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Marl Omland, CI

Jerry Punguse, Chief Officer of the Ghana Department of Wildlife, on the canopy walkway at Kakum National Park.

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KAKUM CLIPPINGS

KAKUM CLIPPINGS documents activities in and around Kakum National Park, Ghana, associated with Conservation International's component of the USAID-funded Natural Resource Conservation and Historic Preservation Project.

AFRICA'S FIRST CANOPY WALKWAY

by Debra Sohm

The only canopy walkway on the African continent was completed in Kakum National Park on March 4th of this year. Designed for use by both tourists and researchers, the 350-meter bridge connects seven treetops in the Kakum Forest via a system constructed of rope, ladders, wooden planks and safety netting. Bird watchers and entomologists traversing the span have sighted species that are difficult or rare to see at ground level. The first research on the walkway, focussing on dung beetles in the canopy,

was conducted by Irene Manley.

Since its opening to the public on April 22, the walkway has attracted 5,880 tourists and generated over \$270 a week. It is estimated that at the current level of fees and visitation the walkway will produce an annual revenue of over \$14,000.

The walkway is the product of extensive collaboration between the designer and the builders. Dr. Illar Muul designed the walkway and chose the site. The leaders of the construction team, John Kelson and Tom Ainsworth, took the plans for the walkway and adapted them to Kakum. They were assisted by Ghanaian carpenters and climbers. The Patagonia

Company showed its support for the walkway by donating expedition clothing to the construction crew, and both British Airways and Continental Airlines donated cargo space.

The official opening on Earth Day was attended by Ministers of the Ghanaian government, the US ambassador, and the director of USAID/Ghana. This event attracted substantial media attention, including a Ghana Broadcasting Corporation story that was also aired as part of CNN's World Report. □

The chart on page 5 details the dramatic increase in visitors to Kakum.

NONTIMBER FOREST PRODUCT STUDY

by Brent Bailey

Nontimber Forest Products and Conservation: An Assessment from the Kakum Conservation Area, Ghana was submitted to the USAID Ghana Mission in April. Based on field work conducted during the first part of 1994, the study assesses the extent and value of Nontimber Forest Products (NTFPs) through interviews with 500 households. Results from the study will be used to shape management practices in Kakum and enhance the park's village outreach programs.

A team of 8 Ghanaians from universities in Cape Coast and Legon worked with project director Brent Bailey to develop questionnaires, locate villages surrounding the park, and meet with village elders to obtain permission to conduct surveys in their communities. During a two-month period, the team worked from dawn to dark, often following foot paths between villages, and at times fording rain-swollen streams to reach remote communities.

Interviews yielded valuable information about the composition of local villages. Over 50 percent of the heads of households are not from the villages in which they live, though most come from the Central Region, where Kakum is located. Attracted to the Kakum area to farm cocoa, most "non-native" residents send money back to their homes, and hope one day to return to their villages of origin. This transfer of investment profits out of the Kakum area limits the success of community-based investment in schools and other village development.

Until its establishment as a park, Kakum was a forest reserve for over 50 years. Outside the reserve, large patches of forest were gradually cleared, spurred by competition for land for cultivation of cocoa, oil palm, citrus, and other cash crops. In 1994, farms around the park averaged ten acres in size; almost a third worked less than five acres.



Senior Game Protection Officer, Sylvester Azika, identifies a village on the east side of the Park.

Tom Lamb, Lamb Studio

Virtually all farmers complain of crop damage by animals, but those with small acreages are at greater risk of food insufficiencies when raided by animals. Compounding their frustration of crop loss is a ban on trapping animals on their farms, or hunting within two kilometers of the park boundary. The establishment of Kakum, and its ban on hunting, appears to have benefitted previously overhunted wildlife populations. But the wildlife rebound has spilled over onto adjacent agricultural lands, and created difficulties for local residents.

As the human population grows and forested areas outside the reserve decrease, Kakum increases in importance as a source of NTFPs including bushmeat, Raphia palm fronds for roof thatch, cane for basket weaving, and others. Many of these products could be sold to generate extra household income. But they also frequently are used or consumed by households, eliminating the need to purchase these goods in markets. Seventy-eight percent of households report that since park establishment, they had begun to purchase goods which previously were available for "free" from the forest. Thus their cash needs have increased, while cash-earning opportunities have decreased.

Despite these difficulties, however, many villagers see value in the park. Citing the role of the forest in regu-

lating climate and rainfall, and its importance as a source of drinking water, villagers feel the park provides them with benefits. Furthermore, many hope that Kakum's development as a tourist destination will stimulate local economies and bring revenues to the local level.

The report concludes with a brief section of recommendations based on respondents' concerns. Some are already being implemented by the park staff and Conservation International. Village-based rearing of grasscutters, an abundant rodent highly prized for its meat, is being tested in two of the local villages. A tourism plan that defines the involvement of villages in the tourism trade is under development. And creation of additional visitors facilities in key villages is being considered.

Ultimately, Kakum's success will rely on strategies that generate revenue for effective management, share benefits with local communities, and reduce pressures on park resources. The report advocates broad-based collaboration among development and natural resource agencies active in the Kakum vicinity to support biodiversity conservation and tourism, a strong village outreach program for the park, and adoption of a long-range goal of forest growth for the region outside the boundaries of Kakum. □

WILDLIFE SPECIALIST REPORTS

BIRD SURVEY WORK

David C. Moyer

In late April 1994, I began an eight-month bird survey to produce a checklist of the birds of Kakum National Park and Assin Attandanso Resource Reserve.

About 275 bird species have been reported from Kakum (179 confirmed), with an additional 70 "possibles." This brings the hypothetical list to a total of 345 species. The final bird list for Kakum will be compiled into an annotated checklist to be published as a supplement to *Malimbus*, the Journal of the West African Ornithological Society. This list will include a summary of the status of all birds recorded from Kakum National Park and Assin Attandanso Resource Reserve, as well as sections on where to find birds and tips for birders.

Among the birds found in Kakum are two species that are vulnerable or threatened with extinction throughout most of West Africa. These are the White-breasted Guineafowl (*Agelastes meleagrides*) and Yellow-throated Olive Greenbul (*Criniger olivaceus*). The guineafowl is very rare in Kakum due to past hunting pressure, but the greenbul is relatively common. If illegal hunting can be contained at Kakum, then the Kakum/Assin Attandanso forests represent a very important area for the long-term survival of the White-breasted Guineafowl.

Other tasks included producing a cassette tape of forest sounds (especially vocalizations of birds and mammals), training of park staff to better enable them to meet the needs and expectations of specialty bird tourists, producing several magazine and journal articles on Kakum birds for publicity, and gathering base-line ecological data.

Over 17 hours of sound recordings

from 116 bird species have been made. This data represents a core of recordings from which the final cuts for the Kakum sound track will be chosen. The sound track will be produced by the Library of Natural Sounds at Cornell University, and distributed through the Ghana Wildlife Department and Conservation International. It should be available next year. Some of the bird recordings have already been used in the production of a song about the destruction of rainforests in Ghana.

One of the key components of the training program is to build the capacity of junior staff to lead bird tour groups in Kakum. Many of the junior staff already have a detailed knowledge of the local names, behavior, and vocalizations of the fauna of Kakum. However, language remains a problem. Given the large time commitment for a comprehensive training program in English, a different method was chosen. A key containing the local Fanti or Twi name of birds with a cross-reference to the English, French, and German names will be produced. These will be used for training park staff and to help tourists find names in their own languages of birds identified by their guides. □

David Moyer is an ornithologist and independent contractor who lives near Iringa, Tanzania.

ELEPHANT SURVEY WORK

Mari Omland

Anthony Chifu Nchanji was contracted to survey elephant crop damage around Kakum, as an add-on to his collaborative work in Ghana with Dr. Richard Barnes. Nchanji's June 1994 observations reveal that elephant crop-raiding around Kakum is directly related to distance between the park boundary and farms. In addition, some of the crops attract the elephants out of the forest and into the farms. Non-target crops that are cultivated along with targeted crops are damaged as a result. Nchanji recommends a long-term study of crop combination and separation on farms

in order to develop a planned crop barrier.

Nchanji observed that many of the crops are destroyed near maturity and recommended a study on crop harvest and a storage program. Other recommendations include further study of land tenure, the introduction of agroforestry techniques, and experimentation with chemical deterrents currently being used elsewhere in Africa. □

Anthony Nchanji is with the Wildlife Conservation Society - Cameroon Biodiversity Project.

SMALL MAMMAL SURVEY WORK

Mari Omland

Professor Sam Yeboah completed a seven-month survey of small mammals and herpetofauna in December of 1994. His report documents the capture of 178 individuals representing 16 species of small terrestrial mammals and sightings of small mammals, amphibia and reptiles.

According to Dr. Yeboah's report, the Obengkrom area is the richest in small terrestrial mammals and snakes--especially black cobras--compared to the Mfuom and Antwikwaa areas. Shannon's diversity indices for small terrestrial mammals ranged from 1.14 to 3.08 (Simpson's index; 0/45 to 0.84) for the three study areas. Population density for small rodents ranged from 120 to 288 animals per ha. Distribution of the invasive weed, *Chromolaena odorata*, was found to influence the species diversity of small terrestrial mammals in forest clearings. Yeboah caught only three species of fruit bats and concluded that insectivorous bats were poorly represented. No statistical analysis was made on the data on reptiles and amphibia because the information, nearly all of which was obtained from sightings, was not standardized. □

Sam Yeboah is with the Department of Zoology at the University of Cape Coast.

CLIPPINGS

Tom Lamb was in Ghana this past December to photograph PANAFEST, the opening of the Smithsonian Institution's exhibit in Cape Coast castle, and the canopy walkway. Postcards have been produced for sale in Ghana using **Tom Lamb's**, **Bob Burch's** and **John Kelson's** photographs. Tom previously lent his photographic talents during the "charette," or design workshop, conducted in Cape Coast in 1994 with the American Society of Landscape Architects.

In early May, architect **Emma Tackie** of the Ghanaian design firm, rhayCAD, travelled from Accra to Seattle to work with **Johnpaul Jones** and **Chuck Hutchinson** on the design plans for the Visitor Center.

A **Visitor Issue Summit** was held in mid-February at CI where issues such as the creation of a visitor use plan were addressed. Participants included: **Gerry Patten** and **Bonnie Campbell**, both veterans of the U.S. National Park Service; **Bill Gartner**, director of the Tourism Center at the University of Minnesota; **Karen Ziffer**, director of ecotourism at CI; and the Ghana Program staff.

Peter Roberts, a bird tour leader with **Victor Emmanuel Bird Tours** travelled to Kakum in early July.

Erasmus Henaku and **Afia Asamoah-Boateng**, former assistant game wardens at Kakum, have accepted positions with the Ghana Wildlife Society. Though they will be missed, we at CI are pleased that Kakum can serve as a training ground for the growing cadre of conservationists in Ghana.

MUCIA (Midwestern Universities Consortium for International Activities), the administrative lead agency for the Ghana Project, has relocated its offices out of **CEDECOM** to separate quarters in Cape Coast. The new address is PO Box 454. **Chuck Hutchinson**, former director of CI's Ghana Program, is now technical advisor to the overall **MUCIA** project based in Cape Coast. The office number is 011 233 42 33041 and the fax number is 33042. Note: new phone lines to Cape Coast work well. His home phone number is 33278.

Mari Omland, formerly coordinator for the Ghana Program at CI, has been promoted to Manager of the Ghana Program.

Carla Short will join CI staff as the Ghana Program Assistant. After graduating from Vassar College in 1993, Carla worked in Freetown with the Sierra Leone Conservation Society.

MOVING ON...

In February **Malcolm Stark** completed his two-year contract as the Conservation Advisor to Kakum National Park. We take this opportunity to thank Malcolm for his tenacious efforts to facilitate the USAID-funded project at Kakum National Park. In addition to advising the Senior Staff of Kakum, Malcolm facilitated the work of specialists connected with the project and coordinated material collection for the canopy walkway and other infrastructure development. Malcolm's wife, **Annick**, and daughters **Julia** and **Amy** were integral parts of CI's extended family in Ghana. We wish them all well on their next adventure!

Debra Sohm, who has spent four years with Conservation International while completing a Bachelors degree at George Washington University, has received a Fulbright Scholarship to Ghana for the 1995-96 school year. She will be based near the Kakum Conservation Area. The Ghana Program has benefitted greatly from **Debby's** loyal assistance, and looks forward to seeing more of her on site! Best of luck, **Debby!**

Direct contact with Kakum National Park is now possible via satellite. The new telephone number is 233 42 2583. Faxes can be sent to the MUCIA fax number.

A team of Accra-based staff from the Ghana Wildlife Department (GWD) produced a draft Kakum Conservation Area Management Plan. **Alex Akwoviah**, planner, modelled the plan after those recently produced for several other protected areas in Ghana. Other members of the team include: botanist **Mike Adu-Nsiah**, socio-economist **Andrew K. Agyare**, and zoologist and former Kakum staff member **Moses Sam**. All four worked on the IUCN assisted project to produce management plans for the protected areas managed by GWD. The final publication is forthcoming.

Aid to Artisans/ Ghana (ATA/G) has assumed an advisory role in the management of the Kakum Gift Shop in May of this year. The gift shop is generating sales of over 200,000 cedis (\$200) a week. This represents an expansion of the partnership with ATA/G beyond their ongoing support of local artisans.

"Message from the Rainforest" is a musical tape produced by the Centre for Intercultural Learning and Talent Development, Cape Coast, Ghana (CILTAD-AGORO Project) - a Ghanaian-Danish cultural development project in music, dance and drama and nonprofit recording studio. The song features **David Moyer's** recordings of ambient sounds from Kakum and music, lyrics, and talking drums by **Okyerema Kwamina Pra** accompanied by traditional **Fontomfrom** drums and **Mbensoun** horns from the Central Region. Proceeds will be divided between Kakum and CILTAD-AGORO. The cassette will be available at the Kakum National Park gift shop.

PUBLICATIONS

CI's *Lessons from the Field*, "Building Local Capacity," focuses on training and features the Ghana Program.

Copies of Brent Bailey's study, *Non-timber Forest Products and Conservation: An Assessment from the Kakum Conservation Area, Ghana*, are available from the Ghana Program.

The article *Diopetes Kakumi - A new species of Hairstreak from Kakum National Park in Ghana* by Torben Larsen was published in the November 1994 issue of *Tropical Lepidoptera*. Torben also wrote a small paper on the butterflies of Kakum which appeared in the *Bulletin of the Amateur Entomologists' Society*.

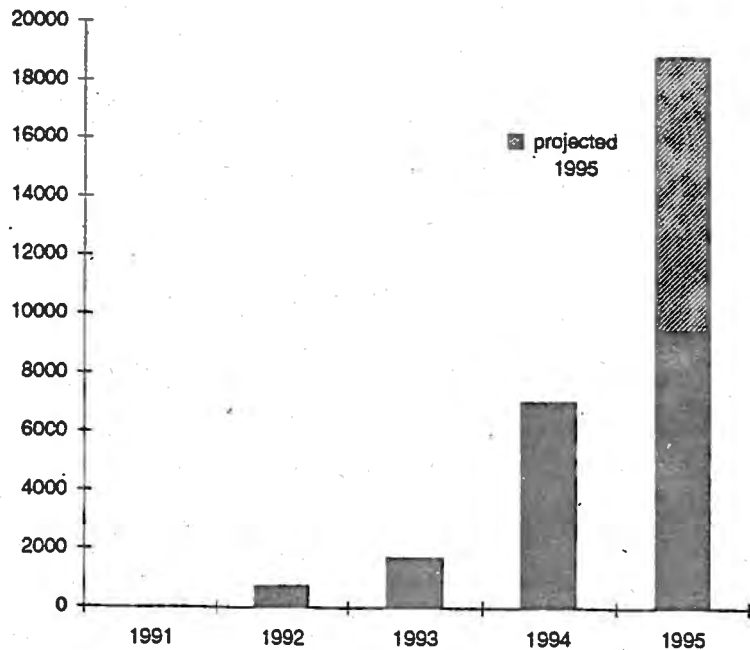
Ornithologist David Moyer has completed a six-month inventory of the birds of Kakum. A checklist of the species found in the park has been printed and is available at Kakum. David's final report includes recommendations for future research, highlights avian species and information of particular importance for conservation, and suggests options for bird watching tourism in the region.

The Kakum Conservation Area Development Guide by Chuck Hutchinson outlines future plans for the Visitor's Center and other infrastructure in Kakum. Copies are available from Conservation International.

**Donate to the
Kakum Library!**

Publications for Kakum
can be sent:
c/o The Ghana Program
Conservation International
1015 18th St., NW Suite 1000
Washington, DC 20036

Paid Visits to Kakum National Park



Visitors have increased more than 100% every year since the Kakum Project began.

**Yes! I want to be on the mailing list for
Kakum Clippings**

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- Kakum Conservation Area NTFP Report by B. Bailey
 Development Guide
 Lessons from the Field Kakum Clippings vol. 1
 Diopetes Kakumi... by Torben Larsen

The Ghana Program
Conservation International
1015 18th St., NW Suite 1000
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KAKUM CLIPPINGS JULY 1995

UPDATES

VISITOR FACILITIES AND INTERPRETIVE EXHIBITS

CI is in the early phases of planning exhibits for new visitor facilities in Kakum. At present there are modest facilities in the temporary visitor's center. The current exhibit displays some of the fauna found within Kakum and its relationship with the forest. Exhibit space, however, is limited, and hopes are high for expanded facilities to properly showcase the region's ecology.

Several new trails have been scouted and cut but the majority of the traffic remains on the Kuntan trail (short and long version). A total of eight guides are now on staff, handling interpretation in the forest and at the exhibits.

The Kakum Development Guide articulates a plan for further developing visitor facilities at Kakum National Park. The guide is intended to facilitate fundraising efforts in order to augment the significant level of funding already obligated by USAID.



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Address correction requested

USAID/GHANA

A team of seven evaluators conducted a mid-term evaluation of the Natural Resource Conservation and Historic Preservation Project for USAID/Ghana during the months of May and June 1994. The final report issued in September reflected positively on the overall project which USAID has extended until August 1997. The extension grants the project additional time, but no additional funds.

Dr. Steve Haykin, an economist, is the USAID Mission's newly assigned Project Officer for the project. Steve joined the project just in time for the whirlwind of activities associated with PANAFEST. Project Development Officer Denise Rollins remains interested in our work and based in Accra but has taken on new responsibilities.

US MILITARY FOR BIODIVERSITY FUNDS

Captain Don Bolch and Jim Madden from the US Army Corps of Engineers visited Kakum with their counterpart Lieutenant Colonel Dottey of the Ghanaian Army in September. The site survey included visits to the nine protection camps where US Military for Biodiversity funds will pair up with Ghanaian military

labor to construct housing for Kakum's Junior Staff. A total of \$510,000 is scheduled for work in Kakum; additional U.S. funds have been obligated to Shai Hills Resource Reserve. Remaining funds will improve feeder roads to the camps, improving access for communities around the park as well as tourists.

Conservation International (CI) is dedicated to the preservation of natural ecosystems, particularly the earth's rain forests, and the species that rely on these habitats for survival.

KAKUM CLIPPINGS is a production of CI's Ghana Program.

*Mart Omland
Ghana Program Manager*

*Brent Bailey
Special Projects Director*

*Debra Sohm
Ghana Program Assistant*



Postage