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Office Bearers

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BULLETIN
of the
ECOLOGICAL SOCIETY OF AUSTRALIA
INCORPORATED

37: 3 September 2007



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INCORPORATED**

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EDITORIAL

Sue Murray-Jones, Hon. Bulletin Editor

Like some 20% of Adelaide's work force, I had that awful flu in the build up to this issue. Then a conference (on the Sunshine Coast - during the first cyclone to hit the area in August since WW1!), plus I had a new computer installed at work while I was away which led to some difficulties, especially with e-mails. If I have not included something you sent in this issue, please accept my apologies. Just resend it with an abusive e.mail. I am sure I have misplaced at least one thesis abstract! Sorry!

After a number of editorials complaining about our government's inability to admit that climate change was a problem, at last the Feds seem to be taking it seriously. Of course, actual emissions targets would be good. Not every one is in agreement yet - there's been some debate about the climate change 'swindle' ... with all us naughty scientists in a great conspiracy to get more funding - see article by Debbie Saunders on p18. I find it of concern that people outside the scientific community still appear to think there is a debate on this issue - this is not helpful. Climate change is real. It's happening now. We can measure aspects of it, and make verifiable predictions. Move on!! Anyway, I

am not a great believer in conspiracy theories, especially on a global scale. They take too much effort - how many scientists have that kind of energy left after everything else they do - and besides, someone always talks!

I am concerned about the proposed 'experiment' planned in the very near future for the ocean in the vicinity of the Galápagos Islands (more detail p22). A U.S. company is planning to dump vast amounts of iron dust into the ocean in an attempt to create a 10,000km² plankton bloom in the name of carbon sequestration. Of course, trading in carbon credits makes this sort of scheme very appealing ... and, indeed, it may work. However, as far as I can tell, we know very little about which types of phytoplankton will be favoured, or what impacts a really dense bloom could have on other species. The Precautionary Principle surely applies here! Perhaps we need some new regulations to control this kind of activity in the open sea. Indeed the whole idea of carbon credits and carbon trading needs some sound ecological input. See letter on p17 and piece on p 18. ESA Council will be discussing this in more detail, so feel free to chip in your two cents worth later this year!

Copy Deadlines

Material for publication in the **December 2007 issue** of the *Bulletin*, including Regional Reports, should be sent to the Editor, Dr Sue Murray-Jones (Coastal Protection Branch, Dept for Environment and Heritage, GPO Box 1047 Adelaide 5001; ph. (08) 8124 4895, e.mail: Bulletin@ecolsec.org.au) by Friday 9 November 2007. Note that material for 'Ecology around Australia' should go directly to Regional Councillors, not the Editor. Contact details inside back cover.

Instructions to authors

The preferred format is a minimally formatted text or RTF file submitted as an **attachment** to an e.mail message. Please avoid sending copy as text within e.mail messages. Attachment file names should include the author's family name and the issue for which copy is intended. Please **DO NOT** use names such as 'abstract.doc' or 'bulletin.doc'. Please observe the following conventions when preparing your contribution.

- single font (Times New Roman 12 point) throughout
- italicise all scientific names
- give the full wording of acronyms for organisations, agreements etc. on first mention

- keep formatting to a minimum
- no extra lines between paragraphs
- use single spacing

Advertising

The *Bulletin* is an A5 size publication delivered to more than 1500 individuals and institutions. The rates for camera-ready copy printed in the *Bulletin* are:

	One issue	Four issues
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Full page	\$150	\$400

Loose inserts and pamphlets can be included in a mail-out; heavy items incur a higher rate to meet Australia Post charges. Inserts must not project beyond the covers of the *Bulletin*; inserts requiring folding will attract an additional fee. Prices for inclusions on request.

Loose advertising material will need to be delivered by Friday 16 November 2007. Details to be arranged with Executive Officer (contact details: inside front cover).

SOCIETY NEWS

PRESIDENT'S REPORT

Peter Fairweather

So have we been swindled? Or, worse still, are we ecologists part of the swindle? The ABC recently showed a much-anticipated British documentary that claimed to pull the rug from under an enormous con-job that we, the scientific community, seem to be perpetrating upon the rest of society. Obviously we are extremely good at organising ourselves into a solid phalanx of ne'er-do-wells, intent on betraying the truth to feather our own nests with stacks of research dollars, power and influence. Such a journalistic caricature is one of the wilder conspiracy theories that I have heard and flies in the face of how science actually operates. The doc makers must have spent little time in the company of scientists if they think we will sacrifice our nit-picking ways and penchant for spirited argument in such a global orgy of self interest. As scientists we do remain sceptical and have to be convinced by data, modelled outputs and reasoned debate - and they say it is hard to get only five opinions out of five economists! Now we see conspiracy-theory websites leaping onto our disagreements with glee.

So the more remarkable thing for me coming out of the climate change debate is just how much of a consensus the anthropogenic augmentation view is. Of course it is also good science to re-examine our assumptions with a critical eye from time to time, so many of the underpinning issues do get scrutiny during this debate. That self examination may be picked up and portrayed by journalists as genuine lack of agreement. But for most scientists, including a majority of ecologists, the scientific debate about climate change has moved well beyond the existence of an anthropogenic signal hastening rates of change. Most of the key work now is in tightening estimates of the rates of atmospheric change, weather

variability, sea-level rise from expanding oceans and shifts in distribution and phenology of the organisms in key regions. Part of the mystery is seeing what mix of human-induced versus natural changes are afoot right now and predicting how soon will the greenhouse gases we have released in the last 200 years cumulatively shift climatic patterns. The name of the game now is about understanding those changes to feed into risk awareness and thus give us more managerial levers to pull, if we are to manage these risks at all. It will be a healthy thing also if the public debate shifts toward examining the environmental and other impacts from some of the touted solutions, especially when they are not manifest immediately. I would hope that we don't just swap the problem of today or tomorrow for largely unknown ones emerging sometime after tomorrow. There is a key role for ecology to play in this work on the risks of climate change. Over the last month or so we have heard of 'preparedness' as part of 'innovation', a key social or public policy goal - defined by the Productivity Commission as 'an enhanced capacity for dealing with future uncertainties'. Obviously most of the work that ecologists might do within the climate change arena will contribute to defining and anticipating what the uncertainty might bring. It is imperative in this policy framework, however, that a good understanding of natural dynamics and how human activities interact with them, must be the basis of all speculative modelling about the future. Society investing resources to understand ecological questions is necessary to gain any level of preparedness, even when the immediate research outputs only take a more traditional form. How that will wash through in the Research Quality Framework exercise is yet to be articulated.

There has also been some relevant recent debate about exactly how much science we can import from overseas. Yes, general principles and approaches can be translated, just as we have guided a lot of ecological thinking overseas with the key intellectual exports of Andrewartha & Birch, Nicholson, May, Austin, Sale, Chesson, Fox, Underwood and Possingham (to name but a few). But the sizes, dynamics, variability and sheer idiosyncrasy of Australian ecosystems also demands a lot of localised attention. Perhaps we also have an Oz-brand of ecology, just as our rock music has a particular flavour - back in the 1970s and 80s bands like the Dingoes,

Ayers Rock and the Triffids were capturing the harsh light and wide open spaces of Australia with suitably atmospheric music. We should always be arguing for a homegrown version of ecology, to both reflect the way our landscapes and seascapes are here and to increase our homegrown preparedness for the global challenges ahead. The vigour and resourcefulness of the ESA members working toward this end give me hope that we will be prepared for the many changes to come later this century.

Greetings from the ESA Council
Peter Fairweather, 12/8/2007

EXECUTIVE OFFICER'S REPORT

Larelle McMillan

Lyn and I had a conversation a few weeks ago about how busy we are with Society business. Lyn assured me when I began in this position that there are ebbs and flows of activity – which allows us as staff members to ‘catch up’ on odd jobs. I haven’t experienced this yet! I see this as a very positive sign that the Society and the Council are increasing activity on things like governance issues (with the development of a new strategic plan and now business plan); regional activity; the Jill Landsberg trust fund; revision of and developing new position statements; journal promotion and of course conference mania!

The 2009 INTECOL 10 and SERI conferences being held in Brisbane represent an unprecedented opportunity to showcase some of the best restoration projects in Australia. Tein, Jann, Carla and I are developing this idea and a proposal whereby both SERI’s Global Restoration Network and INTECOL websites could be utilized to highlight the work of a range of Australian groups working on high-quality ecological restoration projects. Stay tuned!

There is an article in this bulletin announcing the Jill Landsberg inaugural student grant recipient. The application process went very smoothly with some lessons learnt for next year’s round to make it even easier to administer and easier for

students to submit applications. There was an overwhelming response to the grant announcement with a very high standard of applications.

The Perth conference organisation is moving ahead in leaps and bounds. I’ll let the Perth Local Organising Committee (LOC) update you on the detail. However, I think it’s worth a special mention that Well Done events and the LOC have negotiated with the Perth Convention Exhibition Centre and Synergy to provide ‘green energy’ for the duration of our conference. The PCEC are willing to measure the amount of electricity we use and Synergy is willing to provide green energy at a subsidised rate in support of our attempts to move towards the conferences becoming ‘carbon neutral’. Well done, team!

With the conference of course comes the 2007 Annual General Meeting. This year will be an important one for the membership to input into the Society’s direction with the presentation of the 2007-2012 business plan, including the proposed investment strategy. We welcome your feedback, don’t hesitate to contact me to do this over the phone if you’d prefer to feedback that way and ask any questions.

Larelle McMillan, September 2007

SECRETARY'S REPORT

Paula Peeters

Ecological Society of Australia Council Meeting

April 13 2007 (meeting 2 of 2007)

Teleconference: commencing 11:30am
(NSW/ ACT / Vic / Tas / Qld), 11:00am (SA
and NT), 9:30am (WA)

Agenda papers were circulated in advance to
Council members and are available on request
from Tish Silberbauer, the Secretary. Actions
identified in these papers and agreed to by
Council are also included in these minutes.

1 Welcome to new members and apologies

PF welcomed Paula and Carla.

Present: Mike Bull; Carla Catterall; Obe
Carter; Jason Cummings; Peter Fairweather;
Kris French; Andrew Hayes; Lyn
McCormick; Larelle McMillan; Charles
Morris; Sue Murray-Jones; Paula Peeters;
Tish Silberbauer; Liz Tasker; Eddie Van
Etten; Jann Williams.

Apologies: Caroline Gross; Dawn Hawthorn-
Jackson; Meredith Henderson; Brooke
Rankmore; Euan Ritchie; Debbie Saunders.

2 Minutes of last Council and Executive meeting

Motion: That the minutes of previous
meeting, following the amendments
suggested be accepted as a true and correct
record.

Proposed: KF, 2nd: MBull. **Motion carried.**

3 Items arising from the minutes: Peter Fairweather

All items arising are on today's agenda or are
complete.

4 AGM planning: Peter Fairweather

Timeline: who to do what, and when etc. for
the AGM (25 July) – things that need to be
clarified. Location already set. Tasks and
time-line in tables below:

Who	Date to be completed	Task
Charles	First week July	Book AUDIT for ESA & JLTF for early August.
Council	25 July	Confirm location, date etc. of AGM
Larelle	25 July (post Council meeting)	Book print job with Pirion
Lyn	25 July	Organise for ESA & JLTF accounts to be submitted to Auditor
Larelle	25 July	List of reports & people responsible to Council with clear deadlines
Larelle	25 August	All reports to Larelle
Larelle	10 September	Files to printer
Lyn	1 October	All member data to printers for mailout
Printer	10 October	AGM papers sent to members
Members	15 October	Members receive AGM papers
Lyn & Larelle	Oct-Nov	Ensure quorum reached with enough members attending (by tracking Council attendance & registration of members to conference)
Larelle	Oct-Nov	Ensure all nominations forms for Council positions received
Larelle	Oct-Nov	Travel & accom arrangements for relevant Council members
Council, Staff, Members	25-30 Nov. day TBC	AGM!
Tish & Larelle	18 Dec	AGM Minutes finalized; circulated to members & upload on website.
Larelle		Well Done follow up.

Reports required:

Who	Report
Peter	President's Report
Dawn, Kris, Caroline	Vice President's Reports
Tish	Secretary's Report
Larelle/Tish	Minutes – 2006 AGM
Charles	Treasurer's Report; Audited accounts – 06/07
Lyn	Membership report; assistance with audit reports
Larelle	Exec. Officer report
Mike	Austral Ecology report
Tein	EM&R report
Sue	Bulletin report
Regional Councillors	Regional reports
OTHERS	
Lyn	Membership renewal form
Larelle	Proxy form
Larelle/Lyn	Jill Landsberg Trust Fund – bequest info (??)
Larelle	Proposed updated business plan
Larelle	Nomination form

Upcoming vacant positions to be filled

Documentation to be included in AGM
mailout:

- Agenda
- Proxy form (enclose separately)
- Amendments to constitution
- Reports (see last years)
- Minutes of last AGM
- Audited a/cs
- Journal reports
- + subscription renewals (separate)
- business plan

5 Public profile issues: Peter F.

** To be a standing item on the Council
agenda.

A letter has been generated by scientific
societies regarding the state of taxonomy in
Australia. PF signed on ESA's behalf. Letter
gone to Malcolm Turnbull. Copy lodged with
Larelle.

Bushfire item. No clear view yet. Larelle
talked with Meredith. MH has sent email to
interested people. JW was the only
respondent. JW didn't like the idea of a short,
shallow item to Turnbull / Abetz, so MH and
JW still discussing. Public face for ESA –
Ross Bradstock or Rob Whelan. Refresh
position statement. Larelle to help co-
ordinate.

2.5.1 MH, JW and Larelle to refresh
position statement prior to next bushfire
season before October 2007.

6 INTECOL: Peter Fairweather

Met on March 7th. Next meet in May.

Waiting to see how PCO goes.

MBull reports Sci Cttee ticking along
satisfactorily.

2.6.1 PF or MBull to circulate meeting
report to Council. ASAP.

7 Upcoming Regional Events: Peter F.

** To be a standing item on the Council
agenda.

LizT – courses in NSW. Only Dave Anderson
can attend in 2007. Best option is to postpone
proposed June / July 2007 workshop and try
again next year or end of 2007 when both
presenters can come to Australia. Both still
keen. LizT needs to get a list of dates that Uni
venues are available. Presenters have a
detailed list of room requirements – size of
room, etc.

PF encourages RCs to organise
regional events. ESA is willing to support
with funding.

Tas – buttongrass workshop in July.

EvE – flags WA Regional Event -
Pilbara biodiversity workshop in early 2008.

Carla will investigate ESA
involvement in rainforest recovery
symposium and will liaise with AH (Qld RC)
– wet tropics to northern NSW (2 days). Of
wide interest to ESA members.

2.7.1 CC to involve AH in rainforest
recovery symposium. ASAP.

8 SA Regional Event: Meredith & Mike

Two regional events in SA – wetlands symposium and the MBull symposium (June). DHJ is going to help organise wetlands symposium. MBull program has now been filled and finalised. JW – publishing? MBull – no.

Council noted application for funding (RC has veto on funding). Council wishes Mike well.

2.8.1 MBull will submit notice to Bulletin for next Bulletin

9 Business Plan committee: Peter and Larelle

Small ccttee (President, PE, Treasurer, Exec Officer, Finance Officer /Membership Manager). Underway. Ties in with AGM timeline.

Revision of existing Business Plan underway. Larelle has sent regional activities page to RCs for feedback. RCs please respond to Larelle before 23rd.

2.9.1 Regional Councillors to respond to Larelle prior to April 23rd. ASAP.

10 Treasurer and Finance Officer report: Charles and Lyn

Income to date \$102K. Guessing membership income down from previous year (~20K shortfall). Lyn will be sending out second set of reminders.

Royalties from Blackwells to be declared ~\$70K and \$40K pre-paid income. Income ~\$213K (cf ~230K planned at Kioloa). \$96K publishing expenses from Blackwells (included Austral Ecology, EMR and Bulletin). Blackwells royalties (\$131K) – expenses (\$96) = ~\$70K.

Income etc difficult to judge until the end of May. Included pre-paid membership income.

Looks like ESA is heading towards a small loss by the end of 2007. Missing is membership (~200 members) and conference profit (because conference was in NZ).

MBull notes how useful it is to have this financial detail available at council meetings.

LT suggests sending email to non-renewed members. Possible? Lyn says it is possible. Send only to non-renewed members. Can also ask for reasons for non-renewal – small questionnaire.

Line-by-line listing of payments since last meeting (at auditor's request).

2.10.1 Lyn to organise email reminder to missing membership when possible.

2.10.2 Listing of payments circulated to Council. Email responses to Tish by Tuesday April 17th. ASAP.

11 Investment Strategy: Charles Morris

Cash reserves currently in fixed term deposits. Rolled over for 6 months. Considering putting into more profitable investment strategy. Need formal Council approval. Aiming for June meeting.

First proposal from Ethical Investments. Proposal to invest \$300K. Portion of Council needs to look at product disclosure statement, including details of fees and charges, etc. Copies of Aust. Ethical Investment PDS are available at: http://www.austethical.com.au/product_disclosure_statements. The downloaded document will contain both parts 1 and 2.

PF: Two issues – present investments = v. low rate of interest. Ethically = reasonable returns, but also keep our conscience. Need to grow money for ESA, but to also do so in the interests in the sustainability of ESA ethical stance.

1. Is ESA prepared to invest with Aust. Ethical investments? (they take care in what they invest in and try to avoid environmental damage & are responsive to concerns of shareholders). Returns are OK; performance is as good or better than competitors.

2. How much to invest? Suggest not to invest full \$500K. Notional limit of \$300K to invest.

3. Which fund / funds? Balanced funds. or mix of balanced to share funds. Suggest a mix of options. Downside – up for 2 lots of management fees. Think in medium – to – long term investment (3-5 years).

Other funds: Perpetual Trustees. Has sent CM a proposal (30-40 pages).

Investments in balance fund. Also have socially responsible fund. CM needs guidance on whether to limit ESA to Socially Responsible Fund or branch out to other funds? CM prefer to stick to ethical funds.

JW – James said that balanced trust better for ESA. CM – more conservative and good mix of capital growth and stable income.

Ethical funds? SMJ and LT – agree that better to invest in ethical funds. Broad council support. CC – need to look at details they use to describe their investments – wide range of definitions of ‘ethical’ – social and environmental responsibility. CC – flexibility to withdraw monies if investments turn out to be unethical. CM – can withdraw money within 2 weeks – also important if need access to cash. PF commends CM on his efforts.

2.11.1 Council to get comments to Charles prior to next Council meeting before June.

12 Blackwell-Wiley merger: Larelle

Mark Robinson will continue to be involved with Life Sciences. PF not concerned with content of letters.

MBull will talk with Blackwells next week. Publishing agreement renewed in early 2008, but will continue to 2009. At this time it will go to open tender.

JW – said it looked OK on the surface. Needs to see how it will work on the local level.

Larelle talking with Tein on marketing EMR. Merger doesn't affect legal agreement with ESA.

2.12.1 Larelle will talk with Tein on marketing EMR. ASAP.

13 JLTF update: Larelle

Trust ccttee formed looking after it. Starting to look at dispersing funds. Looks good for growth so far. Will try to work something into annual conference – will try for Perth. Have schedule of meetings. Can circulate to Council if useful.

EvE – look at distributing prizes at the ESA dinner.

14 FASTS – revision of ABS codes: Larelle
FASTS looking for an ESA representative to be involved. Look for volunteers amongst membership. Ask for feedback to ESA Council on progress (watching brief). Current notice too short.

2.14.1 Larelle to email membership (using ESA list) to look for member volunteers. Before Monday 16th April.

2.14.2 Larelle to talk to Bradley on Monday. Monday 16th April.

2.14.3 KF to draft some words for the membership. ASAP.

15 Closure of ACT PO Box & redirection: Larelle

ACT PO box now closed and all mail re-directed to Alice Springs PO Box.

2.15.1 Larelle to put notice in Bulletin advising membership of change. ASAP.

16 Environment Policy: Larelle

Put report into June Bulletin for membership feedback with questions for members to respond to. Needs to include note on how we're planning to offset ESA's emissions (e.g. tree planting vs. renewable energy).

LT – energy use calculated? Larelle – used calculator on website. Largest expense is air travel. Can also invite membership comments on emissions calculation.

EvE – negotiating with local energy company to offset energy use at conference venue. Air travel is a big issue. Most attendees will need to offset for airtravel = ~\$25 per person. May be able to put something in registration package. Voluntary contribution to offset air travel emissions.

KF - need to be careful about tree planting vs habitat restoration.

2.16.1 Larelle to put into Bulletin. For June Bulletin.

2.16.2 Larelle to send emissions calculation spreadsheet to Liz. ASAP.

2.16.3 Larelle to email links to Eddie for inclusion on ESA Conference web site. ASAP.

17 Science meets Parliament: Larelle

Ray Wills will co-ordinate article for Bulletin encapsulating everyone's comments. So won't provide written report for Council.

18 Report on Lyn and Larelle meeting: Lyn and Larelle

Skype premature for Council meetings because of limit on number of people on-line (maximum of 10).

Draft procedures manual is being developed. Will try to get it done for May exec meeting.

19 TERN EOI: Jann Williams

\$20 million investment by federal govt. Paul Perkins appointed as facilitator. Called for expressions of interest in ecosystem research / ecological community to be involved. ESA EOI draft was sent to council and has been submitted to Paul.

Who should negotiate with Paul if process goes ahead? KF suggests JW has no conflict of interest in being involved with ESA EOI and, furthermore, has essential expertise in long-term databases. PF would also be part of negotiation. Smaller group as sounding-board – KF, EvE, PF and JW.

20 EMR Report: Jann Williams

JW spoken with Tein about a range of developments, including ISI listing, getting new board members, etc. Tein spoke to Rose at Blackwells, and talked about marketing to CMAs. Blackwells feels it would be a good idea to apply for ISI listing now. Can then use feedback from ISI application process to make required changes to EMR.

2.20.1 JW will send written report to Council for next Council meeting. For June meeting.

21 Destructive fishing practises

Student essay prize – undergrad prize and postgrad prize (\$1500 per prize).

LT – where published? Maybe feed into EMR publication process, if good enough. Carefully-worded paragraph to consider for publication in EMR.

Proposal: ESA to put \$500 into student prize. and suggest to Jon that potential avenue of

publication in EMR, but will have to go through normal review processes. **Proposer: LT, 2nd, SMJ. All in favour.**

Position statement: Jon's call to membership – got very few replies. SMJ – do we support Jon writing it? PF – can generate group of people to review any document that Jon writes.

2.21.1 SMJ to talk to Jon about publication. ASAP.

2.21.2 SMJ to talk to Jon about writing position statement. ASAP.

22 Desalination Plants

SMJ – suggests starting with desalination and grow to include coastal development. Suggests desalination can be benign, but not in Australia at present.

PF – suggests ESA goes ahead with position statement on desalination plants and environmental impacts.

Motion: that ESA will develop position statement on desalination plants. Tim Moore has put his hand up.

2.22.1 SMJ to write something to send to membership. ASAP.

2.22.2 SMJ to contact Tim and give him the go-ahead. ASAP.

23 ESA 2007 conference

Draft timetable: confirmed plenary / keynote speakers for conference. Good range of high profile speakers. 15 symposia. Proposed talks in symposia leave relatively few talks for open forum talks (70). PF – symposia shrink. EvE – possibly put people into posters if too many for talk spaces.

AGM – Thurs lunchtime. Public forum Thurs afternoon (debate). Poster session central to location.

Registrations open next week. Abstracts close 30 September. Down on field trips and will work on it; want to cater for 50% of anticipated delegates.

Sponsorship – big target, but not many confirmations to date.

Registration costs: based on sponsorship of \$45,000. Proposing 10%

increase in registrations. \$533 for earlybird members, student earlybird \$180.

MBull – why sponsorship dependant on number of delegates? EvE – WellDone generated figures. MBull suggests putting median figure?

PF – make registration up to round figures – e.g. \$540. Best scenario currently is \$400 profit.

CM – how many attended Freemantle conference? EvE – memory of 350-380. CM – might give handle on potential attendees. EvE – 550 might be optimistic.

PF – can use keynote speakers to generate sponsorship or income for ESA.

PF – look at plane schedules to determine when conference should close. EvE – Sydney plane (curfew) leaves at about 4pm, so Sydney delegates will need to leave at about 2pm.

PF – gold medal address needs to be included.

Media – new quote from Econnect. Still quite high (\$11,000). View to maybe engaging Econnect for broader media training for ESA members. May be able to use that to offset some of the conference costs.

Larelle – all options are expensive from Econnect. Larelle has focussed on conference. Flexible. Tried to find local media group and science media centre in SA cannot recommend WA-local group. Need to talk to WA LOC on how to bring Econnect quote down to ~\$6000 or so.

Marketing funds? Different quotes on different pages of budget.

Eddie on sabbatical. Need someone to liaise with council. Most of EvE's LOC roles have been taken up by other LOC members. Confident it will work out.

24 Other Business and Next Meeting

Lyn – Auditor invoice

Invoice from Matthew Walker for JLTF audit. Bring to next JLTF meeting.

Lyn – ESA 2005 conference late invoice

Letter from Karen Hurley (UQ; Hugh Possingham's PA) from 2005 conference. Forgot to invoice ESA for \$10,000. Craig Miller (CSIRO) was head of 2005 conference

LOC. Should ask for more details from Karen Hurley.

2.24.1 Lyn to take auditor invoice to next JLTF meeting. ASAP.

2.24.2 Lyn to request more details from Karen Hurley and Craig Miller regarding UQ invoice. ASAP.

Next ESA Executive meeting is scheduled for May 4, 11am Adelaide time.

Next ESA Council meeting is scheduled for June 1, 11am Adelaide time.

Council Meeting Minutes

June 1 2007 (meeting 3 of 2007)

11am South Australia and Northern Territory time; 11:30am Tasmania, Victoria, ACT, NSW and Queensland time; 9:30am Western Australian time.

Agenda papers were circulated in advance to Council members and are available on request from Paula Peeters (Secretary). Actions identified in these papers and agreed to by the Council are also included in these minutes.

1 Welcome and apologies

Participants: Mike Bull; Carla Catterall; Peter Fairweather; Caroline Gross; Andrew Hayes ; Meredith Henderson; Lyn McCormick; Larelle McMillan; Charles Morris; Sue Murray-Jones; Paula Peeters; Euan Ritchie; Debbie Saunders; Liz Tasker; Eddie Van Etten.

Apologies: Jason Cummings; Kris French; Dawn Hawthorn-Jackson; Brooke Rankmore; Tish Silberbauer; Jann Williams.

2 Minutes of the last council meeting.

No corrections were received by Tish.

Motion: That the minutes of previous meeting, following the amendments suggested above, be accepted as a true and correct record.

Proposed: Meredith H. 2nd: Euan R. Motion carried.

3 Items arising from the minutes

2.5.1 MH, JW and Larelle to refresh bushfire position statement prior to next bushfire season. Before October 2007 – in progress.

2.6.1 PF or MBull to circulate INTECOL meeting report to Council. Most recent one has been circulated; new one to be circulated soon by MB.

2.7.1 CC to involve AH (Qld regional councillor) in rainforest recovery symposium. Completed.

2.8.1 MBull will submit notice of MBull symposium to Bulletin. Completed.

2.9.1 Regional Councillors to respond to Larelle prior to April 23 re. regional activities page in business plan. Completed.

2.10.1 Lyn to organise email reminder to missing membership. Will be posting notices out, not emailing, half way through.

2.10.2 Listing of payments circulated to Council. Email responses to Tish by Tuesday April 17. Completed.

2.11.1 Council to get comments to Charles re investment strategy. Prior to next Council meeting.

2.12.1 Larelle will talk with Tein on marketing EMR. Larelle has got full list contacts – provided to Tein; next step working with Blackwells to get marketing out.

2.14.1 Larelle to email membership (using ESA list) to look for member volunteers for revision of ABS codes. Completed but no response.

2.14.2 Larelle to talk to Bradley on Monday. Completed.

2.14.3 KF to draft some words for the membership. Completed.

2.15.1 Larelle to put notice in Bulletin advising membership of change of address. Completed.

2.16.1 Larelle to put Environment Policy into Bulletin. Completed.

2.16.2 Larelle to send emissions calculation spreadsheet to Liz. Larelle to send link to everyone.

2.16.3 Larelle to email links to Eddie for inclusion on ESA Conference web site. Completed.

2.20.1 JW will send written report to Council for next Council meeting. Completed.

2.21.1 SMJ to talk to Jon about publication of destructive fishing practices essay. Waiting for Jon to get back.

2.21.2 SMJ to talk to Jon about writing position statement on destructive fishing practices. Completed.

2.22.1 SMJ to write something to send to membership on desalinisation plants. Completed.

2.22.2 SMJ to contact Tim Moore and give him the go-ahead to develop position statement on desalinization. In progress.

2.24.1 Lyn to take auditor invoice to next JLTF meeting. Completed.

2.24.2 Lyn to request more details from Karen Hurley and Craig Miller regarding UQ invoice. Letter sent to Craig Miller, waiting on response.

3.3.1. Lyn and Paula to discuss who is to send out ‘go to meeting’ info to Councillors prior to meetings. Before next Exec meeting.

4 Finance Officer’s / Treasurer’s Reports

Refer to reports circulated to Councillors prior to meeting.

3.4.1. Lyn needs to circulate a full list of expenses paid to Council. Before next meeting.

3.4.2. Comments on list to be sent to Paula. Before next meeting.

5 Investment Strategy Proposal

Refer to documents sent in emails forwarded by Paula from Charles Morris 29/5, and Investment Strategy Proposal paper prepared by CM sent out with agenda.

In summarizing the investment strategy proposal, CM stated that it was important to take advantage of capital growth of the Society’s assets. The Investment Strategy proposes that the ESA’s funds to be invested are split over a number of funds (a 3-way or 4-way split), between balanced and growth. At the moment all of ESA’s investments are with the National Australia Bank. Need to limit exposure to any one fund. However, Australian Ethical Investment drop management fees if a shareholder invests > \$200K. The Council needs to decide whether to stick with ethical, sustainable, or ordinary

commercial investments, and how to split / where to split.

3.5.1. Councillors to peruse product disclosure information of the considered funds (Australian Ethical Investment, Ausbil and Perpetual Trustees), and then from August meeting on start making decisions. By August Council meeting.

Jill Landsberg Trust Fund. Investment for the JLTF requires a JLTF board decision, but this decision needs to be considered with respect to other ESA investments to minimize exposure to any one fund by the Society.

MB suggested that there may be difficulty getting informed input from all council, therefore need a sub committee. SM-J agreed. Although a sub-committee was not officially formed, one is being 'automatically' formed by the subset of councillors who are considering the info, including those attending briefings by the funds managers (Charles, Peter, Carla, Paula, Larelle and Lyn). A representative of Ausbil funds managers presented information on investment options immediately prior to the meeting, and a representative of Perpetual Trustees presented information immediately after the meeting.

6 Business Plan

The Business Plan is being worked on by a sub committee consisting of PF, CC, LMM, LMC and CM. Council need to agree that financial model at heart of Bus Plan is OK. Some discussion regarding table details ensued. MB suggested adding a spike for INTECOL expenses and assume some reimbursement later on.

3.6.1. Charles to up-date tables using most recent data and re-distribute to Council by next meeting.

PF would like Council to approve Business Plan at August meeting so that if approved it can be included in AGM papers. Need to read text re. philosophical directions of Society, etc. CM reminded that there was also new information on the JLTF, including the procedure for handling endowments.

3.6.2. Councillors to read Business Plan so that it can be voted on in August meeting .

7 ESA 2007 conference

Refer to report by Eddie Van Etten below:
ESA2007 CONFERENCE, PERTH
LOCAL ORGANISING COMMITTEE
June 1st 2007 Update

- 1) Meetings: LOC meeting held on Thursday 3rd May. Minutes available from EO. Next meeting on Thurs 7 June.
- 2) Registrations & Abstracts Submissions: these are now open on-line (there were some computer/software issues which are now resolved).
- 3) Field Trips: Mid-week trip to Rottnest Island now added. More will be finalised soon. Post-conference tour has been changed to pre-conference one as leader had other commitments.
- 4) Sponsorship: We now have 4 confirmations (CSIRO & ECU are premier sponsors; Blackwells are sponsoring urban ecology symposium; the Wilderness Society is sponsoring the wild country symp). Several other symposium sponsorships have been promised. Therefore target of \$45000 now seems achievable!
- 5) Delegate Needs: T-shirts with conference logo and satchels/bags have been organized.
- 6) Media: New quote from Ecoconnect has been negotiated (thanks to Larelle!). \$5000 + \$1400 expenses. Key components:
 1. Identify key topics and speakers to highlight to media
 2. Produce media strategy for the conference
 3. Liaise with conference organisers
 4. Invite key journalists to attend conference (offering free registration and attendance at conference social events)
 5. Produce (4) media releases, before during and (possibly) after the conference
 6. Produce 20-30 media kits
 7. Organise and manage volunteers to assist
 8. Attendance at the Conference – 3 days by 1 person
 9. Promote and conduct two media conferences throughout the conference
 10. Monitor media coverage

11. Media report

7) Roles on LOC:

Scientific Program: Patrick Smith (chair) and Angas Hopkins (deputy)

LOC monthly meetings: Patrick Smith

Secretary: Rachel Standish

Liaison with Well Done & Bank Account: Will Stock

Eddie to keep role of sponsorship co-ordinator and will provide these updates to Council.

EvE stated that things rolling along nicely with the conference organisation. There were a few computer problems early but these have now been resolved, although the website needs more testing. Would like feedback / comments from Council on website.

3.7.1. Councillors to test ESA 2007 website in the next couple of weeks and send feedback to Eddie, cc Larelle.

More optimistic about reaching target for sponsorship. Have approached some CRCs – haven't heard yet. Will try CERFs and TERN. Few rejections yet, need to follow up. Larelle happy to assist.

Need to review the effectiveness of media coverage of last ESA meeting. Will raise at next LOC meeting. Eddie will be on leave from early July to mid-November 2007. In Eddie's absence, the Council is to talk to Will Stott regarding general conference organisation and Patrick Smith regarding the scientific program.

3.7.2. Eddie to ask Patrick if he will be the overarching contact to Council regarding ESA 2007 before Eddie goes on leave.

8 Blackwell meeting about Austral Ecology

Report from Mike Bull included in papers to be noted.

9 Ecological Management and Restoration and ISI listing revisited

Refer to report Jann Williams and Tein McDonald included in papers. Tein joined meeting at this point to discuss.

Rose Williams from Blackwell-Riley recommends applying for ISI status for EMR and suggests format changes to Journal and revising EMR operating document. Jann and Tein recommend nominating EMR for ISI listing ASAP. One advantage of ISI listing is better coverage in electronic search engines which leads to greater exposure of the journal and reaching more authors.

Motion: That the journal Ecological Management and Restoration be nominated for ISI listing.

Proposed: PF. 2nd: C. Motion carried.

10 EMR price rises proposed for 2008 by Wiley-Blackwell

Refer to report from Jann Williams and Tein included in papers.

MB suggested that the EMR editorial board should make the decision on price rises and report to council as they have better knowledge than council. TMc observed that the EMR editorial board has generally not been involved in business decisions. PF suggested that the Executive editorial board of EMR make these decisions in the future. Council agreed with all recommendations made in report by JW and TMc.

11 Upcoming regional events

South Australia: Meredith H talked about 'Parasites, Conservation and Evolutionary Ecology: Connecting some disparate threads' (A symposium to celebrate Prof Mike Bull's 60th Birthday), which is a free 2-day symposium in Adelaide in June. More information is on the ESA website.

Queensland: Andrew Hayes talked about the Queensland Rainforest Forum being held in Brisbane 25-27 June.

Northern Territory: Larelle gave an update on behalf of Brooke Rankmore (who apologises for no report and not attending council meeting because of field work). Brooke is exploring the feasibility of holding the ESA 2010 conference in Darwin with other NT ESA members. Has also talked to Darwin convention centre. Also investigating the feasibility of a statistics workshop for NT that could be held after the next statistics workshop in NSW.

12 Council planning day

Confirmed that Council Planning Day will be held on Sunday 25 November in a room at Perth Convention Centre. This leaves Wed 27 free to do last minute work before the AGM if needed.

13 Annual General Meeting

Thursday 28 November lunchtime? – tentative.

Reminder of important dates for ESA 2007 AGM Preparation

Who	Date to complete by	Task, Progress
Charles	First week July	Book AUDIT for ESA & JLTF for early August.
Council	25 July	Confirm location, date etc. of AGM
Larelle	25 July (post Council meeting)	Book print job with Pirion
Ly	25 July	Organise for ESA & JLTF accounts to be submitted to Auditor
Larelle	25 July	List of reports & people responsible to Council with clear deadlines
Larelle	25 August	All reports to Larelle
Larelle	10 September	Files to printer
Lyn	1 October	All member data to printers for mailout
Printer	10 October	AGM papers sent to members
Members	15 October	Members receive AGM papers
Lyn & Larelle	Oct-Nov	Ensure quorum reached with enough members attending (by tracking Council attendance & registration of members to conference)
Larelle	Oct-Nov	Ensure all nominations forms for Council positions received
Larelle	Oct-Nov	Travel & accom arrangements for relevant Council members Council, Staff, Members
All	25-30 Nov	AGM! Day TBC
Tish & Larelle	18 Dec	AGM Minutes finalized; circulated to members & upload on website.
Larelle		Well Done follow up

14 ESA office move in Qld

The office move will occur (all going to plan) Thursday 7 June. I plan to take Wednesday 6 June as a special leave day (for moving the office – as per my contract). The first operational day for the new ESA office will be Tuesday 12 June (as Monday 11 is a public holiday).

Proposed cost: \$300 +GST (portion of \$1550 removalist fee)

New fax machine: \$200

Has been approved: For noting.

15 INTECOL

Phone hook up with organizing committee last Wednesday. Organisation is taking shape.

A ~~parallel~~ plan for marketing and sponsorship has been prepared, and bookmarks / postcards produced. The bookmarks / postcards are in PDF form and can be sent. Members are encouraged to distribute to other conferences. Website up. Invites to register interest. List of ~ 20 symposia suggested. Memorandum of Understanding between NZ Ecological Society and ESA has been signed and has been sent around ESA executive by PF. Next meeting will be end of August.

CC asked whether the flavour of the meeting is still to be determined, and was the direction of the meeting being led by INTECOL or ESA? According to PF, INTECOL is letting ESA take the lead.

3.15.1. Larelle to compile addresses of ESA councilors and send to Tour Hosts to make sure each councilor gets sent a wad of postcards. ASAP.

16 Proposal to host the 2008 annual meeting at the University of Sydney

Refer to proposal prepared by Liz Tasker and circulated prior to meeting.

Liz Tasker reported that she had spoken to Clare McArthur and will have first meeting of the local organising committee (LOC) in June or July. As there are 13 people on the organizing committee it may be difficult to schedule a time to suit everyone. Free beer and pizza suggested as an effective bribe. Noted. Need venue for >500 people. 650 has been the largest regional ESA conference attendance so far. At least 550 attended Brisbane ESA. Need to look around to bigger venue in Sydney (go to a convention centre??) or limit numbers. Uni venues usually cheaper than convention centres. Especially if there is an internal booking, not external. Or Uni could become a sponsor and subsidise cost.

17 ESA brochure and poster

Liz Tasker has started working on this and is happy to do so, apologises for the delay; will have draft of brochure before the end of June; discussing with Larelle.

18 Endowed lecture

Refer to document prepared by Carla Catterall circulated to Council prior to meeting.

CC: Council has in principal approved the Endowed lecture proposal by Mark Westoby in previous minutes. The document prepared by CC includes an introduction and MOU. The MOU was prepared from a version first sent by MW that CC subsequently edited. MOU needs to be sorted out today. Constraint is that MW needs to move funds before end financial year.

Question – Which year should the Endowed lecture commence? Eddie stated that it could

be fitted into ESA 2007. CC: Another consideration is the financial implications: MW will put in \$20K in first year, ESA will put in \$5K / year for 4 years. As the \$\$ would accumulate in subsequent years, there will be the least amount available in the first year. So can the Society afford running it in 2007? Is it better to delay commencement until 2008? Another consideration is the selection process. It is proposed that there be an open call from membership for nominations and then a selection panel would arrive at a decision. There is not enough time to do this full process for the 2007 conference. And already plan to launch the JLTF award at ESA 2007. MB: suggests we go ahead with CC's proposal, aim for Sydney; CM seconds.

Motion: That the recommendations made in document prepared by CC regarding the Endowed lecture be accepted and that the inaugural lecture be delivered at ESA 2008 in Sydney. Proposed: PF. 2nd: MB. Motion carried.

19 TERN (Terrestrial Ecosystem Research Network)

ESA has not received a response to the application that was submitted. See <http://www.ncris.dest.gov.au/capabilities/tern.htm> for more info on TERN. Apparently the name of TERN has changed, but the new name does not yet appear on the website.

20 Other Business

No other business.

21 Next Meeting

August 3 2007; 11 am EST.

22 Investment advisors to join meeting

A representative of Ausbil funds managers presented information on investment options immediately prior to the meeting, and a representative of Perpetual Trustees (Charles Fraser) presented information immediately after the meeting.

OTHER ESA NEWS

NEW MEMBERS

A very warm welcome to the following new members: Sang-Hoon Lee; Henry Nix; Sarah Goldin; Gordon Fox; Bethany Roberts; Berin Mackenzie; Neil Taylor; Peter Berney; Louise McKenzie; Elizabeth Norris; Isabelle Wolf; Alison Hewitt; Ulrike Kloecker; William Armour; Karolina Petrovic; Alison Skinner; James Wallace; Dan Pedersen; Roshan Thapa; Nicky Bruce; Katherine Dafforn; Caitlin Johns; Fleur Flanery; Laura Warman; Austin OMalley; Ben Gooden; Christine Allen; Bree Tillett; Jane Ogilvie; Margie Mayfield; Danial Stratford; Grace Muriuki; Cynthia Riginos; Wendy Neilan; Catriona Condon; Vincent van Uitregt; Michelle Plant; Jodie Haig; Julie Hagen; Laura Ruykys; Holly Fellows; Grant Fleming; Katherine Cheshire; Helen Waudby; Keisuke Itonaga; Karen Johnson; Tanya Bailey; Belinda Yaxley; Shannon LeBel; Hadley Cole; Shona Lee Arber; Ruth Marr; Anna Murphy; Peter Macreadie; Erika Louise Cross; Steve Wickson; Joab Wilson; Joanna Lebbink; Steffen Schultz; Laura Owen; Renee Kuffer; Achim Eberhart; Michael Treanor; Sarah Brown; Michael Sams; Ellie Clark; Rodney Armistead; Graham Thompson; Renee Tuckett; Michalie Foley; Russell Smith; Cecile Rousseaux; Marie Short; Sean Tomlinson; Donna Bradbury; Graham Fulton; and Cristina E. Ramalho.

2007 JILL LANDSBERG STUDENT GRANT

2007 marks the first year for the Jill Landsberg student grant to be awarded to a postgraduate student studying at an Australian University. The ESA established The Jill Landsberg Trust Fund in 2005 in honour of Jill's work in applied ecology and her outstanding contribution to the ESA.

A grant of \$6,000 will be awarded each year to support the field-based research of a postgraduate student working in applied ecology. The scope of research is open to terrestrial, marine and freshwater ecology.

This year we received 24 applications from students around Australia. The selection panel were very impressed with the overall strength of the applications and in particular applicants' ability to communicate to a general ecology readership, a very important communication skill for ecologists. The panel were equally impressed with applicants' ability to provide a clear link back to ecological theory, and the ability to provide a clear view of the application of the project.

The trustees of the fund are pleased to announce that the 2007 inaugural recipient is **Bryony Horton**. Bryony is a PhD student at the Schools of Plant Science and Agricultural Science, at the University of Tasmania. Her project is focused on *Fire management and tree decline: mycorrhizal indicators of declining forest health*. This is a focal, applied problem of high altitude eucalypt dieback in Tasmania. Funds are sought to implement more frequent field sampling, which is not possible with existing funds.

Bryony will attend the ESA 2007 Perth conference to accept her award and she will give a presentation on her work at the ESA 2008 Sydney conference.

The selection panel also wanted to acknowledge the very impressive applications of three 'highly commended' proposals:

Jennifer Firn from the University of Queensland: *In with the old and out with the new: mounting a competitive offensive against invasion using native grasses*.

Anna Murphy from LaTrobe University: *The pollination biology and ecology of three Swainsona species in the Victoria's Northern Plains*.

Katherine Dafforn from the University of New South Wales: *What factors contribute to the invasion of exotic marine invertebrates in native hard-substrate communities?*

Thank you to members who have kindly donated to the fund over the past two years. Should you wish to donate to the fund in the future – you can do so via the ESA website: <http://www.ecolsoc.org.au>.

ESA POSITION STATEMENTS

Co-ordinator Dr Ross Peacock

Ross.Peacock@dipnr.nsw.gov.au

1. A small working group has been formed to scope and develop an **ESA position statement on forestry**. Initial activity has focussed on exploring what is meant by 'forestry' - does it include plantations, agro-forestry, farm forestry, tree planting for environmental purposes, traditional multiple-use production forestry on public land, etc? Should it include issues in forests such as harvesting, fuel reduction, grazing, health/disease, fragmentation, weed invasion, traditional use, passive use, or benign neglect? The focus will be on these activities relevance to the maintenance of forest ecological systems. Further ideas and assistance in the development of the position statement are welcomed.

2. A draft revision of the **clearing position statement** has been completed. Keep your eye on the web site. The authors are after information on recent estimates of clearing in the top end (N.T.), as they understand there's substantial conversion to plantations in that region. If you are not on the ESA e.list, and want a copy, please contact Caroline Gross at:

cgross@pobox.une.edu.au.

Report on the Ballot of the Australian Forestry Standard

Members may recall that the Society has been engaged with the review of the Australian Forestry Standard since 2004 (www.forestrystandard.org.au) and that a postal ballot on the proposed changes to the Standard was recently held. Following the receipt of comments from the membership on the proposed changes and the publication of a summary of the major issues examined by the review process (Bulletin of the Ecological Society of Australia, 37(2): 12-15), a report was submitted to the ESA Executive recommending the Society vote in support of the changes. The Society then returned the ballot papers with a 'yes' vote. The ballot concluded with a consensus decision to adopt

the ballot standard as the 'reviewed' AFS to be published as AS 4708-2007. The process from now involves the National Standards Office and two of its Standards Sector Boards examining the balloted AFS, a 'Record of Process' and other necessary documentation before recognising the Australian Forestry Standard as AS 4708-2007. Providing Standards Australia's recognition process is forthcoming, the 2007 Standard should be published prior to August 19 2007.

Ross Peacock, rpeacock@rma.bio.mq.edu.au

Position Statement and prizes - destructive fishing practices

Australia is committed to phasing out destructive fishing practices by 2012; however, neither the Australian Fisheries Management Authority (AFMA) nor the fisheries management agencies of the States have developed policy statements on destructive fishing practices, which would chart a course towards the 2012 goal. A copy of a discussion paper written by Jon including endnotes and references may be obtained from jon_nevill@yahoo.com.au.

ESA is developing a position statement on this issue. Comments welcome, either to Jon or post to ESA Forum (see p54 for details). Don't forget the **prizes**: \$4000 will be awarded in July 2008 for the best essays or manuscripts on Control of destructive fishing practices under Australian jurisdiction submitted by undergraduate or postgraduate students (\$2k undergrad; \$2k honours and postgrad) at an Australian university. The manuscripts must be submitted between 30 September 2007 and 30 June 2008.

For more info, contact Jon Neville:

jon_nevill@yahoo.com.au.

Position statement on desalination plants

Desal plants are going in all over the place, with governments seeing them as the solution to drought-proofing. However, there are environmental impacts, not least of which are the carbon emissions from power usage. ESA, in conjunction with the Australian Marine Sciences Association (SA Chapter) is developing a position statement. Input welcomed, in the first instance contact Sue Murray-Jones, contact details on inside cover.



*Annual Conference of the Ecological
Society of Australia
Perth Convention & Exhibition Centre
Perth WA. November 25 – 30 2007*

Adapting to change Society - Environment - Science

6TH ONE-DAY POSTGRAD COURSE ON CURRENT ECOLOGY AND EVOLUTION

Sunday Nov 25 2007 (the day before
ESA2007) at University of Western Australia
in association with Ecological Society of
Australia, Australasian Evolution Society.

The day will include presentations by
leading researchers on the most exciting
recent advances in 6-8 areas of ecology and
evolution. There will also be presentations
about fast-advancing methodology and about
the nexus between science and politics.
Students will participate in focus sessions to
discuss research issues.

Further information can be found at
<http://www.bio.mq.edu.au/ecology/esa2007/>.
Register via the website for ESA2007, below.
Cost is \$22, covering lunch and morning and
afternoon teas. You can register for the one-
day course independently of the conference, if
you wish.

All conference details and registration see:
[http://www.ecolsoc.org.au/ESA2007Conferen
ce.htm](http://www.ecolsoc.org.au/ESA2007Conference.htm)

LETTERS

Hello Sue,
I have been wondering if ESA would have
any suggestions about channelling the
potential funding source from the carbon
credits program into scientific research?

Currently many people are wanting to
offset their carbon footprint and are therefore
giving many hundreds of thousand of dollars
to some somewhat dubious companies that
are apparently planting trees - often in an
inappropriate and unsustainable manner, if at
all (I used to run such programs and am well
aware of their limitations). They currently
have far more money coming into these
companies than they have the resources to
plant trees.

It is such a shame that this money
cannot be channelled into research - a far
more practical and long term option.

Is there someone I could talk to about
pursuing this idea? I have thought about
contacting the various airline companies for
example, but it would be far more effective if
I could at least pass on the name of a contact
person to arrange funding.

Currently there are pamphlets in travel
agents and such, advertising the various
companies you can give money too. It would
be ideal if there were also pamphlets available
detailing the benefits of supporting research
into climate change, as well as the
maintenance of healthy ecosystems.

I will also email some politicians
about this in hope that it will also get some
political support.

Thank you Sue for your time, and I
hope that this may be a way of providing
more support for research in Australia.

Kind Regards,
Wendy March (Institute for Land, Water and
Society, School of Environmental Sciences,
Charles Sturt University.
email: wmarch@csu.edu.au)

*Also see piece on the review by Choice magazine on
carbon offsets following.*

*Response from Larelle McMillan, ESA Exec Officer:
This is one of the reasons why ESA has not chosen
tree-planting schemes to offset carbon in their draft
policy doc. Interestingly, 'Climate Friendly' was rated
the best in Aust. for investing in alternative 'green'
energy (wind and solar).*

*Random editor's thoughts: Funding local NRM or
Landcare groups may be worth considering, they could
use some help. I can feel a joint project looming.
Anyway, ESA Council will be looking at the carbon
credit concept at our planning day in Nov.*

MISCELLANEOUS

Push to regulate carbon offsets

With 'carbon-neutral' a new buzzword, environmentally-minded jetsetters are increasingly prepared to pay extra to offset the carbon emitted by their long-haul flights. But consumer watchdog *Choice* magazine is calling for the burgeoning carbon-offset industry to be regulated after finding the schemes varied wildly in how they calculated the emissions and the costs of offsetting it. One company has yet to plant any trees it has promised despite trading for a year. *Choice* says 17 companies now offer passengers the option of paying them to offset their flight carbon emissions, through tree-planting, investment in wind and solar power, methane capture or improving energy efficiency.

The industry is currently unregulated, although the NSW Greenhouse Gas Abatement Scheme and the federal Australian Greenhouse Office accredit some of the companies. *Choice* warns the industry lacks transparency and independent verification of some of the environmental claims. *Choice* studied the calculations of four leading carbon-offset companies. One company had yet to plant any trees, despite taking money, blaming the drought. The report criticises tree-planting as an effective form of reducing carbon emissions.

<http://www.theage.com.au/news/national/push-to-regulate-carbon-offsets/2007/06/20/1182019201458.html%20>

The Swindle – why the film is the biggest scam of all.

The film titled 'The Great Global Warming Swindle' has caused a lot of controversy with its key argument that nature is causing climate change, not human activity. However, there is abundant information available to demonstrate the errors, mis-representations and inaccuracies that occur throughout the film and the reality of human induced global warming. The following is a summary of points from detailed critiques by Australian and international scientists in response to the film, together with information from interviews with the film writer and director Martin Durkin and one of the experts,

Professor Carl Wunsch, who was misrepresented in the original film (ABC, July 12 2007).

The film:

- Showed data that were flawed and presented completely out of context, sometimes claiming the opposite to what the data were actually used to demonstrate
- Provided misleading interpretation and gross distortion of science
- Fuelled public confusion and inaction based on information and theories proven to be incorrect
- Promoted fringe scientific views but ignored the weight of evidence - a dangerous game that diverts attention from what we can do to ensure the world's population has the best possible future
- Accused scientists of lying or being misguided without substantiated evidence and contrary to scientific review processes
- Presented information that is out of date, of uncertain origin and/or conveniently excludes the last 17 years of data (since 1990) where the evidence for global warming is most prominent despite claiming information is relevant to 'Now'
- Ignored recent increasing global temperatures and the threat to the future health and wellbeing of many millions of people throughout the world, including those in the developing countries who are the least able to adapt and who are likely to be the worst affected
- So blatantly misrepresented the data of one 'expert' that all credited reference to his work had to be removed from the Australian version of the film
- Has had so many errors that there have been numerous different versions with data removed and added *ad hoc*
- The so called 'experts' have not published peer reviewed papers on their theories of climate change and yet criticise and manipulate data from those who have. Some 'experts' in the film are

also known to support many controversial, sceptical perspectives on a variety of topics, including the idea that smoking cigarettes does not damage your health

- Was produced by a film maker who specialises in creating controversy rather than documenting fact, such as a film on the cancer-reducing effects of breast implants
- Is damaging to constructive, balanced and well-informed debates

The implications of this misleading film are grave. It creates confusion and reduces the willingness of the average person to do something at this crucial point in time and when the general population is just beginning to understand and take responsibility for the world we live in.

By Debbie Saunders

Online references

http://www.aussmc.org/Global_Warming_Swindle.php

(numerous Australian Scientists)

http://www.aussmc.org/documents/BAMOS_GGWS_SUBMISSION.pdf (Jones et al., National Climate Centre, Bureau of Meteorology)

<http://www.royalsoc.ac.uk/news.asp?id=6089> (Royal Soc.)

<http://www.climateofdenial.net/> (numerous British Scientists)

http://www.jri.org.uk/index.php?option=com_content&task=view&id=137&Itemid=

<http://www.monbiot.com/archives/2007/03/13/channel-4s-problem-with-science/> (Prof. Monbiot)

<http://www.nerc.ac.uk/press/features/2007/climatechange.asp>

(Prof. A. Thorpe, Natural Environment Research Council)

This list of information sources was compiled by Adam Felton.

Between a rock and a hard place: the science of geosequestration

The House of Reps Science and Innovation committee released a report called Between a rock and a hard place: The science of geosequestration. This recognises the potential of CCS technology to reduce the negative impact of anthropogenic greenhouse gas emissions on the global climate. The report recommends the initiation of large-scale demonstration projects in Australia. There was a dissenting report signed by four coalition members - Dr Dennis Jense, Hon Jackie Kelly, Hon Danna Vale and Mr David Tollner - who dispute anthropogenic global warming (*sigh. Ed.*), although they support the recommendations on geosequestration. The

report (including dissenting comments) is available at the Committee's website at:

<http://www.aph.gov.au/house/committee/scin/geosequestration/index.htm>

Assessing levies for by-catch could fund conservation measures

Fishing industry lines accidentally catch many seabirds and turtles. Levies, with higher fees imposed for more endangered species, could make users who earn a profit from common-pool resources pay for the impacts they have on the system. This would give fishermen financial incentives to find creative ways to avoid catching non-commercial species, while providing funds to address other hazards. For example, each year, Australia's Eastern Tuna and Billfish Fishery unintentionally kills 1,800 to 4,500 flesh-footed shearwaters (*Puffinus carneipus*), a seabird whose entire eastern Australian population breeds on Lord Howe Island. A cost-conservation benefit analysis compared closing down fishing areas with ameliorating other causes of population decline, such as rats eating eggs, chicks and adult birds on the island. The analysis showed that closing the fishery around Lord Howe Island would cost about \$3 million and increase the growth rate of the shearwater population by about 6%. But killing the rats would cost only about \$500,000, yet yield a 32% increase in shearwater population growth. In other words, killing the rats would increase the shearwater population per dollar invested 23 times more than closing the fishery. At the same time, if levy money were given to conservationists to address other threats to seabird or turtle populations, then these conservationists would in turn be made more accountable for producing and quantifying results. While this compensatory mitigation approach described in the August issue of *Frontiers in Ecology and Environment* may not work for all seabirds or threatened species, there are many species that face multiple threats and could benefit significantly from this approach.

<http://www.sciencedaily.com/releases/2007/07/070718140754.htm>

(*Hmm. Interesting approach and worth exploring but, again...paying a levy rather than taking action is surely a symptom of many of the problems we now face ... Ed.*)

US\$200 million global initiative on forests and climate

Australia will contribute \$11.7 million (\$US10 million) to the World Bank's new Global Forest Alliance to help protect the world's remaining great forests from deforestation and to reduce greenhouse gas emissions. Australia is the first country to contribute to the new alliance. Australia's contribution will assist the World Bank to help developing countries establish credible estimates of national forest carbon stocks, identify sources of forest emissions and develop incentives for conserving forests and investing in sustainable forest management.

The Australian Government will commit another \$US10 million to support efforts to reduce greenhouse gas emissions from deforestation and promote sustainable forest management in Indonesia. The package will help Indonesia develop pilot projects to demonstrate the effectiveness of reducing deforestation; improve local forestry governance; and prevent, monitor and suppress peat land fires, including training Indonesia's fire fighters and fire management. It will also support Indonesia's move to develop a forest monitoring and assessment system to generate better forest sector data.

As part of the same program, Australia will lead action to establish a new global system to monitor changes in forest cover and forest carbon levels. The new Global Carbon Monitoring System will be supported by remote sensing satellite monitoring technology and on-the-ground carbon accounting activities. By providing better access to historical data and timely access to new data, it will support countries' efforts to reduce emissions from deforestation.

<http://www.environment.gov.au/minister/env/2007/pubs/mr23july307.pdf>

Boost for indigenous environmental projects

Environmental protection projects under the Australian Government's Indigenous Protected Areas (IPA) Programme will receive a \$7 million boost. Funding from the Indigenous Land Corporation will help bring the benefits of IPAs to more communities, creating meaningful jobs and training

opportunities for hundreds of Indigenous people, and helping them protect millions of hectares of Australia's most distinctive landscapes.

Weak La Niña event likely to develop in 2007

La Niña, the cooling of sea surfaces in the Pacific Ocean which can wreak havoc with weather patterns, is likely to develop by the end of the year. In its latest update on ocean temperatures, the World Meteorological Organisation also said it was 'very unlikely' that an El Niño event, where Pacific water become abnormally warm, would occur in the rest of 2007. Currently, sea-surface temperatures are neutral across the tropical Pacific basin as a whole, though cooler-than-normal surface waters have been found off the western coast of South America.

<http://www.planetark.org/dailynewsstory.cfm/newsid/43206/story.htm>

Government delivers historic water plan

The Australian Government introduced a Bill giving effect to its plan for national water security and a \$10 billion programme that will help to restore the Murray-Darling Basin and provide certainty for irrigators. The Bill addresses the growing pressures on the Murray-Darling Basin by attempting to improve the efficiency of water use and establishing clear pathways to return all water sources to sustainable levels of extraction.

<http://www.environment.gov.au/minister/env/2007/pubs/tr08aug07.pdf>

Australian Guidelines for Water Recycling

The Australian Guidelines for Water Recycling Phase 1 were released in November 2006. Phase 2 of guideline development is underway and will focus on three modules - stormwater reuse, managed aquifer recharge and recycled water for drinking. In June 2007, governments endorsed the release of a draft set of guidelines in relation to the recycled water for drinking module, as a basis for public consultation. A copy of the draft guidelines, entitled Australian Guidelines for Water Recycling: Managing Health and Environmental Risks (Phase 2): Augmentation of Drinking Water

Supplies, can be downloaded via the link below. Submissions on the draft guidelines are encouraged.

http://www.ephc.gov.au/ephc/water_recycling.html

Advancing the management of Australia's water resources

Also released are the findings of the second stage of the baseline assessment of water resources for the National Water Initiative, Australian Water Resources 2005. The assessment provides detailed data, analysis and discussion on the status of Australia's water availability, water use and river and wetland health.

<http://www.nwc.gov.au/publications/index.cfm>

Scientist's patent dramatically improves DNA analysis

Jonathan Brody and Scott Kern at Johns Hopkins University in Baltimore have developed a technique that makes a DNA separation technique called electrophoresis five times faster and less expensive than now is possible. In electrophoresis, solutions conduct an electric current, necessary to separate negatively charged DNA molecules. DNA is put through jellylike 'gels', and smaller DNA molecules move more quickly than larger ones as the current passes through. The researchers found, after much experimentation, that lithium boric acid would be a better buffer solution for the process than current 30-year-old methods. A process that normally takes around one and a half, two hours to do can be done in 10 minutes – in some instances it can be 10-fold faster.

<http://www.sciencedaily.com/releases/2007/07/070718162904.htm>

Self-assessment tool available for MPA networks

A new checklist is available to help practitioners measure the effectiveness of their Marine Protected Area networks against a range of planning and management principles. Various options enable users to rate their network for each principle, comparing it to currently perceived best

practices. The tool can indicate where weaknesses should be addressed, and provides a way to monitor progress over time. It is intended to be applicable at a variety of scales, from national to local-level networks.

<http://www.iucn.org/themes/wcpa/biome/marine/checklist.html>

Is nutrient loading a smaller problem than we think?

The problems with coastal sea grass destruction may not be so much due to eutrophication, as is commonly believed, but more about the depletion of top-level consumers in coastal and estuarine ecosystems. Coastal science gospel states that eutrophication caused by elevated nutrient loadings has triggered major alterations of coastal ecosystem structure and function. The authors of a recent journal article in *Estuaries and Coasts* assert that rather than nutrient loadings, the more likely culprit is the depletion of top-level consumers in coastal and estuarine ecosystems. Indirect effects of the removal of large consumers are often indistinguishable from the effects of nutrient loading. Evidence gathered from more than 100 studies of coral reefs, rocky intertidal areas, and sea grass beds is presented to support the claim. One example they cite takes on the classic model of loss of estuarine seagrass. While common understanding holds that nutrient enrichment leads to epiphytic growth on seagrass, killing the plants by blocking sunlight, cascading trophic effects are likely to have just as much influence. Epiphytic abundance is also controlled by grazers, the absence of which would have the same overgrowth effect as nutrient enrichment. This paradigm could have major repercussions for management of coastal ecosystems, considering the research and management emphasis of recent decades on nutrient control. If upper trophic levels have been altered, nutrient reduction is unlikely to help restore benthic habitats.

Heck, K. L. Jr. and J. F. Valentine. 2007. *Estuaries and Coasts* 30(3): 371-381.

(Note: Dr Hugh Kirkman, well known seagrass researcher comments: This is a very interesting article from Ken Heck and John Vallentine, they have been saying this for a long time now. We must be careful however, in taking this evidence and extrapolating it to our situation. Posidonia has very long lived leaves

(*>150 days*) and a lot of epiphytes can accumulate on them over their lives. There are, of course, many invertebrates feeding on the epiphytes and the next trophic level up, if not controlled by top order predators, may consume all the grazers of epiphytes. This is what Ken and John are saying if these top predators are removed. However, high nutrients in Cockburn Sound and the harbours at Albany where the seagrass was *Posidonia* seem all to have declined because of high nutrient loads being taken up by opportunistic algae. My word of caution is that each species and situation should be studied individually).

Doubts surround carbon absorption project near Galápagos

A U.S. company, Planktos Inc., is still planning to dump 100 tonnes of iron dust into the ocean near Ecuador's Galápagos Islands, despite opposition from environmental groups and marine scientists. This will be the first-ever commercial effort to reduce carbon dioxide in the atmosphere, one of the main gases blamed for climate change, by using iron particles to create a 10,000-square-kilometre 'plankton bloom'. Planktos says the extra volume of these small, floating organisms will absorb large amounts of CO₂ from the atmosphere and take it deep into the sea. This method may a powerful tool to battle climate change; however, currents may bring the bloom into the Galápagos Marine Reserve.

Planktos is in the new and growing business of carbon sequestration. Ocean carbon sequestration has been tested in several small experiments over the past 20 years. Most have shown that adding iron to ocean waters with an iron deficit will promote growth of plankton, which need this nutrient to live. And since the plankton absorb carbon, this boosts the amount of atmospheric carbon taken up by the ocean fauna. The company believes that if plankton were restored to 1980 levels it would annually remove three to four billion tonnes of CO₂ from the atmosphere. A February 2007 article in Science magazine reviewed previous experiments between 1993 and 2005. Scientists concluded that large-scale enrichment could affect the planet's climate system and that more study was necessary.

<http://www.ipsnews.net/news.asp?idnews=38533>

Glaciers' bigger role in sea levels

Contrary to common belief, glaciers' melting due to global warming contributes more to the rising sea level than the Antarctic and Greenland ice sheets. Scientists found that the ebb and flow of glaciers where they meet the water causes them to speed up and deliver more ice into the world's oceans than previously estimated, says a new study published in Science's latest issue. Glaciers and ice caps accounted for 60% of the meltwater that flowed into the oceans, which has been speeding up over the past 10 years from global warming.

<http://www.theaustralian.news.com.au/story/0,25197,22108233-30417,00.html>

UN scheme to keep tabs on global biological diversity

The United Nations Environment Programme has launched an over \$8 million initiative to monitor conservation efforts to protect the world's biological diversity. Receiving funding from the Global Environment Facility, an independent financial organization, the 2010 Biodiversity Indicator Partnership hopes to create a set of benchmarks to assess whether protection measures are effective. The new indicators created by this new programme will augment ones already in existence. For example, the Red List of Threatened Species estimates that almost one in four mammals, one in three amphibians and one in eight birds is threatened with extinction.

<http://www.un.org/apps/news/story.asp?NewsID=23214&Cr=biodiversity&Cr1=>

Effective new biodiversity data access portal

A new internet tool was launched recently by the Global Biodiversity Information Facility (GBIF). The new GBIF Data Portal is an Internet gateway to more than 130 million data records provided by 200+ institutions scattered over 30+ countries around the world. All of these data (with more to come) can be accessed all at once on the GBIF Data Portal.

Using GBIF's new search engine, you can find where on the globe a species can be found, or get a list of species in your country

or your back yard. The data retrieved are instantly mapped by the Portal. The data can also, if the user chooses, be easily plotted on Google Earth. The Data Portal is a sophisticated tool for users to incorporate biodiversity data into their own websites, or download datasets for ecological studies. When combined with environmental datasets (soil type, climate, elevation and the like), GBIF data can be used in predicting species' response to climate change, choosing the best places to put protected areas, etc. GBIF is an international organisation founded to make the world's biodiversity data freely and openly available worldwide. Membership now stands at 40 countries and 33 international organisations. Current non-members are welcome and invited to join.

GBIF makes the Portal and its extensive capabilities and services, as well as software for data providers, freely available. Civil society, countries and organisations are invited to utilise GBIF's new Data Portal. The portal is available at <http://data.gbif.org>.

Australasian company researches green plastic from trees

New Zealand-based biotechnology company Genesis Research and Development has produced an expanded polyurethane foam made from trees. The production showed the potential to manufacture 'green' plastics by reducing the need for petrochemicals in polyurethane production. The natural lignin extracted from shrubby willow trees in plantations was tested with excellent results for thermal conductivity and density.

This could reduce the need for petrochemicals in polyurethane production, thus improving the carbon footprint. BioJoule is also reviewing the use of lignin in a range of composite plastics. The opportunity to grow shrubby willow on low value land to produce ethanol as a transport fuel and other high value by-products such as lignin and xylose has the potential to solve a number of environmental and economic issues.

<http://www.environmentalmanagementnews.net/StoryView.asp?StoryID=101765>

The Journal of Natural History Education

The Journal of Natural History Education is an electronic, peer-reviewed journal sponsored by the Natural History Network. Its purpose is to foster a renaissance in natural history education by providing a forum for disseminating information on techniques, curricula, and pedagogy for natural history education at all levels: K-12, undergraduate, graduate, and general public. The Natural History Network is an affiliation of teachers, scientists, and nature writers who seek to promote the values of natural history through discussion and dissemination of ideas and techniques on its successful practice to educators, scientists, artists, writers, the media, and the public at large. The journal seeks papers that provide information that will promote the development of natural history curricula and are generally accessible to natural history educators. Content of the journal ranges from the applied to the philosophical, but entirely focused on the principles or practice of natural history education. Specifically, articles are sought such as:

- descriptions of natural history curricula;
- reviews of practical issues related to the teaching of natural history; and
- discussions about the philosophy of natural history education.

To subscribe, go to: <http://go.middlebury.edu/list?jnhe-subscription> and follow the instructions. Subscription appears to be free, with access as downloadable pdf files.

When is a worm not a worm? when it's a jellyfish ...

One of the world's strangest creatures has found its long-lost kin. Oxford University scientists have discovered that an extremely rare gutless worm is related to sea anemones and jellyfish, rather than similar-looking animals, reports the journal *Science*. The finding could cause an evolutionary rethink. The rare worm *Buddenbrockia* only merits a footnote in most biology textbooks. Now genetic research has shown it is a relative of anemones and jellyfish. Its bizarre body-plan is quite unlike other worms, such as nematodes, that despite their simplicity have

different 'organs' on different sides – and at different ends – of their bodies in the same way that fish and mammals do. To find out what in the animal kingdom the worm is related to, researchers analysed 50 genes from *Buddenbrockia* and compared them to the genes of other animals. They found that despite its worm-like body shape *Buddenbrockia* is actually related to animals it looks nothing like, such as sea anemones and jellyfish, and the worm-like body shape evolved at least twice from two completely different kinds of animal.

<http://www.sciencedaily.com/releases/2007/07/070707141518.htm>

New tool for marine conservation

A new biogeographic classification of the world's marine coastal and shelf areas, Marine Ecoregions of the World is expected to be a valuable tool for conservation planning. The new, hierarchical system is synthesized from past global and regional classifications and extensive expert consultation. It includes 232 distinct ecoregions nested within 62 provinces that are in turn grouped into 12 realms. Each ecoregion has a relatively homogenous and distinct species composition.

The classification, which avoids significant limitations of older schemes, is based on organisms found both in the sea and on the sea bottom and is considered likely to be useful out to a depth of 200m. Coastal and shelf waters have greater species numbers and higher productivity than the adjacent deep ocean, and are biogeographically distinct. The classification scheme will enable marine gap analyses, an important approach for identifying areas crucial for conserving endangered species, as well as other types of studies on coastal and shelf biodiversity. The Nature Conservancy and the World Wildlife Fund already have begun to use the Marine Ecoregions of the World system.

<http://www.sciencedaily.com/releases/2007/07/070702084212.htm>

Climate change: now it's law

Australia's first climate change legislation became law on 3 July 2007. The Climate Change and Greenhouse Emissions Reduction Act 2007 makes South Australia the first

place in Australia to legislate targets to reduce greenhouse emissions.

http://www.climatechange.sa.gov.au/news/news_4.htm

World's first temperate network of marine reserves declared

The Australian Government announced the legal protection of the world's first temperate deep sea network of marine reserves, off the south-east coastline of Australia. The declaration represents a global landmark in marine environment protection. The network includes 13 new marine reserves in waters off southern New South Wales, Victoria, Tasmania and eastern South Australia. The reserves contain representative examples of the unique marine life and the undersea features of the region. They total 226,000 square kilometres, and form the first such network of marine reserves at this scale in the world.

<http://www.environment.gov.au/minister/env/2007/pubs/mr05july07.pdf>

Council guide to ameliorating climate change impacts

How can climate change impact on a council's corporate plan? What sort of zoning and structural laws may be appropriate for areas facing increasingly adverse weather? Queensland councils will be able to answer these questions and more after being provided with a practical guide for meeting the challenges of climate change. The guide, commissioned by the Local Government Association of Queensland, is expected to help build the capability of councils to assess risks related to climate change and includes a checklist of possible adaptation measures. The 54-page guide 'Adapting to Climate Change' offers local governments a very practical tool that aids in assessing the impacts of climate change and what can be done to ameliorate them.

<http://www.environmentalmanagementnews.net/StoryView.asp?StoryID=101372>

Letting plants 'talk' to you

The greenhouse manager of the future walks around the greenhouse, pointing an infrared 'flashlight' at potted plants. A tiny screen tells

whether each plant has too much, too little, or just the right amount of nutrients. During the past three years, at a new facility at the Agricultural Research Service in Toledo, Ohio, ways to bounce infrared light off plants, in order to read the earliest possible signals of nutrient deficiency, are being tested. The signals could be key proteins or other molecules associated with stress, or a change in a leaf's light reflectance as a result of a deficiency. Spotting ways in which plants signal stress would be a way to detect a problem before any visible evidence of damage to the plant occurs.

<http://www.sciencedaily.com/releases/2007/06/070626152022.htm>

How fish punish 'queue jumpers'

Fish use the threat of punishment to keep would-be jumpers in the mating queue firmly in line and the social order stable. The threat of expulsion from the group acts as a powerful deterrent to keep subordinate fish from challenging more dominant fish. In fact the subordinate fish deliberately starve themselves to remain smaller than their superiors and so present no threat that might lead to their being cast out.

In the case of the gobies, only the top male and top female mate. The other females have to wait their turn in a queue based on their size. Each fish has a size difference of about 5% from the one above and the one below it in the queue. If the difference in size decreases below this threshold, the junior fish tries to jump the mating queue – and the superior one responds by trying to drive it out of the group. In order to avoid constant fights and keep the social order stable, the fish seem to accept the threat of punishment – and adjust their own size in order to avoid presenting a challenge to the one above them.

Wong, Buston, Munday & Jones – Proc. Royal Soc B (2007) 274: 1093-1099.

Seabird diet history revealed through analysis of museum samples

Prof. Ryan Norris (University of Guelph) conducted a historical analysis of museum specimens of marbled murrelets going back more than a century to examine how dietary changes may have affected the seabirds' numbers. There is little historical information

about marbled murrelets because the birds are highly secretive and difficult to study. Norris was able to reconstruct the diet of the seabirds by utilizing stable isotopes analyses of museum specimens dating back to 1889. The seabirds spend more than 90% of their time on the sea, but they travel up to 100 km inland to nest in old growth forests. Their isotope analysis showed that prior to 1900, the birds were feeding most on fish, but that by the 1970s, 80s and 90s, their diet consisted of marine invertebrates, which are much less energetically rich than fish. The researchers concluded that the seabirds' population changes in Canada after 1950 were likely influenced by a decline in the amount of fish in their diet.

<http://www.sciencedaily.com/releases/2007/06/070627140414.htm>

CO₂ calculator

Households can now work out their carbon footprints with an online calculator. The CO₂ calculator will work out an individual's or household's footprint based on the use of energy devices in the home, domestic appliances and means of transport. Users are asked a series of questions before being provided with recommendations on reducing and avoiding energy waste as well as ways to offset it. <http://www.direct.gov.uk/actonCO2>.

Reef fish in synch on climate

Fish populations on reefs separated by hundreds of kilometres show synchronised population changes, they can boom or bust simultaneously due to effects of climate fluctuations. Research along the length of the Great Barrier Reef over 13 years by ecologists at the Australian Institute of Marine Science has shown the synchronizing effects of climate on coral reef fish populations for the first time. This study, recently published in *Ecology*, demonstrates consistent synchronized changes in the size of damselfish populations on reefs separated by tens of kilometres and up to 800 km for some species.

<http://www.sciencealert.com.au/news/200722-06-16024.html>

Scientists in Schools initiative

The Scientists in Schools initiative will promote science education in primary and secondary schools, help to engage and motivate students in their learning of science, and broaden awareness of the types and variety of exciting careers available in the sciences.

Scientists in Schools will establish sustained and ongoing relationships between school communities and scientists. Practising scientists will work with primary and secondary schools on a voluntary basis, bringing the practice of real world science to students and providing teachers with the opportunity to strengthen their knowledge of current scientific practices.

The aim is for a minimum of 500 scientists to be placed in at least 500 schools across Australia during the pilot phase. By National Science Week 2007 (18-26 August), 100 scientists will be partnered with 100 schools across Australia.

The initiative is being managed by CSIRO Education who will link teachers in schools with suitable scientists. Participating teachers and scientists will also be provided with support materials and examples of best practice models. The aim is for the program to build on and complement the many excellent schemes already in existence.

A website has been created that will enable scientists and teachers throughout Australia to register their interest in becoming involved (www.scientistsinschools.edu.au).

A 30,000-year record of sea surface temperatures off South Australia

Continental glaciers originating at both poles reached their farthest extent about 20,000 years ago, marking a time known as the Last Glacial Maximum.

Comparisons of ice cores from Greenland and Antarctica show that as these glaciers melted, warming occurred in asynchronous stages at the poles. While many northern hemisphere climate records match ice core records from Greenland, few southern hemisphere records exist to compare with ice core data from Antarctica.

Marine cores collected off South Australia contained detailed signatures of

surface temperatures of waters that washed over it since the glacial maximum. Data from this core matched well with Antarctic ice cores and paleoclimate records from the Australian continent.

The new core data revealed a progressive drop in sea surface temperatures over the last 6,500 years, an observation not seen before for the Australian region.

Calvo et al. Geophysical Research Letters (GRL) paper 10.1029/2007GL029937, 2007

Measuring nectar from eucalypts

The effect of logging on canopy nectar production in tall forest trees has for the first time been investigated by NSW DPI researchers, with funding from the Honeybee Program of the Rural Industries Research and Development Corporation and Forests NSW.

Using cranes and cherry-pickers, nectar from flowers in forest canopies over 30 metres high was measured by NSW DPI researchers.

While Forests NSW has a number of management practices in place to retain nectar-producing trees during logging operations, there has been no information on how much nectar is produced by retained trees or young trees regrowing after logging. Indeed, beekeepers have expressed concern about the effects of logging on nectar production, especially the perception that young trees do not produce as much nectar as mature trees.

An estimate of nectar production in spotted gum at a 'compartment' scale found a recently logged compartment produced half the amount of nectar as a compartment of mature forest.

Results for grey ironbark showed similarities to spotted gum with regard to the impact of logging, but the species differed markedly in other aspects of nectar production (see fuller account by researchers on p40).

<http://www.sciencedaily.com/releases/2007/07/07070731094112.htm>

Adaptation – reducing climate impacts

A greater focus on adapting to climate change is required to reduce Australia's vulnerability, according to a final report of the Intergovernmental Panel on Climate Change.

The report, which covers impacts, adaptation and vulnerability, highlights an array of potential adaptation responses for various regions and sectors across the world, including Australia, but says there are barriers, limits and costs. <http://www.ipcc-wg2.org>

BHP funds climate change research

The world's biggest miner, BHP Billiton, has revised its climate change policy and committed \$360 million over the next five years to support low emissions technology development. It will also set new energy and greenhouse intensity targets for its internal operations and encourage emissions abatement by its employees and local communities.

The revised policy includes plans to evaluate emissions throughout the full life cycle of the company's products as well as improving the management of energy and emissions throughout the business. Another aim is for BHP to use its technical capacity and experience to assist governments and other stakeholders to design effective and equitable climate change policies.

The policy includes targets to reduce the energy and greenhouse intensity of the company's products.

As well as providing capital funding for internal energy projects with a greenhouse gas emissions reduction component, the company will also support research dedicated to accelerating the commercial uptake of technologies such as carbon capture and geosequestration.

BHP also said it was working with governments and other stakeholders on the development of policies that provide incentives and tools for effective carbon abatement, including policies aimed at accelerating cost effective reduction of emissions, and support for market-based mechanisms that are progressively introduced. <http://www.environmentalmanagementnews.net/StoryView.asp?StoryID=100454>

(good to see some of those record profits going to a good cause. Ed.)

CSIRO begins climate project with China

CSIRO and the Australian Greenhouse Office have signed a two-year funding agreement for collaboration between CSIRO statisticians and the Institute of Atmospheric Physics of the Chinese Academy of Science. The project will investigate climate and rainfall linkages between China and Australia. The East Asian summer monsoon carries moist air from the Indian and Pacific Oceans to East Asia. The monsoonal flow interacts with the Australian winter monsoon. The project will include the analysis of possible relationships between summer rainfall over north China and winter rainfall over southwest Western Australia, and the development and application of statistical models to assess the impacts of the Australian monsoons on summer rainfall over north China.

<http://www.csiro.au/news/ChinasClimateProject.html>

Landmark study on the nature of Northern Australia

A landmark scientific study - the *Nature of Northern Australia: its natural values, ecological processes and future prospects* released in August is the work of four leading Australian scientists (and of course, all members of the ESA) - Dr. John Woinarski, Professor Brendan Mackey, Professor Henry Nix, and Dr. Barry Traill. This study details the environmental significance of the North, how the unusual environment really works, and shows the pathways forward to develop the North in ways that work for people and the country.

The future of Northern Australia has become an issue of national prominence over the last year. Over the next few years decisions will be made for the North which will have significant long term impacts on the Northern environment and its people. It is vital that in this debate the best science is used to inform decisions. Key findings of the study include:

- By far the largest expanse of tropical savanna woodland remaining in good condition is in Northern Australia. Australia has more than 25% of the savannas remaining intact on Earth; no other country has more than 9%.

- Australian savannas still forms a connected whole, with less than 1% having been cleared.
- Northern Australia retains the largest expanses of intact rivers and catchments in the continent.
- Most water catchments in Northern Australia remain in relatively good condition and natural flows remain mostly unchanged by irrigation, dams and weirs.
- Hydroecology (water), disturbance (especially fire), and long distance movements of wildlife are the key processes at work and in Northern Australia they remain largely intact.

The study is available for download or purchase on the ANU E-press website: <http://epress.anu.edu.au>. The ESA provided support for the launches across Northern Australia, with Brooke Rankmore taking the opportunity (as NT Regional Councillor) to meet with members in Darwin about upcoming regional event ideas.

Global warming speeding up ocean waves

Gigantic ocean waves, spanning hundreds of kilometres from crest to crest, have been speeding up thanks to global warming, a new model suggests. Geophysicists predict that as the ocean surface warms, these so-called planetary waves should speed up. To test this idea researchers at the University of Victoria in British Columbia, Canada, modelled the changes to ocean wave patterns over the 20th and 21st centuries.

The ocean responded very quickly to temperature change. According to the model, global warming has already increased the speed of the waves, but no one noticed because satellites have not been monitoring their speeds for long enough. The model also shows that by the end of the 21st century, the waves will be a further 20 to 40% faster compared with pre-industrial speeds. (*Geophysical Research Letters*, vol 34, p L10706: from issue 2607 of *New Scientist* magazine, 12 June 2007).

Melting ice, snow to hit livelihoods worldwide

Global warming that is melting ice and snow will affect hundreds of millions of people around the globe by disrupting rivers in Asia, thawing Arctic ice and raising ocean levels, a UN report said on Monday. Glaciers from the Himalayas to the Alps are in retreat, permafrost from Alaska to Siberia is warming and snowfalls are becoming unreliable in many regions, according to a 'Global Outlook for Ice and Snow' written by more than 70 experts. The changes, widely blamed on greenhouse gases released by mankind's use of fossil fuels, would be felt far from polar regions or high mountain areas. The report said that about 40% of the world's 6.5 billion population would be affected by retreating glaciers in Asia - snow and ice in the Himalayas, for instance, help regulate river flows and irrigation from China to India (*not to mention the millions for whom glacier melt is the only source of water, especially in the dry parts of southern South America. Ed.*)

<http://www.planetark.com/dailynewsstory.cfm/newsid/42375/story.htm>

Earth's climate approaches dangerous tipping point

James Hansen, director of NASA's Goddard Institute for Space Studies in New York, has published a study showing that greenhouse gases emitted by human activities have brought the Earth's climate close to critical tipping points, with potentially dangerous consequences for the planet. Tipping points can occur during climate change when the climate reaches a state such that strong amplifying feedbacks are activated by only moderate additional warming. This study finds that global warming of 0.6°C in the past 30 years has been driven mainly by increasing greenhouse gases and only moderate additional climate forcing is likely to set in motion disintegration of the West Antarctic ice sheet and Arctic sea ice. Amplifying feedbacks include increased absorption of sunlight as melting exposes darker surfaces and speedup of iceberg discharge as the warming ocean melts ice shelves that otherwise inhibit ice flow. <http://www.ens-newswire.com/ens/jun2007/2007-06-01-01.asp>

Arctic sea ice 'lowest in recorded history'

Sea ice in the northern hemisphere has plunged to the lowest levels ever measured, University of Illinois Champaign-Urbana Arctic climate researcher William Chapman says. It is likely to be part of a long-term trend of polar ice melt driven by global warming. Sea ice plunged to new lows some 30 days before the normal point of the annual minimum.

<http://www.abc.net.au/news/stories/2007/08/11/2002466.htm>

Reports available:

Peppermint Box (*Eucalyptus odorata*) Grassy Woodland of South Australia and Iron-grass Natural Temperate Grassland of South Aust., EPBC Policy Statement 3.7.

<http://www.environment.gov.au/epbc/publications/pubs/peppermint-box-iron-grass.pdf>

National Tree Fern Harvesting Guidelines

<http://www.environment.gov.au/biodiversity/trade-use/publications/pubs/tree-fern-harvesting.pdf>

National Grasstree Harvesting Guidelines

<http://www.environment.gov.au/biodiversity/trade-use/publications/pubs/grasstree-harvesting.pdf>

FASTS news (www.fast.org)**New survey service for FASTS members**

Do you want to survey your members? FASTS is please to advise that we now have the capacity to provide on-line surveys for FASTS members. The surveys can include a range of types of questions within each survey including multiple choice, single choice, commentary, matrix of choices plus comprehensive analysis downloadable into SPSS or presented in graphical form. There is no limit to the number of respondents, and no charge for the service.

Australian Graduate survey 2006

Every year, Graduate Careers Australia (GCA) conduct the *Australian Graduate Survey*, which produces data on course experience and a 'snapshot' of graduates' experience in the labour market about 4

months after graduation. The data are packaged in three key reports – *Graduate Destinations*, *Graduate Salaries* and *Course Experience Questionnaire*.

Key findings about science are:

- A significantly higher proportion of science students go on to further full time study than other fields.
- With the exception of geology, the median salary of pass bachelor graduates in most science fields is about the same as the overall median.
- The median salary of HDR graduates in most science fields is less than the median salary of all HDR graduates.

Universities Australia

Universities Australia is the new name for the AVCC and Professor Glenn Withers will be the inaugural CEO. Some of you may recall that Glenn participated in a forum at SmP 2006 on public policy along with Meredith Edwards and Mike Gallagher. Glenn was a Deputy Secretary in the Department of Prime Minister and Cabinet, and First Assistant Secretary, Commonwealth Department of Employment and Industrial Relations. For the past ten years, Glenn has been the Professor of Public Policy and Deputy Director, Crawford School of Economics and Government at the Australian National University and is a Professor at the Australian and New Zealand School of Government.

New CEO for the Australian Research Council

Professor Margaret Sheil is the new Chief Executive Officer of the Australian Research Council. Professor Sheil is currently the Deputy Vice-Chancellor (Research) at the University of Wollongong, a director of the Cooperative Research Centre for Smart Internet Technology, and is a Fellow of the Royal Australian Chemical Institute. She is also a member of the Research Quality Framework Reference Committee, and the immediate past Chair of the Australian Vice-Chancellors' Committee Deputy/Pro Vice-Chancellors' (Research) Group.

(PS. apologies for the marine bias here. That reflects what I read. Help by contributing other material!! Ed.)

ECOLOGY AROUND AUSTRALIA

TASMANIA

Oberon Carter, Regional Councillor

Buttongrass moorland management workshop July 4-6

Jayne Balmer, local contact

The buttongrass moorland workshop was a very successful event organised by the Dept of Primary Industries and Water, Parks and Wildlife Service, the University of Tasmania and the Ecological Society of Australia. It was held at the School of Geography and Environmental Studies. Over 80 people attended the seminars and workshop discussions, with a good mix of both land managers and scientists from a broad range of disciplines. About a third of the participants attended the field trip to Lake Pedder and enjoyed beautiful snow-capped mountain scenery and calm and atmospheric weather. The Ecological Society funded the wine for the wine and cheese event at the end of the workshop sessions and a dinner was held at the University club rooms in which the winning entries of the buttongrass moorland writing prize were read.

Many learned and provocative talks were presented. Prof. Geoff Hope presented a precautionary tale about interpreting fire history from palaeoecological data. He noted that they were very extensive in the last glacial but that fire is now maintaining them beyond their natural range. Prof. David Bowman compared the pyrogenic *Triodia* grasslands of tropical Australia and buttongrass moorlands, providing evidence that the boundaries between the pyrogenic vegetation and more fire sensitive communities are mega-stable boundaries moving very little over thousands or years. Dr Jon Marsden-Smedley warned that it was not possible to exclude fire from buttongrass moorlands due to the inevitability of lightning-ignited wildfire, which until the last decade was not a significant ignition

source in Tasmania. Prof. Peter Clarke presented data from wet heaths and buttongrass communities in New South Wales that demonstrated these plant communities are more responsive to edaphic changes than to fire regime and that overall they are extraordinarily resilient to fire.

A wide-ranging discussion about fire management showed there is a broad acceptance that the strategic application of management burning is needed. The idea of undertaking management burns on a broad scale across wilderness areas was more controversial. A particular concern was our insufficient understanding of the influence of fire regime on soil organic content and hydrology which for some people suggested that management burning should be kept to a minimum until data are available. Others felt that applying more frequent cool burns across large areas would provide protection against summer wildfires, which have a greater potential to impact negatively on natural values than cool low intensity management burns. Karen King presented data from the FIRESCAPE model for southwest Tasmania supporting the case that there would be a reduction in wildfires in fire sensitive communities if management burns are applied regularly across broad areas.

In addition to fire, other buttongrass moorland issues were also discussed. It was noted that the impact of *Phytophthora cinnamomi* has a far greater impact on moorland communities than changes to fire regimes. There is also a major concern that the spread of Chytrid fungus may lead to the loss of the endemic green tree frog, which has its population strongholds in buttongrass moorlands. Urgent measures may be required to prevent the spread of this fungus.

Forestry Tasmania

Simon Grove, local contact

Bushfire is fundamental for the maintenance of wet eucalypt forest in the Tasmanian landscape. Knowledge of stand structure and

ecological processes after fire is essential for native forest management. The Wildfire Chronosequence Project (see http://www.warra.com/warra/docs/research_projects/docs/research_project_0508.htm) is an initiative of Forestry Tasmania (FT), the University of Tasmania (UTas) and the Bushfire CRC. The project utilises a set of permanent reference sites in wildfire and clearfelled areas to investigate a range of management issues, including stand structure following wildfire or silvicultural disturbance, biodiversity, and dynamics of coarse woody debris (CWD) dynamics and biodiversity. The twelve sites in the chronosequence have now been established by Pep Turner and Craig Airey. Recently, Craig and Julia Sohn, a forestry student from the University of Freiburg, completed surveying and mapping coarse woody debris in the six south-facing plots. Simon Grove is co-supervising Julia (with Juergen Bauhus in Freiburg and Chris McElhinny at ANU) while she writes up her diploma. The CWD data will compliment the vertical structural data already gathered for these plots. Together, they will give us a bit of a picture of structural development in wet eucalypt forest, and will help us understand the wider landscape in which the sites sit.

Simon Grove recently returned from a visit to John Spence's lab at the University of Alberta, Edmonton, Canada. Much of the activity in the lab focuses on research at a boreal forest research site called EMEND, which is broadly equivalent to Tasmania's Warra LTER site. EMEND combines the approaches of the Wildfire Chronosequence Project and the Warra Silvicultural Systems Trial, in aiming to understand the natural responses to different harvesting regimes superimposed on a wildfire succession. Simon had an excellent time in Alberta, but the late spring precluded a visit to EMEND because the access road was a metre deep in snow.

More recently, Simon organised a workshop in Hobart for the Forestry CRC, on 'Old trees and the development of coarse woody debris in cool temperate eucalypt forests: A synthesis of recent research in a conservation management context'. Over the past decade, many research projects have

been initiated by CRC-Forestry partners FT, the Forest Practices Authority (FPA), UTas and others, on CWD and on tree hollows. Several of these studies have recently been completed, and the workshop reviewed the key findings and considered the outcomes in the context of the multi-scaled (time and space) nature of forest dynamics and forest management. Besides Simon, the presenters were Tim Wardlaw and Marie Yee (FT), Kate Harrison and Genevieve Gates (UTas), Anna Hopkins (ensis/Scion NZ), and Amy Koch, Karen Richards and Sarah Munks (FPA). All are one-time or current UTas postgraduates. Dave Bowman (UTas) acted as an 'external reviewer' of the science and contributed some thought-provoking ideas to the synthesis chaired by Steve Read (FT). One key outcome will be a discussion document on CWD for the Tasmanian Forest Practices Authority's current review of the biodiversity provisions of the Forest Practices Code.

Sue Baker has started fieldwork surveying the first set of forestry coupes in which 'aggregated retention' harvesting was operationalised. Sue is initially assessing forest structure within aggregates in comparison to nearby unharvested control areas. Meanwhile, Mark Neyland is finally nearing completion of his doctoral thesis, on 'Seedling regeneration following a range of silvicultural treatments in wet eucalypt forest in Tasmania'. Forestry Tasmania recently hosted forest ecologists Jack Bradshaw (WA) and Bill Beese (British Columbia) as part of a 'science panel' that is reviewing FT's efforts on researching and implementing variable retention as alternatives to clearfelling in tall wet oldgrowth forest. We also hosted US biogeochemist Chris Johnson from Syracuse University. Chris works at the Hubbard Brook LTER site and visited us in connection with establishing some collaborative links between Hubbard Brook and Warra.

A reminder that Forestry Tasmania is one of the hosts of a conference on 'Old Forests, New Management: Conservation and use of old-growth forests in the 21st century', to be held in Hobart next February (17-21). For further details, visit:

<http://www.cdesign.com.au/oldforests2008/>

NORTHERN TERRITORY

Brooke Rankmore, Regional Councillor

Walk into the line of fire

Barbara McKaige, local contact

Inviting Top End locals to walk into the line of fire, CSIRO Sustainable Ecosystems (CSE) and the Territory Wildlife Park, hosted a second 'Burning for Biodiversity' project field day south of Darwin on Sunday, July 1.

Fire is a burning issue in the north with more than half of the Top End of the Northern Territory burnt each year. Burning for Biodiversity – a joint project between CSIRO, the Bushfire CRC, Bushfires NT, the NT Government, Charles Darwin University and the Park – is not only researching the effects of fire frequency and time-since-fire on biodiversity and ecosystem processes, but also aims to increase public awareness of fire in northern Australia.

Field day participants heard from CSE fire ecologists, Dr Alan Andersen, Dr Dick Williams and Dr Garry Cook, about research on fire behaviour, vegetation dynamics, and invertebrate biodiversity on the 18 hectare-scale experimental fire plots. Local teachers, students, biologists, land owners, conservation workers, mine site rehabilitation managers and those generally interested in the environment were represented in the audience.

Yellow Water waterbird counts

As part of the Bushfire CRC Burning for Biodiversity project, CSIRO's Peter Christophersen and Sandra McGregor have been applying traditional Aboriginal knowledge to burning in Kakadu's wetlands. CSIRO is now looking at any ramifications for bird populations.

Dr Adam Liedloff, Tony Hertog and Peter Christophersen visited Yellow Water in Kakadu National Park late in June to conduct an annual water bird survey, to determine any effects on populations from traditional wetland burning.

'Our surveys are showing that burning the wetland to remove dense stands of native *Hymenachne* attracts both diversity and great

abundance of water birds during the following years,' Adam reports. 'This is due to fire modifying the vegetation structure: opening up areas of free standing water and promoting plant species used by birds such as wild rice, *Eleocharis* and a number of lilies.'

The presence of wetland birds such as magpie geese, whistling ducks, jabirus, whiskered terns, egrets and herons indicates a healthy wetland – valued by traditional owners, tourists and the tourist industry.

'We're also finding that the presence of water birds depends on seasonal conditions such as the length of the wet season and wet season rainfall,' says Adam. 'These factors determine water depth and the ability of different birds such as magpie geese to reach preferred submerged food items. We're now going to monitor bird numbers throughout the dry season and hopefully collate the diversity and abundance with tourist satisfaction.'

International Pacific Invasive Ant Conference – Hawaii

Dr Ben Hoffmann recently presented at the world's first International Pacific Invasive Ant Conference in Hawaii where he touted CSIRO's pest ant eradication and management efforts in the Top End to 130 visiting scientists and managers. Ben was pleased to discover Australia's management of pest ant species is amongst the best in the world.

'It was particularly noteworthy that the US is providing great research into invasive ant biology and ecology, but is struggling with their management,' said Ben. 'Australia and NZ, however, conduct little research into the species, but have achieved great management results. We are now aiming to increase the collaboration and exchange between countries to better understand and manage invasive ants.'

Ben took the opportunity to visit test eradication sites using new products on two of Hawaii's islands, as well as to see the research sites of other ant ecologists. Hawaii is an ideal location for an invasive ant conference as the islands have no native ant faunas, but are now being decimated by almost 100 invasive ant species. Ben says

very few places in the world demonstrate the impacts of invasive ants as well as Hawaii.

While Australia has some of the world's worst invasive ant species, Ben attributed our management success to the remoteness and small-scale of the infestations and new methods being used including helicopters fitted with a differential GPS and more specialised baits.

Ben reported the eradication of the African big-headed ant in the Daly River region in the Northern Territory with a single treatment, and great results with other infestations in the Tiwi Islands, north of Darwin, and north-east Arnhem Land.

QUEENSLAND

Andrew Hayes, Regional Councillor

For those of you who were able to be at the Recovering Rainforest Forum at Griffith University in June, I am sure you will agree it was a fantastic event. Sam Lloyd and the organizing committee did a great job of bringing together researchers, practitioners from government bodies and volunteers groups. Well done to you all for an interesting and thought-provoking couple of days (see report from Sam on pages 35-6).

At the Forum, there was an opportunity for those ESA members present to get together, meet and talk about what events we would like to organize on a Regional scale.

There were a couple of great ideas that came up, and I have listed them below (thanks Larelle for forwarding me the notes you took on the day).

- rolling visits / field trips to various active research sites. As we have lots of Qld members who are new to the state, it was suggested that this would be a good idea to get to know our area (as well as an opportunity to all get together, discuss some ecology and have a BBQ). Marc Hero has offered his PPBio site at Karawatha Forest south of Brisbane as a first location.
- Community outreach activities (that combine services to members as well as

reach the general public). For example, a guest speaker from ESA on a hot topic in ecology (doesn't have to be ESA guest speaker, can be from outside membership) or arranging for conservation land managers - talking to TAFE teachers etc.

- Communicating science/media training workshops.
- How to manage research & management needs workshops.
- Point was made to ensure Cairns members have access to events too, and to include northern NSW people in Brisbane events.

Hopefully I will be organising something soon along the lines of one, or several, of these. Watch this space.

Queensland Herbarium, Mareeba

Gary Wilson, local contact

After 20 years of residence in the Centre for Tropical Agriculture in Mareeba, this is my last note from this facility; the move to the new Australian Tropical Herbarium on the JCU campus in Cairns commences on September 17. The herbarium team is looking forward to working with our new staff and partners at the Australian Tropical Forest Institute (ATFI) and expect to see old friends and new associates visit the new and greatly enlarged collection there. We remind you the collection and our offices are within strolling distance of the science building, the library and the coffee shop.

Someone upstairs must have noted the comments in my previous report about the unseasonably warm weather, because in the past two months we have experienced some of the coldest weather in recent years. However, it has been dry and the days fine and mild, and the cool nights have not impinged on our field activities. In July, Eda Addicott and Mark Newton joined a multi-disciplinary team of soil scientists and wetland biologists in surveying and describing a suite of wetlands in the lower Cape York. This was a particularly useful activity for us as it enabled more informed decisions to be made about the allocation of land zones to regional ecosystems associated

with wetlands in that area. Eda and Mark were then joined by Chief Scientist John Neldner from BRI in a revisit of some of John's old stamping grounds on the lower Cape. The purpose of this trip was to ground-truth the conversion of the previous vegetation mapping conducted by John Neldner and John Clarkson in the CYPLUS project to the current regional ecosystems methodology.

Activities in the field continued in August, with Eda and Gary Wilson joining other EPA staff in a repeat survey of 10 monitoring sites set up in and adjacent streams and mining leases in the Palmer River Resources Reserve. The sites are part of a wider survey of the effects of the mining of gold from alluvial deposits in the reserve. This is the fourth repeat survey in six years and we are documenting the vegetation prior to and post mining and the effectiveness of revegetation activities. Robyn Wilson, a zoologist from JCU, joined Eda and Gary, to add a fauna aspect to the survey. The Palmer River area is physically spectacular and steeped in history and our trips are always enjoyable. In late August and early September, Gary and Mark Edginton from BRI spent two weeks working their way across the Croydon and Donors Hill map sheets. This is the first visit to the Croydon sheet for Mark at the start of his mapping activities and the final visit to the Donors Hill sheet for Gary with that map scheduled for completion in early 2008. A highlight on Donors Hill was visiting and documenting a number of springs located at the base of the northern edge of the Donors Plateau. We also took particular note of the occurrence of a number of weed species that are of interest to local land managers and us and made additional collections of *Calotropis* – a taxon whose spread is causing particular concern.

On the subject of documenting sites, during the reporting period Mark and Gary visited BRI for three days to work on the newly released version of the CORVEG database. As the staff most experienced with data entry to this important database, we were able to assist database manager Rosemary Niehus and software designers Brad Ellis and Peter Johnson finetune the package.

CORVEG currently contains records of 10,000 secondary-level detailed sites and additional records are being added as mapping activities continue. It is a powerful tool in regional ecosystem definition and habitat management and essential in the generation of technical reports and summaries for the bioregion write-ups. While in Brisbane, we attended the launch of the 2007 *Census of Queensland Flora*. The census is fundamental to the entry of data in CORVEG and this edition is supplied with a copy on CD, a welcome addition that makes the data much easier to search. The 2007 edition of the census supersedes the 2002 edition and as an extraordinary amount of change, often by virtue of molecular-based inquiries, has occurred in the intervening years, those of us active both in hands-on botany and database entry and technical writing are much pleased by its publication.

Vertebrate Ecophysiology lab, School of Marine and Tropical Biology, James Cook University, Cairns

Sarah Kerr, local contact

The Vertebrate Ecophysiology Lab has been very busy the last few months; as we became certified tree climbers, and began several new projects on ringtail possums and frogs, adding to the possum, bandicoot and tree kangaroo research our lab already had in progress. Andrew Krockenberger and Masters student Gabriel Porolak returned briefly to the mountains of Papua New Guinea to undertake further research into the ecology of the Huon tree kangaroo. PhD student Sarah Kerr finished her preliminary genetic analysis of the coppery brushtail possum and continues to explore its ecology and evolutionary history. We welcomed Johan Larson to the lab, who as Andrew's new research assistant is working on projects about the ecophysiology of microhylid frogs, and Herbert River, lemuroid and green ringtail possums up on the Tablelands of Far North Queensland. In pursuit of these little rainforest possums, we unexpectedly found ourselves camping in -7°C weather up here in the tropics the other week! The lab also welcomes Jennifer Maltese this semester, who will be working on possum ecophysiology for her Master's

research, and Megan Quenzer, who will be looking at the spatial arrangement of high value (low defence) food trees and how that is related to home range in green ringtail possums.

The Ecology Centre, The University of Queensland

Yvonne Buckley, local contact

How far and how fast in a complex world? Dispersal ecology as a field is rapidly advancing with the advent of new empirical and theoretical tools and the motivation of important global problems such as species invasions and range shifts due to climate change. Predicting where, how far and how fast invasive species move is central to developing effective management strategies for limiting their impact on native communities. The fundamental niche of some native species may shift in space in response to climate changes and we need to be able to predict which species will be able to make a corresponding range shift and which will not. Both of these real-world questions require that we take into account the effects of landscape complexity on dispersal processes.

A new five year ARC Discovery project led by Dr. Yvonne Buckley at the Ecology Centre, University of Queensland, aims to explore these questions using invasive pines in New Zealand, Scotch broom in Australia and the UK and native frugivore-dispersed species in the Northern Queensland tropics as study systems. The project brings together leading researchers from Israel, the UK and Australia to use innovative field-work with newly developed mechanistic dispersal models to make predictions on how landscape heterogeneity affects dispersal processes. There are opportunities for PhD students and a research assistant to work on different aspects of this exciting project. Please contact Yvonne Buckley y.buckley@uq.edu.au for more details.

SEQ Catchments, Regional NRM Body

Samantha Lloyd, Environmental Partnerships Manager

Hundreds of dedicated rainforest enthusiasts from QLD, NSW, and as far as New Caledonia came together to share valuable

knowledge and experiences at the Queensland Rainforest Forum from the 25-27 June. More than 250 people attended the three-day event at Griffith University's Nathan Campus. The Forum was generously hosted by the Griffith University's Centre for Innovative Conservation Strategies (CICS), which together with Australian Government funding and substantial in-kind support from SEQ Catchments (SEQC), kept registration costs extremely low. This was very important to the organising committee, as the intention of the Forum was to showcase community volunteer projects, together with research and government rainforest work. The Forum also provided a valuable opportunity for knowledge sharing, networking and an energy recharge!

The Forum comprised over 40 excellent presentations on two days, with four interactive forums (e.g. climate change and weed management) and a poster session. Forum participants also visited the Gold Coast and Sunshine Coast hinterlands on the third day of the Forum. Tours provided opportunities to examine on-ground projects and conservation management strategies to conserve high priority rainforest ecosystems in the region.

The Forum was inspired by the SEQ Rainforest Recovery Cross-regional Implementation Program and was an initiative of SEQC, the Australian Government, WWF Australia and the CICS. Landcare Queensland was commissioned to look after registrations, the program and other vital components. The Ecological Society of Australia also generously provided funding that covered the costs of our very impressive note pads!

Nine years ago the first WWF SEQ Rainforest Recovery Conference brought together landholders, government bodies, scientists, community and conservation groups to share their knowledge of rainforest conservation and showcase their work. So, it was fitting that the 2007 Forum reflected on how things have changed since then. The 2007 Forum featured a keynote presentation from Bruce Boyes, convenor of the 1998 conference. Bruce's presentation reviewed the outcomes and recommendations of the 1998 event, explored what had been achieved and

provided perspectives on what we still need to do. Other keynote presentations included Cr Mike Berwick (Mayor of Douglas Shire Council), Prof. Roger Kitching (CICS), Brendan Stephen and Jolyon Froude (Barung Landcare), and Phil Moran (Noosa and District Landcare).

The Forum ended with a lively discussion on the critical issues facing rainforest conservation and management, and recommendations of how we can best mitigate against the ever increasing threats to rainforest ecosystems. Some common themes included: a call for further funding and research into taxonomy (especially plants, fungi and invertebrates); the need for opportunities to conserve small, but highly biodiverse remnant rainforest patches; a critical need for more information on restoration ecology and improved planning at a local government and regional level. There have also been many requests for proceedings from the Forum and the organising committee are investigating this, although it depends on further funding. The organising committee are currently putting together a summary document on the Forum and will be requesting feedback from participants on where they think current rainforest conservation efforts should be focussed.

The feedback from the Forum has been very positive and huge thanks go to Annie Keys (Australian Government), Kay Montgomery (SEQC), Liz Gould (SEQC), Mike Gregory (WWF), Carla Catterall (CICS), Bruce Boyes (Land and Water Australia) and Kerri Woodcock (formally QLD Landcare) for their enormous support and efforts. For more information please contact SEQC Environmental Partnerships Manager, Samantha Lloyd via e.mail (slloyd@seqcatchments.com.au).

Alternatively, download the program from the Queensland Landcare website: www.landcare.org/RRforum07.htm.



Panel discussion (above) and the packed house (below) at the Rainforest Recovery Forum



Sustainable Landscapes, Australian Centre for Sustainable Catchments (ACSC), University of Southern Queensland, Toowoomba

Kate Reardon-Smith, local contact

The ACSC has been busy as always with plenty of activity on the climate research front, as well as some new projects using spatial imagery analysis to investigate significant weeds (*Lantana camara* and *Rubus fruticosus* aggregate), riparian land use, remnant condition and reptile (*Egernia rugosa*) habitat, led by A/Prof. Armando Apan.

Stuart Collard recently submitted his PhD thesis on Brigalow agro-ecosystems. The research focussed on comparing different indicators of biodiversity and ecosystem function in land uses along an agricultural intensification gradient. As expected, soil

carbon, herbaceous plant diversity and bird diversity were considerably higher in remnant vegetation than in the adjacent agricultural matrix. However, more subtle patterns relating to land use intensity in the matrix supported the use of less intensive management practices and a range of different biophysical indicators.

Jarrold Kath has also recently submitted his Honours thesis on the determinants of bird distribution in Crows Nest Shire: Implications for wildlife corridors. The results of the study suggested that site-level factors, shrub density and the abundance of noisy miners were the key factors influencing bird distribution, while the spatial configuration of surrounding vegetation had little influence. Consequently, site-level restoration of habitat should be a high conservation priority and would likely be of more benefit than improving connectivity for many bird species in the area.

Martine Maron and Simon Attwood have been tripping the world, presenting papers at the IALE conference in Wageningen, including: *Arthropod assemblage responses to agricultural intensification in heterogeneous landscapes - local testing of global patterns*; *Continent-scale patterns in temporal dynamics of avian assemblages*; and *Arresting woodland bird decline in Australian agricultural landscapes: the potential application of the European agri-environment mode* (a collaborative paper between various ACSC members and CSIRO's Sarah Park). The talk-fest was followed by additional extensive but highly subjective field studies of the habits of Australian ecologists at large in Western Europe, as well as some meetings and discussions with various Natural England people regarding the Environmental Stewardship scheme in the UK.

The rest of us have had our heads down through an extended period of record cold temperatures in southern Queensland – even data analysis has looked like more fun than fieldwork!

Introducing Dr. Margaret Mayfield

My name is Margie Mayfield and I am a new lecturer at the University of Queensland in

plant ecology. As a newcomer to Australia, excited about developing a productive and collaborative research group, I would like to introduce myself to the Australian ecology community.

Broadly, I am a conservation-oriented plant community ecologist with interests in both the ecological and evolutionary mechanisms through which plant communities form and respond to changing environments. My work includes studies of plant diversity patterns in fragmented tropical landscapes, phylogenetic analyses of community assembly processes, functional trait evolution and ecological sorting, plant-pollinator interactions, and ecosystem services (crop pollination). While my interests are broad, they are unified by an interest in understanding how tropical and Mediterranean plant communities are altered by human activities.

Currently, I am developing three projects here in Australia. The first is a study of how the germination strategies of Mediterranean plant species may impact their responses to human-induced climate change. The second is a study examining the adaptation of native plant species surviving in agricultural landscapes and the effects agriculturally-adapted populations of native plants have on surrounding natural communities. Finally, I am hoping to start a project examining the importance of plant-animal pollination and dispersal interactions on the distribution of native tropical plants in fragmented landscapes. Please feel free to contact me if you or any students you work with are interested in finding out more about my research projects. Contact Dr. Margie Mayfield; School of Integrative Biology; Goddard Building (8); St. Lucia, U Qld. 4072. xpollinate@yahoo.com

SOUTH AUSTRALIA

Meredith Henderson, Regional Councillor

Since I last wrote, the event co-sponsored by the ESA in honour of Prof. Mike Bull's 60th birthday has occurred. The event – a symposium held at Flinders University – was

excellent and the range of speakers and audience alike confirmed the influence Mike has had in Australian ecology. I chaired a session that featured some new and emerging ecologists. One student presented a conceptual diagram of social networks – she would normally use these to demonstrate lizard behavioural ecology, but used it to highlight the connections that have been made by the presence of Mike. It was certainly fascinating and demonstrated the concept nicely, as well as showing how important Mike has been in truly connecting some very disparate threads.

Science & Conservation, SA Department for Environment & Heritage

Meredith Henderson, local contact

There have been many staff movements occurring, so many that I am sure I won't remember them all. Phil Pisanu, who was acting in the Senior Ecologist Private Land Management position, has returned to Kangaroo Island. Graeme Moss, who has been in a number of roles in SA, is returning to NSW to work with the NSW Department of Environment & Climate Change in Coffs Harbour (*As well, Grahame Byron, who's been managing the Marine and Coastal Conservation Branch, has also left, heading back to Qld. Ed.*). We are expecting a number of new scientists to come on board in various roles – stay tuned.

The restoration research project with Dr Leanne Pound (collaboration with Adelaide University and DEH) is moving along. Leanne is out in the field at the moment, in far west SA. Leanne recently spoke of her research looking at the germination and seed bank attributes associated with mine site rehabilitation at the Botanic Gardens of Adelaide staff day. Dr Phil Ainsley's seed biology and germination research has had some exciting breakthroughs. Phil found that dormancy cycling with seeds affects germination cues for the nationally endangered *Codonocarpus pyramidalis* (slender bell fruit). He found that burying seed for a period of time and then treating with heat and aerosol smoke achieved greater than 80% germination of viable seed. A similar response has been found with ageing seed of the threatened *Prostanthera*

eurybioides (Monarto mintbush), which is showing a response to smoke treatments. One of Phil's honours students, Emma Steggle, has just finished her work on the seed biology and germination requirements of *Capparis mitchelli* (native orange).

A collaboration that was initiated in 2004 between DEH and Flinders University has resulted in a successful ARC Linkage Grant. The research now includes ANU, the University of Wollongong and the NSW Department of Environment and Climate Change. We will be looking at fire mosaics and the demography and dispersal of plants, birds and reptiles. The work will include research on the population genetics of the three main taxonomic groups. The new research is based on the work looking at fire regimes in the central mallee reserves of the Eyre Peninsula.

ACT

Jason Cummings, Regional Councillor

CRES ANU

Nicki Munro, local contact

The conservation and landscape ecology group centred around Prof. David Lindenmayer at the Fenner School for Environment and Society (formerly CRES) has a number of projects running at the moment. The fire project at Jervis Bay, managed by Chris MacGregor and Darren Brown is looking at how vertebrates and vegetation respond to fire. Chris MacGregor is also studying the local ringtail possums and long-nosed bandicoots for a Masters project into the habitat use and nesting habits of these animals and changes due to fire. Martin Westgate has just started a PhD at Jervis Bay, in Booderee National Park, looking at frogs in different habitats. A cutting experiment in the tall ash forests of Victoria is looking at the value to wildlife of retained habitat islands in logging coupes.

This project is managed on the ground by Lachie McBurnie and Damien Michael, and compares the fauna found in one large island compared to three small islands in a coupe, and also the cutover area and nearby

remnant forest. This will be a long-term project looking at fauna recovery in the regrowing coupes. A restoration project looking at fauna in revegetation plantings on the south-west slopes of NSW has been recently established.

The project is under the on-ground management of Mason Crane. Some interesting findings have shown that possums are more numerous on farms with large areas of remnant bush, than on farms with large areas of revegetation but few remnants. Also, revegetation can provide habitat for some birds, but not for others. This project is focusing on the interaction between revegetation patches and patches of remnant bush and how fauna respond. A new project is currently being established at Mulligan's Flat, adjacent to the northern suburbs of Canberra. This will be a large fenced reserve containing a number of management treatments, such as grazing, fire and addition of logs.

Sarah Raphael is starting a PhD on the value of logs in the ecosystem, and Phil Barton has just started a PhD on insect biodiversity.

The greater Mulligan's Flat/Goorooyooroo project is managed by Adrian Manning. Other people working on these projects are Dr Rebecca Montague-Drake and Rachel Muntz, Dr Phil Gibbons, Dr Don Driscoll, Dr Sam Banks, Dr Adam Felton and statisticians Ross Cunningham, Jeff Wood and Emma Knight.

NEW SOUTH WALES

Liz Tasker, Regional Councillor

Hi folks. Well the winner of the \$4 000 000 prize for best news contribution for this issue undoubtedly goes to Brad Law (the cheque is in the mail, Brad) although Karen Ross provided some serious competition (see below). If you didn't hear about the prize or the call for news contributions this might be because you are not on ESA news and discussion e-list. It appears that quite a few NSW members who used to be on the ESA email list have accidentally dropped off it. If

you haven't received any of the ESA emails in the last few months – and there have been quite a few, including the donation from Nigeria mentioned above – please contact the Membership Manager, Lyn McCormick (at membership@ecolosc.org.au) and get yourself put back on the list. That is if you wish to be, of course. The e-list is a good source of information on scholarships and jobs, as well as the most timely way to communicate general news with an expiry date to fellow ESA members.

The major announcement from NSW this issue is that the **2008 ESA annual conference will be held in Sydney, 2-5th December**, and is the first time the ESA has met in Sydney since 1984! The conference will be hosted by the University of Sydney, and Clare McArthur is the Chair of the Local Organising Committee. Her enthusiasm has mustered a team of 13 others: Dr Dieter Hochuli (Deputy Chair: USyd), Dr Peter Banks (UNSW), Prof. David Booth (UTS), Assoc. Prof Coleman (USyd – EICC), Prof. Chris Dickman (USyd), Dr Graeme Hastwell (UWS), Dr Lesley Hughes (Macquarie Univ), Dr David Keith (DECC), Dr Alistair Poore (UNSW), Prof. Peter Steinberg (UNSW), Dr Liz Tasker (DECC), Dr Charlotte Taylor (USyd) and Dr Glenda Wardle (USyd). A subset of the committee held their first meeting in late August to begin scoping ideas for symposia, field trips and associated events, and is now inviting input and suggestions from ESA members, particularly those from NSW, about anything you would particularly like to see included in the conference. Please contact Clare (claremc@usyd.edu.au) with suggestions or ideas.

University of New South Wales

Alistair Poore, local contact

We are very pleased to announce the appointment of Angela Moles as Senior Lecturer to the newly established Evolution and Ecology Research Centre. Angela is well known to many Australian ecologists due to her research on seed size, plant life histories and global patterns in herbivory. Her appointment is part of a new strategic initiative in ecology and evolutionary biology

at UNSW that includes three new appointments (a behavioural ecologist to be announced soon), a new postgraduate program, and several scholarships for high quality PhD students. The Centre will be launched on the 19th September.

Angela Moles has a PhD scholarship available for a student to work on a new project called 'Synthesising life history theory and data on land and in the sea'. The successful applicant would be able to chose their own direction within this broad area, but possible projects include: 1) Quantifying relationships between mother size and offspring size across a wide range of taxa and testing hypotheses about why species with different ecological strategies (sessile/motile; marine/terrestrial) allocate their energy so differently, 2) Quantifying the degree of variation in the size of offspring produced by different organisms, and determining whether this variability is related to environmental predictability, or 3) Quantifying global patterns in life history traits such as body size, offspring size or longevity across a range of taxa. Angela would also be keen to hear from students who have their own project ideas. Send a CV including a transcript, contact details and the names of two referees to Angela Moles, School of BEES, University of New South Wales, Sydney NSW 2052, Australia, or e-mail Angela on Angela.moles@vuw.ac.nz.

Forest Ecology Research Group, NSW DPI

Brad Law, local contact

The current hectic schedules of our staff have resulted in a quickly cobbled together report this time round. Summaries of a few recently completed projects are provided and we have some reports from students who are co-supervised by various staff in our research group.

Anthony Weinberg, Rod Kavanagh, Brad Law and Trent Penman recently submitted the final report on the NSW Environment Trust funded project, 'Testing Biodiversity Toolkits - how well do they predict vertebrate species richness?' In the last five years, State Government agencies across Australia have developed biodiversity toolkits as devices for rapidly assessing the

location of areas of high habitat quality. To date there has been insufficient testing and publication of the ecological basis that underlies biodiversity toolkits. We compared the predictions from four toolkits – Habitat Hectares (Vic), Biodiversity Benefits (NSW), BioMetric (NSW), and BioCondition (QLD) - based on measurements collected at 120 sites throughout the South West Slopes of New South Wales and northern Victoria, against an existing data-set of vertebrate species collected at the same sites by wildlife research scientists at the Science and Research Division, NSW Department of Primary Industries. We found that all toolkits gave similar scores and that site scores for remnants were significantly higher than plantings or paddocks – reflecting the greater variety of structural features and structural maturity, which occurs in remnants. Most importantly, we found that biodiversity toolkits gave an inadequate representation of vertebrate species richness. While their performance was slightly better in remnant vegetation, toolkits were very poor in representing vertebrate species in planted sites. We also looked at ways to improve toolkit performance by adding attributes and adjusting weightings and identified five key site and landscape attributes: presence of water, surrounding native vegetation cover, canopy cover, number of hollow-bearing trees and total log length that could improve the predictive nature of all the toolkits. This research is intended to inform Toolkit developers and users on their limitations and reliability as well as practical ways of improving their design.

Brad Law finally submitted the final report to RIRDC on the Honeybee Program and Forests NSW funded project 'The impact of logging on nectar production by eucalypts'.

The focus of this research was on nectar production by spotted gum *Corymbia maculata* and grey ironbark *Eucalyptus paniculata*, both tree species of prime importance to the timber industry, beekeepers and nectarivorous wildlife. State forests provide the major honey resource for the beekeeping industry in NSW. While Forests NSW have a number of management practices already in place to retain nectar-

producing trees during logging operations, there is no information on how much nectar is produced by retained trees or young trees regrowing after logging. Indeed, beekeepers have expressed concern about the effects of logging on nectar production, especially the perception that young trees do not produce as much nectar as mature trees. The research concluded that nectar production in Spotted Gum on a per flower basis was not affected by logging history nor tree size. When individual flowers are scaled up to the forest stand, mature forest with large trees and many more flowers produced almost 10 times as much sugar per hectare as recently logged forest, with regrowth being intermediate. However, at the compartment scale, the difference between mature forest and recently logged forest was reduced to a factor of two times when the extent of areas left unlogged under current logging practices was considered. Most importantly, nectar was not a limiting resource in 2005 as extensive flowering was recorded across the south coast. We surveyed local beekeepers with questionnaires and found that honey yields in 2005 (54 – 83 kg/hive over seven months of flowering) were above the typical range for the south coast of NSW. Honey productivity was comparable across the three different logging histories. This is contrary to the views expressed by some beekeepers that small trees in recently logged forest do not produce much nectar. But not every year is as good as 2005, with flowers measured in 2003 providing a strong contrast. Few trees were in flower and nectarivores, especially birds and honeybees, left virtually no nectar behind by mid-morning. Beekeepers reported that hive bees were not producing honey under these conditions.

Results for grey ironbark showed similarities to spotted gum with regard to the impact of logging, but the species differed markedly in other aspects of nectar production. The final report should be available soon on RIRDC's website.

Trent Penman continues his post-doc work with Forests NSW and the Bushfire CRC, working closely with Doug Binns. Their work focuses on two long term vegetation study sites in the Eden area in

south-eastern NSW. The two study sites were established for different purposes. The first, the Eden Burning Study Area, is a replicated operational scale study site that examines the impacts of repeated prescribed burning and logging operations on a range of environmental values. The second, the Yambulla Hydrology Catchments, was established in 1977 to examine the impact of harvesting on water quality. In this study, there are four catchments (two logged, two unlogged) each of which have 60-80 vegetation plots. The long-term data from both sites are showing a decrease in species richness and significant shifts in community composition. We suggest that these changes are the natural response of these forests to the absence of wildfire. Prescribed fire being applied in the Eden Burning Study area is having a minimal effect on both the species richness and community composition. We tested the soil temperature during prescribed burning operations and found that the soil temperatures achieved during these fires are insufficient to trigger germination in those species that require fire related cues to break dormancy. Much of this work will appear in the literature over the coming year.

Two honours theses were completed with Frank Lemckert. Sandra Plummer (UNSW) studied how olfactory cues influence the use of shelter sites by peron's tree frog *Litoria peronii* and the red-backed toadlet *Pseudophryne coriacea*. Through a series of choice tests she found that both species reacted to olfactory cues. Most notably, *Pseudophryne coriacea* selected sites which contained their own cues, while neither species were affected by the cues of a conspecific. *Litoria peronii* avoided sites containing cues of red-bellied black snake *Pseudechis porphyriacus*, while *Pseudophryne coriacea* did not respond to the cues. Sandra is currently preparing the paper for publication while beginning her career with the NSW DECC. Nicky Wallace (UNSW) described the diets of two closely related *Hylidae* frogs, providing comparisons between age, size and sex. It was found that both species consumed insects as the vast majority of their diet and both were cannibalistic. The two species once occurred

in sympatry, with *L. booroolongensis*'s numbers having experienced a steep decline, while *L. lesueuri* remains abundant. Diet does not, however, appear to be the cause of this variation in abundance with both species consuming much the same orders of insects. *L. booroolongensis* was noted, however, to consume more aquatic prey than *L. lesueuri*.

Alison Towerton (part-time masters student, University of Sydney, Dickman lab) is continuing her study on the habitat preferences and movements of foxes in the Goonoo Lands, a forested area northeast of Dubbo, NSW. Data has been collected on a number of aspects of fox distribution in this area using the following methods:

1. *Home range analysis* - To date 13 foxes and one cat have been collared and tracked to provide information on home range size, habitat preferences and movement patterns. Four foxes had failed transmitters or left the area, one fox was shot on a neighbouring property, six foxes were found, presumed poisoned, following pest control operations in the forest and on surrounding properties and two animals remain alive. Three animals were fitted with GPS collars providing a more detailed look at fox movements in the forest. Analysis so far has suggested that home range sizes in the forest are generally larger than those recorded for foxes elsewhere in Australia.

2. *Sand plot surveys* - 38 sand plots were surveyed for animal tracks before and after baiting programs in order to assess fox activity. The first two baiting programs (Nov 2005, Mar 2006) showed a significant reduction in the number of sandplots recording fox activity, while the July and November 2006 baiting programs show a non-significant increase. This may be explained by July being the mating season for the foxes and they may be more mobile, while in November staff were busy with fires and only half the forest was baited.

3. *Scat searches* - around 75 predator scats were collected in the area and are currently being analysed to provide information on the diet of foxes in this region.

4. *Remote camera systems* - During a period of five months, three infra-red triggered digital cameras were setup at

malleefowl mounds to monitor malleefowl activity and mound visitation, particularly by potential predators. The animals photographed were the red fox, lace monitor, sand monitor, echidna, feral goats, swamp wallaby, raven, common bronzewing and a dunnart. No photos of malleefowl were recorded at the mounds.

Matthew Stanton has commenced a Master of Science at University of New England examining the dietary preferences of barking owls, *Ninox connivens*, in the Pilliga forests of Northern NSW. This is part of a broader long term study of barking owls. Over 1200 samples have been collected to date. Early results indicate that the diet is highly seasonal and most prey items are taken from the air (bats and insects) or the trees (roosting birds and some gliders) with very few items being predated on the ground. Consistent prey availability appears to be the main limiting factor for barking owls in Pilliga and much of southern Australia.

NSW Department of Environment and Climate Change (DECC)

Karen Ross, local contact

New department structure

This year saw yet another change to our agency's name following the NSW state election: the *Department of Environment and Conservation (DEC)* has now become the *Department of Environment and Climate Change (DECC)* in Phil Koperberg's 'super-ministry' for Climate Change, Environment and Water. The new department merges parts of the former Department of Natural Resources with the former DEC (which in turn had combined the former National Parks and Wildlife Service, Environmental Protection Agency and Botanic Gardens Trust). An overview of the structure of the latest iteration is probably in order, lest all this mixing and matching begins to look like leftover trifle pudding.

The new department's roles and responsibilities have been reshuffled into major divisions of:

- Climate Change and Environment Protection
- Conservation, Landscapes and Policy

- Scientific Services
- Cultural Heritage
- Parks and Wildlife
- Botanic Gardens Trust

The Scientific Services Division contains three major branches, each with different sections bringing together a wide range of research groups from the old NPWS, EPA and DNR:

Environment and Conservation Science

Sections: Monitoring, Evaluation and Reporting; Terrestrial Biodiversity Science; Native Vegetation Science; Waters and Coastal Science; Atmospheric Science.

Catchment & Environment Protection

Sections: Climate Change Science; Landscape Modelling & Decision Support; Soil Science; Environmental Forensic & Analytical Science; Ecotoxicology & Environmental Contaminants.

Information Sciences

Sections: Spatial Products and Data; Information Management; Remote Sensing.

Two of these sections are of particular relevance to ecology. The Native Vegetation Science Section headed by Dominic Sivertsen continues the work previously undertaken in DNR on native vegetation science products. The Terrestrial Biodiversity Science Section (formerly Biodiversity Conservation Science) headed by Jack Baker contains many of our research ecologists:

Terrestrial Biodiversity Science Section

Three former DNR researchers have recently joined the section: David Eldridge (based at UNSW), Ian Oliver and Warren Martin (both based at Armidale) and a new Monitoring, Evaluation and Reporting unit has been established, bringing the number of research units in the section to ten:

1. **Plant Ecology Unit** (including threatened flora) - Tony Auld, Andrew Denham, Mark Ooi.
2. **Fire Ecology Unit** - Liz Tasker, Kate Hammill, Amber Pares, Jessica Bryant.
3. **Vegetation Dynamics Unit** - David Keith, Mark Tozer, Chris Simpson, Suzette Rodoreda, Berin Mackenzie, Judy Scott, Emma Gorrod.
4. **Population Analysis and Modelling Unit** - Michael Bedward, Murray Ellis, Karen Ross.
5. **Threatened Fauna Ecology Unit** - David Priddel, Robert Wheeler, Nicholas Carlile, Ian Wilkinson.
6. **Vertebrate Ecology Unit** - Dan Lunney, Peggy Eby, Harry Parnaby, Matthew Crowther, Jessica Bryant.
7. **Woodland Ecology Unit** - Sue Briggs, Julian Seddon, Mark Bourne, Stuart Doyle.
8. **Monitoring Evaluation and Reporting on Fauna and Threatened Species Unit** - Paul Mahon, Candida Barclay, Scott King, Clare O'Brien, Sandra Plummer, Allen McIlwee, Corinna Orscheg.
9. **Rangeland Ecology Unit** - David Eldridge.
10. **Monitoring Evaluation and Reporting on Native Vegetation Unit** - Ian Oliver, Warren Martin.

In each of the forthcoming Bulletin issues I will briefly profile the work of one team from the Terrestrial Biodiversity Science section: this issue it's the newly established Monitoring Evaluation and Reporting Unit (Fauna and Threatened Species).

Monitoring, evaluation and reporting on NRM targets is becoming an important part of the science undertaken by DECC, and the new unit, already nick-named 'MERFY', is led by Paul Mahon. Its purpose is to identify existing and develop new programmes to measure long-term trends in biodiversity to address the native fauna and threatened species targets of the NSW government's Natural Resource Monitoring, Evaluation and Reporting Strategy. This includes programmes which measure trends in the abundance/diversity of species across their entire range or over entire regions and programmes which measure the effectiveness of specific management or regulatory actions within an experimental context e.g. measuring the effects of fox control on breeding success of shorebirds or measuring the effects of native vegetation restoration on mammal

diversity in fragmented agricultural lands. As such, the unit will be working with land managers (Parks and Wildlife, Forests NSW, Dept of Lands and private land managers through the CMAs) to establish new programmes.

In other DECC news, staff from Western Branch (Dubbo and regional offices), in conjunction with the Fire Ecology Unit at Hurstville, and ecologists from the Forest Ecology Research Group of the Department of Primary Industries, are commencing various projects following the recent bushfires in the western woodland belt of NSW. Severe weather conditions in late 2006 contributed to a number of extremely hot fires in the Pilliga, Goonoo and Goobang areas. The November 2006 Pilliga fire alone burnt around 100 000 ha in one day. Many people inside and outside of DECC have recognised the significance of these extensive hot fires, and the need to examine the response of the woodland

systems to the fires. The first stage of the project is compilation of a fire severity map using SPOT5 imagery pre- and post-fire. Having accurate spatial data on the extent and severity of the fires will provide valuable information for management, and the basis for stratification of a suite of research and monitoring projects. Researchers or groups who are potentially interested in getting involved in the surveys or linking in with this project are invited to contact Liz Tasker on liz.tasker@environment.nsw.gov.au.

And in other exciting news, Mark Ooi completed his PhD thesis this August. His project '*Comparative ecology of rare and common species in a fire-prone system*' used a demographic approach to explore processes that potentially limit the relative abundance of a rare species, *Leucopogon exolasius*, compared to some common and more widespread congeneric taxa. See the Thesis Abstracts section for more details.

NEWS FROM OVERSEAS SOCIETIES

Bernie Masters

The Ecological Society of America must have gone into a summer recess, as its last two Bulletins contain little of particular interest to Australian ecologists, with the following items possibly being of marginal interest to ESA members:

As part of its ongoing commentary on the history of the ecological sciences, the April Bulletin has a large article on Linnaeus and Buffon, two leading naturalists during the 1700s.

The Bulletin has a report on the 'Catastrophic Thresholds: Perspectives, Definitions and Applications', a symposium held as part of its 2006 ESA annual meeting. A threshold is defined by its synonyms: border, regime shift, ecotone, discontinuity, phase transition, etc. The symposium speakers considered thresholds in space and time in both terrestrial and aquatic ecosystems

The July Bulletin contained summaries of several papers presented at another of the 2006 annual meeting symposia, this topic being 'Linking Ecology and Environmental Justice', or Eco-Justice for short.

In March 2007, a workshop was held to establish the North Eastern (USA) Soil Monitoring Cooperative. The group has formed due to recognition that methods for sample collection and analysis have not always been compatible over 15 year or longer time frames, thereby limiting the value of some studies.

Fortunately, the March 2007 Bulletin of the British Ecological Society comes to our rescue, with much useful content. In particular three interesting articles summarise the Stern Review on Climate Change.

An update is provided on an initiative designed to reduce the great disparities in scientific capital between developed and developing nations. In a collaborative effort between the UN, Yale University and leading publishers, scientific research in the environmental sciences is now available

online to environmental scientists, researchers and policy makers in developing countries. Cost of OARE – Online Access to Research in the Environment - is nominal or free, with more than 200 publishers, societies and associations offering one of the world's largest collections of peer-reviewed environmental science journals to over 1200 public and non-profit environmental institutions in over 100 developing nations.

In October 2006, the UK government updated its indicators of wild bird populations. The all-species indicator shows that, following a progressive increase since the early 1990s, on average the population index of 113 breeding bird species in the UK is nearly 10% higher than it was in 1970.

However, this 10% figure hides significant disparities between different bird groups. The index for farmland birds is at 60% of its 1970 value and has remained stable since the early 1990s. The woodland bird index is about 10% lower than in the early 1970s, with a recent increase partially offsetting the most severe decline in the late 1980s/early 1990s. In contrast, the UK wintering wetland birds indicator has more than doubled between 1974/5 and 2004/5.

Books reviewed and recommended by BES members include:

Science and Policy in Natural Resource Management: Understanding System Complexity. H Allison and R Hobbs (2006). Cambridge University Press, Cambridge. About A\$140 hardback.

Scaling and Uncertainty Analysis in Ecology: Methods and Applications. Edited by Jianguo Wu *et al.* (2006). Springer, Dordrecht. About A\$160 hardback.

Hierarchical Modelling for the Environmental Sciences: Statistical Methods and Applications. Edited by J S Clark and A E

Gelfland (2006). Oxford University Press, Oxford. About A\$75 paperback.

Ecology of Desert Rivers. Edited by R Kingsford (2006). Cambridge University Press, Cambridge. About A\$150 hardback.

Ecology of Populations. E Ranta, P Lundberg and V Kaitala (2006). Cambridge University Press, Cambridge. About A\$100 paperback.

Self-Organization in Complex Ecosystems. R V Solke and J Bascompte (2006). Monographs in Population Biology 42, Princeton University Press, Princeton. About A\$75 paperback.

Applying Nature's Design: Corridors as a Strategy for Biodiversity Conservation. A B Anderson and C N Jenkins (2006). Columbia University Press, New York. About A\$45 paperback.

Evolutionary Ecology of Plant Reproductive Strategies. T de Jong and P Klinkhamer

(2005). Cambridge University Press, Cambridge. About A\$100 paperback.

Forest Ecology and Conservation: A Handbook of Techniques. A C Newton (2007). Oxford University Press, Oxford. About A\$70 paperback.

Chemical Ecology of Vertebrates. D Muller-Schwarze (2006). Cambridge University Press, Cambridge. About A\$200 hardback.

Infinite Nature. R B Hull (2006). University of Chicago Press Chicago. About A\$45 hardback.

Sorry that I'm a bit vague about why there's no report on the June BES Bulletin: it either never arrived in the post or it contained so little that was worth reporting on that I filed it in the WPB.

Bernie Masters
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ABSTRACTS OF HIGHER DEGREE THESES

Comparative ecology of rare and common species in a fire-prone system

Mark Ooi, PhD thesis, School of Biological Sciences, University of Wollongong

Due to escalating rates of extinction around the world, it is important to focus research and management on those species most at risk. Factors such as climate change and human population growth are also placing increasing pressure on species that are currently more common and widespread. Understanding the ecology of common species as well as those species that are already threatened is therefore central to conservation biology. In particular, studies targeting species for which little or nothing is currently known can increase our general ecological knowledge and also help to identify species with critical life history traits that could be limiting under future environmental scenarios.

The Ericaceae family in Australia (formerly Epacridaceae) is an example of one such group of species. Our current understanding of the ecology of the Ericaceae in this region is poor, even though species within this family make up a significant proportion of the understorey in temperate, fire-prone plant communities. To address this gap in our knowledge, I selected several obligate-seeding shrub species within the genus *Leucopogon* (Ericaceae) as the focus for this study in south-eastern Australia. Obligate-seeding species such as these, with soil-stored seed banks, have been the subject of far fewer studies than their counterparts that resprout or have canopy-stored seed banks. I used a demographic approach, aimed at providing fundamental ecological data for a rare species, *Leucopogon exolasius*, and some common and more widespread congeneric taxa, in order to explore processes that potentially limit their relative abundance.

Plants of obligate-seeding species are killed by fire, so persistence of populations is dependent primarily on regeneration from stored seed. Fundamental to understanding any aspect of seed ecology is being able to determine whether a seed is viable and dormant; or just inviable. Taking this primary step in this study was complicated by the fact that the adequacy of the most common method used for checking seed

viability, the tetrazolium test, is hard to assess for difficult to germinate species such as *Leucopogon*, and there are no data assessing its applicability for most Australian species. I therefore compared the results of the tetrazolium test with a simple cut test. When estimating the proportion of viable seeds, a strong correlation was found between the two methods for the three species of *Leucopogon* used ($r > 0.9$). The cut test and tetrazolium test both also produced good estimates of viability of seed lots when compared to germination potential of non-dormant seeds retrieved from burial. The results not only supported the use of the less laborious cut test as a reliable method for estimating seed viability throughout this study, but also provided information to assist the accuracy and applicability of the tetrazolium method, previously unavailable for this group of native Australian species.

Dormancy-breaking cues for species within the genus *Leucopogon* are poorly understood and appear to be complex, with laboratory studies often resulting in little or no germination. Due to the difficulties experienced in germinating *Leucopogon* in other studies, I initially established dormancy class in order to identify the mechanisms responsible for controlling dormancy of the three study species. Assessment of seed morphology and preliminary laboratory germination experiments led me to classify the primary dormancy of *L. exolasius*, *L. setiger* and *L. esquamatus* as morphophysiological. Further germination trials revealed that seasonal temperatures overcame primary dormancy and controlled the timing of germination, as has been found for other species with a physiological dormancy component. Despite the fact that the study species display a flush of post-fire seedling emergence in the field, fire cues did not break primary dormancy. Once seasonal temperatures overcame primary dormancy, however, there was a trend for smoke to enhance germination. Knowing if fire is responsible for breaking dormancy, or whether it simply enhances levels of post-fire germination for seeds in which dormancy has been overcome by other factors, is important for a greater understanding of plant population dynamics.

Dormancy had not previously been classified for any species from this fire-prone region, and it was unknown whether physiological

dormancy was a common trait, or perhaps a potential cause of rarity. It was also unknown whether a lack of response by *Leucopogon* seeds to fire cues was particular to these species, or a consequence of physiological dormancy mechanisms generally. To investigate this, I estimated the relative proportions of dormancy types for shrub species which occurred in fire-prone habitats in south-eastern Australia. I also assessed the literature for evidence of the effects of fire cues on species with a physiological dormancy component. Representatives of all dormancy classes were found to occur in the region, in proportions similar to that estimated for other fire-prone regions around the world. Over 50% of shrub species had a physiological dormancy component, whilst over 40% had physical dormancy. Additionally, when the assessment was confined to threatened species, the relative proportion of physiologically dormant species represented increased, indicating that dormancy type plays a role in determining rarity. Seasonal temperatures, not fire cues, were the main factors that broke physiologically related dormancy mechanisms. Physiological factors, and therefore seasonal temperatures, are likely to be important in controlling the dormancy and patterns of post-fire germination of many species in fire-prone regions.

Obligate-seeding species are dependent on recruitment from the seed bank for populations to recover after fire. Longevity of seeds stored in the soil is therefore a particularly critical life history trait of the study species. Two points were addressed in this part of the study. Firstly, I estimated the relative seed bank longevities of the *L. exolasius*, *L. setiger* and *L. esquamatus*. A short-lived seed bank in relation to typical fire return intervals for the region would indicate this as a cause of species rarity. Secondly, I wanted to determine whether primary dormancy was required for seed bank persistence, and whether the distinction between dormancy and persistence affects our understanding of seed bank dynamics in fire-prone regions. Using *in situ* seed burial trials, I found that all three species had persistent seed banks, with estimated half-lives between 3.5 and 5.5 years. Laboratory germination trials and embryo measurements of retrieved seeds showed that primary dormancy was broken during the first year of burial, and I concluded that specific requirements were therefore needed for germination. These results supported the findings from the previous germination chapter, and supported the conclusion that fire cues that are observed to promote germination *in situ* are not necessarily the ones that break dormancy. Most

studies in fire-prone regions have failed to distinguish between these two factors, with attention subsequently diverted away from mechanisms actually controlling dormancy and seed bank dynamics.

Realising the potential importance of seasonal germination cues highlighted by previous chapters, I formulated the hypothesis that seasonal emergence patterns are more likely for species with a physiological dormancy component than their physically dormant counterparts. In regions like south-eastern Australia, which has no distinct rainfall season, seasonal germination could delay post-fire seedling emergence, and subsequently hinder recruitment, depending on the timing of the fire event. I therefore assessed the impact of seasonally delayed emergence and fire season on recruitment success of the three study species, and ascertained how vulnerable they are to changes to fire season. Post-fire seedling survival and growth were measured after the same fire event, comparing the physiologically dormant *Leucopogon* species (displaying seasonal emergence) with physically dormant or 'hard-seeded' species (displaying season-independent emergence). I found that *Leucopogon* emergence was delayed compared to physically dormant species and, as a consequence, both survival and growth were significantly reduced. Intra-specific comparisons of *Leucopogon* species after winter and summer fires, indicated that seasonal germination requirements delayed seedling emergence by 12 months after winter fires, in relation to other co-occurring species, and by 3 - 6 months after summer fires. Seedlings emerging after summer fires grew and matured more quickly than those emerging after winter fires. Because species with physically dormant seeds have quick emergence tied closely to fire, whereas the speed of emergence of physiologically dormant species is dependent on fire season, I concluded that fire might not have been the primary force selecting for physiologically dormant species. Season of fire could strongly influence the persistence of the study species, and other seasonally emerging species.

The final aim of this study was to assess any potential causes of rarity. In addition to the fundamental ecological data already collected for several key life history traits, data on fecundity, dispersal mechanisms and seedling survival and growth were also analysed and used in a comparative assessment, to establish whether there were any plausible causes of rarity of *L. exolasius*. Compared to the two common congeners, *L. setiger* and *L. esquamatus*, as well as to other obligate-seeding species in the region,

L. exolasius had a markedly longer primary juvenile period. This raises the likelihood that short inter-fire intervals cause local extinction of populations of this species by killing plants prior to maturation and seed bank replenishment. Seasonal emergence, identified during the analyses of physiological dormancy mechanisms, also had the potential to increase the length of the maturation period. Local extinction of the emu, a large bird and primary long distance dispersal mechanism for fleshy-fruited species, may have limited opportunities for range expansion and recolonisation.

The investigation of critical life history stages during this study has led to the conclusion that *L. exolasius* persistence appears to be bound to fire frequency. More surprising, however, is the finding that fire season could potentially influence persistence considerably, not only of *L. exolasius*, but of a large proportion of species with physiological dormancy that occur in fire-prone regions. Consequently, the ability of *L. exolasius*, and many other species, to persist in the future

would be compromised by changes to the fire regime. The impacts of implemented fires and the effects of climate change are both forecast to promote higher fire frequency and cause changes to peak fire season. These changes could represent significant threats to *L. exolasius* populations, as well as to many other obligate-seeding species in the region with long primary juvenile periods and physiological dormancy. Further research into the effects of seasonal dormancy and germination requirements, particularly in relation to fire season, could help to gain a greater understanding of plant population dynamics and persistence in fire-prone regions. A greater understanding of dormancy mechanisms generally in fire-prone regions could also shed further light onto questions such as the evolution of species in relation to fire.

(Again, sincere apologies if I have missed printing anyone's abstract, see editorial for pathetic excuses. Ed.)

NOTICEBOARD & ADVERTISEMENTS

Please help to keep the notice board current and informative. Items to be listed in detail as below, information should be sent to the *Bulletin* Editor **as electronic copy** and in a similar format as those below. **Please give details rather than just a web address**, it can take ages to access even basic information from some sites. Excuse the marine bias: this just highlights why you should provide me with conference listings.

FORTHCOMING MEETINGS

2007

Sept 2-5, 2007. 11th Int. Mediterranean Ecosystems Conf. (MEDECOS XI). Perth, WA.
www.medecosxi2007.com.au

Sept 2-6, 2007. American Fisheries Soc. 137th Ann. Conf. Thinking Downstream and Downcurrent: Addressing Uncertainty and Unintended Consequences in Fish and Fisheries, San Francisco, California, USA.
www.fisheries.org/afs2007/

Sept 3-6, 2007. 10th Int. River Symp. & Environmental Flows Conf. Brisbane, Qld.
<http://www.riversymposium.com/index.php?page=Home>

Sept 3-6, 2007. 3rd Int. Conf. on Climate and Water. Helsinki, Finland.
www.environment.fi/default.asp?contentid=220921&lan=EN

Sept 3-7, 2007. 6th Int. Penguin Conf. Hobart, Tasmania. More information: Dr Eric J Woehler: penguins2007@iprimus.com.au

Sept 9-13, 2007. Int. Soc. for Seed Science Meeting: Seed Ecology II. Perth, WA.
www.seedecology2007.com.au

Sept 11-12, 2007. Aust. Soc. Fish Biology Workshop & Conf. Canberra, ACT.
<http://www.asfb.org.au/ne/events/2007conf/index.htm>

Sept 16-19, 2007. 4th Int. Symp. on Dynamics of Physiological Processes in Roots of Woody Plants. Bangor, Wales.
<http://www.bangor.ac.uk/~afsa0e/woodyroots/>

Sept 17-19, 2007. Sustainable Economic Growth for regional Australia (SEGRA): Climate Change Focus. Wollongong, NSW.
<http://www.segra.com.au/segra/>

Sept 17-21, 2007. 9th Int. Conf. on the Ecology and Management of Alien Plant Invasions (EMAPi9). Perth, WA.
<http://www.congresswest.com.au/emapi9/>

Sept 17-20, 2007. Queensland Coastal Conf. Shifting Sands. Bundaberg, Qld.
www.iceaustralia.com/qldcoast07

Sept 23-25, 2007: Parks and Protected Areas Forum, Fremantle, WA.
Promaco@promaco.com.au

Sept 25-27, 2007. 14th Biennial NSW Weeds Conference. Wollongong, NSW.
www.weeds2007.com.au

Sept 25-28, 2007. 4th Int. Conf. Port Development and Coastal Environment. Varna, Bulgaria.
<http://www.bsca.bg>

Sept 25-28, 2007. European Symp. on Marine Protected Areas as a Tool for Fisheries Management and Ecosystem Conservation. Murcia, Spain. www.mpasymposium2007.eu

Sept 29-Oct 4. OCEANS 2007. Vancouver, British Columbia, Canada.
<http://www.oceans07mteevancouver.org/>

Oct 1-3, 2007. Reproductive and recruitment processes in exploited marine fish stocks. Int. Symp. Lisbon, Portugal.
www.pices.int/meetings/international_symposia/2007_symposia/poster%20as%20of%20Nov%202007-06.pdf

- Oct 2-5, 2007. Greenhouse 2007. Sydney, NSW.
<http://www.greenhouse2007.com/>
- Oct 3-5, 2007. Int. Conf. Management and Restoration of Coastal Dunes. Santander, Spain.
<http://www.iccd07.com/eng/invitacion.html>
- Oct 8-10, 2007. CoastGIS 07. Santander, Spain.
http://www.coastgis07.com/index_e.html
- Oct 9-11, 2007. Aust. Coral Reef Soc. 83rd Ann. Conf. Fremantle, WA.
www.australiancoralreefsociety.org
- Oct 9-12, 2007. 2nd National Indigenous Land and Sea Management Conf. Cardwell, Qld.
<http://www.caringforcountry.com.au/>
- Oct 12, 2007. 'Monitoring: Science, Myth or Innovation Opportunity. Workshop. Australian Marine Sciences Assoc. SA Chapter. West Beach, Adelaide. Contact:
murray-jones.sue@saugov.sa.gov.au
- Oct 17-21. ICES Ann. Science Conf. Helsinki, Finland.
<http://www.ices.dk/iceswork/asc/2007/index.asp>
- Oct 22-24, 2007. Oceania Chondrichthyan Society's Inaugural Scientific Conf. Queenscliff, Vic. <http://www.oceaniasharks.org.au>
- Oct 22-26, 2007 (School); Oct 29-31 (Workshop). META2007: Int. Workshop & School on Mathematical Modelling of Tropical and Amazonian Ecosystems. Cayenne/Kourou (French Guiana). www.meta2007.org
- Oct 26-Nov 5, 2007. 16th Ann. Meeting on the changing North Pacific: Previous patterns, future projections, and ecosystem impacts. PICES. Victoria, BC, Canada.
www.pices.int/meetings/annual/PICES16/background.aspx
- Oct 28-Nov 2, 2007. 12th World Lakes Conf. Rajasthan, India. <http://taal2007.org/>
- Oct 30-Nov 2, 2007. WA Coastal Conf. Denmark, WA.
<http://www.coastalconferencewa2007.com.au/>
- Oct 31-Nov 2, 2007. Int. Conf. Coastal Management 2007. Cardiff, UK.
<http://www.coastalmanagement2007.com/>
- Nov 15-16. CEDA International Climate Change Conf. Sydney, NSW.
http://ceda.com.au/nmx/registration/register_2528_5_20071115_XNM.pdf
- Nov 20-23, 2007. 8th Asian Fisheries Forum. Kochi, India. www.8aff2007.org
- Nov 22-25, 2007. Wildcare 10th Anniversary Conf: Volunteering for Wild Places, Wildlife and Cultural Heritage. Hobart, Tas.
<http://www.leishman-associates.com.au/wildcare2007/index.php>
- Nov 25-30, 2007. Ecological Society of Australia. Perth WA.**
www.ecolsoc.org.au/ESA2007Conference.htm
- Nov 26-27, 2007. 5th Nat. Waterwatch Conf. 'Sustaining, Showcasing and Sharing – building on the past, steering towards the future'. Canberra, ACT. <http://www.waterwatch.org.au>
- Nov 30-Dec 3, 2007. Asia-Pacific EcoHealth Conf. Ecology and Health: People & Places in a Changing World. Melbourne, Vic.
<http://www.deakin.edu.au/events/ecohealth2007/>
- Dec 2-3, 2007. Environment Research Event (ERE) 2007, 11th Ann. Environmental Conf. Global Problems, Local Solutions. Cairns, Qld.
www.ere.org.au
- Dec 2-5, 2007. 4th Biennial Australasian Ornithological Conf. Perth, WA.
www.birdswa.com.au/aoc2007/index.htm
- Dec 2-7, 2007. Groundwater Quality 2007 Securing Groundwater Quality in Urban and Industrial Environments Fremantle, WA.
<http://www.clw.csiro.au/conferences/GQ07/index.html>
- Dec 3-7, 2007. 8th Invertebrate Biodiversity & Conservation Conf. 'Pacific Priorities'. Brisbane, Qld. www.ibcc2007.org/
- Dec 3-7, 2007. Aust. Soc. Limnology and the New Zealand Freshwater Sciences Soc. Queenstown, New Zealand.
<http://limsoc.rsnz.org/>
- Dec 3-14, 2007. Intensive Molluscan biology, diversity and evolution course. Wollongong, NSW.

<http://www.uow.edu.au/science/biol/events/UOW009845.html>

2008

Jan 16-18, 2008. The Littoral Challenge Dialogue. Lille, France.

http://www.ifresi.univ-lille1.fr/Littoral2008/CALL_PAPERS.pdf

Feb 17-21, 2008. Old Forests, New Management: Conservation and use of old-growth forests in the 21st century. Hobart, Tas.

<http://www.cdesign.com.au/oldforests2008/>

Feb 24-28, 2008. Int. Symp. Advances in Tagging and Marking technology for Fisheries Management and Research. Aust. Soc. for Fish Biology, the American Fisheries Soc. and NZ Soc. for Marine Sciences. Auckland, NZ.

<http://www.fisheries.org/units/tag2008>

March 2-7, 2008. Ocean Sciences: From the Watershed to the Global Ocean. Orlando, Florida, USA.

<http://www.aslo.org/forms/orlando2008.html>

March 31- April 3. 2nd Int. Salinity Forum. Adelaide, SA.

<http://www.internationalsalinityforum.org/>

May 19-23, 2008. Int. Symp. on effects of climate change on the world's oceans. Gijón, Spain.

http://www.pices.int/meetings/international_symposia/2008_symposia/Climate_change/climate_background_3.aspx

July 20-25, 2008. 8th Int. Wetlands Conf. Cuiaba, Brazil.

http://www.intecol.net/info-esk/8th_WWG_Conference/eighth-wwg-0.htm

August 3-7, 2008. 5th Soc. for Environmental Toxicology and Chemistry World Congress. Sydney, NSW. www.setac2008.com

August 17-21, 2008. Coast to Coast 2008. Darwin, NT. e.mail narellejh@bigpond.com

Aug 25-29, 2008. 4th Int. Symp. GIS/Spatial Analyses in Fisheries and Aquatic Sciences. Venue TBA.

<http://www.fao.org/fi/gisfish/index.jsp>

Oct 23-Nov 2, 2008. Ann. Meeting, PICES. Dalian, China.

http://www.pices.int/meetings/All_events_default.aspx

Dec 2-5, 2008. 2008 ESA Annual Conf. Sydney, NSW. www.ecolsoc.org.au

20th Int. Congress on Irrigation and Drainage. Lahore, Pakistan. Inq. Mr. I.B. Sheikh, ph +92 51 920 1705; Fax +92 51 922 1806.

2009

Jan 12-16, 2009. 8th Int. Temperate Reefs Symp. Adelaide, SA.

<http://www.marinebiology.adelaide.edu.au/conference/>

Jan 25-30, 2009. ASLO Aquatic Sciences Meeting. Nice, France.

<http://www.aslo.org/meetings/aslomeetings.html>

Aug 16-21, 2009. INTECOL. 10th Int. Congress of Ecology. Brisbane, Qld. Combined with ESA09.

www.intecol.net/

Sept 29-Oct 4, 2009. Raptor Research Foundation 2009 Ann. Conf. Pitlochry, Scotland.

www.rrfconferencescotland2009.org

2010

Feb 22-26, 2010. ASLO Ocean Sciences Meeting. Portland, Oregon, USA.

<http://www.aslo.org/meetings/aslomeetings.html>

Websites

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www.sciencealert.com.au

Florabank

Florabank is the Australian native seed resource. The Florabank website has just been re-invigorated, and the new website hosts:

- information about native seed including the latest research, resources and references
- forums for native seed discussions, questions and answers
- a contact directory for people who work with native seed
- a calendar of native seed-related events

The aim of Florabank is to increase the quality and quantity of native seed available for large scale revegetation projects across Australia. To do this, we are:

- providing information and resources to help people to be better informed and able to collect, store and use native seed efficiently and responsibly
- providing training for seed professionals
- working with the seed industry to develop seed quality standards and a certification and accreditation process to help the industry grow
- working with seed buyers to educate the market about why good quality seed is important.

Florabank is funded by the Australian Government through the Natural Heritage Trust. For more details or enquiries, visit www.florabank.org.au.

Prepare for another ten scorching years

At least half of the years between 2009 and 2015 will exceed the current warmest year on record. By 2015, global temperatures will be 0.5°C above the average value for the last 30 years. The forecast is only possible because better figures are available on the state of the world's oceans, says Doug Smith, a climate modeller who developed the predictions with colleagues at the Hadley Centre for Climate Prediction and Research, UK.

<http://environment.newscientist.com/article/dn12453-prepare-for-another-ten-scorching-years.html>

Yes, I know this last bit is not a website but I had some extra space! Ed.

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Administrative commands for the esa_news list

For help and a description of available commands, send a message to: esa_news-help@ecolsoc.org.au

To subscribe to the list, send a message to: esa_news-subscribe@ecolsoc.org.au

To remove your address from the list, just send a message to the address in the ``List-Unsubscribe'' header of any list message. If you haven't changed addresses since subscribing, you can also send a message to: esa_news-unsubscribe@ecolsoc.org.au

For addition or removal of addresses, a confirmation message will be sent to that address. When you receive it, simply reply to it to complete the transaction.

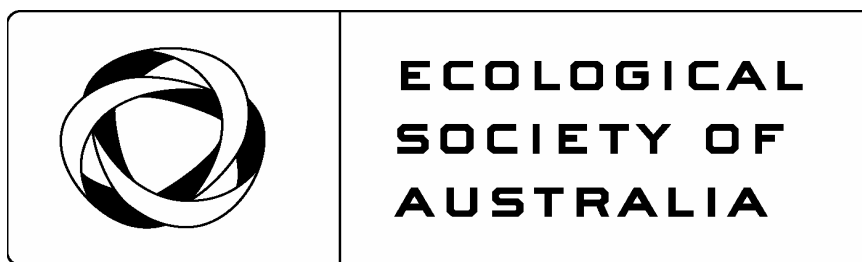
ESA Fora

To save overloading all our in-boxes, ESA have moved to a series of on-line fora for discussion. These are worth keeping in mind. Go to the website (www.ecolsoc.org.au/), log in to the member's area and follow the prompts.

The fora are:

- Ecology in Practice - the discussion site for all ecologists in the work force
- Ecology Views - share your opinions on a wide range of ecology issues
- Environment and Conservation discussion site
- Students and Post-graduates - discussion on student issues with your peers

The fora represent a good chance to circulate notification of publications, post docs, information and discussion, but they will only work if people get into the habit of logging on and adding to them.



MEMBERSHIP APPLICATION FORM

The Ecological Society of Australia is a professional organisation established to promote ecological research and communication. The Society's constitutional objectives are:

- to promote the scientific study of all organisms in relation to their environment
- to promote the application of ecological principles in the development, use and conservation of Australia's natural resources
- to advise governmental and other agencies in matters where the application of ecological principles may be of assistance
- to foster the reservation of natural areas for scientific and recreational purposes and seek to ensure that such areas are soundly managed

The Ecological Society provides the following membership benefits:

- Austral Ecology, a journal of international standing – 8 issues per year
- the quarterly ESA Bulletin, a newsletter for members
- an electronic mail discussion list for rapid communications, exchange of views, and advertising jobs or grant application deadlines
- online membership database @ www.ecolsoc.org.au
- annual symposia and open forums, workshops and meetings
- links with international ecological bodies, including INTECOL
- reduced subscription rate to Ecological Management and Restoration journal
- opportunities to apply for grants and scholarships

Category	Australian (incl. GST)	International (excl GST plus \$10 post)
Standard	\$82.50	\$85.00
*Concession (income under \$25 000 p.a)	\$38.50	\$45.00
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Sustaining Associates (organisations only)	\$231.00	\$220.00
<i>Bulletin</i> subscriber only (no membership)	\$27.50	\$35.00
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**Please contact ESA if you feel that you are entitled to a reduced membership for reasons other than income*

Membership is for the calendar year, and includes *Austral Ecology* (8 issues/yr), the *Bulletin* (4 issues/yr) and reduced Conference registrations. Membership applications must be supported by a Proposer and Secunder who are current members of the Society. Contact the Membership Manager if you need help identifying suitable nominators. Payments can be made for 1, 2, or 3 years in advance.

