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Clean up Australia Day: Sunday 4 March: Thornleigh Oval area

STEP member Graham Jones will run a community clean up in the residential and bushland areas near Thornleigh Oval and the nearby entrances into Lane Cove National Park. The site is open from 8.30am to 1.00pm. Volunteers are welcome. You may register by going to this web address <http://www.cleanupaustraliaday.org.au/Thornleigh+Oval> or just turn up at the registration table at the end of Handley Ave near the entrance to the Oval. Please bring strong walking shoes, hat, garden gloves, water and sunscreen. Bags will be provided for the collected rubbish.

For more information contact Graham at jonesgra@netspace.net.au

STEP Talk – Wednesday 14 March: Speaker: Matt Heffernan

8.00pm – St Andrews Church Hall, corner Chisholm and Vernon Streets, Turramurra.

Topic: *"So you want to be an urban farmer"*

STEP members may recall the article on Permaculture by Matt Heffernan in the August 2009 edition of STEP Matters, in which he described how he has transformed his Sydney urban backyard into a veritable fruit and vegetable producing oasis.

We now have the opportunity to meet the man himself and to hear what he has been up to lately. Matt is now a TAFE lecturer in the subject and is the Vice President of Permaculture Sydney South, a non-profit environmental organisation whose aim is to enable communities to learn to become sustainable through the provision of suitable networks and information flows.



Note the day is not the usual Tuesday.

STEP Walk - Sunday 18 March 2012: Stringybark Ridge Loop

This is the first of the STEP "recreational" walks for 2012 and has a dual purpose. Firstly, it is a really lovely and quite varied walk in the Pennant Hills corner of the Berowra Valley Regional Park. Secondly, it will allow interested STEP members to visit the site of one of the proposed mountain bike trails currently under consideration by the National Parks and Wildlife Service. STEP is part of a group of community members who are assessing various sites for their suitability (or lack thereof).

See details on the following page.

STEP Walk: Sunday 18 March 2012: Stringybark Ridge Loop (continued)

This walk includes some heavily reforested areas, some lovely ferny tracks and crosses several musical creeks (depending on recent rainfall). It will also visit the site of the historic Thornleigh Quarry and Zig Zag railway. Morning tea will be provided.

Meet: At 8.30 am at the end of Schofield Parade, where there is a locked fire trail gate. (This is a short distance past the main entrance to Pennant Hills High School).
Length: Approx 5 km Duration: Approx 3 hours
Difficulty: Medium to hard in places. Mainly on good trails but with some rocky surfaces at times.
Bring: Water, insect repellent, sun protection, binoculars, camera and your preferred field guides
Book: Contact Barry Tomkinson on 94849934

John Martyn Wins 2012 Ku-ring-gai Environmental Award

Dr John Martyn, STEP member for 25 years and current Committee member received the 2012 Ku-ring-gai Environmental Award in a ceremony on Australia Day. John has explored, mapped and taught others about North Shore bushland for 25 years. He has coordinated STEP's popular community walks and talks program and has also run community programs for Ku-ring-gai and Hornsby councils.

Dr Martyn is the author of the Field Guide to the Bushland of the Lane Cove Valley, used as a text book at Macquarie University, Sydney's Natural World and numerous maps of walking tracks around Middle Harbour and Lane Cove Valley. His work has inspired appreciation of our beautiful bushland and increased bushwalking activity.



John receives his Award from Mayor Jennifer Anderson

Farewell Robert Bracht (1947 – 2011)

Robert Bracht passed away after a short illness on 28 December 2011. Many STEP members will remember Robert as the face and leader of the STEP "recreational" walks programme, which he successfully pioneered over recent years. In addition to his love of bushwalking, Robert will be remembered for his generous heart, ready wit and amazing sense of style. He made the coffee session at the close of each of his bush walks into an art form, using it to effortlessly integrate new walkers into the group.

Robert was a creative and dynamic financial services marketing executive with a talent for managing people, projects and resources. He specialised in the field of strategic planning and had a deep knowledge of the world of risk products and risk management. He worked for many of the leading Australian life and wealth management organisations.

Robert had a particularly broad range of interests, including a life long passion for vintage motor vehicles, a close involvement in the work of the National Trust and a fine eye for good style in the field of architecture and elsewhere! He will be sadly missed by his wife Shannie and his family, as well as by the extended network of friends he built up over his lifetime.



Robert Bracht (left), Penny Tomkinson and Paul Fletcher walking the Quarry Road Track in Hornsby Valley, August 2011

Update on Local Issues

Lane Cove National Park

As explained in the October 2011 STEP Matters, under the State government 2011-2012 budget, the funding for bushcare and essential bush regeneration has been cut to nil. STEP has written to the Premier expressing our dismay with the cutback. This letter is reproduced on pages 5 and 6. We have not yet received a response from Mr O'Farrell. He has referred our letter to the Environment Minister, Robyn Parker.

This cutback is of particular concern in Lane Cove where the size of the park has expanded over recent years when areas have been subsumed into the park. The photograph below shows an area near Thornleigh Park that was covered by regular bushcare maintenance until about 6 months ago. In 6 months tree smothering vines such as Morning Glory and Honeysuckle have taken over again.

Nevertheless the Friends of Lane Cove National Park are applying for a grant from the NSW Environmental Trust that, if successful, will provide for regeneration of bushland along tributary creeks in the upper Lane Cove valley.

Plan of Management. The current Plan of Management came into effect in 1998. A revised Plan has been undergoing the process of review for many months. We understand it will be finalised in the early months of this year.



Sapling smothered by Morning Glory

Mountain Bike Facilities in National Parks

The NPWS has a strategy to establish a "sustainable" mountain bike single track in a northern Sydney park or reserve that is about 10km in length.

Community field days were held over late October and early November to inspect the potential sites. The NPWS undertook a

preliminary environmental assessment over the same period. Currently two sites are under consideration in the areas of Bantry Bay in Garigal National Park and Stringybark Ridge in Berowra Valley Regional Park.

According to the Environment NSW website, after further environmental assessment and community feedback, the NPWS will select one of the sites for further environmental assessment and detailed design of the track. This information will be compiled into a Review of Environmental Factors (REF). The purpose of the REF is to determine whether the proposed track could be constructed and used without causing an unacceptable level of environmental impact. The REF will be placed on public exhibition for comment. The expected timing for this is March 2012.

STEP is represented in the Advisory Group that has been set up by the NPWS. We are currently concerned that any proposed track in the two areas will endanger high quality bushland and will therefore be inconsistent with our *Position Paper on Bushland Tracks and Trails* (available from the STEP website). We will be arguing strongly against any proposal or advocating changes to the route of any track that is likely to damage quality bushland.

Ku-ring-gai

The Glade Athletics Track Proposal: Ku-ring-gai Council is currently considering the development of an athletics facility at the Glade Oval, Wahroonga after receiving an offer of \$2 million from Knox and Abbotsleigh Schools. KMC commissioned Clouston Associates to make a preliminary assessment of the suitability of the area for the construction of a synthetic athletics track taking into account 3 possible options for the extent of facilities. The report was considered at a Council meeting on 13 December. Council staff recommended that the proposal not proceed any further based on the assessment in the report that the site was unsuitable for practicality and environmental reasons. Despite this, six of the 10 councillors voted for a site inspection, deferring a decision until February 7.

Transport strategy: The Council's Integrated Transport Strategy was released in December. The August 2011 STEP Matters explained our concerns with the review process and the strategy. The final strategy makes provision for realignment of Fox Valley Road in response to the Sydney Adventist Hospital redevelopment but does not explain how this will help with traffic congestion. The traffic lights at the Pacific

Highway and The Comenarra Parkway intersections will, as now, be the limiting factor and additional traffic will simply add to the peak time queues.

UTS Lindfield (Edgelea) project: The land sold by UTS was purchased by Defence Housing Australia (DHA). STEP representatives attended an information session held in November 2011. We provided some comments on the planned development and offered to assist future community residents with minimising detrimental impacts on nearby bushland and the Lane Cove National Park. The success of STEP and other community members in getting the University's original proposal substantially modified has been reported in previous newsletters.

Hornsby

Mountain Bike Trail

STEP wrote to Hornsby Council in September 2011 commenting on the proposal to build a

series of mountain bike trails in the Hornsby Park/ Old Man's Valley area. We have not yet received a detailed response.

STEP believes that much of the planned trail route is appropriate for use as a mountain bike trail and we are therefore generally supportive of Council's plans to build a trail though the degraded portion of Old Mans Valley area. STEP is anxious for the proposed mountain bike trail to be successful, as we believe that it will assist to reduce the pressure on the numerous illegal trails which are degrading our remaining bushland. STEP notes for example that Hornsby Shire "lost" 20 hectares of bushland over the past two years alone; this is an unsustainable trend for such a finite resource.

However we have concerns about some portions of the proposed new mountain bike trail which will impact on the good quality intact bushland of Hornsby Park. Our current information is that the Council is not considering any changes, despite that fact that it is "understood" that their own bushland team are much divided on the matter!

STEP Young Scientist Award for 2011

One of STEP's aims is to promote environmental education. To this end STEP continues to sponsor an Award organised by the NSW Science Teachers Association for a project on sustainability and the environment. The Awards were presented in October. We are grateful for the assistance of Syd Smith in judging the awards.

The winner was Hilary Knowles from Chevalier College for her investigation of "What is the best method of filtering pond water to make it drinkable?" Syd Smith commented that "Interestingly her original hypothesis was proven incorrect but her findings had implications for the important process of achieving potable water in a world where its availability has become a global issue."

Other projects that were on the shortlist covered the dispersal of a weed (*Bidens pilosa* or

Farmers' friends) via bushwalkers socks and an analysis of liquefaction during floods of different soil types.



Hilary Knowles with her award from STEP

Letter to Barry O'Farrell about Funding of National Parks

In the October 2011 issue of STEP Matters we described our concerns about cuts in funding for essential bushland maintenance and regeneration. We sent a letter to our Premier and STEP member expressing our concerns. Here is a copy of the letter. We await a response.

Dear Premier

Funding for Bushland Management

We are writing to you to express our dismay about the 2011-2012 budget cuts in funding being provided for bushland management in the Lane Cove National Park and in NSW in general. It is our understanding, confirmed by sources within the National Parks and Wildlife Service, that ALL funding for essential Lane Cove bushland maintenance and regeneration contracts has been stopped, as too has funding for fire trail management. In addition, all bush regeneration plant and equipment funding has also been eliminated.

Long-term projects relating to the Lane Cove Park additional lands, which were guaranteed annual funding at the time that the State Government took over those additional lands from local Councils, has also been eliminated. We understand too that all funding previously allocated for the management of the Dalrymple Hay and Wallumatta Nature Reserves has been stopped. The result of these combined cuts will be to put at risk all of the gains made over the past decade, for if the maintenance programme ceases, the weed bank will simply restore itself.

We need an explanation of how these cuts can be justified given your election promises and the State 2021 Plan and the severe impact this will have on our National Parks. We need assurances that funding will be reinstated immediately.

Election Promises

In March you made a speech in Lane Cove National Park stating that

"If there are weeds there that need eradication, if there are weeds there that are noxious and by law have to be removed, they will also have to be removed by state owned properties." "We will end the hypocrisy of telling farmers in the Monaro that they have to keep their weeds under control, but allowing property owned by the state, whether they are rail lines or others, to be weed infested and affect those properties," (report in SMH 19/3/2011)

State 2021 Plan

We note that the State Plan 2021 includes the

goal to protect our Natural Environment (Goal 22). More specifically to "Reduce the impact of invasive species at priority sites in NPWS parks and reserves leading to a positive response of native biodiversity at 50% of these sites by October 2015".

The Lane Cove National Park includes several areas that have been identified a priority sites¹.

State Funding for Lane Cove National Park Bush Regeneration

STEP has been advised by the rangers at Lane Cove National Park, the very same area where you made your speech, that the funding for weed eradication and general bush care for 2012-2012 has been cut to NIL.

Over the past ten years a total of \$977,000 funding has been provided and spent for this purpose. Considerable progress has been made in reducing weed infestations in the Park. All this work and expenditure will now go to waste. Weeds will again quickly invade the areas that have been rehabilitated. Maintenance of a rehabilitated area is relatively cheap compared with dealing with a major weed infestation. Therefore the removal of funding will be fiscally irresponsible.

How can there be a positive response in any priority areas in Lane Cove National Park by October 2015, as per the State 2021 Plan, when no more funding is being provided?

We note that some funding is possible through the Community Bush Regeneration Large Project Stream. \$8 million is available for the whole state (not just national parks) for projects lasting up to 6 years costing up to \$250,000. This funding only applies to new projects. If, and only if, the Lane Cove community groups won one of these grants the amount of expenditure will be less than previously available and cannot be applied to maintain the previous projects.

General Funding of NSW National Parks

We understand (from press reports) that the funding for management of NSW national parks has been reduced by 20%. National park managers' ability to allocate resources to future bushcare and bush restoration programs will be

¹ see <http://www.environment.nsw.gov.au/CMAweeds/SydneyMetro.htm>

severely restricted. They will now have to focus on maintaining services and ensuring safety for the public visiting the parks.

It is difficult to obtain figures from government budget information to enable direct comparison of the current State budget with previous years. The data we have obtained from the internet indicates that the previous government's 2010-11 budget allocated \$58.6 million to fire management, pests and weeds. By contrast your government's 2011-12 budget has the following statement:

"The Government has adopted two broad themes in managing and protecting the environment and natural resources.

The first theme is protecting the natural environment and ensuring that the community has more opportunities to enjoy parks, reserves and waterways. This will be supported by a \$103 million environment protection package over four years. A major focus is controlling the threat of weeds, feral animals and bushfire to biodiversity, both in national parks and on private land, with the package contributing \$8 million for weed, pest and bushfire control in national parks in 2011-12.

In 2011-12, the Government is also providing \$11 million through DPI, including an additional \$1.5 million per annum, towards a concentrated and coordinated plan for noxious weeds."

It appears that expenditure on fire management, pests and weeds has been reduced from \$58.6 million in 2010-11 to \$19 million in 2011-12. Could you please justify or explain this information.

The Importance of Weed Control

There are many reasons why it is desirable to control and reduce the level of weed invasion in NSW as was recognised in your election promises and the State 2021 Plan.

After land clearing, weed invasion is the next most significant cause of biodiversity decline.² Endangered ecological communities that have been rehabilitated will again be at risk if maintenance funding is removed.

As a member of STEP you are aware of the value residents of northern Sydney place on the diverse and beautiful bushland of the National Parks that we are fortunate to have on our doorstep. Lane Cove National Park is one of the

top 5 visited national parks in NSW³. The sight of weed infestations is a major disincentive for residents and overseas visitors to enjoy and exercise in these natural areas. Particularly unsightly areas are the Great North Walk and along the river where lantana and canopy smothering weeds (such as Morning Glory) dominate.

Impact on the Work of Volunteers

While the work referred in the previous paragraphs was performed directly by the NPWS, another significant contribution to the control of weeds and restoration of bushland areas is made by the work of community groups and individual volunteers. Grants from the Environment Trust and local Councils and donations have enabled the use of contractors to carry out heavier work.

Many parts of Lane Cove National Park and other national parks have been restored to a healthy ecological situation thanks to the many hours of work of volunteers. The work of bushcare volunteers carried out over 2010-11 in the northern Sydney region has been valued at a total of over \$1 million. Of this total about \$400,000 relates to Hornsby and about \$300,000 to Ku-ring-gai local council areas.

The reduction in funding for bushcare work will be most disheartening for these people. They will see their many hours of work being wasted because the NPWS has suffered such a significant reduction in the funds available for maintenance of previous restoration projects.

In Conclusion

We call on you to explain how these funding cuts can be justified and to restore funding for bushcare by National Parks managers and volunteers so that previous work will not go to waste and current programs can be maintained. Ideally there should increased funds provided to take account of the increased areas of national parks and the increased usage as the State's population grows.

² Coutts-Smith, A.J. and Downey, P.O. (2006). Impact of weeds on threatened biodiversity in New South Wales. Technical Series no. 11, CRC for Australian Weed Management, Adelaide.

³

<http://www.environment.nsw.gov.au/research/NSWparkspopularity.htm>

Major Issues for 2012

2012 will be another year where we hope significant progress will be made in resolving some national and local environmental issues. Two subjects of note are:

Murray Darling Basin Plan

The draft Murray Darling Basin Plan was released on 28 November 2011. Details of the Plan can be found here:

<http://www.mdba.gov.au/draft-basin-plan>

The Plan has been roundly condemned by environmental groups.

The economic advisor of the ACF, Simon O'Connor says that the draft falls well short of the goal of delivering a river system that is healthy and able to support farming communities in the long term.

The Wentworth Group of Concerned Scientists has released a statement calling for the withdrawal of the Plan because it does not provide the most basic information required to allow anybody to make an informed decision on the future management of the water resources of the Basin. The director of the Wentworth Group, Peter Cosier, said it would be a "scandal of generational proportion" if the \$9 billion water buy back and infrastructure program to recover water for the river failed to ensure its health". Their statement is available at

<http://www.wentworthgroup.org/recent-papers>

One telling quotation from the statement follows:

"Without the release of any new independently reviewed scientific information, the Guide to the Basin Plan released by the Authority in 2010 still represents the best publicly available science to establish what is needed to restore the Basin to health. The Guide made it clear that between 3,856 GL and 6,983 GL of water needs to be recovered from consumptive use to restore the Basin to health. Even the bottom end of this

range is far higher than the 2,750 GL proposed reductions in surface flows, and this does not take into account any impact that a proposed increase of 2,600 GL of groundwater extraction will have on these river systems, despite the Guide stating that groundwater systems are already over-allocated and extractions need to be reduced.

It beggars belief that as Statutory Authority could justify spending over \$9 billion of taxpayers money to recover 2,750 GL from the rivers (which CSIRO says won't fix the problem), and then increase the groundwater take by 2,600 GL when we know that many of the groundwater systems are linked to river systems."

We encourage readers to make a submission on the Plan. Details are available here: <http://mdba.gov.au/have-your-say>. The closing date is 16 April 2012. STEP will be making a submission and a copy will be available on our website.

NSW Planning Review

In July 2011 the NSW Government established an independent panel to undertake a full review of the planning system in New South Wales. The review is being led by two former NSW politicians, Tim Moore and Ron Dyer. After two months of public consultation the panel has released an Issues Paper that sets out 230 questions regarding planning issues. Details are available here: www.planningreview.nsw.gov.au.

Fundamental aspects of the planning system, including public participation, third party appeal rights and the obligation to consider the public interest, are all up for review. Submissions may be made up to 17 February 2012. STEP will be making a submission.

Shanes Park Woodland in Western Sydney

We would like to draw attention to an issue of concern outside our normal area at Shanes Park near Penrith. Shanes Park is the most intact and diverse patch of Sydney's former grassy woodland remaining, with over three hundred native plant and animal species recorded., including almost every endangered species of plant and animal in western Sydney. The site is also rapidly establishing a reputation as one of the best birding sites in the Sydney region, particularly for endangered woodland species such as the Speckled Warbler (see photo).

The Environment Minister, Robyn Parker, is currently considering agreeing to accept transfer of this land from Federal to State ownership. The issue of concern is that a condition of the agreement is that the area will become a Regional Park, an area for public recreation not conservation.

The Western Sydney Conservation Alliance is asking concerned people to contact Robyn Parker and request that she not sign the Shanes Park Deed of Agreement as negotiated with the

Federal Government and that she send the Deed of Agreement back to the Federal minister asking for amendments that ensure that the site can be gazetted a Nature Reserve by the NSW Government. Contact details and more information about this area are here: www.shanespark.com



Ian Plimer's Book for School Children on Climate Change

Article by Professor Ian Lowe AO, Emeritus Professor of science, technology and society at Griffith University in Brisbane and President of the Australian Conservation Foundation.

This article was originally published in The Conversation on 20 December 2011. Reproduced with permission. See: <http://theconversation.edu.au/plimers-climate-change-book-for-kids-underestimates-science-education-4803>

The forces of climate science denial have geared down a level. Having failed in their attempt to confuse adults and stop the parliament adopting a timid first step in response to climate change, they are now trying to get at schoolkids

Ian Plimer, a geology professor and expert mineralogist with no background at all in climate science, has published a new book, *"How to Get Expelled from School: A Guide to Climate Change for Pupils, Parents and Punters"*.

The book is being promoted by the Institute of Public Affairs, a propaganda unit funded by business to promote an extreme free-market ideology. Its web site doesn't just deny climate science but also the need to return water to the Murray River, even the health risk of tobacco smoke. The IPA has also argued that we should waive the restrictions on admitting "guest workers" because expanding the minerals

industry is too important to be slowed by minor considerations about workers speaking English, being healthy and fitting into the community.

Plimer and the IPA have been working together to spread misinformation about climate science for some time. Plimer has an appeal on the IPA web site, soliciting donations to help the cause of muddying the waters.

His 2009 book, *"Heaven and Earth"*, was an embarrassing collage of half-truths, misinformation and misquotes of respectable scientists. Climate scientist Ian Enting published a detailed rebuttal of its arguments, while there is now even a web site Plimer vs Plimer, exposing the internal contradictions in Plimer's case.

Plimer's new publication purports to be an "anti-warmist manual" that arms children with "101 questions" to challenge their teachers. Plimer

claims that his book aims to take politics and ideology out of science teaching. Given that, it's remarkable the campaign is being promoted by the explicitly ideological IPA.

The book was also launched in Sydney by former Prime Minister John Howard, almost certainly the most ideological Prime Minister in our history. Howard stacked the ABC Board with ideologues and even championed the ridiculous attempts to re-write Australian history, playing down the dispossession of the original Australians.

Howard claimed that "People ought to be worried about what their children are being taught at school". He said, "It's a matter of real concern". He attacked the teaching of climate change science as "one-sided", presumably advocating the teaching of the uninformed superstition of denial to counter-balance the science.

Plimer said parents write to him saying that their kids are getting "environmental activism at school, rather than the basics of science". Of course, if they do understand the basics of science, they will know that science proceeds by painstaking analysis of evidence, so they will understand why all the world's major academies of science accept the evidence of climate

change. They will also know that science works by considering the implications of the data they collect, which is why climate scientists are almost universally worried by the rate and scale of the changes they observe.

In my experience, school students do understand the science. I can't imagine that anyone but a determined adult ideologue would be taken in by the sort of stuff in Plimer's book. He says that the questions like "Is climate change normal?" will "embarrass poorly prepared teachers".

They would have to be as poorly prepared as the IPA and Plimer not to know both that climate change has been a factor throughout the Earth's history and that the scale and rate of change we are now seeing has no parallel in that history.

The irony is that the whole exercise purports to cleanse climate science of ideology and politics. What it is really saying is that the IPA ideology of free markets and unconstrained capitalism should be promoted in schools to counter the scientific evidence that we are straining the capacity of natural systems. Now that would be "a matter of real concern."

Editor's note:

The Australian newspaper carried a devastating review of Plimer's original book, Heaven and Earth. See: <http://www.theaustralian.com.au/news/ian-plimer-heaven-and-earth/story-e6frg8no-1225710387147>

Further news on the status of the climate sceptics was reported in an article in the Sydney Morning Herald on 28 October 2011. Richard Muller, a respected physicist at the University of California, Berkeley, used to dismiss alarming climate research as "polluted by political and activist frenzy". Frustrated at what he considered shoddy science, Muller launched his own comprehensive study, the Berkeley Earth Surface Temperature project, to set the record straight. Muller's team rigorously explored the specific objections raised by sceptics — and found them groundless.

Read more: <http://www.smh.com.au/opinion/politics/chilling-news-for-climate-sceptics-20111027-1mm5d.html#ixzz1kPxaAB8c>

How Will World Demographics Change over the Next 40 Years?

The following article has been extracted from The Economist magazine dated 22 October 2011

In 1950 the whole population of the earth—2.5 billion—could have squeezed, shoulder to shoulder, onto the Isle of Wight, a 381-square-kilometre rock off southern England. By 1968 John Brunner, a British novelist, observed that the earth's people—by then 3.5 billion—would have required the Isle of Man, 572 square kilometres in the Irish Sea, for its standing room. Brunner forecast that by 2010 the world's population would have reached 7 billion, and would need a bigger island. Hence the title of his 1968 novel about over-population, "Stand on Zanzibar" (1,554 square kilometres off east

Africa).

Brunner's prediction was only a year out. The United Nations' population division now says the world will reach 7 billion on October 31st 2011 (America's Census Bureau delays the date until March 2012). The UN will even identify someone born that day as the world's 7 billionth living person. The 6 billionth, Adnan Nevic, was born on October 12th 1999 in Sarajevo, in Bosnia. He will be just past his 12th birthday when the next billion clicks over.

That makes the world's population look as if it is rising as fast as ever. It took 250,000 years to reach 1 billion, around 1800; over a century more to reach 2 billion (in 1927); and 32 years more to reach 3 billion. But to rise from 5 billion (in 1987) to 6 billion took only 12 years; and now, another 12 years later, it is at 7 billion. By 2050, the UN thinks, there will be 9.3 billion people, requiring an island the size of Tenerife or Maui to stand on.

Odd though it seems, however, the growth in the world's population is actually slowing. The peak of population growth was in the late 1960s, when the total was rising by almost 2% a year. Now the rate is half that. The last time it was so low was in 1950, when the death rate was much higher. The result is that the next billion people, according to the UN, will take 14 years to arrive, the first time that a billion milestone has taken longer to reach than the one before. The billion after that will take 18 years.

For most people, the big questions about population are: can the world feed 9 billion mouths by 2050? Are so many people ruining the environment? And will those billions, living cheek-by-jowl, go to war more often? On all three counts, surprising as it seems, reducing population growth any more quickly than it is falling anyway may not make much difference.

There is a difference between local conflicts and what is happening on a global scale. Although the number of sovereign states has increased almost as dramatically as the world's population over the past half-century, the number of wars between states fell fairly continuously during the period. The number of civil wars rose, then fell. The number of deaths in battle fell by roughly three-quarters. These patterns do not seem to be influenced either by the relentless upward pressure of population, or by the slackening of that pressure as growth decelerates. The difference seems to have been caused by fewer post-colonial wars, the ending of cold-war alliances (and proxy wars) and, possibly, the increase in international peacekeepers.

Human activity has caused profound changes to the climate, biodiversity, oceanic acidity and greenhouse-gas levels in the atmosphere. But it does not automatically follow that the more people there are, the worse the damage. In 2007 Americans and Australians emitted almost 20 tonnes of carbon dioxide each. In contrast, more than 60 countries—including the vast majority of African ones—emitted less than 1 tonne per person.

This implies that population growth in poorer countries (where it is concentrated) has had a smaller impact on the climate in recent years

than the rise in the population of the United States (up by over 50% in 1970-2010). Most of the world's population growth in the next 20 years will occur in countries that make the smallest contribution to greenhouse gases. Global pollution will be more affected by the pattern of economic growth—and especially whether emerging nations become as energy-intensive as America, Australia and China.

Population growth does make a bigger difference to food. All things being equal, it is harder to feed 7 billion people than 6 billion. According to the World Bank, between 2005 and 2055 agricultural productivity will have to increase by two-thirds to keep pace with rising population and changing diets. Moreover, according to the bank, if the population stayed at 2005 levels, farm productivity would have to rise by only a quarter, so more future demand comes from a growing population than from consumption per person.

None of this means that population does not matter. But the main impact comes from relative changes—the growth of one part of the population compared with another, for example, or shifts in the average age of the population—rather than the absolute number of people. Of these relative changes, falling fertility is most important. The fertility rate is the number of children a woman can expect to have. At the moment, almost half the world's population—3.2 billion—lives in countries with a fertility rate of 2.1 or less. That number, the so-called replacement rate, is usually taken to be the level at which the population eventually stops growing.

The world's decline in fertility has been staggering (see chart on next page). In 1970 the total fertility rate was 4.45 and the typical family in the world had four or five children. It is now 2.45 worldwide, and lower in some surprising places. Bangladesh's rate is 2.16, having halved in 20 years. Iran's fertility fell from 7 in 1984 to just 1.9 in 2006. Countries with below-replacement fertility include supposedly teeming Brazil, Tunisia and Thailand. Much of Europe and East Asia have fertility rates far below replacement levels.

The fertility fall is releasing wave upon wave of demographic change. It is the main influence behind the decline of population growth and, perhaps even more important, is shifting the balance of age groups within a population.



A fall in fertility sends a sort of generational bulge surging through a society. The generation in question is the one before the fertility fall really begins to bite, which in Europe and America was the baby-boom generation that is just retiring, and in China and East Asia the generation now reaching adulthood. To begin with, the favoured generation is in its childhood; countries have lots of children and fewer surviving grandparents (who were born at a time when life expectancy was lower). That was the situation in Europe in the 1950s and in East Asia in the 1970s.

But as the select generation enters the labour force, a country starts to benefit from a so-called “demographic dividend”. This happens when there are relatively few children (because of the fall in fertility), relatively few older people (because of higher mortality previously), and lots of economically active adults, including, often, many women, who enter the labour force in large numbers for the first time. It is a period of smaller families, rising income, rising life expectancy and

*And now a different angle on fertility rates with a very long perspective, also from *The Economist*, 27 August 2011 edition. This is an example of compounding contraction.*

Another reason for the reduction in fertility rates

Many women in the richer parts of Asia have gone on “marriage strike”, preferring the single life to the marital yoke. This helps to explain why their fertility rates have fallen. But Asia is not alone. According to the United Nations, in 83 countries and territories around the world, women will not have enough daughters to replace themselves unless their fertility rates rise. In Hong Kong, for example, a cohort of 1,000 women is now expected to give birth to just 547 daughters. If nothing changed, those 547 daughters would be succeeded by 299 daughters of their own, and so on. Extrapolating wildly, it would take only 25 generations for Hong Kong’s female population to shrink from 3.75 million to just one million. Given that Hong Kong’s average age of childbearing is 31.4 years, the territory would expect to see the birth of its last woman in the year 2798. By the same unflinching logic, Germany, Italy, Japan, Russia and Spain will not see out the next millennium. Even China has only 1,500 years left.

big social change, including divorce, postponed marriage and single-person households. This was the situation in Europe between 1945 and 1975 (“les trente glorieuses”) and in much of East Asia in 1980-2010.

But there is a third stage. At some point, the gilded generation turns silver and retires. Now the dividend becomes a liability. There are disproportionately more old people depending upon a smaller generation behind them. Population growth stops or goes into reverse, parts of a country are abandoned by the young and the social concerns of the aged grow in significance. This situation already exists in Japan. It is arriving fast in Europe and America, and soon after that will reach East Asia.

Demography, though, is not only about economics. Most emerging countries have benefited from the sort of dividend that changed Europe and America in the 1960s. They are catching up with the West in terms of income, family size and middle-class formation. Most say they want to keep their cultures unsullied by the social trends—divorce, illegitimacy and so on—that also affected the West. But the growing number of never-married women in urban Asia suggests that this will be hard.

If you look at the overall size of the world’s population, then, the picture is one of falling fertility, decelerating growth and a gradual return to the flat population level of the 18th century. But below the surface societies are being churned up in ways not seen in the much more static pre-industrial world. The earth’s population may never need a larger island than Maui to stand on. But the way it arranges itself will go on shifting for centuries to come.

A Cold Climate Wildlife Haven

Jack Haley and Jennifer Douglas have written this article about their new idyllic home

In 2005 Jack Haley and Jennifer Douglas found the property that ticked all their boxes – 150 hectares of bushland that had never been cleared, with a 4 kilometre river frontage and 35 kilometres from the nearest town. A log cabin on the property was a bonus.

Located on the Abercrombie River between Oberon and Taralga/Goulburn at around 1000 metres elevation, the soil is predominantly shale/clay on a south facing slope with low fertility, which is probably why it has never been cleared for agriculture. Rainfall is around 800 millimetres per year on average, but widely variable.

The property was already a Wildlife Reserve under the National Parks and Wildlife legislation which set us thinking how we might protect and enhance it for wildlife. The highest protection available is a Voluntary Conservation Agreement (VCA), for which we applied. It is a legal agreement between the landholder and the Government, is in perpetuity and prohibits any clearing or road making on the property.

The local NPWS ranger and a staff member visited, took photographs at various points on the property and wrote a report on its natural values. After lengthy considerations (and a change in the relevant Minister) the VCA was signed and the property is now managed as far as possible to enhance natural values and preserve wildlife. Subsequent to the agreement being signed, flora and fauna surveys were carried out for the NPWS.

Native animals seen on the property include echidnas, red-necked wallabies, eastern grey kangaroos, Rosenberg's goanna (endangered), powerful owls, swamp wallabies and a wide range of birds including yellow crested, gang-gang and black cockatoos, eastern and crimson rosellas, scarlet robins, superb wrens, eastern spinebills, New Holland honey-eaters, spotted pardalotes, a small kingfisher (unidentified), whipbirds, lyrebirds and possibly a red beaked finch. There are the usual ubiquitous kookaburras and magpies. There are many wombat holes along the river but we have not seen many as they are mainly nocturnal. The only one we have seen during the day was on the hillside about 800 metres above the river. Platypuses are no doubt in the river but the most we have seen is the ripples from one diving in.

Feral animals include cats, foxes, pigs, goats, and dogs have been reported in the area but are unlikely to bother us – they would be looking for

lambs on the grazing property some kilometres away. We were standing beside the house last year when a juvenile red-neck wallaby came past us at top speed, hotly pursued by a fox. It looks like it could have killed us we'd be dead, as the fox screeched to a stop, glared at us, then trotted off towards the river.

It appeared the previous owner had been a mad inventor - there were many pieces of equipment in the bush around the cabin, presumably thrown there when they failed to operate in the way the constructor had intended. We carted 10 trailer-loads of recycling and rubbish to the tip in the first year of ownership.

The house is over 6 kilometres from the nearest power connection and came with a 25 year old stand-alone PV/battery system. The capacity was quite low and the batteries were finally killed after a year or so when a light switch shorted out and left an exterior floodlight on when we were absent - this flattened the batteries and they did not recover. We then bit the bullet and invested \$50,000 in a new system, half subsidised by the Federal Government's Renewable Remote Power Generation Program (RRPGP) as it was then, which was an excellent program to encourage the adoption of renewable energy. The system has been essentially trouble-free, apart from one melted battery terminal, which we suspect was due to not being tightened up when it was installed. Apart from not running the kitchen jug and the microwave oven at the same time, there is no difference from being on the grid, except we get a warm feeling that the power we use is not contributing greenhouse emissions to the atmosphere – and it's free, with no ongoing costs!!

Hot water is provided by an LPG instantaneous heater. We have considered solar hot water but we only have gravity fed water supply and the manufacturer could not guarantee the heater would work under this pressure. We have an LPG stove top and oven, but we use an electric frypan as much as possible for cooking. A tank of LPG lasts around a year and costs \$140.

Heating is provided by a large wood heater which effectively heats most of the house, even when it is minus 8 degrees outside, and stays alight all night if loaded up before we go to bed. We are currently using up the radiata pine we cut down but when this runs out we will use the timber cut by the power line contractors under the 500 kV line that runs across the property (out of sight of the house, fortunately).

As we are in a non-receiving area for television and radio, we are eligible for a connection to the VAST (Viewer Access Satellite Television) remote area system, which is funded by the Federal Government and includes all Freeview channels. The picture quality is better than in many areas of Sydney!

We have established a vegetable garden which is under constant attack from possums and rabbits, and have almost completed the conversion of an existing large BBQ shed, which had a roof but nothing else, into a studio/guest accommodation.

A mob of red-necked wallabies has moved in and currently have 5 joeys on the go, and there are two eastern grey roos that spend some time around the house, keeping the grass down for us.

Swimming in the river is a joy in summer and you can drink the water while you swim! There is no farmland upstream - the river rises in the southern part of the Blue Mountains National Park. Across the river is also National Park, protecting the natural values and water quality.

There are trout, carp and yabbies in the river, but no-one has yet managed to catch any.

The only service we have connected is a landline phone, which we regard as a necessity for emergencies, as there is no mobile phone coverage. Apart from having to be careful with water usage and applying some effort in cutting wood in winter, we do not lack for any comforts and have the advantages of clean air and quiet.



The Great Eastern Ranges Initiative

STEP member Janine Kitson has written the following article about this Initiative which provides some good news for our eastern forests

The National Parks Association of NSW [NPA] is championing the Great Eastern Ranges Initiative [GERI] that aims to conserve one of Australia's longest conservation corridors – eastern Australia's mountainous ranges and escarpments.

The Great Eastern Ranges Initiative aims to maintain and improve long-term connectivity and conservation of mountain ecosystems running the length of eastern Australia. The NPA, along with the Nature Conservation Trust and OzGreen are lead partners coordinating the 1,200 km NSW section of the Great Eastern Ranges. The NPA is focusing on three green corridors – the Southern Highlands, the Hunter Valley and the Mountains2Coast on the NSW South Coast.

GERI aims to improve and reconnect 'islands' of natural vegetation along the 3600 km long corridor that extend along the eastern Australian continent. This includes from the Grampians in Victoria to the Atherton Tablelands in far north Queensland.

The Hunter Valley is a focus region for the Great Eastern Ranges because of the four different biological regions that converge there, particularly the flora and fauna of western and coastal NSW. The Hunter Valley floor has been extensively cleared with only 18% of its original vegetation remaining. Mining leases cover 40% of these remaining patches. The Hunter partners that include government agencies, private landowners and community groups are aiming to create a series of 'stepping stones' to link private and public bushland so that habitats can be reconnected across the landscape for species movement. Habitat fragmentation is a serious threat to biodiversity. The vulnerable listed bird, the Brown Treecreeper, needs paddock trees less than 100 metres apart for its flight path to survive.

Kevin Evans, CEO for the NPA, says in the latest NPA Journal, Nature [Winter, 2011] "The relentless march of destructive fossil fuel industries across our landscape is threatening our vulnerable biodiversity and regional

communities. The absence of political commitment to maintain ecological function at the landscape scale and ensure the persistence of species and their habitats means that the reservation in publically-owned protected areas remains vital.” The NPA is seeking government commitment from the NSW Government to support the Great Eastern Ranges Initiative.

Population and development pressures, mining, forestry, land clearing, overgrazing and intrusive, intensive infrastructure continue to shatter habitat connections.

Shamefully the Environmental Defender’s Office has recently investigated systematic illegal logging in NSW’s state publically owned forests.

The Victorian government is trying to reinstate cattle grazing in Victoria’s Alpine National Park.

The South East Forests of NSW continue to be intensely logged. Prue Acton, fashion designer, has expressed alarm, particularly for the coastal forests between Bermagui and Bega that are threatened with woodchip logging for the Asian markets. The last remnant koala colony on the Far South Coast is one of the forests targeted for logging. The NPA South Coast Branch has outlined a proposal to protect the forests as conservation reserves and end the destructive logging. They are also arguing for wildlife linkages from the mountains to the coast. They

also argue that if Tasmania can achieve a Forestry Agreement that protects its forests, why can’t NSW end its unsustainable and destructive woodchipping industry.

Closer to Sydney, the Southern Branch of the NPA is concerned that the green corridors along the Illawarra Escarpment from Stanwell Tops need protection. They have made a film called the “Green Corridors of Southern Sydney and Illawarra Escarpment” to highlight this cause.

Recently community groups in Ku-ring-gai successfully overthrew a rezoning for more intense development at the Land & Environment Court. The community feared that more intense high rise would risk destroying more of the North Shore’s remnant Blue Gum High Forest. One of the key concerns is that these urban forests - the lungs of Sydney – can only survive if they have connectivity to the Lane Cove, Garigal and Ku-ring-gai Chase national parks. The documentary “State of Siege” highlights why rezoning for urban densification is another cause of biodiversity loss due to fragmenting wildlife corridors.

In this United Nations International Year of the Forest, 2011, we need to embrace positive solutions to deforestation and habitat loss – not just for the rainforests of Indonesia and Brazil – but for Australian forests. Projects like GERI give us the opportunity to protect our forested landscapes for the future.

Editor’s Postscript: On 16 December the NSW Government announced an Environmental Trust grant of \$4.4 million for the GERI. The Environment Minister, Robyn Parker stated that the grant would “Build on previous work in establishing five NSW priority partnership areas and develop more community based action to protect our biodiversity.

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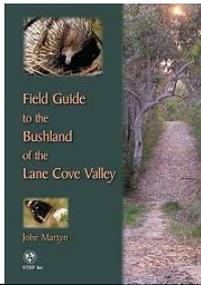
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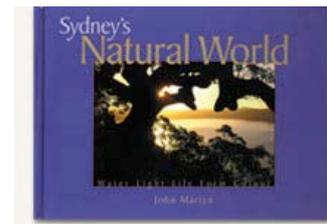
We welcome new members on the Committee at any time. Meetings are held on the first Monday of each month except January. Please contact any member of the Committee if you would like further details.

The newsletter editor for this edition is Jill Green who has written everything not otherwise accredited. Send complaints, praise, comments or letters to the editor to secretary@step.org.au. The STEP Committee does not necessarily agree with all opinions put forward in this newsletter.

We welcome contributions of articles that readers think will be of interest to our readership.



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Dates for Your Diary

Walk: Sunday 15 April : Royal National Park.

Medium grade day walk taking in the beautiful tall forest and extensive coastal views from the Cliff Track plus the rare littoral rainforest of Palm Jungle. Limit 15.

Meet at the car park adjoining Otford Lookout at 9.45 am for 10 am start

To book contact Andrew Little, 9924 7212 (after 7.30pm), Bookings essential

Talk: Tuesday 1 May: Fungi and the interdependency of species' by Ray and Elma Kearney– details to follow in STEP Matters, issue no 164



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