



How Liberia Uses Wildlife

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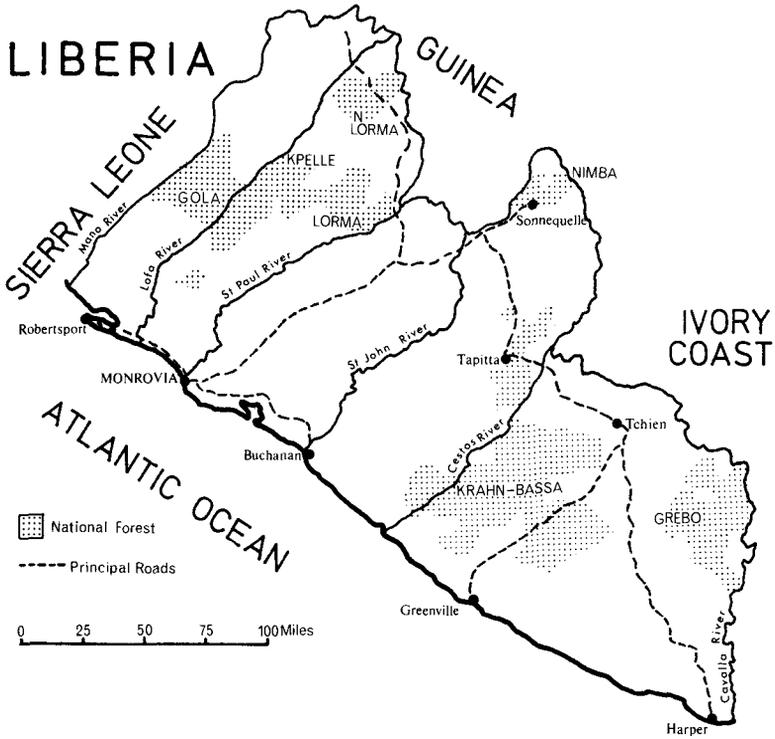
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Food is the main use for wildlife in Liberia, but trade in ivory, skins and live animals is also considerable. Unfortunately Liberia has neither national parks nor wildlife refuges. There are still vast areas of tropical forest, but timber companies are now opening up some areas with their new roads. The author made this survey while living in Liberia between July 1974 and August 1975.

Liberia lies entirely within the tropical rain forest belt with an average annual rainfall above 80 inches over most of the country. Until recently the extensive forests were virtually undisturbed, as most of the small population (only 1½ million) lives along the coastal strip where the freed American slaves settled in the 19th century. But now timber companies are making inroads, clearing land for farming, and, in the process, repairing old roads and driving new ones into formerly inaccessible parts. Nevertheless some fairly extensive forest areas survive.

So far Liberia has neither national parks nor wildlife refuges. A national forest system created in 1953 protects 4½ million acres (approximately 7000 square miles) from clearance. In 1957 a supplemental act gave some protection to wildlife, and a hunting licence scheme was introduced, but the rates are very low by comparison with other African countries: \$150 annually for big game, \$5 for a trapping permit and 50¢ for an export permit. Although only about six big game licences are issued every year – ‘big game’ being undefined but presumed to include elephant, bush cow (buffalo), leopard and pygmy hippo – poaching is widespread. Trapping permits have recently been done away with entirely, and export permits now apply only to trade in live animals – not skins and ivory, as they did originally. Registration certificates for captive wild animals are no longer required. In 1975 funds were allocated for wildlife conservation and a national park system, but the only result so far has been the training of two Liberian wildlife managers at Mweka, in Tanzania.

Liberian animals are exploited primarily for their meat – ‘bush meat’ – which is sold at markets throughout the country. This bush meat is most commonly seen as quartered antelope or monkey, wood-smoked until



dry enough to last for about two weeks. Fresh meat, which is available from roadside vendors, is bought by passing motorists for either individual consumption or resale at one of the town markets. Table 1 is the result of a survey I made on the roads around Greenville, Tchien and Tappita, travelling on average every third day; it shows 196 bush meat sales (in order of abundance) over a period of 10 months. Of the carcasses identified, 135 were antelope (mainly duiker) and 26 monkey.

The rarer bush meat included pangolin, which is considered a delicacy and is costly, and fresh, butchered hog meat, which at 35¢ a pound was more expensive than monkey or antelope. Elephant, leopard and chimpanzee meat is also eaten, but these animals are usually killed for other reasons – ivory, skins and infants respectively. Smaller species that are eaten, although their meat is not usually saleable, include rats, especially the giant rat *Cricetomys emini*, squirrels, mongooses and birds, especially palm-nut vultures and giant or blue plantain-eaters. Freshwater fish, usually catfish, was selling at 30¢–40¢ a pound fresh and \$1 smoked. Live tortoises averaged around 40¢ a pound, depending on size, and Nile monitors around 30¢. Bush cow *Syncerus caffer* and bongo *Boocercus eurycerus* are seldom hunted, the former being considered dangerous, and the latter wary and difficult to approach (though not impossible, apparently, since its horns are traditionally used to sound summonses to villagers and can also be found in Monrovia souvenir shops). Manatees are said to be taken by the occasional fisherman using a harpoon and gun, but no meat was found during the survey.

Domestic meat was found to be more expensive than bush meat, although

Table 1 Bush-Meat Sales

Species	Times seen as bush meat
Maxwell's duiker <i>Cephalophus maxwelli</i>	42
Bay or black-backed duiker <i>C. dorsalis</i>	35
Zebra duiker <i>C. zebra</i>	22
Black duiker <i>C. nigra</i>	10
Ogilby's duiker <i>C. ogilbyi</i>	10
Jentink's duiker <i>C. jentinki</i>	10
Red colobus monkey <i>Colobus badius</i>	8
Red river hog <i>Potamochoerus porcus</i>	6
Water chevrotain <i>Hyemoschus aquaticus</i>	5
Mona monkey <i>Cercopithecus campbelli</i>	5
Mangabey monkey <i>Cercocebus torquatus</i>	5
Bushbuck <i>Tragalephus scriptus</i>	4
Diana monkey <i>Cercopithecus diana</i>	3
Giant forest hog <i>Hylochoerus meinertzhageni</i>	2
Marsh mongoose <i>Atilax paludinosus</i>	2
Hinged-backed tortoise <i>Kinixys erosa</i>	2
Royal antelope <i>Neotragus pygmaeus</i>	1
Pygmy hippo <i>Choeropsis liberiensis</i>	1
Spot-nosed monkey <i>Cercopithecus petaurista</i>	1
Olive colobus monkey <i>Colobus verus</i>	1
Forest genet <i>Genetta pardina</i>	1
African civet <i>Viverra civetta</i>	1
Palm civet <i>Nandinia binotata</i>	1
Giant pangolin <i>Manis gigantea</i>	1
Tree pangolin <i>M. tricuspis</i>	1
African python <i>Calabaria</i> sp.	1
Gaboon viper <i>Bitis gabonica</i>	1
Nile monitor lizard <i>Varanus niloticus</i>	1

bush meat generally has a higher nutritional value¹. Table 2 compares the average cost, outside Monrovia, of antelope and monkey meat with domestic meat. Because sheep and goats are the traditional Muslim sacrificial animals, theirs is the most expensive domestic meat, but antelopes will also fetch a higher price if ceremonially killed and bled, and often they are strung up alive until they are bought for this reason. Imported meat is available only in Monrovia and costs from \$2 to \$6 a pound.

Prices of bush meat vary with an area's remoteness and population density. Fresh antelope ranged from 28¢ a lb along the Tchien-Harper road to 77¢ in the Sannequelle area, where a nearby mine has attracted a large number of workers, and over 100¢ at Greenville, where a new \$30 million wood-processing complex was just opening. Hunting is therefore a profitable business, facilitated considerably by the new roads being cut into remote forests. Near a large timber company in the Juarzon area, 32 spent cartridges were collected on five miles of disused logging road in the Krahn-Bassa National Forest at the end of May, and eight weeks later a further 22. Another remote forest path produced 19 in five miles, and a four-mile walk in the Nimba hills, near the longer established Sannequelle mine, turned up only one – indicating a depleted wildlife population and probably explaining the high price of bush meat in the area.

Table 2 Prices of bush meat and domestic meat

<i>Type of bush meat</i>	<i>Average price per lb.</i>	<i>Total weight (lb.) in sample</i>
Antelope carcass	\$0.20	460.50
Butchered antelope	\$0.33	282.25
Smoked antelope	\$1.39	49.00
Monkey carcass	\$0.19	49.00
Butchered monkey	\$0.27	22.15
Smoked monkey	\$0.79	38.25

<i>Type of domestic meat</i>	<i>Price range per lb.</i>
Beef	\$0.50–\$1.00
Pork	\$0.60–\$1.25
Salt pork	\$0.85–\$1.25
Sheep or goat	\$1.00–\$1.50

Hunting pressure on Liberia's elephants, which can still be found in the more remote forests, has increased with the price of ivory, and there is now a danger of local extinction. This has been exacerbated by the introduction of rifles, usually supplied by expatriates with an interest in the ivory trade. The traditional, and much more perilous, hunting method was to fire iron-tipped wooden shafts from 12-gauge shotguns. There is no legal restriction to the number of elephants that may be shot; in any case, the \$150 big-game licence is rarely applied for. Ivory prices in country areas are appreciably lower than in Monrovia. Tusks weighing 22, 8 and 4 lb per pair cost \$80, \$48 and \$10 respectively – averaging \$4 a pound; in Monrovia raw tusks may cost from \$12 to \$20 a pound, larger ones bringing even higher prices. In 1970 raw ivory sold in Monrovia for \$5 to \$6, a third the present rates.

Six ivory-carving shops on Monrovia's Front Street were found to have total retail stock worth around \$90,000. With a six-month turnover rate – a conservative estimate – their total annual income would be a minimum of \$180,000, or \$30,000 each. And these shops represent only one part of the ivory trade: the numerous travelling traders and curio shops contribute as well. Carved tusks may cost as much as \$50 a pound, and in one shop 30 tusks were seen in some stage of carving, with another 22 waiting in a back room. There is also the usual range of bangles, beads and buttons, with a string of beads costing about \$15. Antique ivory is occasionally seen – usually as powder horns, musical horns or mortars – as well as other elephant products: molars, tails and crude bangles fashioned from hair. The same shops sell unmounted horns of bush cow, bongo and bushbuck and the canines of hogs, pygmy hippos and leopards. Elephant tails sell for \$5–\$20 each, and a leopard canine for \$5. Many of the tusks on sale could only have come from the large bush elephant *Loxodonta a. africana*. As the primary Liberian form is the forest elephant *L. a. cyclotis* much of the ivory found in Monrovia is probably brought in from Mali, Upper Volta or Guinea.

It can take two weeks to carve a medium-sized tusk. Carvers are cheap to employ, usually working as apprentices for food, lodging and the hope of owning their own shops one day. Four shop-owners, and most of the carvers, were Guineans, and other owners came from the Ivory Coast, Mali and Sierra



SKINS for sale in a Monrovia shop

Leone; none were Liberians. Because these countries have tightly regulated currencies and Liberians are allowed to deal in US dollars, Monrovia has become a clearing house for the ivory trade. The manufacture and sale of African art requires a \$100-a-year licence. Current ones were seen displayed in two shops.

The Skin Trade

Compared to ivory, the trade in skins is moderate and confined mainly to leopard, golden cat *Felis aurata*, genet, red colobus, black and white colobus, zebra duiker, bushbuck, otter and African python. Leopard skins were in greatest demand fetching \$250–\$400 in Monrovia and \$100–\$200 in smaller towns, a considerable increase over the 1968 prices of \$20–\$75 found by Robinson². Most of the skins were imported and outside Monrovia were usually sold by Nigerian or North African traders. In the city the bulk of the trade was handled by small stores and ivory-carving shops, but a few travelling traders were seen there as well. Though leopard skins were rarely displayed, traders always claimed to be able to get hold of one or more. When buyers of spotted cat skins are from America or Britain, where their import is banned, the normal practice is to send the skins to Europe (e.g. Italy) to be made into legally importable coats. Skins of other cats were a good deal cheaper than those of leopards, with Guinean servals selling for \$20 and golden cats, of which 10 per cent were the black forest form, for \$10–\$20.

Other skin prices in Monrovia (representing a 200–500 per cent mark-up over those charged by the inland hunter or trapper) were duiker \$4, otter \$2–\$10, colobus \$3–\$5 and genet \$1. Chequerboard rugs made from imported antelope and goat skins cost about \$50, and there was a flourishing trade in reptile-skin handbags and leopard's teeth or claws mounted in gold or silver as pendants or brooches.

By kind permission of the Assistant Minister for Forestry, the Right Hon. J. Melvin Thornes, I was able to examine the ministry's animal export files. Permits, still costing only 25¢, allowed the export of any number of animals at one time and could be divided into those issued to dealers, with long lists of animals, and those for private individuals taking home pets. Six animal

dealers were operating: three Africans, an American, a Swiss and a Dane. Among the most valuable exports were juvenile chimpanzees; of which 175 were legally exported in 1973–74, 106 of them to US agents, especially Pet Farm Inc. of Miami, and Star Route and Primate Imports Corporation, both of New York.

Orphaned chimpanzees cost \$35–75 in the forest; in Monrovia they cost \$75–120. The dealer pays \$250–500 to the exporter, and also cost of shipment. The best age is between 9 months and 2 years, less being paid for older chimps. The US dealer may resell the chimp for up to \$1000. During 1975 the New York Blood Centre was given formal permission to collect chimpanzees in Liberia for hepatitis research, using anaesthetic darts; some orphaned chimps were, however, bought from hunters. The agreement stipulated that a viable breeding colony of chimps should be established in Liberia, and Liberian staff be trained in biomedical research. Liberia also supplied 60 Demidoff's galagos in 1975 for German biomedical research. Whatever the numbers required natural populations will have to be reduced by several times the actual number exported to allow for deaths. This is especially true for chimpanzees, whose mothers are always shot. Pygmy hippos caught in pit traps have been widely exported from Liberia, but successful breeding in captivity has reduced the demand. A trapper was reported to have received \$350 for one in 1971, and in 1975 the overseas resale value of these animals was around \$2000. Four were legally exported in 1974. At present there are no reserves for pygmy hippos, although they are fairly common in zoos.

In 1973 6370 'rice birds', a broad term for the weavers which attack rice crops, were exported, in 1974, 9500. They are usually collected in Japanese mist nets, and it is likely that many other species besides weavers are taken in this way and eventually exported. The principal buyers are Gunter Enderle of West Germany and Avis Bird and Animal Traders of Holland. African animal dealers conduct most of the bird export business, since recent flooding of the market has driven the price down from \$3.50 each to less than \$1, and expatriate dealers no longer find the enterprise profitable.

Other live exports in 1973–74 included 33 pythons (species unspecified), 138 crocodiles, 6 turtles and 7 bare-headed rock fowl *Picathartes gymnocephalus*, the last particularly vulnerable because after dealers have raided the colony villagers may kill the rest for food. Live antelopes are sold according to meat value, unless the seller recognises that one belongs to a rare species and is therefore in greater demand. An adult male Jentink's duiker, an endangered species, cost \$55, while a four-month-old duiker of a commoner species can be bought for \$1, and an adult for \$10. High demand has also forced up the price of baby elephants.

Acknowledgments

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