8
'Aquaculture' or fishing and trapping?

Dark Emu refers to several kinds of traditional fish trap (pages 53–71). Those given the most prominence, generally, are the ones that constitute exceptional creations. The Lake Condah eel trapping system, the Brewarrina River fish traps and the Glyde River fish trap are prominent in the 'Aquaculture' chapter but there is little to compare them with anywhere else, perhaps except for the Brewarrina traps. There were hugely numerous but different and more basic coastal fish traps that used tides to capture wild fish. Weirs, not highlighted by Pascoe and not included in *Young Dark Emu*, were widespread. The curriculum guide *Dark Emu in the Classroom* illustrates only one kind of fish trap: the exceptional case of Brewarrina.[1]

Is it accurate to refer to these successful devices as 'aquaculture', as Pascoe does (page 53), rather than as 'trapping wild fish'?

Most people's understanding of 'aquaculture' would define it as the protective breeding, rearing and harvesting of aquatic animals. Raising fingerlings in captivity, where they are protected from predators, is usually integral to aquaculture enterprises. That is, there is domestication of the reproductive beginnings of the relevant fish population. While the Old People did this through ritual and through communicating with aquatic spirits, there is no evidence they did so using physical technology. In the case of the eels of Western Victoria (see Chapter 13), they spawn far from human beings, swimming 'anything up to three or four thousand kilometres to a spawning ground in deep water somewhere in the Coral Sea off New Caledonia'.[2]

That is, there is abundant evidence that Aboriginal people in different regions of Australia harvested wild fish by spearing, angling, netting, grabbing them by the gills, and creating weirs and stone traps, but no evidence that they physically bred, fed, protected and reared them as captive fingerlings and then introduced them into the environment.

This is from the Australian Government's Department of Agriculture, Water and the Environment website:

> Aquaculture is defined by the Food and Agriculture Organization of the United Nations as the farming of aquatic organisms including fish, molluscs, crustaceans and aquatic plants with some sort of intervention in the rearing process to enhance production, such as regular stocking, feeding and protection from predators.[3]

Complicating the issue is the fact that the World Heritage listing of the Budj Bim Landscape in western Victoria describes the fish trapping system as 'aquaculture': 'The three serial components of the property contain one of the world's most extensive and oldest aquaculture systems.'[4] Perhaps two distinct meanings of 'aquaculture' are now established in Australian English usage: a technical sense covering breeding of spawn in captivity, and a broader sense covering trapping of wild fish by modification of water flows.

Pascoe raises the Glyde River (Northern Territory) fish trap in the context of the phrase 'for example', and indeed it is an example of invention using bush materials. However, it is completely unrepresentative of Aboriginal fish trap technology. It is unique in the Australian record, and even unique in Arnhem Land, and in fact unique to only two local clans of Yolngu people on a single river in Arnhem Land. It was named *gorl* by Donald Thomson's teachers:

> The *gorl* technique is not in general use throughout Arnhem Land but is confined to a small area on the north coast lying between the Glyde River in the west, and Buckingham Bay in the east … the right to use the *gorl* is regarded as the exclusive property of two of these groups—Ngalladar Tjumbar'poingo and Kalbanuk group of Liagallauwumirr—and its use is restricted to these.[5]

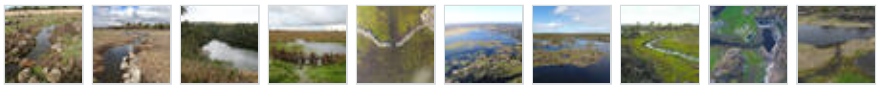
Pascoe reproduces a photo of this particular fish trap, and says, 'When I show this to students of Aboriginal Studies they turn to me in astonishment, as if I'm pulling their leg' (page 65). This may be true, but photographs of this same trap have been published multiple times over decades. It is ironic then that Thomson's 1938 paper was originally called 'A *new* type of fish trap …'[6] It was new, then, to anthropological publication in 1938. Photos of this Glyde River fish trap have since been repeatedly published, in two publications by Thomson[7] and in works by Wiseman,[8] Keen[9] and Memmott.[10] The trap has also been described in print in Thomson,[11] Blainey[12] and Memmott and Fantin.[13] This unique creation is the only fish trap illustrated in *Young Dark Emu*.[14] No ordinary traps are represented. The normal is excluded.

Budj Bim Cultural Landscape

Budj Bim Cultural Landscape

The Budj Bim Cultural Landscape, located in the traditional Country of the Gunditjmara people in south-eastern Australia, consists of three serial components containing one of the world's most extensive and oldest aquaculture systems. The Budj Bim lava flows provide the basis for the complex system of channels, weirs and dams developed by the Gunditjmara in order to trap, store and harvest kooyang (short-finned eel – *Anguilla australis*). The highly productive aquaculture system provided an economic and social base for Gunditjmara society for six millennia. The Budj Bim Cultural Landscape is the result of a creational process narrated by the Gunditjmara as a deep time story, referring to the idea that they have always lived there. From an archaeological perspective, deep time represents a period of at least 32,000 years. The ongoing dynamic relationship of Gunditjmara and their land is nowadays carried by knowledge systems retained through oral transmission and continuity of cultural practice.

Drone image of weir © Gunditj Mirring Traditional Owners Aboriginal Corporation



Outstanding Universal Value

Brief synthesis

The Budj Bim Cultural Landscape is located in the traditional Country of the Gunditjmara Aboriginal people in south-eastern Australia. The three serial components of the property contain one of the world's most extensive and oldest aquaculture systems. The Budj Bim lava flows, which connect the three components, provides the basis for this complex aquaculture system developed by the Gunditjmara, based on deliberate redirection, modification and management of waterways and wetlands.

Over a period of at least 6,600 years the Gunditjmara created, manipulated and modified these local hydrological regimes and ecological systems. They utilised the abundant local volcanic rock to construct channels, weirs and dams and manage water flows in order to systematically trap, store and harvest kooyang (short-finned eel – Anguilla australis) and support enhancement of other food resources.

The highly productive aquaculture system provided a six millennia-long economic and social base for Gunditjmara society. This deep time interrelationship of Gunditjmara cultural and environmental systems is documented through present-day Gunditjmara cultural knowledge, practices, material culture, scientific research and historical documents. It is evidenced in the aquaculture system itself and in the interrelated geological, hydrological and ecological systems.

The Budj Bim Cultural Landscape is the result of a creational process narrated by the Gunditjmara as a deep time story. For the Gunditjmara, deep time refers to the idea that they have always been there. From an archaeological perspective, deep time refers to a period of at least 32,000 years that Aboriginal people have lived in the Budj Bim Cultural Landscape. The ongoing dynamic relationship of Gunditjmara and their land is nowadays carried by knowledge systems retained through oral transmission and continuity of cultural practice.

Criterion (iii): The Budj Bim Cultural Landscape bears an exceptional testimony to the cultural traditions, knowledge, practices and ingenuity of the Gunditjmara. The extensive networks and antiquity of the constructed and modified aquaculture system of the Budj Bim Cultural Landscape bears testimony to the Gunditjmara as engineers and kooyang fishers. Gunditjmara knowledge and practices have endured and continue to be passed down through their Elders and are recognisable across the wetlands of the Budj Bim Cultural Landscape in the form of ancient and elaborate systems of stone-walled kooyang husbandry (or aquaculture) facilities. Gunditjmara cultural traditions, including associated storytelling, dance and basket weaving, continue to be maintained by their collective multigenerational knowledge.

Criterion (v): The continuing cultural landscape of the Budj Bim Cultural Landscape is an outstanding representative example of human interaction with the environment and testimony to the lives of the Gunditjmara. The Budj Bim Cultural Landscape was created by the Gunditjmara who purposefully harnessed the productive potential of the patchwork of wetlands on the Budj Bim lava flow. They achieved this by creating, modifying and maintaining an extensive hydrological engineering system that manipulated water flow in order to trap, store and harvest kooyang that migrate seasonally through the system. The key elements of this system are the interconnected clusters of constructed and modified water channels, weirs, dams, ponds and sinkholes in combination with the lava flow, water flow and ecology and life-cycle of kooyang. The Budj Bim Cultural Landscape exemplifies the dynamic ecological-cultural relationships evidenced in the Gunditjmara's deliberate manipulation and management of the environment.

Integrity

The Budj Bim Cultural Landscape incorporates intact and outstanding examples of the largest Gunditjmara aquaculture complexes and a representative selection of the most significant and best preserved smaller structures. These include complexes at Tae Rak (Lake Condah), Tyrendarra and Kurtonitj. Each complex includes all the physical elements of the system (that is, channels, weirs, dams and ponds) that demonstrate the operation of Gunditjmara aquaculture. The property also includes Budj Bim, a Gunditjmara Ancestral Being and volcano that is the source of the lava flow on which the aquaculture system is constructed.

The reinstatement of traditional water flows into Tae Rak through the construction of a cultural weir in 2010, following extensive draining of the lake in the 1950s, has returned and enhanced the water flow across the aquaculture system. This restoration, the rugged environment, the use of stone, the relatively intact vegetation and the lack of major development within the Budj Bim Cultural Landscape mean that the extensive aquaculture system has survived, is in good condition and can be readily identified in the landscape.

The property is free of major threats and is sufficient in size to illustrate the ways multiple systems – social, spiritual, geological, hydrological and ecological – interact and function. While the property contains a dense and representative collection of attributes, which are sufficient to demonstrate Outstanding Universal Value, the property might have potential for future expansion.

The three serial components of the property are connected as a single landscape through the physical extent of the aquaculture system (adapted from the lava flow) and through the Gunditjmara Traditional Owner's cultural practices and connection with the physical landscape. If future surveys and studies determine additional attributes located within the lava flow but outside the property boundaries these should become included by means of a boundary modification request.

Authenticity

The Budj Bim Cultural Landscape has a high degree of authenticity. Gunditjmara traditional knowledge is demonstrated by millennia of oral transmission, through continuity of practice and is supported by documented Gunditjmara cultural traditions and exceptionally well-preserved archaeological, environmental and historical evidence.

The authenticity of the Budj Bim Cultural Landscape is evident in the continuing connection of the Gunditjmara to their landscape and their traditional and historical knowledge of the life cycle of kooyang. Authenticity is also evident in the practices associated with the trapping, storage and harvesting of kooyang; including the construction of stone weirs and weaving of fibre baskets.

The Gunditjmara aquaculture system retains the form and functionality it had during the last six millennia in relation to the underlying lava flow, the continued functioning of the water flows and the presence of kooyang. Despite historic interruption for much of the 20th century, the property has retained its authenticity. Recent restitution of property rights to the Gunditjmara Traditional Owners, the reinstating of traditional water flows of Tae Rak and reestablishment of continued use of aquaculture complexes have enhanced the condition of the property.

In 2007, the Australian Federal Court recognised the native title rights of the Gunditjmara for their "strong and unrelenting connection to this area where their ancestors farmed eels for food and trade, at the time of European settlement and back through millennia.

Management and protection requirements

All of the Budj Bim Cultural Landscape is Aboriginal-owned and/or managed and is managed to respect the customary and legal rights and obligations of the Gunditjmara Traditional Owners.

The property enjoys legal protection at the highest national level according to the Australian Environment Protection and Biodiversity Conservation Act of 1999 and a large part of the property (about 90% of the Budj Bim component and about half of the Tyrendarra component) are listed as cultural heritage sites on the National Heritage List of Australia in 2004. For consistency, it would be desirable if the National Heritage and World Heritage property boundaries were aligned. As such, the entire World Heritage property could be considered for inscription on the National Heritage List.

Once included on the World Heritage List, the entire property will be recognised as a 'Matter of National Environmental Significance' and protected by the Act.

The property is protected and managed through an adaptive and participatory management framework of overlapping and integrated customary, governance, legislative and policy approaches. The Gunditjmara Traditional Owners apply customary knowledge and scientific approaches through two management regimes; a co-operative arrangement with the Victorian Government for Budj Bim National Park; and Indigenous ownership of the Budj Bim and Tyrendarra Indigenous Protected Areas. This is supported by local planning schemes. Glenelg and Moyne Shires established a 'special use zone' over parts of the Budj Bim component, including Tae Rak. The purpose of the special use zone is to provide for the development of land consistent with the protection and management of the natural and Aboriginal cultural values.

The management system is to be coordinated by the Budj Bim Cultural Landscape World Heritage Steering Committee, which acts as a communication and shared decision-making body between the Gunditjmara Traditional Owners (represented through the Gunditj Mirring Traditional Owners Aboriginal Corporation Registered Aboriginal Party, Budj Bim Council and Winda-Mara Aboriginal Corporation) and the state heritage and environmental authorities, which include the Victorian Aboriginal Heritage Council and the Victorian Heritage Council, as well as the national level.

The Budj Bim Cultural Landscape management system is established through the 2015 Ngootyoong Gunditj, Ngootyoong Mara South West Management Plan.

Notable among the institutional management arrangements is the Budj Bim Ranger Programme, which is managed through the Winda-Mara Aboriginal Corporation and employs full-time rangers, who are mentored by Gunditjmara Elders to provide them with traditional and cultural knowledge and support. This management arrangement of Budj Bim Cultural Landscape allows on the ground management approaches to be guided by the Gunditjmara Traditional Owners in line with cultural traditions and practices.

All Gunditjmara cultural heritage on Budj Bim Cultural Landscape is protected by Victoria's Aboriginal Heritage Act 2006. The 2014 Budj Bim (Tourism) Master Plan establishes requirements for sustainable tourism and visitation, as well as educational opportunities, for the Budj Bim Cultural Landscape.