



*One of the few surviving baskets from western Victoria
dating from the nineteenth century. This two-handled
basket was made at Lake Condah.*

MUSEUM OF VICTORIA

SWAMP MANAGERS OF SOUTHWESTERN VICTORIA

HARRY LOURANDOS

THE FERTILE VOLCANIC PLAINS of southwestern Victoria, fringed by a wind-swept humid coastline, were among the most densely populated regions of Aboriginal Australia. The people who lived there practised intensive gathering, hunting and fishing economies that included the management and manipulation of plants, animals and fish. They established semipermanent base camps and their ceremonial and political life involved large social networks.

No European accounts exist of Aboriginal life in this region until a few years after sheep in their thousands first grazed across the fertile plains. One early settler, James Dawson, later compiled a sympathetic study of traditional life, while the Chief Protector of Aborigines, George Augustus Robinson, toured the area in 1841, only seven years after the first squatters had arrived there.



The broad basalt plains lie between the Grampian Ranges and the coast. Their rich soils are the product of volcanic activity so recent that several volcanic peaks erupted during the time of Aboriginal occupation. Small volcanic hills such as Tower Hill dot the undulating plains. Westerly winds and cold fronts are the source of most rain, which falls mainly in winter. Summers tend to be dry. Rainfall is most dependable along the coastal fringe and averages 1400 millimetres in the humid Otway Ranges of the southeast and less than 600 millimetres on the driest of the plains. Large stretches of land are flooded during winter months and, along the coast especially, year-round marshlands prevail. Travel was easiest along the inland plains, but extremely difficult in some coastal areas.

The vegetation consisted of grasslands and savannah woodlands on the extensive open plains, with areas of scrub along the coast. Because the lava flows interfered with drainage, there were numerous swamps that supported abundant waterfowl and other life. Eucalypt forests, as well as some rainforests, covered the ranges. Rugged, mountainous Cape Otway was an enclave of wet vegetation and rainforest.



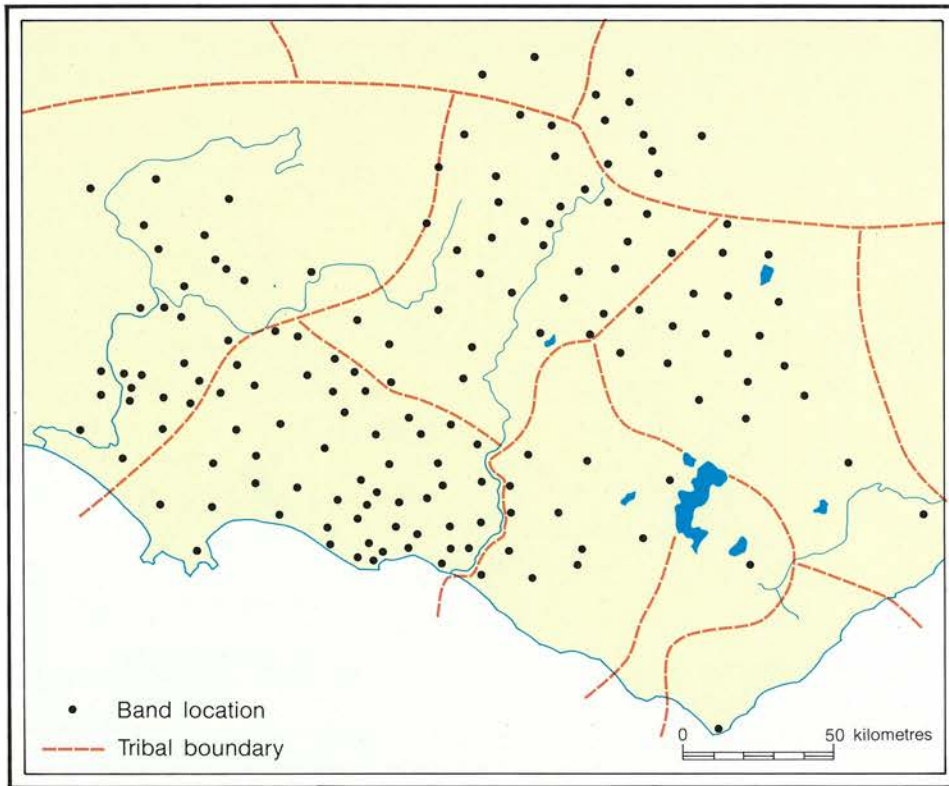


A group of Victorian Aboriginal men of the upper Yarra region photographed in 1853. Those standing wear traditional cloaks made from a number of skins of either possum or young kangaroo sewn together. Those seated wear European blankets. The men display a variety of traditional weapons including shields, clubs, spears and boomerangs.

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As in other regions of Aboriginal Australia, people lived in local groups of between 50 and 100 individuals that anthropologists refer to as bands. A band was composed of a group of related males, their wives, children, relatives and sometimes friends. Individuals were free to move between closely related bands, and thus band composition was in a constant state of flux, which bewildered many Europeans. Each person also belonged to a particular clan that tied him or her spiritually to a particular parcel of land, the clan territory or estate. Clans therefore *owned* land, in a spiritual sense. Permission for bands to use land and its resources had first to be obtained from clan elders. Band members generally came from a number of clans. Like clans, bands were most often identified with a particular tract of territory or range from which they took their name. For example, the Tappoc Condeet were located near Mount Napier which was called Tappoc. 'Condeet' was the term used for a group of people. Therefore, the Warnabul Condeet referred to a band or clan located at present-day Warrnambool.

Bands were led by one or two prominent males. Robinson described these leaders or delegates as shrewd and discreet men, held in great respect by the members of other groups. Band movements were directed by these men and by older people in general. Men of status also were generally clan elders, who acquired further prestige and power through their individual talents as well as by organising ceremonial performances and gatherings, by giving and receiving valuable gifts through exchange relationships with senior males of other groups and by arranging large hunts. Their magical-religious powers enhanced their reputation, as did the acquisition of numbers of wives. Since older men of status commonly had several wives, younger men were often denied wives until they had passed through several stages of initiation and had attained a mature age—sometimes well into their thirties. Men obtained wives from other clans and girls were often betrothed at



The distribution of known Aboriginal bands of southwestern Victoria located within generalised group boundaries. Information on the bands was derived from G.A. Robinson (manuscripts and papers 1841). More information on bands is available in some areas than in others.

J. GOODRUM

birth to mature men. This system ensured that men of status were united through these marriage bonds.

Groups of related clans formed alliances for political and economic as well as social reasons. The most common of these social units was the dialect group. Members all spoke the same dialect language and generally interacted (and married) with each other more than with other people. There were also larger units in the region and over wider areas of southern Victoria. These were made up of groups speaking related dialects of the same language and acted as a form of extended social and marriage network. Southern Victoria had at least three of these complex networks—a central Kulin based on the Melbourne area, an eastern Kurnai in Gippsland, and the Mara, Gunditjmara or Manmeet which took in the coastal half of the western district. The central Kulin was made up of five or six dialect languages and the Kurnai and Mara of five each. The networks were large, both in population and in area: the Mara, for example, contained around 3500 people, and the eastern half of the Kulin territory was roughly the size of Tasmania. These were not therefore a series of small, nomadic societies but larger and more complex ones. They were disrupted by the swift depopulation of the region that followed contact with Europeans and their diseases.

Though older men were powerful, there was no centralised political authority. Related groups of clans were bound together mainly through complex kinship ties established through marriage, and individuals could expand their sphere of influence through multiple marriages. Interaction between bands and groups helped people make the best use of natural resources. Local populations used good seasons to hold meetings and ceremonies with other groups, and in good seasons or bad they co-operated to husband resources. Such interactions also included the exchange of valuable raw materials and helped to regulate the social and political

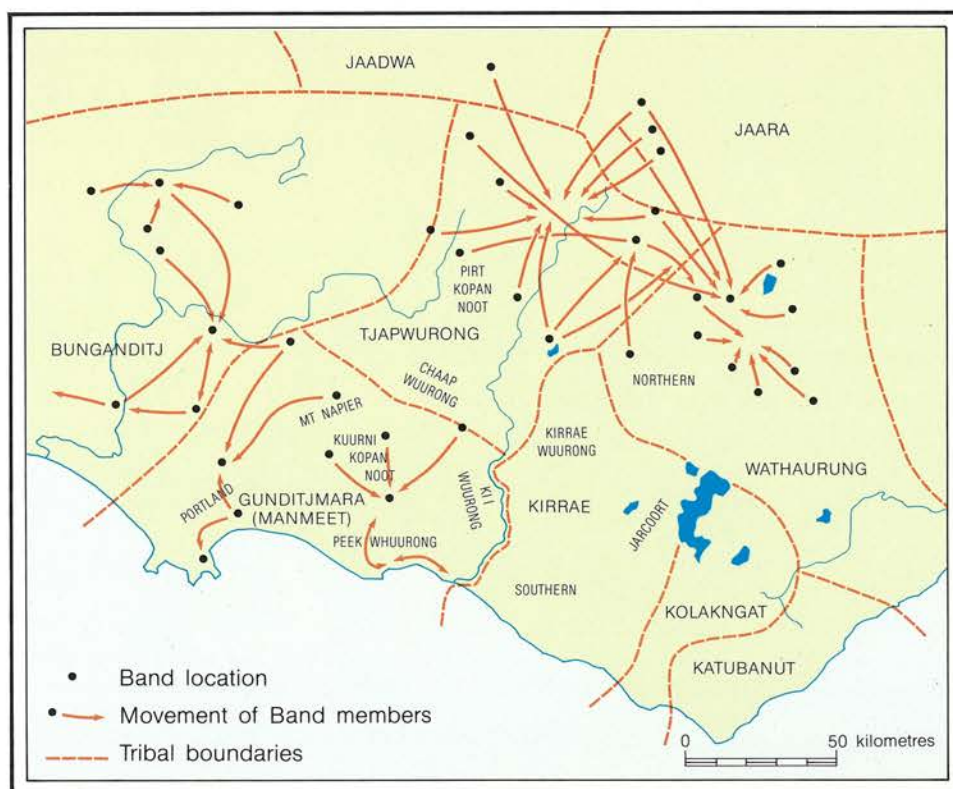


The main linguistic and social networks of southern Victoria. The three major networks of Mara, Kurnai and Kulin are indicated in the regions of southwestern Victoria, central Victoria and the Gippsland region of southeastern Victoria.

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Aboriginal boundaries and dialect groups of southwestern Victoria. The arrows indicate the known movements of individuals between bands.

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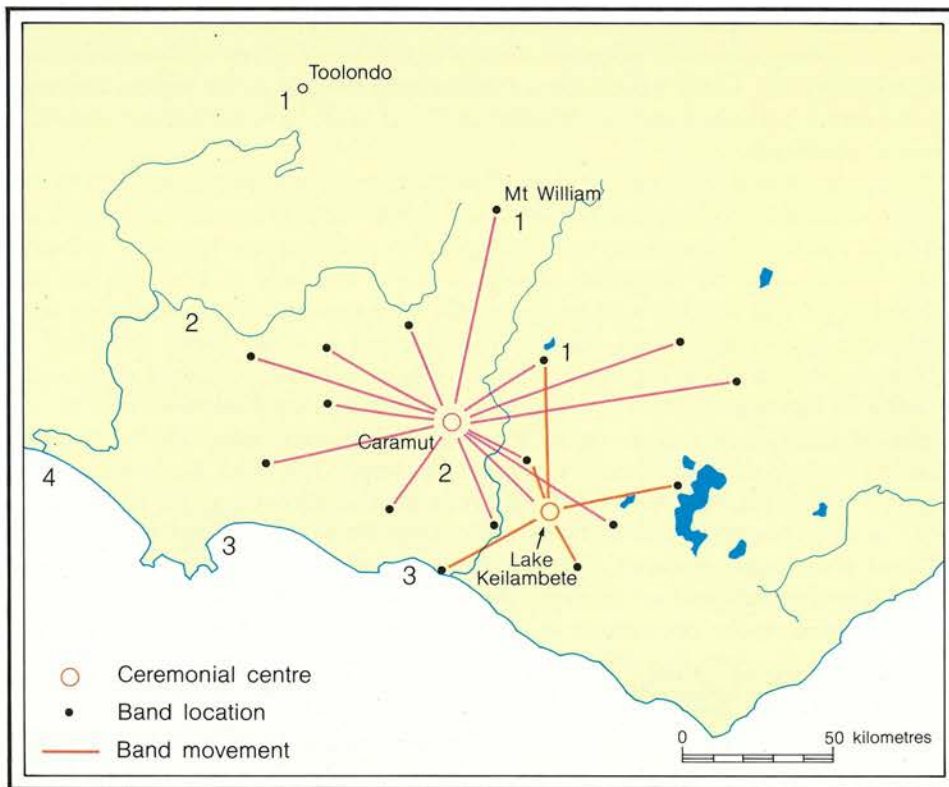
A mother and child from the Wando River, western Victoria. The woman wears a large circular reed mat, used as a cloak or hat during bad weather as well as a container. She also carries a digging-stick, firebrand and dilly-bag. Her child is wrapped in a fur rug. T. Mitchell, Three expeditions into the interior of eastern Australia, 1838

relationships between the clans. The largest gatherings, attended by as many as a thousand people, occurred during the seasons of eels and migratory fish (autumn), birds' eggs (spring) and whales (autumn, winter). Great public hunts across the open plains were held in the summertime, with marsupials and emus as the prey.

Peace did not always prevail. There was intense competition for land and natural resources—eels, emus, duck eggs, acacia gum (as food) and stone for axes—especially at the borders between social groups. Disputes over fixed territorial rights and accusations of breached agreements could lead to bloodshed. The wide range of spears, clubs and shields from the region suggests that combat, or at least antagonistic display, was frequent. More peaceful competitiveness was expressed during the great festivals and ceremonies by indigenous football matches involving up to one hundred players using a ball of possum skin, as well as wrestling matches.



Despite the depopulation of the early European period, it is possible to estimate population sizes and densities. Estimates based on Robinson's information on band and clan composition, numbers and distribution, range from 1.5 to 2.3 square kilometres per person in the most fertile coastal area (Peek Whuurong or Port Fairy) and 2.6 to 3.9 square kilometres per person in the inland region south of the ranges (northern Tjapwurong), a population for the whole region of at least eight thousand. The density estimates roughly concur with those of comparable neighbouring environments—the Coorong (South Australia) and the Goulburn River regions. The coastal densities for the Peek Whuurong are also close to some of the highest Australian densities, those of coastal Arnhem Land. As Victoria had been ravaged by introduced diseases spreading ahead of European settlement, numbers before contact must have been greater.



The main intergroup ceremonial and trading centres in southwestern Victoria at the time of European contact. There were two central networks: (a) at Caramut in midsummer with the widest range of members and (b) in the Lake Keilambete–Terang region. Terang was a centre for the exchange of goods. The numbers refer to the chief natural resources around which these occasions were held. (1) eels; (2) mass hunts (land mammals and birds); (3) whales; (4) native fruit.
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A TRADING MEETING

described by James Dawson

At the periodical great meetings trading is carried on by the exchange of articles peculiar to distant parts of the country. A favourite place of meeting for the purpose of barter is a hill called Noorat, near Terang. In that locality the forest kangaroos are plentiful, and the skins of the young ones found there are considered superior to all others for making rugs. The aborigines from the Geelong district bring the best stones for making axes, and a kind of wattle gum celebrated for its adhesiveness. This Geelong gum is so useful in fixing the handles of stone axes and the splinters of flint in spears, and for cementing the joints of bark buckets, that it is carried in large lumps all over the Western District. Greenstone for axes is obtained also from a quarry on Spring Creek, near Goodwood; and sandstone for grinding them is got from the salt creek near Lake Boloke. Obsidian or volcanic glass, for scraping and polishing weapons, is found near Dunkeld. The Wimmera country supplies the maleen saplings, found in the mallee scrub, for making spears. The Cape Otway forest supplies the wood for the bundit spears, and the grass-tree stalk for forming the butt piece of the light spear, and for producing fire; also a red clay, found on the sea coast, which is used as a paint, being first burned and then mixed with water, and laid on with a brush formed of the cone of the banksia while in flower by cutting off its long stamens and pistils. Marine shells from the mouth of the Hopkins River, and freshwater mussel shells, are also articles of exchange.

The Australian Aborigine, 1881, 78

The overall limiting factor on Aboriginal subsistence appears to have been seasonal variation. Spring and early summer were the seasons of greatest abundance, and winter the leanest. There is no evidence of extreme scarcity in any season, although unpredictable variations such as drought or flood must have sometimes seriously depleted resources.

Along the coastal strip and around swamps, marshes and perennial waterways, people remained at one place for several months each year, sustained there by abundant and reliable resources and constructed permanent base camps or 'villages', as they were called by European observers. These consisted of between ten and thirteen large and durable domed huts made of wood and clay, sometimes with stone foundations and walls. Large artificial earth mounds were also used as habitation sites in these locations. These 'villages' formed part of a permanent network of base camps among which people moved throughout the year.

The wetlands had a high capacity for annual regeneration. Their resources included both local and migratory species: fish (especially eels), birds, eggs and a range of edible plants. The location of wetlands also allowed access to a diverse range of neighbouring environments, such as the fertile open plains and forests.

Plants were staple items of diet. The favourite plant food was the tuber, yam daisy (*Microseris scapigera*) or *murnong*. As Robinson recorded in his diary, tubers were collected on the open plains in large quantities:

Today the native women were spread out over the plain as far as I could see them, collecting *punimim*, *murnong*. I inspected their bags and baskets on their return and each had a load as much as she could carry. They burn the grass, the better to see these roots.

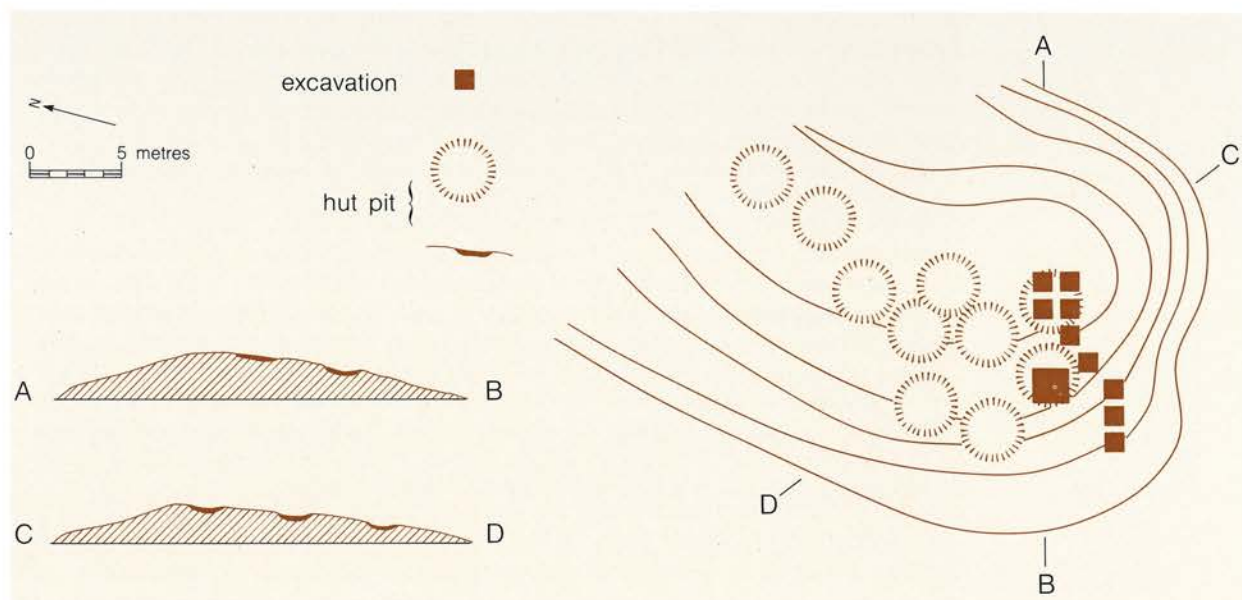
A group of women digging for yams *Microseris scapigera*.
From a painting by W.A. Cawthorne, c 1840.
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Dawson seems to have observed the process in even more detail. In an account of the Aborigines' diet, he wrote:

Of roots and vegetables they have plenty. The *muurang* [*murnong*], which somewhat resembles a small parsnip, with a flower like a buttercup, grows chiefly on the open plains. It is much esteemed on account of its sweetness, and is dug up by the women with the *muurang* pole. The roots are washed and put into a rush basket made on purpose, and placed in the oven in the evening to be ready for next morning's breakfast. When several families live near each other and cook their roots together, sometimes the baskets form a pile three feet high. The cooking of the *muurang* entails a considerable amount of labour on the women, inasmuch as the baskets are made by them; and as these often get burnt, they rarely serve more than twice. The *muurang* root, when cooked, is called *yuwatch*. It is often eaten uncooked.

Although *murnong* was collected throughout the year, it was alternated in winter months with a cold-weather staple, the convolvulus (*Convolvulus erubescens*). Other favoured plants included bulrushes (*Typha* sp), orchids (*Diurus pedunculata*), sedge (*Eleocharis sphacelata*) and bracken fern (*Pteridium esculentum*). The root of the bracken fern was pounded to extract its starch, which was then baked on the ashes as a form of bread. This species has a carbohydrate content higher than potato.



A ground plan and cross-section of the coastal archaeological site of Seal Point on Cape Otway, western Victoria. The group of ten circular pits conforms to historical descriptions of Aboriginal hut pits of the region. The archaeological excavation squares are also indicated.

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Land and resource management practices helped not only to conserve the environment but also to enhance production of selected species and environments. Controlled burning replaced forest with savannah, encouraged annual species, exposed feed for birds and animals and rejuvenated swamplands by removing marsh growth in dry months.

The use of fire to expose particular plant species such as *murnong* had other ecological effects: competing plants were eliminated; the range and therefore numbers of the tubers and rhizomes (such as *Pteridium*) were extended, as they prefer an open habitat; and the storage capacity of the tubers was probably increased. Tubers store starch in their underground organs as a seasonal survival mechanism and this can be encouraged by fire. As well, the digging methods employed in the collection of *murnong* helped to promote its growth and distribution by thinning out clumps of tubers and aerating the soil.

Coastal areas were more productive in the summer months and so supported higher population densities during that season. However, European observers noticed dense Aboriginal populations close to the coast even in the colder months. Resources that were exploited along the coast included fish, shellfish, aquatic plants and marine animals such as seals and whales. Whales were cut up on beaches where they were periodically stranded, sometimes in great numbers. There are also accounts of Aborigines using fire to lure whales ashore. Animals such as kangaroos and wallabies were taken by being driven over coastal cliffs.

In parts of the open plains and wooded ranges, where resources were dispersed and less dependable, the population was more thinly spread and more nomadic. Hence, makeshift shelters were employed in these areas. On the open plains the larger marsupials and birds (emu, plains turkey, crane) were hunted, sometimes in large communal drives that took place in both winter and summer.

The mobility of the population helped to overcome both seasonal and unexpected variations in resources, and a wide range of specialised fishing, hunting and food-processing equipment was employed. It seems, however, that only short-term food storage was attempted: for example, meat and other delicacies such as brains were cooked or dried, eels and whale meat were buried for an indefinite period, and large quantities of acacia gum (as food) were cached.

A HUNTING DRIVE

described by James Dawson

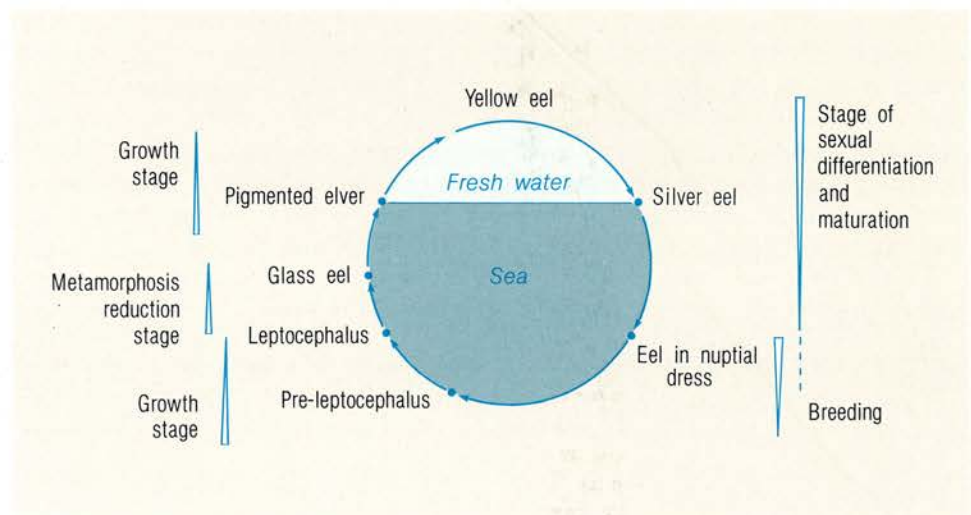
When it had been agreed by the chiefs of the associated tribes to have a grand battue, messengers were sent all round to invite everybody to join. As each tribe left its own country, it spread out in a line, and all united to form a circle of fifteen or twenty miles in diameter. By this means the kangaroos and emus were enclosed, in order to be driven to an appointed place—usually on Muston's Creek, a few miles from its junction with the River Hopkins. To this place the old people, women, and children of the several tribes had previously gone, and were there encamped. At a fixed time the circle was perfected by arranging the men so that they stood about two hundred yards apart. The circle then began to contract. As they drew near to the central camp both young and old joined them, and formed a line too compact to allow the escape of the game; which, frightened and confused with the yells and shouting all around, were easily killed with clubs and spears.

The Australian Aborigine, 1881, 79

Eels were the most prized of fish and one of the most nutritious. They were also the most plentiful freshwater fish. They provided the economic basis for the elaborate autumn meetings that were attended by many people for long periods. Sophisticated equipment was used for capturing large quantities of eels, including large-scale artificial drainage systems that operated as water controls.

The life cycle of the freshwater eel. The stages of an individual eel's biological development are: spawning in tropical waters; colonisation of coastlines and inland regions such as southwestern Victoria as a small elver; growth in freshwater environments as a yellow eel; metamorphosis to reproductive stage, and readaptation to saltwater conditions, as silver eel. (Adapted from Sinha and Jones, The European freshwater eel, Liverpool, 1975.)

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Throughout the year, eels were caught mainly by spear, but during their annual migration in March and April, that is, at the start of the wet season, they were harvested by such methods as traps and weirs. Robinson reported that eels were caught from fishing platforms at deep ponds or by wading into shallow water at the height of summer.

This afternoon 2 native blacks of the Boongorang tribe [Bunerong]... went to a lagoon about a quarter of a mile distant in the paddocks, and in a very short time caught about 40 pounds of eels. I saw them catching or rather spearing them of which they are very expert. They each had two spears... Having the

two spears grasped by the right hand ... they go into the water and keeping walking about at the same time jabbing their spears into the mud in a sloping direction ... if they jab in the spear which is ascertained by the feel they then turn it [the eel] up on the end of the spear. The second spear is jabbed into it while the first holds it down and then kills it. If not quite dead they bite the head and throw it on shore.

Robinson also described the fish traps and weirs constructed of stone, brushwork and wood.

At a creek connecting with the Hopkins ... I observed a large were [weir] at least 100 yards in length and though the first I had seen I was amazed by its structure and its situation ... the native said it was made by blackfellows for catching eels when big water came and was by them called *yere.roc*. He said they got plenty of eels and then showed us how they did it by biting their heads and throwing them on shore. The were was made of stout stick from 2 to 3 inches thick drove [driven] into the ground and vertically fixed—and other sticks interleaved in a horizontal manner. A hole is left in the centre and a long eel pot made of basket or matting is placed before it and into which the eels gather and are thus taken. It is probable that 2 or 3 such pots are left in large weres. This were must have been 100 yards long at least and made with wings or curved pieces at the end thus ...

These constructions operated by exploiting the movement of water. During a flood the fish were forced *en masse* into the traps where they could be easily harvested.

THE SHORT-FINNED EEL

The short-finned eel, *Anguilla australis*, is distributed from near Brisbane to southwestern Victoria. The Glenelg River, near the South Australian border, is its most westerly point of inland penetration. Eels spawn in tropical waters and travel as leaf-shaped larvae (*leptocephalae*) on ocean currents towards the land masses which they later colonise. As elvers, they enter coastal Australian rivers in their thousands, reaching Victoria in spring. The colonisation of inland waterways, lakes and marshes then begins, unimpeded by obstacles such as waterfalls and rapids. For several years the elvers grow and develop to the yellow eel stage, living on a varied carnivorous diet. Slow-flowing muddy rivers, alkaline lakes, drainage ditches and coastal lagoons are their favoured habitats, and support the largest populations.

Inland migratory behaviour in eels varies in time, and in response to local environmental factors. Scientists are still investigating the various agents triggering off migration. At migration time yellow or brown eels metamorphose to the silver stage, to enable them to adapt from fresh to salt water. In western Victoria the migration period appears to be the start of the wet season which begins around March. Increased flow of water activates migration.

Commercial eel fisheries today in Europe and Japan operate on technological principles little different from those of the Victorian Aborigines. Migratory eels within a particular river system can be captured without impairing the size of future eel populations, for migration continues from lesser waterways. Silver eels are more nutritious than salmon and most sea fish.

The most celebrated fishing or eeling ground in the western district was Lake Bolac. Both Robinson and James Dawson wrote that large numbers of people gathered there at the eeling season, which lasted from one to two months;

semipermanent and temporary villages were established and ceremonies held. As the observant Robinson noted:

At Lake Boloke [Bolac], during the eeling season, from eight hundred to one thousand natives at one time have been seen ... These masses are a collection of representative tribes, and the eeling ... seasons are wisely taken advantage of by them for holding their great social and political meetings ... This spot [Bolac], celebrated for its eels and its central situation, appears to have been fixed upon by general consent for the great annual meeting of the tribes of the interior ...

William Buckley, an escaped convict who lived with the Aborigines near Geelong for 30 years, also observed the activities of the eeling season. Messengers came to his people inviting them to a place later called Buckley's Falls and to a stream called Boonea after the eels with which it abounded. The river was in flood and at night 'dozens' of eels were caught by the light of fishing torches. The supply of small eels was 'inexhaustible'. The local people built houses near the river and were later joined by one hundred visitors including men, women and children.



THE ORGANISATION OF EELING

described by James Dawson

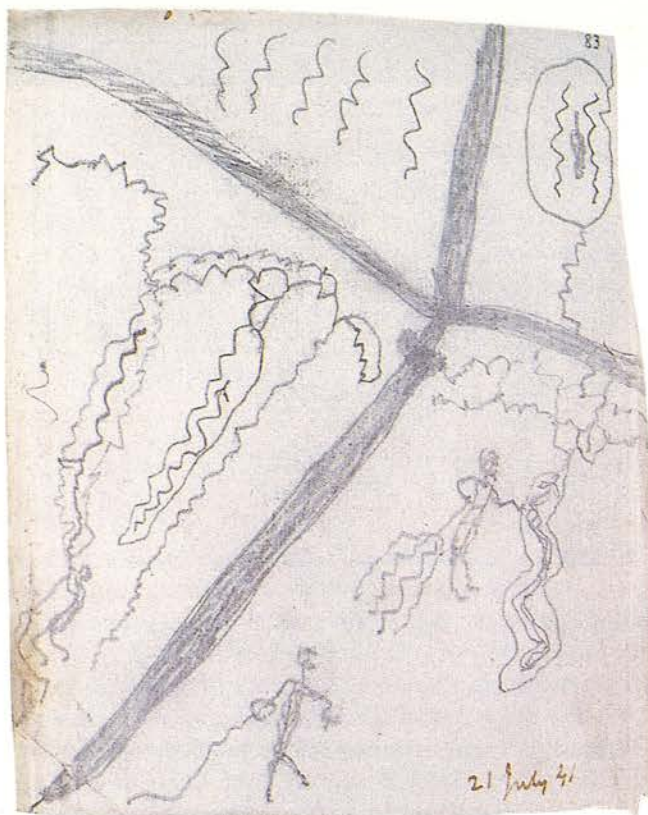
Lake Boloke is the most celebrated place in the Western District for the fine quality and abundance of its eels; and, when the autumn rains induce these fish to leave the lake and to go down the river to the sea, the aborigines gather there from great distances. Each tribe has allotted to it a portion of the stream, now known as the Salt Creek; and the usual stone barrier is built by each family, with the eel basket in the opening. Large numbers are caught during the fishing season. For a month or two the banks of the Salt Creek presented the appearance of a village all the way from Tuureen Tuureen, the outlet of the lake, to its junction with the Hopkins. The Boloke tribe claims the country round the lake, and both sides of the river, as far down as Hexham, and consequently has the exclusive right to the fish. No other tribe can catch them without permission, which is generally granted, except to unfriendly tribes from a distance, whose attempts to take the eels by force have often led to quarrels and bloodshed.

The Australian Aborigine, 1881, 94-5

A vast manmade drainage system for catching eels was also described by Robinson in the Mount William region, which lies near the foot of the Grampian Range, about one hundred kilometres inland.

At the confluence of this creek with the marsh [I] observed an immense piece of ground, trenches and banks resembling the work of civilized man but which on inspection [I] found to be the work of the aboriginal natives. Purpose consisted for catching eels ... These trenches are hundreds of yards in length. I measured in one place in one continuous triple line for the distance of 500 yards. The triple water course led to other ramified and extensive trenches of a most tortuous form. An area of at least 15 acres was thus traced over. These works must have been executed at great cost of labour to these native people. The only artificial device being the lever ... a stick chisel sharpened at one end by which

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Mt William and part of the Grampians, western Victoria, by Eugène von Guérard, 1865. The large swamp (foreground) may be the eeling swamp.

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force they threw up clods of soil and thus formed the trenches ... with their hands, the soil displaced went to form the embankment ...

The plan of these ramifications were extremely perplexing ... At intervals small apertures [were] left and were placed there arabine or eel pots. These gaps were supported by pieces of the bark of trees and sticks ... there must have been some thousands of yards of this trenching and banking. The whole of the water from the mountain rivulets is made to pass through this trenching ere it reaches the marsh. It is hardly possible for a single fish to escape. I observed at some distance higher up minor trenches too, and one through which part of the water ran in its course to the more extensive works. Some of the more extensive works were 2 feet in height, most of them a foot and the hollow a foot deep by 10 or 11 inches wide. The main branches were wider.

The archaeological site of Toolondo reveals one such system of drains. Toolondo is located at the foot of the Great Dividing Range (Black Range), in the extreme northwest of the western district. As the region adjoins the drier plains to the north, rainfall at around five hundred millimetres per annum is lower here than the western district average. Because the country is flat, natural watercourses are not well developed, and scattered swamps and seasonal marshes form during the winter. In summer, however, it is subject to drought.

The Toolondo site consists of 3.75 kilometres of drainage channels connecting the Budgeongutte and the Clear swamps to a slightly elevated area of seasonal



A sketch from G.A. Robinson's manuscripts, 1841, of eight large hollows dug into an artificial earth mound, or Aboriginal camping spot, located around the Mt William drainage system. Each social group used an individual mound. The largest of the mounds was 31 m long, 19 m wide and 2 m high.

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marshlands that lies between them. The marshland is composed of natural depressions (*gilgai*), which are typical of the region and are often demarcated by clumps of rushes. Three main lengths of connected drains took runoff from the elevated swampy ground down into both swamps with two connections into the Budgeongutte. The drains were designed to connect this series of seasonally inundated depressions and thus produced a rather irregular drainage pattern.

The drains are at their widest at the points of entry into both swamps. Near the Clear Swamp, excavation shows the drains to be 2.5 metres wide and over 1 metre deep. Average dimensions, however, were 40 to 50 centimetres in width and 40 centimetres in depth, close to the size of the smaller drains observed by Robinson.

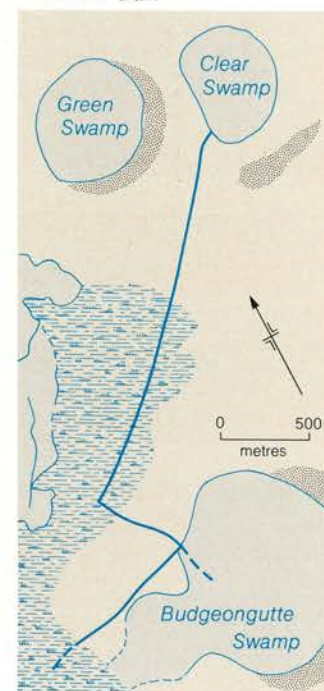
Excavations also reveal aspects of the original construction. In places the drain had been cut in a V shape through an upper sandy layer and well into the underlying, concrete-hard clay. At a later stage the channel has been recut. The drains ceased to be used at about the time white settlers arrived in the area, and began to fill with debris.

The location and structural features of the drains leave no doubt that they were made by humans. Aboriginal artefacts (chipped flakes and cores of quartzite) were found lying in the fill of the drains, and the irregular plan of the system does not resemble European drains.

The drains' construction took advantage of the natural hydraulic system, ensuring that runoff and seepage water produced a fast current down the drains and into both swamps. When rain came in autumn and the swamps overflowed, eels and other fish were flushed out of the swampy ground and into the drains, where an elaborate series of traps had been prepared. The artificially increased flow of water encouraged silver eels to begin their migratory run.

The Mount William system described by Robinson, might have worked like the one at Toolondo. In overall scale the two appear similar, though their forms differ. Each would have required the work of many hands to build and maintain.

The locations of both systems are significant. The Toolondo site lies a few kilometres north of the Great Dividing Range, between coastal and inland river systems. The Budgeongutte Swamp is connected to the coastal river system, the northern Clear Swamp is not: the two swamps have no natural connection. So the

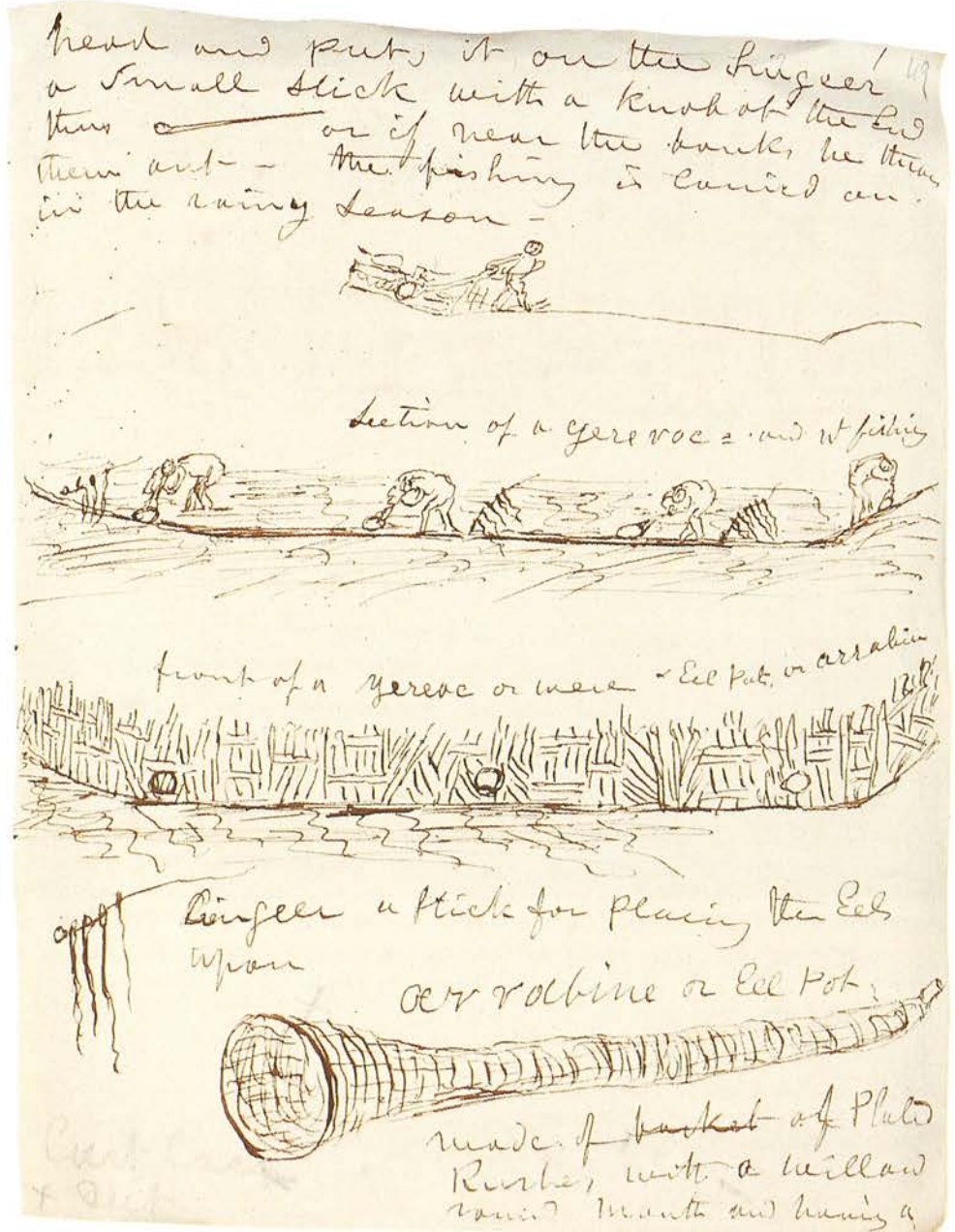


Map of the archaeological site of Toolondo showing some four kilometres of artificial drainage channels connecting two main swamps—Clear Swamp and Budgeongutte Swamp. These Aboriginal drains resemble those described by G.A. Robinson in the Mt William area of southwestern Victoria.

J. GOODRUM

Sketches from the journals of G.A. Robinson (1841) depicting eeling and fishing during the wet season of autumn and winter in southwestern Victoria. At the base is a large eel pot constructed of basketry and probably over two metres long. Above it is drawn an eel rod or lingeer strung with eels. Further above is a large weir constructed of wood and wickenwork, with three round apertures over which eel pots were placed. Above this sketch is another that shows eeling in progress; three people extract eels from each of the three round apertures and then string them on eel rods, while a fourth deposits the eels in a pit dug on the bank of the stream, to the side of the weir. The top sketch shows the use of the eel pot by one individual.

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drains provided access for eels into swamplands lying immediately to the north. The Mount William site is in a similar situation; in fact, Toolondo and Mount William are the only two locations in the region where the headwaters of the coastal and inland river systems are close enough to be artificially connected. The extension of eel range, by providing access to inland swamps and waterways, would also have led to an increase in the annual production of eels.

The size and form of the drains suggest that they were more than just devices for harvesting eels. They operated as a form of swamp management, coping with excess water during floods and retaining water in times of drought. By providing a relatively stable water supply, they helped to regulate the size of the local eel population at all seasons. Since eels flourish in watercourses of this kind, the

drainage ditches might also have increased the local eel population. The complex six-hectare maze at Mount William and the works at Toolondo could be viewed, in effect, as eel 'farms', or at least managed eel habitats.

As access to dependable food resources was needed for intergroup festivities and ceremonies, the eel fisheries played a vital role in group welfare. The Mount William region was inhabited by interrelated groups of bands belonging to the Tjapwurong, Jaadwa and northern Wathaurung, a quite different population or network from the one using the rich eel fisheries at Lake Bolac some 45 kilometres to the south, or from that using the Toolondo swamps 80 kilometres to the west. The survival of these social networks thus depended mainly upon eels, as did the prestige of individual clan elders and their following. Everybody involved in these competitive politics had therefore an incentive to work a little harder—in this case by digging ditches and constructing weirs and eel traps—in order to ensure a dependable supply of eels.



Aerial view of the southern portion of the Toolondo drains as they exist today. Two Aboriginal channels can be seen entering at the same place along the margins of the Budgeongutte Swamp.

Environmental manipulation and earthworks on this scale resemble those of agricultural and horticultural societies traditionally considered to be technologically more advanced than Aboriginal hunters and gatherers. Yet in both cases we are dealing with land and resource management. The social and political complexity of this region, with its extensive networks and intergroup festivities, ceremonies and exchange, can also be compared with that of traditional agricultural societies such as those of the New Guinea highlands. For both the hunters of Victoria and the gardeners of New Guinea, this social interaction helped to regulate the relations between competing groups. Societies otherwise lacking in centralised political controls were therefore bound together.

The society, technology and economy of the well-peopled basalt plains therefore challenges the popular European image of nomadic hunter-gatherers, few in number, moving camp every few days and living largely from hand to mouth. The people of southwestern Victoria and their neighbours were more numerous, more sedentary and far more ingenious than we ever imagined.