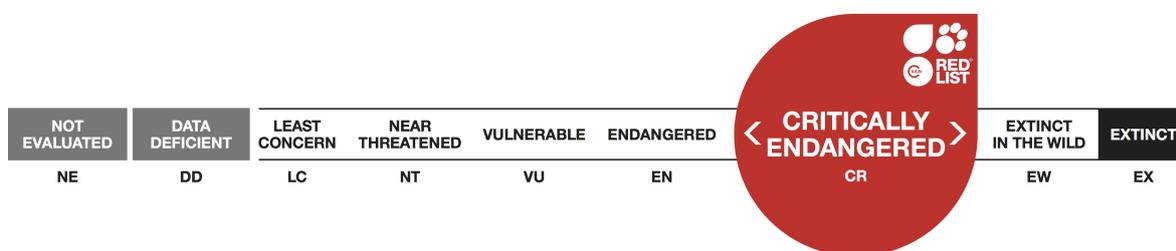


Gorilla beringei ssp. graueri, Grauer's Gorilla

Errata version

Assessment by: Plumptre, A., Nixon, S., Caillaud, D., Hall, J.S., Hart, J.A., Nishuli, R. & Williamson, E.A.



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Taxonomy

Kingdom	Phylum	Class	Order	Family
Animalia	Chordata	Mammalia	Primates	Hominidae

Taxon Name: *Gorilla beringei ssp. graueri* Matschie, 1914

Synonym(s):

- *Gorilla gorilla ssp. graueri* Matschie, 1914

Parent Species: See [Gorilla beringei](#)

Common Name(s):

- English: Grauer's Gorilla

Taxonomic Source(s):

Mittermeier, R.A., Rylands, A.B. and Wilson D.E. 2013. *Handbook of the Mammals of the World: Volume 3 Primates*. Lynx Edicions, Barcelona.

Taxonomic Notes:

This taxon appeared in the 1996 Red List as *Gorilla gorilla graueri*; now it is recognised as one of two subspecies of Eastern Gorilla (*Gorilla beringei*) following Groves (2001). It was also formerly known as the "Eastern Lowland Gorilla", which is a misnomer.

Assessment Information

Red List Category & Criteria: Critically Endangered A4bcd [ver 3.1](#)

Year Published: 2016

Date Assessed: March 1, 2016

Justification:

Gorilla beringei graueri has been severely affected by human activities, most notably poaching for bushmeat associated with artisanal mining camps and for commercial trade. This illegal hunting has been facilitated by a proliferation of firearms due to widespread insecurity in eastern Democratic Republic of Congo for the past 20 years. The presence of armed groups in national parks restricted the ability of conservation organisations to operate in much of Grauer's range during this period. New surveys have confirmed that Grauer's Gorilla numbers have dropped dramatically from around 16,900 to approximately 3,800 individuals since 1994 (Plumptre *et al.* 2015). An estimated population reduction of 77% in just one generation more than qualifies this subspecies as Critically Endangered under criterion A. The causes of the reduction, although largely understood, have certainly not ceased and are not easily reversible. At 11 sites across their geographic range, Grauer's Gorillas continue to decline at an average rate of 5% per year (Plumptre *et al.* 2015). At this rate of loss, 97% of the entire population will be gone by 2054 (three generations). Continuation of the population reduction is expected because of the high levels of poaching, loss of habitat and deterioration of habitat quality caused by expanding human populations, and ongoing civil unrest and lawlessness in the geographic range of this taxon.

Previously Published Red List Assessments

2008 – Endangered (EN)

<http://dx.doi.org/10.2305/IUCN.UK.2008.RLTS.T39995A10290580.en>

2000 – Endangered (EN)

1996 – Endangered (EN)

1990 – Endangered (E)

1988 – Endangered (E)

1988 – Endangered (E)

Geographic Range

Range Description:

Gorilla beringei graueri (Matschie 1914) is endemic to the forests of the Albertine Rift escarpment in eastern Democratic Republic of Congo (DRC). It has a discontinuous distribution from the lowlands east of the Lualaba River to the Mitumba Mountains and the Itombwe Massif. Mt. Tshiaberimu in Virunga National Park is the northern limit of Grauer's Gorilla's geographic range. The southern limit is a subpopulation in the Hewa Bora region, Fizi District (Plumptre *et al.* 2009), but was formerly further south in the area west of Fizi on the escarpment west of Lake Tanganyika (Schaller 1963, Butynski 2001). Based on a predicted occupancy rather than the range of known populations, the subspecies has an area of occupancy (AOO) estimated at 19,700 km² (Plumptre *et al.* 2015).

Key sites for Grauer's Gorilla are Kahuzi-Biega National Park (KBNP), the forests north and west of the KBNP lowland sector (between the Lowa, Luka and Oku rivers), Maiko National Park (MNP), Kisimba-Ikobo Nature Reserve, Tayna Nature Reserve and the Usala Forest. Grauer's Gorillas have also been recorded at several localities in the remote mountain chain that extends from the confluence of the Mesa and Oso rivers (southeast of MNP) to the forests west of Pinga (Maldonado *et al.* 2012). Anecdotal reports suggest that small isolated populations may still exist north of MNP, between Angumu and Opienge (ICCN unpublished data 2015).

Although formerly known as the Eastern Lowland Gorilla, this subspecies occurs over the widest altitudinal range of any Gorilla, ranging from approximately 600 m to 2,900 m asl (Williamson and Butynski 2013).

Country Occurrence:

Native: Congo, The Democratic Republic of the

Population

The total population of *G. b. graueri* in 1994-1995 was estimated to be 16,900 individuals (Hall *et al.* 1998a,b). Since that time, widespread insecurity and poaching for bushmeat, particularly around mining camps, have led to increasing fragmentation of populations and reduction of numbers. Some populations have disappeared together with their habitat. Others have suffered major reductions, for example, in the Itombwe Massif, at least five of the 17 population concentrations located by Schaller (1959) had disappeared by 1996 (Omari *et al.* 1999). In 2006, a number of those subpopulations were down to just a few individuals (Tshombe 2006), while populations west and south of MNP have become very rare (Nixon 2010). The remnant population at Mt. Tshiaberimu exists in a perilous situation: with fewer than six individuals remaining (Sikubwabo 2015) and isolated from other Gorilla populations, it is highly threatened by low genetic viability.

Using survey data collected between 2010 and 2015, Plumptre *et al.* (2015) estimated that the total number of Grauer's Gorillas remaining is only 3,800; a 77% loss since 1994. This estimate was based upon three methods of assessment: comparison of line-transect surveys effected between 1994 and 2014 at four sites in KBNP; comparison of encounter rates of nests between recess walked in 1994 and 2011-2015 across 11 sites; and a spatial occupancy analysis that predicted Gorilla occupancy and numbers across their range. Each method resulted in estimates of 77% or higher reduction in the Grauer's Gorilla population. Encounter rates indicate an annual rate of decline of 5% at many of the sites surveyed, due to fragmentation and illegal hunting around the many artisanal mining camps and villages located in areas where Gorillas occur (Plumptre *et al.* 2015).

Current Population Trend: Decreasing

Habitat and Ecology (see Appendix for additional information)

Gorilla b. graueri occurs in lowland tropical rainforest through transitional forests to Afromontane habitat, ranging between 600 and 2,900 m asl. Grauer's Gorillas show a preference for regenerating vegetation associated with abandoned fields and villages (Schaller 1963). Their diet is rich in herbs, leaves, bark, lianas and vines, seasonally-available fruit, bamboo (at higher altitudes) and insects (Ferriss *et al.* 2005, Yamagiwa *et al.* 2005).

Demographic data for Grauer's Gorilla are scarce; however, a large demographic dataset is available for Mountain Gorillas (*G. b. beringei*). Analyses of Mountain Gorilla data indicate that Eastern Gorillas have a generation time of 18.2 years for females and 20.4 years for males (Langergraber *et al.* 2012). Generation length is likely to be comparable for both subspecies, at close to 20 years.

Systems: Terrestrial

Use and Trade

Gorillas are completely protected by national and international laws in all countries of their range, and it is, therefore, illegal to kill, capture or trade in live Gorillas or their body parts.

Threats (see Appendix for additional information)

Major threats to *G. b. graueri* are:

- **Poaching** - Despite the fact that all killing, capture and consumption of great apes is illegal, hunting presents the most serious and immediate threat to Grauer's Gorillas across their range (Plumptre *et al.* 2015). A high demand for bushmeat has been created by the growing human population, widespread artisanal mining in remote areas, the destabilising impacts of armed groups, and a general scarcity of domestic protein in rural areas. Armed rebels residing in the forests increase the extent and intensity of this threat. Miners working in Grauer's Gorilla habitat admit to poaching Gorillas, valuing them as relatively easy to hunt with guns and providing large quantities of meat (Kirkby *et al.* 2015). Illegal capture of infants occurs when adults are killed for meat. Attempts may be made to trade these orphans, but usually they die or are seized by the wildlife authorities.
- **Habitat loss and degradation** - The causes of forest loss are mainly artisanal mining operations, farming (slash-and-burn agriculture), and livestock ranching to supply regional markets. Agricultural and pastoral activities are leading to fragmentation of the forest habitat remaining in the eastern highlands of DRC and along major roads through the lower altitude forests. At present, there is no commercial logging in the Grauer's range, but forest destruction is continuous. Artisanal extraction of timber, bamboo, and wood for charcoal production puts added stress on the habitat, further threatening the isolated Gorilla populations that persist in North Kivu and the Itombwe Massif. As parts of DRC emerge from civil war, new concessions for timber, minerals, and possibly petroleum will pose conservation challenges for the future.
- **Civil unrest** - Threats to Grauer's Gorillas were massively exacerbated throughout the 1990s and early 2000s with the onset of fierce conflict in the African Great Lakes region. Long-term conflict and insecurity in DRC resulted in rebel and civilian occupation of the forests, including protected areas, and severely restricted the ability of conservation organisations to monitor and protect Gorillas, enforce hunting and protected area regulations, and keep pace with intensifying threats. A recent survey identified 69 armed groups operating in North and South Kivu, covering important portions of remaining Grauer's Gorilla range (Stearns and Vogel 2015). Ongoing political unrest and military activity have compounded other pre-existing threats (Plumptre *et al.* 2015).
- **Climate change** - Climate change is predicted to impact the forests of the Albertine Rift escarpment, leading to the upslope migration of key Gorilla habitat, notably montane forest (Ayebare *et al.* 2013). With almost all montane forest in the eastern highlands now destroyed, and the land converted to agriculture supporting some of the highest human population densities in the African Great Lakes region, climate change could become a serious threat to Grauer's Gorillas in the future.

Conservation Actions (see Appendix for additional information)

The Eastern Gorilla is listed under Class A of the African Convention and Appendix I of CITES. Only 26% of the predicted range of Grauer's Gorillas occurs in national parks and nature reserves; the remaining 74% is currently unprotected (Plumptre *et al.* 2015). Fortunately several large subpopulations reside in the existing protected area network, where international NGOs are supporting government programmes. However, due to the widespread presence of armed groups, conservation organisations are hampered in their ability to operate in much of eastern DRC.

A conservation presence should be reinforced in all existing protected areas, strengthening activities that are already in place, while moving forwards with the gazetting of areas that support significant Gorilla populations, such as the Réserve de Gorille de Punia (Kasese region) and the Itombwe Reserve (Plumptre *et al.* 2015). Attaining national reserve status for existing community-based conservation

projects west of Walikale (between Kasese in the west and Tulakwa in the east) and south of the Maiko National Park would protect additional important Gorilla populations. The remote Usala forest supports one of the largest subpopulations of Grauer's Gorillas (Nixon *et al.* 2015, Plumptre *et al.* 2015), yet no conservation activities exist in the region. Urgent efforts must be made to engage with rural communities in Usala and other unprotected forests to monitor Gorilla populations, provide protection from hunting, and reduce habitat destruction. Surveys to assess the status of currently-inaccessible populations, including those in Maiko National Park, should be carried out as soon as security permits.

Conservation challenges are likely to increase as the DRC government continues its efforts to stabilize the east. Security will favour industrial extraction, large-scale agriculture and infrastructure. While development will increase the country's ability to support its human population and participate in the global economy, it will also result in increased human settlement in forest areas critical to Gorillas. Targeted conservation action in priority sites will be vital to slow the demise of this subspecies. Detailed information on conservation measures needed to protect the Grauer's Gorilla can be found in an IUCN action plan (Maldonado *et al.* 2012). See Plumptre *et al.* (2015) for additional recommendations.

Credits

Assessor(s): Plumptre, A., Nixon, S., Caillaud, D., Hall, J.S., Hart, J.A., Nishuli, R. & Williamson, E.A.

Reviewer(s): Mittermeier, R.A. & Rylands, A.B.

Contributor(s): Butynski, T.M., Critchlow, R., Gray, M., Kirkby, A., Kujirakwinja, D., Mehlman, P. & Vieilledent, G.

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External Resources

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Appendix

Habitats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Habitat	Season	Suitability	Major Importance?
1. Forest -> 1.9. Forest - Subtropical/Tropical Moist Montane	Resident	Suitable	Yes
1. Forest -> 1.8. Forest - Subtropical/Tropical Swamp	Resident	Suitable	No
1. Forest -> 1.6. Forest - Subtropical/Tropical Moist Lowland	Resident	Suitable	Yes

Threats

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Threat	Timing	Scope	Severity	Impact Score
1. Residential & commercial development -> 1.1. Housing & urban areas	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5
11. Climate change & severe weather -> 11.1. Habitat shifting & alteration	Future	Whole (>90%)	Unknown	Unknown
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.1. Shifting agriculture	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.2. Small-holder farming	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
2. Agriculture & aquaculture -> 2.1. Annual & perennial non-timber crops -> 2.1.3. Agro-industry farming	Future	Minority (50%)	Rapid declines	Low impact: 4
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion		
2. Agriculture & aquaculture -> 2.3. Livestock farming & ranching -> 2.3.2. Small-holder grazing, ranching or farming	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation		
3. Energy production & mining -> 3.2. Mining & quarrying	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.8. Other		
4. Transportation & service corridors -> 4.1. Roads & railroads	Ongoing	Minority (50%)	Slow, significant declines	Low impact: 5

5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.1. Intentional use (species is the target)	Ongoing	Minority (50%)	Very rapid declines	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.6. Skewed sex ratios 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.2. Unintentional effects (species is not the target)	Ongoing	Majority (50-90%)	Very rapid declines	High impact: 8
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.6. Skewed sex ratios 2. Species Stresses -> 2.3. Indirect species effects -> 2.3.7. Reduced reproductive success		
5. Biological resource use -> 5.1. Hunting & trapping terrestrial animals -> 5.1.3. Persecution/control	Ongoing	Minority (50%)	Very rapid declines	Medium impact: 7
	Stresses:	2. Species Stresses -> 2.1. Species mortality 2. Species Stresses -> 2.2. Species disturbance		
5. Biological resource use -> 5.3. Logging & wood harvesting -> 5.3.3. Unintentional effects: (subsistence/small scale) [harvest]	Ongoing	Majority (50-90%)	Slow, significant declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.2. Ecosystem degradation 2. Species Stresses -> 2.2. Species disturbance		
6. Human intrusions & disturbance -> 6.1. Recreational activities	Ongoing	Minority (50%)	Unknown	Unknown
6. Human intrusions & disturbance -> 6.2. War, civil unrest & military exercises	Past, likely to return	Majority (50-90%)	Slow, significant declines	Past impact
7. Natural system modifications -> 7.1. Fire & fire suppression -> 7.1.3. Trend Unknown/Unrecorded	Ongoing	Minority (50%)	Rapid declines	Medium impact: 6
	Stresses:	1. Ecosystem stresses -> 1.1. Ecosystem conversion 1. Ecosystem stresses -> 1.2. Ecosystem degradation		
8. Invasive and other problematic species, genes & diseases -> 8.5. Viral/prion-induced diseases -> 8.5.1. Unspecified species	Ongoing	Minority (50%)	Very rapid declines	Medium impact: 7

Conservation Actions in Place

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Conservation Actions in Place
In-Place Research, Monitoring and Planning
Action Recovery plan: Yes
Systematic monitoring scheme: No
In-Place Land/Water Protection and Management

Conservation Actions in Place
Conservation sites identified: Yes, over entire range
Occur in at least one PA: Yes
Area based regional management plan: Yes
Invasive species control or prevention: Not Applicable
In-Place Species Management
Harvest management plan: No
Successfully reintroduced or introduced benignly: No
Subject to ex-situ conservation: No
In-Place Education
Subject to recent education and awareness programmes: Yes
Included in international legislation: Yes
Subject to any international management/trade controls: Yes

Conservation Actions Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Conservation Actions Needed
1. Land/water protection -> 1.1. Site/area protection
2. Land/water management -> 2.1. Site/area management
4. Education & awareness -> 4.3. Awareness & communications
5. Law & policy -> 5.1. Legislation -> 5.1.2. National level
5. Law & policy -> 5.4. Compliance and enforcement -> 5.4.2. National level
6. Livelihood, economic & other incentives -> 6.2. Substitution

Research Needed

(<http://www.iucnredlist.org/technical-documents/classification-schemes>)

Research Needed
1. Research -> 1.2. Population size, distribution & trends
1. Research -> 1.3. Life history & ecology
1. Research -> 1.5. Threats
3. Monitoring -> 3.1. Population trends

Additional Data Fields

Distribution
Lower elevation limit (m): 600
Upper elevation limit (m): 2900
Population
Continuing decline of mature individuals: Yes
Extreme fluctuations: No
Population severely fragmented: Yes
All individuals in one subpopulation: No
Habitats and Ecology
Generation Length (years): 20
Movement patterns: Not a Migrant

Errata

Errata reason: This is an errata version of the 2016 assessment to replace the reference "Williamson *et al.* 2013" with the correct reference "Williamson and Butynski 2013" in the *Bibliography* section.

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