



<b>WRL reference</b>	M04 D04
<b>Module</b>	M04 Ecosystems – Tropical Forests
<b>Data set</b>	D04 Abundance of bat feeding guilds in the Iwokrama Forest, Guyana

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**Background to the research:**

Tropical rainforest ecosystems are characterized by high rainfall and located in the equatorial zone between the tropics of Cancer and Capricorn. Mean temperatures are mostly above 18°C for most of the year although cloud forests are generally much cooler. It has been estimated that there may be millions of species of plants, insects and microorganisms yet to discover and it is believed that over half of the world's total species are indigenous to rainforests.

Rainforests are being destroyed at a high rate and it has been suggested that 60% of the Amazonian rainforest could disappear by 2030 (WWF – A. Benjamin - December 2007)

The Amazon rainforest represents the largest rainforest on Earth, and encompasses seven million km<sup>2</sup> across nine South American countries (Brazil, Peru, Colombia, Venezuela, Ecuador, Bolivia, Guyana, Suriname and French Guiana). Amazonian biodiversity is reportedly higher than anywhere else in the world and contains approximately 2.5 million insect species, 40,000 plant species, 3,000 fish species, 1,294 bird species, 427 mammal species, and 807 species of herpetofauna (reptiles and amphibians).

The purpose of this monitoring is to provide long-term datasets on bat communities, and to record trends in abundance and diversity. These data are used to understand the relative abundance of bats among different feeding guilds, and to see what ecosystem services the bats are providing for the forest.

Bats are important to forest ecosystems because they disperse and pollinate plants in tropical forests. They additionally provide services throughout the world in the form of insect predation which is fundamental to crop protection. Many plants rely on animal mediated pollination and seed dispersal, and without these animals to perform these functions, habitats would change significantly. Bats in particular consume seeds in the fruits that they eat, and then defecate them away from the parent tree, enabling germination without competition from the parent tree. Many bats are also nectar feeders and like bees while feeding on the nectar, they pick-up pollen which is then spread to other plants, therefore aiding reproduction amongst plants.

