

Nature & Society

The Journal of the Nature and Society Forum

June-July 2007

Editorial

Apparently 2007 is the Year of the Idea, according to an announcement by the Australian Institute for Commercialisation on Australia Day this year. Amongst other aims, the organisers want to inspire collaboration towards the solutions to local, national and global challenges.

That is great, but they need to be cautious, not all ideas should be encouraged. An old saying is that necessity is the mother of invention, and so it can be. On the other hand many people have had bright ideas, and then gone looking for a use for them, essentially creating a want where there was no need.

In the advertising feature in *The Canberra Times* which promoted the Year of the Idea, there were three new lifestyle inventions. One was a domestic lighting system to enable users to create light ambiances to suit a wide range of feelings, using a multiple light source to project patterns on the floor and ceiling. Choices included the dappled lighting of a forest, seaside sunlight, moonlight and many more.

A set of interactive tiles would encourage children (and adults) to play interactive games, stimulating the body and the mind, providing physical activity and social interaction. The game could be a traditional one like hopscotch, or something that the children themselves thought of. This was seen as an answer to sitting at a computer or in front of the TV; it would combat childhood obesity, boredom and other ills.

The third gadget makes any wall into a virtual drawing canvas, without producing any mess, using an electronic light brush and eraser. These all sound great fun, until you realise what they are doing.

They are, indeed separating people from the real world, so the outside world could seem like a pale imitation, less interesting than the virtual world within doors. The real world is messy and does not pander to your moods – and it does not need batteries or an electricity supply to make it work. Most importantly it is the real world to which we must pay attention if we are to solve local, national and global challenges.

It is in the real world that Australians have just woken up to a crisis in the Murray River. Heaven knows there has been enough said and written and even pictured over the last few years to enable anyone to see a crisis developing. Yet politicians and indeed most Australians, living in the artificial environment of our economic and political systems, have assumed that the Murray-Darling Basin will go on indefinitely producing food for export as well as for domestic consumption. They even thought that it could do this for an increasing population

while at the same time selling the irrigators' water entitlements to townsfolk. And indeed, if good rain falls in the nick of time, they will go back to believing such fairy stories.

If any substantial fraction of the more colossal segment of humanity did consequently give up part of their resource-devouring extensions out of humane concern for the less colossal brethren, there is no guarantee that this would avert die-off. It might only postpone it, permitting human numbers to continue increasing a bit longer, or less colossal peoples to become a bit more colossal, before we crash all the more resoundingly.

William Catton
Overshoot, 1982, p 174

Contents

| | |
|---|-------|
| NSF news | 3-6 |
| Nomination of the ACT as a UNESCO biosphere reserve | 6, 10 |
| Evolution now | 7 |
| Review of books on climate change and low-carbon living | 8-9 |
| Review of <i>Energy Autonomy</i> | 11 |
| Forests | 12 |
| Conservationists and resourcists | 13 |
| Farrago | 14-15 |

We have been nurtured on the fairy story of perpetual growth, the myth that we can have more of everything, for more people, forever: that growth is essential. The myth says that we can continue to use more water, extract more from the soil, that we can even satisfy our gluttonous consumption of oil by growing crops for fuel. The environment is expected to sustain our ever increasing consumption.

Well, it won't work. Surely by now we can recognise the disaster towards which this myth is leading us. Oceans are acidifying and so polluted that fish and whales have been found carrying loads of industrial pollutants. Forests, those essential carbon traps, are diminishing daily. Innumerable species are teetering on the brink of extinction, including our cousins the great apes. Climates are changing so fast that the *New Scientist* suggests that climate replacement is a more accurate term than climate change.

Humans are not immune to these processes. Quite apart from all the other impending dangers there is the additional risk of major diseases from which the industrialised world has so far been shielded. Recently the first totally drug resistant case of tuberculosis was reported in Italy. This could herald a momentous change. A classic story in grand opera is of the heroine dying of TB. This was not a myth and it was not just the heroine who died. In the nineteenth century TB was called the White Plague, and it killed as surely as the Black Death of earlier centuries.

The future could be very grim indeed, with floods of environmental refugees, mass starvation, major epidemics and a sadly depleted and less beautiful planet, unless we change our ways, starting now.

Stephen Hawking has offered us his opinion that the future of humanity must be in space. This would be an updated version of slash and burn agriculture – trash the planet, and move to a new one. Slash and burn worked well while human numbers were small, and forests had time to regenerate. It will be much more difficult to do with planets. It would be very much more expensive than looking after the earth. It would certainly mean saving a lucky and adventurous few and leaving the rest of the population to suffer on an increasingly hostile earth.

It seems a sorry way to go; surely this planet is worth looking after. We need to replace the myth of perpetual growth with a more humane idea and ideal of progress, maintaining Earth as a habitable planet. It could have been called the pro-life movement,

except that that term has already been co-opted for a different purpose. We want a biosensitive society, but that is not a catchy phrase. We are stuck for a name that will suit the beginning of our essential new myth, our new story.

Our story must change from exploitation to conservation, from growth in numbers, consumption and greed, to one of knowing when enough is enough, an acceptance of sufficiency. We must exercise the sharing and caring side of our nature, not the competitive and aggressive side.

We cannot know just what the future will hold, how people will think and act. But we can be fairly sure that in that future, ideas that use electricity and other resources unnecessarily to satisfy superficial wants will get short shrift. We can also expect that war, at least as we know it, will not be waged. It is just too environmentally expensive.

Maybe this future is really a bright one, where people, rather than feeling deprived, can be more satisfied, healthier and more peaceful.

Jenny Wanless

When 'style' repels

Nature and Society Forum has always been concerned about the danger that lies in the gap between the framework of civilisation in which we live our mental lives and biophysical reality in which our physical lives take place. Personally, I see this as one of the greatest threats to our future. I came across a emblematic example of this gap in the *Canberra Times* of 12 May 2007. There, in the property section, was a photograph of 'a modern gas rock fireplace'. Perhaps I have led a sheltered life, but this shocked me as it showed a domestic heater with the gas flames rising behind clear glass from an artistic arrangement of cute pastel-coloured pebbles on a pure white slab. How incongruous! Fires to me are associated with collecting and burning wood for warmth and for cooking; there are glowing red coals, logs and the need to top the fire up and maintain it – always with, at the back of my mind, the knowledge of how much wood I have split and stored ready to use. Here I saw none of this: there was a pale and steady decorative wall of gas flames rising on demand from smooth stones, not from wood. It jolted me in the same way as did Meret Oppenheim's fur-covered teacup from the 1930s and demonstrated just how far we have allowed ourselves to be divorced from reality, seduced by the pure stylishness of interior design, which is recklessly divorced from the biophysical real world.

Keith Thomas

Nature and Society

ISSN: 1038-5665

Editor: Jenny Wanless

Publisher: Nature and Society Forum 2007

Nature and Society© is the journal of the Nature and Society Forum, GPO Box 11, Canberra ACT 2601, and is published six times a year.

Tel: +61 (2) 6288 0760

Fax: +61 (2) 6287 4489

E-mail: office@natsoc.org.au

Website: www.natsoc.org.au

Where we are:

Our rooms are in the South West Wing of Weston Creek Primary School, Minns Place, Weston, ACT.

By car: from Civic, follow the signs to Weston from the Tuggeranong Parkway and continue to Weston by veering left from the traffic lights at the Cotter Road turnoff. This takes you along Streeton Drive for one kilometre, then turn left into Hilder Street (there is a small signpost pointing along Hilder Street). Drive around behind the school into Minns Place and then into the car park. Our rooms are down the slope to the left of the school building – about 40m from where you'll park your car. Follow the sign to 'Sustainability Groups'.

There is space for three or four cars for disabled access close to the entry. There are ramps over the kerb from this small parking space and entry to our building is without steps.

By bus: The 25 bus route from Woden bus interchange and walk 200m.

By bicycle: The office is adjacent to the western trunk cycle path running between Civic and Tuggeranong.

Wildflowers of the Snow Country: a field guide to the Australian Alps

We have available for sale copies of this 1998 book with its beautiful watercolours by Helen Fitzgerald. \$15 for members including postage and handling.

Forthcoming NSF meetings

For the latest information visit our website www.natsoc.org.au and click on "What's On". There you will also find a link to a map showing the venue.

Wednesday 20 June 2007 – Recycled water for Canberra – A panel of three speakers, Deb Foskey (Greens MLA), Dr Peter Collignon and Paul Perkins (previously head of ACTEW, Canberra's water supply utility, and now adjunct professor at the ANU). They will discuss the pros and cons of recycling and alternatives.

Venue: The Emeritus Faculty, ANU, 7:30pm.

Wednesday 27 June 2007 – Canberra launch of *Greenhouse Solutions with Sustainable Energy* by Mark Diesendorf. NSF is pleased to host the launch of this new book. Mark himself will speak at the launch and copies of the book will be available at \$49.95.

The publisher says: "This is a positive, proactive book that proposes a set of policies and strategies for implementing the most promising cleaner energy technologies by all spheres of government, business and community organisations. The book argues that despite being a coal- and oil-dependent country, Australia could achieve an ecologically sustainable energy system. All we need is the political will.

A partial table of contents includes: Basic concepts; Why this issue is important; Sustainable energy futures for Australia; Energy and its greenhouse gas emissions; Which technologies are sustainable? Saving energy; Wind power; Bioenergy; Solar heat and electricity; Other energy technologies; Transport and urban form; Coal and gas: can we bury the problem? Is nuclear energy a possible solution? Ways forward.

Venue: The Emeritus Faculty, ANU, 7:30pm.

Wednesday 18 July 2007 – A members' discussion about ways NSF can best engage in the public policy debate on climate change and other issues. We will also consider diversifying and enlivening NSF's sources of funding. Among the solutions to be discussed are a membership drive and whether NSF should seek donations from service clubs and corporate donors.

Venue: The Emeritus Faculty, ANU, 7:30pm.

Reports on NSF projects

People and Nature (PAN) Social Change Project

The Social Change Project is finally about to see the light of day.

The aims of the project are:

1. to promote understanding of the human place in nature and of the ecological and health issues facing our society today, and
2. to encourage informed and lively discussion and debate across the community about the social changes that will be necessary to achieve a biosensitive society and how these changes might be brought about.

The project thus consists of two parts.

Part 1 – the PAN Papers – consists of a collection of papers on the processes of life, the human place in nature and key ecological and health issues facing human society today. Some of the papers provide an overview of the human situation in the biosphere, important ecological and health issues and the essential characteristics of a biosensitive society of the future. Others discuss specific issues and topics. 26 PAN papers have been completed.

Part 2 – the Social Change Roundtable – is for people who are in general agreement with the material presented in the PAN papers in Part 1. Individuals and community groups are invited to communicate their ideas on the social changes that will be necessary for the achievement of a sustainable biosensitive society.

Some contributions to the Roundtable are likely to focus on changes that will be necessary in societal arrangements (e.g. the economic system) and on the roles of different sections of society in bringing about an effective transition to a biosensitive society. Others will concern practical measures that can be taken, such as the ways and means of reducing greenhouse gas emissions in homes, in city design, on farms and in transport. A number of contributions to the roundtable have already been received.

The outcome of this exchange will be available on the website and will be publicised as widely as possible in the media.

In March we planned the basics of the Social Change website, in April we received tenders and in May we interviewed our shortlist. At the end of May we signed a contract with a web design firm and we anticipate that the PAN Social Change Website will be operating in September.

The PAN Social Change Workshops and Kit

As part of the PAN Program, NSF plans to produce a series of kits to assist community groups to learn and take action aimed at improving our society's performance in the environmental and health arenas.

We would like these kits to act as the first stage in an ongoing process of learning, discussing and debating, communicating and taking positive action — that is, to play a catalytic role in the shift towards a new society that is ecologically sustainable, healthy and equitable.

Forced to choose between limiting population or trying to increase food production, we chose the latter and ended up with starvation, warfare and tyranny.

Jared Diamond

The Worst Mistake in Human History
Discover magazine, May 1987

The project is based on appreciation that many concerned people – while conscious of fact that all is not well and wishing to play a part in bringing about necessary change – are unsure of the facts and do not see a clear path of action and involvement.

Consequently quite often groups of concerned and interested people come together – full of good intentions – but after a few meetings disband without achieving anything.

The aim, therefore, is to provide individuals and community groups with a starting point for active involvement in the process of change by presenting an overview of the present situation and its background, some ideas about the new society, and a framework for follow-up action. It aims to provide them with something to get their teeth into. Groups will be encouraged to contact the Nature and Society Forum for further information on any of the topics or issues touched on in the kits.

The first Social Change Kit is now available for trialling. We would like a few community groups to work through the draft kit and to comment on its usefulness and to suggest ways of improving it. **We would be pleased to hear from any member of NSF who would be willing to convene a group of interested persons for this purpose.**

Stephen Boyden

SEE-Change

Both the South Woden and the Jamison SEE-Change groups have held public meetings in recent weeks to discuss community action on climate change. Both meetings have been attended by about 70 local residents and have generated lively group discussion about ways people in the local community can begin to reduce their personal carbon emissions. This has been followed by a number of House groups at Jamison where a further public meeting is planned.

The SEE-Change Central steering group at its recent meeting agreed that it could assist the evolution of local groups with some expert focus on the issue of ecological footprints and ways they can be reduced. There is hope that children from local schools, high schools and colleges could provide their families with impetus and the expertise to examine the family footprint and measures to decrease its size.

Tom Sloan, a recent school leaver who has been employed as a SEE-Change intern since January, has recently been involved in presentation of a slideshow to students at a number of ACT colleges. This presentation has been well-received and a number of students have expressed interest in the SEE-Change movement. With Tom's imminent departure for time overseas before he begins his university course next year, the steering group has applied for funds to employ up to three part-time interns to continue the work that Tom has commenced in the school and college system, building links between the schools and local SEE-Change groups. It is also anticipated that SEE-Change will again have three senior students from the Australian Catholic University working on the SEE-Change initiative during the latter part of the year.

The steering group believes that significant progress has been made in the twelve months since the June 2006 roundtable but that it is still a fragile development. We are currently consulting with leading Canberra citizens about participation in an advisory group that could monitor and raise the profile of SEE-Change activities and offer expert scientific advice.

Bob Douglas

Eustace didn't have a lot of friends. He wasn't much like anybody else, and he already knew this, even at the age of ten. When he looked at other boys his age, he saw kids who spent hours watching television, talking about what they saw on television, and imitating characters from television.

*Elizabeth Gilbert
describing Eustace Conway
in The Last American Man, 2002, p.26*

NSF's sustainability and health projects

NSF is sponsoring the development of a Sustainability and Health Strategy for the ACT, initially supported by a grant from the ACT Health Department. The strategy was developed through a series of community-based workshops held in 2005 and 2006. Overall twelve projects were generated as a result of those NSF workshops, of which six gained establishment funding in 2006 from health grants, and another from an environment grant. The projects have been implemented and further developed during 2006-2007.

On 17 April this year, Valerie Brown, John Harris, Wendy Rainbird and Geoff Pryor held a workshop for the strategy's project leaders to share how the projects were going, to find synergies and establish

collaborative links among projects, and to explore spin-offs to other creative ideas, supporting more people in the ACT community in living sustainably and healthily.

- Allan Fox reported on the 'Plan for Living in a Nurturing Environment' – the Australian National Sustainability Initiative site. The plan is complete.
- A group from Concerned Residents of West Kambah spoke on the West Kambah Learning from our Land project. They held an Earth Day walk along the area from Cooleman Ridge to Urambi Hills on 22 April, to raise the profile of the project.
- The Art of Moving Project was launched on April 11, and the group has scheduled events during 2007, and plans more for 2008. Art works are to go on twenty of Canberra's buses in November and December this year.
- Performers from the Art of Moving offered to help other projects with art works for their events and launches.
- Cris Kennedy of CSIRO spoke about the on-going student filmmaking workshops for living healthily and sustainably.
- The medical students of ANU combined with ANU Green to develop their Environment,

Continued on page 13

The Biosphere Reserve

In his opening remarks at our 16 May meeting on the proposal to nominate the ACT as a UNESCO Biosphere Reserve, Brendan Mackey commented that there is a world-wide trend towards the regeneration of the city state. Various cities, some with their surrounding bio-region, are positioning themselves to try to attain a sustainable future, in their own right. Urbino, Chicago and Seattle are examples of this trend, and the ACT could do the same, through being declared a Biosphere Reserve.

Ian Anderson pointed out that many scientists were becoming concerned about the state of the environment in the 1970s. The establishment of Unesco Biosphere Reserves was one result of this concern, aiming to educate and to promote sustainable development and the conservation of species and ecosystems. Now they can also have a role in coping with climate change. Ian provided a draft vision statement for the ACT Biosphere (see our website).

The Conservation Council of the South-East Region and Canberra has been running a public consultation process to engage the Canberra community and conservation groups on this proposal. They have had mixed success, finding it difficult to get the concept across. On the other hand many members of the scientific community are enthusiastic. If it is to succeed it is essential that Biosphere Reserve eventually achieves real engagement by many sectors of the community. If we use our imaginations we could achieve great things by securing this nomination.

Mick Gentleman who chairs the Legislative Assembly's inquiry into the nomination said they had run several forums on the topic. Occasionally he has found groups declaring their opposition to the idea, because of vague fear of more regulation for their business. He thinks that a long process of gathering information and talking to the public is an important part of the nomination process, and could build momentum. The inquiry is ongoing, and he wondered if there was any need to hurry. Overall most submissions have been supportive.

Ian Pulsford was the last speaker on the issue. He has been involved with various reserves, but it is now realised that reserves in themselves are insufficient. It is necessary to look at whole landscapes and

connectivity. With climate change species trapped in reserves could perish; they need to be able to move. For this reason the A to A (Alpine to Atherton) program is being promoted – an effort to provide connectivity right down the east coast along the Great Escarpment and the Great Divide, from Cooktown to Gippsland. One critical part of this will be connecting Namadgi to the Tinderries, and Kosciuszko to the coast. An ACT Biosphere Reserve would fit perfectly into this plan.

General discussion followed the presentations and showed general support for the nomination but a division of opinion as to whether it should be allowed to proceed slowly or whether it should be speeded up. Stephen Boyden argued strongly for avoiding delay and said that an enormous amount of good work had gone into the submissions already.

Questions were raised as to whether the reserve should be limited to the ACT, or should include Yass, Queanbeyan and the region. The importance of government support was also queried. Some thought that without the Federal Government coming on board there would be little hope of success. Others pointed out that Mornington Peninsula had nominated successfully, with one of the

best proposals ever submitted, and with no government support of any kind. It had all been done privately, by dedicated individuals, and has one individual who has been a particular driver of the whole process.

Nevertheless to get a functioning Biosphere here it will be important to involve the whole of the ACT community, with local and Federal Government support. At present there is a lack of youth involvement, but there are a couple of youth leadership groups who could become involved if the Biosphere proposal is taken to them. If some groups get inspired, the whole movement could start to take off.

The need now is to present a complete, comprehensive case that business and the public, school children, conservation groups and all others can relate to. It would lift the profile of the national capital, and 'build a brand' to be proud of.

Jenny Wanless

More information about the proposal is on page 10 and the NSF website: follow the link to 'Projects'.

It [bisphenol A] may be a hormone disruptor that probably will eventually leak out of well-loved polycarbonate bottles. I am hedging because it's science. Multiple studies about BPA and the human body's hormones indicate that we should be concerned...

Umbra Fisk, in her daily column on 4 April 2007 at www.grist.org

Evolution Now

Mr Toad Comes to Darwin was the lecture given by Professor Shine in March, as part of the Academy of Science's series on the Gondwanan connection to *The Origin of Species*.

Just like Mr Toad in *The Wind in the Willows*, cane toads are in a hurry to get moving in many different ways, to new locations. Professor Shine's research group, Team Bufo, based in Darwin, has been studying the toad invasion for twenty years. They track the toads with radio transmitters; they also do laboratory experiments, eg testing toad tadpoles' reaction to the pheromones released by a frightened tadpole. (Answer: the tadpoles flee to the other end of the tank. If toadlets have the same reaction it may be possible to frighten them out of the water, so they dehydrate on the bank)

Cane toads were introduced to Australia in 1935. Initially they took a long time to spread, but once they really started to move they became very unpopular, although it must be said in their defence that mosquito numbers drop when the toads move in. Their unpopularity is partly because Australia has no native toads. Every other continent – well, all right, not Antarctica – has toads that are just as ugly, and as poisonous. Indeed all toads produce very similar poison.

Team Bufo's work is helping to explain the mechanisms of the invasion and its effect on the native residents. They are finding that evolution in action is very important on both sides.

Cane toads are very efficient invaders. Females produce about 30,000 eggs in one clutch. All the toads, even very tiny ones, are poisonous, and there have been grave fears for what will happen to native species.

In fact not very many species will be affected. Species that are safe include ones that do not eat frogs; ones that eat frogs but are closely related to Asian species that eat toads; ones that eat frogs, but assess prey toxins before eating.

Birds do not seem to be affected. Barramundi learn the toad tadpoles are not to be eaten. Quolls do seem to be susceptible, but planigales (small native carnivorous marsupials), in a laboratory experiment, learnt, after just one exposure to a toadlet, not to eat any more. Indeed they became very suspicious about froglets, and approached with caution to assess the possible prey, displaying very different behaviour from their normal dart out and grab.

Many Australian snakes are closely related to Asian ones, and have no trouble with the toads, but elapid snakes like death adders are very susceptible to the poison. Red bellied black snakes are too, but many will survive and it seems they can evolve not to eat them.

The best defence for a snake is to have a small head, so it cannot eat a large toad. In an example of

evolution in action, as snakes with large heads die from toad poison, selection favours snakes with small heads, changing the morphology of the species.

Evolution is also changing the toads. In an invading species the ones in the front line evolve to move further and faster. This is indeed the case, with the toads evolving longer legs, and persistently travelling in the one direction (forwards) rather than hopping around randomly. This goes to show why, if you want to control an invasive species, you have to get in early. Once it has gathered momentum, you haven't a hope. Parasites are one thing that will help to keep them in check, and whereas toads on the front line tend to be very healthy, ones further back carry worms in their lungs, lowering their fitness and speed. The parasite front is about ten years behind the toad front.

On the other hand toads are notoriously good hitchhikers, so they can go anywhere on the

continent. They are also showing signs of adapting to different climates. Mr Toad won't stop in Darwin, he'll keep travelling.

Extinction. That is a heavy charge to make. It proclaims that Sapiens had become a species so technologically powerful, so effectively deadly—and so psychologically fixed on its superiority to the rest of life—that it could eliminate one whole other species from its habitat. Not necessarily by intention—in fact probably by intention, not taking the time and care to figure out the long-term effects of its actions, though surely as hunters intimate with the ways of their prey they knew that mammoths took a long time to gestate and a long time to grow to reproductive age and, had arrogance not overpowered humility, they might have realized their effect on the dwindling herds and switched to other animals. ...Besides—and this is a terrible thought that seems all too likely—it may not have mattered to them: there were still herds of reindeer, elk, bison, auroch, red deer, and fallow deer to kill, and nature was always there to provide more food for human hunger, if the right ceremonies and rituals of control and replenishment were followed.

*Kirkpatrick Sale
After Eden, 2006, p86-87
on the origins of our attitude to natural
resources and the environment*

Jenny Wanless

Review: three books on climate change and low-carbon living

How to live a low-carbon life: The individual's guide to stopping climate change, by Chris Goodall, Earthscan, London, 2007. 319 pages, \$48.95, (ISBN 978-1-84407-426-6).

True green: 100 everyday ways you can contribute to a healthier planet, by Kim McKay and Jenny Bonnin, ABC Books, Sydney, 2006. 128 pages, \$19.95, (ISBN 0-7333-1564-X).

The atlas of climate change: Mapping the world's greatest challenge, by Kirstin Dow and Thomas E. Downing, Earthscan, London, 2006. 112 pages, \$36.95, (ISBN 1-84407-376-9).

Clive Hamilton's new book *Scorcher: The Dirty Politics of Climate Change* (2007) makes the point that Tim Flannery's *The Weather Makers* has most usefully raised consciousness about climate change, but disappointingly falls into the trap of green consumerism at its conclusion. Flannery states: 'If enough of us buy green power, solar panels, solar hot water systems and hybrid vehicles, the cost of these items will plummet'. Hamilton, on the other hand, underlines a weakness in individualism and voluntarism by shifting responsibility away from state elites and powerful producer groups. His emphasis is more on collective and mandatory measures such as carbon taxes and mandated shifts to renewables.

Clearly we need governments to agree on and enforce targets, together with the right financial signals. Innovation is needed to develop low-carbon energy sources, and to improve efficiency. In tandem, individuals must reduce their own carbon footprints, and be aware of how to best do this. This thinking is reflected in a draft Climate Change Bill in Britain, where 'personal carbon allowances' are at least being discussed in the context of legally binding targets for emissions reductions (although regarded by many as inadequate for the scale of the threat). People are also seeking to be much better informed and involved. SEE-Change groups are developing in a number of Canberra suburbs (www.see-change.org.au). Their purpose is to bring people in the community together in enjoyable social and learning experiences, in order to stimulate

interest in practical measures that are influential, both locally and globally.

A number of books have appeared in recent years on how to reduce one's carbon emissions, such as Mayer Hillman's critically argued *How We Can Save the Planet* (2004) and Duncan Clark's *The Rough Guide to Ethical Living* (2006). In *How to Live a Low-carbon Life*, Chris Goodall argues that because many people feel concerned, even despairing, about climate change, offering a useful range of actions people can take is a helpful antidote. He also supports establishing strong social norms that reinforce appropriate behaviour, as has occurred with the non-smoking trend. An example he uses involves varying messages left in hotel rooms, asking guests to reuse towels rather than having them washed each day. Forty per cent of guests responded to the message 'Join your fellow citizens in helping to save

the environment', whereas only 20 per cent responded to the message 'Help the hotel save energy'.

Goodall says that tackling climate change requires self-restraint, a trait that modern

consumer society has almost, but not quite, obliterated. The average individual in the UK is responsible for 12.5 tonnes of carbon dioxide per year, made up of about 6 tonnes for running a house and transport (including 1.8 tonnes from air travel), and 6.5 tonnes indirectly across the economy e.g. running offices. In order to move to a more acceptable 3 tonnes per head (preferably less), he systematically addresses where and how cuts can be made across home heating, hot water, cooking, lighting, household appliances, car use, and air travel. Further, he addresses strategies for reducing and eliminating indirect emissions, such as changing food-buying habits, and investing in renewable energy companies and green power.

The coverage of topics in the book can be viewed at a companion website (www.lowcarbonlife.net). Chris Goodall is chair of a telecommunications software company, and a Green Party Parliamentary Candidate in Britain. He combines detailed information on practical options with a depth of analysis and critique, including 279 endnotes—in essence a handbook with helpful tables, figures and boxes, yet with considerable critical comment. There is also an appendix showing how he has sourced and used data (a comparison with Chapter 8 'Watching your figure' in Hillman's book mentioned above is valuable here). One partial disadvantage for

The future belongs to those who understand that doing more with less is compassionate, prosperous and enduring, and thus more intelligent, even competitive.

Paul Hawken

people in Australia is the prevalence of UK data and examples.

His general orientation is akin to the approach of George Monbiot in his book *Heat*, although Goodall acknowledges he hasn't gone as far as the 90 per cent cuts by 2030 recommended by Monbiot (his book was submitted a few days before *Heat* was released). He recommends, in a similar way to Monbiot, flying only when absolutely necessary in order to meet the 3 tonnes per head emissions. He provides a critique of offset schemes, concluding that carefully chosen and well-managed schemes can work to neutralize the odd emergency flight to see relatives, but are not a long-run solution to the need to reduce greenhouse gases.

True green by Kim McKay and Jenny Bonnin is an introductory book with 100 ideas for reducing one's ecological footprint in the home, garden, at work, shopping, travel, and in the community. Each idea is covered in a few sentences on a separate page with a catchy heading and a supporting graphic or photo. The particular value of the book lies in its inspirational appeal to implement ideas across many areas of everyday life, especially for people just beginning to think more about sustainability. Examples include installing suitable curtains to cut heat loss and understanding that wooden window frames provide better insulation than aluminium; using alternatives to dry-cleaning; and avoiding tasty but overfished varieties of fish when shopping.

The authors helped establish Clean Up Australia, and are deputy chair and a director of it. In this sense, the book is stereotypically green consumerist, but still does question consumption per se – e.g. why not borrow a book rather than buy it? The ecological consequences of flying are acknowledged, but joining a carbon-offset scheme is the solution offered, rather than questioning the need to travel in the first place. A listing of websites at the end of the book covers a range of issues from footprint calculators and phone recycling through to green groups.

First impressions of *The Atlas of Climate Change* are of a pictorially striking and attractively presented book. As to be expected from its title, there are over 50 full-colour maps and graphics that invite further investigation. These span six parts of the book which address the following overarching themes: the warning signs of climate change, evidence for

climate change, what is driving climate change, further expected consequences of climate change, responding to climate change, and public and personal action strategies. At the next level of detail, the part on expected consequences, for example, has world maps covering disrupted ecosystems, threatened water supplies, food security, threats to health, rising sea levels, cities at risk, and cultural losses.

The authors, Dr Kirstin Dow and Dr Thomas Downing, are academic geographers. The latter is Director of the Stockholm Environment Institute, Oxford Office and the former is Senior Research Fellow with the Stockholm Environment Institute. Their objective with this publication is 'to provide a resource to help people make that initial step into understanding the core issues of climate change' given that climate policy has been mostly in the

hands of scientists, environmental activists and politicians. They underline the fact that 'we know enough to act and will face ever more serious consequences for delays in

doing so' and that 'the required changes will involve us all deeply'.

The information presented is of a general introductory kind and at a level that would be appropriate for secondary or beginning tertiary students, or others familiarising themselves with the basics of climate change, as with the SEE-Change groups. The holistic overview of topics provides a useful stimulus for further inquiry, perhaps using the more detailed sources at the end of the book. There is also a useful introduction and section defining key terms, and a concluding section giving some climate change data across countries of the world.

Each of the books reviewed here serves a different purpose and target audience. Each does it well I think. Such books can contribute to increasing knowledge and practical actions by people to reduce their contribution to climate change. Behavioural change is only one part of a larger suite of policy and practice changes required at government and community level. For example, individual action on energy efficiency in homes is greatly facilitated by ecological design and energy efficiency programs targeting the building trade, architects, planners, and the public. Wider system transformation of the 'growth forever' economy is critical too, as is international agreement to reduce emissions.

Murray May

The economy is a wholly-owned subsidiary of the environment, not the reverse.

Herman Daly

Looking towards an ACT Biosphere Reserve

On 16 May, NSF member Ian Anderson made these points to our meeting on the proposal to nominate the ACT as a UNESCO Biosphere Reserve

He began by explaining that the World Network of Biosphere Reserves is an activity of UNESCO. It was established at the end of the Second World War to promote peace. Its constitution states that 'Since wars begin in the minds of men it is in the minds of men that the defences of peace must be constructed'. Such a quote could be applied to military situations but it could also be relevant for the relationship between humans and the environment.

UNESCO was concerned about the relationship between nature and society from its earliest days. In the 1970s scientists became increasingly concerned about the effects of humans on the environment. In response to this, UNESCO established the World Network of Biosphere Reserves. The main reason then was to preserve examples of each of the world's major biogeographical regions. Progressive adjustments to the purposes of biosphere reserves were made from time to time in response to changing priorities. The most significant was probably made at the World Conference on Biosphere Reserves held in Seville, Spain, in 1995. Biosphere Reserves were identified then as major vehicles for promoting sustainable development worldwide. A further world conference on biosphere reserves is planned for Spain in February 2008. It could be a good opportunity to consider the potential of the World Network of Biosphere Reserves to mitigate the human impacts influencing climate change.

Aware that individual biosphere reserves become what those locally responsible for running them create and are not some fixed inflexible international institution imposed from outside the country, Mr Anderson felt it was now time to list the values that an ACT biosphere reserve might add. He circulated a draft vision statement which could form the basis of such a list. Some other suggestions made during the meeting could be included on the list. The case for an ACT biosphere reserve seems overwhelming in the light of such a list of advantages and disadvantages of an ACT Biosphere reserve.

Disadvantage:

1. Establishment and administration of the biosphere reserve will cost but the costs should be manageable if the Nature and Society Forum model of a network of interested organisations is developed,

with a small Secretariat funded jointly by the ACT and Federal Governments.

Advantages:

1. The profile of the ACT will be increased on the world stage by becoming part of the World network of Biosphere Reserves.
2. Tourism benefits could flow from the higher international profile.
3. Direct twinning arrangements can be implemented with other biosphere reserves. For example an ACT biosphere reserve could twin with a biosphere reserve in Germany concerned with introducing new solar technology.
4. The education institutions in the ACT could benefit from increased international student interest. The ACT as a biosphere reserve could be used as a marketing tool in education.
5. Produce of the biosphere reserve such as wine from the ACT region, could be marketed with a biosphere reserve label. This has been done successfully by a biosphere reserve in Germany, for example.
6. The scientific institutions based in the ACT could also have their international image enhanced by biosphere reserve status, perhaps through exchanges of scientific information and personnel with other biosphere reserves.
7. Biosphere reserve status should enhance the role of the ACT as a world leader in promoting sustainable development and dealing with the human induced causes of climate change.
8. Biosphere reserve status for the ACT would assist relationships with neighbours, for example through full partnership in the Atherton to Alps Conservation Corridor, a high priority for the New South Wales Government with its adjacent Kosciuszko Biosphere Reserve.
9. Being a biosphere reserve would promote human health and well-being by emphasising the link between human and environmental health through twinning arrangements with other reserves.
10. An ACT reserve would provide an example to other cities and biosphere reserves of a city functioning in a landscape, as well as learning from other biosphere reserves how best to do this.
11. An ACT reserve would enable the ACT to link directly with UNESCO and so promote freedom of the press and other media, a priority of UNESCO, and to exchange information with other biosphere reserves about this.
12. The ACT could use the biosphere reserve network to promote international cultural exchanges.

**Book Review: Energy Autonomy -
The economic, social and technological
case for renewable energy**
By Hermann Scheer
Earthscan/James & James, 2006

Solar or nuclear - which way to go? Dr Hermann Scheer is well qualified to address this question. He is a physicist, a member of the German Bundestag (parliament), President of EUROSTAR (the European Association for Renewable Energy) and General Chairman of the World Council for Renewable Energy. In his latest book, he uses his scientific expertise and political acumen to meticulously assemble data and arguments in favour of the rapid progressive replacement of nuclear and fossil fuels with non-polluting, renewable energy sources.

The 2007 Report of the IPCC indicates a 95 per cent probability that global warming is attributable to human activities, through land clearing and the profligate combustion of fossil fuels, leading to an unprecedentedly rapid increase in atmospheric greenhouse gases (GHGs), specifically carbon dioxide. We are now approaching a dangerous tipping point, at which the Earth is giving off more GHGs than it absorbs, with potentially catastrophic consequences for climate change and human survival and wellbeing.

Scheer's book gives some disturbing figures on why CO₂ levels continue to increase. In 1990, according to the International Energy Agency, global consumption of fossil energy resources was 5.63 billion metric 'tons of oil equivalent (toe)', rising by 44 per cent, to 8.13 toe in 2002, despite ten international conferences on the politics of climate protection. In contrast, the share of renewable energy rose by 33 per cent, from 1.04 to 1.38 toe over the same period. Scheer maintains that this disparity is fostered by government annual subsidies, which amount to \$US 244 billion for fossil and nuclear fuels, compared to \$9 billion for renewable energy - a mere 3.7 per cent of the total. Not captured by these statistical calculations are the subsidies in the form of tax exemptions worldwide for aircraft and ship fuels, amounting to some \$250 billion, and development funds for atomic energy of around \$1 trillion. Nuclear and fossil fuel subsidies constitute the greatest case of corporate welfare in world economic history.

The potential for harnessing solar currency directly and indirectly is almost limitless, since the sun and

its derivatives (wind, waves, water and biomass) 'deliver' daily to the Earth 15,000 times more energy than is generated by fossil and nuclear fission energy combined. Scheer has constructed a table for '100 per cent scenarios' for energy supply with renewable energy by mid-century, using a combination of efficiency standards, tax policies, subsidies, building standards and obligatory renewable energy technologies, direct and indirect. Surprisingly, he does not specifically refer to the German government report on concentrated solar power (CSP), whereby covering just 0.5 per cent of the Earth's hot deserts with mirrors focused on conventional steam turbines could provide for the world's entire electricity needs, including desalination plants and air conditioning for nearby cities, at a cost comparable to oil combustion.

Scheer argues that nuclear power cannot make a sustainable contribution to energy autonomy, on several grounds: uranium deposits at present rates of usage will only last for 60 years; nuclear

The maximum is not the optimum.
Garrett Hardin
The Ostrich Factor, 1999, p.82

reactors' enormous water needs compete with the demand for water from a growing world population; increased risk vulnerability from nuclear warfare and terrorism; the wrong energy business plan: since investment in nuclear power plants is especially capital-intensive, it clashes with liberalisation of electricity markets and their short-term amortisation periods; creeping radioactive contamination, with no long-term plans for disposal of radioactive wastes or for energy-intensive plant decommissioning. Nor is nuclear fusion the answer: a European Union Commission calculates that electricity costs from nuclear fusion would be seven times greater than nuclear fission, while photovoltaic electricity can draw level with present costs of fossil fuel generation.

In a section entitled blockades to action, Scheer's book refers to the 'unbroken power of one-dimensional thinking' which inhibits a global transition from non-renewable fossil and nuclear energy (which carry devastating environmental consequences) to renewable, non-polluting energy sources. The most important step should be to reclaim mental autonomy in the energy question, which means facing reality and ending the self-deception that the traditional way of supplying energy has any kind of sustainable future or can be made to have one.

Continued on page 13

Forests

Years ago I read Perlin's book *A Forest Journey*. It changed the way I look at history. Now I see that the way humans use resources is as powerful a way of looking at history, and of determining the future, as any conventional history of rulers, power plays, or political philosophies; it is indeed more influential. In *A Forest Journey* Perlin traced the destruction of forests in the Middle East, around the Mediterranean and up into Europe, until the Europeans, with their own forests destroyed, found the new forests of North America. Always the centre of civilisation moved to the location of the new forest resource, but now we have reached the end. There are no forests on the Moon or Mars.

In those days timber from the forests was used for constructing buildings or ships, and as fuel for smelting metals, which at least had a long life span. Now we are destroying some of the last wild forests of the earth just to make paper; paper, for heavens sake, that cheap material, which we waste as though it had no value.

The May 2007 edition of *The Monthly* contains a long essay by Tasmanian author Richard

Flanagan on the tragedy of Tasmania's forests. It tells a shocking story of corporate greed and political connivance, of people who see no beauty or value in forests except in terms of what money they can extract from the timber in them. They have no understanding that they are destroying their own and their children's future.

It is not as though they are providing many jobs or much prosperity, even in the short term, for other Tasmania. Woodchipping is a notoriously bad provider of jobs, and even their proposed pulp mill will not be a big employer. What it will do is ruin Tasmania's clean, green image, and its ecotourism. Small, specialist timber mills would provide more jobs for timber workers and crafts people.

In future years the current clearfelling operations could well come to be seen as the crime against humanity that they really are. When an area is felled, it is torched so that nothing survives. Then plantations are established on the cleared land and, so that wild life does not eat the seedlings, the area is strewn with poison baits. Never mind that endangered species can be pushed over the brink, and that animals are dying in agony.

In a real forest animals and plants live in harmony, with interconnected needs. It is only when we disturb

the balance that the trees need this sort of protection. When we have a great forest of some of the world's most spectacular trees, *Eucalyptus regnans*, the tallest flowering plants on earth, we should treasure it. Apart from its aesthetic appeal, and the moral necessity of valuing other life forms, there is the very important point that established forests sequester large quantities of carbon, not only in the trees, but in the whole forest ecosystem, including its soils.

The Federal Government recognised this fact when it recently announced that as a carbon dioxide reduction measure, it would provide money to save tropical rain forests. We already know that illegal logging and weak government measures are allowing the destruction of these forests. Whether or not any money our Government provides can change this, we do not know. But we do know that the Government, if

it had the will, could halt the Tasmanian destruction.

Unfortunately current tax laws give tax breaks for the establishment of plantations, and so the woodchippers not only make money from destroying the forest, they also make money from the tax system. This is ludicrous

and immoral. The Federal Government should change the law to ensure that such tax incentives apply only to plantations on land degraded before the end of last century. There should be no tax breaks for destroying an existing forest and then establishing a plantation.

We also need a new moral climate that says environmental protection laws override other considerations. There should be no chance of the Tasmanian Government ever again changing the environmental laws to accommodate a company's 'need' to pollute or destroy.

In John Donne's famous quote, 'no man is an island' he spoke of the interconnectedness of all people. For someone living when he did, it is really quite a remarkable idea. Now when we are at last realising that humans are not just connected to each other, but to the whole natural world, that pollution here affects the air and the oceans, and what we do can indeed make the world uninhabitable, we need to enlarge on Donne's view. Tasmania is not an island in this sense, nor is Australia. What happens here affects the rest of the world, and what happens in the rest of the world affects us. We have a duty to save Tasmania's forests for the sake of the world.

Jenny Wanless

The original meaning of wilderness in Old English, let us remember, is 'self-willed land.' Likewise, wildeor meant 'self-willed beast.' Wilderness can also be interpreted as 'home of self-willed beasts.'

*Dave Foreman
Conservation groups must
return to their roots, 26 March 2007*

Continued from page 11...

Energy Autonomy is engagingly written, well referenced, with informative tables and a good index. It should be read by all who are professionally or personally concerned with climate change and the energy future of our planet. Many may see the prospect of a '100 per cent renewable energy future' as utopian, with little chance of practical application. Similar views were expressed during the fossil energy industrial transition, until steam engines and, later, internal combustion engines transformed the landscapes and lifestyles of human society.

Transition to a renewable energy future will require political, economic, social and lifestyle adaptations which will be no less radical than those associated with the human transition to agriculture 400 generations ago and to the industrial revolution ten generations ago. Failure to make this new sustainable transition would bode ill for our children and grandchildren.

Bryan Furnass

You can hear more about sustainable energy in Australia at the launch of Mark Diesendorf's new book - see page 3.

The mass of mankind is ruled not by its intermittent moral sensations, still less by self-interest, but by the needs of the moment. It seems fated to wreck the balance of life on earth – and thereby to be the agent of its own destruction. What could be more hopeless than placing the Earth in the charge of this exceptionally destructive species.

John Gray, *Straw Dogs*, 2002

Conservationists and resourcists

Nature conservationists who work to protect wilderness areas and wild species should be called conservationists; and ... resource conservationists, who wish to domesticate and manage lands and species for the benefit and use of humans, should be called resourcists.

When environmentalists turn their attention from the so-called 'built environment' to nature, they can take either a conservationist or a resourcist pathway. I've named environmentalists who have a utilitarian resourcist view 'enviro-resourcists.'

I've ruffled even more feathers lately by warning that enviro-resourcists have been slowing gaining control of conservation groups, thereby undercutting and weakening our effectiveness, and that nature lovers need to take back the conservation family.

Dave Foreman

Quoted in *Grist*, 28 March 2007

Continued from page 5 ...

Sustainability and Health website
www.eshact.net.

- The Youth Leadership for Sustainable Consumption has continued its workshops with youth aged 15-25, has trained facilitators and is planning practical projects.

All these groups used the Social Learning Spiral framework in their workshops: What are your project's aims? Where is your project at now? What could you do if given the chance? What can you do, in practice, today?

These projects are happening 'on the ground' and are reaching ever-widening numbers of people, and links are fostered between the different groups. It is also worth noting that the ACT Sustainable Schools

Initiative, with which NSF has been involved, is already up and running and also has links to all these groups.

We look forward to seeing more spin-offs.

Wendy Rainbird

The Art of Moving

This is one of the Healthpact projects included in Wendy Rainbirds' report. It involves artists raising community awareness of the health and sustainability benefits of active transport, walking, cycling or using a bus.

The group held their first exhibition in April. This postcard exhibition was great fun, causing many viewers to chuckle over the humour displayed from 'Use it or lose it' – a garbage bin full of discarded feet, to 'Traffic Jam' – a jam jar full of cars, and much more.

Some of the art will be displayed in twenty Canberra buses in November and December. Various other exhibitions will be held through the year. Check these at www.artofmoving.net.au.

Scraping the seabed to catch fish—bottom trawling—has been compared to clear-cutting the forest to catch deer.

National Geographic magazine
April 2007, p.81

Farrago

Lowering energy use

Many cities in the USA, tired of waiting for their federal Government, are taking emission reduction into their own hands. Cambridge, Massachusetts, is to employ hundreds of energy consultants to knock on doors and carry out free energy audits on the city's 23,000 residential, commercial and industrial buildings. Low or zero interest loans will be given for the implementation of small but effective changes to lighting, insulation and more efficient heating and cooling systems. The aim is to cut electricity use by ten per cent.

New Scientist, 7 April 2007

Termite power

In an attempt to make the USA less reliant on imported oil there is a push to replace some of the oil with ethanol made from corn. This is raising the price of corn, and making a staple food unaffordable for poorer people and poor countries. In addition corn, at least in the USA, is grown by energy-intensive agriculture, using petroleum-derived fertilisers and much water. It is doubtful that there is any net gain in energy from using corn-based ethanol.

Stephen Chu, director of the Lawrence Berkeley National Laboratory, says that to provide any real gain in energy self-sufficiency, ethanol will need to be made from cellulose. If fast growing trees, such as cottonwoods, or tall grasses could be used to produce ethanol then the energy gain would be five to ten times greater than from using corn.

To this end the cottonwood tree genome has been sequenced, and tweaked to produce more harvestable variants, with thicker stems and shallower root systems.

Researchers are also studying termites to find out the secrets of these wood-eating specialists. Instructions for creating wood-dissolving enzymes have been found in the genes of bacteria that live in the guts of termites. This enzyme, or something like it, could optimise the production of biofuels from cellulose, rather than from sugars or starches.

New Scientist, 24 February 2007

Travel warnings

The Institute for Public Policy Research in the UK recommended that ads for flights, holidays and cars should carry tobacco-style health warnings to combat the public's addiction to polluting transport, and so reduce climate change.

'The evidence that aviation damages the atmosphere is just as clear as the evidence that smoking kills. But if we are to change people's behaviour, warnings must be accompanied by offering alternatives to short-haul flights and by steps to make the cost of flying better reflect its impact on the environment.'

Joe Churcher, Institute for Public Policy Research, 4 April 2007

Rachel Carson

A curious thing happens when fish stocks decline: people who aren't aware of the old levels accept the new ones as normal. Over generations, societies adjust their expectations downward to match prevailing conditions. The concept of a healthy ocean drifts from greater to lesser abundance, richer to poorer diversity.

National Geographic magazine
April 2007, p.78

Rachel Carson was born a hundred years ago, on 27 May 1907. She launched the modern environmental movement with her book *Silent Spring*. Unable to refute her arguments against the damage wreaked by their chemicals, Monsanto and other multinationals resorted to attacking her sexuality and claiming she was hysterical.

But by focusing on her struggles, we miss what is more important – her understanding of what we can gain from loving and knowing the natural world. In the fifty years since she wrote: 'The more clearly we can focus on our attention on the wonders and realities of the universe around us, the less taste we shall have for destruction', her message has become no less urgent, or powerful.

Perhaps it's time to ask ourselves not whom we should admire, but what.

Jeremy Smith, *The Ecologist*, May 2007

Magnolia trees

Out of 245 species of magnolia trees 131 are under threat of disappearing, some down to the last ten trees. Many species are suffering from logging so that coffee plantations can be established. In China the threat comes from medicinal use, such as harvesting bark for use in cough and cold remedies.

New Scientist, 7 April 2007

Weedy futures

Weeds do not rank very highly in public consciousness. Until 1995 weed research and control in Australia was fragmented between various state bodies and other organisations. In that year the Weeds Cooperative Research Centre was formed, bringing together state government research units, CSIRO and several universities.

The Weeds CRC brought together researchers in projects that crossed state boundaries. It provided information and education for farmers and farm advisors in the grain belt, and reports and information for policy makers. It provided the scientific backing for the national Weed Risk Assessment System and for eradication campaigns.

The CRC also studied the economic impact of weeds, which is very large. Farmers spend one and a half billion dollars on weed control annually, but production losses still come to over two and a half billion. Weeds imperil endangered species and threatened ecosystems. It costs one and a half million dollars to keep just one weed, mimosa, out of Kakadu National Park.

In last October's round of funding for CRCs the Weed CRC missed out, hampered by funding criteria that disadvantaged public good research, according to Dr Rachel McFadyen, the CRC's Chief Executive Officer. The CRC partners are trying to find alternative sources of funding. If they are unsuccessful, then there will be no national research body to provide scientific advice for the Australian Biosecurity System for Primary Production and the Environment, or for the Australian Weed Strategy.

Weeds may not be high on the agenda, but if the rains come then weeds will flourish with serious results.

Australasian Science, April 2007

Weighty fliers

Seven years ago an *American Journal of Preventative Medicine* study estimated that the increasing weight of airline passengers was costing US airlines three hundred million extra gallons of fuel to lift the extra kilos of passenger weight. One airline executive commented that 'It is unfair that we charge passengers for excess baggage, but not for excess [body] weight'. Of course, the price of the fuel needed to lift the excess has increased greatly by now, and the excess weight is also increasing.

Traveltalk magazine, March 2007

Marauding worms

Earth worms are normally considered to be environmental benefactors, and so they are in their natural habitat. But, like other species humans have helped, intentionally or unintentionally, to move to other areas, they can wreak havoc. This is the case with the UK's common earthworms which have been introduced to areas of the USA such as Minnesota, where there are no native worms.

In Minnesota the ground used to be covered with a thick layer of fallen leaves, called duff, which acted as a nursery for tree seedlings and other plants. The soil and the duff were aerated by insects such as beetles, centipedes and millipedes, with salamanders and small mammals burrowing through the duff. Now earthworms have chewed up the duff, leaving the ground bare and hard, with almost no seedlings taking root.

In Britain native earthworms, including the ones causing harm in Minnesota, are threatened by flat worms introduced from Australia and New Zealand. In the Carpathian Mountains of Romania local worms are being displaced by hardier species from other parts of Europe.

New Scientist, 3 March 2007

Resource reasons for conservation can be used if honest, but must always be presented together with the non-humanistic reasons, and it should be made clear that the latter are more important in every case.

The 'Noah Principle' states that ecological communities and species should be conserved because they exist and because this existence is itself but the present expression of a continuing historical process of immense antiquity and majesty.

There is simply no way to tell whether one arbitrarily chosen part of nature has more 'value' than another part, so like Noah we do not bother to make the effort. ... I have tried to show...the devilish intricacy and cunning of the humanists' trap. 'Do you love Nature?' they ask. 'Do you want to save it? Then tell us what it is good for.' The only way out of this kind of trap, if there is a way, is to smash it, to reject it utterly.

*David Ehrenfeld
The Arrogance of Humanism, 1981*



Contributions for the next edition of *Nature and Society* are invited now from all members. They should be sent to the editor, Jenny Wanless, 22B Jensen St, Hughes ACT 2605, ph 02 6281 3892, by 15 July 2007.

Contributions may be sent on paper or electronically. This journal was prepared using Microsoft Word and PageMaker 7.0.2.

Items in *Nature and Society* do not necessarily reflect the opinions of the majority of the Forum members, but are published in the hope of stimulating thought and discussion.

Jenny Wanless and Keith Thomas prepared this edition together with the named contributors; Jenny and Keith also contributed the unattributed items and provided the quotations.

Nature&Society

Nature and Society Forum

GPO Box 11

Canberra ACT 2601

Nature and Society Forum membership form/tax invoice (includes GST)

ANB 52 456 986 523

I/We would like to:

- ☐ become a member, and enclose payment for \$
- ☐ renew my membership
- ☐ make a tax-deductible donation of \$ to the
Nature and Society Forum
- ☐ Find out more about

Annual membership \$55 per person

Concession \$22 per person

Life membership \$550 per person

Corporate membership \$110

Name:

Address:

Postcode:

E-mail:

Telephone:

Date:

Payment: ☐ Cheque

Or ☐ Visa ☐ Mastercard

| | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

Expiry date: Cardholder:

Signature:

Please send completed form and payment to Nature and Society Forum

GPO Box 11, Canberra, ACT 2601 or fax with credit card details to (02) 6287 4489