

1. INTRODUCTION

The current most serious and widespread threat to Grevy's zebra in Kenya is loss of habitat. The Grevy's Zebra Trust (GZT) is working with Westgate Community Conservancy and Northern Rangelands Trust (NRT) to restore the condition of degraded habitat in two ways:

1. short-term intensive clearing of undesirable species and re-seeding with indigenous perennial grass
2. improvement of long-term grazing management



A pilot project was conducted in Westgate's conservation buffer zone, an area of 1,200 ha reserved for dry season grazing by livestock. 238 ha were cleared and re-seeded in 2009. The first dry season grazing plan was done with cattle from June to October 2010; the second, again with cattle, from February to April 2012; the third, this time using small stock (sheep and goats), from July to September 2012.

2. PROCESS



Collective Vision

Participatory mapping of the past and present landscape allows community members to identify change and what has caused it. This process sets the context for developing a collective vision that describes how they want their land and community to look like in the future. Management decisions are then based on this desired future considering **biological, economic and social** factors.



Eco-Literacy

Community members already have an intimate knowledge of local ecology. We build upon this foundation by exploring ecosystem processes such as the water cycle and how grazing management affects ecosystem health. "It's like a life-giving training; it's about our way of life, about pastoralism and our livelihood"- comments from women who had participated in a training workshop.



3. METHODS

Clearing & Re-Seeding

The proliferation of *Acacia reficiens*, an indigenous tree species, corresponds with the disappearance of perennial grasses. *A. reficiens* forms closed canopy stands and appears to chemically inhibit understory vegetation causing extensive erosion gullies and bare ground.

Clearing is done at the height of the dry season to limit coppicing. The soil is scored and indigenous grass seed sprinkled in cleared areas at the onset of the rains. Cut branches are laid in gullies to limit erosion. Grass seed from these sites has since been harvested and stored by the Conservancy for use in subsequent clearing and re-seeding projects.



Planned Grazing

Holistic planned grazing is a dynamic planning process that considers livestock, wildlife, and community needs. It is done in the wet season (when overgrazing must be avoided and plants given recovery time) and the dry season (when forage must be rationed). Half the forage is allocated for wildlife and soil cover.

Livestock is used as a tool with two functions:

- **grazing** where animals follow a plan in which time for plant recovery is the main focus
- **animal impact** where livestock is used to create disturbance to hard, capped soil through bunching a grazing herd, or by weekly shifting of livestock *bomas* to re-invigorate soil

Used correctly, these tools enhance the ecosystem processes, producing more abundant and diverse plant and animal communities.



Low-stress livestock handling techniques are used by herders to maintain animal condition



Cattle sleeping in the overnight *bomas* used to create animal impact and treat bare ground



Cattle watering every other day at the nearest well

4. RESULTS



Grevy's Zebra Response

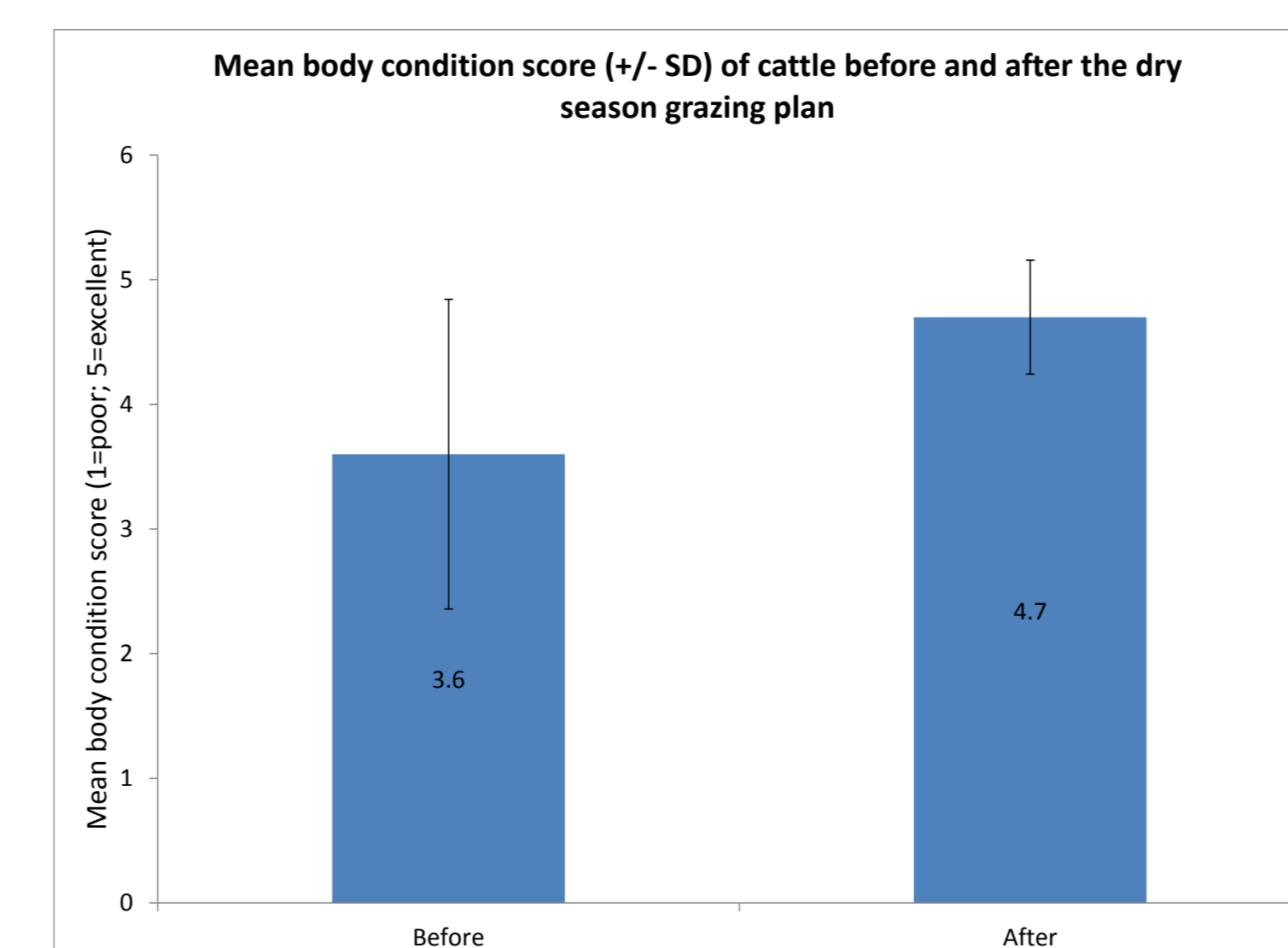
Grevy's zebra did not utilise the buffer zone frequently prior to habitat restoration efforts. An adult male has since established his territory in the buffer zone and 3-6 resident females and their spoor are regularly observed by Conservancy scouts. In 2011, 6 lactating females with foals less than 3 months old also used the buffer zone for a period of several months. In addition, buffalo have returned to the area and the grasses are being heavily utilised by elephants.

Livestock Health

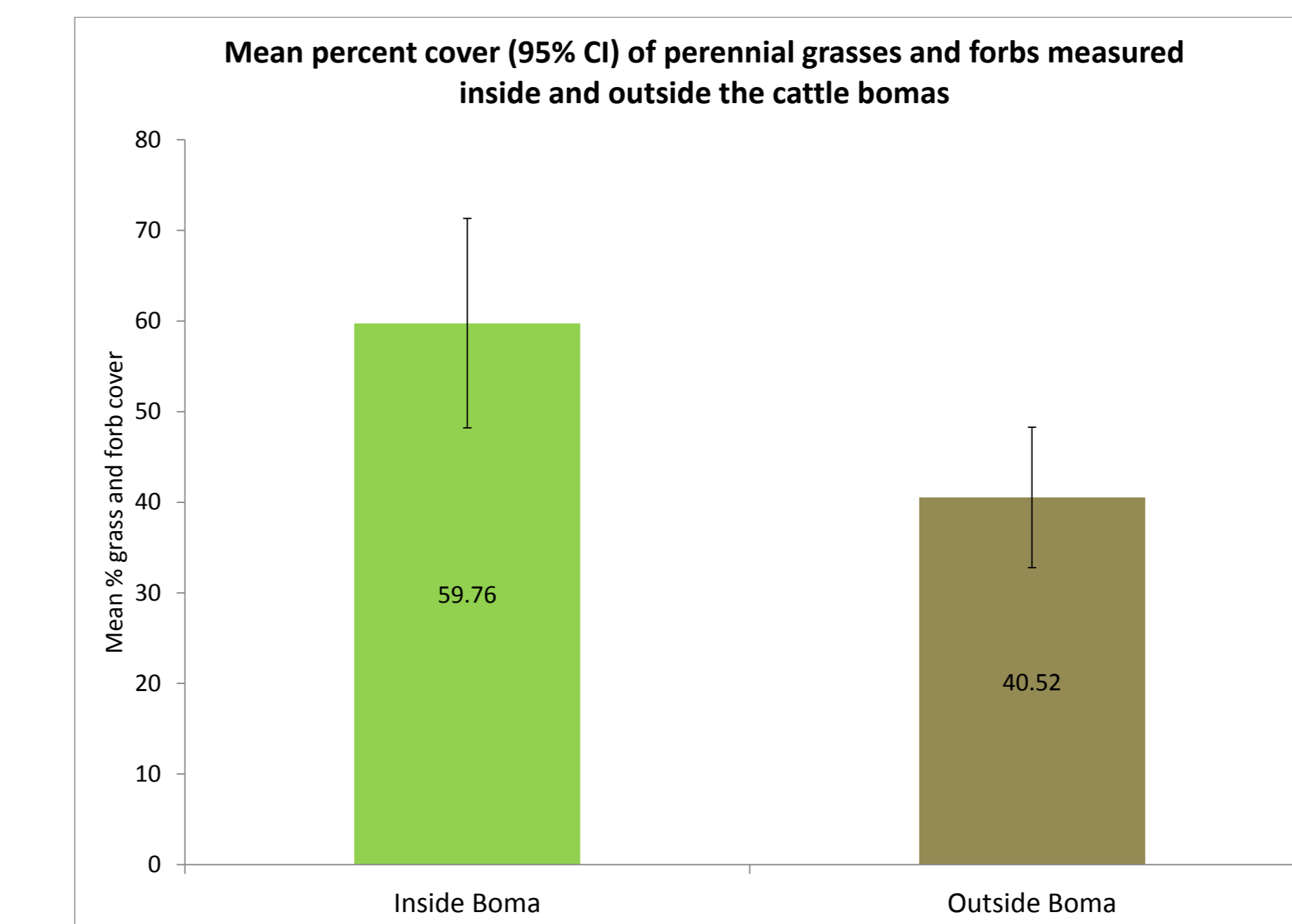
Upon exiting the dry season grazing plan in October 2010, cattle body condition scores were greater after the grazing plan than before and this increase was significant ($t=3.90$, $p<0.01$, $df=14$, paired t test). This may be attributed to the following factors:

- better quality forage from the planted grass than outside the buffer zone
- we planned for the cattle to be grazing the best forage at the end of the dry season to maintain condition
- we planned for the cattle to be closer to water at the end of the dry season to reduce energy expenditure

As a result of the improved body condition of the cattle, in livestock sales of October 2010 and April 2012 the buffer zone cattle sold for higher prices than those that had not grazed the buffer zone, thus positively impacting livelihoods.



Plant Productivity



Fixed point photo monitoring was done at one of the cleared sites. Photo A below was taken towards the end of the first dry season grazing plan in September 2010 after one rainy season. Photo B was taken in January 2012 after a second rainy season. We expect the grass and forb cover to continue on an upwards trend following subsequent rainy seasons, and for the *bomas* and cleared sites to provide seed source for the surrounding areas.



Photo A: Cleared site September 2010



Photo B: Cleared site January 2012

Discussion

The success of the habitat restoration work being done in Westgate has become a focal point for other conservancies, and led NRT to support adopting this approach across its member conservancies. We are now working with NRT in four additional conservancies that all contain prime Grevy's zebra habitat.

If rangeland recovery is positive and Grevy's zebra respond to the increased health of targeted areas, the power of managing grazing holistically becomes critical across the broader range of the species.

