Northern Territory

Charles Darwin University

DP0878582 Dr CJ Bradshaw; Dr F Courchamp; A/Prof NS Sodhi

Approved Project Title **Density regulation as a major determinant of population persistence: advancing empirical and theoretical approaches to conserve biodiversity**

2008 : $ 105,000
2009 : $ 105,000
2010 : $ 105,000

Primary RFCD 2707 ECOLOGY AND EVOLUTION

Administering Organisation Charles Darwin University

Project Summary

Without efficient application of limited conservation resources, more species will go extinct and invasive species will continue to proliferate. With a better understanding of extinction processes, a higher benefit:cost ratio will ensure better outcomes for biodiversity. We will directly address (1) the sustainable use of Australia's biodiversity by providing evidence-based support for minimum viable population size targets to avoid extinction; (2) responding to climate change by determining the species- and environmentally specific contexts leading to elevated risks of extinction; and (3) protecting Australia from invasive diseases and pests by determining density targets that maximise eradication success.

DP0879851 Prof KA Christian; Prof CR Tracy

Approved Project Title **Do frogs hydroregulate? Regulation versus tolerance of thermal and hydric states**

2008 : $ 90,000
2009 : $ 90,000
2010 : $ 90,000

Primary RFCD 2707 ECOLOGY AND EVOLUTION

Administering Organisation Charles Darwin University

Project Summary

Amphibians are in decline in Australia and worldwide. Frogs are a middle link in terrestrial and aquatic food chains (as predators and prey) so are important for the sustainability of Australia's biodiversity and as indicators of environmental problems. Basic research about the ways Australian frogs interact with the physical environment to balance body water and temperature is crucial to predicting the effects of climate change or habitat modification on frogs. This basic information is needed to produce effective conservation plans for native frogs and management plans for invasive cane toads. We will train students in techniques and concepts in ecology, conservation biology, and animal physiology.