

Koorie Use and Management of the Plains

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The management of the plains area of Victoria by Koories is but a particular instance of the general approach of Aborigines to land management throughout Australia. I will use as an example, the western basalt plains — those that stretch from the western shore of Port Phillip to Hamilton, and which proved to be so attractive as sheep pastures to the first Europeans because of their generally treeless nature.

Before the European invasion, the western plains were occupied, at least in part, by 6 or 7 separate Koorie (Aboriginal) tribes, all interrelated to the Kulin language group. Occupation of the plains extended back for possibly 60,000 years, to a time when all the human race were also living as hunter-gatherers, and to long before the first appearance of agriculture in other parts of the world.

Each tribal area was further divided between a number of clans — in the case of the Wadawurrung tribe, for example, whose territory included Geelong, there were 26 clans, as Fig. 1 shows (Clark, 1990). Koorie religion imposed on these clans the duty of preserving the ecological health of their clan territory. By ecological health, I mean the ability of the land to yield and to continue to yield the resources necessary for Kooris existence.

The plains provided many important plants. Taking either the general checklist for the whole of the western plains, containing 550 species (Willis, 1964) or the list of the Keilor area (Sutton, 1916), approximately 25% of the plants are actually recorded in the literature as used by Koories, of which about 20% are plants used for food. The plains areas were a major source of tuberous use. In Victoria seeds were hardly used at all. “*They depend for food almost entirely on animals and roots*” (Dawson, 1881).

Fruits are very seasonal, but roots in the broad sense (tubers, rhizomes, corms, bulbs) are available year-round. Riparian and aquatic foods provided some staple foods — rhizomes and tubers of *Typha spp.* (Cumbungi or Bulrush), *Triglochin procera* (Water Ribbons), *Bolboschoenus spp.* (Club-rushes), but the dryland plants are also characterised by the presence of numerous species with perennating tubers (Willis,

1964), and these, too, were staple foods for the Koories. Table 1 lists some of these.

All these were very abundant, although not confined to the plains, but *Microseris lanceolata* was the one most often mentioned as a preferred staple food in Victoria (Gott, 1983). Prior to the onset of grazing, to which it was particularly vulnerable (Curr, 1883), Major Mitchell described the open view down from the Grampians as “*a vast extent of open downs — quite yellow with Murnong*” and “*natives spread over the filed, digging for roots*” (Mitchell, 1839). In 1841, George Augustus Robinson, the Protector of Aborigines, noted that the basalt plain known as Spring Plains was covered with millions of Murnong (Presland, 1977a), and described women “*spread over the plains as far as I could see them — and each had a load as much as she could carry*” (Presland, 1980).

Early accounts of Koories, before European diseases and malnutrition took hold, described a healthy, well-nourished people. “*Strong and athletic, often 6 feet tall very intelligent and quick in their perceptions, with exceptional eyesight and particularly fine teeth*” (Winter, 1837 in Bride, 1898). For at least 30,000 years they had subsisted on what Blainey has referred to as “*the harvest of unploughed plains*” (Blainey, 1975). At an estimate, vegetable food made up about one half of the diet, and was always the fall-back food (Gott, 1982). In addition, the abundance of plains species greatly influence the availability of animal food.

If large amounts of tubers were being gathered, how was it that they did not become scarce? What were the Koories doing which ensured the renewal of these resources from year to year?

The first and most well documented management tool was the use of fire. Describing an area near Camperdown in 1839, an early settler wrote “*We were*

Table 1. Some plains species with tuberous roots used for food by Koories

Aquatic Species	Bolboschoenus (2 spp.)	Club-rushes
	Phragmites australis	Common Reed
	Triglochin procera	Water Ribbons
	Typha (2 spp.)	Cumbungi or Bulrush
Tuberous Lilies	Arthropodium minus	Small Vanilla Lily
	Bulbine bulbosa	Bulbine Lily
	Burchardia umbellata	Milkmaids
	Caesia calliantha	Blue Grass-lily
	Chaemaescilla corymbosa	Blue Stars
	Dichopogon strictus	Chocolate Lily
	Hypoxis glabella	Yellow Star
	Thysanotis patersonii	Twining Fringe-lily
	Wurmbea dioica	Early Nancy
Orchids	Caladenia spp.	Spider Orchids
	Diuris spp.	Wallflower, Donkey Orchids
	Prasophyllum spp.	Leek Orchids
	Pterostylis spp.	Greenhoods
Others	Geranium spp.	Native Geranium
	Convolvulus erubescens	Pink Bindweed
	Podolepis jaceoides	Showy Podolepis
	Microseris lanceolata	Murnong (Yam Daisy)

sprang up in burnt areas in such abundance that they formed extensive carpets of flowers, the tubers having survived buried in the soil. In the unburnt areas, the flowering was by contrast, quite sparse.

The results of firing were the return of nutrients to the soil and the removal of shading, creating clear areas favourable to seed germination and the regeneration of plants from underground organs, and the new green growth also attracted grazing animals. Over many thousands of years the Australian vegetation became increasingly fire-adapted.

Fire was not the only factor which influenced the management of the plains. Both gathering and digging had their effect on the renewal of the resources.

Gathering resulted in the thinning of species which tended to be locally abundant, that is, having a patchy distribution, such as Murnong, Lilies and many Orchids. This gathering reduced competition amongst the remaining plants. No patch was completely denuded, and there was deliberate replanting of tuber-bearing species (Levitt, 1981; Berndt and Berndt, 1993). In any case, the discarding of tops into dug-over soil would have ensured some regeneration as I have been able to show (Gott, unpublished).

Koories had an intimate knowledge of the behaviour of all the plant and animal species in their environ-

ment. “*The natives have a law that no plant bearing seeds is to be dug up after it has flowered; They call them (for example) the mother of BOHN (Haemodorum spicatum) the mother of MUDJE [Haemodorum paniculatum] etc. – I have never seen a native violate this rule*” (Grey, 1841). Tubers and plants were carried away to camps and traded with other tribes and clans (Buckley in Morgan, 1852) resulting in the spread of favoured species.

Finally let us consider the effect of the digging itself. The majority of these tubers are small, and are to be found at quite shallow depths, so that parties of women would dig over quite a large area, covering all likely spots in the course of a year or two. The result was aeration of the soil, loosening it for seed germination and incorporating litter and ash from firing. Early settlers remarked on the loose absorbent nature of the soil and contrasted it with the compaction produced by sheep and cattle (Batey, undated). Scattering and breaking up of tubers and rhizomes assisted propagation. Batey also reported at Sunbury the hilling up of mounds in rich basaltic clay at right angles to slopes — he referred to it as “accidental gardening”.

I would go further, and suggest that the regime of firing, gathering and digging bore sufficient resemblance to agriculture/horticulture to be regarded as a sort of natural gardening which ensured the continued abun-

Table 2. A comparison of Koorie gathering and agriculture

AGRICULTURE	KOORIE GATHERING
Preparation of soil, cultivation	Digging, loosening of soil, incorporation of litter
Fertilising	Burning at specific times to produce ash
Thinning of perennial plants	Separating clumps of perennials, removing tubers
Sowing and planting	Some tubers left or discarded, burning timed after seeds have formed
Spreading of cultivated plants	Tubers and seeds carried to camps, traded from tribe to tribe

dance of the important food plants of the plains (Table 2).

The question has been asked — is it possible to recreate the plains as they were before the entry of humans into the landscape? In view of the time span of 60,000 years, which has included major changes in climate, this is obviously impossible. We might then ask — can we return to the Koorie way of managing the plains?

The European invasion has so greatly changed both the flora and the hydrology that overall this is also impossible, but I do think we can learn from what the Koories did. They had a deep understanding of both the general ecology and also the autecology of particular species.

We need to aim for a similar understanding, and to value the vast resources of our unique Australian flora, already so well adapted to the land. The Koories learned from the land, and managed to sustain themselves for 60,000 years. We have yet to develop a sustainable agriculture in Australia, and our challenge is to match the span of Koorie survival.

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