CONSERVING LEOPARDS AND MONKEYS IN SOUTH AFRICA
DEAR EARTHWATCHER,

Welcome! We have been working in the breathtaking mountain scenery surrounding the Lajuma Research Centre since 2004, and we look forward to having you here.

Across Africa, conflict between humans and wildlife is rising due to increased habitat fragmentation resulting from human activities. As humans convert and degrade lowland habitats, mountainous regions are thought to be increasingly important to species conservation; they are often noted for high concentrations of endemic species of animals and plants and have the potential to support viable large carnivore populations. Our early research suggested that this was the case, with the mosaic of land use types in the Soutpansberg Mountains supporting one of the highest leopard densities in Africa. But unfortunately these beautiful and elusive cats are in peril and the population appears to have declined by over two thirds in less than 10 years as a result of human activity. Similarly, primates thrive within the mountains, but their adaptable nature and willingness to exploit cultivated crops brings them into conflict with farmers, and the fragmented landscapes can isolate populations. Our research is aimed at understanding the ecology of these charismatic species, as well as the factors that drive conflict between humans and wildlife, so that we can look for effective methods of mitigation to address these urgent conservation needs.

Our project aims to make a lasting contribution to mammalian conservation within the Soutpansberg Mountains and beyond, and we hope that you will enjoy your experience in helping us to achieve this goal. We hope that you will come away from the project with memories of many fantastic experiences, with new knowledge and new friends as well as a lasting love of Africa. We hope that, with this love, you will help us to spread the message about the importance of conservation initiatives to the long-term survival of many mammalian species.

Best wishes,
Russell Hill
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GENERAL INFORMATION
CONSERVING LEOPARDS AND MONKEYS IN SOUTH AFRICA

EARTHWATCH SCIENTISTS
Dr. Russell Hill, Durham University
Prof. Ian Gaigher, Lajuma Research Centre and Venda University

RESEARCH SITE
Lajuma Research Centre, Soutpansberg Mountains, Limpopo Province, South Africa

EXPEDITION DATES
Team 1: Jun. 28–Jul. 9, 2016
Team 2: Jul. 12–23, 2016
Team 4: Nov. 29–Dec. 10, 2016
Team 5: Jan. 3-14, 2017

Complete travel information is not available in this version of the briefing.
Please contact Earthwatch with any questions.
Read this expedition briefing thoroughly. It provides the most accurate information available at the time of your Earthwatch scientist’s project planning, and will likely answer any questions you have about the project. However, please also keep in mind that research requires improvisation, and you may need to be flexible. Research plans evolve in response to new findings, as well as to unpredictable factors such as weather, equipment failure, and travel challenges. To enjoy your expedition to the fullest, remember to expect the unexpected, be tolerant of repetitive tasks, and try to find humor in difficult situations. If there are any major changes in the research plan or field logistics, Earthwatch will make every effort to keep you well informed before you go into the field.
THE RESEARCH
CONSERVING LEOPARDS AND MONKEYS IN SOUTH AFRICA

THE STORY
The species we study in South Africa—two large predators, the leopard and brown hyena, and three primate species, the chacma baboon, vervet monkey, and samango monkey—often face significant threats from the humans around them (Chase Grey 2010). Farmers and ranchers tend to think of the leopards and brown hyenas as major killers of their livestock (Sillero-Zubiri & Laureneson, 2001; Balme et al., 2009), even though our analyses have shown that livestock rarely features in the diets of these carnivores. Landowners even more commonly cite baboons as a major pest species. Primates are quick to exploit human crops and other food sources, which means considerable economic loss and frustration for farmers—and, ultimately, the weakening of local conservation efforts when farmers take their frustration out on baboons and other species. Through our work, we aim to understand how and why these human and animal conflicts come about and to examine ways in which landowners and primates and predators can coexist within the same landscape.

As human populations continue to rise and human activities convert and degrade lowland habitats, mountainous regions become increasingly important for species conservation (Grant & Samways, 2007; Steinmetz et al., 2008). In assessing the importance of the Soutpansberg Mountains for mammalian conservation we also need to investigate how the mountains themselves influence species, how these species behave, and under what conditions they thrive. This is particularly important for species such as the samango monkey which rely on the pockets of forest generated by the mountainous topography and weather conditions. But we also need to understand how populations change through time. Using camera traps (mounted cameras that animals trigger remotely when they move past), we established that in 2008 the region hosted healthy populations of many predators, and leopard densities were among the highest ever recorded. By the end of 2015, however, the picture has changed enormously; leopard densities are now one third of those original estimates and the evidence points towards human activities as being responsible. We continue to monitor our predator populations to understand the causes of these significant declines in more detail, while engaging with outreach work and consulting with policy makers to try and reverse this trend. The moratorium on leopard hunting in South Africa in 2016 buys us a little breathing space, but there is still much work to do.

We appreciate the privilege of working in a region that is home to many leopards, brown hyenas, and primates, but recognise how fragile these ecosystems can be. Over the long term, we hope to protect this privilege for future generations.
RESEARCH AIMS

Our research has three primary objectives:

• To evaluate the role of the Soutpansberg Mountains in conserving mammal species. We run a long-term monitoring program to determine the status of carnivores and other large mammals in our study region. By tracking the status of these species over time, we can determine the stability of populations in order to assess the conservation significance of mountainous environments as refuges for endangered mammals and particularly for flagship species such as leopards. Between 2011 and today, we have captured 54 different non-domesticated mammal species on our camera traps.

• To assess the extent of human conflict with leopards and brown hyenas and the viability of the Soutpansberg populations of these species. We monitor carnivore diets to determine the actual levels of livestock predation and compare these results with the perceived level of livestock loss.

• To evaluate the nature and extent of human–primate conflict. We want to learn more about the primate species and to understand the factors that lead to crop raiding and conflicts between primates and people.

Our research will directly influence conservation initiatives to protect the wildlife of the Soutpansberg. Only by sustaining these efforts with the invaluable assistance of Earthwatch volunteers like you can we hope to achieve the long-term conservation of mammal populations in the Soutpansberg Mountains.

HOW YOU WILL HELP

You’ll have the chance to work on many aspects of our research:

• Camera trap research. Cameras are deployed over a large area throughout the mountain region, in varying microhabitats. You will help collect images from the cameras, which we do every two weeks, driving to some, hiking in small groups to others. You may also help us download images from camera traps, then process these images at the research station. First we sort the pictures from each camera by species, and then we identify individual leopards when possible on the basis of their distinct spot patterns. Volunteers have helped identify species rarely seen in the mountains, such as African wild dogs and cheetah, culminating in an amazing inventory of species utilizing this mountain system and lending to its official Biosphere Reserve designation. Diet analysis. You may help collect, wash, prepare and fecal samples to determine the composition of the diet of leopards and brown hyenas.

• Radio telemetry (when available). We have been working with vets to place GPS telemetry collars onto leopards, brown hyenas, and baboons. These collars record the precise location of animals at regular intervals, information that we can download with a UHF (ultra high frequency) receiver. You may assist with locating animals using a VHF (very high frequency) receiver in order to download the data.

• Primate behavior. Our current research involves working with groups of samango monkeys, but meaningful data can only be collected with troops that tolerate researcher presence. You may help habituate these wild monkeys a task that involves walking, sometimes through dense vegetation, and experience with hiking and using binoculars will help you out.

• Vegetation sampling. You will gather vegetation plot data by identifying trees, measuring them, sampling ground cover, and assessing the thickness of vegetation and canopy. You will also help collect data on the food plants available to the monkeys as part of our monthly phenology (the timing of natural events, like flowering, fruiting, and leaf-shedding) surveys.

• Threat removal. You may also have opportunities to help remove threats to wildlife in the region, including old fences and wires snares—both can be lethal to animals caught in them.

• Invasive plant removal. Some teams may also focus on identifying and removing invasive species of plants that threaten to outcompete native, often endemic plants in this unique mountain system.

• Educational efforts. You’ll primarily help with presentations and educational activities in local schools. This task will give you the special opportunity to meet some of the charming and hospitable local community members and to pass on some of the knowledge you have gained. Both past Earthwatch participants and people from our local schools have really enjoyed these opportunities to interact.
On this expedition, you’ll learn all about the history and background of our research, the species we focus on, and the general state of conservation and human-wildlife conflict in South Africa. During the first few days, we will train you in key research methodologies and on how to use project equipment, including camera traps, GPS (Global Positioning System) units, and UHF and VHF receivers. You’ll learn how to identify individual leopards from camera-trap images, and how to analyze scat samples to determine what animals are eating.

All primate work will be conducted with supervision from researchers on site. Your role will be in assisting with the habituation of new groups of primates, by helping locate the monkeys, and keeping them in sight as they move through their range. All of these activities involve walking, sometimes through dense vegetation, accompanied by an experienced researcher. You will also be trained in monitoring vegetation plots to obtain estimates of primate food availability. Some teams will also be involved in assessing the phenology of the food resources.

RECREATIONAL TIME

The recreational day activities will be planned by project staff and might include time for simply relaxing or taking walks. A visit to a park, such as to Blouberg Nature Reserve, might be arranged, or a visit to a cultural site. Please bring approximately 500-700 ZAR if you are interested (see Personal Funds in the Travel Tips section as well). More information will be available from the Earthwatch scientists.

DAILY ACTIVITIES

Once you’re in the field, research activities will vary from team to team. Many activities are offered on multiple days throughout the team, so you will often have the opportunity to select what you’d like to do (although certain activities will have a limited number of people working on them). We may also need to prioritize certain tasks as our research dictates.

We may have a limited number of evening activities such as telemetry downloads from our predator collars. Where such activities are scheduled, meal times may be moved to accommodate these tasks.

### TYPICAL DAILY SCHEDULE

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>7:30 a.m.</td>
<td>Breakfast</td>
</tr>
<tr>
<td>8 a.m.</td>
<td>Briefing on the day’s activities</td>
</tr>
<tr>
<td>8:30 a.m.</td>
<td>Depart either on foot or by vehicle, visit a number of camera-trap stations, search for scat en route</td>
</tr>
<tr>
<td>12 p.m.</td>
<td>Return for lunch or eat a packed lunch in the field, depending on location</td>
</tr>
<tr>
<td>Afternoon</td>
<td>At Wilderness Camp (where you’ll stay at the Lajuma Research Centre), downloading and processing the information from the cameras, or filtering and processing scat at the research center</td>
</tr>
<tr>
<td>6 p.m.</td>
<td>Dinner</td>
</tr>
<tr>
<td>After dinner</td>
<td>Talks from the research staff or time for relaxation</td>
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</tbody>
</table>

### TYPICAL ITINERARY

<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>Day 1</td>
<td>Rendezvous (travel approximately two hours to field site), introduction and orientation</td>
</tr>
<tr>
<td>Day 2</td>
<td>Orientation and eco walk, field training in methodology, introductory talks</td>
</tr>
<tr>
<td>Days 3 &amp; 4</td>
<td>Camera trapping downloads and image analysis</td>
</tr>
<tr>
<td>Days 5 &amp; 6</td>
<td>Predator diet analysis, habitat surveys, and vegetation monitoring</td>
</tr>
<tr>
<td>Day 7</td>
<td>Recreational day</td>
</tr>
<tr>
<td>Days 8 &amp; 9</td>
<td>Primate work</td>
</tr>
<tr>
<td>Day 11</td>
<td>Climb Mount Lajuma, discuss results and feedback</td>
</tr>
<tr>
<td>Day 12</td>
<td>Departure from field site at 9 a.m.</td>
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</table>
You’ll stay at the Wilderness Camp at the Lajuma Research Centre. The camp consists of a thatched living area (containing kitchen and dining facilities as well as space for research equipment and talks) and eight separate sleeping areas, each with bathroom facilities.

**SLEEPING**
Team members of the same gender will share rooms. On larger teams this could be two to four people per room. Couples accommodations will typically be available, depending on team size and composition. Single rooms may be available on smaller teams, but they cannot be guaranteed. Notify Earthwatch early if you are interested in a single room or a couple’s room. Sheets and blankets will be provided, and you won’t need a mosquito net.

**BATHROOMS**
Each block of accommodations has hot water and showers (no bathtubs) along with sinks and conventional flush toilets.

**ELECTRICITY**
The camp gets electricity from solar power, with a back-up generator for cloudy or misty weather. Gas refrigeration is used in the kitchen. The electricity will run for as long as necessary for the group’s activities and we will run a rotation for team members to be responsible for switching it off as they go to bed—usually by 9 or 10 p.m. each night.
PERSONAL COMMUNICATIONS
There is no Internet access at the Wilderness Camp. There is limited cell phone coverage in the region; check with your provider if they have coverage plans in South Africa. The best service provider in the region is MTN.

DISTANCE TO THE FIELD SITE
The Wilderness Camp sits in the center of our study area. Although we will need to drive to some activities, much of our study area can be reached by walking. To reach some camera stations, you may have to walk for about 16 kilometers (about ten miles).

FOOD AND WATER
The Wilderness Camp has its own kitchen facilities and communal dining area where we’ll eat most meals. Our resident cook will oversee arrangements for preparing all meals.

You’ll enjoy a mixture of international and local cuisine on this expedition, including traditional South African meals such as poëtjiekos [game stews] and braais (barbeques). The Soutpansberg Mountains are in a subtropical fruit area, so meals will include delicious in-season fruit.

Below are examples of foods you might have in the field. Variety depends on availability. This list provides a general idea of food types, but please be flexible.

### TYPICAL MEALS

<table>
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<tr>
<th>BREAKFAST</th>
<th>Tea and coffee, fruit juices, cereal, bread and toast, eggs, fruit</th>
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<tr>
<td>LUNCH</td>
<td>On site: hamburgers, hot dogs, pasta, soups</td>
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<tr>
<td></td>
<td>In the field: sandwiches, fruit, juice, biscuits/cookies</td>
</tr>
<tr>
<td>DINNER</td>
<td>Main dish (e.g. lasagna, shepherd’s pie), vegetables, rice, desserts, tea, coffee, and juices</td>
</tr>
<tr>
<td>SNACKS</td>
<td>If desired, purchase your own personal supply of snacks before departing for the study site.</td>
</tr>
<tr>
<td>BEVERAGES</td>
<td>Clean drinking water, cordials (fruit drink concentrate), juices, tea, and coffee are available on site. The camp may have a limited selection of canned soda, beer, and wine for purchase at your own expense.</td>
</tr>
</tbody>
</table>

SPECIAL DIETARY REQUIREMENTS
Please alert Earthwatch to any special dietary requirements (e.g., diabetes, lactose intolerance, nut or other food allergies, vegetarian or vegan diets) 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.
Lajuma has a temperate climate, with cool, dry winters (April through September) and warm-to-hot, wet summers (October through March). The weather will vary with season (remember that the seasons in the Northern and Southern Hemispheres are reversed). The majority of rain falls within the summer months (October through March). November through February are the hottest months, and June through August should be dry and warm in the day but cold at night, when temperatures can drop below freezing.

Since most activities are conducted outside, please be prepared for working in wet weather: Lajuma is in a mist-belt. Mist usually clears up during the mornings and does not negatively impact research activities. It can rain any time of year, but it’s not often outside of the summer months. Rain usually peaks in February. Most rain falls in the form of thunder showers during the afternoon or evenings, but it sometimes rains for a full day or two. Volunteers on summer teams must also be prepared for working in hot conditions. Volunteers on winter teams (April through September) should bring warm clothing, since the evenings and nights can get very cold.

### ESSENTIAL ELIGIBILITY REQUIREMENTS:

All participants must be able to:

- Follow verbal and/or visual instructions independently or with the assistance of a companion.
- Enjoy being outdoors in a temperate climate with varied weather conditions and sometimes high pollen counts, in the presence of wild animals and insects.
- Tolerate warm, sunny, wet weather (October through March), and dry, cool weather (April through September). June through August is warm, but temperatures can drop below freezing at night.
- Comfortably hike 8 to 10 kilometers/5 to 6 miles in a mountainous environment, on sometimes uneven, steep terrain. Additionally, there are optional hikes up to 15 kilometers/9 miles taking up to 12 hours may be offered on one to two days per team.
- Walk up to 5 kilometers/3 miles, with frequent bending, in sometimes thick, thorny vegetation or on rough and mountainous terrain close to cliffs for up to six hours.
- Climb in and out of project vehicles, and sit for one to three hours at a time on three to four days, traveling over rough terrain.
- Carry five kilograms/11 pounds of personal daily supplies such as water, rain gear, and some small field equipment (GPS, batteries, binoculars, and/or notebook computers) for up to 12 hours per day.
- Function without a consistent source of electricity.
- Generators will not always run throughout the night; therefore, the project cannot accommodate electrical devices such as a C-PAP machine.
- Sit and type at a computer for up to six hours per day on one to two days.

### GENERAL CONDITIONS

<p>| HUMIDITY: 50-70 % |
| TEMPERATURE RANGE: |
| <strong>Summer:</strong> 21°C - 40°C / 70°F - 104°F |
| <strong>Winter:</strong> 0°C -12°C / 32°F -53°F |
| ALTITUDE: 1,150 m / 3,773 ft. to 1,748 m / 5,735 ft. |
| RAINFALL: Approx. 700 mm./28 in. |</p>
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<th>ASSOCIATED RISKS AND PRECAUTIONS</th>
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<tr>
<td>Transportation</td>
<td>South Africa has generally good road conditions, but we take dirt and gravel roads, which may be very bumpy, dusty, muddy, or slippery, to the center and field sites. Other road hazards include fast and reckless drivers, livestock and wildlife, rain, poor or no lighting, and banditry. We will avoid driving at night on main roads [there is however, some research conducted at night within the confines of the research camp]. Only experienced project staff drivers will transport participants. Participants may not drive and must wear seatbelts whenever available. Traffic moves on the left side of the road.</td>
</tr>
<tr>
<td>Hiking</td>
<td>Walking over uneven ground in the research area could lead to sprains or bruises. You must be physically prepared for working in a mountainous environment. The terrain can be rough with areas of thick vegetation; dense, thorny acacia scrubs; and steep, rocky slopes and cliff faces. Animal holes, which can be covered by grasses and therefore hard to spot, also contribute to the ground’s unevenness. Walk with care and pay attention to your surroundings at all times. To participate in fieldwork, you must wear appropriate clothing and footwear (e.g., long trousers and broken-in hiking boots with ankle support). During recreational time, hiking must always be done in a group or pairs and you must notify a staff member of your departure time, route, and the time you expect to return. Ask staff for advice on appropriate time frames and supplies for each hike.</td>
</tr>
<tr>
<td>Cliffs</td>
<td>The camp has no fence around it [large animals like elephants, lions, and rhinos do not live in the area]. Still, remain in camp after dark and use caution during the day because the camp is near a cliff.</td>
</tr>
<tr>
<td>Animals</td>
<td>Although we rarely encounter leopards, we will brief you on how to respond. The chance of a meeting is greater at night, so remain in camp after dark. You are more likely to see baboons or other primates. All wild animals can be dangerous; do not approach, antagonize, or tease any animal, and always heed staff instructions. In the field, we may encounter venomous snakes, including black mambas, Mozambique spitting cobras, and puff adders. Although no snake bites have occurred since the start of our program, a bite could be fatal or require hospitalization. We will brief you on how to avoid snakes and deal with bites. Again, wear boots and long trousers in the field. South Africa has several species of venomous spiders. The chance of being bitten is small, and no bites have occurred since the program began. We will brief you on how to avoid and deal with bites. Lajuma has no potentially lethal species of scorpions. Mosquitoes, ticks, and other arthropods are generally not a problem. Bites can occur, though, so those with sensitivities should bring repellent and wear long sleeves and long trousers. Although very infrequent, there have been a few instances of tick bite fever (see below for more information).</td>
</tr>
<tr>
<td>Plants</td>
<td>The area has plants that may be poisonous if they are eaten or come in contact with open wounds. Several plant species, such as the acacia, have large thorns. We will help identify these and other potentially harmful plants. Those with plant allergies should bring and carry medication as appropriate (antihistamines, at least two EpiPens, etc.) and identify themselves to all first aid trained staff.</td>
</tr>
<tr>
<td>Climate/Weather</td>
<td>Risks include heat stroke, heat exhaustion, sunburn, dehydration, and sudden storms or drops in temperature. The area has a large range of temperatures; it can get quite cold at night, particularly in winter. Carry sufficient water, a personal first-aid kit, a sun hat, and sunscreen of at least SPF 30 during fieldwork. Inform a staff member if you are feeling tired or ill. We may restrict fieldwork during the hottest part of the day in midsummer. We will monitor weather conditions through local media.</td>
</tr>
<tr>
<td>Project Tasks/Equipment</td>
<td>We will instruct you on proper methods and safety; follow instructions at all times. Wear protective gloves [provided] if collecting scat samples and wash hands after all field excursions.</td>
</tr>
<tr>
<td>Personal Security</td>
<td>Crime can be a problem, particularly in urban centers such as Johannesburg. If you travel in Johannesburg, use sensible precautions: avoid carrying money conspicuously; avoid walking alone whenever possible; ignore people who solicit for donations; avoid wearing jewelry, “tourist outfits” [safari shorts, jackets, cameras, binoculars], and very revealing clothing; always take a taxi when going out after dark; and select and use ATMs with caution. There is a potential risk of theft and a small risk of encountering criminal activities when in transit between sites. We will avoid high-risk areas at all times and warn you of any potential risk if necessary. Keep all valuables out of sight, and leave expensive equipment or jewelry at home.</td>
</tr>
</tbody>
</table>
Zoutpansberg Medical Care Clinic is approximately 50km from the field site, which is 1 hr by road or more, depending on where the team may be.

Diseases found in South Africa include malaria, dengue fever, filariasis, leishmaniasis, onchocerciasis, African tick bite fever, trypanosomiasis, schistosomiasis, tuberculosis, and HIV. Traveler’s diarrhea also affects many international travelers.

You can decrease your risk of many diseases by avoiding mosquito bites, practicing good hygiene, and drinking only bottled or filtered water when appropriate. Please see the CDC (cdc.gov) or WHO (who.int) websites for more information on these conditions and how to avoid them.

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

A few notes on vaccinations and treatment:

- **MALARIA**: is not present at the research site where you will spend the majority of your time, although people occasionally report isolated cases in the nearby Blouberg region. Malaria is prevalent in some of the popular tourist areas of the Limpopo (Northern) Province, Mpumalanga (including Kruger National Park), and parts of KwaZulu-Natal. Since we may work in the Blouberg area during the day, we recommend careful precautions against mosquito bites (using insect repellent and wearing long-sleeved shirts and trousers, particularly in the evening). The risk of malaria can be greatly reduced by using malaria prophylactic medications; speak with your doctor about prophylactics (note that chloroquine-resistant malaria has been reported in South Africa).

- **RABIES**: Vaccinations are generally recommended for this expedition given the potential contact with wildlife. 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 before your expedition to ensure that you have time for the full vaccination series. If you have previously been vaccinated, a booster shot may be required. Whether you have been vaccinated or not, always avoid loose and stray dogs. The 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 the event of a delay in treatment. In addition, bites or scratches should be immediately and thoroughly washed with soap, clean water, and a topical povidone-iodine solution or ethanol.
EMERGENCIES IN THE FIELD

We can treat minor injuries on site. If medical advice is required, we will contact a local doctor in Makhado, who will visit the Lajuma Research Centre to attend to injuries and illness. Makhado also has a hospital, and additional doctors. If medical evacuation is necessary, the nearest airstrip is at Polokwane. In the case of an emergency at home where a volunteer must leave the expedition early, he or she will be transported by project vehicle to either Polowane Airport or the Makhado bus terminal to catch a bus to the Johannesburg International Airport.

For emergency assistance in the field, please contact Earthwatch’s 24-hour emergency hotline number on the last page of this briefing. Earthwatch is available to assist you 24 hours a day, 7 days a week; someone is always on call to respond to messages that come into our live answering service.

IMMUNIZATIONS

Please be sure your routine immunizations are up-to-date (for example: diphtheria, pertussis, tetanus, polio, measles, mumps, rubella and varicella). Medical decisions are the responsibility of each volunteer and his or her doctor, and the following are recommendations only. Visit the Healix Travel Oracle website through the “Travel Assistance and Advice” page in your Earthwatch portal, cdc.gov or who.int for guidance on immunizations.

PROJECT VACCINATIONS

REQUIRED If traveling from countries or region where yellow fever is endemic, you must have a certificate of vaccination. You may need to present this certificate when you arrive in country.

RECOMMENDED FOR HEALTH REASONS: Typhoid, Hepatitis A, Hepatitis B, rabies
TRAVEL TIPS
SUGGESTIONS FOR THE ROAD

YOUR DESTINATION

LANGUAGE: English
TIME ZONE: GMT +2.
CULTURAL CONSIDERATIONS: Generally, we advise against wearing skimpy or revealing clothing; this is particularly important if we are doing community or school-based work.
ELECTRICITY: 220 or 230 volts, 50 Hz, plug with two round pins and one larger round grounding pin. Adaptors are generally available for purchase at Johannesburg Airport.
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. Note: You should check with your cellphone 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.

MONEY MATTERS

LOCAL CURRENCY: South African Rand (ZAR).
PERSONAL FUNDS: You will need money to cover any additional snacks, drinks, souvenirs, and for the recreational day. Please bring approximately US$200 to exchange into the local currency. ATMs and currency exchange counters are available at the Johannesburg International Airport, but will not be available once the team is in the field. You must change any currency you want to use at the airport, therefore, before going into the field.
TIPPING: Approximately 10% of the bill is customary in South African restaurants.

PASSPORTS AND VISAS

Passport and visa requirements are subject to change. Check with your travel advisor, embassy or consulate in your home country for requirements specific to your circumstances. Generally, passports must be valid for at least six months from the date of entry and a return ticket is required.

<table>
<thead>
<tr>
<th>CITIZENSHIP</th>
<th>PASSPORT REQUIRED?</th>
<th>VISA REQUIRED?</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Australia</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Yes</td>
<td>No</td>
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</tbody>
</table>

If a visa is required, participants should apply for a TOURIST visa. Please note that obtaining a visa can take weeks or even months. We strongly recommend using a visa agency, which can both expedite and simplify the process.

CONTACT INFORMATION

You may be required to list the following contact information on your visa application and immigration form, or if your luggage does not make it to baggage claim at your destination:

Lajuma Research Centre
c/o Drs Badenhorst & Gaigher
24 Joubert Street
Louis Trichardt (Makhado)
0920
## EXPEDITION PACKING LIST

### WHAT TO BRING

<table>
<thead>
<tr>
<th>Section</th>
<th>Items</th>
</tr>
</thead>
</table>
| **GENERAL**                            | This expedition briefing  
Your travel plans, rendezvous details, and Earthwatch’s emergency contact information  
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)  
Documentation for travel by minors (if necessary) |
| **CLOTHING/FOOTWEAR FOR FIELDWORK**    | Earthwatch T-shirt  
Long-sleeved shirts and trousers for protection from the sun, thorny vegetation and insect bites  
Wide-brimmed hat for sun protection  
Hiking boots [broken in with good ankle support]  
Waterproof jacket  
Waterproof trousers for rainy season teams (October through March)  
Warm clothing (fleece, hat, gloves) for early starts or night work, particularly in winter (April through September) |
| **CLOTHING/FOOTWEAR FOR LEISURE**      | One set of clothing to keep clean for end of expedition and recreational time, etc.  
Summer teams (October through March): shorts, T-shirts, lightweight long-sleeved tops for sun protection, warm clothing for evenings  
Winter teams (April through September): warm clothing (fleeces, jackets, long pants)  
Flip-flops for the shower |
| **FIELD SUPPLIES**                     | Small daypack to keep your personal items together and dry  
Drybag or plastic sealable bags [good for protection equipment from dust, humidity, and water]  
Insect repellent spray  
Two one-liter water bottles or a camel pack  
Flashlight or headlamp with extra batteries and extra bulb  
Notebook  
Pens and pencils |
| **BEDDING AND BATHING**                | NOTE: Linens, blankets, pillows, and towels will be provided by the project. |
| **PERSONAL SUPPLIES**                 | Personal toiletries [biodegradable soaps and shampoos are encouraged]  
Antibacterial wipes 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 medications  
Spending money  
Sunscreen lotion with SPF 30 or higher  
Spare glasses or contact lenses if you wear them  
Sunglasses  
Travel alarm clock |
| **OPTIONAL ITEMS**                     | Comfortable shoes to change into after conducting field work  
Travel guide  
Binoculars [some are available on site, but you may wish to bring your own]  
Favorite snacks or supplementary foods  
Educational books or stationery to donate to local schools [contact us in advance for suggestions]  
Camera, film or memory card(s), extra camera battery  
Hardware for sharing digital photographs at the end of the expedition  
Books, games, art supplies, etc. for free time  
Earplugs for light sleepers |

**NOTE:** Do not bring more luggage than you can carry and handle on your own. If traveling by air and checking your luggage, we advise you to pack an extra set of field clothing and personal essentials in your carry-on bag in case your luggage is lost or delayed.
DR. RUSSELL HILL, EARTHWATCH SCIENTIST, is based at Durham University (U.K.), where his research focuses on the behavioral ecology of primates, felids, and other large mammals. Russell’s Ph.D. in primate behavioral ecology included long-term fieldwork in the Western Cape, and South Africa has remained the focus of his research ever since. After completing a project on the conservation of Cape mountain zebra, his research has been based at Lajuma since 2004. Focusing initially on primate behavioral ecology, this research now includes leopards and other carnivores as part of his Primate & Predator Project. Russell has overall responsibility for this Earthwatch project.

PROFESSOR IAN GAIGHER, EARTHWATCH SCIENTIST, is an emeritus professor at Venda University and research associate at the University of Limpopo and the director of the Lajuma Research Centre. Following a distinguished career that included senior roles with CapeNature, associate professor at University of the Orange Free State, and Dean of Science at Venda University, he started the Lajuma Research Centre in 2003. Ian was head of the team appointed by the Department of Environmental Affairs to compile the successful nomination for the UNESCO Vhembe Biosphere Reserve, and is central to the Limpopo Leopard Forum and other regional conservation initiatives. Ian helps with logistical management and arrangements on Earthwatch teams.

DR. SAM WILLIAMS joined the project in 2011, having completed his Ph.D. at Durham University examining the impact of the fast-track land reform program in Zimbabwe on the conservation of cheetahs and other large carnivores. Previously Sam worked as a team leader and assistant primate scientist on Operation Wallacea projects in Indonesia and Honduras, collecting data on the ecology, conservation, and behavior of macaques and howler monkeys. Sam is the research coordinator for the Primate & Predator Project and manages the majority of the long-term research activities at Lajuma.

KATY WILLIAMS joined the project in 2011, having worked on a range of conservation and volunteer projects throughout the world. Katy’s previous roles included senior scientist for Operation Wallacea in Indonesia, project manager on an African Impact Volunteer Programme, and the John Muir Award Regional Manager for North East England. Katy is now registered for a Ph.D. at Durham University examining the status and conservation of brown hyenas within the Soutpansberg. Katy is the field team leader for all of the Earthwatch teams and is responsible for coordinating the Earthwatch research program at Lajuma.

PHILIP FAURE: In 2014, Philip completed a BTech degree in Nature Conservation from the Nelson Mandela Metropolitan University. He is local to South Africa and has experience with a diversity of ethnic groups. Philip previously worked for Zingela Game Reserves where he gained experience with the breeding of rare and valuable game, deployment and logistics of anti-poaching operations, animal tracking, game capture and translocation operations as well as other general game reserve management responsibilities. He has local knowledge of the bushveld and of various South African cultures. In addition, he has also voluntarily worked for various organisations during his university career which includes: Helderberg Nature Reserve (Somerset West), SANParks Scientific Services (Rondevlei, Sedgefield), and Garden Route Botanical Gardens (George). Currently, he is researching the diet composition of a group of brown hyaenas from a study site west of the Blouberg Mountain. In 2015 he began as the Community Engagement Officer for the Primate & Predator Project.

NOTE: All staff members will be present on all teams with the exception of Dr. Hill, and Ian Gaigher whose schedule has yet to be determined. Staff schedules are subject to change.
RECOMMENDED READING
YOUR RESOURCES AT HOME

RESOURCES

FIELD GUIDES

PROJECT-RELATED WEBSITES
THE EARTHWATCH SCIENTISTS’ PROJECT PAGE: dur.ac.uk/r.a.hill/primate_and_predator_project.htm
FACEBOOK: https://www.facebook.com/ Primate-and-Predator-Project-168026853274442/
BLOG: primateandpredatorproject.wordpress.com/
TWITTER: twitter.com/PrimatePredator
SOUTH AFRICAN GOVERNMENT WEBSITE: gov.za

APP: Roberts birds of South Africa. Seasonal birds of South Africa, etc. You can download it to your electronic device of choice.
A list of the project’s publications (some are downloadable) can be found here: https://primateandpredatorproject.wordpress.com/downloads/.

EARTHWATCH SOCIAL MEDIA
FACEBOOK: facebook.com/Earthwatch
TWITTER: twitter.com/earthwatch_org
INSTAGRAM: instagram.com/earthwatch
BLOG: earthwatchunlocked.wordpress.com
YOUTUBE: youtube.com/earthwatchinstitute
EMERGENCY NUMBERS
AROUND-THE-CLOCK SUPPORT

EARTHWATCH’S 24-HOUR EMERGENCY HOTLINE

Call Earthwatch’s 24-hour on-call duty officer in the U.S.:
+1 [978] 461.0081
+1 [800] 776.0188 (toll-free for calls placed from within the U.S.)

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

TRAVEL ASSISTANCE PROVIDER: HEALIX INTERNATIONAL

+44.20.3667.8991 (collect calls and reverse charges accepted)
U.S. TOLL FREE: +1.877.759.3917
U.K. FREE PHONE: 0.800.19.5180
E-MAIL: earthwatch@healix.com

You may contact Healix International at any time. They can assist in the event of a medical or evacuation emergency or for routine medical and travel advice, such as advice on visas and vaccine requirements.

FOR VOLUNTEERS BOOKED THROUGH THE EARTHWATCH AUSTRALIA OFFICE:

Earthwatch Australia 24-Hour Emergency Helpline
+61.0.3.8508.5537
MESSAGE FROM EARTHWATCH

DEAR EARTHWATCHER,

Thank you for joining this expedition! We greatly appreciate your decision to contribute to hands-on environmental science and conservation. It is volunteers like you who fuel our mission and inspire our work.

While at Earthwatch, I’ve had the opportunity to field on a few expeditions, most recently in Kenya with one of my daughters. Each expedition has touched me deeply, and made me proud to be able to roll up my sleeves alongside my fellow volunteers and contribute to such meaningful work.

As an Earthwatch volunteer, you have the opportunity to create positive change. And while you’re out in the field working toward that change, we are committed to caring for your safety. Although risk is an inherent part of the environments in which we work, we’ve been providing volunteer field experiences with careful risk management and diligent planning for nearly 45 years. You’re in good hands.

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

Sincerely,

Scott Kania
President and CEO, Earthwatch