



**MSc RESEARCH PROJECT
ENDANGERED WILDLIFE TRUST STUDENT CONTRACT**

Provisional project title: RIVERINE RABBIT DEMOGRAPHIC RESEARCH – USING CAMERA TRAP MODELLING IN THE NORTHERN CAPE, SOUTH AFRICA

Department: Department of Zoology, University of Cape Town

Project level: MSc

Supervision: Prof Justin O’Riain (University of Cape Town), Dr Greg Distiller, Christy Bragg (Endangered Wildlife Trust)

Qualifications required: BSc (Hons) in the biological or natural sciences or equivalent qualifications.

Bursary: The anticipated running costs will be supported in full by the Koos & Rona Rupert Opvoedkundige Trust (via EWT) and NRF funding (via Justin O’Riain). An annual bursary of R50 000pa for two years is available for South African or SADC citizens. Subject to normal application procedures.

Competencies required:

- Understanding of ecological systems and ecological theory;
- Must be willing to spend extended periods of time in the field with considerable travelling;
- Must be fit and willing to walk long distances;
- A strong statistical skill set will be advantageous;
- Proficiency in all Microsoft Office programmes.
- A working knowledge of spatial analysis (GIS) will be prioritised;
- Valid SA drivers license, and suitable driving experience;
- Ability to work both as a team member and independently;
- High degree of self-motivation, discipline, proactivity, good administrative skills and good organisation skills are required.

This project will be based in the Nama-Karoo, in Loxton and will require extensive travel in the Karoo area. The successful incumbent will be required to assist with the production of popular articles and media releases and well as other Endangered Wildlife Trust functions.

To apply please e-mail your CV, contact details for at least two referees and a detailed motivation letter to Alison Janicke alisonj@ewt.org.za . Applications will be treated in strict confidence. Closing date **31st March 2014**.

Physical Address: Building K2, Ardeer Road, Pinelands Office Park,
Modderfontein 1609, Gauteng, South Africa

Postal Address: Private Bag X 11, Modderfontein 1645, Gauteng, South Africa

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The Endangered Wildlife Trust is a non-profit, public benefit organisation dedicated to conserving species and ecosystems in southern Africa to the benefit of all people.

NPO Number: 015-502, **PBO number:** 930 001 777, **Member of IUCN** - The International Union for Conservation of Nature
The Endangered Wildlife Trust is US 501(c)(3) compliant under **US IRS Registration number:** EMP98-0586801.



Project outline:

The endemic Riverine Rabbit (*Bunolagus monticularis*) is one of Africa's most threatened mammals. It is listed as Critically Endangered in the South African Red Data Book of Mammals, as well as the IUCN Red List of Threatened Species. It is also classified as one of the top ten EDGE mammals species in the world — this means it is Evolutionarily Distinct and Globally Endangered, according to the Zoological Society of London. The Riverine Rabbit is not only rare and elusive, but also only occurs in the Karoo and only on farmland (in no formal nature reserves).

In order to inform conservation strategies, it is critical to gather accurate and credible data regarding current Riverine Rabbit density estimates, home range size and habitat use. Some work has been done to determine suitable habitat and predicted population distribution based on surveys. However, conservation of this species cannot move forward without accurate population density figures and a monitoring protocol. We also need to understand the correlation between density and habitat quality, in order to develop models to predict potential new distribution areas and prioritize conservation actions, as well as mitigate threats. We have already established the promising potential of the camera traps in a small trial using camera traps.

Aims:

- Develop and test a census technique for monitoring Riverine Rabbits using mobile camera trap grids.
- Use telemetry to determine accurate home range size and habitat use and other spatial ecology parameters (e.g., dispersal range)
- Use telemetry to verify and calibrate the results of the newly-trialled density camera trap method (using models, such as that developed by Rowcliffe et al. (2008)) to determine the density of non-individually identifiable animals from camera trapping arrays).

Methods:

Camera trapping uses fixed cameras, triggered by infra-red sensors, to 'trap' images of passing animals. It is a quantitative technique that has "relatively low labour costs, is non-invasive, incurs minimal environmental disturbance, is robust to variation in ground conditions and climate and, most importantly, can be used to gain information on highly cryptic species and in difficult terrain where other field methods are likely to fail" (Rowcliffe et al. 2008). Camera traps provide additional information on species distribution and habitat use, population structure and behaviour (Rowcliffe et al. 2008). Through this project the Riverine Rabbit Project intends to develop a systematic camera trap modelling methodology with the primary objective of estimating population densities of this species using calibration techniques.

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