INDIGENOUS SUSTAINABLE LAND MANAGEMENT PRACTICES: PERSPECTIVES FROM WADAWURRUNG / WATHAURONG COUNTRY

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ABSTRACT

This paper discusses the role and potential of ethnobotany in Australian Aboriginal plant knowledge in supporting and enabling sustainable land management practices for land use developments. In particular, it draws upon the Wadawurrung / Wathaurong Country knowledge for the greater Geelong region of Australia, summarises recent investigations and research, offers a deeper insight into the risks of indigenous vegetation deterioration and opportunities relating to plant usage, and highlights the importance of this plant knowledge in sustainable land management practice. The focus of this investigation is upon the Wathaurong Country around the City of Greater Geelong, host city for the ISDRS conference, of which there is little published material and oral distillation.

The purpose of this paper is to demonstrate how the Wadawurrung / Wathaurong people survived for over 60,000 years through sustainable land management techniques, caring & healing themselves by holding deep knowledge of the plants available in this region. Ethnoecology is the governing theoretical framework, with ethnobotany being a subset of this and the primary focus of this paper.

Conclusions arising from this research include: there is limited knowledge as a modern colonised nation; what little knowledge there is left is ageing and will disappear; and, there is an urgent need to better understand what still grows in the region prior to further urban applications and this is also compounded by the driving forces of climate change. Accordingly this paper demonstrates the need to urgently undertake this research. The implications for ‘Tipping Points’ is that we are increasingly at the point of no return is when we forget about the indigenous knowledge base and watch the death of the knowledge holders, and their wisdom and its benefits have not been transposed into contemporary society.

Key words: Indigenous plants, Ethnoecology, Ethnobotany, Wadawurrung, Wathaurong, Country

Acknowledgement to Country

We acknowledge the Kulin nation peoples who are the Traditional Owners of this land, and pay respect to the Wadawurrung / Wathaurong Elders both past and present of the Kulin Nation and extend that respect to other Aboriginals who contributed to the overall research project.

INTRODUCTION: WADAWURRUNG / WATHAURONG COUNTRY

The purpose of this paper is to outline the fields of research and knowledge in the area of Australian Aboriginal ethnobotany in order to contextualise Wadawurrung / Wathaurong ethnobotany. The Wathaurong people are the Indigenous people who live in the greater Geelong region and beyond as far as Beaufort, Cressy, Aireys Inlet and Queenscliff (refer map below). Wadawurrung Country is located in south-eastern Australia, to the south-southwest of Melbourne, and includes the provincial cities of Geelong and Ballarat (see Figures 1 and 2).
Figure 1. Australia and the Wadawurrung/Wathaurong Country

Figure 2: Wadawurrung/Wathaurong Language Map, derived from Clark (1990) contained in CoGG (2014: 9). Reproduced with the permission of the CoGG.
Members of Wadawurrung have continued to live on Country and have an ongoing relationship with their Country. Many Wadawurrung are descended from a Wadawurrung woman, Queen Mary, and her son John Robinson (also ‘Robertson’, b. 1846) (Clark 1990: 274-335; VAHC 2009).

Overall, the Wadawurrung (being the Country nomenclature), is the word used today by the Victorian Aboriginal Heritage Council under the Aboriginal Heritage Act 2006, are people of the Kulin nation, whose Country conceptually surrounds Port Phillip Bay to the west of Port Phillip Bay (VAHC 2009). The Wathaurung Aboriginal Corporation, based in Ballarat, is the ‘Responsible Aboriginal Party’ under this Act and the legal spokesperson for the Wadawurrung Country whom speak the Wathaurung / Wathaurong language(s), and should not be confused with the Wathaurong Aboriginal Co-Operative based in North Geelong. Because of the Corporation’s recently acquired statutory role, it is today the recognised and legal spokesperson for the Wadawurrung community.

In contrast the Co-Operative is a community-based organisation with a long-standing presence serving both Wathaurung and Aboriginal community members in the Geelong–Barwon–Colac region with the primary goal of providing all Indigenous people within the City of Greater Geelong and bordering local government areas access to a range of culturally appropriate holistic services, particularly in health, housing, education, employment and heritage (WAC 2012). The Co-Operative services an Indigenous community numbering between 4,000-5,000 people that includes a large proportion of transient Aboriginal and Torres Strait Islander people who travel to Wadawurrung Country from all over Australia. The Co-Operative did pre-2014, and continues to provide an instrumental role in contributing to the improvement of cultural well-being and the capacity building for Indigenous people in the region as it strives to control its own affairs and achieve self-determination as a spokesperson for Wadawurrung and Indigenous peoples resident in this region; a spokesperson function and activity that the Corporation is legally empowered to service. Pre-2014 Co-Operative applied the role of speaking for the custodians of Wadawurrung Country, and both the City of Greater Geelong Council and Deakin University recognise the Co-Operative’s role in this capacity and invited their representatives to perform ‘Welcome to Country’ proceedings, and other cultural services, and according to Corporation staff availability continue this relationship.

For ease and consistency of referencing, both Wadawurrung and Wathaurung are used in the paper title and abstract. However, culturally, the subject area is Wadawurrung Country with a focus upon the Wathaurung language group that resides in the Geelong-Barwon catchment region.

2. CONTEMPORARY AUSTRALIAN ETHNOBOTANY

Ethnobotany involves the science of documenting the historical and often contemporary Indigenous practice of engagement and relationships with plants. The inquiry lies at the juncture of botanical science and anthropology, but may also venture into land management and archaeology as to strategies and pre-contact investigations. The origins of ethnobotany in Australia were driven by agricultural and horticultural agendas during the 19th Century. During the 20th century alternative medicinal practices and natural healing remedies, bush tucker and survival skills were in focus.
Leading up to the new millennium saw the rise in a growing identity crisis in Australia that lead to an unsuccessful referendum aimed at releasing the apron strings from the United Kingdom in order to become a republic. This discourse indicated a widespread reflection of what it means to be Australian. Along with this historical reflection was a confrontation with the hidden atrocities that transpired over two centuries upon the Indigenous people of Australia and attempts to broaden community awareness into the mainstream with literature and movies such as ‘Rabbit Proof Fence’ amongst others. This growing consciousness, of how the Australian Aboriginal people have been wronged, underpins much research including this paper as an aid to
further promote an awareness of a culture that had existed successfully for 60,000 years prior to European settlement.

To understand how the Aboriginal people succeeded as a collection of nations for over 60,000 years, there needs to be an understanding of the relationships Aboriginal people had with plants. Recognising the historical evolution of ethnobotany in Australia draws from key contributors of the late 20th and early 21st centuries of earlier ethnobotanical studies including Dawson (1881) and Brough Smyth (1878) whom evolved their thinking according to the changes in Australian thinking and awareness towards Australian Aboriginals.

Clarke is a leading contemporary Australian ethnobotanist, whose early work focusses upon Aboriginal use of plants. His writings have expanded into Indigenous perceptions and use of the land embodied in a PhD on the Ngarrindjeri cultural geography of the Lower Murray in South Australia. In more recent years his work has been focused on exploring Aboriginal links to land in central and northern Australia. All of his works are extensively indexed in Where the Ancestors Walked (2003) which enables Clarke to give the reader a detailed yet broad overview of ethnobotany in Australia.

Clarke claims that “The Australian flora contains more than 20,000 terrestrial plant species, many of which are economically and culturally significant to Aboriginal people” (2007: 8). Thus, “plants had economic and social importance … that went beyond subsistence, as well as being traded, they were planned for, as Aboriginal hunters and gathers negotiated the landscape in order to make the most of the surplus food when it came into season … the seasonal abundance of food sources allowed for the surplus to be traded and provided opportunities for visitors to share in feasts” (Clarke 2003, 58). In Australian Plants as Aboriginal Tools (2010: 10) he has explained that their survival was underpinned by understanding “the diversity, seasonality and spatial distribution of plants and animals within their foraging territories.” Clarke presents an argument against the earlier model of Aboriginal foragers being passive managers of their resources and recognises that they “actively manipulated their environment for particular intended outcomes” (Clarke 2007: 9). His (2007: 6) argument is in direct opposition to, what he explains as “recent as 60 years ago, anthropologists were still considering the Aboriginal people of Australia as nomadics, seeking food from the God like ravens” that he addressed in Where the Ancestors Walked (2003: 56) wherein “Aboriginal hunters and gathers limited their short-term impact upon the landscape through dispersing themselves thinly and by constantly moving according to season”.

Latz spent the first 17 years of his life growing up amongst the Arrernte people at Hermannsberg Mission (Northern Territory). Consequently he is focussed on Central Australian Aboriginal cultures and he provides an explanation of the environment, plants and uses, seasons and firestick farming. Latz has spent a lifetime compiling his research which has enabled the most comprehensive regional collection of plant uses than any other literature researched thus far. He has also explored the nutritional value of the plants and provides extensive summary tables of all useful plants including availability and a rating of importance. Latz also cross references these plants with those used in other parts of Australia and the world although no specific tribes are mentioned. Plants are organised alphabetically by botanical name. His depth of numerous miscellaneous plant use in Bushfires and Bush Tucker (1995: 72) including “mats on the ground, platforms in tree forks to store objects, brooms to sweep the ground, foliage for mattresses, sticky plants used to sieve impurities from drinking water. Certain seed attachments provide a type of soap to wash one’s hair, where as other can be made into a brush. Pollen from Duboisia spp is reputed to been used as a deadly poison for one’s enemy. Bloodwood tree provides a tanning agent. Spinifex leaves are used to shore the sides of wells. Bark from river red gum is used to cool water.”.

Gott (1998: 255-256) reviewed Latz (1995) and concluded that “the most interesting aspects is the listing of names for the plants in up to 7 of the languages of Central Australia. Linguistically, this is almost unique; and only a person of Latz’s qualifications and experience could have done it.” Latz also jumped on the Bushtucker band wagon allied to trends in the latter part of the 20th Century towards bushtucker and survival skills. Latz’s Pocket Bush Tucker (1999) is a useful guide as plants are ordered by plant type, e.g grasses and sedges. The botanic name, common name and various tribal names are listed with the habitat in which the plant is grown and an explanation of its use. Each plant is illustrated to help the reader easily identify each plant. Although Latz’s work is limited to Central Australia, the knowledge from this region appears to be deeper than that has been captured from the East Coast for reasons previously explained. Latz points out that
there are over 2,000 plant species in Central Australia, however he focuses on the most common plants and the more widely available. He also notes that 140 species are still edible today.

The depth of Latz’s and Clarke’s plant listing and associated uses are useful in comparing to the findings of Louis Lane in the Geelong region discussed below.

Whilst most of Australian ethnobotanists have delved into Central Australian ethnobotany – which is probably in part due to the available knowledge -- others have focussed purely on the plant preparation for food and are riding the wave of the ‘Bushtucker trend’. Authors such as Isaacs is very focussed upon how the food is cooked both traditionally by Australian Aboriginals but also suggests modern ways of cooking the indigenous plants. In Bush Food (2002) Isaacs lists an extensive table of edible Aboriginal plant food on pages 217-226, and on pages 231-240 she lists a table of herbal medicines. Unlike her other books, this book contains several references to key ethnobotanists.

3. CONTEMPORARY VICTORIAN ETHNOBOTANY: WATHAURONG KNOWLEDGE
It is important to review Wathaurong ethnobotany in context of understanding their culture to provide meaning and context. However there is very little information in the public domain about the Wathaurong culture. Of this information the most useful books available have been written by Pascoe (1997, 2003, 2007).

Pertinent to Victorian ethnobotany, the most significant contributor is Dr Beth Gott who has been on staff at Monash University since 1980 after lecturing in botany at the University Melbourne as well as in London and Hong Kong. Following these experiences Gott later worked with an anthropologist studying American Indians in the USA. Gott’s significance to ethnobotany in Australia has been her deep focus and investigations into Victorian ethnobotany – an area of research that is more difficult to access as it relies mostly on historical research although she also is well networked with various Elders on the southeast coast of Victoria. Gott has published a number of papers, but her notable books include Koorie Plants Koorie People (1992) with Zola which focuses on traditional Aboriginal food, fibre and healing plants of Victoria. Gott’s methodology for accumulating knowledge includes primary source data derived from conversations with a number of Elders from various tribes who were consulted with the findings. This book describes (with photos) 50 of the 900 plants from Gott’s database used by the Victorian tribes up to the 1830s. It is organised by geographical feature e.g. coastal, dry country, mountain forests, plains & open forest, river/water plants etc. The book also describes gathering & cooking processes, medicines and fibre. Gott’s introduction refers to the richness of protein and vitamins in these foods given they have been uncultivated and not genetically modified and usually harvested at the appropriate seasonal times. Gott not only attributes the health inputs of the food to the success of the Aboriginal nation (pre-colonisation), but the way in which the plants were cooked, ensuring minimal loss of nutrients, as being a contributing factor.

Gott’s focus is also forward thinking and not just an historic documenter of ethnobotanical information. Not only has she created the Aboriginal garden at Monash University, but she lists gardens for viewing aboriginal plants around the state in order to encourage the adoption of indigenous plants. Gott mentions in her various books that she has created a database that contains at least 900 plants that were used by Victorian Koories, despite her books only focussing on 50 or so of the more useful plants.

This shift of emphasis reinvigorated interest in Aboriginal ethnobotany including writings by Ferrier in Wathaurong Medicines (c1982) whom sought to identify and recommend the conservation of places within the Bellarine Peninsula that possess a significant quantity of ethnobotanical medicinal substances to be placed on the former National Estate Register. The National Estate provided funding for this research which was initiated by a paper outlining the possibilities and advantages of developing an Australian Aboriginal Pharmacopeia. As a subset of ethnobotany, medicines for the Wathaurong has been covered in some detail by Ferrier in Wathaurong Medicines (c1992) in a report that was commissioned by the National Estate to identify potential areas of indigenous medicinal flora of the Bellarine Peninsula that could be included into the National Estate Register. This book is the only dedicated data in the public domain relating (although only in part) to Wathaurong ethnobotany. Ferrier completed extensive research and her methods included consultations with Koories from around the district where she obtained oral history relevant to the environment of the Bellarine Peninsula as it was before European settlement. She also had various consultations with the Victorian Archaeological Survey who provided information about archaeological
evidence for the Bellarine Peninsula (which was possibly sourced from Louis Lane given her deep association with the Victorian Archaeological Survey.) A vegetation survey of Bellarine Peninsular roadsides and various surveys of the vegetation of reserves were additionally used to determine the presence of medicinal plants.

Ferrier (c1992:21) draws heavily upon Rhoads’ (1986) Bellarine Peninsula: Archaeological site Assessment and management study that classifies and identifies various types of vegetation along the Bellarine Peninsula, including: “open eucalypt forest, a swamp forest, woodland and grassland, mangrove woodland, salt marsh, coastal scrub and coastal dune communities - they worked out what vegetation would have existed prior to clearing the land by looking at the soil type and climate.”. While an abstract map by Ferrier (1992:22, 23) reveals the ‘Possible Pre-clearing Distribution of Vegetation Associations,’ she also unsuccessfully undertook to validate Rhoads’ findings failing to find evidence of four of Rhoads’s vegetation associations. Ferrier (1992:21) also provided a historical vegetation analysis drawing upon the written reports of Wedge (1835) who described the Barrabool hills area as having ‘very few trees being predominately casuarinas and grasses, the Buckley’s Falls area as having scattered red gums and casuarinas and Indented Heads area as having scattered manna gums & casuarinas and the Bellarine Hills as being almost treeless.’

One key source of knowledge for the Geelong region not known about and pertinent to Wathaurong ethnobotany is the research activities of amateur anthropologist Louis Lane. Born in 1919, Lane worked as a librarian in the Newcastle and Port Kembla regions of NSW, a work environment that informed her subsequent methodical approach to anthropological and archaeological research in the Geelong region when she retired back to her place of birth. Reputedly Lane became a leading expert in researching and documenting the Wathaurong culture, actively participating as a volunteer to the Victoria Archaeological Survey (VAS) for over 20 years, becoming an Honorary Warden under the Victorian Archaeological and Aboriginal Relics Preservation Act in the early 1970s, and she carried out many surveys in the Geelong region herself and led survey teams with the regular VAS summer schools. The VAS Records often include activities reports where Lane is mentioned extensively. Lane regularly published articles published in the VAS Records series and generated prolific typescripts of her findings that are largely unpublished. She prepared over 200 unpublished typescripts containing over 8,000 pages of text covering many topics from Aboriginal protocols; to compiling a language dictionary; to investigating how Indigenous plants were used in their everyday lives. In 2015 she passed away in a Queensland nursing home.

Lane’s (2001, 2013) contribution and expertise gatherers only a passing reference in Pascoe’s Convincing Ground – Learning to Fall in love with your country (2007) that discusses the ‘history of the Wathaurong, what it is like living off the land recalling firsthand the foraging and gathering techniques. This text contains a sample and map of Wathaurong, place names of the Geelong-Ballarat region and the Jillong (Geelong) timeline, but unfortunately very little plant/flora information.

![Figure 6. Louis Lane. Source: John Boetje.](image)
4. SUSTAINABILITY AND WATHAURONG CULTURE

Aboriginal people have lived on the Australian continent for at least 60,000 years (Muller, 2012; Rasmussen et al., 2011 in Kingsley et al., 2013). This is 2,800 generations. At the time of contact with Europeans, the Australian continent was an entire cultural landscape (Rapoport 1975; Memmott and Long 2002; Gammage 2012) that was collectively known as *Country*. *Country* is a difficult concept for most non-Aboriginal Australians to understand. Part of the difficulty relates to its all-encompassing multi-dimensional nature, part is due to the multiple meanings of the term, and part is due to philosophical differences and ways of experiencing between Aboriginal and Western cultures. While the concept of *Country* is complex and multi-layered, it does not mean as prominent anthropologist Debra Bird Rose has argued, that “everything is connected to everything”, rather, everything is connected to something, and there are patterns of connections: healthy, torn, patchy and intricate (Weir 2010). Broome (2011) believes that the multiple levels of Aboriginal connections to land allowed individuals in Aboriginal society to survive perhaps four to five times longer than those of non-Australian Aboriginal farming societies that emerged from the Neolithic revolution in the Fertile Crescent about 10,000 BP. Likewise, such habitation occurred in North America 14,000 to 16,000 years ago and 40,000 to 50,000 years ago in Western Europe and the British Isles (Bragg & Reser 2012).

Rose (1986: 7) suggests that

> In Aboriginal English, the word ‘Country’ is both a common noun and a proper noun. People talk about Country in the same way that they would talk about a person: they speak to Country, sing to Country, visit Country, worry about Country, grieve for Country and long for Country. People say that Country knows, hears, smells, takes notice, takes care, and feels sorry or happy. Country is a living entity with a yesterday, a today and tomorrow, with consciousness, action, and a will toward life. Because of this richness of meaning, Country is home and peace: nourishment for body, mind and spirit; and heart’s ease.

Flannery (1994:389) argues that “ecologically attuned” societies are the result of many thousands of years of experiencing and learning about a particular ecosystem, that ‘new’ cultures possessed by the great majority of the other ‘new’ cultures are clearly not attuned, and that it may take a very long time for them to adjust. Strehlow concludes (1971:549) that it often takes centuries of residence in a new country before writers and poets of a transplanted community come to look upon it as their own spiritual home and attach fresh traditions to the new place (Laudine 2009; Mathews 1999). Flannery (1994:389-390) believes that the problem of cultural maladaptation seems to be particularly acute in Australia “… and arises from the great gulf of culture and understanding that exists between Aborigines and other Australians” wherein “Australians have long struggled with the issue of national identity, yet they have done so without really trying to understand the nuts and bolts workings of their land. It is now clear I think, that any lasting notion of Australian nationhood must arise from an intimate understanding of Australian ecosystems”. Flannery (1994:402) also advocates the Aboriginal approach of utilizing “an extraordinarily wide array of resources, from insects to marine resources, plants and all kinds of vertebrate animals” and the use of fewer resources as the way forward.

The myth of the Australian Aboriginal as a ‘nomadic hunter-gatherer’ was established early despite many European settlers in *Australia Felix*, or the Western District of Victoria, recording permanent Aboriginal villages and the park-like or manicured environment of the Western District landscape. Stone house settlement at Mount Eccles/Lake Condah/Taerak aquaculture area in south-west Victoria, known as *Budj Bim* to the *Gunditjimara*, established more than 8,000 years ago and estimated to have been able to accommodate about 10,000 people (Bulith, 2002) were a larger concentration of houses and villages across south-eastern Australia (Gerritsen 2011; Memmott & Long 2002). While Aboriginal people did move from place to place, it was not nomadic or wandering (travelling aimlessly), as the *Oxford Dictionary* defines these terms. Rather, Aboriginal people did move but the movement was predictable, on a circuit established over tens of millennia and based on specific weather conditions. Aboriginal movement had much in common with Knowles’ (2006) three basic adaptive modes to the natural world: migration, transformation and metabolism. Migration of people follows the rhythm of nature and can occur within the house or landscape. Transformation includes the design of different houses for different climatic conditions and at the most personal level, the addition or removal of clothing. Similarly, Aboriginal people were only partly nomads, as
again defined by the *Oxford Dictionary*, as “a member of a people that travel from place to place to find pasture for its animals and has no permanent home”. Aboriginal people had in most cases, permanent homes that they lived in seasonally. They were in fact quite sustainable in their occupation of the landscape and had mastered ‘landscape planning’ and food cultivation to a level that successfully supplied communities and generations, informed by their curatorship of the environment in accordance with a set of well-established oral traditions or environmental management rules and guidelines.

Into this context can be brought the contemporary term ‘sustainability’. Sustainability theory and discourse draws its precedence from the 1987 Report of the Brundtland Commission entitled *Our Common Future* that defined sustainable development as “meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.”

Interestingly the core value of Aboriginal culture is that they are the transient occupiers of this landscape, undertaking various orally prescribed activities and actions to keep the landscape in a healthy condition, in anticipation of the return of their ancestors who will eventually return.

Thus Uncle Bryon Powell (2015: 16) of the Wadawurrung expresses this ‘law’, how the Wadawurrung people came to be, highlighting the link that Aboriginal people maintain with the land, sentient and non-sentient beings, and the cosmos as:

> [In the beginning]… Bunjil (Wedge-tailed Eagle) summoned six men to assist him in the creation of the land, the people and all living things and to pass on his teachings and knowledge to all men and women. The six men were: Djurt Djurt, the Nankeen Kestrel Thara, the Black-Shouldered Kite Dantun, the Blue Mountain Parrot Tadjeri, the Brush-tailed Phascogale; Turnun, the Feather-tailed Glider and, Yukope, the Great Parakeet. All were capable of mighty deeds in the name of Bunjil. After Bunjil made the country and all the living things in it, he taught the people how to use their tools and the rules of social behaviour.

The key point is the divestment of teachings for “people [about] how to use their tools and the rules of social behaviour”, and thus look after the landscape that they were, are and continue to be custodians for.

### 5. THE TIPPING POINT

Although the range of information about Australian ethnobotany is limited, what work has been done is a relatively deep assessment of how Australian Aboriginals used plants with Clarke and Latz being contemporary authorities on the topic but with a central and South Australian focus. Gott’s work is clearly the authority on Victorian Aboriginal ethnobotany with Ferrier focussing on a subset of Victoria and the only dedicated published source of material pertinent to Wathaurong ethnobotany. This plant knowledge and their uses will be invaluable for comparing and supplementing the findings that will be revealed from an investigation into the Louis Lane literature to ultimately derive a rounded view of Wathaurong ethnobotany.

Accordingly, a key tipping point linked to the Wathaurong and the Geelong landscape is the necessity to better understand, document and comprehend the ethnobotanical resources and legacy of this region so that it can be better integrated into our contemporary land management strategies and designs. To witness its further deterioration and loss is to cast aside 60,000 years of a tried and practiced environmental management regime, and a deeper finer grain of knowledge about the ethnobotanical properties of plants relevant to this region and *Country*.

To comprehend the depth of knowledge that maybe lost is to understand the many uses of the various parts of plants and think beyond a plant as having a singular use. The table below shows the common uses of plant parts often derived from one specimen.

<table>
<thead>
<tr>
<th>Plant Parts</th>
<th>fruits</th>
<th>seeds</th>
<th>stems</th>
<th>rhizomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>nuts</td>
<td>foliage</td>
<td>gums</td>
<td>roots</td>
<td></td>
</tr>
<tr>
<td>tubers</td>
<td>fungi</td>
<td>sap</td>
<td>galls</td>
<td></td>
</tr>
</tbody>
</table>
The preparation of these plant parts for use in everyday life goes beyond the regularly thought practice of food and medicinal applications. The table below illustrates the many ways in which plants were very much a part of everyday existence of the Wathaurong people.

### Plant Use

<table>
<thead>
<tr>
<th>Food</th>
<th>Ceremonial objects/Mythological</th>
<th>Weapons</th>
<th>Adornment/ornament/decoration</th>
<th>Tools</th>
<th>Firewood &amp; torches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicinal</td>
<td>Totems</td>
<td>In Song and Artwork</td>
<td>Fishing</td>
<td>Glues/adhesives</td>
<td>Insect repellent</td>
</tr>
<tr>
<td>Narcotics</td>
<td>Clothing</td>
<td>Implements</td>
<td>Poisonous/harmful</td>
<td>Water</td>
<td>Fibres for weaving baskets</td>
</tr>
<tr>
<td>Stimulants/tobacco</td>
<td>Shelter/Shade/wind breaks</td>
<td>Calendar plants</td>
<td>Water transportation</td>
<td>Plants used in capturing game</td>
<td>Children’s play &amp; learning aids</td>
</tr>
</tbody>
</table>

This paper does not suggest that these uses would be practical in the application of modern day living such as making a canoe for transportation, but maybe there is demand for natural insect repellent or the use of calendar plants in agriculture to pre-empt unseasonal fluctuations to avoid crops spoiling. Re-introducing native plants into the diet has been slowly gathering steam in different forums for the last 30 years as has natural healing remedies, but beyond this maybe there is no modern application for this knowledge. However should this then determine that this knowledge is not worth preserving? Maybe this knowledge only serves as a symbol of a former lifestyle that should be upheld as an exemplar of successful existence that can be sustained over thousands of generations.

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