

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 a doctor; you will need him or her to sign the Health section of your Earthwatch Participation Form.
- Make sure you understand and agree to Earthwatch policies and participant responsibilities.

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:**

- Earthwatch Participation Form for Adults
- Travel Form

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

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

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

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

- Pay any outstanding balance on the minimum contribution for your expedition.
- Book travel arrangements (see the *Rendezvous* section 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 to make sure 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 *Emergency Contacts* section).
- Leave a copy of your passport, visas and airline tickets with a friend or relative.
- Confirm your travel arrangements.

Note: 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.

Walking with African Wildlife

Table of Contents

GENERAL INFORMATION	1
THE RESEARCH	5
PROJECT STAFF	6
DAILY LIFE IN THE FIELD	8
VOLUNTEER TRAINING AND ASSIGNMENTS	8
TEAM ITINERARY AND DAILY SCHEDULE	9
ACCOMMODATIONS	11
FOOD.....	13
TRAVEL PLANNING	14
RENDEZVOUS	14
PASSPORTS AND VISAS.....	14
INSURANCE	16
ADDITIONAL TRAVEL INFORMATION	17
RECOMMENDED READING	18
HELPFUL RESOURCES	18
PROJECT CONDITIONS	19
POTENTIAL HAZARDS.....	21
HEALTH INFORMATION	24
EMERGENCIES IN THE FIELD	25
COMMUNICATIONS	26
EARTHWATCH INSTITUTE POLICIES & PARTICIPANT RIGHTS AND RESPONSIBILITIES	27
EXPEDITION PACKING CHECKLIST	30

General Information

Project title	Walking with African Wildlife	
Earthwatch scientists	Dr. Dave Druce , Park Ecologist (Hluhluwe-iMfolozi Park), Ezemvelo KwaZulu-Natal Wildlife Caiphus Khumalo , Ecological Advice Coordinator, Ezemvelo KwaZulu-Natal Wildlife	
Expedition Dates	Team 1: July 13-28, 2012 Team 2: August 1-16, 2012 Team 3: August 20-September 4, 2012 Team 4: September 7-22, 2012	
Expedition length:	16 days	Minimum age of participation: 18 years of age
Team size max:	11 participants	

Emergency Contacts

Emergency contact number at Earthwatch headquarters in the US:

+1 (978) 461-0081

(800) 776-0188 **Note:** 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.

Medical and Security Assistance Helpline Numbers (For assistance while in the field)

When calling any of the helplines, please mention Earthwatch and policy reference number 560020011200.

CEGA Emergency Medical & Travel Assistance:

+44 (0)20 3059 8770

You may call this number collect or reverse charges if necessary in a medical emergency.

Henderson Risk Security Assistance and Advice:

+44 (0)20 3059 8772

axisenquiries@hendersonrisk.com



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 connect thousands of people just like you with research projects—approximately 65 projects in more than 35 countries—where they can participate in the fieldwork necessary to understand and help an array of species, habitats, and cultures. These projects focus on: **climate change, cultural heritage, ecosystem services, and oceans.**

We are committed to caring for the 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, through careful risk management and diligent planning we believe that all participants can have educational and inspirational Earthwatch experiences. We've been providing volunteer field experiences **for 40 years**, so you're in good hands.

It is essential that you carefully read your Expedition Briefing and fully complete the volunteer forms so that you are prepared. Your Expedition Briefing includes important information such as instructions for reaching the rendezvous point, what risks are present on the research project and how to avoid them, 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, the ability to work on a team, and a desire to learn are all 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, and to transfer your skills and enthusiasm to environmental conservation efforts in your workplace, community, and 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 black ink, appearing to read "Ed Wilson", with a large, stylized flourish at the end.

Ed Wilson
President and CEO



Dear Earthwatch Volunteer,

I am delighted that you have shown an interest in this project, which promises to be very valuable and interesting from a research perspective and a great experience for all involved. As you may know, large game in Africa is under increasing threat from, among other things, poaching and an expanding human population, which is putting pressure on all natural resources. Participation in this project will contribute to the effort to conserve wildlife more effectively in South Africa.

The project, which is primarily a census of large herbivores, will take place in July, August, and September 2012 in the 960-square-kilometer Hluhluwe-iMfolozi Park (HiP), the oldest game reserve in Africa. I am leading this project as an ecologist for Ezemvelo KwaZulu-Natal Wildlife, the conservation agency responsible for managing the protected area. Below is some background information to place the project in context.

While there are still free-roaming populations of some of the larger animals, such as elephants and rhinos, in certain parts of Africa, others of these animals survive only in specially designated, fenced game reserves in South Africa. Unfortunately, even within these reserves, including HiP, the animals are not entirely without danger, and poaching exists to varying degrees. While an important contribution to the conservation of endangered species lies in securing the park boundaries, an equally valuable contribution can be made by informed and appropriate ecological management of conservation areas. In HiP we are fortunate to have avoided the brunt of the poaching to date, and the context of this census is not one of recording a dwindling population but rather one of refining our ability to make sound ecological decisions in order to effectively manage and maintain species diversity and ecosystem functioning within the reserve's boundaries.

One example of the type of decision that could be made concerns the control of the population of endangered black rhino in HiP. At a certain population density, nearing the maximum that the park can hold, black rhino will reproduce at approximately 3% per year. If, however, we maintain the population at 80% of this critical density (by re-establishing "excess" animals in other conservation areas) we can increase the annual reproductive rate to 8%. In other words, this simple action will result in an increased growth rate for the black rhino population. It may not seem worth striving for a 5% difference, but if one considers a population of around 200 animals and extrapolates the figures over a 20-year period, it rapidly becomes clear that the increased contribution to the world's population of approximately 3,000 black rhino becomes a significant one.

The point is that the benefit of concentrating on optimizing growth rates rather than population sizes can potentially buffer against other losses, such as those imposed by poaching. This project, aimed at counting 15 of the larger herbivore species in HiP, will contribute to the essential baseline information required for this type of decision-making.

Furthermore, HiP currently has a relatively high density of predators, which include lion, cheetah, leopard, spotted hyena, and the second most endangered large carnivore in Africa, the African wild dog. With these high predator densities, ecologists and managers need to monitor their effect on prey populations in order to ensure that the

park continues to maintain both predator and prey species. Although many detailed research and monitoring programs are in place, everything is underpinned by good, basic information which includes accurate game estimates.

Much of HiP is managed under wilderness principles, as wilderness comprises approximately 30% of the park. All census counting is done on foot by walking through the park, giving volunteers the wonderful opportunity to walk in very special, pristine areas.

A challenging yet very rewarding aspect to participation in the project is that it requires volunteers to rise before sunrise each day, and in the early hours of the morning, to set out walking 10-12 kilometers (6-7 miles) over undulating savanna thornveld and sometimes through closed canopy forest. Because the park contains populations of elephants, rhinos (black and white), buffalos, lions and other predators, the individual safety of each volunteer will be attended to by the presence of an experienced field ranger on each walk. After the walking, a wash, and some well-deserved food, the daily activity schedule includes capturing the day's data on a computer. Once the data has been analyzed, we will forward you the results of the counts.

The African bushveld experience will not be over after the morning walk. Volunteers will stay in tents in two camps situated in different habitat types in the park and will be able to experience many of the night sights and sounds first hand. Because of logistic constraints, volunteers will be accommodated in two separate camps, one in the north of the park and one further south. Although this has the disadvantage of splitting the team, it has a positive side, in that volunteers are rotated during their stay and are thereby given the opportunity to see both ends of the park, which have various topographies and vegetation, and to meet and work with different field rangers and camp staff. Camp life offers an ideal social setting for gathering around a fire to exchange stories and relate one's experiences of the day, and will also be suited to those who value the opportunity to experience being in the African bush and soaking up the atmosphere.

If you decide that you would like to contribute to and experience some of what has been outlined above, I look forward to meeting you in Hluhluwe-iMfolozi Park for the 2012 wildlife census. If you have any queries I am very happy to assist in answering them.

Sincerely,

Dave Druce

The Research

Walking with African Wildlife

Goal of the Research

The goal of this project is to provide the most accurate count possible of all the most common, large mammal species within Hluhluwe-iMfolozi Park (HiP). HiP is relatively small and isolated from the surrounding country by game-proof fencing, so it is essential for the park managers to have a good understanding of herbivore numbers to enable appropriate management decisions. Consequently, every two years the *Walking with African Wildlife* project conducts a census of large herbivore species in the park, which may include buffalo, bushbuck, bushpig, blue duiker, grey duiker, red duiker, giraffe, impala, zebra, kudu, nyala (pictured above), common reedbuck, mountain reedbuck, black rhino, white rhino, steenbok, warthog, waterbuck, and wildebeest. Earthwatch volunteers will walk along cut line transects recording information on every animal seen. We use the distance method of analysis (which you will learn more about on the project) to process the information and produce an estimate for each species based on the distance sampled and the number of individuals seen within various habitat types. Volunteers play a crucial role in enabling the park to develop reliable census estimates for these herbivores by being directly responsible for the data collection and capture. The greatest advantage to the park of using volunteers is the amount of repetition which can be achieved. This results in improved data quality and greater confidence in the estimates, which would not be possible if only staff participated.

Research Area

HiP is a 960 square-kilometer savanna park in the northeast of KwaZulu-Natal, South Africa. Apart from the immense Zulu history associated with the park, it was the earliest game reserve proclaimed in Africa. In addition, it was the last refuge in the world for the southern white rhino. From the middle of the last century when the world's white rhino population was less than 100 individuals, the population has now grown to over 11,000. HiP also holds one of the largest populations of black rhino in addition to healthy populations of all the large herbivores and carnivores indigenous to the region, including the second highest population of the endangered wild dog in South Africa (a close second to Kruger National Park). HiP offers exceptional wildlife viewing opportunities for visitors.

The vegetation of the area is largely moist acacia savanna/woodland. The park also features extensive river areas as well as some mature closed-canopy forest. HiP has an altitude ranging from 85 to 580 meters (280 to 920 feet) above sea level. Consequently, volunteers require a good level of fitness in order to complete transects day after day, which go straight up and over hills, without too much strain. The area has a coastal climate, and, due to the range of topography, the local weather is quite variable (see the *Project Conditions* section for more information).

Summary of Key Achievements

Because of the consistency in data collection over the past number of years, the reserve management team has been able to track the trend in population numbers, make informed management decisions, and identify potential problems when they can still be solved. Numerous external groups have used the data collected during the census program for various research projects. One research paper, which is currently under review, determines whether the HiP lion population is negatively affecting the park's prey populations. Data are being used from as far back as 1986, which indicates the importance of quality long-term data. Various other groups benefit from decisions made using the data collected, including national and international research groups, the provincial and national conservation arena, the game industry (through live harvesting), rhino conservation organizations, visitors and local communities, school groups, and more.

South Africa



Hluhluwe/iMfolozi Park



PROJECT STAFF

Earthwatch Scientists

Dave Druce has a Ph.D. in behavioral ecology. He has experience in many conservation areas throughout South Africa and on a wide variety of topics including predator/prey interactions, herbivore habitat selection, elephant utilization, and invertebrate surveying. He has previously worked as an expedition manager for another international volunteer organization in private reserves in the Limpopo Province of South Africa. He is currently employed with Ezemvelo KwaZulu-Natal Wildlife as the park ecologist for HiP, and will be responsible for some of the volunteer training and for coordinating logistics. Dave plans to be present on all 2012 teams.

Caiphus Khumalo has a master's degree in conservation management. He is employed by Ezemvelo KwaZulu-Natal Wildlife as the ecological advice coordinator for Zululand, and hopes to join the project as his schedule allows.

Earthwatch Field Staff

RESEARCH STAFF

Abednig Mkhwanazi is a research technician, and will be your Zulu language teacher on the project. He has 36 years of experience in the park, and can keep you entertained with many stories. As he has been involved with the game census program since its inception, he will be vital in assisting with logistics.

Cate James is a senior administrative clerk at the Hluhluwe Research Centre, and is responsible for many of the administrative issues on the project, including catering.

Geoff Clinning has a bachelor's degree in information systems from the University of Cape Town. In 2007, he volunteered on the Earthwatch elephant impact vegetation study in Hluhluwe-iMfolozi Park, and is now employed as the GIS (Global Information Systems) and database technician for the park's research center. He will assist by setting up the computers and databases for the project and by training volunteers, and will analyze the data once the fielding season is completed.

CAMP STAFF

Each camp will have a camp manager, an assistant camp manager, and a camp attendant. As they are appointed just prior to the start of the project, those individuals have not yet been identified. In addition, field rangers will accompany teams in the field to ensure the safety of the volunteers. The field rangers will change frequently, and it is not possible to give names prior to the expedition.

Staffing Schedule (Subject to Change)

Staff Member Present	Team 1	Team 2	Team 3	Team 4
Dave Druce	x	x	x	x
Caiphus Khumalo				
Abednig Mkhwanazi	x	x	x	x
Geoff Clinning	x	x	x	x
Cate James	x	x	x	x

Daily Life in the Field

VOLUNTEER TRAINING AND ASSIGNMENTS

Training

Because of the geographical layout of HiP, volunteers will be divided into two camps: the north Maphumulo Camp and the south camp at Masinda Ranger Outpost. Assuming a full team of 11 volunteers, one sub-team of five volunteers will be based at Maphumulo Camp and will walk line transects in the north. The other six volunteers will be based at Masinda Ranger Outpost and will walk the southern line transects. Groups will walk each line transect once in a three-day rotation. This enables volunteers to experience several, though possibly not all, transects. Transects will be assigned by camp managers.

Volunteers will rotate between the two camps. The amount of time a volunteer will spend in each camp will vary to accommodate logistical constraints and will be determined by project staff. It is important that volunteers be flexible. On arrival, volunteers will be taken to their respective camps and briefed by the camp manager on the location of everything in camp (including first aid kits) and on how to minimize any safety risks while in camp.

All volunteers will be trained for one-and-a-half days prior to hiking transects. There will be three primary objectives to the training:

- 1) First, project staff will ensure that volunteers are familiar with the theory and the assumptions of distance sampling and transect hiking. This is important because decisions need to be made in the field, and only a clear understanding of the consequences of violating each assumption will enable the recorder (volunteer) to make the best decision under the circumstances.
- 2) The second component to the training will be to ensure that each volunteer is able to use a magnetic compass, a GPS (Global Positioning System) unit (utilizing the “Go To” function as well as recording of GPS locations), and electronic range finders, and knows how to collect data and fill in the datasheets. Volunteers will need to know the names of and be able to identify the herbivores being counted. They will not be completely on their own for this task, though: the field rangers know the names and identities of the herbivores well, and although some rangers may only be able to speak Zulu, volunteers will be provided with a list of both Zulu and English names, so they can translate. Training will also include an hour-long crash course in Zulu to assist in breaking the communication barrier.
- 3) The third aspect of training involves safety. Volunteers will be instructed on how to behave in the bush and react in times of potential danger (e.g. after having accidentally disturbed a rhino or buffalo). Additional health risks will be highlighted, and training provided on how to minimize these risks.

The Earthwatch scientist will give the team a more detailed onsite project briefing when you arrive.

Assignments

Line Transects

Each volunteer will be paired with an armed field ranger to conduct fieldwork (these rangers are there to protect you from dangerous game; they are well trained and trustworthy staff members of Ezemvelo KZN Wildlife). Camp managers and their assistants will take the pairs to the beginning of the transects at first light on each day. Each pair will hike one transect per day. Hiking will begin shortly after it is sufficiently light to see clearly for 500 meters (1,640 feet), which is the limit of the range finders. You will hike quietly along the transect at 2-3 kilometers per hour (1 ½ - 2 miles per hour), making every attempt to observe animals. When a herd of one of the targeted species is observed, you will stop and record the species, the GPS point, the compass bearing of the transect, the

compass bearing to the center of the herd, the distance to the herd from the point of observation, and the herd size. Other information about the vegetation and the weather conditions will also be recorded on the prepared data collection forms. You will continue in this manner until the end of the transect. The time taken to complete each transect will vary according to its length and the number of hills, but the mean time is 4-5 hours. Each volunteer is expected to be able to walk all transects, and volunteers are rotated through different transects each day, depending on the size of the group and logistical considerations.

Data Analysis

Each day volunteers will be involved in entering the data into a database and checking it for accuracy. This will take approximately one hour. You will then have the rest of the afternoon for recreational time. Data will be analyzed after all the teams have completed their expeditions, and used to produce the biannual game count report. The report is used to inform management decisions around the removal of animals to assist other conservation areas or for other management responsibilities.

TEAM ITINERARY AND DAILY SCHEDULE

Please be aware that weather and research needs can lead to changes in the daily schedule. Should this situation arise, your cooperation and understanding are appreciated.

Day 1: Meet in Richard’s Bay, travel to camp, settle in, and begin training

Day 2: Complete training, receive equipment, prepare for walking

Days 3-8: Walk transects and enter data

Day 9: Recreational day (see Recreational Time below). For Team 1, this day is dependent on when the annual mountain bike challenge takes place.

Days 10-15: Walk transects and enter data

Day 16: Pack and depart

Typical Daily Schedule:

Time	Activity
4:30 – 5:00 a.m.	Rise, rinse, eat a snack/breakfast and prepare packed food
5:00 – 6:00 a.m.	Drive to drop-off points at beginning of the transects
6:00 a.m. – 12:00 noon	Walk the transect recording data, wait for transport, and travel back to camp (amount of time depends on length of transect, time taken to complete transect, and number of volunteers to be picked up)
12:00 – 1:00 p.m.	Travel back from the transects to the camp
1:00 – 3:00 p.m.	Wash, eat lunch, and rest; possible visit to Bhekempilo Primary School if desired
3:00 – 5:00 p.m.	Debrief, enter the day’s data into database and confirm next day’s schedule
5:00 – 6:00 p.m.	Time for relaxing and, possibly, game drives
6:00 – 8:00 p.m.	Drinks and supper
8:00 – 10:00 pm:	Fireside chatting and relaxing, etc.

The expedition will begin with one-and-a-half days of training. This will be followed by 12 days of hiking transects (excluding the recreational day). Volunteers might be given the opportunity to go on a night drive with research staff during the two weeks. There is one planned recreational day after six days of hiking (see below).

Additionally, a visit to a local school may be planned for one afternoon for those who are interested. Abednig Mkhwanazi, a research technician, is involved in a community project with a school in the area surrounding HiP, which is in a poor rural area that has struggled over the years to receive support. Many of the children attending the school have been orphaned by HIV/AIDS. By making the success of the school a goal, the project staff has managed to assist in securing support and improving the situation for the children there. If you would like to visit the school and see what a community effort can achieve, staff will gladly arrange a visit. Most volunteers find this to be an enriching experience, when they witness how those with so little make the best of their situation.

Recreational Time: Due to logistical difficulties and safety concerns, the team will participate in the recreational day activities as a group. It will not be possible for volunteers to leave camp or go off on their own outside of planned group activities. Volunteers will be responsible for any additional expenses incurred during recreational time. Some options for the recreational day include:

- A trip to iSimangaliso Wetland Park with a possible boat tour (approximately R150 per person) to look for hippos, crocodiles, and birds, and experience the St. Lucia Estuary
- Snorkeling and swimming at the beach for
- A trip to the crocodile center to see a variety of crocs
- Lunch at a local restaurant (R70-R150)
- Staying at camp and relaxing

Earthwatch Recreational Time Policy

Earthwatch will generally accompany participants from the rendezvous to the end of the expedition with the exception of recreation time.

- For days when no research activities are scheduled, referred to as recreational days, Earthwatch scientists will offer either a planned team activity or a range of recreational activities that have been vetted and comply with Earthwatch standards. Participants will also have the option of remaining at camp or project accommodations to rest.
- Participants who are determined to pursue options other than those recommended by the project staff will be required to sign a release before doing so. If there is a period of time during a regular research day when no research activities are scheduled, adult participants may have the opportunity to leave the project site on their own; they will be asked to sign out of the project giving their intended destination. Not appearing for the next scheduled activity will trigger the Emergency Response Plan (ERP) regarding missing people. Earthwatch will assess the general risks of adult participants leaving the project site on their own at night after work hours, but cannot guarantee participant safety or an awareness of all issues.
- In some cases, due to local conditions, it may be advisable to restrict adult participants to the project camp or accommodation after dark. This will be clearly communicated in the on-site safety briefing. However, if the local conditions are such that adult participants can go out at night under their own recognizance, there will be a sign-out process through which participants should state their proposed destination and estimated return time. Participants will be given twenty-four-hour contact information for project staff should assistance be needed. The sign-out is informational only and will not be used to enforce a curfew on adult participants. Adult participants should understand that unless contacted for help, project staff will not start a search for a missing participant unless he or she fails to appear the following morning or for the next scheduled research activity.

ACCOMMODATIONS

Sleeping

Volunteers will stay at two camps within HiP. They will be housed in dome tents, with one or two people per tent, depending on the camp. Volunteers of the same gender will share tents, although couples may be given their own tent. Volunteers will be provided with firm foam mattresses, a single sheet and pillows in the tents, but must bring their own mosquito repellent, sleeping bag, and towels. We suggest bringing a warm bag that zips open the whole way for cooler nights and a sheet bag for the warmer nights. Volunteers will need to bring their own toiletries, and should also bring their own torches/flashlights (a head lamp/torch is best).

Bathrooms

Maphumulo Camp (to the north) has outdoor flush toilets and showers with water heated on a fire, placed into a bucket, and raised on a tree. Each shower area will be enclosed for privacy, although the shower and toilet facilities will not be separate for males and females. At Masinda Outpost (to the south), volunteers will have indoor facilities, separate for males and females. The water will be heated with gas geysers. Water resources within HiP are limited, and we request that volunteers use showers, cleaning water, and laundry facilities sparingly.

Electricity

At Maphumulo Camp, lights will be run off batteries charged by solar panels. As a result, lighting will be restricted. It will not be possible to plug in and/or charge electronic devices, but limited arrangements can be made for the camp manager to charge these elsewhere. Gas and oil lamps will be provided. At Masinda Outpost, the kitchen and bathroom areas will have electricity during certain times of the day, until approximately 10:00 p.m. each night. Volunteers may be able to charge electronic equipment during certain times of the day. There will be onsite refrigeration in both cases, but there will be limits to the quantity that can be stored. Most plug points take a rounded, large three-prong plug (South African style, Type M), and the voltage is 220V.

Internet and Communications

Currently there is no Internet access for either of the camps. In an emergency, it may be possible for a volunteer to use the Internet at the research center. However, this is a one-hour drive from Masinda and a 20-minute drive from Maphumulo Camp.

Facilities and Amenities

Each camp will have a kitchen, which is a more solid structure than the sleeping tents, and there will also be a communal area for eating and relaxing. Laundry will need to be done by hand, but there will be staff available to do this if you are willing to pay for their services (approximately R30 per person).

Distance to Field Site

The transects will typically be less than 15 kilometers (9 miles) from the campsites, and volunteers will be transported in pick-up trucks with seatbelts and canvas canopies. It may take up to one hour to reach the start of your transect, if you are among the last to be dropped off. Once volunteers have finished walking their transects, they will have to wait until a vehicle can come and pick them up. Thereafter, it may take up to one hour before

volunteers are dropped off at their camp again, depending on the time it takes other volunteers to finish their transects and the logistics of driving to the various end points.

Services and Restaurants in Walking Distance

There may be the occasional opportunity to purchase soft drinks, alcoholic beverages, snacks, and limited souvenirs from small shops at nearby resorts; this is not guaranteed, and may only happen once or twice during the team, upon returning to camp after the day's fieldwork is completed.

Camp Policies

There are a few camp rules that must be followed for the safety and enjoyment of the team:

- For safety reasons, team members must stay within the fenced area of the camp. Participants are not permitted to walk outside of the electrified perimeter fence at any time.
- Although the boundary fence of the camp is electrified, dangerous animals may still be able to get into the camp. Do not approach the fence if dangerous animals are seen outside the camp.
- Volunteers may not use the radios in camp unless the camp coordinator, camp manager, and assistant camp manager are incapacitated.
- Volunteers may not pick up any animal(s), including snakes or scorpions, under any circumstances. If one is seen in camp, avoid the animal and alert the camp coordinator, camp manager, or camp assistant.
- Closed shoes must be worn in camp after dark to avoid scorpion stings and snake bites.
- Minimize walking around in the camp after dark; if you do, be sure to do so in pairs and use a torch/flashlight.
- Smoking is not permitted in the tents or while others are eating.
- Cigarette butts must be disposed of properly in the designated ash container.
- Do not litter.

FOOD

Volunteers will eat a simple breakfast before walking the transects. You will need to pack your own food in the morning prior to setting out into the field. It is important to bring plenty of water into the field, so be sure to bring a water bottle able to carry at least two liters. Once back at camp, a self-serve lunch will be provided. The camp manager and/or cook will be responsible for food preparation at lunch time and in the evenings, but feel free to share culinary expertise with the team! All dish-washing and kitchen cleaning will be the responsibility of the camp staff. Camp staff will join you for all meals, and other staff or researchers may join from time to time.

There is one restaurant available in the park. On previous occasions, volunteers and staff have had dinner at the restaurant on one night (the cost of which would be at your own expense). Staff can accommodate requests to buy drinks, a limited amount of which can be kept cool at camp, and volunteers may choose to eat at a restaurant in St. Lucia during the recreational day.

The research team will buy food during the expedition. 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:	Cereals, yogurt, fruit, bread, and spreads
Lunch:	Buffet-style meal of sandwiches, salads, eggs, and cold meat
Dinner:	Variety of foods, such as stews, bakes, braais (barbeques), curries, local specialties (e.g. venison), and pasta dishes
Snacks/Other:	Sandwiches with cold meats, cheeses, and spreads, and fresh fruit
Beverages:	Water, other cool drinks, tea, and coffee will be available (volunteers must purchase and provide their own alcoholic beverages if desired). Note: The legal drinking age in South Africa is 18. Volunteers are requested to carefully consider the amount of alcoholic beverages consumed after transects and in the evenings, as drinking can result in dehydration and difficulty in undertaking continuous strenuous activity for a number of consecutive days. Consumption of alcohol such that your participation in project activities may be affected will not be permitted.
Water:	Maphumulo Camp: Drinking water is brought to camp in large water containers. Volunteers cannot drink the tap water. Masinda Outpost: Tap water is safe to drink.

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: Please be aware that it is often difficult to accommodate vegans. It may be possible to get meatless meals, but vegans may have a problem avoiding animal products altogether. If this is an issue, please carefully consider your participation in this expedition.

Travel Planning

You are encouraged to register your travel itinerary with your embassy. For information on embassies around the world, see embassyworld.com.

- Citizens of Australia may register online at: orao.dfat.gov.au.
- British citizens may register online at: 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 and departure information for this project has been removed from this web version of the expedition briefing. It is only available in the printed version of the briefing. Please do not make any travel arrangements to join an expedition without having full and up-to-date travel 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 the website to get in touch with an Earthwatch representative, who will be very happy to help you.

PASSPORTS AND VISAS

Visa Information

Citizens of the US, EU, Australia, Canada and Japan **do not** need a tourist visa for stays of up to 90 days for entry. Citizens of other countries should check with their travel agent or a visa agency for specific visa and entry requirements. Travelers are advised to check visa regulations well in advance of traveling.

Passport Information

All visitors to South Africa must be in possession of a passport valid for at least six months past the date of entry and which **must contain at least two consecutive blank (unstamped) pages**, not including the “endorsement” pages at the very back. You may be refused entry if you do not comply with these requirements.

For Volunteers Requiring Visas ONLY: Essential Information

Type of Visa	Volunteers requiring a visa must get a TOURIST VISA .
Where to Get a Visa	Contact the nearest South Africa 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, and 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. Note: Your passport must also contain at least two consecutive blank (unstamped) pages, not including the “endorsement” pages at the very back.
Contact Information	This information is available in the print version of the briefing only.
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.

Note: 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 “volunteering.” Words such as “working,” “volunteering,” “research,” or “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	In Europe	In Australia
Trivisa* 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: trivisa.com (*See the website for additional offices)	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: uk.cibt.com (has alternate address for urgent requests)	Ask your travel agency if it can send your visa application on your behalf.

Additional Passport and Visa Resources

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

INSURANCE

MedEvac assistance, advice, and insurance are included in the contribution you pay to Earthwatch. This covers trip cancellation and your travel medical risks, including medical expenses and emergency medical evacuation, while you are traveling. 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 Earthwatch website for more information on insurance provision.

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 the insurance provider.

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

If you signed up through Earthwatch UK/Europe, or Earthwatch Japan:

Details of the included insurance policy can be found at earthwatch.org/europe/insuranceinfo.

Please refer any queries regarding this policy to Earthwatch's Operations department at +1 978 450 1232 or insurance@earthwatch.org.

You can find information about additional insurance available to UK residents for coverage before or after your Earthwatch project at earthwatch.org/europe/insuranceinfo. Should you have any questions about whether you require coverage for your travel plans, please review the policy summary and the FAQs at the website above.

If you signed up through Earthwatch US:

Details of the US insurance policy can be found at earthwatch.org/insurance.

Please refer any queries regarding this policy to Earthwatch's Operations department at +1 978 450 1232 or insurance@earthwatch.org.

You can find information about additional insurance available for coverage before or after your Earthwatch project at earthwatch.org/insurance. Should you have any questions about whether you require coverage for your travel plans, please review the policy summary and the FAQs at the website above.

Emergency Medical and Evacuation Assistance (For All Volunteers)

Emergency medical and evacuation assistance is available for all Earthwatch participants from CEGA Medical, a twenty-four-hour international emergency medical and evacuation service. Please see the contact information on the *General Information* page.

For non-emergency information from CEGA, such as advice on visa and vaccine requirements, you may call the CEGA Non-Emergency Medical & Travel Advice helpline at **+44 (0) 20 3059 8770**.

ADDITIONAL TRAVEL INFORMATION

Luggage

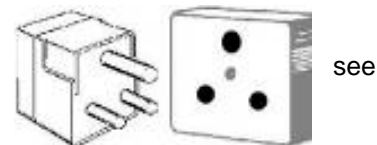
- *General considerations:* Do not bring more luggage than you can carry and handle on your own. If traveling by air and checking your luggage, you are advised to pack an extra set of field clothing and personal essentials in your carry-on bag in case your luggage is lost and/or takes several days to catch up with you. Many airlines have strict baggage policies. Please check with your airline(s) on baggage weight limits, liquid restrictions, fees for checked baggage, etc.
- *Checking luggage:* Please note that if you will be taking an international flight that has one or more connections within the country of your destination, it will be necessary to collect any checked bags at the airport where you first arrive in the destination country. After proceeding through customs, you will have to recheck your luggage before flying on to your final destination.

Money Matters

- *Local currency:* The South African Rand is the local currency. No other currency is accepted. See xe.com/ucc for currency information and exchange rates.
- *Personal funds:* You will need money to cover any additional snacks or drinks you wish to purchase, along with souvenirs or optional recreational day activities. Volunteers are advised to change money prior to joining the team. There are currency exchange counters at the international airports. The only access to ATM's once in the field will be on the recreation day in St. Lucia. There are no ATM's at the Richard's Bay Airport or at the Woodpecker Inn. Travelers' checks should be exchanged in the airport at Johannesburg, as it is almost impossible to do so once the expedition has started. Volunteers are also advised to have approximately R1500 (US\$200; €160) on hand in the event of a minor emergency, as local clinics require cash payments for treatment; however, reimbursement through your own or Earthwatch's travel insurance is possible so remember to ask for and save any receipts.
- *Tipping:* Most restaurants do not add a service charge to bills, and it is customary to leave a 10-15% tip

Your Destination

- *Language:* There are 11 official languages in South Africa. Either English or Zulu are spoken by the expedition staff. Volunteers may hear Afrikaans spoken during the recreation day at St. Lucia.
- *Cultural considerations:* There are no specific dress customs, but it is advisable to dress conservatively.
- *Electricity:* Most plug points take a rounded, large three-prong plug (South African style, Type M) and the voltage is 220V. For additional information, kropla.com/electric2.htm.
- *Time zone:* GMT + 2. For time worldwide with GMT/UTC, see worldtimeserver.com.
- *Telephone Dialing codes:* When calling South Africa from another country, dial the country's international dialing code, followed by (27) and the number. When calling within South Africa, omit the (27) and dial (0). When calling another country from South Africa, dial (00), followed by the other country's country code and the number. **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.



Country Information

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

RECOMMENDED READING

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

Scientific media

Books

- Buckland, S.T., D.R. Anderson, K.P. Burnham and J.L. Laake. *Distance Sampling: Estimating abundance of biological populations*. New York: Chapman and Hall, 1993.

Popular media

Books

- Any books by Dr. Ian Player
- Pooley, T. *Mashesha: The Making of a Game Ranger*. Johannesburg: Southern Book Publishers, 1992.
- Banister, A. *South African Animals in the Wild*. Cape Town: Struik Publishers, 1987.
- Charlton-Perkins, W. and de la Harpe, R. *Great Game Parks of Africa: Hluhluwe-iMfolozi Park*. Cape Town: Struik Publishers, 48.

Field guides

- Apps, P. *Smither's Mammals of Southern Africa*. Struik Publishers, Cape Town, South Africa. 2000.
- Walker, C. *Signs of the Wild*. Cape Town: Struik Publishers, 1992.
- Sinclair, I., P. Hockey and W. Tarboton. *SASOL Birds of Southern Africa*. Cape Town: Struik Publishers, 1997.
- Van Oudthoorn, F. *Guide to grasses of southern Africa*. Pretoria, 2002.
- Pooley, E. *A field guide to Wild Flowers KwaZulu-Natal and the Eastern Region*. Natal Flora Trust, 1998.
- Boon, R. *Pooley's Trees of Eastern South Africa. A Complete Guide*. Fauna and Flora Publications Trust, Durban. 2010.

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. The most recent field report for this project is available online through http://www.earthwatch.org/FieldReportpdf/Druce_FieldReport2010.pdf. **Note:** Reports are not available for all projects.

HELPFUL RESOURCES

Please see Earthwatch's Volunteer Resources pages for additional information on:

- Travel agencies with whom Earthwatch volunteers can get preferential rates
- Recommended kit and clothing providers
- Recommended travel booksellers

Volunteers who sign up through our US office, visit: earthwatch.org/volunteerresources

Volunteers who sign up through our UK office, visit: earthwatch.org/europe/volunteerresources

Project Conditions

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

To the doctor:

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

General Conditions

The topography of the area ranges from gentle undulating hills to steep and challenging inclines. The terrain is variable, with rocky, slippery and steep areas. Remember that seasons in the Northern and Southern Hemispheres are reversed; volunteers coming from the Northern Hemisphere must be aware that they will be traveling from a summer to a winter climate. Although South African winters are mild, the early mornings can be very chilly especially when driving to the drop-off points for the transects. Prepare to experience some cold evenings. Unlike many places abroad, South Africans do not use central heating much and this, of course, will not be available at the camps. The best warmth is from the campfire. During the day you can expect mild to hot temperatures. Although it will be the dry season, the chance of thunderstorms exists.

In winter, the temperatures can drop to around 6°C (43°F), while in the heat of summer, temperatures in some parts of the park can reach around 40°C (104°F). Although winter is the driest season, rain can fall throughout the year.

Conditions expected to vary within the limits below.

Project Months	
Humidity	40% to 80%
Daytime temperature range	59°F/15°C to 95°F/35°C
Nighttime temperature range	45°F/6°C to 77°F/25°C
Altitude	300 ft/91 m to 1,500 ft/457 m
Rainfall	1.5-4.7 in/3.8-12 cm per month

Eligibility Requirements

All participants must be able to:

- Comfortably traverse up to 15 kilometers (10 miles) per day over mountainous terrain** without significant fatigue for a period of 12 days with just one day of rest in between. Transect-walking begins just after sunrise and is generally completed by mid- to late morning. It generally take 3 to 6 hours per day to complete.
- Take immediate evasive action in the event of an animal encounter**, e.g. by moving quickly and climbing a tree. Those not able to complete the transects without difficulty or take evasive action can endanger themselves, their teammates and the field rangers.
- Independently follow and immediately comply with project/park staff and field guide instructions, whether verbal or visual.
- Enjoy being outdoors all day in all types of weather (see *General Conditions* above) in the potential presence of wild and sometimes dangerous animals, snakes, and insects.
- Hike or climb steep slopes for one hour per day, up to three hours per day on some transects. Most transects are over undulating to hilly terrain but several involve steep and lengthy hills.
- Work comfortably alongside armed park rangers. Weapons are for your protection, and rangers are well trained in their use. Volunteers are **NOT** permitted to handle weapons at any time.
- See clearly (with corrective lenses is fine) to a distance of 500 meters (1,640 feet), as well as close-up to read the instruments used during the project.
- Hear well either naturally or with a hearing aid in order to follow instructions in the field, particularly in the event of an emergency.
- Carry personal daily supplies, including at least two liters of water and some small field equipment (e.g. GPS unit, binoculars).
- Search for wildlife while moving in single file, 2 meters/6 feet or less behind the guide, over rough, uneven, sometimes rocky terrain with areas of dense, thorny vegetation, while steering clear of obstacles and animal holes.
- Complete all required transects in order to avoid putting strain on other team members, which can then increase their risk of injury and create tension between volunteers.
- Get themselves up into and down out of project vehicles unassisted.
- Sit or ride in project vehicles (pickup trucks fitted with bench seats and canvas roofs), with seatbelt fastened, in close proximity to other team members, while traveling over rough and bumpy roads for up to approximately 2 to 3 hours per day.
- Keep as quiet as possible while working in the bush.
- Tolerate not having a reliable source of electricity throughout the night for the length of the project.

POTENTIAL HAZARDS

If you feel ill once you return from your trip, make sure you inform your doctor that you have recently returned from a sub-tropical region.

Hazard Type	Associated Risks and Precautions
Transportation	<p>Roads may be corrugated, or dirt or gravel, and may be very bumpy and either dusty or muddy and slippery depending on weather conditions. Thorny brush can lead to tire punctures and/or scratches while driving past. Other road hazards in South Africa include fast and reckless drivers, livestock and wildlife, rains, poor or no lighting, and banditry. Traffic moves on the left side of the road. Project vehicles are pickup trucks fitted with bench seats. Volunteers will be exposed to the elements during drives as there are only canvas roofs on the trucks. You should therefore bring appropriate clothing including warm clothing for the mornings when being driven to the start of transects (this clothing can be left in the vehicle when you disembark). Seatbelts must be worn. Volunteers are not permitted to drive. Volunteers should remain quiet and not move around on the back of the vehicle when potentially dangerous mammals are seen while driving.</p>
Walking/Hiking/ Climbing	<p>The terrain is isolated, rough, and undulating, and can be quite steep along some transects. Vegetation, including areas of thorny acacia scrub, may be quite dense. Exhaustion and injuries such as scratches, sprains, and broken bones are possible. Well worn-in (NOT NEW) hiking boots with ankle support and socks should be worn to avoid blisters and other injuries. Appropriate clothing (e.g. long trousers, a hat, etc.) should be worn during fieldwork. No bright or black or white clothing should be worn during fieldwork. Only dull colored clothing will be allowed (e.g. khaki, dark green or earth-toned colors). The walking pace is deliberately slow so that observers can maintain concentration and avoid disturbing animals. Be sure to walk slowly and carefully and be aware of your surroundings at all times. Closed-toes shoes are required in the evenings around camp.</p>
Animals	<p>There is a range of large and potentially dangerous animals, including lion, leopard, spotted hyena, elephant, black rhino, white rhino, buffalo, crocodile, a variety of snakes and various scorpion species in the region.</p> <p>Any wild animal is potentially dangerous if provoked. Never approach, antagonize, provoke, or tease any animal. Well-trained and experienced armed field rangers will be in the field with volunteers to reduce the potential risks associated with encountering wild animals. It is of the utmost importance to obey the orders of the field rangers in the case of an animal encounter. When walking in the bush with armed rangers, volunteers should walk in single file and always behind the ranger. They should not linger behind but always keep within a meter or two of the ranger. Volunteers should be as quiet as possible and be dressed in khaki or earth-toned colored clothing. Volunteers will be trained on how to behave in the field and avoid incidents with wildlife. The best rule is to keep your eyes open, pay attention and be aware of your surroundings at all times. The guards are instructed to avoid close encounters with wildlife, but they can still happen. Participants must be able to move quickly in the event that the team gets too close to a buffalo or rhino.</p> <p>Volunteers should not walk toward camp perimeter fences when potentially dangerous mammals are visible from the camp. Note that these fences are electrified due to the presence of wildlife within and outside the camps so team members should take care not to touch them in order to avoid the risk of electric shock.</p>

Snakes	A range of venomous snakes are present in the area (including green and black mambas, puff adders, vine or twig snakes, Mozambique spitting cobras, and others). Volunteers must not attempt to pick up, catch, approach, and/or provoke any snakes. Ankle-high, closed-toe hiking boots should be worn for protection while walking transects. Closed-toe shoes must be worn around camp at night and team members are encouraged to use a torch/flashlight when walking around at night. Training in snakebite prevention and what to do in the event of an incident will be given prior to fieldwork. Anti-venom is not held at camp, as most hospitals prefer to treat the symptoms rather than take a risk that the snake has not been identified correctly. In the rare event that a team member is bitten, he/she will be immediately taken to the hospital in Richard's Bay.
Insects	Biting insects (e.g. ants, spiders, flies, and mosquitoes) and stinging insects (e.g. scorpions, bees and wasps) are present in the field areas. Care should be taken to prevent insect bites/stings, and volunteers with the potential for allergic reactions should bring medication (antihistamines, at least two EpiKits, etc.) as appropriate. Ticks, which are very small and can transmit tick bite fever may also be present. To minimize risk, bring and use insect repellent, check yourself daily for ticks, and wear proper neutral-colored field attire, including long pants tucked into socks. Ticks that are latched onto the skin should be removed with tweezers. Tick bite fever is treatable with antibiotics that can be obtained from the local doctor/pharmacy.
Plants	Walking in the African savanna, one can expect a few scratches on the legs and arms from vegetation. The area has a multitude of thorn trees. Staff will aid in the identification of potentially harmful plants. Wearing long trousers and sleeves can help protect against scratches. You need to keep your eyes open to avoid walking into these and causing injury. Antiseptic and plasters and/or bandages will be available. Some plants may also cause allergic reactions. If you have any known allergies, please inform Earthwatch and the research staff, and bring medication (antihistamines, at least two EpiKits, etc.) as appropriate. Even those without known plant allergies may have reactions, so you may wish to bring antihistamines. If you have allergies to antihistamines or other medications, again, please make sure you inform Earthwatch and the research staff.
Climate/Weather	Heat stroke, heat exhaustion, sunburn, and dehydration are possible when working in the sun. Appropriate clothing (including a wide brimmed hat and long sleeves/trousers) and high factor sunscreen are essential. Each volunteer should carry at least two liters of water into the field and be sure to drink plenty of water throughout the day. Inform a staff member right away if you are feeling tired or ill. Exposure to rain and wind/cold may cause chills or overexposure, so bring warm layers. Participants will often be exposed to the sun for long periods of time, or to highly variable weather conditions, which may include large temperature differences between night and day and sudden storms or drops in temperature. Although it is usually cool at the start of the transect, it can be up to 35°C/95°F, by the end so you must be prepared for the sun, stay hydrated and be able to continue walking when hot. Wildfires are rare but possible. In the event of a fire, team members will be removed from any areas of danger and must follow staff and field ranger instructions at all times.
Weapons	Field rangers will carry heavy caliber weapons for your protection. The rangers are well trained in safety and firing of these weapons. Volunteers will NOT handle the weapons at any time. Weapons are kept unloaded unless the teams are walking on the transects.
Rivers	A few transects may require crossing rivers. Depending of the level of the water, this may be done on foot or by canoe (staff will paddle, and life jackets are required). Because the transects are conducted during the dry season, the water speed is very slow and water levels are usually low. If there is water in the rivers, it is usually in pools which one can walk around rather than go through. Canoes will be used to take volunteers and field rangers across only if the water level is high and there is no other way around. Walking

	through water will be avoided, as there is risk of the parasitic infection schistosomiasis from standing fresh water bodies. Dangerous animals are also present near rivers, such as hippos and crocodiles. Again, never approach, antagonize, provoke, or tease any animal; be aware of your surroundings at all times; and carefully follow any instructions given by the field rangers.
Swimming	There is a swimming pool at a local tourist camp near the project's north camp accommodations. There may be the odd opportunity to visit this pool during recreational time, but this is not guaranteed. Please note that there is no lifeguard on duty, so volunteers swim at their own risk. Always notify a staff member where and when you will be swimming and never swim alone or at night. Do NOT go swimming or wading in any of the natural water bodies in the area due to the risk of drowning and schistosomiasis.
Personal Security	Volunteers should heed camp policies at all times. Particularly when outside of the park, on the roads and in towns, there is a risk of hijacking and mugging. This risk can be reduced by being alert and keeping valuable items, such as cameras, binoculars, and jewelry, out of sight. Use sensible precautions, particularly when traveling in urban areas: avoid carrying money conspicuously (e.g. in bulging wallets or bum-bags/fanny packs); avoid walking alone whenever possible and ignore persons who approach to solicit for donations; avoid wearing jewelry, "tourist outfits" such as safari shorts, jackets, cameras and binoculars, and very short skirts or shorts, tank tops, etc. (more conservative clothing is recommended); always take a taxi when going out after dark; and select and use ATMs with caution. It is always wise to leave unnecessary valuables at home.
Political/Social/Cultural	Political tensions in South Africa can often result in demonstrations, protests, strikes, or rallies usually in urban areas. These events can turn violent. You should avoid all protests, demonstrations, rallies, and areas where there is picketing.
Burns	When electricity is unavailable, gas or oil lamps may be available for use at camp. Participants should take extreme care when using such lamps to reduce the risk of fire or burns.
Traveler's diarrhea	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 CDC website for advice on avoiding this condition. Tap water is safe to drink at the Masinda Outpost, but participants should only drink the treated water provided while at the Maphumulo Camp.
Distance from Medical Care	The nearest hospital is 150 km away from the project site, and it may take up to 2 hrs to arrange transport and reach the hospital. If you have a chronic condition which could require immediate medical care (e.g. heart conditions, kidney problems, severe asthma, etc.), or if you are pregnant, please discuss your participation on this expedition with your physician.

HEALTH INFORMATION

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 Vaccinations

Medical decisions are the responsibility of each volunteer and the following are recommendations only. While Earthwatch can provide details regarding suggested vaccinations, we are not a medical organization and decisions about which vaccinations to receive should be made between you and a 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 (cdc.gov) and the World Health Organization (who.int) for the latest health information for travelers. Please consult a physician for guidance on vaccinations if you intend to travel to other parts of the country.

	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 obtained at least 10 days prior to arrival in South Africa is required.	
Hepatitis A		X
Hepatitis B		X

Advice Regarding Diseases

Diseases found in South Africa include malaria, dengue fever, typhoid, rabies, West Nile virus, schistosomiasis, cholera, hepatitis, filariasis, chikungunya, tick bite fever, strongyloidiasis, tuberculosis, and the largest epidemic of HIV/AIDS in the world. Please see the CDC (cdc.gov) or WHO (who.int) websites for more information.

- **Malaria: Chloroquine-resistant malaria is present in this region, although there have been no malaria cases at the project site in years.** Malaria is also present elsewhere in South Africa. Speak with your doctor about appropriate prophylaxis. Be aware that some medications may increase your sensitivity to sun and heat.
- **HIV/AIDS:** South Africa has a high level of HIV/AIDS infection. Volunteers are strongly advised to avoid high-risk behavior.
- **Rabies** vaccinations are not compulsory for this expedition, as volunteers are not going to be handling any rabies-carrying 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. **Team members should avoid stray dogs at all times.** 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 locations. 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.

- *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* is a flu-like virus found in most tropical and sub-tropical places of the South Pacific, Asia, the Caribbean, the Americas and Africa, and has become increasingly common due to the urbanization of previously rural areas. Dengue is spread by day-biting mosquitoes that prefer to live in or near human habitations. It is characterized by high fever, severe headache, joint and muscle pains, often followed by a rash. There is no vaccine and mosquito bites should be avoided whenever possible. Insect repellent and long sleeves and pants are highly recommended. The risk of acquiring dengue is highest after sunrise and before sunset. There is no treatment for standard dengue fever other than acetaminophen (avoid aspirin and ibuprofen), 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.

Additional Health Information Resources

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

EMERGENCIES IN THE FIELD

In the event of an emergency, the injured/ill participant would be transported to the hospital in Richard's Bay, which is 150 kilometers (93 miles) from the research site. A vehicle will always be available for emergency transport. Time required for emergency evacuation by helicopter would depend on the position of the person at the time of the incident, but could take a few hours to arrange and carry out. **Note that the Richard's Bay hospital requires cash for treatment.** For this reason, volunteers are advised to have approximately R1500 (US\$200; €160) on hand. For minor injuries/illnesses, the field rangers and Earthwatch scientists have training in first aid, and a local doctor is available 35-60 minutes away depending on where in the reserve the team is.

If a volunteer needs to leave the expedition early for a personal emergency, he or she may need to hire a vehicle for transport to the airport unless a project vehicle is already traveling that way for supplies, etc. Project staff can assist in arranging vehicle hire.

Proximity to Medical Care	
Physician, nurse or EMT on staff	Project staff are not medical professionals
Staff certified in safety training	All guards, Dave Druce, and senior camp staff all have valid, current first aid Level 1 certificates.
Nearest hospital and/or clinic	Netcare The Bay Hospital 6 Krugerrand Rd Private Bag X 1027 Richards Bay 3900 Tel: +27 (0) 35 780 6111
Distance	150 km/93 mi (approximately 2 hours' drive)

COMMUNICATIONS

Emergency Communications in the Field

Field rangers, research and management staff, and camp managers will carry two-way radios. Camp managers will also have mobile phones, but reception is limited. There are ranger posts throughout the park, so rangers may be of assistance for emergency communications.

The emergency contact number at Earthwatch in the US is +1 (978) 461-0081 (see *Emergency Contacts* for calling instructions).

Personal Communications

Generally, communication with the outside world from the volunteer camps is difficult. There are telephones at the office and World Call cards can be used; these may be purchased before coming to South Africa or at the airport in Johannesburg. Volunteers may have limited access to these phones when in Maphumulo Camp, but should not rely on them as a definite source of communication. There is Internet access at the research office which should not be relied on as a means of communication unless in an emergency. Volunteers may bring mobile phones, although reception is sporadic throughout the park. There is some mobile phone reception in the camps; Vodacom and MTN are the providers with the best coverage. Volunteers may not use mobile phones while walking transects or during other team activities.

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 escape from hearing ringing phones and others' phone conversations, and to regulate their cell-phone use with respect for fellow volunteers and staff accordingly.

Contact Information

This information is available in the print version of the briefing only.

Earthwatch Institute Policies & Participant Rights and Responsibilities

This document contains important information concerning Earthwatch Institute policies and participant rights and responsibilities for inclusion on an Earthwatch expedition. Please read this document thoroughly and sign the Liability Release section of your Earthwatch Participation Form to indicate that you understand and accept the risks inherent to your expedition and the policies, rights, and responsibilities enumerated in this document. Participants will not be permitted to partake in an expedition until Earthwatch has received the signed release form.

Intellectual Property Rights

It is permissible to share photos, videos, and stories of your expedition with family, friends, local media, and in a public forum. Sharing your new perspectives and experiences is welcomed and encouraged.

However, please recognize that all information, data, and images shared or gathered in the course of your expedition's field work become the intellectual property of the Earthwatch scientist (ES). Co-opting or plagiarism of data, images or information gathered during an expedition for use in a scientific thesis, masters or PhD work, or for profit or for the academic or business use of a third party without the permission of the ES is strictly prohibited. Please be aware that data gathered during the interviewing of local people becomes the intellectual property of the ES. Earthwatch scientists have the right to place additional restrictions on your ability to share data or certain research-related images.

Conversely, an Earthwatch scientist may give written permission to use data and images for academic or profitable activity. Please be sure to ask what is acceptable to the Earthwatch scientist.

Fellows or scholarship recipients are sometimes required to submit a written report reflecting what they have learned on a project, sometimes as a step toward developing a curriculum. Earthwatch scientists have the right but not obligation to review and edit materials involving information gathered on one of their expeditions.

Discrimination

Earthwatch does not discriminate on the basis of race, religion, ethnicity, national origin, gender, sexual orientation, or any other reason prohibited by applicable law and respects participants' right to privacy. However, you must be aware that local laws in countries in which Earthwatch operates may not be anti-discriminatory and that the possibilities exist that local residents may not have an awareness of best practice regarding discrimination.

Discrimination on the basis of race, religion, ethnicity, or sexual orientation will not be tolerated on Earthwatch teams. Disruptive behavior, or verbal, physical or any other type of abuse or harassment will also not be tolerated. Violation of Earthwatch's non-discrimination policy is grounds for expulsion from the program without a refund.

Intimate relationships

Earthwatch scientists, their staff, their colleagues, and their associates are prohibited from becoming romantically involved with participants during the entire duration of the period that the team is in the field. Romantic relationships that may otherwise seem permissible may eventually create an unpleasant or unproductive work environment and are therefore strongly discouraged for the duration of an Earthwatch project.

Sexual Harassment

Please recognize that the relationship that exists between Earthwatch scientists and staff and participants is analogous to the student-teacher relationship. Therefore, please be aware of the following policies.

Sexual harassment of participants by the Earthwatch scientist or Earthwatch staff is prohibited. Likewise, sexual harassment of other participants, Earthwatch field staff, or local people by participants is also prohibited.

Sexual harassment infringes on an individual's right to an environment free from unsolicited and unwelcome sexual overtones of conduct either verbal or physical. Sexual harassment does not mean occasional compliments of a socially acceptable nature.

Sexual harassment refers to conduct which is offensive, which harms morale, or which interferes with the effectiveness of Earthwatch expedition teams; such conduct is prohibited. Lewd or vulgar remarks, suggestive comments, displaying derogatory posters, cartoons or drawings, pressure for dates or sexual favors and unacceptable physical contact or exposure are examples of what can constitute harassment. No one should be touched in areas that otherwise would be covered by a bathing suit. It is important to realize that what may not be offensive to you, may be offensive to participants, the local population, and Earthwatch field staff.

Any individual who feels subjected to sexual harassment or has any knowledge of such behavior should report it at once to his or her PI or to Earthwatch staff members. All Earthwatch scientists and Field Team Leaders (FTLs) will notify Earthwatch immediately when an accusation of sexual harassment or abuse is made or witnessed.

All reports of sexual harassment will be handled with discretion and will be promptly and thoroughly investigated. Any participant who is found to have engaged in conduct constituting sexual harassment will be immediately removed from the expedition at his or her own expense. If a minor is immediately involved in allegations of sexual harassment, his or her parents will be contacted.

Drugs

Laws on drug use in most countries are severe and may carry lengthy imprisonment or death penalties. I understand and accept that the manufacture, possession, use, purchase and/or sale of illegal drugs or other illegal substances while on an Earthwatch expedition is strictly prohibited. Prescription drugs may only be purchased and used by the individual indicated on the prescription in keeping with their intended use guidelines.

Alcohol

Local statutes, customs, practices, ordinances, and regulations with regard to the use, possession, sale, or purchase of alcohol are applicable to all participants and project staff in Earthwatch expeditions. Participants and project staff on Earthwatch expeditions must comply with the law of the country in which a project is located regarding the minimum age required to consume alcohol. In addition, restriction on the use, possession, sale, or purchase of alcohol may be set by the Earthwatch scientist. Any restrictions on the consumption of alcohol should be clearly outlined by the project staff in the briefing to participants at the start of the project, and in the Expedition Briefing.

Consumption or possession of alcohol or smoking is not permitted on any Earthwatch Teen Team, regardless of local law.

Excessive consumption of alcohol by staff or participants is not acceptable on any Earthwatch project. Intoxication can jeopardize personal safety, in addition to the safety of the team. It can also cause delay, and hinder response in the event of a crisis or emergency situation.

Earthwatch staff and the Earthwatch scientist have the discretion to remove individuals from the project who consume alcohol in a time and manner that endanger the safety and/or productivity of the expedition.

Minors

Earthwatch considers participants under eighteen (18) years of age to be minors. Minors are not permitted to participate on any of Earthwatch's standard teams unless accompanied by a parent or legal guardian in which case the minimum age is sixteen (16). Minors on regular teams do not receive additional guidance or supervision from Earthwatch beyond what is offered to the adult participants. The number of minors on regular teams is limited to two (2) per team. Earthwatch has developed teams specifically for 16 and 17 year olds ("Teen Teams") as well as teams specifically for families ("Family Teams") with children as young as 10 years old. These teams focus on the same research activities and have the same expectations as our regular teams, but with more facilitation and support. Exceptions for some projects are made at the discretion of Earthwatch and the Earthwatch scientist. Due to a more in-depth screening process for certain programs that select candidates based on school year rather than age, there may be 18 year olds fielding on the same team as 16 and 17 year olds. Please be aware that some Earthwatch projects do not allow participation by minors in any circumstance.

Participants and Driving

Participants are not allowed to drive project vehicles or aircraft during an expedition. In select circumstances, participants may be able to drive boats under the direct supervision by project staff. These circumstances are pre-determined by project staff in collaboration with Earthwatch. Participants must respect the restrictions for boat driving in place for each project.

If a project environment is such that participants can drive their own vehicles to the rendezvous, those who have driven themselves to the project may not drive their own vehicles to, from or for project activities, including the transport of project equipment after arriving at the site.

Participants who have driven themselves to the project may choose to utilize their own vehicle during recreational time, but project staff will brief them on the driving restrictions. All driving during recreational time is done at your own risk.

Please be advised that the only exception to the above driving restrictions is emergency situations.

Riding in other participants' vehicles is not covered under the participants' insurance policy for the expedition. Riding in another participant's vehicle is done at a participant's own risk.

In the Event of an Emergency

In the event of emergencies, judgments must be made by Earthwatch field staff and participants. While Earthwatch makes an effort to ensure that qualified people make the most informed decisions possible, occasionally first aid may be administered and other immediate steps taken by expedition participants who are not licensed medical providers.

Each Earthwatch expedition has safety protocols and emergency procedures in place. Earthwatch encourages team members (the field staff and participants) to exercise their best judgment with regard to their own safety and the safety of other team members. Other participants may perform "Good Samaritan" actions, or actions taken to assist fellow participants during emergency situations in the field. However, Earthwatch does not encourage or expect you to jeopardize your own safety or that of others in attempting to rescue or assist your fellow team members.

Right of Refusal

Earthwatch reserves the right to refuse an applicant's participation on Earthwatch projects at any time and to terminate any work being done by a participant and require the participant to vacate the project site if any of the Earthwatch Expedition Team in his or her absolute discretion considers it appropriate. In this event, the participant (and his/ her parent/ guardian, if appropriate) will be responsible for arranging and paying for any accommodation, travel or other arrangements which may be necessary following the termination of a participant's involvement in a project, for whatever reason and may not be eligible for a refund.

Earthwatch and the project staff may not refuse a participant for discriminatory reasons (race, religion, ethnicity, national origin, sexual orientation, or any other reason prohibited by applicable law). However, participants may be denied in the interest of team compatibility. Earthwatch will make reasonable efforts to accommodate participants with disabilities and the organization endeavors to find appropriate expeditions for those participants that have physical limitations. Refusal of a participant is an unusual event and is generally due to either an applicant's failure to meet the essential eligibility requirements of a particular project, or in the interest of team compatibility. In the event that an applicant is refused participation for health reasons, Earthwatch will refund in full any deposit or payment made toward the expedition.

Earthwatch scientists have the right to refuse special requests, such as media visits (film, photography or print), special groups or teams (students, donors, etc.), if they conflict with Earthwatch scientist schedules, safety, research objectives or general performance of the team.

Any participant found in violation of any of the policies described in this document ("Earthwatch Institute Policies & Participant Rights and Responsibilities") is subject to removal from the team at their own expense. By signing the Liability Release section of your Earthwatch Participation Form, participants are indicating that they have read and understand the policies in this document. Removal of a participant from a team is at the discretion of the Earthwatch scientist or Field Team Leader and Earthwatch staff. In addition, Earthwatch will support the right of the scientist to send participants away from a project once in the field should their behavior compromise the safety, research objectives or general performance of the team, or if the participant has violated a stated policy. In the event that a minor is dismissed from a project, Earthwatch will contact the participant's parents or legal guardian prior to their dismissal. Should a participant be removed from a team, he/she is responsible for any or all costs associated with departure from the team and will receive no refund of the share of costs of the expedition nor any expenses incurred in participation on the expedition.

(November 2010)

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 vaccination (if necessary)

Clothing/Footwear for Fieldwork

Note: Dull, earth-toned colors (i.e. khaki or dark green) are required for all field clothing.

- Be sure to bring your Earthwatch T-shirt and remember to wear it, as appropriate, throughout your expedition
- Lightweight, quick-drying, long-sleeved shirts (earth-toned)
- Lightweight trousers (earth-toned)
- Warm clothes for cool evenings and mornings (a sweater/jumper/fleece, warm jackets, and/or thermals)
- T-shirts
- Shorts
- Well worn-in, comfortable, sturdy hiking boots with ankle support (**do NOT bring brand new boots**)
- Socks
- Light rain wear (poncho or coat)
- Hat with wide brim to protect against sun
- Balaclava or warm hat (e.g. wool), scarf and warm gloves for cold mornings/evenings

Clothing/Footwear for Leisure

- Two sets of clothing to keep clean for end of expedition and for the recreation day
- Sandals to wear around camp
- Comfortable closed-toe shoes for evenings in camp

Field Supplies

- Small daypack/rucksack
- Insect repellent
- Water bottle(s) able to hold at least two liters
- Flashlight/torch or headlamp with extra batteries and extra bulb
- Mechanical/click pencils for data recording
- 2 x AA batteries for the GPS units, preferably Duracell or other leading brand

Bedding and Bathing

Note: Mattress, fitted sheets, and pillows will be provided by the project.

- Sleeping bag (with a full zipper to allow better temperature control)
- Sheet bag (optional, but useful)
- Towel

Personal Supplies

- Personal toiletries (biodegradable soaps and shampoos are encouraged)
- Antibacterial or lotion (good for cleaning hands while in the field)
- Personal first aid kit (e.g. anti-diarrhea pills, antibiotics, antiseptic, itch-relief, pain reliever, bandages, blister covers, etc.) and personal medications
- Sunscreen lotion with SPF 30 or higher

Miscellaneous

- Spending money

Optional Items

- Camera, film or memory card(s), extra camera battery
- Binoculars (10 x 44 recommended) for wildlife viewing (if you need to purchase binoculars, eagleoptics.com has a good variety in stock and lots of helpful information)
- Dry bag or plastic sealable bags (e.g. Ziploc brand) to protect equipment such as camera from dust, humidity, and water
- Earplugs for light sleepers
- Blank CD or DVD for sharing digital photographs at the end of the expedition
- Travel guide
- Books, games, journal, art supplies, etc. for recreational/rest time and travel
- Adaptor if your electronic equipment requires charging
- Mosquito net
- Pocket knife (be sure to pack in checked luggage)
- Musical instrument
- Sunglasses (these should not be worn during the transect as they may impair your ability to spot the animals)
- Swimsuit for recreational time
- Favorite snack foods
- Gifts for the school (e.g. calculators, science kits, DVD players, simple stationary, educational games, toys, books, atlases, teaching aids, etc.)
- Gatorade or similar energy drink mix
- Clothesline and clothespins

Note: Required and Optional Items lists are accurate to the best of Earthwatch's knowledge at the time of publication.