The Brigalow Declaration

Tuesday 25th November 2003

On open letter to the Prime Minister John Howard and Queensland Premier Peter Beattie on the need to end the clearing of mature native bushland in Queensland

Dear Prime Minister and Premier Beattie,

We the undersigned Australian scientists write to you concerning the issue of land clearing in Queensland.

We endorse the leadership that you have both recently shown on this issue. We encourage you to implement a solution as fast as possible.

The large scale destruction and removal of native woodlands, forests, wetlands and grasslands remains the biggest single threat to biodiversity in Australia, rivalled only by the impact of introduced species. Evidence for the large and irreversible negative impact of vegetation clearance on Australia's biodiversity is unquestionable (DEST 1995; Garnett & Crowley 2000; SOE 2001; Possingham *et al.* 2002; NLWRA 2002; Cogger, *et al*., 2003).

In Australia 500,000 hectares or more of land (SOE 2001; ACF 2001) is still cleared annually. Around two-thirds of this is mature bushland which has not previously been cleared. This rate of clearing is only exceeded by developing nations such as Brazil, Indonesia, the Congo and Bolivia (UNFAO 2001).

The great majority of clearing occurs in Queensland, which clears at least 75% of the total areas cleared in Australia (SOE 2001; QCC *et al*. 2001; Benson 2001; Queensland Herbarium 2001; DNR 2003).

Solving the problem of land clearing in Queensland has been identified as one of the most cost-efficient means of minimising our continent's ongoing loss of biodiversity (Possingham *et al*. 2002).

For every 100 hectares of native woodlands cleared about 2000 birds, 15,000 reptiles and 500 native mammals will die when, or soon after, their habitat is destroyed. A recent study conservatively calculated that in total over 2.1 million mammals, 8.5 million birds and 89 million reptiles die from land clearing operations in Queensland each year (Cogger *et al.* 2003).

These direct losses are exacerbated by secondary changes to the fragments of native vegetation that remain as clearing progresses. For example, small and isolated fragments of native vegetation become more susceptible to invasion by introduced weeds and feral animals. These compete with, or prey on, the remaining native species. Native species in

small fragments are more susceptible to local extinction from natural events such as wildfire and disease.

The direct and indirect losses of species at a local scale increases the probability of regional and ultimately state-wide and national extinctions. Such extinctions are now rapidly accelerating in southern states where extensive clearing has occurred, and are now beginning in the more recently cleared districts of the Brigalow belt of southern and central Queensland. For example, there is now a well documented pattern of accelerating extinctions occurring amongst woodland birds (Robinson & Traill 1996; Garnett & Crowley 2000; Ford *et al*. 2001). While many regions have already lost significant numbers of native species, regional extinctions will continue long after vegetation clearance ceases as the phenomenon known as the "extinction debt" runs its course (Possingham 2001).

At a larger scale clearing leads to fundamental changes in the functioning of ecosystems and landscapes, such as changes to water flows both above and below the ground. Of particular concern is rising 'dryland' salinity caused by the removal of long-lived and deep-rooted native plants. Salinity results directly from the removal of native vegetation during land clearing operations (NWLRA 1999; Hatton & Nulsen 1999).

Recent research in Queensland has highlighted the widespread threat of salinity in that state (DNRM 2002).

In addition to threatening farmland and water supplies salinity threatens remaining biodiversity. Remaining native vegetation, particularly in lower parts of the landscape can be degraded or destroyed by rising salty water tables (NWLRA 2001). Increases in salt loads in wetlands and rivers kills aquatic species sensitive to moderate or high salt levels (NLWA 2002).

Scientists see vegetation clearance as such an important issue that it was the topic of the first position statement issued by The Ecological Society of Australia (ESA 1995). The evidence for vegetation clearance being a primary and preventable threat to biodiversity has changed little since that statement was issued.

We understand that there is currently an opportunity to bring forward effective controls for clearing of mature native vegetation in Queensland.

We urge you to act decisively on this issue.

Professor Hugh Possingham (DPhil, Oxon)
For and on behalf of the following 420 biological scientists on the attached list who are signatories of the Declaration.

References

ACF (2001a). *Australian Land Clearing, A Global Perspective: Latest Facts & Figures.* March, Australian Conservation Foundation, Melbourne.

Benson (2001). *Clearing rates in NSW - the full picture*. *Hunter Flora* 6: 4-5 Hunter Catchment Management Trust: Paterson NSW.

Cogger, Ford, Johnson, Holman & Butler, (2003). *Impacts of Land Clearing on Australian Wildlife in Queensland.* Compiled by World Wide Fund for Nature (Australia) Sydney.

DEST (1995). *Native Vegetation Clearance, Habitat Loss and Biodiversity Decline Biodiversity* Series paper No. 6, Department of the Environment, Sport & Territories (DEST), Canberra.

DNR (2002). *Queensland and Murray Darling Basin and Fitzroy Basin Salinity Hazard: potential for salt mobilisation* (maps). Department of Natural Resources (DNR), Brisbane.

DNR (2003). *Land Cover Change in Queensland 1999-2001*. A Statewide Land cover and Trees Study Report Issued January 2003, Department of Natural Resources (DNR) Indooroopilly, Qld.

Ecological Society of Australia (1995). Position Statement by The Ecological Society of Australia: Vegetation Clearance. http://www.ecolsoc.org.au/documents/Vegetation.pdf

Ford, Barrett, Saunders & Recher (2001). Why have birds in the woodlands of southern Australia declined? *Biological Conservation* 97:71-83.

Garnett & Crowley (2000). *The Action Plan for Australian Birds*, Environment Australia, Canberra.

Hatton & Nulsen (1999). Towards achieving functional ecosystem mimicry with respect to water cycling in southern Australian agriculture. *Agroforestry Systems*. **45**:203-214.

NLWRA (2001*).* National Land and Water Resources Audit (NLWRA). *Australian Dryland Salinity Assessment 2000*, Canberra.

NLWRA (2002) Australian Terrestrial Biodiversity Assessment 2002. National Land & Water Resources Audit (NLWRA). Canberra.

Possingham, Ryan, Baxter, & Morton (2002). *Setting Biodiversity Priorities.* Report to the Prime Minister's Science, Engineering and Innovation Council (PMSEIC). Canberra.

Possingham (2001). Regional bird extinctions and their implications for vegetation clearance policy. *Lifelines* 7.2:15-16. http://www.nccnsw.org.au/member/cbn/projects/LifeLines7.2/NatVeg_Ext.html

QCC, ACF & TWS (2001). *New Data Reveal Australian Land Clearing Rates 22% Worse.* Queensland Conservation Council, The Australian Conservation Foundation & The Wilderness Society. http://www.acfonline.org.au/docs/publications/rpt0016.pdf

Queensland Herbarium (2001) Remnant Vegetation in Queensland, Analysis of Pre-clearing Remnant 1997-1999 Regional Ecosystem Information, Toowong Queensland.

Robinson & Traill (1996). *Conserving woodland birds in the wheat and sheep belts of southern Australia.* Royal Australasian Ornithologists Union.

SOE (2001) State of the Environment Committee, Australian State of the Environment (SOE), CSIRO, Canberra.

UNFAO (2001). *Forest Resources Assessment 2000*, United Nations Food and Agriculture Organisation (UNFAO).www.odci.gov/cia/publications/factbook/