



PRESERVING the

ENDANGERED SPECIES

THE ANDEAN OR SPECTACLED BEAR IS CONSIDERED VULNERABLE TO EXTINCTION WORLDWIDE AND ENDANGERED IN VENEZUELA BY THE IUCN RED LIST. ITS DISTRIBUTION WITHIN THE COUNTRY IS DISCONTINUOUS, AS IT LIVES IN TWO DIVERGENT AND ISOLATED MOUNTAIN RANGES: SIERRA DE PERIJÁ AND CORDILLERA DE MÉRIDA.

La Sierra de Portuguesa (the north-eastern part of the Cordillera de Mérida) is considered a high-priority area for conservation, given its unique geographic location and fragmented remnant forests as a result of intensive farming. The range embraces three national parks (NPs): Yacambú (254 sq.km), Terepaima (187 sq.km) and El Guache (160 sq.km), which are partially isolated from each other and surrounded by a landscape that supports a mosaic of economic activities. The presence of the Andean bear has been established across the entire range. Unfortunately, the species' habitat is rapidly being reduced and immediate action is required to ensure its long-term preservation.

Conservation strategy

Given the urgency of the situation, a project was designed to generate a habitat model for the Andean bear population in Sierra de Portuguesa, capable of identifying environmental and anthropogenic factors that affect the bear's distribution, habitat and landscape use. This information will serve to establish guidelines for the design of a management strategy and will fill in gaps related to the species' ecology in fragmented landscapes. A landscape ecology approach supported by geographic information systems (GIS) and Earth-observation technologies will be used to generate the habitat model and establish the conservation guidelines.

Generating a GIS database

Satellite images and GIS technology were used to generate a land cover map for Sierra de Portuguesa. Preliminary results showed that the Andean bear's habitat in Sierra de Portuguesa (322.12 sq.km, 7.22% of the mountain range) is limited, divided into 169 fragments and encroached by human activity. The al-

MORE INFORMATION



- sg343@cam.ac.uk
- http://www.andigena.org/curriculas/garcia_shaenandhoa.asp



◀ A bear has dined on this bromeliad.

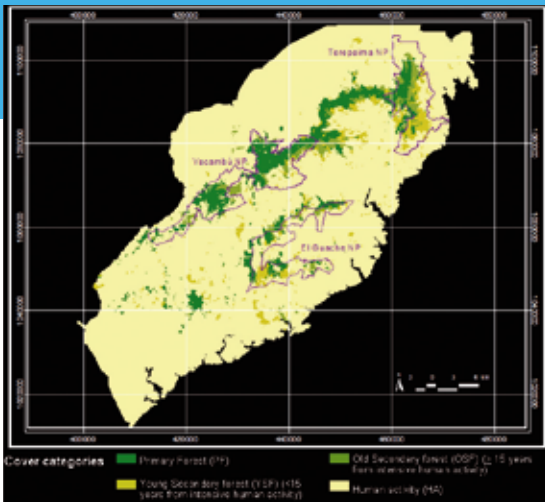
▲ Local project teams.

Andean bear

FOCUS

The Andean bear (*Tremarctos ornatus*) is also called the **spectacled bear**, due to the tawny ring markings around its eyes and muzzle. It is the only bear native to South America and is found across the Andes mountain range from Venezuela to Bolivia. It inhabits a wide variety of ecosystems (for example, dry, evergreen and humid forests, moors, páramos and semi-humid puna prairies) over a large altitudinal range (250 to 4,750 m asl) following seasonal patterns of food resources. The Andean bear is a very good climber and builds a nest for resting, vigilance and refuge at the top of trees in the cloud forest.

THIS PROJECT IS LABELLED PLANET ACTION



itudinal range was found to be narrow and possibly confining the remaining individuals to mountain tops. The species may be absent in some patches, and both individuals and groups could be isolated. A total of 50% of the habitat available is currently protected within the existing national parks, but their spatial configuration is risking further fragmentation. In September 2008, data analysis started on a regular basis with the redefinition of the boundaries of the Sierra de Portu-

guesa, based on a review of the area's geologic and physiographic features. Currently, with the support of Planet Action, we are working to incorporate new satellite images in the existing assessment of Andean bear habitat availability.

Our actions are not only intended to protect the Andean bear, but also to empower protection of the remnant forests in Sierra de Portuguesa, secure its connectivity and ensure the long-term preservation of five major watersheds in Venezuela. These are key water supplies for main urban and farming areas across the country, so they are extremely important for our future adaptation to climate change, the well-being of populations, food security and development. Finally, our actions are also helping to reduce local carbon emissions by seeking to curb current deforestation rates. ■