

PhD Strategic Scholarship

UNE and DECCW

VEGETATION CONDITION AND LANDSCAPE CONTEXT AS PREDICTORS OF BIODIVERSITY STATUS AND ECOSYSTEM FUNCTION

The School of Environmental and Rural Science at the University of New England in collaboration with the NSW Department of Environment, Climate Change and Water (DECCW), is seeking a suitably qualified PhD candidate to undertake research that addresses; ***Vegetation Condition And Landscape Context As Predictors Of Biodiversity Status And Ecosystem Function***.

Applicants must be able to demonstrate a strong background in ecology and hold a Class 1 honours (or equivalent) degree in a discipline such as environmental science or a related field. A background, or interest, in vegetation condition and biodiversity assessment would also be advantageous. The successful candidate must be an Australian citizen, or a permanent resident of Australia, hold an Australian driver's licence and be willing to undertake field work in remote areas. The scholarship offers a full annual tax-free stipend (**\$30 000/yr with a \$5,000/yr industry top-up**) for 3 years and is available immediately. The project is supported by substantial operating and in-kind support from DECCW.

Applicants should email a letter outlining their suitability for the position, accompanied by a brief CV (including contact details of two referees) and a copy of their academic transcripts to Prof Caroline Gross (cgross@une.edu.au). All applicants will need to apply through the UNE system for a strategic scholarship which will be awarded on a competitive basis. See <http://www.une.edu.au/research-services/pgstudy/prospectivestudents/howtoapply.php>. The position will remain open until we have appointed a suitable candidate.

Primary supervisor Prof Caroline Gross, Ecosystem Management,
School of Environment and Rural Sciences, UNE (<http://www.une.edu.au/staff/cgross.php>).

Co-supervisor Dr Ian Oliver, Scientific Services Division, DECCW
(<http://www.environment.nsw.gov.au/whoweare/planorgs.htm>).

Project Background

During 2008-9 staff from the NSW Department of Environment, Climate Change and Water (DECCW) collected vegetation plot data from around 500 sites located in the Border Rivers-Gwydir, Hunter-Central Rivers, Central West and Western CMAs. Data collected include: vegetation structure (NVIS level 5), vegetation condition (11 attributes), vegetation composition (full floristics - 20x20m plot), site disturbance (observed), site history (from the land holder), and detailed ground cover assessment (50m point-intercept).

Many of these plots represent control-treatment pairs with treatment plots located in areas scheduled for land use or land management change supported by CMA incentive funds. They were established to generate baseline data as part of a resource condition Monitoring, Evaluation & Reporting partnership between DECCW and the CMAs. However, data collection over a short time-frame using standard field protocols provides an ideal starting point to address a number of applied natural resource management questions over the next three years.

The thematic areas within which these questions will be developed with the successful student are provided below.

Land Use and Land Management as Predictors of Vegetation Condition

Aim: model indices of vegetation condition at the plot and attribute level using information for land use and land management at all sites.

Landscape Context as a Predictor of Vegetation Condition

Aim: model indices of vegetation condition at the plot and attribute level using remotely derived information on patch size, surrounding land use, and connectivity for all sites. Identify the independent contributions of site and landscape scale predictors to vegetation condition status.

Influence of Vegetation Condition and Landscape Context on Populations of Arthropod Pollinators

Aim: test the effects of vegetation condition and landscape context on the size and composition of arthropod pollinator populations at a carefully chosen sub-set of available sites providing a range in both vegetation condition and landscape context states.

Influence of Vegetation Condition and Landscape Context on the Reproductive Success of Plant Populations

Aim: test the effects of vegetation condition and landscape context on the reproductive success (flowers, fruits and seeds) within selected plant taxa.