JAMES RENNIE BEQUEST

REPORT ON EXPEDITION/PROJECT/CONFERENCE

Expedition/Project/ Conference Title:	Biodiversity surveying and analysing the impact of climate change on a range of taxa and on indigenous people in the Peruvian Amazon rainforest
Travel Dates:	11.6-10.7
Location:	Peru
Group member(s):	Iris Berger
Aims:	This project is aimed to extensively monitor the biodiversity in the Pacaya Samiria National Reserve with particular focus on a few indicator groups such as caiman, turtles and macaws. The data gained from various surveys will contribute towards a larger project which analyses the effects of global climate change on the Peruvian rainforest

OUTCOME (not less than 300 words):-

In order to monitor the biodiversity in the reserve an ample number of different indicator groups were studied using adequate survey techniques. The data collected this year will be compared with data from previous years to gain an insight into the impacts of climate change on that area. Due to recent conservation efforts the hypothesis was that the population abundance and diversity of hunted animals, caimans, macaws and fish will be greater than in previous years.

The first 2 weeks implied rotating between the different surveys. As the water levels reachd a record high this year many surveys that are normally land based had to be altered or could only be carried out at specific sites. For example the land transect (studying primates, large mammals and game birds) was carried out from a boat in the first 2 weeks.

The following surveys were conducted:

Primates, large mammals and game birds: Distance based survey transects were carried out along 2-3km trails and different species were recognized and identified by means of their main identification features. The data collected was then combined with camera trap data to estimate abundance of the main species. Time-scale analyses was used to gain density data which can then be used to determine the effects of recent climate change and examine sustainability of hunting.

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Macaw Surveys: All macaw species either flying or perched were recorded and the time of observation and the distances of the macaws from the observer, who was based on a boat, estimated. Censuses lasted fifteen minutes per site and were carried out twice a day. Changes in macaw populations reflect the variability of forest fruit production and they can be used as indicator species of the terrestrial ecosystem.

Wading bird surveys: All river edge bird species along 5km transects were noted. Wading birds can be used as an indicator of the annual fish production.

Understorey birds: In a range of different habitats (palm forest, liana forest, levees, closed canopy forest, riverine forest) standard length mist nets were set up at replicate sites. All bird species were identified and measured. Catch per unit effort data will be compared to previous years, allowing the identification of population trends.

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River Dolphin Transects: Information on the species, group size, group composition, behaviour and time and position at first sighting were collected. The survey covered 5km at each site and was boat based, though the engine was be turned off. Having the knowledge of recording the distribution and behaviour of pink and grey river dolphins was acquired.

Fish Surveys: Gill-net surveys were implemented where measuring, weighing and identifying all fish captured represented the main part. Additional surveys using fishing line were carried out. The impact of recent climate change on fish populations will be examined and the sustainability of fishing by local Cocama people analysed.

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Habitat surveys: Quantitative data on the various forest habitats (size structure and biomass of trees, levels of light penetration and ground vegetation, regeneration rates) were gained. This will allow an insight into how extreme flooding and droughts are affecting the vegetation and how changes in terrestrial seed dispersers, e.g. deer, are impacting the forest composition.

Night time caiman surveys: Locating and identifying caiman species in order to estimate population size and distributions was be achieved by carrying out spotlight surveys after dark. Noosing was used to capture caiman to gain data on sex, age and morphological measurements.

Fishing Bat surveys: The number of bats seen flying over the river were recorded along the river for 5km during dusk. Additionally, batboxes (ultrasonic bat detectors) were used to detect the bats. Fishing bats are used as indictors of the smaller sized fish production.

After 2 weeks a specific survey technique was to be chosen so that students could be more efficient at the collection of the data and so that they could deepen their understanding of a particular group and/or survey technique. I personally chose the land transect and occasionally helped out a dissertation student with her study on primates. This was

particularly interesting as once a primate was spotted it was to be followed for as long as possible (usually around 2 hours) and notes on their behaviour made. I gained a deepened understanding of their social bonds and gained a valuable insight in the study of animal behaviour.

Different survey techniques to thoroughly monitor the biodiversity in a region, safely handling wildlife and interpreting raw results from data collected in the wild will hugely benefit me on subsequent expeditions. Furthermore, the project allowed me to get first-hand experience of the effects of global warming upon an ecosystem and a community. This in turn deepened my appreciation for the applicability of conservation and the importance that climate change needs to be addressed at a global scale.