus on future priorities, including translocation techniques. CBSG Southern Africa continues to support the work of the WCRP and of the PAAZAB conservation breeding program (APP).

Wattled Crane Facts
- Wattled cranes are principally threatened by loss and degradation of their wetland habitat due to agriculture, industrialization, and overgrazing by domestic animals.
- Though most wattled crane pairs lay only a single egg, sometimes females lay a second egg, which is subsequently abandoned.
- An annual aerial survey monitors all wattled crane nests in South Africa and identifies pairs that have laid two eggs. Second eggs from these nests may be candidates for raising in captivity.
- Conservation translocations of wattled cranes are planned to begin in 2014/15 to reinforce the wild population.

The Results
Since the PHVA, the WCRP has steadily built an ex situ population of wattled cranes by harvesting, incubating, and rearing “doomed” second eggs from wild nests (which only fledge a single chick) to provide birds for the conservation breeding program. This captive flock, now numbering 44 birds, is managed by the PAAZAB APP and is designed as a source population for releases into the wild. In 2013, the WCRP defined the goals of the reinforcement program for the KwaZulu Natal wattled crane population. These specific goals will help direct further actions as part of an integrated One Plan approach to conservation planning for this species.

“The ongoing support and expertise of CBSG has been invaluable in moving wattled crane conservation forward in South Africa, from organizing the original PHVA 13 years ago right through to the development of the PAAZAB APP earlier this year.” —Stephen van der Spuy, African Association of Zoos and Aquaria (PAAZAB)
The picturesque island of Puerto Rico is home to the endemic yellow-shouldered blackbird, once considered common in both the mountainous interior and low-lying coastal areas. Since the 1940s, however, the species has declined in abundance by more than 80% and is mostly restricted to coastal mangrove habitat in the southwestern corner of the island. A major factor in this decline was the arrival of the invasive shiny cowbird—a prolific breeder that lays its eggs in the nests of other species, “tricking” the surrogate parents to raise cowbird chicks to fledging at the expense of their own reproductive success.  

### Blackbird and Cowbird Facts  
- Yellow-shouldered blackbirds are threatened by the invasive shiny cowbird, along with other invasive species such as rats, mongoose, domestic cats, and possibly green iguanas, boas, and rhesus monkeys.  
- The shiny cowbird is an obligate nest parasite, targeting more than 200 host species throughout its range. These birds lower the reproductive output of their host by egg stealing and egg puncturing.  
- Over 200 artificial nest structures have been placed in blackbird mangrove habitat. Nests are monitored during breeding season and any invasive cowbird eggs are removed.  
- Blackbirds lay bluish eggs (about three per clutch), while shiny cowbird eggs are speckled brown.

### The Results  
The metamodel allowed an evaluation of cowbird management as well as blackbird management as tools to increase blackbird viability. In addition to the threat posed by cowbirds, PHVA participants identified climatic factors, human activities, and other species interactions that jeopardize blackbird populations. Management actions were identified to improve blackbird reproductive success, reduce mortality, and reduce the impact of cowbirds and other invasive species. Many of these actions are scheduled for implementation by the next breeding season. Development of the two-species metamodel will continue, and will be used as part of an adaptive management strategy for these two species, and others, in the future.
COLLABORATING FOR CONSERVATION IN DJIBOUTI

Djibouti Wildlife Facts

- Eleven Djiboutian species needing urgent conservation action include the Djibouti francolin (Francolinus ochropectus), Somali wild ass (Equus africanus somaliensis), Grevy’s zebra (Equus grevyi), gerenuk (Litocranius walleri), beira (Dorcatragus megalotis), beisa oryx (Oryx beisa), Soemmering’s gazelle (Nanger soemmeringii), Pelzeln’s gazelle (Gazella dorcas pelzelnii), Salt’s dik-dik (Madoqua saltiana), leopard (Panthera pardus), and cheetah (Acinonyx jubatus).

- These focal workshop species were selected based on existing conservation, education, or research programs; existing protected areas; and cultural, economic, political, or social impact for these species in Djibouti.

Djibouti Facts

“The Government of Djibouti would be honored if CBSG Europe could accept this task (of planning and conducting the workshop) which is, in our view, fundamental for the conservation of the high biodiversity of our country and helping us to improve our management plans for these species.” —H.E. Moussa Ahmed Hassan, Ministry in charge of Environment of the Djiboutian Republic

The Situation

Djibouti has a diverse arid land fauna that is threatened by deforestation, overgrazing by domestic animals, and lack of awareness about the importance of biodiversity. Additionally, a number of specific threats target individual taxa. A conservation planning workshop was conducted at the invitation of the Minister of Housing, Urbanism and Environment of Djibouti with the purpose of developing a conservation action plan for selected land animals of Djibouti and generating awareness of the need for nature conservation in Djibouti in general. The French ZooParc de Beauval has been involved in conservation activities in Djibouti for several years and was the driving force in getting this workshop off the ground.

The Process

CBSG Europe joined forces with CBSG Brasil and began the planning process by inviting relevant IUCN SSC Specialist Groups to participate. Subsequent planning was done in close cooperation with the Antelope, Equid, and Galliform Specialist Groups, and was assisted by the SSC Species Conservation Planning Sub-Committee and DECAN, a local NGO. The workshop was adapted to fit the format described in the IUCN Strategic Planning for Species Conservation Handbook (2008). The workshop focused on 11 key land animals and benefited from the expertise and collaboration of several Specialist Groups and multiple stakeholders.

The Results

The participants developed a vision for conservation in the region: Djibouti’s rich natural heritage, particularly species of global, regional, and national importance and their ecosystems, are conserved and their resilience enhanced, thus serving as a model for sustainable development in the Horn of Africa. The participation of a diverse range of key stakeholders, including governmental representatives, representatives from local NGOs, and relevant international participants, resulted in the joint development of the first conservation action plan for selected land animals in Djibouti. In April 2013, the final report in both French and English was given to the Djiboutian Government for implementation.
**EXPLORING STRATEGIES TO SAVE EASTERN BARRED BANDICOOTS**

**Eastern Barred Bandicoot Facts**
- The last known wild population of eastern barred bandicoots on mainland Australia was discovered among wrecked cars at the Hamilton tip in western Victoria.
- The Tasmanian subspecies is still widespread due to the absence of predatory foxes on that island.
- This species has one of the shortest gestations known for any mammal: only 12.5 days.
- In favorable conditions, females may produce up to four litters per year, each containing two or three young.

“The eastern barred bandicoot is a priority species in Zoos Victoria’s Fighting Extinction program. The recovery program involves government wildlife and land management departments, universities, zoos, and NGOs. The results from the workshop coordinated by CBSG will directly inform translocation strategies designed to recover wild populations of this amazing creature.” —Marissa Parrott, Zoos Victoria

**The Situation**
Once widespread in western Victoria, the eastern barred bandicoot (*Perameles gunnii*) went extinct on mainland Australia due to a range of factors, principally habitat loss and predation by introduced red foxes. An ex situ breeding program coordinated by Zoos Victoria provides a source of animals for reintroduction. Despite multiple reintroduction attempts at eight separate sites, only two sites are known still to contain bandicoots. Inappropriate site management resulting in failure to exclude foxes from bandicoot recovery areas has been the major contributing factor in failed reintroduction attempts. Drawing from past experiences, Zoos Victoria and the Recovery Team are collaborating to establish a viable meta-population of bandicoots across a collection of wild sites.

**The Process**
In 2012, CBSG conducted a PVA workshop for this species hosted by Zoos Victoria in Melbourne, Australia. **Vortex** simulation models were used to examine the numbers of individuals and supplementation regimes required to achieve demographic stability and maintain genetic diversity at wild sites. The workshop brought together members of the Recovery Team, captive management specialists, and scientists researching aspects of bandicoot biology. An important topic of discussion was the environmental variation at current and potential release sites. This variation includes periodic fire, flood, drought, and invasive predator (red fox) incursion, each potentially reducing population viability.

**The Results**
The models illustrated the volatility of bandicoot populations, showing their capacity for rapid growth but also rapid and regular decline. A management implication of this is that sites will need to be large to avoid local extinction. Even at large sites, the presence of cats and the associated disease risk (*toxoplasmosis*) may substantially undermine reintroduction attempts and necessitate periodic supplementation from other populations, captive or wild. Since the workshop, new data have been gathered on carrying capacities at current and potential release sites to inform a subsequent round of modeling. The results are being used to directly inform decision making to conserve this species.
IDENTIFYING ACTIONS FOR RIVER TURTLE CONSERVATION

Central American River Turtle Facts

- Genetic and archaeological evidence indicates that this river turtle species was harvested and transported by the ancient Mayans, suggesting that this species has economic significance that dates back thousands of years.
- The sex of young turtles is determined by the egg incubation temperature. Incubation above 28°C produces all female hatchlings, while 25-27°C incubation leads to males. Loss of riverbank vegetation and climate change may alter sex ratios in the wild.
- River turtles have been so overharvested that they now can only be found in remote areas that are difficult for people to access.

“The workshop contributed to consolidate the group that is participating in the Central American river turtle conservation efforts. On the other hand, the workshop was a great opportunity to collectively identify future strategies and actions for the turtle’s conservation.” – Stefan Arriaga Weiss, Universidad Juarez Autonoma de Tabasco

The Situation

The Central American river turtle (Dermatemys mawii) is an aquatic species found in lakes and deep rivers of the Atlantic lowlands of southeastern Mexico, Belize, and northern Guatemala. This Critically Endangered turtle faces threats that increasingly reduce the viability of its populations and put the species at high risk of extinction. The principle threat is intensive harvesting for human consumption, but it is also affected by habitat loss due to human activities related to agriculture and urban growth. Harvest of larger, more fecund adult females and changes in riverbank vegetation led to detrimental changes in population structure and growth.

The Process

At the invitation of the Universidad Juarez Autonoma de Tabasco, CBSG Mesoamerica and CBSG Mexico co-facilitated a PHVA workshop to develop a conservation strategy for this species to guide the university, the Tabasco Government, and other stakeholders in their conservation efforts. Participants included researchers, government agencies, NGOs, and turtle “ranchers” that manage commercial ex situ turtle populations called UMAs. Workshop discussions included strategies for periodic genetic exchange of turtles among UMAs and management options to address skewed sex ratios. UMA populations may serve both as assurance populations against species extinction as well as a potential legal source of turtle meat to alleviate pressure on wild turtles.

The Results

The PHVA generated increased information about wild turtle populations and led to recommended conservation actions that were incorporated into turtle conservation programs in Mexico and informed similar efforts in Guatemala. Claudia Zenteno, head researcher of the Central American turtle conservation program in Tabasco, was appointed as the State of Tabasco’s Secretary of Natural Resources and Environmental Protection in January 2013. From that position, Claudia is boosting actions that are part of the Conservation Strategy, the workshop’s main product. The inclusion of the UMA turtle ranchers in the PHVA process supported a One Plan approach to conservation planning for this species.
ADDRESSING CLIMATE CHANGE HEAD ON

The effects of climate change, such as ocean acidification, changing global temperatures, and sea level rise, pose many challenges to species conservation efforts. At the 2012 CBSG Annual Meeting, the CBSG community declared our understanding of the urgency of this threat, and called for a movement leading to government action that results in returning atmospheric concentration levels of CO₂ to a “safe” 350 ppm.

This call to action manifests itself in several ways, and the diverse skill set of CBSG’s global network enables us to contend with the issue on different levels. This includes pursuing initiatives that address the root causes of human-induced climate change, as well as those that broaden understanding of the effects of that change on species, habitats, and ecosystems.

Adapting our tools and processes to reflect the reality of current and future changes to climate, habitats, and species themselves is one of the ways CBSG can uniquely contribute to the growing pool of information about climate change. CBSG’s PHVA process is a key evaluation tool for clarifying likely impacts based on realistic emissions trajectories and defining actions necessary for addressing these threats. To expand capacity in this area, a working group of experts is delving into the details and challenges of performing robust PHVA-like workshops at a system level on major natural regions (e.g., Amazon and Himalayas) and urban centers (e.g., New York City and other major cities).

Additionally, metamodeling tools provide unique capabilities for detailed analysis of multi-species interactions by linking multiple models of specific biological processes, such as population dynamics, disease distribution, and animal movement. The relationship between disappearing sea ice in the Arctic and ringed seal populations, and the resulting effects on polar bears have been selected as an ideal test case for the use of metamodeling for climate change impacts. CBSG’s Science Advisor, Robert Lacy of the Chicago Zoological Society, and Kit Kovacs and colleagues at the Norwegian Polar...
Institute (Tromsø, Norway), in collaboration with the SSC Climate Change Working Group (CCWG) and the Pinniped and Polar Bear Specialist Groups, will convene in late 2013 to build preliminary models of the effects of changes in sea ice on ringed seals and the resulting implications for polar bear populations.

In addition to these tool development initiatives, CBSG is bringing to our community a movement that gets to the heart of the problem: that in order to return atmospheric levels of CO₂ back to 3.50 ppm and keep them there, the root cause of human-induced climate change must be addressed—that is, humanity’s dependence on fossil fuels. Many zoos and aquariums are already leaders in sustainability and climate change communication, and CBSG sees an opportunity for these conservation organizations to join a growing movement in moving past dirty energy to a clean, renewable energy future.

The movement includes greening infrastructure by making our institutions more energy efficient, greening investment portfolios through socially responsible investment that excludes fossil fuels, and practicing clear communication about the issue of climate change and the threats it poses to biodiversity. CBSG will create dynamic materials inviting zoos and aquariums worldwide to join this movement by participating in a variety of ways, and initiate collaboration and communication among these organizations.

In 2013, we will dedicate our Annual Meeting to focusing the energy of the CBSG community on brainstorming creative solutions to address the growing threat of climate change. By tapping into the incredible diversity within our global network, we believe that CBSG will be a source of action and hope for a better future for all living things.
As human beings, we are inextricably connected to and dependent on nature for our well-being and survival. Yet human activities are often the direct cause of threats to wild species and habitats. Conserving our planet’s biodiversity requires understanding which of our activities do harm and developing and implementing sustainable practices and behaviors that will benefit both human populations and the nature that surrounds them.

CBSG’s approach to endangered species conservation planning already takes the human element into account by explicitly including a variety of stakeholders in planning workshops that use stakeholders’ knowledge and expertise to create effective solutions for species conservation. However, we need to expand our thinking to further include the human behavioral element and to develop increasingly comprehensive, community-based conservation plans while remaining true to our trademark focus on rigorous quantitative scientific analysis.

To help us achieve this goal, we have initiated a partnership with Rare, a U.S.-based nonprofit organization that emphasizes social change in its global biodiversity conservation programs. Rare takes into account human needs and behavior, beliefs about nature, and local pride to better understand communities with the greatest stake in conserving a species or area. Staff at Rare use expertise in social marketing to create a “Theory of Change” that seeks to identify how raising awareness and shifting attitudes can facilitate behavioral change for the benefit of local communities and biodiversity. However, implementing this theory on the ground requires a practical prediction of the types of behaviors, and...
the magnitude of change in those behaviors, that are necessary to see a positive outcome for the future of an endangered species.

We believe that CBSG can bring additional quantitative rigor to Rare’s work through our respected approach to population viability analysis and use of predictive modeling tools like Vortex. CBSG is working with Rare and their partners to assemble information on how specific human behaviors impact a local target population of a threatened species. The resulting models will be used to predict the fate of the target population in the absence of management intervention, and then management options will be tested to identify the best course of action.

We plan to explore complex questions around how knowledge, attitudes, and communication must develop in order to influence human behavioral change—change that is beneficial to local biodiversity while respecting the norms and needs of associated human communities.

This collaboration will benefit each of our organizations, bringing a new element of rigorous biological analysis to Rare’s work, and providing a new way to incorporate the human element of conservation planning into CBSG processes. We hope this partnership will result in practical recommendations for communities around the world to sustainably coexist with the species with which we share this planet.
2012 PHVA AND SPECIES CONSERVATION PLANNING WORKSHOPS AND SPONSORS

African Penguin Conservation Planning, South Africa
Southern African Foundation for the Conservation of Coastal Birds (SANCCOB)

AZA Felid Taxon Advisory Group (TAG) Annual Meeting, USA
AZA Felid Taxon Advisory Group

AZA Tiger Species Survival Plan (SSP) Masterplanning, USA
Minnesota Zoo Foundation

Central American River Turtle PHVA, Mexico
Protección Ambiental del Gobierno del Estado de Tabasco ECODET, A.C. (Ecología y Desarrollo de Tabasco, Asociación Civil); Secretaría de Recursos Naturales; Universidad Juarez Autonoma de Tabasco

Conserving Djibouti’s Priority Land Animals – A Seminar and Conservation Workshop, Djibouti
AAB (Atelier Artistique du Béton); Association Beauval Conservation & Recherche; Association DECAN; Copenhagen Zoo; Fota Wildlife Park; IUCN SSC Antelope Specialist Group; IUCN SSC Equid Specialist Group; IUCN SSC Galliform Specialist Group; IUCN SSC Species Conservation Planning Sub-Committee; La Boissière du Doré; Ministry of Housing, Urbanism and Environment, Djibouti; Parc Zoologique CERZA; Zoo de la Palmyre; ZooParc de Beauval; Zoological Society of London

Developing a Conservation Plan for Horned Guan, Mexico
Comisión Nacional de Áreas Naturales Protegidas México; Fundación Protectora de Animales en Vías de Extinción

Eastern Barred Bandicoot PVA, Australia
Zoos Victoria

Follow-up of the Freshwater Assessments in the Western Ghats – Brainstorming Meeting, India
Critical Ecosystem Partnership Fund

Free-Roaming Cat Model Development Team Meeting, USA
The American Society for Prevention of Cruelty to Animals (ASPCA)

Giant Panda Annual Conference and Technical Meeting, China
Smithsonian Conservation Biology Institute

Harpy Eagle PVA, Brazil
CBSG Brasil

Mesoamerican Reptiles IUCN Assessment, Costa Rica
FUNDAZO; NatureServe (through funding provided by the National Science Foundation, USA); Organization for Tropical Studies

Northern Jaguar Recovery Planning (2 meetings), USA
Northern Jaguar Project; US Fish and Wildlife Service

Red Panda Global Captive Masterplanning, Netherlands
Rotterdam Zoo

Red Pandas in China PHVA Workshop, China
Calgary Zoological Society; Chester Zoo – Act for Wildlife; Chinese Academy of Sciences; EAZA zoos; Ocean Park Conservation Foundation, Hong Kong; Red Panda Network; Rotterdam Zoo; San Diego Zoo Global; Worldwide Fund for Nature (WWF)

Rhino Dialogue Meeting, South Africa
Department of Environmental Affairs (South African Government)

Rio Grande Silvery Minnow Technical Meetings (3 meetings), USA
Middle Rio Grande Endangered Species Collaborative Program

Samango Monkey Working Group Meeting, South Africa
National Zoological Gardens of South Africa

Scimitar-Horned Oryx Conservation Planning, Chad
Addax and Oryx Foundation; Al Ain Zoo; Convention on Migratory Species; Mohamed bin Zayed Species Conservation Fund; Sahara Conservation Fund; Saint Louis Zoo

South China Tiger Scientific Committee Masterplanning, China
CAZG

Southern Ground Hornbill APP Meeting, South Africa
National Zoological Gardens of South Africa; PAAZAB

Southern Ground Hornbill Conservation Meeting, South Africa
Mabula

Spix’s Macaw PVA, Brazil
Fundo Vale; Instituto Chico Mendes de Conservação da Biodiversidade (ICMBio)

Wattled Crane Recovery Program Meeting, South Africa
Johannesburg Zoo; KwaZulu Natal Crane Foundation

WAZA Sumatran Tiger Global Species Management Plan (GSMP) Meeting, Australia
Zoological Society of London

Western Ghats Freshwater Biodiversity Conservation Teaching Workshop, India
Critical Ecosystem Partnership Fund

Western Pond Turtle PHVA, USA
Woodland Park Zoo

Yellow-Shouldered Blackbird – Shiny Cowbird PVA (2 Meetings) and PHVA, Puerto Rico
US Department of Agriculture, Animal & Plant Health Inspection Service
PHVA and Species Conservation Planning
Using CBSG’s structured tools for issue formulation and problem solving across a broad range of disciplines, stakeholders collaborate in development of effective recommendations for species conservation action, including the identification of personal responsibilities and timelines to ensure that the recommendations become reality. Our Population and Habitat Viability Assessment (PHVA) process combines this approach with traditional population viability analysis (PVA) methodologies to enhance both the process and product of the species conservation planning workshop. CBSG also assists with planning for intensively managed populations, including ex situ masterplans.

In 2012, CBSG led, co-led, or provided analysis for 33 PHVA and Species Conservation Planning Workshops on 519 species in 12 countries, involving a total of 972 people from 570 organizations.

Training in Conservation Techniques
CBSG offers training courses in a variety of skills that build capacity and promote effective conservation. Facilitation courses allow participants to hone their skills in structured decision making, communication, group dynamics, and conflict resolution. Courses in risk assessment and modeling provide an overview of population biology and conservation planning, focusing on the use of simulation methods for evaluating extinction risk under various management strategies. Training is also available in ex situ population management principles, techniques, and software. Other types of conservation-related training courses are offered periodically to meet the specific needs of organizations or regions.

In 2012, CBSG led or co-led 14 Training Workshops in 9 countries, involving a total of 315 people from 152 organizations.

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2012 TRAINING WORKSHOPS AND SPONSORS

**Amphibian Veterinary Training, Ecuador**
Amphibian Ark; Brad Wilson; Centro Jambatu; Josie Lowman; PUCE; San Diego Zoo; Turner Family Foundation; University San Francisco de Quito; Zoo Atlanta; Zoofari

**Ex Situ Population Management Training, Taiwan**
Taipei Zoo

**Facilitation Skills for Conservation Managers, UK**
Durrell Wildlife Conservation Trust; International Rhino Foundation

**Getting Along with Elephants – Educator Training (2 meetings), India**
Asian Elephant Conservation Fund - US Fish and Wildlife Service

**Getting Along with Elephants – Educator Training, India**
International Elephant Foundation

**PMx Advanced Training, USA**
CBSG; Chicago Zoological Society; Toledo Zoo

**PMx/Population Management Training for JAZA, Japan**
JAZA; WAZA

**Rio Grande Silvery Minnow PVA Model Training, USA**
Middle Rio Grande Endangered Species Collaborative Program

**Taronga Conservation Society Australia Facilitation Training and Welfare Strategy Workshop, Australia**
Taronga Conservation Society Australia

**Taronga Conservation Society Australia Population Management Workshop, Australia**
Taronga Conservation Society Australia

**Veterinary Training for Health and Handling of Conflict Tigers, Indonesia**
Department for Environment, Food and Rural Affairs; Kementerian Kehutanan Republik Indonesia; Taman Safari Indonesia; Wildlife Vets International; Zoological Society of London

**VORTEX Population Modeling Training Course, Mexico**
CBSG; Protección Ambiental del Gobierno del Estado de Tabasco ECODET, A.C. (Ecología y Desarrollo de Tabasco, Asociación Civil); Secretaria de Recursos Naturales; Universidad Juarez Autonoma de Tabasco

**Zoos Victoria Small Population Management Training, Australia**
Zoos Victoria
2012 TOOL DEVELOPMENT WORKSHOPS AND SPONSORS

Metamodeling: Exploratory Analysis of Disease Modeling, Australia
National Science Foundation

NSF Metamodeling Steering Committee, Research Team Planning, USA
National Science Foundation

Tools for Genome Banking for Population Management Workshop, USA
CBSG; Saint Louis Zoo

Wildlife Disease Risk Analysis Workshop, Australia
Auckland Zoo; Australian Registry of Wildlife Health; CL Davis Foundation; Cybec Foundation; SeaWorld Adventure Park; Taronga Conservation Society Australia; University of Sydney

Wildlife Disease Risk Analysis Workshop, Chile
Auckland Zoo; Buin Zoo

2012 PLANNING WORKSHOPS FOR CONSERVATION ORGANIZATIONS AND SPONSORS

Capacity Building in Population Management Discussion, Denmark
Copenhagen Zoo

Institute for Conservation Medicine Strategic Planning, USA
Saint Louis Zoo

Regional Species Management Among Asian Zoos Conference, Taiwan
Taipei Zoo

Reintroduction Guidelines Task Force Meeting, UAE
Al Ain Zoo

Reintroduction Workshop, South Africa
National Zoological Gardens of South Africa; PAAZAB

Taronga Conservation Society Australia Zoo Bird Department: Planning Workshop, Australia
Taronga Conservation Society Australia

Tool Development

One of CBSG's most valuable and consistent strengths is in development and application of a variety of tools designed to help conservation professionals manage biodiversity. These tools can range from quantitative simulation software rooted in the science of population biology and decision analysis, to sophisticated facilitation techniques intended to identify levels of agreement across alternative conservation strategies among diverse stakeholder groups. We are committed to evaluating and improving the contents of our “conservation toolkit.” In addition, collaborating with other conservation organizations gives us access and exposure to new tools that can help us broaden our capabilities and increase our effectiveness.

In 2012, CBSG led or co-led 5 meetings expressly devoted to Tool Development in 3 countries involving 106 people from 83 organizations.

Planning for Conservation Organizations

CBSG works with conservation organizations, including wildlife agencies, zoological parks, associations of conservation professionals, and similar groups to develop plans for conservation action. From strategic planning for national wildlife refuges to developing zoo conservation master plans, CBSG leads stakeholders from the establishment of a vision through the exploration of issues and the development of goals to cultivate a conservation culture and to guide future actions.

In 2012, CBSG was involved in 6 Planning Workshops for Conservation Organizations in 6 countries, involving a total of 160 people from 73 organizations.
2012 SPONSORS OF CBSG CONFERENCE PARTICIPATION

African Association of Zoos & Aquaria (PAAZAB) Annual Meeting, South Africa
Cango Wildlife Ranch; PAAZAB

Alliance for Contraception in Cats and Dogs – Executive Meetings, USA
The American Society for Prevention of Cruelty to Animals (ASPCA)

CBSG Strategic Committee Midyear Meeting, Argentina
CBSG

Conservation Centers for Species Survival (C2S2) Annual Meeting, USA
CBSG

ISIS Board Meeting, Argentina
CBSG

IUCN World Conservation Congress, Korea
IUCN SSC

MAC Meeting, Australia
Tasmanian Department of Primary Industries, Water and Environment

Species Conservation Planning Sub-Committee Meeting, UAE
Species Conservation Planning Sub-Committee

SSC Specialist Group Chairs Meeting, UAE
Environment Agency Abu Dhabi; SSC

SSC Steering Committee Meeting, UAE
IUCN SSC

Structured Decision Making Process Training, USA
US Fish and Wildlife Service

Structured Decision Making Training and Mala Conservation Planning Workshop, Australia
Mala Recovery Team

Symposium on Milu Conservation Meeting, China
Chinese Academy of Sciences

The Human-Animal Relationship: Positive Emotional Enrichment for Zoo and Aquarium Animals, USA
Louis Dorfman

WAZA Annual Conference, Australia
CBSG

WAZA Committee for Population Management, Australia
CBSG

Workshop to Assess Health Management Strategies for Captive Orangutans, USA
Fort Worth Zoo

XVI Congress of the Mesoamerican Society for Biology and Conservation, Panama
Universidad Juarez Autonoma de Tabasco
ABOUT CBSG

The Conservation Breeding Specialist Group (CBSG) is a global volunteer network of over 300 conservation professionals, coordinated by a headquarters staff of five and assisted by 10 Regional and National Networks on six continents. This network is dedicated to saving threatened species through conservation planning. CBSG is recognized and respected for its use of innovative, scientifically sound, collaborative processes that bring together people with diverse perspectives and knowledge to catalyze positive conservation change. CBSG is a Specialist Group of the Species Survival Commission of the International Union for Conservation of Nature, and is supported by a non-profit organization incorporated under the name Global Conservation Network.

History

Since its inception in 1979, CBSG has assisted in the development of conservation plans involving over 240 species through more than 500 workshops held in 67 countries. CBSG has collaborated with more than 190 zoos and aquariums, 180 conservation non-governmental organizations (NGOs), 65 universities, 50 government agencies, and 35 corporations. By applying unique conservation tools and training others in their use, CBSG contributes to the long-term sustainability of endangered species and ecosystems around the globe.

Our Approach to Conservation

CBSG promotes effective and comprehensive conservation action by emphasizing the exchange of information across diverse groups to reach agreement on the important challenges facing humans and wildlife. Our interactive, participatory conservation planning workshops provide an objective environment, expert knowledge, and thoughtful group facilitation designed to systematically analyze problems and develop focused solutions using sound scientific principles. This process enables workshop participants to produce meaningful and practical management recommendations that generate political and social support for conservation action at all levels, from local communities to national political authorities. Rapid dissemination of these recommendations allows them to be used almost immediately to influence stakeholders and decision-makers, and maintains the momentum generated at the workshop.

www.iucn.org

The International Union for Conservation of Nature (IUCN) brings together states, government agencies, and a diverse range of non-governmental organizations in a unique world partnership that seeks to influence, encourage and assist societies throughout the world in conserving the integrity and diversity of nature and to ensure that any use of natural resources is equitable and ecologically sustainable.

http://iucn.org/about/work/programmes/species/who_we_are/about_the_species_survival_commission/

The Species Survival Commission is the largest of IUCN’s six volunteer Commissions, with a global membership of 8,000 experts. SSC advises IUCN and its members on the wide range of technical and scientific aspects of species conservation and is dedicated to securing a future for biodiversity.
Ulysses Seal’s great passion and talent was his creative thinking about how new science could be most effectively applied to solving the problems of wildlife conservation. His contributions were amplified many times over by his further ability to recognize, encourage, and collaborate with others who were also making such innovative contributions. Fittingly, CBSG has chosen to honor Ulie, the founder and first Chair of CBSG, by creating the Ulysses S. Seal Award for Innovation in Conservation.

The 2012 Ulysses S. Seal Award for Innovation in Conservation was presented to Robert Lacy – Senior Conservation Scientist for the Chicago Zoological Society (CZS), past Chair of CBSG, and current CBSG Science Advisor. In his long and productive career, Bob has explored many aspects of population biology and developed scientific principles, data analysis techniques, and modeling tools, all with profound implications for the management of threatened species.

In 1988, Bob created Vortex, the most widely used population viability analysis (PVA) software in the world and the program that has served as the backbone of CBSG’s PHVA workshops for over 20 years. For many years since, Bob has expanded population models to incorporate additional factors and increasing complexity. The result is the development of MetaModel Manager, a revolutionary approach to species risk assessment and addressing biologically complex processes.

As Chair of CBSG, Bob redoubled CBSG’s commitment to the zoo and aquarium community. Now, as CBSG’s Science Advisor and Conservation Scientist for CZS, he is uniquely positioned to help bridge the narrowing gaps in knowledge, tools, and collaboration in order to more effectively meet the challenges of conserving biodiversity.

Bob’s heartfelt reward for his work is the conservation of species in the wild, living without risk of extinction. Because of his truly innovative, game-changing contributions and his role as a mentor to so many, Bob’s impact on effective conservation will continue long into the future.

Ulysses S. Seal Award Winners

2012 Robert Lacy, Chicago Zoological Society, USA
2011 William Conway, Wildlife Conservation Society, USA
2010 Gordon McGregor Reid, Chester Zoo, UK
2009 Lena Lindén, Nordens Ark, Sweden
2008 Sally Walker, Zoo Outreach Organisation, India
2007 Paul Pearce-Kelly, Zoological Society of London, UK
2006 Jonathan Ballou, Smithsonian National Zoological Park, USA
2005 Georgina Mace, Natural Environment Research Council (NERC) Centre for Population Biology, Imperial College, London, UK
2004 Frances Westley, University of Waterloo, Canada
2003 Nathan Flesness, International Species Information System, USA
CBSG DONORS

$25,000 and above

$20,000 and above

$15,000 and above

$10,000 and above

Dallas World Aquarium*
Houston Zoo*
Taronga Conservation Society Australia
Zoo Leipzig*

$5,000 and above

Al Ain Wildlife Park & Resort
Auckland Zoological Park
British and Irish Association of Zoos and Aquariums (BIAZA)
Cleveland Metroparks Zoo
Nordens Ark*
Ocean Park Conservation Foundation, Hong Kong*
Perth Zoo*
Point Defiance Zoo & Aquarium
Sedgwick County Zoo
Smithsonian National Zoological Park
Toledo Zoo
Zoo Zurich*

$2,000 and above

Allwetterzoo Münster
Borås Djurpark*
Bristol Zoo Gardens
Cincinnati Zoo & Botanical Garden
Dickerson Park Zoo
Dublin Zoo
Gladys Porter Zoo
Japanese Association of Zoos & Aquariums (JAZA)
Laurie Bingaman Lackey
Linda Malek
Marwell Wildlife
Milwaukee County Zoo
North Carolina Zoological Park
Oregon Zoo
Paignton Zoo
Parco Natura Viva – Garda Zoological Park
Royal Zoological Society of Antwerp
San Francisco Zoo
Schönbrunner Tiergarten – Zoo Vienna
Swedish Association of Zoological Parks & Aquaria (SAZA)
Union of German Zoo Directors (VDZ)
Utah’s Hogle Zoo
Wassenaar Wildlife Breeding Centre
Wilhelma Zoo
Zoo Frankfurt
Zoologischer Garten Köln
Zoologischer Garten Rostock

$1,000 and above

Aalborg Zoo
African Safari Wildlife Park & International Animal Exchange, Inc.
Akron Zoological Park
Audubon Zoo
Anne Baker & Robert Lacy
Central Zoo Authority, India
Colchester Zoo
Detroit Zoological Society
Fort Wayne Children’s Zoo
Fota Wildlife Park
Fundación Parques Reunidos
Givskud Zoo
Kansas City Zoo
Los Angeles Zoo
Palm Beach Zoo at Dreher Park
Prudence P. Perry
Philadelphia Zoo
Rotterdam Zoo
Royal Zoological Society of Scotland – Edinburgh Zoo
San Antonio Zoo
Seoul Zoo
Taipei Zoo
The Living Desert
Thrigby Hall Wildlife Gardens
Woodland Park Zoo
Zoo and Aquarium Association (ZAA)
Zoological Society of Wales – Welsh Mountain Zoo

$500 and above

Abilene Zoological Gardens
Alice Springs Desert Park
Apenheul Primate Park
Ed Asper
Bantham Zoo
Mark Barone
Brandywine Zoo
Catswold Wildlife Park
Friends of the Rosamond Gifford Zoo
GaiaPark – Kerkrade Zoo
Kruununhovi Safari Park
Lisbon Zoo
Little Rock Zoo
Odense Zoo
Katey & Mike Pelican
Edward & Marie Ploka
Racine Zoological Society
Riverbanks Zoo & Garden
Tepelka Zoo
Wellington Zoo
Wildlife World Zoo & Aquarium
Zoo de la Palmyre

$250 and above

African Safari – France
ArizonaSonora Desert Museum
Bramble Park Zoo
David Taylor Zoo of Emporia
International Centre for Birds of Prey
Lee Richardson Zoo
Lincoln Park Zoo
Mohawk Fine Papers
Rolling Hills Wildlife Adventure
Sacramento Zoo
Safari de Pauagres
Tautphaus Park Zoo
Tokyo Zoological Park Society
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Darmstadt Zoo
Lincoln Children’s Zoo
Lion Country Safari
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Jacqueline Vlietstra

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Alameda Park Zoo
Parker Byers Schwarzkopf
Stiftung Foundation for Tropical Nature & Species Conservation

$10 and above

Travis Livieri

CBSG Regional Network Hosts
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Copenhagen Zoo
National Zoological Gardens of South Africa
Saint Louis Zoo
Taman Safari Indonesia
Zoo Outreach Organisation & WILD Zoofari Mexico

*Denotes Chair Sponsor
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Jonathan Wilcken  
Auckland Zoo, New Zealand

David Wildt  
Smithsonian Conservation Biology Institute, USA
The finances to support the work of CBSG and related species conservation activities are held and managed by the Global Conservation Network (GCN), a USA 501(c)3 not-for-profit organization. CBSG manages the financial aspects of Amphibian Ark (AArk) activities as part of our commitment to AArk’s success. GCN had an overall surplus of about US $4,500 for the year in 2012. Our unrestricted activity (general operations) accounted for an approximately US $34,600 increase, with a US $30,100 decrease related to restricted activity. As of December 31, 2012, we had an unrestricted net asset reserve of US $914,800, or sixteen months of operating expenses. Three components make up the temporarily restricted net asset reserve at year end: about US $480,100 is for CBSG Chair support; US $18,500 is for 2013 CBSG commitments; and US $61,000 is for 2013 AArk commitments. The information on this page was taken from the 2012 audit. Copies of the full audit can be obtained by contacting the CBSG office.
CBSG HEADQUARTERS STAFF

Onnie Byers
Chair

Philip Miller
Senior Program Officer

Kathy Traylor-Holzer
Senior Program Officer

Elizabeth Townsend
Finance Officer/Executive Assistant

Emily Wick
Communications and Technology Administrator

CBSG NETWORKS

Our Regional Networks take CBSG tools and principles deep into the local institutions of a region or country, allowing stakeholders to adapt our proven conservation techniques to meet their own unique needs. We believe that this freedom to shape a Network according to the needs of the culture, society, and services of the individual country is a requirement for successfully addressing the sheer magnitude of the problem of biodiversity loss on this planet, as well as the diversity in environment, culture and social systems, economic conditions, policy and governance, and philosophy in different countries and regions. CBSG network team members organize most of the activities local to their network and often assist with other CBSG activities around the world.

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CBSG

Co-Convenor: Richard Jakob-Hoff
Auckland Zoo

CBSG Brasil
Convenor: Arnaud Desbiez
Royal Zoological Society of Scotland

CBSG Europe
Convenor: Bengt Holst
Copenhagen Zoo

CBSG Indonesia
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Taman Safari Indonesia

CBSG Japan
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Ulysses S. Seal Award Photos:
Jim Schulz
Emily Wick

Success Story and Initiative Photos:
Western Pond Turtle photos p. 4: Ryan Hawk/Woodland Park Zoo
Wattled Crane photos p. 5: Mike Jordan
Yellow-Shouldered Blackbird photos, p. 6: Mike Morel, USFWS, and T Porrata-Doria
Djibouti photos, p. 7: Kristin Leus and Bengt Holst
Eastern Barred Bandicoot photos, p. 8: Zoos Victoria
River Turtle photos, p. 9: Universidad Juarez Autonoma de Tabasco and Kathy Traylor-Holzer
Climate Change Initiative, p. 10-11: Rebecca Spindler (sea turtle) and Kit M. Kovacs and Christian Lydersen, Norwegian Polar Institute (ringed seal)
Measuring the Impact of Human Behavior Initiative, p. 12-13: Phil Miller (workshop photo)

Special Acknowledgements

Linda Malek is a strategic planning, business development, and marketing specialist based in southern California. She currently donates her expertise to CBSG as we enhance stakeholder communication and increase targeted development efforts, and has directed EDG in the design of this Annual Report and other marketing and development tools.

Printing courtesy of B & G House of Printing, Inc.

Sustainability

We are proud to partner with Mohawk Fine Papers and B&G House of Printing in California to bring you our 2012 Annual Report. This report was printed on Mohawk Options Smooth Digital with i-Tone 100% PC White, which contains 100% PCW (post-consumer waste), FSC (Forest Stewardship Council) certified, and made with 100% Windpower. Only the exact number of Annual Reports required were printed.

Join us in our continuing efforts to reflect sustainability within our own organization by visiting the CBSG website and downloading the electronic version of the Annual Report.

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