

FIELD NATURALISTS ASSOCIATION OF CANBERRA INC.

OBJECTS: To foster an interest in, an awareness and an understanding of nature.

PRESIDENT: Simon Spinetti, Phone after 5 pm 241 5825 (h)

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MEMBERSHIP SECRETARY: Bob Ecclestone, Phone 241 4512 (h)

Meeting are held downstairs in the Division of Zoology and Botany, ANU, on the first Thursday of each month. Meetings commence at 8.00 pm and are followed by refreshments.

NEWSLETTER - FEBRUARY 1995

FEBRUARY MEETING - Thursday 2. WILDLIFE UNDER THE WAVES. Come along and hear **Pat Sciliano**, scuba diver and underwater photographer, show us the wildlife that is to be seen below water level along the South Coast. Bring yourselves and your friends to the first meeting for 1995. Some of you may have been lucky enough to visit the coast over the Christmas/Summer period. Do you really know what lies below the blue waters? Pat will show and tell all.

FEBRUARY OUTING - Sunday 19. COPPING'S CROSSING TO LOWER MOLONGLO WATER TREATMENT WORKS. Meet at 10.00 am at the car park south of the crossing. We will need to leave several cars at our destination in order to transport drivers back to Copping's Crossing. Please ring Rosemary 254 1763 if you intend going on this trip. Bring lunch, water bottle, sunscreen and hat.

DON'T FORGET TO VOTE on Saturday 18 February. The three political regions, Ginninderra, Molonglo and Brindabella have been aptly named I feel. Ginninderra, or Ginnin-ginnin-derry is an aboriginal word which means 'sparkling, throwing out little rays of light' Murrumbidgee into which Ginninderra Creek flows means 'plenty water'. Gooramon (Ponds) which flows into Ginninderra Creek means 'sheet of water'. Unfortunately the ponds have been silted up. Can anyone help with the meanings of Molonglo and Brindabella?

Our DECEMBER MEETING, a picnic barbecue, was held at Black Mountain Peninsula. If the wind hadn't been so cold the setting would have been perfect. Many stalwart souls braved the elements. Our president looked resplendent in his School Formal gear. He took off to the Lakeside while we remained at the lake side.

THANK YOU to Margaret Cowburn for the raffi donations in December.

The article regarding the beech tree on the right I have been hoarding for seven years. It was taken from a publication called The German Tribune which translated various articles from German papers into English. The original appeared in the 'Welt am Sonntag' 4/1/1987.

100-year-old beech is worth half a million marks

What is a tree worth? The value of its timber, lumberjacks and forest-owners would say. That can range from DM150 for a spruce to over DM30,000 for an oak tree.

A 100-year-old beech tree 25 metres (82ft) tall earns its owner a mere DM270, the equivalent of two to three cubic metres of timber.

Biologists and futurologists go by the economic cost of the work the tree does, such as generating oxygen.

A tree generates 4.6 tonnes of oxygen a year. It also exchanges 6.3 tonnes of carbon dioxide from the atmosphere.

If this were to be done artificially the energy input required would be 19 megawatt-hours. That, plus the tree's work as a water pump and water storage unit, is worth DM315.63 a year.

A beech tree's roots and capillaries extract 30,000 litres of water from the soil.

its waste, consisting of 55 tonnes of dead leaves and wood, not to mention beechnuts, is used by millions of organisms.

It is converted into humus by 2,500 worms, for instance. So the tree's value as a diatope is estimated at DM1,552.63.

The tree's work in extracting dust and toxins from the air we breathe is worth DM1,607.84. It is worth a further DM1,675.64 as a sunshade, umbrella and children's playground.

As a part of the natural habitat of wild animals, as a climate regulator and prerequisite of nature's biological balance it is worth DM475.25.

On this basis the beech tree is worth over DM5,000 a year. So the work done by a 100-year-old beech tree can be costed at over DM500,000.

Wolfgang Thielke

(Welt am Sonntag, Hamburg, 4 January 1987)

Uncle Sam takes it Home

by Dierk von Behrens

This week our Internet correspondent A J Oxtan, on leave from Ross Island in the Antarctic, called past. Having just studied the latest edition of 'Do the Right Thing', I wondered: "How is rubbish handled by the American bases on the Southern Continent?"

The US has three main bases there, we heard: McMurdo, with some 1200 summer and 200 winter residents, Palmer (with 44 and 15 respectively) and the much more international Scott-Amundsen base at the South Pole with its 120/15 staff complement and located at an elevation of some 3000 metres.

Taking McMurdo as an example: Until recently most flammable rubbish was burned once a week and the remains were stored in land-fills. In recent times, however, this station has been doing more expensive remediation. Even some of the former land-fill is now being removed.

Since the implementation of the Antarctic Treaty, almost all McMurdo's waste is now pre-sorted into approximately a dozen categories. These include glass of different colours (primarily liquor bottles, but not light bulbs which count as hazardous waste), light metal (defined as bendable in your hand, but not aluminium foil), heavy metal, plastic, cardboard, wood, white paper, personal hygiene products, batteries, construction debris and food waste. This sorting starts in the dormitories 'down town', as McMurdo Base is known. Dormitory bins are emptied into skiffs, which, in turn are dumped into the empty containers originally used to bring 'up' supplies at the beginning of summer. (Al insists on 'up' - the direction being merely a matter of convention.)

Whether a particular piece of rubbish ends up among the food-scraps or, say, the plastic pile depends on the relative weight of its components. Food-scraps are stored in refrigerated containers and returned all the way back to Seattle, to be disposed of on contract.

Construction wood scraps are chipped and blown into containers, before being returned to the ship.

Dishwater, on the other hand - used to hose down the galleys - and toilet waste are macerated and dumped down an ocean outfall directly into the sea.

Only a quarter of a mile from this outfall is the salt water intake that supplies the desalination plant from which the base receives its water supply. That supply was once generated using flash evaporators to produce distilled water, a low initial cost easy to maintain, but high running cost system. Recently, however, a high initial cost reverse osmosis system has been installed. This is relatively inexpensive to run, but its filter system and high pressure pumps are relatively difficult to maintain. In

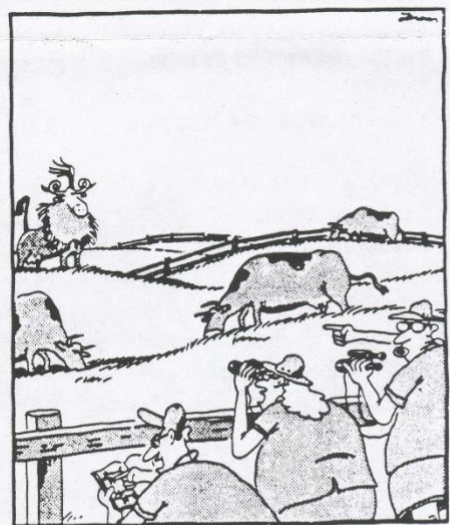
addition only the minerals and heavy metals are filtered out and the filtrate needs to be treated to kill possible viruses that have not been filtered out. The water now has a distinct taste, we were told.

The United States is undoubtedly the nation with the greatest per capita capacity for waste generation. Its sound progress in handling waste at the opposite end of the globe must be applauded, though one might sincerely wish that the nation as a whole would own the problem, ie would fully acknowledge all its aspects as its own and take to heart its many potential lessons in avoidance/refusal, waste minimisation and local production. From a waste product perspective, if one must consume alcohol, then home brewing in the dormitory - re-using a range of containers - is much to be preferred to importing the stuff from half a world away in small containers which must later be shipped out again.

Al is an interesting character. He responded to a request of mine on KIDSPHERE, on Internet regarding mountains. He is about to return to the Antarctic for the fifth time and will be there for the winter. We introduced him to the Pinnacle Nature Park and it was fascinating to see how he was absorbing different experiences and making note of them, no doubt to store memories as a squirrel stores nuts, to last the winter. RvB

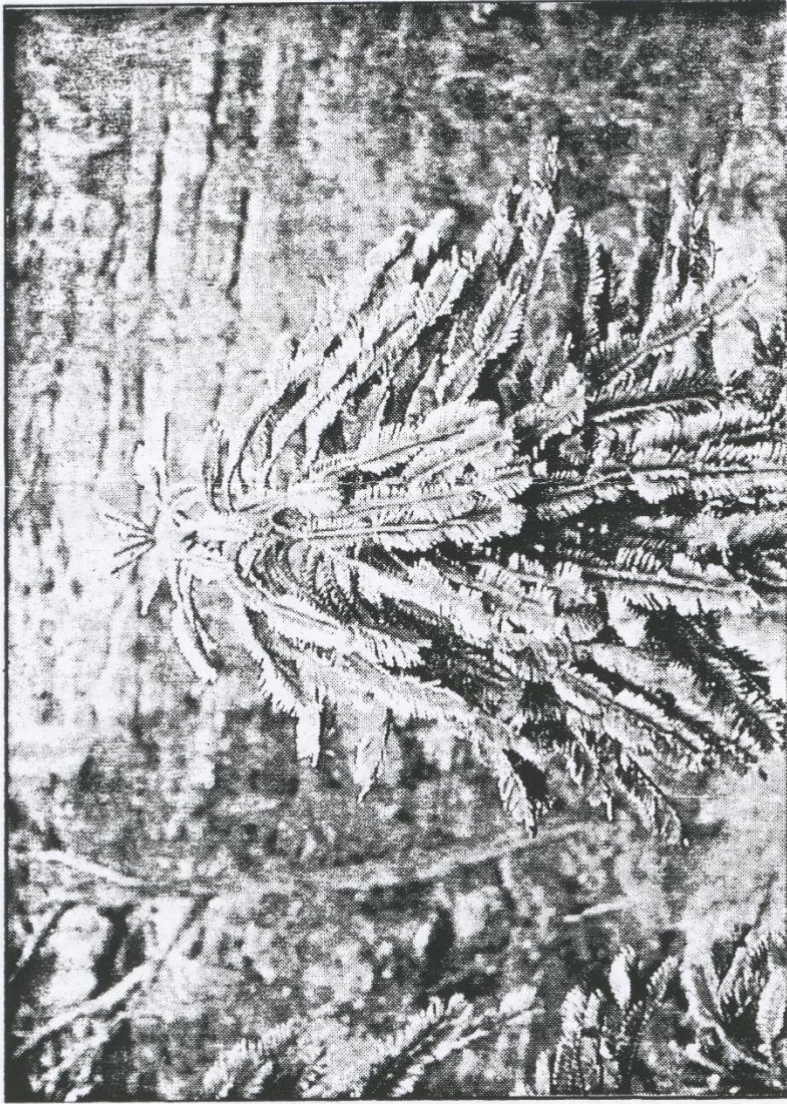
Paradoxically, the cold and often light poor arctic and antarctic waters are rich in nutrients and support a far greater mass of animal life than tropical oceans. Small euphausiid shrimps called krill are exploited directly by the largest animals in these and any other regions. The blue whale in southern waters feeds almost exclusively on krill (*Euphausia superba*).
From 'Whales, Dolphins and Porpoises'
ISBN 0 7302 0431 6

The
Far
Side



And then the bovine watchers were given a real treat. On a small knoll, in full splendor, there suddenly appeared a Guatemalan cow of paradise.

TREE FIND MISSING LINK TO 'JURASSIC PARK'. 'The Advertiser', Thursday, December 15, 1994



The Wollemi Pine found in the Blue Mountains... remnant from the age of dinosaurs.

SYDNEY: David Noble took a leaf sample from an unusual tree in Wollemi National Park, in the Blue Mountains, not realising it would lead to one of the greatest botanical discoveries of the century.

Yesterday, it was being claimed as the missing link between present day conifer pines and those of 200 million years ago.

Mr Noble's inquisitive nature may have unlocked the mysteries of a modern-day "Jurassic Park," thriving on the outskirts of metropolitan Sydney.

"At the time I thought it looked like a different plant," he said yesterday. "The whole thing is amazing. It's truly a relic from the past."

A field officer with the National Parks and Wildlife Service, Mr Noble found the tree — with fern-like leaves and large green cones — while abselling through remote national park areas in the Blue Mountains in late August.

Scientists put the finding on a par with the discovery of a lungfish in south-east Queensland in 1870 and the coelacanth found at great depths in the Indian Ocean in 1938. Both fish had previously been known only as fossils.

Mr Noble, 29, had happened upon perhaps the world's only known living plant link to the dinosaur age.

Not only is the tree probably the oldest species known, it is also possibly the rarest.

Named the Wollemi Pine, the tree is a relative of the Hoop Pine, Bunya Pine

Ranger's pine hailed as key discovery

and Norfolk Island Pine, found in Australia and New Zealand.

It is bi-sexual and like no known living pine species. The unusual lime-green leaves look almost fern-like and the tree has a complex structure.

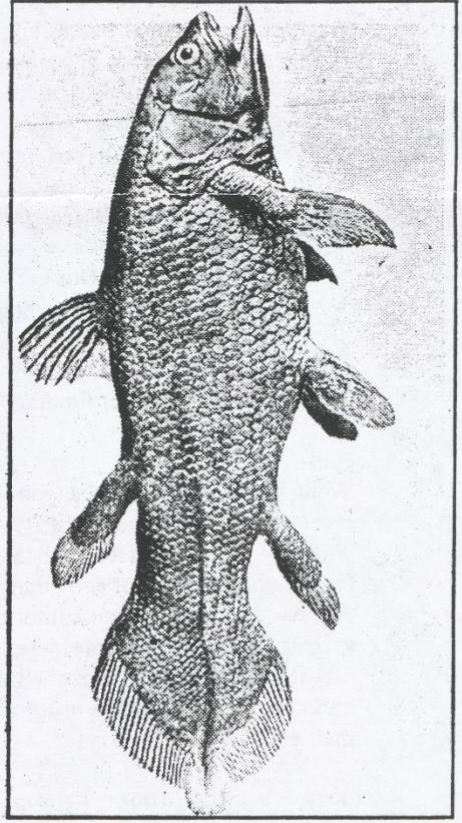
Its upper branches are tipped with bright-green female cones and brown, cylindrical, male cones.

Its closest relatives are more than likely the now-extinct pines which would have dominated the landscape during the Jurassic and Cretaceous periods — between 65 million and 200 million years ago.

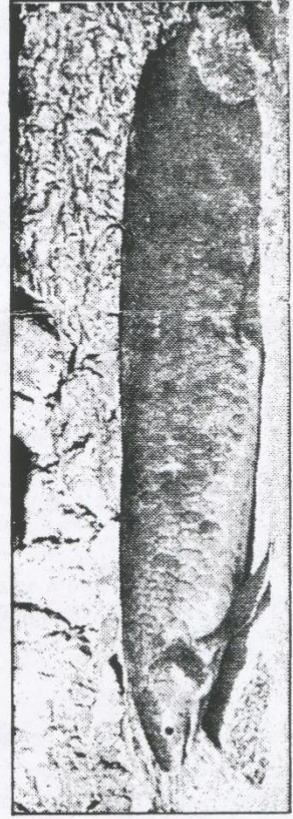
The area in which Mr Noble found the rare trees is being kept secret because of the danger of illegal seed collecting.

Plans are also underway to carry out a fire risk strategy to protect the trees.

The Blue Mountains, 65km west of Sydney, are already marked for possible World Heritage listing, but it is up to the New South Wales Government to recommend to the Federal Government that the site be considered.



The coelacanth: known only in fossil form until earlier this century.



The lungfish found in south-east Queensland: another living relic.

WOOLEMI PINE
WOOLEMI PINE
WOOLEMI PINE

THE ROLE OF COMMUNITY GROUPS IN PLANT CONSERVATION

by Geoff Butler, in his address during the launch of Friends of Grasslands, continued from December issue.

Practical activities

I am totally convinced that there is hardly a thing that community groups cannot undertake. You have only to look at the quality of community contributions to nature conservation, both locally and interstate. People will want to do various things according to their interests. In various endangered species recovery programs all over Australia community groups run almost the whole programs, with assistance and direction being provided by conservation agencies.

Community groups are involved with searching, surveying, draughting site plans, general and research propagation, establishing new populations, maintenance, weeding, preparing submissions, recording all sorts of information and providing support in general for the preservation of remnant vegetation.

Do not discount the use of more radical action, as there are times when this is required. It is my belief that our movement has become less effective in some cases because we have drawn away from more radical types of activities, and it should always be an option when all else fails.

Funding

It is a reality that national, state and territorial governments no longer can or will provide all the resources to achieve what is required in conservation, and in effect are reliant on the community to assist. The community has also shown that they are no longer prepared to remain as quiet observers in conservation and recognise that they either possess or wish to acquire the skills that will enable them to become involved. This is reflected in the number of government funded community conservation programs. By all means use funding where it is available, but don't become reliant. While everyone here will recognise the need for more funding to come into conservation, we can never be sure when it might diminish. Our commitment now needs to be stronger than ever to becoming more self reliant. Seek out every opportunity for private sponsorships, while at the same time keeping the pressure on governments for further funding.

Lobbying

While the situation has changed for the better over recent years, it is important to note, however, that even when the most sound and logical reasons are presented for the conservation of something, many are still dismissed by the relevant authorities as just another greenie group applying pressure. The timeliness and the way that this pressure is applied will be an extremely important function of the group if they are to achieve their ends.

One of the urgent tasks of FOG will surely be to continue the lobbying that has already taken place to rid our region of some of those plant species that continue to threaten grasslands and other ecosystems in the ACT. Remember also that it is not only the cotoneasters, pyracanthas and St John's worts that are the problems. Trees and shrubs are sometimes planted over very good examples of grasslands, and there needs to be the recognition that while revegetation activities are essential, grasslands are an important component for revegetation activities in their own right.

There will also be disappointments. Despite all the hard work and intensive community activity over certain developments and landscaping thematics in Gungahlin which resulted in a promised review of the landscaping guidelines, this has not eventuated. The development and inappropriate plantings in some areas continues, taking our environmental values back to the 1920's.

Really resist relocation of remnants, campaign against threats to sites. At no stage should anyone doubt the potential achievements of organised community groups in bringing about change through the political system. Don't be hesitant or reluctant to use this option. I wish FOG all the best for the future, and look forward to participating in its activities.

NATIVE GRASS 'LAWNS' and PLANTINGS.

Did you know that there are native grasses which can be used for lawns and they may only need to be mowed once a year? Or you may choose not to mow at all. A firm in Clarendon, NSW called Aabulk (ph 045/775912) has Australian grasses in small 'viro-cells' which can be hand planted or scattered and rolled into the dirt where a new grassy area is being established. The plants do need constant watering in the initial stages but they can slowly be 'weaned' and then left to their own devices.

Native grasses require little fertiliser, they don't compete with native trees and shrubs, and they help promote native insect, bird and other wildlife. They are in full flower at the moment, and it's the cute little grasses with the beautiful fluffy creamy white seed heads that should be attracting your attention.

Species available are:

Wallaby grasses, *Danthonia* spp. *Danthonia setacea*, *D caespitosa*, *D richardsonii*, *D linkii*. Canberra has several species which are very similar and the seed collectors often confuse them, so for our region they have a 'Canberra blend'.

Kangaroo grasses, *Themeda triandra* and *T australis*. Mow occasionally for 'lawn'.

Weeping grass, *Microleana stipoides* is an evergreen and forms a traditional low maintenance lawn.

Tussock grass, *Poa labillardieri* (not the introduced pest).

Swamp Foxtail, *Pennisetum alopecuroides*.

Slender Bamboo grass, *Stipa verticillata*. 2 metre screen

IT WAS a tiny draught of warm air emanating from a pile of loose rocks near the bottom of a steep cliff that led to the discovery, announced last Tuesday, of the greatest prehistoric art find for half a century — hundreds of Stone Age paintings in a hitherto unknown cave in southern France.

Some 18,000 years ago, the paintings and the caves which they adorn were cut off from the outside world when a landslide blocked the main entrance to the complex.

The entire site has been preserved as a virtual time capsule for 180 centuries.

When last month the first humans since the Ice Age to enter the caves shone their torches into the darkness, they realised not only that the walls were covered with paintings, but that the complex had been left exactly as it was when the Stone Age painters last used it.

It was as if the caverns had been frozen in time. At the sides of the caves the Stone Age hearths still survive. In the centre of the main chamber, what appears to be some sort of altar still has a bear's skull on top of it.

And on the soft cave floor are the myriad footprints of the Stone Age tribespeople themselves — footprints which are likely to be as fresh as the day they were made some 18,000 years ago.

This is a unique discovery for one fundamental reason. It is the first time that modern archeologists have found a cave that is both artistically spectacular in terms of quantity and quality and in pristine condition — untouched by humans or animals since the Ice Age.

This unique combination will give archeologists an unparalleled opportunity to help crack one of prehistory's greatest mysteries — the meaning and function of Stone Age cave art.

On the walls of the caverns — near Vallon Pont d'Arc in the Ardeche — are paintings and engravings of at least 13 species of animal — a greater variety than any other Ice Age cave. In the four main chambers of the complex are highly naturalistic paintings of more than 40 woolly rhinoceroses, a similar number of lions and bears, at least 20 horses, 15-20 wild oxen and a similar number of bison.

Also portrayed are at least 10 reindeer, at least half a dozen mammoths, three ibex, three giant deer, a leopard and a hyena. And there is an engraving of what appears to be an owl — and at least a dozen red ochre images of human hands — some executed in negative stencil style, others imprinted as positives directly on to the walls.

Other engravings of various animals adorn a wall which the archeologists have not yet been able to reach, and other areas of the cave complex are likely to yield yet more masterpieces.

In total the cave explorers and archeologists — led by French Stone Age art expert Jean Clottes and the original discoverer, speleologist (cave explorer) Jean Marie Chauvet

— have so far found at least 250 images, mostly executed in black and red pigments, but several hundred more probably still await discovery.

But it is a thorough investigation of the soft cave floor — unaltered for 180 centuries — that will probably yield the most valuable information.

Archeological investigations should reveal much about what the people of the cave were actually doing. Examination of the hearths should reveal what animals, if any, were being cooked, and whether they include those portrayed in the art.

Examination of the footprints should reveal whether both adult men and women and children were present — or whether there were just adult men there — and whether they were walking, running or perhaps even dancing.

Microscopic examination of the surface of the flint implements being found in the complex will reveal what the tools were used for. A technique known as use-wear analysis should detect tiny tell-tale scratches on the flint surfaces which will show whether animals were being cut up.

Special tests on blood residues on flint blades should provide evidence of which creatures were being killed.

And a search for Stone Age fingerprints preserved on the pictures could also yield vital data. They could for instance reveal which paintings were executed by the same individuals — and an analysis of large numbers of different fingerprints could yield clues as to the ethnic identity of Europe's Ice Age population. The archeologists will also be hunting for scraps of human skin or hair that may somehow have survived and could yield DNA genetic material.

ODDS'N'ENDS

ACT Birdwatchers Hotline - Ring 247 5530 for a current 5 minute recorded message on meetings, outings, bargains, interesting, rare or migratory birds to be seen in our area. Leave your own message.

Tidbinbilla Nature Reserve - Walks, bird hides, picnic areas. Bookings essential for guided tours. Ring 237 5120 To join Friends of Tidbinbilla ring 237 5120 or collect registration form from Visitor Centre.

Murrumbidgee River Corridor - Ranger guided walks. To book ring 288 4930

Namadgi National Park - Bookings essential for popular walks. Ring 237 5222

Canberra Nature Park - Information Line 290 1057

ACT Government Shop Fronts - changing displays and pamphlets available on topical issues.

NEWSLETTER

Any contributions happily received large or small, reports or pictures, anything that may interest others. Do volunteer to write up meetings and outings.

Contributions can be handed in at meetings to:

Rosemary von Behrens
121 Springvale Drive
Weetangera ACT 2614

Telephone 254 1763 (H)** or 2056122 (W)

Deadline for the March newsletter is Saturday 19 February.

FIELD NATURALISTS ASSOCIATION OF CANBERRA Incorporated

The Field Naturalists Association of Canberra was formed in 1981. The aim of the club is to stimulate interest in the natural history of the ACT through regular meetings and field outings. Meetings are usually held on the first Thursday of each month. Field outings are also planned each month and range from day outings to long weekends and camping. The emphasis is on informality and fun. New members are always welcome, especially family groups and young people. Information on activities is circulated in the monthly newsletter. If you wish to join FNAC, please complete the form below and send it with the appropriate subscription to:

The Treasurer, FNAC, GPO Box 249, Canberra ACT 2601

FAMILY NAME: FIRST NAME:

If a family membership, please include the first names of other members of the family.

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