

Augur Buzzard Declines at Lake Naivasha

BY EVAN BUECHLEY

Sitting on the porch before sunrise, drinking a cup of tea, I watch as Elsamere Conservation Centre's resident hippos plod downhill in a deceptively clumsy retreat to the daytime safety of the lake. Lake Naivasha's birds are already up and filling the woodland with a cacophony of discourse. I hop on my mountain bike and head off in search of Augur Buzzards. My morning ride from Elsamere coincides with rush hour for the workers of nearby flower farms. A steady stream of cyclists, walkers and matatus makes its way down the potholed country road, as the cicadas start to buzz in the warming sun. Past the flower farms, the traffic dissipates and the road empties. A few Augur Buzzards circle here and there, and I stop to watch them. Here, with views of open woodland, the mammals are plentiful too: sightings of baboon, Vervet and Colobus monkeys, zebra, warthog, giraffe, buffalo, Eland, waterbuck, Hartebeest, impala, Thomson's and Grant's gazelle, and hippo are frequent. However, while it is easy for a newcomer to be wowed by the beauty and diversity of wildlife at Lake Naivasha,

those who know the place well express concern that this biodiversity is under threat, and just a pale shadow of what it once was.

Lake Naivasha is an exceedingly important area for wildlife. It harbors an impressive diversity of more than 350 species of birds. It is an important stopover for palearctic migrants and BirdLife International has recognised it as an Important Bird Area (IBA). The lake also harbours one of the largest hippo populations in the vicinity, and impressive numbers of mammal species frequent its shore to rehydrate and seek refuge in the shade of acacia trees. These characteristics, among others, helped the lake to gain recognition as a Ramsar site in 1995, a distinction which certifies it as a wetland of international importance.

Despite its ecological merits, Lake Naivasha has undergone intense development over the last few decades and is now the epicentre of Kenya's booming horticulture industry. The economic value of Lake Naivasha to Kenya's economy is undeniable as the area is the leading producer of one of

Kenya's top exports: flowers. Since the establishment of the first flower farm in the 1980s, approximately 10,000 acres have been converted to the practice around the lake. There has been a correlated dramatic increase in the region's human population: according to the 1999 Kenya Census, the population increased from 6,900 residents in the town of Naivasha in 1969 to 115,000 in the Naivasha Municipality in 1999.

This growth, while producing economic benefits for the country, has also placed a large burden on Lake Naivasha's ecosystem, with widespread reports of excessive water extraction, destruction of riparian areas, intensive use of pesticides, and an influx of hopeful labourers who are resigned to living in the unorganised and unplanned shantytowns that have grown up around the lake. This fast development has placed Naivasha's wildlife in an increasingly dire situation. Studies have documented drastic changes in the lake's water level and quality, die-offs of papyrus swamps, and a reduced population of African Fish Eagles. Raptors, as predators high on the food chain, are often regarded as good barometers of environmental health. Like the African Fish Eagle, the status of the Augur Buzzard around Lake Naivasha may offer clues to the overall health of the ecosystem.

Dr. Munir Virani, the Peregrine Fund's East Africa programme director, collected detailed data on the Augur Buzzard population around Lake Naivasha in the 1990s for his PhD on the natural history of the species. Virani has stated that, among other interesting results, "this study has yielded valuable base-line data from which it is now possible to assess the impact of commercial horticulture's subsequent expansion." Following this



Horticultural farms in the Lake Naivasha area.



Map of Augur Buzzard territories in the south Lake Naivasha area. Yellow tacks indicate active territories, red tacks indicate abandoned territories, and the green tack indicates a newly documented territory. Note the concentrated clump of abandoned territories around the town of Kamere.

reasoning, over a three-month period in mid-2010 I set out to assess the current status of the Augur Buzzard population -- over a decade after Virani's initial study. My goal in this research, which was overseen by Virani, was to revisit and closely monitor all of the documented breeding territories in the region and to determine whether they are still active. The pressing question is whether the Augur Buzzard -- a species that is regarded as highly adaptable to human alteration of habitats -- has been able to withstand the drastic land-use changes that have taken place around Lake Naivasha.

Of the 36 Augur Buzzard territories that were occupied in the 1990s, 23 continue to be active, 13 were abandoned, and one new territory was found. Accordingly, there has been a reduction in the number of active territories within the study area from 36 to 24, for a net decline of 33 %. The study area was broken up into four regions to facilitate analysis of the effects of differing land-use practices on Augur Buzzards. The regions are: 1) Hell's Gate National Park (HGNP); 2) Mundui Ranch; 3) Oserian Flower Farms and 4) Sulmac Flower Farms. HGNP and Mundui, a private ranch, are managed for wildlife preservation, while the Sulmac and Oserian Flower Farms are horticultural areas. (The Sulmac region

includes many different landholders and flower companies, while Oserian is comprised solely of the Oserian flower company.)

While declines tended to be most extreme in areas of highest human disturbance (up to 60% in Sulmac), it is notable that declines have also been significant in control-like sections of the study area, including HGNP and Mundui. Both these areas have remained largely unchanged over the past 15 years, as they are managed for land and wildlife preservation. However, declines in the numbers of active territories in these areas have been documented at 33 and 29 % respectively, roughly reflecting the overall trend. Perhaps most interestingly however, Oserian Flower Farms exhibited no net declines.

Overall, there has been a striking drop in the number of active Augur Buzzard territories, and, of particular concern, this has occurred in both horticultural areas and natural reserves. The declines around highly populated areas are not all that surprising. But why is the population declining within protected areas? The fact that several territories, that were active a decade ago and have suffered no noticeable habitat degradation in recent years, have been vacated implies a more widespread problem. One possible explanation is a reduced

Augur Buzzard population on a regional scale, which would lead to a shortage of new stock to fill vacated territories in what is apparently suitable habitat. If this is the case, the declines of active Augur Buzzard territories around Lake Naivasha may hint at more widespread woes for Kenya's buzzards. As the population of Augur Buzzards around Lake Naivasha represents the most studied population anywhere and has the highest documented breeding density of the species, such a drastic decline over such a short time is of significant concern and merits further study. But that leaves one question -- why might the Augur Buzzard population be stable in Oserian, while declines were observed in all other regions?

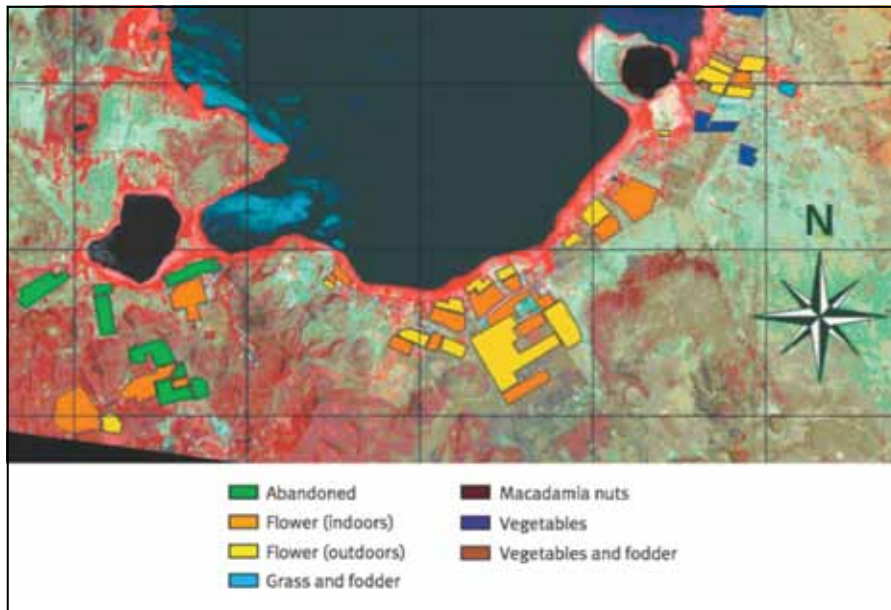
With increasing demand in major markets in Europe and North America for goods produced with more sustainable environmental and social practices, there is a growing economic incentive for companies to improve their image. Oserian is a Fairtrade and LEAF- (Linking Environment and Farming) certified company, leading the way among the Naivasha horticultural community in this regard. The company has taken positive steps, including: setting aside an 18,000-acre wildlife reserve and an additional 3,000-acre wildlife corridor in 1996 that allow for passage of animals from Mount Longonot and Hell's Gate National Parks to Lake Naivasha's shore; producing their own geothermal energy and using steam to control humidity and temperature in



The Lake Naivasha region seen from Mundui Ranch.

PHOTO BY E. BUECHLEY

SPOTLIGHT



Irrigated crops in the south Lake Naivasha region. All of the abandoned fields in the study are on Oserian property, located at the bottom left of the image (from Lake Naivasha: Experiences and Lesson Learned Brief. Becht et. al, 2006).

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greenhouses; using hydroponic growing operations to reduce water consumption and allow for a reduction in the use of pesticides and fertilizers; treating wastewater in an artificially created wetland system; and establishing a two-hectare tree nursery that donates seedlings to the local community. Under new growing processes, the amount of land under cultivation in Oserian has actually decreased over the last decade, allowing many fields to go fallow (See Figure 1). And it appears as though the company's practices have led to tangible benefits for Naivasha's buzzards. The

success of Oserian, the largest flower company in Kenya, may allude to the economic viability of more sustainable practices -- particularly when the product is a luxury good such as flowers.

While there has been much criticism of the environmental and social practices of the flower companies around Lake Naivasha, one thing seems certain -- the farms are here to stay. Their economic significance to the whole country seems likely to assure them privileged status. However, with the right incentives from interested parties -- including the Kenyan Government, environmentalists, labour



PHOTO BY: MUNIR VIRANI

The author holding a newly banded Augur Buzzard.

activists, and flower consumers abroad -- might this booming industry capture a growing market in sustainable and Fairtrade goods? Could such a transition help achieve a better balance between all of the region's interests -- including horticulture, tourism, and wildlife? While not guaranteed, such a future seems very possible given that a model of this type of production is already flourishing at Lake Naivasha. ●

EVAN BUECHLEY is a freelance biologist based in the Southwestern United States. He has worked on a variety of avian conservation and research projects including California Condor reintroductions in the Grand Canyon, Bearded Vulture reintroductions in Spain, and Augur Buzzard population censuses in Kenya. His primary interests are the behavior, ecology, and conservation of vultures around the world.

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