PRELIMINARY SUMMARY

RAP TRAINING COURSE AND EXPEDITION, GUYANA 2001

West Pibiri Creek Tropenbos Ecological Station, September 2-15
Eastern Kanuku Mountain Region, September 17-October 1

CONSERVATION INTERNATIONAL

Training Course

From September 2-15, 2001 Conservation International's (CI) Guyana Program and Rapid Assessment Program (RAP) conducted a two-week training course on methods for rapid assessment of biodiversity. Seventeen Guyanese and Surinamese participants attended the course, which was held at the West Pibiri Station operated by Tropenbos in Central Guyana. The participants came from a variety of institutions in Guyana and Suriname: the Environmental Protection Agency (EPA), the Center for the Study of Biological Diversity (CSBD), Iwokrama, Tropenbos, the Guyana Marine Turtle Conservation Society (GMTCS), STINASU and CI-Suriname. A team of scientific experts from Belgium, Canada, Venezuela and the United States provided instruction on how to rapidly survey focal taxa such as plants, mammals, and insects. Instructors originally planning to teach techniques relevant to birds, reptiles and amphibians, were unable to participate due to the September 11 terrorist attacks on the United States. Despite the abbreviated course offerings, even the most skilled participants took home invaluable new techniques for biodiversity assessment such as camera "trapping" elusive large animals and Winkler extractions for secretive leaf-litter ants.

In addition to practical field demonstrations of survey techniques, the course also featured a series of lectures covering other aspects of rapid biodiversity assessment: goals and constraints of a rapid biodiversity assessment, appropriate themes for investigation, field data entry using the "RAPTop" handheld database system, data analysis and report writing. The objective of this training course was primarily to strengthen the scientific and technical capacity of local institutions for rapid biodiversity assessment, and secondarily to form an in-country Guyana RAP team. To the latter effect, five Guyanese participants joined the team of international experts after the course to complement their training during the RAP expedition to the Eastern Kanuku Mountain region of Southern Guyana.

Expedition

The RAP expedition took place between September 17 and October 1, along the Kwitaro River, on the eastern edge of the Eastern Kanuku Mountains where the flora and fauna was virtually unknown. Two sites were studied: from September 20-24 the RAP team covered the **Pobawau Creek site**, an occasionally flooded forest near the mouth of Pobawau Creek. From September 25-29, the team surveyed the **Cacique Mountain site**, covering a set of hills further up the Kwitaro River. Both sites were extremely remote, requiring three long days of traveling upriver by boat. After the first day of travel, the RAP team did not encounter a single other person on the river.

Wilmer Díaz, from the Jardín Botanico del Orinoco (Venezuela), studied the **plant** communities. With the help of Amerindian guides and the river crew, Díaz carried out seven vegetation transects (following the variable transect method pioneered by Robin Foster), and collected fertile material from 198 species in 57 plant families. A preliminary analysis of the specimens indicates that 5 families and 42 genera may be new records for the Kanuku Mountain region. The plant communities found in the area are of mixed composition and, unlike common communities further north in Central Guyana, these showed little tendency to be dominated by a single species. The species composition varied a great deal among transects, most notably between the slopes and the valleys around the Cacique Mountain site. They also varied strongly between the flooded plain areas of the two sites, which otherwise appeared very similar. The principal families represented in the survey were Lecythidaceae, Chrysobalanaceae, Meliaceae, Sapotaceae, Fabaceae, Caesalpiniaceae, Apocynaceae, Euphorbiaceae, Annonaceae, and Violaceae, which is fairly typical for Guyanese forests.

Jan Mol, from the University of Suriname, assisted by Justin de Freitas from the Dadanawa Ranch, studied **fish** communities and water quality along the Kwitaro and Rewa Rivers and their tributaries (including small

forest creeks). They recorded the presence of 73 species of large and medium fishes. A final species count is pending the identification of the small fishes. Even including these results, Mol is certain that the number will be a very conservative estimate of the true population, as the water level was uncharacteristically high for this time of the year (the beginning of the dry season), which made the sampling of small fishes particularly difficult. To date, no difference was found between the fish fauna of the Eastern Kanuku Mountain region and that of the Rupununi Savanna. Differences among the two fish faunas are expected to appear, however, with respect to the small-sized species. The water quality of the river system was very good, as would be predicted for this remote watershed, which currently receives very little human use or disturbance.

The Royal Ontario Museum (Canada)'s Burton Lim, aided by Zacharias Norman from Annai village, studied **small mammals** using a combination of Tomahawk and Sherman traps and mist nets. They recorded the presence of 31 bat species, 4 rodent species and 3 opossum species, some of which are new records for the Kanuku Mountains. As a result of this RAP expedition, the Kanuku Mountains now have the highest bat diversity recorded for any single area in the world.

Jim Sanderson from the Center for Applied Biodiversity Science at Conservation International (USA) studied **medium and large animals** using 16 camera traps, and was assisted by Leroy Ignacio from Shulinab Village who represented the Rupununi Weavers Society. After setting up these traps, they continued to survey for arboreal mammals, especially forest primates, as well as freshwater turtles, otters, and caimans on the river, recording animal signs such as tracks, burrows and calls. In 10 days, the camera traps recorded an impressive 120 photographs of animals including ocelot, white-lipped peccary, giant armadillo, paca, red-rumped agouti, red brocket deer, 2 species of opossums, the greater-yellow headed vulture and gray-winged trumpeter. In addition, the RAP team observed three species of freshwater turtles, the giant river otter, 6 of the 8 primate species known to exist in Guyana, heard a jaguar, and observed several tapir tracks. From these results, Sanderson concluded that this region is abundant in large and medium sized animals.

Wiltshire Hinds, a student from the Center for the Study of Biological Diversity (Guyana) recorded the presence of 193 **bird** species, mostly by sight. His limited experience with bird vocalizations most likely prevented him from noticing small elusive birds. Even so, it is remarkable that his list included 62 species not recorded on the extensive list of birds observed by Ted Parker from the Western Kanukus. As a result the combined list for the Kanukus now numbers 411 bird species or 52% of the total avifauna recorded from Guyana.

Olivier Missa (Conservation International – USA), assisted by Corletta Toney, collected insects, specifically **ants, butterflies** and **dragonflies**. Although the ant species are as yet unidentified, it is expected that approximately 100 ant species were collected during the expedition. These probably include new records for the Guyanese fauna (already strong at 360 species) and perhaps also some new species for science. In addition, 35 species of butterflies and 14 species of dragonflies and damselflies were collected. The team also expects to add new species records to the Guyanese fauna in these groups. Overall, the insect fauna appeared rich.

Conclusions and Conservation Recommendations

The results of this RAP expedition to the Eastern Kanuku Mountains re-emphasize CI-Guyana's assertion that the Kanuku Mountains deserve to be included in a **Protected Area System**. This system would incorporate the two major habitat types, forests and savannas, in the Kanuku Mountain region. By including all the microhabitat variations (gallery forests, swamps, hill forests and montane areas), the area would effectively protect a high proportion of the mammal, bird and plant species of Guyana, to name only the groups for which we currently possess reliable data. The region's isolation from major roads and cities, and absence of human settlements combined with the fact that these forests and rivers are only sporadically visited and used by nearby indigenous

populations for hunting and harvesting, make this area ideal for protection. Most animal populations appear to be healthy and under little or no immediate threat. Species harvested for the pet trade (e.g., Ara parrots) and for food (e.g., giant Arapaima, river turtles), however, need to be carefully monitored to prevent a sudden decline in their numbers.

RAP scientists also made specific suggestions for additional scientific studies, including implementing a long-term large animal camera-trapping program, conducting a low-water fish survey including collection of dissolved oxygen data, and studying the isolated mountaintop plant communities.