

ENVIRONMENTAL HISTORY LITERATURE REVIEW

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1. "State of Play"

1.1 What do we know?

The Greater Brisbane Region contains outstanding landscapes of great variety from:

- ❖ The mountains to the mangroves, coastal hills and fertile valleys abutting a narrow coastal plain with a patchwork of freshwater wetlands tucked in behind ribbons of deep green estuaries.
- ❖ The azure waters of Moreton Bay are framed on the east by a chain of spectacular sand islands.

The biodiversity of the region is only surpassed by the Wet Tropics of North Queensland and the South west of Western Australia. The regional description acknowledges that:

- ❖ It is estimated that there are 4000 plant species (taxa) present (EPA, 1999).
- ❖ The incredible diversity of animals also present in this region, including 800 terrestrial and freshwater native vertebrate fauna.
- ❖ In this region there are some 148 regional ecosystems that have been identified (Young and Dilleward, 1999).
- ❖ Although there are no plants considered extinct, there are 230 that are rare or threatened of which there are 31 endangered, 68 vulnerable and 131 that are rare (Young and Dilleward, 1999).
- ❖ The viability of habitat is being threatened though, not only from outright removal but also from fragmentation, isolation and pressures of weeds, pest animals and wildfire.

These values exist within the context of a very significant period of environmental change over the previous 150 years at least. To understand the importance and fragility of these values it is essential to understand a little of the history of that environmental change and in the process gain a sense of the likely trend for future changes.

Environmental history provides an indispensable long-term perspective on change. Important concepts like socio-economic sustainability, the maintenance of biodiversity and climate change are meaningless unless viewed in context. In a new millennium where profound environmental problems are becoming increasingly pressing, and decision-making more critical, this perspective will become even more essential. **(AHRB RESEARCH CENTRE FOR ENVIRONMENTAL HISTORY, Website 2003)**

Diary of Environmental Change for the Greater Brisbane Settled Area

- ❖ The region has a rich and fascinating history of environmental development and change over many millennia. Despite dramatic changes more recently in land use and substantial loss of native vegetation, the greater Brisbane region remains a biodiversity rich part of Australia.
- ❖ The human settlement of Australia, since at least the late Pleistocene (more than 40 000 years ago) has reinforced the change towards sclerophyllous (Eucalypt dominated) vegetation, principally due to increases in fire frequency (Archer, *et. al.*, 1998). Aboriginal people had a sophisticated regime of burning which promoted the maintenance, if not spread, of grasslands and eucalypt woodland and, in turn, encouraged the proliferation of game animals.

- ❖ In the Brisbane area there is evidence for “profound environmental impact” over at least the past 20 000 years (Hall, 1990). It is important to note that these impacts are not presumed to compare with the magnitude of rapid environmental changes that have occurred since 1788 (Archer, *et. al.*, 1998) and in the case of Brisbane since 1824.
- ❖ The Surveyor-general of New South Wales John Oxley was tasked with the investigation of the area and entered Moreton Bay on the 29th November 1823.
- ❖ Oxley’s log and formal report of that event gave glowing accounts of the area its beauty, agricultural potential and he made special mention of a “magnificent Species of Pine” (Steele, 1972).
- ❖ Later explorers, botanists and early European settlers continued to fill the gaps including Captain Logan, Charles Fraser, Ludwig Leichardt, Tom Petrie and the Archer Family who are notable amongst them (Symons and Symons, 1994).

The major types of vegetation in the landscape at the time of European settlement can be characterised as follows:

- ❖ Rainforests at the highest altitudes buffered from the drier vegetation by a narrow halo of towering wet eucalypt forests;
- ❖ Dry ridges, hills and coastal plains of Eucalypt woodlands and open forests;
- ❖ Alluvial plains with Eucalypt woodlands and a river “fringed by a mosaic of open forest and rainforest with emergent Hoop Pines” (Young, 1990);
- ❖ A coastal mosaic of freshwater melaleuca wetlands and estuarine wetlands of mangroves and samphire flats; and
- ❖ Giant sand islands with a range of simple foredune vegetation grading into stunted eucalypt woodlands and freshwater swamps.

Vegetation Change 1840’s to 1990

- ❖ Rapid vegetation loss occurred through clearing during the first 60 years of settlement.
- ❖ Investigations in the 1990’s (Catterall and Kingston 1993) looked at historical and predicted vegetation losses, it painted a bleak future for the greater Brisbane area.
- ❖ By 1900, in less than 60 years of rapid human settlement, agricultural and population expansion, the South East Queensland landscape had been transformed. Riparian tracts of lowland rainforest and blue gum alluvial flats took the brunt of this and were almost totally cleared from the landscape and certainly Red Cedar, a fine timber species, was gone.
- ❖ In the years that followed, up to the 1950’s, the predominant land use was still agriculture, but in the intervening decades the emphasis had changed from localised farming and broad-scale grazing and timber cutting to more intensive forms including cereal and dairying. The land clearing remained focused on the low altitude, fertile alluvial plains and associated gently undulating hills and rises.
- ❖ From the 1950’s through to the end of the 1980’s the predominant and growing land use activity for greater Brisbane was rapid urbanisation. The period 1974-1989 was characterised by rapid large scale clearance of bushland, 33% of the 1974 bushland cover on the coastal South East Queensland mainland was cleared and another 17% of the mainland part of Brisbane City had been cleared for urbanisation in the 8 year period up to 1990.
- ❖ The prevailing paradigm over at least the last 50 years has been to foster development and urbanisation to capitalise on rapid population growth without examining or considering the implications for the environment.
- ❖ Prior to 1980 the extent of active vegetation protection was minimal and of limited broad scale success.

- ❖ Whilst the 1980's continued to see rapid vegetation loss there were active attempts to begin to describe the bushland values and to explore the options available to secure them for future generations.

1990 to 2003

- ❖ Planning for Nature Conservation has shifted ground with a greater sense of urgency to arrest and reverse environmental impacts.
- ❖ The 1990's were a period of increasing effort by governments to address community concerns about vegetation clearing.
- ❖ This has been mirrored by raised expectations for government at all levels to protect the environment.
- ❖ There are a number of ways that governments have sought to protect biodiversity and stop habitat loss, through their town plans, local laws, establishing and managing natural area networks and encouraging conservation efforts on private lands.
- ❖ Levies for buying back the bushland have been instrumental for some Council's in providing the necessary funds to build a bushland reserve network and support its management.
- ❖ Voluntary Conservation Agreements and Land for Wildlife programs have been successful conservation incentive programs that have enabled Local Governments to protect the environment in partnership with willing private landowners.
- ❖ Vegetation protection laws have also been steadily improving, some councils are expanding the lands protected by their local laws. This has been reinforced by the adoption in 2000 of the Queensland *Vegetation Management Act 1999* that deals with vegetation management on freehold land across all of Queensland.

Future

- ❖ Overall, people now have more knowledge, respect and appreciation of the environment.
- ❖ In the past decade there has been a growing interest and desire to plant natives in gardens and to learn more about native plant species.
- ❖ Local governments are working extensively with the community to collaborate on fauna and flora habitat restoration projects throughout the region.
- ❖ Many people are actively involved in community programs aimed at preserving and regenerating bushland.
- ❖ As we halt the loss of habitat the priority shifts to enhancing what we have left and making sure that it is well managed, including the threats posed by wildfire, ferals and weeds.
- ❖ It is important that we address such issues as fire management and invasive species and that we do so across the whole landscape as fires, ferals and weeds don't stop at fences.
- ❖ The private landholders, on the edge of suburbia, hold another key to a sustainable future. They respect and understand their land and the challenges that are faced when managing weeds and fire. What they lack is broader community support to move to more sustainable living practices that give back to the community benefits of a healthier landscape, cleaner water and a thriving biodiversity. This means financial incentives, clear achievable responsibilities and respect.

1.2 Current Issues/Knowledge Gaps

Environmental History as a scientific discipline is relatively recent, but is primarily aimed at drawing together two main fields of expertise ecology and history to better utilise the fragmented information (ecological, written and verbal) and less tangible evidence we have about landscape changes. This is important because environmental change was never well measured or recorded consistently. Through integrating the skills of these two, and many other, disciplines we can unravel a much more holistic and useable environmental history and context. This will be a valuable aid for making decisions about future options for biodiversity protection and management.

The extent to which serious effort has been applied to create a comprehensive environmental history for South East Queensland is less than desirable. There is a real need to pursue the compilation of relevant data and anecdotal evidence to create a much better perspective.

To summarise there is a need for:

- ❖ more locally relevant ecological information cannot be understated. Improvement is required in the mapping and description of the natural environment across greater Brisbane as an example.
- ❖ An understanding the function and processes of isolated remnants within the urban matrix and the nature and extent of natural and man induced changes over extensive periods of time.
- ❖ A better understanding is also needed of the way our ecosystems work and more importantly when they aren't working and need help.
- ❖ A better linkage between research and management through the adoption of an adaptive management approach
- ❖ There is an important role for the collection and interpretation of historical ecological knowledge, so that we can make decisions with a clearer understanding of the health of the remnant patches of vegetation and what trends are already in train without our truly understanding them.
- ❖ Human - Wildlife Interaction is also becoming a critical issue for addressing the "nuisance" aspects and community awareness of the values of living with wildlife.

1.3 What is accessible?

- ❖ Historical Ecology as a discipline is young and rapidly evolving. See listed websites.

1.4 What is not so easily accessible?

Recent academic studies (Masters, Honours and PhD level) "We don't know what we do know".

1.5 People involved in environmental historical research

See websites, the Australian National University is becoming active in this area.

2. Information Sources

2.1 Documents

- ❖ Eghan, D. and Howell, E. A. (2001) *The Historical Ecology Handbook; A Restorationist's Guide to Reference Ecosystems*. Island Press, Washington.
- ❖ Measuring and Imagining: Exploring Centuries of Australian Landscape Change. David M.J.S. Bowman and S.L. Farrer. *Australian Journal of Botany*, The Special 50th Anniversary Issue, Volume 50, Number 4, 2002.

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2.2 Websites

Internet searches produced the following key websites as sources of info on the science of environmental history and the history of urban South East Queensland area.

The science of Environmental History:

- ❖ www.cres.anu.edu.au/envirohist/eh-anu.html
- ❖ www.ser.org/
- ❖ www.arcue.rbg.vic.gov.au/
- ❖ www.radford.edu/~wkovarik/hist1/links.html
(this is a good page to link to a number of other sites of value)
- ❖ www.h-net.org/~environ/ASEH/home.html
- ❖ www.eseh.org./home.html
- ❖ http://www.blackwell-synergy.com/links/doi/10.1046/j.1365-2699.2001.00586.x/abs/:jsessionid=b_hbHPLgpYb6

Sites on the Environmental History of urban South East Queensland:

- ❖ <http://members.ozemail.com.au/~petalli/aceenvironmentalhistory.htm>
- ❖ http://brisbane-stories.powerup.com.au/m2m/08_community/01_com_overview.htm
- ❖ http://brisbane-stories.powerup.com.au/maggil/maggil_frames.htm
- ❖ <http://www.brisbane-stories.powerup.com.au/boondall/default.htm>
- ❖ <http://brisbane-stories.powerup.com.au/bulimba/default.htm>
- ❖ http://brisbane-stories.powerup.com.au/oxley/oxley_frames.htm
- ❖ <http://www.brisbanehistory.asn.au/>
- ❖ <http://www.slq.qld.gov.au/publib/localstud/lsreftrain.ppt>