

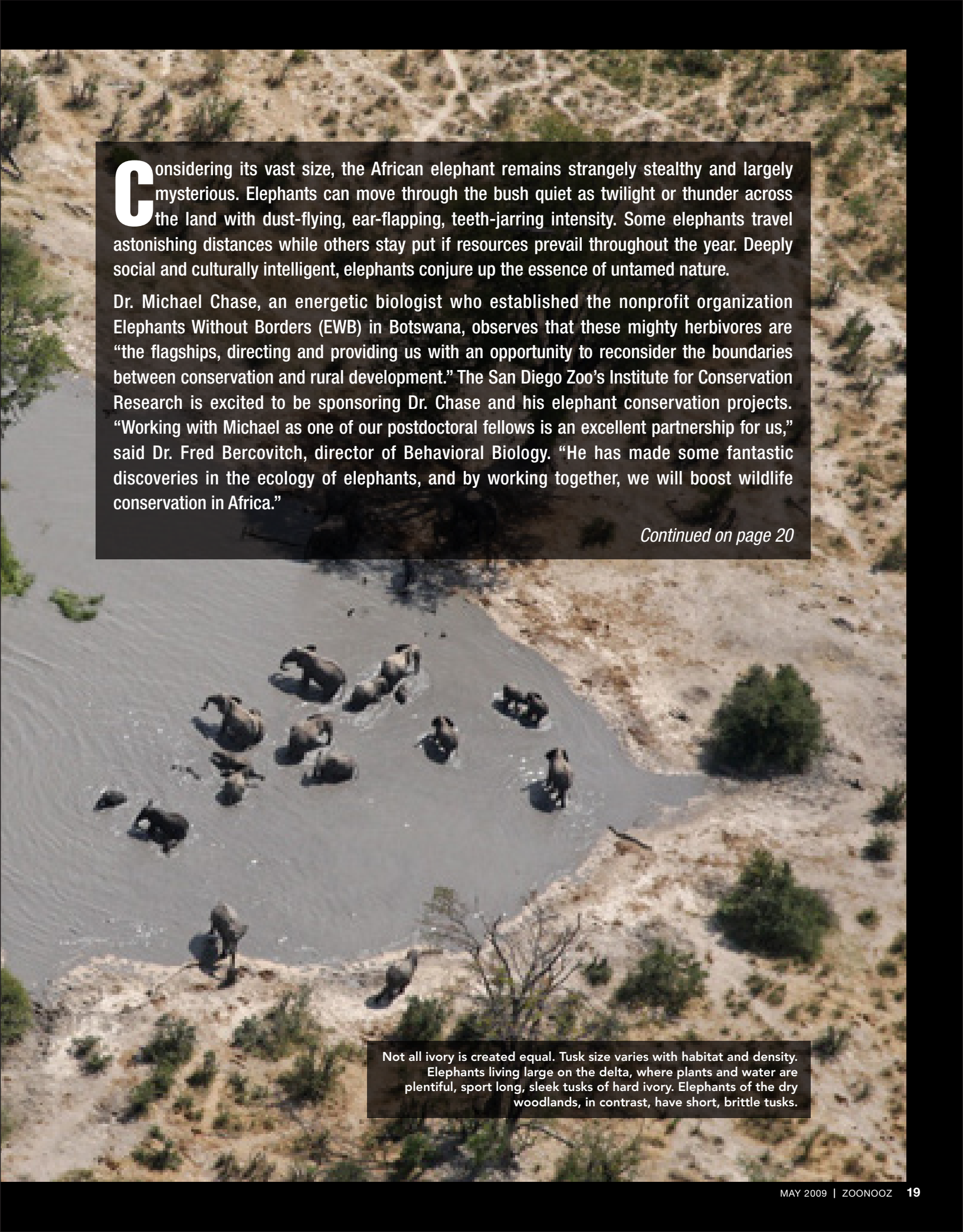
JUMBO CONSERVATION PROJECT SERVES CREATURES LARGE & SMALL

BY KARYL CARMIGNANI, Staff Writer

PHOTOS BY KELLY LANDEN, Elephants Without Borders

“*Dr. Michael Chase has made some fantastic discoveries in the ecology of elephants, and by working together, we will boost wildlife conservation in Africa.*”

Fred Bercovitch
*Director of Behavioral Biology,
San Diego Zoo's Institute for Conservation Research*

An aerial photograph showing a herd of elephants in a dry, dusty landscape. A small pool of water is visible in the center, where several elephants are gathered. The surrounding terrain is arid with sparse, dry vegetation. The text is overlaid on a dark rectangular background in the upper left quadrant.

Considering its vast size, the African elephant remains strangely stealthy and largely mysterious. Elephants can move through the bush quiet as twilight or thunder across the land with dust-flying, ear-flapping, teeth-jarring intensity. Some elephants travel astonishing distances while others stay put if resources prevail throughout the year. Deeply social and culturally intelligent, elephants conjure up the essence of untamed nature.

Dr. Michael Chase, an energetic biologist who established the nonprofit organization Elephants Without Borders (EWB) in Botswana, observes that these mighty herbivores are “the flagships, directing and providing us with an opportunity to reconsider the boundaries between conservation and rural development.” The San Diego Zoo’s Institute for Conservation Research is excited to be sponsoring Dr. Chase and his elephant conservation projects. “Working with Michael as one of our postdoctoral fellows is an excellent partnership for us,” said Dr. Fred Bercovitch, director of Behavioral Biology. “He has made some fantastic discoveries in the ecology of elephants, and by working together, we will boost wildlife conservation in Africa.”

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Not all ivory is created equal. Tusk size varies with habitat and density. Elephants living large on the delta, where plants and water are plentiful, sport long, sleek tusks of hard ivory. Elephants of the dry woodlands, in contrast, have short, brittle tusks.



African elephants migrate through several countries. By using GPS/radio collars, conservation researchers can identify the vital pathways needed as "safe corridors" for wildlife.

ELEPHANTS WITHOUT BORDERS

Established in 2004, EWB is a research-based organization that tracks and studies elephants by monitoring their movement and migrations. They use two types of GPS/radio collars: data-loggers that store data until the collar is retrieved, and satellite collars that provide real-time information. Aerial observations are used as well.

By monitoring the elephants over time and gathering precise data, Dr. Chase is determined to help establish safe corridors around the animals' vital pathways and reconcile the needs of people and pachyderms. "Mapping large-scale movements across four African countries provides a strong visual catalyst for conservation and land-use management," he said. "We have deployed GPS or radio collars on more than 60 elephants in Botswana, Namibia, Zambia, and along the Angolan border. The information gathered will be used to create safe wildlife corridors across political boundaries."

Elephants have a sophisticated social system and pass along "cognitive maps" to their young, which they rely on throughout their lifetime to find food and water. EWB has discovered that elephants of northern Botswana have the largest home ranges ever recorded, and these herds are part of a contiguous elephant population covering Zimbabwe, Namibia, Angola, and Zambia. EWB is also the first organization to work on conservation projects in Angola since its civil war ended in 2001. They are documenting the repopulation of elephants, which are returning despite the millions of unexploded landmines that litter the region.



Dr. Bercovitch (left) and Dr. Chase (right) move quickly to attach a radio collar before the elephant wakes from the anesthesia.

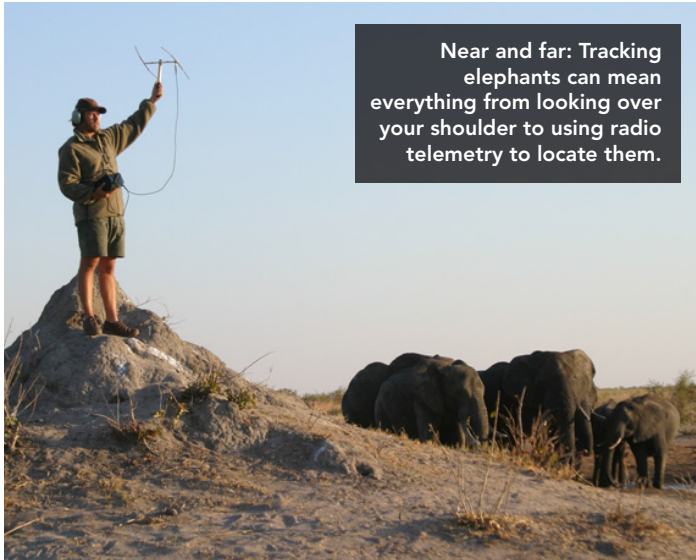
Remarkably, the elephants seem to sense where the landmines are located and do not fall prey to these dangerous weapons.

Dominated by the Kalahari Desert, home to the vast Okavango Delta, and replete with wildlife, the landlocked nation of Botswana has the largest elephant population remaining on the African continent—an estimated 151,000. According to Dr. Chase, this healthy elephant population is largely the result of several factors: successful conservation measures in Botswana; staunch conservation support by Botswana's President, Seretse Khama Ian Khama; development of permanent water supplies during the dry season; the species' inherent growth rate; and the elephants' tendency to emigrate from inhospitable areas in order to seek refuge.

MAKING PEACE BETWEEN PEOPLE AND ELEPHANTS

However, when it comes to megaherbivores roaming the landscape among villages and planted crops, large populations of elephants can become problematic. Some people are worried that elephants have recovered in greater numbers than the environment can sustain, turning fragile forests into open grasslands and intensifying human-elephant conflict. EWB works with local communities to mitigate these conflicts.

There is no single solution, and throughout Africa, a variety of measures are used, including barking dogs, chili pepper and



Near and far: Tracking elephants can mean everything from looking over your shoulder to using radio telemetry to locate them.

dung mixtures, and audio tracks of bees buzzing to deter the elephants from crops. When researchers detect collared elephants moving toward villages, they give the residents of nearby towns a warning that the pachyderms are coming. Sometimes farmers then mix elephant dung and used motor oil together to make small, smoky fires at the corners of their farm, which can dissuade elephants from destroying their livelihood.

Diverse habitats, including flood plains, grasslands, savannas, and salt pans, invite several types of antelope, Cape buffalo, giraffes, lions, African wild dogs, and many other species to make this arid landscape home. This biodiversity hot spot is the ideal location for conservation scientists to study the migratory patterns, behavior, and ecology of elephants. Eco-tourism is the second largest income generator for the region—second only to diamonds. This increases the incentive for habitat and species protection. Conservation across borders is crucial for preserving biodiversity and a healthy landscape.

THE CHASE IS ON

For five generations, the Chase family has resided in Botswana. As a boy, Michael spent much of his time in the bush with his father, who is a safari guide. While his father was busy with clients, Michael was entrusted to a Kalahari bushman named Salt, who taught him important survival tactics in the bush, like finding invisible water sources, reading animal tracks, and repairing tire punctures. “All these skills are important in the veld [bush],” remarked Dr. Chase. “I knew from a very early age that I

wanted to work with animals, and elephants in particular really captured my interest. Our goal with EWB is to use elephant conservation education to empower local people about their natural resources and conserve suitable swaths of habitat for wildlife. It’s good for the animals and the people.”

Dr. Chase received his Ph.D. in natural resources and wildlife conservation from the University of Massachusetts, and his work has been published in scientific journals, magazines, and news articles. Among the people of Botswana, Dr. Chase has earned the nickname *Modise wwa di Tlou*, meaning “elephant shepherd.” Life in the bush can be difficult and dangerous, but Dr. Chase insists elephants have never deliberately accosted him and his team. The team has, however, encountered puff adders in the truck’s engine, a honey badger in the toilet, and lions roaming into field camps.

Optimistic and determined, Dr. Chase will continue his research, with help from the San Diego Zoo’s Institute for Conservation Research, with the elephants of Botswana as they continue to roam across borders on their centuries-old paths in search of precious resources—and each other.

MAKE A BIG IMPRESSION ON CONSERVATION

Here is a unique opportunity to be actively involved in elephant conservation: Project Elephant Footprint! Three of the elephants Dr. Chase has radio collared, each belonging to a different herd in Botswana,



will be “peddling” their footprints to raise money for their conservation. To support this elephant conservation project, we are offering 500 footprints from each elephant to pachyderm fans. Each footprint is \$150 or \$12.50 a month for one year. You, as a footprint sponsor, will be helping the San Diego Zoo protect, track, and study these wild elephants.

Project Elephant Footprint is featuring three elephants: The Shy One, The Great Bull, and Rainbow Spirit. Footprint sponsor benefits include: an Elephant Footprint Kit with information about your elephant; exclusive access to blog updates by Dr. Mike Chase; and a chance to vote on a name for your elephant. You can keep tabs on your charge 24/7 via the Internet and also receive real-time Twitter updates from Botswana.

Whether your elephant is crossing a river, trekking through a forest with the rest of the herd, or moving across a savanna, you will have the inside scoop on his or her daily jaunts. Participating in Project Elephant Footprint will also grant you first dibs on participating in a tour of Botswana in 2010, where you can watch Dr. Chase track elephants from his vehicle. Feeling hard pressed to find the perfect birthday or anniversary gift? An elephant footprint is sure to earn you a stamp of approval! For more information, please visit www.sandiegozoo.org./ZOONOOZ.