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## PICTURING LANDSCAPE CHANGE IN QUEENSLAND WOODLANDS

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### CHANGING WOODLANDS

The woodlands of northern Australia are a significant natural resource, with beef cattle production being the single biggest industry. In Queensland, 60M ha of woodland carry *c.* 2.1M cattle, with annual production worth *c.* \$220M per year. They produce 60% of Queensland's sawn hardwood timber and products used on farm (fencing and yard building timber) and are utilised by other primary industries such as bee-keeping. Woodlands contribute to biodiversity, maintenance of landscape function (e.g. hydrological cycle) and are a huge carbon reserve.

The woodlands of northern Australia are changing. There are reports of woody plant thickening and thinning (Burrows 2002, Scanlan 1991, Sharp and Whittaker 2003). Measuring the direction and magnitude of these changes is difficult particularly within remnant 'intact' woodlands that have not been subjected to broad-scale clearing. Factors affecting the woodlands include natural processes (climate, CO<sub>2</sub> enrichment and woody plant dynamics), landholder management (grazing, clearing, harvesting, fire) and external influences (domestic and international policy, vegetation management, greenhouse/carbon accounting). Attempts to characterise these changes have been conducted using direct ground-based monitoring (Burrows *et al.* 2002) and air-photography techniques (Fensham *et al.* 2003). Limitations of these techniques include the short time period they span in relation to modern European-style management and their resolution at site and regional scales.

### USE OF PHOTO PAIRS

The paired photograph approach has been successfully used to examine changes in woodlands (Klement *et al.* 2001, Lewis 2002). Although photo pairs cannot provide rigorous, measured, statistically analysed scientific proof, they can provide graphic visual evidence of landscape change and extended assessment time intervals. Paired photographs will be used to complement other more rigorous woodland monitoring techniques. By matching historic and modern day photographs taken at the same site, a body of visual evidence of landscape change will be compiled (Figure 1). In Queensland, photographs date back as far as the 1800s, pre-dating current woodland studies and offering information about changes in woodlands.

Photo pairs will be gathered from each of the 14 regional catchment areas within Queensland (Border Rivers, Burdekin, Burnett Mary, Cape York, Condamine, Desert Channels, Fitzroy, Mackay Whitsunday, Maranoa Balonne, Northern Gulf, South East, South West, Southern Gulf, Wet Tropics). A database of electronic images will be developed containing information to enable future photography at the same site as well as anecdotal information about the observed landscape changes. This will enhance the cost effectiveness of other scientific monitoring processes.

There are high levels of interest in photographic images indicating that this project offers opportunities for broad community involvement. Material may be gathered from both public and private collections.

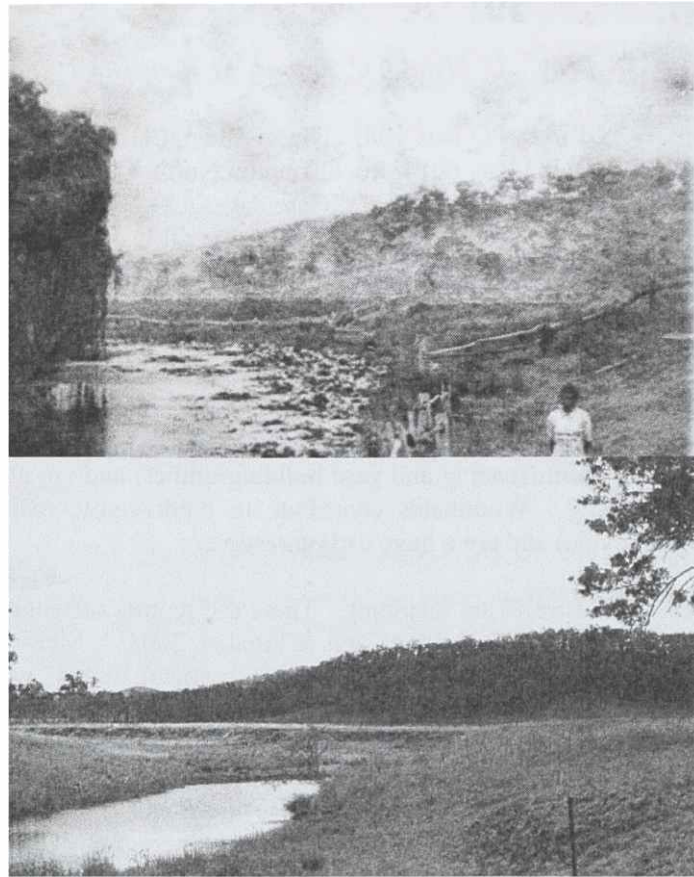


Figure 1. This photo pair was taken near the homestead at 'Boobyjan' in South Eastern Queensland. The old photograph was taken in 1888 and rephotographed in 2002. Vegetation on the hill in the background has become denser. In the foreground, changes to riparian structure are obvious.

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