



AUSTRALIA'S VANISHING FROGS
TEEN TEAM

Dr Michael Mahony
The University of Newcastle (Australia)



Expedition Briefing 2012

EVERYTHING YOU NEED TO KNOW BEFORE YOU GO



Image © Ross Knowles

CELEBRATING
40
YEARS
1971-2011

Providing life support for the planet since 1971

Timeline and Checklist

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

Immediately

- Read this expedition briefing and all enclosed materials thoroughly.
- Book an appointment with a doctor; you will need him or her to sign your Health form.
- Make sure you understand and agree to Earthwatch policies and participant responsibilities.

At least 90 days prior to your expedition start date

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

- | | |
|--|---|
| <input type="checkbox"/> Personal Profile | <input type="checkbox"/> Behavior Agreement |
| <input type="checkbox"/> Health Form | <input type="checkbox"/> Water Skills General |
| <input type="checkbox"/> Liability Release Form – Minors | <input type="checkbox"/> Travel Form |
| | <input type="checkbox"/> Privacy Release Form (Australia) |

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

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

At least 60 days prior to your expedition start date

- Review the packing list to make sure you have all the clothing and any special equipment needed.
- Obtain any necessary prescription medications that will be needed for your travels **Note:** They must be accompanied by a doctor's note to enter Australia.

Up to 30 days before you leave for the expedition

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

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

Australia's Vanishing Frogs

Table of Contents

GENERAL INFORMATION.....	1
PREPARING FOR YOUR EXPEDITION	4
THE RESEARCH	6
PROJECT STAFF	9
DAILY LIFE IN THE FIELD.....	10
VOLUNTEER TRAINING AND ASSIGNMENTS.....	10
TEAM ITINERARY AND DAILY SCHEDULE	11
ACCOMMODATIONS.....	13
FOOD.....	14
PROJECT CONDITIONS.....	15
POTENTIAL HAZARDS.....	16
HEALTH INFORMATION	17
EMERGENCIES IN THE FIELD	18
COMMUNICATIONS	18
TRAVEL PLANNING.....	19
RENDEZVOUS.....	19
INSURANCE	20
ADDITIONAL TRAVEL INFORMATION.....	20
RECOMMENDED READING	22
HELPFUL RESOURCES	22
APPENDIX	22
EARTHWATCH INSTITUTE POLICIES & PARTICIPANT RIGHTS AND RESPONSIBILITIES	23
EXPEDITION PACKING CHECKLIST.....	26

General Information

Project title	Australia's Vanishing Frogs	
Earthwatch scientist	Professor Michael Mahony , Head of the Discipline of Environmental Science and Management, University of Newcastle Dr John Clulow , Lecturer, University of Newcastle	
Research site	The southern section of the Gondwana World Heritage Rainforests on the Great Dividing Range in New South Wales. Field study sites are in the Barrington, Werrikimbee and Dorrigo National Parks.	
Expedition length:	7 days	Minimum age of participation: 16 years of age*
Team size max:	6/12 participants	
*Note: This team is reserved for participants 16 – 18 years of age (18-year-olds may only participate if they have just finished their last year of high school). See <i>Volunteers Under 18 Years of Age</i> in the <i>Passports and Visas</i> section for travelling advice for minors.		

Emergency Contacts

Emergency contact number at Earthwatch headquarters in Australia: +61 (3) 9625-0822 Someone is always on call to assist you or respond to your message 24 hours a day, 7 days a week. After business hours, leave your message with our live answering service. State that you have an emergency communication and leave a clear message with the name of the field program, your name, location from which you are calling, and, if possible, a phone number where you can be reached. An Earthwatch staff person will be contacted and will respond to your call within one hour.	Emergency medical and evacuation assistance provider: To contact International SOS in the event of an emergency, dial: <ul style="list-style-type: none">• For assistance within the US: ISOS Philadelphia, +1 (215) 942-8459• For assistance outside the US: ISOS London, +44 (0) 208-762-8008• For assistance within Australia: ISOS Australasia, +61 (0) 2-9372-2468 State that you are on an Earthwatch expedition. The following information must be provided: <ol style="list-style-type: none">1. The Insured Person's name2. The Assured is EARTHWATCH, the Certificate No: GP 0010214 and SOS reference #14ACPA0000753. The telephone number and facsimile number where the Insured Person can be reached4. The Insured Person's address abroad5. The nature of the emergency
---	--



EXPEDITION UPDATE:
Australia's Vanishing Frogs
All Teams

December 15, 2011

Dear Earthwatch Volunteer,

Please be advised that the emergency number for Earthwatch Australia is now **+61 (3) 9483-4373**.

This replaces the emergency number that appears throughout your Expedition Briefing.

Thank you.

If you have questions as you prepare for your expedition, contact the appropriate Earthwatch office:

Australia Office

T: +61 (0) 3-9682-6828

earth@earthwatch.org

Japan Office

T: +81 (0) 3-3511-3360

info@earthwatch.jp

UK Office

T: +44 (0) 1865-318-831

info@earthwatch.org.uk

US Office

T: +1 800-776-0188

info@earthwatch.org



Dear Earthwatcher,

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

We are committed to caring for the safety of all those involved in our activities anywhere in the world. Although risk is an inherent part of the environments in which we work, through careful risk management and diligent planning we believe that all participants can have educational and inspirational Earthwatch experiences. We've been providing volunteer field experiences **for 40 years**, so you're in good hands.

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

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "Anne T. Ogilvie".

Anne T. Ogilvie
International Director of Field Management

Dear Volunteer,

Welcome to the Vanishing Frog's Project. We are very pleased to welcome each of you as a participant in our research program for 2011/2012.

We have been carrying out research in the forested areas of eastern Australia over the past 20 years and we never cease to be amazed by the area's biological diversity and beauty. Our field studies have involved Earthwatch teams in the past, and many of our volunteers have become our friends. I would like to thank you for contributing your time and energy to this project, and I hope in return we can provide you with a rewarding and enjoyable experience. Your contribution to this research will help us address conservation priorities for several endangered species and provide you with insights into the role of science and community in conservation management.

Our project is based in the rainforests of the eastern escarpment of the Great Dividing Range in eastern Australia and in particular in areas of the World Heritage Gondwana Rainforest Reserves. What we hope to achieve is to understand the cause of decline of the forest frog communities. Along the east coast of Australia, nine species of frogs have totally disappeared in the past two decades, and scientists are at a loss to explain why and more importantly to provide solutions. The decline and disappearance of frogs in Australia is paralleled by losses of amphibians in other parts of the world. This loss is a truly global tragedy. Our task is to monitor the health of populations of several species that are considered critically endangered and to keep a watch on others that we consider may be susceptible to sudden declines. At the same time, we will be collecting information on the cause of the decline and investigating the role of climate change.

Be prepared for a week of camping. There are several reasons that make this the most suitable arrangement. First, our research sites are within a state forest, which are distant from towns. Second, a considerable portion of our work occurs after dark, and we have found from experience that camping nearby study sites avoids driving when people are tired. Third, because we aim to study a number of sites, a single base near to the sites is most appropriate. Last, camping provides closeness to the bush that cannot be matched by most built facilities.

Come prepared for working along streams in forest and rainforest habitats. The amount of walking is not strenuous, and we move at a leisurely pace because we are continually searching for frogs. We also always work in teams of at least two people, so you will always be working with others.

Please let us know in advance if you have any special interests or skills that might help in the research or group process. We look forward to meeting you.

Best wishes,
Michael Mahony, PhD

Preparing For Your Expedition

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

The Expedition Briefing is presented in four main parts:

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

Most importantly, the Expedition Briefing will describe the objectives and methods of the scientific research you will be contributing to on this trip, as well as the specific tasks in which you will participate. It will also answer your questions about travel, the research area, the living and working conditions that you will encounter. It is important to read this information to truly understand the work you will be contributing to and the logistics of your trip.

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

Physical and Intellectual Preparation

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

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

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

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

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

Action photos of your teammates working on a research task, of the research site, and of the research subject provide important visuals for presentations. As stories develop out of your day-to-day experience, keep an eye out for images to illustrate these stories. If your expedition inspires any artwork that you are willing to share, Earthwatch Institute welcomes the opportunity to incorporate your photographs, drawings, watercolors and cartoons in its various publications and online.

Emotional Preparation

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

The following sequence of feelings is typical:

- **Stage 1:** Everything is new and exciting; you feel terrific.
- **Stage 2:** You feel disappointment in the reality of the situation; for instance, it has been raining for days and the work is more difficult than you expected it to be.
- **Stage 3:** Your emotions reach an even plateau; you understand and enjoy the work, and see that you are making a contribution.

Being Part of a Team

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

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

The Research

Australia's Vanishing Frogs

As part of this project, you will help us unravel the mystery of the world's vanishing frog species in eastern Australia. You will explore the lush mountain rainforests of Australia's mid-eastern coast, collecting data that will help scientists understand how our frog populations might cope or flounder as they encounter chytrid (a type of fungus) infections.

In the past, Earthwatch volunteers have contributed to the exciting discovery of four new species of frog and have identified both healthy and struggling frog populations. Teams are now needed to find out why some frogs are dying while others are flourishing.

Volunteers will be involved in regular monitoring and be introduced to the dilemma of dealing with wild populations that are declining for reasons that are not fully understood. Research methods include conducting stream transects for frogs and tadpoles, collecting samples and documenting the results. In addition to investigating several endangered frog species, we will introduce you to the variety of frogs that live in various habitats in the region. There will also be opportunities to observe the other incredible wildlife that calls this temperate rainforest home.

Research rationale and goals

There have been drastic declines in amphibians, particularly frogs, throughout the world. In a few cases, the factors can be immediately linked to the human activities responsible. But in the majority of cases, no such factor has been found. As Sakar (1999) has pointed out, one would expect that ecological theory would, at this point, step in and reveal the underlying causes of declines or, at the very least, provide testable models that would spur investigation. However, conventional ecological theory has contributed little insight so far.

What is apparent are the many unanswered questions:

- Are these declines permanent and are they part of a general trend?
- Is the frog crisis any deeper than the general biodiversity crisis that has erupted during the last two decades?
- Can the activities of man be directly linked to these declines?
- Can the declines be considered to be an indicator or general environmental degradation (i.e. the canary in the mine scenario)?
- What is the role of climate change and do we have baseline measures to understand its impact?

Studies first reported in 1998 point to a fungus as the main factor in the decline of amphibians on several continents. While these findings are still somewhat controversial, they do provide a number of testable hypotheses which require the collection of data to either confirm or disprove them. We have conducted investigations into the geographical distribution of the fungus in eastern Australia and its occurrence in a range of amphibians and habitats. The aim of this project is to investigate whether some populations are resistant to the fungus and to investigate the nature and extent of that resistance.

An ecological assessment of the impact of the fungus on native frog species is essential. The decline or disappearance of some species has been sudden, whereas it has been more gradual for others. Virtually no data has been gathered on the impact and ecology of the fungus. The current situation provides an opportunity that may not be repeated, to gather information which may be vital in preventing the extinction of a number of frog species. In particular, information is needed to determine:

- which species are currently being affected;
- which parts of the life cycles (e.g., eggs, tadpoles, juveniles, adults) are being affected, and relative susceptibilities;
- the rate and intensity of infection, and the proportion of each population that are being affected;
- climatic constraints (e.g., temperature, rainfall, humidity) on the extent, rate and seasonal spread of infection.

Project objectives

The *Vanishing Frogs* project aims to understand the cause(s) and seek solutions to the phenomenon of amphibian declines. This will be achieved by:

- assessing conservation status of frog communities,
- monitoring selected identified threatened species,
- investigating the ecology of selected threatened species,
- identifying threatening processes,
- seeking solutions to the threatening processes.

We also aim to answer these questions:

- Is there currently an epidemic of sick and dead frogs in eastern New South Wales (NSW), and if so, what is its geographical extent and nature?
- What are the causes of sickness and death of frogs found in these conditions?
- Are local communities, interested groups and individuals, and the local media aware of the issue, and how can we involve them in searching for and reporting occurrences of sick and dead frogs?
- If species or populations appear to be resistant or have recovered from exposure to the pathogen, what is the nature of that resistance?

These questions have great relevance to the frogs of eastern Australia and most likely to those in other Australian regions. They are also of considerable significance internationally. The finding that the Chytrid fungus found on the east coast of Australia is identical to that found in Panama where numerous species have declined in a fashion very similar to that observed in Australia, is one that sounds alarm bells for frog communities across the globe.

Research Area

The rainforests of the Gondwana World Heritage Area occur on the Great Escarpment of the Great Dividing Range. This range runs roughly parallel to the east coast of Australia and is separated from the coast by a narrow coastal plain. The escarpment is forested and provides the environment for rich and varied flora and fauna. These forests contain flora that has its origins and evolution in the ancient supercontinent of Gondwana, and the flowering trees are ancestors to the flowering trees of the world.

By international standards the mountains are not high, rising to a maximum of 1200 metres. However in the ancient landscapes of Australia, the Great Dividing Range is perhaps the most significant landscape feature of the eastern seaboard. We will travel to the top of the Barrington Range and visit the isolated Beech Forest (*Nothofagus moorei*) and the nearby snow gum forests. In the Watagan Range we will see magnificent warm temperate rainforest and wet sclerophyll forests.

We will be working in a climate that varies from subtropical to warm temperate. At the time of the expedition daily temperatures average about 24°C and the evening temperatures average about 18°C. Humidity can be high at times (up to 90%). It can be expected to rain at some time during the expedition, but the conditions are not difficult and irritants and natural hazards are minor. For example, mosquitoes and leeches occur in the forest and these can be dealt with by taking appropriate precautions (suitable clothing, sprays, creams etc).



Research Achievements

The *Vanishing Frogs* project has been running for over a decade and has contributed to the discovery of four new species of frog.

The recapture rates of some of the populations that are studied are up to 70%, and we have some individual animals that have been re-caught numerous times over five years. These results have enabled us to study the life expectancy, habitat use, migration and emigration of individuals, territoriality, and habitat use of the two sexes, and of juveniles compared to adults.

Monitoring results of three endangered species over many years at eight field sites show a progressive decline in some populations. These studies link to complementary investigations of the prevalence of the amphibian disease chytridiomycosis. Monitoring of several endangered frog populations has provided evidence that frog declines are continuing and that the process reveals a geographic pattern. For two species that have declined from greater than 80% of their historic range the populations that were closely monitored showed no signs of decline, while others were at a stage where the population is likely to disappear altogether within a few years.

As yet there is no management action that is known to reverse amphibian declines.

Why field research?

As an Earthwatch participant, you will spend a significant amount of time each day assisting scientists with data collection. Some of this work will be repetitive, but it is fundamental to our scientific understanding of nature. Ecosystems are incredibly complex. The only way to begin to unravel this complexity is by designing good experiments, and carefully collecting as much data as possible. Without the work of thousands of dedicated scientists, we would know nothing about climate change, the effects of pollution, the thinning of the ozone layer, the extinction of species, or how to find cures for diseases or improve crops. Without science we would be blind to the world. This is your chance to be part of the scientific effort, to find solutions to pressing environmental and cultural problems, and to enjoy the beauty and diversity of nature as you work.

PROJECT STAFF

Earthwatch scientists

Dr Michael Mahony is a professor on the faculty of science and information technology at the University of Newcastle. His discipline is environmental science and management in the School of Environmental and Life Sciences. Dr Mahony has a BA and a Dip Ed, and completed his PhD in biological sciences at Macquarie University in 1987. Dr Mahony is interested in conservation biology with a particular emphasis on conservation genetics. He is currently working on species recovery plans for several species of frogs known to be endangered. He is also interested in genetic methods for the biological control of the cane toad, and his research has led to his involvement with the discovery of at least one new species of frog. Dr Mahony will be present on all teams.

Dr John Clulow works closely with Dr Mahony in the School of Environmental and Life Sciences at the University of Newcastle. He specialises in conservation biology, reproductive biology and physiology. John will be present on teams assisting in the major direction of research and analysis and will be acting as an Earthwatch scientist.

Field staff

Ross Knowles is a field assistant on the *Vanishing Frogs* project, and has an honours degree in biology. He was a campaign director with the Wilderness Society and a teacher at Taronga Zoo in Sydney. He is also qualified in financial management and runs his own business. He is the author of several books on ethical investment and environmental values, and is the founder of one of Australia's first ethical investment companies. He has a long and extensive connection with field work on frogs and a detailed knowledge of the Australian bush.

Leanne Pattinson, who holds degrees in biology and teaching, is a field assistant on this project. She has conducted field work on frogs in most of the Australian states and also has a particular interest in Australian native plants, and their identification and conservation management.

Simon Clulow is a field assistant on the *Vanishing Frogs* project with an honours degree in biology. He is currently conducting his doctoral research on the evolutionary biology of a threatened Australian frog species. Prior to commencing his doctoral studies, he conducted field work in a variety of Australian ecosystems and on a number of research projects. Simon will not be present for this team.

Dean Ross has a BSc with honours from the Department of Biology at the University of Newcastle. He specialises in conservation biology, ethology and systematics. Dean will be present on teams as a field assistant.

Earthwatch Teen Team Facilitator

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

Daily Life in the Field

VOLUNTEER TRAINING AND ASSIGNMENTS

Training

When you arrive on site, you will be given a briefing that covers:

- Orientation to the project
- History of the problem with declining amphibians
- Hypotheses for the decline of amphibians
- The relationship between science, management and community
- Evolution and bio-geography of the Gondwana Rainforest World Heritage Area of Eastern Australia flora and fauna. We expect to encounter a range of wildlife during the work (possums, kangaroos, a variety of birds, lizards and fish) and leaders are experts in identification and features of the biology of most of the fauna
- Australia's unique amphibians; biology, ecology, aboriginal use, evolution
- The role and origin of pathogens; effects of the chytrid fungus

Over the week, you will also be given field training, which includes:

- Guided introduction to the field situation: familiarization during daylight hours, safety issues, and team work principles.
- Talk and skills session on methods: catching and handling frogs (weighing, measuring, determining sex, etc). All of these methods will be repeated many times and there will be ample opportunity for volunteers to practice with assistance. The PI or assistant will be part of all field teams on transects.
- Recording and analyzing the data: a feature of field work that is often neglected is the time spent filling in record cards, double-checking them and then conducting some preliminary analysis of the situation, even if it is a simple comparison with the results obtained the last time the transect was conducted.

Assignments

There are no specific skills that are required by volunteers. You should expect to work outdoors in the day and night. The terrain is not difficult, and walking will not be over distances greater than 1 km. Some sections of the terrain will require care, such as negotiating the crossing of small creeks and climbing banks. At the study site it is necessary to walk along a creek for a distance of about 800m. There are numerous pools, but they are relatively easy to negotiate; however, it is likely that you will need to walk through the water on several occasions. Therefore, waterproof shoes (sand shoes) are recommended.

You will provide vital support in tasks that are labour intensive. Animals need to be located (a skill which can be learned) and collected. Once collected, animals are processed (which involves measuring, weighing, health-checking, marking and collecting tissues unobtrusively) and released as rapidly as possible to the point of capture. Data is then recorded. In demographic studies of one endangered species, we routinely take six hours with four workers (one processing, one data recording, two collecting) to complete a 1000-metre transect. Transects are surveyed twice within a day, diurnally and nocturnally. A group of students, rotating duties, would enable a larger number of transects to be completed and surveys extended to include extra species and communities.

TEAM ITINERARY AND DAILY SCHEDULE

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

Day 1

Time of Day	Activity
Morning	<ul style="list-style-type: none">Meet volunteers at rendezvous point and set out for the first field site
Afternoon	<ul style="list-style-type: none">Arrive Barrington Tops National Park mid-afternoon (approx. 2 hour drive)Set up campIntroductory presentation on the projectSwim in Gloucester River
Evening	<ul style="list-style-type: none">Evening mealFrogs of the Barrington Range – collect and identify frogsSupper and bed

Days 2 & 3

Time of Day	Activity
Morning/Afternoon	<ul style="list-style-type: none">Field work in Barrington National Park
Evening	<ul style="list-style-type: none">Evening mealTwo nights of transects along a small creek (a variety of tasks will be learned). Opportunities to spotlight for night mammals and birds.

Day 4

Time of Day	Activity
Morning	<ul style="list-style-type: none">• Depart for Werrikimbee National Park (approx. 4.5 hour drive)
Afternoon	<ul style="list-style-type: none">• Set up camp• Frogs of the Sydney Basin Sandstone environments
Evening	<ul style="list-style-type: none">• Evening meal• Ponds and stream transect• Supper and bed

Days 5 & 6

Time of Day	Activity
Morning/Afternoon	<ul style="list-style-type: none">• Field work in Werrikimbee National Park
Evening	<ul style="list-style-type: none">• Evening meal• Ponds and stream transects• Spotlighting for small mammals

Day 7

Time of Day	Activity
Morning	<ul style="list-style-type: none">• Wrap-up and feedback session• Pack up camp
Afternoon	<ul style="list-style-type: none">• Travel to Newcastle after lunch (1-hour drive)

Earthwatch Recreational Time Policy

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

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

ACCOMMODATIONS

Sleeping

This is a bush camping expedition. Sleeping will be in two- or three-person tents, and you will be provided with your own tent so there is ample room for yourself and your bags. You are welcome to bring your own tent if you wish. A marquee (8-person tent) will be set up as the general laboratory/gear area. We will arrange to have suitable tents and sleeping mats for all volunteers. It will be necessary for volunteers to have their **own sleeping bag and pillow**.

Bathrooms

The camping site has toilets and cold water showers.



Bush Camping © M. Mahony

FOOD

The camp sites have group cooking facilities. Volunteers will assist in meal preparation. Most meals will be cooked on an open fire, which enables anything that can be fried, grilled or baked in a camp oven to be prepared. Generally the evening meal will be the main meal of the day.

Here is a sample of the food you might expect in the field. Please bear in mind that variety depends on availability. This list is intended to provide a general idea of food types. It is very important that volunteers be flexible. We are able to accommodate vegetarians and a range of special dietary requirement; all we ask is that you are able to assist us in preparing and planning for your needs.

Breakfast: Cereal, toast and juices
Lunch: Sandwiches and salads
Dinner: Spaghetti bolognaise; stir-fried vegetables; chicken, beef and lamb with a variety of sauces; steak and vegetables or salads; bread
Snacks/Other: Fruit and other snacks will be available at all times
Beverages: Local fresh fruit juices will be available at all times. Fruit juice will be provided with the main meal.
Water: We will have supplies of fresh water

Special Dietary Requirements

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

Project Conditions

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

To the doctor:

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

General Conditions

We will be working in a climate that varies from subtropical to warm temperate. At the time of the expedition daily temperatures average about 28°C and the evening temperatures average about 20°C. Humidity can be high at times (up to 90%). It can be expected to rain at some time during the expedition, but the conditions are not difficult and irritants and natural hazards are minor.

The weather is expected to vary within the limits below.

December to January	
Humidity:	Up to 90%
Temperature range:	18-29°C/64-84°F
Altitude:	max. height of the mountain range is 1200m
Rainfall:	170mm per month

Physical Demands

Much of the work will involve walking along the banks of creeks and at times within the creek or stream. We will not be walking at a fast pace. However, the surfaces are uneven and often slippery. Participants need to be aware that the level of fitness is greater than that required for walking on flat ground. Bear in mind that a considerable amount of the work is conducted in the bush at night, and, once again, while we are not moving fast, we will be clambering over various obstacles such as fallen trees, boulders and rocks, and vines. We may also be wading through fast-flowing streams, so for safety purposes all participants should have some swimming ability. Also, although they don't pose any serious health risk, leeches, and biting insects are present and irritants.

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

Activity	Workload/Intensity
Sitting	2-4 hours per day
Bending	1-4 hours per day
Hiking	About 1-2 kms per day/2-4 hours over sometimes slippery rocks and uneven ground
Walking	About 1-2 kms per day/2-4 hours per day
Climbing	Minimum; some clambering over rocks and fallen timber along creeks
Swimming	Recreational swimming only

Water Conditions

The information provided is as accurate as possible, but please keep in mind that once in the field conditions may change.

Typical water temperature during project	16°C	to	18°C
Typical water visibility	2 m	to	5 m
Typical maximum water depth (bottom depth) in area	0.5m	to	2 m
Types of water environment	stream		

POTENTIAL HAZARDS

Hazard Type	Associated Risks and Precautions
Transportation	Transportation between sites is in a 4WD vehicle. Most roads in the research area are dirt and some are in poor condition and very bumpy. Seatbelts should be worn at all times. Only project staff that have previous experience on 4WD roads will drive.
Terrain	<p>Sprains, strains, breaks, fractures, etc. can result from walking over uneven, steep and muddy terrain; through dense vegetation and tangled undergrowth; and over fallen trees and branches.</p> <p>Most work is done along riverbanks. There is a low risk of injury from sharp objects in the sand. Participants should be cautious when walking through the bush and should wear sturdy, comfortable walking shoes or boots.</p>
Animals/Plants	You may encounter annoying invertebrates, such as leeches, ticks, mites, mosquitoes, spiders, wasps, bees and March flies. These can mostly be avoided by being aware of your surroundings, tucking pants into socks, applying insect repellent and not sitting on logs or leaf litter. Participants with allergies to insects should come prepared with necessary treatments (at least two epi-pens, antihistamines, etc.) and inform staff of your allergies. Participants are encouraged to check themselves for leeches regularly. Snakes are present near the project sites, but encounters are uncommon as they are usually shy.
Climate/Weather	Long sleeves, a hat and sunglasses are essential and should be worn even when the sky turns overcast. Working for long periods in warm conditions can result in rapid fluid loss, so drink plenty of water to avoid dehydration even during night research.
Plants	There is a plant called the stinging tree that, on contact, will give a very painful sting. It is not dangerous unless there is an extreme allergic reaction, but it is very painful and should be avoided. Other plants have spines that can ensnare you as you walk through the forest. Cuts and grazes often result from encounters with vegetation. Long sleeves and trousers help prevent scratches.
Project Tasks/ Equipment	A safety briefing will be given on the first day to familiarise volunteers with risks and ways to increase safety. Much of the research is done in a kneeling position and care must be taken to avoid strain.
Cooking	Participants should be aware of the hazards associated with cooking with gas and fires, e.g. burns, and should be extremely careful when assisting with meal preparations.
Swimming	Recreational swimming is possible. Volunteers should swim in groups, and notify staff of where and when you will be swimming. Swimming will be prohibited if the Principal Investigator determines the conditions are unsafe. Swimming alone or at night is prohibited.

HEALTH INFORMATION

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

Routine Immunizations

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

Project Inoculations

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

	Required for Entry	Recommended for Health Reasons
Tetanus		Generally recommended for health reasons
Yellow fever	If travelling from a country or region where it is endemic, a Certificate of Vaccination is required	

Advice Regarding Diseases

The following items are suggested: paracetamol or ibuprofen for minor aches, waterproof sun screen/block (SPF 30+), insect repellent and a wide-brimmed hat. First aid kits will be carried in the field. Over-the-counter medications are available at the chemist in Sydney, Gosford, Newcastle and most major towns. It is sensible to adhere to precautions and to bring medication for treating minor problems. Any prescription medication brought into Australia needs to be accompanied with a letter from your doctor for customs Inspection purposes. Medical attention of high quality will be sought should any serious ailments occur.

Additional Health Information Resources

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

EMERGENCIES IN THE FIELD

In the event of a medical emergency an ambulance would be called to the study site. All study sites are close to road access. Medical evacuation teams using helicopters are also present on the east coast of Australia should there be a major emergency.

A vehicle will always be available should there be a minor accident. Each vehicle carries a first-aid kit sufficient to deal with minor injuries.

Proximity to Medical Care

Staff certified in safety training	Michael Mahony is trained in first aid, CPR and water safety (with a Australian Lifesaving Association Bronze Medallion).
Nearest hospital and/or clinic	John Hunter Hospital Lookout Road New Lambton, Australia +61 (02) 4921-3000
Distance	Approx. 20kms

COMMUNICATIONS

Emergency Communications in the Field

The project staff will carry a mobile phone in the field (+61409 452 538) and will often be near public telephones.

The emergency contact number at Earthwatch Australia is: +61 (3) 9625-0822 (see *Emergency Contacts for calling instructions*).

Personal Communications

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

All volunteers are asked to remember that Earthwatch expeditions offer a rare chance to escape from hearing ringing phones and others' phone conversations, and to regulate their cell-phone use with respect for fellow volunteers and staff accordingly.

Contact Information

If necessary, volunteers can be reached at +61 (409) 452-538. This is to be used for emergencies only.

Travel Planning

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

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

- Citizens of Australia may register online at: www.orao.dfat.gov.au.
- British citizens may register online at: www.fco.gov.uk/en/travel-and-living-abroad/staying-safe.
- Citizens of the United States may register online at: travelregistration.state.gov.
- Citizens of other countries are encouraged to check with their appropriate embassy or consulate regarding registration.

RENDEZVOUS

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

Volunteers Under 18 Years of Age

Entry to Foreign Countries

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

Airline Documentation Requirements

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

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

INSURANCE

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

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

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

Emergency medical and evacuation insurance (MedEvac) is automatically included in the project cost you pay to Earthwatch. This coverage is valid in the country of your Earthwatch expedition and during travel to and from your expedition. If the expedition takes place in your home country, coverage begins at the official rendezvous date and time for the expedition and ends at the official departure date and time described in this document, and is incremental to your existing health insurance.

If you are Australian and living less than 50km away from the research site, please alert Earthwatch, as restricted insurance coverage applies.

Please note that due to different governing laws in each country, policies are specific to each regional Earthwatch office. Please check with your sign up office about your insurance coverage.

Cancellation Insurance

We highly recommend trip cancellation insurance, which will help cover your airfare if you are unable to travel, or the expedition is cancelled. Earthwatch does not reimburse airfare. Ask your travel agent for details on cancellation insurance.

Emergency Medical and Evacuation Assistance

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

ADDITIONAL TRAVEL INFORMATION

Luggage

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

Money Matters

- *Personal funds:* No funds are required for the expedition; however, participants may wish to take some cash (AU\$) with them to buy snacks and beverages before entering the campsite. For those travelling from overseas, airports and most major towns will offer banks and/or exchange bureaus during business hours, as well as ATMs for cash withdrawals (please check with your bank beforehand to see if yours cards are compatible with Australian ATMs). In most locations you can use EFTPOS or credit cards for large purchases, but smaller purchases are paid for with cash.
- *Local currency:* See the International SOS website and www.xe.com/ucc for currency information and exchange rates.

Your Destination

- *Language:* English
- *Electricity:* 240 volts, 50 Hz, three-pronged plug with flat blades. For additional information see kropla.com/electric2.htm.
- *Time zone:* GMT+8. For time worldwide with GMT/UTC see: www.worldtimeserver.com.
- *Telephone Dialing codes:* When calling Australia from another country, dial the country's international dialing code, followed by (61) and the number. When calling within Australia, omit the 61 and dial 02 for NSW and the ACT, 03 for Victoria and Tasmania, 07 for Queensland, 08 for South Australia, the Northern Territory and Western Australia. When calling another country from Australia, dial 0011, 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. For additional information [see kropla.com/dialcode.htm](http://kropla.com/dialcode.htm).
- *Tipping:* Tipping is not customary in Australia, except when exceptional service is provided.
- *Quarantine:* Australia has strict quarantine regulations making it inadvisable to carry food, fruit, vegetables or seeds between states.



Country Information

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

RECOMMENDED READING

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

Project-related Websites

- Global Amphibian Assessment (GAA): <http://www.globalamphibians.org>. The GAA is the first-ever comprehensive status assessment of the world's 5,743 known amphibian species. This project represents the first time that all amphibians have been assessed against the IUCN Red List Categories and Criteria, and as such is an important contribution to the Red List Programme. More than 500 scientists from 60 countries contributed to the three-year study.
- Dr Mahony's web site at University of Newcastle:
http://www.newcastle.edu.au/staff/directory/mahoney_merrick_146.html.
- Australian Museum online: <http://australianmuseum.net.au/Frogs> (contains great pictures of frogs of New South Wales).

HELPFUL RESOURCES

Travel Agencies and Advice

- STA Travel is the preferred travel supplier for Earthwatch Australia. Every booking made through STA Travel will benefit Earthwatch's research programs. STA Travel services all types of travel requirements and one of their biggest strengths is in complex travel requirements. In addition, STA Travel offers unique Student, Teacher and Youth airfares that are not available through any other travel agent
- To find out how STA Travel can help you please contact either Matthew Forster or Worasak Triprasertant on:
 - Phone: 03 9207 5908
 - Fax: 03 9347 0547
 - Email for reservations: nccc@statravel.com.au
 - Branch Postal Address: 235 Faraday Street, Carlton, Vic 3053

Appendix

Berger et al. "Chytridiomycosis causes amphibian mortality associated with population declines in the rain forests of Australia and Central America." *Proceedings National Academy of Science, USA* 95 (1998): 9031-9036.

Mahony, M.J., and R. Knowles, "A taxonomic review of selected frogs of North East NSW forests." *North East Forests biodiversity Study Report No. 3g*. New South Wales National Parks and Wildlife Service, 1994.

Tyler, M.J. *The Action Plan for Australian Frogs*. Environment Australia, 1997.

Earthwatch Institute Policies & Participant Rights and Responsibilities

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

Intellectual Property Rights

It is permissible to share photos, videos, and stories of your expedition with family, friends, local media, and in a public forum. Sharing your new perspectives and experiences is welcomed and encouraged; however, please recognize that all information, data, and images shared or gathered in the course of your expedition's field work become the intellectual property of the Earthwatch scientist (ES). Co-opting or plagiarism of data, images, or information gathered during an expedition for use in a scientific thesis, masters or PhD work, or for profit or the academic or business use of a third party without the permission of the ES is strictly prohibited. Please be aware that data gathered during the interviewing of local people becomes the intellectual property of the ES. Earthwatch scientists have the right to place additional restrictions on your ability to share data or certain research-related images.

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

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

Discrimination

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

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

Intimate relationships

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

Sexual Harassment

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

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

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

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

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

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

Drugs

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

Alcohol

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

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

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

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

Minors

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

Participants and Driving

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

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

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

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

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

In the Event of an Emergency

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

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

Right of Refusal

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

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

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

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

Expedition Packing Checklist

Required Items

- This Expedition Briefing
- Photocopies of your passport, flight itinerary and credit cards in case the originals are lost or stolen; the copies should be packed separately from the original documents
- Passport and/or visa (if necessary)
- Certification of vaccination (if necessary)
- Calling card/mobile phone (with international calling capabilities if applicable)
- Credit card that may be used (internationally, if applicable) in the event of an emergency (travel delays, etc.)

Clothing/Footwear for Fieldwork

- Lightweight, quick-drying long-sleeved shirts
- Long pants/trousers (jeans or khakis) for outdoors work
- Cotton T-shirts
- Closed-toe footwear (either boots or runners); we suggest at least two pairs **because they will get wet nightly. We devote one pair of runners to getting wet.**
- A rainproof jacket is desirable and long rainproof trousers are also useful but not necessary
- A hat that provides protection from the sun is necessary for the day, something with a reasonable brim on the front and back is desirable.
- Be sure to bring your Earthwatch T-shirt and remember to wear it, as appropriate, throughout your expedition

Clothing/Footwear for Leisure

- Clothes for relaxation: shorts and T-shirts would be most commonly worn
- Swimsuit
- Gaiters, useful for protecting against leeches (not essential, you can tuck your trousers into you socks)
- One set of clothing to keep clean for end of expedition

Field Supplies

- Small daypack/rucksack
- Drybag or plastic sealable bags (good for protecting equipment such as camera from dust, humidity, and water)
- Insect repellent spray
- Two one-liter water bottle(s)

Bedding and Bathing

- Warm sleeping bag (night temperatures can drop below 12°C)
- Pillow
- Two or more towels
- Note:** We will supply tents and sleeping mats for volunteers

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 personal medications
- Sunscreen lotion with SPF 30 or higher

Miscellaneous

- Spending money
- Camera, film/memory card(s), extra camera battery
- Recipes
- Watch
- Note:**We will supply each volunteer with a head torch/head lamp so there is no need to bring one

Optional Items

- Earplugs
- Hardware for sharing digital photographs at the end of the expedition
- Travel guidebook
- Books, games, journal, art supplies, etc. for recreational/rest time and travel
- Gaiters (useful for protecting against leeches, but not essential. You can also tuck your trousers into you socks.)
- Binoculars (useful but not essential, as we carry several pairs)



Our Mission

Earthwatch engages people worldwide in scientific field research and education to promote the understanding and action necessary for a sustainable environment.

We believe that achieving a sustainable future requires objective scientific data from the field—and that the scientific process must engage the general public if it is to change the world. To that end, we involve people from all walks of life directly in global field research.

We invite you to join us.

Earthwatch Institute

114 Western Avenue
Boston, MA 02134 USA
info@earthwatch.org
www.earthwatch.org
Toll-free: +1 (800) 776-0188
Phone: +1 (978) 461-0081
Fax: +1 (978) 461-2332

Earthwatch (Europe)

Mayfield House
256 Banbury Road
Oxford
OX2 7DE
UNITED KINGDOM
info@earthwatch.org.uk
www.earthwatch.org/europe
Phone: +44 (0) 1865-318-838
Fax: +44 (0) 1865-311-383

Earthwatch (Australia)

126 Bank Street
South Melbourne
VIC 3205
AUSTRALIA
earth@earthwatch.org
www.earthwatch.org/australia
Phone: +61 (0) 3-9682-6828
Fax: +61 (0) 3-9686-3652

Earthwatch (Japan)

Sanbancho TY Plaza 5F
Sanbancho 24-25, Chiyoda-ku,
Tokyo 102-0075 JAPAN
info@earthwatch.jp
www.earthwatch.jp
Phone: +81-(0)3-3511-3360
Fax: +81-(0)3-3511-3364