

# Laikipia County

## Geography, Environment, and Biodiversity



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## Introduction

In drafting a recent article, we became aware that information concerning the geography, environment, and biodiversity of Laikipia County was (surprisingly) widely scattered, frequently difficult to locate, and sometimes incorrect. In this document, therefore, we present some of the more important and most often-sought facts about the geography, environment, and biodiversity of Laikipia County.

The original sources for much of the information presented here can be found in Butynski & De Jong (2014) <http://www.lolldaiga.com/primate-conservation-in-the-rangeland-agroecosystem-of-laikipia-county-central-kenya/>.

**Location:** Laikipia County is located in central Kenya (Figure 1). Laikipia County is roughly demarcated by Mount Kenya (5,200 m asl) to the east and southeast, Aberdares Range (4,000 m asl) to the south and southwest, Eastern (Gregory) Rift Valley (*c.* 970 m asl) to the west, Karisia Hills (2,580 m asl) to the northwest, Mathews Range (2,688 m asl) to the north, and Buffalo Springs National Reserve and Samburu National Reserve (*c.* 900 m asl) to the northeast (Figure 2).

**Size:** *c.* 9,700 km<sup>2</sup>.

**Altitude:** Lowest point: 1,260 m asl (Mukutan Gorge on Ol Ari Nyiro; Figure 2). Highest point: 2,400 m asl (Enghelesha Hill on Ol Ari Nyiro; Figure 2). Altitudinal range: *c.* 1,140 m. Laikipia Plateau: *c.* 1,600–2,400 m asl.

**Geography:** Mix of flat ground (mostly), undulating plains, rolling hills, steep hills (some with extensive ancient erosion gullies), and scattered, often steep, granitic inselbergs.

**Rivers:** Several perennial rivers and many seasonal streams, some of considerable size. Largest river is the Ewaso N'yiyo (Figure 2).

**Mean annual rainfall range:** *c.* 40 cm in north; *c.* 120 cm in southwest.

**Mean annual temperature range:** *c.* 16°C on low ground; *c.* 26°C on high ground.

**Biotic zones:** Laikipia lies at the overlap of the 'Somalia-Masai Bushland Biotic Zone' and 'Afromontane-Afroalpine Biotic Zone'.

**Vegetation types:** Laikipia is in a transition zone for three major vegetation types; 'Somalia-Masai Semi-desert Grassland and Shrubland', 'Somalia-Masai *Acacia*-

*Commiphora* Bushland and Thicket’, and ‘Afromontane Undifferentiated Montane Vegetation’. Here, the savannahs of eastern Africa grade into both the semi-arid lands of the Horn of Africa and the montane elements of Mount Kenya and the Aberdares Range. The resultant great diversity of vegetation types, ecotones and mosaics accounts, in part, for the high biological diversity of Laikipia.

**Vegetation:** Primarily grassland, bushland, woodland, and dry forest. Riparian forest is scarce, in decline, but critical to the maintenance of Laikipia’s biodiversity. Forest covers <600 km<sup>2</sup> (c. 6%) of Laikipia.

**Soil:** ‘Black cotton’ is most widespread, followed by ‘red sand’.

**Human population:** c. 400,000 people, c. 76% of which live in rural areas. Expected to increase to c. 600,000 people by 2030.

**Human population density:** c. 42 people/km<sup>2</sup>. Range: <20 people/km<sup>2</sup> to 300 people/km<sup>2</sup>.

**Land use:** 90% of land deemed too dry for cultivation. <2% deemed of high potential for agriculture. 65% (5,820 km<sup>2</sup>) defined as ‘wildlife habitat’. 38% (3,650 km<sup>2</sup>) comprised of relatively intact, contiguous, natural habitat. A recent review concluded that most of the cultivation in Laikipia “is marginal, with detrimental effects on people and environmental health”. Climate change is predicted to exacerbate this situation.

**Livestock:** Livestock farming is the primary economic activity. >80% of people depend on livestock farming. 37% of Laikipia is used for large-scale ranching, 32% used by pastoralists, 21% used by small-hold farmers, and 5% used exclusively for wildlife-based tourism.

**Large ranches:** Ten largest ranches are >200 km<sup>2</sup> (largest = 375 km<sup>2</sup>). Most encourage wildlife, tourism, and ecological/conservation research, and several have training programs/centers. Some are managed primarily for conserving biodiversity and water catchments, and hold ‘Conservancy’ status. The same is true for many smaller ranches.

**Protected areas:** There are eight forest reserves (Figure 2), the largest of which is Mukogodo (c. 295 km<sup>2</sup>), one small national park, and one national reserve.

**Larger mammals:** These are mammal species for which adult males attain a body weight >3 kg (*i.e.*, hyrax or hare size or larger). No species of indigenous larger mammal has been extirpated. The larger mammal fauna is exceptional, with no

fewer than 62 species. These include 21 species of carnivore, 28 species of ungulate, and 8 species of primate. Of the 62 species, 1 is globally ‘Critically Endangered’, 2 are ‘Endangered’, 4 are ‘Vulnerable’, and 6 are ‘Near Threatened’. Laikipia holds the highest diversity of larger mammal species of any site of its size in the world. Even ranches <200 km<sup>2</sup> hold nearly all of these species. For example, the 200 km<sup>2</sup> Lolldaiga Hills Ranch supports no fewer than 54 species of larger mammal. With the exception of the Maasai Mara National Reserve, Laikipia supports higher densities of large wild mammals than any landscape in Kenya.

**Birds:** There are >560 bird species recorded for Laikipia, or about 50% of Kenya’s bird species. The actual number is likely >600 bird species. Of these, at least 10 species are globally ‘Threatened’. Three bird species have probably been extirpated from Laikipia. Even ranches <200 km<sup>2</sup> hold a large number of bird species. For example, 341 bird species are known for the 200 km<sup>2</sup> Lolldaiga Hills Ranch, of which 6 are ‘Endangered’, 4 are ‘Vulnerable’, and 6 are ‘Near Threatened’. The number of bird species on Lolldaiga is likely >400.

**Biodiversity:** Other taxonomic groups that have been assessed (*e.g.*, plants, reptiles, amphibians, butterflies) mirror the high species diversity observed for mammals and birds.

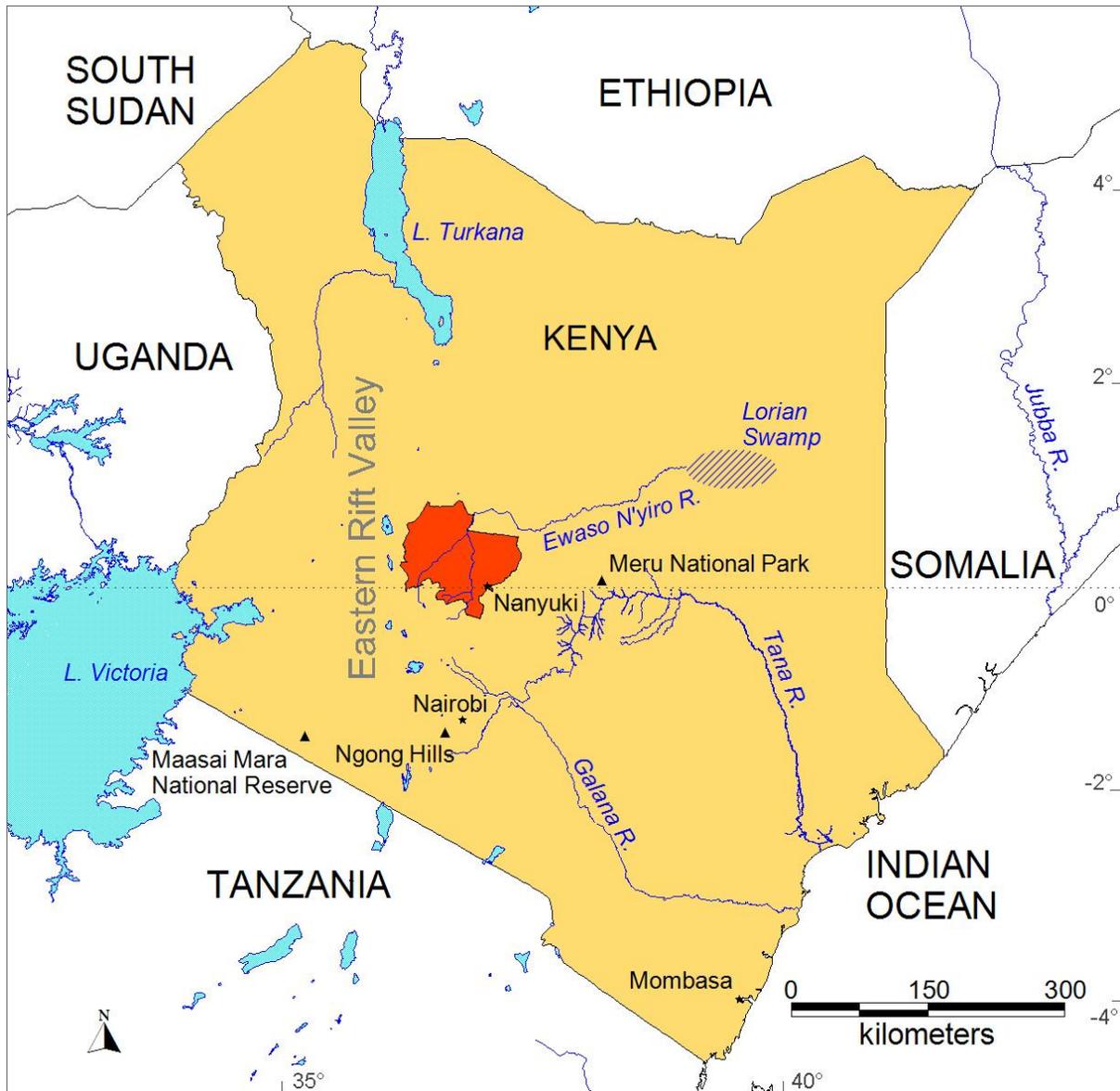


Figure 1. Location of Laikipia County (in red), Kenya. Map from Butynski & De Jong (2014).

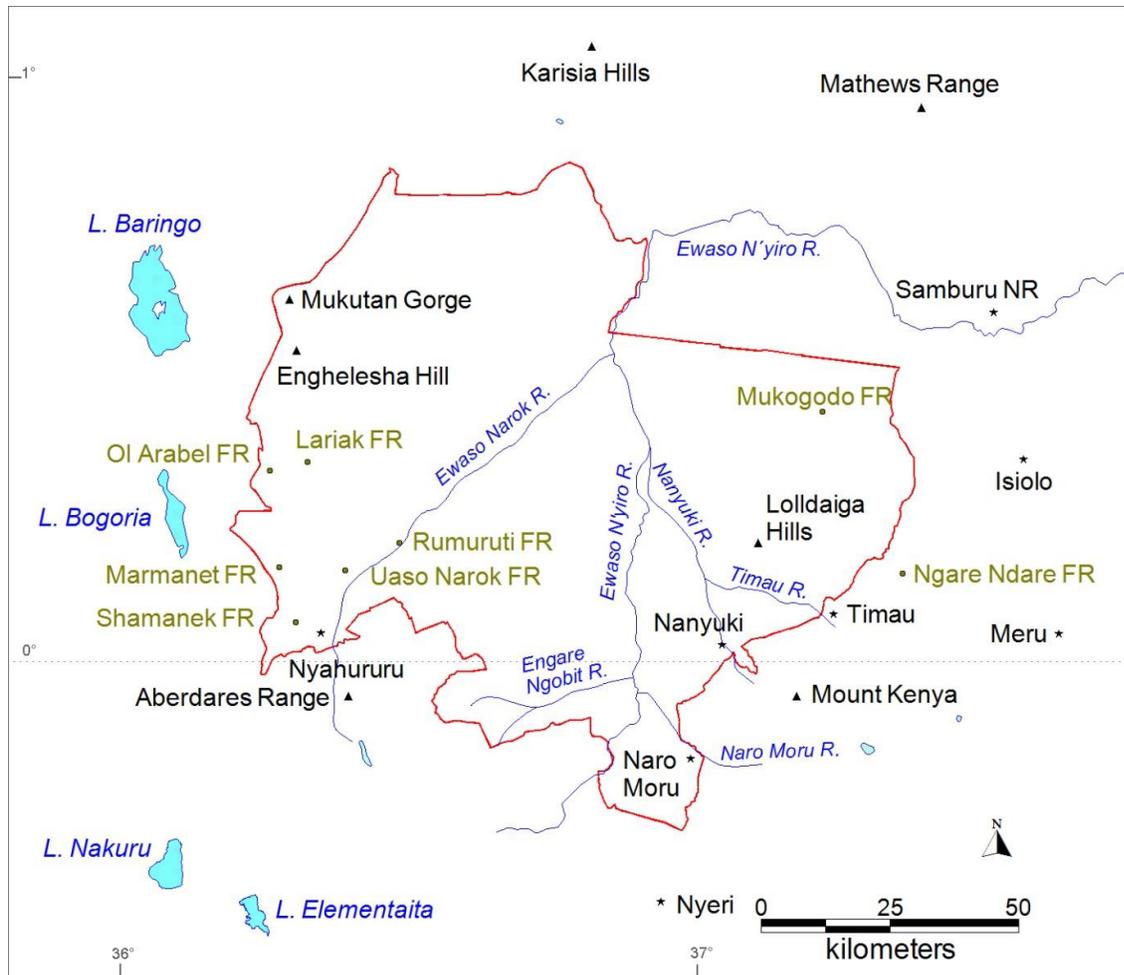


Figure 2. Laikipia County, central Kenya (outlined in red). ‘FR’ = Forest Reserve. ‘NR’ = National Reserve. Map from Butynski & De Jong (2014).

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## Reference

Butynski, T. M. & De Jong, Y. A. 2014. Primate conservation in the rangeland agroecosystem of Laikipia County, central Kenya. *Primate Conservation* 28: 117–128.  
<http://www.lollaiga.com/primate-conservation-in-the-rangeland-agroecosystem-of-laikipia-county-central-kenya/>

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If you find errors in the above document, or have facts concerning Laikipia County’s geography, environment, or biodiversity that you believe can be usefully added to this document, please contact the authors at [tbutynski@aol.com](mailto:tbutynski@aol.com) and [yvonne@wildsolutions.nl](mailto:yvonne@wildsolutions.nl). We expect to revise and up-date this document from time-to-time.

Cover photograph: Lolldaiga Hills Ranch, Laikipia County, central Kenya. Photograph by Paul Benson <[pjbphotos.co.uk/](http://pjbphotos.co.uk/)>.