



Photo by Dr Ing Foh (NRA)

The Environmental Practitioner

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In the first issue of the year we consider opportunities for environmental practitioners to contribute to policies for hot environmental issues. We hear about the results of the Anglesea borefield project, contemplate a trip of discovery up the iconic Parramatta River, and discover how to tighten our belts in the new carbon economy.

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Photo by David Manson

Editorial

A Biodiverse 2010

Welcome to the first issue of the year. After a relaxing break hopefully for you all, the new year is in full swing.

As most of you may know, 2010 is the International Year of Biodiversity, designated by the United Nations to celebrate biodiversity and raise awareness of biodiversity decline on Earth. In 2002, Australia and other parties committed to the 2010 Biodiversity Target, to significantly reduce the rate of biodiversity at global, regional and national levels.

Unfortunately, Australia has not achieved its 2010 Biodiversity Target. A number of groups have supported the Boobook Declaration, calling for the Australian Government to triple biodiversity investment to \$9 billion over three years. In a federal election year, it would be a meaningful and overdue event if biodiversity could re-emerge on the issues agenda. Australia's Biodiversity Conservation Strategy 2010-2020 prepared by the National Biodiversity Strategy Review Task Group last year is one step, though a solid basis for assessing performance on biodiversity benchmarks remains wanting.

As environmental practitioners, we are excellently placed to provide legislators, land managers and the community with informed, specialist advice on the most strategic means to conserve biodiversity in 2010 and beyond.

One of the key themes of the EIANZ conference this year will be biodiversity conservation, and the Institute particularly welcomes papers on this aspect of environmental management. The Ecology Special Interest Section (SIS) has a number of interesting resources and discussion points on biodiversity up on the sub-website www.ecology.eianz.org, which I encourage you to visit.

Having recently relocated to tropical Far North Queensland, a place of exceptional natural beauty and variety of landscapes, I look forward to some simple enjoyment of local biodiversity. And a personal environmental challenge this summer will certainly be to constrain my carbon footprint by resisting the air-con switch.

The next deadline for *The Environmental Practitioner* is 28 May 2010. So send your submissions and photos (no pdfs please) to email communications-editor@eianz.org. Also welcome are any members who would like to be profiled for the Member Snapshot (see page 20); it is always interesting to see the diversity of the EIANZ membership.

Rebecca McIntyre
Communications Editor





Photo by David Manson

From the President's Desk

How has good environmental practice and good environmental policy been applied to recent national and international environmental issues? What management standards have been used?

The success of the 15th United Nations Climate Change Conference (UNFCCC COP15) held in Copenhagen in December 2009 has been questioned. COP15 has come and gone with few firm outcomes (the Copenhagen Accord, for example), contentious debate, heated politics and significant challenges for COP16 in Mexico this year. Some projections of the Intergovernmental Panel on Climate Change (IPCC) have also been questioned in recent weeks, as being too conservative or misleading.

The success of national environmental effort is also being questioned: Australia is seemingly no nearer to an emissions trading scheme (ETS) than this time last year; the Australian Government's \$2.45 billion Home Insulation Program and Solar Hot Water Rebate Program have been discontinued; the national and regional population public debates continue; the environmental and rehabilitation liabilities for mine sites are seemingly increasing more than currently acknowledged; natural disasters continue to dominate our news coverage; and the timber giant Gunns, may be forced to meet tougher international standards if they are to accept a European partner.

In all of these recent scenarios there are a couple of glaring inadequacies. There is a lack of use of:

- strategic resource assessment (population debate, post natural disaster management);
- life cycle analysis (ETS);
- community consultation (population debate, natural disasters);
- adequate risk assessment (natural disasters, population debate, mine site rehabilitation); and
- appropriate professional standards for implementation of the issues (IPCC, ETS, roof insulation).

The tools for good environmental practice and policy are available. Many such tools are outlined in ISO 14000. Nationally, and internationally, why do we not use them? A number of the issues mentioned above could have been avoided, mitigated, improved or delivered if these management tools had been used. ISO 14001 clearly outlines methodologies for managing all types of projects and operations - it provides for policies, objectives, identification of the issues, risk assessment of the issues, plans and standards to manage the issues, as well as reporting and auditing requirements.





Photo by David Manson

While sustainability and protection of the environment is certainly front-and-centre, in terms of political and media agenda items, society and many stakeholder groups are lacking fundamental answers to environmental issues and concerns, or are totally unaware of the available tools for addressing many of the environmental problems outlined. Why are professional qualified environmental practitioners not used more in many of these areas? As environmental practitioners, we should have a large and valuable presence in these scenarios.

Over the past year, the Institute has raised the issue of qualified environmental practitioners on an ongoing basis. We have also informed state and federal departments that environmental auditors actually exist, and that the issue of professional standards is paramount in helping to achieve good sustainable and environmental outcomes, irrespective of the aspect or location.

We are not a lone voice in this discussion. In the near future we will be making a detailed submission to Minister Garrett and other Federal Parliamentarians in respect of the Review Report on the Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act). We will be making this submission with three or four other leading institutions and will be seeking active, wide and extended support from you, your organisations and colleagues.

We have continued our engagement with the Department of Climate Change early this year regarding the National Greenhouse and Energy Reporting System (NGERS) and the proposed Carbon Pollution Reduction Scheme (CPRS). We identified that for both Australia and New Zealand, the standards of professional conduct and practice to undertake the various tasks (emissions auditing and assessment, energy efficiency and eco-efficiency assessments, carbon sequestration credits, and carbon credits) will be most important in delivering an effective, efficient, credible and transparent system. High standards of professional conduct will help to deliver the mitigation and adaptation works required to address the issue with scientific rigour.

The Institute is also in the process of increasing our professional alliances with national and international bodies. We have recently been engaging with ECO Canada and hoping to sign a Memorandum of Understanding (MoU) with them in March, coinciding with Globe2010. This MoU will allow us to work more closely and share information in terms of early-career and ongoing professional development requirements for all environmental practitioners. We will continue to seek other like-minded organisations around the world to join. We have engaged with the Society for the Environment in the United Kingdom and hope to develop a similar MoU with them.



Photo by David Manson

Some other updates include:

- The review and expanded development of the EIANZ Code of Ethics and Professional Conduct is nearing completion and we aim to deliver this to you by April;
- A consultation draft on Australia's Native Vegetation Framework can be found at www.environment.gov.au/vegetation/review. The Institute will be providing a submission to the Department of Environment, Water, Heritage and the Arts. If you wish to contribute please contact the External Relations Committee or the Ecology Special Interest Section (SIS);
- In response to the recent member survey, the Council has been actively negotiating a number of membership benefits for you. These benefits range from discounted environmental products, publications and news services, to an updated business insurance and accounting portfolio for environmental practitioners;
- The Institute continues to successfully roll out a series of Climate Change Skills Training Project Forums across the country. See website at www.eianz.org/professional-development/schedule-of-forums and contact your respective Divisions to attend a Forum event; and
- As mentioned in our last newsletter, the Institute is in the process of forming a Climate Change SIS and hope to sign off on the Business Plan in April. We will be re-engaging with interested members at that time. Any questions regarding the formation stage of the SIS can be directed to the Institute's Vice-President, Tiffany Thomson (vice-presidentaust@eianz.org).
- Also as mentioned in the last newsletter, the Institute's Wellington NZ Conference 2010 will be from 26 to 29 October. The theme for the Conference is "From Discovery to Delivery: Science, Policy, Leadership & Action". Take the time to visit the Conference website at www.confer.co.nz/eianz2010 for all the details.
- The South East Queensland Division will host the Institute's 2011 Conference. Professor John Cole of the USQ Centre of Sustainable Business and Development has been appointed to Chair the Conference Committee.

Bill Haylock FEIANZ CEnvP
President EIANZ

Exclusive New Deal with WME Magazine – One of Australia's Premier Environmental Publications

Australia's leading environment business magazine since 1988, WME Magazine covers all things environmental including waste, water, air, biodiversity, sustainable development and environment business industries. It is published 11 times a year. For further information go to www.wme.com.au/magazine.

As most of you would be aware, EIANZ members have been receiving the WME Magazine free of charge now for about 18 months. This trial proved very successful with many members enjoying what the publication has to offer.

The member survey held late last year indicated that most members would like to continue to receive the WME Magazine and would be happy to pay a subscription fee.



Thanks to our great ongoing relationship with WME Media, publishers of the WME Magazine, we are happy to advise that the publication is available to **EIANZ members at a rate of \$79.00 per year, that's a saving of \$100.00 per year** off the normal subscription fee!

Members will continue to enjoy the WME Magazine free of charge until 30 June 2010. From July the EIANZ subscription rate will apply. This offer is available to all EIANZ members who wish to subscribe to WME Magazine at a great saving.

Shortly WME will send all members currently receiving the magazine an invitation to take up this exclusive offer. Subscription details and contacts will be provided then.

Ridgeline to River: A Discovery Tour of the Parramatta River

On May 6, the Earth Foundation will host a discovery tour of the Parramatta River. The 'Ridgeline to River' boat cruise will initiate the Foundation's "professional to public" educational activities for the year, taking people down river from Homebush Bay to Cockatoo Island on the heritage ferry, *The Proclaim*. Passengers will enjoy a commentary about the river, its history, environment and future prospects. With partner, the Parramatta River Catchment Group (PRCG), the Foundation aims to provide passengers with a stimulating and enjoyable experience, leaving them with a heightened interest in, and commitment to, the protection of the environmental and heritage values of the river.

A major focus of the Discovery Tour is to strengthen the capacity of people who make, inform and influence decisions that affect the health of the river and its catchment. The Parramatta River Catchment Group has identified a range of issues of immediate relevance to decision-makers, including the impact of sea level rise on foreshore areas, the health of mangrove and saltmarsh communities, river bank erosion, environmentally friendly seawall design, protection of biodiversity, surface water quality and water-sensitive urban design.

Earth Foundation Board members Stuart Taylor, Geoff Sainty and Kate Hughes will provide commentary, joined by guest tour guides Gregory Blaxell and Rob Renew. Together they will introduce passengers to many unique features of the river system, exploring four key themes:

- Restoration Ecology: The Resilience of the River
- Biodiversity Profile
- Catchment and Surface Water Processes
- The Past, Present and Future

Restoration Ecology: The Resilience of the River

The river can be considered as a degraded marine environment that is undergoing rehabilitation in some areas, with other parts still under significant stress. Since the industrial boom of the 1950s, there have been many physical changes to the river as well as ongoing chemical, nutrient and sediment pollution from industrial activities and urban run-off. Recently, remediation of contaminated sites on the river's edge has reduced the migration of highly toxic chemicals to the surface waters.

However, a lingering legacy of heavy metals and persistent organic pollutants remains in the sediments, presenting big challenges to river managers and developers of the future. On the plus side, it is widely recognised that surface water quality has improved as a result of local and state government initiatives to reduce urban run-off from homes, commercial premises and industries. Illegal sewerage connections to stormwater systems are mainly a thing of the past, as is point-source pollution from chemical and manufacturing industries.



In both upper and lower parts of the catchment, a range of activities by local government and the Sydney Metropolitan Catchment Management Authority have made a measurable difference to the state of the environment. Bush regeneration and improved litter and waste management have directly contributed to the rehabilitation of the river system by improving the health of the catchment.

Biodiversity Profile

In the Parramatta River catchment, Sydney sandstone country is evident in the rock platforms and outcrops which form a key feature of its natural ecology. Both catchment and river support a great diversity of plants which in turn provide habitat for a surprisingly wide range of animal species. On the cruise, wetland and plant specialist Geoff Sainty will identify some significant areas of bushland, saltmarsh and mangroves on the river and provide his insights into their prospects for the future. Kate Hughes will provide some details about the river's fish and bird life, offering her perspective on the pollutant load that many of these animals carry in their bodies.

Catchment and Surface Water Processes

The river responds to impacts from its catchment and these change over time. On the tour, scientist Stuart Taylor will discuss Sydney Harbour's "urban contaminant signature" and explain how he mapped sediment pollution and stormwater flows from the suburbs. He will outline issues related to surface water and sediment quality, explain the changing balance between point and non-point source pollution over time and reasons behind the differing levels of sediment contamination within the Harbour.

The Past, the Present and the Future

The river has an inglorious industrial past. Abattoirs discharged their wastes directly to the river, dioxins and DDT were dumped into its bays, and "town" gasworks polluted the air and left soil and sediment contaminated with foul-smelling chemicals. It was an ugly era which was balanced, in a sense, by the river's inspiring social and architectural history. Elegant sandstone buildings and stately gardens and parks grace its shoreline, often cheek by jowl with modern residential and commercial complexes. On the river tour, Gregory Blaxell will identify wharves, bridges, boat sheds, stately homes and historical landmarks, including the poignant monument to the rower, Henry Searle. Rob Renew will point out the locations of earlier industries and notable 19th century gardens. Kate Hughes will focus on newly-remediated industrial sites and the potential impacts of the looming over-development of the river's foreshores and catchment.

The Foundation's Discovery Tour aims to bring light to bear on a range of key issues that will affect the health of the river in the years to come. For people with an interest in history, science and ecology, the tour will deliver a memorable experience. For those with a professional interest in the river and its catchment, the tour will provide a fresh perspective on current problems and future prospects of this, Sydney's major waterway.

Tour Details

- Thursday 6 May
- 10am-1pm with morning tea at 11.30.
- A musical contribution from The McMahon Brothers
- \$50/head incl. morning tea and distribution of resource material
- Departing from Sydney Olympic Park Wharf at 10am sharp. Parking available.

Ridgeline to River: A Discovery Tour of the Parramatta River is an environmental education experience hosted by the Earth Foundation Australia Ltd, a not-for-profit environmental educational foundation. The PRCG is a partner in this event. The PRCG is a regional organisation of local councils, state agencies and community representatives whose aim is to work together to improve the health of the Parramatta River catchment.

For further information contact Kate Hughes. Ph: 02 4568 2118
katehughes@bordnet.com.au.

Kate Hughes
Earth Foundation Board



EARTH AUSTRALIA
Foundation



Parramatta River
Catchment Group

Notes from the Tasmanian Division...

Firstly, on behalf of the entire Tasmanian Division, I would like to thank Philip Millin for his significant contribution to the Division over a 13 year period. Philip has decided to step down from his role as President. His ongoing commitment to the Division has been very much appreciated.

I would also like to congratulate John Todd, Vice President, Tasmanian Division, for winning the 2009 Werner Strauss Achievement Award from the Clean Air Society of Australia and New Zealand (CASANZ). In the words of Gavin Fisher, President, CASANZ: "This is the eighth award made in honour of Dr Strauss and was presented by his wife, Jenny. The award was made to John for his work on improving air quality.

John has been a leading scientist in air quality issues for over 40 years, and he is known internationally for his work on reducing air pollution emissions from wood burners. This has been a long-term problem in parts of Victoria, and especially in Tasmania where wood burner use is prevalent. John has written many papers on the subject and can be credited with having raised awareness, improved knowledge and made a genuine impact. John has also been a long-term member of the Australian Standards Committee on wood burners and was a foundation member of CASANZ in Tasmania in 1975. We wish John all the best and trust he will continue to make his valuable contributions towards improving environmental sustainability not only in Australia but around the world." Well done, John!

Claire Brett – President EIANZ Tasmanian Division

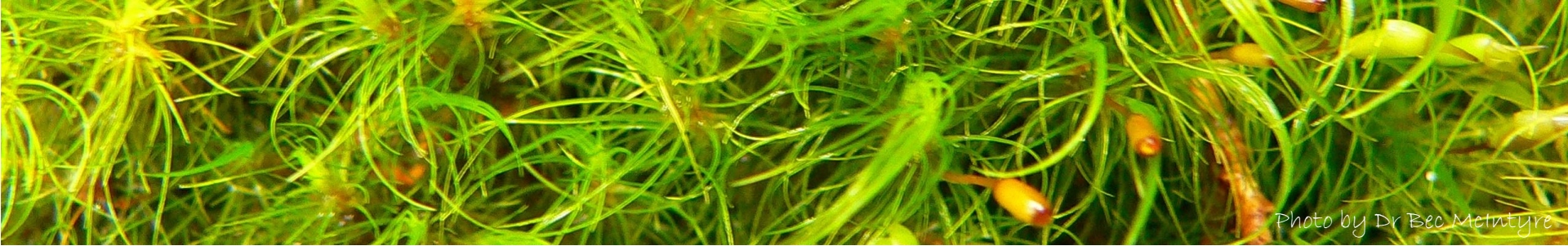


Photo by Dr Bec McIntyre

Satirical Piece : Science from the Other Side – Carbon

'I think it's the duty of the comedian to find out where the line is drawn and cross it deliberately.' (George Carlin, US comedian and actor 1937-2008).

The most serious attempt to reverse the obesity epidemic in the Australian population has been scuttled by the Federal Opposition in parliament. The Australia Government has seen its controversial Bill on the Fat Excess Reduction Scheme voted down by the Senate three times now. A disappointed Prime Minister said his election promise to put in place something more effective than diet and exercise regimes to address obesity among Australians had been stopped by political belligerency. Now he promised to go back to his advisers to think up another market-based support scheme for health because, although obesity in Australia was an intractable problem, he would not give up on finding an answer.

Advisors from the Department of Finance and Re-Deregulation have been working for three years on this proposed law to trim excess fat from the population. 'There are too many fat citizens and they need a scheme so they can move on and have productive and healthy lives. This is fundamental to our economy,' fumed the Prime Minister, Mr Rutt. The defeated Bill would have enabled the government to introduce a market mechanism to make it compulsory for obese Australians to buy fat permits.

Fat Excess Reduction Scheme

The Australian Fat Excess Reduction scheme (FERS) was to have commenced this year and would have worked like this: The top 1,000 obese people would be forced to buy Australian Fat Permits under a cap. The allocation of permits would be in accordance with individual body weight and fat content per liable fat person. These liable persons would be asked to surrender all their permits back again by the end of the year to the Government as they lost weight over time. In the first year the number of permits each fat person surrendered would be in proportion to the exact amount of fat they actually lost during the year. Thereafter the government would make them buy another tranche of permits for the next year. The idea was that after being forced to pay out their own money to buy permits, fat people would have the financial incentive to slim down. Otherwise the compulsory purchase of permits would make it too expensive for fat people to afford to continue to be overweight.

Ideally, these liable fat persons would achieve their personal weight loss targets and surrender all their allocated fat permits in the first year of the scheme. If so, they would not be forced to buy any more permits. However where people could not meet their personal target, some fat permits would be left over. If fat permits accumulated, then the market aspect of the scheme - trading - would kick in. Liable fat persons who could not lose fat would be able to trade their left-over permits to interested (skinny) parties, starting from the second year of the scheme.

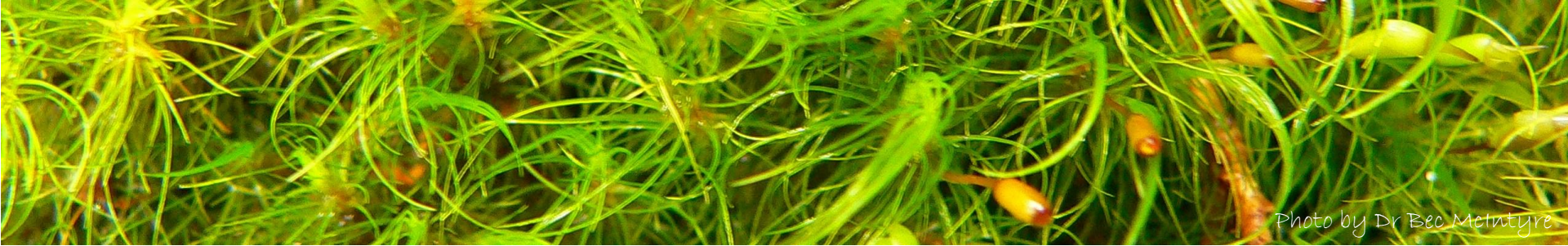


Photo by Dr Bec McIntyre

Since this scheme is based on market incentive, each liable person would be free to choose the way he/she loses fat. Each could do this at his own pace and with any innovative technology that achieves the purpose. But if they refused to lose weight, they would be required to keep buying the right to be fat and to continue to pay for their deemed allocation of permits each year.

Due to the defeat in the Senate, this potential market in fat permits cannot get underway yet. The government believes that the ruination of the fat marketplace has prevented break-through technologies from becoming commercial. For example, liposuction - surgery where fat can be surgical removed from the human body - would be one answer to suit the whole marketplace. But it is expensive. The benefit of trading is that it would enable fat persons to sell their surgical fat to thin people and therefore subsidise their surgery. Strong demand is anticipated among thin people who want to become more rounded and plump. The excess fat removed from the obese is a way forward to assist the malnourished in a mutually beneficial trade.

For this reason, the proposed Australian scheme would be open to overseas trading so it encourages the distribution of fat in an equitable way around the globe. There is already keen interest from developing nations such as those of Africa, Bangladesh and some parts of India where their citizens are painfully thin. Emaciated people are in need of more fat on their bodies and the governments of poor nations are in a position to import excess fat in hygienic, bottled form. It has multiple benefits. Firstly, it solves the starvation problem for developing nations and secondly it makes thin people look less harrowed on television.

However, advocates of human rights have rallied against international trade in bottled fat on the basis that it violates human rights. Furthermore they say that Indians are beautifully slim people and fat westerners should not export the results of decades of gluttony to a civilisation that behaves with social moderation. Besides it is hot in India and a thin person who has fat injected suddenly into their body to become plumper, would feel uncomfortable in humid monsoonal weather.

Such advocates are totally opposed to fat trading and plead the case that transferring fat among nations does not prevent obesity at its source. They say that trading is a mechanism that presents itself in the guise of solving the problem when it is really only shifting the problem around. However, economists put the counter argument that fat trading should not be restricted across borders because otherwise it would interfere with the Free Trade Agreement signed by most developed nations.

The Australian fat trading scheme was based on a well researched, scientific target for the optimum fat content of the ideal Australian body. Scientists have persisted for 20 years in controversial research into fat science but they agree now on the target for the nation. They settled on the Fat Australian Target (known as FAT) which is 450g of Fat per Body weight Tonnage (FBT2-e). The consensus is that if this target is not achieved by each individual human on the planet within the decade, then the trend is inevitable that the whole world will become fat.

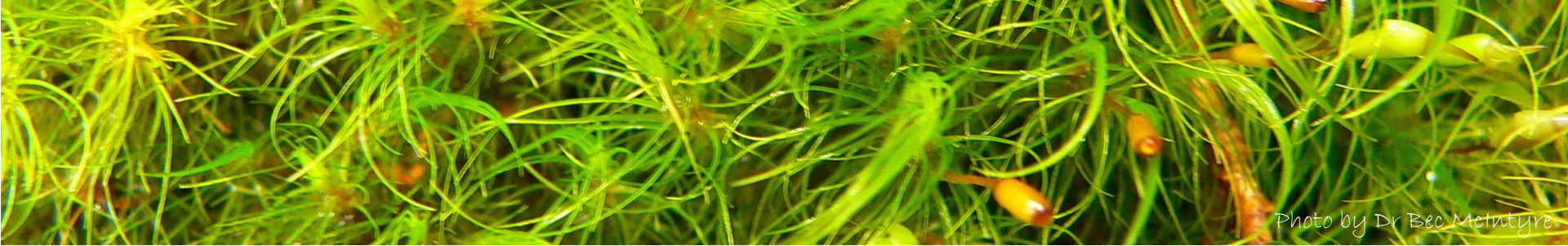


Photo by Dr Bec McIntyre

In an attempt to monitor progress toward the target, the government set itself milestones of:

- 60% reduction in national fat excess from 2000 levels by 2050;
- mid-term reduction of fat by (between) 5% to 15% below 2000 levels, by the end of 2020.

The scheme needed to have a cap to work. The cap is an estimate of the total excess fat in Australian people and is calculated with data obtained from the whole population. It was to be known as the Fat Cap. While this cap is drawn from Australian Bureau of Statistic census data, Mr Rutt admits that the cap is only a calculation and it could differ from the actual excess fat when measured - for the purpose of the permits - in real people. Unfortunately, fat content has never been measured as a separate item in census data previously, so fat content figures are estimates, not measurements. Additional errors are due to people not giving accurate body measurements about themselves on census forms.

Europe has an established cap and trade scheme but unfortunately smart fat people have already made windfall profits from fat trading. The European Fat Excess Reduction Scheme did not estimate the fat content correctly in obese people when the fat cap was calculated by officials. Inadvertently, when permits were first allocated, some fat people received overly-generous allocations of European fat permits. After Europeans met their easy targets they realised that they had permits left over. So while they did not lose much weight themselves they were able to sell the extraneous permits to thin people.

This was not the original intention of fat trading where a permit represents a right to get fat during a transition to the thin economy. So it was unfortunate that some rogue traders turned it into a money-making scheme without achieving the government's objective of solving obesity.

It is acknowledged that inevitably, there would be unintended consequences like this for Australia too. For this reason alone, Mr Robert Green, leader of the Brown Party in Australia said he is pleased that the scheme was defeated. He said it was a ridiculous mechanism and would subvert good health outcomes as happened in the fat trading rorts in Europe. Mr Green said that the Prime Minister had tried to force an unnecessarily complex scheme upon the nation. He added that there are some bizarre technologies popping up now that will sidetrack the whole idea anyway. For example there is a fat sequestration program being trialled for very obese people who do not have the will power to do exercise. This technology involves a surgeon removing all excess fat (under anaesthetic) and storing it.

However the quantities of excess fat are so vast that storage space is a major problem. However the Australian Government perceives this differently to the Brown Party and it believes that this is exactly the sort of innovation that Australia needs. The federal Government is funding fat sequestration research already, to find the answer to obesity. Sceptics and deniers are thankful that this Bill was defeated because they oppose the Fat Excess Reduction Scheme at its fundamental premise.

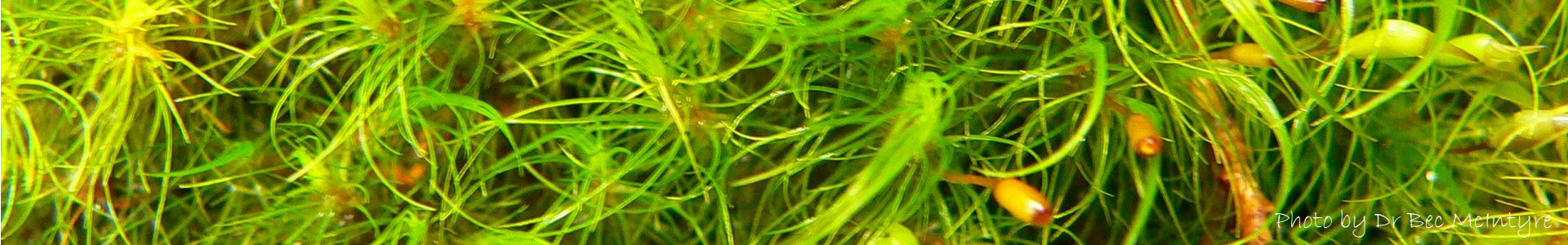


Photo by Dr Bec McIntyre

They claim it is a silly attempt to fix the serious problem of an overweight population. Challengers point out that somewhere along the line, the scheme's devisors forgot that the aim was to moderate people's gluttony.

Excess fat is caused by overeating and under-exercising so gluttony has to be tackled at a human level. They have constantly told the government that using an economic artefact - where the right to be fat can be traded - is no way to help obese individuals. Trading is only one mechanism and they question why it is so popular among politicians, to the extent that it has hijacked the whole fat issue in parliament and in the media. 'Why does trading dominate over other attempts to solve the fat problem and squash public discussion of alternatives?' they ask.

However the government dismisses this negative advice as typical of sceptics who do not accept fat science.

The scheme would have put a price on fat. In its first year, the fat permit price would have been set at \$40 per kilogram of fat content. The government intended to reset the permit price a bit higher annually, throughout the first five years of the scheme. The schedule was:

- \$40 per kg of fat content in 2010 (commencement of the scheme)
- \$43 in 2011
- \$46.23 in 2012
- \$49.69 in 2013; and
- \$53.42 in 2014.

In a final outburst, a frustrated Prime Minister blamed the Opposition and Brown Party for not giving bipartisan support in the Senate, which defeated his Bill. The Opposition Leader, Mr Anthony Monk defended his side of politics. He said 'Anyway it is too soon to trade in strange permits so quickly after the credit-default-swaps went wrong in the economy.' He reminded the government that financial advisors are still learning lessons from the 2008 Global Financial Crisis to try to figure out why the trade in zero-risk-mortgage-backed derivatives failed. 'The economic profession needs another year to invent a different trading scheme' he said.

Robert Green had the last word. With his droll humour he said, 'Apparently the dilemma is to devise a trading scheme for more non-products that will slip into the free marketplace, but this time not look like, or remind us, about the 2008 financial crisis all over again.'

Suzanne Little

Suzanne is a sustainability scientist and a Board Member of two environmental organisations. She researched CPRS for a presentation at the EIANZ Conference last October in Canberra.



Photo by David Manson

Anglesea Borefield Sets New Benchmark

Geelong’s newest water resource, the \$55 million Anglesea borefield project, is nearing completion. The borefield taps into a massive underground aquifer, stretching from the Otways to Bass Strait. It involves seven production bores drawing groundwater from up to 700 metres below the surface. The borefield is expected to supply up to 20 million litres of drinking water a day to Barwon Water customers in the greater Geelong region, including Geelong, the Bellarine Peninsula, Torquay, Anglesea, Winchelsea, Lara and Bannockburn.

It is currently delivering up to 10 million litres a day and will reach the targeted average supply of 7,000 million litres per year, the equivalent of 20% of Geelong’s current annual demand. This is consistent with the bulk entitlement granted by Minister for Water Tim Holding, which allows for a maximum of 10,000 million litres of water to be extracted per year. Bore depths range from 500m in the southern borefield to 350m in the northern borefield. There are five bores in the southern borefield, near the Alcoa coalmine, where anticipated yields are higher, and two bores in the northern borefield, near Forest Road.

The groundwater is collected and delivered to a pre-treatment plant through a 12.5km collection pipeline. The pre-treatment plant is at Barwon Water’s Forest Road basin, within the northern borefield. After pre-treatment, the water is pumped to the Wurdee Boluc Reservoir via a 20km underground transfer pipeline.



Before Construction

Challenges

One of the major challenges identified during the project planning phase was minimising the potential environmental impact of the collection pipeline on the surrounding vegetation. For most of its alignment in the southern borefield, the pipeline is located in or near the Anglesea Heath and Great Otway National Park.

Both are areas of high environmental and cultural significance, with more than 100 documented species of rare orchids. To connect two of the five southern bores, Barwon Water needed to construct the collection pipeline within Messmate Track. This is a public access track along a slashed firebreak within the Anglesea Heath and is under the co-management of Parks Victoria and Alcoa. It is steep, winding and narrow (three to four metres wide). The challenge was to construct 1.5km of DN300 glass-reinforced plastic piping along it, without disturbing the highly sensitive environmental and cultural heritage values of the area.



Photo by David Manson

Stakeholder engagement

Intrinsic to the planning process was sustained engagement with a number of stakeholders, including Parks Victoria, the Department of Sustainability and Environment, Surf Coast Shire, environmental groups, local residents and the broader community. The environmental and cultural heritage assessments undertaken by Barwon Water, combined with this engagement process, quickly revealed the significance of the surrounding vegetation. Its removal along the pipeline route was not an option. Local environment group ANGAIR was willing to share valuable information with Barwon Water on the orchid populations and a partnership was soon developed that helped inform the decision-making process. It was clear the only option was to confine the construction zone to Messmate Track itself.

A pre-tender meeting of all the prospective contractors was held on site to discuss the importance of protecting the vegetation and confining the construction zone. This helped ensure the contractors had a clear understanding of the construction limitations before quoting.

Environmental plan

The successful contractor, R Slater and Sons Pty Ltd, developed a Construction Environmental Management Plan designed to meet all the environmental requirements and protect the values of the site. Before starting construction, a kick-off meeting was held to discuss the environmental, cultural heritage and health and safety requirements and how they had been incorporated in the Environmental Management Plan.

Present at the meeting were representatives from the government agencies, local interest groups, Barwon Water and the contractor. After the meeting, the stakeholders met on site to discuss the construction methodology and implementation of the plan. To ensure the work was undertaken in accordance with the Construction Environmental Management Plan, Barwon Water and Parks Victoria staff monitored progress daily. An audit of the Environmental Management Plan was also undertaken to ensure adherence to all the relevant processes.



During Construction

Construction techniques

Due to the extremely narrow and steep construction zone, standard pipeline construction techniques could not be used. The techniques developed specifically for this portion of the collection pipeline included:

- The pipeline design considered the difficult construction corridor.
- Short (3m) lengths of pipe were used, allowing for deflection to minimise bends and thrust blocks.
- The pipeline was constructed using DN300 glass-reinforced plastic pipe with ductile iron fittings and bends.

A traffic management plan was prepared by R Slater and Sons for comment and review by the Project Superintendent, Surf Coast Shire and other relevant stakeholders.



As the pipeline was to be installed within the confines of Messmate Track, no vegetation or topsoil removal was necessary.

Temporary barrier fencing was installed along the entire length of the eastern side of the track, effectively fencing off the slashed firebreak and providing a visible barrier. The western edge of Messmate Track is heavily vegetated, which negated the need for temporary fencing.

The pipes were installed using an open-cut trenching technique. The trenches were excavated by a track-mounted excavator or backhoe and were 0.6m - 1 m wide and 0.9m - 1.2m deep.

As Messmate Track is quite narrow and offered limited passing and no turning areas, excavated material was loaded directly onto trucks. The empty trucks entered Messmate Track from the north, enabling the excavator to load straight onto them.

The trucks containing the embedment material entered Messmate Track from the south and the excavator then emptied the material directly into the trench. The track was backfilled immediately, so the trucks worked in tandem, removing excavated material and supplying embedment material. This method proved highly efficient and allowed R Slater and Sons clear width in which to construct the pipeline.

The embedment material was certified weed free, approved by the Project Superintendent prior to the work commencing and was imported from a local quarry.



After Construction

As noted previously, to overcome the limited space for pipe storage, pipes were delivered directly to the open trench for placement soon after trench excavation. Before placement, some pipes were stored temporarily within the area of works as a stockpile of pipes sufficient to allow for continuous pipe installation was required.

Compaction testing was completed before re-instatement with a 200mm layer of crushed rock.

The outcome

Barwon Water and R Slater and Sons achieved outstanding results in limiting the potential impact of the collection pipeline on the highly sensitive environmental and cultural heritage areas of the Anglesea Heath and the Great Otway National Park. This was achieved through thorough planning, extensive consultation, innovative construction techniques and a robust and practical Construction Environmental Management Plan.



Photo by David Manson

Frank Gleeson, Ranger in Charge of the East Otways, said that Parks Victoria was “incredibly pleased” with the work undertaken along Messmate Track. “By containing all works to the footprint of the current track, Barwon Water has considerably minimised impacts on the surrounding vegetation and, accordingly, protected a significant part of the Anglesea Heath. We commend Barwon Water’s management of the pipeline extension along Messmate Track,” he said.

Margaret MacDonald, of ANGAIR, who is strongly committed to protecting the rare orchid species within the Anglesea Heath, accorded Barwon Water similar praise. She said that although ANGAIR’s members had been nervous at the outset about possible disruption to the vegetation, she was satisfied Barwon Water had fulfilled its commitment to preserving the natural environment.

The way forward

The results achieved during the Anglesea borefield project will help develop construction methodologies used by Barwon Water for other capital projects, as well as the way in which it engages communities and stakeholder organisations. The project is testimony to the fact that any potential impact of construction on surrounding environment can be innovatively minimised without affecting project timelines or budgets.

David McKinnis & Peter Palmieri
Barwon Water - Geelong

South East Queensland Division Green Tie Ball



Saturday 27 March 2010 – Victoria Park Function Centre, Herston

The EIANZ is proud to present the Green Tie Ball to celebrate the achievements of the environmental profession and Earth Hour. We encourage you to bring clients and staff to share our joint commitment in making a difference. It’s a night to share your views and enthusiasm on how we protect our environment and to celebrate the achievements made so far. Come along and have your energy recharged.

For further details go to www.eianz.org/eventsplus/event/eianz-seq-green-tie-ball



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Contact: Marea Martlew 02 9514 1766, marea.martlew@uts.edu.au



Photo by Dr Bec McIntyre

Member Snapshot – Kate Brimblecombe

What do you do?

Senior Environment & Community Advisor - Newlands Coal, NCA Project, Xstrata Coal Queensland.

Education:

- Bachelor of Environmental Science (Ecology)(Hons) University of Queensland (2003)
- Graduate Certificate in Community Relations (Resource Sector) University of Queensland (2009)
- Masters of Business Administration (Environmental Management) University of Southern Queensland (currently studying)

How did you get there?

I grew up on a farm near Capella, Central Queensland, so after graduating, I returned to the Bowen Basin to work as an Environmental Officer at Oaky Creek Coal. After four years at Oaky Creek Coal I decided to take a career break and spent a year backpacking around South America, Mexico and Central/Eastern Europe. I have worked in my current role at Newlands Coal for over a year now.

Biggest environmental concern?

Unsustainable impacts on our environment – no matter what side of the argument you are on, no one can deny that we are using and impacting the earth's resources more than ever in the past. We can all make a difference through the way we live our lives.

Best aspects?

I enjoy the variety in my role, there is a good balance of field and office work – sometimes it is great to get out of the office and other times it is great to get back to the office! Likewise, there is a good balance of interacting with the workforce, stakeholders, regulators, contractors, consultants and other industry professionals. Our role is an important component of the operation and it is good to feel valued. I also enjoy living and working in a small community with the advantage of being only a couple of hours from a major centre and the coast.



EIANZ Involvement?

I originally joined EIANZ as a student member whilst at university and have continued my membership since. I haven't attended many events to date, however, I do enjoy receiving the newsletters, journals, updates, etc.

I think it is important for environmental professionals to be involved and represented by groups such as EIANZ. My employers have supported my membership of this group.



Photo by Shannon Wetherall (NRA)

New Members

First Name	Last Name	Category	Division
John	Gray	FULL MEMBER	ACT
David	Gribble	FULL MEMBER	ACT
Selga	Harrington	FULL MEMBER	ACT
Erik	Van Wijk	FULL MEMBER	ACT
Nicole	Bradley	FULL MEMBER	FNQ
Anthony Peter	Law	FULL MEMBER	FNQ
Allan	McManus	FULL MEMBER	FNQ
Antony	McRae	FULL MEMBER	FNQ
Benjamin	Carroll	STUDENT	FNQ
Megan	Hancock	FULL MEMBER	FNQ
Kerrie	McGrath	STUDENT	FNQ
Renee	Rosse	FULL MEMBER	FNQ
Stuart	Rutledge	STUDENT	FNQ
Wendy	Tubman	FULL MEMBER	FNQ
Katherine	Vercoe	STUDENT	FNQ
Cheryl	Ward	FULL MEMBER	FNQ
Nicola	Willson	STUDENT	FNQ
Wendy	Boyce	FULL MEMBER	SA
Nicholas	Carboon	STUDENT	SA
Katie	Hulmes	FULL MEMBER	SA
Matthew	Hulmes	FULL MEMBER	SA
Andrew	Oswald	ASSOCIATE	SA
Uma	Preston	FULL MEMBER	SA
Gavin	Reid	ASSOCIATE	SA
Jennifer	Slocombe	FULL MEMBER	SA

First Name	Last Name	Category	Division
Erwin	Budde	FULL MEMBER	NSW
Brett	Carroll	FULL MEMBER	NSW
Sally	Crowther	FULL MEMBER	NSW
Dave	Hogberg	ASSOCIATE	NSW
Amy	Luscombe	FULL MEMBER	NSW
Stephen	Phillips	FULL MEMBER	NSW
Sarah	Pizzey	FULL MEMBER	NSW
Justine	Coup	ASSOCIATE	NZ
Thomas	Newsome	STUDENT	NT
Ryan	Park	FULL MEMBER	NZ
Gillian	Smith	FULL MEMBER	NZ
Justin	Foster	ASSOCIATE	Overseas
Low Kam	Leung	FULL MEMBER	Overseas
Catherine	Bingham	FULL MEMBER	VIC
Sophie	Gillies	STUDENT	VIC
Gabrielle	Kuiper	FULL MEMBER	VIC
Carl	Larsen	ASSOCIATE	VIC
Stephen	Li	STUDENT	VIC
Amanda	Nuttall	FULL MEMBER	VIC
Mugette	Stevenson-Marelic	FULL MEMBER	VIC
Andrew	Wallace	FULL MEMBER	VIC
John	Wardrop	FULL MEMBER	VIC
Hugh	Wareham	FULL MEMBER	VIC

First Name	Last Name	Category	Division
Kin Hoong	Chen	FULL MEMBER	SEQ
Geoff	Clout	STUDENT	SEQ
John	Davoren	FULL MEMBER	SEQ
Christopher	Delamont	FULL MEMBER	SEQ
Kathryn	East	FULL MEMBER	SEQ
Daniela	Edwards	FULL MEMBER	SEQ
Rachel	Greenfield	ASSOCIATE	SEQ
Aries	Milay	FULL MEMBER	SEQ
Roslyn	Potter	ASSOCIATE	SEQ
Butch	Rossouw	FULL MEMBER	SEQ
Michael	Ryan	FULL MEMBER	SEQ
Neil	Sanderson	STUDENT	SEQ
Stacey Jewel	Scown	FULL MEMBER	SEQ
Brett	Thomson	FULL MEMBER	SEQ
John	Tunney	FULL MEMBER	SEQ
Renelle	Watson	FULL MEMBER	SEQ
Gregory	Wheeler	FULL MEMBER	SEQ
Michael	Whiting	FULL MEMBER	SEQ
Nicole	den Exter	FULL MEMBER	TAS
Anahita	Jungalwalla	FULL MEMBER	TAS
Martyn	Summers	FULL MEMBER	TAS
John	Braid Jr	FULL MEMBER	WA
Jason	Hick	FULL MEMBER	WA
Shane	Priddle	FULL MEMBER	WA



Photo by Dr Ing Toh (NRA)

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TAS	Claire Brett
VIC	Elizabeth Hurst
WA	John Braid



On behalf of the Environment Institute of Australia and New Zealand (EIANZ), the conference organising committee extends a very warm invitation to Wellington, New Zealand for the 2010 EIANZ annual conference.

The title of the conference is “From Discovery to Delivery: Science, Policy, Leadership and Action” - the four elements which together, are essential for sound environmental management. Because 2010 is the International Year for Biodiversity, many of the conference papers will focus on this particular aspect of environmental management.

The conference streams and topics are designed to appeal to a wide range of disciplines: - ecologists, economists, government policy analysts, urban designers, community development specialists, business leaders and industry representatives. Topics will include “wicked” environmental problems; putting a value on ecosystems; assessing and monitoring sustainability; motivating communities to sustained action; and urban and rural environments that protect the natural environment and foster biodiversity.

October is a great time to visit New Zealand. Wellington’s central location affords easy access to the rest of the country – north for thermal attractions and fishing, south for vineyards, whale watching, lakes and the alpine district (the Southern Alps).

Programme and registration information can be found at www.confer.co.nz/eianz2010



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