



HUNTERS & GATHERERS

by Peter Bindon and Trevor Walley

The Nyungar Aborigines of the south-west of Western Australia had a clearly defined foraging system that provided them with a wide range of resources from the plants and animals of the area. Peter Bindon and Trevor Walley take us through a typical year for the Nyungars who lived in the Darling Range and on the Swan Coastal Plain.

Nyungar is the collective name given to Aboriginal people whose country lies in the south-west corner of Western Australia, west of a line running from Geraldton to the east of Merredin down to Esperance on the southern coast. Socially and linguistically, Nyungars were divided into about 14 different groups each of which inhabited a particular tract of country. Each local group had access to a selection of different ecological habitats in accordance with a long tradition of territorial occupation.

Groups guarded their lands and resources jealously and permission had to be granted before neighbours could cross freely into the territory of an adjoining group. However, in times of plenty when there might be an abundance of fish, a whale stranding, or an exceptionally large harvest of plant food, invitations to neighbouring groups were carried by messengers with sticks bearing incised mnemonics which announced a festive gathering. Regular meetings like this were held in the Peel Inlet near Mandurah to exploit shoaling fish. The bulrush (*Typha domingensis*) rhizome harvest, in the area now known as Yanchep National Park, also provided an opportunity for large neighbouring groups to meet together.

According to Norman Tindale, who published an Australia-wide survey of Aboriginal tribal names and territories in 1974, there were three tribes living in

the area we now know as Perth. The Swan River divided the territories of the Juet in the north from the Whadjuk, who lived on the southern bank. Inland from both these tribes lay the lands of the Balardong whose territory covered the Darling Range and extended to the York region. These tribal groups were subdivided into hordes or family groups which were the main unit for hunting and foraging. The land owned by family groups was loosely referred to as its *ka-la* (hearth).

The land of the Juet immediately north of the Swan River was known as Mooro, the territory of Yellagonga, who moved his foraging area away from the river bank to Monger's Lake after the formation of the white settlement. The Whadjuk lands just south of the Swan River and between the Canning and the coast was called Beeliar; this was the

territory of Midgegooroo, the father of Yagan. The territory flanked by both the Swan and Canning Rivers was known as Beelo, where Munday's group hunted and foraged. Although there were small differences in the languages and customs of the tribal groups they could all communicate and each group used its territory and resources in a similar manner.

A YEAR IN THE LIFE

The Nyungar year was divided into six seasons, described by the prevailing weather conditions. Birak was the hot and dry time of December and January, with hot easterly winds during the day and cooler south-westerly sea breezes in the afternoon. Bunuru covered the late summer and early autumn months of February and March, with hot easterly and north winds. Djeran was the name for the period covering April and May. The weather at this time was cooler, with winds generally from the south-west. Makuru was early winter, spanning June and July. This was the time of when the weather was cold and wet, with squally westerly gales. Djilba covered the late winter and early spring months of August and September when the weather began to get warmer. Finally, Kamarang was the season of decreasing rain, covering the months of October and November.

Apart from the weather, Nyungars used a variety of other indicators which told them the best times to hunt particular animals. For example, when the sheoak (*Allocasuarina fraserana*) was turning a yellow-brown colour, kangaroos become fat, and Nyungars never ate animals until they were fat. When swan feathers began appearing on the lakes and waterways, it became obvious that swans were beginning to moult and would be easier to catch.

Nyungar people were quite aware of the products they could expect to harvest from various parts of their territories during each season. Their diet varied according to the weather within the six seasons, and foraging groups travelled to the most appropriate place within their territory to find food. Superimposed on the movements made in response to the climatic cycle were those in anticipation of pending ceremonies. These large group meetings, arranged during previous gatherings, were

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The range of weapons used on a typical hunting trip.

Photo - Doug Elford/WA Museum

Inset: (map)

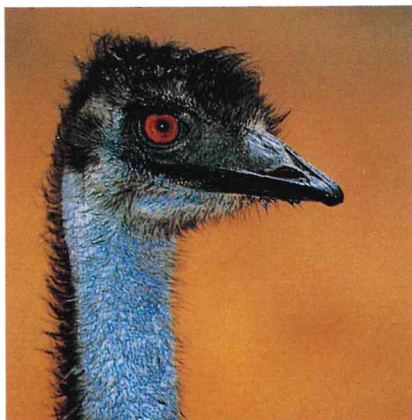
Nyungar territories in the South West, based on Tindale (1940).

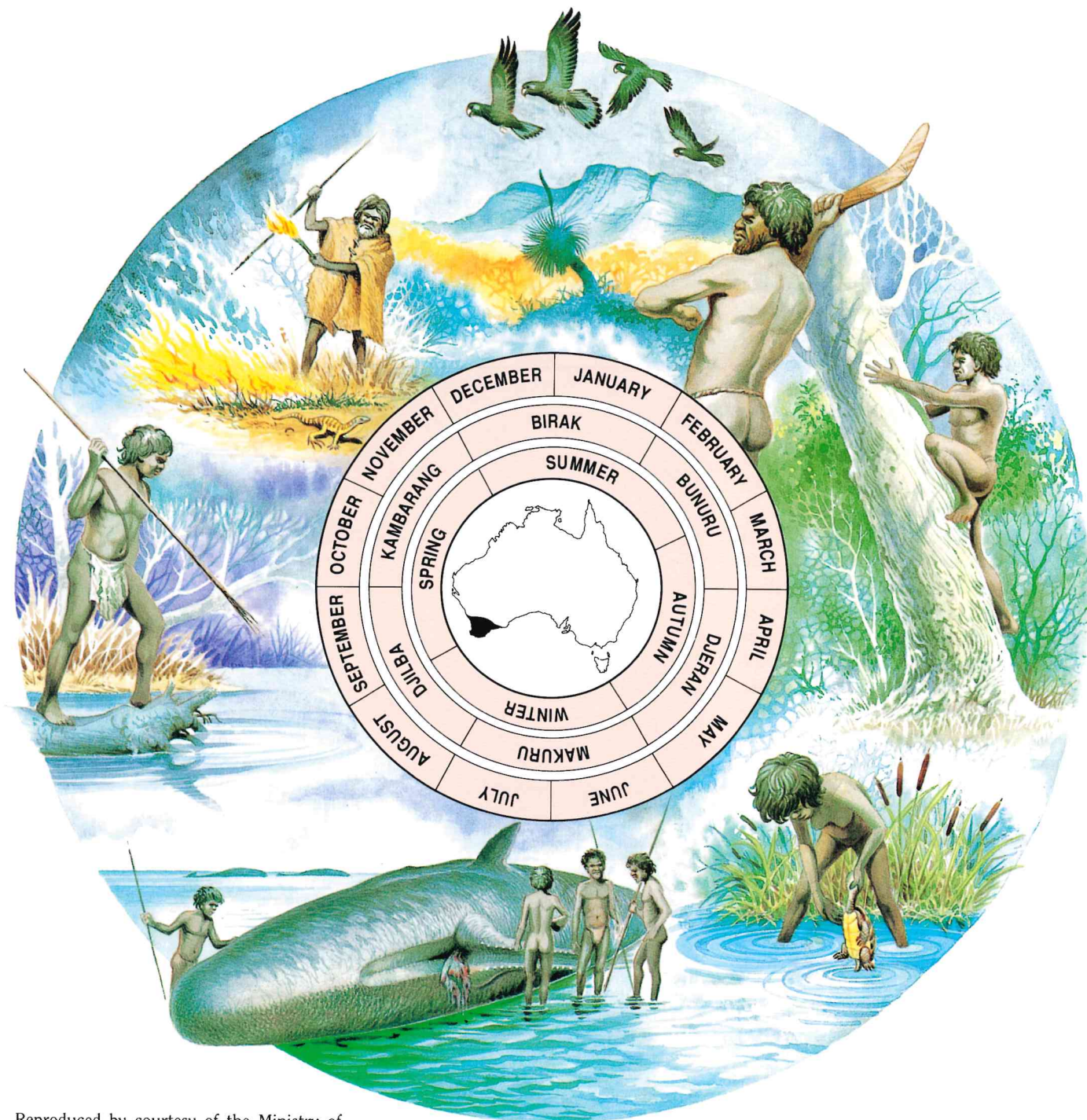
The unusual shaped boomerang of the Nyungar people.

Photo - Doug Elford/WA Museum

Emu and witchetty grub are typical of the Nyungars' diet.

Photos - Lochman Transparencies





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Bunuru: hot easterly and north winds from February to March

Djeran: becoming cooler with winds from southwest from April to March

Makuru: cold and wet with westerly gales from June to July

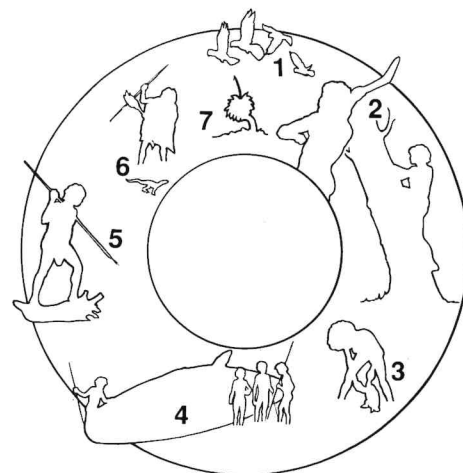
Djilba: becoming warmer from August to September

Kambarang: rain decreasing from October to November

Birak: hot and dry with easterly winds during the day and south west sea breezes in the late afternoon from December to January

KEY TO WHEEL

- 1 **KARRAK** RED-TAILED BLACK COCKATOO
- 2 **KERL** BOOMERANG
- 3 **BUYI** TORTOISE
- 4 **MAMANG** WHALE
- 5 **KITJ** SPEAR
- 6 **KAADAR** RACEHORSE GOANNA
- 7 **BALKA** BLACKBOY



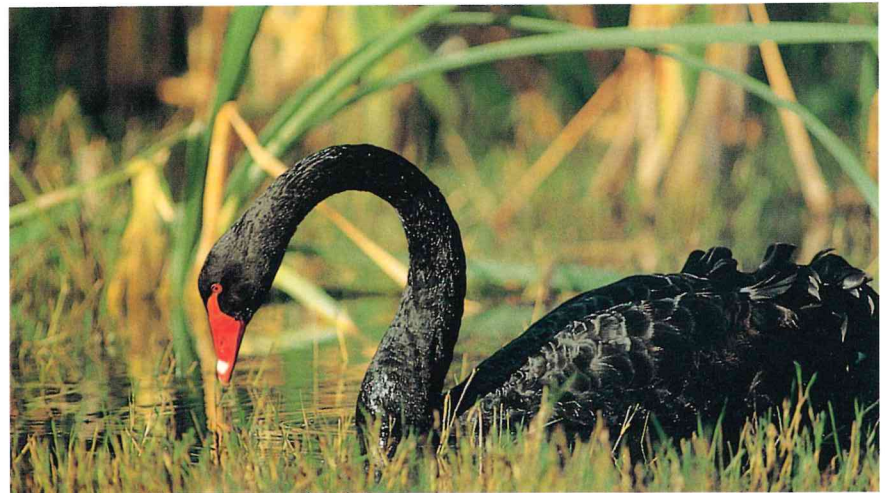
scheduled to occur in specific locations. Despite its regularity, the foraging system remained flexible enough to take advantage of occurrences outside the expected, like thunderstorms, strandings or natural wildfires, which might suddenly provide abundant resources.

Fishing and hunting coincided in Bunuru (February and March). Large sections of the country were abandoned for lack of water. Near the sea coast and in estuaries, fish constituted a large proportion of the diet of this season, and large assemblies gathered.

Although fishhooks were not used and most fish were speared, other ingenious methods were used to catch fish. Stone fish-traps and wooden weirs were constructed to take advantage of the shoals of fish which frequented shallow or tidal areas. When shallow pools were found to contain fish, piles of spiky brush were pushed ahead of a line of wading hunters who surrounded the fish and forced them into shallow water where they were easily speared or dispatched with clubs. Another technique was to build a *mungur* (wicker fence) across the stream. The *mungur* was constructed with a central race, which was made shallow with bushes until there was as little as 20 cm of water for the fish to swim through. Adjacent to the race was a platform on which people stood and scooped the fish from the water by hand, throwing them to people waiting on the bank.

Towards the end of Bunuru, in March, the fruits of the western zamia (*Macrozamia riedlei*) were collected. To remove toxins, these had to be buried for some time, then soaked in water and finally roasted before being eaten. Also at this time the horizontal rhizomes of the bulrush (*Typha domingensis*) were pounded to remove the fibrous parts, moulded damper-like into a flattened shape and then roasted to produce tasty cakes. A sand-plain bulb, much used for food, was the blood-red and fiery tasting *Haemodorum spicatum*, which was roasted and pounded together with bland foods to make a spicy meal.

Makuru (June and July) was the time to dig granite pink tubers (*Tribonanthes* spp.). Swans began moulting in June and, being unable to fly, made easy prey. Together the women and children would drive the swimming birds across the



Fruits of the zamia (*Macrozamia riedlei*) had to be processed to remove toxins before they could be eaten.
Photo - Jiri Lochman

Swans were easily caught during their moulting season, when they were unable to fly.
Photo - Jiri Lochman

open water of the lake or river to the men, who waited, concealed, for the birds to come within reach.

Isaac Scott Nind observed in 1831 that during winter when people were travelling they scarcely went anywhere without a smouldering branch of bull banksia (*Banksia grandis*) held beneath their *booka* (kangaroo skin cloaks). Fire was generated using the slender flower stems from blackboys (*Xanthorrhoea preissii*). Fire was perhaps their most useful and precious resource, used in tool and artifact production, in food preparation and cooking, for hunting and driving game, for warmth, and for signalling; the hearth provided comfort

and company. Blackboy was the home of the luscious edible wicketty grub, up to a hundred of which could be found in a good tree. Skilled eyes could tell at a glance whether any particular plant held an abundance of grubs.

During Makuru and Djilba, the winter period, the people dispersed to their inland hunting areas once water supplies in the dry portions of their territory were considered reliable. The tubers of native potato (*Platysace cirrosa*) were dug from beneath the wandoo at this time; kangaroos, emus and quenda (*Isoodon obesulus*) were hunted, and possums were driven from their tree hollows with smoke.



Stones used to grind fruits and seeds.
Photo - Doug Elford/WA Museum

Possums were driven from their tree hollows with smoke.
Photo - Jiri Lochman

The flowering of the WA Christmas tree (*Nuytsia floribunda*) was a clear indicator to move to the cooler coastal areas.
Photo - Jiri Lochman

The sign to return to the coast as the warmer weather approached at the end of Djilba and on into Kambarang, (October and November) was the flowering of the Western Australian Christmas tree (*Nuytsia floribunda*). After taking slabs of bark from the trees to make shields, families returned later to collect and eat the raw, sweet gum that oozed from the 'wounded' trees, now spectacularly in flower. In the coastal heathlands many different berries and fruits were collected, particularly those of the native cranberry (*Astroloma* spp.), wild pear (*Persoonia* spp.) and native peach (*Santalum acuminatum*). Also sought at this time were supplies of gum

from various wattle trees, and *Dioscorea hastifolia*, a yam which was dug up by women using a long *wanna* (digging stick). The shoots and tips of the yams were thrown back into the holes from which they had been dug to preserve the species. The season also brought a natural increase in game, some of which were trapped by being herded into trampled brush where they became tangled and were easy prey to armed hunters surrounding the scrubby habitats.

Also in Kambarang, the last red beak orchids (*Burnettia nigricans*) and native potatoes (*Platysace cirrosa*) were dug before the dispersed groups moved back

towards the coast. This time, when small family parties linked to form larger bands, was also known as *man-ga* (nesting season). As the season advanced the people prowled the forests in pursuit of waterfowl, birds' eggs, and fledgling squabs, parrots, cockatoos, hawks and pigeons, which were all plucked from their nests. Hunting also focused on the swamps and wetlands, where freshwater crayfish and edible frogs were caught by hand in the shallows, and freshwater tortoises were easily caught in the dwindling pools. These delicacies, along with the starchy tubers of arrow grass (*Triglochin procera*), were roasted together in the ashes of camp fires.

Birak was the hot time of December and January, which saw the lighting of controlled local fires in the scrublands. Such fires forced kangaroos and western brush wallabies out into the open so they could be speared more easily. Burning continued until Bunuru (autumn) to reduce undergrowth and bring on the lush growth of grasses and young plants in Djilba (late winter, early spring), which in turn attracted animals later in the cycle. Women and children also fired the bush for animals up to the size of bandicoots. As the fires swept through selected patches of bush, many reptile species, such as race-horse goanna, shingle-back lizard, and small marsupials fleeing the flames were dispatched with clubs and sticks. As soon as the ground fire passed, the group searched the ashes for burnt lizards and snakes, which were collected in great numbers. Birak was also the time of large gatherings to participate in drinking the nectar from the banksia flower spike steeped in water. The resulting honey-sweet beverage was known as *mungitch*.

The onset of Bunuru brought the Nyungar people to the start of another year.

PLANT RESOURCES

Aborigines looked at plants in a fundamentally different way from European explorers and colonists, and this presented problems for botanists trying to identify local plant species. The same plant species may have had several names, often linked with the use to which the plant could be put. If an individual example of a particular tree species had strong straight stems it might be called

a 'spear tree', because its stems were ideal for making spears. However, another example of the same species growing nearby might have had curved branches, so its name would be more appropriate to another possible use: for example, in the construction of a hut.

Looking at plants in this way enabled the Nyungars to make the best use of the resources around them. Each plant had its own use and some had several. One



plant had so many uses it was almost held as sacred.

The *balga* (blackboy) probably provided the most resources of all the plants used by the Nyungar people. Its flowering stems provided an edible gum, honey, and frame poles for huts. When the stems were dry they were used for making fire-lighting drills. The leaves of the plant were used as a thatch for huts and for bedding. As well as being a popular



habitat for wicketty grubs, the trunks provided an extremely strong resin used for cementing tools. Dead trunks made excellent firewood and would readily catch light.

The red gum from the marri tree also had several uses. The tannin in the gum gave it antiseptic properties. It was powdered and sprinkled into open wounds, or mixed with water in a low concentration as a mouthwash or in a higher concentration as a disinfectant. When mixed with clay and water it could be used as a medicinal drink for dysentery. Large quantities of the gum, when powdered, could have been used to tan leather. If powdered resin is put into a fresh kangaroo skin and rolled around for a few days, repeating the process several times, the tannin in the gum eventually tans the skin, making it strong and durable for use as a cloak, or as a bag for carrying food or tools. It is not certain whether this technique was practised by the local Aborigines, but it was certainly used by early settlers, who were also quick to take advantage of the medicinal



The stone blades of this axe are glued with *Bigo*, an extremely strong resin from the stem of the blackboy.
Photo - Doug Elford/WA Museum

The red gum from the marri tree has a variety of medicinal properties.
Photo - G. Saueracker/Lochman Transparencies

Kangaroos provided food and clothing for the Nyungar people.
Photo - Jiri Lochman

Aboriginal Name	Common Name	Other Names	Scientific Name
Baio	marri fruit of western zamia	arrow grass	<i>Triglochin procera</i> <i>Eucalyptus calophylla</i> <i>Macrozamia riedlei</i>
Balga, balka Bardi Bigo	blackboy wicketty grub	strong resin from the blackboy stem blood roots	<i>Xanthorrhoea preissii</i>
Bohn, Mardje, Martje Boolgalla Cadgeegurrup Cadgeegurrup Carta, kaadar Conrick, mnkar Djubak Doonar Gurhran	bull banksia red beak orchid	native cranberry wild pear racehorse goanna red gum from marri potato orchid edible frogs	<i>Haemodorum spicatum</i> <i>Banksia grandis</i> <i>Astroloma</i> spp. <i>Persoonia</i> spp. <i>Burnettia nigricans</i>
Guroyl, marlee Jilgy Jitta Kondil Kunart Mia Mimanga, mamang Modyar Ngon-yang Warrain	western brush wallaby WA Christmas tree warrine	swans freshwater crayfish wattle tree gum hut whales banksia flower nectar spear-leaved dioscorea native peach	<i>Macropus irma</i> <i>Cherax</i> spp. <i>Tribonanthes</i> spp. <i>Allocasuarina fraserana</i> <i>Nuytsia floribunda</i> <i>Dioscorea hastiflora</i>
Wonil Yanjet Yargun, buyi Yonger Yoork, Youck Youern	sweet quandong bulrush oblong tortoise bob-tail skink	long-necked tortoise kangaroo native potato shingle-backed lizard	<i>Santalum acuminatum</i> <i>Typha domingensis</i> <i>Platysace cirrosa</i> <i>Tiliqua rugosa</i>

properties of the gum.

The Nyungar people had a very ordered way of life. Their hunting and gathering patterns were guided by the six weather-based seasons, and their resource-based sense of observation enabled them to make the best use of the available plant and animal resources. Though they could never be called farmers in the accepted sense, some of the Nyungar land management practices helped to ensure that sufficient resources would be available to them the following year. While selective burning of bush areas enabled them to catch large numbers of mammals and reptiles for food, it also provided new vegetation to attract similar animals back in subsequent years. Essentially, they took from the land only what they needed to survive. Many of the plants and animals that were taken had more than one use for the Nyungars - kangaroos provided both food and clothing. Little, it seems, was wasted.

In conclusion, Josephine Flood states, in her book *Archaeology of the Dreamtime*, that:

'Hunter-gatherers have been described as the original affluent society, and an examination of archaeological and ethnographic evidence lends support to this view. Whether gathering Bogong moths or hunting seals, leaching poison out of cycads or re-planting yams, Aboriginal people evolved a series of successful, varied economies. These broadly based economic systems allowed them to exploit and to survive in a wide range of environments where European agriculture proved to be an abysmal failure. Extensive use was made of fire as a hunting tool, modifying the Australian vegetation so profoundly that contemporary flora has been called an aboriginal artefact.

'The achievements of early Australians are constantly under-estimated by those Europeans who judge a society solely by its material possessions. The real richness of Aboriginal culture is thus only now beginning to be appreciated, as anthropologists reveal their incredibly complex social and religious systems and archaeologists uncover the distant past of this heritage.'



The blackboy (*Xanthorrhoea preissii*) provided so many resources it was considered to be almost sacred.
Photo - Brian Downs/Lochman Transparencies

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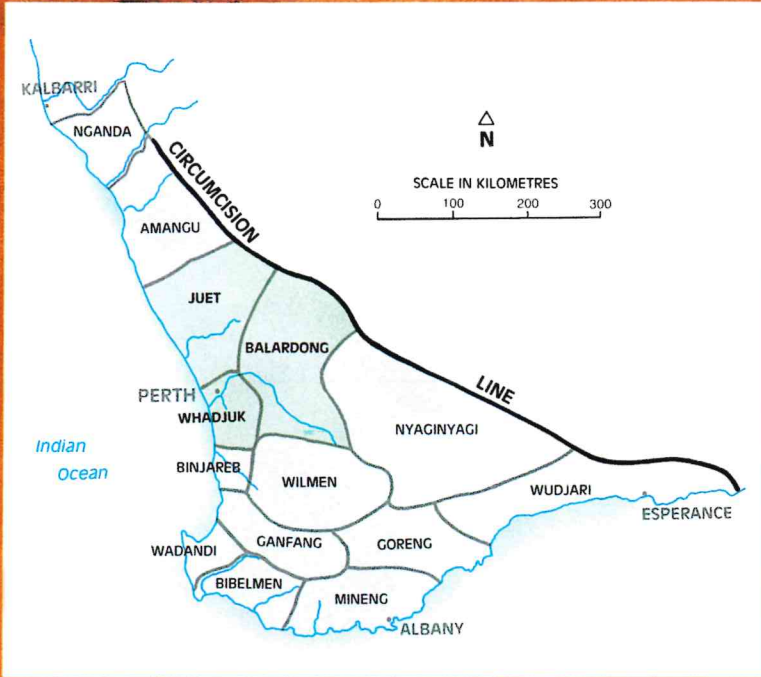
DISCOVERING THE DREAMS

The area that is now the Walyunga National Park was an important *kalleep* (favourite camping or meeting place) for the *gurr* (extended family) of a local Nyungar named Coondebung. The area is rich in Aboriginal legend, being significant to two creator beings - the *Waugul* (rainbow serpent) and the *Tjitti Tjitti* (willy wagtail). There are two Heritage Trails within the park. The Walyunga Heritage Trail runs along the Avon River upstream from Walyunga Pool and is guided by information boards along the trail. Coondebung's Kalleepgurr Heritage Trail is particularly important to the Nyungar people and can only be explored by groups accompanied by a guide from the Nyungar Community.

The Yaberoo Budjara Heritage Trail is a 28 kilometre walk from Lake Joondalup, in the Yellagonga Regional Park near Wanneroo, through Neerabup National Park to Yanchep National Park. The trail is based on the Yellagonga tribe's pathway linking the linear lakes of the coastal plain. It highlights features of natural, Aboriginal and historical significance.

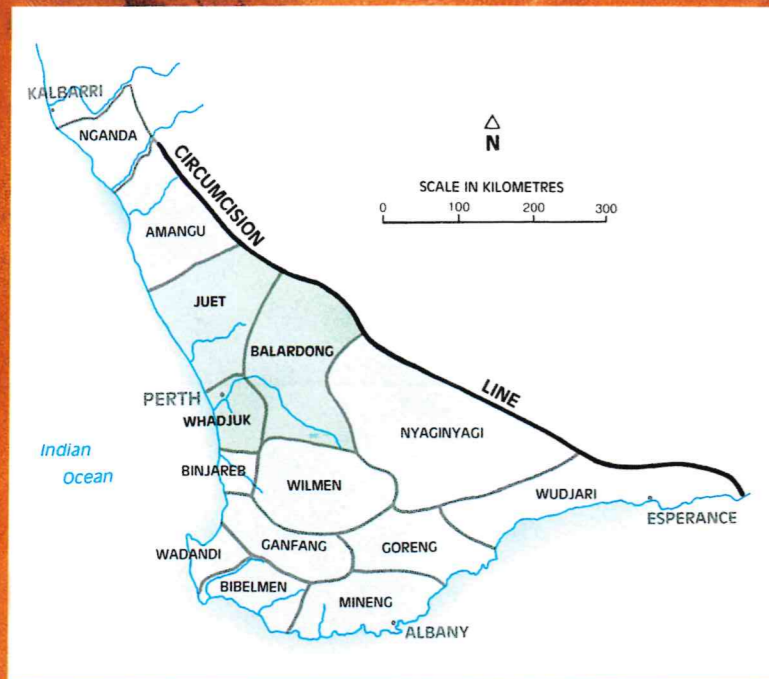
The Yanjidi Trail, in Yanchep National Park, is a two-kilometre trail that runs through the heart of the Loch McNess wetland. This, and other trails, have been used for guided tours interpreted by Trevor Walley and other CALM Aboriginal staff. These guided tours have been a very popular part of seasonal activity programs in The Hills Forest and national parks.

Information on activity programs and Aboriginal Heritage Trails can be obtained from the Department of Conservation and Land Management (CALM), the WA Heritage Committee, or from the ranger's office in the appropriate park.



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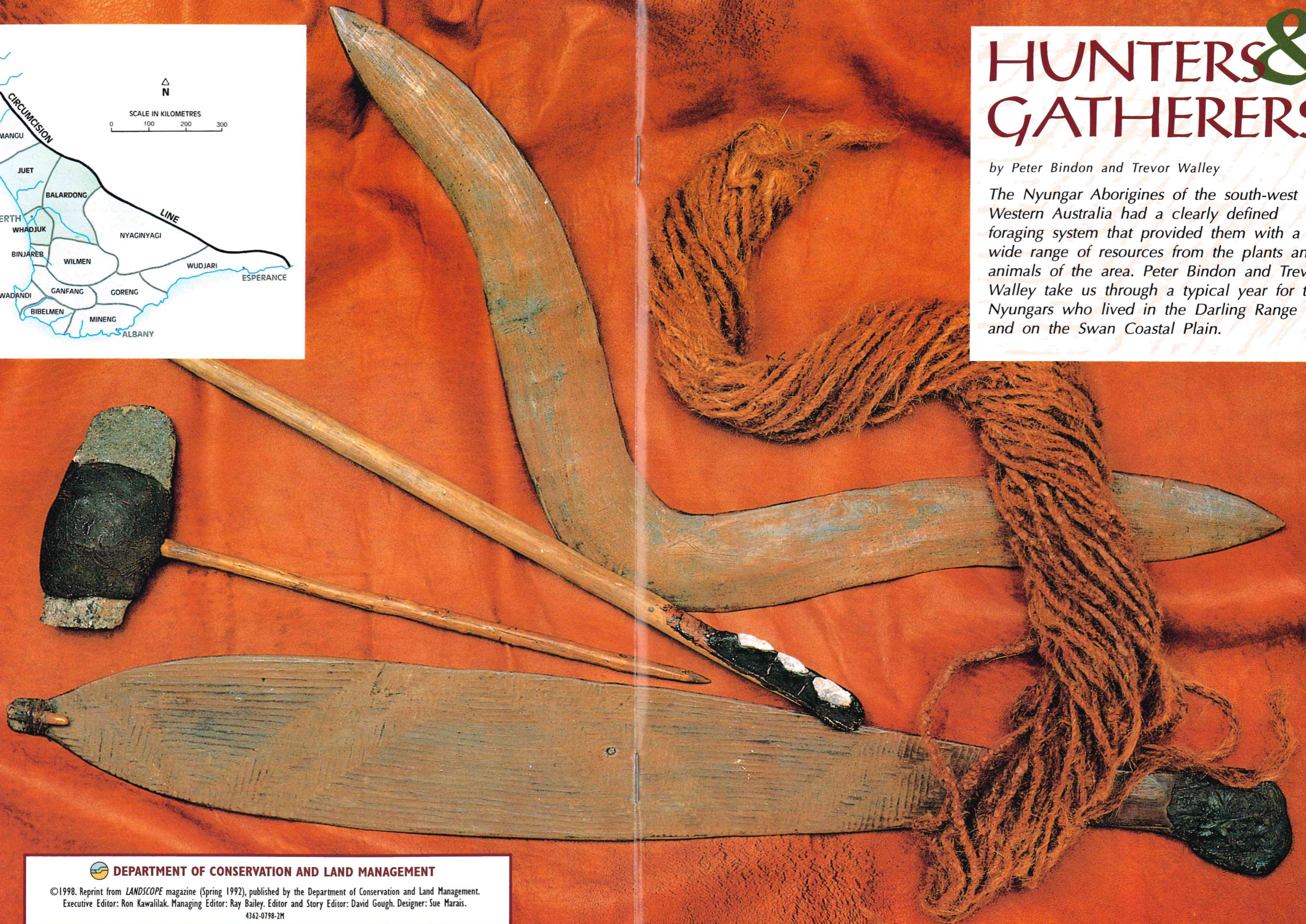
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