



EARTHWATCH 2018

WALKING WITH AFRICAN WILDLIFE



PLANNING CHECKLIST

PLANNING CHECKLIST

IMMEDIATELY

- Make sure you understand and agree to Earthwatch's **Terms and Conditions** and the **Participant Code of Conduct**.
- If you plan to purchase additional travel insurance, note that some policies require purchase at the time your expedition is booked.

6 MONTHS PRIOR TO EXPEDITION

- Log in at earthwatch.org to complete your participant forms.
- If traveling internationally, make sure your passport is current and, if necessary, obtain a visa for your destination country.
- Bring your level of fitness up to the standards required (see the Project Conditions section).

90 DAYS PRIOR TO EXPEDITION

- Pay any outstanding balance for your expedition.
- Book travel arrangements (see the Travel Planning section for details).
- Make sure you have all the necessary vaccinations for your project site.

60 DAYS PRIOR TO EXPEDITION

- Review the packing list to make sure you have all the clothing, personal supplies, and equipment needed.

30 DAYS PRIOR TO EXPEDITION

- Leave the Earthwatch 24-hour helpline number with a parent, relative, or friend.
- Leave copies of your photo ID and flight reservation number with a parent, relative, or friend.

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.

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NOTE FROM THE PI

DEAR EARTHWATCHER

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 an Earthwatch volunteer, you'll help take a census of the wildlife in the 960-square-kilometer Hluhluwe-iMfolozi Park (HiP), the oldest game reserve in Africa. I lead this project as an ecologist for Ezemvelo KwaZulu-Natal Wildlife, the conservation agency responsible for managing the protected area.

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 expedition will contribute to the effort to conserve wildlife more effectively in South Africa.

Earthwatch volunteers have already made a big impact on our research. 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 determines whether the HiP lion population is negatively affecting the park's prey populations, while another looks at the predation risk faced by herbivores from lion and wild dogs. Data are being used from as far back as 1986, which indicates the importance of quality long-term data. In addition, various scientists and managers are in the final stages of publishing a book on various aspects of the historical research and management interventions within HiP, and data collected by the Earthwatch volunteers over the years will be used in various chapters in the book. 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, and school groups.

You'll spend your days walking through the African wilderness, looking for wildlife. And the African bushveld experience will not be over after the walks. Volunteers will stay in tents in two camps situated in different habitat types in the park and will experience many of the night sights and sounds first hand.

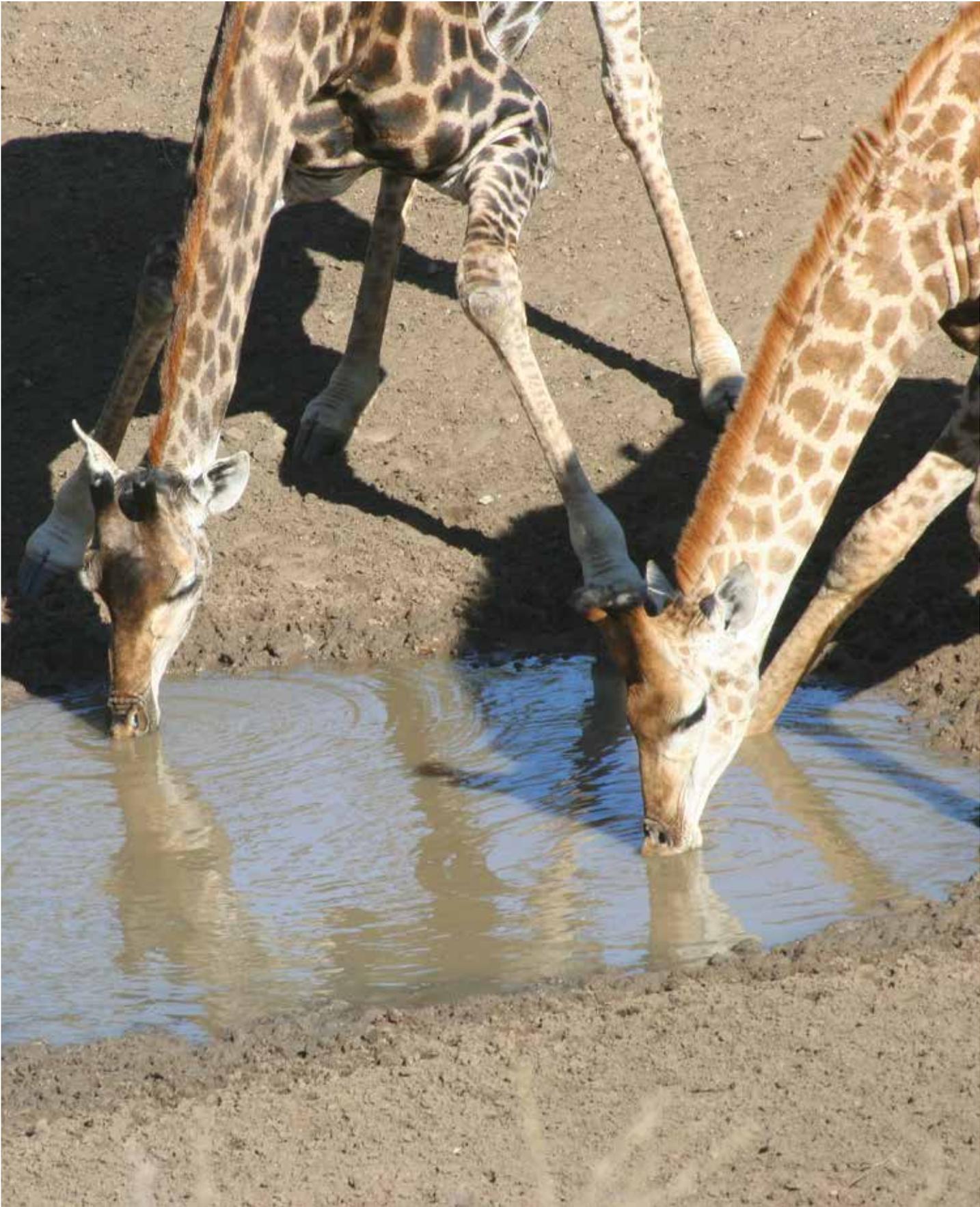
I look forward to meeting you in Hluhluwe-iMfolozi Park for the 2018 wildlife census. If you have any queries I am very happy to assist in answering them.

Sincerely,

Dave Druce

Craig Mulqueeny





THE RESEARCH

WALKING WITH AFRICAN WILDLIFE



THE STORY

Join this wildlife census in the 960-square-kilometer Hluhluwe-iMfolozi Park (HiP), the oldest game reserve in Africa. You'll specifically be looking for the park's many large herbivores: buffalo, bushpig, giraffe, white rhino, zebra, warthog, and many species of antelope (blue duiker, grey duiker, red duiker, bushbuck, impala, kudu, nyala, common reedbuck, mountain reedbuck, waterbuck, and blue wildebeest). Scientists want to get information about both the herbivores themselves, and also about the many predators in the park: lions, cheetahs, leopards, spotted hyenas, and African wild dogs (one of the continent's most endangered large carnivores). Ecologists and managers need to monitor the effect of these numerous predators on prey populations in order to ensure that the park continues to maintain a balance between them, especially in light of increasing poaching within the park and increasing human populations around the park (reducing connectedness with other natural areas). The biennial census assists in refining the park management's ability to most effectively manage and maintain species diversity and ecosystem functioning within the reserve's boundaries.

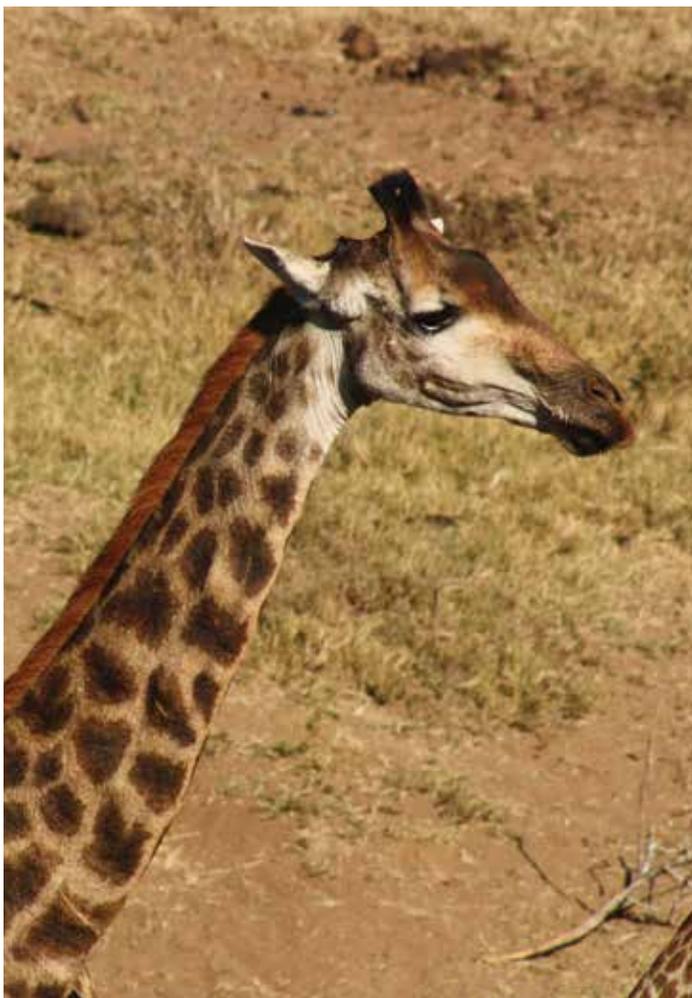
The method used to control the population of endangered black rhinos is an example of effective management. At a certain population density, nearing the maximum that the park can hold, black rhino will reproduce at approximately 3% per year. If, however, managers maintain the population at 80% of this critical density (by relocating "excess" animals to other conservation areas) they 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 5,000 black rhino becomes significant.

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



RESEARCH AIMS

The goal of this project is to provide the most accurate count possible of all the most common large mammal species in HiP. You will walk along cut line transects (pre-set paths) and record information on every animal seen. Scientists use the distance method of analysis (which you will learn more about on the project) to process the information and produce an estimate for the population size of each species. 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.



HOW YOU WILL HELP

All census counting is done on foot by walking through the park, giving you the wonderful opportunity to walk in areas few get to see.

You'll work on two major tasks during this expedition:

LINE TRANSECTS

You'll start walking transects after a day and a half of training on research equipment, methods, and focal species identification. (You won't be totally on your own for identifying species: you'll work with local rangers. Some of them only speak Zulu, but you'll have a list of both Zulu and English names to translate).

Volunteers rise before sunrise each day, and, in the early hours of the morning, set out to walk 10–12 kilometers (6–7 miles) over undulating to very hilly savanna thornveld and sometimes through closed canopy forest. Because the park contains populations of elephants, rhinos, buffalos, lions and other predators, you'll partner with an experienced, armed field ranger on each walk.

Each pair will hike one transect per day. 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 average time is four to five hours. You'll rotate through different transects each day, depending on the size of the group and logistical considerations.

DATA ANALYSIS

Each day volunteers will help enter the census data and check it for accuracy. This will take approximately one hour. You will then have the rest of the afternoon for recreation. Data will be analyzed after all the teams have completed their expeditions, and used to produce the biennial 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.

DAILY LIFE IN THE FIELD

PLANS FOR YOUR TEAM

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). There is one planned recreational day after six days of hiking (see below).

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
- A trip to the crocodile center to see a variety of crocs
- Lunch at a local restaurant (R100–R200)
- Staying at camp and relaxing

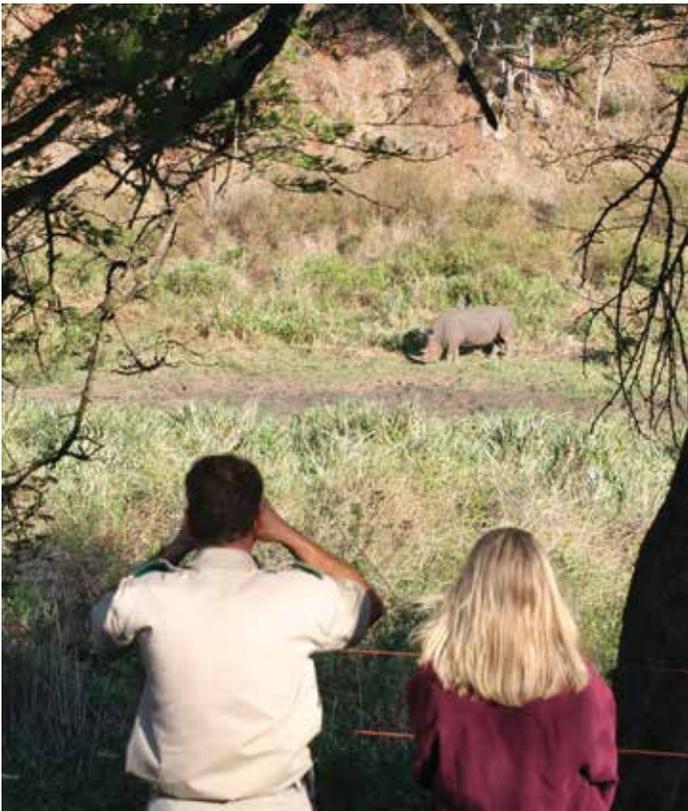
DAILY ACTIVITIES

4:30 a.m.–5:00 a.m.	Rise, shower, eat a snack/breakfast and prepare packed food
5:00 a.m.–6:00 a.m.	Drive to drop off points at beginning of the transects
6:00 a.m.–noon	Walk the transect recording data, wait for transport
12:00 p.m.–1:00 p.m.	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)
1:00 p.m.–3:00 p.m.	Wash, eat lunch, and rest
3:00 p.m.–4:00 p.m.	Debrief, enter the day's data into database and confirm next day's schedule
4:00 p.m.–6:00 p.m.	Time for relaxing and, possibly, game drives
6:00 p.m.–8:00 p.m.	Drinks and supper
8:00 p.m.–10:00 p.m.	Fireside chatting and relaxing, etc.

ITINERARY

Weather and research needs can lead to changes in the daily schedule. We appreciate your cooperation and understanding.

DAY 1	Meet in Richard's Bay, travel to camp, settle in, and begin training
DAY 2	Complete training, receive equipment, and 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





ACCOMMODATIONS AND FOOD

ABOUT YOUR HOME IN THE FIELD



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. Both camps are basic and remote, but comfortable.





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 on-site 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.

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. 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. 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.



VOLUNTEER CONTACT INFO

P.O. Box 515
Hluhluwe, 3960
South Africa

Mail is not recommended because it can take up to two weeks to arrive.

DAVE DRUCE: + 27 (0) 82-315-7249 (cell phone) or
+27 (0) 35-5620-109 (office)

S'PHE MBONGWA: +27 (0) 73 136 6575:

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 R40 per bundle per person).

DISTANCE TO THE FIELD SITE

The transects will typically be less than 15 kilometers (9 miles) from the campsites, although some are further away, and volunteers will be transported in pick-up trucks with seat belts and canvas canopies. In certain areas where the access roads are in a very poor condition, volunteers may be transported, while standing, on the back of a pick-up truck as a vehicle with canvas canopy may not be able to use those roads. It may take up to one and a half hours 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 could take up to two hours 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.

FACILITIES AND AMENITIES

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 expedition, 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 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 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, buildings or while others are eating.
- Cigarette butts must be disposed of properly in the designated ash container.
- Do not litter.

FOOD AND WATER

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 to three 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 lunchtime and in the evenings, but feel free to share culinary expertise with the team! All dishwashing 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.

The following are examples of foods you may find in the field. Variety depends on availability. We appreciate your flexibility.

TYPICAL MEALS

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	Sandwiches with cold meats, cheeses, 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 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.

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



PROJECT CONDITIONS

THE FIELD ENVIRONMENT



The information that follows is as accurate as possible, but please keep in mind that conditions may change. 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.



The following are averages. Please check weather resources for your team dates for more accurate weather predictions. Projects have experienced unseasonable weather at all times of year.

GENERAL CONDITIONS

HUMIDITY: 40% to 80%

TEMPERATURE RANGE:

Daytime: 59°F/15°C to 95°F/35°C

Nighttime: 45°F/6°C to 77°F/25°C

ALTITUDE: 85 to 580 meters [280 to 920 feet] above sea level

RAINFALL: 1.5–4.7 in/3.8–12 cm per month

ESSENTIAL ELIGIBILITY REQUIREMENTS:

All participants must be able to:

- Follow verbal and/or visual instructions independently or with the assistance of a companion.
- Comfortably traverse up to 15 kilometers (10 miles) per day over mountainous terrain (while looking around for animals) 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 takes three to six 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, the field rangers and the animals.
- 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. There are also deep ravines that will need to be navigated on certain transects.
- 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, compass, rangefinder, binoculars, clipboard).
- 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 two to three 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.
- Comfortable to be trained in the use of a GPS, a rangefinder and a compass.



POTENTIAL HAZARDS

WALKING WITH AFRICAN WILDLIFE

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 animals are seen while driving.</p>
Hiking	<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. dark 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. 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 dark khaki, dark green 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, rhino or elephant. 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	<p>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.</p>
Insects	<p>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. Thin, long sleeved shirts are also recommended. 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.</p>



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 freshwater 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.
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.
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, crocodiles, and schistosomiasis.
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.
Distance from Medical Care	The nearest hospital is 150 km away from the project site, and it may take up to two hours 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 & SAFETY

WALKING WITH AFRICAN WILDLIFE

Disease	<p>Traveler's diarrhea affects many international travelers.</p> <p>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 U.S. Centers for Disease Control and Prevention (cdc.gov) or the World Health Organization (who.int/) websites for more information on these conditions and how to avoid them.</p> <p>You can decrease your risk of many diseases by avoiding mosquito bites, practicing good hygiene, and drinking only bottled or filtered water when appropriate. 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.</p> <ul style="list-style-type: none">• 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.• 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 healthcare 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. <p>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.</p>
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EMERGENCIES 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.

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 or 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.

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 & TRAVEL VACCINATIONS

Please be sure your routine immunizations are up-to-date (for example: diphtheria, pertussis, tetanus, polio, measles, mumps, rubella and varicella) and you have the appropriate vaccinations for your travel destination. Medical decisions are the responsibility of each volunteer and his or her doctor, and the following are recommendations only. Visit cdc.gov or who.int for guidance on immunizations.



TRAVEL TIPS

SUGGESTIONS FOR THE ROAD

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.

TIME ZONE: GMT + 2.

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.

LOCAL CURRENCY: The South African rand. No other currency is accepted. 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 ATMs once in the field will be on the recreation day in St. Lucia. There are no ATMs at the Richard's Bay Airport or at the Woodpecker Inn. Traveler's 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 R 1500 (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 insurance is possible so remember to ask for and save any receipts.

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 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.

PASSPORTS AND VISAS

COUNTRY AND PROJECT ENTRY REQUIREMENTS

Entry visa requirements differ by country of origin, layover, and destination, and do change unexpectedly. For this reason, please confirm your visa requirements at the time of booking and, again, 90 days prior to travel. Please apply early for your visa (we recommend starting 6 months prior to the start of your expedition). Refunds will not be made for volunteers cancelling due to not obtaining their visa in time to meet the team at the rendezvous. You can find up to date visa requirements via one of the following sites:

www.passportsandvisas.com
<https://www.travisa.com/>

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.

Generally, passports must be valid for at least six months from the date of entry and a return ticket is required.

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:

Dr. Dave Druce

Hluhluwe Research Centre, Hluhluwe-iMfolozi Park
Hluhluwe 3960

South Africa

Tel: +27 (0) 82-315-7249

For luggage: Nyalazi Gate, Hluhluwe-iMfolozi Park.

Contact Dave at +27 (0) 82-315-7249 (cell phone) or S'phe at +27 (0) 73 136 6575



EXPEDITION PACKING CHECKLIST

WHAT TO BRING

EXPEDITION PACKING CHECKLIST

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
- Dull, earth-toned colors (i.e. dark khaki or dark green) are required for all field clothing
- Lightweight, quick-drying, long-sleeved shirts
- Lightweight trousers
- Warm clothes for cool evenings and mornings (a sweater/jumper/fleece, warm jackets, and/or thermals)
- Wind-breaker for early mornings and late afternoons on the back of the open game drive vehicles
- 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
- Insect repellent
- Water bottle(s) able to hold at least two liters (3 liters is recommended)
- A pair of binoculars (10 x 42 recommended) for wildlife viewing and for use during fieldwork
- Flashlight/torch or headlamp with extra batteries and extra bulb
- Mechanical/click pencils for data recording
- One 20-pack or one 24-pack of 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 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



EXPEDITION PACKING CHECKLIST

OPTIONAL ITEMS

- Travel guide
- 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 stationery, educational games, toys, books, atlases, teaching aids, etc.)
- Gatorade or similar energy drink mix
- Extra batteries for the GPS units make a great donation to the project and are much appreciated—batteries are expensive in Africa

- Camera, film or memory card(s), extra camera battery
- Hardware for sharing digital photographs at the end of the expedition
- Dry bag or plastic sealable bags (e.g. Ziploc) to protect equipment like cameras from dust, humidity, and water
- 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.

TRANSFERRING LUGGAGE: If you will be taking an international flight that has one or more connections within the country of your destination, you must 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.



PROJECT STAFF

YOUR RESOURCES IN THE FIELD



NOTE: Staff schedules are subject to change.

EARTHWATCH SCIENTIST 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 of vegetation, 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. Schedule: All Teams.

CRAIG MULQUEENY, EARTHWATCH SCIENTIST, has a master's degree in biology. He is employed by Ezemvelo KwaZulu-Natal Wildlife as the ecological advice manager for Zululand, and hopes to join the project as his schedule allows.

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 a Scientific Technician for the park's research center. His field of expertise includes database design, data management and GIS and he has a number of years experience walking in the park undertaking various types of field monitoring. 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. Schedule: All Teams.



S'PHE MBONGWA has a BSc Honors degree from the University of KwaZulu-Natal and is currently employed as a Scientific Technician for the park's research center where he has been working since 2015. He is currently furthering his studies through a research-based Master's degree program. He will be responsible for assisting with training volunteers, assisting with the project logistics and training and managing the field rangers. Schedule: All Teams.

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.



RECOMMENDED READING

YOUR RESOURCES AT HOME

RESOURCES

BOOKS

- Any books by Dr. Ian Player
- Pooley, T. Mashasha: 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.
- 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.
- 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.

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.

EARTHWATCH SOCIAL MEDIA

- **FACEBOOK:** [facebook.com/Earthwatch](https://www.facebook.com/Earthwatch)
- **TWITTER:** twitter.com/earthwatch_org
- **INSTAGRAM:** [instagram.com/earthwatch](https://www.instagram.com/earthwatch)
- **BLOG:** <https://blog.earthwatch.org/>
- **YOUTUBE:** [youtube.com/earthwatchinstitute](https://www.youtube.com/earthwatchinstitute)





INDEMNITY

KWAZULU-NATAL NATURE CONSERVATION SERVICE

INDEMNITY

I, the undersigned, _____ on behalf of my Heirs, Executors, Administrators or Assigns and all my Dependants do hereby ACKNOWLEDGE and UNDERTAKE that:

1. I have VOLUNTARILY applied to participate in or be associated with the Activities, Duties and Undertakings of the SERVICE and/or its duly Authorized Officers, Employees or Agents (hereinafter referred to as the "SERVICE's activities" which shall include vehicle transportation in a KwaZulu-Natal Nature Conservation Service owned vehicle);
2. To the extent to which this may be necessary, I have obtained the consent of my Legal Guardian to VOLUNTARILY participate in the SERVICE's activities and to enter into this Indemnity;
3. My general health is good, that I am in my sound and sober senses and that there is nothing that renders me unfit to VOLUNTARILY participate in the SERVICE's activities or to give this Indemnity;
4. I am fully aware of and understand that in VOLUNTARILY participating in the SERVICE's activities, I may be exposing myself to the risk or possibility of danger, harm or damage to my person or property;
5. I now VOLUNTARILY and with full knowledge of the meaning and effect hereof, assume any and all risks or dangers whatsoever which may be inherent in, arise from, or be associated with, any of the SERVICE's activities;
6. I, together with my Heirs, Executors, Administrators or Assigns, and all my Dependants, do hereby release the SERVICE and/or any of its Members, Officers, Employees or Agents from any duty of care towards me or my property and hereby indemnify and hold them harmless from any liability whatsoever from any and all claims which would otherwise have accrued to me, my Executors, my Administrators, my Assigns, my Heirs and all my Dependents arising from my VOLUNTARY participation of the SERVICE's activities, whether or not any such claim or claims may arise through the negligence of the SERVICE or any of its Members, Officers, Employees or Agents or from any of the risks or dangers associated with the SERVICE's activities.

SIGNED AT _____ THIS ____ DAY OF _____ 20_____

SIGNATURE _____

DULY ASSISTED BY THE UNDERSIGNED WHO HEREBY CERTIFIES THAT HE/SHE IS THE LEGAL GUARDIAN OF THE ABOVE

FULL NAME _____ SIGNATURE OF GUARDIAN _____



EMERGENCY NUMBERS

AROUND-THE-CLOCK SUPPORT



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





Earthwatch U.S.
114 Western Ave.
Boston, MA 02134
United States

info@earthwatch.org
earthwatch.org

Phone: 1-978-461-0081
Toll-Free: 1-800-776-0188
Fax: 1-978-461-2332

Earthwatch Europe
Mayfield House
256 Banbury Rd.
Oxford, OX2 7DE
United Kingdom

info@earthwatch.org
earthwatch.org

Phone: 44-0-1865-318-838
Fax: 44-0-1865-311-383

Earthwatch Australia
Suite G-07, Ground Floor
60L Green Building,
60-66 Leicester Street Carlton
VIC 3053, Australia

earth@earthwatch.org
earthwatch.org

Phone: 61-0-3-9016-7590
Fax: 61-0-3-9686-3652

Earthwatch Japan
Food Science Bldg. 4F
The University of Tokyo
1-1-1, Yayoi, Bunkyo-ku
Tokyo 113-8657, Japan

info@earthwatch.jp
earthwatch.org

Phone: 81-0-3-6686-0300
Fax: 81-0-3-6686-0477