

RAPID ASSESSMENT PROGRAM (RAP) LOGISTICS MANUAL

August 2008

So many species...so little time

RAPTM

Rapid Assessment Program

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What is RAP?

Conservation International's Rapid Assessment Program (RAP) was created in 1990 to address the lack of biological information needed to make quick but sound conservation decisions. RAP deploys teams of international and host-country expert scientists to conduct rapid first-cut assessments of the biological value of selected areas. RAP surveys generally last 3 – 4 weeks. Preliminary results are made available immediately to local and international decision makers through reports and on the Internet. RAP data are then analyzed in tandem with social, economic, and other ecosystem information to develop a comprehensive conservation strategy.

RAP scientists have discovered hundreds of new plant and animal species and provided key biological data on threatened ecosystems around the world. RAP results are applied directly to “on the ground” conservation, such as forming national parks in Bolivia and Perú, developing a protected area strategy for Guyana, and halting illegal oil drilling in a national park in Guatemala.

The three types of RAP surveys include Terrestrial, Freshwater and Marine. This manual only covers Terrestrial and Aquatic RAP surveys.

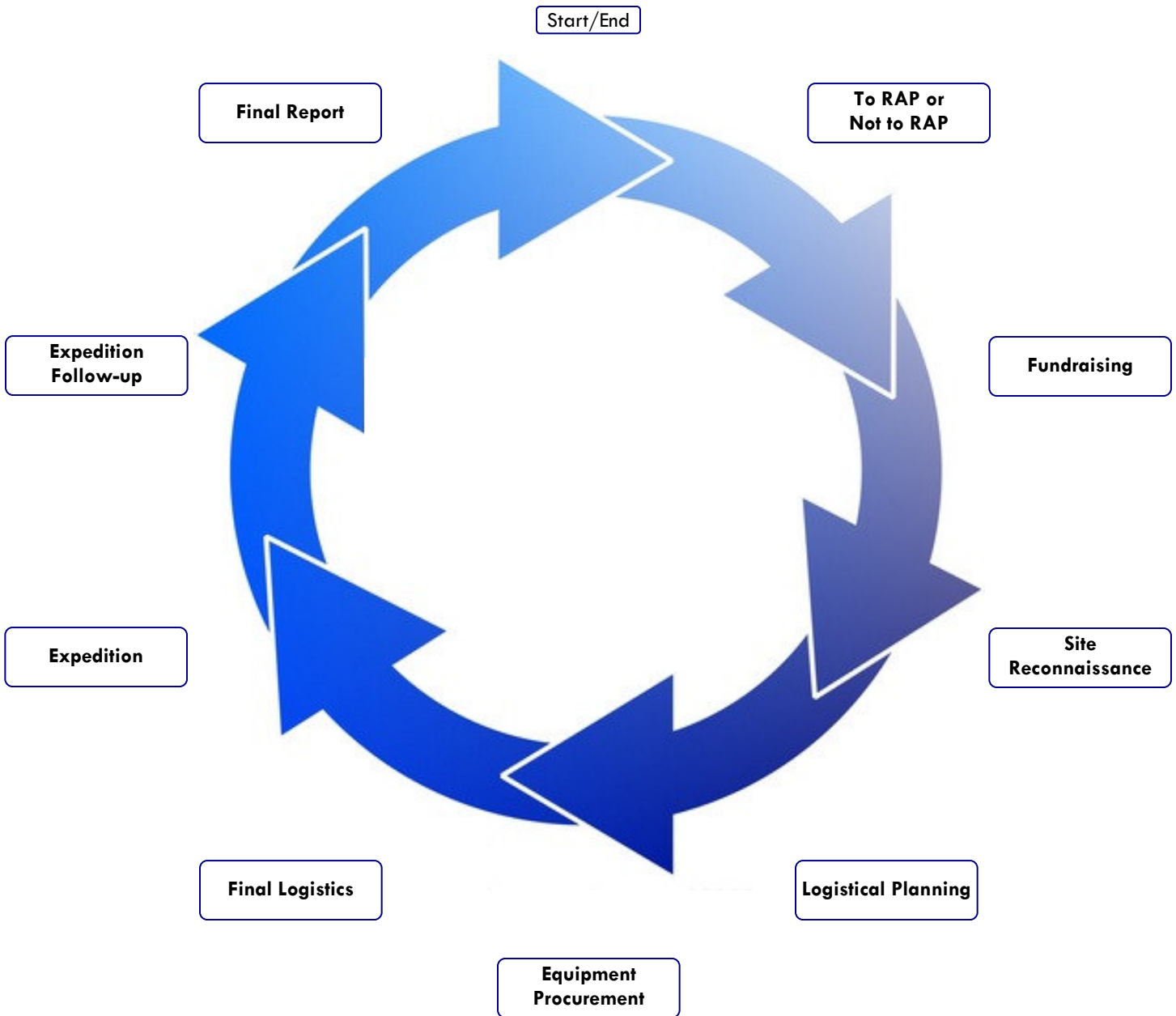
Terrestrial RAP assesses the biological diversity of poorly known terrestrial ecosystems about which information is needed to take conservation action. RAP scientists gather and report data about vegetation, birds, mammals, reptiles, amphibians, and select insect groups.

Freshwater RAP (previously AquaRAP) provides a first-cut assessment of the biological value of freshwater aquatic ecosystems in order to identify priorities and opportunities for conservation. Expert teams of scientists survey fishes, plants, invertebrates, water quality, and amphibians and reptiles.

How RAP surveys differ from other taxonomic surveys

RAP surveys use expert scientists, sample many taxonomic groups and link conservation recommendations to actions through CI field programs.

Visual Representation of the RAP Process



Roles and Responsibilities

Planning a RAP survey requires a great deal of organization. The *Roles and Responsibilities* spreadsheet was developed to help guide the process and to ensure that everyone on the planning team knows what needs to be done.

Director: Head of RAP or person ultimately responsible for the RAP survey's success

Regional Program/Field Office: US based RPD and/or host-country CI Field office

Admin/Finance: Coordinates the administrative and financial aspects of the RAP survey

Logistics Manager: Oversees all aspects of a particular survey's logistics

In-country Logistics Coordinator: Implements all needed logistical arrangements in country and provides required information to Logistics Manager

Scientific Team Leader: Scientific decision maker

Editor: The lead editor of the RAP Bulletin of Biological Assessment

A *Logistics Checklist* for the Logistics Manager and In-country Logistics Coordinator is also available to be sure all of the relevant tasks are complete.

All RAP surveys are different and more detailed list for individual surveys can be developed using the *Roles and Responsibilities* spreadsheet and *Logistics Checklist* as a base.

Roles and Responsibilities

	Director	Regional Program/ Field Office	Admin/ Finance	Logistics Manager	In-country Logistics Coordinator	Scientific Team Leader	Editor
To RAP or Not to RAP							
Decide if RAP is appropriate	•	•					
Fundraising							
Discussions with Development	•	•		•			
Proposal writing and budget	•	•		•			
Proposal review by CABS and Development	•	•		•			
Grants administration		•	•	•			
Donor acknowledgement	•	•		•			
Budget tracking system		•	•	•			
Pre-RAP Planning & Site Reconnaissance							
Contract Scientific Team Leader	•	•		•			
Contract In-Country Logistics Coordinator		•		•		•	
Procure Background Information and Maps		•		•	•	•	
Community Outreach		•		•	•		
Site Reconnaissance Budget & Logistics				•	•	•	
Participate in Site Reconnaissance				•	•	•	
Site Reconnaissance Payments			•	•	•		
Logistical Planning							
Final site selection	•	•		•	•	•	
Identify scientific team members	•	•		•		•	
Create itinerary				•	•	•	
Write and send invitation letter				•			
Contract participants			•		•		
All in-country logistics arrangements (including safety plan and field communications)					•		
Summarize and Distribute Scientific Background Information to participants				•		•	
Summary for Media – 1 page				•			
Obtain permits					•		
Visas, waivers, W-8/W-9, Personal Safety Information Sheet			•	•	•		
Insurance – domestic participants					•		
Travel advance			•	•			
Equipment Procurement							
Lists from scientists				•		•	
Compile master equipment list				•		•	
Transport plan				•	•	•	
Purchase and expense tracking			•	•	•		
Final Logistics							
Confirm scientists				•		•	
Confirm permits				•	•		
Political situation confirmed stable		•					
Tickets purchased			•	•			

	Director	Regional Program/ Field Office	Admin/ Finance	Logistics Manager	In-country Logistics Coordinator	Scientific Team Leader	Editor
Confirm visas, waivers, W-8/W-9, Personal Safety Information Sheet			•	•	•		
Confirm contracts signed			•	•	•		
Confirm insurance			•	•	•		
Confirm all equipment purchased				•	•		
Confirm in-country logistics and budget				•	•		
Expedition							
Equipment through customs					•		
Coordinate logistics throughout expedition					•		
Safety talks and enforcement				•		•	
Oversee scientific data collection						•	
Oversee photography/web broadcasts				•			
Direct data analysis& preliminary report writing						•	
Coordinate conservation recommendations						•	
Pack specimens for shipping				•	•	•	
Ensure that specimens are exported and repatriated if necessary				•	•		
Press conference		•			•	•	
Expedition Follow-up							
Edit scientific preliminary report						•	•
Review and distribute		•				•	•
Distribute		•	•				
Send information to donors	•	•					
Coordinate with web and media staff to post preliminary report and/or press release			•				
Collect, organize and distribute media			•				
Contracts for specimen processing			•				
Pay specimen processing fees			•				
Budget review			•	•			
Final Report							
Give scientists guidelines							•
Receive text and edit into standard written English							•
Send back to scientists for review and additional information							•
Pay Honoraria			•				
Write introductory material						•	•
Send to reviewers							•
Translate appropriate sections							•
Copy edit							•
Work with CABS Publication on design							•
Complete data sheet for RAP database							•
Send 5 copies to each author			•				
Send copies to country program			•				
Distribute to mailing list			•				
Store remaining			•				

Logistics Checklist

Task	Logistics Manager	In-country Logistics Coordinator
Pre-RAP Planning and Site Reconnaissance		
_____ Contract Scientific Team Leader (Be sure the scientist is willing and able to accept all responsibilities)	•	
_____ Contract In-Country Logistics Coordinator	•	
_____ Procure Background Information and Maps	•	•
_____ Community Outreach	•	•
_____ Determine possible interest and availability of hiring guides, porters, cook-assistants		•
_____ Site Reconnaissance Budget & Logistics	•	•
_____ Participate in Site Reconnaissance	•	•
_____ Site Reconnaissance Payments	•	•
Logistical Planning		
_____ Final site selection	•	•
_____ Identify scientific team members	•	
_____ Create itinerary	•	•
_____ Write and send invitation letter	•	
_____ Contract participants		•
_____ All in-country logistics arrangements		•
_____ Travel advance	•	
<i>Permits</i>		
_____ Determine what permits and authorizations are needed		•
_____ Secure permits for collecting specimens		•
_____ Secure permits for exporting specimens		•
_____ Secure permits for CITES listed specimens		•
_____ Secure any authorizations needed		•
<i>International Participants</i>		
_____ Complete an <i>Airline Flights Arrival/Departure Sheet</i>	•	
_____ Assist international participants through customs		•
_____ Welcome participants at airport with CI Logo sign for common meeting point		•
_____ Transportation - airport to hotel		•
_____ Transportation - hotel to CI office		•
_____ Transportation - hotel to airport		•
_____ Transportation - any interviews/meetings		•
_____ Lodging - Pre-expedition		•
_____ Lodging - Post-expedition		•
_____ Meals - Pre-expedition (if not at the hotel)		•
_____ Meals - Post-expedition (if not at the hotel)		•
<i>Food</i>		
_____ Hire Cook		•
_____ Work with Cook to determine menu and food supply list		•
_____ Procure food supplies		•
_____ Procure cooking pots, pans, utensils		•
_____ Procure silverware, plates, bowls, cups		•
<i>Transportation</i>		
_____ Determine how domestic participants will get to CI office for start of expedition		•
_____ Determine how RAP Team will get to survey sites (truck, plane, helicopter, boat)		•
_____ Determine how RAP equipment and supplies will get to survey sites		•
_____ Set up transportation needs		•
<i>Camp Supplies</i>		

Task	Logistics Manager	In-country Logistics Coordinator
_____ Do all participants all have a place to sleep, including support staff (drivers, cooks, guides) (International participants will bring their own tent) Provide tents as needed.		•
_____ Do all participants all have something to sleep on (sleeping bags, mats, mattress), including support staff (drivers, cooks, guides)		•
_____ Generator (if applicable) Double check for working order, Must have proper plug for extension cord		•
_____ Fuel/Oil (vehicles and generator)		•
_____ Tables, chairs (or something that can be built on site)		
<i>Safety</i>		
_____ Safety Plan		•
_____ Field Communications		•
_____ Completed CI-RAP – Personal Safety Information Sheet from all domestic participants	•	•
_____ Completed CI-RAP – Release and Waiver of Liability from all domestic participants	•	•
_____ Completed CI-RAP – Permission for Emergency Medical Treatment from all domestic participants	•	•
_____ Insurance – domestic participants		•
_____ SOS Insurance - International Participants	•	
<i>Preliminary Report & Data Analysis Retreat</i>		
_____ Arrange a site for scientists to meet and write their reports		•
_____ Make sure all scientists have a computer to work at (one should have internet access)		•
<i>Press Conference</i>		
_____ Secure location for press conference		•
_____ Provide beverages (perhaps snacks)		•
_____ Summarize and Distribute Scientific Background Information to participants	•	
_____ Summary for Media – 1 page	•	
Equipment Procurement		
_____ Lists from scientists	•	
_____ Compile master equipment list	•	
_____ Transport plan	•	•
_____ Purchase equipment that can be bought in country	•	•
_____ Purchase preservation fluids needed (e.g. alcohol, formalin, acetone) Double-check quantities and strength		•
Final Logistics		
_____ Confirm scientists	•	
_____ Confirm permits	•	•
_____ Political situation confirmed stable		
_____ Tickets purchased	•	
_____ Confirm visas, waivers, W-8/W-9, Personal Safety Information Sheet	•	•
_____ Confirm CI-RAP – Personal Safety Information Sheet from all domestic participants		
_____ Confirm CI-RAP – Release and Waiver of Liability from all domestic participants		
_____ Confirm CI-RAP – Permission for Emergency Medical Treatment from all domestic participants		
_____ Confirm contracts signed	•	•
_____ Confirm insurance	•	•
_____ Confirm all equipment purchased	•	•
_____ Confirm in-country logistics and budget	•	•

Task	Logistics Manager	In-country Logistics Coordinator
_____ Airline arrival/departure spreadsheet to In-country Logistics Coordinator	•	
_____ Confirm hotel reservations	•	•
Expedition		
_____ Equipment through customs		•
_____ Coordinate logistics throughout expedition		•
_____ Safety talks and enforcement	•	
_____ Oversee scientific data collection		
_____ Oversee photography/web broadcasts	•	
_____ Pack specimens for shipping	•	•
_____ Ensure that specimens are exported and repatriated if necessary	•	•
_____ Press conference		•

1: To RAP or not to RAP

This guide, prepared by the Rapid Assessment Program (RAP) of CABS, can help you in planning a biodiversity survey.

First of all, it is important to answer the questions listed below when you begin planning any survey to ensure that you collect data appropriate to your needs. Second, you should consider whether involvement of the RAP Program is necessary or beneficial to your efforts. RAP provides assistance in many areas related to logistics, science and publication (see list below). We have developed a decision tree to help you determine the requirements of your biodiversity survey and whether the RAP program's involvement is appropriate. Feel free to contact RAP staff if you have questions or want further information.

STEP 1

Why are you surveying?

- a. Fill in data gaps
- b. Justify / highlight importance of an area for protection
- c. Engage industry
- d. Prioritize conservation investments

STEP 2

What data do you want to collect?

- a. Taxonomic groups – single or multiple? Which groups?
- b. New species
- c. Threatened species
- d. Endemic species
- e. Range extensions
- f. Invasive species
- g. Population size / health
- h. Ecosystem health

STEP 3

Do you have funding?

RAP can often help fundraise

STEP 4

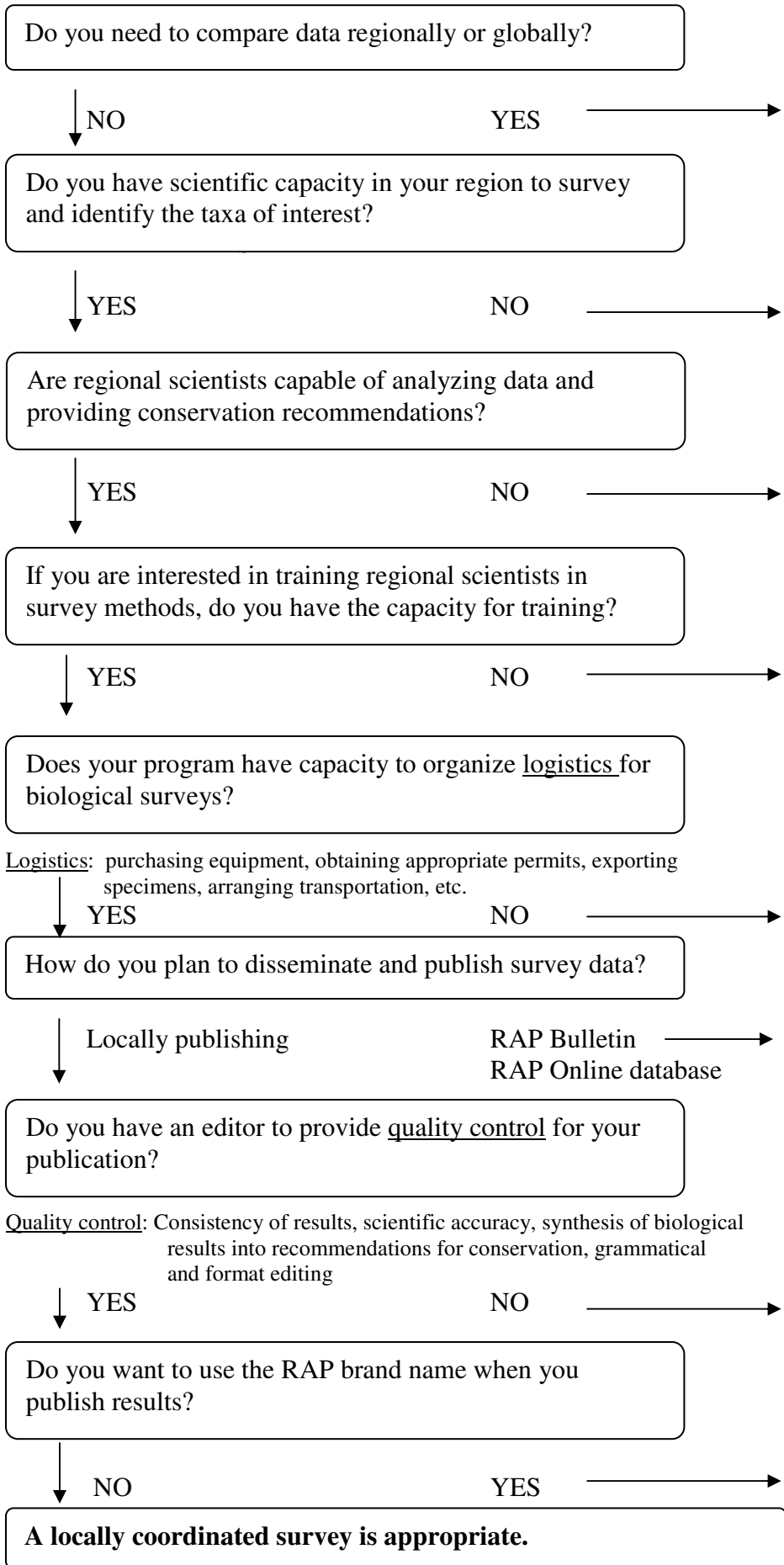
Do you need to compare your data regionally? Globally?

See decision tree (below)

The RAP Program provides the following assistance to carry out biodiversity surveys:

- Fundraising
- Contacting and contracting international scientists who can compare data regionally and globally
- Guiding logistical arrangements
- Training students and local scientists in rapid assessment methods
- Data analysis
- Providing connections to international museums for specimen identification and storage
- Producing specific conservation recommendations from data (beyond “more surveys needed”)
- Editing and quality control of reports and data
- Publishing data in the RAP Bulletin and RAP Online database
- International media attention

Biodiversity Survey Decision Tree



Some level of RAP Program involvement may be appropriate.

Contact:
Leeanne Alonso
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Peter Hoke
p.hoke@conservation.org

2: Fundraising

Discussions with Development

Proposal Writing

RAP is willing to assist with fundraising efforts. However, if you would like RAP assistance we need to be involved at the earliest discussions of potential surveys.

Budget

When preparing a budget take the time to think through all of the steps of an expedition. Even though we are a non-profit we need to cover all of our costs. A sample budget of line items is included in Appendix 1. Remember to include costs such as salaries, rent, telecommunications and a small amount for unforeseen overruns.

Proposal Review by CABS and Development

Grants Administration

After the proposal is submitted decide who will be registering the grant. The grant needs to be registered as quickly as possible to ensure that purchases can be made and expenses properly coded. Planning for a RAP survey can not move forward without funds or a written promise to cover expenses. RAP can not and will not front costs in the expectation that a grant will be awarded or a contract be signed.

Donor Acknowledgement

Determine ahead of time if/when reporting is required for the grant and make proper preparations for all reports. Remember without this grantor this biodiversity survey would not have been possible.

3: Pre-RAP Planning and Site Reconnaissance

Contract Scientific Team Leader

Select a scientific team leader who will accept all of the Scientific Team Leader responsibilities required at the various stages of the RAP.

Contract In-Country Logistics Coordinator

It is vitally important that the right person be selected for this job. The person should be highly organized, detail-oriented and a problem solver with a good sense of humor. Make certain that the contract with this individual covers all of the tasks described in the Logistics Checklist.

Procure Background Information and Maps

Maps are extremely important to be able to identify potential sites and how to access them. Background information is useful in site selection and especially helpful in producing the RAP Bulletin following the survey. The Scientific Team Leader (as well as other RAP scientists, once identified) should research and collect background information in advance of the survey.

Community Outreach

Nearby communities need to be made aware of the RAP survey. Outreach should be a continuous process and any questions should be answered, if possible. Often community members are hired to be guides, porters and cooks for the expeditions. The communities are usually the first line of defense for the biodiversity of the area that is being surveyed.

Site Reconnaissance Budget & Logistics

The Logistics Manager, In-country Logistics Coordinator and Scientific Team Leader should meet to discuss what sites should be visited. The background information and maps are extremely useful for this step.

Participate in Site Reconnaissance

Well-selected sites will keep scientists from philandering off to better sampling grounds.

- Select specific campsites as soon as possible. This will be the single biggest influence on your logistics budget and itinerary.
- Visit the specific sites before the RAP expedition. What looks like a short and easy hike from the air doesn't always reflect the on-the-ground reality.
- Note the GPS coordinates and take some pictures so that others can get an idea of what the sites are like.

When choosing the campsites for the RAP, we will want to consider:

- a) Variety of Habitat: The idea of a RAP is to get the most complete list of species in the shortest period of time over many taxonomic groups. Therefore, it is most critical to sample a variety of habitats. Look on any available satellite imagery for any hills, gradients, or mountain peaks. Then see if there are any access roads, trails, or good places to cut a trail. Check for obvious changes in forest or savanna habitat and plant composition. This will affect all the taxonomic groups. Also, geological maps are a good source of information on what may make an area different, and therefore especially important for conservation.
- b) Accessibility: You will need to find a way to get into the site relatively easily. It is hard to get scientists to commit a long period of time to these projects. It is harder still if they will spend more time traveling than sampling. Carefully consider whether to invest in renting a helicopter or maybe a second set of tools that can be staged at another site, to save on airplane weight.

- c) Viability: Although RAP scientists are typically a “rough and ready” crew, a few basic commodities will not only make people happier, they will also reduce the risk of illness on the trip. Make sure the campsite can either provide or contain:
- plenty of clean or treatable drinking water. Boiling water is fine, however boiling shouldn't be done over wood as this causes an unpleasant taste. If water is not clear, it should be filtered. Everyone should have as much water as they need.
 - helicopter landing area or other emergency access
 - ample space for separate areas for cooking, sleeping, and a lab
 - sanitary bathing area (far enough away from toilets and fast-flowing water)
 - appropriate toilet facilities (latrines dug) for the number of participants

Site Reconnaissance Payments

For accurate accounting all purchases need to have a receipt. The In-country Logistics Coordinator should carry a blank receipt book so that the merchant can write a receipt when one isn't offered. The Logistics Manager should bring money for back-up but most transactions should be covered by the In-country Logistics Coordinator.

4: Logistical Planning

Final Site Selection

Choose the final sites based on the reconnaissance trip. Much of the logistics will be based on the sites that are selected.

Identify scientific team members

The ideal RAP scientist will have the following knowledge and skills:

- is a respected expert in their field
- has worked in the region for a number of years
- has the ability to make identifications in the field
- is able to write a timely and well researched report
- is able to provide conservation recommendations
- works well with others

It is highly recommended that if the “expert” isn’t available that you ask for referrals from him or her. If you are unfamiliar with that person ask the scientist to send you some of their publications. It is vital that the expert for each taxonomic group studied provide a report. If you find a scientist that isn’t a strong report writer but can do the field work think about pairing them up with a ‘mentor’ to assist with the report.

Create itinerary

The time it takes to access the survey sites is different for each RAP. Try to limit travel days and maximize survey days. Remember this group of scientists is only there for a short period of time. Leave at least two days at the end of the survey for a preliminary report writing session. This gives the scientists some time to organize their data and write something while it is still fresh in their mind. The preliminary report is an ESSENTIAL aspect of the RAP survey, as it has been known to happen that post-RAP a scientist may disappear, never to be heard from again. Without a preliminary report from each scientist, the data collected during the survey (and hence the entire reason for the survey in the first place) is lost. See Appendix 2 for a sample itinerary.

Write and send invitation letter

Every RAP scientist should receive an invitation letter formally inviting him or her on the survey. The letter should provide some background on RAP and outline the reasons the survey is being undertaken. It should also list the survey’s objectives, benefits of participation, participant’s responsibilities, other participants, a preliminary itinerary and map of the area. See Appendix 3 for a sample invitation letter.

Contract participants

A signed contract is required for any participant that will be paid. The contract should state exactly what is expected of the participant with due dates and compensation amounts. See Appendix 4 for a sample contract. RAP pays participating scientists a standard honorarium of \$1000 US dollars and it is typically paid upon receipt of their final report. While this is not a large sum of money, especially to those accustomed to consultant pay, RAP believes that the benefits of participation make this an attractive offer. We must be consistent in this payment or scientists will develop different expectations. Some team members can receive more if they do additional duties such as report editor, team leader or logistical coordinator.

All in-country logistics arrangements

Use the *Logistics Checklist* on page 6 to be sure all of the relevant logistic tasks are complete.

Obtain Permits

It is imperative that all the necessary permits be obtained before the participants arrive in the country, preferably as soon as possible. The permitting process varies country to country and can be a long

process. Typically a collecting permit and an export permit are needed. Additional permits may be required if CITES-listed specimens will be collected and exported. Usually all the scientists need to be listed on the permit. Each of the scientists exporting specimens will need to have an export permit and RAP needs to have a copy of all permits for their records. It would be advisable for the country program to keep a copy for their records too. Typically the export permits need to have a list of the specimens being exported. This means that the lists will need to be generated during the expedition. Most scientists want to hand-carry their specimens back to their university or museum so every effort needs to be taken to ensure that the permits are ready prior to their departure. If they are not ready work with the scientists to ensure that the specimens are packaged appropriately and are ready as soon as possible for shipment.

International Participants

For some of the scientists this may be the first time visiting that particular country or they have luggage containing traps, small vials or other infrequently seen items. Since custom inspections are rather subjective any assistance that can be provided to quickly pass through customs is appreciated. This could be a letter (from the local CI office or a partner government agency) or someone physically there explaining that these scientists are here to help protect the biodiversity of the country.

Once through customs someone should meet each traveler with some type of sign so that they know where to go. Be sure to have enough space in the vehicles for people and gear. Remember that you will need to provide transportation for the international participants for their entire stay. When choosing lodging for the international participants it is useful to choose a place with restaurants nearby and near the local CI office because it eases transportation issues. Use the *Airline Flights Arrival/Departure Sheet* (Appendix 5) to keep track of when the international participants arrive and depart.

Food

The RAP team is usually in the field for several weeks and a good cook can make life much easier. RAP can send suggestions for menus, but work with the cook to determine a menu and come up with a list of supplies that will be needed. Each of the participants should be asked if there are any dietary restrictions (e.g. vegetarian, allergies, religious). Fresh vegetables and meats can sometimes be purchased at nearby markets or villages (something to look for during the site reconnaissance) or could be re-supplied later in the expedition. Having a varied menu goes a long way to keeping up morale. Be sure there are enough tableware (e.g. plates, bowls, cups) and flatware (e.g. forks, spoons, knives) for everyone. It is the cook's responsibility to make sure that there is enough food for everyone. It is the participant's responsibility to be sure that they are there to eat it or make arrangements with the cook to set some aside for when they will be there. Many of the scientists prefer to go out for the day and take food with them for lunch while some will return to camp. A pack lunch consisting of sandwiches and snacks is usually sufficient. Many of these scientists will be leaving right after breakfast so lunches would need to be made in the early morning hours too. Some scientists need to be working when dinner is served. Identify those individuals and remind the cook to leave food aside for them.

Transportation

Transportation is required before, during and after the expedition. Make a written plan of what vehicle will be where at specific times. This is especially necessary if there are a limited number of vehicles, which is usually the case. Rented vehicles should be in good working order and not break down after being fully loaded and being driven over a few bumps. Drivers need to be safe and courteous to others on the road. Determine the best way for domestic participants to get to the starting point of the expedition (e.g. CI office). Determine whether or not it is appropriate to offer bus/taxi reimbursement or send a vehicle around to pick up people.

Camp Supplies

Tents: All participants need to have a place to sleep and something to sleep on. If tents are provided make sure that they don't leak and that sleeping bags/mats are clean. The international participants are

asked to bring their own tent and sleeping gear. Local participants often need to borrow a tent and sleeping bag.

Tables/Chairs: The scientists need sturdy tables for preparing specimens after they are collected. We'll also need a table for the cook to use in preparing and serving food, and a table to use for meals. The number will be dependent on the number of participants. We'll likewise need a number of folding chairs. It is not necessary that we have enough chairs for every team member, but there should be enough for 2/3 of the team.

Note: Benches and table legs can be made in the field using small diameter trees. This way we would only need to have table tops or you can make table tops from trees tied together. If benches are stationary have them close to the table so that it is possible to work at the table.

Generator: Often needed – This would be helpful for some of the scientists that want to write up their findings in the field. It can also be used to power up any rechargeable batteries (e.g., satellite phone, cameras, laptops). Check it to be sure it works prior to the expedition. Have the proper plugs/adapters so that receptacle strips can be plugged into it. Safety is paramount and there is no reason that bare wires should be plugged into the receptacles.

Bathing: There needs to be some type of access to water. Bathing can occur two ways.

River - People can bathe in the water provided it's not too fast moving or on a steep bank.

Bucket/Shower stall - People can use a bucket of water in a stall. Be sure to have enough buckets.

It would also be advisable to have a separate shower for females and it should be marked that it is only for females.

Latrines/toilets: Appropriate toilet facilities need to be arranged for the number of participants. Latrines are usually dug at least 10 m from the campsite. A "curtain" of bamboo or branches can be used to make walls. It would also be advisable to have a separate toilet for females and it should be marked that it is only for females.

Lighting: Some type of light will be needed in the camp at night. It's best not to use lights that require a generator, as, even if we bring a generator, it should only be used if absolutely necessary, not for daily needs such as light. Some type of lantern with fuel is best. Battery operated lanterns usually aren't a good idea unless they can last a long time. Batteries are heavy and would need to be transported both into and out of the camp site as they cannot be left behind.

Trash: The campsite should be left as close as possible to the way it was found. Any organic substances can be buried so that they can decompose. Paper products can be burned. Any metal, glass, batteries, etc. should be bagged and brought back to the city. There should be a designated area within the campsite for depositing trash.

Safety

A safety and communication plan needs to be created in case of emergency. Since telephone service is rarely available in the survey areas, RAP brings a satellite phone for use in emergencies and to check in with the office. If a RAP representative will not be participating in the survey, provide a satellite phone or ask if you can borrow one from RAP. A written communication plan that establishes a chain of command (i.e. who uses the phone, who to contact in case of an emergency, etc.) needs to be made available to everyone in camp. Key people should be trained on how to use the phone and where it is located. Refer to the *RAP Health, Safety, and Environment Manual* (Appendix 6) for specific details. Each participant should receive a copy of the *RAP Health, Safety, and Environment Manual* before they go to the field.

Each taxonomic group is assigned a field medical kit that should be brought with them into the field. It contains minor first-aid treatments. A larger medical kit is left within the camp that contains a first-aid guide and more comprehensive treatments. We do not carry prescription medication, including narcotics. A list of the medical kit contents is in Appendix 6.

Visas, waivers, W-8/W-9, Personal Safety Information Sheet

All international participants need to have valid passports. Many times custom officials will require that the passport is valid for at least six months after entering the country. Remind participants to check the expiration date on their passports.

Visa costs are usually reimbursed because it is easier for the participant to obtain it. Communicate to the participants the type of visa needed (e.g. Business, Tourist, Scientific). Participants can use the invitation letter or a separate letter can be drafted by CI.

Waivers and the Personal Safety Information Sheet are mandatory and every participant (international or domestic) is required to sign these documents. A waiver is the voluntary relinquishment or surrender of some known right or privilege. One waiver we require participants to sign indicate that CI has informed the participants of the risks involved with the expedition and that they will not hold CI responsible if something bad should happen. The other waiver gives consent to be medically treated if necessary. The information sheet is used for mailing final reports, paying scientists and notifying emergency contacts. No waivers and information sheet, no participation. See Appendices 7, 8, and 9 for copies of the waivers.

W-8 or W-9's are required for tax purposes if CI will be making payments to participants. All forms need to be completed before anyone can be paid.

Preliminary Report & Data Analysis Retreat

For a couple of days following the expedition the scientists are given time to analyze their data and write a preliminary report. This often occurs in the local CI office or a room is reserved in the hotel where the scientists are staying. Wherever the place is all of the scientists need to have a computer to work at (at least one should have internet access). Some scientists bring their own laptop and RAP can bring a couple too but that should be confirmed so that arrangements can be made if more are needed. The scientists should focus on writing so have drinks and snacks available and maybe have lunch brought in.

Press Conference

If a press conference or public meeting is needed make arrangements prior to the survey. The scientists should have a full day to go over their data so that they can share their results. It is probably most effective to have the Scientific Team Leader give a PowerPoint presentation and have the rest of the scientists available for questions and answers.

Insurance

In case of a medical or security emergency, insurance coverage is needed for all who participate in the expedition. This does not replace personal health care insurance. Participants must confirm that their regular health insurance will cover emergency medical treatment internationally. If the insurance does not cover such claims, participants are responsible for purchasing appropriate insurance at their cost.

CI employees (and dependents): Covered by SOS Insurance (<http://www.internationalsos.com/Private/ConservationInt/>) From their website, "International SOS services are designed to help you in an emergency with medical, personal, travel, security and legal problems when away from home. Call International SOS at any time to speak with a physician or security specialist about simple or critical matters."

International participants: SOS Insurance should be purchased. Check the website above for the CI contact person. The cost to insure a participant is roughly \$120-150 per person.

Domestic participants: SOS Insurance does not cover individuals within their own country. Therefore, some type of emergency medical insurance should be purchased for those domestic participants.

5: Equipment Procurement

Ordering equipment can be overwhelming, but don't stress out! A simple spreadsheet and advice from friendly scientists will see you through it. When you order equipment for a RAP survey, be sure to keep track of the following so that you can easily calculate how much each group has spent and assign donors as appropriate. Before you arbitrarily decide not to order equipment because the budget is tight, talk it over with all the participants. Often groups are happy to double up with supplies (e.g., mist-nets, buckets, formalin) or have low-cost alternatives in mind. This creates an aura of teamwork right from the start.

Each request from a scientist should be tagged with the:

- Participant Name
- Institution
- Date ordered
- Taxonomic Specialty

Then, for every piece of equipment you will need to know:

- Item Name
- Description (and whether there are any "generic substitutes")
- Source (Catalogue, Supplier, Suggested Retail)
- Source Contact Information (address, phone, fax, web site, contact name)
- Stock #
- Size/Specification
- Unit Price
- Quantity (for expensive items, find out both the minimum and ideal amount)
- Who will purchase (Scientist or RAP? Some equipment such as mist nets and chemicals require a permit and it is easier for participants to make the purchase and then be reimbursed)

Luckily there is an Excel spreadsheet, *RAP Equipment Request Form* (Appendix 11), that has columns for all this information. It also contains a list of suppliers that RAP either has an account with or has been satisfied with in the past. The *Standard Equipment List by Taxonomic Group* (Appendix 12) lists equipment that is typically used on a RAP. The Logistics Manager should discuss with scientists and In-country Logistics Coordinator who will keep the equipment after the RAP survey. Often the equipment is left with the CI field office for future in-country surveys or with RAP if it can be used on other surveys.

Finally, you will want to keep track of:

- Date Order
- Date Received
- How will this equipment be transported to the country? (luggage, shipping, CI staff)
- Any Comments or Special Instructions?

Some practical tips to surviving the pitfalls of ordering equipment for RAP expeditions

I'll just pick it up in-country...

Face value, this is true, with the wonderful world of globalization you can find almost anything in any capital city. But just ask any Peace Corps Volunteer what percentage of their two year service they spent in the developing world waiting for special orders in hardware stores and combing black-markets. A good rule of thumb is to bring, or have each scientist bring, the bare minimal essentials for sampling in their luggage. If they can't figure out how to do that, they should probably reassess whether their sampling protocol is really appropriate for RAP. The only exception to this is if the scientist has worked in this particular country for a long time, knows exactly where and how to find the material they need, and is willing to ad-lib if those sources fall

through. Remember that the RAP team won't have much time in the city to buy things – purchase items in advance or bring it with you.

The first word in Rain Forest is “rain”

There is nothing more unpleasant than a scientist who is either wet or grumpy or whose equipment has been ruined in the rain. Every team member is responsible for caring for their own equipment, but there are a few things you can do in order to stave off disaster. While RAP can't provide enough Pelican cases for everyone's equipment, especially personal electronics like cameras and laptops, an unlimited supply of extra thick trash bags and duct-tape can be coupled with an extra t-shirt for a similarly protective effect. Other “rainy day” provisions include throwing a few extra pairs of flip-flops, rain ponchos, hammocks, mosquito nets, plastic cups, and flashlights into the camping gear. Yes, everyone should provide their own, and it may seem like a good place to cut costs on a tight budget, but the net misery quotient (misery created by not having these items vs. cost of purchasing and transporting these items) is very high. Be safe: bring them and be at peace with the world.

Zip-lock bags: the golden age

You can never, never, never have enough zip-lock bags of various sizes. You can wrap them around fragile objects on your way overseas, they can waterproof everything from notebooks (much cheaper than investing in write-in-the-rain) to sensitive electronic equipment, and also carry everything from dead frogs to tasty snacks. It's worth a trip to a wholesaler like Costco, BJ's, or Sam's Club, but stick to the brand names like Ziplock or Glad. Get an assortment of sizes (a few snack, many quart and gallon, and a few 2.5 gallon) and thicknesses (freezer-bags are best for specimens, but not necessary for simple waterproofing – double regular bags in case of an emergency). Remember bags labeled “storage” may not really be watertight and you don't want to find that out after your canoe flips over, so go ahead and test the bags in your bathroom at home. You can also use the zip-lock to create a vacuum pack seal by closing the bag almost all the way and squeezing out, or sucking out the rest of the air. This is a great way to make your clothes, hammocks, and other malleable objects take up less space while waterproofing them at the same time.

Disposable batteries, necessary, but evil

Finally, we all need energy in the field: flashlights, GPS units, cameras and camcorders to start. Then there will be miscellaneous scientific equipment like tape and digital recorders and water quality equipment, as well as a myriad of unpredictable supplements. Used disposable batteries are not only terrible for the environment; they are also heavy and have a nasty propensity to leak corrosive liquid at the least opportune moment. You can reduce the number of extra batteries you will need by advising scientists and arranging for a good portable generator for the trip. Most field offices already have or were looking for an excuse to purchase one anyway. This means that you can provide light at the camp and field lab, greatly lowering the number of batteries used in flashlights and headlamps. Many cameras and electronics use rechargeable lithium batteries anyway, and people can bring their own chargers. Always bring extra converters.

Preservation Chemicals

Many of the scientists will collect specimens and need to preserve them. Without the specimens the scientists can't do their work. Ask scientists for the type and quantity of preservation chemicals needed. These chemicals are extremely important and every effort should be made to fulfill the requests. Sometimes these chemicals are difficult to find and you may need to contact the scientist for an alternative. Sometimes they can be found in pharmacies, universities and even rum distilleries. All of the chemicals are hazardous (e.g. flammable, toxic) and should be stored and transported with safety in mind. Commonly requested chemicals are:

Ethanol (ethyl alcohol): purchase the highest percentage available, usually ~95%. Rubbing alcohol is ~70%.

Formaldehyde (Formalin or Formol): Usually sold as a solution of around 37 % formaldehyde.

Chloroform (trichloromethane or methyl trichloride)

Ether (Diethyl ether or ethoxyethane)

Acetone (propanone, dimethyl ketone)

6: Final Logistics

The expedition is close and everything needs to be confirmed. Don't assume that things have been done, check with each person responsible and confirm each detail.

- Double check logistics check-list
- Let communities know that the team is coming and when to expect them
- Have all of the necessary permits been secured?
- Is the political situation stable and safe for the RAP team?
- Are all waivers and forms completed?
- Have all the participants signed contracts?
- Has insurance been purchased for emergency medical evacuation of domestic participants?
- Has all the equipment been purchased?
- Has all the food been purchased?
- Have all of the camping supplies been purchased and tested?
- Has transportation and lodging been arranged?
- Do you have the arrival/departure information for all international participants?

Packing equipment for the expedition

Don't be intimidated by post 9/11 luggage restrictions – a few simple preparatory steps will help you sail through customs.

- Find out the exact weight and size limits of all airlines you will be taking en route to customs (once you are through customs, it's less important that the bags travel with you at all times).
- Purchase new, cheap bags exactly the maximum allowable size. Feel free to reinforce flimsy material with rope and duct tape and tying a bit of florescent tree flagging to the bag handle virtually guarantees that you will never lose it. Less slick presentation evinces less interest from thieves.
- Pack your personal belongings in smaller bags within the big bags to get around luggage restrictions and to make it easy to sort when you arrive in country.
- Make sure the scientists prioritize their supplies so that you can prioritize your packing.
- Weigh the equipment value to the level of security-guard suspicion that might be aroused when deciding whether to check or carry-on equipment.
- Make an inventory of the contents of each bag as you are packing it. Keep a copy on you as you travel in case you need to present it at a check point. Keep a copy in the office in case the airline loses the bag.
- Write the CI address in both the US and expedition country on the *inside* of the bag in indelible ink. Tag the bags on the outside before you go to the airport.
- Bring many \$1 bills to tip porters and ask the country program to brief you on tipping policy before you leave.
- Efficient packing is much easier than paying for a third bag (sometimes not an available option). Overweight luggage is usually doable and an acceptable cost. Pack ahead of time, stuff small things in larger containers and soft things in vacuum-seal bags.

7: Expedition

The international participants are on their way. You or a trusted designee will need to meet everyone at the airport. It is extremely helpful that whoever meets the participants holds a CI logo sign to enable the participants to know where to meet. It may take several trips to the airport to collect the entire team as everyone may not be on the same flight. Be sure to have enough room in the vehicles for both the participants AND their gear.

Depending on arrival times, plan a RAP team meeting in the afternoon or following morning. This will give everyone a chance to meet and go over the more detailed itinerary. This is a good place for the safety talk but it can also occur upon arrival to the camp.

If the travel day will be long, schedule a stop along the way for a brief rest and some food/drink. Sitting in a vehicle all day can really cramp the body especially if you were just on an international flight the day before. It is best to arrive at the site in daylight. It is easier to set up camp and get a sense of what the site has to offer.

The in-country logistics person is responsible for keeping things moving along. If they came up with a plan to leave for the field at 10am, then this must be communicated to the scientists to ensure they know to have themselves and their gear ready before that time so that it can be packed into the vehicles. It is also a good idea to plan some extra time and not cut things too close. Situations will arise that will ruin the perfectly planned day. So you will need to be flexible. Keep the team informed of what the plans are. Don't assume that everyone read the itinerary and memorized it. The scientists should be focused on science, not logistics.

More than likely someone will be unhappy with something. That is just the way it goes with a large group. Don't let it bother you.

Upon arriving at camp set up tents, kitchen and latrines. After convene a group meeting to cover safety and show everyone where everything is, mealtimes, etc. This is a good time to pass out safety kits and explain the chain of command and what happens in an emergency. Be sure that everyone knows who has the satellite phone and the key people that know how to use it.

Hold nightly team meetings to keep the group informed of plans. Communication throughout the RAP survey is critical.

After the expedition the export permits will need to be given to each of the scientists needing them. Some of the scientists may need to ship specimens back to their university or museum. Arrangements need to be made to get those specimens to them as soon as possible.

Often there is a press conference or public meeting to share the preliminary results from the survey. This needs to be determined in advance if it is necessary. The logistics need to be arranged prior to the expedition beginning.

If there are likely to be interviews or meetings for participants to attend and transportation is required, the in-country logistics coordinator needs to make those arrangements.

8: Expedition Follow-up

The preliminary report should be short and be basically done before the scientist return home. The goal is to distribute the report within one month of the end of the RAP. It needs to be distributed to the CI field office, all scientists and posted on the CI website. This can be complicated when many people need to review the report. The guidelines for the report can be found in Appendix 13.

If any reporting is required by the donor, then this should be done as soon as possible.

Often times the scientists need to send specimens to specialists for identification or may need an assistant to help them sort through what was collected. Any scientist requesting funds for specimen processing should submit an itemized budget so that you can determine how much can be covered under your budget. All reasonable requests should be granted; without knowing what the species are it is difficult to write a report.

7: Final Report

Let it never be said that RAP is miserly with its data! After all, these expeditions are intended to address the need for biological information where it will be used to catalyze conservation activity. Since CI operates in areas which may be considered ecosystems under siege, and most academic publishers assume a slower time frame, RAP is the driving force for making sure that the data get published.

The Scientific Team Leader should also be committed and qualified to be the lead scientific editor on the publication. This person should be responsible for procuring background information on the region and working with the field office and regional programs to synthesize an introductory chapter. The team leader should also write the executive summary and report at a glance, pulling out the conservation recommendations and abstracting the most important scientific information. Unfortunately, many scientists may not have the perspective or writing skills necessary to produce the report needed for CI's conservation efforts. So RAP jumps into the editorial fray where scientists leave off.

Guidelines for writing and formatting the preliminary and final reports can be found in Appendix 13 and 14.

A few other common misconceptions include:

The RAP Bulletin of Biological Assessment is a peer-reviewed journal

Publications such as *Nature*, *Conservation Biology*, and *Oryx* send their articles to a panel or network of independent expert reviewers and their publications are "white papers". This is, however, part of the reason that they take longer to produce than a RAP publication. It is important to make sure that RAP authors know that they need to seek independent review on their own if they want to double-check their facts and conclusions.

Authors double-check their references

Working under deadline pressure, authors often overlook these corrections. Double check that everything referenced in the text is cited in the bibliography and everything cited is actually referenced in the text. Standardize the reference list. This is as much a service to the curious reader as the careless author.

Scientists carefully read over their species names to ensure correct scientific spelling

Once a report of this kind is published, experts love to jump over details like the misspelling of a scientific name, and it erodes the overall scientific credibility of the publication. Individual authors, however, do not always double-check the spellings of scientific names unless specifically requested to do so. There are too many esoteric species names for RAP editors to possibly be able to correct them, so it's best to go straight to the source.

Common-names of species are standardized in the same way as scientific names

The common names of birds are highly standardized. The common names of mammals are largely descriptive and somewhat standardized. The rest are a systematic argument. Like scientific names, however, your best bet is to remind the experts and authors to check their data carefully.

Frequently Asked Questions

What should I bring with me on the RAP?

RAP is mobile and it is best to pack as light as possible. If the team needs to travel via plane, helicopter or boat there will likely be weight restrictions. Do not bring large trunks or heavy bags. You or a local porter need to carry it. Smaller bags are best. See the *Personal Travel Checklist* in Appendix 15.

What if a scientist is unresponsive to requests?

RAP scientists are the backbone of this program. Their expertise in their chosen field typically means that they have many commitments, thus communication with RAP scientists can sometimes be frustrating. Be persistent and polite and eventually you will find them.

There are many reasons to contact a RAP scientist. Data or a report chapter is about to be published, a contract needs to be signed, an invoice needs to be sent, a publication is needed, equipment must be ordered or shipped. You write them and the weeks pass. You send a follow-up email and still receive no response. What should you do? Here are some options.

Call. Maybe the person is in the field (and has not activated the auto-reply on email). Or maybe they have so many emails right now that they are ignoring them, hoping they will go away. If you don't have a direct number, try looking up the institution on the internet; some people respond better to verbal communication. Don't be afraid to ask coworkers or other random people who answer the phone where this person is and when they might return if they are in the field.

Email a colleague. Direct a polite email to the supervisor or a close colleague to the effect of, "I am trying to reach Dr. Soandso on an urgent matter and have been unsuccessful using this [fill in] email. Do you know if they are in the field or available through another means?" Sometimes this will catalyze a dormant participant, or at least let you know where they are.

Seek an additional authority that can read over a paper or help select equipment. Many would-be collaborators cannot commit the time to go on a RAP expedition, but are happy to give advice from the office. This can help alleviate the pressure on the actual participant and give an additional perspective to the report or expedition.

Reconsider participant. As a last resort, and after discussing the situation with the RAP team, you may want to consider dropping this person from the roster. An over-committed scientist may not be a constructive addition to the RAP expedition or publication team.

Epilogue

All well and good you might say, but what do I do when I reach a crisis point?

**The most important part of planning a RAP expedition
is keeping your sense of perspective.**

If the expedition is cancelled due to funding, political situations, or general incompetence it is a major problem,
but it is not a disaster.

If a RAP participant dies or is injured due to carelessness, then it is a disaster.

In the tension of the field or a coat-and-tie-style budget meeting,
it helps to remember that everything passes.

As Chief Seattle once said,

“Tide follows tide, as nation follows nation, like the waves of the sea.”

He might well have added, “Discovery follows discovery.”

RAP studies use and will be used to complement other ventures.

There is no such thing as competition. If we are successful in our business of environmental conservation, we
will all be unemployed. And that’s a good thing.

- Jensen R. Montambault
RAP Manager, July 2001

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Appendix 1: Sample Budget

	Daily or Unit Rate (US \$)	Total Days or Units	Line Item Totals	GYD	Subtotals (US\$)
In Flight 1(day1)					
In (Flight 2 day 2)					
In Flight 1 & 2 (Oct 3)			\$8,947.10	1,700,000	\$ 8,947.10
Day 1					
Flight 3 (Resupply and Midtrip) (Oct 13)			\$3,174.00	900,000	\$ 4,736.70
Out Flight 1&2 (Oct 31)			\$8,947.10	1,700,000	\$ 8,947.10
Extra Shuttles on Recon Visit (200,000 GYD each)		2		400,000	
				4,700,000	\$22,630.90
Truck hire					
1 trip x 200,000; Georgetown/Lethem			\$1,052.50	200,000	\$ 1,052.50
1 trip x 200,000; Georgetown/Lethem			\$1,052.50	200,000	\$ 1,052.50
				400,000	\$ 2,105.00
Boat hire					
4 boats x 2,000 GYD each x 30 days	\$ 42.12	30	\$1,263.60	240,000	\$ 1,263.60
4 Captains x 2,000 GYD each x 30 days	\$ 42.12	30	\$1,263.60	240,000	\$ 1,263.60
2 engines x 3,000 GYD each x 30 days	\$ 31.58	30	\$ 947.40	180,000	\$ 947.40
1 - 15 hp O/b engine			\$2,368.35	450,000	\$ 2,368.35
				1,110,000	\$ 5,842.95
Personnel					
20 Druggers local x 3,000 GYD each x 4 days	\$ 315.78	4	\$1,263.12	240,000	\$ 1,263.12
6 Para biologists x 2,000 GYD each x 30 days	\$ 63.16	30	\$1,894.80	360,000	\$ 1,894.80
2 Cooks x 2,000 GYD each x 30 days	\$ 21.06	30	\$ 631.80	120,000	\$ 631.80
1 Helper x 2,000 GYD each x 30 days	\$ 10.53	30	\$ 315.90	60,000	\$ 315.90
2 Guides x 2,000 GYD each x 30 days	\$ 21.06	30	\$ 631.80	120,000	\$ 631.80
6 Field Druggers x 2,000 GYD each x 30 days	\$ 63.16	30	\$1,894.80	360,000	\$ 1,894.80
				1,260,000	\$ 6,632.22
FUEL - Gunns					
Gasoline, 8 drums, 360 gal x 1040			\$1,970.00	374,400	\$ 1,970.00
2 t oil, 32 bots x 780			\$ 131.37	24,960	\$ 131.37
Empty plastic drums ,8 drums x 5000			\$ 210.53	40,000	\$ 210.53
5 gals containers, 12 bots x 1500			\$ 94.73	18,000	\$ 94.73
				457,360	\$ 2,406.63
Lethem Transportation/Prep					
Fuel (gasoline), 30 x 1040			\$ 164.21	31,200	\$ 164.21
Diesoline, 25 x 900			\$ 118.42	22,500	\$ 118.42
driver hire, 8 x 2000			\$ 84.21	16,000	\$ 84.21
				69,700	\$ 366.84
Meals					
29 people x 1,800 GYD each x 12 days		12		626,400	\$ 3,296.74
32 people x 1,800 GYD each x 18 days		18		1,036,800	\$ 5,598.77
				1,663,200	\$ 8,895.51
Field Supplies					

hammocks			\$ 315.78	60,000	\$ 315.78
Hammock nets			\$ 252.62	48,000	\$ 252.62
rope			\$ 73.69	14,000	\$ 73.69
Duracell batteries			\$ 158.00	30,000	\$ 158.00
candles.			\$ 42.10	8,000	\$ 42.10
Ethanol			\$ 100.00	19,000	\$ 100.00
Cutlass			\$ 63.16	12,000	\$ 63.16
Tarpauline			\$ 147.36	28,000	\$ 147.36
Stationery			\$ 789.45	150,000	\$ 789.45
Other			\$ 105.26	20,000	\$ 105.26
				389,000	\$ 2,047.42
Reconnaissance trip, Sept					
Aircraft charter, 2 flights x 603,000			\$6,347.18	1,206,000	
Boat hire , 1 boat x 2000 x 7 days			\$ 73.68	14,000	
Engine Hire, 1 x 3000 x 7 days			\$ 110.52	21,000	
Boat captain, 1 x 2000 x 7			\$ 73.68	14,000	
Guide, 1 x 2000 x 7			\$ 73.68	14,000	
Gasoline 45 x 1040			\$ 246.31	46,800	
2T oil, 5 L x 780			\$ 20.53	3,900	
Meals, 4 x 1800 x 7 days	\$ 37.89	7	\$ 265.25	50,400	
				1,370,000	\$ 7,211.00
RAP camp set-up					
Gasoline	45 gals x 1,040			46,800	
2T oil	5L x 780			3,900	
Food	7 prs x 1,800 x 8 days			100,800	
Stipend	7 prs x 2,000 x 8 days			112,000	
Boat	1 boat x 2,000 x 8 days			16,000	
Engine	1 engine x 3,000 x 8 days			24,000	
Ripping chain				5,340	
cutting chain				5,340	
spark plug	3 ps x 960			2,880	
#40 oil	4 gals x 2,800			11,200	
2T oil	3L x 2,360			7,080	
file	2 files x 380			760	
Shovel	2 ps x 3,000			6000	
Cutlass Files	3 files x 800			2,400	
				344,500	\$ 1,813.00
Report Writing					
Stationery				20,000	\$ 105.26
				20,000	\$ 105.26
Result Presentation					
Venue				20,000	\$ 105.26
Invitations				20,000	\$ 105.26
Snacks				200,000	\$ 1,052.60

				240,000	\$ 1,263.12
SUBTOTAL				12,023,760	\$63,281.04
Contingencies 5%				601,188	\$ 3,164.05
Total In Country				12,624,948	\$66,445.09
International Costs covered by RAP					
Travel					
Airfare (RT USA to Guyana)	\$ 1,200.00	7	\$8,400.00		\$ 8,400.00
International travel incidentals	\$ 100.00	7	\$ 700.00		\$ 700.00
CI Carbon Offset policy, 3% of airfare	\$ 0.03	7	\$ 252.00		\$ 252.00
Hotel in Georgetown, 6 people	\$ 200.00	3	\$ 600.00		\$ 600.00
Scientific Equipment for scientists	\$ 200.00	5	\$1,000.00		\$ 1,000.00
Contractual					
Scientists consultant payments, , 3 non CI scientists and one author	\$ 1,000.00	4	\$4,000.00		\$ 4,000.00
Other					
Shipping specimens to museums			\$ 500.00		\$ 500.00
Research and collecting permits			\$ 825.00		\$ 825.00
Satellite phone charges			\$ 400.00		\$ 400.00
					\$16,677.00

Appendix 2: Sample Itinerary

RAP Expedition

Day	Activity: November 16 - December 14		
1	Arrival in Monrovia (November 16, Wednesday, for a couple it is Tues)	November	16
2	Preparations for departure (brief meeting in AM, large meeting in afternoon, dinner at night)	November	17
3	Depart Monrovia (helicopter) [~1hr flight] for Site 1 (Wologizi) and arrive at Zorzor. Drive from Zorzor to Luyema [2-3hrs]. Overnight at Luyema.	November	18
4	Depart Luyema and arrive at site 1 (Wologizi) [~6hr. Hike, easy terrain]	November	19
5	Surveys at Site 1 Wologizi	November	20
6	Surveys at Site 1 Wologizi	November	21
7	Surveys at Site 1 Wologizi	November	22
8	Surveys at Site 1 Wologizi	November	23
9	Surveys at Site 1 Wologizi	November	24
10	Depart on foot from Site 1 and arrival in Luyema.	November	25
11	Depart Luyema [2-3hrs], arrive Zorzor, depart Zorzor (helicopter)[~1hr flight] and arrive Lofa Bridge, depart Lofa bridge and arrive SLC [4hr drive]. Overnight at SLC.	November	26
12	Depart SLC and arrive at site 2 (Gola NF) [5min drive, ~3 hr hike; hilly]	November	27
13	Surveys at Site 2 Gola NF	November	28
14	Surveys at Site 2 Gola NF	November	29
15	Surveys at Site 2 Gola NF	November	30
16	Surveys at Site 2 Gola NF	December	1
17	Surveys at Site 2 Gola NF	December	2
18	Depart on foot from Site 2 and arrive SLC.	December	3
19	Depart SLC and arrive at Lofa Bridge [4 hrs], depart Lofa Bridge (helicopter) and arrive at Gankpai [~20 min flight].	December	4
20	Depart Gankpai and arrive at Site 3. [~2 hr drive, ~5 hr hike; "not too hilly"	December	5
21	Surveys at Site 3 Kpelle NF	December	6
22	Surveys at Site 3 Kpelle NF	December	7
23	Surveys at Site 3 Kpelle NF	December	8
24	Surveys at Site 3 Kpelle NF	December	9
25	Surveys at Site 3 Kpelle NF	December	10
26	Departure from Site 3 and arrival in Gankpai. [~5hr hike, ~2 hr drive]	December	11
27	Depart Gankpai (helicopter) and arrive at Monrovia [45 min flight].	December	12
28	Monrovia report writing (at CI office)	December	13
29	Press conference and departure (December 14, Wednesday)	December	14

Appendix 3: Sample Invitation Letter (on CI letterhead)

July 7, 2005

Dear China RAP participant,

We are pleased to formally invite you to participate in a RAP biodiversity assessment organized by Conservation International's Rapid Assessment Program (RAP) for August 18- September 14, 2005. The RAP program will work closely with CI-China's Chengdu office staff, and other Chinese partners, including the Sichuan Academy of Forestry, the Chengdu Institute of Biology, and the Sichuan Regional Forestry department to conduct biodiversity surveys in three undocumented areas in the Southwest China Mountains Hotspot, Sichuan Province. A RAP team of expert scientists from China and other countries will survey the diversity of nine taxonomic groups: plants, mammals, birds, reptiles and amphibians, fishes, ants, beetles, and orthoptera (grasshoppers, crickets and katydids).

Specific Objectives of the RAP Survey include:

1. Highlight the biodiversity of SW China to raise among the global general public,
2. Collect biodiversity data to assist in guiding conservation activities and management of Tibetan Sacred sites in the region,
3. Enhance scientific capacity in the Himalayan region by developing collaborations between international and local scientists and by providing training to students in biodiversity assessment field methods and taxonomy

RAP Team

The RAP team will consist of expert scientists with taxonomic expertise as well as "trainees" or student, totaling 25 scientists and trainees (see attached list). Professor Liushaoying will be the Team Leader for the Chinese scientists and Dr. Leeanne Alonso (RAP) will serve as RAP Team Leader for the international scientists. In addition, a lead scientist for each taxonomic group will be assigned to coordinate the field work with the other scientists working on their taxonomic group and will be responsible for compiling the RAP preliminary and final report, with input from the other group members. This RAP survey provides an opportunity for regional Chinese scientists and students to work with internationally acclaimed experts and learn field methods and taxonomy from them. Continued collaboration between international and Chinese scientists after the RAP survey will provide further taxonomic training and opportunities for publications and research.

RAP survey sites

Three undocumented forested sites in China have been selected in consultation with Chinese scientists and government officials. They are: Dingguoshan monastery lands near Danba, and Jintangkongyu valley near Kangding, De Cha sacred mountain, which has a history of people working to protect the forests and their species. Each selected site is considered to have high biodiversity and includes a range of elevations. The sites are all in need of biodiversity data for conservation or management purposes, and have not been well studied, thus providing the opportunity for the discovery of species new to science by the RAP team of Chinese and international scientists. At each site the RAP team will camp at around 2500 m and hopefully getting down into the valleys to survey as low as 1000 m.

RAP data and products

RAP scientists will employ standard RAP methods to survey biodiversity in the field. Data resulting from the RAP survey will include species lists, distribution data and analyses, comparisons to other Himalayan sites, and recommendations for the conservation of the species and habitats surveyed. These data will be made available

in a preliminary report within one month of the RAP survey to all local government, NGO and scientific stakeholders. Since this is a *rapid* biodiversity survey, a final RAP report will be published in RAP's *Bulletin of Biological Assessment* publication series within a year after the expedition (November 2006). Both the preliminary and final reports will be made available in pdf format on the internet. In addition to reports, all the RAP data will be available in a searchable database on the internet.

Filming

In addition to the scientific survey team, a film crew from the Walt Disney Company and Discovery TV Networks will accompany us part of the time to film the scientific work and the culture of the area. We will make sure that they do not interfere with any of the survey work. However, you will be filmed and likely also asked to describe what you are doing for the camera.

CI's Rapid Assessment Program (RAP)

RAP is an innovative biological inventory program designed to use scientific information to catalyze conservation action. RAP methods are designed to rapidly assess the biodiversity of highly diverse areas and to train local scientists in biodiversity survey techniques. Since 1990, RAP's teams of expert and host-country scientists have conducted 41 terrestrial and freshwater aquatic rapid biodiversity surveys and have contributed to building local scientific capacity for scientists in Perú, Bolivia, Guyana, Papua New Guinea, Botswana, Papua, Indonesia, Guinea, Ghana and Côte d'Ivoire. Biological information from previous RAP surveys has resulted in the protection of thousands of hectares of tropical forest, including the declaration of protected areas in Bolivia, Perú, Guyana, Ecuador, and Brazil and the identification of biodiversity priorities in numerous countries.

Benefits of Participation

The RAP expedition in SW China is a collaborative effort among a wide range of organizations to collect scientific information to guide local conservation activities. The RAP expedition will provide the opportunity for scientists to contribute to conservation in SW China, and the chance to explore a little known area of Sichuan Province with a team of international and regional experts. While we are on a typical low NGO budget, CI will cover all field and travel expenses, some scientific equipment (which RAP and CI-China may retain for future use), and some specimen processing costs.

Participant Responsibilities

Your responsibilities as a scientist in the RAP expedition include:

- Provide a specific list of scientific equipment needed for the expedition to RAP logistical coordinator, Professor Liu, as soon as possible.
- Participate in the RAP expedition by surveying and collecting specimens of your taxonomic group, 19 August – 11 September, 2005.
- Participate in report writing and data analysis immediately following the RAP activities, 12 September, 2005.
- Submit any changes to species lists or final report text to CI no later than 15 March, 2005.

Schedule of RAP Activities for the SW China RAP Expedition

August 2005

18	Foreign RAP Participants arrive in Chengdu, China
19	RAP Seminar for Forestry Department, meetings with CI and Forestry dept
20-21	RAP team travel to Site 1, set up camp
22-26	Field work at Site 1
27-28	Travel to Site 2, set up camp (not too far from Site 1)
29-Sept 2	Field work at Site 2

September 2005

3-4	RAP team travel to Site 3 (Ding Guo Shan Monastery)
5-9	Field work at Site 3, Media team film here and around area
10-11	Travel back to Chengdu
12	De-briefing with Forestry Department and CI in Chengdu, prepare preliminary report
13	Foreign scientists depart from Chengdu to Bangkok

Logistics

Logistical arrangements for foreign travel, visas, and scientific equipment will be coordinated by Leslie Rice (l.rice@conservation.org, 202-912-1249). Local logistics including travel, food, permits, and camping will be coordinated by Professor Liu (shaoyliu668@yahoo.com.cn). We appreciate your interest in CI's RAP activities in SW China and hope that you will be able to join us. More details on the sampling sites and logistics will be sent to you soon. We look forward to working with you to explore and conserve biodiversity in SW China.

Sincerely,

Leeanne E. Alonso, Ph.D.
Vice President
Centre for Applied Biodiversity Science
l.alonso@conservation.org

RAP Scientists for China

Taxonomic Group	National Scientists	International Scientists	Specialty
Plants	Luo Peng	Rebecca Pradhan	Himalayan plants
	Fangzhengdong		
Mammals	Liushaoying	Dr. Jim Sanderson	camera trapping
	Liuyang	Dr. Anne Savage (Disney)	primates
	Dr. Wang Hao	Dr. Lucy Spelman (Discovery)	Wildlife health
	Shen Xiaoli		
Birds	Ranjianghong	Carol Inskipp	Himalayan birds
	Han Lianxian		
Reptiles and Amphibians	Wangyuezhao		
	Li Cheng		
Insects	Shifuming	Dr. Piotr Naskrecki	katydids, grasshoppers
	Dr. Xu	Dr. Leeanne Alonso	ants
		Dr. Derek Sikes (tentative)	beetles
Remote Sensing/GIS		Daniel Juhn	
Total #	12	9	
II: Trainees			
4 from local reserves			
1 from Beijing University	5		
Grand Total #	26		

Appendix 4: Sample Contract (on CI letterhead)

Highlighted text is variable.

CONSULTING AGREEMENT

(PAGE 1 OF 6)

This Consulting Agreement (the “Agreement”) is made and entered into as of **<Month, Day Year>** (the “Effective Date”) by and between **Conservation International Foundation** (“CI”), a nonprofit public benefit corporation organized under the laws of the State of California and **<Name of Consultant>** (“Consultant”).

1. **Services.** CI hereby engages Consultant as an independent consultant, on a non-exclusive basis, to perform the services set forth in Appendix 1, Terms of Reference (the “Services”), as may be modified from time to time, which is incorporated herein. During the term of this Agreement, CI shall have the right to request reasonable changes to the scope of the Services. All changes shall be in writing and signed by authorized representatives of the parties. Consultant shall receive technical direction from **Dr. Lecanne E. Alonso, RAP Vice President** or her designee, as authorized in writing.
2. **Term of Agreement.** The period of performance for this Agreement shall be effective from **<Month, Day Year>** to **<Month, Day Year>**. This Agreement may not be amended, supplemented, or modified in any respect except by written agreement signed by both parties, or early terminated pursuant to section 5 below. All activities and expenditures must occur during the agreement period set forth above to be reimbursable.
3. **Compensation.**
 - a. **Fee for Services.** In consideration of Consultant’s performance of the Services, CI shall pay Consultant a total amount of **<US\$1000>** for duties outlined in Appendix 1, Terms of Reference made part to this agreement.
 - b. **Expenses.** CI agrees to reimburse Consultant for all reasonable out of pocket expenses previously approved by CI in writing and set forth in Appendix 1, Terms of Reference. Consultant must provide receipts or invoices for all expenses of US\$40.00 or more. Please refer to the budget in Appendix 1, Terms of Reference for approved expenses associated with this Agreement. Total expenses shall not exceed those set forth in the attached budget **without prior written approval** of CI. All activities and expenditures must occur during the Term to be reimbursable.
 - c. **Payment Terms.** Consultant shall provide invoices to CI containing name and address, place of performance, days/period worked, description of work performed in the previous month, any payment instructions and either an IRS W-9 form for unincorporated US entities, or an IRS W-8 form for unincorporated non-US entities. Invoices for reimbursable expenses shall be accompanied by an itemized account of such expenses, together with original receipts for expenses over \$40.00.
4. **Reports.** Consultant shall prepare reports as set forth in Appendix 1, Terms of Reference.
5. **Termination.** Either party may terminate this Agreement at any time upon ten (10) days prior written notice. In such event, Consultant shall return all work completed up to the effective date of termination to CI, and CI shall pay for all services, orders, materials, or facilities provided or committed by Consultant in good faith prior to the effective date of termination. However, if CI terminates this Agreement due to a material breach by Consultant or due to the Consultant’s failure to perform any of the Services to CI’s satisfaction, CI may withhold payment for any such unsatisfactory Services until such Services are performed to CI’s satisfaction.
6. **Indemnification.** Consultant hereby covenants and agrees to indemnify CI and to defend and hold CI harmless from and against any and all liabilities, damages, costs and expenses (including reasonable attorney’s fees) arising out of or resulting from any claim, action or other proceeding (including any proceeding by any of Consultant’s employees, agents or contractors) related to or arising out of the performance of the Services under this Agreement.

CONSULTING AGREEMENT

(PAGE 2 OF 6)

7. Relationship of CI and Consultant.
- a. Consultant is not an employee, agent or assign of CI for any purposes whatsoever. Accordingly, Consultant shall be solely responsible for all matters relating to the employment of its personnel including, but not limited to, compliance with all applicable workers' compensation, unemployment compensation and social security laws and with all withholding and all other federal, state and local laws and regulations governing such matters. CI shall not provide Consultant or its employees with any insurance or other benefits including, but not limited to, unemployment, medical, dental, worker's compensation and/or disability insurance.
 - b. Consultant is performing the Services as an independent contractor of CI and not as an officer, employee, partner or agent of CI. Accordingly, Consultant has no right or authority to assume or create any obligation of any kind or to make any representation or warranty, whether expressed or implied, on behalf of CI or to bind CI in any respect.
8. Government Officials and Employees. Consultant hereby certifies that no assistance, payments or anything of value (monetary or non-monetary) shall be made, promised, offered to or accepted by any government employee or official (a) in contravention of any U.S. or other applicable law or regulation including, but not limited to, the U.S. Foreign Corrupt Practices Act; (b) without the express consent of the government for which the employee or official works; and (c) that is not reasonable, *bona fide*, and directly related to the activities funded under this Agreement. It is Consultant's responsibility to ensure compliance with this clause, and to maintain and provide at CI's request, documentation demonstrating such compliance. Consultant hereby certifies that no payments or other form of assistance shall be made to or accepted by any government employee or official (x) to influence any official government act or decision; (y) to induce any government employee or official to do or omit to do any act in violation of his or her lawful duty; or (z) to obtain or retain business for, or direct business to any individual or entity. If Consultant is a government employee or official, Consultant shall recuse him/herself from any governmental act or decision affecting CI, and shall not influence any governmental act or decision affecting CI. Under no circumstances shall any payments or anything of value be given, made, promised or offered to any U.S. Federal, State or local employee or official.
9. Confidential Matters and Proprietary Information. During the course of this Agreement, either party may acquire confidential information or trade secrets of the other ("Confidential Information"). Each party agrees to keep all such Confidential Information in a secure place, and further agrees not to publish, communicate, divulge, use, or disclose, directly or indirectly, for his own benefit or for the benefit of another, either during or after performance of this Agreement, any of the Confidential Information, except as may be required by law or this Agreement. Upon termination or expiration of this Agreement, each party shall deliver all Confidential Information produced or acquired during the performance of this Agreement and all copies thereof to the other. This obligation of confidence shall not apply with respect to information that is (a) available to the receiving party from third parties on an unrestricted basis; (b) independently developed by the receiving party; or (c) disclosed by the other party to others on an unrestricted basis.

CONSULTING AGREEMENT

(PAGE 3 OF 6)

10. Intellectual Property. All work product created, prepared, procured, generated or produced by Consultant under this Agreement and delivered to CI including, but not limited to, raw or processed data, articles, reports, drawings, computer data bases, and all other memoranda (collectively, "Works"), shall belong solely and exclusively to CI. CI hereby grants to Consultant a nonexclusive, irrevocable royalty-free license to reproduce, translate, publish and use, and to authorize others to so do, all copyrightable Works first produced or prepared under this Agreement by Consultant; provided, however, that Consultant understands and agrees that this license does not include the right to first publication of any Works, which right shall belong solely to CI.
CI will have the sole right to copyright such Works, except that Consultant grants to CI a nonexclusive, irrevocable royalty-free license to reproduce, translate, publish, use and dispose of, and to authorize others to so do, all copyrighted or copyrightable material not first produced or prepared by Consultant in the performance of this Agreement, but which is incorporated in the Works, provided that such license shall be only to the extent that the Consultant now has, or prior to completion of the Agreement may acquire, the right to grant such license without becoming liable to pay compensation to others solely because of such grant. To the extent that the Works contain any material to which Consultant does not have the right to grant such license, Consultant will assume responsibility for obtaining all necessary rights for use, reproduction, translation, publication and disposition of that material by CI.
11. Security and Safety. Consultant agrees that s/he has read, understands and shall comply with any applicable security regulations provided by CI, and acknowledges that Consultant shall be solely responsible for Consultant's own safety and physical property/equipment during the performance of this Agreement.
12. Travel. Consultant shall be solely responsible for travel insurance (excluding emergency evacuation insurance), individual health insurance, and all arrangements for visas, passports or immunizations.
13. Choice of Law; Arbitration. This Agreement shall be construed and enforced in accordance with the laws of the District of Columbia, USA, applicable to contracts fully executed and performed therein. Any controversy or claim arising out of or relating to this Agreement, or the breach thereof, shall be settled by arbitration before a single arbitrator in Washington, DC, under the rules of the American Arbitration Association in effect at the time of commencement of the arbitration, and the parties agree that judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction thereof.
14. Compliance With Law. Consultant will cause the Services performed hereunder to conform with all requirements of all applicable federal, state and local laws, rules and regulations including, but not limited to, laws relating to equal employment opportunity, as well as all the generally accepted standards applicable to such work.
15. Consultant's Anti-Terrorism Representation And Warranty. Consultant is hereby notified that U.S. Executive Orders and U.S. law prohibit transactions with, and the provision of resources and support to, individuals and organizations associated with terrorism. Consultant, therefore, represents and warrants that Consultant has not provided, and will take all reasonable steps to ensure that Consultant does not and will not knowingly provide, material support or resources to any individual or entity that commits, attempts to commit, advocates, facilitates, or participates in terrorist acts, or has committed, attempted to commit, facilitate, or participated in terrorist acts, and is compliant with all other applicable provisions of such U.S. Executive Orders and U.S. law.
16. Counterparts And Facsimile Signatures.
 - a. Each party agrees that the other party may rely on a facsimile copy of the signature of a duly authorized signatory and that upon the exchange of such facsimile signatures, electronically or otherwise, this Agreement shall be binding between the parties whether or not hard copies of this Agreement are ever exchanged between them.
 - b. This Agreement may be signed in one or more counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument even though all the parties are not signatories to the original or the same counterpart.

CONSULTING AGREEMENT

(PAGE 4 OF 6)

- 17. Severability. In the event that any one or more of the provisions contained herein shall, for any reason, be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provisions of this Agreement, but this Agreement shall be construed as if such invalid, illegal or unenforceable provisions had never been contained herein, unless the deletion of such provision or provisions would result in such a material change so as to cause completion of the transactions contemplated herein to be unreasonable.
- 18. No Third-Party Beneficiaries. Except as expressly set forth herein, neither party intends that this Agreement shall benefit or create any right or cause of action in or on behalf of any person or entity other than the Consultant and CI.
- 19. Non-Assignment. This Agreement shall not be transferred or assigned by Consultant without prior written consent of CI.
- 20. Waiver. Either party may specifically waive any rights under this Agreement by the other party, but no such waiver shall be deemed effective unless in writing, signed by the waiving party, and specifically designating the rights waived. No waiver shall constitute a continuing waiver of similar or other rights.
- 21. Entire Agreement. This Agreement supersedes all prior oral or written agreements between the parties and constitutes the entire Agreement between the parties.
- 22. Notices. Notice under this Agreement shall be deemed to have been sufficiently given either when served personally or when sent by first-class registered mail addressed to the parties at the addresses set forth below. CI shall not be liable for, nor shall Consultant be liable to perform, services or expenses incurred after the receipt of notice or termination.

If to Consultant:

<Name>
<Organization Name>
<Address>
<Phone>
<Fax>
<Email>

If to Conservation International:

Conservation International Foundation
2011 Crystal Drive, Suite 500
Arlington, VA 22202 USA
Phone: (703) 341-2400
Fax: (703) 979-2980
Attn: Dr. Leeanne E. Alonso

The authorized representatives of the parties hereto have caused this Agreement to be executed as of the date first written above.

Consultant:

<Name>
<Organization Name>

Conservation International Foundation

<Name>
<Title SVPs/+or their authorized designees only>

Consulting Agreement
Appendix 1
TERMS OF REFERENCE
(PAGE 5 OF 6)
<Name of Consultant>

<Name of RAP>

General Purpose

Consultant has been invited by Conservation International as a participant of a RAP team of international scientists that will survey the diversity of animals and plants in the proposed Wologizi, Kpelle and Gola protected areas in Liberia. This region has been identified as an area of very high priority for conservation and in need of more biological information. The objectives of this consulting agreement are to:

- Collect biodiversity data for the proposed Wologizi, Kpelle and Gola protected areas to aid local and regional conservation, management, and corridor planning.
- Participate in two-day report-writing workshop to contribute to the preliminary RAP report.

THE RAP PARTICIPANT WILL PARTICIPATE FROM <DATES OF RAP>.

Estimated budget

Fee: A **<US\$1000>** fee will be paid upon successful completion of RAP responsibilities and upon submitting invoices and boarding passes to CI (if applicable).

Equipment costs: Some funds will be made available for equipment purchases. Equipment must be purchased by CI and is dependent upon funding and availability. Equipment costs to contractor will be reimbursed after receiving receipts for amounts over \$40.00, and then only if arranged in advance with CI, and in writing (includes email). All equipment purchased by CI will become property of CI for use by the regional RAP team.

Specimen processing: Some funds will be made available for specimen processing. Contractor must submit a preliminary budget in writing (includes email) for approval by CI up to **US\$500**. This money may be advanced to the contractor on the condition that the contractor complies with the terms and conditions of the agreement, including providing receipts or invoices for any amounts over \$40.00, and return of any unspent money or undocumented expenses.

Other costs: CI-US/Arlington will provide plane tickets and all travel expenses (airport tax, taxi to and from airport, meals en route) to be paid on a reimbursable basis upon submitting original receipts and boarding passes. CI-US/Arlington will also provide emergency travel insurance, food and lodging in the field and local transportation in **<Country>** for the duration of the RAP expedition.

Consulting Agreement
Appendix 1
TERMS OF REFERENCE
(PAGE 6 OF 6)
<Name of Consultant>

<Name of RAP>

Deliverables

Oct.1 - Nov. 1, 2005	Organize equipment and methods for RAP expedition; make travel arrangements with CI; sign and return waivers and personal information forms
Nov. 16-Dec. 14, 2005	Participate in RAP expedition to Liberia: collect data on target taxa, comply with rap and Liberia collecting regulations
Dec. 13-14, 2005	Participate in RAP report-writing session to prepare preliminary report on target taxa
by Jan. 16, 2006	Submit receipts for all travel and equipment costs
by May 1, 2006	Submit semi-final species list to CI-RAP, including confirmation of any new species
By June 30, 2006	Submit rap final report chapter and species list to CI-RAP
by July 31, 2006	Enter species data into the RAP online database

RAP

Health, Safety, and

Environment Manual

Rapid Assessment Program

Center for Applied Biodiversity Science



2011 Crystal Drive, Suite 500
Arlington, VA 22202

Tel. 703-341-2400

*This manual is dedicated to Fonchii Chang
and Reynaldo Sandoval, whose lives were tragically lost
in an accident during the Río Pastaza RAP, Perú, 1999.*

*And to RAP founders Ted Parker and Al Gentry,
who passed away in an airplane accident
in Ecuador in 1993.*

Their contributions to the Rapid Assessment Program were invaluable.

*Their memories will live on in the conservation activities
catalyzed by the many RAP expeditions in which they participated.*

Dear RAP Participant:

As members of Conservation International's (CI) Rapid Assessment Program (RAP), our goal is to rapidly provide biological information needed to catalyze conservation action and improve biodiversity protection. We employ teams of expert international and host-country tropical field biologists to conduct rapid first-cut assessments of the biological value of selected areas over a short time period (three to four weeks). We respect and appreciate that RAP participants are experienced tropical field biologists whose experiences have prepared them to cope with almost any imaginable situation.

Even so, we also know that accidents are sometimes inevitable, so we've outlined in this manual some basic safety precautions that can greatly reduce the risk of accidents during RAP expeditions. We especially recommend that participants heed host-country warnings—for example, following weather and weight advisories for small planes and helicopters and listening to team leaders and local guides. There may be site-specific dangers that you need to know about and which could save your life or the lives of your colleagues.

As conservationists, we also hope to conduct our field work in the most environmentally benign fashion possible, to cause the least harm and preserve the unspoiled nature of the ecosystems we are assessing. Towards that end we have outlined within this manual basic responsibilities and protocols for all RAP participants to follow.

As RAP scientist Robin Foster said in an interview with the Washington Post about falling down a mountain in Borneo and suffering liver damage after a run-in with a rare parasite while exploring Perú and Bolivia: "I used to think I had a death wish, but I'd much rather be doing this than sitting in an office." As scientists and conservationists, most RAP team members understand his sentiment. However, many of your family members, friends, and even colleagues may not.

So please share this manual with your loved ones. Use common sense. And have a safe and productive RAP trip!

Sincerely,

Leeanne Alonso
Vice President, Rapid Assessment Program
Email: lalonso@conservation.org

June 2006

The following is a summary of safety responsibilities for RAP participants. Refer to later sections for more details.

Each traveler is responsible for...

- Taking care of personal vaccinations
- Planning for and bringing personal medications and hygienic supplies (including sunscreen, insect repellent, malaria prophylactics)
- Signing and sending the Permission for Emergency Medical Treatment form to CI-RAP
- Completing the Personal Safety Information Sheet and returning it to CI-RAP.
- Signing and sending the Release and Waiver of Liability to CI-RAP.
- Informing family/friends/colleagues of risks and emergency numbers
- Reading, understanding, and following safety guidelines (this manual)
- Expert scientists only: Preparing safety rules for specific scientific work (e.g. handling venomous species and hazardous chemical handling; using special equipment)

The host-country partner is responsible for...

- Designating a Safety Contact, a Field Coordinator, and a Safety Officer (may be member of research team)
- Arranging pre-trip permits and visas
- Forming a relationship with local inhabitants
- Arranging emergency evacuation and health insurance for host-country participants
- Specifying area-appropriate waste disposal (i.e. hazardous, lab, and personal waste)
- Developing an area-specific communication plan
- Developing an area-specific medivac plan
- Developing an area-specific waste disposal plan
- Identifying area-specific risks (i.e. venomous plants and animals, nearby guerilla activity, drug trafficking, etc.)
- Arranging for purchase of emergency medical supplies

CI-RAP is responsible for...

- Receiving and distributing completed Permission for Emergency Medical Treatment forms, Personal Safety Information Sheets, and Release and Waiver of Liability forms.
- Supplying safety equipment where appropriate, including medical kits
- Supplying communications equipment where appropriate
- Assisting in developing and distributing area-specific plans and advisories to travelers
- Providing SOS (medical/security/logistical) travel insurance to non-host-country participants
- Procuring visa information (with host-country partner)

Pre-Trip

Vaccines and medication — Before participating in the RAP expedition, travelers are responsible for making sure their vaccines are up to date and appropriate to the area in which the expedition will take place. Suggested sources of information are the World Health Organization Web site (www.who.org), Center for Disease Control Web site (www.cdc.gov), embassies, consulates, and your local traveler's clinic. Travelers are also responsible for supplying the correct malaria medicine and other personal medication (including prescriptions, sunscreen, insect repellent, and feminine hygiene supplies).

Forms — Before travelers are permitted to join the RAP expedition, they must fill out the Permission for Emergency Medical Treatment, Personal Safety Information Sheet, and Release and Waiver of Liability and return those documents to CI–RAP at least three weeks before the trip.

Insurance — Travelers must confirm that their regular health insurance will cover emergency medical treatment internationally. If the insurance does not cover such claims, travelers are responsible for purchasing appropriate insurance at their cost. CI will provide Emergency Evacuation Insurance (SOS: www.internationalsos.com) to all participants.

Families — Travelers should explain risks inherent to the expedition to family members (suggestions included in “Work Risks” section). It is recommended that travelers leave with family members: emergency contact information (may be CI or host-country partner office), the itinerary, a copy of the Personal Safety Information Sheet, and a copy of the Release and Waiver of Liability.

Background information — Travelers should read and understand area-specific communication and medivac plans, as well as other relevant information which will be provided by expert scientists.

Communications Plan

All participants **MUST** follow the communications plan.

General communication — The In-country Logistics Coordinator is responsible for daily communication at designated times via radio with a designated Safety Contact in the nearest city with reliable telephone/emergency communications access. Loss of radio contact will be determined by the Safety Contact if one and a half hours of silence pass after the designated contact time. The Safety Contact will then follow a prearranged emergency plan (contacting satellite phone, sending out search party, etc.).

Daily coordination — Each night all research groups must present a plan of work activities for the following day. The Scientific Team Leader is responsible for coordinating this information with the In-country Logistics Coordinator each day. This will include a contingency plan in case of emergency. All groups will have a specified time of return. If groups do not return within an hour and a half of this specified time, a search party with a medical kit will be assembled and sent out.

Medivac Plan

A Medical Evacuation (Medivac) will be performed when a participant is in immediate physical danger.

Medivac decision team:

In-country Logistics Coordinator

Scientific Team Leader

Designated Safety Officer (should have basic first-aid knowledge and may be a member of the research team)

Medivac emergencies will be decided on a case-by-case basis and will follow established Smithsonian Institution emergency guidelines. In the case of a severe emergency (maiming, kidnapping, or death of participant) the expedition will be cancelled and all participants will be evacuated from the area. Cost will be disregarded when life is in danger.

Smithsonian Institute Emergency Guidelines

Case scenario 1 — The patient can walk and sit normally with little or no help. The patient's condition is stable and does not require immediate attention. Such cases are included in normal flight scheduling, with minor modifications if applicable.

Case scenario 2 — Patient cannot walk on his/her own or immediate attention is required, but time is not of primary importance (twisted ankle, broken leg, etc.). Handling, including transport of the victim, should be left up to the experts.

Case scenario 3 — Patient requires immediate attention. Time is of paramount importance (hemorrhage, snake bite, etc.). The quickest means of transport should be utilized to evacuate the person. If a medical provider can get to the person sooner than the time it takes for the patient to be transported, first aid should be administered at the site of the incident/accident.

Medivac Roles

In-country Logistics Coordinator

- ❑ Coordinate anticipated difficulties during the evacuation.
- ❑ Stay in contact with the patient and medical team and gather as much information about the case as possible.

Scientific Team Leader

- ❑ Decide with other medivac decision members whether medical emergency warrants canceling the expedition and evacuating all participants (maiming, kidnapping, or death of participant).

Designated Safety Officer

- ❑ Assist with medivac by accompanying patient and/or medical team.
- ❑ Coordinate safety plan implementation with other Coordinators.

Safety Contact

- ❑ Maintain contact with the camp, receive emergency calls, and enact emergency safety plan as determined before the expedition.
- ❑ Maintain contact with the camp during emergency operations.
- ❑ Coordinate helicopter/small plane flights and landing.
- ❑ Check safety of flight plans with regard to weather, fuel, and procedures.

Travel Gear

Each participant's personal travel gear should include appropriate field dress (participants will be supplied with a list of suggested items before the expedition). If the participant will be working around boats and machinery (e.g., trawls), clothes with straps and ties should be avoided, and all jewelry and watches should be removed. Excessive personal and scientific supplies are detrimental to the expedition by taking up limited site storage space and allowances in aircrafts and boats, and, in some cases, depleting scarce water supplies used for washing. **WEIGHT RESTRICTIONS ON AIRCRAFT AND/OR BOATS WILL NOT BE EXCEEDED.**

Travel by Boat

Life jackets will be provided when boat travel is required. During boat travel, all participants must wear life jackets at all times—putting them on before entering the boat and removing them only after leaving the boat (see Release and Waiver of Liability). Participants are expected to dress appropriately, wearing lightweight clothes and removing heavy boots before traveling by boat. Boats traveling at night must have appropriate illumination.

Hazardous Materials

Fire-arms, explosives, and other hazardous substances are strictly prohibited. Host-country and U.S. (if stricter) aviation and boat-transport regulation of flammable material should be followed at all times for personal safety and liability reasons. Items which must be transported such as alcohol, formaldehyde, and wet-cell batteries must be labeled clearly as hazardous and packed in safe, secure containers—for example, batteries should be packed in a wooden box and be surrounded by sawdust.

Waste Management

No waste or garbage should be left in the sampling areas. The In-country Logistics Coordinator is responsible for making a plan available for appropriate waste disposal in all sites, including but not limited to laboratory supplies and chemicals, used batteries, empty or unused fuel containers, food, personal trash, and human waste such as used toilet paper and feminine hygiene products.

Work Risks

This table has been modified and reprinted by permission of A. Alonso, Smithsonian Institution.

Activity	Risks	Measures
Using machetes	Personal injury	<ul style="list-style-type: none"> - Machetes used only by experienced local people - Safe distance between workers
Working at heights (tree climbing by botanists)	<ul style="list-style-type: none"> - Falling - Falling branches - Unqualified personnel 	<ul style="list-style-type: none"> - Use footgrips, safety belts - Only experienced climbers in trees
Working in streams and rivers	<ul style="list-style-type: none"> - Drowning - Fast-moving water, strong currents - Deep water - Uneven/loose river banks - Slippery rocks 	<ul style="list-style-type: none"> - Identify non-swimmers - Use lifelines in water deeper than 1.5 meters - Buddy system (no one in the water alone)
Handling snakes, bats, and other potentially dangerous or disease-ridden animals	<ul style="list-style-type: none"> - Venomous snake bites - Small mammal and piranha bites - Shocks from electric eels - Large animal attacks 	<ul style="list-style-type: none"> - No one handles potentially dangerous animals without direct supervision or approval by lead biologist from taxonomic group - Do not leave vehicles or camp without guide and permission from team/group leader
Night work	<ul style="list-style-type: none"> - Limited light - Slips, trips, falls - Unsafe weather conditions 	<ul style="list-style-type: none"> - Each person carries first-aid kit, night gear with light - Flag trails - Immediate return to base camp at start of rain or windstorm - Buddy system (no one out alone)
Hiking	<ul style="list-style-type: none"> - Knee injuries - Falling or slipping 	<ul style="list-style-type: none"> - Those with prior knee injuries should avoid strenuous hiking - Distribute loads evenly
Use of chemicals and hazardous substances (alcohol, formaldehyde, wet-cell batteries, fuel, kerosene, oil)	<ul style="list-style-type: none"> - Fire - Spills - Fumes 	<ul style="list-style-type: none"> - Use safe containers - Proper handling and storage - Spill-kits and absorbent material

Sources for this safety manual include:

- The Smithsonian Institution Biodiversity Assessment and Long-term Monitoring, Lower Urubamba Region, Perú, Pagoreni Well Site: Assessment and Training
- Peace Corps: On the Home Front – A Handbook for the Families of Volunteers
- Equipped to Survive Medical Group (www.equipped.com/medical)
- Armchair World Traveler (www.armchair.com/info)
- Northeast Valley Division of General Practice, Victoria (www.nevdgp.org.au/travel)
- Lonely Planet Health Check (www.lonelyplanet.com/health)
- Medical College of Wisconsin Health Link (healthlink.mcw.edu)
- Chinook Medical Gear Suppliers

Appendix 7: Medical Kit List

Medical Kit*

Each medical kit in a transparent dry bag should contain:

Wilderness Medical Associates Field Guide (Wilderness EMT)

Internal Emergencies

1 CPR medic kit (CPR life mask, infectious control, aspirin, guide)
2 Instant cold packs
2 packages oral rehydration salts
Extractor snake-bite kit, with Benadryl antihistamine
1 digital thermometer
1 mercury thermometer
SAM Splint

Wound Management

10% Iodine solution
5 wound cleaning wipes
1oz. triple antibiotic ointment
Bandage scissors
2 rolls Waterproof first-aid tape
20 Band-aid strips, 3in.
2 bandage rolls
Sterile dressings (5"x 9")
Dressing sponges
2 conforming bandages
10 butterfly bandages (for wound closure)
2 eye-patches
1 triangle bandage
Cotton swabs
Wound irrigation syringe

Skin ailments and Burn treatment

2 second skin burn treatment films
Aloe gel
1 tolnaftate anti-fungal cream, ½ oz.
Moleskin blister pads
1oz. Sunscreen, 15 SPF
2oz. Bug repellent, 30% DEET (2)
Caladyle, anti-itch
2 oz. Hydrocortisone cream
1 tick removal kit
Vaseline petroleum jelly
2 Secta-sooth swabs (sting relief)

Medication

Aspirin
Acetaminophen
Ibuprofen
Aspirin-free pm (for sleeping assistance)
Alkaseltzer heartburn relief
Anti-diarrheal (Loperamide HCl – like Imodium)
Pepto-bismal chewables
Laxative
Flu relief
Nasal decongestant

Other

1 elastic Ace bandage, 3 in.
2 finger splints
Lice-killing shampoo and nit comb
10 ob tampons (also used as emergency sterile dressing)
2 Biohazard kits: Latex gloves, antibiotic wipe, disposal bag
Whistle (if lost/disabled)
Mirror (signaling to airplane)
Water purifying tablets
Liquid, waterless hand sanitizer

Team First-Aid Kit

Each kit should be carried by team leader at all times and contains:

1 elastic Ace bandage (for wrapping joints)
1 package of Blister cushions
1 roll conforming stretch gauze bandage
5 Band-aid strips, 3in.
1 Large Band-aid wound cover
2 wound cleaning wipes
1 triple antibiotic ointment dose
8 ibuprofen tablets, 2mg
2 eye patches
2 Latex gloves
8 Benadryl antihistamine
(bee & scorpion stings)
1oz. Insect repellent
1oz. Sunscreen
½ oz. Hydrocortisone cream
Forceps (ticks, spines)
Whistle (if lost/disabled)

*Please remember that all RAP participants should bring personal supplies of sunscreen, insect repellent, and any medications used for treatment on a regular basis (prescriptions and over-the-counter). Women should bring their own feminine hygiene supplies.

Appendix 8: CI-RAP – Release and Waiver of Liability (on CI letterhead)

Release and Waiver of Liability

Page 1 of 2

1. I, [full name] _____, understand and acknowledge that participation in Conservation International’s Rapid Assessment Program (“RAP”) Team’s Field Project in [name of site(s)] _____
between [start date] ____ / ____ / ____ and [end date] ____ / ____ / ____ may involve risks and dangers that could result in damage to or loss of personal property, personal injury or loss of life including, but not limited to, travel to, within and from rustic and/or remote areas, under rugged conditions, by plane, helicopter, truck, boat and other modes of transportation; lack of adequate or immediately available medical care; forces of nature, unpredictable weather, dangerous wildlife; unstable political conditions and armed conflicts; scuba diving; tree climbing; and dangers that no amount of care, caution or experience can eliminate.
2. Having read and understood the terms of this Release and Waiver of Liability and in consideration of my participation in the RAP Team Field Project, I for myself, my spouse, family, heirs, executors, administrators, and legal representatives HEREBY RELEASE, WAIVE AND FOREVER DISCHARGE Conservation International, its officers, directors, agents, affiliates, employees, members and contractors (collectively, “Releasees”), from any and every claim, liability, demand, action, or cause of action, of whatever kind or nature, either in law or in equity, past or present, arising from or by reason of any property loss or damage, bodily injury or injuries known or unknown or death occurring, growing out of, incidental to, related to, or resulting directly or indirectly from my participation in the RAP Team Field Project, whether due to the fault or negligence, including, but not limited to, the gross negligence, of Releasees, circumstances beyond Releasees’ control, or otherwise. I understand and agree that Releasees have not expressly or impliedly assumed any duty or obligation toward me or associated with my participation in the RAP Team Field Project.
3. I EXPRESSLY AND VOLUNTARILY ASSUME ALL RISK OF PERSONAL INJURY, DEATH OR PROPERTY DAMAGE/LOSS sustained while participating in the RAP Team Field Project whether due to the fault or negligence, including, but not limited to, the gross negligence, of Releasees, circumstances beyond Releasees’ control, or otherwise.
4. I agree that it is my responsibility to obtain adequate insurance, including, medical insurance and insurance coverage for claims related to bodily injury, loss of life and property damage, as well as DAN insurance for any scuba diving activities, to cover my participation in the RAP Team Field Project
5. I further release Releasees and all other officials or professional personnel from any claim, liability, demand, action, or cause of action, of whatever kind or nature, either in law or in equity, on account of first aid, medical treatment or other health-related services rendered to me during my participation in the RAP Team Field Project, and I shall assume full responsibility for payment of any such aid, medical treatment or other services so rendered.
6. I agree to indemnify Releasees from any loss, liability, damage or cost they may incur as a result of my participation in the RAP Team Field Project, including attorneys’ fees
7. In the event that a RAP Team Field Project entails scuba diving activities, I hereby represent and warrant that I am a certified scuba diver trained in safe diving practices.
8. This Release and Waiver of Liability contains the entire agreement between the parties; all prior oral and written communications are merged herein. The terms of this Release and Waiver of Liability are contractual and not a mere recital.
9. This Release and Waiver of Liability may not be modified or changed orally, but only by an agreement in writing signed by the parties hereto.
10. The performance, construction and enforcement of this Release and Waiver of Liability shall be governed by the laws of the District of Columbia without regard to the principles of conflicts of laws. I agree that any

dispute, controversy or claim arising out of or relating to this Release and Waiver of Liability, or the performance, breach, interpretation, application, termination, validity or invalidity thereof, or my participation in the RAP Team's Field Project, whether based on contract, tort, statute or other legal or equitable theory (including but not limited to any claim for fraud, misrepresentation, or fraudulent inducement), shall be settled by confidential arbitration before one arbitrator and administered by the International Centre for Dispute Resolution ("ICDR"), a division of the American Arbitration Association ("AAA"), in accordance with its International Arbitration Rules, as at present in force. The arbitrator will be chosen by ICDR/AAA. With respect to each such dispute, controversy or claim, the award of the arbitrator will be final and binding, and will be the sole and exclusive remedy between the parties. The arbitrator may not award punitive damages. The language to be used in the arbitration will be English. The location of the arbitration will be in the District of Columbia.

11. IN ANY ACTION OR LAWSUIT TO ENFORCE THIS RELEASE AND WAIVER OF LIABILITY, I AGREE TO HEREBY WAIVE THE RIGHT TO TRIAL BY JURY.
12. In case any provision (or any part of any provision) contained in this Release and Waiver of Liability shall for any reason be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision (or remaining part of the affected provision) of this Release and Waiver of Liability, which shall be construed as if such invalid, illegal or unenforceable provision (or part thereof) had never been contained herein but only to the extent it is invalid, illegal or enforceable.
13. The rule of contract construction that a contract is to be construed most narrowly against the drafting party shall not apply to this Release and Waiver of Liability.
14. I have been fully and completely advised of potential dangers incident to participation in the RAP Team Field Project. I have carefully read the foregoing Release and Waiver of Liability, am fully aware of the legal consequences of signing it, and have signed it of my own free will.

Printed Name

Signature

Date

Appendix 9: CI-RAP – Permission for Emergency Medical Treatment (on CI letterhead)

PERMISSION FOR EMERGENCY MEDICAL TREATMENT

I, [*full name*] _____, hereby grant Conservation International (“CI”) permission to authorize medical treatment on my behalf, including, but not limited to, administration of antibiotics, anesthesia and other medications, transfusions or blood products, life-saving and other necessary surgical procedures, and hospitalization, in the event that I am unable, for any reason, to authorize or approve of such treatment on my own behalf. I further agree to indemnify and hold CI harmless for any or all actions growing out of, incidental to, relating to, resulting directly or indirectly from, or arising out of any such emergency medical treatment. I agree that CI does not have any duty, obligation or responsibility to authorize or seek medical treatment on my behalf. The Release and Waiver of Liability that I have executed related to my participation in CI Rapid Assessment Program Team Field Project(s) is incorporated by reference herein.

Printed Name

Signature

Date

Appendix 10: CI-RAP – Personal Safety Information Sheet (on CI letterhead)

Personal Safety Information

(Please fill out as completely as possible)

Page 1 of 2

Contact Information

Title	<input type="checkbox"/> Dr. <input type="checkbox"/> Mr. <input type="checkbox"/> Mrs. <input type="checkbox"/> Ms.		
Surname			
Given Name			
Area of Expertise			
Organization			
Organizational Title			
Address			
City			
Administrative Area		Postal Code	
Country			
Phone Number 1		Phone Number 2	
Fax Number			
Email 1		Email 2	

Passport Information *

Country		Number	
Date of Issue		Date of Expiration	
Place of Issue			
<p>* Please submit a scanned or faxed image of your passport information page. Include any pages that contain extensions for your passport's validity.</p>			

Emergency Contact Information

Name		Name	
Relationship		Relationship	
Telephone		Telephone	
Address		Address	
Email		Email	

Emergency Health Information

Blood Type			
Do you have allergies?	<input type="checkbox"/> No <input type="checkbox"/> Yes (please describe below)		
(if yes) Allergies			
Are you currently taking prescription medication?	<input type="checkbox"/> No <input type="checkbox"/> Yes		
Has your physician advised you of any potential reactions?	<input type="checkbox"/> No <input type="checkbox"/> Yes (please describe below)		
(if yes) Reactions			

Personal Safety Information

(Please fill out as completely as possible)

Health Insurance *(participants are responsible for their own healthcare)*

Company	
Plan Number	
Phone Number	

Travel Insurance

Company	
Plan Number	
Phone Number	

Bank Information (if applicable) *(for wire transfer payments - please consult your bank if you are unsure of any information, otherwise payments could be delayed)*

Bank Name			
Swift Code <i>(Int'l)</i>			
ABA <i>(USA)</i>			
Account Number			
Address			
City			
Administrative Area		Postal Code	
Country			
Phone Number			

Equipment Suppliers for RAP Surveys

This list isn't exhaustive and only indicates that RAP has been satisfied with purchases made through the companies.

Company	Website	Description from website
Amazon.com	http://www.amazon.com	Amazon.com strives to be Earth's most customer-centric company where people can find and discover virtually anything they want to buy online.
B&H Photo	www.bhphotovideo.com	
Ben Meadows Company	http://www.benmeadows.com/	Ben Meadows Company still offers the finest gear available with an expanded line for natural resource professionals.
BioQuip	www.bioquip.com	Equipment, Supplies and Books for Entomology and Related Sciences
Campmor	www.campmor.com	A well stocked climbing department as well as a full service bike shop and an extensive water sports section with various canoes, kayaks and accessories.
Carolina Biological Supply Co.	https://www2.carolina.com	Carolina Biological Supply Company provides teaching materials to science and math educators worldwide.
Electron Microscopy Sciences	http://www.emsdiasum.com/microscopy	The most comprehensive source for electron microscopy, light microscopy, and histology supplies, chemicals, and equipment.
Fisher Scientific Co.	www.fishersci.com	Fisher Scientific International Inc is a leading provider of products and services to the scientific-research community and clinical laboratories.
Forestry Suppliers, Inc.	www.forestry-suppliers.com	Our annual catalog features thousands of quality products for the forestry, environmental science, surveying/engineering, horticulture, grounds maintenance, educational professionals and more.

Fowler	http://www.fvfowler.com/	Fowler continues to introduce important new tools designed to lead the way in inspection and measuring. Familiar items—including calipers, micrometers, indicators, height gages and bore gages — have been redesigned and now feature state of the art electronics to ensure compatibility with the latest in computer integrated manufacturing and statistical process control (SPC).
Marice Stith Recording Services	http://www.stithrecording.com/	A one-stop shop for all of your bird song recording needs.
Memphis Net and Twine	http://www.memphisnet.net	Memphis Net & Twine has custom made commercial fishing nets, sports nets, and nets for industrial applications since 1962.
Nylon Net	www.nylonnet.com	
Nylon Net Company	http://www.nylonnet.com/	Sporting goods, nets & netting, fishing supplies rope and twine
Sarstedt	www.sarstedt.com	Consumables and analytical equipment for medical diagnostics and consumables for use in medical patient care. Consumables, laboratory aids and laboratory equipment for industrial and research laboratories and also for environmental analytical work.

Appendix 12: Standard Equipment List by Taxonomic Group

Equipment usually requested by more than one scientific group is listed under “General Scientific.” Each group usually has specific requests for bottle, bag, and barrel sizes, as well as different concentrations of chemical solutions. Make sure scientists specify brands, quantities and sizes for equipment, as well as other preferences.

General Scientific Equipment

Recording material: Rite in the Rain Books, Sharpie pens, pencils, Labels

Chemical safety: Gloves, Syringes

Bags: Zip-lock, plastic (various sizes)

Bottles: wide-mouthed, vials (various sizes)

Seal-tight containers: Rubbermaid or Tupperware

Cheesecloth

Trays and Buckets (with lid)

Laboratory: Roll-up Aluminum Camp table, Camp Chairs, generator, light source

Tape: Flagging, Duct, masking, transparent

Electronics: GPS unit, Altimeter, Laptop, Digital Camera

Lights: Spotlight, Flashlights

Forceps: featherweight, pointed, flat, specimen weight

Gear Protection: Silica gel, pelican case, tarp

Batteries (D, C, AA, AAA)

Thermometers

Hanging Scales (10g, 100g, 1000g, 50 lb)

Bait: sardines, peanut butter, seeds

Hardware: wire-cutters, machetes, string, rope

Rubber-bands

Ruler

General Chemicals

Formalin

Ethyl alcohol

Liquid nitrogen containers

Liquid nitrogen pro analyses alcohol

Chloroform

Methanol

Buffers

Acetone

Mammals

Traps: Sherman, Tomahawk or Elliot

Nets: Mist, Harp

Cotton bags and gloves

Dissecting Equipment: kit, thread, needles, toothpicks, cotton-wool

Botany

Measuring tapes

Clinometer

Dissection kit

Pocket magnifier
Scissors, Scissor line
Compass
Tree Pruner
Hand-held Clippers
Newspaper (or drying paper)
Knives

Birds

2 Speed Cassette Recorder (Bird Version)
Microphone
Industrial Cassette Tapes
Binoculars

Herps

Dial Calipers
Nets: Hoop, Dip
Minnow traps
Headlamps
Hand-held tape recorders & cassettes

Inverts

Microcentrifuge Tubes
Forceps
Nets: butterfly, Winkler, netting
Cups, trays
Soap

Fish

Nets: gill, cast, dip, seine, Nueston, purse,
Bottom trawls
Hook and line
Minnow Traps
Plastic Barrels with screw-top lids (120, 60, 30 L)
Buckets with lids (50, 20 L)
Cable and bulbs
Nylon for repairs

Macro-crustaceans/ Aquatic Insects

Nets: dip, small seine
Light traps
Dredge for benthic samples

Limnology

Sieves, Pipettes
Meters: Conductivity, Flow, Dissolved Oxygen, pH, Ion (NH₄, NO₃, NO₂, Ca+2/Mg+2, Na+, K)
Magnifying glass
Measuring cylinder (1000 ml)
Secchi Disk
Petersen's apparatus with rope (silky)
Nets: Zooplankton and Phytoplankton

Appendix 13: Preliminary Report Guidelines

Format for RAP Preliminary Report May 2006

Maximum five pages

Introduction to your Taxonomic Group

Why is it important for conservation and appropriate for rapid assessment?

Brief Methods and description of Study Sites

General Impressions/Results for Each Site and Overall

Include impressions of habitat as well as the status and diversity of your group, total number of species documented

Interesting Species or Genera

Include any threatened species (e.g. on IUCN Red List, CITES, regionally or locally endangered), endemic species, or new species

Conservation Recommendations for Each Site

General recommendations for each site, specific recommendations to protecting your taxonomic group (e.g. habitat and food it needs, threats)

Appendix or Table with preliminary species list

Example of Preliminary Report:

Preliminary Report -RAP In Western Sichuan, China: Ant Group

XU Zhenghui and Leanne Alonso

Introduction to Group

Ants are an important group of social insects (Insecta, Hymenoptera, Formicidae). Ants are rich in species and abundance in distribution, up to date about 10,000 species have been recorded in the world. Ants are distributed everywhere in terrestrial ecosystems except the two poles of the earth and above snow-level. Ants have a large biomass and carry out many functions in the ecosystem such as improving soil, spreading plant seeds, pollinating flowers, consuming dead small animals, and controlling pest insects. Ants are also an important group for monitoring and evaluating environmental conditions and biodiversity.

Brief Methods and Study Sites

Ant species from the counties of Danba, Kangding and Yajiang of Sichuan Province were investigated by applying search-collecting methods and the Winkler method. In the search-collecting method, the ants nesting under stones, under or inside decayed wood and those foraging on ground, litter, tree trunk and plants were searched and collected. In the Winkler method, a sifter was used to obtain litter samples from different vegetation types: every 10 meters a 1m² quadrat of leaf litter was collected then Winkler bags were used to separate and collect ant individuals over a period of 48 hours.

From August 22-26 of 2005 in Kuiyong site, Donggu Town, Danba County, ants were surveyed separately in alpine conifer forest, conifer-broadleaf mixed forest, oak forest, bamboo forest and grassland through a search-collecting method, ants from the litter layer of conifer-broadleaf forest and bamboo forest were surveyed through Winkler method, the surveying elevation range is 3285-3900m. From August 29 to September 3 of 2005 in Tongling site, Pengta Town, Kangding County, ants from conifer-broadleaf mixed forest, secondary broadleaf forest, Yunnan pine forest were surveyed through search-collecting method, ants from the litter layer of secondary broadleaf forest and Yunnan pine forest are investigated through Winkler

method, the surveying elevation range is 2350-2800m. During September 6-9 of 2005 in Decha site, Decha Town, Yajiang County, ants from alpine grassland, alpine shrub, alpine conifer forest, oak forest, valley grassland were investigated through search-collecting method, ants from litter layer of oak forest were surveyed through Winkler method, the surveying elevation range is 3630-4700m.

General Impression of Each Site

Overall, 15 ant genera belonging to 4 subfamilies were collected at the three sites, with an approximate total of 40-50 ant species. In detail, two subfamilies, six genera and about 13 species were collected from Decha site; three subfamilies, seven genera and about 15 species from Kuiyong site; and four subfamilies, 13 genera and about 24 species from Tongling site (see appendix table).

Considering the numbers of morphospecies, our preliminary results indicate that the lowest elevation site (Tongling) was most rich in morphospecies while the mid-elevation site (Kuiyong) was the next rich in morphospecies, and the highest elevation site (Decha) had the least number of morphospecies. The results well conforms to the common rule for ant vertical distribution, in another words, the majority of ant species were found in warmer habitats, and most of them were distributed in lower elevation region.

In terms of ant community composition, the highest elevation site, Decha, has the most intact plant communities and therefore had the highest stability and evenness in the ant community. The ant community displayed lower stability and evenness at the Kuiyong site which was rich in secondary forests and lower in human population. The ant community had lowest stability and evenness in the Tongling site which was rich in secondary forests and higher in human population.

Interesting Species

The *Myrmica* species are an important group in the high elevation regions of China. The genus shows its importance in all the three sites, being not only rich in species, but also wide in distribution.

Formica species are second to *Myrmica* in importance, since these species are also relatively rich and common in distribution. Among them, the red wood ant, widely distributed at the Decha site, use broken needles, leaves and small branches to construct pyramid-like above ground large nests. These numerous ants are an important natural enemy for pest insects in alpine conifer forest. In addition, the rare genera such as *Aphaenogaster*, *Leptothorax*, *Myrmecina*, *Pyramica*, and *Tetramorium*, possibly include some interesting species in taxonomy.

Conservation Recommendations for Each Site

The Decha site contains virgin forests and the Tibetan people are protecting the site. This site has important scientific and conservation value for the sustainable protection of biodiversity in this area. Kuiyong site has had large scale logging in the past, thus secondary forest is dominant. But in this area, the population density of local people is quite low and the vegetation is making good progressive succession, therefore this site has higher protection value. Tongling site also has had much logging in the past, but the population density of local people is high and there is frequent disturbance to the forest, therefore vegetation succession is poor. We suggest proposing a reasonable plan separating protected areas and multiple-use areas for local people and to strengthen protection measures.

Many ant species require closed canopy forest to maintain the appropriate microclimate they need. Thus these species were found only at the more pristine sites. Several *Formica* species tend homopteran insects on plants, thus this interaction must be maintained.

Acknowledgements: We thank Peter Hoke (Conservation International), LI Xingwu (Forestry Bureau of Yajiang County), GONGBU Zhaxi (Decha Village, Yajiang County), Chen Tao (Tongling Village, Kangding County), and villagers from Kuiyong Village (Danba County) assisting field investigation and specimen collection.

Appendix Table: Preliminary Checklist of Ants from Decha of Yajiang County, Kuiyong of Danba County and Tongling of Kangding County

Subfamily	Genera	Site, Elevation and Number of Species		
		Decha 3630- 4700m	Kuiyong 3285- 3900m	Tongling 2350- 2800m
Ponerinae	<i>Pachycondyla</i>	0	0	1
	<i>Myrmica</i>	4	4	4
Myrmicinae	<i>Aphaenogaster</i>	1	2	3
	<i>Leptothorax</i>	0	1	0
	<i>Myrmecina</i>	0	0	1
	<i>Pyramica</i>	0	0	1
	<i>Tetramorium</i>	2	0	0
Dolichoderinae	<i>Technomyrmex</i>	0	0	1
	<i>Tapinoma</i>	0	1	1
Formicinae	<i>Camponotus</i>	1	2	2
	<i>Formica</i>	4	3	3
	<i>Plagiolepis</i>	0	0	2
	<i>Pseudolasius</i>	0	0	1
	<i>Lasius</i>	1	2	2
	<i>Paratrechina</i>	0	0	2
Total	15	13	15	24

Appendix 14: Final Report Guidelines

Guidelines for Submission of Chapters for RAP Bulletin of Biological Assessment May 2006

Content guidelines

Introduction to your Taxonomic Group

Why is it important for conservation and appropriate for rapid assessment

Methods and description of Study Sites

Details of sampling methods (# traps, transects, days etc), description of specific sites sampled including habitat type, dates, latitude and longitude.s

Results and Discussion

- List of species by site
- Total number of species for each site and for entire RAP survey
- Comparisons between sites (as appropriate) in terms of species richness and important species
- List of important species including threatened, endemic, restricted range, indicator, and other key species
- Range and distribution (local, regional and global) for these important species
- Global/regional importance of each species and the taxonomic group in general
- Ecological information about each of the important species, including what type of habitat they require, what they feed on, where they live/nest, their population size (if possible), and their role in ecosystem processes/services.

Conservation Recommendations

- A. General conservation recommendations for each site, such as evaluating the habitat condition and its regional/global conservation value, compare sites if appropriate
- B. Specific recommendations for the *specific key species* you identify to illustrate what is needed to protect them and their habitats, including:
 - What specific habitat and sites within the survey area does the species need to survive,
 - How large is the range of the species and how big of an area is needed to protect it,
 - Do the food sources for this species need protection as well,
 - If the area is impacted, can this species move to a nearby area (e.g. is it mobile), and if so, do you think there is sufficient habitat nearby to sustain it,
 - What specific human impacts will affect these species most and how,
 - What measures should CI and others take to protect these species.

Appendix or Tables with final species list

Formatting guidelines

1. Text

- a. Microsoft Word
- b. Each chapter in separate file
- c. Times New Roman 12 font
- d. Double Spaced throughout
- e. 1 space after period (.) at the end of a sentence and in latin names - be consistent
- f. Latin names in *italics* (not underlined)
- g. Left justified
- h. "Track changes" function turned OFF
- i. References included at end of chapter, follow formats below
- j. References cited in the text in chronological order in the following formats (no comma between author and year):
Wilson et al. (1995)
(Wilson 1995, Rice and Hoke 1999)
(Lauginie et al. 1998, 1999; Montambault 2000)

2. Tables

- a. Each in separate file
- b. Microsoft Word Table format
- c. Title above table (not in table)
- d. Numbered by chapter: Table 1.1, 1.2, 2.1, 2.2, 2.3....

3. Figures

- a. Each in separate file
- b. Provide original format (so we can make changes), preferably Microsoft Excel, Adobe Illustrator, Microsoft Word, tiff or jpeg formats
- c. Place caption below figure if possible, on separate sheet if necessary
- d. Black and white only
- e. Numbered by chapter: Figure 1.1, 1.2, 2.1, 2.2, 2.3....

4. Appendices

- a. Each in separate file
- b. Microsoft Table Format
- c. Title above table (not in table)
- d. Please include species lists by sampling site (not just one comprehensive list)
- e. Numbered consecutively throughout the report (not by chapter) 1, 2, 3...
- f. Check that total number of species is added correctly and that this number is the same as stated in the chapter text

Reference formats:

Journal

- Lynch, J. D., and R. W. McDiarmid. 1987. Two new species of *Eleutherodactylus* (Amphibia: Anura: Leptodactylidae) from Bolivia. *Proc. Biol. Soc. Wash.* 100(2): 337-346.
- Myers, N., R. A. Mittermeier, C. G. Mittermeier, G. A. B. da Fonseca, and J. Kent. 2000. Biodiversity hotspots for conservation priorities. *Nature.* 403: 853-858.

Museum Publication

- Emmons, L. H. 1999. A new genus and species of a brocomid rodent from Peru (Rodentia: Abrocomidae). *American Museum Novitates*, Number 3279.

Book

- Magurran, A. E. 1988. *Ecological diversity and its measurement.* Princeton University Press. Princeton, NJ.

Edited Book

- Agosti, D., J. D. Majer, L. E. Alonso, T. R. Schultz (eds.). 2000. *Ants: Standard Methods for Measuring and Monitoring Biological Diversity.* Smithsonian Institution Press. Washington, D.C.

Book in a series

- Foster, R. B., J. L. Carr, and A. B. Forsyth (eds.) 1994. *The Tambopata-Candamo Reserved Zone of southeastern Perú: a biological assessment.* RAP Working Papers Number 6. Conservation International. Washington, D.C.

Book Chapter

- Lynch, J. 1989. The gauge of speciation: on the frequencies of modes of speciation. *In:* Otte, D., and J. A. Endler (eds.). *Speciation and its consequences.* Sutherland, Massachusetts: Sinauer Associates. Pp. 527-553

Conference Proceedings

- Singh, J.G. 1994. The Enforcement Experience in Guyana on Exploitation of Natural Resources. *In,* Third International Conference on Environmental Enforcement. April 25-28, Oaxaca, México.

PhD Thesis

- Weske, J. S. 1972. The distribution of the avifauna in the Apurimac Valley of Peru with respect to environmental gradients, habitats, and related species. Unpublished Ph. D. thesis. Norman, Oklahoma: University of Oklahoma.

Website

- Colwell, R. K. 1999. EstimateS 5 version 5.0.1. Statistical Estimation of species richness and shared species from samples. Web site: viceroy.eeb.uconn.edu/estimates.

Appendix 15: Personal Travel Checklist

<p>Camping Gear</p> <ul style="list-style-type: none"> <input type="checkbox"/> Tent, Ground cloth, Rain-fly, Stakes, cord <p>or</p> <ul style="list-style-type: none"> <input type="checkbox"/> Hammock, mosquito net, ropes, tarp <input type="checkbox"/> Thermarest and/or Sleeping bag <input type="checkbox"/> Sheet <input type="checkbox"/> Polyester rope <input type="checkbox"/> Travel pillow <input type="checkbox"/> Travel stool/extra hammock <input type="checkbox"/> Tarp 	<p>Field Clothes</p> <ul style="list-style-type: none"> <input type="checkbox"/> 2 pair field pants (100% cotton recommended for tropics) <input type="checkbox"/> 2 T-shirts <input type="checkbox"/> 1 long-sleeve cotton button-down <input type="checkbox"/> Hat <input type="checkbox"/> Polarized sunglasses <input type="checkbox"/> 2 sports bras (if applicable) <input type="checkbox"/> 5 changes of underwear <input type="checkbox"/> Teva, Chaco, or other field sandals <input type="checkbox"/> Supportive nylon sneakers or nylon day-hiking boots <input type="checkbox"/> 3 pair fast-drying socks <input type="checkbox"/> Flip-flops <input type="checkbox"/> Swimsuit/trunks (for bathing) <input type="checkbox"/> Change of clothes to keep clean for wearing in camp/at night <input type="checkbox"/> Rain gear <input type="checkbox"/> Change of clothes and shoes for plane ride home or surprise visit to embassies. 	<p>Personal Items</p> <ul style="list-style-type: none"> <input type="checkbox"/> Soap <input type="checkbox"/> Shampoo <input type="checkbox"/> Moisturizing lotion <input type="checkbox"/> Towel <input type="checkbox"/> Sewing kit <input type="checkbox"/> Nail clippers <input type="checkbox"/> Tweezers <input type="checkbox"/> Shaving razors <input type="checkbox"/> Toothpaste, brush, and floss <input type="checkbox"/> Comb/brush <input type="checkbox"/> Q-tips <input type="checkbox"/> 15 SPF Sunscreen <input type="checkbox"/> 30% DEET insect repellent <input type="checkbox"/> Any Prescription medications <input type="checkbox"/> Feminine hygiene products (if applicable) <input type="checkbox"/> Suggested over-the-counter medications: <ul style="list-style-type: none"> <input type="checkbox"/> Pain reliever <input type="checkbox"/> Heartburn reliever <input type="checkbox"/> Diarrhea treatment <input type="checkbox"/> Cold medicine (trust me) <input type="checkbox"/> Benadryl (for stings) <input type="checkbox"/> Band-Aids <input type="checkbox"/> Neosporin <input type="checkbox"/> Hydrocortisone <input type="checkbox"/> Tolnaftate anti-fungal cream <input type="checkbox"/> Ace bandage <input type="checkbox"/> Dramamine <input type="checkbox"/> Lip balm <input type="checkbox"/> Ear-plugs <input type="checkbox"/> Sleep-aid <input type="checkbox"/> Anti-bacterial Handy-wipes
<p>Extra batteries (depends on supplies)</p> <ul style="list-style-type: none"> <input type="checkbox"/> C cells (usually 4 extra) <input type="checkbox"/> AA cells (usually 8-12 extra) <input type="checkbox"/> AAA cells (usually 2-4 extra) <input type="checkbox"/> Camera batteries (usually 2 extra) <input type="checkbox"/> Special electronics batteries (as needed) 	<p>Electronics (as available)</p> <ul style="list-style-type: none"> <input type="checkbox"/> 1 laptop <input type="checkbox"/> power cord <input type="checkbox"/> Disk accessories <input type="checkbox"/> 3 floppy disks <input type="checkbox"/> 1 zip disk <input type="checkbox"/> 2 recordable CD's <input type="checkbox"/> Digital camera <input type="checkbox"/> Photo transfer accessories/software <input type="checkbox"/> 35 mm camera <input type="checkbox"/> Slide film (budget at least 2-3 rolls/ week in field) <input type="checkbox"/> Satellite phone <input type="checkbox"/> Dry bag or Pelican Case 	
<p>Additional supplies</p> <ul style="list-style-type: none"> <input type="checkbox"/> 3 pens (ballpoint) <input type="checkbox"/> 2 pens (felt-tip, indelible) <input type="checkbox"/> 2 pencils <input type="checkbox"/> 1 spiral notebook <input type="checkbox"/> 1 writing pad <input type="checkbox"/> 1 RitenRain notebook <input type="checkbox"/> References (work related) <input type="checkbox"/> Reading (personal, budget 1 paperback/week in field) <input type="checkbox"/> 2 Flashlights (1 strong beam, 1 back up) <input type="checkbox"/> Shortwave radio (emergency news) <input type="checkbox"/> Travel alarm <input type="checkbox"/> Pocket knife <input type="checkbox"/> Binoculars 		