



Study shows effect of feral buffalo on Kakadu

WILD buffalo are one of the iconic symbols of the Northern Territory, but their effects on the natural environment have often been questioned.

A group of researchers, however, is finding that buffalo cannot be solely blamed for the increase in woody weeds in the Territory.

The ecological effect of feral buffalo on Kakadu National Park has been the focus of a research study by a team of prominent Charles Darwin University researchers.

Research fellow with CDU's School for Environmental Research (SER), Dr Lynda Prior, Adjunct Professor SER, Professor David Bowman, lecturer in geographical information systems, Dr Guy Boggs, and SER PhD candidate, Caroline Lehmann, recently published their ground-breaking paper in the *Journal of Biogeography*.

The study investigated the changes in woody vegetation in both floodplains and eucalypt savannah over a 40-year period using spatial analysis of variation in density of feral buffalo in Kakadu National Park.

Professor Bowman said that feral buffalo built up to high densities in Kakadu until 1985, after which a control program almost eliminated the animals.

"In 1990, a buffalo farm was established within Kakadu National Park to supply meat to traditional owners, to compensate for the loss of the wild buffalo," he said.

"However, these buffalo were at much lower densities than the feral buffalo had been, and were managed to minimise environmental impacts.

"Our study compared trends in woody vegetation when buffalo were high-density feral, low-density managed or absent."

The study analysed sequences of digitised and geo-rectified aerial photographs acquired from dates up to 2004, to chart changes in woody cover on the floodplain and in the savannah.

Dr Prior said the study revealed that although the density of woody vegetation on the floodplain had increased during the 40-year study period, buffalo were not the major cause.

"The correlation between the densities of feral buffalo and the prevalence of woody cover in Kakadu National Park was weak," she said.

"Rather, the observed increases in woody cover in both savannah and flood plains concurs with regional trends and may be related to an increased level of atmospheric CO₂, increasing rainfall and changing fire regimes during the study period."



Buffalo Farm manager Dave Lindner, Professor David Bowman and Dr Lynda Prior after a hard day of research in the field.