WILLIAM HOLDEN Wildlife Foundation
USA KENYA

Spring 2011

Viringa Mountain Gorilla Population Up 26% Since Start of Stronger Anti-Poaching Efforts

Finally, some encouraging news about endangered species! The mountain gorilla population in central Africa has swelled since the last census in 2003. The Virunga Massif, made up of three national parks, had only 380 mountain gorillas eight years ago and is now up to 480. Primatologists say efforts to save the species are far from done, but this shows that with enough effort it is possible to bring a population back from precariously small numbers.

The mountain gorilla, one of the two most endangered apes in the world, is on the verge of extinction. Generally peaceful creatures, these great animals are being threatened by clearing of their forest homes as the land is converted to space for agriculture, illness brought into the area by humans, and poaching.

Gorillas share a common ancestry with humans. After chimpanzees, they are our closest living relatives among the world's great apes. Studies of fossils, genes, physiology and behaviour have revealed just how recently our shared lineage divided.

After the recent census of mountain gorillas in the Virunga Massif, the population of mountain gorillas stands at 786: 480 in the Virunga (based on 2010 census) plus 302 in Bwindi (based on a 2006 census) plus 4 orphaned gorillas in a sanctuary in the Democratic Republic of Congo (DRC).

According to the *Guardian*, the 26.3% increase, a growth rate of almost 4% annually, is credited in part to anti-poaching efforts. In addition, the International Gorilla Conservation Programme, whose mission is to to ensure the conservation of mountain

gorillas and their forest habitat in Rwanda, Uganda and the Democratic Republic of Congo, engages local communities in other money-making projects such as beekeeping, in order to discourage poaching. Veterinarians have also closely monitored the gorillas to diminish the number of deaths from disease and injury. Patrols and guards have also been increased in the parks.

Found only in the triangle of mountains where Uganda, Rwanda and the DRC converge, the mountain gorilla is a distinct, different species which doesn't cross the range of their lowland counterparts and they don't interbreed.

Prized by zoologists but exploited for profit, mountain gorillas are hunted for meat and for their hands, feet and heads, which bring top dollar from collectors. They are also some of the first victims of periods of social unrest stemming from drought, skyrocketing food costs, and political upheaval.

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Dear Friends,

This our first newsletter of the second decade of the second millennium.

As some technological advances have catapaulted society into instantaneous communication, changing irrevocably our social patterns, we are yet to equitably advance the preservation of the single life support that makes all social networking irrelevant ... our planet. The delicate balance of bio-diversity on flora and fauna that permits the existence of US has moved to the back burner of all our other concerns.

In this issue we offer you some good news and some bad news and some news that allows you to affect change. Supporting the protection of species along with supporting ourselves should be as automatic as brushing our teeth and for you, our loyal members, it is. For that, we at your WHWF thank you enormously, but we need you to consider being an evangelist for the natural world. It doesn't take much, just a thought on a daily basis because thoughts lead to things and motivate actions of great benefit when people move together to affect change.

We hope some of our articles inspire in you a desire to speak with your friends about joining the cause.

This is the only planet we have and the future is now.

Thank you.

Stefanie Powers
President

Kalahari Bushmen Fight to Return to Ancestral Home

Imagine for a moment that you and your ancestors have inhabited the land on which you live for over 100,000 years, give or take a few millenia. Through the knowledge and oral traditions passed down through the generations, your people learned to derive sustenance and shelter from the flora and fauna in the harsh, inhospitable environment.

Though life is difficult, it has always been so on the land of your ancestors, who you believe watch over and protect you from the spirit realm, guiding you to the wild herbs that heal, to the game you need for food, and to the clean water on which the survival of your people depends.

To you, everything on the earth is alive. You are a free people, living in balance with your natural surroundings, careful to take only what you need and wasting little. You have absolutely no concept of "land ownership," because you believe Mother Earth is sacred and belongs only to herself.

After many millenia of adapting as the world changed around you, the government of the people who surround your land, decides you must leave, because it's too costly to provide services such as health care and education to your remote villages. The fact that high-quality diamonds were discovered on your land has nothing to do with it, they assure you, even though such natural resources have made the country the richest on its continent. It's just that we want to be a modern country like the rest of the world, they claim, and we want to create a preserve for the wild ones, so that tourists will come to look at the majestic animals.

So the government builds resettlement camps near your ancestral home, and initially encourages you to relocate your family with the promise of a better life. But when that doesn't work, they further "incentivize" you by sealing up many of the boreholes once drilled to give your people access to clean water, a move supported by the nation's courts.

This is not the story of how the United States dealt with its indigenous people, though the story is strikingly similar, with the outrages continuing to this day.

No, *this is the story of Botswana's San bushmen of the Kalahari desert.* Though unfounded rumors of their demise have swirled about for better than a hundred years, it is fast becoming the cold, hard reality.

The term "san" ("outsider")was applied to the bushmen by their traditional and historic rivals, the khoikhoi ("real people.") "Bushmen" was considered pejorative but has now gained in usage and is even how San refer to themselves. Spokespeople for the San have argued for the use of the "red people" or "first people", since they were the first to inhabit the Kalahari and their rich spiritual and cultural traditions date back to antiquity, giving them a unique appreciation and understanding of the Kalahari and its wildlife.

In 1961, the British colonial governor created the Kalahari Game Preserve in order to protect the wildlife and way of life of its indigenous "first people," who had only rare contacts with "civilization."

When independence came in 1966, the bushmen were considered to live in too remote a location to help. Some had already begun to relocate to a settlement within the reserve where a borehole had been drilled to alleviate the near-daily, back-breaking search for water. The more-reliable availability of water allowed them to begin raising livestock and planting gardens. The government even provided a mobile health clinic and schools. But later on, these advances, and the introduction of guns and horses into their hunting, formed the basis of the government's rationale for removing the bushmen from their land, arguing that they had willingly relinquished their hunter-gatherer existence, and so should be removed from the reserve to protect the animals.

Only about 250 individuals remain in the Kalahari Game Reserve, some of whom returned surreptitiously to their ancestral land. Those who remain must now walk two days to find water, over some of Mother Earth's most unforgiving and inhospitable terrain. The game they once hunted are now off limits to them because it is more valuable to the tourism industry than an ancient culture whose language utilizes clicks as extra consonants.

Life in the resettlement camps on the outskirts of the Kalahari is blanketed in desperation, with endless days spent waiting in long lines: for water, to see a doctor, or just waiting for time to pass until the tiny bar opens and cheap beer flows from cardboard boxes. Poverty is the harsh reality, with employment close to non-existent for the mostly uneducated, demoralized people inhabiting the small brick box houses and thatched huts.

Deciding whether to leave the Kalahari or stay ripped families apart, when part of the family chose to remain in the reserve while the other chose to relocate to the settlements. People remaining in the reserve were classified as "remote area dwellers," but by 2002, all but a few dozen had resettled, either in response to the lure of small amounts of cash and a few cattle or out of fear of reprisals from game wardens or other officials.

A group of around 180 bushmen sued the Botswana government in 2002 for the right to return to the game reserve. The court ruled that they could return, but if they do, the government is under no obligation to deliver any services to them. Even more have asked to return, but the government representative has indicated that would only be allowed with major restrictions, including a ban on raising animals and hunting game.

Once a proud, self-reliant people, the San bushmen are now, in effect, wards of the state living on handouts. Some wait for permission to return to their ancestral lands and their old way of life, while others just wait to die, their life of freedom in the reserve now existing only in memories.

They now know alcoholism, prostitution and AIDS for the first time. Most of those in the settlements have been gone so long from the Kalahari that the death of their cultural traditions appears not only possible, but probable. Will the San win their fight to return to their ancestral lands, or will one of the world's oldest civilizations simply fall prey to the economic and geopolitical expediency expected of "modern" countries aspiring to be major players on the world stage? Only time will tell, but whatever happens, the San way of life will have been shamefully and irreparably changed.

Want more info? www.iwant2gohome.org or **www.khoisanpeoples.org.**

The Julie Powers Memorial Library At Guara Primary School

This is the first look at the newly completed library honoring my mother. As you can see, there are more charts, bulletin boards, books and furniture yet to come, which is in the process of being provided as we go to press. During my next visit we will officially inaugurate the library. You can tell by their smiles that the students are happy and the head mistress is overjoyed, as is her staff. Thanks to all who made this library possible! Their names will be installed inside the building along with a photo of my mother, Julie.

Stefanie Powers

Center News

New Memorials In Place

It is with a heavy heart that we erected four memorials to great friends and supporters of WHWF.

Tom Mankiewicz, a director of the foundation and close friend for the majority of my life, and the screenwriter / director who brought Jonathan, Jennifer, Max and Freeway to life.

Julian McKeand, director of WHWF and co-founder of the Mt. Kenya Game Ranch.

Sidney Sheldon who wrote the original concept for "Hart to Hart" and who was a world-famous fiction writer.

Roderick "Delbert" Mann, a lovely gentleman who was show business' favorite journalist.

New Exhibits Show Fuel-efficient Cooking & Food Preservation

These new educational exhibits demonstrate new cooker capabilities and food cooling/preservation method.

Fuel Efficient Cookers

These jikos were produced by the Bellerive Foundation as an alternative to the open-fire traditional cooking method that loses 90% of its energy to the surroundings. The stoves are designed to contain the heat from a wood flame so that the heat is concentrated on the cooking area. This reduces both time and amount of wood used for cooking. The inner walls of the cookers are made of clay that is a poor conductor of heat. All the heat produced by the few pieces of wood used is conducted by the pot. No heat is wasted. Using fuel-efficient cookers will reduce the number of trees being cut down for fuel, thus saving the forests.

The Evaporative Charcoal Cooler

This is a food storage box whose walls are covered with charcoal sandwiched between a chicken wire and a plain metal sheet. Like a refrigerator, this cooler cools food and preserves it for a long time. The cooling effect is caused by evaporation. There must be heat to vaporize water and wind to blow away the water vapor. As water evaporates, the surface is cooled. On a hot day, the cooler can cool water to a temperature of 3 degrees Celsius (roughly 38 degrees F.) In hot areas, where water is scarce, the cooler requires a raised roof to conserve water. Charcoal is ideal because it is porous and readily available. The black color of the charcoal absorbs heat from the sun that helps to evaporate the water that carries with it the heat, creating the cooling effect.

Update: Kalahari Bushmen Win Appeal

On January 31, 2011 Botswana's Court of Appeal overturned a ruling that had denied the Kalahari Bushmen access to water on their ancestral lands. With support from the organization ***Survival,*** the Bushmen appealed a 2010 High Court judgment preventing them from accessing a well on which they rely for water. The panel of five Appeal Court judges found that:

1) the Bushmen have the right to use their old borehole, which the government had banned them from using
2) the Bushmen have the right to sink new boreholes
3) the government's conduct towards the Bushmen constituted 'degrading treatment'
4) the government must pay the Bushmen's costs in bringing the appeal

Do Drastic Changes to Ocean Currents = Wild Weather?

Examination of deep sea corals reveals that there have been drastic changes to oceanic currents in the western North Atlantic since the 1970s. The influence of the cold water Labrador Current, which is in periodic interchange with the warm Gulf Stream, has been decreasing continually since the 1970s. Occurring at the same time as global warming this phenomenon is unique in the past 2000 years.

One of the oldest known weather systems in the world is the North Atlantic Oscillation (NAO), the periodic variation of atmospheric pressure difference between the Azores and Iceland. It dictates not only whether the winters in Europe will be cold and dry or wet and warm, but also influences the oceanic currents in the North Atlantic. On the continental shelf off Nova Scotia, the NAO seems to control the interaction between different water masses.

During positive phases, the oceanography of the north-west American continental shelf is dictated by a relatively warm water mass which is salty and nutrient-rich, originating from the Gulf Stream. If the NAO is in a negative phase, the Labrador Current is dominant. A relatively cold water mass, it is relatively nutrient-poor and originates from sub-polar regions.

Using new geochemical methods, an international team of researchers including the biogeochemists Prof. Moritz Lehmann (University of Basel) and Dr. Carsten Schubert (Eawag – Swiss Federal Institute of Aquatic Science and Technology) were able to prove that a drastic change to a "warm water mode" occurred in the western North Atlantic in the early 1970s. This change, the timing of which coincides with and may be directly related to Global Warming, is unique in the last 2000 years.

Corals record climate data

The researchers made use of the fact that water masses carry different nitrogen isotopic signatures depending on their origins. These signals are then recorded in the biomass of deep sea corals hundreds of meters below the surface that feed on sinking organic particles from above. The deep sea corals thus allow a reconstruction of the oceanic current ratios over the last few decades. An exact dating of the individual samples is possible due to the corals' production of easily identifiable annual growth rings.

The researchers were able to show a clear reduction in the nitrogen ratio since 1970 which indicates that the role of the cold Labrador Current, with a higher ratio is becoming less important. Possible alternative bio-ecological or geochemical causes for such a change in the stable isotope ratio were able to be excluded by the researchers using component-specific nitrogen analyses of the corals. Depending on the food chain structure, changes occur in the nitrogen ratio of specific amino acids in the corals' individual annual growth rings.

The nitrogen isotope signatures of the amino acids show that the food chain effect did not play a significant role at least since the 1970s.

Global warming with consequences

Isotopic analysis of fossil deep sea corals from the same region confirms that the nitrogen isotope ratios and thus the oceanic current situation have remained practically unchanged over the past 2000 years. This indicates that the oceanographic change in oceanic currents of this scale, which has been occurring since the 1970s, is a unique occurrence within the past 2000 years.

The researchers suspect there is a direct connection between the changes in the oceanic currents in the North Atlantic and global warming primarily caused by human activities.

Newly-Discovered Monkey Threatened with Extinction

Study says Africa's "kipunji" hovers at 1,100 individuals; Poaching, illegal logging threatens remaining population

A new species of monkey unknown to scientists prior to 2003 is threatened with extinction according to the Wildlife Conservation Society, which published the first-ever census of the endangered primate. Known as the "kipunji," the large, forest- dwelling primate hovers around 1,117 individuals, according to the study.

The population estimate was the result of more than 2,800 hours of field work by WCS scientists in the Southern Highlands and Udzungwa Mountains in Tanzania where the kipunji was discovered. The team found that the monkey's range is restricted to just 6.82 square miles of forest in two isolated regions.

The authors also discovered that much of the monkey's remaining habitat is severely degraded by illegal logging and land conversion. In addition, the monkey itself is the target of poachers. Because of these combined threats, WCS proposes that the kipunji should be classified by the World Conservation Union (IUCN) as "critically endangered" – which means it is threatened with extinction in the wild if immediate conservation action is not taken.

The census demonstrated that the kipunji is probably Africa's rarest monkey, and provided empirical data in support of its official designation as 'Critically Endangered' on the 2008 IUCN Red List, with the genus facing an extremely high risk of extinction in the wild

"The kipunji is hanging on by the thinnest of threads," said Dr. Tim Davenport, Tanzania Country Director for the Wildlife Conservation Society. "We must do all we can to safeguard this extremely rare and little understood species while there is still time."

Research is being carried out on aspects of the kipunji's social and reproductive behaviour, feeding ecology, home range dynamics, predation and demography.

The kipunji first made headlines in 2005 when a team of scientists led by WCS announced its discovery. In 2006, the monkey made news again when DNA analysis revealed that the species represented an entirely new genus of primate, the first discovered since 1923.

More than 51% of the total kipunji population lives in forests with comparatively little management. However, there are reasons for optimism. Ndundulu Forest Reserve was absorbed by the new Kilombero Nature Reserve in 2007 under the auspices of the Forestry and Beekeeping Division of the Ministry of Natural Resources and Tourism. Similarly, Mt. Rungwe, so long a neglected Catchment Forest Reserve, is now in the final stages of becoming a nature reserve as well. This will complement the adjacent national park and enable community involvement.

A management plan is currently being written, and reserve rangers have been hired and trained. However, it will be some time until illegal activities are brought under control, even with full resources being deployed.

Portable Desalination Units Show Promise

New approach to water desalination could lead to small, portable units for disaster sites or remote locations

A shortage of fresh water is one of the acute challenges facing the world today. An energy-efficient approach to converting sea water into fresh water could be of substantial benefit, but current desalination methods require high power consumption and operating costs or large-scale infrastructures, which make them difficult to implement in resource-limited settings or in disaster scenarios.

But a new approach to desalination being developed by researchers at the Massachusetts Institute of Technology (MIT) Field and Space Robotics Laboratory and in Korea could lead to small, portable desalination units, powered by solar cells or batteries, that could deliver enough fresh water to supply the needs of a family or small village.

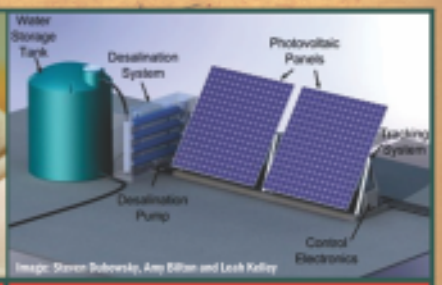
The new system being developed by researchers at MIT and in Korea could be self-contained and driven by gravity — salt water would be poured in at the top, and fresh water and concentrated brine collected from two outlets at the bottom. And, as a bonus, the system would also remove many contaminants, viruses and bacteria at the same time.

The new approach, called ion concentration polarization, is described in a paper "Direct Seawater Desalination by Ion Concentration Polarization," written by Sung Jae Kim, Sung Hee Ko, Kwan Hyoung Kang, and Jongyoon Han, published in the March 2010 issue of *Nature Nanotechnology*. Kim and Associate Professor Jongyoon Han, are both in MIT's Department of Electrical Engineering and Computers. Primary funding for the research was provided by a grant from the National Science Foundation, as well as a SMART Innovation Centre grant.

The system works at a microscopic scale, using fabrication methods similar to the manufacture of microchips, but using materials such as silicone (synthetic rubber). Each individual device would only process minute amounts of water, but a large number of them (the researchers envision an array with 1,600 units fabricated on an 8-inch-diameter wafer) could produce about 15 liters of water per hour, enough to provide drinking water for several people. The whole unit would be self-contained and driven by gravity — salt water would be poured in at the top, and fresh water and concentrated brine collected from two outlets at the bottom.

That small size could actually be an advantage for some applications, Kim explains. For example, in an emergency situation like Haiti's earthquake aftermath, the delivery infrastructure to get fresh water to the people who need it was largely lacking, so small, portable units that individuals could carry would have been especially useful.

A single unit of the new desalination device fabricated on a layer of silicone.



MIT researchers have developed a portable, solar-powered water desalination system that could provide water in disaster zones and remote regions

So far, the researchers have successfully tested a single unit, using seawater they collected from a Massachusetts beach. The water was then deliberately contaminated with small plastic particles, protein and human blood. The unit removed more than 99 percent of the salt and other contaminants. "We clearly demonstrated that we can do it at the unit chip level," says Kim.

While the amount of electricity required by this method is actually slightly more than for present large-scale methods such as reverse osmosis, there is no other method that can produce small-scale desalination with anywhere near this level of efficiency, the researchers say. If properly engineered, the proposed system would only use about as much power as a conventional lightbulb.

One of the leading desalination methods, called reverse osmosis, uses membranes that filter out the salt, but these require strong pumps to maintain the high pressure needed to push the water through the membrane, and are subject to fouling and blockage of the pores in the membrane by salt and contaminants. The new system separates salts and microbes from the water by electrostatically repelling them away from the ion-selective membrane in the system— so the flowing water never needs to pass through a membrane. That should eliminate the need for high pressure and the problems of fouling, the researchers say.

Having proved the principle in a single-unit device, researchers plan to produce a 100-unit device to demonstrate the scaling-up of the process, followed by a 10,000-unit system. They expect it will take about two years before the system will be ready to develop as a product. "After that," says Kim, "we'll know if it's possible" for this to work as a robust, portable system, "and what problems might need to be worked on."

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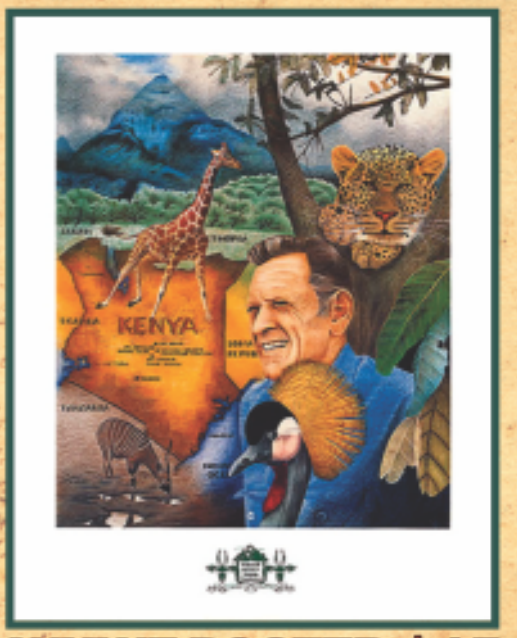

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