

Media Release

Chiefs of Staff, News Directors

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Puma project aims to prevent disease spread in wildlife

A five year study of pumas (also known as mountain lions or cougars) in the United States may lead to more effective disease prevention in native Australia animals such as wombats, koalas and Tasmanian Devils.

University of Tasmania Ecologist, Scott Carver will contribute his research expertise to a new project based in Colorado that aims to increase understanding of disease spread and prevention by studying wild populations of pumas in the US.

The 2.14 million dollar project, funded by the US government agency the National Science Foundation, will investigate how environmental factors and wildlife management programs affect infectious disease spread in species that move large distances.

Dr Carver will work with a team of researchers from Colorado State University, University of Minnesota, University of California, Davis, and a variety of US state and federal agencies studying six wild populations of pumas across Florida, Colorado and California. The study will focus on how the movement of these animals and transmission of their diseases has been impacted by human intervention through management actions such as translocations and hunting.

Dr Carver said the project aims to improve conservation strategies to manage transmittable diseases in native animals.

“We want to develop a deeper understanding of the impacts of the environment, animal population genetics and management interventions on the spread of diseases in native animals,” Dr Carver said.

Dr Carver’s area of specialisation is in disease ecology and epidemiology. His research includes projects focussed on the transmission of mosquito-borne viruses, the Tasmanian Devil Facial Tumour and the spread of mange in populations of Tasmanian wombats.

“Researchers will utilise complex molecular and geospatial tools to develop new models for predicting and preventing the spread of viruses in complex landscapes,” Dr Carver said.

Dr Carver will assist his US colleagues on the project with the mathematical and statistical analysis needed to create models of how disease is expected to spread geographically through puma populations.

“We will use the genetics of several different viruses to trace their spread through the puma populations. It’s a very accurate way to determine how diseases move and which animals are most likely to be more susceptible to contracting diseases.”

Dr Carver said the project will be applicable to other species including Australian native species, and even human populations.

“Emerging diseases are an increasing problem in native animal populations but there is limited information for many species about how management measures impact on disease transmission,” Dr Carver said.

“Whilst we currently have some capacity to treat individual animals during disease outbreaks, we need to develop more effective tools to determine the best way to manage diseases in animal populations in the wild.”

“We hope the results of the puma project will greatly increase the understanding of how to manage invasive diseases such as the facial tumour in the Tasmanian Devil, mange in wombats, toxoplasma in bandicoots and chlamydia in koalas.”

The project also includes outreach efforts to educate the public about conservation issues, and engage students in relevant studies in disease ecology. The project will generate a PhD opportunity for a Tasmanian student who will spend time here and in the US researching disease transmission in animals. Each year of the project a graduate veterinary student from Colorado State University will also travel to Australia and work with scientists at the University of Tasmania.

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