

THE NATURAL NEWS

Central North Field Naturalists Inc. (CNFN)

Patron: Dr. Peter McQuillan No. 35

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Walks Program: (see insert for details) March 2nd, 3rd & 4th

Federation Weekend hosted by the CNFN at "Nindethana", Deviot. Please book with Sarah (details above)

April 1st

Investigate an area of reserved white gum (E. viminalis) forest at 250 Masons Road, Wilmot. Meet at 10.00

May 6th

Badger Head. Meet at 10.00 at carpark.

June 3rd

Meander Picnic area. Meet at 10.00 at Meander.

July 1st

Jim's Studio, from 10.00 68 Dynan's Bridge Road, Weegena THE WIELANGTA DECISION – WHERE TO NOW? by Jim Nelson

Senator Bob Brown's federal court case to halt logging in the Wielangta forest because of inadequate protection for three threatened species has been successful. The summary by Justice J. Marshall reads in part as follows: "The Federal Court has found that the forestry operations and proposed forestry operations of Forestry Tasmania in the Wielangta area are likely to have a significant impact on all three species, having regard to their endangered status and all other threats to them. The Court has also found that the Regional Forest Agreement ('RFA') between the Commonwealth and the State of Tasmania is an 'RFA' within the terms of the Regional Forest Agreements Act 2002 (Cth) ('RFA Act'), However, the Court has found that Forestry Tasmania does not have an exemption from relevant provisions of the EPBC Act by virtue of exemption provisions in s 38 of that Act and s 6(4) of the RFA Acr. This is because the Court has formed the view that the relevant forestry operations will be, and have been, carried out otherwise than in accordance with the REA."

This important decision probably means one of two things: either Forestry Tasmania (FT) will now have to start taking threatened species seriously; or the EPBC Acr will have to be altered by the federal government to give exemptions to FT under the Regional Forest Agreement (RFA). FT seems confident enough to continue with their normal practices at the moment, and therefore leaves itself open to further challenges under the EPBC Act over threatened species issues. Liberal Senator Eric Abetz favours changing the law to give FT exemptions from threatened species. Let's hope that it doesn't happen.

The decision for the case can be viewed at www.fedcourt.gov.au and is worth a read.

The decision seems well argued and hard to challenge. so it will be interesting to see if FT decides to risk talcing the case further or simply try to change the law. What seems unlikely most is that they will finally start to take threatened species seriously, and begin to change

their logging practices to ensure the survival and recovery of the threatened species found in our forests.

Members of the Central North Field Nats working with threatened species issues have long been frustrated by the lack of proper protection not only within Forestry operations, but also at the local level where Councils view development as over-riding threatened species issues. In a communication with a person within the state government, I have been told that threatened species officers "can only work within the limitations of the Tasmanian Threatened Species Protection Act (TSPA), which has the core intent of protecting the viability of species as a whole, not every last individual specimen of a species." When there is a decision to be made as to whether a development permit will be issued, "the Act requires that social and economic costs are balanced against this requirement". Apparently the Threatened Species Unit feels bound to adhere to balancing economic pressures with threatened species under the TSP Act. However, when the species is listed under the EPBC Act, I cannot see

where what I refer to as Taimania's pretend threatened species legislation needs to be taken into account.

The EPBC Act should be seen as a device "for restoring populations of threatened species so that they cease to be threatened" according to Justice Marshall. He points out that "Section 3(2)(e)(i) says it all when it stresses the

promotion of the recovery (my emphasis) of threatened species."

The approach to threatened species in Tasmania has been seen as one of not worrying about every single individual of a listed threatened species, or even every single colony when it comes to development. So why is the approach completely different when it comes to dealing with an individual who might take, kill or in other ways intentionally interfere with a threatened species? Then apparently the full weight of the law can be brought to bear because the restrictions caused by "development"



do not come into play. If you think this is a bit schizophrenic, consider the vigorous protection of feral species such as deer and trout by government departments. These animals obviously bring in money, and therefore are as sacred as development.

What has occurred with threatened species in Tasmania within forestry operations as well as at the local Council level is their activities have openly caused cumulative diminishment. That is, threatened species have been subjected to decline through a policy of myopic malfeasance that keeps chipping (oops!) away a few individuals at a time. It is of the utmost importance that species are listed under the EPBC Act, and not just the Tasmanian Act if you are looking for the possibility of greater protection from the Wielangta decision.

While the stated objective of listing threatened species is to bring them into recovery, the actual actions of the agency responsible can result in inevitable decline. The Wielangta decision has the potential to change this abysmal course, but it will very much depend on whether the Federal Government succumbs to pressure to change the EPBC Act. I guess they could always use the Tasmanian Threatened Species Protection Act as a model of how to sound like you are protecting species without really doing so.

[Photos: Wedge-tailed Eagle and Simsons Stag Beetle, two species currently listed on Tasmania's TSPA.]



NOTES FROM A ROADSIDE NATURALIST 2 by Paul Hydes

On the morning of our Nutbush departure, driving east towards Port Augusta, saltbush stretched to the northern horizon apparently covered in sheets of tissue paper as if blown from a nearby tip. Rather than being an eyesore, the reality was one of the visual highlights of the trip as early morning dew had revealed thousands of spider webs suspended between the bushes as if millions of micro fairy lights were in operation. Other insect life en route was also evident in the form of termire mounds of all shapes, sizes and colours depending on the termite species and soil type concerned. However, two other notable insect structures were seen in the southern half of the Stuart Highway. Many trees and shrubs, notably Mulga (Acacia anesora) and Ironwood (Acacia estrophiolata) were loaded with the woven homes of the Bag Moth or Procession Caterpillar (Orchrogaster communia). The hairs from these critters are potent irritants and therefore best avoided. the second common name describing the way these caterpillars move.

Having secti Wreath Lechenaultias (Lechenaultia macrantha) in WA on a previous trip it was a surprise to see similar structures on bare soil ridges beside the highway north of Alice Springs. About 30cm across, what looks like a giant fibrous Lifesaver sweet was not a plant but the work of Mulga ants (Polyrhachus macropus) building a lever wall before approaching rain. We never found a 'work in progress' but most of the fibres and small twigs have a remarkably consistent radial alignment. The other insect highlight of the trip was found on the coastal cliffs around Elliston on the Eyre Peninsular. Graders used to form the dirt road had formed bunds of

sand and limestone fragments at each side. Closer inspection of the lump bits revealed several regular lozenge shaped ones, 60mm long and 35mm diameter, often with a hole on the side at one end. Gentle rapping on a nearby rock resulted in a loose filling draining out to leave a hollow core – the net result resembling Dutch Clogs, the local name for these specimens. They are the fossilised remains of cocoons belonging to the weevil Leptopious dupontii, which fed on the local acacias 40000+ years ago.

Road kills and attendant scavengers are all too frequent on the Port Augusta - Alice Springs stretch and in small sectors elsewhere en route, notably Sandstone to Kalgoorlie. Fortunately the generally dry conditions resulted in few sightings of mobile macropods so Australian Bustards, domestic stock and the odd donkey and horse were the main live hazards to navigation. While road kills give good viewing opportunities for eagles, kites and one immaculate Black breasted Buzzard, Wedge tails can often only be avoided by early braking and driving at crawling speed around the carcass if the Wedgie can't/won't fly. Given their weight, gorged on road kill and preferring to take off into the wind, these jumbo jets of the bird world take an age to get going and obviously aren't always successful. We counted 14 dead Wedgies between Port Augusta and Alice Springs on the west side of the highway alone and doubtless missed many more. While abundant food supplies presumably improve reproductive success rates, I wonder how long the population can tolerate the collateral damage involved? In arid conditions it might take several months for an eagle carcase to become unrecognisable so there is no way of knowing what time period relates to the 14 corpses above but two were obviously fresh

kills. Part of the problem is that carcases are often only dragged off the road onto the hard shoulder so as not be impede traffic. However, a Wedgie in take-off mode is still at risk unless carcases are dragged several metres away into the bush. Stopping safely (and legally) to do this is not always possible. especially when towing a trailer, but a pair of waterproof heavy duty gloves in a plastic bug under the driver's sest minimises the time required to play Good Samariran. You obviously can't do them all so I was more selective as the trip went on, only moving corpses where eagles were around, a limit of four a day and definitely resolved to leave any dead donkey after one almost proved too much for me. While it is obviously a bit gruesome, inspecting road kills can have its upside. One turned out to be a feral cat, sadly alongside an owl, but the most curious was a case of mistaken identity. A pre-dusk drive on the roads around Douglas Daly made us familiar with the local Beahmin and Angus cattle so what looked to be a particularly messy Friesian road kill was obviously unusual. As we drifted slowly up to the scene of the crime, the 'Friesian' turned into a mixed flock of 50 Red tailed Black and Sulphur Crested Cockatoos all belly down on the tarmac. We subsequently found other birds doing this (Crested Pigeons) but at that latitude it seems odd that birds would need to warm themselves this way. Given it had been 30°C during the day, the bitumen binder in the tarmac could still have a volatile component, enough to give the bird's ectoparasites a hard time perhaps?

Descriptive geology on a trip like this could warrant a book in its own right and would be beyond me anyway but some aspects are worthy of comment.

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SUMMER OBSERVATIONS:

Velver worms and pumped-up insects by Sarah Lloyd

The dry conditions had well and truly set in before the CNFN outing to Reedy Marsh in December. Nevertheless, there were plenty of leeches in an area of open grassland and many small herbaceous plants were still in flower.

Once we reached the area of dry sclerophyll forest one sharp-eyed member (Wade Clarkson) who spends a great deal of time searching in the bark and leaf litter for millipedes, found not one but two velves worms giving us the opportunity to closely inspect these enigmatic invertebrates and discuss some of their bizarre mating habits.

VELVET WORMS

Velvet worms are considered by some biologists to be an evolutionary "missing link" as they have features of both annelid worms (leeches and earthworms) and arthropods ("jointed-limbed" invertebrates e.g. crustaceans, arachnids & insects).

They usually live in moist forested areas with abundant leaf litter and rotting logs where they feed on invertebrates such as worms and insects, capturing their prey by squirting glue from turrets located on either side of their heads.

Velver worms have various ways of reproducing. Some lay thick-shelled eggs in which the young develop outside the mother's body. Some are born live after developing in thin-shelled eggs which hatch inside the mother, yet others are born live after the embryos are nourished by the mother's placenta (like humans).

Fertilization of eggs is just as varied with each group of velvet worm employing different methods:

Males of some species have ornamented

structures on their heads which deliver sperm directly into the genital opening of the female. Other species have a more conventional method, mating genital to genital.

Dermal-insemination is perhaps the most bizarre method. The male places a package of sperm almost anywhere on the female's skin. Her body wall ulcerates allowing entry to the sperm which swim in her body cavity until they reach their destination, either (usually) the ovary, where the eggs are fertilized or into the sperm storage organs, where sperm can be stored for years.

References:

Harvey, M.S. Yen, A.L. (1997) Wirms to Wasps. An Illustrated Guide to Australia's Terrestrial Inversebrates. Oxford University Press, Melbourne.

O'Toole, C. (Ed) (2002) The New Encyclopedia of Innexts and Their Allies. Oxford University Press. Oxford.

Sunnucks, P. & Tait, N. Tales of the Unexpected. In Nature Australia, Winter 2001 Australian Museum Trust, Sydney.

SPIDERS AND STABILIMENTA

During the December walk we also observed many spiders' webs suspended in the vegetation. This prompting the curious to enquire about the zigzag threads that adorn some webs.

Some spiders consume their webs during the day, reconstructing them at night for capturing nocturnal insects. Many don't, however, and some of the spiders that capture day flying insects incorporate bands of zigzag threads known as stabilimenta into their webs.

The name suggests that stabilimenta function to stabilise the webs, but the removal of these threads without the web collapsing indicates that this is not the case. A suggestion that stabilimenta reflect ultraviolet light and thus attract insects which mistake the webs for flowers (some of which also emit ultraviolet light) and become entangled, seems plausible. However, rather than attracting insects, experiments have shown that their conspicuous nature may deter birds from flying into the webs and becoming covered in sticky threads. The spider avoids the time consuming task of rebuilding its snare.



In his book For Love of Insects, Thomas Eisner describes his experiments to establish just why some spiders incorporate these very visible threads. With an ornithologist colleague he adorns webs with strips of paper, usually in the form of an X (similar to the St Andrew's Cross spiders).

Before dawn (before the time when birds are active) both adorned and unadorned webs remained undamaged. By 8.00am 50% of the unmarked webs were gone and by noon all but 8% had been destroyed. 60% of the marked webs were still intact at noon.

Further evidence that stabilimenta act as

visual deterrents comes from Guam where spiders now incorporate stabilimenta less frequently. The unfortunate introduction there of the Australian Brown Snake has all but wiped out the island's forest birds and spiders no longer need such a warning system.

Ref: Eisner, T. (2003) For lose of Insects, Harvard University Pres, Massachusetts.

A DANDELION DILEMMA

The vegetable garden here at Black Sugarloaf is usually lush and productive in early January. Not this year. The exceptionally dry spring (with the hitherto reliable stream already down to a late February trickle), predicted prolonged dry and our planned absence during peak production in April saw fewer vegetables planted and a large part of the garden left to seeding plants and flowering dandelions. Even my usual efforts to keep the paths well clipped (to ensure it actually resembles a garden) were thwarted because of other commitments. Furthermore, the sight of many invertebrates including several butterfly species foraging on the "weeds" and a news item about the impact of the drought on Tasmania's fauna made me think twice about giving the garden its regular manicure.

All productive gardens in bush settings must be securely fenced to prevent possums and wallabies eating the vegetables - and the weeds. Because of the drought narive and non native plants outside the fenced areas have been chewed so thoroughly that flowers for nectar and pollen eaters are virtually non existant. In my vegetable garden many bees and at least three different species of butterfly, two skippers and the Australian Painted Lady, have been feeding on the dandelions and numerous other insects have been feeding on seeding vegetables.



Left: The Tasmanica Skipper (Pasma nationalism) was recorded at Black Sugarloaf for the first time this year.

This record probably reflects a reluctance on my part to capture flying insects (for fear of harming them) and my inadequate butterfly identification skills rather than its previous absence.

The acquisiton of a digital camera with telephoro lens has meant that small animals can be photographed without being disturbed. The animals depicted in the downloaded photos can be identified with relative ease with the aid of field guides.

The Donnysa Skipper (Hesperilla donnysa) seems to have a favourite landing site either on the garden fence or on a native iris just outside the vegerable patch (right). From this vantage point it flutters to the garden to forage on the flowers.

Below: The Australian Painted Lady (Vanessa kershawi) also forages on the dandelion flowers, opening and closing its wings depending on whether it's in full sun or shade.







A CASE OF MINTAKEN IDENTITY

The January field outing to Birralce followed a day and night of gently soaking rain. Wade, once again searching for millipedes, approached the group with cupped hands exclaiming "even better than a velvet worm!" An exquisite, newly emerged insect was duly carried home to be photographed by which time its wings had expanded fully.



The sight of its grasping or raptorial forelegs (L. rapere to seize) lead to an immediate misidentification. Subsequently we learnt that the insect was not a praying mantis, but a mantis fly (Mantispidae) in the order Neuroptera, which includes lacewings and antlions.

Adult mantis flies are active predators. Their larvae, depending on the species, are parasitic either on the eggs sacs of spiders or the larvae of social wasps.

(Zborowski, P. & Storey, R. (1995) A Field Guide to insects in Australia, Reed, Melbourne)

EMPEROR REVEALED

Those who left while we were still examining the harvestman and burrowing crayfish (Engaeus nulloporius) in the awamp missed the spectacular sight of a newly emerging Emperor Moth (Opodiphthera belena) (below).

When an adult moth first emerges from its pupul case its body is soft and pliable and its wings are crumpled sacs. It will usually climb on to an object that allows its wings to hang free from its body. Pulsating organs in its thorax and normal circulation of blood causes blood to be pumped into the flaccid wing veins. Eventually the wings expand fully and their membranes rapidly harden enabling the insect to hold its wings in the normal position for that species. (Common: LEB. (1990) Mathr of Australia, Melbourne University Press)



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Many of the big tock formations were less than impressive when compared to some Tasmanian landforms; notable exceptions being the East Bungle Bungles and also the Devils Marbles north of Wycliffe Wells. The latter are the most graphic illustration of frost shattering I have ever seen with the original multi metre diameter spheres cleaved as neatly as you would cut a pumpkin with a heavy blade. Dusk is the best time for viewing the Marbles which are surrounded by low grasses and some had a fringe of blue *listama petratea* flowers at their base.

Several minerals were also evident from the car even discounting the big pits at Newman and Kalgoorlie. On the Moon Plain outside Coober Pedy, fragments of thick sheet gypsum lay around a pile of petrified wood as we drove across to the Breakaways, a visually stunning array of brightly coloured weathered rock outcrops. Side trips at Gem Tree also took us near the only vermiculite producer in Australia, the turn off marked effectively by a pile of mica rich boulders. Our goal at Gem Tree was a couple of days fossicking for garnets and zircons. The term "garnet" actually refers to a group of minerals with a range of chemical compositions, usually aluminosilicates but in two cases the aluminium is replaced with iron or chromium. Gem grade colours vary accordingly from yellow through green to ted and purple but as we only knew of the red ones at the time we could have thrown some yellow and green ones on the dross heap in ignorance. Finding zircons (ZrSiO, zirconium silicate) is harder but more interesting as their high specific gravity (4.7) means they are underneath a mass of other minerals so we sieved out several hundred kgs of bright green apatite (a complex

calcium phosphate) and magnetite (Fe,O,, iron oxide). The latter was in the form of large glassy lumps very different from the microcrystalline Brockman hematite (Fe,O.) at Mr Whaleback outside Newman but at least that minimised the dust. The hematites run at 68.8% iron whereas the Goethite limonite (hydrated iron oxide) at Newman is 61% iron. The latter is formed by oxidation of iron sulphide and has a much lower density, it's yellow colour being familiar to anyone using other pigments. Like the garnets, zircons come in a range of colours from white through pink and yellow to brown, the name apparently derived from a Persian word meaning "golden colour". Elsewhere in WA, mineral sands are mined for zircon as a source of the element which is used in applications as diverse as magnesium alloys, refractories, glazes and deodorants

Scanning roadside vegetation, usually on the left hand side only is necessary to avoid collision with local wildlife and on long sectors is an aid to concentration, provided the steering wheel temptation to rubber neck is avoided. Frequent rest stops at impromptu and official sites then allows closer inspection of the long paddock flora.

Leaving Port Augusta in mid-May, very few of the Senna and Acacia shrubs were in flower but the odd Crotolaria cunninghamii provided some welcome relief to kilometres of low mallee scrub. Further north, even a blade of grass would have come in handy as we crossed the Gibber plains so the presence of white Cypress Pine (Callitris glaucophylla) and Desert Oaks (Allocamarina decitineana) near the NT border provided a useful vertical perspective. The mature Desert Oaks have a conventional branch structure as their long tap roots give access to water in the strata below but the juvenile trees are effectively stunted at 3-4m in height with

few if any branches evident. They look like masses of giant loofahs dotted across the dunes (Loofah 'flesh brushes' are actually the seed pods from Luffa aegyptiaca).

Around Alice Springs various grevilleas and haloeas were in flower with the Holly Grevillea (G. wickhamii) along wetter roadside all the way north. Our first mulla mulla (Ptilotos exaltatus) was also found at Alice and we subsequently identified another 4 of the 40 or so Ptilotus species as our journey progressed. Swathes of White Indigo (Indigofens leucotricha) were found in some of the gorges around Alice while various bush tomato plants (Solanum ellipticum) provided some welcome colour on the verges.

North of Dunmara we encountered hundreds of kilometres of road lined with Turkey Bush (Calytrix extipulata), any foliage on which was lost in the mass of pink-purple flowers. While using botanical names is a bit of a pain, especially when the taxonomists change your favourites (exit Bauhinia, enter Lysiphyllum) the value was illustrated as we journeyed south in WA on roads lined with Common Turkey Bush - in this case Eremophila latrobeii. Trees in Kakadu were notable for their horizontal habit, a relic of Cyclone Monica. On the Arnhem Land Plateau most of them have been flattened apparently, while at Jabiru 20% were lost grading to zero 100km further west. The gaps in the tree canopy will presumably pose new challenges for invasive weed management while the high fuel load on the forest floor will pose some fire management dilemmas. Yellow kapok bush (Cachlospermum fraseri) flowers were the other major roadside colour addition in the NT but who needs colour when you can marvel at the endless trunk variations of Boab trees (Adansonia gregorii) especially

around Kununurra and up towards Wyndham. This area was also notable for the Cockroach Bush (Senna notabilis) and the statice like Red Kimberly Everlasting (Polycarpea longiflora).

Heading inland from Port Hedland to Newman gave us access to Karajini National Park — one of the two botanic highlights of the trip — and our best displays of roadside Sturt Desert Pea (the rest area north of Auski roadhouse). Further south we were too early/far west for the major everlasting type wildflower displays but a few white Pom Pom heads (Cephalipterum drummondii) were out and there was a mass flowering of pink Schoenia cassiniana along part of the Mt Magnet-Sandstone road.

The mallee country within a 200km radius of Kalgoorlie is a tree lover's paradise with spectacular variations in bark colour from white through yellow and green to a glorious copper. The eucalypts concerned, such as the Salmon gum (E. salmonphloia) and Gimlets (E. salubris and campaspe) appear to be the ultimate 'bronzed aussies' and are displayed to perfection in Karikurla Park at Kalgoorlie and the Helm Arboretum outside Esperance where more than one trunk was given a furtive hug.

Cape Le Grande National Park east of Esperance was another botanic highlight, aided by stunning coastal scenery and more than made up for the relative sterility of the Nullabor Plain. However one rest stop on the plain had the bonus attraction of a close eyeball view of a Ground Cuckoo Shrike, previously only presumed to be the bird flying across my line of vision on the Lake Argyle road. Time and again, birds 'appeared' when we stopped, proof positive that drivers should do it more often.

BOOK REVIEW BY JIM NELSON

The Silent Cicada & Other Natural Sounds A collection of natural history stories

By Sarah Lloyd

Sarah Lloyd ventured into self publishing with this little gem of a book which is a collection of some of her natural history writings. Since its arrival in August 2006, she has produced two more books going from strength to strength. Both of those books have been about the natural history of specific places, namely Quamby Bluff and the Blue Tier. The Silent Cicada is in A5 format while the other two are in A4.

The A5 format of The Silent Cicada suits its intimate nature of a collection of Sarah's natural history writings and photographs. Most are articles which first appeared in publications such the CNFN's Natural News, and the newsletters of other groups to which she belongs. An introductory section "Life on Black Sugarloaf" serves to give the reader an insight to the sources of her inspirations, and sets the tone for the intimate way she is able to deliver the stories from a personal point of view.

The fact that she calls them natural history 'stories' gives you some immediate clue that there is more to be expected than simply dry facts and observations. What is delivered is Sarah herself in full flight, with tales from her experiences flowing upon you like a gentle breeze, both refreshing and mood changing. There are wonderful observations, always delivered with a super keen eye (and ear) and joyful enthusiasm.

You can learn more natural history from this book, and have more fun doing so than any other publication I can think of this side of David Attenborough. Like Attenborough, Sarah can pull you into things you didn't even know were interesting. She is on a journey to uncover the delights of the natural world around her, and we have the privilege of sharing some of her discoveries and passion. May you also find it as I did – an infectious delight. JN

[The Silent Cicada is available from Sarah (contact details page 1) or from Fullers bookstore.]



A NEW CNFN LIBRARY BOOK Jim Nelson

On 22nd of January, I met with 29 members of the Queensland Field Naturalists Club at the site of a habitat area for the endangered burrowing crayfish (Engaeus granulatus), where I gave them a talk on the species and its problems. Then we moved to the Lillico Beach Penguin Platform where I gave a talk on the community effort that went into establishing the Lillico Beach as a sustainable penguin viewing area, followed by a talk on the natural history of the little penguin. Todd Walsh then arrived after a tea break, and brought along a giant crayfish (Astacopsis gouldi) and gave a talk on its natural history and conservation problems. They were grateful for the information we delivered, and concerned over Tassie's conservation problems.

They presented our group with a book called Selected Nature Notes from QNC News (1957-2004), which contains observations divided into 10 sections on mammals, birds, amphibians and reptiles, plants, fungietc, with the 10th section on 'Other'. It can be borrowed from our library, which is currently housed at my place.

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Following the success of our pamphlet "Leave logs for frogs" and requests for more copies from various organisations, the CNFN successfully applied to The Norman Wettenhall

Foundation for a small grant to cover the cost of reprinting. We now have plenty in stock.

If anyone would like to assist with its distribution or know of a school or organisation that may find it useful, please contact Sarah.

