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# TReeS-RAMOS Project Tambopata 1997.

## Introduction:

Last summer I was in involved in Project Tambopata in the forests of the Madre de Dios region of south eastern Peru (130 S, 690 W) are much more that this. decried as the most "The most biologically diverse place on Earth". the Tambopata Candamo Reserved Zone, the reserve incorporates the entire drainage system of the Tambopata River and the southern bank of the River Madre de Dios between the town of Puerto Maldonado and the border of Bolivia. Gazetted as a Reserved Zone in 1990 and covering some 14,000 km2. With an altitude varying from c 3,500 m to c 240 m, the Rio Tambopata and the Rio Candamo form a small part of the head waters of the Rio Amazon. The TCRZ is arguably one of the most diverse protected areas in Amazonia, if not the world, incorporating both the lowland and highland rain forest communities in an unbroken continuum.

In recognition of the area's international significance part of the TCRZ, totalling 3,300 km2, was declared the Bajuaha Sonene National Park (BSNP) in July 1996 which through its status as "intangible land" significantly increases the long-term protection of this corner of the TCRZ.

## Diversity:

At the time of the last Ice Age the area formed a refugia of intact rain forest, the area is also prone to a high level of disturbance. In the dry season there are strong cold winds called "friajes" and in the wet season the rivers rise flooding the forest and washing away the banks, up to 20 m of bank can be washed away a time. This disturbance which results in variation in both light and temperature, which may contribute to the level of diversity. The habitat types inwith the Reserved Zone range from cloud-forest through sub-tropical moist forest to tropical savannah. Resent studies have revealed levels of biodiversity higher then anywhere else in the world: Birds 596 (in 5.5 km2); Butterflies 1,234 (in 5.5 km2); Dragonflies 152, Horseflies 97, Amphibians 90, Reptiles 74 (NB these figures are now of date!). In added to which the TCRZ is home to 4% of the world's mammal species (190) and 13 vertebrates listed in the IUCN Red Data Book, which considered to be highly endangered in the rest of their range, these include: the Bush dog (Speothus venaticus), Small-eared dog (Atelocynus microtis), Giant anteater (Myrmecophaga tridactyla), Ocelot (Felis pardalis), Jaguar (Panthera onca), Jaguandi (Felis yaguarundi), Giant otter (Pteronura brasiliensis), Giant armadillo (Priodontes giganteus), Black camain (Melanosuchus niger), Spectacled caiman (Caiman crocodilus), Harpy eagle (Harpia harpya), Crested eagle (Morphous guianensis) and Yellow-spotted sidenecked turtle (Podocnemis uniflis).

## The tourists:

The area is attracting increasing numbers of tourist who come to stay at the various lodges in the area. From a low of 200,000 tourists per annum in 1992, the total visitor numbers have trebled to 600,000 and are likely to reach 1 million by the year 2000. . Prior to 1990 there were only two lodges in existence, this has risen to six, with a further two due to open early in 1997. Currently the total forest area claimed and/or used by these lodges is closed to 40,000 ha, the current tourist management policy imposed by the majority of the lodges has been to concentrate visitors onto limited trail systems.

If current trail-use patterns are maintained on the currently available trail system at each lodge, gross trail-use intensity by the year 2000 could be as much as 2 tourists per km of trail per day. However, as only a proportion of the total system available for each lodge is used regularly the figure may be as high as 10 tourists/km/day, which is very high. Added to which many of the trails are used in a linear way, so any one section of trail is used twice by any group of tourists, this effectively doubles the intensity of trail use to 20 tourist/km/day.

## Implementing organisation:

The Tambopata Reserve Society (TReeS), was formed in 1986 by a group of people concerned with the Tambopata rainforest, its ecosystem and its future development. TReeS is run on an entirely

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voluntary basis, seeking to support and improve protection of this unique area.

In order to assess the sustainability of this tourist activity TReeS-RAMOS was formed as the research and monitoring arm of the Tambopata Reserve Society. From this has come Project Tambopata, a two year study on the impact of "eco tourism" on wildlife. The project is led by Chris Kirkby, who graduated from Edinburgh in 1993, supported by a further 5 permanent field staff, and a team of volunteer research assistants, which are recruited in Peru, the UK and elsewhere.

## Methods:

Surveys were carried out along used and unused trails at each of six independent tourist lodges, in floristically similar forest types. The lodges are visited for 18 day every three months throughout the two year period, this will give a total of over 100 days of sampling per lodge. The forest types study in this project are terra firme forest and old floodplain forest. The surveys concentrate on three groups of organisms, mammal, Amphibians and reptiles, and birds.

The mammal survey were carried out by the use of line transect alone established tourist trails and control trails cut for the purpose. Two observers walk the trail as quietly as they can at a rate of 1km/h watching and listening (most contacts are heard first) for the presents of mammals. When a mammal is detected data is recorded in situ, this includes: time, detection method, height, distance alone transect, observer-mammal distance, sight angle, number of animals and details of their behaviour.

The transect surveys are undertake in the early mornings starting at dawn, as this is when diurnal animals are likely to be most active.

I also initiated a series night surveys which were carried out with the use of head torches looking for eye-shine, Petzels permitting! (One of the major problems with the night surveys was the unreliability of the Petzel head torches.) With the aid of a good pair of binoculars (8X42 recommended) and a bit of practice it is possible to identify a large number of species, although there will always be so just at the edge of vision which can not be positively identified (was that orange eye shine P onca?). If calls are hear it is often possible to get a positive identification.

In the event of rain falling for a continuos period of more then 30 minutes then the survey has to be abandoned (when it rains the noise and movement caused by the rain seriously reduce detection rate of animals). Consecutive surveys of a transect are initiated at least 24 hours apart and the direction of travel reversed.

## Results and Problems:

This section should list the results from the night surveys which I under took, however there is a problem in that in the confusion as I was leaving Peru my field data was left at the project base in Puerto Maldonado. I have as yet been able to recover the data, in spite of a number of e-mails sent to Chris Kirkby ( trees@amauta.rcp.net.pe). Data was collected, on some nights no contacts were made, there were a number of problems involved in the data collection: first off Chris was absent from the project for 6 of the 9 weeks for which I was in the field, his temporary replacement was reluctant to assist the night surveying. Second no animals were observed on well lit nights i.e. near the full moon, it is hypothesised that this is because they can see the observer before he has a chance to observer them, so surveys were restricted to nights when there was little or no moon. Thirdly as alluded to above there were problems with the Petzel head torches, these proved to be less than 100% reliable, when working in the field at night at least 3 torches plus spare batteries and bulbs should be carried.

## Summery:

To sum up the project was a worth while experience, I learn a lot about the problems associated with field work in remote areas. I have a far deeper under standing of the rainforest and the threats facing it. It has also given me a new way to look at problems of sustainable development, as well as new views on ecology which I believe will be of use to me in my final year of study. I can recommend participation in such a project to other students, and feel that Tambopata is a very worth while place to visit.

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