UNIVERSITY OF Southampton

Protecting the jaguars of Belize

Jaguars still roam freely through Central American forests, and even make their way into populated rural areas. Increasing exploitation of the region's natural resources poses a real threat to the survival of these big cats, which require thousands of square kilometres of continuous forest to meet their needs for survival and reproduction.

Research by biological scientists at the University of Southampton has helped secure Belize's first wildlife corridor for jaguars and other endangered cats. The corridor protects a unique link at this latitude of continuous natural habitats connecting south and north Belize, within the Mesoamerican corridor stretching between South and North America.

Fieldwork led by Patrick Doncaster, Reader in Population Ecology, and two of his previous PhD students, helped make the case for the land to be included in the country's National Protected Areas Plan. The work was funded by a Darwin Initiative grant from the UK Government to Patrick at the University, and by funding from the charity Panthera. The project led to the establishment of a conservation training framework at Belize University.

All six species of cat in Central America are endangered by habitat loss. Although 60 per cent of land in Belize is still covered by forest, it is partitioned into northern and southern blocks, converging to a 20-km strip bisected by the Western Highway, the country's busiest trunk road. Without a wildlife corridor to protect this narrow strip from encroaching development, Belize's southern and northern borders will no longer be linked by continuous forest, and the isolated southern forest will not sustain viable jaguar populations.

University of Southampton PhD students Bart Harmsen and Rebecca Foster were recruited for field projects on the ecology of jaguars and pumas occupying fragmented rainforest in Belize within and outside protected areas. In projects funded by the Natural Environment Research Council (NERC) and the Wildlife Conservation Society, they tracked the movements of jaguars and pumas and gathered extensive evidence from hidden cameras and faecal remains in a forest reserve and surrounding farmland. These data were used to build computer simulations of their populations, which predicted that the cats were vulnerable to dying out in existing blocks of protected land unless these blocks were joined together by wildlife corridors. Following the research, Panthera recruited Bart as the Panthera Research Fellow at the University of Belize, and Rebecca as the Director of the Belize Jaguar Program.

In April 2011, Belize's National Protected Areas Secretariat heard the case for the Corridor. During the meeting, Rebecca demonstrated the need to link up protected habitats for wildlife populations, based on the project's monitoring and modelling. Her arguments persuaded the Secretariat to incorporate the 1000-km^2 Corridor into the National Protected Areas System Plan.

The University, through its DEFRA Darwin grant, was one of the original funders of the Environmental Research Institute in Belize, which trained 89 undergraduates in its first 3 years, who have gone on to work in government departments or to take further degrees.

Read more about the DEFRA Darwin grant at: http://darwin.defra.gov.uk/project/17012/

Find out more about fieldwork on large cats in Belize at: http://www.southampton.ac.uk/biosci/about/our_students/rebecca_foster_and_bart_harmsen.page