

# Beyond Borders

April  
2010

Research & Conservation with Elephants Without Borders: Progress Report



*Solutions to Conserve  
Wildlife  
and Empower People*

Inside this issue:

**EWB's bold, new endeavor!  
Elephant Conservation &  
Community Outreach  
Farming Project**

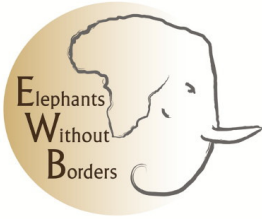
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Foundation Conference**

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**Thank you!**



[ElephantsWithoutBorders.org](http://ElephantsWithoutBorders.org)



## A Message from the Director



Sometimes, I ask myself if I am doing enough to conserve African elephants. Should I be spending more time in the field, or in the office analysing data, writing manuscripts and submitting grant proposals? Can EWB remain

small, and results driven? With a modest budget, small dedicated staff, and low overheads, we ensure that 100% of our donor funds are spent on conserving African elephants. EWB has been at the forefront of studying the movements of elephants. But what impact have we really had on people who share their lives with these free roaming giants?

Lenox Magasele, is a 65 year old Headman in the Chobe Enclave. Because of the large 2009 flood, Lenox was relocated by the Land Board and allocated a 12 h farm on the edged of the Chobe Forest Reserve. He has grown 3 h of maize, sorghum and watermelons, but his small farm is located near a major elephant corridor linking the forest to the Linyanti River. So not surprisingly, most of his crops have been eaten by elephants. How can EWB help Lenox?

I remain resolute that EWB make a real impact on people and elephants. EWB is growing, embarking on new projects. Our Elephant Conservation and Community Outreach Farming Project, I believe, is a ground breaking project exploring new ways to reduce human elephant conflict while helping people. Our experimental agriculture trial plots aim at methodically quantifying deterrence methods which might reduce the impact of elephants on rural livelihoods. With innovative and cost effective strategies we hope to achieve a level of co-existence between the local communities, wildlife and elephants, and to help ensure that people, like Lenox, will feel empowered, successful and confident knowing their participation in conservation efforts here in Africa.

Mike Chase

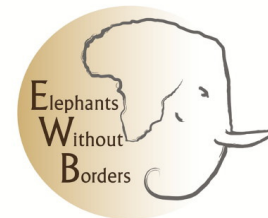
## EWB Program Manager

The dictionary's definition of the word "community" is "an interacting population of various kinds of individuals with a common characteristic or interests living or working together within a larger society." The word is key when we describe our new project, not only will it be a resource to help local communities, but it will be a kinship within itself, a community of researchers, scientists, educators, staff, volunteers and local farmers, converging, working together towards common goals in conservation

and community enrichment. I am very excited to welcome these new colleagues that will be joining us on this endeavour, bringing with them various experiences, knowledge, ideas and creative techniques to attain our goals. Together, we can come up with the solutions to conserve wildlife, their habitat, natural resources and empower people.

Kelly Landen



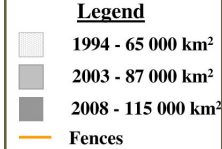
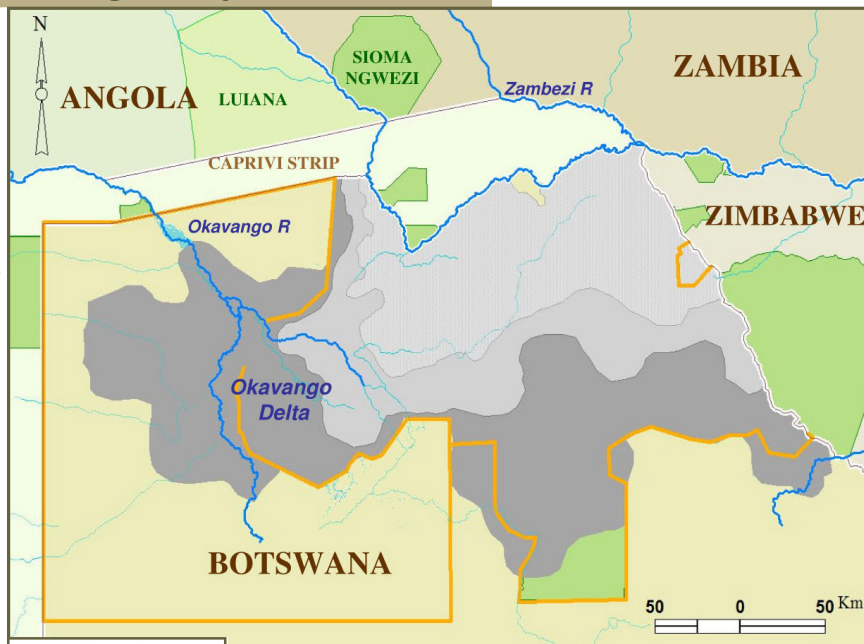


# Elephant Conservation and Community Outreach Farming Project

## Background

Elephants have no regard for political boundaries. Elephants Without Border's research has shown that elephants in Botswana are able to move passport free to Angola, Namibia, Zambia and Zimbabwe. Elephants depend on different habitats for feeding and breeding, so they must be free to roam large, diverse landscapes. These landscapes often cross political boundaries, but are also home to a growing population of people who need cultivated farmland and grazing pasture for their livestock. Elephants can destroy crops, threaten food security, damage water sources, restrict people's movements, and pose a threat to individual lives. Today the greatest threats to elephants are poaching, and an overwhelming loss of habitat. Elephants and people are increasingly competing for access to the same resources, notably food and water, and this leads to human elephant conflict (HEC). HEC is said to undermine conservation efforts and is a major concern to the success of elephant conservation and the establishment of elephant corridors.

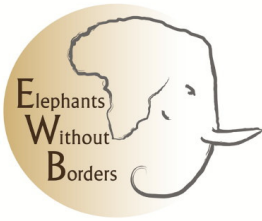
In our study area, the five country region of the Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA), it has long been recognised that there is an urgent need for a reliable monitoring system to assess the effectiveness of various HEC mitigation options. Most current monitoring systems and HEC specialists have previously depended and placed the onus on poor rural farmers to test crop raiding mitigation measures. This approach relies solely on the rural farmer and suffers from poor supervision, lower farming yields and inferior experimental design.



According to our studies, the elephant range in Botswana has expanded 43% between 1994 to 2008. With rivers now flowing we can expect the elephant range to expand even further.



When we compare the increasing expansion and density of human activity to the expanding elephant range, the intensity of competition for natural resources and potential incidences of human elephant conflict (HEC) becomes clearly obvious.



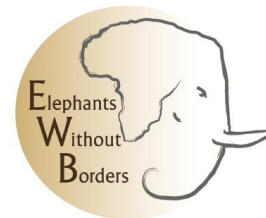
*“Innovative, creative concepts to reduce conflict...”*

### The Project

EWB has embarked on a bold new project, being the first of its kind within the KAZA TFCA. We are growing our own crops to carefully quantify the impact of elephants on crop production and experiment with a range of low cost deterrence options. The project site is ideally located in a high density elephant area within the Chobe Enclave, where human elephant conflict is a serious problem. The Enclave is in the northern district of Botswana, surrounded by Chobe National Park and Chobe Forestry Reserve. The Enclave has five main villages, with a population of 10 000 people that share the area with an estimated 40 000 elephants. With more than 650 mm of rain per annum, the Enclave receives the highest rainfall in Botswana and is within the area most suitable for rain-fed crops, particularly maize. Eighty-six percent of the households within the region have gardens or arable fields.

EWB, with the support of the San Diego Zoo and the Botswana Government, has developed agricultural trial plots and a base camp, which will be carefully monitored to determine the effectiveness of various mitigation methods. The camp will accommodate field staff, scientists and eventually host rural farmers who we will be trained in the use of successful deterrence methods. The site will serve as a training facility to provide information to aid in the reduction of human wildlife conflict and dually serve as an experimental demonstration plot with a focus on conservation agriculture. The key goals are to create a decrease in conflict incidences, but increase higher crop productions. The field site will also serve as a venue to explore further research on elephant conservation and wildlife corridors.





## *...conserve the African elephant ...*

### **Project Progress**

In January, the EWB team moved out to set up camp. We erected two meru style tents, smaller visitor and staff tents and built two sheds, one serving as a kitchen while the other, a dining and storage area. The camp is modest and comfortable, but still in the initial stages of being a fully functioning research base.

We have drilled two boreholes. The first was drilled to a depth of 30 m and yields 7000 litres per hour. While this borehole provides abundant water, the water is very brackish.

We equipped it with a submersible pump, and purchased 200 m of PVC piping to pipe water to a 10 000 litre storage tank. We have dug nearly 180 m of trench line to lay the pipe. We have built a sturdy gum pole enclosure around the borehole to protect it from elephants. When funding is made available we will construct a 5 m raised platform to raise the water storage tank and build a protection barrier to stop elephants from possibly damaging the tank. The second borehole was drilled to a depth of 50 m, and currently remains unequipped.

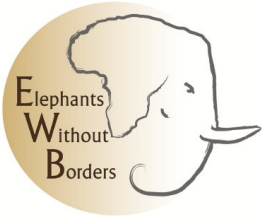
Twenty-two hectares of land were de-stumped and ploughed, and initial crops of sorghum, maize and beans were planted. The crops relied on rain water, and by early March the maize was 30cm high. Initially zebra were eating much of the maize, but when the crops reached about 1m they were raided by elephants. The impact has been significant; on one of the 4 h fields all the maize had been eaten. Family groups of elephants are involved with crop raiding and all raids have taken place at night. Elephant bulls have been seen in the area but not in the fields. The current

raiding is occurring without applying any deterrence methods. We are currently only recording the timing and extent of crop loss. Initial observations suggest that elephants move mainly at night out of the forest reserve to drink in the Linyanti and Chobe rivers.

We have planted chillies, and hope to have 2000 chillie seedlings ready for planting as a buffer crop around some of the trial plots by June. We have cultivated a small plot with cabbage, maize, spinach and papayas to determine the impact our water will have on crop production.

*“EWB is looking forward to working with several new colleagues who have pledged to help and participate on our new mitigation and farming project. We sincerely appreciate all the support and interest that has been shown to us.”*





*...and uplift local communities!"*

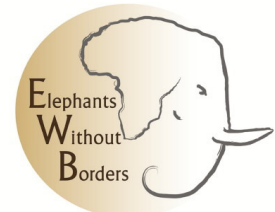
### Future Developments

As funding is made available, we will equip our second borehole. A second 10 000 litre water storage tank needs to be purchased and equipped with a pressure pump to supply water to the trail fields. A simple irrigation system will need to be installed to supply the crops with water. We plan to construct viewing platforms to monitor elephant crop raiding activity. The base camp needs many improvements including an ablution facility with running water, a solar geyser, new generator and solar power for electricity

We plan to experiment with many forms of elephant deterrents and have been consulting with specialists and researchers that have various expertise on both mitigation and proper farming techniques. We plan to have visiting scientists, including individuals from the Sri Lanka Wildlife Conservation Society, who will provide us with their successful experiences in HEC mitigation in Asia. We have scheduled a training session on conservation farming in July and are planning a chillie training session with the Elephant Pepper Development Trust. Our partners from San Diego Zoos' Institute for Conservation Research will be spending a month with us in the field to focus on studies we would like to move forward with and incorporate at the field site. And, EWB is now talking to particular Universities and are interviewing possible PhD students to be involved with the project.

We hope to be prepared, have the camp fully equipped, mitigation methods in place, and begin planting the new crops for the upcoming field season, hopefully by October, just before the first rains of the upcoming season.





## International Elephant Foundation Conference

### IEF Conference

Elephants Without Borders, attended the International Elephant Conservation and Research Symposium, held by the International Elephant Foundation and hosted by the National Zoological Gardens of South Africa, held on the Kwalata Game Ranch in South Africa on January 25-29. The program was attended by nearly 90 delegates representing 19 countries from around the world, a diversified range of elephant related vocations from non-profit organizations, zoological organizations, universities and independent entities. The schedule included presentations and panel discussions covering topics varying from emerging diseases, reproduction, new technologies in elephant conservation, veterinary care, management and living with elephants.

Several presentations focused on a critical emerging disease, Elephant Endotheliotropic Herpesviruses (EEHVs) In learning about this, EWB has agreed to help key researchers and scientists with their studies on identifying genetic factors influencing susceptibility to infection and this disease's progression, contributing toward understanding the disease transmission.

The conference proved to be a successful networking week and further potential collaborations are underway.



Ravi Corea, Founder and President of the Sri Lanka Wildlife Conservation Society giving a presentation on one of their crop diversification projects.



Professor Rudi Van Aarde, Chair of the Conservation Ecology Research Unit at the University of Pretoria, Dr. Iain Douglas Hamilton, Founder and Chair of Save the Elephants, and Dr. Mike Chase enjoy a chat over tea.

### Publications & Reports

**Published:** Cushman, S.A., M.J. Chase and C. Griffin. (2010). Mapping Landscape resistance to identify corridors and barriers for elephant movement in southern Africa. In S.A. Cushman and F. Huettmann (Ed.), *Spatial Complexity, Informatics, and Wildlife Conservation*, (pp. 349-367). Springer Japan.

**Technical Reports:** Fixed Wing Aerial Census of the Chitabe Concession, Okavango Delta, Nov'09

**Publications can be downloaded at** [www.elephantswithoutborders.org](http://www.elephantswithoutborders.org)

**Visit our blogs of stories and news at** [elephantswithoutborders.org/blog](http://elephantswithoutborders.org/blog)

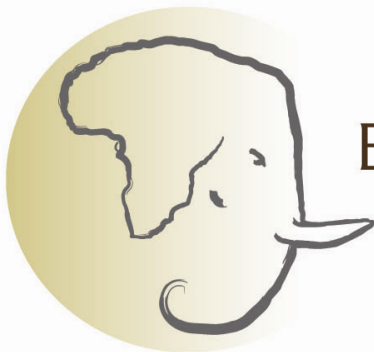
# Thank you for Your Support!

*Elephants Without Borders would like to extend its Sincere Gratitude to all our supporters, because of your generosity and encouragement, we continue to strengthen our efforts in successful conservation.*

Thank you to both, Mutual & Federal and Brett Warren for your continued support.

We sincerely appreciate the new donations pledged by Grundfos, Botswana.

Our gratitude for the gracious support and funding received from the Government of Botswana.



ElephantsWithoutBorders.org

P.O. Box 682, Kasane, Botswana

Tel/Fax: ++267 625-0202

Email: [info@elephantswithoutborders.org](mailto:info@elephantswithoutborders.org)