

Rio Amazonas Research Station

operated by FundAmazonia-AmazonEco



Research and Volunteer Opportunities 2026/27



BRIEFING DOCUMENT

Inquires: email: expeditions@fundamazonia.com
Prof Richard Bodmer FRSA
www.fundamazonia.com

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Research at the Rio Amazonas Research Station

The Rio Amazonas research station is in the biodiverse rainforests of Peru on a tributary of the Amazon river and focusses on research on dolphins, primates, macaws, wading birds, fish, bats, caimans, frogs, ungulates, rodents, carnivores, otters, and works with local communities involved with community reserves, Indigenous territories and sustainable use. Research is studying biodiversity, wildlife ecology, climate change, Indigenous people, Amazon conservation and tropical ecology.

The research station is based on the historic boat 'Rio Amazonas' which is a restored steamship from the rubber-boom era built in 1899. Cabins are en-suit accommodation, with dining room, lecture room, library, laboratory, and open deck areas.

Our team of researchers is coordinated by Prof Richard Bodmer who has been working in the Peruvian Amazon for over 4 decades. The Fundamazonia team has over 150 scientific publications and over the past 35 years the research station has had international and Peruvian students from many universities, including the Universities of Kent, Florida, Oxford, Cambridge, Cornell, Chicago, and Universidad Autonimo de Barcelona, Universidad Nacional de Costa Rica, Universidad Nacional de Colombia, UNAP, among others.

The research uses field studies to provide the science base for wildlife and community-based conservation; impacts of climate change on wildlife and people; and wildlife trade and recovery of endangered species.

The Rio Amazonas Research station is used by Earthwatch Institute, USA, DICE, UK, School for Field Studies, USA and Operation Earth-China. The Research Station uses international health and safety protocols, including covid protocols, risk assessments and emergency response plans.

What we offer

The research station is aimed at different levels of student, volunteer, and scientist participation.

- **Student research projects.** Students can conduct BSc, MSc, and PhD research at the research station. Students can either become involved in on-going research projects or develop their own projects around their individual interests. Students conducting research use the data they collected for their projects. In addition, research students can use data from previous years for comparisons and multi-year analyses. This is especially important for students working on climate change.
- **Visiting and volunteering.** People can join the research station and help with data collection on the wildlife surveys and with work in local communities. Participants gain experiences in tropical research, community work, and Amazon conservation. Students will learn how to conduct research on a variety of animals and plants with projects on a range of species, including dolphins, macaws, caimans, primates, terrestrial mammals, large forest birds, understory birds, bats, frogs, and fish, among others. Visitors and volunteers will learn about sustainable hunting and fishing by Indigenous people, and community-based and protected area conservation.
- **Structured field courses.** Field courses are available on a variety of topics including: Amazon Wildlife Ecology and Conservation; Dolphin Ecology and Behaviour; Ecology of Terrestrial and

Arboreal Mammals; Avifauna Ecology; Ecology of Reptiles and Amphibians; and Fish Ecology and Fisheries. Tailored field courses can be organised, and courses can be taught at secondary school level, and college and university levels.

The research is conducted in the Yarapa River field site of the Samiria-Yavari protected area landscape in the Peruvian Amazon of Loreto. The Yarapa River basin is a flooded forest ecosystem that has abundant wilderness and some of the greatest diversity of animals and plants on Earth. These forests are a continuum between the terrestrial and aquatic ecosystems that form a unique and important part of the Amazon. Your participation in this research plays an important part in helping to conserve this area, and the information you collect will be used by the protected areas and Indigenous people to improve their conservation strategies.

The Yarapa River site is situated between the Pacaya-Samiria National Reserve and the Tamshiyacu-Tahuayo Community Reserve in one of the largest protected area complexes in Peru. The Yarapa site has an abundance of aquatic and terrestrial wildlife; it has healthy dolphin densities, abundant wading birds and fish, recovering otters and caimans, and healthy populations of primates and other mammals and birds. The local Indigenous people are involved with the conservation activities and play a major role in helping to conserve these rainforests.



The Research Station is open all year.

This price includes transfers from Iquitos-Research Station-Iquitos; all meals on site - breakfast, lunch, and dinner; single bed in comfortable shared cabin, lectures and briefings, and all wildlife research and surveys and local community work run by research staff.

Vegetarian and vegan meals are available.

Arrival Airport: Iquitos, Peru Airport

Rendezvous Point: Hotel Casa Morey, Iquitos, Loreto, Peru (Tel: 51-65-231913)

Destination: Rio Amazonas Research Station, Yarapa River, Loreto, Peru

You fly to Iquitos, Peru. We will pick you up at the airport and take you to the research station. If you plan on spending time in Iquitos prior or post expedition this will be paid by yourself and is not included in the research station fees. Our staff can help you arrange accommodation in Iquitos.

Daily wildlife research surveys include aquatic bird surveys, dolphin surveys, fish surveys, forest transects of primates and birds, night surveys of caimans, frogs, bats, camera trap surveys for jaguar, tapir and peccary, and high frequency hydrophone and side-scan sonar for fish and dolphin research.

FundAmazonia and AmazonEco run the Research Station. For more information, please consult this briefing or visit www.fundamazonia.com

If you are interested in joining the research station, please send the following pre-fielding information to: r.bodmer@fundamazonia.com

Name:

Email:

Age* and gender:

Country where you live:

Expedition dates:

Interests/profession/studies:

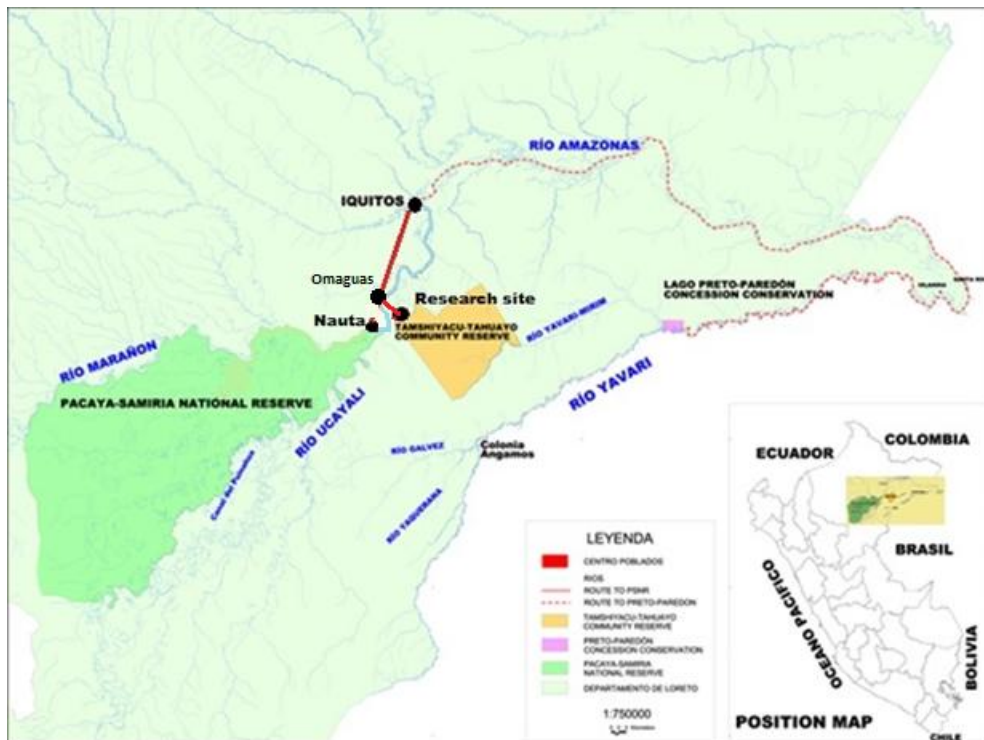
Will you apply for a scholarship:



- We use a research boat that is moored on a biodiverse tributary next to the Amazon River. You travel to and from the research station in a boat.
- Rooms can be used as single, double, and triple accommodation. Larger student rooms available.
- Rooms have fans and limited AC.
- Rooms have en-suite shower and toilet facilities.
- The research boat has a nurse for larger teams (10+). Health facilities in Nauta are 1 hour by boat.
- Travel time from Iquitos to the research site is 3 hours; two hours in automobile and one hour in boat.
- Vegetarian meals are available.



Join our research boat in the Peruvian Amazon and our team of researchers and conservationists as we study wildlife and learn about the ecology and conservation of tropical rainforests.



Research Overview

The Amazonian forests of Loreto, Peru are situated in the western Amazon basin and harbour some of the greatest mammalian, avian, floral and fish diversity on Earth. The projects in Loreto, Peru have been running since 1984. The vision of these projects is to set up long-term biodiversity conservation using a combination of community-based, protected area, and landscape strategies based on wildlife conservation. The research and conservation activities use an interdisciplinary approach to find a balance between the needs of the Indigenous people and the conservation of the animals and plants. The project in Loreto Peru is working with several conservation groups, universities, and government agencies to implement a strategy for wildlife conservation that will result in landscape level biodiversity conservation. These goals are being implemented by taking three foci: 1) conservation action, 2) promoting conservation and 3) conservation orientated research. The results of the project in Loreto will advance community-based wildlife management, protected area management, wildlife conservation policy in the Peruvian Amazon, and help set new protected areas.

Students and volunteers participate with research of wildlife populations and are involved with research on monitoring wildlife populations and working with monitoring wildlife use and community-based wildlife management plans in local indigenous villages. Examples of student research include studies on the ungulates, macaws, large-bodied primates, caimans, dolphins, giant river otters, manatees, river turtles, game birds, understory birds, large cats, other large mammals, palm trees and large fish. Students will also work with the monitoring of community-based conservation activities in indigenous communities.

All field activities are accompanied by a scientist or biologist and local field assistants.



Eco-Friendly and Sustainable Research

The Rio Amazonas Research Station prides itself on its eco-friendly site and sustainable research methods. The station uses solar energy, solar hot water, ecological solid and water waste recycling, among other eco-friendly services. The research methods that are used at the station are observational and capture-release. Care is taken during research to have a minimum footprint and minimize invasive methods.

Wildlife Research and Surveys

We use wildlife surveys to study the population trends on different aquatic, terrestrial and arboreal wildlife communities over time. The research design is based on multiyear population analysis of species groups and protocol has been held constant for all years. Species groups are surveyed independently, and surveys are conducted during flooded, low water and transition seasons.

Densities and abundances of species assemblages are being estimated annually in the Yarapa River basin. Methods will differ between species assemblages and include distance sampling, fixed width, line transects, catch-per-unit-effort, point counts, age structure and camera traps.

We survey terrestrial mammals (ungulates and terrestrial rodents), arboreal mammals (primates and other arboreal mammals) and game birds using transects. Trails of an average of 3 km long are walked at approximately 1 km/hour. We use the distance sampling method and observers walk transects between 07:00-12:00 hours in the morning and 14:00-17:00 hours in the afternoon. When a group of animals is encountered, the number of individuals is recorded, and the perpendicular distance from the trail to the first individual sighted is measured. Clusters, such as primate troops, are considered as independent units and cluster size is used to determine density of individuals. The data are analyzed using Distance software. Population densities are calculated as number of individuals/km² (ind/km²).

We also survey terrestrial mammals with Bushnell HD infrared and motion camera traps. Cameras are set over areas of approximately 100 km² at the study site and distributed across habitat types. Cameras are set at 640x480 pix with 10 sec video capture and 5 sec intervals, using 8 AA alkaline batteries. Cameras are set along 1 km of transect using a width (w) of 100 m for 15-day intervals, selecting new sites on every rotation. Camera traps are checked weekly to determine the battery levels and general functioning of the units. Independent events have a minimum gap of 30 minutes for captures of the same species. Capture rates per species are calculated as independent events as number of individuals/1,000 camera-days (ind/m.c.d.). Camera data can also be analysed using occupancy models.

We survey macaws by 15-minute point counts set in sampling units separated by 500 m along the shoreline of rivers, lakes, and channels. Surveys have between 6 and 9 points with 10 shoreline transects. Censuses are done in the morning (5:30-9:00h) and afternoon (16:00-18:30h) when movement is usually unidirectional from roosting to feeding sites (and vice versa). We determine species through visual and auditory identification, and records are taken of number of individuals in a flock and minute of observation. Population trends use number of individuals per point (ind/pt).

We survey fish using green nylon gill nets of 30 meters long, 3 meters deep, and a mesh size of 3.5 inches set for 1 hour in rivers, lakes, channels, and flooded forest habitats with weak currents in

morning (7:00-11:00) and afternoon (14:00-18:00) surveys. Data are recorded on species, weight, standard length, and geographic coordinates. Fish are released back into the water. Catch per unit effort (CPUE) is calculated as individuals per net-hour (ind/net-hour) and biomass per net-hour (kg/net-hour).

Fish abundance is also studied using side-scan sonar. A StarFish450 side-scan sonar set at 4500khz and 1500 m/sec is used to determine fish abundance at shallow points (mal pasos). The sonar is attached to an auxiliary boat using a velocity of 3-6 km/hr and transects of 5 km. Fish reflect white on the sonar from oxygen held in intestines, swim bladders and gills. The sonar also records dolphins.

We survey waterfowl by shoreline transects in the morning (5:30-9:00h) and afternoon (16:00-18:30h). Shoreline transects of 5.0 km are surveyed along river, lake, and channel habitats with a survey speed of approximately 2 km/hour using an aluminium skiff powered by a 25 hp engine. All perched or flying waterfowl are recorded. Population abundance of species is calculated as number of individuals/km (ind/km).

We survey dolphins on 5 km diurnal aquatic transects in river, lake, and channel habitats at a velocity of approximately 2 km/hour. Surveys are conducted in the morning (7:00-12:00) and afternoon (14:00-16:00). Dolphins are recorded visually when breaching the water surface and the number of dolphins, pod size, and behavior are determined by visual tracking. A 12 m covered launch powered by a 25 hp inboard engine is used for dolphin transects. Population abundance of species is calculated as number of individuals/km (ind/km).

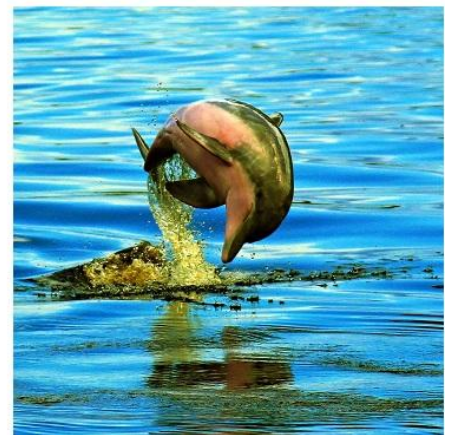
We survey caimans through visual counts at night (20:00-24:00h), travelling along 5.0 km transects at a velocity of approximately 2 km/hour on a single side of the river, lake, or large channel (>40m width) or simultaneously on both sides in smaller channels (<20 m width). We locate caimans by their eye reflections using a spotlight and approached to a distance where observations can be made. Survey speed is approximately 2 km/hour stopping when caimans are sighted. An aluminum skiff with a 25 hp outboard engine is used for caiman transects. Population abundance per species is calculated as number of individuals/km (ind/km).

We survey amphibians on floating meadows and forest transects. Floating meadow surveys are conducted at night using an aluminium skiff that is carefully driven into the floating vegetation. During a 15 minute period all frogs sighted or captured within a 2m radius of the boat are recorded, including species, sex, weight, size, microhabitat type, habitat temperature, and humidity. Terrestrial amphibian transects of 500m are done during the day and night. Frogs sighted or captured are recorded, including perpendicular distance from the transect. All frogs are released in the same location as they were captured.

We survey fishing bats using 5 km nocturnal aquatic transects using an aluminium skiff travelling at 10 km/hr. Bats are counted using a sonar bat box and spot light. Forest bat species are recorded using multi frequency sonar recording equipment.

Harvest registers:

Semi-structured household interviews are conducted with local villagers to collect information on the harvesting of fish and wild meat. We use information on resource use of families to calculate the percentage of families involved in fishing and hunting activities and annual harvests.



Analysis of Data

Population trends of species and species assemblages are used in the matrix models by analysing density and abundance measures. Species population trends are classified as increasing or decreasing if they have statistically significant time-series regressions and classified as stable populations if they have non-significant relationships. We use the Shapiro-Wilks test to assess data normality. Time series regressions are done on annual data sets of species and species groups.

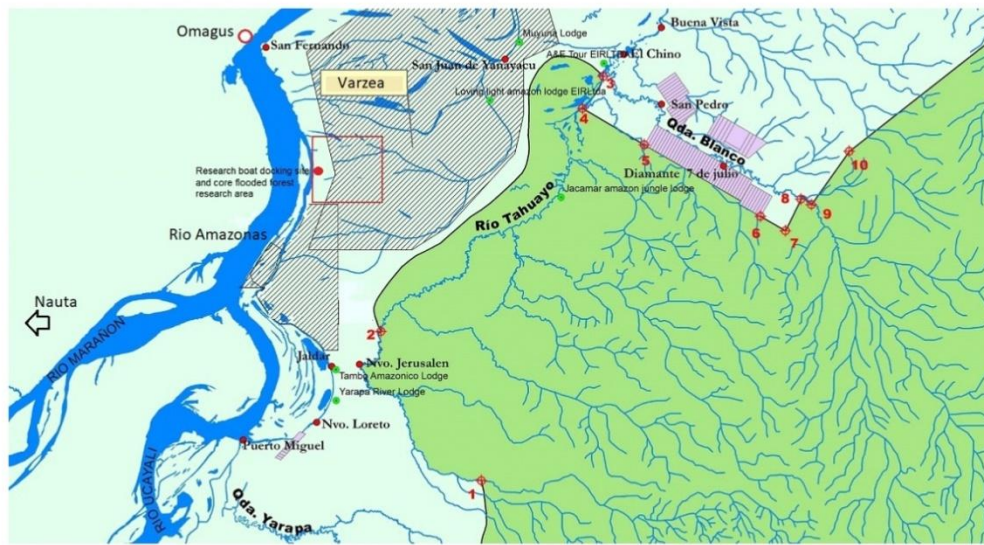
Study Area

The study area is the Lower Yarapa River basin in the buffer zones of the Pacaya-Samiria National Reserve and the Tamshiyacu-Tahuayo Regional Community Reserve located in the Marañon-Ucayali subsidence area of the Ucayali depression (Map). The study area is part of the largest block of várzea flooded forests in the Western Amazon and extends over an area of 2,080,000 ha in the Department of Loreto, Peru. The flooded forest in the study site has land formations with varying levels of annual flooding that are divided into six broad categories, including riverine forests, open understory flooded forests, levee forests, liana forests, tree fall gaps and aguaje palm swamps. Aquatic formations include the Yarapa River, oxbow lakes and channels.

The Pacaya-Samiria National Reserve was decreed in 1982 and is currently co-managed between the Peruvian Protected Area Service and the Cocama (Kukama) indigenous people through community-based management groups. The Tamshiyacu-Tahuayo Regional Community Reserve was first decreed in 1990 and renewed in 2007.

Sustainable resource use and traditional activities are permitted within the reserves, including subsistence fishing and hunting. The people rely on small scale agriculture and fishing as their primary activities, and hunting to a lesser extent. They adapt their hunting and fishing activities according to the seasonal water level and the availability of fish and wildmeat resources, with a greater focus on fishing during low water seasons and an increase in hunting during high water seasons.

Figure 4. Specific study site on the lower Yarapa



Water Level and Climate

The climate in the region is typically equatorial with annual temperatures ranging from 22°C–36°C, a relative humidity of 80%–100%, and annual rainfall of 1,500–3,000 mm. We used water level data from the hydrological station of Iquitos collected by the Servicio de Hidrografía y Navegación de la Amazonía that provided long-term data with complete daily records between 1978–2015 and partial records between 1968–1977 in the proximity of the study area. Water levels from the Servicio de Hidrografía agreed with trends and pulses of previous studies that used different data sets. Duration of intensive floods included consecutive days when water level exceeded 117.65 m.a.s.l.

The study site and surrounding areas have a predictable annual water level cycle that includes the high-water season from February–May, a transitional period to low water from June–July, a low water season from August–October and a transitional period to high water in November–January. The percentage of dry land remaining during peak flood pulse was determined using the height of water marks of trees in twenty 20x20 m vegetation plots.

Habitat Types

The principal habitat types of the Peruvian Amazon are a result of large-scale geological changes that occurred during the tertiary and quaternary periods. The Yarapa River basin is situated in the Pevas lake bed that formed after the uplifting of the Andes. When the Pevas Lake drained it left a geological depression in this area of western Amazonia, which is currently characterized by soft alluvial soils.

The wildlife of the Yarapa River lives in an ecosystem that is characterised by large seasonal fluctuations occurring between the high water and low water seasons. The ecology of the aquatic and terrestrial wildlife revolves around these seasonal changes in water level.

The large seasonal inundations that annually occur along the immense floodplains of the Amazon river are a result of rainfall in the foothills of the Andes. During the summer months of October to May precipitation off the southern Atlantic Ocean results in heavy rainfall on the eastern Andes that runoff into the western Amazon basin. The result is large scale flooding along the major rivers situated in the old lake bed and the high-water season. In contrast, during the winter months of June to September the precipitation off the southern Atlantic Ocean decreases and the rains in the eastern Andes is greatly reduced, resulting in the drying up of the western Amazonian rivers and the low water season.

The Amazon River is an order of magnitude greater than any other river basin on Earth. The rivers that originate in the eastern Andes are rich in sediments that are picked up from the recent geological formations of the Andes, giving the rivers a whitish colour. These white-water rivers continually deposit and pick up sediments as they flow through the old Pevas lake bed of western Amazonia.

The white-water rivers of western Amazonia are extremely dynamic and change course in a matter of a few years, with islands and channels continually forming and being washed away. This is a result of three concurrent factors, 1) the soft alluvial soil of the Pevas Lake bed, 2) the enormous volume of water that passes through the basin as a result of precipitation, and 3) the large quantities of sediments that are picked up and deposited as the rivers run their course.

The study site is situated near the confluence of the two largest tributaries to the Amazon in Peru, the Ucayali and Marañon Rivers. The meeting of these two rivers come together to form the Amazon River proper. The Ucayali and Marañon Rivers have snaked back and forth across the flooded forests over the millennia leaving behind an abundance of oxbow lakes, channels, levees, and other geological features.

The soils of the flooded forests in the study site are rich in nutrients due to the white-water rivers of the Ucayali and Marañon flowing through the forests and depositing sediments during the high-water period. The flooded forests are characterised by a blackish colour during high water. This is a result of the white water from the Amazon entering the flooded forests, depositing the sediments as the currents slow during their movement through the forests, and the water picking up tannins from the leaf litter.

Whilst the soil of these várzea forests is rich, the ecological conditions of long periods of flooding, up to 6 months, is very harsh on much of the floral and faunal community. Many plant species cannot withstand the long periods of inundation and the diversity of plants in the heavily flooded areas is lower than lightly and non-flooded levees. Likewise, the terrestrial wildlife must seek out floodplain islands or levees during the high-water season, which have increased competition and predation pressures. Even the arboreal wildlife is impacted by the flooding, since many of the fruit trees are quite seasonal in the várzea forests, resulting in seasons with low food production.

The aquatic wildlife is equally affected by the large seasonal inundations. During the flooded periods the fish enter the flooded forests and feed on the abundance of vegetative and animal production, especially the abundance of fruits, invertebrates and other living organisms trapped in the annual floods. Indeed, many trees fruit during this season and rely on the fish as their primary means of seed dispersal. During the flooded period many fish populations reproduce within the inundated forests. Other aquatic wildlife had a more difficult time during the floods, such as the dolphins, giant river otter and other fish predators, since their prey is more sparsely distributed throughout the large expanses of the flooded forests. When the waters recede during the dry months, fish

populations become condensed in the reduced lakes, rivers and channels with ever increasing competition and predation. During this period many fish populations migrate out of the várzea rivers and into the larger rivers. The dolphins and other fish predators have an abundance of prey during the low water season and even follow the fish migrations down the rivers and channels.

The people who live in the flooded forests also have adapted to the seasonal fluctuations in both the use of the natural resources and their agriculture. During the high-water season fishing is more difficult, since the fish are dispersed throughout the inundated forests. However, during this period hunting becomes easier with the large bushmeat species, such as deer, peccaries and tapir being trapped on the levees and islands. In contrast, during the low water season the bush meat species become difficult to hunt as they range throughout the entire forests, and the fish become easy prey being trapped in the reduced water bodies of the lakes, channels and rivers. The local indigenous people of the floodplain forests alter their hunting and fishing accordingly, with a greater emphasis on hunting during the high-water season and a greater focus on fishing during the low water season.

The agriculture of people inhabiting the flooded forests takes advantage of the rich soils from the annual deposits of sediments and the short growing period that needs to be harvested before the floods return. Traditionally, people of the flooded forests have relied on the manioc as their staple agricultural product. Manioc has a short growing period that can be planted and harvested within the low water season. Manioc flour (fariña) is produced by baking pounded. Manioc flour can be stored throughout the year and supply carbohydrates to the people during the flooded periods.



FUNDAMAZONIA RESEARCH

FundAmazonia is a Peruvian based not-for-profit foundation dedicated to conservation, capacity building and local communities. Established in 2005, FundAmazonia has received support from WWF, the G & B Moore Foundation, WCS, USAID, The Darwin Initiative, FondAm and CIFOR.

The overarching goal of FundAmazonia's research is to advance wildlife conservation in western Amazonia by studying the interrelation of sustainable use, climate change and wildlife trade including taxa specific research on animal groups. The project uses field research that provides the science base for wildlife conservation, including sustainable resource use and community-based conservation, impacts of climate change and wildlife trade and recovery of endangered species. Animal groups being studied include ungulates & rodents, primates, dolphins & otters, carnivores including felids, fishing bats, shorebirds, macaws & parrots, game birds, fish & fisheries, caimans, and frogs. Staff from FundAmazonia have been conducting research in the Amazon for over 35 years with over 100 scientific publications. FundAmazonia's current research areas include 1) Climate change, 2) Community-based Conservation, Sustainable Use and Wildlife Management, 3) Wildlife Trade and Wild Meat Markets, and 4) Research on Animal Taxa.

Climate Change Research

The Amazon basin is having experiencing greater climatic fluctuations with the western Amazon having larger flooding in the rainy season and droughts in the dry season. Research is being conducted on how these climate changes are impacting the wildlife, biodiversity and indigenous people.

The western Amazon forests can be broadly split into non-flooded forests (tierra firme) and flooded forests (várzea and igapó) that fluctuate annually between flooded and dry seasons. The ecology of wildlife in flooded forests revolves around the aquatic and terrestrial cycles and populations are sensitive to intensification during high floods and droughts. Recent models predict an intensification of the hydrological cycles in the western Amazon basin with increased intensity and duration of flooding during wet seasons and lower water levels and less precipitation during the dry season. Flooded forests are a major landscape of western Amazonia and make up 33% of the 375,112 km² Loreto region of the Peruvian Amazon.

Each year western Amazonia goes through seasonal changes between the flooding period from December to June and the low water period between July to November. The research is studying how the intensification of these hydrological cycles is causing shifts in populations of terrestrial, aquatic and arboreal animal species.

Higher than normal floods occurred in Loreto in 2009 and in all years from 2011-2015 during high water seasons, droughts occurred in the 2020, 2010 and 2005 low water seasons, and 2016-20019 were normal years. Research was conducted during all these years and the long-term data of surveyed populations of terrestrial, arboreal and aquatic wildlife is being used to understand impacts of climate change. Research is also studying how changes in fish and wildlife populations which are important sources of meat for local people are impacting the harvests and livelihoods of indigenous people because of climate change.

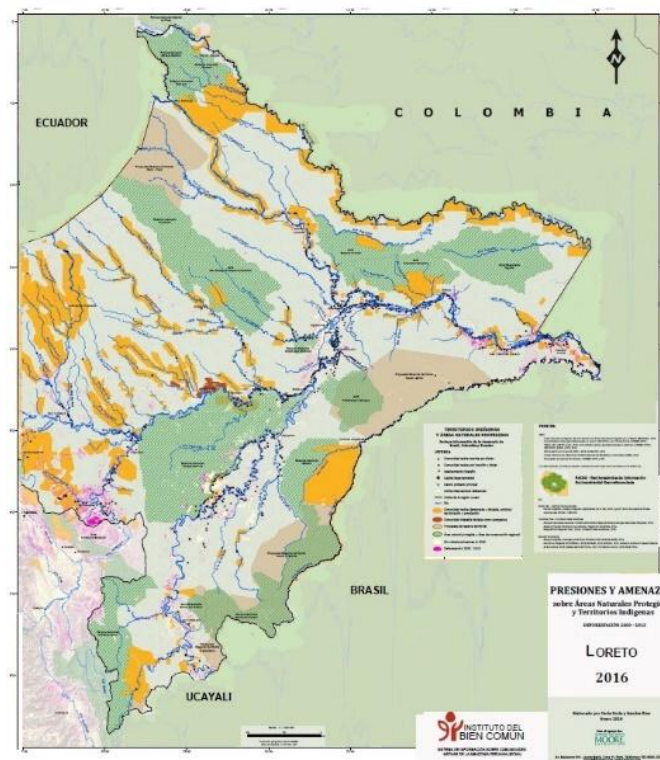
Community-based Conservation, Sustainable Use and Wildlife Management Research

Indigenous people of Amazonia have been using wildlife since pre-Colombian times and animals continue to be used throughout the Amazon basin. Over the past three decades research of FundAmazonia has focused on understanding how species respond to hunting and fishing, and

developing community-based management and conservation strategies for sustainable use and species recovery. FundAmazonia's research in the Amazon overwhelming found that community-based approaches to wildlife management and conservation were resulting in greater success than strict protection or other forms of management. Over three decades community-based wildlife management systems have been developed through research and community participation resulting in sustainable community-based conservation.

Community-based strategies were shown to be more successful at conservation in the socio-economic and cultural landscape of the Amazon. The overriding goal of the community-based strategies is to conserve the Amazon, its biodiversity and cultures through use and management of traditional wildlife resources and providing economic resources for the local people. This led to an expansion in the number of community managed areas in the form of Indigenous territories, community run protected areas and community co-managed protected areas.

In Loreto there are three types of community-based areas where local people have sustainable use conservation, including community Regional Conservation Areas, Co-managed National Reserves and Indigenous Territories. The regional and national governments have been very supportive in the creation of these community managed areas, and they continue to create new areas. Currently around 50% of Loreto is a community/co-managed/Indigenous area where people are conserving the Amazon forests (Map).



Map of Loreto showing community Regional Conservation Areas, Co-managed National Reserves (green), and Indigenous Territories (orange).

Wildlife Trade and Wild Meat Market Research

Some of the research on sustainable use programs involve regulated international wildlife trade, such as the peccary leather trade and river turtle trade involving CITES, custody chains, certification and verification. Research is also done on local trade in wildmeat, fish and palms which are important resources, and many indigenous people depend on local trade for their

household economy. Studies are being done on sustainability of resource use through Indigenous management, which has shown to be sustainable in community reserves, co-managed reserves, and indigenous territories.

Iquitos has one of the largest and most active wet wild meat markets in the western Amazon and long-term research is being done on the wild meat trade. This research is particularly important after the pandemic, because of the links between wild meat markets and disease transmission.

Research on Animal Taxa

- **Ungulates & Rodents**
Research projects include ecology, population dynamics, reproduction, hunting, sustainable use and management, primarily using camera trap methods.
- **Carnivores, including Felids**
Research projects include ecology, population dynamics, illegal trade, primarily using camera trap methods.
- **Primates**
Research projects include ecology, population dynamics, behaviour, hunting impacts, and conservation
- **Dolphins & Otters**
Research projects include ecology, population dynamics, behaviour, communication and conservation
- **Fishing Bats**
Research projects include population dynamics and habitat use
- **Macaws, Parrots & Parakeets**
Research projects include ecology, population dynamics, and conservation
- **Aquatic and Shorebirds**
Research projects include ecology, population dynamics, and conservation
- **Fish and Fisheries**
Research projects include diversity, ecology, population dynamics, sustainable use and traditional fisheries management
- **Caimans**
Research projects include ecology, population dynamics, and conservation
- **Frogs**
Research projects include diversity, ecology, and population dynamics

FundAmazonia Research Publications

Amazon Climate Change Research

1. Adrià San-José, Pedro Mayor, Bruno Carvalhoa, Hani R. El Bizric, André Pinassi Antunes, Miguel Antunez-Correa, Rolando Aquino, Richard E. Bodmer et al. (2023). Climate determines transmission hotspots of Polycystic Echinococcosis, a life-threatening zoonotic disease, across Pan-Amazonia. PNAS Vol. 120 No. 33 e2302661120 <https://doi.org/10.1073/pnas.2302661120>
2. Bodmer, R., P. Mayor, M. Antunez, T. Fang, K. Chota, T. Ahuanari Yuyarima, S. Flores, B. Cosgrove, N. López, O. Pizuri & P. Puertas (2020). Wild Meat Species, Climate Change, and Indigenous Amazonians. Journal of Ethnobiology, 40: 220-235.
3. Bodmer, R, Puertas, P, Henderson, P, Mayor, P, Antúnez, M, Fang, T, Chota, K, Arenas, M, Glotin, H, Trone, M, Cosgrove, B, Docherty, E and M. Walkey (2018). Modelamiento de los Consecuencias Previsibles del Dragado de los Principales Ríos Amazónicos Sobre la Fauna Silvestre y la Gente de los Bosques Inundados de Loreto, Perú. Folia Amazonica. Vol. 27 (2): 247-258. DOI: <https://doi.org/10.24841/fa.v27i2.471>
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SCHOLARSHIP PROPOSALS for Research Projects

1. Choose a research project

- it should be a subject that genuinely interests you
- it should be a project that is feasible

2. Designing your project

- what is the overall objective
- what are the specific objectives; what are the research questions/hypotheses
- what methods will you use to answer the research questions/hypotheses

The Proposal should include:

- Title of the research
 - Student name
 - Educational Institution or studies program
 - e-mail and contact information
-
- **Background:** The background should introduce the research on the broader context of the project, and then introduce the specific aims and objectives. There should be some description of the taxa being studied and previous work on the subject, with references.
 - **Research Question/Hypotheses:** The proposal should present the research questions and/or hypotheses to be studied.
 - **Methods:** The methods should describe in detail the specific methods to be used. The description should be detailed enough that anybody could take your methods section and repeat the study.
 - **Literature Cited:** The proposal should cite published scientific literature as references.

TRAVEL PLANNING

Arrival Airport: Iquitos, Peru Airport

Rendezvous Point: Hotel Casa Morey, Iquitos, Loreto, Peru: www.casamorey.com email: reservations@casamorey.com whatsapp: Tel: 51-65-231913

Destination: Rio Amazonas Research Station, Yarapa River, Loreto, Peru

Start and End Date

Make sure your flight arrives before 8am on the start date

Make sure your flight departs after 6pm on the end date

Hotel stays in Iquitos before and after the expedition are not included in the fees.

The expedition begins at 8am on the start date at the Rendezvous Point: Hotel Casa Morey

Insurance

All students/volunteers are required to obtain their own travel health insurance and have a copy of the insurance policy at the research station.

Information:

- *Local Currency:* The local currency in Peru is Soles (S/).
- The exchange rate is around S/ 3.3 to \$1 (US)
- *Language:* Spanish
- *Country code:* 00-51
- *Electricity:* 220V Continental European round plugs, or USA style flat plugs
- Phone charging sockets in cabins
- WiFi: Starlink

Packing Considerations:

Rubber boots are necessary for walking in the rainforest, often in wet and muddy conditions, so please bring a pair if you can. We have some you can borrow on board if it is difficult for you to bring them. Walking boots will get muddy and wet. Non-slip shoes should be used on the boat decks. Field cloths, including cotton trousers, shorts, cotton long sleeve shirts, t-shirts or short sleeve shirts and hat will be necessary for surveys and free time. It can get cool at night, so bring a light jacket or sweater. This expedition will be in the rainforest so light rain gear, such as a light rain poncho is good, and bring your flashlight for the night surveys. Insects abound, so bring insect repellent and a mosquito net hat. The sun is equatorial so bring sun block, hat, and sunglasses. Binoculars are needed for animal surveys, and light weight ones are preferable. Canteen or personal drinking water container will be necessary for fieldwork, and bring your personal medicines and personal care items (tooth brush and tooth paste, deodorant, razor, etc.).

Equipment to Bring to Peru:

1. Rubber boots
2. Field cloths
3. Rain gear
4. Insect repellent
5. Sun block
6. Personnel medicines
7. Personnel washing supplies
8. Field notebook
9. Torch/flashlight
10. Camera
11. Binoculars

Student Safety Information

After filling in this form please e-mail a copy to Richard Bodmer and keep a copy with you during the research expedition.

Name:

Signature:

Date:

e-mail:

Person to be contacted in case of emergency

Name:

Telephone:

Mobile:

e-mail:

Address:

Insurance Coverage

Travel Insurance including health cover is **mandatory**. A scan of your insurance must be provided before joining the research station.

Project title:

Location: Yarapa River, Loreto, Peru

Description of Activities:

Participate in research on dolphins, primates, macaws, wading birds, fish, bats, caimans, otters, and work with local communities involved with community reserves, Indigenous territories and sustainable use

Getting medical attention

The research boats have first aid kits for emergencies and basic medicine for fieldwork. A nurse will be on board if there are more than 10 students on site and medical facilities can be reached within 1 hour by speed boat to the town of Nauta.

Please inform Richard Bodmer of any medical conditions, past or current, that might influence your health in any way during the expedition. This information will be kept strictly confidential.

Rio Amazonas Research Station

Risk Assessments and Emergency Response Plan

RISK ASSESSMENT FOR FIELD ACTIVITIES

Terrestrial Transects

- 1) Fluvial transport to transects
Risk: Falling overboard
Probability: Unlikely
Severity: Medium
Reduction of risk: All participants should wear life vests when travelling in auxiliary boats. Life vests should be put on before embarking in the boats and removed when fully disembarked.
- 2) Risk: Bites from bullet ants, scorpions and other dangerous insects
Probability: Unlikely
Severity: High
Reduction of risk: All participants should be careful not to place hands on any trees prior to checking for dangerous insects. All participants should examine any area where they sit down carefully before sitting.
- 3) Risk: Thorns
Probability: Medium
Severity: low
Reduction of risk: All participants should be careful not to place hands on any trees prior to checking for thorns. If participants get thorns in their skin they should be removed and cleaned the same day by a medical leader.
- 4) Risk: Poisonous snake bites
Probability: Low
Severity: High
Reduction of risk: All participants should wear rubber boots or snake guards when walking in the forest to protect their ankles. All participants should examine any area where they sit down carefully before sitting. All participants should have a pressure bandage and extractor when in the forest. All participants should always look at the ground when walking and only look for arboreal wildlife when they stand still.
- 5) Risk: Slipping
Probability: Medium
Severity: low
Reduction of risk: All participants should walk slowly and carefully when in the forest and use a walking stick when going through muddy areas. Walking sticks can be cut in the forest.

- 6) Risk: Dehydration
Probability: High
Severity: Medium
Reduction of risk: All participants should bring between 1-2 litres of drinking water on the transects. All participants should walk slowly and rest frequently if overheated.

Dolphin Transects

- 1) Risk: Falling overboard
Probability: Unlikely
Severity: Medium
Reduction of risk: All participants should wear life vests when travelling in auxiliary boats. Life vests should be put on before embarking in the boats and removed when fully disembarked.
- 2) Risk: Sun burns
Probability: High
Severity: Medium
Reduction of risk: All participants should wear sun block and hats if they have sensitive skin.
- 3) Risk: Dehydration
Probability: High
Severity: Medium
Reduction of risk: All participants should bring 1-2 litres of drinking water on the transects.
- 4) Risk: Injury from engine
Probability: Low
Severity: Medium
Reduction of risk: Participants should not enter the engine area of the boat.

Macaw Transects

- 1) Risk: Falling overboard
Probability: Unlikely
Severity: Medium
Reduction of risk: All participants should wear life vests when travelling in auxiliary boats. Life vests should be put on before embarking in the boats and removed when fully disembarked.
- 2) Risk: Cold
Probability: High
Severity: Low
Reduction of risk: All participants should wear (light) warm clothes during early morning transects. All participants should have rain gear available.
- 3) Risk: Injury from engine

Probability: Low

Severity: Medium

Reduction of risk: Participants should not enter the engine area of the boat.

Fishing Surveys

- 1) Risk: Falling overboard

Probability: Unlikely

Severity: Medium

Reduction of risk: All participants should wear life vests when travelling in auxiliary boats.

Life vests should be put on before embarking in the boats and removed when fully disembarked.

- 2) Risk: Sun burns

Probability: High

Severity: Medium

Reduction of risk: All participants should wear sun block and hats if they have sensitive skin.

- 3) Risk: Dehydration

Probability: High

Severity: Medium

Reduction of risk: All participants should bring 1-2 litres of drinking water on the transects.

- 4) Risk: Piranha bites and other fish bites and stings

Probability: Medium

Severity: High

Reduction of risk: Participants should not handle any live piranha fish and should only handle piranha fish when they have been secured by a Peruvian field assistant. Leather gloves should be worn if touching any other species of live fish.

- 5) Risk: Injury from engine

Probability: Low

Severity: Medium

Reduction of risk: Participants should not enter the engine area of the boat.

Caiman Surveys

- 1) Risk: Falling overboard

Probability: Unlikely

Severity: Medium

Reduction of risk: All participants should wear life vests when travelling in auxiliary boats.

Life vests should be put on before embarking in the boats and removed when fully disembarked.

- 2) Risk: Wasp stings

Probability: Likely

Severity: Medium

Reduction of risk: All participants should use touches with a red filter during caiman surveys. Red eye flashes should be turned off on cameras. Leather gloves should be worn by the person handling the spot light.

- 3) Risk: Caiman bites
Probability: Unlikely

Severity: High

Reduction of risk: Participants should not handle live caimans until they have been fully secured by a Peruvian field assistant.

- 4) Risk: Cold
Probability: High

Severity: Low

Reduction of risk: All participants should wear (light) warm clothes during night transects. All participants should have rain gear available.

- 5) Risk: Injury from engine
Probability: Low

Severity: Medium

Reduction of risk: Participants should not enter the engine area of the boat.

SAFETY AND SERVICES AT THE RESEARCH STATION

LIFE VESTS

In the unlikely event that the boats takes on water life vests are available.

- 1) Life vests are located in the following locations: In the foyer, in your cabin
- 2) There are four life rings on the upper deck.

Life vests must be worn when boarding and travelling in the auxiliary boats. Vests should be fitted prior to boarding and only removed once aboard the research boat, or on shore.

FIRE

All cabins are fitted with smoke detectors.

Fire extinguishers are located throughout the boat, and on all decks.

Fire assembly points are as follows:

- 1) If a fire occurs in the rear of the boat people should assemble in the front by the stair case.
- 2) If a fire occurs in the front of the boat, people should assemble by the rear kitchen area.

SLIPPING and FALLING

Please walk carefully, using handrails.

Always use handrails when going up and down the stairs.

Never sit on railings.

SWIMMING is **not** permitted at the research station at anytime.

DO NOT enter the engine room or solar battery room.

WATER and SANITATION

There are two different water systems on the research boat

- 1) Treated drinking water is available in the dining room at all times, or by request from the kitchen.
- 2) Shower, sink and toilet water is treated river water, and is not suitable for drinking.

At no times put toilet paper in the toilet. use the waste bin next to the toilet for soiled paper. these bins will be cleaned daily by the crew.

All food is prepared with treated water.

All plates and cutlery are sanitized with chlorine.

All not cooked foods are prepared with latex gloves.

All waste material is collected in plastic bags, separated into organic and non-organic and disposed of in trash dumps.

There are waste bins in the foyer.

ELECTRICITY

All electrical power is 220 volt.

The research station uses solar power and the staff will explain how the the electricity works.

COMMUNICATION

The research boat has slow internet.

FOOD SERVICES

Meals will be served from the kitchen during the following times with adjustments made for any scheduled field activities.

Breakfast: 7-9 am

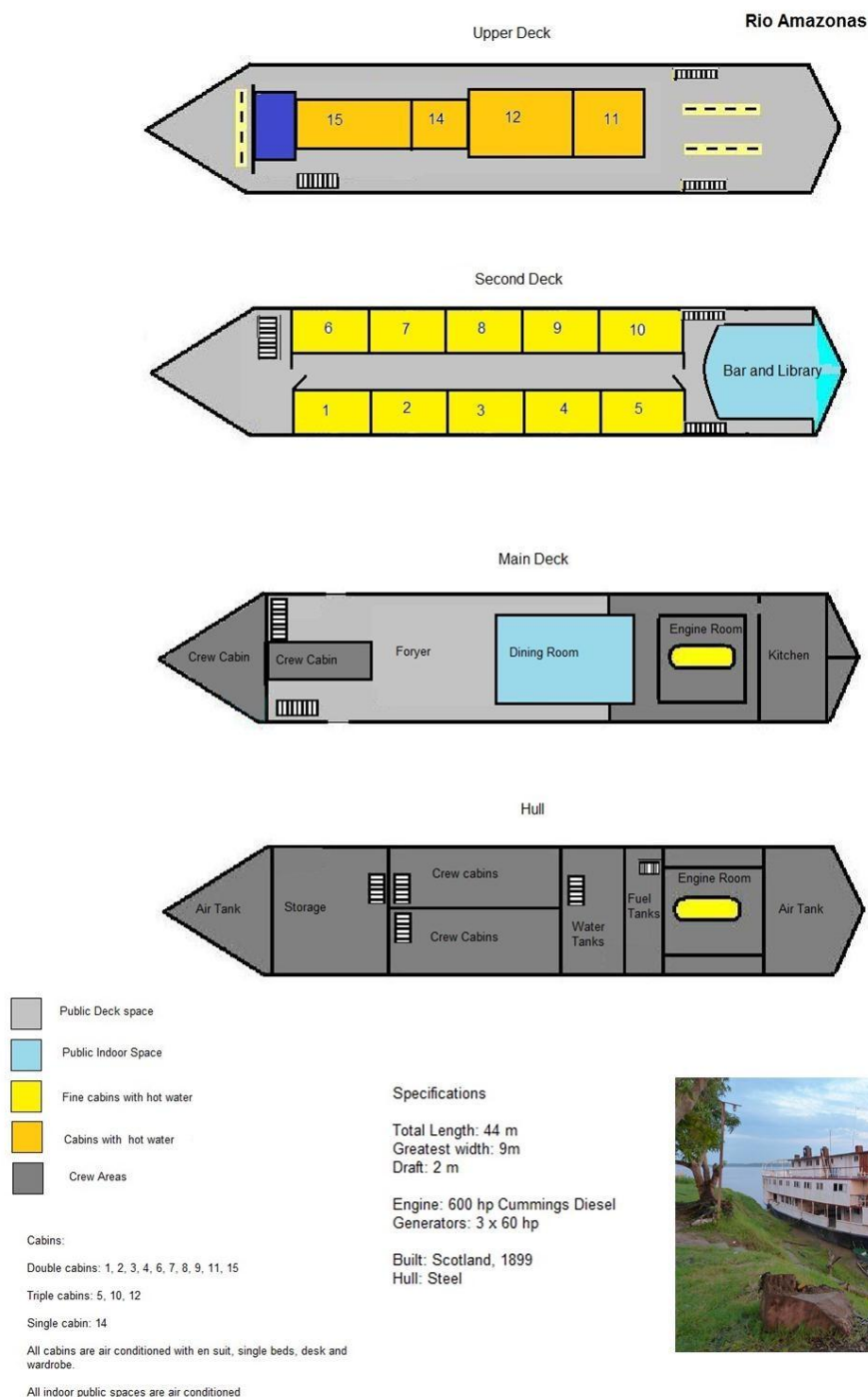
Lunch: 1-2 pm

Dinner 7-8 pm

Hot water will be available for tea and coffee.

QUESTIONS

If you have any questions about the safety, operation or services aboard the research boat, please ask a crew member.



EMERGENCY RESPONSE PLAN		
The aim of this document is to collate key information into a simple format for use by field project staff, participants and on-call staff in the event of an incident. Prompts have been added and should be self explanatory, however if you have any concerns please contact R. Bodmer.		
RESEARCH EXPEDITION		Date Last Updated: 01-Janurary-2023
Project: <i>RIO AMAZONAS RESEARCH STATION</i>		Country: Peru
PI: DR. RICHARD BODMER		Co-PIs: Tula Fang
TEAMS:		Group size: MAXIMUM:
Project Staff First Aid Certified/Certification: Staff have training in CPR (Cardiopulmonary Resuscitation), First Aid, and Wilderness First Response. Additionally, the PI is certified in First Aid and the boat crew members are all certified in water safety.		
Country International Dial Out Code: 00		Time Zone: GMT/UTC -5 <i>Peru does not observe daylight savings time</i>
Location	ADDRESS	TELEPHONE (including country code)
Accommodation and Research Site <i>The expedition, including accommodation, will be onboard a docked research boat on the Yarapa River.</i> Yarapa River Lat/Lon		The site has Starlink internet Project Office: Tel/Fax: +51 (0) 65-23-1913 Short wave radio frequency: 5437 USB. <i>The boat is in daily communication with the office.</i> Boat Phone: Mobile:+51-965 834 762 On 24 hours, operated by research staff

-4.4113888 - 73.4144444 at 110 masl		Project staff mobiles: - +51-965 834 757 Richard Bodmer +51-965 834 758 Tula Fang +51-965 834 759 Oscar Fang +51-971-645-547 Kimberlyn Chota +51-965 834 762 Odilio Ricopa
Project Management Plan	1) Assess situation and decide whether the incident is a crisis (threatens serious damage to human welfare) or non-crisis situation 2) Ensure rest of the team is safe 3) Bring injured to help: • If an emergency occurs on a forest transect the field assistant will either: a) call the research boat for assistance, 2) assist the injured back to the research boat, or b) run back to the boat for assistants. The biologist will accompany the injured person at all times. All survey teams will have mobile phones. • If an emergency occurs on an auxiliary boat, the boat should a) call the research boat for assistance, b) return immediately to the research boat. 4) Administer first aid: Staff has first aid kits and additional medicines. The staff should be contacted immediately in case of health related emergencies. 5) Contact additional specialised help if required: a. The Coast guard should be reached by phone Tel: +51-65-251894 b. The project office in Iquitos should be contacted to aid in arranging emergency procedures. 6) Transport injured to medical center: a. The Nauta hospital can be reached in one hour by speedboat from the Yarapa River. Ana Stahl Hospital can be reached in three hours by speedboat (1 hour) and ambulance service (2 hours). 7) If required accompany casualty to a medical centre, making sure that remaining team members have adequate supervision 8) Contact contact person 9) Ensure someone is keeping a record of incident events 10) Complete Incident Report and send to Program Manger as soon as possible	
Chain of Command	<i>Primary:</i> Richard Bodmer <i>Secondary:</i> Kimberlyn Chota <i>Other:</i> Nurse, Biologists, Crew	

Transport <i>Speed boat has been determined to be the fastest option.</i>	<i>Primary:</i> Emergency Speed boat <i>Secondary:</i> Back up Speed boat <i>Other:</i> Any available boat	
Routes	DAY or NIGHT <i>Primary:</i> Yarapa to Omaguas by speed boat, than by ambulance to Iquitos. Travel down river to the mouth of the Yarapa River 15 minutes, and then follow the Amazon 30 minutes to Omaguas and 2 hours by road to Iquitos.	
	ADDRESS (including GPS location or coordinates, and MMSI where appropriate)	TELEPHONE (including country code)
Accident and Emergency Service	National Emergency Services Available: Ambulance – dial 105 in Lima Fire – dial 192 Tourist Information and Assistance Service (PromPeru - <i>Servicio de Protección Turistica</i>) 24 hour Tel: (0800-22221) Tel: +51 (065) 26-0532(Iquitos Airport office) Tel: +51-965-635 095 (has English-speaking operators)	
Nearest Fully Equipped Hospital	Ana Stahl Adventist Clinic 285 Avenida De la Marina Iquitos, Peru	Tel: +51 65-252 535 <i>Ask for the hospital section if calling after hours, as the telephone will be answered by security.</i>

	UTM: 693,668E: 9584,583N Lat/Long: -3.741182,- 73.241065	Tel: +51 (65) 252-549 Emergency: +51965750516 Email: administracion@caas-peru.org Web: http://www.caas-peru.org
Nearest Airport and Helicopter Landing Pad	Coronel Francisco Secada Vignetta International Airport (IQT) Av. Abelardo Quiñones Km 6 Distrito de San Juan, Iquitos UTM: 688,239E. 9582,363N Lat/Long: 3.78472°S / 73.30861°W	Tel: +51-65-260 147* *may not be answered by English speaker Tel: +(51-065-228151) Tel: +51 (065-260531) Fax: +(51 -94) 260 245
Nearest Military Base/Runway	Nauta Military Base Nauta UTM: 658,058E: 9502,443N Lat/Long: -4.474434,- 73.595352	Not available
Sea plane availability	Alas Del Oriente SAC Fitzcerald, 432 Iquitos UTM: 693,668E: 9584,583N Lat/Long: - 3.719004°S,- 73.256149°W	Tel: +51 (65) 236 005 Tel: +51 (65) 965 610 013 Numero actual

	North American Float Plane Service Sucursal de Napo, 330 Fanning 280, Iquitos, Maynas <i>Airtaxi and charter flights</i> UTM: 693,668E: 9584,583N Lat/Long: -3.730995,- 73.255119	Tel: + 51 65 221 028 Email: SNOOPY280@hotmail.com Numero actual
Coastguard	Capitanía Guardacosta Fluvial de Iquitos Capitania del Puerto Av. La Marina Cuadra 06 S/N Iquitos UTM: 693,668E: 9584,583N Lat/Long: -3.74198,- 73.241075	Tel: +51-65-251894* *may not be answered by English speaker Radio:5885 USB COSTERA From web www.dicapi.mil.pe: Tel: +51 65-9 679 214 Fax: +51 94-591 995
Nearest Pharmacy	Mi Farma Arica 203, Iquitos UTM: 693,668E: 9584,583N	Open 24 hours Tel: +51-989320250
	Botica Melendez (Farmacia) Próspero, 1035 Iquitos	Tel: +51 (65) 603 646 Tel: +51 (65) 224 496 Tel: +51 (65)96 564 4774

	Farmasel Boticas Calle Morona, 402 Iquitos Lat/Long: -3.748853,- 73.251032	Tel: +(65) 22-3844	
Police <i>For Nauta</i>	Comandante Nauta UTM: 18.657571/9501437 Lat/Long: -4.509166 - 73.579722	Tel: +51-(65)-411170	
<i>For Iquitos</i> <i>24 hours</i>	Tourism Police - POLTUR Iquitos Calle Sargento Lores 834	Telephone: +51 (065) 24-2081	
<i>For Iquitos</i> <i>24 hours</i>	Morona Police Station, Iquitos Calle Morona 120, Iquitos	Telephone: +51 (065) 23-1131	
Fire	Iquitos UTM: 693,668E: 9584,583N	116	
For Emergencies in Peru	(Fire or Police)	106	
Key Contacts	Name	Telephone Number(s) (incl. country code)	Time of Operation
PI	Richard Bodmer	Office: +51-65-23-1913 Mobile: +51 965 834 757 (try mobile first)	

		E-mail: r.bodmer@kent.ac.uk	
Co – PI	Tula Fang	Mobile: +51-965 834 758 UK Office (from which she can relay info to PI): + 44 1227 459 186 tulafang@yahoo.co.uk	
Administrator	Oscar Fang Calvo <i>Speaks little English</i>	Office: +51-65-23-1913 Mobile: +51-965 834 759 Home: +51-65-24-1218 e-mail: oscarfc4@yahoo.es	
Research Team Leader	Kimberlyn Chota	Mobile: Mobile: +51-971-645-547 E-mail: kimberlyn_biologia@hotmail.com	
Nurse	Sheyla Sarmiento Tihuay	Mobile: +51- 928249147 E-mail: sheylitas08@gmail.com	On call nurse
Boat Phone	Research staff	Mobile: +51-965 834 762	
Hotel Casa Morey	Reception	Phone: +51-65-23-1913 E-mail: info@casamorey.com	
Communications	The boat is equipped with a mobile telephone and internet for emergency use.		
Support Embassy	<i>UK:</i> British Embassy Torre Parque Mar (22nd Floor) Avenida Jose Larco, 1301 Miraflores		

	Lima, Peru Telephone/Emergency Duty Officer: +(51) (1) 617 3000 Fax: +(51) (1) 617 3100 Website: http://ukinperu.fco.gov.uk/en/ Email: belima@fco.gov.uk	
Evacuation location details and /or gathering point	Casa Morey in Iquitos. Tel/ Fax: + (51-65) 231 913 Email: info@casamorey.com www.casamorey.com The research boat at the field site.	
First Aid Kit Locations	• with nurse • in the helm	
Fire Extinguisher Locations	kitchen, engine room, helm, all deck stairs, bar, lobby, hull, dining room, cabin area	
Other	Auxiliary boats. Tied up next to research boat, fuel in rear of research boat. Life vests in lobby, and in all cabins.	
Rendezvous Hotel <i>All 2014 Teams</i>	Hotel Casa Morey – project house Raimondi con Loreto Plaza Ramon Castilla (corner of Raimondi & Loreto at the Plaza of Ramon Castilla) Iquitos, Perú Lat/Long: -3.748061, -73.251836	Tel: +(51-65) 231 913 Email: info@casamorey.com www.casamorey.com

