



STEP Matters

Number 146, September 2008

In this issue

Our annual general meeting is in October and is followed by a talk by Associate Professor Shelley Burgin. Hope to see you there. The details are below. There is also information on our September walk, see you there too!

There are countless people throughout Australia working to make it a better place. People who are seeking to improve our environment and preserve our natural and built heritage. We argue that these people should turn to address the population growth that is the cause of their misery and that to do otherwise is to court disaster.

Our resident author, Dr John Martyn, gets around the bush more than most of us and has contributed an article on the confusion surrounding the classification of vegetation communities. John has also noticed the lack of

aquatic wildlife in the Lane Cove River and brings us up to date on that. STEP has plenty of sister organisations around Sydney and we refer you to some of them that have web sites. They are all worth a look. The environment movement is another broad church that offers a range of ideas and solutions.

We have some other articles that we hope will interest you and, in this edition, we have given the UTS, Lindfield and the Adventist Hospital site sagas a rest.

Finally, we have pointed out that all organisations need to constantly renew themselves. Too many have the same office bearers for decades. If you feel that you have something to offer the STEP committee please think about nominating.

September Bushwalk – The STEP Track Sunday 21 September

Opened in 1993, the STEP Track has become one of the most popular short bushwalks in the upper North Shore. It would be hard to find a walk of similar length anywhere with more variety of vegetation.

The route takes you from a sandstone ridgetop through hanging swamp, heath, a coachwood gully, and beautiful sandstone bushland, to the valley of the Lane Cove River where there are a range of rainforest species set among tall forest trees, including Sydney blue gums growing in alluvial soils. Wildflowers should be particularly prolific, and red bottlebrush in the hanging swamp should be just coming into bloom. Steeper track sections have steps and the walk should not present any physical difficulties.

Leader: Neroli Lock <harmerlock@bigpond.com>, 9489 5794. There is no need to book but a phone call or email contact would be appreciated to get an idea of numbers.

Date: Sunday 21st September

Meet: At 1.30 pm at the trackhead at the end of Kingsford Avenue, South Turramurra. Park in the street or in nearby streets.

Bring: Drink, binoculars, camera, and the usual bushwalk accoutrements.

Tea and biscuits are provided after the walk

Grade of walk: moderate, at a leisurely pace.

AGM Talk - Tuesday 21 October - 7.45 pm St Andrews Church Hall, Cnr Chisholm and Vernon Streets, Turramurra

STEP is delighted to announce that Associate Professor Shelley Burgin of the University of Western Sydney will address our AGM. Professor Burgin's research interests are in the ecological function of ecosystems, particularly at the watershed level, with a focus on enhancing ecological sustainability of the environment and human populations.

Shelley Burgin is a Fellow of the Royal Zoological Society New South Wales (FRZS) for 'sustained contribution to zoology and conservation' in Australia. She won the Inaugural Vice Chancellor's Award of Excellence for Research Training and Supervision, University of Western Sydney (2002) and the Australian Institute of Engineers Excellence Award (Environment) Presented for her part played in the development of the *New South Wales State Algal Policy* and implementation (1994). Her research publications include almost 150 publications includes some 70 refereed publications, 9 books, consultancy reports, editorials and un-refereed conference papers.

Notice of the Annual General Meeting

Notice is given to members that the AGM will be held on Tuesday 21 October 2008 at 7.45 p.m. at St Andrews Church Hall, Corner of Chisholm and Vernon Streets, Turramurra. Members' attention is drawn to the requirement that nominations for election to the committee should be made in writing, signed by two current STEP members and by the candidate and delivered to the Secretary no less than 7 days before the date of the AGM. Nomination forms are available from the Secretary either by request to either our postal or email address.

Our AGMs are usually short and, if true to form, will be over by 8 pm.

STEP Inc

Community-based Environmental Conservation since 1978
PO Box 697, Turramurra, NSW 2074

Local biodiversity conference

Is biodiversity loss more urgent than climate change?

You are invited to an upcoming Biodiversity Conference- **It's more urgent than you think!** on the weekend of 20-21st September at the Turramurra Masonic Hall.

The Conference will open on Saturday 20 September with the viewing of the documentary "Strange Days on Planet Earth" – please be seated by 2pm. The main session will occur on Sunday 21 September starting at **9.30** am.

Speakers include Jack Munday, Greens MP Lee Rhiannon, internationally recognised ecologist Professor Andy Beattie, Foundation Chair of Social Ecology Professor Stuart Hill and Professor Ian Wills, the 2007 Distinguished Fellow of the Australian Agricultural and Resource Economics Society.

Don't miss out on this challenging, invigorating and thought provoking Conference.

Turramurra Masonic Hall, Corner Turramurra Avenue & Pacific Hwy, Turramurra, 2 minutes walk from Turramurra Railway Station

Enquiries Janet Harwood 9449 1448
janetsh@optusnet.com.au

The council elections

Council elections are coming around again in September. We don't know much about some of the candidates and we try to stay a bit aloof from playing favourites; it's surprising how often someone you thought was beyond salvation votes the right way! But we encourage you to question them on the key environmental issues.

In Ku-ring-gai there is talk of a Liberal Party grouping being assembled which will have access to substantial funding. It is hard to see just how party politics can bring anything good to local government. Indeed the experiences in Wollongong and elsewhere would indicate that there are risks in allowing one party to gain control of a council. Other things being equal, it would be better to see independent councillors elected – people who are beholden to the electorate rather than to a party.

STEP committee

John Burke
Tim Gastineau-Hills
Susie Gemmell
Graham Jones
Bruno Krockenberger
Michelle Leishman
Andrew Little
John Martyn
Barry Tomkinson
Jim Wells
Helen Wortham
Newsletter editor — John Burke

Many thanks to Barry Tomkinson who produced the last newsletter!

National Tree Day 27th July 2008

A group of about 50 Hornsby Shire residents, scouts and others from further afield arrived at the Short Street Thornleigh Bushcare site at 9:30am to participate in the National Tree Day. Extensive regeneration work has been carried out there. Under the guidance and instruction of Matt Springall, Senior Field Officer at Lane Cove National Park and a couple of his colleagues, the group planted about 400 trees and shrubs around the northern entrance of the Lane Cove National Park at Short Street. The planters enjoyed a nice barbeque lunch at the end of it all. The pictures tell the story.



So many good people working so hard; so much effort being wasted!

When our society sets out to do something about reducing deaths from road accidents or from lung cancer we analyse the problem, see if we can identify the causes and then do what we can to neutralise those causes. In the former case we identified lack of seat belts and driving when under the influence of alcohol as important causes of road deaths and injuries. In the latter we identified the smoking of cigarettes as a prime cause of lung cancer. Then, logically enough, we set out to reduce deaths by making seat belts compulsory, by increasing police RBT surveillance, by working on community attitudes to drink-driving and by creating a huge publicity and education programme to encourage people to give up smoking. All very logical! We found out what was causing the problems and then did something about those causes.

We have an analogous situation with many of the things going on in our society that we find unacceptable; so unacceptable that many of us spend a large part of our lives trying to fix them. The huge difference between what we are doing and the examples above, however, is that, by and large, we are completely ignoring the cause of the ills that we are fighting. We are locked into a huge conspiracy of silence about what the conventional wisdom tells us is a taboo subject. Imagine if we reacted to road deaths by ignoring seat belts and alcohol and simply designed better hospitals and morgues to treat the injured and dead. Imagine if we dealt with the huge death rate from smoking by having our scientists come up with better palliative care for the dying. A rational person would point out that we were treating the consequences rather than the causes.

Imagine if we reacted to road deaths by ignoring seat belts and alcohol and simply designed better hospitals and morgues to treat the injured and dead.

So what are these present ills? The problem is a world problem and not restricted to Sydney but we are northern Sydney based and so let's look there. First we have the matter of urban consolidation, which is typified these days by the almost \$2 billion worth of construction happening just in Ku-ring-gai with much, much more to come and by the usurping of Council powers by a Sartor appointed "Planning Panel" which is giving us a series of "Town Centres" up and down the railway corridor. This is causing wholesale destruction of the graceful areas that characterise some of the best of Ku-ring-gai. Be assured that, although Ku-ring-gai is being especially roughed up because it will not vote Labor in the foreseeable future, similar destruction is going on all over Sydney.

Then we have the problem of the playing field shortage. As previously reported in this newsletter, Sydney is running out of playing fields. There are reports of children not being allowed to play sport or of having to travel absurd distances to play because there are not enough local fields. This produces community conflict: Pymble residents don't want Bannockburn Oval upgraded for Little Athletics and, as a leading sporting administrator said in a letter to a newspaper earlier this month "The dilemma of Bannockburn Oval at Pymble is just one of many." According to the St Ives Progress Association there is a "concerted effort by sporting groups to develop the St Ives Showground area plus the Ku-ring-gai Council Nursery and the tree-logging site on Mona Vale Road as a regional network of sporting facilities with up to six sports ovals plus netball courts with ancillary facilities." Of course this is opposed by present users of the Showground, some residents and by those who lament the loss of bushland.

There are constant calls for more and wider roads. Letters regularly appear in the papers wanting the Pacific Highway from Hornsby to Chatswood widened and wanting more radial routes to the CBD. These ideas are a symptom of people reacting to problems they have – in this case they reckon that it takes too long to drive where they want to go. Others want the proposed tunnel under Pennant Hills Road scrapped in favour of a new western expressway through national parks from the F3 north of the Hawkesbury River to the M7 at Blacktown.

And there is more. The recent applications to rezone UTS Lindfield and the Adventist Hospital site have caused great community stress. Both have been scaled back from the original proposals but there is to be a loss of amenity, traffic congestion and bushland destruction on both sites if the proposals proceed.

The community response: plenty of words, effort and wasted time

All of these issues produce responses from the community but the Labor state government tells us to get used to it, and maybe we should because there will be a lot more coming. The opposition tutt-tutts about it all but talks about amelioration rather than about getting to the root causes.

The councillors argue endlessly about the details - where will the supermarket go, let's do it in someone else's ward - and get hopelessly lost in the detail and in their own petty disputes. Community groups such as the progress associations, FOKE, the sporting associations and all the environmental groups fight these proposals tooth and nail when their areas of interest are threatened but all seem to forget to look for what is causing them and that, unless they get to the root cause, they are in the longer term wasting their time. That cause is of course population growth. Without it wholesale urban consolidation wouldn't be necessary and our infrastructure would be renewed rather than endlessly replicated and expanded.

A 1991 STEP newsletter asked whether population growth would stop before we "have high rise, high density from the mountains to the sea". Now, 17 years later Sydney's population has grown by over 25%, urban sprawl has devastated bushland in areas like Cherrybrook and we are furiously building that high rise, high density. There is even a nice 15 storey building planned for Turramurra.

It is a huge mistake to think that the destruction will stop with the Town Centres or with the F3 to M7 western link or with the development of Bannockburn Oval or the St Ives Showground and adjacent sites. It won't. We are at the beginning of a process of packing an additional 4.5 million people into Sydney over the next 70 or so years and unless we decide to do something about it we may as well forget about preserving our amenity and much of the built and unbuilt environment that we treasure.

A powerful array of forces

There are three obstacles in our way. The first is that there is an absurd taboo preventing open discussion about population. Sure, racists or xenophobics might hijack the discussion from discussion from time to time but it's time

that we stopped cringing at that prospect and dealt with it a mature and ethical manner. The second obstacle is the many people who profit commercially from population growth. The whole construction industry is an example. It's hard to blame industry. Firms are pursuing perfectly legal objectives in a generally acceptable manner. The third is the ethical objections of those people whose beliefs lead them to favour population growth without limit.

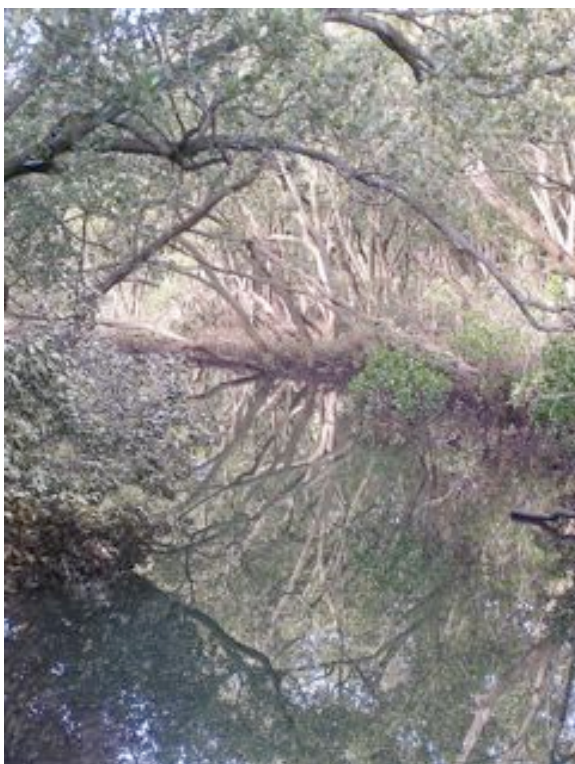
It is within our own power to cast off the taboo and of course there will be no real change until we do so. Eventually, however, it is our governments that must take the lead and make changes over time so that population growth stops with minimal damage to the economy. Governments, however, will not do so while there is a huge amount of commercial and religious lobbying and totally ineffectual environmental lobbying.

So what is to be done?

This newsletter keeps returning to this subject because changes in community views happen ever so slowly. We can report that some people and organisations that wouldn't touch the subject ten years ago have now altered their views. It would of course be nice if those people included even one Ku-ring-gai or Hornsby councillor but to our knowledge the taboo has silenced any who may agree with us. We therefore encourage you to let any group that you belong to know that you want population on the agenda. For instance it would be nice if the ACF found some backbone and supported its president's views.

The day will be eventually be won once the conventional wisdom shifts far enough. Think of how attitudes to global warming, bush regeneration, recycling and many other issues have changed over the last 30 years or less. It will happen but we must all play our part.

See the photos in colour in the newsletter at www.step.org.au



Where have the crabs gone?

STEP committee member, John Martyn spends a lot of time in the bush and is concerned about the health of the Lane Cove River

One of the great little nature walks in our district is the mangrove boardwalk at Bobbin Head. You approach it along the bank of tidal Cockle Creek. You can nearly always see fish of various species in the clear water of the creek: bream, mullet and even the occasional stingray. But from the mangrove boardwalk at low tide you will also see countless small crabs, their red or white claws waving as they disappear into their mud holes as you approach. And the intertidal shoreline rocks and mangrove roots are richly encrusted with oysters.

Our local Lane Cove River also has some excellent mangrove boardwalks, the ones at Buffalo and Kittys creeks in Lane Cove National Park, East Ryde, being especially worth a visit. The mangroves are extensive and look healthy. Their canopies are intact and the mud around their roots is bristling with pneumatophores and mangrove seedlings. But where are the crabs?? Nothing moves in the mud! You can spot the occasional hole, and maybe if you're more patient than we were a crab might pop up, but the contrast with Bobbin Head is striking. And if you linger on either of the footbridges and stare into the water you might see a fish, but most likely it will be the ubiquitous toadfish. Fishermen tell me you can catch bream and flathead in the river, and mullet would certainly be present, but anglers are an uncommon sight despite the convenience of parking and access.

The shoreline of the Lane Cove River in the vicinity is also strangely barren. There are Aboriginal shell middens all along. These are loaded with shells of various of mollusc species; rock oysters, pipis, Sydney cockles, venus shells and mudwhelks. But no oysters grow on the intertidal rocks and roots today. As far as other mollusc species go it is difficult to be sure what survives. A fauna survey would be required to tell, as any loose, dead shells on strand lines could easily have been washed from the middens.

Hopefully further research and investigation will reveal what is responsible for this disturbing apparent contrast between these two estuary mangrove systems.

The photo on the left shows the Kittys Creek mangroves and that below shows all the different shells in the middens.



Vegetation communities, a geologist's perspective

Dr John Martyn is doing a complete revision of the STEP publication, A Field Guide to the Bushland of the Upper Lane Cove Valley. In doing so he has come up against the complexities of the present nomenclature for the various vegetation communities.

In compiling the new Field Guide I'm finding it necessary to take more notice of defined vegetation communities than in the previous edition, and especially to endangered and critically endangered ecological communities (EECs and CEECs) and their definitions. All this of course while keeping an awareness, or wariness, of the key role they play in local environmental conflict issues. But I'm finding the terms and usage really confusing to a geologist accustomed to dealing with stratigraphic classification terminology, and in talking to people and exchanging e-mails I don't seem to be alone.

Naming conventions

Rock units are named via conventions in the branch of earth science known as stratigraphy. The name of a rock unit always refers back to a type locality or area, and should always include a reference section known as a type section. The latter could be a cliff section, a traverse along a river valley, or a borehole. So Hawkesbury Sandstone is from the Hawkesbury Valley, Newport Formation and Narrabeen Group from cliff sections and bores on the northern beaches etc. But naming of plant communities does not seem to follow strict conventions. In our local area (Hornsby-Ku-ring-gai) we come in contact with terms like Blue Gum High Forest (BGHF), Turpentine Ironbark Forest (TIF), Sydney Turpentine Ironbark Forest (STIF), Duffys Forest Plant Community (Duffys Forest), Shale Sandstone Transition Forest (SSTF) and Blackbutt Gully Forest (BGF).

The first apparently derives historically from settlers' observations of the tall, or "high" blue gum forests of the North Shore. STIF refers to key forest tree types, Duffys Forest refers to a locality, SSTF has an obvious geological association, and BGF is both species and terrain-related. This can be workable, but what if, for example, SSTF-like communities are found growing on geology other than the transition between Hawkesbury Sandstone and Wianamatta Group shales?

Working professional botanists and ecologists may not perceive such things as a problem but for amateurs like myself the lack of reference points causes confusion. This is especially so when the key tree species identified for a given community vary across different council areas. For example, Pittwater Council lists the following eucalypts for the Duffys Forest community: *E. haemastoma*, *E. capitellata*, *E. sieberi*, *Corymbia gummifera* and *Angophora costata* and this corresponds to the schedule for 1998 EEC listing of the community. However, Hornsby Council's survey cites *A. costata*, *C. gummifera*, *E. pilularis* and *E. piperita* as key species, and *E. globoidea*, *E. agglomerata*, *E. punctata*, *E. sparsifolia*, *E. haemastoma* and *Syncarpia glomulifera* (turpentine) as also variably present. Really confusing!!

The nearest thing among vegetation communities to a stratigraphic-convention definition is actually Duffys Forest Plant Community because it refers back to a type locality. So the Duffys Forest bushland on the edge of Ku-ring-gai Chase National Park certainly looked to be worth a visit!

The Duffys Forest type locality

The NPWS information plaque at the end of Bulara Street in Duffys Forest has a map showing the area covered by the plant community. The landscape within this area of several square kilometres consists of rocky sandstone slopes and benches beneath a gently undulating plateau surface of laterite on Mittagong Formation (which is the shale/sandstone transition beds between Hawkesbury Sandstone and Ashfield Shale). The vegetation on the sandstone is woodland, with mainly *E. haemastoma* (scribbly gum), *E. capitellata* (brown stringybark), *E. sieberi* (silvertop ash), *Corymbia gummifera* (red bloodwood) and *Angophora costata*. On the plateau surface this changes to a low, dense forest of small, much straighter trees, mainly *Angophora costata*, red bloodwood, a stringybark species (or two maybe?) and a few turpentines but few scribbly gums or silvertop ash.

So two overlapping or intergradational vegetation communities and structures, and geological associations, are contained within the Duffys Forest type area. Significantly both these are applied under the Duffys Forest name to bushland remnants in our area. The one at North Epping Oval is quite similar to the low, dense forest on the plateau, whereas the bushland around Acron Oval resembles the more open sandstone woodland community at Duffys Forest. Auluba Reserve in South Turramurra, clearly identified by information plaques as Duffys Forest Community, is dominated by blackbutt, a tree not listed for the community in the EEC schedule, but featured strongly in Hornsby Council's listing which departs significantly from the schedule.

TIF, STIF and SSTF

The communities TIF, STIF and SSTF are an area of considerable confusion. In trying to apply them I've found that it is critically important to understand their different (though somewhat overlapping) geographic ranges and geological associations, then the plant populations make more sense.

STIF was defined for a relatively limited area, from Sutherland to Hornsby, which includes our own. This is predominantly an urbanised area and most examples are remnants. TIF however has a much greater range which includes large areas of natural vegetation in the Lower Blue Mountains and around Wollongong. This is reflected in the different number of listed *Eucalyptus* species between the communities, only four for STIF but eight for TIF. Such constraints have clearly enhanced the perception of rarity of STIF and underpinned the 1998 EEC listing. The four STIF species, *E. paniculata*, *globoidea*, *resinifera* and *acmenoides* are all characteristic of our area. Of the four only one, *E. paniculata*, is in the TIF list, and a number of the TIF species (e.g. *E. Crebra*, *E. cypellocarpa*, *E. fibrosa*, *E. deanei*) are from well outside our area. Therefore TIF is essentially a western community of the Cumberland Plain and sandstone rims and clearly it is "STIF" not "TIF" that applies to our area. The species reference list for our local area should be that of the STIF EEC declaration. And since their eucalypt species lists barely overlap, STIF is not part of TIF, unless there is some key point I have misunderstood.

SSTF occurs over a huge area comparable in size to that for TIF. Its 1995 EEC schedule lists 19 species of

Eucalyptus including paniculata, resinifera and globoidea (of the STIF listing), plus three species of Angophora and three of Corymbia, 25 eucalypts in all. Included on the list are E. pilularis and E. squamosa (blackbutt and scaly bark) which occur in quite separate environments in the Lane Cove Valley. Two species of scribbly gum are also on the SSTF list. In fact the list of eucalypts is so long that almost all of our local vegetation communities have eucalypt species in common with it. There is a valid argument that STIF is actually a local sub-set of SSTF. (Only E. acmenoides of STIF is not included in SSTF, but this is a northern species with isolated, outlying populations in Ryde, Hornsby and Parramatta council areas.)

Plant communities and the Field Guide

In compiling the field guide I'm not having too much trouble with species identification, except for the frustrating habit of eucalypt species to hybridise and intergrade, but I certainly have some reservations over official identification of local veg communities. This is compounded by Tozer's 2002 Cumberland Plain mapping of our area. This is a scholarly work - for the Cumberland Plain - but we are not part of the Cumberland Plain, and our area is a peripheral one in this study. For example, it is difficult to comprehend how the blue gum forest part of Sheldon Forest could have been mapped as a mixture of "TIF" and "Western Sydney Dry Rainforest" had it been ground-truthed and editorially checked. And this is not the only anomaly on the map in our locale.

Obviously vegetation communities are natural systems that overlap and intergrade. And plants other than key eucalypt species are also important. But conflicting information makes tasks such as mine in revising the Field Guide very difficult. There is a danger that I will add to the confusion rather than bringing clarity to a classification that is difficult for the layman, and is also entangled with crucial local land use conflicts. The only safe approach in this situation is to go back to basics, describe what one sees, and leave classifications largely to others.

And please, comment and criticism is very welcomed!

Membership dues

One of the sad little facts of life is that membership fees for the 08/09 year are now due and an invoice is enclosed with this newsletter for those that are still outstanding. Many thanks in anticipation – our secretary and treasurer don't enjoy the paperwork!

Publication order form

There is no order form printed in this newsletter but there are plenty on the old newsletters if you have them and there is an order form on the web site. The good news is that we now have a small stock of our *Field Guide to the Bushland of the Upper Lane Cove Valley*.

Make a difference
Get a friend to join STEP

The price and allocation of oil products

It was only in 2003 that that great fortune-teller, Rupert Murdoch, reckoned that the Iraq war would bring oil prices down to \$20 a barrel. It is of course now fluctuating around at well over \$100 a barrel. Even rightish journals such as The Economist are conceding that peak oil has happened or will soon happen. The only debate now is about the timing and for how long new oil discoveries and cleverer exploitation of known reserves can keep the world supplied at its escalating rate of demand. Matthew Simmons, a respected oil man and conservative banker, is interviewed at

<http://www.financialsense.com/editorials/casey/2008/0109.html>. He believes that peak oil may have occurred and he is making sure he has a farm to supply his food when things get tough! There seems no doubt that the oil price will continue to rise and rise it must if alternative forms of energy are to become economical. Alternative energy sources must of course be found if we are to prevent economic catastrophe and human suffering on an unprecedented scale. It's a shame that the Australian government is doing very little.

One obvious question is just how we shall decide who gets access to scarce oil products. Obviously defense and critical industries and services will be first in line. But what about the motorist? Will demand be moderated by price alone or will there be rationing? Shall we be back to the post World War 2 rationing tickets? Will only the rich be able to take a Sunday drive while the poor go for a walk? Will we be able to improve public transport fast enough so that we can all get to work and to the shops, family and friends?

If you are hopelessly optimistic you may well believe that oil will never run out. If you are a believer in technology fixes then perhaps electric or hydrogen cars are the answer. But if you are a student of human nature and of the way governments the world over are behaving then you may well be expecting considerable dislocation and inconvenience, as well as war and famine, before alternative energy sources are made available to all.

(See the article on page 8 for a more optimistic view.)

Trees and solar panels

There are going to be some interesting times ahead. Inevitably the price of photovoltaic cells will reduce dramatically and we shall be recompensed for feeding current back into the grid. People will want to do the right thing and install solar panels and will be encouraged by governments to do so. There are, however, many trees in many suburbs that will make solar generation impossible or inefficient for many homes.

What will happen when two socially responsible objectives collide? The sun is going to be a major supplier of greenhouse-gas-free power but of course urban trees are important for habitat, climate, ambience and otherwise. What's to be done? Certainly adhering rigorously to our tree preservation orders won't work. On the other hand there cannot be a blanket permission to remove trees - councils must manage the process. But that surely will lead the community into having to fill in multiple forms, pay high fees and suffer under the dead hand of council administrators. This is an issue for councils to tackle early and constructively if they want to avoid further interference by state governments in the future.

The STEP committee – why not step up?

Organisations continually need to renew themselves. If you feel that you could make a contribution to the STEP committee why not nominate. We have broadly based objectives and can benefit from a wide range of skills including enthusiasm, ecology, science, law, business, lobbying, publicity, IT and others. Of course simple enthusiasm for a better environment and willingness to contribute time and energy is more important than any particular discipline! See the AGM notice elsewhere in this newsletter for nomination procedure. Call me, John Burke, on 94873680 or 0418277030 or email me at johnsburke@mac.com if you would like to discuss any aspect of joining the committee.

Green wine

In France it is impossible to find anything but corks used in wine bottles but here in Australia the screw top seems to be gaining wide acceptance. If that offends your sense of what's right and what's wrong then there is worse to come! The one litre Tetra-Pak is with us and we may soon see these taking up more and more shelf space in the shops. Those promoting these containers obviously hope to avoid the opprobrium of "chateau cardboard" associated with the ubiquitous Australian invented casks and so they are smartly presented. The Tetra-Paks are one twentieth the weight and produce one fifth of the greenhouse emissions of glass bottles and there are additional savings in areas such as transport. There are, however, difficulties with their recycling because they are evidently made of multiple layers of paper, plastic and aluminium and separating these materials is a costly process. The question therefore is which process, glass or Tetra-Pak, is best for the environment? If you know the answer please let us know.

Climate Change: the next 10 years

The title above is the title of the cover article in this weeks (Aug 16) New Scientist magazine.

We read, and hear it said, that the planet is now cooling because the warmest year in recent times was 1998, therefore global warming is all a big conspiracy. But this article does much to put such things in perspective. While the greenhouse gas-induced warming trend continues in the background, the world also experiences long and short-term cycles that relate to ocean circulation, and complex interaction between air and sea temperatures. The oceans have enormous capacity to store heat, and its interchange between ocean and atmosphere can take years, or decades to evolve.

The article discusses the Southern Oscillation Index, El Niño, La Niña and the thermohaline circulation in the Atlantic. Most of us will be familiar with one or all of these. But other more subtle long-term trends are now recognised, such as the Pacific Decadal Oscillation Index and the Atlantic Multidecadal Oscillation Index. It is now quite clear that the extra-hot 1998 was due to a powerful El Niño effect, but the recognition of these additional factors is now providing explanations for such trends as failures or excesses in monsoon activity, droughts and cooling periods. And there is a growing confidence in forecasting them.

If you are interested in climate change issues, buy or borrow the 16th Aug edition, or visit the New Scientist website -

<http://environment.newscientist.com/channel/earth/climate-change/>

Other groups

There are so many groups doing so many good things here are details on four that have web sites that you might like to check out.

Wirrimbirra and Bargo Dingo Sanctuary

This National Trust Property is part of the Wirrimbirra Native Flora and Fauna Sanctuary and is concerned with educating people about the much misunderstood dingo as well as providing a sanctuary. Go to <http://www.dingosanctuary.com.au> or to <http://www.wirrimbirra.com.au>

Beecroft-Cheltenham Civic Trust

This is an active group which concentrates pretty much on the 2119 postcode and whose interests include local activities such as the orchestra, and local history that bear more on the cultural rather than the natural environment. Some of their positions are different to STEP's and perhaps a little more localised in nature. Have a look at their web site at <http://www.2119.org.au>

Lane Cove Bushland and Conservation Society

You can find out more about this group at http://www.geocities.com/lanecove_bushland. We are indebted to them for information on a new book that is available either for purchase or free on line. The book 'Troubled Waters' edited by Patrick Troy has been published online. "Must we build more dams and desalination plants, or should we be managing the demand for urban water more prudently? This book explores the demand for urban water and how it has changed in response to shifting social mores over the past century. It explains how demand for centralised provision of water might be reshaped to enable the cities to better cope with expected changes in supply as our climate changes. And it discusses the implications of property rights in water for proposals to privatise water services." The direct URL address for the book is http://epress.anu.edu.au/troubled_waters_citation.html.

WEPA

This active and effective Willoughby based group has been around for 26 years, publishes an interesting bimonthly newsletter, and can be found at <http://www.wepa.org.au>

Is the free market going to deliver our power needs in an oil scarce future?

As some wit once said, you should never make predictions about the future but The Economist has had a go in its June 21 edition. They looked at all the usual subjects:

Wind generated power they point out is growing at 30% a year and will exceed 100 gigawatts in 2008. GE alone expects to sell \$US6billiun-worth of turbines this year. A farmer who gives up a tenth of a hectare of land for a turbine might earn about \$US10,000 a year from it as compared to \$US300 from bioethenol feed.

Carbon storage they tag as being expensive at best and impossible at worst.

Solar photovoltaic cells power is currently the fastest growing form of generation, growing at 50% a year. Innovations now in train are expected to improve efficiency by 27% and it is expected that the capital cost of solar cells will fall below \$US2 per watt which is comparable with coal fired power stations. The other solar application is solar-thermal where reflected sunlight is used to boil water which is then use to generate electricity.

Geothermal power would be cheap and plentiful but much more research is needed. It has a lot going for it: no unsightly turbines, no covering the country with mirrors and turbines and it is always available. The Cooper Basin has the hottest non-volcanic rocks known and there is a lot of work going on in Australia to exploit that.

Biofuels of course already exist in quantity but there is a lot of research underway to find new feedstock that is tailored to fuel rather than to food production. That R&D is looking at grasses, trees and algae and at strains that grow more efficiently and over wider climate conditions. It is also looking at ways to more efficiently convert the biomass into fuel.

Hydrogen seems not to have an immediate future as a fuel. There are problems with storage and transport and in disposing of the by-products of the electrolysis process.

Plug-in-hybrid technology is gaining in popularity for vehicles. This is different to the technology used in cars like the Prius. There, the electricity comes from burning petrol to charge the batteries. In the plug-in-hybrids the electricity will come straight from the mains with a petrol motor on standby for longer trips. That mains power may of course come from coal or from any of the alternative sources. It is estimated that with such technology used for the first 50 km of each car's daily driving the demand for petrol would be halved, as most car trips are short. One advantage of this technology is that cars could be programmed to only draw off-peak electricity. There is also the possibility of recharging parked cars during the day, for instance at workplaces, from solar cells. There is much research going on into more efficient batteries.

Nuclear power is of course widely used but vehemently opposed by many. Once again, research is progressing apace and it may well be that we will one day be compelled to reassess its safety and suitability.

Wave power is being experimented with but there are technical difficulties that mean its commercialisation is a way away.

Necessity is really the mother of invention and we can expect solid progress in the known technologies and perhaps some unexpected rabbits out of hats. The real point is that the increasing price of oil has spurred the free market into action and the more that price of energy increases, the more will be ploughed into research and development. It appears that the market might do the job while most governments sit back and dither.



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