



75% lost
30 years

75% of West Africa's chimpanzees have disappeared in the last 30 years.

Regional Action Plan for the Conservation of Chimpanzees in West Africa



Hope

With adequate measures rapidly implemented, chimpanzees do have hope of survival in the region.

Survival

The two most threatened West African sub-species of chimpanzees



The Nigerian Chimpanzee
(Pan troglodytes vellerosus)



The Western Chimpanzee
(Pan troglodytes verus)

Illustrations by Stephen D. Nash.

The world's leading experts agree that the investments and actions described in this plan constitute the best strategy for preserving wild chimpanzee populations in West Africa.

Regional Action Plan for the Conservation of Chimpanzees in West Africa

(*Pan troglodytes verus* and *Pan troglodytes vellerosus*)

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Abstract

Wild chimpanzees are only found in tropical Africa, where their populations have declined by more than 66% in the last 30 years, from 600,000 to fewer than 200,000 individuals. While this decline by itself is alarming, it merits additional concern because, more than any other species, chimpanzees closely resemble humans genetically, behaviorally, and physically, and thus provide an important link to our evolutionary history.

The two West African sub-species of chimpanzees, the Western Chimpanzee (*Pan troglodytes verus*) and the Nigerian Chimpanzee (*Pan troglodytes vellerosus*) are the most threatened. Indeed, they have already become extinct in three West African countries: Benin, Togo, and Burkina Faso. Throughout their range, chimpanzees are threatened by deforestation,

poaching, and capture for the pet trade and research purposes. These threats are exacerbated by the recent human population explosion in West Africa.

The following action plan details a strategy for protecting 80% of the surviving chimpanzees in West Africa at a cost of US\$9 million. The plan resulted from a recent workshop in Abidjan, Côte d'Ivoire, where an international group of 72 biologists, protected areas managers, government officials, and other experts met to discuss priority actions for protecting chimpanzees in West Africa. A key feature of this plan is the protection of chimpanzee habitat, an approach that would also benefit numerous other threatened species in a region that ranks among the world's most biologically diverse.



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Using a heavy stone, a mother cracks *Panda* nuts for her young son. Chimpanzees spend years mastering this difficult skill, only becoming proficient around the age of 10.

HUMANS AND CHIMPANZEES ARE remarkably similar—only a 1.24% genetic difference exists between the two species, compared to a difference of 1.63% between chimpanzees and gorillas (Chen and Li 2001). No other species resembles humans as closely as chimpanzees, a resemblance that goes beyond genetics. Like humans, chimpanzees make and use tools, either to gain access to food resources, to use as weapons, or to improve comfort. While limited tool use has been documented in isolated populations of some other species, all chimpanzee populations are known to fashion and use tools extensively. In fact, wild chimpanzees have been observed to use as many as 54 different kinds of tools (McGrew 1992, Boesch and Boesch-Achermann 2000, Yamakoshi 2001). The extent to which they use tools varies—chimpanzees from the Taï forest in Côte d'Ivoire use 26 different types of tools; those from Bossou, Guinea, use 15; and those from Kibale in Uganda have been observed to use only nine. West African chimpanzees, however, use tools more proficiently than all other chimpanzees. In particular, they are famous for cracking wild nuts with hammers (Boesch 1978, Sugiyama and Koman 1979, Whitesides 1985).

Chimpanzees also resemble humans in that they hunt for meat. They usually hunt small monkey species, especially red colobus monkeys, as well as small duikers and bush-pigs. Tāi chimpanzees hunt on average every three days and tend to be successful every second hunt (Goodall 1986, Boesch and Boesch-Achermann 2000). Some chimpanzee populations hunt more rarely. Group hunting is common, and in the Tāi forest chimpanzees are known to adopt complementary roles and work together as a team while hunting. This cooperation is remarkably developed, and if the hunt is successful meat is shared according to very specific rules (Boesch 1994, Boesch et al. 2002, Boesch and Boesch-Achermann 2000, Mitani and Watts 2001).

Additionally, chimpanzee groups are known to develop idiosyncratic cultural practices to such a degree that an individual's behavior can indicate with certainty the group to which it belongs (Whiten et al. 1999, 2001, Whiten and Boesch 2001). Like humans, chimpanzees also care for their wounded, sometimes spending hours attending to group members who have fallen victim to predator attacks. Moreover, they often mourn the deaths of their companions in ways that resemble



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Social grooming is common among chimpanzee groups. It appears to have a calming effect, which helps explain why it is often observed following conflict between individuals and sexual relations. Chimpanzees spend additional time grooming in the early stages of new relationships and when relationships are threatened by rivals.



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This chimpanzee mother, named Margot, is pictured here in Côte d'Ivoire's Tāi forest with her twins Miriam and Makeba. Twin chimpanzees rarely survive because they are so difficult to care for. Nevertheless, Margot succeeded in raising Miriam and Makeba for more than 1.5 years. Tragically, due to the civil unrest in Côte d'Ivoire, a poacher entered the National Forest and killed Margot in December 2002. Her twins were never seen again.

human mourning behavior (Boesch and Boesch Achermann 2000).

Yet, despite being the species that most resembles humans, chimpanzees are disappearing from the wild at an alarming rate. In the early 1960s, Teleki (1989) estimated the African chimpanzee population to comprise 600,000 individuals. Since then, the total population has declined dramatically; researchers estimate that only 150,000–250,000 individuals remain (Butynski 2001).

The combined effects of deforestation and hunting have caused this dramatic decline. West Africa in particular has suffered from widespread deforestation. An estimated 80% of the region's original forest cover was gone by the 1980s, affecting not only chimpanzees but also rainfall—during the last three decades, precipitation has diminished in West Africa even faster than it has in the drier regions of the Sahel (Paturel et al. 1995, Servat et al. 1997). Researchers have also observed that chimpanzees currently constitute 1–3% of the bushmeat sold in urban markets (Whites et al. 2002, Caspary et al. 2001). Hunting pressure at this level could, by itself, lead to the rapid local disappearance of even large populations of chimpanzees because of their low population density and slow reproductive rate; on average, female chimpanzees produce only one infant every five or six years (Sugiyama 1999, Boesch and Boesch-Achermann 2000).

In West Africa, two sub-species of chimpanzees have recently been documented: The Western sub-species, *P. t. verus*, ranging from Senegal eastward to either the Dahomey Gap or the Niger River (Butynski 2001); and the Nigerian-Cameroon sub-species, *P. t. vellerosus*,

ranging through to the Sanaga river in Cameroon (see maps, pages 8–9). The boundary between the two sub-species is still unclear (Gonder et al. 1997, Gagneux et al. 1999). Both are seriously threatened, and we must act quickly if they are to survive.

In the sections that follow, we offer a general assessment of the status of chimpanzees in West Africa based on the current knowledge of leading experts, followed by an action plan for their protection. This plan includes actions that are regional and national in scope as well as site-specific actions focused on seven “Extremely Important” and seven “Very Important” areas for chimpanzee conservation, as identified by experts on the region. Several sites are also identified that are likely to be important for the conservation of chimpanzees in West Africa but that are still relatively unstudied.

On average, female chimpanzees produce only one infant every five or six years.

An estimated 80% of West Africa's original forest cover was gone by the 1980s.



© Ilka Herbing/WCF

Chimpanzees climb a *Ficus* tree to feed on its fruit.

Present Status of Chimpanzees In West Africa



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Wild chimpanzees devote about one-fourth of every day to rest, grooming, and play. Young chimpanzees play with each other as well as their mothers and other adults in the group.

An effective plan for protecting chimpanzees in West Africa must be based on the most accurate and current knowledge of their status. On 12–13 September 2002, an international group of 72 biologists, protected areas managers, government officials, and other experts met in Abidjan, Côte d’Ivoire, to assess the status of chimpanzees in West Africa and devise a strategy for ensuring their survival. All of the countries comprising the chimpanzees’ current range were represented at the workshop: Senegal, Mali, Guinea-Bissau, Guinea, Sierra Leone, Liberia, Côte d’Ivoire, Ghana, and Nigeria. Experts from numerous other nations participated as well, including the Gambia, Kenya, Uganda, the United States, the Netherlands, Germany, Italy, Switzerland, the United Kingdom, and Japan.

Workshop participants agreed that much remains unknown about West Africa’s chimpanzee populations, and that many estimates of population sizes and distributions in West Africa are based on outdated information. Our current knowledge, albeit limited, on the status of chimpanzees in all countries within the two West African sub-species’ current and former ranges is summarized in Table 1. Recent national censuses in countries like Côte d’Ivoire (Marchesi et al. 1995) and Guinea (Ham 1998) have added to this body of knowledge, as have censuses in smaller, more specific regions

like the Bafing in Mali (Pavy 1993, Duvall and Niagaté 1997). However, further surveys of West African chimpanzee populations are urgently needed.

The information we do have, however, supports some important conclusions. In total, 21,300–55,600 Western chimpanzees and 5,000–8,000 Nigerian chimpanzees are believed to exist today in West Africa. Approximately 6% of their range is found within protected areas, and only 25–45% of chimpanzees are currently found within these protected areas¹. Current knowledge suggests that viable chimpanzee populations exist in at least five countries: Côte d’Ivoire, Guinea, Sierra Leone, Nigeria, and Liberia. Chimpanzees in West Africa are believed to be extinct in 3 of the 13 countries that constituted their original range, namely, Togo, Benin, and Burkina Faso (unconfirmed reports suggest that a few chimpanzees may seasonally migrate into Burkina Faso). Moreover, populations in three other countries—Senegal, Guinea-Bissau, and Ghana—are extremely threatened, numbering only in the hundreds. In other words, if we do not act quickly, chimpanzees may soon be extinct in 6 of the 13 West African countries where they originally occurred. With adequate measures rapidly implemented, however, chimpanzees do have hope of survival in the region.

In the action plan that follows, we first present a list of priority actions that need to be pursued at regional and national levels. We then present a list of priority sites for chimpanzee conservation and corresponding actions for each of these specific sites.

¹ Protected areas here are defined as those falling within IUCN Categories I–IV. In some cases there are other protected areas within these countries that contain chimpanzees, but these are national or classified forests that receive less protection status.

Table 1. Estimated status of the Western chimpanzee (*P. t. verus*) and the Nigerian chimpanzee (*P. t. vellerosus*).

The Western Chimpanzee (<i>Pan troglodytes verus</i>)				
	Country ^a	Status		Source
		Minimum	Maximum	
1	Senegal	200	400	Butynski 2001
2	Mali	1,600	5,200	Duvall et al. <i>in prep.</i>
3	Burkina Faso	0	Few? ^b	Butynski 2001
4	Guinea-Bissau	600	1,000	Gippoliti et al. <i>in prep.</i>
5	Guinea	8,100	29,000	Kormos et al. <i>in prep.</i>
6	Sierra Leone	1,500	2,500	Butynski 2001
7	Liberia	1,000	5,000	Nisbett et al. <i>in prep.</i>
8	Côte d’Ivoire	8,000	12,000	Herbinger et al. <i>in prep.</i>
9	Ghana	300	500	Butynski 2001
10	Togo	0	0	Butynski 2001
11	Benin	0	0	Butynski 2001
12	Nigeria	0	? ^c	Butynski 2001
	Total	21,300	55,600	
The Nigerian Chimpanzee (<i>Pan troglodytes vellerosus</i>)				
	Country	Status		Source
		Minimum	Maximum	
1	Nigeria	2,000	3,000 ^c	Oates et al. <i>in prep.</i>
2	Cameroon	3,000	5,000	pers comm from E. Gadsby, P. Jenkins, J. Oates, and J. Groves
	Total	5,000	8,000	

^a Chimpanzees were previously reported to have once occurred in the Gambia (e.g. Teleki 1989) although there is no hard evidence for this fact (Butynski *in prep.*). Carter (personal communications) has however recorded verbal reports from hunters that chimpanzees did indeed once occur in this country although they are no longer present.

^b The IUCN Red Data Book (1988) reports unconfirmed sightings suggesting that during the rainy season chimpanzees may be crossing into Burkina from Côte d’Ivoire.

^c The chimpanzee in Nigeria west of the Niger River may belong to the subspecies *P. t. verus*.

Regional Non-Site Specific Priority Actions

Workshop participants agreed on four priority actions that should be pursued at the regional and national levels in order to protect chimpanzees in West Africa.

Priority Action Chimpanzee sanctuaries

Chimpanzee Sanctuaries in West Africa

In total, about 171 chimpanzees currently live in sanctuaries in West Africa, although the sub-species of chimpanzees in these sanctuaries have not been confirmed in every case. Approximately 478 captive chimpanzees are also known to be held in the region outside of the sanctuaries, e.g., in homes or hotels. The main sanctuaries in West Africa include:

- The Chimpanzee Conservation Center (CCC) in Guinea
- The Tacugama Chimpanzee Sanctuary in Sierra Leone
- The Chimpanzee Rehabilitation Project in the Gambia
- Drill Rehabilitation and Breeding Centre (DRBC) in Nigeria
- The Limbe Wildlife Centre (LWC) in southwestern Cameroon

Other organizations working in West Africa to aid chimpanzees in sanctuaries include the Pandrillus Foundation, Conservation Society of Sierra Leone, and Foundation Step By Step. Relevant government departments in these countries also play an integral role in supporting sanctuary projects.

THE ILLEGAL TRAFFIC OF INFANT CHIMPANZEES has become a significant drain on the wild population, not simply because infant chimpanzees are targeted, but also because capturing an infant often requires that its mother and other family members be killed. Moreover, infants often die from malnutrition and disease during transport. If African governments were to review, strengthen, and enforce legislation designed to prohibit infant capture and trade, the number of confiscated chimpanzees could increase in the short term, thus putting additional strain on chimpanzee “orphanages” or “sanctuaries”², but over the long term the number of animals killed, captured for trade, or confiscated would decrease.

Currently, sanctuaries for confiscated chimpanzees in Guinea, Sierra Leone, and Nigeria house 33, 54, and 22 individuals, respectively. Over the past two decades in the Gambia, 62 free-living chimpanzees have been successfully introduced onto an island in the River Gambia. Sanctuaries aid in the enforcement of protective legislation by providing safe havens for confiscated chimpanzees. They also help raise awareness about threats to wild chimpanzee populations. In addition, because sanctuary populations tend to rise and fall in response to the level of hunting pressure in surrounding areas, sanctuaries can contribute to monitoring efforts. Unfortunately, they often lack the funds needed to care for confiscated individuals.

Priorities for Review of Chimpanzee Sanctuaries	Time Frame	Funding Needed
<ul style="list-style-type: none"> • Create a trust fund that can provide long-term funding to sanctuaries. • Create a mechanism for coordinating the efforts of all West African sanctuaries. • Formalize an agreement between governments on transferring confiscated chimpanzees between approved centers for the benefit of the individual chimpanzees. • Explore the possibility of rehabilitating captive chimpanzees into former range states/areas, according to IUCN guidelines. • Train local staff to care for orphaned chimpanzees. Nationals should receive appropriate training in management, which would allow them to fill higher-level positions. • Build on the PASA education package to increase awareness about the use of sanctuaries. • Assess the feasibility of using sanctuaries, in an extremely careful way, as a potential source of tourism revenue and education. • Develop a system of accreditation for sanctuaries. 	5 years	\$500,000

² There is still some debate as to what the correct terminology should be for chimpanzees in these facilities. Some feel that “orphanages” is too limited a term, as these facilities play a much greater role. Others feel that the term “sanctuaries” can confuse *in situ* and *ex situ* situations.

Regional Non-Site Specific Priority Actions, *continued*

Priority Action Biomonitoring

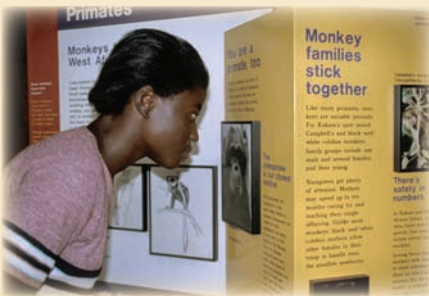


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A Taï Chimpanzee Project assistant monitors chimpanzee behavior. Assistants choose specific individuals to observe over an extended period of time. A range of behaviors are monitored, including the individual's movements within the

group's territory, his/her eating and resting habits, vocalizations, and interactions with other members of the group (i.e., grooming, aggression, play, sexual relations). Assistants also closely monitor mother-infant relationships within chimpanzee groups.

Priority Action Education and awareness



Haroldo Castro

A visitor to Kakum National Park, Ghana, learns about the many different primate species of West Africa.



A **COMPREHENSIVE DATABASE** of information on the status and distribution of chimpanzees is urgently needed. Once established, this database could provide a basis for an early warning system designed to identify emerging threats. In order to gather information on chimpanzees more efficiently, however, current survey methodologies must be refined

so they are less time consuming and labor intensive. Once refined, these methods should be employed consistently throughout the region in a concerted “biomonitoring” effort. The information generated from such an effort would provide a tool for identifying and mapping threats, thus giving conservation authorities the information required to effectively protect chimpanzees.

Priorities for Biomonitoring	Time Frame	Funding Needed
<ul style="list-style-type: none"> • Develop a spatial method of surveying wild chimpanzee populations that will simultaneously identify factors affecting chimpanzee population size and distribution. • Develop a ranger-based monitoring program in all extremely high and very high priority sites for chimpanzee conservation. • Conduct an evaluation of the efficiency of the protection for chimpanzees and their habitat in all priority areas. • Integrate the results of all of the above into protection strategies in all priority areas. 	5 years	\$800,000



E **DUCATING AND RAISING THE AWARENESS** of communities located near important chimpanzee habitat is necessary if chimpanzees are to be protected in both the short and long terms. This is especially important because West Africa has suffered from civil strife and law enforcement breakdowns, leaving local

populations with much of the responsibility of protecting chimpanzees. A campaign to raise awareness should also target foreigners through embassies and airports. Additionally, army officials and police officers within the country should be educated about the laws protecting chimpanzees.

Priorities for Education and Awareness	Time Frame	Funding Needed
<ul style="list-style-type: none"> • Develop and expand education and awareness programs based on theater plays, newsletters, posters, film video presentations, nature awareness outings, formation of scout groups, and slide programs for schools and villagers, with regular visits in villages close to protected areas and areas with important chimpanzee populations. • Develop and produce materials explaining the laws protecting chimpanzees for relevant authorities, including the judiciary, customs, the police, and other national services that have key roles to play in the protection of chimpanzees. • Work with the national independent media to disseminate stories of interest about wildlife conservation and cases of prosecution. 	3 years	\$500,000

Regional Non-Site Specific Priority Actions, *continued*

Priority Action
Review of legislation and enforcement



Peter Hoke

In Haute Dodo Classified Forest, Côte d'Ivoire, timber originally felled to fulfill an order lies unused because the order was later canceled. Unregulated logging poses a serious threat to chimpanzee habitat.

•.....➔ **A** **PROPER LEGAL FRAMEWORK** must be established to support the efforts of governments, park wardens, and protected area managers to protect chimpanzees. Chimpanzees are currently protected by the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in all range countries (see bottom of page), but this Convention only applies to the movement of species across international boundaries. It does not address the status or treatment of species within country boundaries. Fur-

thermore, while chimpanzees currently receive the highest level of protection provided by national legislation in all range countries—each country prohibits the hunting of chimpanzees—capture permits for scientific research can still be acquired with ministerial approval in both Guinea and Senegal. Moreover, the fines for capturing or killing chimpanzees are often inadequate. In Guinea, for example, the current fines and penalties for infractions concerning the hunting, possession, or sale of chimpanzees are too low to serve as a realistic deterrent.

Priorities for Review of Legislation and Enforcement	Time Frame	Funding Needed
<ul style="list-style-type: none"> • Review legislation for the protection of chimpanzees throughout West Africa. • Assess the enforcement of chimpanzee protection legislation at every stage of the enforcement process (protected area enforcement, policing of poaching activities outside of protected areas, application of the law by judges, etc.). • Work with governments to suggest changes and amendments to these laws, with an emphasis on region-wide regulations. 	1 year	\$20,000

International Legal Protections for Chimpanzees

Chimpanzees are listed under **Appendix I** of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). This means that trade in this species between countries is forbidden and only permitted under exceptional circumstances and with proper documentation. Chimpanzees are listed as an **Endangered Species** under Section 4 of the United States Endangered Species Act of 1973. Chimpanzees are also protected by law within all countries in West Africa. These laws all state that the hunting and capture of chimpanzees is strictly forbidden throughout the entire territory of each country.

Priority Areas for the Protection of Chimpanzee Populations

BIOLOGICALLY SPEAKING IT IS MORE useful to think of chimpanzee distribution in West Africa in terms of population rather than geographic area because a population encompasses all the individuals of a particular species that can potentially breed with one another, regardless of national boundaries or administrative limits. For this reason, in delineating

priority areas for chimpanzee conservation, participants at the Abidjan workshop disregarded national boundaries and administrative limits and focused instead on areas where wild populations of chimpanzees with good possibilities for genetic exchange occur. Consequently, several of the priority sites listed in this plan are transboundary areas.

Criteria for selection of priority areas for chimpanzee conservation

In total, experts agreed upon a list of seven “Exceptionally Important Priority Areas” and seven “Very Important Priority Areas” where conservation efforts should be concentrated to ensure the survival of wild chimpanzees in West Africa. The criteria used to determine these priority areas were as follows:

- Population size (a population greater than 450 individuals was a prerequisite for the “Exceptionally Important Priority Areas”)
- Importance of the biotope (quality and diversity)
- Surface area of habitat (larger areas of intact habitat are generally better than smaller areas)
- Real and potential pressures and threats

Additional points that experts considered when assessing the quality of priority sites:

- Attitudes of the local human populations towards chimpanzees (i.e., whether or not taboos exist against hunting chimpanzees)
- Potential for genetic interchange (i.e., presence of multiple chimpanzee communities)
- Degree of accessibility
- Ongoing conservation activities (i.e., the presence of pre-existing conservation infrastructure that can facilitate future projects)
- Legal status of the area or the site (i.e., whether the area already has any kind of protected status)
- Presence of other species, especially endangered and endemic species
- Optimization of ongoing conservation efforts
- Potential for ecotourism

Priority areas were ranked according to the following three classifications:

I. Exceptionally Important Priority Areas

Areas that require immediate attention. If all areas in this category are properly protected, an estimated 60% of the remaining chimpanzees in West Africa will be saved.

II. Very Important Priority Areas

Areas that, if protected, would save approximately 20% of the chimpanzee population. Protecting these areas along with all Exceptionally Important Areas would allow for an estimated 80% of the chimpanzees in West Africa to be saved.

III. Surveys Needed

Areas that are believed to be very important for chimpanzee conservation, but that are still relatively unknown and need to be surveyed.



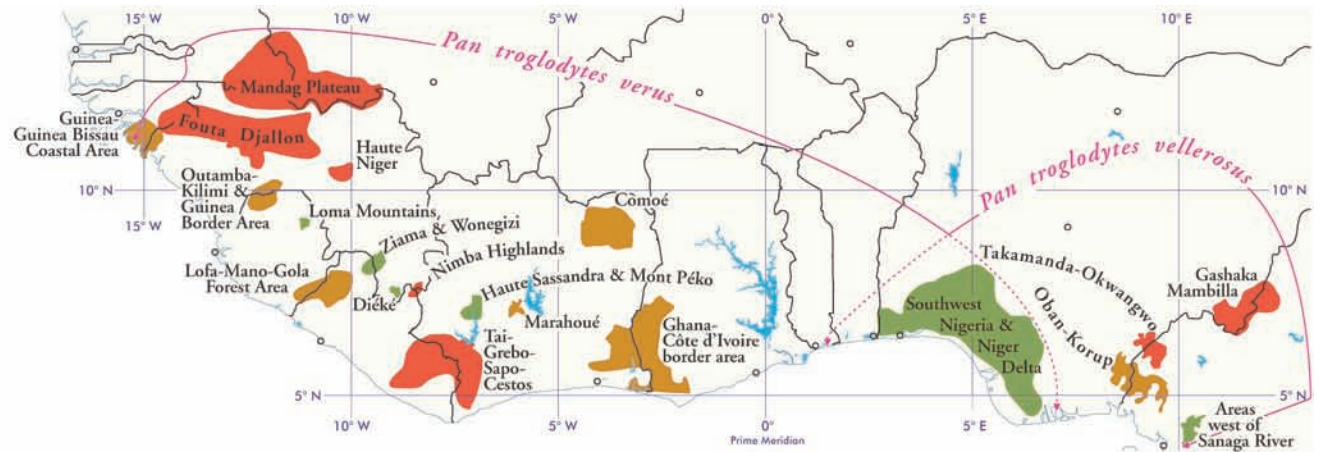
© Christophe Boesch

An adult female chimpanzee uses a small stick to extract *Detarium senegalensis* seeds after cracking the hull open with a stone. Except for humans, chimpanzees are the only species known to use two different tools together to accomplish a task.

Chimpanzee Priority Areas

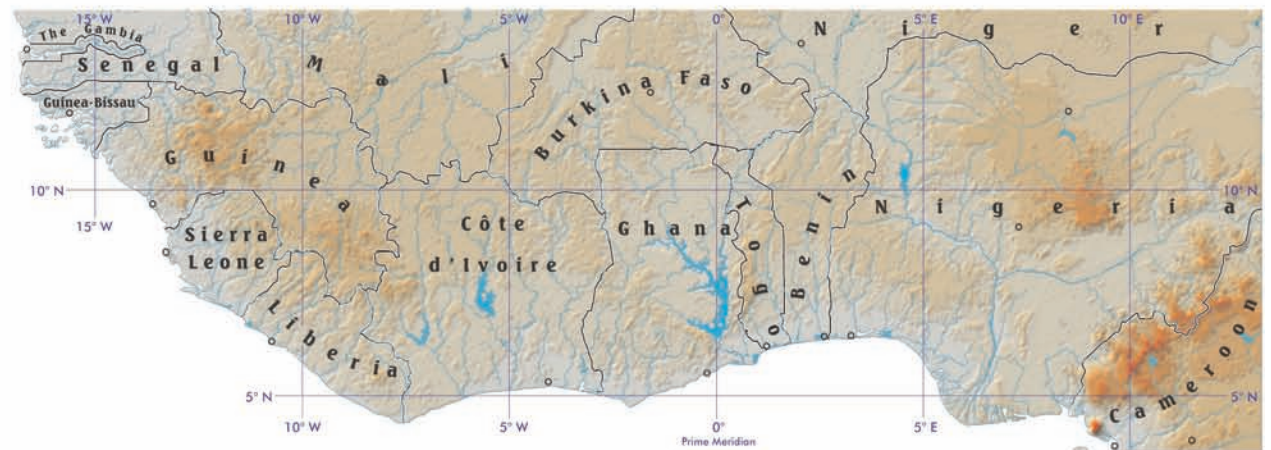
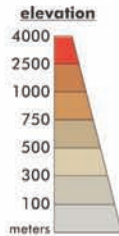
- Chimpanzee Priority Areas**
- Extremely Important Areas (Red)
 - Very Important Areas (Orange)
 - Areas Needing Surveys (Green)
- Chimpanzee Ranges**
- chimpanzee species range (Pink arrow)

data:
Butynski, T.M. "Africa's great apes" pp. 3-56, *Great apes and humans: The ethics of coexistence*, (Smithsonian Institution Press, Washington D.C. 2001)



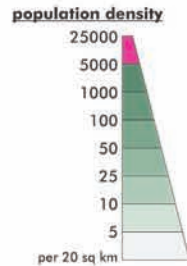
Physical & Political Geography

data:
GTOPO30
30 arc second global digital elevation model
USGS - EROS Data Center,
<http://edcdaac.usgs.gov/gtopo30/gtopo30.html>
download: 2002



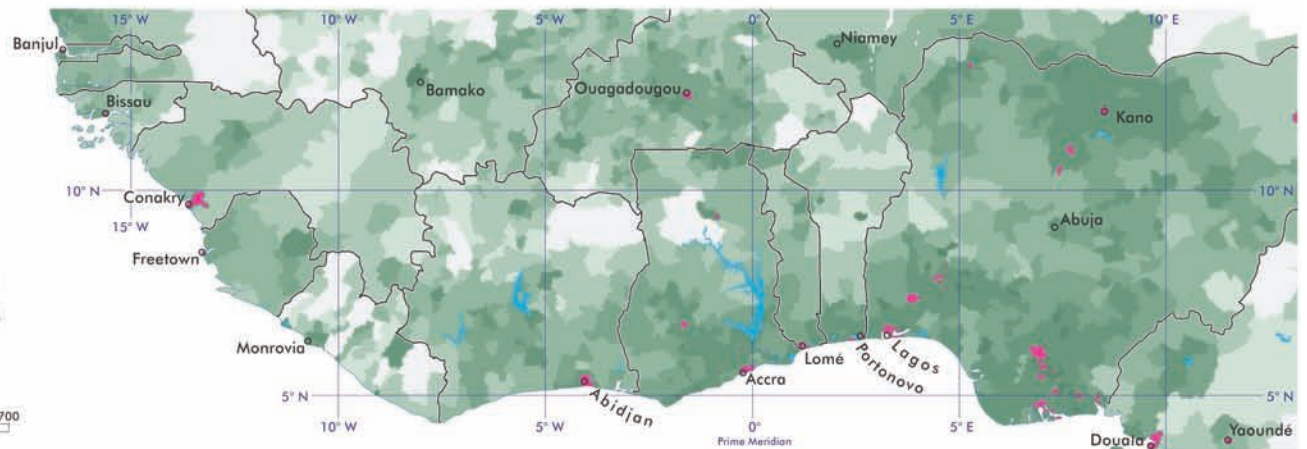
Human Population

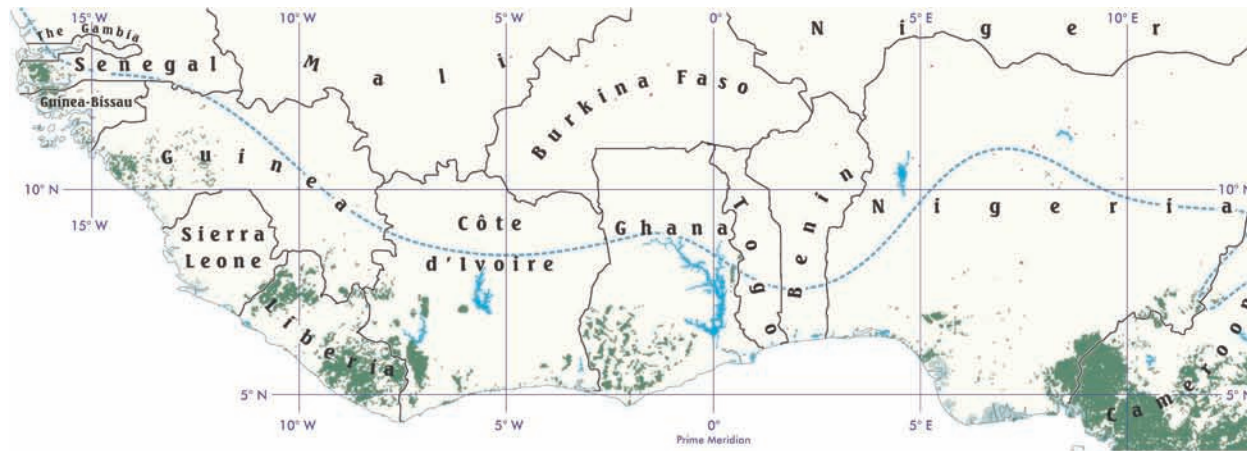
data:
Gridded Population of the World (GPW), version 2
Center for International Earth Science
Information Network (CIESIN), Columbia University;
International Food Policy Research Institute (IFPRI); and
World Resources Institute (WRI)
available <http://sedac.ciesin.org/plve/gpw>
download: 2001



general legend

- national boundaries (dashed line)
- major cities (circle)
- rivers (blue line)
- major lakes (blue area)



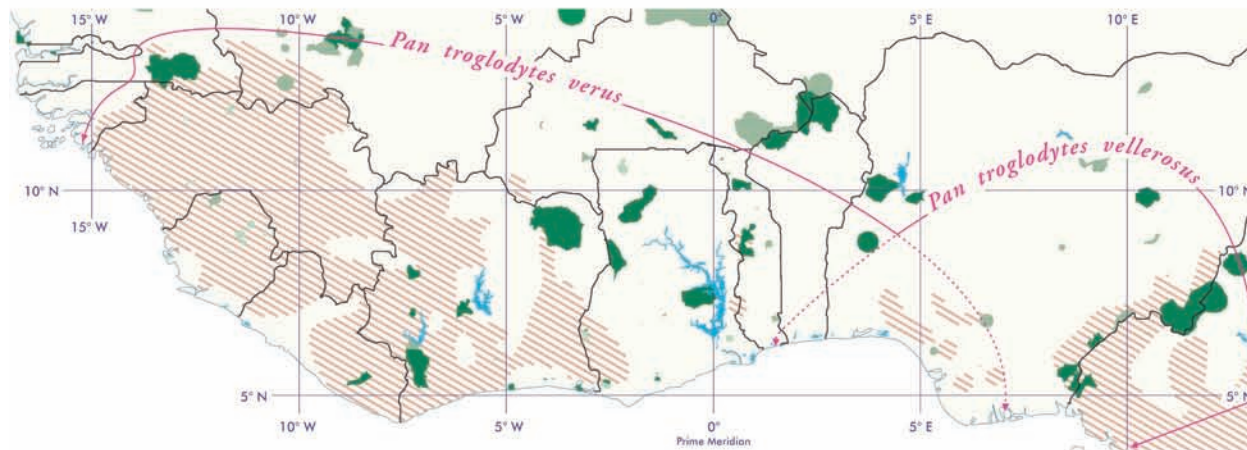


Remaining West African Forest

Satellite Assessment of Current Forest Cover

- forested
- mangrove
- non-forested
- urban
- historical extent of Guinea Forest

data:
 forest south of 10° north latitude:
TREES (Tropical Ecosystem Environment observations by Satellites)
 Global Vegetation Monitoring Unit, Space Applications Institute
 Directorate General JRC (Joint Research Centre), European Commission
 CCR, I- 21020 Ispra (VA), Italy - based on images captured in February 2000
 forest north of 10° north latitude:
Global Land Cover Characteristics (GLCC) version 2
 USGS - EROS Data Center, University of Nebraska-Lincoln, and
 European Commission Joint Research Centre
<http://edcdaac.usgs.gov/glcc/glcc.html> download: 2002
 historical extent of Guinea Forest:
Martin, Claude "The Rainforests of West Africa: Ecology, Threats, Conservation"
 (Birkhäuser Verlag, Basel 1991)



Chimpanzee Ranges and Conservation Protected Areas

Chimpanzee Ranges

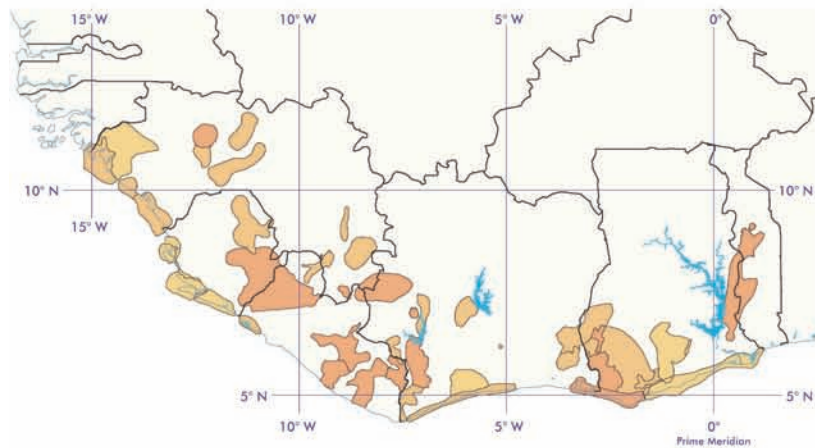
- chimpanzee range
- chimpanzee species range

data:
Butynski, T.M. "Africa's great apes" pp. 3-56,
 Great apes and humans: The ethics of coexistence,
 (Smithsonian Institution Press, Washington D.C. 2001)

IUCN Protected Areas Management Categories

- II - national park
- III - natural monument
- IV - habitat/species management area
- VI - managed resource protected area

data:
UNEP - WCMC world protected areas



Biodiversity Conservation Priorities Upper Guinea Forest

Forest and Aquatic Ecosystem Priority Areas

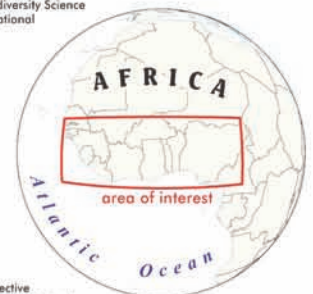
- Exceptionally High Priority
- Very High Priority
- High Priority

data:
Conservation Priority Setting Workshop
 From the Mountains to the Sea:
 Biodiversity Connections from Guinea to Togo
 1999



scale: 1/20 million
 projection: Equal Area Cylindrical
 data: **Digital Chart of the World**
 cartography: M. Denil
 these maps were produced by the
 Conservation Mapping Program,
 GIS & Mapping Laboratory of the
 Center for Applied Biodiversity Science
 at Conservation International
 © CI 2003

CENTER FOR APPLIED BIODIVERSITY SCIENCE
 AT CONSERVATION INTERNATIONAL



scale: 1/123 million
 projection: Vertical Perspective
 central point: 0° longitude, 9° latitude
 elevation: 2 million meters

Exceptionally Important Priority Areas

Fouta Djallon Guinea and Guinea Bissau

Estimated chimpanzee population: 3,300



Tetsuro Matsuzawa

Young chimpanzees in Bossou, Guinea, use stones to crack oil palm nuts. A refined and complex skill, nut cracking takes several years to master. Chimpanzees perfect their technique by observing other members of their group and through diligent practice.

THE FOUTA DJALLON HIGHLANDS extending into Guinea-Bissau are probably home to more than 3,300 chimpanzees, which would make it one of the largest populations of chimpanzees in West Africa. Populations remain abundant in this area because local beliefs forbid the hunting or eating of chimpanzees. Strategies for chimpanzee conservation here, however, must take a very different approach from those

All 72 workshop participants agreed to classify seven sites as Exceptionally Important Priority Areas. Protecting these sites is critical to the survival of chimpanzees in West Africa (page 7). Each site is described below, in no particular order of priority.

recommended for the Tai-Grebo-Sapo-Cestos site (page 11), since the population of chimpanzees in the Fouta Djallon is highly fragmented. Conservation strategies for this site must involve a greater understanding of the distribution of chimpanzees, the degree of connectivity between their habitats, and the possibility for increased protection of areas that are key to their survival.

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> • Through surveys and monitoring activities and more detailed research, refine the density figures from the Ham (1998) survey to better calculate the number of chimpanzees in the Fouta Djallon in Guinea, especially in the forests of Nialama, Fello Digué, Medina Lebere, Balayan-Souroumba, Sincery Oursa, and Bakoun Forest. Also conduct basic surveys and monitoring in Boé in Guinea-Bissau. 	UNL, GZP, UTL for Guinea-Bissau and USAID funded ENRMA program being implemented by Winrock International, DNEF, AGIR in Guinea	3 years	\$160,000 ³
<ul style="list-style-type: none"> • Establish and expand an education and awareness campaign about chimpanzees and other primates in both Guinea and Guinea-Bissau. 	UNL, DGFC, UTL, Guinée Ecologie, ENRMA	3 years	\$40,000
<ul style="list-style-type: none"> • Carry out study of the bushmeat and pet trade in chimpanzees in Guinea-Bissau and Guinea. 	DNEF, CI, Guinée Ecologie	3 years	\$150,000
<ul style="list-style-type: none"> • Improve the management plan for the Boé area in Guinea-Bissau. 	UNL, DGFC, GZP, UTL	3 years	\$150,000

³ This activity has been partly funded by the United States Agency for International Development (approximately \$25,000), the European Union (approximately \$25,000), J. Carter personal funding (\$10,000), and presently by Winrock (\$20,000 annually).

Note: See page 24 for the full names of organizations listed as acronyms.

Tai-Grebo-Sapo-Cestos Côte d'Ivoire and Liberia

Estimated chimpanzee population: 8,000



© Ilka Herbinge/WCF

View from Mont Nienokoue in the Tai-Grebo-Sapo-Cestos region, which includes what is the largest block of relatively intact tropical rainforest in West Africa.

.....► **T**HIS SITE COMPRISES THE LARGEST tropical rain-forest areas remaining in West Africa. It includes Tai National Park in the east and stretches through the forests around the park, such as the N'Zo fauna reserve and the Cavally-Goin and Haute Dodo classified forests in Côte d'Ivoire. It also includes Grebo Forest in Liberia and continues west to the Sapo National Park. This priority area also represents an opportunity to protect other endemic species such as pygmy hippos (*Hexaprotodon liberiensis*), zebra duikers (*Cephalophus zebra*), Jentink duikers (*Cephalophus jentinki*), and

Exceptionally Important Priority Areas, *continued*

forest elephants (*Loxodonta africana cyclotis*). Protecting this important stretch of forest would also aid in climate stability in a region that has already suffered from a significant decline in rainfall (Paturel et al. 1995, Servat et al. 1997). This area could potentially harbor as many as 8,000 chimpanzees and could therefore become the stronghold of *P. t. verus*, especially with regard to protecting both the genetic diversity of the species and the behavioral cultural specificity (Boesch and Boesch-Ackermann 2000, Whiten et al. 1999).

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> • Create a corridor linking chimpanzee populations including a feasibility study and impact study, stakeholders workshop, better management of the protected areas and connectivity of forest fragments. 	DPN, WCF, BLI, FFI, World Wide Fund for Nature, Philadelphia Zoo, CI	3 years	\$950,000
<ul style="list-style-type: none"> • Promote chimpanzee-related tourism in Tai National Park to increase value of chimpanzees to local people. 	WCF, DPN, CI, CRE	3 years	\$150,000
<ul style="list-style-type: none"> • Provide support to Sapo National Park including extension of the park. 	FDA, SCNL, FFI, CI	2 years	\$300,000 ⁴
<ul style="list-style-type: none"> • Commence a biomonitoring program and conduct surveys in Tai National Park, Cavally Goin, N'Zo, Haute Dodo in Côte d'Ivoire, and Sapo National Park and Grebo and Cestos Forests in Liberia. 	SCNL, FDA, FFI, WCF, World Wide Fund for Nature, DPN, CI, SODEFOR, CRE	3 years	\$300,000 ⁵
<ul style="list-style-type: none"> • Continue ongoing monitoring of the bushmeat trade. 	SCNL, Philadelphia Zoo, World Wide Fund for Nature, CI, DPN, CRE	5 years	\$250,000 ⁶
<ul style="list-style-type: none"> • Initiate pilot projects for the development of alternative sources of protein to reduce dependence on bushmeat. 	SCNL, Philadelphia Zoo, World Wide Fund for Nature, CI, DPN, CRE	2 years	\$200,000
<ul style="list-style-type: none"> • Carry out education and awareness campaigns both in Côte d'Ivoire and Liberia.⁷ 	FDA, SCNL, DPN, WCF, World Wide Fund for Nature, CI, GRASP	3 years	\$150,000

⁴This activity is already partly funded by CEPF (\$150,000) for October 2002 to September 2003. Additional funding will be needed beginning in late 2003.

⁵This activity has already partly funded by CEPF (\$25,000) but further funding is needed to expand this activity to Côte d'Ivoire and other forests in Liberia.

⁶This activity is already partly funded by CEPF (\$37,000 for rural public opinion surveys and \$79,000 for a national awareness campaign about bushmeat in Liberia) but further funding is needed for the activities listed.

⁷This activity is already partly funded by GRASP (\$20,000).

Exceptionally Important Priority Areas, *continued*

Gashaka Mambilla
Nigeria and Cameroon

Estimated chimpanzee population: 1,750



Pandirillus

The Nigerian Chimpanzee (*P. t. vellerosus*) is the most endangered sub-species of chimpanzee in Africa. Only between 5,000 and 8,000 individuals remain in the wild.

•.....▶ **T**HE **GASHAKA-MAMBILLA REGION** is one of two areas in Nigeria that have large populations of the second and most endangered West African sub-species, the Nigerian chimpanzee (*P. t. vellerosus*). This area,

which includes Gashaka-Gumti National Park, is a top priority due to the Nigerian chimpanzee's limited range and the fact that it is probably the most threatened African chimpanzee sub-species.

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> • Support existing conservation and research activities in Gashaka-Gumti National Park, Nigeria 	World Wide Fund for Nature, NCF, UCL Anthropology Department	5 years	\$250,000
<ul style="list-style-type: none"> • Conduct basic surveys to assess the distribution and numbers of chimpanzee populations across the Mambilla Plateau and the adjacent Donga River valley, as well as adjoining areas south and east of Mambilla and Gashaka in Cameroon. Surveys would also evaluate the degree and possibilities for connectivity between forests and populations. 	WCS, NCF, UCL Anthropology Department	1 year	\$50,000

Haut Niger
Guinea

Estimated chimpanzee population: 600

•.....▶ **H**AUT **NIGER NATIONAL PARK** in Guinea contains a significant population of chimpanzees—preliminary studies have documented about 600 chimpanzees in the park, the core area of which is relatively free from major human disturbances.

The European Union has funded conservation and development projects here since 1994 through the Programme Régional d'Appui à la Gestion Intégrée des Ressources Naturelles des Bassins du Niger et de la Gambie (AGIR).

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> • Conduct a census of the chimpanzee population in the Kouya Forest and an investigation of the status of the chimpanzee population in the two buffer zones. 	AGIR, DNEF	1 year	\$20,000
<ul style="list-style-type: none"> • Build local capacity for monitoring chimpanzees. 	AGIR, DNEF, WCF	3 years	\$25,000

Manding Plateau Mali, Senegal, and Guinea

Estimated chimpanzee population: >1,500



© Ilka Herbing/WCF

A young chimpanzee eats *Detarium* seeds. Because the hulls can be difficult to crack with teeth, chimpanzees often use a hammer to extract the seeds.



BECAUSE CHIMPANZEES IN THE Manding Plateau in Mali, Guinea, and Senegal are not generally hunted, this area probably harbors at least 1,500 chimpanzees. It also represents West Africa's largest intact area of savanna woodland habitat (Warshall 1989). It is characterized by a diverse flora including several endemic and azonal species (Lawesson 1995; Duvall 2001), and holds the last population of the western Derby's eland (*Taurotragus derbianus*) (East 1998). As an ecological margin of chimpanzee distribution in West Africa, protecting this region is necessary to preserve the full range of adaptive diver-

Exceptionally Important Priority Areas, *continued*

sity for the species. This priority area includes Mali's Wongo and Korofin National Parks, components of the Bafing Biosphere Reserve. The Bafing Biosphere Reserve is the only protected area for chimpanzees within the Manding Plateau area, and its management needs to be improved through increased support. The Manding Plateau area also includes part of Senegal's Niokolo-Koba National Park, where approximately 30 of Senegal's 200–400 chimpanzees are found. Strategies for protecting chimpanzees both within and outside the Niokolo-Koba Park are needed.

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> Develop a permanent administrative and management structure for the Bafing Biosphere Reserve including training of Malian natural resource managers and Malian conservationists in chimpanzee population estimation and monitoring. 	ACRBB, AMCFE, COREPA DNCN, IUCN-Mali ⁸	1–3 years	\$150,000
<ul style="list-style-type: none"> Finalize and implement the Bafing Biosphere Reserve Management Plan and development of the reserve infrastructure. 	COREPA, DNCN, ACRBB, AMCFE	1–6 years	\$600,000
<ul style="list-style-type: none"> Develop a national or sub-national program of environmental education including village-level programs on chimpanzee ecology and conservation. 	ACRBB, AMCFE, IUCN-Mali, Peace Corps-Mali, WCF	5 years	\$270,000
<ul style="list-style-type: none"> Carry out research on threats to chimpanzee survival in order to help guide conservation policy. 	ACRBB, AMCFE, Duvall	2 years	\$110,000
<ul style="list-style-type: none"> Conduct basic research on chimpanzee behavior and ecology. 	AMCFE, DNCN, Duvall	3 years, then ongoing	\$120,000
<ul style="list-style-type: none"> Investigate chimpanzee-human competition over natural resources, especially with regard to the role of Saba fruit in the local economy, trends in population increase, crop-raiding by chimpanzees, and habitat destruction. 	DPN (Senegal); NGS; Iowa State University	2 years	\$50,000

⁸ Other Malian government agencies, research institutions, non-governmental organizations, and others may be capable of participating in the recommended actions, particularly the Université du Mali, the Institut des Sciences Humaines, and the Institut de l'Economie Rurale.

Exceptionally Important Priority Areas, *continued*

Takamanda-Okwangwo
Nigeria and Cameroon

Estimated chimpanzee population: >500



Tatjana Humle/Stirling University

An adult female feeds on the fruit of *Trichilia heudelotii*. The diet of chimpanzees is mainly comprised of fruit.



© Christophe Boesch

Using small sticks modified for this particular use, chimpanzee mothers and their youngsters dip for ants.



THE TAKAMANDA-OKWANGWO AREA includes the Okwangwo Division of Nigeria’s Cross River National Park and the adjacent Takamanda Forest Reserve of southwest Cameroon. Workshop participants also defined this area to include the Afi Mountain Wildlife Sanctuary, other areas of Afi River Forest Reserve, the Mbe Mountains community forest area that lies immediately between Afi and Okwangwo, all community forest in Nigeria’s Cross River State, in the Mone Forest Reserve, and in Mbulu, and other areas of community forest in Cameroon to the east and

south of Takamanda. This is an important area for *P. t. vellerosus*, as it includes large areas of intact lowland closed-canopy moist forest that are at the northern edge of the moist forest zone, as well as areas of submontane vegetation. This area is also home to the threatened and endemic Cross River gorilla (*G. gorilla diebli*), the drill (*Mandrillus leucophaeus*) and Preuss’s guenon (*Cercopithecus preussi*). Hunting is currently the biggest threat to chimpanzees and other primates in this area, and there is a significant cross border trade in bushmeat from Cameroon to Nigeria from Takamanda.

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> • Continue existing primate conservation efforts in Cross River National Park Okwangwo Division, Afi River Forest Reserve (including Afi Mt Wildlife Sanctuary), and the Mbe Mountains in Nigeria and Takamanda Forest Reserve, Mone Forest Reserve, and Mbulu Forest in Cameroon. 	WCS, FFI, NCF, GTZ, Pandrillus, BPG, CRNP	2 years	\$100,000
<ul style="list-style-type: none"> • Assess connections within the meta-population of Takamanda-Okwangwo. 	WCS	1 year	\$50,000
<ul style="list-style-type: none"> • Support efforts to bring hunting for the bushmeat trade under control, including improved law enforcement and an education and awareness campaign. 	NCF, BPG, WCS	2 years	\$50,000

Nimba Mountains

Guinea, Côte d'Ivoire, and Liberia

Estimated chimpanzee population: 450



Tatyana Humle

View of the Nimba Mountains from the Guinean side.



Tatyana Humle

Corn fields grow along the edge of the forest in the Nimba Mountains. The encroachment of agriculture on forest habitat is a principal threat to chimpanzees in this region.

→ **T**HE NIMBA MOUNTAINS IN Guinea, Côte d'Ivoire, and Liberia, stretching over 40 km and rising to 1,752 m in altitude, constitute one of the most biologically diverse areas in all of Africa. Its mountains are home to a significant population of chimpanzees. However, despite its status as a World Heritage Site,

Exceptionally Important Priority Areas, *continued*

it is under threat from agricultural encroachment and mining. Protecting the area's habitat will not only ensure the survival of an important population of chimpanzees, but will also contribute to the general protection of biodiversity in Africa.

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> • Create natural forest corridors (1) linking Bossou to Nimba to help guarantee the future survival of the Bossou community, and (2) linking the Déré Forest to Nimba, to allow for a contiguous forest block to exist. 	1) IREB, KUPRI, and Japanese Embassy in Guinea	1) 5 years	1) \$100,000 ⁹
	2) IREB, KUPRI, Stirling University	2) 5 years	2) \$100,000
<ul style="list-style-type: none"> • Formalize protected area recognition and legal status for (1) the Liberian portion of the Nimba Mountains, which needs to be recognized nationally and internationally as an integral part of the whole Nimba Ecosystem, and (2) the Bossou, Déré, and Tiapleu forest blocks. 	1) FDA, LIMINCO, FFI, UNESCO	1) 3 years	1) \$150,000
	2) CEGEN, IREB, DNEF, FFI, CI	2) 1.5 years	2) \$20,000
<ul style="list-style-type: none"> • Carry out a public education and awareness program including village-level programs run by trained local youth groups, school-teachers, and members of local NGOs. 	IREB, KUPRI, UVODIZ, Stirling University, Guinée Ecologie, CI, FFI, DNP	3 years	\$20,000
<ul style="list-style-type: none"> • Conduct chimpanzee research and surveys in (1) the Déré forest bloc and the northern (Guinea) and southern (Liberia) regions of the Nimba Massif, and (2) the Nimba region. 	1) IREB, KUPRI, Stirling University, FFI, CI	1) 1–2 years	1) \$40,000
	2) IREB, KUPRI, Stirling University	2) 5 years	2) \$150,000 ¹⁰
<ul style="list-style-type: none"> • Conduct a tri-national program for the integrated conservation of the Nimba Mountains, which will harmonize the biomonitoring, the protection laws, and the management of the Nimba Mountains among Guinea, Côte d'Ivoire, and Liberia. 	FFI, CI, BLI, UNESCO, CEGEN, DNEF, FDA, Mining organizations, IREB, KUPRI	3 years	\$75,000

⁹ This project, involving the local population, is currently underway with the aid of \$50,000 from the Japanese Embassy, but will require further funding for full completion.

¹⁰ This activity is already partly funded by a grant from T. Matsuzawa, but a \$30,000 per annum is needed for continued activities.

Very Important Priority Areas

Marahoué Côte d'Ivoire

Estimated chimpanzee population: 900



Haroldo Castro

Forest is cleared for agriculture near Parc National de la Marahoué, Côte d'Ivoire, using slash-and-burn methods. This practice has caused widespread deforestation in West Africa.



Tatyana Humle

Chimpanzees feed on corn at the edge of the forest. Because of ongoing habitat destruction, more and more chimpanzees are raiding domestic crops to supplement their daily diet.

IN 1995 THE NUMBER of chimpanzees in Côte d'Ivoire's Marahoué National Park was estimated to be 1,407—the largest of all protected areas in Côte d'Ivoire except the Taï forest (Marchesi et al. 1995). Since 1995, however, pressure from poaching and cocoa plantations is believed to have reduced this number considerably (Struhsaker and Bakarr 1999). In addition

Workshop participants agreed to classify the following seven sites, listed in no particular order of priority, as Very Important Priority Areas.

to its chimpanzee population, the park also contains a significant population of elephants (*Loxodonta africana*) and what may be the greatest diversity of primates in West Africa, including endangered endemic species like the white-naped mangabey (*Cercocebus atys lunulatus*), the diana monkey (*Cercopithecus diana roloway*), and the red colobus (*Procolobus badius*).

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> Survey the park to determine the most important habitat for chimpanzees and to assess the decline in the population since the 1995 survey. 	CI, DPN, WCF	1 year	\$50,000
<ul style="list-style-type: none"> Train park guards and national researchers in survey techniques and assist them in setting up both a long-term monitoring system of primates within the park and a research program focused mainly on primates. 	CI, DPN, WCF, Alliance CI-BLI, Lamto Research Station (Abobo-Adjamé University)	3 years	\$150,000
<ul style="list-style-type: none"> Support conservation of the Marahoué-Péko-Nimba area. 	Alliance CI-BLI, DPN, EU	2 years	\$55,000 ¹¹
<ul style="list-style-type: none"> Support the development of a corridor between Marahoué and the Haut Sassandra Classified Forest. 	Alliance CI-BLI, DPN, EU Sodefor	2 years	\$150,000
<ul style="list-style-type: none"> Carry out a program for biomonitoring in Marahoué National Park. 	Alliance CI-BLI, DPN, EU	2 years	Activity already funded by EU (PT2)

¹¹ Already funded by EU (PT2), but \$55,000 still needed from external funders.

Very Important Priority Areas, *continued*

Oban-Korup Nigeria and Cameroon

Estimated chimpanzee population: 800



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A young chimpanzee and his mother rest together on a log.

→ **THE OBAN-KORUP AREA** is very important for the Nigerian chimpanzee (*P. t. vellerosus*) because it contains the largest total area of fully protected rain forest within the species' geographical range. This area comprises the Oban Division of Cross River National Park in Nigeria and Korup National Park in Cameroon, as well as the adjacent forest reserves of Cross River South in Nigeria and Ejagham in Cameroon,

and additional areas of community forest. The Oban-Korup region is also home to the endangered Preuss's red colobus monkey (*Procolobus pennantii preussi*) and the drill (*Mandrillus leucophaeus*). Hunting in the area is the biggest threat to primates. A major cross-border bushmeat trade, from the Korup region into Nigeria, threatens primates as well.

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> • Support relevant government authorities' efforts to make protection of chimpanzees and other wildlife more effective, particularly through assistance in developing and implementing incentive systems for field staff. Support education and awareness campaigns. 	Cross River National Park (for Oban enforcement), MINEF (for Korup), World Wide Fund for Nature-Cameroon, WCS-Cameroon, Durrell Wildlife Preservation Trust, Pandrillus, Cercopan, BPG, FFI	5 years	\$500,000
<ul style="list-style-type: none"> • Survey forested region around Korup National Park with the aim of establishing the distribution and status of the larger chimpanzee population, and establishing conservation strategies that ensure the connectivity of fragmented forests. 	GTZ, WCS, MINEF, World Wide Fund for Nature-Cameroon, Pandrillus	2 years	\$35,000

Comoé Côte d'Ivoire

Estimated chimpanzee population: 470

→ **THE COMOÉ NATIONAL PARK** is located in the driest area of Côte d'Ivoire. Marchesi et al. (1995) note that the park's chimpanzee population totals close to 470 and has a density of approximately

4.5–5.5 individuals per km². However, the park is under strong human pressures, and law enforcement actions are a priority.

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> • Conduct general surveys and monitoring of chimpanzee populations. 	WCF, World Wide Fund for Nature	2 years	\$5,000
<ul style="list-style-type: none"> • Provide support for anti-poaching patrols and park infrastructure. 	World Wide Fund for Nature	3 years	\$75,000

Very Important Priority Areas, *continued*

Outamba-Kilimi and Guinea Border

Sierra Leone and Guinea

Estimated chimpanzee population: 600–700



© Ilka Herbing/WCF

An ecotour guide looks for chimpanzees in the surrounding habitat. If planned and implemented carefully, ecotourism could provide a significant boost to conservation efforts in West Africa.



NEARLY TWO DECADES AGO, four groups of chimpanzees were known to occur in the area encompassing Outamba-Kilimi National Park. Unfortunately, due to the prolonged civil war in Sierra Leone, the area has been widely neglected

both in terms of conservation presence and facility infrastructure. Unpublished surveys, however, confirm that wild chimpanzees are presently living and thriving throughout the park.

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> • Help with re-construction and rehabilitation of the Outamba-Kilimi National Park by supporting anti-poaching activities and promoting tourism and conservation research in and around the park. 	Ministry of Agriculture and Forestry, CSSL	3 years	\$150,000
<ul style="list-style-type: none"> • Complete a chimpanzee population survey. 	Ministry of Agriculture and Forestry, CSSL	1 year	\$50,000

Guinea-Guinea-Bissau Coastal Guinea-Guinea-Bissau

Estimated chimpanzee population: 500



Rebecca Kormos

Oil palm trees in the Guinea-Guinea-Bissau Coastal region. The chimpanzees in this region nest in oil palm trees, an unusual behavior that may be part of the group's cultural norms or a response to reduced primary forest cover.



ABOUT 500 CHIMPANZEES currently live in the coastal forests of Guinea-Bissau, including the southwestern regions of Quinara and Tombali and the very northwestern part of the Republic of Guinea. They are not usually hunted or eaten in this region, and they exhibit the interesting behaviour of nesting in oil palms, possibly as a result of the reduction in primary forest cover. The region is

important habitat for other primate species such as red colobus (*Procolobus badius temminki*), black and white colobus (*Colobus polykomos polykomos*), and sooty mangabey (*Cercocebus atys atys*). Coastal areas are also of international importance for wintering Palearctic waders and for some marine mammals (e.g., manatees).

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> • Conduct basic chimpanzee surveys of the entire area. 	UNL, DGFC, GZP, UTL	1 year	\$100,000
<ul style="list-style-type: none"> • Carry out a feasibility study for establishing a protected area in the Cantanhez-Cacine Basin region. 	UNL, DGFC, GZP, UTL	1 year	\$50,000

Very Important Priority Areas, *continued*

Ghana-Côte d'Ivoire Border

Estimated chimpanzee population: 600–700



Jessica Donovan

A young chimpanzee in a sanctuary in Côte d'Ivoire's Le Parc National d'Asagny.



PRELIMINARY SURVEYS FROM 1991 and 1995 indicate that chimpanzees still exist in the forests of western Ghana and eastern Côte d'Ivoire, but in very low numbers. Populations in this region are under high threat from hunting and habitat loss due to agricultural expansion, mining, and logging. Indeed, the primate sub-species Miss Waldron's

Red Colobus (*Procolobus badius waldroni*) may have already gone extinct from this area (Oates et al. 2000) or, at best, now exists only in isolated patches (Oates et al. 2002). Côte d'Ivoire and Ghana must work together if the long-term viability of primate populations in this area is to be achieved.

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> • Estimate chimpanzee numbers and distribution in the three identified important forests: Bia/Goaso, Ankasa/Tano, and Fure River. The results of the survey will be used to develop a five-year conservation program for chimpanzees in Ghana. 	WCF, CI, FSD, RC, GWS, CBAGs	1 year	\$60,000
<ul style="list-style-type: none"> • Map all chimpanzee habitats and create a GIS Database. This would also serve as the basis for an ecological monitoring program for all other primates. 	DPN, WCF, CERGIS, WD, FSD, CBAGs	1 year	\$40,000
<ul style="list-style-type: none"> • Implement measures that allow conservation agencies of the wildlife and forestry sector, NGOs, Traditional Authorities, local communities, and other stakeholders on both sides to cooperate in the development of conservation programs. 	FSD, WD, CBAGs, RC, DPN, WCF, CI, Traditional Authorities	3 years	\$750,000
<ul style="list-style-type: none"> • Using stakeholder workshops and posters, educate local communities about chimpanzee ecology and conservation. 	CI	2 years	\$35,000
<ul style="list-style-type: none"> • Undertake training in techniques for estimating chimpanzee populations and monitoring population trends. 	DPN, WD	1 year	\$20,000

Very Important Priority Areas, *continued*

Lofa-Mano-Gola Forests
Sierra Leone and Liberia

Estimated chimpanzee population: unknown



THE LOFA-MANO-GOLA FOREST AREA includes forests in western Liberia as well as the only remaining primary rainforest habitats in Sierra Leone.

Efforts are currently underway to create a national park in the Gola area. The possibility of creating a trust fund to maintain this area is also being explored.



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An 11-year old female uses a stick to extract seed pieces from a *Detarium* nut.

Action Needed	Potential Partners	Timeframe	Funding Needed
<ul style="list-style-type: none"> • Upgrade the Gola Reserve to a national park. 	Ministry of Agriculture and Forestry, CSSL	2 years	\$100,000
<ul style="list-style-type: none"> • Support anti-poaching activities. 	Ministry of Agriculture and Forestry	3 years	\$75,000
<ul style="list-style-type: none"> • Conduct a chimpanzee population survey. 	Ministry of Agriculture and Forestry, CSSL	1 year	\$50,000



Russell A. Mittermeier

Protecting habitat critical to the survival of chimpanzees will also benefit other endemic species such as forest elephants (*Loxodonta africana*).

Surveys Needed



© Christophe Boesch

A young chimpanzee tries to crack a *Detarium* nut.

THIS TABLE LISTS SEVERAL AREAS where experts believe significant populations of chimpanzees exist but still lack the information necessary to clas-

sify them as priority action areas. Therefore, as a basis for effective conservation action, surveys are needed to find out more about these populations.

Location	Area Description	Potential Partners	Duration of Study	Funding Needed
1. Diéké and Ziama in GUINEA and Wonegizi in LIBERIA	In Guinea, preliminary chimpanzee surveys have been conducted in both Diéké and Ziama but more detailed information is needed. In Liberia, Wonegizi is a proposed national park that lies on the other side of the border from Ziama. If a large population of chimpanzees is found here, this could give support for the gazettement of this new protected area.	Kyoto University, Stirling University, WCF, CI, FFI	1 year	\$20,000
2. Loma Mountains , SIERRA LEONE	Sporadic surveys were conducted around the Loma mountains before 1993 and in the late 1980s. Since the conflict in Sierra Leone, hunting and agricultural expansion has been extensive in this area, but the status of the chimpanzee population today is unknown.	WCF	1 year	\$30,000
3. Haut Sassandra and Mont Péko , CÔTE D'IVOIRE	Recent surveys indicate significant populations of chimpanzees in Mont Péko, but more information is needed. Little is known about the populations in Haute Sassandra. It will be important to investigate the status of chimpanzees in two forest corridors between Mont Péko and Haut Sassandra and to investigate ways of managing them to maintain connectivity between these two important areas.	WCF, CI-BirdLife Alliance/Hornbill Corridor Partners	1 year	\$30,000
4. Southwest Nigeria and the Niger Delta , NIGERIA	The remnant chimpanzee populations that hang on in this large area have been very little studied. Very limited genetic information allies them with either <i>P. t. verus</i> to the west or <i>P. t. vellerosus</i> to the east. Further research on the distribution, abundance, and evolutionary affinities of these chimpanzees is urgently needed, along with a conservation plan for this area.	NCF, WCS, and CUNY	1 year	\$30,000
5. Areas west of Sanaga River , CAMEROON	Basic survey work is needed to formulate a conservation action plan for this area.	Groves/WCS, MINEF, World Wide Fund for Nature-Cameroon	1 year	\$100,000

Conclusions

CHIMPANZEES IN WEST AFRICA are more endangered than any other chimpanzee sub-species on the continent. Yet it is still possible to ensure their survival if we act now. The action plan outlined here, which is based on consensus among the world's leading experts on chimpanzees in West Africa, lists both site-specific and region-wide actions and identifies those who have the capacity and capability to undertake these actions, over what time frame, and at what cost. We hope other individuals and organizations will join in implementing this plan, whether through collaboration, logistical support, or financial support. We urge development organizations to scrutinize their activities in these priority sites with an eye toward eliminating any negative impacts on chimpanzee populations. We also encourage them to incorporate elements of this plan into their programs in the region.

Chimpanzees are an extremely important species because they so closely resemble humans genetically, behaviorally, and physically, and consequently we have much to learn from them about our own behavior and evolutionary history. But chimpanzees also play an important role in the broader ecosystem of West Africa. They eat fruits and thereby disperse the seeds of fruiting

trees. They prey upon other mammals and, in turn, are preyed upon themselves by larger predators. We still do not know enough to predict the specific consequences of an extinction of chimpanzees in the region, but history has shown that the removal of even one species can affect a multitude of other species and destabilize an entire ecosystem.

While deforestation is a principal driver of diminishing chimpanzee populations in West Africa, it is also likely to have serious consequences for human populations. Scientists have shown that deforestation in West Africa is leading to decreased rainfall (Lawton et al. 2001), causing a desertification process that, combined with the recent exponential human population growth in the region, could bring about resource shortages that would be catastrophic to local human populations. The degradation of natural resources has also been linked to poverty and civil conflict in West Africa (Homer-Dixon et al. 1993, Shambaugh et al. 2001). Governments, donors, and development organizations are increasingly becoming aware of the relationship between environmental health and human welfare in West Africa, but much more serious investment is needed if we are to prevent the extinction of chimpanzees.

The world's leading experts agree that the investments and actions described in this plan constitute the best strategy for preserving wild chimpanzee populations in West Africa.



Upon losing her mother, this orphaned chimpanzee was immediately adopted by another female in her group, and thus continued to develop well. Because the mother-infant bond is so strong among chimpanzees, some infants have been known to lose interest in life and die after becoming orphans.

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List of Acronyms

ACRBB	Association des Chasseurs de la Réserve de Biosphère du Bafing (Mali)	FSD	Forest Services Division
AGIR	Programme Régional d'Appui à la Gestion Intégrée des Ressources Naturelles des Bassins du Niger et de la Gambie	GRASP	UNEP/UNESCO Great Ape Survival Project
AMCFE	Association Malienne pour la Conservation de la Faune et de l'Environnement (Mali)	GWS	Ghana Wildlife Society
BLI	BirdLife International	GZP	Giardino Zoologico di Pistoia
BPG	Biodiversity Preservation Group	IUCN	World Conservation Union
CABS	Center for Applied Biodiversity Science	IREB	Institut de Recherche Environnementale de Bossou
CBAGS	Community Biodiversity Advisory Groups	KUPRI	Kyoto University Primate Research Institute, Japan
CEPF	Critical Ecosystems Partnership Fund	LIMINCO	Liberian Mining Company
CEGEN	Centre de Gestion de l'Environnement du Nimba	MINEF	Ministère des Eaux et Forêts
CERGIS	Centre for Remote Sensing and Geographical Information Systems	NCF	Nigerian Conservation Foundation
CI	Conservation International	NGO	Non-governmental organization
COREPA	Comité Restreint d'Elaboration du Plan d'Aménagement de la Réserve du Bafing (Mali)	NGS	National Geographic Society
CRE	Centre de Recherche en Ecologie	PASA	Pan African Sanctuary Alliances
CRP	Chimpanzee Rehabilitation Project	PROFA	Protection of the Forests around Akwaya
CSSL	Conservation Society of Sierra Leone	RC	Ricerca et Cooperazione
DGFC	Direcção-Geral das Florestas e Caca	SCNL	Society for Conservation of Nature in Liberia
DNCN	Direction Nationale de la Conservation de la Nature, Mali	SLCRP	Sierra Leone Chimpanzee Rehabilitation Project
DNEF	Direction Nationale des Eaux et Forêts, Guinée	UNL	Universidade Nova de Lisboa
DPN	Department of National Parks, Senegal	UTL	Universidade Técnica de Lisboa
DPN	Direction de la Protection de la Nature, Côte d'Ivoire	UVODIZ	Union des Volontaires pour le Développement Intégré de Zantompiézo (Guinée)
DPWM	Department of Parks and Wildlife Management, The Gambia	WCB	Wildlife Conservation Branch, Sierra Leone
ENRMA	Expanded Natural Resource Management Activity	WCF	Wild Chimpanzee Foundation
EU	European Union	WCS	Wildlife Conservation Society
FDA	Forest Development Authority, Liberia	WD	Wildlife Division, Ghana
FFI	Fauna and Flora International	WWF	World Wildlife Fund and World Wide Fund for Nature

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Contributions

IF YOU WOULD LIKE TO HELP to make any of the projects listed in this action plan possible, please contribute to the **Great Ape Conservation Fund** (contact Richard Ruggiero, e-mail: Richard_Ruggiero@fws.gov); or **The Primate Action Fund** (contact Bill Konstant, e-mail: b.konstant@conservation.org), which provides small grants to reviewed projects for the conservation of Great Apes; or please contact organizations and individuals directly.

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COVER PHOTOS:

[TOP LEFT] Parc National de la Marahoué, Côte d'Ivoire, Haroldo Castro
[BOTTOM RIGHT] Chimpanzees from the Tai forest, Côte d'Ivoire, ©Christophe Boesch

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