



The End of Land Clearing

Hugh Possingham asks why it has taken so long to convince state governments to redress Australia's greatest environmental issue.

Australia is moving to end land clearing for good. From clearing 400,000–500,000 hectares of native vegetation per year, and being the worst clearers of vegetation in the developed world, it could soon be that Australia will have reversed the tide of habitat loss.

And it's about time. According to the *Australian Terrestrial Biodiversity Assessment 2002*, vegetation clearance is the most significant threat to species and ecosystems in eastern Australia. Earlier that same year a report to the Prime Minister's Science, Engineering and Innovation Council identified that the most cost-efficient way to minimise the loss of Australia's biodiversity was to stop land clearing. In this case, good science has been a major player in determining good policy.

You could not find an ecologist who would not say that vegetation clearance is the single biggest biodiversity issue in the country for the past 20

years. So it's very frustrating that it's taken this long to get here. Then again, it could have been another 10 years, and if that was the case northern Australia would have been the same biodiversity disaster that southern Australia is.

Tasmania is potentially the last state to fall into line, assuming that agreements in Queensland and New South Wales come to fruition.

Why have we turned half of Western Australia, parts of South Australia and parts of Victoria into ecological disasters? Why did it take until 2003 before New South Wales and Queensland realised that they have their own ecological disasters already occurring in parts of their states? And why has it taken us so long to realise that vegetation clearance is costing us billions of dollars in future debt?

The impact of vegetation clearance on biodiversity is at least an order of magnitude worse than old growth

forest logging. So why did we manage to more or less stop that in most states while vegetation clearance was allowed to continue? Why indeed have most states in Australia, until recently, actively promoted vegetation clearance in the past?

The answer may be lack of knowledge – that they had no idea about the consequences of vegetation clearance. Or, is it government mismanagement? Or is it that the media was unable to see what was important? Or is it because scientists didn't tell anybody?

LACK OF KNOWLEDGE

For a long time Queensland was in denial about the impacts of vegetation clearance. If the government really was uninformed until recently, what were our public servants doing? What were our science advisors doing?

Queensland and Tasmania have laboured under the myth that they will never have a salinity problem. They seemed to think they could clear as much as they liked and all the problems that occurred in Western Australia and South Australia wouldn't happen to them. Is this the fault of the advice of scientists?

In 1893 a scientist called J.G.O. Tepper, who became a noted botanist in South Australia, wrote a paper in the *New South Wales Agricultural Gazette*. In that paper he argued that if you want to have a functioning landscape you should never clear below 30% in the intensive use zone, while in the extensive use zone you should never clear below 50%.

Yet 83% of the western side of the upper south-east of South Australia, which is about 750,000 hectares in size, is cleared of native vegetation today. Of that area, about one-third is salt-affected and an additional one-third is likely to be salt-affected in the next 10–20 years. So we're now talking about a large slab of southern Australia that's not much good for anything.

Similarly a 1930s CSIRO report

Land Clearing Affects Pollination

Lucerne and many horticultural crops depend on pollination by European bees and native insects to set seed or grow fruit. The value of pollination to agriculture in Australia is \$1.2 billion per annum.

But land clearing is affecting populations of pollinators, as these depend on nearby native vegetation for food. In turn, native plants in remnants that are highly fragmented are not being pollinated.

Land clearing also favours introduced pests. “Both bumblebees and European wasps seem to like disturbance,” says Dr Peter McQuillan, a lecturer with the School of Geography and Environmental Studies at the University of Tasmania. “When European wasps move into patches, they often strip out a lot of the native insect species as prey and use them as a protein source to feed their young.” Some species of native plants could become endangered or extinct because their natural insect pollinators aren’t available anymore.

“For example, some native orchids are becoming increasingly rare, and one theory is that it’s due to the fact that the insects that pollinate them are becoming very scarce. Native bees, for example, tend to decline in small patches caused by land clearing,” he says.

Many native plants use a mixture of species for pollination. “Some species are becoming very scarce and dropping out of that mixture. Nobody knows the critical number that can be lost before we’ll see quite catastrophic losses in pollination services for native plants,” he says.

“We’re also denying natural control of some existing pests by making the landscape unfriendly to the natural controls of birds and natural parasites.” **TAYLOR BILDSTEIN**



A remnant of native grasslands at the foothills of the Eastern Tiers, Tasmania.

Jamie Kirkpatrick

draws lines over that same area, saying that the land is too salt-prone to farm. The report said they’d have a salinity problem and yet in the 1960s and 1970s farmers were fined and had land resumed for not clearing vegetation. Clearing was compulsory in a landscape that could have sustained very little clearing.

One farmer had land resumed for not clearing his property fast enough in the 1970s. Then South Australia brought in legislation in the early 1980s that said you can’t clear land. In 1985 the farmer said he’d like to declare a heritage agreement and add his land to the national park, but the government said the land was of little conservation value. Another 7–8 years later his neighbour, who had over-cleared his property, had that land acquired at some expense so that regrowth could be added to the same national park.

Government policy on vegetation clearing has hardly been consistent, and our sympathy must lie here with the landowners who have received mixed messages. Here is an example of a landowner having foresight ahead of his time and being punished when he should have been rewarded.

I have walked over much of that part of South Australia, and what vegetation do I see when I walk through some of the conservation parks in that area? There is a lot of samphire and melaleuca, particularly *Melaleuca halmaturorum* (a paperbark). *M. halmaturorum* is the most salt-tolerant

small tree I know (aside from mangroves) – it will grow with its roots in water that is as salty as sea water.

This has happened all over the country, and it is still happening in a few places now, so I would argue that there was not a lack of information. Ignorance was no excuse.

So who’s responsible for the unsustainable destruction in this region? The farmer? The government? The bulldozer driver?

Ultimately, who does finally take responsibility? Are politicians or public servants held responsible if they condone, bring in legislation or deliberately tell the public that we must do these things that ultimately you and I, our children and our grandchildren will have to pay billions of dollars to repair?

We spend an enormous amount of effort stopping crimes against people, yet we spend little time worrying about crimes against nature. Yet crimes against nature will possibly cause society more suffering than most other crimes because they last a lot longer. Some of the landscapes we have overcleared will take 500–1000 years to recover. So you don’t just commit a crime against Australia’s people with poor land management and policy, you affect 20–50 generations of Australians.

HAVE ECOLOGISTS AND SCIENTISTS SAID ENOUGH?

Maybe scientists have not spoken out and made our issues clear enough. Of

Bird Species Threatened

An estimated 1000–2000 birds are lost for every 100 hectares of native woodland that is cleared. One in five native bird species is threatened with extinction and most of our woodland bird species are in rapid decline.

This is just as true on King Island and in north-west Tasmania's fragmented agricultural landscape as elsewhere in Australia, where hollow-dwelling native birds are threatened with extinction due to uncontrolled land clearing. "On King Island you've got something like 30% of the native vegetation left, but you've only got something like 5% of communities like the Tasmanian bluegum and swamp paperbark. It is absolutely vital that these communities that are left should be protected, because they are so essential for these species that are dependent upon old growth and hollows," says Dr Richard Donaghey, who has been studying the impact of fragmentation on birds in north-west Tasmania and King Island for 5 years.

"A lot of the birds that are in decline on King Island are the ones that use holes for nesting, like the yellow-tailed black cockatoo, the green rosella, which is an endemic subspecies, a little bird called the striated pardelote, the southern boobook (an owl) and the satin flycatcher, which nests on dead horizontal branches. All these birds need old-growth trees.

"In north-west Tasmania, the beautiful fire-tailed native finch is declining and even some of our robins – like dusky robin and flame robin – appear to be in decline.

"We've found that in the small (uncleared) patches there are some birds you don't find. These birds tend to be habitat specialists," he says. Habitat specialists have special requirements that dictate where they can live. "These birds might need tree hollows or big old trees for nesting, or they might have some requirement for their diet or foraging that makes them a specialist.

"These birds tend to need much bigger patches, or better connected patches in the landscape," Donaghey says. "If we don't want to lose these local species, we have to put our heads together and find out ways to protect and restore the landscape."

TAYLOR BILDSTEIN

all the scientists who could have rung up radio stations, written letters, or tried to get meetings with ministers, only a small fraction have, do, or will.

When I was an untenured research fellow at the Australian National University in 1989, in the midst of early discussions on forestry issues, I did two press conferences at Parliament

House. The next day, on both occasions, another scientist rang me up and said words to the effect: "Hugh, you're a young scientist and you've ruined your career. You shouldn't talk about things you don't know anything about. You shouldn't criticise other scientists in public. If we have disputes we should keep it under the table and we

shouldn't discuss these scientific issues in any way in the media."

At that time, not only were there a lot of scientists who wouldn't speak up, but they were creating a culture whereby young scientists, or indeed any scientists, would be potentially disadvantaged by speaking up.

Are they guilty of doing something



Fire-tailed finch

Bill Wakefield



Flame robin

T. Waites, Birds Australia



Striated pardelote

Bill Wakefield

wrong? If you have critical knowledge and you do nothing are you guilty?

THE MEDIA'S ROLE

It seems strange that the media were completely disinterested whenever we tried to raise the issue of vegetation clearance over the past 10–15 years. We did lots of things but we really could not get mainstream media interested in this. Even now the greatest event in Australia's environmental history – a virtual end to vegetation clearance – passes relatively unnoticed.

Meanwhile, if it was an old growth logging issue or a koala issue, they would be beating down my door. I got

to the point where I was wondering if we should fabricate some sort of petty argument between two scientists just to get the media interested.

Is that the media's fault? Or are the media just reading the public and is the public more interested in personality clashes than the long-term future of their nation?

This goes to the heart of a lot of these issues: how can we get Australians to think outside the economically discounted political time-frame of 3 years to thinking that one day we're going to have to manage this country in a sustainable fashion? That we're going to have to feed ourselves

without losing topsoil, destroying water quality and getting rid of biodiversity. How can we get the media to grasp onto that and make that sexy?

A GOOD YEAR

We have already come a long way. This year we have witnessed the greatest events in Australia's natural history. Key politicians have listened to the scientific evidence and committed to take decisive action on what history will show to be the most important environmental issue in Australia.

As Dr Tim Flannery of the South Australian Museum has stated, we are not Australians until we can live here sustainably (*AS*, March 2002, pp15-16). Until that time we are just displaced Europeans.

What have Europeans been doing for the past 500 years? We have wandered from country to country, continent to continent, skimming off the cream. We have taken the gold, exploited the indigenous people, plundered the best of the forest and converted all of the best of the agricultural land. Then we have moved on to another country. That worked well for a while, but we have damaged most of the planet in the process.

By the time we got to Australia, there was nowhere else to go. The strange thing is that we're still running this place like displaced Europeans. I suppose we are assuming that once we've destroyed 50% of the biodiversity and lost half the topsoil, and once half the river systems don't flow, then magically another continent will appear.

Only when biodiversity, soil depth and water quality starts improving can we say we are Australians. This is the message for all of us: start thinking about the fact we have to live here forever, and forever is a long time.

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The Cost to Clean Up

The cost of repairing damaged ecosystem services provided by natural systems and biodiversity – fresh air, clean water, nutrients for crop growth, pollination of crops and others – is very large indeed. According to the Prime Minister's Science, Engineering and Innovation Council, Australia is currently investing \$1.5 billion per annum in biodiversity and natural systems, \$1.2 billion of it from government, mostly in an effort to repair damage.

In Tasmania, despite highly visible signs of rural landscapes suffering extreme environmental stress, and despite promises made as far back as 1997, the government has still not implemented adequate legislation to control land clearing, says The Wentworth Group of Concerned Scientists. Indeed, the Deputy Premier of Tasmania announced on 4 June, the eve of World Environment Day, that deep red myrtle parts of the Tarkine, a Gondwanan rainforest remnant, would soon be logged at a rate of 2000 tonnes per year, lifting a 20-year logging ban on the biggest wilderness rainforest in Australia. The Tasmanian Conservation Trust says it expects this move to be the first step in the establishment of a plantation on the highly fertile basalt soils found in the region.

While licenses to clear forests in Tasmania are controlled under the Forest Practices Act, there has been no specific legislation that protects vegetation smaller than 5 metres in height, such as native grasslands and heathlands, from broad scale clearing, according to Alex Schaap, General Manager of the Resource Management and Conservation Branch of the Tasmanian Department of Primary Industries, Water and Environment. This may be about to change.

An interim moratorium on clearing rare and endangered forest communities covered by Regional Forest Agreements, which had come into force on 1 January 2002, was quietly extended in May this year to cover rare, vulnerable or endangered non-forest communities as well. Forest practices that could affect any native non-forest vegetation must now routinely be referred to the Forest Practices Board's Senior Botanist, said Chief Forest Practices Officer Graham Wilkinson. Forest practices officers are instructed not to approve the clearing of any further rare, vulnerable or endangered forest and non-forest communities.

While this sounds promising, Prof Jamie Kirkpatrick of the School of Geography and Environmental Studies at the University of Tasmania questions what this really means. "If they mean that all clearing has to go through the Forest Practices Board, and there is a moratorium on clearing of all rare or threatened vegetation types, and the public is going to be effectively informed that this is the case, great! Otherwise, it's just window dressing," he says.

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