

PANGALA - Translucent stripes

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“The present changes the past. Looking back you do not find what you left behind.”

— Kiran Desai, *The Inheritance of Loss*, 2006

The catalysts for bringing together diverse groups of people in June 2023 for ‘Pangala – Returning Home’ were the tragic 2019 and 2023 mass fish kill events in Menindee on the Darling-Barka river. We came together on Barkandji Country to share stories, engage with The Cad Factory’s extraordinary audiovisual performance, promote healing and to release Pangala fingerlings into the river system.

I had flown across from the inner suburbs of Sydney to be there. As a physiotherapist working in clinical, research and academic teaching roles in healthcare, my connection with Vic McEwan from the Cad Factory, who led ‘Pangala – Returning Home’, was through the place of intersection between art and facial nerve paralysis. The invitation I received to attend and write about this event was reminiscent of an invitation I extended to him in 2019 to attend [The Sydney Facial Nerve Clinic at the Chris O’Brien Lifehouse](#) in Sydney, New South Wales (NSW). Both invitations have led to levels of deeper understanding – supervising Vic through the journey of a PhD in the Faculty of Medicine and Health at The University of Sydney, and reflecting and writing about the agency created through this extraordinary fish release event.

Before the event itself is discussed, I will describe this species of fish and some of what are perhaps the contentious elements of the waters of the Darling-Barka River.

Fish Species

‘Pangala’, the Barkandji word for silver perch, also known as [Bidyanus bidyanus](#) (Figure 1), was given a European name in 1838 by Sir Thomas Livingstone Mitchell, Surveyor-General of New South Wales (1828-1855) during the initial invasion and colonisation of Australia (1788 – 1890). On 13 July 2018, 180 years after ‘Pangala’ assumed its other namesake, ‘Silver Perch, *Bidyanus bidyanus*’, the Barkandji Traditional Owners had their [Native Title claim](#) finally determined by the National Native Title Tribunal, Federal Court of Australia. [Barbara Quayle](#), one of the descendants of Judy Quayle, named as one of the ancestors of the Barkandji Traditional Owners Native Title claim group, welcomed us to their Country along with Cheryl Blore, David Doyle and other Elders. We were on ancient lands sharing this special event together, calling the fish, with translucent stripes on their dorsal and pectoral fin and tail, by their time-honoured Barkandji name ‘Pangala’ (Figure 2).

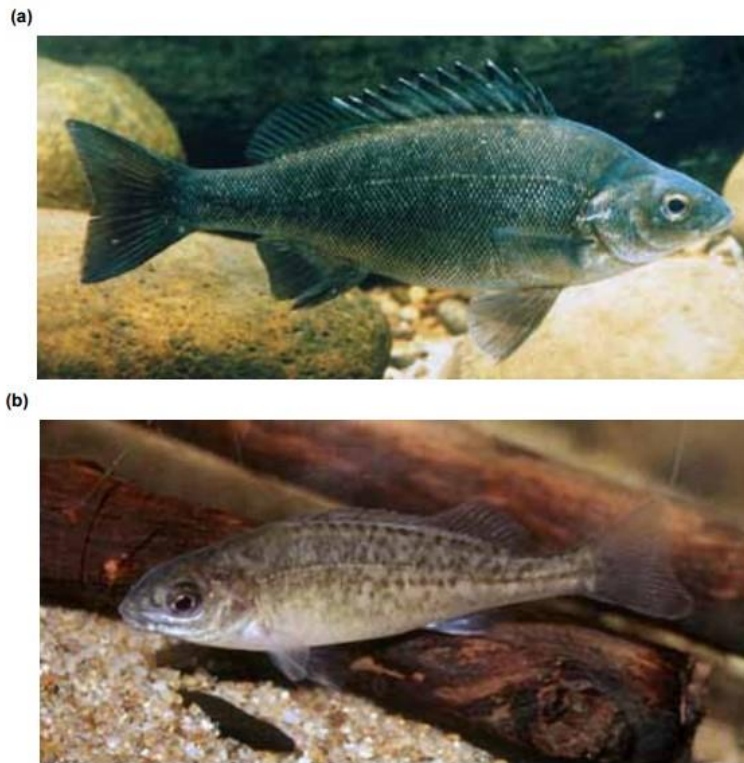


Figure 1: (a) Adult and (b) juvenile silver perch (Photos: Gunther Schmida / Kris Pitman)

Figure 1. Silver Perch. *Bidyanus bidyanus* NSW Recovery Plan 2006. NSW Department of Primary Industries. NSW Threatened Species Recovery Planning Program. p.7.



Figure 2. Pangala. Still photograph from video created by The Cad Factory. Susan Coulson, 2023

Waters of the Darling-Barka River

Over tens of thousands of years, Aboriginal people have lived along the Darling River, which is commonly known as 'Barka' by the Barkandji people. The Darling-Barka River begins between Brewarrina and Bourke, where the Barwon and Culgoa rivers merge, meandering 1472 kilometres south-south-west until it meets the Murray River at Wentworth, situated on the NSW-Victorian Border. Most of the water flowing through the Darling-Barka River originates in southern Queensland and northern NSW ([A profile of the Darling River system, 2017](#)). For many years, the Darling-Barka River has been under threat from environmental damage. In contrast to healthy river systems that have been central to the growth and longevity of a number of races and cultures, the degradation of the water quality has been thought to have contributed to the mass fish kills in the Menindee region of the Darling-Barka River. These have occurred after both prolonged periods of drought and also after flooding, with causal factors believed to be related to low dissolved oxygen levels from a combination of i. prevailing weather conditions; ii. the available water in the river up to and during the event and iii. water quality conditions. During the flood event that occurred in early 2023, the Darling-Barka River initially provided habitat for spawning and growth of young fish, leading to an increase in fish populations. As the water levels subsided, a high concentration of organic material and sediments remained in the water, lowering dissolved oxygen levels and causing water quality to deteriorate. Fish became more concentrated in the main river channel and had to compete for oxygen, which is essential for living organisms. Without a viable habitat to sustain them, many fish died and floated to the surface, a visually distressing sight which was permeated by the stench of rotting fish.

Low dissolved oxygen levels are believed to be the most likely cause of fish deaths in both the 2019 and 2023 events, although through different mechanisms. In 2019, low dissolved oxygen levels were understood to be due to severe drought and very low river flows. These patterns led to stagnant, stratified water and an extensive bloom of blue-green algae. A [cold front weather system](#) subsequently occurred bringing short, sharp bursts of heavy rain which lead to a sudden mixing of anoxic (deoxygenated) bottom waters being dispersed throughout the water column. This reduced the dissolved oxygen levels overall, and the fish died in response to this combination of events ([CSIRO News Release, March 2023](#)).

The availability and quality of water leading up to and during the fish kill events are complex factors. There are many competing demands for the precious water as a resource. Upstream from Menindee, waters travel through farmlands which produce food and other crops whose growth is promoted by fertilisers. Fertiliser run-off, damming and water diversions to support cropping and mining, and political landscapes are fraught issues affecting the lives of the peoples who depend on the Darling-Barka River. Unresolved tensions exist between the government, farmers, Aboriginal people, local townspeople who live and work along the river and other groups invested in this complex ecosystem.

Performance: 'Pangala – Returning Home' and Fish Release

'Pangala – Returning Home' was led by Vic and Sarah McEwan from the Cad Factory, and co-created by Barkandji and Wiradjuri peoples and Matthew McLellan from the [Narrandera Fisheries Centre](#). On the night of the performance, we were enveloped by warmth, kindness and the generosity afforded by our cultural hosts and a skilled team of artists and technicians. The centrepiece, a translucent, elevated fish tank, housed the constantly moving Pangala fingerlings which were later released into the river system. Beyond this scene, the moon rose from behind the clouds and the beautiful audiovisual projections bathed the riverbank with powerful cultural messages and images which almost seemed to emerge from the water. The Clontarf Academy boys' words of: *respect, healing, actions, emotions, love, sadness, being sensitive and being together* resonated with those of the Barkandji Elders who shared the riverbank 'stage' with Matthew McLellan. I was captivated by their mixture of strength, insight, compassion and a vulnerability, qualities which facilitated a platform for care and nurturing through cultural exchange.

Fires were lit over the water by David Doyle to smoke, cleanse and welcome travellers, artists, Menindee and Broken Hill locals from many cultures who witnessed 'Pangala – Returning Home' unfold into the night. The audience stayed to talk with people who they were meeting for the first time, and after they dispersed, a few of us were guided to a special place on the water's edge where the fish were released. The fish were the sons and daughters of the silver perch who were saved from the 2019 mass fish kill event and then cared for on Wiradjuri country at the Narrandera Fisheries. The circle of life. As the vehicle light's translucent stripes spilled across the water that night, we watched the fish swim away from the bank into the Darling-Barka River – their new home (Figure 3).



Figure 3. Translucent striped vehicle lights spilling across the water. Susan Coulson, 2023

Trust and other healing emotions

'Pangala – Returning Home' reverberated with beauty, pain, warmth, sadness, grief, and a myriad of other emotions often associated with care and healing. It was held as a follow-up event to [Wirramarri – Long Way from Home](#), with memories of this performance reverberating within my thoughts over the past few months. By being together, we trusted in the processes of ceremony, and of the special care afforded to the fish release. The sense and enactment of trust is, however, both powerful and fragile. Trust has many ramifications. It has been defined as expecting that a word, promise, verbal or written statement of another person or group can be relied upon (Rotter, 1967). In other words, it implies a willingness to suspend disbelief in a person, a culture or spiritual belief (Bloomberg & Chanarin, 2000). Trust can also facilitate

healing and connection. A few years ago, it was the trigger that introduced me, a physiotherapist from a health sciences background, to Vic McEwan, an artist in an entirely different field of practice ([Coulson in Face to Face; The New Normal, 2022, p. 16-19](#)). The connections between the arts and the sciences have, however, existed throughout history, as both fields are amongst the most creative endeavours of human activity (Geranmayeh and Ashka, 2008). As physiotherapists and artists we trust, we heal and we care in our workplaces and social environments, through processes embodied in the biomedical, spiritual, artistic and natural worlds (Canals, 2023).

'Pangala – Returning Home' maintained a delicate focal balance between the time spent reflecting on the painful issues of the past as well as celebrating the beauty and wonder of the present. Through trusting in the process of the smoking ceremony over the water, special stories, light and sound projections, and the fish release. Healing chronic sickness as well as nurturing the present wellness is a philosophy that aligns with the practices of other ancient cultures (Veith, 2016, p.53). The striking natural setting as the moon rose from behind the clouds and the powerful performances of this event anchored our awareness within and around the riverbank that night. Personally, my focus was held within each moment, a position that was somewhat at odds with the 17th-century French philosopher and mathematician, Blaise Pascal's argument that we almost never think of the present, and when we do, we only see what light it throws on our future plans (Pascal, 1670 in Damasio, 2000, p. 165). However, The Cad Factory and their team worked with the Barkandji, Wiradjuri and Menindee communities that night to deliver something special that not only focussed attention on the present moments as they unfolded on the riverbank, but also towards creating future plans to incorporate long-term wellness and healing of the environment, the aquaculture and communities.

Symbolism

In my understanding, the Barkandji people, river people, are defined by so much more than just mass fish kill events in and around Menindee. Their ancient cultural practices, spiritual, and physical health are closely connected to the Darling-Barka river. Fish, water, air and rivers, all elements of the natural environment have deep cross-cultural symbolic meanings with spiritual bonds existing between the lives of the Aboriginal peoples, food sources and the natural environment of their lands. The masculine properties of Fish, or 'parntuu' in Barkandji language, are believed by many cultures to represent fecundity, procreation - life sustained and renewed through the extraordinary number of eggs they produce. Rivers are symbolic of the irreversible passage of time (Cirlot, 1984), and the fluid waters, which house the fish, have feminine qualities symbolic of the 'Great Mother' - associated with fertility, birth – new life (Cooper, 1982). Looking after the river, known as the 'Mother (Ngamaka: num-i-ka)', is a cultural obligation for the Barkandji peoples ([David Doyle, 2023](#)), therefore, working towards maintaining healthy river water quality is vital for all of our sustaining spiritual and physical lives.

To dive into the waters symbolises the search for the spirit of life - the ultimate mystery, whilst the fluid properties serve as a counterpoint to the rigidity of death. However, the river intertwines both life and death, as it is from the waters that life emerges and returns to when mortal life ends. I mused with these ideas as I swam recently, albeit briefly, in the midwinter waters of the Ku-ring-gai peoples near the mouth of the Hawksbury River north of Sydney (Figure 4). The initial shock momentarily took my breath away, reminding me of the power of icy cold waters to reinvigorate our life spirit or to completely still our cellular rhythms.



Figure 4. Midwinter Swim. Susan Coulson 2023.

Connections between smell and memory

The liquid counterpart of water is air, the medium through which light sources pass, just as the spectrum of The Cad Factory's audiovisual projections did during 'Pangala – Returning Home'. Along with light, both pleasant scents and unpleasant odours move through air. The pungent dimethylsulfide (DMS) odours associated with old or rotting fish (Van Alstyne, 2008) can negatively disrupt people's lives (Weidner, 2017). DMS permeated the airs of the Darling-Barka River during and after the mass fish kill events. This odour also emanated from the abundance of dead carp (*Cyprinus carpio*, also referred to as common carp), an introduced pest species that had been caught by anglers and then strewn over the riverbanks to die rather than being returned to the waters to further degrade the river system (National Carp Control Plan, 2023). In the days before 'Pangala – Returning Home', dead carp left by anglers were manually removed from the riverbank and disposed of so that their less pleasant odour was not mixed with the spellbinding performance energies of projected light, sound and cultural practices.

Our powerful neural connections between smell, emotions and memories (Chu and Downes, 2000; Doop et al, 2006; Herz and Schooler, 2002) enable recollections to form which entangle these elements. When we reflect on past events, there is evidence that olfactory (smell) cues generate richer memories than visual cues (de Bruijn & Bende, 2018). The rotting fish and the hot weather in Menindee in March 2023 combined to create a pungent smell which, for many people, will be engrained alongside the long-term visual memories of the troubling sight of thousands of dead fish. I wonder just how many memories of that bitter visual and olfactory sensory landscape will be woven into future environmental actions and stories?

Sickness, grief, and care over time

Deep grief, expressed through tears and a prolonged sense of loss of the lives of so many fish, has a temporal course (Ekman and Davidson, 1994). This powerful emotion is not just felt at the time when the fish were

seen floating on the surface of the river, it has also deeply permeated into many peoples' lives. As rivers symbolise the irreversible passage of time, it is inevitable that the emotional reactions to these tragic events can create intergenerational narratives. Heightened emotions and stressors overlay the grief and sadness brought about by the fish kill events. 'When the river is sick, our people are sick, the animals are sick. It is emotional seeing animals so sick' said Cheryl Blore, Barkandji woman and Menindee local. The intensity of the pain that Mathew from the Narrandera Fisheries recounted feeling as he carried the dying fish from the river whilst being supported by the tears of the nearby Elders, will long be remembered as a painful cross-cultural event.

We came to the riverbank for 'Pangala - Returning Home', not only to acknowledge the grief and sadness of the mass fish kill events, but also to recognise the strength that care can bring to one another and to the natural environment. When The Cad Factory brought their socially-engaged arts practice to Menindee that night, the Barkandji cultural welcoming generated warmth within the gathered community and there was an almost palpable sense of wonderment emanating throughout the audiovisual projections. A seamless care for one another, for the environment and for the translucent, striped Pangala who had returned home.

Figures

Figure 1. Silver Perch. *Bidyanus bidyanus* NSW Recovery Plan 2006. NSW Department of Primary Industries. NSW Threatened Species Recovery Planning Program. p.7.

Figure 2. Pangala. Still photograph from video created by Vic McEwan, The Cad Factory. Susan Coulson, 2023

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