protected wetlands. But despite the progress for conservation highlighted by the designation, major challenges lie ahead—in particular, illegal artisanal gold mining on streams in the watershed, which is causing sedimentation and pollution in the southern part of the lake.

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New survey reveals dramatic decline of Grauer's gorilla

The largest ape, Grauer's gorilla *Gorilla beringei graueri*, is only found in the east of the Democratic Republic of Congo (DRC). The civil war in DRC that started in 1996 and ended in 2003 led to political destabilization in the east and the creation of many militia. These armed groups engaged in artisanal mining to fund their operations, extorted money from the local population, and hunted bushmeat at remote mining camps, leading to declines in large mammal species around these camps. In 1994, prior to the civil war, Grauer's gorilla was estimated to number c. 17,000 individuals. In joint work the Wildlife Conservation Society, Fauna & Flora International and Institut Congolais pour la Conservation de la Nature surveyed this ape across its range during 2011–2015. The results demonstrate that where there is comparative census data to the surveys made in 1994, the number of gorillas has declined by 87%. Encounter rate data of gorilla nests at 11 sites across the subspecies' range also indicate declines of 85–96% at seven of the 11 sites; at the other sites declines have been less marked (5–10% at three sites and an increase of 40% at one site where protection is good). Spatial occupancy analysis identified the Kahuzi-Biega National Park and adjacent Reserve des Gorilles de Punia, together with the remote and previously undocumented Usala Forest, as the most critical sites for the remaining populations of this ape. An estimated 2,585 (95% CI 1,802–4,528) Grauer's gorillas remain across their range. These results indicate that Grauer's gorilla should be recategorized from Endangered to Critically Endangered on the IUCN Red List. For further details, see www.albertinerift.org.

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New National Geographic Society study on ivory demand in five key consumption countries

Although the international commercial trade in ivory was banned in 1989 through CITES, moving the African elephant from Appendix II to Appendix I, ivory continues to be traded at an alarming scale. Illegal international ivory trade has tripled since 1998.

In 2013, to help prevent further elephant poaching, the Clinton Global Initiative gathered key conservation and scientific organizations to develop the Partnership to Save Africa's Elephants. As part of this effort, the National Geographic Society partnered with GlobeScan to carry out qualitative and quantitative research in five key ivory markets—the USA, China, the Philippines, Thailand and Vietnam—to understand better what drives ivory consumption so as to inform approaches to reduce demand. The results of the study, Reducing Demand for Ivory: An International Study, were published in August 2015 and are available at http://press.nationalgeographic.com/files/2015/09/NGS2015_Final-August-11-RGB.pdf.

The primary objective of the research was to understand ivory consumption within the deeper social norms, cultures, traditions and dynamics of influence of the five countries. Over a 7-month period in 2014, 5,212 people were interviewed in person and online. Statistical analyses included: driver analyses to identify the most influential predictors of intent to purchase ivory; path analysis to uncover the interaction of perception of ivory and social values; and segmentation analyses to find attitudinal, demographic and behavioural indicators, to identify the variations between subgroups.

Ivory consumers in each country were grouped according to their stated interest in purchasing ivory and their self-reported financial ability to do so. Five groups were then identified according to the following criteria: (1) likely buyers, (2) at risk, (3) unlikely buyers, (4) constrained rejecters, and (5) firm rejecters. Likely buyers represented 22% of the consumers surveyed across the five countries. In China and the Philippines this group encompassed just over one-third of those surveyed, and in the USA, Vietnam and Thailand, almost 15% of survey respondents were likely buyers.

Likely buyers described themselves as fashionable, social and religious. Their purchase decisions are motivated by a desire for products that convey financial and social status. As a result, they are often drawn to ivory because of what ivory ownership suggests to others about them. The most powerful source of intent to buy ivory is its perceived suitability for gifting. Related to this is the feeling of happiness that ivory imparts on both the giver and the receiver as well as the status that ivory projects on both, amplified by gift giving.

The study shows that support for government action to ban or limit the trade in ivory is widespread in all five countries, even among ivory owners and those who express interest in buying ivory. Yet, their desire for personal consumption of ivory may conflict with their support for regulation. Increasing support for regulation does not, therefore, appear to directly result in reduced demand for ivory.

Advocacy work focused on threats to elephants may further strengthen support for government action, but this may not significantly alter the embedded social values that fuel demand.

Finally, the study found that non-profit environmental organizations, scientists and family and friends are the most trusted sources of information on issues related to ivory. The types of organizations that are currently working to reduce demand and facilitate regulatory changes are well positioned for impact.

Although there have been other studies that have examined ivory demand, this is the first study of which we are aware that looked across five key ivory consumption countries and analysed socio-economic drivers of ivory consumption. We hope that this research can inform methods to reduce ivory demand, including policy measures, grass-roots and social marketing campaigns, consumer-focused communications and country-specific approaches. We recognize that solutions must go beyond consumer behaviour change to incorporate and address legality, corruption, law enforcement, intelligence sharing, education, capacity building and coordination, transportation and logistics, economics, livelihoods and governance. At the same time, what ultimately drives the illegal killing of elephants and the highly commercialized and criminalized trafficking of ivory are socio-economic cultural beliefs tied to the perceived value of ivory. We believe that the results of this research point to a need for transformational steps to decouple ivory and high status to make ivory purchasing socially and culturally unacceptable.

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Rediscovery of the supposedly extinct *Pedicularis humilis* in the eastern Himalayas

Pedicularis humilis Bonati, a perennial herb species of the family Orobanchaceae, is endemic to the Hengduan Mountains in south-west China. It was categorized as Extinct on the China Species Red List in 2013. This species had only been collected once, in 1913, by George Forrest and was described by Gustave Henri Bonati in 1921 (G.H. Bonati, 1921, *Notes from the Royal Botanic Garden Edinburgh*, 13, 106–107). According to the single type collection (George Forrest 11969) stored at the herbaria of the Royal Botanic Garden Edinburgh (E, holotype) and the Institute of Botany, Chinese Academy of Sciences (PE, isotype), this species is only known from the Shweli–Salween divide, in the southern Hengduan Mountains, an area of c. 400,000 ha in western Yunnan. Neither the Qinghai–Tibet Plateau Expedition of 1982 nor the Gaoligongshan Biodiversity Survey of 1998–2007, which surveyed close to the type location and adjacent areas, located additional specimens.

With the joint support of the Chinese Union of Botanical Gardens (Grant No. KFJ-1W-NO1-12), the National Natural Science Foundation of China (Grant No. 31370243, 31570212), the Natural Science Foundation of Yunnan (Grant No. 2014FB169) and the Talent Project of Yunnan (Grant No. 2015HB092), the Kunming Botanical Garden surveyed for any remnant *P. humilis* in the southern Hengduan Mountain range during July–August in 2015. Fortunately, c. 300 individuals in flower were discovered in three separate sites in alpine meadows at an altitude of 3,200 m. The total area of occupancy of the species is c. 100 m^2. This suggests that it should be categorized as Critically Endangered on the IUCN Red List on the basis of criterion B2ab(i,ii,iii,v). Also, because of its very limited distribution, small population size and habitat degradation, it should be included in the list of PSESP (Plant Species with Extremely Small Populations) in China (Ma et al., 2013, Biodiversity and Conservation, 22, 803–809). Our survey and information obtained from interviews with local people indicated that the main threats to this species are its small population size, the high frequency of destruction by people, and road construction (and hence habitat loss). Urgent and effective measures need to be taken to protect this species.

The Kunming Botanical Garden is now carrying out further studies on the genetic diversity of *P. humilis* and its genetic relationships to other *Pedicularis* species of the eastern Himalayas, to obtain a better understanding of microevolution in this species. With the collaboration of the staff of nature reserves we are also planning to collect seeds of *P. humilis* for propagation and future restoration of the species in the wild. The southern Hengduan Mountains are currently managed as a nature reserve by the local government. However, the alpine meadows in this region merit additional attention because this is the only known natural habitat of the remnant *P. humilis*.

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