

Timeline and Checklist

In preparing for your upcoming Earthwatch Expedition, please ensure that you:

Immediately

- Read this Expedition Briefing and all enclosed materials thoroughly
- Book an appointment with your doctor; you'll need them to sign your Health Form
- Make sure you understand and agree to Earthwatch policies and participant responsibilities (see Appendix)

At least 90 days prior to your expedition start date

Complete and return your volunteer forms. **Below are the specific forms required for this expedition:**

- | | |
|--|---|
| <input type="checkbox"/> Personal Profile | <input type="checkbox"/> Liability Release Form |
| <input type="checkbox"/> Health Form | <input type="checkbox"/> Behavior Agreement |
| <input type="checkbox"/> Travel Details Form | |

European volunteers can download volunteer forms on: earthwatch.org/europe/volunteerforms

US/North American volunteers can download volunteer forms at: earthwatch.org/volunteerforms

Australian volunteers can download forms on earthwatch.org/australia/expeditions/volunteer_forms/

Japanese volunteers can download forms on www.earthwatch.jp/getinvolved/condition/formdownload-i.html

- Pay any outstanding balance on the minimum contribution for your expedition
- Book travel arrangements (see the *Rendezvous* sections for details)
- If you plan to purchase additional travel insurance, note that some policies require purchase when your expedition is booked (see the *Insurance* section for more information)
- If traveling internationally, make sure your passport is current and obtain a visa for your destination country (if necessary) (see the *Passports and Visas* section for more details)
- Make sure you have all the necessary vaccinations for your project site (see the *Health Information* section)
- Purchase a guide book for your destination country
- Bring your level of fitness up to the standards required (see the *Project Conditions* section)

At least 60 days prior to your expedition start date

- Review the packing list, ensuring you have all the clothing and any special equipment needed
- Obtain any necessary prescription medications that will be needed for your travels

Up to 30 days before you leave for the expedition

- Read any required reading or websites recommended by the Earthwatch scientist(s) for your expedition
- Make sure you have enough personal funds for your expedition (see the *Travel Planning* section)
- Leave the Earthwatch emergency contact number with a friend or relative (see the *Emergencies in the Field*)
- Leave a copy of your passport, visas & airline tickets with a friend or relative
- Confirm your travel arrangements

On the expedition

- Read any additional materials provided by the Earthwatch scientist(s)
- Take photos and or video and keep a research diary when and where appropriate. Those with photography and film skills are encouraged to share media from the expedition with Earthwatch (see the Liability Release form for more information).
- Talk to your teammates about other great expeditions

Within 30 days of the expedition's conclusion

- Please complete our online evaluation survey to help us improve. Your feedback is appreciated!

* If you have signed up for an expedition within 90 days of the start date, you must return your fully completed volunteer forms as soon as possible.

Conserving Grevy's Zebra in the Samburu District

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General Information

Project title	Conserving Grevy's Zebra in the Samburu District
Earthwatch scientists	Dr. Paul Kimata Muoria, Research Scientist , African Wildlife Foundation Dr. Nicholas Oguge, Professor, University of Nairobi and Director, Earthwatch Kenya
Research site	Samburu District, Kenya
Expedition length:	13 days
Team Size Max:	10 participants
*Note: Team 1 is an Earthwatch Teen Team and is reserved for participants 15 – 18 years of age (18-year-olds are allowed only if they have just completed their final year of high school).	

Emergency Contacts

Emergency contact number at Earthwatch headquarters in the:

US +1 978 461-0081

(800) 776-0188 (Please note that the 800-number works as a toll free call *only* for calls placed within the US.)

After business hours, leave your message with our live answering service. State that you have an emergency communication and leave a clear message with the name of the field program, your name, location from which you are calling, and if possible, a phone number where you can be reached. An Earthwatch staff person will be contacted and will respond to your call within one hour.

Emergency medical and evacuation assistance provider

To contact International SOS in the event of an emergency, dial:

- For assistance **within the US**: ISOS Philadelphia, +1 215 942 8459
- For assistance **outside the US**: ISOS London, +44 (0) 208 762 8550
- For assistance **within Australia**: ISOS Australasia, + 61 (0) 2 9372 2468

State that you are on an Earthwatch expedition. The following information must be provided:

1. The Insured Person's name
2. The Assured is **EARTHWATCH**, the Certificate No: **GP 0010214** and SOS reference **#14ACPA000075**
3. The telephone number and facsimile number where the Insured Person can be reached
4. The Insured Person's address abroad
5. The nature of the emergency



Dear Earthwatcher,

Welcome to Earthwatch! We greatly appreciate your decision to contribute to hands-on environmental science and conservation. As an Earthwatch volunteer, you have the opportunity to create positive change. Each year we send thousands of people just like you into the field to understand and help an array of species, habitats, and cultures on approximately 65 research projects in more than 35 countries. These projects focus on: **climate change, cultural heritage, ecosystem services, and oceans.**

We place great importance on the health and safety of all those involved in our activities anywhere in the world. Although risk is an inherent part of the environments in which we work, careful risk management and diligent planning mean that all participants can have educational and inspirational Earthwatch experiences. We've been providing worldwide experiences **for more than 35 years**, so you're in good hands.

It is essential that you carefully read your Expedition Briefing and complete the volunteer forms so that you are fully prepared. Your Expedition Briefing includes important logistical information such as instructions for reaching the project site, what to pack, what immunizations you need, how to physically prepare for your expedition, and more. It also explains the research being conducted on the project, why it's important, and what role you'll play as an Earthwatch volunteer.

Well-prepared volunteers are better able to enjoy the unique and exciting experiences that an Earthwatch expedition offers and will be more helpful to the scientists' important work. Open-mindedness, ability to work on a team, and a desire to learn are keys to a successful and enjoyable Earthwatch experience. We hope this expedition will inspire you to get more involved in conservation and sustainable development priorities—not just out in the field but also when you return home. We encourage you to share your experiences with others, to transfer your skills and enthusiasm to environmental conservation efforts in your workplace, in your community and at home.

If you have questions as you prepare for your expedition, contact your Earthwatch office. Thank you for your support, and enjoy your expedition!

Sincerely,

A handwritten signature in cursive script, appearing to read "Anne T. Ogilvie".

Anne T. Ogilvie
International Director of Field Management

Dear Earthwatcher,

Welcome to the Centre for Drylands Research. The centre was set up in 2003 to provide a base for Earthwatch scientists, volunteers and fellows to undertake research and education to conserve the fragile landscape, wildlife and lifeways of the Samburu people. We will strive to make your visit safe, enjoyable and memorable.

From this centre, we undertake research that covers an area of about 10,000 square kilometers within the Samburu pastoral lands, community conservancies and wildlife reserves, between the Ewaso Nyiro River and Mathews Range. We will be working at the northern end of our study area, at the foothills of the Mathews. You may travel, therefore, for a period of up to two hours one way to get to the furthest end of our study sites to the south.

The Samburu community is very friendly and welcoming and you will have an opportunity to experience their culture. If conditions and time allow, you will also have an opportunity to visit the Samburu and Buffalo Springs National Reserves, which teem with unique northland specialists such as the reticulated giraffe and the Grevy's zebra, the subject of our study.

Your safety and comfort are important to us, so remember to observe the safety measures that will be provided to you on arrival. We look forward to partnering with you towards our noble cause in conserving biodiversity in this unique pastoral land. In Kiswahili, I say *karibu*.

Nicholas Oguge, PhD

Preparing For Your Expedition

Please consider this Expedition Briefing required reading for participation in the project and bring it with you to the field

- **Please read and sign the Behavior Agreement**

The Expedition Briefing is presented in four main parts:

- 1) The Research
- 2) Daily Life in the Field
- 3) Project Conditions
- 4) Travel Planning

The Expedition Briefing will answer your questions about travel, rendezvous, the research area, the living and working conditions that you will encounter and the project staff with whom you will work. The overall objectives and methods of the research are described, as well as the specific tasks in which you will participate. It is important to read this information to truly understand the work you will be contributing to.

This Expedition Briefing includes the most accurate information available at the time of your Earthwatch scientist's project planning, however, the precise work that you do may differ somewhat from that described. Please keep in mind that research requires improvisation. Research plans, especially in field research contexts, evolve in response to new findings as well as unpredictable factors such as rainstorms, equipment failures, politics, etc. The nature of research expeditions requires flexibility in plans and expectations. *To maximize the success of your experience, remember to expect the unexpected, be tolerant of repetitive tasks, and try to find humor in difficult situations.* We will keep you informed if there are any major changes in the research plan or field logistics before you go into the field.

Physical and Intellectual Preparation

Advance reading will enhance your understanding of the scientific questions addressed by the research. The Expedition Briefing includes an optional reading list that can shorten your training time in the field. Some Earthwatch scientists include additional reading material within the Expedition Briefing; others will send you articles and/or provide printed information at the research site. In addition, we encourage you to read novels or history books based in or near the research area of your expedition. Such stories will provide you with an interesting introduction to the location in which you will be living and working, and may help you perceive many unique features of the local culture and landscape.

Pay attention to the *Project Conditions* section! Regular exercise is especially important for volunteers who will be doing fieldwork. Your ability to quickly adapt to your project's physical demands will enhance both your enjoyment of the work and the productivity of your team. The Expedition Briefing describes the physical demands of the project and may suggest specific activities for advanced conditioning.

Consider working on skills that will help you support, broaden and recall this research experience. For instance, we encourage volunteers who will be participating in field biology research to take walks and to pay more attention to their surroundings. Begin developing the patience and observational skills of a scientist.

Journal writing: As a means of reflecting on this experience, you are encouraged to bring a journal to record your daily observations, thoughts, ideas, stories, drawings and/or feelings. You may also choose to take notes on scientific lectures, discussions and findings. Your observations and field notes can be just as important to the research team as those gathered by more experienced staff members. And whether you can draw or not, sketches of your observations will also help you remember your experiences and describe them to others.

Photography and art: Bring along your camera and/or art materials. Though research tasks take precedence and require focus, we encourage you to record your experience through photographs or drawings whenever working conditions allow.

You may wish to use a digital camera and/or print film to take photos of new friends and beautiful scenery. Action photos of your teammates working on a research task, of the research site and of the research subject provide

important visuals for presentations. As stories develop out of your day-to-day experience, keep an eye out for images to illustrate these stories. If your expedition inspires any artwork that you are willing to share, Earthwatch Institute welcomes the opportunity to copy and use photographs, drawings, watercolors and cartoons in its various publications and online.

Emotional Preparation

Most likely, you will be working in a place you have never been before, with people you have just met, on tasks that require new knowledge and skills. Some aspects of your expedition, whether physical, social or intellectual, are bound to challenge you and prompt emotional highs and lows. Be mindful of these feelings and don't hesitate to communicate emotional concerns to the research staff.

The following sequence of feelings is typical:

- **Stage 1:** Everything is new and exciting; you feel terrific
- **Stage 2:** Disappointment in the reality of the situation; for instance, it has been raining for days and the work is more difficult than you expected it to be
- **Stage 3:** Your emotions reach an even plateau; things don't seem so rough, you understand the work and you feel you are making a contribution!

Being Part of a Team

Your team consists of a relatively small group of volunteers and project staff. Many people are not used to the close living conditions and/or physical demands common to field research. The ability to get along with others is of paramount importance. Your expedition may include group activities, such as meal preparation and clean-up, which require as much teamwork as the research itself. At the start of your project, staff and volunteers will establish ground rules that will ensure a fun, safe, respectful, inclusive and productive expedition experience for the whole team.

When abroad or in another part of the country, you are viewed as ambassadors of your home region. Be courteous and respectful of local customs as well as the diverse backgrounds and customs of your teammates. Your professionalism and general demeanor are important to your Earthwatch scientist(s), Earthwatch Institute and all teenage volunteers who may follow you. The poor judgment of one team member, for example violating program rules or possession of illegal drugs, could jeopardize the entire mission of this and future expeditions.

The Research

Conserving Grevy's Zebra in the Samburu District

The endangered Grevy's zebra (*Equus grevyi*) current population is estimated at about 2500, dramatically less than the estimated 15,000 in the 1970s. These mammals have lost most of their historical range, and are currently restricted to the Samburu area, with only a small fraction of their population remaining in other parts of northern Kenya and in Ethiopia. Since 2003, this project has studied the Grevy's zebra in the southern Samburu landscape in order to monitor of its population size and structure, use of space, interactions with humans and the key threats it faces. We have also worked to help craft and implement conservation strategies and actions that will ensure the survival of this species. Initially, researchers believed that hunting and competition for resources with livestock were the primary threats to Grevy's zebra survival. However, our findings and those of colleagues show that recurring droughts, coupled with disease and predation by lions, are the main factors limiting the recovery of this species, even with the current intensification of conservation efforts by the local communities, government and conservation organizations. In addition, the impact of climate change on this species is not clearly understood. The aim of this project is gather information that will help to reverse the decline in Grevy's zebra.

To achieve this aim, we will:

- Monitor Grevy's zebra population size, structure and distribution in relation to that of other wild animals and livestock.
Data on the population size, status and the spatial and temporal distribution of Grevy's zebras are necessary for effective management and conservation of this endangered species. To achieve this objective, we will continue gathering population size, status and distribution data in Southern Samburu. Specifically, we will continue gathering detailed data on the Grevy's zebra population in West Gate and Meibae conservancies and also from Samburu and Buffalo Spring national reserves.
- Monitor the abundance of Grevy's zebra key food plants and habitat.
Rapid habitat degradation is evident as a result of overgrazing and possibly due to climate change. There are also evident vegetation changes, with some areas being threatened by invasive species. Luckily, the local communities in the study area, who are primarily pastoralists, are setting up conservancies to generate income from ecotourism and conserve Grevy's zebras and other wild animals. We propose to initiate an ecological monitoring program which will shed light on whether the creation of conservancies is helping in habitat restoration.
- Survey disease in Grevy's zebras.
The rapid decline in Grevy's zebra population has been attributed to competition for resources with expanding human and livestock populations and the resultant habitat degradation (Williams 1998; Williams & Low 2004). Other factors thought to be limiting Grevy's zebra population have been reduced water supply and poaching. Disease outbreaks can cause sudden and unexpected local declines in the abundance of endangered animals (Woodroffe & Ginsberg 1999; Cleaveland et al. 2002). In their extensive review of disease concerns of wild equids, Radcliffe and Osofsky (2002) found little information on diseases affecting Grevy' zebras. However, disease outbreaks could have been the silent cause of the documented Grevy's zebras decline. For example, at least 53 Grevy's zebras died during an anthrax outbreak in southern Samburu (Muoria et al. 2007). It is therefore crucial that the risk of zoonotic diseases (diseases that can be transmitted between animals and humans) on Grevy's zebras be addressed comprehensively in order to formulate conservation and management policies which might lower this risk. We propose to conduct disease surveillance by working with the relevant partners (Kenya Wildlife Service, Government's Veterinary Department; the local community and any other interested parties).
- Explore Grevy's zebra movements and the impacts of climate change on their population ecology
Since 2003, we have been collecting long-term daily rainfall and temperature data at three weather stations in Wamba area and one in Samburu National Reserve. We also have data that can be used to calculate Grevy's zebra and other wild animal and livestock density, distribution and movement patterns. With Funding from African Wildlife Foundation, we collared 5 Grevy's zebras in 2010 using GPS-GSM technology. This enables us to monitor more closely how these equids use their habitat, and therefore to collect data which will help in

modeling various climate change scenarios. We are working with our colleagues in GIS (Geographic Information Systems) department to implement this component.

- Work with other stakeholders to implement the national Grevy's zebra conservation strategy. The reversal of the decline in Grevy's zebra population requires the implementation of coordinated strategies among all stakeholders. This realization led to the development of the National Grevy's zebra Conservation and Management Strategy. Launched in 2008, this strategy has nine objectives and forms the framework for conservation actions. Our project goals and activities have been revised to ensure that we contribute to the strategy implementation. We propose to continue participating in this implementation by refocusing our activities to ensure relevance to the strategy.

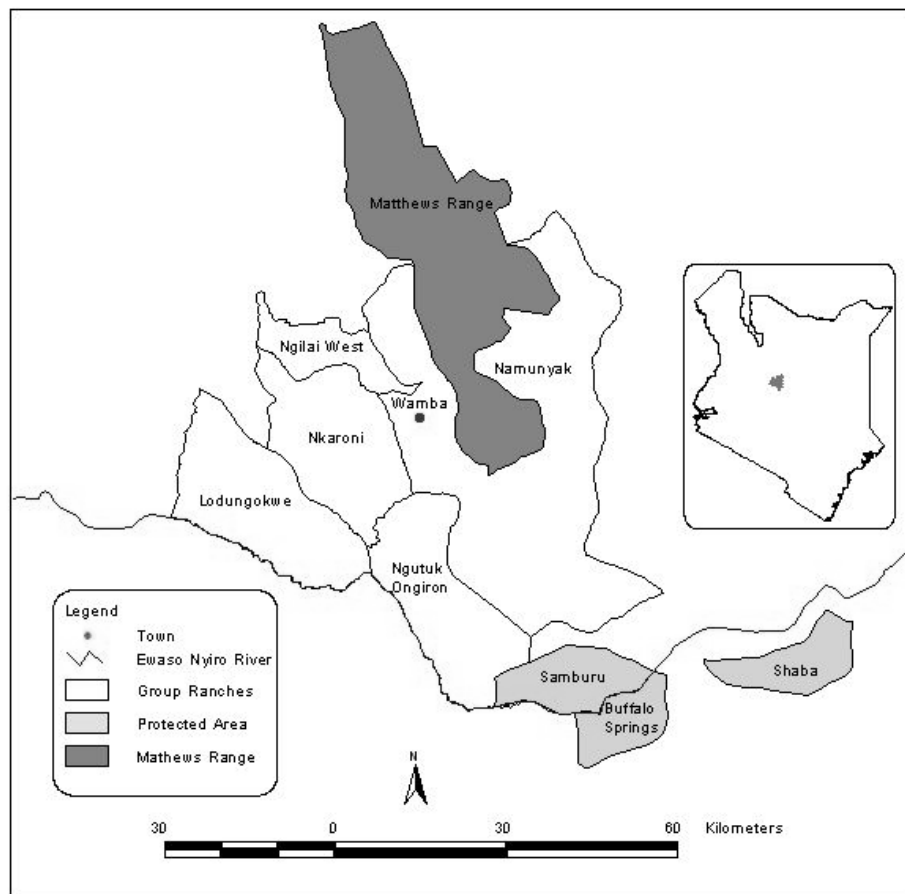
Research Area

Physical Environment

The area ranges from 800 m/2625 feet above sea level (ASL) around the Samburu Reserve to 2230 m/7316 feet ASL at Mathews Peak. Temperatures range between 24°C/75°F and 35°C/95°F. Because of climate variability, rainfall patterns are erratic, unreliable and poorly distributed. The long rainy season occurs in the period of March through May, while short rains are experienced in October and November. Frequent and persistent droughts lasting several months to several years may occur. This erratic rainfall pattern generally influences the grazing practices of the pastoralists in Samburu. The pastoralists cope with this situation by migrating with their herds to areas where grazing resources can be found.

The soil in Samburu, especially in lowlands, is sandy or sandy clay soil. These are highly susceptible to erosion from water and wind, and, along with the low vegetation cover and high temperatures, this contributes to increasing land degradation. As is characteristic of arid and semi-arid conditions, the soil in Samburu is low in fertility, and has poor water-holding capacity and organic matter content, which lowers the quality of vegetation and carrying capacity of the land.

The study area also has scarce water resources; the Ewaso Nyiro River is the only permanent source of water. The river drains along the southern border of the region and is inaccessible to most people who live further north. The high demand for water for irrigation of export crops has changed the status of the river from perennial to seasonal. Other water sources include boreholes, springs and water pans.



Cultural, Social, and Political Environment

The research area is in the Samburu West District of Kenya; it is communally owned and the nomadic Samburu pastoralists, their livestock and wild animals live in close proximity. The area is rich in wildlife, including Grevy's zebras, elephants, gerenuks, various other antelopes, cheetahs, lions, leopards, hyenas, wild dogs, birds and an array of invertebrates. There are no fences to keep wildlife within certain areas, and human-wildlife conflict over critical resources (water, food, etc.) contributes to a greater dispersal of wildlife. However, there are also several wildlife reserves and conservation areas in the vicinity, including Buffalo Springs, Samburu, Shaba, Namunyak, Kalama, West Gate and Meibae Community Conservancies.

The town is one of the larger population centers in Samburu and has been the base for Earthwatch operations since 2003. It is a rural town with almost no tourism, although many tourists visit the nearby reserves. The people in and around the town live the traditional lifestyle of the Samburu people. While in the area, volunteers will have the opportunity to get to know some of the community members who are crucial partners in Earthwatch's efforts in this area. Volunteers will also learn more about the local Samburu culture. The Samburu people share a language and many cultural practices with the Maasai. They have a nomadic lifestyle and are believed to have emigrated from Sudan (which borders Kenya to the north) in the beginning of the 15th century.

Research Goals and Achievements

This research project will enable a better understanding of the basic ecology of Grevy's zebras, offering insights as to why their populations have not expanded after hunting has ceased. By working with local communities and enlisting their support in gathering important environmental data, this project will be in a position to share data on movements, aggregations, grazing impact on habitat and the nature of livestock-wildlife interactions. The information generated will be useful to conservationists as they develop the land-use policy that helps protect Grevy's zebras and stimulates economic development in sustainable ways. In addition, the Kenya Wildlife Service, the government corporate body mandated with oversight of all aspects of wildlife conservation in Kenya, will be able to integrate the project's findings with those of studies they are likely to undertake on Grevy's zebras in protected areas. Drs. Paul Muoria and Nick Oguge are members of the National Grevy's Zebra Technical Committee, which is charged with the responsibility of advising Kenya Wildlife Service on species conservation.

Already, this project has made an impact on a local level. Many area conservation managers, teachers and university students have gained training and work experience through internships and other field research opportunities with the project.

PROJECT STAFF

Earthwatch scientists

Dr. Paul Kimata Muoria is a research scientist with the African Wildlife Foundation (AWF). He has extensive field experience, having worked with a variety of mammals, including baboons, elephants, the endangered Tana River crested mangabeys, red colobus monkeys and, currently, Grevy's zebras. His areas of interest include animal ecology, conservation and human-wildlife conflict. He will be responsible for overall project coordination and logistics, and overseeing all aspects of project execution and preparation of project reports and publication of the results. Dr. Muoria will be onsite for part of each expedition as his schedule allows.

Dr. Nicholas Oguge is a professor from the University of Nairobi and the director of Earthwatch Kenya. He is a Kenyan scientist with extensive international experience. He earned his PhD in reproductive physiology from Lincoln University in New Zealand and has over two decades of research experience on biodiversity, wildlife physiology and ecology, environmental policy, parasitology, genetics, and small mammal management, including teaching and research stints in Belgium, the United Kingdom, Sri Lanka, Uganda, the United States and for the United Nations (Food and Agriculture Organization). He has over two dozen publications to his credit. The year prior to joining Earthwatch, Dr. Oguge was a visiting associate professor of biology at Duke University while on sabbatical from Kenyatta University in Nairobi, where he was the Zoology Department chair from 1999-2001. Dr. Oguge will be onsite with teams when his schedule allows.

Research Advisors

Dr. Dan Rubenstein serves in an advisory role to help meld the behavioral and ecological data gathering on the two zebra species with that of the monitoring program. He is chair of the Department of Ecology and Evolutionary Biology and director of the Program in African Studies at Princeton University, and is a leading expert in the fields of animal behavior, evolutionary ecology and sociobiology, with particular interest in equid behavior and conservation. He has served as the editor of *Evolutionary Ecology Research* since 1986 and the associate editor of *Behavioral Ecology and Sociobiology* since 1991. He has published 75 academic papers and co-edited two books on a wide range of subjects in these fields, from aquatic invertebrates to megafauna. Dr. Rubenstein serves as an advisor to the project, and will not be in the field with the Earthwatch teams.

Dr. Philip Muruthi is the senior director of conservation science for AWF and will serve as science advisor for this project. He earned his PhD in ecology and evolutionary biology from Princeton University and has extensive experience in wildlife research and management. His research interests include animal ecology, especially the ecology of disturbed populations, and the impact of humans on wildlife populations. Dr. Muruthi has managed and overseen AWF's species conservation portfolio since 1997. He is a member of a senior team at AWF, charged with shaping its program in conservation through strategic diversification and expansion. He develops new initiatives in species and landscape-scale conservation, coordinating activities with other AWF conservation approaches and with AWF partners. Dr. Muruthi is the AWF liaison for conservation staff within and outside Africa, and stays current on key issues and trends to shape AWF species and landscape-scale conservation initiatives and activities. Dr. Muruthi serves as an advisor to the project, and will not be in the field with the Earthwatch teams.

Earthwatch field staff

Mr. Paul Gacheru is the field team leader/assistant principal investigator on the Grevy's zebra project. He holds bachelor's of science in wildlife management and is about to defend his MPhil Thesis, entitled "The response of baboon behavior in respect to invasive plant species in Mukogodo division Laikipia District." Paul was involved in the Earthwatch Project at the Ol Pejeta Conservancy, *Saving Kenya's Black Rhinos*, as a research assistant in 2008-2009. In 2007, he was an assistant manager at the Colobus Trust on the southern coast of Kenya, where he was in charge of international and local volunteer welfare as well as running research projects within the organization. In addition, Paul has been involved in other field projects around the country which have helped him gain hands-on experience in conservation science. Paul will be in the field with all the teams and will be responsible for field logistics, volunteer training, and management of data collection.

Additionally, local community members will act as translators and guides for the project.

Earthwatch Teen Team Facilitator

An Earthwatch Teen Team facilitator will join your team to provide additional guidance, supervision, and activity organization for the expedition. Your facilitator will be there to help from the time you step off the plane for the team rendezvous to the end of the expedition. He or she will encourage team spirit by planning events such as team building exercises, presentations, and recreational and cultural activities. If you have any questions or problems during your expedition, such as issues with another volunteer, homesickness, or an emergency back at home, you should feel comfortable talking to your facilitator. You should also follow the advice and expectations set by your facilitator regarding safety and personal conduct. All Teen Team facilitators have experience teaching and leading groups of teenagers and are familiar with the team dynamics necessary to make each expedition a success. Remember, your facilitator is there for you! (Teen: Facilitator ratio: ~ 6:1)

Staffing Schedule (Subject to Change)

Note: Paul Muoria and Nicholas Oguge will only be present as scheduling allows.

Staff Member	Team 1 (Teen)
Paul Muoria	TBD
Nicholas Oguge	TBD
Paul Gacheru	Present
Teen Team facilitator	Present

Daily Life in the Field

VOLUNTEER TRAINING AND ASSIGNMENTS

Training

Earthwatch scientists will give the team a detailed onsite project briefing when you arrive, covering all aspects of field work and research, including detailed training on project tasks, equipment, and data collection and entry. Volunteers will be conducting censuses of the Grevy's zebras, livestock and other wild animals.

Data Sheets

Volunteers will be trained in the different data sheets used for the census of Grevy's zebra from slow moving vehicles or while walking along the transects where we conduct research.

Project Equipment

- **Digital photography and identification of Grevy's zebra individuals:** Each Grevy's zebra has a unique stripe pattern. On this project, we use digital photography intensively to distinguish Grevy's zebra individuals. To be objective in our analysis, we only photograph the right flank of each individual encountered. Volunteers will be trained on the basics of using stripe patterns to distinguish individuals, and on taking appropriate photographs for analysis.
- **Global Positioning System (GPS) units:** On this project, GPS units are used to monitor Grevy's zebras and other wild animals and livestock distribution. We also use the units to navigate along transects and to measure the compass bearing of animal sightings. Volunteers will therefore be trained to use GPS units to record the locations of Grevy's zebra, other wildlife and livestock and also to navigate along transects.
- **Range finders:** Volunteers will be trained on using laser range finders to measure their distance from Grevy's zebra, other animals and livestock.
- **Compasses:** Volunteers will be trained on using a compass to measure the bearing of Grevy's zebra from the observer and also to navigate along the transects.

Some or all of the following topics will be covered in talks and onsite briefings, depending on time available to the team and interests of the volunteers:

- Conservation policies currently in place in Kenya
- Economic and cultural importance of livestock to the different people of the study area
- The different challenges to conservation of wildlife outside protected areas
- The different forms of human-wildlife conflict occurring within the study area

Assignments

Earthwatch volunteers will mainly work in the Wamba area. However, some teams might work in and visit Samburu and/or Buffalo Springs National Reserves. The volunteers will help in:

- **Conducting censuses of the Grevy's zebras, livestock and other wild animals:** Depending on what team a volunteer joins, he/she will be able to collect dry season (May-October and November-March) or wet season (October-November and March-May) animal census data. Volunteers will also be involved in photography for identifying individual zebras, using the database for actual identification of individuals, monitoring the movements of zebras either from tracks or sightings and recording GPS locations. In addition, they will record any sightings of predators they encounter while collecting other data or while on game drives (note that such sightings are very rare).
- **Monitoring environmental conditions and resource availability:** Rainfall and temperature will be recorded daily at Wamba, collected from local communities and other sites when appropriate. Volunteers will assist with counting and measuring the size of erosion gullies, the abundance and frequency of Grevy's zebra food plants, and estimating abundance of invasive plants.
- **Data entry:** Each volunteer will enter and summarize the data he/she collects each day. We use Microsoft Excel spreadsheets and Microsoft Access for data entry. Depending on the interest of individual volunteers, they may participate in data analysis.

TEAM ITINERARY AND DAILY SCHEDULE

Be aware that schedules can and do fluctuate as weather and work conditions can affect the daily schedule. Should this situation arise, your cooperation and understanding are appreciated.

Day 1: Rendezvous

Time of Day	Activity
11:00 a.m.	Meet as a group and travel to research site
1:30 p.m.	Arrive at research site and receive safety briefing, introduction to project, field training

Days 2-6: Field Training and Fieldwork

Time	Activity
6:00 a.m.	Rise, breakfast, pack for the field
7:00 a.m.	Drive to research location
8:00 a.m.	Fieldwork
12:00 p.m.	Lunch in field or back at the research station
2:00 p.m.	Fieldwork or lab work
5:30 p.m.	Return to accommodations
6:00 p.m.	Data entry, lab work, or rest and relaxation
7:00 p.m.	Dinner and day's wrap-up discussion; volunteers will be encouraged to talk about themselves, their work, and reasons for participating in the project
8:00 p.m.	Time for relaxation/recreation, or an occasional seminar or evening guest speaker/visitor
10:00 p.m.	Generator turned off, lights out

Day 7: Recreational day

Days 8-12: Field Training and Fieldwork

Same schedule as Days 2-6

Day 13: Departure Day

Travel to airport for departure

Volunteers will likely have one full recreational day during their expedition. Optional activities for this day will be discussed and any costs associated with the activities will be at the volunteer's expense. Some possible optional activities may include cultural activities, visits to Samburu homesteads/manyattas or schools (approximately US\$30 – if you would like to purchase some souvenirs), a visit to Samburu National Park (US\$100 for transport, park entry and meals), a hike on the Mathews Range, or just a rest at the accommodations. Consult a travel guidebook for information on local attractions.

Volunteers should consult a travel guidebook for information on local attractions. See the *Helpful Resources* section for suggested guidebooks.

Earthwatch Recreational Time Policy

Earthwatch has a duty of care for our participants from the rendezvous to the end of the expedition. In order to ensure you are as safe during your recreational time as you are during research time, we have put a number of measures in place.

- If there is a recreational day during the expedition, the project staff and/or Teen Team facilitator will supervise a planned team activity or a small choice of supervised recreational activities that have been vetted and comply with Earthwatch standards. You will also have the option of remaining at the project accommodations or rest, provided supervision is possible.

ACCOMMODATION

Volunteers will stay at a residence central to the research area. The teams may cover up to a distance of 70 kilometers (44 miles) from the camp by vehicle each day.

The facility comprises comfortable houses and is gated and fenced to provide privacy and protection from the wildlife living in the Namunyak conservation lands; for safety reasons, volunteers should expect to stay within this area during most non-research time. Within the gates is a simple garden with flowering trees to provide some shade. The site offers great views of Wamba, amazing sunsets and surrounding green hills. The houses are basic but comfortable wood cottages with shared rooms (two or three to a room), electricity, indoor plumbing (with hot and cold showers and flush toilets), a kitchen, dining area and common room. All rooms will be single-gender.

Laundry services are available at the volunteer's expense of KES 1,000 (US\$15) for the duration of the expedition; the staff will hand-wash and line-dry items. Bedding, mosquito nets and towels will be provided.

Electricity is provided by a generator that is normally switched off by 10:00 p.m. Volunteers can bring along small electronic equipment with low power usage such as electronic cameras, walkmans, shavers, etc. Electronic equipment must be able to operate on 220-240 volts, with plugs with three square pins, so volunteers may need to bring appropriate plug adaptors and transformers (see the *Additional Travel Information* section for more on electricity).

The site is quite remote and there are no telephone, internet, or fax services available in the area. However, GSM-based cellular phones may be accessed from the accommodation and in the field. Please see the *Communications* section for more information.

FOOD

The accommodation will provide a full-board service, with experienced cooks preparing high-quality meals. Unless they wish to be, volunteers will not be involved in the preparation of meals, shopping, or clean up. There will be three substantial meals per day, modified to suit Western tastes. Meals in Kenya typically have a large meat component but vegetarian meals will be available with advance notice.

Below are examples of the foods you might expect in the field. Please bear in mind that variety depends on availability. This list is intended to provide a general idea of food types, but it is very important that volunteers be flexible.

Breakfast:	Fruit juice, seasonal fruit, cereal, toasted bread, jam, eggs, sausage, and beans
Lunch:	Cheese or beef sandwich, seasonal fruit (lunch is the least substantial meal of the day, limited to what one can easily take into the field)
Dinner:	A main course, usually vegetables and meat, soups, seasonal fruit
Snacks/Other:	Biscuits/cookies
Beverages:	tea, coffee, and milk
Water:	Water (boiled and filtered)

Special Dietary Requirements

Please alert Earthwatch to any special dietary requirements (e.g. diabetes, lactose intolerance, nut or other serious food allergies) as soon as possible, and note them in the space provided on your Volunteer Forms. Accommodating special diets is not guaranteed and can be very difficult due to availability of food, location of field sites, and other local conditions.

Special note to vegans and strict vegetarians: Please be aware that it is often difficult to accommodate strict vegetarians and vegans. It may be possible to get meatless meals but vegans may have a problem avoiding animal products altogether. If this poses a problem, then participation on this Earthwatch expedition should be seriously reconsidered.

Project Conditions

Please show this section to your doctor when he/she is completing your Health Form. Be sure to discuss inoculation requirements with your doctor well in advance of your departure date. See the Health Information section for inoculation information.

To the doctor:

Your patient has volunteered to join a field research team that has specific physical demands of which you and your patient should be aware. **We need your accurate evaluation of your patient's ability to meet the conditions detailed below in order to care for his/her health and safety and assess that he/she can participate fully and effectively.**

General Conditions

The weather is expected to vary within the limits below.

Annual Weather Conditions

Humidity	Low
Temperature range	75°F/24°C to 90°F/33°C
Altitude	900 m/2,950 ft to 1,500 m/4,920 ft
Rainfall	255-510 mm/10-20 in per year

Physical Demands

Volunteers should be in good physical and mental health when joining this expedition. There is a local mission hospital near the research site, but it can take up to 24 hours to arrange evacuation to a full service hospital in Nairobi. To collect data during the expedition, volunteers will have to sit, squat, stand, walk and ride in a vehicle in the bush for long hours in a hot, dry environment. Volunteers will therefore need to be physically fit and able to walk up to eight kilometers (up to five miles) without becoming fatigued or losing concentration. Volunteers will also be working with members of the surrounding communities while at Wamba, and should be prepared to collaborate with people who have a very different lifestyle and culture from their own. In most cases, the community members will not speak English and volunteers should expect to hear many conversations in Kiswahili and Samburu.

Below are the expected demands of the project, but please keep in mind that conditions may change and the project could potentially be more or less strenuous than the chart indicates.

Activity	Workload/Intensity
Sitting	In a car over uneven terrain for up to 7 hours per day
Walking	During data collection for up to 4 hours per day, for up to 5 – 8 km/ 3 – 5 miles, but often not continuously
Carrying	Up to 4 kg/9 lb of field equipment and personal items in a daypack while walking along study transects, for up to 4 hours per day, but not continuously

POTENTIAL HAZARDS

Teams will be briefed on safety on the first day in camp. Volunteers must be mindful of their own safety and the safety of teammates at all times, and must follow guidelines set by staff or risk being asked to leave the project. Below are potential hazards associated with the project and the research area, as well as precautions and recommendations for avoiding and managing them.

Hazard Type	Associated Risks and Precautions
Transportation	Roads in the research area are dirt and gravel and are poorly maintained. They will be very bumpy and either dusty or muddy and slick depending on weather. Washouts are possible. Some project work will necessitate driving off-road over extremely bumpy terrain with much thorny vegetation, and tire punctures are not uncommon. Other road hazards include fast and reckless drivers (though there are few other vehicles in use around Wamba), livestock and wildlife, lack of lighting and banditry. Driving at night is avoided and volunteers are not permitted drive. Seatbelts must be worn whenever available. Traffic moves on the left side of the road.
Terrain	The terrain will consist mostly of hard, rocky and uneven ground, and sometimes sandy dry riverbeds. Some areas, particularly in the Namunyak conservancy, are hilly with relatively steep inclines, but most areas are flat. There is risk of sprains, strains, breaks, etc. due to falling or missteps. Good hiking boots will help protect feet and ankles from thorns and injury. Participants are encouraged to watch where they step at all times, and to walk slowly and carefully to avoid injury. Large rivers in the area are dry much of the year. After a heavy rain, flash flooding may occur.
Animals	Several potentially dangerous animals live in the research area, including leopards, buffalos, baboons, lions, crocodiles, venomous snakes, scorpions and elephants. There are inherent risks involved when working in the field where these animals may be. Remember that all wild animals can be dangerous. Do not approach, antagonize, provoke, or tease any animal. Due to the presence of wildlife in the area, volunteers are not permitted to leave the research camp area. The risks are mitigated by following camp protocols and staff instructions provided in safety briefings. Volunteers must adhere to these rules and protocols at all times. Boots with ankle protection are a good defense against the remote possibility of snakebites or scorpion stings. Note: When working in the field, teams will most likely be accompanied by a member of the local Samburu community. This person will most likely be a male community elder or soldier (<i>moran</i>) who can advise the researchers on the area, recent animal sightings, local plant names and uses, and potential hazards. This person will also act as a guard and will likely be armed with a spear, knife, and/or rifle. These weapons are for your protection and guards are well versed in their use; it is standard practice for adult men in these communities to carry such arms. Volunteers are not permitted to handle firearms or other weapons at any time.
Plants	Volunteers may encounter thorny brush which can puncture tires and shoes and scratch skin. To avoid being hurt by acacia and other thorns, volunteers should use high-quality boots with ankle protection. Euphorbia plants produce a sap that can be irritating to the skin and eyes on contact; project staff will point these out to volunteers in the field.
Climate/ Weather	Because of the equatorial location and raised altitude, dehydration and sunburn are a constant concern. You may get severely sunburned within a very short time if you walk out without sunscreen or don't reapply on exposed areas. The air can seem cool due to comfortable breezes, which can lead to dehydration in addition to sunburn. You must drink plenty of water throughout the day, and protect yourself from the sun with a wide-brimmed hat, protective clothing (long sleeves, etc.), sunscreen and lip balm with SPF 30 or higher.
Political/Social/ Cultural	After the 2007 elections in Kenya, demonstrations took place in market centers and other public places. Some of these gatherings turned violent, and people have been displaced from many areas of the country as a result. The risk of unrest tends to be heightened during national political events, such as elections and there may be political rallies or groups demonstrating in market centers during your time in Kenya. Avoid such gatherings, demonstrations, or protests while in Nairobi and other areas of the Central and Rift Valley provinces. Do not stop to photograph them and be aware of your surroundings at all times. The expedition accommodations and research sites are located well away from the urban

Personal Security	<p>centers where rallies and demonstrations generally occur and while foreigners are not typically targeted, there remains the risk of being in the wrong place at the wrong time. Volunteers must follow safety precautions as advised by project staff, who will strive to ensure personal security. Risks in the area are low, but there have been some robberies in the larger reserves outside of where Earthwatch teams typically operate. It is always best practice to leave unnecessary valuables at home. In Nairobi, as in many large cities, crime and theft are concerns. Always travel in pairs or groups, avoid conspicuous displays of money, electronics or other valuables, and take taxis especially if going out at night. Use official Kenatco taxis or use taxis recommended by hotel desk staff. Hotels can provide reputable taxis, a safe in each room, and a secure storage area if you wish to leave some of your belongings in Nairobi during the expedition. Money belts and/or pockets with zippers worn close to the body are useful.</p>
Disease	<p>There is some risk of exposure to water-borne diseases. Avoid contacting stagnant water bodies with bare skin.</p> <p>Note that the HIV infection rate in Kenya is 15%, so unprotected sexual behavior is dangerous, particularly in tourist areas (which attract prostitutes, who have high rates of infection).</p> <p>Other diseases found in Kenya include, polio, meningitis, typhoid, cholera, tuberculosis, anthrax, rabies, schistosomiasis, leptospirosis, and hepatitis. See the <i>Health Information</i> section for more information.</p>
Insect-borne Disease	<p>Insect-borne diseases present in Kenya include: malaria, onchocerciasis (river blindness), yellow fever, chikungunya, trypanosomiasis (African sleeping sickness), Rift Valley fever, dengue fever, filariasis, and leishmaniasis.</p> <p>Volunteers will most likely encounter ticks and mosquitoes. Preventing insect bites is the best means to help prevent infection. Use of insect repellent with DEET, and proper clothing such as long sleeves and trousers are strongly recommended. Use the mosquito nets provided for every bed.</p> <p>Chloroquine-resistant malaria exists at the project site, so it is important that you consult a physician prior to your trip about appropriate prophylaxis medication.</p>
Traveler's diarrhea	<p>Traveler's diarrhea affects 20-50% of all international travelers. Always wash your hands with soap and water or a hand sanitizer before eating, and drink filtered or bottled water. You should also carry an over-the-counter anti-diarrheal medication in your personal first aid kit. Speak to your doctor about other options for treating traveler's diarrhea and see the ISOS or CDC websites for advice on avoiding this condition.</p>

HEALTH INFORMATION

See www.internationalsos.com for information on the current health conditions in Kenya. At the homepage, enter Earthwatch's member identification number: 14ACPA000075. Under "Select Resource" choose "English Country Guide," and then select Kenya from the list.

Routine Immunizations

All volunteers should make sure to have the following up-to-date immunizations: DPT (diphtheria, pertussis, tetanus), polio, MMR (measles, mumps, rubella) and varicella (if you have not already had chicken pox). Please be sure your tetanus shot is current.

Project Inoculations

Medical decisions are the responsibility of each volunteer and the following are recommendations only. While Earthwatch can provide details regarding suggested inoculations, we are not a medical organization and decisions about which inoculations to receive should be made between you and your doctor. Health conditions around the world are constantly changing, so keep informed and consult your physician, a local travel health clinic, the US Center for Disease Control (www.cdc.gov), the World Health Organization (www.who.int), and International SOS (see above) for the latest health information for travelers. Please consult your physician for guidance on inoculations if you intend to travel to other parts of the country.

Inoculation chart available on ISOS member site (English Country Guide, medical summary)

	Required for Entry	Recommended for Health Reasons
Typhoid		X
Yellow fever	X - If traveling from countries or region where it is endemic, a Certificate of Vaccination is required.	
Hepatitis A		X
Hepatitis B		X
Polio		X- A one-time booster is recommended for all adults (in addition to an adequate primary series).

Advice Regarding Diseases

- Malaria:** **Chloroquine-resistant malaria is present in the study sites and most other areas of Kenya.** To reduce your risk of exposure to malaria and other insect-borne diseases, use insect repellent, wear protective clothing, and/or sleep under a mosquito net. Please consult your physician to determine the best course of malaria prevention/prophylaxis. Note also that some anti-malarial medications can increase sun sensitivity. Volunteers will regularly be exposed to the strong equatorial sun, which needs to be taken into consideration when choosing the appropriate anti-malarial medication. Symptoms include fever, chills, headaches, and muscle aches; always be suspicious of a fever, and inform a staff member in order to get it checked out if you feel ill.
- Rabies:** Rabies vaccinations are not compulsory for this expedition, as volunteers are not going to be handling any wildlife as part of their assignments. However, volunteers may wish to consult with their health care providers about the rabies vaccine, given the regional prevalence of loose and stray dogs and distance to medical care. The rabies pre-exposure vaccination consists of three doses over a 28-day period. Please be sure to consult your physician or travel health clinic well in advance to ensure you have time for the full vaccination series. If you have previously been vaccinated, you must have a medical professional check your antibody levels; a booster shot may be required. Rabies is a fatal disease. Treatment after rabies exposure requires immediate care (within 24 hours), and this type of rapid response may not be available to volunteers on this project due to the remote location. Pre-exposure vaccination does not eliminate the need for post-exposure medical attention and treatment, but it does provide additional protection against the disease in event of a delay in treatment. In addition, any bites or scratches should be immediately and thoroughly washed with soap and clean water and a topical povidone-iodine solution or ethanol. **Participants should avoid stray dogs at all times.**
- Meningitis:** Only the far northwestern part of Kenya is considered part of the meningitis belt. Vaccination is therefore not required, but may be recommended by some health authorities.
- Tuberculosis:** The WHO estimates that one-third of the world's population is infected with the bacterium (*M.tuberculosis*) that causes tuberculosis (TB). Incidence of tuberculosis is higher in developing countries, particularly in Asia, Africa, the Caribbean and Latin America. In general, approximately 10% of persons infected with *M. tuberculosis* are at risk for developing active TB during their lifetimes. TB is considered highly treatable with medications that are of relatively low toxicity and cost. Volunteers returning from developing countries are encouraged to have a (PPD)-tuberculin skin-test to screen for potential infection.

- *Dengue fever*: Dengue fever is endemic in more than 100 countries in Africa, the Americas, the Eastern Mediterranean, South-east Asia and the Western Pacific and can occur throughout the year. Globally there has been a 30-fold increase in the number of reported cases of dengue over the past 50 years. Dengue fever is a flu-like virus spread primarily by day-biting mosquitoes. It is characterized by fever, headache, rash, vomiting and severe muscle pains. There is no vaccine, and mosquito bites should be avoided whenever possible. Insect repellent and long sleeves and pants are highly recommended. There is no treatment for standard dengue fever other than acetaminophen (avoid aspirin), fluids and rest. It is usually resolved after about two weeks. However, hemorrhagic dengue fever, characterized by bleeding and shock, can occasionally occur and requires medical care.

MEDICAL CONDITIONS OF SPECIAL CONCERN

Condition	Concerns and Precautions
Sensitivity to heat and sun	Given the equatorial location, altitude and the amount of time spent outdoors, if you have any condition that might be affected by increased sun exposure or if you are sensitive to heat, please consult a physician. A wide-brimmed hat, high factor sunscreen and sunglasses are a must. Be aware that many common prescriptions can increase your sensitivity to sun and heat.
Motion sickness, back or neck problems, or inability to sit for long periods of time	There will be long periods spent in a vehicle conducting observations and traveling over bumpy roads, so volunteers must be physically and mentally capable of long bouts of sitting while retaining focus for observations, and able to withstand several hours of a very bumpy ride. Anyone with back, joint, or neck problems, arthritis, etc. may find participation difficult or uncomfortable.
Limited mobility	Volunteers will need to be physically fit, and must be able to walk for 5 to 8 km/ 3 to 5 miles over uneven terrain while carrying up to 4 kg/9 lb of field equipment and personal items. Anyone with limited mobility (e.g. back, knee, ankle, joint, etc. problems; severe asthma; wheelchair-bound, etc.) should reconsider participation in this expedition.
Condition that may require immediate medical attention	This project may not be suitable for anyone with a severe, unmanaged and/or chronic condition (e.g. heart problem, diabetes, hemophilia, epilepsy, etc.) due to the remote location and distance from medical care. You should discuss your participation with your physician prior to considering this project.
Allergies and respiratory problems	Volunteers allergic to tick/insect bites should bring necessary medications as appropriate (antihistamines, at least two EpiKits, etc.) and notify project staff and Earthwatch of their condition and the location of their medication on site. The thorny acacias, dust and grasses may also cause allergic reactions in some. Extremely dusty conditions may cause difficulties for those with asthma or other respiratory problems; bring eye drops, personal medications, protective glasses, bandannas, etc. as appropriate.
Hearing or eyesight problems	Volunteers should have good hearing, eyesight and awareness of their surroundings to contribute to the research and protect their safety, especially regarding the potential presence of wildlife.
Sleep apnea or conditions that require use of C-PAP machine	Volunteers must be able to do without C-PAP machines for the length of the project as this project may not have a reliable source of electricity throughout the night.

Additional Health Information Resources

- Travel health website: www.mdtravelhealth.com
- The Travel Doctor: www.tmvc.com.au
- Australian Department of Health and Aging: www.health.gov.au
- Hospital for Tropical Diseases: www.thehtd.org
- Travellers Healthline Advisory Service Tel: 020 7950 7799
- MASTA Travelers' Healthline (UK) Tel: 0906 8 224100 (within UK)

EMERGENCIES IN THE FIELD

A first aid kit with basic supplies will always be available on site for minor injuries. There is also a local mission hospital in Wamba that can be up to three hours away, depending on where the team is at the time. This hospital is only 10 minutes from the research site. However, in the event of a serious emergency, it would be necessary to transport the injured/ill individual to a full service hospital in Nairobi. Evacuations to Nairobi may be possible only in daylight hours and can therefore take up to 24 hours to arrange. Participants should obtain necessary routine medical/dental care prior to traveling and keep a copy of their personal health records and prescriptions with them. Participants must be sure to disclose any medical conditions to Earthwatch and the project staff, and inform a staff member immediately if feeling unwell.

Proximity to Medical Care

Staff trained in wilderness first aid	Nick Oguge Paul Muoria
Nearest hospital	Wamba Mission Hospital Emergency Nurse's mobile: +254 (0) 713 258 730 No landline phone service available (approximately 10 minutes from the Field Centre and up to 3 hours from the furthest field site)
Nearest Full-Service Hospital	Aga Khan University Hospital 3 rd Avenue, Parklands Nairobi P.O. Box 30270-00100 GPO, Nairobi, Kenya Tel: +254 (0) 20 374 0000 Main Tel: +254 (0) 20 366 2025 Emergency Fax: +254 20 374 1749
Evacuation to Nairobi may be possible only in daylight hours and could therefore take up to 24 hours to arrange	Nairobi Hospital Argwings Kodhek Road P.O. Box 30026 G.P.O 00100 Nairobi, Kenya Tel: +254 (020) 284 5000 Tel: +254 (020) 284 6000 Fax: +254 (020) 2728003

COMMUNICATIONS

Emergency Communications in the Field

VHF radios will allow for emergency communication between field teams and the Centre. Project staff will have cell phones with them as well. Cell phone reception has recently improved in the region, although it is still not universal. Cell phone calls are possible from the Centre. Satellite phones have variable reception. Project phones will be limited to emergency and project-related communications.

The emergency contact number at Earthwatch in the US is +1 978 461-0081. After business hours, leave your message with the live answering service. State that you have an emergency communication and leave a clear message with the name of the expedition, your name, location from which you are calling, and if possible, a phone number where you can be reached. An Earthwatch staff person will be contacted and will respond to your call within one hour.

Personal Communications

Family and friends of Earthwatch volunteers should be aware that personal communication with outsiders is not always possible while participating in an expedition. Earthwatch encourages volunteers to minimize outgoing calls; likewise, family and friends should restrict calls to urgent messages only. Measures have been taken to ensure that appropriate communication tools are available in cases of emergency.

All volunteers are asked to remember that Earthwatch expeditions offer a rare chance to “unplug” from hearing ringing phones and having to hear others’ phone conversations, and to regulate their cell-phone with respect for fellow volunteers and staff.

Please remember to reconfirm your flights while in Nairobi. The research site is not set up to allow Earthwatch volunteers to use the project communications devices except in emergency situations. Volunteers who wish to contact friends, family, etc. upon arrival must do so in Nairobi. Email facilities are available to guests at hotels in Nairobi for a fee; although hours of availability may be limited. Email facilities will not be available to volunteers at the accommodation.

Volunteers wishing to use their personal cell phones should first check with their service providers regarding rates, international calling capabilities, and service from Kenya. Volunteers may be able to rent a phone in Nairobi or at the airport. Coverage in the area is provided by Safaricom.

Travel Planning

Note: Earthwatch Institute's international emergency medical and evacuation assistance provider, International SOS, has a wealth of useful information available at their website, including visa, passport, currency, medical, etc. information for the country in which this project takes place. See www.internationalsos.com and enter Earthwatch's member identification number: 14ACPA000075. Under "Select Resource" choose "English Country Guide," and then select this project's country from the list.

- You are encouraged to register your travel itinerary with your embassy. For information on embassies around the world see www.embassyworld.com
 - Citizens of Australia may register online at: www.orao.dfat.gov.au.
 - British citizens may register online at: www.fco.gov.uk/en/travel-and-living-abroad/staying-safe.
 - Citizens of the United States may register online at: travelregistration.state.gov.
 - Citizens of other countries are encouraged to check with their appropriate embassy or consulate regarding registration.

RENDEZVOUS

The rendezvous information for this project has been removed from this web version of the Expedition Briefing. Please do not make any travel arrangements to join an expedition on this project without having full and up-to-date rendezvous information from Earthwatch. Full rendezvous details including places and times are available from Earthwatch upon request prior to registration for an expedition. Please use the 'Contact Us' button on the top right hand corner of our website to get in touch with us and we will be very happy to help you. This information is provided in the printed version of this Expedition Briefing.

PASSPORTS AND VISAS

Passport Information

Most volunteers traveling from outside the host country will require a passport valid for at least six months beyond the dates of travel and a return ticket. Your passport should contain at least two consecutive blank (unstamped) pages, not including the "endorsement" pages at the very back, or you run the risk of being fined and/or refused entry.

Visa Information

Citizens of the US, EU, Australia, Canada and Japan need a tourist visa for entry. Tourist visas may be obtained by US, EU, Japanese and Australian citizens in advance or upon arrival at the airport in Kenya. Citizens of other countries should check with their travel agent, visa agency or the Kenyan embassies and high commissions in their respective countries for details on specific visa and entry requirements. Not all nationals are allowed to get a visa in Nairobi. Travelers are advised to check visa regulations well in advance of traveling.

At the time of printing, visas cost US\$25 or £20, but this is subject to change. You will need cash, not a check or credit card if obtaining your visa at the airport upon arrival. Visas may be obtained in advance from the nearest Kenyan embassy or consulate or from a visa service. If you need or wish to apply for a visa in advance, the chart below should be useful.

Essential Information for Volunteers Requiring Visas

Type of Visa	Volunteers requiring a visa must get a TOURIST VISA .
Where to Get a Visa	Contact the nearest Kenyan embassy or consulate to find out how to apply for your visa. Please note that this process can take weeks or more. We strongly recommend using a visa agency , which can both expedite and simplify the process. See below for a list of visa agencies.
Required Information	You will need to send your passport (valid for at least six months beyond your stay), a Visa Application and Immigration Form, 2-4 passport-size photos plus payment to the embassy or visa agency (if applicable). Please be sure that your passport is valid for at least six months beyond your stay.
Contact Information	You may be required to list the following contact information on your Visa Application and Immigration Form
Cost of a Visa	Generally between US\$40-100, but varies from country to country and can potentially cost up to US\$180 . A visa agency will charge an additional fee.

Reminder: The purpose of your visit is for vacation, holiday or travel. Foreign immigration officials do not always understand the concept of a “working vacation” or even “volunteering.” Words such as “working”/“volunteering,” “research” or a “scientific expedition” can raise questions concerning the country’s foreign labor laws and/or prompt questions about official scientific research permits and credentials, etc., to which volunteers on their own will not be equipped to respond. All required research permits for the project are in place and have been approved by the proper authorities.

Visa Agencies

In the United States

Travisa*
 290 5th Avenue, 4th Floor
 New York, NY 10001
 Tel (212) 613-2223
 Fax (212) 613-2287
 Hours: 9:00 AM to 5:00 PM EST
 Web: www.travisa.com
 (*See the website for additional offices)

In Europe

CIBT, Inc.-UK
 25 Wilton Road
 Lower Ground Floor
 Victoria SW1V 1LW
 Tel: 0844 736 0211
 Fax: +44 (0) 207 828 5411
 Calling from Europe outside UK:
 +44 (0)207 802 1000
 Email: info@uk.cibt.com
 Web: www.uk.cibt.com (has alternate address for urgent requests)

In Australia

Ask your travel agency if they can send your visa application on your behalf.

Additional Passport and Visa Resources

- For Japanese citizens: www.rainbowt.jp/travel/visa_top.html
- For Australian citizens: www.passports.gov.au and www.dfat.gov.au/visas/index.html
- For US citizens: www.passportvisasexpress.com
- Travel Document Systems: www.traveldocs.com/index.htm

Volunteers Under 18 Years of Age

Entry to Foreign Countries

It may be possible for 16- and 17-year-olds to participate on standard Earthwatch teams *if* accompanied by a parent or guardian. However, in an effort to prevent international child abduction many governments have initiated procedures at entry/exit points to protect minors. Thus, if a minor will be traveling with only one guardian or if for any reason they will be traveling alone (such as for a Teen Team), it may be necessary to have a notarized letter from all legal guardians stipulating that they may travel unaccompanied or in the presence of a single guardian. This letter must give an explanation for why only one parent or someone other than a parent is signing the letter. For example, if one parent is deceased, only one parent has legal guardianship, or someone other than the parents are legal guardians, the letter should state that.

Airline Documentation Requirements

Airlines may also have documentation requirements for unaccompanied minors. Parents of minors are responsible for checking with each airline that their child will be flying to ensure that sufficient documentation is provided. This could include a copy of a birth certificate or a notarized letter stating that the minor has his or her parent's permission to travel alone or with only one parent.

Important Note: Requirements by specific countries and airlines vary and change frequently. You MUST keep informed of the requirements on your own to avoid problems at immigration. If a letter is not available, the volunteer under 18 can be refused entry into the country or on a flight. There is nothing Earthwatch Institute can do to help in this circumstance.

INSURANCE

MedEvac assistance, advice, and insurance are included in the contribution you pay to Earthwatch. It covers your travel medical risks, including medical expenses and emergency medical evacuation, while you are travelling and it provides trip cancellation insurance (see www.earthwatch.org/downloads/Insurance/post15Jan_TravelFAQs.pdf for more details), baggage and personal money insurance. It doesn't provide personal liability insurance. This coverage is valid in the country of your Earthwatch expedition (**Note:** For US volunteers, as long as the expedition is over 100 miles from your place of residence) and during travel to and from your expedition. Please see [the FAQ](#) for information about when coverage starts and ends.

If you have additional vacation time before and/or after your Earthwatch Expedition that forms part of your overall time away from your place of residence, this additional vacation time is not covered under this policy. If you are in any doubt as to whether your travel plans before and/or after your Earthwatch expedition constitute additional vacation time please contact Michelle Ralph at Sutton Winson at michelle.ralph@swib.co.uk.

This insurance policy is secondary to your existing health insurance policy (e.g. the NHS in the UK).

For Volunteers Who Sign Up Through the Earthwatch UK/Europe Office or Earthwatch Japan

Details of this insurance policy are included in your Expedition Briefing Pack and can be found at www.earthwatch.org/europe/expeditions/insuranceinfo. Please refer all queries regarding this policy to Michelle Ralph at Sutton Winson in the UK. You can email her on michelle.ralph@swib.co.uk or call her on +44 (0)1444 251164 (fax: +44 (0) 1444 251250).

Information about additional insurance available to UK residents for coverage before or after your Earthwatch project can be found at www.earthwatch.org/europe/insuranceinfo. Should you have any questions about whether you require coverage for your travel plans please contact Michelle Ralph at Sutton Winson. Earthwatch is not authorized by the FSA to give advice on any additional travel insurance you require.

For Volunteers Who Sign Up Through the Earthwatch US Office

Details of the US insurance policy can be found at www.earthwatch.org/expedition/insurance. Please refer any queries regarding this policy to Michelle Ralph at Sutton Winson in the UK, michelle.ralph@swib.co.uk. Or, from the US, dial 011-44-1444-251164 (fax: 011-44-1444-251250). Please note the time difference between the US and the UK, and call during UK business hours, which are from 08:45 to 17:00 GMT (from November to April) and GMT +1 (from April to November). You may also leave a message and request that she call you back. Information about additional insurance can be found on www.earthwatch.org/expedition/gear_flights_more.

Emergency Medical and Evacuation Assistance (For All Volunteers)

Emergency medical and evacuation assistance is available for all Earthwatch participants from International SOS (ISOS), a 24-hour, independently-operated international emergency medical and evacuation service. Please see the contact information and card on the *General Information* page. Participants should carry the card with them on the expedition.

PACKING CONSIDERATIONS

PLEASE SEE THE PACKING CHECKLIST AT THE BACK OF THIS EXPEDITION BRIEFING AND REMEMBER TO TAKE YOUR BRIEFING WITH YOU ON YOUR EXPEDITION.

General Considerations

- Do not bring more luggage than you can carry and handle on your own.
- **You are strongly encouraged to pack a carry-on bag with an extra set of field clothing and personal essentials** in the event that your luggage is lost or delayed. It is highly unlikely that delayed luggage will be sent to the field site and would likely need to be collected at the end of the team upon departure through Nairobi. If your luggage does not arrive with you, you should plan to get what you need for the next two weeks while still in Nairobi.
- Many airlines have strict baggage policies. Please check with your airline(s) on baggage weight limits, liquid restrictions, fees for checked baggage, etc.
- **Air Kenya and Safarilink limit each person to a 15-kilogram (33-pound) baggage limit (including hand luggage).** Excess baggage may be stored at the Fairview Hotel in a secure storage room for a small charge.
- **Binoculars are required** for this project. Binoculars with 10 x 42 magnification are recommended for wildlife viewing. Information on choosing and purchasing binoculars can be found at www.eagleoptics.com. Each individual volunteer must bring his/her own. See the *Packing Checklist* for more information.

Weather Considerations

Please take weather conditions into consideration when packing for your expedition. Climate information can be found in the *Project Conditions* section. During the rainy seasons (March–May and October–November), the area experiences occasional heavy thunderstorms and flash floods; however, these are generally in the late afternoons when the teams should be back at the house. Usually one can expect warm to hot, dry weather. Nairobi is almost always mild, with daytime temperatures around 75°F (24°C) and cool evenings.

Cultural Considerations

In general, Kenyan dress is more conservative than most Western nations, so please pack appropriately. Note that when taking photographs of local people and/or their personal property and livestock, you must ask permission first. Many Samburu people are not comfortable being photographed. It is important to respect their concerns and wishes throughout your visit.

Essential Items

Make sure to bring your Earthwatch Expedition Briefing with you! It includes essential information to which you may need to refer during your expedition, as well as during your journey to and from the project site.


Please see the Expedition Packing Checklist for a complete list of what you will need to take with you. You are encouraged to go through the list and mark off each required item right before you leave for your expedition.

Gear Shops

US volunteers may choose to visit the Earthwatch gear shop, [New Headings \(earthwatch.newheadings.com\)](http://earthwatch.newheadings.com), a fun, easy-to-use, "one-stop-shop" that answers the "What to Pack" needs for your upcoming Earthwatch expedition. New Headings offer a broad range of outdoor equipment and travel gear including a selection of Earthwatch embroidered apparel.

Our recommended clothing and kit provider in the UK is [Nomad Travel \(www.nomadtravel.co.uk/earthwatch\)](http://www.nomadtravel.co.uk/earthwatch). A full list of clothing and kit is available to order online and they also have [stores in the UK](#) many of which have [travel clinics](#) where you can get health advice and vaccinations. Earthwatch volunteers benefit from a 10% discount on all clothing and health services so be sure to contact us for a special code before you buy anything from them online or visit their stores and clinics.

ADDITIONAL TRAVEL INFORMATION

- *Local currency:* Kenyan shilling (KES). One Kenyan shilling can be divided into 100 cents. Notes are in denominations of KES 1,000, 500, 200, 100 and 50. Coins are in denominations of KES 20, 10, 5, 1 and 0.5. Kenyan shillings are required at almost all shops. See the International SOS website and www.xe.com/ucc for currency information and exchange rates.
- *Airport fees/Departure taxes:* **Volunteers will be responsible for their own US\$60 entry fee upon arrival** as the area is located within the National Reserve boundary. The US\$60 per person fee should be paid with Kenyan shillings. No credit cards are accepted. It is recommended to have smaller bills in order to be able to give exact change. There is a US\$20 departure tax at the Jomo Kenyatta International Airport, Nairobi but this is usually included in your airfare.
- *Language:* Kiswahili is the national language and is widely understood. English is used more frequently than Kiswahili inland, particularly in and around Nairobi. Most signs are in English. There are many other languages spoken in Kenya. Most people in the Wamba area speak Samburu as their first language; some will also speak Kiswahili and English. The project will be conducted in English.
- *Electricity:* Kenyan power is 240-volt with UK-style three-pronged plugs. For additional information see kropla.com/electric2.htm. 
- *Time zone:* GMT + 3 hours. For time worldwide with GMT/UTC see: www.worldtimeserver.com.
- *Personal funds:* You will be able to change money at the airport in Nairobi or at a hotel; although you will not get the best possible rates, these are the most convenient options. It is a good idea to bring larger denomination notes or traveler's checks in dollars, pounds sterling or Euros to change while in Nairobi. Please note that cash is more widely accepted than traveler's checks. If you bring US bills, you must bring new (later than 2003) bills in good condition. Kenyans have had their share of counterfeiting problems and will not accept old bills or bills in poor condition. If you bring traveler's checks, you must also bring and show your receipt for them. Some Standard Chartered, Barclays Bank and Kenya Commercial Bank branches in Nairobi have automated teller machines (ATMs) that accept bank cards (debit or credit cards) carrying international teller network symbols (e.g. Cirrus). Credit cards may be used at the Fairview or other hotels, but they are not widely accepted beyond larger facilities in Nairobi. **There are no currency exchange facilities, banks, or ATMs near the research area, so make sure you have exchanged money into Kenyan shillings before the rendezvous.** There will be opportunities to buy souvenirs and soda at Wamba. Depending on how much you wish to buy, anywhere from US\$100-200 (KES7,000-15,000) should suffice. While in Nairobi, you must cover your hotel costs, any meals prior to the rendezvous and taxi fare to/from the airports. As listed earlier in the Expedition Briefing, volunteers will need US\$25 or £20 cash for a tourist visa if acquiring this on arrival. They will need US\$60 in Kenyan Shillings for Samburu Reserve entry fees. If taking the pre-rendezvous option they will need the required funds outlined in the Pre-Rendezvous section.
- *Checking luggage:* Please note that if you will be taking an international flight that has one or more connections within Kenya, it will be necessary to collect any checked bags at the airport where you first arrive in the country. After proceeding through Customs, you will have to recheck your luggage before flying on to your final destination.
- *Telephone dialing codes:* When calling Kenya from another country, dial the country's international dialing code, followed by (254) and the number. When calling within Kenya, omit the (254) and dial (0). When calling another country from Kenya, dial (000), followed by the other country's country code and the number. All calls to cell phones require a "0" in front of the number when calling from within Kenya. The "0" is dropped if calling from outside Kenya. **PLEASE NOTE:** you should check with your cell phone provider to obtain any carrier-specific dialing codes you may need; many providers have dialing procedures that may differ in whole or in part from these directions. For additional information [see kropla.com/dialcode.htm](http://kropla.com/dialcode.htm).
- *Emergency telephone number:* 999 (police).
- *Tippling:* Tipping is not necessary for taxi drivers, wait staff or hotel employees. However, if you wish to offer a small tip for these services, it will be much appreciated. Tips are commonly given to the cooks, drivers and housekeeping staff on the projects. Few Kenyans would ever be comfortable subscribing to a standard formula for tips (like the 15-20% commonly given to wait staff in the US). Instead, it is asked that you use your own judgment to evaluate the services and determine the tip you wish to give. US\$10-20 per volunteer per

week for distribution among the staff would not be unreasonable, but again there are no specific rules on tipping and it is of course completely voluntary.

Country Information

- UK Foreign and Commonwealth Office: www.fco.gov.uk/knowbeforeyougo
- Country information from around the world: www.countryreports.org
- National Geographic Map Machine: plasma.nationalgeographic.com/mapmachine
- US State Department: www.state.gov
- Online unit conversions: www.onlineconversion.com
- Worldwide weather: www.wunderground.com or www.tutiempo.net/en
- ATM locator: visa.via.infonow.net/locator/global/jsp/SearchPage.jsp or www.mastercard.com/atmlocator/index.jsp

RECOMMENDED READING

Below are additional recommended materials for those interested in further preparing for the expedition. Many can be purchased online through popular vendors. See the *Helpful Resources* section for suggested vendor websites.

Scientific Media

Articles

- Samburu Conservation Research Initiative Annual Report for 2005 (see <http://www.earthwatch.org/site/pp.asp?c=dsJSK6PFJnH&b=399117>).
- Kenya Wildlife Service. 2008. Conservation and management strategy for Grevy's zebra (*Equus grevyi*) in Kenya 2007–2011. KWS, Nairobi (see <http://www.kws.go.ke/Grevy's%20Zebra%20June%202008.pdf>).

Popular Media

Books

- Amin, M., Willets, D. and Tetley, B. 1989. *The beautiful people of Kenya*. Text Book Centre, Nairobi.
- Jahadhmy, A.A. 1981. *Learners Swahili-English English-Swahili Dictionary*. Evans Brothers Limited, Nairobi. ISBN 0 237 50467 7.
- Moss, C. 1989. *Portraits in the Wild*. Elm Tree Books, London. ISBN 0 241 12657 6.
- Packer, C. 1994. *Into Africa*. University of Chicago Press, Chicago. ISBN 0 226 64429 4.
- Pavitt, N. 1991. *Samburu*. Kyle Cathie Limited, London. ISBN 1 85626 429 7.
- Poole, J.C. 1996. *Coming of Age with Elephants*. Hodder and Stoughton, London. ISBN 0 340 66559 9.
- Walker, C. 1992. *Signs of the Wild*. Struik Publishers, Cape Town. ISBN 0 86977 825 0.
- Hoffman, C. 1998. *The White Masai: My Exotic Tale of Love and Adventure*. HarperCollins, NY. ISBN 006 113153 9.
- Stoakley, R. 1998. *My Warriors and I*. London Scriptmate, London. ISBN 978 095376690.

Field Guides

- Estes, R.D. 1991. *The Behaviour Guide to African Mammals*. University of California Press, Ltd. Oxford, England. ISBN 0 520 08085 8.
- Haltenorth, T. and Diller. 1980. *A Field Guide to the Mammals of Africa*. Collins, London. ISBN 0 00 219778 2.
- Kingdon, J. 1997. *The Kingdon Guide to African Mammals*. Academic Press. London. ISBN 0 12 408355 2.
- Palgrave, K.C. 1983. *Trees of Southern Africa*. Struik Publishers, Cape Town. ISBN 1 86825 1713.
- Scott, J. and Scott A. 2001. *Jonathan Scott's safari guide to East African animals*. Kensta, Nairobi.
- Williams, J.G. 1980. *A Field Guide to the Birds of East Africa*. Collins, London. ISBN 0 00 219179 2.

Project Field Report

Each Earthwatch Institute-supported project submits a report on the past year's research and results to Earthwatch, generally on an annual basis. At the time of publication, the most recent field report for this project was not available.

Project-related Websites

- Kenya Wildlife Service: <http://www.kws.org>
- African Wildlife Foundation: <http://www.awf.org>
- National Museums of Kenya: <http://www.museums.or.ke>

HELPFUL RESOURCES

Additional resources can be found on our Gear, Flights and More pages:

For volunteers who sign up through our US office: earthwatch.org/expedition/gear

For volunteers who sign up through our UK office: earthwatch.org/europe/expeditions/gear

Travel Booksellers

We encourage you to buy a guide book to your chosen destination as well as any other books that may be of interest. One excellent resource is the [Travel Bookshop \(www.thetravelbookshop.com\)](http://www.thetravelbookshop.com)

Think of [Longitude Books \(www.longitudebooks.com\)](http://www.longitudebooks.com) as a bookstore organized geographically! Here you'll find travel guides, maps, field guides, accounts of exploration, travel narratives, books on culture, art and archaeology, in addition to academic books on anything from the tropical rainforest to the polar ice cap.

[Stanfords](http://www.stanfords.co.uk) (www.stanfords.co.uk) is also the best map and travel literature supplier in the UK and has a global reputation.

Travel Agencies and Advice

Earthwatch has an official partnership with **Fly for Good** and strongly recommends volunteers use their services to book airfare for Expeditions and take advantage of Fly for Good's humanitarian discount rates on several international airlines and routes.

Before you can access Fly for Good's discounted rates you must set up a profile. Go to [Sign in](#) and enter your information. When asked to enter an Approval code, enter: EW360. List [Earthwatch Institute](#) as your affiliated non-profit. At this point your account will be approved and you will be sent an e-mail confirmation.

- Fly for Good: www.flyforgood.com
511 East Travelers Trail
Burnsville, MN 55337 USA
Tel: +1 877.359.4466 (877.FLY.4.GOOD)

Earthwatch volunteers have 24-7 access to Fly For Good staff in the event that flight issues cannot be resolved with your airline by calling **+1 952-220-8465** or **+1 877 499 5592**.

WEXAS are the UK's tailor-made travel experts. An assigned WEXAS consultant, with significant experience of Earthwatch and our programmes, is on hand to provide you with travel advice and support. Call them on: 0044 (0)20 7838 5858 or email: earthwatch@wexas.com

WEXAS is normally a members-only travel agent. However, as an Earthwatch volunteer you benefit from our WEXAS membership, so be sure to **tell them you are an Earthwatch volunteer** for full access to WEXAS' best rates.

- Wexas International (Europe): www.wexas.com
Tel: +44 (0) 20 7581 8761
Fax: +44 (0) 20 7581 7679
Email: southern@wexas.com
Quote code: EWE01/02

Earthwatch is a partner with **Travelocity in their Travel For Good/Change Ambassadors Grant Program**, which allows would-be volunteers to apply for funding that can be used to cover the costs of an Earthwatch expedition and its associated travel costs. Visit www.travelocity.com/TravelForGood for more details.

Travelocity: www.travelocity.com
3150 Sabre Dr.
Southlake, TX 76092
E-mail: travelocity@travelocity.com

Australian volunteers may apply here: www.zuji.com.au/

STA Travel is the preferred travel supplier for Earthwatch Australia. Every booking made through STA Travel will benefit Earthwatch's research programs. STA Travel services all types of travel requirements and one of their biggest strengths is in complex travel requirements. In addition, STA Travel offers unique Student, Teacher and Youth airfares that are not available through any other travel agent

To find out how STA Travel can help you please contact either Matthew Forster or Worasak Triprasertant on:
Phone: 03 9207 5908, Fax: 03 9347 0547, Email for reservations: nccc@statravel.com.au
Branch Postal Address: 235 Faraday Street, Carlton, Vic 3053

- STA Travel: <http://www.statravel.com>
65 Mt. Auburn St.
Cambridge, MA 02138
Tel: +1 617 576.4623
Fax: +1 617 576.2740
Email: cam@statravel.com
- STA Travel (UK): <http://www.statravel.co.uk>
Tel: +44 (0) 1865 792800
Fax: +44 (0) 1865 792911
Email: manager.oxford@statravel.co.uk
Quote code: EWE01/02

Appendix

- Altmann, J. 1974. Observational Study of Behavior: Sampling Methods. *Behaviour* 43: 227-269.
- Cleaveland, S., Hess, G.R, Dobson., A.P., Laurenson, M.K., McCallum, H.I., Roberts, M.G., and Woodroffe, R. 2002. The role of pathogens in biological conservation. In *The Ecology of Wildlife Diseases*. Oxford University Press Inc., New York: 139-150.
- Decker, C.D. and Ginsberg J.R. 1990. Mother infant behaviour of wild Grevy's zebras: adaptations for survival in semi-desert East Africa. *Animal Behaviour* 40: 1111-1118.
- Ginsberg J.R. 1989. The ecology of female behaviour and male reproductive success in Grevy's zebra, *Equus grevyi*. *Symposia of the Zoological Society* (London) 61: 89-110.
- IUCN. 1996. *IUCN Red List of Threatened Animals*. The IUCN Species Survival Commission.
- Kivai, S. 2006. *Feeding ecology and diurnal activity time budget of Grevy's zebra (Equus grevyi, oustalet, 1882) in Samburu community lands, Kenya*. MSc thesis, Addis Ababa University.
- Laurenson, K., Sillero-Zubiri, C., Thompson, H., Shiferaw, F., Thirgood, S. and Malcolm, J. 1998. Disease as a threat to endangered species: Ethiopian wolves, domestic dogs and canine pathogens. *Animal Conservation* 1: 273-280.
- Manyimbe, T., Low, B., and Chege., G. 2006. *Mass vaccination of Grevy's zebras against anthrax in Northern Kenya*. Kenya Wildlife Service, Nairobi.
- Merchant, I.A. and Packer R.A. 1983. *Veterinary Bacteriology and Virology*. CBS publishers, New Delhi.
- Muoria P.K. 2005. Conservation of Grevy's zebra (*Equus grevyi*) in Samburu, Kenya. *Report to African Wildlife Foundation*, Nairobi, Kenya.
- Muoria P.K., N.O. Oguge, D. Rubenstein and P. Muruthi. 2004. In *Conservation of Grevy's Zebras (Equus grevyi) in Samburu, Kenya*. Samburu Conservation Research Initiative, Earthwatch. 23-30.
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- P.K. Muoria, P. Muruthi, W. K. Kariuki, B. A. Hassan, D. Mijele and N. O. Oguge. 2007. Anthrax outbreak among Grevy's zebra (*Equus grevyi*) in Samburu, Kenya. *African Journal of Ecology* 45(7): 483-489.
- Nelson, A.P.W. and Williams, S.D. 2003. *Grevy's zebra survey: Kenya 2000*. Final report. Kenya Wildlife Service, Nairobi.
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- S.T. Buckland, D.R. Anderson, K.P. Burnham, J.L. Laake, D.L. Borchers and L. Thomas. 2001. *Introduction to Distance Sampling: Estimating abundance of biological populations*. Oxford University Press Inc., New York.
- Thomas, L., Laake, J.L., Strindberg, S., Marques, F.F.C., Buckland, S.T., Borchers, D.L., Anderson, D.R., Burnham, K.P., Hedley, S.L., Pollard, J.H., Bishop, J.R.B. and Marques, T.A. 2005. *Distance 5.0. Release 3*. Research Unit for Wildlife Population Assessment, University of St. Andrews, UK.
- Turnbull, P.C.B., Bell, R.H.V., Saigawa, K., Munyenyembe, F.E.C., Mulenga, C.K. and Makala, L.H.C. 1991. Anthrax in wildlife in Luangwa Valley, Zambia. *Veterinary Record* 128: 399-403.
- Williams, S., Nelson, A. and Kebede, F. 2003. *Grevy's Zebra Survey: Ethiopia*.
- Williams, S.D. and Low, B. 2004. *Grevy's Zebra Conservation. Proceedings of a Workshop*. Mpala Research Centre, Kenya. 22-24.
- Williams, S.D. 2002. Status and action plan for Grevy's Zebra (*Equus grevyi*). In ed. P.D. Moehlman, *Equids: Zebras, Asses and Horses. Status Survey and Conservation Action Plan*, IUCN/SSC Equid Specialist Group, IUCN. 11-27.
- Williams, S.D. 1998. *Grevy's zebra: ecology in a heterogeneous environment*. PhD thesis, Institute of Zoology, University of London, UK.
- Woodroffe, R., and Ginsberg, J.R. 1999. Conserving the African wild dog *Lycaon pictus*. *Oryx* 33: 132-142.

Expedition Packing Checklist

Required Items

- This Expedition Briefing**
- Photocopies of your passport, flight itinerary and credit cards in case the originals are lost or stolen; the copies should be packed separately from the original documents**
- Passport and/or visa (if necessary)**
- Certification of inoculation (if necessary)**
- Documentation for travel by minors (if necessary)** (see *Volunteers Under 18 Years of Age* in the *Travel Planning* section)
- Calling card/mobile phone (with international calling capabilities if applicable)**
- Credit card that may be used (internationally, if applicable) in the event of an emergency (travel delays, etc.)**

Clothing/Footwear for Fieldwork

Note: Clothing should be dull in color (earth-tones, i.e. brown or green) and suitable for working in a hot, dry environment. Bright colors (e.g. red) should be avoided because they will frighten the wild animals. Shorts and sandals are not recommended for fieldwork due to thorns/vegetation and strong sun.

- Be sure to bring your Earthwatch t-shirt and remember to wear it, as appropriate, throughout your expedition
- Two or three pairs of lightweight trousers
- Several t-shirts
- Several lightweight, long-sleeved shirts
- Wide-brimmed hat to protect face, head and neck from sun
- Well worn-in and comfortable hiking boots
- Two or more pairs of field socks
- Lightweight waterproof jacket or poncho during the wet seasons

Clothing/Footwear for Leisure

- One set of clothing to keep clean for end of expedition.
- At least one set of casual clothes for use during social gatherings (e.g. visits to local community villages); women may wish to bring a long skirt and men may wish to bring a collared shirt.
- Shorts
- T-shirts
- Sandals or light canvas shoes to wear at the house or for around camp
- Flip-flops (thong sandals) for use in the shower
- Fleece jacket, sweater/jumper or sweatshirt for cool nights
- Pajamas

Field Supplies

- Binoculars*
- Small daypack/rucksack
- Drybag or plastic sealable bags (good for protecting equipment such as camera from dust, humidity, and water)
- Insect repellent spray with DEET
- 2 (two) 1-liter water bottle(s)
- Sunglasses
- Sunscreen lotion with SPF 30 or higher

* Binoculars with 10 x 42 magnification are recommended for wildlife viewing. Information on choosing and purchasing binoculars can be found at www.eagleoptics.com. Each individual volunteer must bring his/her own.

Bedding and Bathing

Note: Bedding, mosquito nets for the beds, and towels will be provided.

Personal Supplies

- Personal toiletries (biodegradable soaps and shampoos are encouraged)
- Roll of toilet paper
- Antibacterial wipes or lotion (good for cleaning hands while in the field)
- Personal first aid kit (e.g. anti-histamines, anti-diarrhea pills, antibiotics, antihistamines, antiseptic, itch-relief, pain reliever, bandages, blister covers, etc.) and personal medications including malaria prophylaxis
- Spare eyeglasses for those who use them

Miscellaneous

- Headlamp and/or flashlight with extra batteries and extra bulb
- Spending money (about KES 7,000 or the equivalent of US\$100 is recommended)
- Camera, film or memory card, extra camera battery, adaptor and transformer, if necessary

Optional Items

- Earplugs for light sleepers
 - Favorite snacks
 - Kiswahili guide
 - Field guides
 - Personal reading and writing materials, games, art supplies, etc. for down time
 - Pocket knife (pack in checked luggage)
 - Supplies to donate to a local primary school* or Community Cultural Centre, such as: inflatable globes, wall maps of Africa and the world (in English is fine), and World Atlases (in English is fine); Footballs/soccerballs; calendars, pens, paper, pencils, chalk; books (particularly books about conservation or wildlife) or magazines.
- *Your team may visit a local primary school. Schools in the area have very limited resources. There is **no** obligation to donate items. Please keep baggage weight limits in mind.*