



JOURNAL OF

Music

RESEARCH ONLINE

A JOURNAL OF MUSICAUSTRALIA

'Didjeri-dus' and 'Didjeri-don'ts': Confronting Sustainability Issues

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Introduction

The sensitive, finder-maker [sic] will continue to be able to find and supply quality didgeridoos without detrimentally effecting [sic] the environment for as long as I can imagine ... ([Heartland Didgeridoos 2013a](#)).

This article builds on the work of American ecomusicologist Aaron S. Allen ([2012: 314](#)), who discerns that 'it is a coming together of ecological and cultural factors that creates the value of tree-derived instruments', and, moreover, that 'Recognising the historical web of valuation and the attendant elements of possible exploitation or sustainability can shape our understanding and inform our management of both nature and musical cultures'. Allen ([2013: 420](#)) reflects on how 'music creation, production, and consumption in the United States reflect the worldwide concern with environmental issues and climate change, yet at the same time, they have global impacts'.

As the title of this article suggests, a 'didjeri-du' (spelling favoured by the academy) represents a genuine termite-hollowed *Eucalyptus* drone pipe, as opposed to a 'didjeri-don't' or poorly functioning musical instrument that is classifiable as 'ersatz', i.e. imitation¹. A number of different names for the 'didgeridoo' (alternative spelling popularised by the industry) have been used by traditional cultures across the northernmost section of the Northern Territory (NT) known as the 'Top End'. Over the past two decades, the indigenous term most widely in use has been the Yolngu (Yolngu) word *yidaki* (*yirdaki*), this owing to a number of factors including the use of this term by the internationally successful Yolngu rock band, Yothu Yindi, and by the internationally renowned Yolngu clan elder, virtuoso performer and instrument maker, Djälü Gurruwiwi.

Didjeridus sold in Australia are, by and large, made of wood. Contrary to Heartland Didgeridoos' claim above, the instrument's sound and agency remains dependent on sustainable forestry (the growth and sourcing of eucalypt wood) and sustainable techniques of manufacture in a country in which the maladaptation of settlers to the land has been a recurring theme (see, e.g., [Markus 2009](#)). Internet sites have been a means for observing the development of global fascination with the didjeridu ([Garde](#)



[2000: 344](#)), with Spirit Gallery having estimated that there are tens of thousands of didjeridu players globally ([Spirit Gallery 2013](#)). As Whitehead et al. point out:

The history of the didjeridu industry presents a particularly compelling example of the difficulties faced by Aboriginal entrepreneurs and craftsmen in protecting and servicing a market that grows rapidly ... This situation reduces incentives for young people to develop skills and knowledge and so may damage culture ([Whitehead et al. 2006: 33](#)).

Aside from the exploitation of Aboriginal culture for non-Aboriginal economic gain, Forner ([2004: 70](#)) has predicted that the full scale of the exploitation of timber resources by the didjeridu industry will not be revealed for many years to come.

Goals, Scope and Theoretical Framework

In this article I take a critical interest in the ecomusicology of the didjeridu's sourcing and construction; its measure of demand and sustainability; the effectiveness of didjeridu licensing operating in my home state of Western Australia (WA) in view of developments in the NT; and some new ways of making and playing the instrument that feature the inventions of Western Australian musician Mark Cain. Accordingly, I also ask: could the didjeridu — as a symbol of 'dos' and 'don'ts' — become a vital emblem for the conservation of natural ecosystems?

Clark ([1990: 5](#)) stressed that 'to manage ecosystems, we need to know the limits of reversible variation and, if possible, the thresholds for irreversible change, and the likely agents of change'. The resilience of a social-ecological system is, therefore, its capacity to absorb threshold disturbance while undergoing change. Its loss may lead to a regime shift or fundamental change between key variables in an ecosystem, with Kinzig et al. ([2006](#)) proposing that the greater the number of thresholds crossed, the more likely one or more crossings will be effectively irreversible. For a didjeridu tradition that has already suffered considerable levels of stress, this raises another question: what alternative materials could match the timber didjeridu iconically and sonically?

One cannot engage with this issue in 2015 without factoring another complicating issue into the equation, namely that didjeridu music, along with other cultural instrumental traditions, is inevitably intertwined in the same context as global warming. Allen notes how music traditions interact in complex ways with the climate crisis. In some cases, they may contribute to promoting awareness through song lyrics, or they may encourage the conservation or sustainable development of a natural resource, as with musicians' fundraising ([Allen 2013: 420](#)). In other cases, music traditions may cause environmental destruction or result in destructive behaviours, as with touring or concerts (see [Pedelty 2012](#)).

In 2012, Australia's Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Australian Government Bureau of Meteorology jointly published lists of many sources of evidence that global warming continues. Arguably the current and predicted physical changes to Australia's eucalypt populations bear on didjeridu music's complex relationship to the global ecology. Post ([2009](#)) comments on the recapturing of the term 'sustainability', in the context of ecology and music, as a paradigm for musical stewardship, claiming that:

Ethnomusicologists have all but ignored how the products of the land and their relationship to larger ecological issues may be directly connected to musical changes we face today.

Yet, in recent times, unprecedented environmental disasters have propelled mankind to develop art that displays planetary awareness. Feisst's ([2012](#)) article 'Hello! The Earth is Speaking' resonates strangely with Echo Tree's website ([Echo Tree n.d.a](#)) by-line that 'If the earth had a voice it would be the sound of a Didgeridoo'. In a similar vein, renowned didjeridu artisan Bruce Rogers ([2004: 46](#)) of Melbourne writes:

When I started playing didgeridoo back in 1985 it was the pure sound that mesmerized me; the beautiful, subtle, hypnotic, complex sound. It reached out and encompassed me, and it still does.



In New Age and post-New Age contexts, the didgeridu has been linked to ecology by virtue of its perceived ability to tune in to the spirit of a place ([Sherwood 1997: 144](#)), most notably to nature ([Sheriff 2013](#)). Subjective descriptors of the instrument collected by Ryan ([1995: 188](#)) variously include ‘the voice of the land’, ‘the voice of the universe’, ‘the voice of peace’, ‘the sound of Mother Earth’ (e.g. [M. Yunupingu 1997: viii](#)), even ‘the mother of all instruments’. Taken together, these promote the instrument’s ability to transport listeners through specific ecologies across place, space, and time. In a sense, all music could be regarded as ecological because we cannot make any kind of music without sensing its resonance in an environment ([Rothenberg 2001: 4](#)). Given that every eucalyptus didgeridoo ‘costs a stalk’, industry worker Wes Pryor ([2001](#)) is convinced that instrument makers and players underestimate the environmental consequences of their passion, and says:

Relative to other instruments, the didgeridoo is potentially an ecologically sound musical instrument in that its harvest and manufacture use very few natural resources. However, the specificity of timbers means that a very unique ecosystem is required for didgeridoos.

Didgeridu Ecology and Musicology

Historically, didgeridus were dispersed across the northern third of Australia demarcated by Moyle’s ([1981](#)) Broome-Ingham Line. This zone above the Tropic of Capricorn hosts millions of termite² nests in savanna woodlands and open forests dominated by the widespread associated eucalypts Darwin Stringybark (*Eucalyptus tetradonta*) and Darwin Woollybutt (*Eucalyptus miniata*). On examining the abundance of hollows in these extensive *E. miniata* — *E. tetradonta* woodlands and forests, Woinarski and Westaway ([2008](#)) found that variation in the abundance of tree hollows is substantially perturbed by cyclones and also reduced by frequent fire. The total density of hollow trees, and hollows, is nevertheless greater in tropical eucalypt forests than is typical of forests in temperate Australia³.

Pioneering didgeridu musicologist Trevor Jones ([1973: 271](#)) suggested that the instrument was capable of supplying all the non-vocal requirements of traditional musical culture in northern Australia, since it functioned as a drone instrument of definite pitch, as a colouristic instrument of widely varying timbres, and, most importantly, as a rhythm instrument. In reality, it is idiophones that fulfil an omnipresent role for establishing a precise beat in all traditional music, related to their use as implements.

In Arnhem Land clapsticks (paired rhythm sticks, *bilma*) made from hardwoods such as mulga, ironwood and hibiscus are used in didgeridu-accompanied genres, most of which are public⁴. The didgeridu accompanies singing and dancing in these open ceremonies, and is also played recreationally and for entertainment purposes. Jones ([1980: 461](#)) observed that some very large versions of the instrument were used in closed (secret) ceremonies. The continuation of this tradition has contributed to a perception that the didgeridu is an esoteric ethnographic artefact⁵.

From Arnhem Land, the instrument spread to nearby Borroloola and the Gulf of Carpentaria, further afield to the Kimberley district of WA and, more recently, to Cape York Peninsula. By the early 1970s, the didgeridu was widely played throughout the continent where, in the local revival of Aboriginal culture, it became a symbol of Aboriginality ([Marett 1998: 394](#)). It was used in popular media to represent all mainland Aboriginal peoples or cultures ([Linden Jones 2012: 75](#)), albeit mistakenly. The didgeridu crossed into and affected the international music scene via the exposure of travelling Aboriginal performers and the likes of Rolf Harris, Charlie McMahon, Alistair Black, and Willi Grimm ([Ryan 2005](#)).

For the best part of a decade, beginning in 1993, Karl Neuenfeldt ([1997](#)) forecast the uncontrollable global appropriation of the didgeridu as he documented the signifiers of a burgeoning ‘didgeridu revolution’. Amongst Neuenfeldt’s numerous publications, the edited collection *The Didgeridu: from Arnhem Land to Internet* furnished a landmark study of the instrument from a range of musical, cultural and sociological viewpoints that are foundational to the current study. Importantly, the voices of accomplished Australian didgeriduists distinguish the anthology’s analysis of traditional and contemporary practice and its diffusion.

Increased fervour resulting from the instrument’s leitmotif at the Sydney 2000 Olympic Games ([Fig. 1](#)) and its representation by different parties, for quite different purposes, led me, in 2005, to divide its positioning in the global imagination into contested camps or symbolic



Figure 1. Didjeridus for sale at Northern Territory and Outback Centre, Darling Harbour during the Sydney 2000 Olympics. Image by the Author, 29 September 2000.



schools of thought which invest fixated meaning in cultural, musical and spiritual realms. Although members of these three distinct, parallel camps and their discourses push the didgeridu in different directions, they continue to feed each other's fanaticisms via the common denominator of the Internet and their mutual attendance at international Didjefests⁶. Linden Jones (2012: 75) places particular emphasis on the 'aura' laid down through the instrument's bed of ambient sound. This aura facilitates a charismatic sharing of human social elements together with environmental connections and viewpoints. On the Heartland Didgeridoos website, industry worker Munga Sheriff (2013) earnestly claims that

Through this ancient log of sound I've seen people from all over the world laughing happily together just by blowing into it. It's such a good vibe. And it reconnects us with the earth. These are some of my thoughts and ideals. I strive to make the best didjs I can but cause the least damage I can.

Didjeridu Devotee Groupings

Cultural Purists

In advocating adherence to the authentic classical style of didjeridu playing, there is a tendency for cultural purists to revere north-east Arnhem Land as the traditional heartland of *yidaki*; the Yolngu people as its inventors; and Yirrkala as its Mecca, notwithstanding a wide public performance berth established by the didjeridu throughout the Top End. Musical groups from western Arnhem Land and the Daly region also regard the instrument as theirs, and the Yolngu too acknowledge that other groups have cultural ownership of the instrument⁷.

Cultural sustainability researcher Aaron Corn has noted the role of the Garma Cultural Studies Institute and the annual Garma Festival in featuring the *Yidakimi* (didjeriduist) Djälu Gurruwiwi (Gälpu clan, born c. 1937). At the inaugural festival held in 1999, enthusiasts paid significant sums to receive instruction from Gurruwiwi, who stated, idealistically, that no price can be placed on *yidaki* or the spiritual



covenant with ancestors that they represent ([Corn 1999: 2–3](#)).⁸ Another researcher, Guan Lim, established the web presence Djalui.com for Gurruwiwi ([2003](#)). This site provides a central point for information concerning Gurruwiwi's instruments and activities such that his highly resonant *yidaki* currently fetch around \$2,000 each at The Rocks outlet in Sydney.

Musical Purists

In adhering to the philosophy of 'art for art's sake' in their preoccupation with virtuosic playing on musically superior didgeridus, musical purists have embraced a wide range of techniques and rhythmic structures ranging from slow meditative drones to fast percussive dance rhythms. Charlie McMahon, of Sydney, is one of the world's most technically accomplished didgeriduists ([Homan 1997: 128](#)) and Bruce Rogers ([2012](#)), of Melbourne, has worked full-time since 1994 crafting didgeridus with 'clear harmonic tunings'. Indigenous performers have made significant contributions to musical purism. For example, William Barton (a Brisbane-based didgeridu virtuoso and Kalkadunga descendant) has standardised the didgeridu as an orchestral instrument by demonstrating how composers can work around it in specific keys. Overseas, Germany's contemporary purist didgeridu camp has been replicated in Austria, Holland and Switzerland ([Ryan 2005](#)).

New Age Spiritualists

New Age adherents have appropriated the didgeridu to advance cosmologies of consciousness and meditation, there being no single New Age discourse. Neuenfeldt ([1998: 74](#)) documented the conflation of Aboriginal culture with other non-Western cultures, with Kibby ([2000](#)) updating these exotic appropriations. The didgeridu played a role in transforming the hippy nirvana of Byron Bay in northern New South Wales (NSW) into Australia's premier hub for New Age faddists who have marketed it as an integral component of their mind-body-soul remedies. Playing promotes relaxation, with 'sonic massage' and 'didgeridu resonance therapy' being integral to the language of 'didj-speak'. More recently, the portrayal of the instrument as a tool for healing has become the subject of scientific scrutiny⁹.

At the turn of the century Murray Garde ([2000: 344–5](#)) contended that contemporaneous outworkings of the fad were centred mainly in the USA, and that it was a dearth of commercially available tribal recordings that had contributed to the didgeridu being taken out of its original context as an instrument of song accompaniment and raised to the status of the sacred OM (sound of oneness) in New Age belief. Lim ([2003a](#)) wisely cautioned that the new and benignly motivated non-Aboriginal gurus of the didgeridoo might begin to act as de facto voices for Indigenous Australians.

Forest Stewards

A lot of timber in the form of didgeridus leaves the nation each year. The export frenzy sparked by the instrument's crossover into Western music has demonstrated how a musical culture may contribute to the destruction of the ecosystems on which it depends. This article therefore highlights a fourth contesting camp of 'didgeridu stewards' who promote an ethical stance towards Indigenous people, culture and land; and environmental sustainability through research, proactive internet sites, and responsible manufacture and trade. The movement's founder, NT environmental scientist Josh Forner, has advanced knowledge of the ecological, social and environmental aspects of the didgeridu industry. The following section lends support to Forner's ([2004: 71](#)) contention that 'Australian federal and state authorities should be working towards bringing a level of public accountability via best practice guidelines and reporting mechanisms'.

Typology of Didgeridu Harvesting and Manufacture

Customary, Traditional and Selective Harvesting

Aboriginal culture depends on knowledge of, and respect for, the land and the ability to understand the interdependence between humankind and the environment. Adrian Parker ([2003: 17](#)) describes how, in northern Australia, didgeridus are mostly made throughout the first half of the dry season (April–September) when savanna woodlands are accessible and timber is relatively easy to cut following the end of monsoonal rains. In accordance with their traditional ethic, indigenous men do not strain timber stocks: they axe only a small number of stems from a single location. They meticulously remove small termite-hollowed trees that are likely to die before reaching maturity (e.g., [Werner, Prior and Forner 2008](#)), and do not cut them too close to the ground. Steven Knopoff ([2001](#)) provides a concise summary of how wooden tubes with roughly conical bores are fashioned in Arnhem Land:



After first removing an appropriate sized portion of the tree's trunk or branch, the bark is peeled off. The outer layers of wood are cut away in order to render a desirably light sound. A knife is used to smooth out the inner surface of the blowing end. In some areas it is common to apply beeswax to the blowing end, both for comfort and to create a better seal. Decorative painting of the instrument (either in solid colours or in totemic-based designs) is an essential finishing touch for instruments intended for sale to outsiders, but instruments used in traditional performance are frequently unadorned¹⁰.

Although native bamboo (e.g., *Bambusa arnhemica*) is cited as the original material used for making didgeridus (Moyle 1981; Parker 2003: 8)¹¹, renewable musical store in the ecological web of 'country' has long been illustrated by the sustainable practice of sourcing the didgeridus, *yidaki* (in north-east Arnhem Land) and *yigi yigi* (in northern Queensland), from the trunks and branches of northern Australian *Eucalyptus*¹². The species usually deemed most apt for sonic life is the Darwin Stringybark (*E. tetradonta*). Joint Venture Agroforestry Program research indicates that, due to an absence of cultural objection, stringybark may be harvested from a wide range of environments. However, the harvest of Darwin Woollybutt (*E. miniata*) requires careful management because, in some areas, stems of didgeridu dimensions are critical to the dynamics of forests (Whitehead et al. 2006: 73).

Didgeridus are not left out in the sun in case they dry out, dry wood being associated with cracks and a generally less-resonant sound. The late Mayali elder and *mago* (*mako*) player, David Blanas (1994) provided the following explanation:

Before a performance we fill our instruments with water, shake them, and wrap them up to keep moisture in. We might also place a new instrument under mud in a billabong¹³ to allow greater moisture uptake to improve sound, and to fill small cracks by the expansion of moist wood.

Mayali men craft *mago* from the hard, durable Yellow Box (*E. Phoenicea*) tree known to local tribespeople as Scarlet Gum. This species is not listed as threatened (Whitehead et al. 2006: 73); in fact, Forner (1999) found that the tree's multiple stems and high rates of piping increase its crop potential.

Forner predicted that sites over-cut by commercial harvesters would suffer ecological change detrimental to wildlife and other values. On Jawoyn lands near Katherine, 320 km south-east of Darwin, he found substantial illegal harvesting of stems, including tracts of land where trees were virtually limbless, some having been felled one foot from the ground (Forner in Thorburn 2001: 1). Forner (in Whitehead et al. 2006: 184) feared that the commercial imperative to take advantage of a presently strong market, especially by those with no particular connection or obligation for the integrity of the product or land, might be leading to an over-exploitation of the resource. Based on Forner's research, Whitehead et al. (2006: 32) remarked that:

if existing patterns of less discriminating commercial cutting are maintained, then usage of *E. phoenicea* in the Katherine region is probably unsustainable.

Non-customary, Commercial, and Indiscriminate Harvesting

From at least the early 1990s, harvesters had begun to clear-fell the bush regardless of whether trees were termite-hollowed. As demand outstripped supply, the axe gave way to the chainsaw and four-wheel drive vehicles equipped with trailers and all-terrain vehicles (small four-wheeled motorcycles) allowed one person to harvest up to 80 stems a day (Hancock 2003: 19). Helicopters were also used to locate and transport large quantities of wood (Thorburn 2001: 1). Harvesters bored out centres of stems with electrical equipment, and removed trees with the high growth and survival rates that contribute to sustainable tree populations (after Werner, Prior and Forner 2008).

The unprecedented explosion in commodification raised serious questions about the ethics and sustainability of the didgeridu industry. Lim (2003a) claimed that the vast majority of Australian (and overseas) retailers were using false labelling and advertising, an offence under the Trade Practices Act (1974):

Labels on didgeridoos produced for the tourist trade – and these represent the largest slice of the didgeridoo commerce pie – commonly display a combination of the words 'Australian', 'Aboriginal', and 'authentic'. In reality, these didgeridoos have never been touched



(let alone made and painted) by an Australian Aboriginal person. That a large portion of these didgeridoos is manufactured overseas attests to the high farce that the industry is rapidly spiraling towards.

Although solid statistics are understandably hard to come by, Lim estimated that all of Australia's major population centres and tourist destinations had been targeted, as well as many overseas capital cities. Sometimes many cutters were exhausting a particular area, at other times particular rogue cutters were operating. Illegal harvesting or poaching of bloodwood, woollybutt and stringybark was commonplace in Darwin, Katherine and Far North Queensland. The mallee country of Kalgoorlie, WA, northern Victoria and some parts of NSW were also being affected ([Lim 2003a](#)).

An edited report by Taylor ([2002](#)) looked at the impact of timber harvesting on environmental, economic and social values as well as those related to the sustainability of wood production. Forner reported that the commercial didjeridu industry had expanded to such a scale that businesses had been segmented into harvest, fabrication, painting and artwork to ensure that the maximum number of didjeridus was produced at a minimum cost. 'Blanks' (unfinished didjeridus usually made of inferior materials) were being painted by both Aboriginal and non-Aboriginal artists, sometimes via production line methods such as stencilling ([Forner 2004: 68–9](#)). McMahon ([2004: 23](#)) insisted that tool-hollowed didjeridus sold as souvenirs are impossible to play due to their inadequate shape, short length, and narrow bore. On assessing this oversupply of ersatz didjeridus ['didjeri-don'ts'], Forner et.al. (in [Whitehead et al. 2006: 184](#)) concluded that:

It is unclear whether these inferior products damage markets for genuine items or perhaps enhance the status of authenticated items by providing clear differentiation on the marketplace.

The advent of musically competitive instruments made of alternative materials is a topic of increasing interest to ecomusicologists in addressing environmental threats posed by mass harvesting of traditional materials. Current threats to the availability of traditional materials for didjeridu manufacture are similar to the threats that have faced other instruments; for example, the replacement of ivory with plastic for white piano keys. Allen ([2012](#)) connects the overharvesting of hardwoods on a local level to globalised music practices, using the violin as both metaphor and material link for understanding music's complex relationship to global ecologies¹⁴. And, just as violin supply is determined in part by the musical tones demanded by aficionados, virtuosos, and luthiers, connoisseurs adhering to the international didjeridu cluster of 'musical purists' now exhibit sophistication and discernment regarding the integrity and subtlety of an instrument's tone value.

Non-Aboriginal Ethical Instrument Manufacture

Bruce Rogers represents an alternative school of non-Aboriginal didjeridu makers. In promoting the didjeridu as an instrument for all ages, cultures and people, he sees it as an important traditional instrument, having many diverse roles in Aboriginal culture and a separate role in contemporary Australian music and world music ([Rogers 2012](#)). Rogers sources northern Australian stringybark and bloodwood saplings to produce aesthetically appealing instruments. Their trademark is a 'satin' finish, i.e. a natural varnish that enhances the unique timber grain of every individual didjeridu.

Rogers 'hones the inside of a didjeridu to a critical thickness at which its resonance can lift and start to sing with warm, ringing timbres' ([Rogers 2003](#)). This is in accordance with theoretical physicist Lloyd Hollenberg's observation that the real art to making a good didjeridu rests with the thinning of the instrument's edges:

The thinning of the walls affects the timbre of the sound. The length of the instrument determines the primary pitch of the note. All of the higher pitched sounds present in didjeridu playing originate from the acoustics of the vocal tract ([Kingsley 2002](#)).

The vast bulk of instruments are cut green, i.e. made from lopped Eucalyptus saplings specifically felled for didjeridu making. Although it is rare for them to be specifically searched out and found as dead trees or branches, freshly fallen trees, if adequately hollowed out by termites, can (and arguably should) be opportunistically utilised in the interests of sustainability. In a web article entitled 'Environmentally sensitive didging', Sheriff ([2013](#)) describes how he made his first instruments from old dead branches that he found lying on a Queensland forest floor:



I set about being the greenest didj maker I could in respect to Mother Nature, by only cutting dead timber and recycling off bulldozed piles etc, before they are burnt into the atmosphere ... By recycling, life will improve - restoring the old to make new ... I have always loved the big dead grand daddy trees in the forest, home to so much life ... they are as important to the forest as the live trees are, as part of the whole ecosystem. By only selectively cutting dead wood there is minimal damage, whereas live trees are not only food and shelter for a myriad [sic] of life, but also create oxygen and are part of the seedbank ... I like to see the green leaves on the branches of the trees because we are not replanting what is going missing ... Some varieties sprout back, nature is strong, but others die.

Didjeridu Licensing in the Northern Territory

The laws that protect vegetation from damage and clearance across states and territories in Australia vary considerably from state to state. What they have in common is that as acts of parliament (and regulations) they are promulgated by state and territory parliaments, and where they do exist, they rely heavily on local government to administer them ([Lensink 2012: 1](#))¹⁵.

The monitoring of didjeridu harvests was launched in the NT in 1993 to deter unethical and unsustainable practices. From 2000, collectors taking native plant products for commerce were required to do so under permit ([Northern Territory of Australia Territory Parks and Wildlife Conservation Act 2000, Sections 55–57](#)). If property in that wildlife was vested in the Territory, they were also bound to pay royalties (Section 116), including a generic royalty of \$1 per 'stick' (of any species) taken for didjeridu ([Forner et al. 2006: 177](#)).

Forner (in [Quagliotto 2001](#)) suggested that this paper permit system was being seriously abused. Two years later, Hancock reported that the NT government wanted to start a tagging system to indicate authenticity and legality, much like the one in the crocodile skin industry. He cited indigenous art authority Chips Mackinolty's estimation that 'about 50,000 didgeridus were being sold from the NT each year', with many areas by the Stuart Highway and popular camping spots being denuded of small eucalypts. Commercial harvesters were reportedly operating on Aboriginal land in secret, paying a token royalty, or supplying alcohol to traditional landowners for permission to cut trees ([Hancock 2003: 19](#)). Accordingly, Forner ([2007](#)) proposed an economically viable model for a remote community-based didjeridu industry to improve their environmental, cultural, and social conditions.

The *Territory Parks and Wildlife Conservation Act 2011* allows tree harvesting to be carried out on private property only, given landowner approval, but the author's annual telephone enquiries to the NT Parks and Wildlife Service Permits Office confirm that the tagging system recommended by Forner has not yet been adopted. In 2015, less than a handful of (presumably full-time) harvesters are being issued with permits to work on privately owned land, an occupation necessitating good relations with station owners. Harvesters still fill in a quarterly return sheet, the generic royalty having been increased to \$1.15 per stick on 4 March 2013 for any species taken for didjeridu ([McLennan 2012, 2013, 2014, 2015](#)). Since the NT Parks and Wildlife Service Permits Office has no jurisdiction over Crown Land harvesting activities, it remains crucial for data from Forner's work to be integrated with other information to produce a more satisfactory framework for managing didjeridu harvests in the Top End.

Didjeri-dus and -don'ts in Western Australia

Licensing Regulations

Any plant that is native to Western Australia is protected under the State's primary wildlife conservation legislation, the *Wildlife Conservation Act 1950*. Amongst other things, the WA Flora Industry includes '*Eucalyptus* species stems for production of didgeridoos'. Page 6 of the [Australian Government Department of the Environment June 2013 Report](#) states that 'There is no data available on the value of these industries', but 'anecdotal evidence suggests that it is worth millions of dollars to the State's economy'. Further, 'Wildlife Officers monitor picker activity, as well as the status and condition of commercially harvested taxa, in the course of their fieldwork' ([Australian Government Department of the Environment June 2013: 43](#)). A database management system, containing records of flora returns submitted by licensees, is maintained. Licensees receive a renewal notice if they have complied with the requirement to submit flora returns, but, where the requirement has not been met, they are notified that their license will not be renewed unless the returns are submitted.



The Department of Environment and Conservation (DEC) was formed on 1 July 2006 and dissolved on 30 June 2013 when it became two departments: the Government of Western Australia Department of Parks and Wildlife (DPaW) and the Department of Environment Regulation (DER), the former now assuming responsibility for the State's didgeridu management plan. DEC's websites were decommissioned on 17 October 2014. However, applicants still obtain 'Three Monthly Return of Protected Flora for Eucalypt Mallee Stems Harvested for Didgeridoo Purposes Only' forms and submit four for the year of the licence to the DPaW. A 'Grid Locality Map for Western Australia' is included on the form to enable harvesters to identify the area from which the flora has been taken. They are also required to include the name and address of the company or person who purchased the flora unless the purchaser was an individual buyer.

In the arid Western Australian climate, many eucalypts adopt a mallee (multi-stemmed) growth form that is vulnerable to termites (the means for didgeridu hollowing), and capable of sprouting new stems following cutting¹⁶. The Department lists certain conditions that must be adhered to for 'sustainable didgeridoo harvesting'. Stems that are completely hollow may be harvested from private property with written permission from landowners, plus a Commercial Producers (PN) License. Stems may also be removed from Crown Land in the Goldfields¹⁷ and a small area in the Mid West Region with a Commercial Purposes (CP) License¹⁸.

According to the DPaW, these legal cutting areas contain 'suitable sites for Didgeridoo harvesting which will not cause irreparable damage to the species or the landscape within the cutting sites' ([Government of Western Australia Department of Parks and Wildlife 2013: Flora Licensing Information Sheet. Didgeridoos 2013](#)). A 'Didgeridoo Endorsement' listing local conditions that must be adhered to when taking the stems must be obtained from the relevant district or regional office. Didgeridu dealers, retailers and wholesalers are not required to hold a licence in WA unless they are also involved in taking the stems for sale. However, since it is an offence to sell any protected flora that is not legally removed, traders must ensure their stocks are obtained from licensed sources. Any person trading in protected flora must keep a written record of the type and quantity of flora they purchase, the date of the purchase, and the name and address of the supplier. These records must be retained for at least twelve months and shown to a Wildlife Officer on demand.

Harvesters select various mallee species¹⁹ depending on their personal preferences and the species' location. For example, Elliot Welsford (2012) sources mallee instruments 'east of Perth'. He cuts stems well above ground level so that trees can regenerate, and crafts didgeridus using old school tools. Welsford's understanding is that licenses had to be introduced to deter unscrupulous cutters from removing coveted Western Australian Sandalwood (*Santalum spicatum*) and hiding it amongst their didgeridu stems²⁰.

Marketing and Tagging

As is common in other major Australian cities, didgeridus in Perth are marketed at Aboriginal art galleries, airport souvenir shops, city retailers, and weekend market stalls. The labelling and representation of didgeridus is also typical. The Creative Native Aboriginal Art Gallery and Emporium established in 1987 is centrally located in Forrest Place, where it offers a range of hand-painted, termite-hollowed didgeridoos. Another firm, Prodidjas Didgeridus, has collected termite-hollowed instruments from mulga, wandu, bloodwood, mallee and woollybutt since 1998 ([Prodidjas Didgeridus 1998](#)).

The Creative Native marketing ploy 'you don't choose the didgeridoo, the didgeridoo chooses you' ([Creative Native Aboriginal Art Gallery and Emporium 2014](#)) appropriates a characteristic pet shop marketing jingle, 'You don't choose the dog, the dog chooses you'. This trite example is symptomatic of the trivialisation of Aboriginal values and practices by global market forces in what Lim (2003a) describes as an assemblage of associations that (mis)informs the tourist consumer:

The purchase of a didgeridoo by this sector serves as a souvenir, a memento of Australia and its original peoples. Yet the didgeridoo is neither pan-Australian nor pan-Aboriginal. It is not endemic to all parts of Australia ... and only a small number of Aboriginal tribal groups claim it as part of their continuing living cultural heritage.

A royalty tagging system introduced in WA at the end of 2000 was designed to curtail instances of illegal harvesting. Interestingly, in a letter to The Famous Didgeridu Mailing List, Vince Dooley (2001) initially suggested that:



it wouldn't take a genius to work out how to get around it ... illegal cutting is difficult to monitor and control because most of it is done in remote areas and the courts are very lenient ... From Perth the cutters have to travel about 600km to cut legally ... a 1200km roundtrip ... Changing laws won't change much. Effective monitoring could but it probably isn't practical. Education will. However, that is a slow process that takes place over several generations.

In 2003, the European Network for Indigenous Australian Rights (ENIAR) republished a report from the *Sunday Herald* claiming that 'In Western Australia around 2,500 branches are cut each year from mallee trees' ([ENIAR 2003: Website](#)).

Tags with an associated royalty of \$2.00 each are payable upon obtaining a Didgeridoo Endorsement and must be affixed to, and remain on the base of newly cut didgeridus even at the point of sale ([Government of Western Australia Department of Parks and Wildlife 2013: Flora Licensing Information Sheet. Didgeridoos 2013](#)). [Figure 2](#) illustrates tags used at Fremantle's Didgeridoo Breath store. Didgeridoo Breath is a dynamic hub for enthusiasts in the Perth region. Store owner 'Sanshi' (Yoshitaka Saegusa) and his 'crew' have reportedly taught 'thousands of hours of lessons to thousands of people during one-on-one Didgeridoo lessons, four-week courses, workshops, conferences, functions, and events' ([Didgeridoo Breath n.d.a](#))²¹. In accordance with online advertising of 'the largest range of didgeridoos on the planet, hand crafted from 100% Australian Eucalyptus', all of their on-site wooden instruments are derived from termite-eaten trees. However, many are simply tagged 'Eucalyptus' or 'Mallee' on account of the confusingly vast number of eucalypt species²². The staff also liaises with the local Wajuk-Nyoongar people, who produce didgeridus known as Boorn Waarning.

True Blue Gallery, a nearby outlet for Aboriginal art, souvenirs and photography based at the Fremantle Markets, were advertising 'over 250 didgeridoos for sale' online in 2014 ([True Blue Gallery 2009](#)). A number of 'hardwood didgeridoos' displayed within the store are reportedly made by Aboriginal workers on a farm in NSW (location undisclosed), and decorated by indigenous Western Australian artists. The affordably priced instruments are made in three standard sizes ('60cm ideally for children, 1m for intermediate, and 1.3mt full size') ([True Blue Gallery 2015a](#)).

A short, light souvenir brand observed by the author at True Blue Gallery's former premises in High Street, Fremantle in 2013 appeared to have been drilled. In 2015, 30 cm 'boxed didgeridoos' are marketed 'to be played but ideally suited as a souvenir' ([True Blue Gallery 2015b](#)). An even smaller type of trinket, the 'mini-didge', is designed to fit into a handbag.

Heartland Didgeridoos ([2013b](#)) suggests that the undervaluing of didgeridus is creating a negative spiral in which general pricing is no longer reflective of the value of a quality hollowed and crafted didgeridu. This puts pressure on the didgeridu maker to increase production to make a living. Heartland Didgeridoos ([2013c](#)) therefore recommends that:

The finder-maker needs to stick to his sense of worth in pricing and selling the didgeridoos. The marketer seller needs to not bargain down the maker and place a healthy price on the product and not try to undercut others in desperation for a sale. And the buyer needs to look for respectful operators and not be drawn by price and so be willing to pay an appropriate price.

The Online Ethical Indications System

The predominance of kitsch didgeridus in the global tourist market motivated Guan Lim to create the online cultural hub iDIDJ Australia in 2003 and he adopted the role of 'principal officer'. Estimating that less than 0.01% of didgeridus sold around the world could be said to be authentic, Lim's mission was to encourage a new relationship between global consumer culture and the Aboriginal custodians of the instrument in northern Australia through a combination of advocacy, promotion, education, and ethical trade. Lim ([2003b](#)) nevertheless acknowledged the place of lawful and ethical non-indigenous producers worldwide.

Lim's Cultural Indications (CI) index differentiates didgeridus on the basis of origins and cultural integrity to discourage consumers from spending their 'didgeridoo dollars' on manufactured or mass-produced instruments. It categorises a 'high cultural integrity instrument 100% made [and decorated] by a traditional custodian of the instrument'²³ from termite-hollowed eucalyptus and other naturally



Figure 2. Tags used at Didgeridoo Breath, Fremantle, WA. Image by Katharine Woodhams, 18 August 2015. Reproduced courtesy Tim O'Farrell and Yoshitaka Saegusa.



occurring materials that were traditionally used for didgeridoo construction' as a CI 4 product. The variety of inauthentic instruments are categorised on a scale ranging from CI 0 to CI 3. For example, CI 0 includes 'All other didgeridoos ... made from a diversity of materials and methods in Australia and overseas', with a disclaimer that good quality product and ethical instrument makers can be found in these categories (Lim 2003c).

Bruce Rogers (2004: 52) has practised and promoted a method of forest farming that 'allows the didgeridu industry to be sustainable indefinitely', notwithstanding the fact that drivers other than poachers are compromising the ecosystems on which sound-bearing wood depends. These drivers include land clearing for mineral and energy development or road construction; feral herbivores and herbicide application; weeds; salinity and rising water tables; and the natural environmental changes that inhibit species from competing with others in new soil or weather conditions. The most pressing future issue for forests, however, is global warming.

Timber Didgeridus and Climate Change

In their article 'Climatic Range Sizes of *Eucalyptus* Species in Relation to Future Climate Change', Hughes, Cawsey and Westoby (1996: 23) predicted that:

within the next few decades many eucalypt species will have their entire present day populations exposed to temperatures and rainfalls under which no individuals currently exist... [and that] even if a moderate proportion of present day boundaries actually reflect thermal or rainfall tolerances, substantial changes in the tree flora of Australia may be expected.

According to the Australian Government Bureau of Meteorology, 2013 was Australia's warmest year on record, being 1.2°C above the 1961–1990 average of 21.8°C and 0.17°C above the previous warmest year in 2005 (Australian Government Bureau of Meteorology 2014)²⁴. The CSIRO has been a major contributor to the growing body of knowledge about climate change globally and in the Australian region for more than 50 years. Their most recent biennial State of the Climate Report (CSIRO 2014) holds that:



Australian temperatures are projected to continue to increase, with more hot days and fewer cool days. A further increase in the number of extreme fire-weather days is expected in southern and eastern Australia, with a longer fire season in these regions. Average rainfall in southern Australia is projected to decrease, with a likely increase in drought frequency and severity.

The Earth's CO₂ levels have historically been much higher than they are today and plants have survived through adaptation. However, it is the current rate of change that concerns Macquarie University scientists:

... this is a very fast train and our plants are directly in its path. Trees have long life cycles and while they might be part of the solution because of the scale of forests, they are also especially vulnerable to climate change ([Science Alert 2007](#))²⁵.

Research into the impacts of global warming on eucalypt populations indicates that '... while forests can absorb additional CO₂, there is a saturation point beyond which they will not act as sinks and start to emit CO₂ back into the atmosphere' ([Climate Action Network Australia n.d.](#)). Climate mapping conducted by Lesley Hughes (2003: 430) to predict potential distributions of individual species under current and future climates suggests that the distribution of most species will contract and (or) become increasingly fragmented. It is also significant to the didgeridu industry that heat- and drought-induced forest decline and dieback has recently emerged on a global scale ([Australian Broadcasting Corporation 2012](#)).

Lim is currently working on Geographic Information System (GIS) database and mapping systems for the 'didgeridoo tree species' of the Top End as well as elsewhere throughout Australia. Lim (2014) writes that:

The more pressing risk as far as ecosystem preservation is concerned is human-induced global warming and the effect this will have on changing vegetation distribution in Australia as well as termite species distribution.

Indeed, Beeby (2007) cautions that Australia's northern Aboriginal communities are on the front line of climate change, citing ecologist Stuart Blanch's prediction that its impact on northern Australia will be immense.

Alternative (non-timber) Didgeridu Materials

This new form of music science research encourages us to consider the effects that climate-induced forest depletion might have on the material use of didgeridus in the coming decades. The non-termite-hollowed didgeridu market helps to reduce pressure on Australian eucalypt forests, but begs the question: should the depletion of eucalyptus reach an irreversible tipping point, what alternative recyclable material could satisfactorily replace it? As Heartland Didgeridoos (2013a) suggests:

There are many ways of didging and places to didgeridoo that require more effort and creativity and [sic] only a passionate didger would consider.

Plastic Didgeridus

Charlie McMahon used fully synthetic polyvinyl chloride (PVC) plastic in 1981 to invent a sliding 'didgeribone' against which to tune other didgeridus. According to Homan (1997: 135), McMahon was seeking a 'representational alternative' for the didgeridu, which would avoid 'plundering its ritualistic forms'. McMahon found metals to be unsuitable as they corrode from breath moisture and sound cold. Wood pipes, on the other hand, tended to jam as wood absorbs moisture and the inner pipe expands more than the outer one. For the didgeribone's purpose, 'plastics had none of these problems' (McMahon 2012).

In WA, the non-conformist musician and creative instrument designer, Mark Cain²⁶ of Fremantle, captured the public imagination when he and Peter Keelan co-founded the group AC/PVC in 1987. The pair performed widely with plastic instruments until 1990. In the early 1990s, Cain invented the PVC 'didgeriloo' (Fig. 3) to 'avoid reproducing traditional methods of didgeridoo playing that are the domain of Aboriginal people' (Cain 2013d, 2013e).



Figure 3. Sirocco performs at Castletown Primary School, Esperance, WA in 2011. L–R: Peter Jacobs, Andrew Teliga, and Mark Cain (didgeriloo). Photo courtesy The Mark Cain Collection.



The didgeriloo materialised from an idea that Cain explored in AC/PCV when they had easy access to plumbing materials, courtesy of manufacturers²⁷. Cain came across two combinations of tubing which enabled the perfect slide didjeridu: one was orange electrical pipe, the other a 40mm white pressure pipe. His first instrument comprised two lengths of slightly varied diameter copper tubing, where one tube could slide inside the other. To make the mouthpiece a perfect internal fit, Cain made an insert using a cross section of PVC tubing:

The slide facility was ideal for shifting drone or pedal notes. At the end of the tubes I fitted a series of graduated plumbing fittings to connect with a much larger diameter plumbing connection (level end taper) that acts as an amplifier, much like the bell of a trumpet or trombone amplifies those instruments (Cain 2013e).

The concept of the ‘tridgeridoo’ (or ‘tridge’; Fig. 4) also came to Keelan during the AC/PVC era. It featured a three-way PVC plumbing connection into which three sliding tubes were fitted. This enabled each of the three performers to play, not only at the same time through the same interconnecting fixture, but also to be able to slide their individual blowing tubes so that each could play a different drone, thereby forming shifting drone chords.

The opening excerpt, ‘Holocaust’, from Nova Ensemble’s CD *Junkelan* (2000), evokes a theme of wandering cyber-minstrels playing random scrap metal, the surviving source materials of a bleak, apocalyptic future:

Scrap metal meets hi-tech in an orchestra of found objects, as sonic imagination transforms rust, corrosion and industrial fragments into a soundscape of power and intensity, delicacy and beauty (Nova Ensemble n.d.).

Cain constructed a ‘slide didge’ fitted into a 6m length of 100mm plumbing pipe that extended out into and above the audience with a microphone attached to the far end:



Figure 4. AC/PVC in live performance on the Tridgeridoo at the Round House, Fremantle, WA in 1988. L–R: Ron Reeves, Mark Cain, and Peter Keelan ([Cain 2013a](#)).



Over this megabass foundation, we sent triggered sound samples — combined with transducers placed on metal sheets — through effects and looping processors. The extra length didn't greatly modify the pitch of the 'megabass didge', but slightly affected its timbre. The piece also utilises real time sampling ([Cain 2013c](#)).

For the track 'Lowlands' on his solo CD *Reeds* ([2004](#)), Cain constructed a PVC didjeridu in the key of 'A' to converse with his bass clarinet solo because he could not find a traditional one in low 'A' ([Cain 2013b](#)). In another excerpt, 'Salvation's Gate', Cain uses various PVC reed instruments and his PVC slide-didge to create a shifting pedal between 'D' and 'C' that is overlaid by the sound of saxophones and clarinets (for which he uses traditional bamboo reeds), and an original PVC surgical glove bagpipe (for which he makes reeds using recycled plastic from cool drink bottles) ([Cain 2014](#)).

Cain teamed up with Saegusa in 2014 to found Eastwinds, an ensemble that performs in Fremantle on a regular basis. Saegusa's website, *Didgeridoo Breath* ([n.d.b](#)), advertises an array of plastic instruments via the website that are 'light, virtually indestructible, cleanable, resonant, loud, clear, ridiculously easy to play and perfect for travel'. They have 'great backpressure, make circular breathing easy, amplify vocals, respond amazingly to almost every playing technique, and usually offer one or two smooth transition toots or overtones'.

Plastic didjeridus are constructed across the globe. In the United States, for example, David Blonski ([2012](#)) invented a 'Sidewinder Didgeridoo' based on his plastic 'Snake-Didge' (an 'everything-under-the-kitchen-sink-didge' made from plumbing parts commonly found under the sink) and now models Sidewinders from Douglas Fir or redwood.

Didjeridus Constructed from Other Materials

Imaginative didjeridu artisans have also looked to brass, glass, leather, fibreglass and papier mâché. Amongst some rather strange aberrations, didjeridus have been constructed from titanium jet airplane exhaust pipe; PVC combined with the car repair material BONDO; Pepsi Cola cans; 'high-octane twin-turbo hemp', and, according to Heartland Didgeridoos ([2013d](#)), even polar ice. Neuenfeldt ([1993: 63](#)) commented on the use of tubular found objects such as vacuum cleaner hoses, golf club tube liners and iron pipes. However, a decade later he found that some didjeridus were more sculptural than utilitarian ([Neuenfeldt 2003: 234–5](#)). A veteran of this art is the American instrument builder, Barry Hall, ([1995–2005](#)), whose ceramic stoneware didjeridus are not traditional in shape and are decorated using clay slips, glazes, paints or both.



Didjshop.com (1993–2014a) promotes ‘non-genuine didgeridoos’ because ‘Without them many parts of Australia would be deforested now’²⁸. But, can these instruments match the desirable look, feel, durability and tonal quality of properly seasoned timber, or the allure of the associated process of natural manufacture? Although non-timber didgeridus make good musical instruments, Didjshop.com (1993–2014a) concedes that they cannot match a ‘high quality genuine termite-hollowed didgeridoo’ because ‘Eucalyptus with its high density and hardness produces such warm, rich and resonant sounds’.

For Indigenous performer David Hudson of Cairns, Queensland, the advantage of playing an authentic *yigi yigi* is that ‘All those little cracks and tracks that termites have lived in helps resonate that sound. It gives the didgeridu a warm, strong, earth sound’ (Hudson 1997: 37). McMahon (2004: 28) sums it up:

There is a special quality to a well crafted termite didgeridu that human hollowed instruments cannot achieve. By eating along the tree’s growth rings and sealing the bore with a natural sealing agent the termites create a very strong and durable pipe, which can have a complex shape, that creates an individual resonance ...While it may be reasonable to cut trees and destroy termites to make quality instruments, it cannot be a good thing when the products are trash.

Conclusion

This survey of the didjeri-dus and -don’ts of sustainable instrument manufacture has encapsulated the irony of an Australian Aboriginal instrument becoming a victim of its own success through the juggernaut of musical globalisation. The contemporary history of the didgeridu projects a cascading effect in which multiple thresholds have been breached across scales of cultural and geographical space, ecological and economic domain, and cosmological and sociomusical organisation to form a new global music-culture.

Instances of anthropogenic forest depletion sparked the rise of didgeridu stewardism, with Forner bringing to light the difficulties of re-establishing complex ecosystems once they are logged and Lim of iDIDJ Australia working in tandem with the Garma Institute for Cultural Studies to fortify the instrument’s cultural maintenance. It is difficult to assess the degree to which clear-felling practices continue to the present time because of the dearth of available quantitative data. The NSW industry stakeholder, Heartland Didgeridoos (2013e), optimistically estimates that the situation is levelling out:

It is still at an unsustainable level in some areas only but regulation is creeping in stronger each year. Tags on all didgeridoos sold in Western Australia and heavy fines for illegal cutting in Queensland and Northern Territory, total bans in certain areas in Victoria, more National Parks, Nature Reserves and Roadside reserves with signs and heavy fines being issued.

Despite some misgivings surrounding WA’s profitable didgeridu industry, the permit and tagging system works towards curtailing the activities of maverick elements. In the absence of a tagging system in the NT, the onus rests on consumers, educators, practitioners, and retailers to seek out items produced within sound management frameworks.

Based on my observations over the past twenty-five years, the instrument has moved beyond furnishing a site for stereotyped discourse between distinct groups of devotees to become a catalyst for building networks of grass-roots musical production and sociability. Participation in workshops, and the demand for instruments, recordings, performances, and lessons, remain at a stable level, and the inclusion of Yolngu masters at Melbourne’s annual Didgeridoo and Cultural Festival provokes healthy dialogue between special interest groups.

Having earned itself leverage in the pop and world music aesthetic, could the instrument become an emblem for the protection and regeneration of natural ecosystems, as opposed to their destruction? A turnaround of this nature might eventuate if state and territory authorities were to heed Forner and Lim’s recommendations for ecological accountability. In the meantime, Heartland Didgeridoos (2013a) recommends an increased supply of manufactured, bamboo and alternative material didgeridoos for the wider tourist market to avoid supply restriction of quality natural hollowed logs because ‘Unsustainable practices need to continue to be curtailed. The success of this over the next years will directly determine the future supplies’.



Since the common image of *Eucalyptus* as a tenacious, adaptable genus is beginning to suffer, this investigation also probed the need for detailed interdisciplinary research into the forecast effects of climate change on the eucalypt species favoured by didgeriduists. The tangential topic of how individual didgeridus made from native timbers could be affected by climate change warrants future research, as does the physical behaviour of any individual organically constructed instrument.

Finally, although many might balk at the need to replace timber didgeridus, the topic has implications for musicology. The ‘gut intuition’ of the American composer, sound artist and philosopher, David Dunn ([2001: 97](#)), is that:

... music, as this vast terrain of human activity and inheritance of our species, will provide us with clues to our future survival, and that is a responsibility worth pursuing.

So how, and when, might researchers go about responding to such clues? This article aimed to pique general awareness of a vexed issue that, in my view, is unlikely to go away. Ultimately, the priority that will be placed on the sustainability of didgeridu construction depends on the extent to which Australians value the future of their most iconic national instrument.

ENDNOTES

1. The title of this article was derived from the Government of Western Australia’s former Department of Environment and Conservation’s decommissioned Flora Licensing website Information Sheet ‘Didgeri-dooos and don’ts’, created 16 June 2010. The commercially popular spelling, ‘didgeridoo’, and the academy-preferred ‘didgeridu’ are interchangeable, and both have been used by government agencies. It is inevitable that various orthographies will appear in this article, not least the short colloquial version ‘didj’ (or ‘didge’). The voices of industry workers are included in the discourse for the sake of completeness.
2. Termites of the order *Isoptera* are often known as ‘white ants’. However, these insects are very different from those in the order, *Hymenoptera*, to which ants belong ([CSIRO, n.d.: ‘Isoptera: Termites’](#)). Thousands of termite workers, overseen by a queen, eat out the centres of trees, leaving behind a spongy material that can be easily dislodged by instrument makers. McMahon ([2004](#)) provides an excellent article on the ecology of termites and didgeridus.
3. These contrasts reflect or result from different disturbance regimes and the greater ecological role of termites in tropical eucalypt forests. I am grateful to Guan Lim for alerting me to this source.
4. Atherton ([1990: 25](#)) notes how, like spear tips, clapsticks are hardened in an open fire to increase resonance and prevent splitting.
5. The Short Guide to the Didgeridoo ([Didgeworld n.d.](#)) has accessed ‘hundreds of websites with pages of information about the didgeridoo ranging from factual to esoteric’.
6. I am grateful to Bruce Rogers for sharing with me, in 2003, some of the insights that he had gained on the international didgeridu circuit.
7. Information kindly supplied by an anonymous referee.
8. Yolngu people invite *Balanda* (non-indigenous) to attend *yidaki* masterclasses and to participate in working together to evolve an ethical place for *yidaki* in world culture.
9. Research suggests that the practice of didgeridoo circular breathing and other techniques reduces daytime sleepiness in people with snoring and obstructive sleep apnea syndrome by strengthening muscles in the upper airway ([Puhan, Suarez and Lo Cascio et al. 2005](#)). Sherwood ([1997: 148](#)) also cites an instance of a qualified medical practitioner using didgeridu as an unconventional method of healing stuttering.
10. See also Knopoff in Atherton ([1990: 29–30](#)).
11. The low-density fibre of bamboo may produce an inferior sound. However, Didjshop.com ([1993–2014a](#)) recommends bamboo as a ‘travel didj’ on account of its lightness.
12. For information on *yigi yigi*, see Hudson ([2013](#)); and Kartomi, Ryan and Williams ([1995](#)). Didgeridus may also be made from River Red Gum (*E. camaldulensis*) and Ironwood (*Erythrophlaeum Labouchei*). Indeed any tree with a strong, twisty grain that prevents cracks and emits a dense sound can be used, for example oak, mahogany, sycamore, willow, pine, and Douglas Fir (e.g. [Echo Tree n.d.b](#)).



13. A billabong is a branch of a river forming a backwater or stagnant pool, made by water flowing from a main stream during a flood.
14. For example, violin and cello bows are traditionally made of *pernambuco* (currently cited in the list of endangered flora of Brazil). The International *Pernambuco* Conservation Initiative advocates the use of other woods for violin bows to raise money to plant *pernambuco* seedlings. The Music Tree ([North produções 2009](#)), a documentary film written and directed by Otavio Juliano, explores a path to saving these trees and the music that depends on them.
15. Lensink ([2012](#)) points out that the terms 'legislation', 'regulations', 'laws', etc. are often used interchangeably, even though their precise meanings are more nuanced.
16. Didgeridus crafted from mallee wood produce a very different sound to those crafted in the Northern Territory (comment by Hollenberg in [Kingsley 2002](#)).
17. Western Australia is divided into nine regions. The Goldfields-Esperance Region is located in the south-east corner of the State and covers 770,488 square kms ([WestAusGuide, n.d.](#)). No timber gathering is permitted within a 20 km radius from the centre of Kalgoorlie-Boulder, and a 7.5 km radius from Kambalda and Coolgardie city centres ([Government of Western Australia Department of Parks and Wildlife 2013: Flora Licensing Information Sheet. Didgeridoos 2013](#)).
18. The Mid West Region of WA extends along the west coast from Green Head to Kalbarri and more than 800km inland to Wiluna in the Gibson Desert ([Government of Western Australia Mid West Development Commission 2013](#)). The Mid West Paynes Find Roadhouse occasionally buys didgeridus directly from artists and sells them for approximately \$300 each ([Government of Western Australia Mid West Indigenous Arts Industry Strategy n.d.: 24](#)). The fact that renowned didgeriduist Mark Atkins is the son of a Midwest Yamatji woman may have some bearing on these sales. Atkins ([2013](#)) has incorporated the didgeridu sound into orchestral works, theatrical productions, and dance presentations. In 2001, he collaborated with composer Philip Glass in the concert work, *Voices*.
19. The beautiful mallee species, *E. caesia* (Silver Princess or Gungurru) and *E. kruseana* (Book-Leaf Mallee), are not listed as threatened under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999 ([Australian Native Plants Society 2008](#)). However, these Priority 4-listed species may not be taken under a Commercial Purposes Licence unless a special amendment is applied for, assessed and approved ([Francis 2014](#)).
20. Australian Sandalwood was trading at AUD\$14,000 per metric tonne in January 2012 ([WA Sandalwood Plantations n.d.](#)).
21. Saegusa aims to found a Didgeridoo Festival. In the meantime, the store stages concerts by local and visiting artists.
22. Licensed woodcutters are required to include both genus and species, in addition to a locality grid number, on their three-monthly return sheets.
23. Lim ([2003c](#)) defines a traditional custodian as 'an Indigenous Australian who is entitled, by Aboriginal tradition, to make and use the didgeridoo and whose ancestors, by Aboriginal tradition, have made and used the didgeridoo'.
24. The increase in atmospheric CO₂ concentrations from 2011 to 2013 was the largest two-year increase ever observed ([CSIRO 2014](#)), prompting Climate Commissioner Tim Flannery to liken the so-called 'angry summer' of 2012–2013 to 'an athlete who improves [his] baseline performance by taking steroids' ([Clarke 2013](#)).
25. See also Hughes ([2013](#)).
26. Cain has spent 22 years working with Musica Viva in schools, and, as part of his work for Nexus Arts, Victoria from 1994, conducted World of PVC Music Plastic Fantastic performances and workshops for children (1993–present).
27. Cain also attributes the didgeriloo to an initial inspiration received from his teacher, Linsey Pollak, during his first touring experience in the Kimberley in 1985.
28. Based in Kuranda, Queensland, Didjshop.com is owned and operated by non-indigenous people who only buy indigenous arts and crafts from Aboriginal people ([Didjshop.com 2003–2014b](#)).

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ABSTRACT

Since the 1990s, three discrete groups of aficionados have contributed to an insatiable demand for didgeridus (didgeridoos) in Australia and abroad, prompting environmental stewards (a fourth contesting camp) to promote responsible manufacture and trade to combat forest clear-felling and oversupplies of ersatz (inferior) didgeridus. A critical examination of the sourcing and construction of didgeridus harvested in the Top End of the Northern Territory and the Goldfields and Mid West Regions of Western Australia compares the effectiveness of licensing operations in these two states to regulate stem harvesting. In view of a second, more long-term concern — based on scientific prediction that some species of the hitherto adaptable genus, *Eucalyptus*, will succumb to global warming — the factoring of climate change into the sustainability equation flags future patterns of change in the instrument's material use and sonic production. Western Australian musician Mark Cain has explored novel ways of making and playing didgeridus. But can alternative materials satisfactorily replace rich eucalypt sonorities? Could the didjeridu — as a symbol of 'dos' and 'don'ts' — become a vital emblem for the conservation of natural ecosystems?

ACKNOWLEDGMENTS

I appreciate the assistance of my anonymous referees and my editors, Sylvan Elhay and Julia Szuster. My studies of the didjeridu were initially informed by Trevor Jones and Margaret Kartomi; by collaborations with the Indigenous didjeriduists, Gnarnayarrahe Waitarie and Darren Williams; and by the social anthropologist, Karl Neuenfeldt. I am grateful to instrument-makers (the late) David Blanas, (the late) Bill Brunette, Mark Cain, Charlie McMahon and Bruce Rogers; to the consultants, Guan (and Swee) Lim, at iDIDJ Australia, and to Yoshitaka Saegusa and his staff at Didgeridoo Breath, Fremantle, WA, for helpful conversations. Thanks to Janet McLennan at the Northern Territory Parks and Wildlife Service Permits Office; and Bridgette Reynolds (Senior Flora Licensing Officer) and Sarah Francis (Flora Licensing Officer) at Wildlife Licensing, Nature Protection Branch of the Western Australian Department of Parks and Wildlife. My late husband, CSIRO atmospheric physicist Dr Brian Ryan, inspired me to apply the issue of climate change to the sustainability of musical instruments.

Keywords: didjeridu (didgeridoo); licensing; climate change; alternative materials



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Robin Ryan studied music at the University of Western Australia and the University of Washington, Seattle, USA. She researched the first Master's thesis on urban Aboriginal music (1992) and a PhD on musical engagement with Australian plants (1999) at Monash University, Melbourne, Australia. Ryan worked as a research assistant to Professor Margaret Kartomi and as an adviser to *Currency Companion to Music and Dance in Australia* (2003). A former Research Fellow of Macquarie University, Sydney, she was appointed Adjunct Lecturer at the Western Australian Academy of Performing Arts, Edith Cowan University, in mid-2012. Robin's most recently published work appears in *Collaborative Ethnomusicology* and *Environmental Humanities*.

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Received by the editors 13 September 2013; accepted for publication (in revised form) 7 April 2015.