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ABOUT SAW-LOG OPERATIONS IN EAST GIPPSLAND

(FROM EAST GIPPSLAND AREA REVIEW, L.C.C., 1986 P 44)

The current harvesting rate of 320,000 cubic metre per annum cannot be maintained for more than about 20 years, given the volume of mature saw-logs in currently economic areas (6,240,000 c.m). However, the age distribution of regrowth forests in the study area is such that substantial wood flows from them could not be expected before about the year 2030- that is some 45 years, leaving a 25 year gap.

During those years no saw-log production from public land in the area would be possible. If timber production maintains its significance to the regional economy this would result in major disruption to the social fabric and economic base of the East Gippsland area.

If the 6,240,000 c.m. of mature logs in areas currently considered economic to harvest on a saw-log only basis is to last until regrowth timber is available around 2030, the current level of saw-log harvesting of 320,000 c.m per annum would need to be immediately reduced to around 138,000 c.m. Such an immediate reduction would result in job-losses in the timber industry, which could nevertheless continue to make a contribution to the economy of the region, rather than being eliminated in about 20 years time. After 2030 the level of cutting could be increrased until about 2080, when a sustainable level of about 260,000 c.m per annum would be reached.

(The forests of East Gippsland currently provide around 30% of the total supply of hardwood saw-logs from public land in Victoria.)

cont. B. Maund.

REPORTS FROM THE MAY MEETING

RED WATTLE BIRDS were seen in North Castlemaine by Rita Mills.

PIED CURRAWONGS were seen in N.E. Castlemaine by Kay Turner.

EASTERN ROSELLAS, ROBIN RED-BREASTS AND GRASS PARROTS. Margaret Dunne said that many were seen in South Walmer.

PIED CORMORANTS were seen at Guildford by Berri Perry.

FEATHER-TAILED GLIDER. Berri Perry said that a cat owned by a friend had brought in this glider from the Wombat Forest, Daylesford. It had a tail with hair on either side, about 5 cm. long, fully furred and fortunately uninjured. Berri said that it looked like a flat mouse with pointed nose and frills on either side of the membrane when folded back.

STICK INSECT was seen in North Castlemaine by Rita Mills.

MULTIPLE SPIDER WEBS. When out walking early in the morning Ern Perkins had seen hundreds of these webs outlined by the dew on the ground.

PSALLIOTA XANTHODERMA, YELLOW STAINER George Broadway showed this large fungus, about 7 cm in diameter, which was handed around. There was some discussion as to whether these were or were not edible; the consensus of opinion was perhaps, sometimes.

ERIOCHILLUS CUCULLATUS, or PARSON'S BANDS. Beth Ibbitson reported these from behind the cemetery at the Chewton Bushland settlement.

PTEROSTYLIS PARVIFLORA, the TINY GREENHOOD was reported by Frank Blake; this is usually the first of the greenhoods in this district.

MACROPIDIA FULGINOSA, the BLACK KANGAROO PAW was shown by Geoff Sitch. He brought in a potted plant of this dramatic looking Kangaroo Paw with a colouring of black and acid green. It was flowering out of season.

BRACHYCHITON POPULNEUS, the KURRAJONG was shown by Margaret Dunne. This tree had been growing in the garden of a farm house in the Redesdale District. Instead of one sturdy trunk this young tree, about 3 metres, had multiple trunks coming from a common root, all branching out at the same level, giving it an 'art nouveau' appearance. It was thought that the root had been damaged at an early stage of the growth of the tree, encouraging multiple aftergrowths, all of which continued to grow at an even rate.

Margaret Dunne

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Items for the Newsletter can be left at Tonks Hardware

MINERAL SPRINGS

GEOLOGICAL SETTING

The following summary of the geology of the area in which local mineral springs are found is adapted from Lawrence(1969).

Age Period	Epoch	Description
Quaternary	Recent	Poorly sorted alluvium derived from lower Ordovician sediments and basalt.
	Pleistocene	Poorly sorted alluvium similar to the recent alluvium. Forms paired terraces along most streams (largely destroyed by mining operations and subsequent erosion).
	Upper Pliocene to Pleistocene	Newer volcanics; basaltic lavas, tuffs, agglomerates.
Tertiary	Pliocene	Sub-basaltic (largely) colluvial and alluvial clays and gravels. Lamprophyre and monochiquite dykes.
	Eocene or Oligocene	
Upper Devonian?		Quartz veins
Lower Ordovician	Chewtonian Castlemainian Bendigonian	Folded and faulted sandstones, shales and slates.

SOURCE OF THE SPRINGS

There are three possible sources for the mineral water.

(a) The water is entirely "new" water from within the earth, associated with the newer vocanics (juvenile water).

(b) the mineral water is entirely "normal" groundwater i.e. water which has fallen as rain and percolated down through the soil and rocks (meteoric water).

(c) A combination of both juvenile and meteoric water.

An entirely or even largely juvenile origin can be refuted on several grounds:-

(1) The springs are found only at the base of valleys and not along major faults, thus suggesting that the water is derived from local infiltration of rainwater

(2) Lacarno Spring dried up temporarily in 1870 and 1911-13 due to mining operations uphill on Frenchmans Reef.

(3) The temperature of the mineral water is constant at the mean annual temperature of the region and can therefore be classified as non-thermal

(4) The composition of the mineral water differs from that

expected for juvenile water in its comparitively low salinity and insignificant amounts of fluoride and boron.

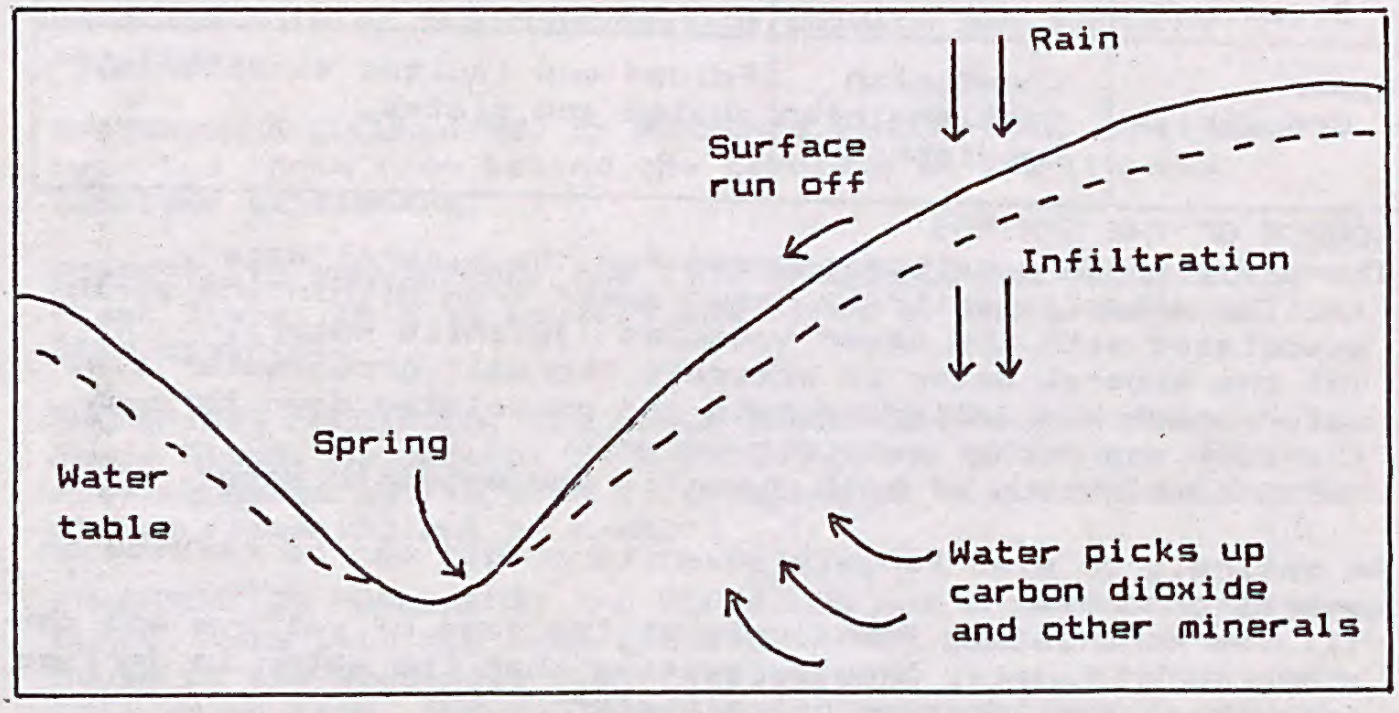
The above discussion does not account for the high content of free carbon dioxide which characterises the springs as this is not usually present in groundwater of meteoric origin.

Two hypotheses can be given.
(a) The carbon dioxide is formed from the decomposition of the Lower Ordovician carbon-rich shales and slates.
(b) The carbon dioxide is derived from gases associated with the Newer volcanics.

There is abundant field evidence both in the form of laboratory experiments and field examples to show that carbon dioxide is released by carbonaceous material in the presence of water, but in all cases the concentration of carbon dioxide is small compared to the local mineral waters.

Taking all the mineral springs in Victoria, there is no strict association of the mineral water with the carbon-rich shales and slates. However, basalt of either the Older or Newer volcanics is always within several kilometres of the springs except for one spring at Kramuk where the nearest volcanic rocks are 40 km. away.

It is therefore possible that the carbon dioxide in the mineral waters throughout Victoria has a common volcanic origin - an explanation which is also given for the carbon dioxide present in mineral waters elsewhere in the world.



GEOCHEMISTRY OF MINERAL WATER

Obviously the most significant components of mineral water are the abnormal concentration of free carbon dioxide and the resultant high concentration of bicarbonate and carbonic acid which exist in equilibrium. In response to the carbonic acid there has been solution of minerals comprising the Lower Ordovician sediments resulting in sodium, magnesium, calcium,

iron, potassium and lithium, in decreasing concentration, being held in solution as bicarbonates.

The following table compares the composition of 'normal' groundwater in Ordovician rocks, 'normal' groundwater in basaltic rocks, and surface water, all for the Daylesford region.

	Normal groundwater -Ordovician	Mineral water -Ordovician	Normal groundwater -Basalt	Surface water
Total dissolved solids	286	2740	160	68
Carbon dioxide	51	2310		130
Chloride	72	50	15	13
Bicarbonate	101	1797	40	26
Nitrate	-	-	50	-
Sulphate	11	33	2	7
Calcium	22	120	4	4
Magnesium	18	110	6	3
Sodium	NT	350	NT	NT
Potassium	NT	21	NT	NT
Lithium	NT	trace	NT	NT
Iron	NT	23	-	-
pH (acidity)	6.2	6.3		5.4
Hardness	130	850	30	23

NT : not determined

REFERENCES

Mineral Springs of Victoria, J. Rulikowska, 1969(Dept of Mines).
Hydrogology of the Daylesford District with special reference to the Mineral Springs, C.R. Lawrence, 1969 (Dept of Mines).
Report of the State Government Development Committee on the Mineral Spa Water Resources of Victoria, 1970.

J. Anderson. (reprinted from Castlemaine Naturalist no 2)

PORCUPINE FLAT A HIGH POINT

After a report that a gold stamper was proposed for Porcupine Flat, a group from the Club decided on a visit.

The driver, being uncertain of the way to Maldon, set off towards Wattle Flat, fortunatel, for after leaving the town, w came to a mixed flock of Ibis, feeding on the paddock next to the pony club. There was well over 100 birds, with about two the black winged Straw-necked Ibis to each of the white Sacr Ibis. They had a single White-necked Heron for company as wel as numerous smaller birds.

Porcupine Flat has been mined extensively in the past, and the locality shows how long it takes for the ravages of mining to be repaired. Much of the area is bare gravel, and where we stopped, it carries mostly Coffee Bush. And it seemed to be deserted of birds, with not a bird in sight over the first few minutes.

After a while a few birds were seen - all of the 'Tom-tit' variety - that is too far away, too restless, and too shy to allow any kind of identification. One of the party remarked that bird books have it wrong; instead of illustrations of birds nicely placed and in full view, they should show birds as they appear from the rear, and as they fly rapidly away.

First birds of interest were Fuscous Honeyeaters, in full view at the edge of the dam. Officer describes the Fuscous Honeyeater "While a dull, rather stolid looking bird on first acquaintance ..... the Fuscous Honeyeater with his cheerful call becomes, on further acquaintance, a most interesting bird and not as dowdy as he looks", and this was the case here; the colours shown by these two birds were quite beautiful. They were joined shortly after by a pair of Yellow-tufted Honeyeaters, so we could compare the two.

A little way off some Grey Box were in flower, so we went off to look. The tree canopy was alive with with White-naped Honeyeaters, busily feeding and flitting from branch to branch and tree to tree. They are interesting birds to watch, having a white stripe at the back of their black head, and a bright red eye. There were also quite a few Fuscous Honeyeaters and Yellow-tufted Honeyeaters, and the call of Red Wattle-birds was much in evidence. Our bird call expert was able to recognise the call of the Little and Purple-crowned Lorikeets, but they were much too fast to allow for visual identification.

We drove off to the western edge of the reserve, and stopped between a flowering hakea and Grey Box. Here hundreds of birds were busily feeding. In one of the blossom trees we found a flock of Purple-crowned Lorikeets. These have a reddish pach over the bill, and above this a purple forehead. Very considerately, the lorikeets were feeding upside down, so we were able to see the purple crown very clearly.

A few weeks ago, the Ballarat Courier Nature Notes remarked on the number of birds with distinctively coloured rumps. Today we were seeing birds with distinctive faces. Nearby a small flock of White-browed Babblers was active, low down on a tree and on the ground, so that we were able to admire their white brow. We next turned our attention o the paddock, where half a dozen Flame Robins were feeding; they too were obliging and turned to show us their red breasts. Later we were to see them feeding on a paddock withfires burning, and could see how appropriate the name Flame Robin is.

In a tree nearby one of our party spotted a Black-chinned Honeyeater - a new bird for some of us.. It is quite similar to the White-naped Honeyeater, but has a broaded white stripe, and a blue, not red, eye. To add to the list, a little way on a pair of Bronzewings were feeding at the edge of the paddock. They were quite tame and took little notice of us.

On the way back, we stopped near the Walmer wildflower reserve. First birds to be seen here were Grey Fantails. Although not brightly coloured, they are always a delight wo watch. Next to be seen was a Hooded Robin, and then, at the edge of a ploughed field, a mixed flock of Yellow-tailed Thornbills and Whiteface. Both birds are about the same size; one with a bright yellow rump, and the other with a quite distinctive white face. We were about to move on when a Diamond Firetail flew to a nearby tree, to be joined very shortly by another two, and once again the three arranged themselves for very easy viewing.

Ruined landscapes of the goldfields tell their stories

THE AGE,

13 May 1986

By JOHN TURNER

"Landscape is what looks like it will fall on you; scenery is cows."

IF we adopted these splendidly succinct definitions, then we should have to admit that there is no landscape and precious little scenery in the central goldfields of Victoria.

Since this is manifestly untrue, we must try again. The Shorter Oxford gives us: "Landskip, 1598, orig. a painter's term, a picture representing inland scenery", also "a prospect of scenery such as we can see in a glance".

The same dictionary quotes Milton, and I prefer his version:

"Streit mine eye hath caught new pleasures
As the landscape round, it measures."

For most of us, that is enough. Only a few will record their pleasure in a painting, millions will do so with a camera, but as to measuring the value of a landscape, that is for those who feel so deeply about it that they wish to see it conserved. It was primarily the sheer magnificence of Yellowstone that led to that great American institution, the national park, in 1872.

Today, although the Australian Heritage Commission recognises that "visual landscapes constitute a valid category of National Estate Places" it has been somewhat reluctant to list those nominated for their scenic value only. Most people working in this field believe that, with the scenic and aesthetic criteria, are others, just as important, more readily quantified and objectively assessed.

These are the scientific (geological, biological), the prehistoric and historic, and the social — (is there a landscape without people to enjoy it?). All these criteria are now used by national trusts in classifying landscapes, and by the Victorian Land Conservation Council in recommending appropriate forms of landuse on Crown land.

A significant part of the attractions of the goldfields lies in the architecture of the surviving settlements and in their streetscapes. The country around these has none of the glamor of the Grampians or the coasts, but it has its own appeal, including a varied geology and physiography. It is pleasantly hilly, with many winding minor roads, lined with fine eucalypts — real Edna Walling roadsides — with little traffic. And it is surprisingly well wooded over the sandstone sediments, less so on the basalt and the granite.

When Major Mitchell first climbed Mount Alexander in 1836 he saw "long patches of open plains, interspersed with forested hills and low woody ranges". These were the home of a small aboriginal tribe, the Jaara, who may have been partly responsible, with their firesticks, for the grassy clearings on basalt and granite. Their artefacts, some dating back for thousands of years, include shield trees, a birth-tree, middens, minute stone tools, the ceremonial stone circles near Carisbrook and many curious rock-wells, scraped out at the base of large rocks or reefs, which act as watersheds. Sadly, some of these have had to be locked behind ugly wire fences.

We shall never know how many such artefacts were destroyed during the frenzied search for gold that put Victoria on the path to prosperity. But it is certain that the uncontrolled exploitation of the forests for timber and firewood left a bare and eroding landscape. Wherever there was a chance of finding gold, the topsoil was buried under clay, blown away or sluiced down the creeks. But one of the rewarding features of today's landscape is the evidence it provides of the resilience of vegetation, especially of the eucalypts and wattles.

Since the turn of the century, in spite of rabbit plagues, recurrent frosts, drought and fires, the original tree species are back again along the creeks and roads, on farms and in the extensive state forests, where the sylviculturalists of the Forests Commission (1908-1985, RIP) have assisted in the regeneration. But the recovery of the once colorful ground flora is patchy and weeds are a problem. Some long-term research into this problem is needed.

Today's secondary woodlands are mainly communities of the box-ironbarks. There are four boxes (grey and yellow-box are two of the most handsome of eucalypts), red ironbark, a good indicator of gold, white ironbark (also perversely called yellow gum), red stringybark and in damper areas, the ubiquitous red gum. A few giant trees survive from the old days, but most of the trees reach only 15-45 metres and in age, 50 to 80 years.

To me, a very pleasant aspect of the woodlands is the glaucous (sea-green) foliage of so many species — especially noticeable in their juvenile leaves as they sprout along black trunks after fire.

Recently a small group of us, guided by a local geographer, enjoyed an excursion in Fryerstown State Forest, where there had been both alluvial and deep reef mining. It was a glorious autumn day after three months without rain. The trees were thriving, but the only plant in flower was the grey box. The old hilly coach road intersected a maze of dusty tracks and dry gullies, each with its goldminer's name.

Along a contour of the very rugged terrain ran a branch of the famous Coliban aqueduct (Malmsbury to Bendigo). It was strange to see that stream of clear water running below us in the parched landscape. It is the largest of the dozens of conduits built laboriously through these hills to bring water to the gold sluices and to some townships.

We saw cavernous diggings around a vast quartz reef, and tall chimneys, once serving the fires of now ruined quartz stampers. One very long chimney lies along the 30-degree slope of a hill.

And there were two deserted townships, one already crowded with self-sown trees, but with hearthstones and foundations still visible. The other was in a delightful grassy valley in the woods, a minuscule Shangri-La, the road ending at the old burnt bridge.

The stone cottage of the mining warden has been lovingly restored by its new young owner but the rest of the town is gone. The pub lies in ruins and its barns, finely built in the lovely yellow stone (as though the gold would last forever) are now roofless, and choked, like the deep creek, in great mounds of blackberry. The dead pear trees of the orchard still stand nearby.

It was a wonderful day, evoking the spirit and hardships of those decades when some few generations of Australians lived laborious days in the bush. As we stopped on our way home to look at the honeyeaters, one could almost hear the trees whispering: "A fortu[illegible]

CASTLEMAINE F.N.C. AGENDA

Excursions leave promptly at the times shown. Date, time and locality of excursions may be changed at the monthly meetings, so if not at the meeting check with a committee member.

Fri 13th June. CRETE AND IRELAND. A view of the wildlife and plants of these islands, with Hilary Weatherhead. High School at 8.00 p.m.

Sat 14th June. MINERAL SPRINGS TOUR with George Broadway. Become a mineral springs connoisseur as you sample the local waters! Not to be missed. Leave SEC (Mostyn St) at 11.00 a.m. (If parking is difficult meet near Kennedy St.)

Thurs 19th June. BUSINESS MEETING at 7.30 p.m., at 27 Doveton St. Note the changed location.

Fri 11th July. NATURAL HISTORY OF THE OTWAYS with Murray Hodge of Colac Field Naturalists.

Sat 12th July. SPRING GULLY REVISTED. We return to this locality, for some more history, and another look at the birds of the area.

Fri 8th Aug. APPLICATIONS OF BIRD WATCHING with Greg Binns of the Ballarat F.N.C.

Sun 9th Aug. ORCHIDS AT WATTLE FLAT. Meet 1.30 at SEC.

Sun 24th Aug. BIRD OBSERVER'S CLUB EXCURSION TO THE WHIPSTICK.

Fri 12 Sept. BIRDS OF CALIFORNIA with Dr Pat Bingham.

Fri 10th Oct. GALAPAGOS and INCA RUINS with John Zwar.

Sat 11th Oct. TARADALE BUSHLAND. Wildflowers and birds. Leave SEC at 1.30.

Sun 12 Oct. SALOMON GULLY & JACKASS FLAT with Bendigo and Maryborough F.N.C. Leave SEC at 9.25 or Salomon Gully at 10.00. Picnic lunch.

Sat 18th Oct. PORCUPINE RIDGE all day walk. Date to be confirmed.

Sat 1 & 8th Nov MUCKLEFORD FOREST. Festival excursions, leave Railway Goods Sheds, Kennedy St at 1.30.

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CASTLEMAINE FIELD NATURALISTS CLUB INC.

COMMITTEE Ern Perkins(Pres), Barabara Maund(Sec), Geoff Sitch(Treas), Maggie Oliver(Vice Pres), Kay Turner(Exc. sec), George Broadway(Libr), Rita Mills(Newsletter), Gunter Liedl, Margaret Dunne, Elma Kelly, Jack Dare(I/P Pres), Berri Perry.