NEWSLETTER OF THE AUSTRALASIAN SOCIETY FOR ECOTOXICOLOGY
(now SETAC Australasia)

Endpoint

Volume 19 Issue 1

June 2012

CONTENTS

Message from the Editor

Welcome to the first issue of Endpoint for 2012. We are looking forward to a big year as a society including the annual conference. This issue is a little late but we hope to get the next issue out on time in August.

No doubt the biggest news for our society at the moment is the upcoming annual conference being held in Brisbane in July. If the abstract submissions are any indication, this looks like being a very well attended event and after reviewing a portion of the abstracts can say that the quality of the papers being presented looks high. We hope many of our colleagues and friends make the journey to our beautiful city. Just a word of warning though – State of Origin will be happening in the same week as the conference (this might be a good thing for some of you) but you will need to be sure to book your accommodation well ahead of time to avoid any disappointments.

Dayanthi has highlighted in her President's report that Science Meets Parliament is scheduled for September. This is a very valuable opportunity for those coming to the end of their post-graduate work. Don't forget that SETAC-AU will pay for airfares and other associated travel expenses for members representing the society, so look out for calls for nominations to this great event.

Reinier has been working hard to establish ABEEC with the first issue anticipated to be ready in the very near future. Please have a read of the update from Reinier in this regard and if you have any ideas for future issues be sure to let Reinier know.

Once again I would like to thank all those who have provided reports on regional and student activities. I always enjoy reading the student profile for each issue. This issue we profile Tom Mooney from University of New England and Australian Antarctic Division.
Well that's about if from me, please enjoy reading this issue of EndPoint and remember that we welcome submissions from all members!

David Everett (david.everett@derm.qld.gov.au) Editior-in-Chief

Sustaining Members

NSW Office of Environment and Heritage
http://www.environment.nsw.gov.au

Department of Sustainability, Environment, Water, Population and Communities
http://www.environment.gov.au

Hydrobiology
http://www.hydrobiology.biz

Ecotox Services Australasia
http://www.ecotox.com.au

Advanced Analytical Australia
http://www.advancedanalytical.com.au

From La Presidenta

This has been a relatively quiet period for SETAC-Au except for the flurry of activity which I believe has occurred in Queensland with respect to organising SETAC-Au in Brisbane.

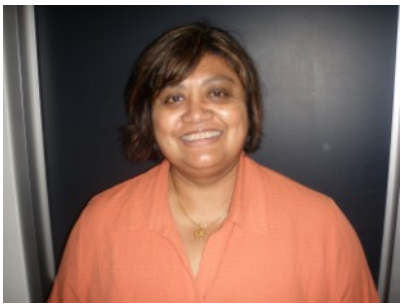
Conferences
We seem to have had an excellent response to the call for abstracts for **Brisbane 2012** and I hope registrations have been flowing through equally well.

Arrangements and early-bird registrations for the SETAC World Congress 2012 in Berlin were completed. I was pleased that the session co-chaired by myself, Victor Wepener (South Africa) and Andrea Waichman (Brazil) titled *"A05 - Ecotoxicology and ecosystem services: A southern perspective"* (under main theme: A - Ecotoxicology) was successfully subscribed with 6 orals and 12 posters (5 presentations from Australia). I also represented SETAC Au on a panel to discuss "Sustainability and SETAC" organised by Norbet Schultz and Bruce Vignon, post Congress.

The deadline for the abstracts for the SETAC Asia-Pacific conference in Kumomoto, Japan (Sep) was 30th April. I hope to attend this and we should have a significant Australian presence there with at least 3 Council members being from SETAC AU.

Kenny contacted Ross and me regarding an application from Amity University, India to hold a SETAC workshop there. I have been in correspondence with Professor Tanu Jindal to further develop this workshop which will be held in January 2013 if SETAC Asia Pacific can assist with the seed funding requested.

The SETAC workshop in Colombo, Sri Lanka is still on the cards but will be at a later date since I will be running an intensive Ecotoxicology course for a Masters degree in Environmental Management at the University of Colombo, Sri Lanka (my alma mater) with World Bank funding in January 2012. I hope to recruit some new members to SETAC Asia Pacific (unfortunately not SETAC Au) after delivery of this course and also try to lay the foundation for a successful workshop later on.



Science and Technology Australia
Ross has confirmed that Science meets Parliament will be held much later this year in Sep 2012. I am keen to have our SETAC Au delegates confirmed well before then, perhaps by the Brisbane AGM. My suggestion is that a Council member be offered the opportunity to register as the senior scientist and that we ask for open nominations for the "early career scientist".

My idea of the former is that it is some sort of "reward" for the time served on council and also I believe that members of our Council will do their best to highlight SETAC Au as an organisation as opposed to simply highlighting the work of their place of employment or themselves as individuals.

AJE and Bulletin
This is Reinier's territory (and he has included a report in this issue) but from what I understand the penultimate issue is now complete with just the EDC issue to be completed. We submitted a Victorian update for the EDC issue but have had no news on the status of the submitted paper. Unfortunately science has moved fast in Victoria and there have been further developments on work on EDCs so we may have to revise the paper submitted.

We look forward to the new Bulletin taking shape under Rainier including the cover design.

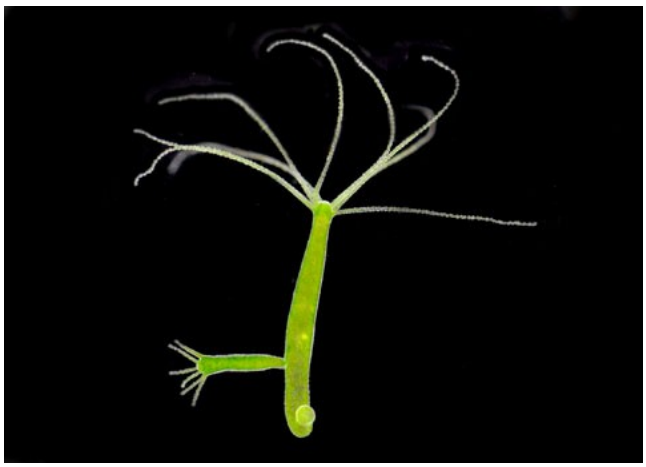
Berlin Bear
I am happy to report that the Berlin Bear has returned safely to Berlin and joined his mates from around the world on a stand at the entrance to the World Congress in Berlin. A big thank you to John Chapman for paying his airticket back to Berlin!

Dayanthi Nugegoda
(dayanthi.nugegoda@rmit.edu.au) President

Ecotox Services Australasia (Chris Doyle)

We have had a busy but productive start to the year. Aside from our commercial activities, the lab staff have been busily continuing their efforts into developing new toxicity tests using tropical marine species. There is currently a shortage of tropical marine toxicity tests available to meet the requirements of our more-northerly clients and ESA has been working hard to fill that void. So far we have been successful in developing and achieving NATA accreditation for a sub-lethal larval development test using the milky oyster, *Saccostrea echinata*, and we have developed a 7-day fish imbalance test using the spiny damsel, *Acanthochromis polyacanthus*, which we are now offering commercially and hope to have NATA accredited during our next NATA visit/audit. We are also investigating the potential of a number of echinoderm species as well, so stay tuned for an update on our progress with this in the next issue of Endpoint.

Acanthochromis polyacanthus (Souce: Wikipedia)



Hydra viridissima (Courtesy of P.J. Bryant, UCI)

We have also added a number of freshwater tropical toxicity tests to our ever-expanding test portfolio. These include the *Chlorella* microalgal growth inhibition test, *Lemna aequinoctialis* growth inhibition test and the green hydra (*Hydra viridissima*) population growth test. We owe a big thank you to the fabulous team at ERISS for their guidance and assistance in getting these tests established in our laboratory.

We are now eagerly looking forward to the Brisbane conference and we hope to see you all there.

Dianne Jolley (djolley@uow.edu.au) NSW Regional Representative

University of Canberra – Ecochemistry Group

International visitor

Visiting scholar Professor Amy Ringwood from the University of North Carolina, Charlotte, USA joined the Ecochemistry group during January – February 2012.

Professor Ringwood has an established international reputation for her work on cellular damage and antioxidant biomarkers in bivalves. This work has spanned a range of toxins including metals, organic pollutants, and more recently nanoparticles. An important hallmark of her research has been field studies, critically evaluating cellular biomarker responses in the real world. One important contribution of her work to this field has been linking parental toxicological responses to gamete viability and reproductive success, which addresses the important "so-what" question regarding the implications of cellular biomarker responses to population and ecological sustainability issues.

While here Professor Ringwood gave seminars on the:

- Application of Biomarkers in Marine Ecological Assessment; and
- Pitfalls in Undertaking Biomarker Measurements.

As well as presenting workshops on:

- Optimising lysosomal stability assay in Australian molluscs;
- Demonstrating oyster embryo viability assay and development of the technique for use in other Australian Bivalves; and
- Optimisation of subcellular enzymatic biomarkers as indicators of stress in marine organisms.

The work on an embryo viability assay will be of particular value in extending the toxicological work we do into a better understanding of the implications for biomarker responses at population and ecosystem levels.

Ministerial review

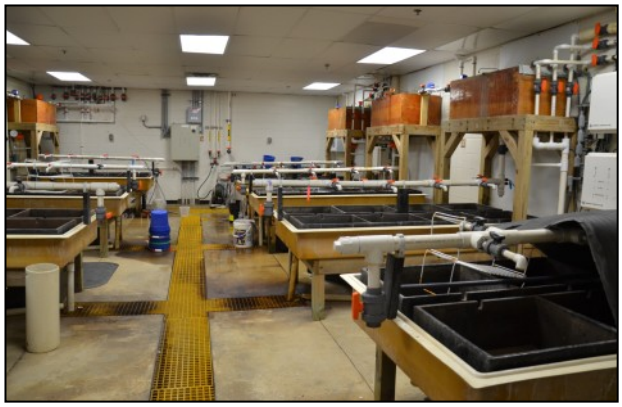
Bill Maher has just finished a Ministerial review of water quality in the Anglesea River for the Victorian Minister of the Environment. This estuary has been experiencing fish kills for a number of years severely affecting the ecosystem and amenity of the estuary. The cause of the fish kills has been a combination of acid inputs and aluminum. The catchment geology has substantial coal deposits and acid sulphate soils and the sources of acid and aluminum are natural. After long periods of low rainfall, soaking rains cause acid and aluminum to be flushed in the estuary in sufficient quantities to kill fish when the estuary mouth ids closed.

Visit to Horn Point Research Laboratory, University of Maryland

Bill Maher and Frank Krikowa took up an invitation to visit Todd Kana, Research Associate Professor and Professor Pat Glibert, of the Horn Point Research Laboratory, at the University of Maryland, Center for Environmental Science, Chesapeake Bay.
Todd is a world authority on the regulation of photosynthesis, phytoplankton and aquatic plant ecophysiology; light respiration; applications of mass spectrometry and pioneer developer of the Membrane Inlet Mass Spectrometer system (we have one).

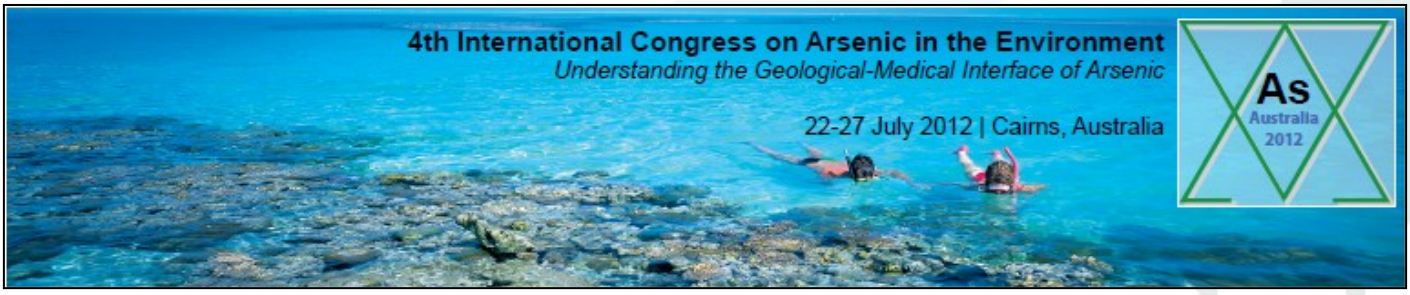
Pat is a world expert on phytoplankton ecology, nitrogen uptake and mineralization by plankton, primary production and photosynthesis in the Chesapeake Bay. She is also a member of the scientific panel for the Florida Bay Research Laboratory, *a part of the Smithsonian* Natural History Museum. Some collaborative programs will result from this visit.

Part of the mission of the Horn Point Research Laboratory is to restock the Chesapeake Bay with oysters, removed by overharvesting for the past 100 years. The picture shows the industrially scaled plant to grow algae to feed and rear oysters. Last year over 0.5 billion oysters were restocked into the bay.



Conference

Members of the EcoChemistry group, Simon Foster, Frank Krikowa and Bill Maher are involved in organising an International conference on arsenic in Cairns in 2012. This will bring together international experts to explore the biogeochemical cycling of arsenic in terrestrial and marine environments and human and environmental effects of arsenic



Bill Maher (Bill.Maher@canberra.edu.au) ACT Regional Representative

Regional Reports

Northern Territory

Since the last report from the NT our work-life at ***eriss*** has been a little unsettled, but still productive. Rick van Dam has spent a significant amount of time acting as the ***eriss*** Director, 3 months at the end of 2011, while David Jones was on LSL, and 6 weeks recently because he has been in Canberra contributing to SEWPaC's new Office of Water Sciences. The rest of the team have also been trying out some higher duties and, luckily, Joost van Dam has been lending a hand in the lab while he writes his PhD thesis. Joost has recently relocated across from AIMS Townsville and we've appreciated his previously acquired ecotoxicology skills.

Mel has been very busy lately and has now successfully completed her Ph.D. She has published a number of fantastic papers from her work and she recently won a SEWPaC Australian Day award in recognition of the contribution of her research. Mel has also been awarded a Post Doctoral position with the North Australian Marine Research Alliance (NAMRA), but will be placing it on hold for half a year while she takes maternity leave to have her first child (due in May). The NAMRA position will be part of a larger project to develop a suite of tropical marine chronic/sub-lethal toxicity tests, with additional funding support being provided by Rio Tinto and the Northern Territory Government. The project has come about after many years of lobbying industry and governments and we are all very happy that it will finally move forward.

Simon Lunn successfully completed his Honours project with us at the end of 2011 and was awarded a H2A by Curtin University. Simon's project involved determining the major ions causing toxicity in a saline mining effluent. We are currently devising a couple of follow up tests to finish off the project and produce a paper of the work.

After much frustration, the ***eriss*** team also managed to resolve how to pulse our algae with saline waters and finally completed the magnesium (Mg) pulse exposure toxicity project. The answer was a vacuum filtering (1 µm) filter system that allowed excellent recovery of cells. The Mg pulse project has been at the centre of our research for a couple of years and involved 56 toxicity tests covering the effects of Mg on 6 different species with 4h, 8h and 24h pulse durations. We are currently, writing up an internal report and determining how to use the information for monitoring of the Ranger Mine operations. The work should also make a great paper if we can decide what to do with all the concentration-response curves!

The collaborative project (with CDU and CSIRO) that aims to determine a uranium TV for benthic sediments is also progressing slowly. The team decided to delay the main experiment, which was due for this wet season, because we were yet to get our heads around the large multivariate data sets that the first two pilot studies had produced. Currently, Andrew is crunching the numbers and attempting to determine how to integrate two large ecogenomic datasets (prokaryotes and eukaryotes) and a traditional macroinvertebrate dataset to derived No Effect Concentrations. Any suggestions would be welcomed!

Our involvement with the revision of the 2000 Water Quality Guidelines continues, with Rick and Chris Humphrey continuing to act as technical coordinators, and Kate Dixon employed as the project coordinator (through funding from DEWPaC's Water Group in Canberra). Progress, however, is even slower than our two research projects described above. Phase 2 of the revision has commenced, however, the first few months have been spent sorting out the governance arrangements, including establishment of procurement processes and re-establishment of committees. The Project Coordination Group (PCG), a small group of agency representatives, which will facilitate the Phase 2 revisions, met in Brisbane on 16 February, and is working towards being in a position for revision activities to commence in a couple of months. Meanwhile, there are a couple of "leftover" Phase 1 revision tasks that are currently in the procurement system and will hopefully commence soon.

Andrew Harford (Andrew.Harford@environment.gov.au) NT Regional Representative

Department of Water

The SETAC-AU folk of the Water Science Branch of the Department of Water finalised a number of interesting papers and reports late last year, including "An Ecotoxicological and Bioaccumulation Investigation of the Swan Estuary at Claisebrook (Perth)" (with ecotox data from Ecotox Services Australasia), a communication paper on assessing wastewater for recycling, using the ecotoxicity toolbox approach and the detailed technical report for this project, "Development of an Ecotoxicity Toolbox to Characterise Wastewater for Recycling". These reports can be found at http://www.water.wa.gov.au/PublicationStore/first/. The Department continues to actively work in Ecotox and related field with current work including follow-up studies in the Claisebrook area of the Swan Estuary to determine extent of PAH contamination and sediment toxicity and to establish potential contaminant sources. Studies within this project include: sediment ecotox and chemistry investigations (Helen Nice with ESA), benthic macroinvertebrate survey with associated sediment chemistry (Helen Nice), water chemistry using Passive Sampling Technology (Steve Fisher with Jochen Mueller - National Research Centre for Environmental Toxicology at University of Queensland). Emma Christie has completed the final sampling for the WA component of an ARC project being led by Phil Scott at Griffith University. The project is looking at the presence of endocrine disruptors in the aquatic environment, and has sites around Australia. Some of the sites of interest in WA are located downstream from point sources such as an abattoir, wastewater treatment plants, dairy facilities, urban drains, industrial drains, and a background/reference site.

Curtin University

The Curtin University Ecotoxicology group is currently hosting two excellent PhD students from Manaus, Brazil. Rafael Duarte and Helen Sadauskas are visiting Australia to gain technical expertise in fish biomarker determination, and to conduct a project on the Swan River black bream. Rafael and Helen are greatly enjoying the new knowledge experiences in the laboratory and look forward to commencing field sampling. Despite originating from northern Brazil, they feel that Perth is really very hot in summer. The group was fortunate to see the graduation of two PhDs last month. Congratulations Melinda Ranaldi (Trace Metal Analysis of Fish Otoliths Used as a Biomonitoring Tool) and Sajida Bakhtyar (Development of Novel, Environmentally Friendly, Drilling Muds). Sajida continues her work with NMI analysing and reporting environmental wet chemistry, trace elements and nutrients in water and soil matrices. She has been involved in business development research projects that have lead NMI WA qualifying as an R&D accreditation lab. She is the International Coordinator in Conference Organizing Committee for ASIA PACIFIC FOOD INNOVATIONS & ANALYSIS CONFERENCE Incorporating the 13th Government Food Analysts' Conference (13th GFAC) (Perth 15th - 19th April 2013).

Dr Christopher Rawson (C.Rawson@curtin.edu.au) WA Regional Representative

Student Representatives Report

2012 is shaping up to be a busy year with many postgrad students submitting abstracts for the SETAC World Congress in Berlin, Germany (May) and the 2nd SETAC-Australasia conference in Brisbane (July) among other conferences. Abstract submission can often be a daunting task, taking all of your work and condensing it into 300 words or less and/or preparing an extended abstract (usually no more than 2 pages), which can include tables/figures. It is always good to try to break your abstract up into 3 sections; introduction, methods and conclusion, as if you were writing a paper. For the intro, consider what information the reader of the abstract needs to put your work in context (without including specific citations). Then briefly discuss how you conducted the work, including quality control specifics such as number of replicates or controls and reference material recovery for analyses. Finish with the major findings of the study and especially the implications for future research or environmental management. Before you know it, you probably have around 300 words filling in the blanks. If you have any questions or would like another pair of eyes to look over your abstract prior to submission, let us know via our Facebook page (SETAC AU Students). Good luck!

In our now regular feature, we invite senior scientists to discuss the transition from student to employee in Environmental Science. This issue's submission comes from Dr. Louis Tremblay, Environmental Toxicologist, Cawthron Institute, Nelson, NZ (Louis.Tremblay@cawthron.org.nz):

"Ideally, the transition from PhD candidate to postdoc must be initiated in the last year of the PhD project by the submission of peer-reviewed papers and the identification of good labs for postdocs. I was very lucky that the lab at Guelph University had a very strong culture of completing research projects all the way to scientific manuscripts. By the time I graduated, most of my work was published and I had a CV that was competitive for postdoctoral fellowships. This is probably the best piece of advice a PhD candidate can have. I came to New Zealand on a Landcare Research Hayward PDF and was based on Lincoln University campus. I was fortunate to interact with graduate students there and was amazed that the University faculty was more interested in their students producing lengthy thesis than writing scientific manuscripts to be inserted as data chapters. Fortunately, this trend is now changing to align with the rest of the world so that graduates can be more competitive when applying for major PDFs.

Another important decision to make is to try to aim at doing a postdoc in another country, preferably in a well-established lab. It is always tempting to stay around the same University but the rewards of spending a few years in another environment is significant on multiple levels. You get to interact with new people that can challenge ways of thinking that are usually associated with being in the same lab for a long time. Plus there is the benefit of getting to know other countries and experience new cultures.

As for myself, I'm still amazed at the differences between New Zealand and my native Canada. New Zealand can be really odd at times with the population of a medium size city; it tries to act as a country. That creates some very interesting behavioural patterns including unhealthy competition between an already small scientific community. At the same time, those challenges can be stimulating to try to stimulate positive changes and make our world a better place. So overall, it's a question of keeping an open mind and the sky is the limit, wherever you are!"

Bianca Sfiligoj (Bianca.Sfiligoj@aad.gov.au), Tristan Stringer (Tristanjstringer@gmail.com) and Tom Cresswell (Tom.Cresswell@csiro.au) Student Representatives

EndPoint Feature

Student Profile—Tom Mooney

Name: Tom Mooney
Institutions: University of New England and Australian Antarctic Division
Degree: Doctor of Philosophy
Supervisors: Dr Catherine King, Dr Jane Wasely and Dr Nigel Andrew
Estimated time of completion: 2012
Thesis title: Effects of Special Antarctic Blend Diesel (SAB) to soil invertebrates of Macquarie Island

How did you get involved in ecotoxicological research?
Starting a PhD in ecotoxicology was new territory for me. My background was in ecological entomology, where I studied dung beetle assemblages for my honours under the supervision of Nigel Andrew (UNE). Having a background in entomology, making the step over to soil ecotox for my PhD was a natural progression.

What led you to your Ph.D. project and what's the importance of your work?
Through connections between Nigel Andrew and Jane Wasely I became aware of this PhD opportunity. It sparked my interest because it was an opportunity to use my entomology skills, while also delving into a more applied type of science.

My PhD project contributes to a greater project, which involves the remediation of diesel contaminated soils on Macquarie Island. At present there are no universally accepted guidelines for hydrocarbon remediation in the Antarctic or subantarctic. The goal of my PhD is to add to a framework of research, being carried out on Macquarie Island, to develop remediation guidelines for hydrocarbon contamination within this region. To achieve this I am conducting ecotox tests and ecological studies into the effects of Southern Antarctic Blend diesel (SAB) on native soil invertebrates.

What experimental work have you undertaken so far?
I have experienced two summer field seasons on Macquarie Island where I conducted most of my experimental work. An ecological study was done over the two seasons were I collected a range of soil cores and spiked them with differing concentrations of SAB. These were incubated and surviving soil invertebrates were extracted. The most abundant taxa collected from the soil cores were springtails and mites. I identified these taxa to species level and will be documenting their assemblage change with increasing SAB contamination. Soil cores were collected along a naturally occurring soil organic carbon gradient and the physiochemical characteristics for each core were analysed.

I have also conducted a range of single species testing using the endemic earthworm species *Microscolex macquariensis*. This species lent itself well to standard ecotox testing and I have successfully run avoidance, survival and reproduction tests using *M. macquariensis*. I have generated several endpoints from these tests and I am currently in the process of writing the results up for publication.

Where to from here with your work?

I have completed all my experimental and lab work, so from here on in it is all data analysis and writing.

What are your plans for the future?

At present my main focus is to complete my PhD and to publish papers from it. After this I am extremely interested in continuing in the ecotox field and developing my skills. I haven't decided what direction to take just yet, I am very keen on exploring the world of environmental consulting, but I am also looking around for possible Post Docs which may interest me.

Tom Mooney (Tom.Mooney@aad.gov.au)

The details of all aspects of the design are still a 'work in progress'. The editors are in the process of examining designs for the new ABEEC cover, and for the layout. The new bulletin will be a smaller, single column format to permit easier on-screen reading of PDFs. This will increase the page length of individual papers and probably increase the size of each PDF. We envisage that members will be able to download individual papers or entire issues as single PDFs. Each download will include a cover design and publication details as part of a 'front-piece'. The colour schemes that we are developing include colours that are already incorporated into the SETAC AU logo.

The first issue is on schedule for publication mid 2012. The issue will be a proceedings issue dedicated to papers presented as part of the Salinity Session at the SETAC AU conference in Brisbane. We are expecting 12 manuscripts to be submitted by the end of April 2012.

I envisage that each issue will be a collaboration between myself (and the associate editor, Anne Colville) and a guest editor. The guest editor for the first issue will be Jason Dunlop. Jason will also chair the Salinity Session at the Brisbane conference.

The editors are now seeking expressions of interest for guest editors for a second issue. I favour an issue dedicated to ecotoxicology methods specific to Australian species and ecosystems, and would like to get feedback from SETAC AU members about this idea, or any others they may have. Other topics that have been proposed previously, include an issue on Australian Species (although this could be integral to an issue on methods), Climate Change, Field Studies, Water Quality Guidelines. All these would be worthy topics, but they will need guest editors to help develop them. Please forward ideas to me as per my contact details below.

Reinier M Mann, PhD (reinier.mann@uts.edu.au) Editor – *ABEEC*

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New Zealand South Island	Louis Tremblay

Brisbane 2012 Conference Update

One month to go before the 2nd SETAC AU conference in Brisbane!

The final preparations for the conference are now underway. Early-bird registration has been extended by one week to Friday the 8th of June by popular demand. A welcome pack will be sent shortly to those who have registered, which will include some information on the venue and a Go-Card if it was requested on the registration form.

A lot of information is also available on the website (http://www.setac.org/sapau/brisbane2012), including the UQ campus map iPhone app, information on the eduroam network and an up-to-date conference programme, also included in the following pages.

The AGM will also be held at the end of the first day of the conference. At the AGM elections will be held for positions on the SETAC Council. Please consider nominating for a position on the Council and completing a nomination form which is also included in this issue of Endpoint.

We look forward to seeing you in Brisbane in a month at the welcome reception at 4pm on the Terrace of building 14 on the UQ St Lucia campus.

Fred Leusch on behalf of the organizing committee

NOMINATION FOR ELECTION AS OFFICE-BEARER OR ORDINARY MEMBER OF COUNCIL

(Pursuant to Article IV of the Constitution – see below)

We, ... (full name of first nominator)

..... (signature and date)

and ..... (full name of second nominator)

..... (signature and date)

being financial members of the Society, hereby nominate:

..... (full name of nominee)

as a candidate for election as ..... (insert Office)

Consent of Nominee:

I, ... (full name of nominee) consent to

the above nomination ..... (signature and date)

SETAC AU Constitution – ELECTION OF MEMBERS

Article IV: Management and Elections

1. The affairs of the Chapter shall be managed by the membership through a Council and Executive Committee in accordance to the Constitution.

   The Council shall consist of:

   i. the President who shall be the Chair
   ii. the Vice President/s
   iii. the Immediate Past President or President-Elect
   iv. the Secretary
   v. the Treasurer
   vi. the Chair of the Membership Committee
   vii. the Chair of the Editorial Committee of the AU-SETAC Bulletin
   viii. the Newsletter Editor
   ix. one Student Member representative
   x. one representative from each state or territory of Australia, New Zealand and Papua New Guinea, where possible
   xi. Other representatives as deemed necessary from time-to-time by the Council.

   The Chapter may, by ordinary resolution at any General Meeting, increase or reduce the number of officers or other members of the Council.

2. The members of the Council shall serve for the period between General Meetings (Article X.1).

3. The Council shall be elected from the voting membership by the voting membership at the General Meetings of the Chapter under the supervision of the Secretary or by returning officer appointed by the Council. The closing of nominations for elections to the Council, the manner of conducting elections and de termination of results thereof and any other matters relating to elections shall, subject to this constitution and these rules, be determined by the Council.

4. Candidates for election to the Council shall be proposed and seconded by financial Active Members or Emeritus Members but each nomination form shall not be valid unless it bears the written consent of the candidate to their nomination. Only Student Members may nominate and vote for a Student Member representative on Council.

Brisbane 2012 Conference
Draft Timetable

Tuesday, 3 July 2012			
16:00 – 19:00	**Registration and welcome reception** [The Terrace, Building 14, UQ St Lucia]		
Wednesday, 4 July 2012			
9:00 – 9:20	**Welcome ceremony** [room 14-212]		
9:20 – 10:10	**Tony Roach Memorial Keynote Address** (Robert Letcher) [room 14-212]		
10:15 – 11:05	**[1.1] Impact of extreme weather events**	**[2.1] Metals**	**[3.1] Passive sampling**
11:05 – 11:40	Morning Tea		
11:40 – 12:40	**[1.2] Impact of extreme weather events**	**[2.2] Metals**	**[3.2] Passive sampling**
12:40 – 13:30	Lunch		
13:30 – 15:00	**[1.3] Statistics and computational techniques**	**[2.3] Metals**	**[3.3] Environmental impacts of coal seam gas**
15:00 – 15:40	Afternoon Tea		
15:40 – 17:00	**Poster session**		
17:00 – 19:00	**SETAC AU AGM**		
19:00 – late	**Pub crawl** (not included in conference registration)		
Thursday, 5 July 2012			
7:30 – 8:45	**Student breakfast** [The Terrace, Building 14, UQ St Lucia]		
9:00 – 9:50	**Keynote Address** (Martin Holmstrup) [room 14-212]		
9:55 – 11:05	**[4.1] Environmental monitoring**	**[5.1] Risk assessment and environmental guidelines**	**[6.1] Mixtures and multiple stressors**
11:05 – 11:40	Morning Tea		
11:40 – 12:40	**[4.2] Environmental monitoring**	**[5.2] Risk assessment and environmental guidelines**	**[6.2] Mixtures and multiple stressors**
12:40 – 13:30	Lunch		
13:30 – 15:00	**[4.3] Environmental monitoring**	**[5.3] Risk assessment and environmental guidelines**	**[6.3] ET&C in extreme environments**
15:00 – 15:40	Afternoon Tea		
15:40 – 17:00	**[4.4] Environmental monitoring**	**[5.4] Risk assessment and environmental guidelines**	**[6.4] ET&C in extreme environments**
19:00 – late	**Conference dinner** [Customs House, Brisbane CBD]		
Friday, 6 July 2012			
9:00 – 9:50	**Keynote Address** (Jenny Webster-Brown) [room 14-212]		
9:55 – 11:05	**[7.1] Micropollutants and emerging contaminants**	**[8.1] Water quality**	**[9.1] Soil and sediments**
11:05 – 11:40	Morning Tea		
11:40 – 12:40	**[7.2] Micropollutants and emerging contaminants**	**[8.2] Water quality**	**[9.2] Soil and sediments**
12:40 – 13:30	Lunch		
13:30 – 15:00	**[7.3] Micropollutants and emerging contaminants**	**[8.3] Salinity**	**[9.3] Biomarkers and biosensors**
15:00 – 15:40	Afternoon Tea		
15:40 – 17:00	**[7.4] Micropollutants and emerging contaminants**	**[8.4] Salinity**	**[9.4] Biomarkers and biosensors**
17:00 – 17:15	**Closing ceremony** [room 14-212]		
17:15 – late	**Post conference drinks** (informal, not included in conference registration)		

Wednesday, 4 July 2012 – Morning sessions					
Session 1.1 – Impact of extreme weather events [room 14-212]		**Session 2.1 – Metals [room 14-116]**		**Session 3.1 – Passive sampling [room 14-217]**	
10:15 – 10:45	Boxall - Impacts of Climate Change on the Health Risks of Chemicals	10:15 – 10:45	Campbell - Metal Ecotoxicology – Importance of Metal Speciation	10:15 – 10:45	O'Brien and Kaserzon - Calibration of aquatic passive samplers: Accounting for changes in chemical uptake rates when exposed to variations in environmental flow conditions
10:45 – 11:05	Stauber - Ecological Risk Assessment and Climate Change: A Case Study	10:45 – 11:05	Shephard - Why Are There Perceptions That Tissue Quality Benchmarks for Metals Cannot Work for Aquatic Biota?	10:45 – 11:05	Hyne - Calibration and field application of passive sampling devices for detection of ionic herbicide residues in water
Session 1.2 – Impact of extreme weather events [room 14-212]		**Session 2.2 – Metals [room 14-116]**		**Session 3.2 – Passive sampling [room 14-217]**	
11:40 – 12:00	Kennedy - The implications of extreme weather events for exposure of the World Heritage Area Great Barrier Reef to pesticides	11:40 – 12:00	Campbell - Improving speciation predictions for Cd, Cu, Ni and Zn in natural freshwater systems by taking into account dissolved organic matter (DOM) spectroscopic quality	11:40 – 12:00	Komarova – Use of an integrated passive sampling approach to identify contaminants from multiple agro-based activities in a tropical freshwater river system
12:00 – 12:20	Thomson - Estimates of suspended solids loads from the January 2011 floods from major catchments flowing into Moreton Bay	12:00 – 12:20	Golding - Factors influencing dietary cadmium bioavailability in the freshwater amphipod Hyalella azteca	12:00 – 12:20	Bennett – In situ, passive samplers for measuring inorganic arsenic speciation and investigating arsenic sediment biogeochemistry
12:20 – 12:40	Raffensperger - Monitoring of organic wastewater contaminants in the Avon River following post-earthquake sewage discharges	12:20 – 12:40	Simpson - Linking sub-cellular metal partitioning to the particulate and dissolved exposure pathways and chronic effect of copper in two deposit feeder organisms	12:20 – 12:40	Shahpoury – Concentration pulses of atmospherically transported polycyclic aromatic hydrocarbons in snowmelt from Southern Alps, New Zealand

Wednesday, 4 July 2012 – Afternoon sessions					
Session 1.3 – Statistics and computational techniques [14-115]		**Session 2.3 – Metals [room 14-116]**		**Session 3.3 – Environmental impacts of coal seam gas [room 14-217]**	
13:30 – 14:00	Fox - Statistical Ecotoxicology: The Good, the Bad, and the Ugly	13:40 – 14:00	Smith – Phytochelatin response over time in cadmium-exposed freshwater algae	13:30 – 14:00	Parrish – Technical Considerations in Regulating CSG Discharge Waters in the U.S.
14:00 – 14:20	Landis - Way Past Time to Stop Using NOEL/LOELs	14:00 – 14:20	Adams – Toxicity of cyanide and copper cyanide to a freshwater microalga	14:00 – 14:20	Kookana – Chemicals Associated with Coal Seam Gas Exploration: Towards Understanding their Ecological Risks
14:20 – 14:40	Hose - A Bayesian approach to integrating laboratory toxicity data with field observations	14:20 – 14:40	Binet – Use of ecotoxicology to assess the potential for the re-use of mineral processing residues as environmental amendments	14:20 – 14:40	Baker – Water, Water Everywhere But How Much Can I Drink?
14:40 – 15:00	Colombo - Reducing Type I and II errors in multispecies outdoor microcosms	14:40 – 15:00	Bidwell - Metal-resistance and associated biological characteristics of marine and freshwater invertebrates from two contaminated sites	14:40 – 15:00	Ramsay – Management of salinity impacts from mine discharges in Central Queensland (title might change slightly- this was the title for the presentation in the alinity session
15:40 – 17:00	**Poster session**				

Thursday, 5 July 2012 – Morning sessions					
Session 4.1 – Environmental monitoring [room 14-212]		**Session 5.1 – Risk assessment and environmental guidelines [room 14-116]**		**Session 6.1 – Mixtures and multiple stressors [room 14-217]**	
9:55 – 10:25	Manning - Making it real and relevant: Turning what you do into useful action.	9:55 – 10:25	Jeffree - Improving Radiological Protection of the Environment in Australasia	9:55 – 10:25	Smith - A new method using toxic equivalency factors and species sensitivity distributions to assess the risk of mixtures
10:25 – 10:45	Andersen - Moving Towards a Light Based Approach for Monitoring Dredging Impacts in Gladstone, Queensland.	10:25 – 10:45	van Dam - Updating water quality guidelines for uranium – Standardising measures of toxicity and incorporating the influence of dissolved organic carbon	10:25 – 10:45	Landis - The calculation of risks due to mercury, other stressors, and climate change to multiple endpoints at a regional scale for the South River and Upper Shenandoah River, Virginia USA
10:45 – 11:05	Nava Montes - The National Program for Environmental Monitoring and Assessment in México.	10:45 – 11:05	Spadaro - Consideration of metal bioavailability is essential for managing metal contaminated sediments: a case study of antifouling paint.	10:45 – 11:05	Nugegoda - Acetylcholinesterase activity as a biomarker of exposure to organophosphate insecticides in three Australian species Tandanus Tandanus, Paratya australiensis and Daphnia carinata
Session 4.2 – Environmental monitoring [room 14-212]		**Session 5.2 – Risk assessment and environmental guidelines [room 14-116]**		**Session 6.2 – Mixtures and multiple stressors [room 14-217]**	
11:40 – 12:00	Sharp - Monitoring sediment bound contaminants in urban waterways of Melbourne	11:40 – 12:00	Hagen - Appropriateness of the ANZECC sulphate stock water quality guideline for cattle	11:40 – 12:00	Pease - Deadly diet: Interaction between diet quality and metals in a marine herbivore
12:00 – 12:20	Young - Establishment of methods and measurement of hormones in river source water and its derived potable water supply	12:00 – 12:20	Taga - Metal and metalloid contaminant bioaccessibility reliability and prediction	12:00 – 12:20	Bain - Cytotoxicity evaluation of mixtures of human pharmaceuticals using fish cell lines
12:20 – 12:40	Scott - What is the significance of endocrine disruption in the Australian aquatic environment – findings from Stage 1	12:20 – 12:40	Schlekat - The derivation and implementation of an environmental quality standard for Nickel: The application of a bioavailability-based approach in Europe	12:20 – 12:40	Jones - Metabolite biomarkers of effect following exposure to single or mixtures of pesticides

Thursday, 5 July 2012 – Afternoon sessions					
Session 4.3 – Environmental monitoring [room 14-212]		**Session 5.3 – Risk assessment and environmental guidelines [room 14-116]**		**Session 6.3 – ET&C in extreme environments [room 14-217]**	
13:40 – 14:00	Dafforn - The differential effects of anthropogenic nutrient enrichment and contamination on estuarine communities	13:40 – 14:00	Connell - Health risk due to use of the organophosphate insecticide, chlorpyrifos, by rice farmers in Vietnam	13:30 – 14:00	King - Antarctic ecotoxicology, risk assessment and remediation: an Australian perspective
14:00 – 14:20	Brewster - Baseline Environmental Monitoring and Civil Works	14:00 – 14:20	Harford - Stuck in the goop! Difficulties in assessing the environmental risk of organic flocculants	14:00 – 14:20	Brown - Assessing toxicity of diesel and fuel oil on early life stages of Antarctic marine invertebrates
14:20 – 14:40	Grant - Surfactant facilitated transport of super-hydrophobic contaminants: polymer based methods to investigate partitioning to monomers and micelles	14:20 – 14:40	Phyu - Assessing the biological relevance of exposing freshwater organisms to atrazine, chlorothalonil and permethrin in environmentally realistic artificial stream systems	14:20 – 14:40	Emnet - Emerging contaminants in the Antarctic: Sources and distribution in sewage and coastal waters from McMurdo and Scott Base, Ross Island, Antarctica
14:40 – 15:00	Herron - A novel biological method for monitoring herbicides	14:40 – 15:00	Sanchez-Bayo - Time-dependent toxicity of pesticides and other toxicants: implications for a new approach to risk assessment	14:40 – 15:00	McLagan - Atmospheric Monitoring for Persistent Organic Pollutants in Antarctica
Session 4.4 – Environmental monitoring [room 14-212]		**Session 5.4 – Risk assessment and environmental guidelines [room 14-116]**		**Session 6.4 – ET&C in extreme environments [room 14-217]**	
15:40 – 16:00	Smith - Detection of Cyanotoxins in New Zealand Benthic Cyanobacteria	15:40 – 16:00	Geoghegan - Accounting for plant and soil characteristics when estimating pesticide vapour drift potential for regulatory evaluation and product development	15:40 – 16:00	Cropp - The Influence of Temperature and Ecosystem Dynamics on the Partitioning of a Persistent Organic Pollutant (POP) in Antarctic Marine Food Webs
16:00 – 16:20	Jafari - Study of municipal solid waste landfields impacts on terrestrial habitats (case study: Gilan province)	16:00 – 16:20	Lussier - Development of Site-specific Marine Water Quality Screening Level for Agrochemicals	16:00 – 16:20	Gissi - Optimization and application of an acute toxicity test with the tropical marine copepod, *Acartia sinjiensis*
16:20 – 16:40	Schneider - Historical Inputs and Mobilization Pathways of Selenium in Lake Macquarie	16:20 – 16:40	Halog - Computational-based Framework and Decision Support Tool for Developing Sustainable Systems	16:20 – 16:40	Waugh - Toxicokinetics of Persistent Organic Pollutants in Southern Ocean Humpback Whales
16:40 – 17:00	Srinivasan - Hydrophobic pH-partitioning model to investigate the sorption of sulfamethoxazole in New Zealand dairy farm soils	16:40 – 17:00	Woodworth - Teething Troubles with Consulting in Ecotoxicology	16:40 – 17:00	Smith - Ecotox in the Extremes: A Few Things We Don't Know

Friday, 6 July 2012 – Morning sessions					
Session 7.1 – Micropollutants and emerging contaminants [room 14-212]		**Session 8.1 – Water quality [room 14-116]**		**Session 9.1 – Soil and sediments [room 14-217]**	
9:55 – 10:25	Gallagher - Integrated approaches to understand the biochemical mechanisms and risks of emerging contaminants: Case study of polybrominated diphenyl ethers	9:55 – 10:25	Charois - Disinfection By-Products and Human Health Risks: 38 Years of Research Without Converging on Answers	9:55 – 10:25	Chariton - Molecular approaches for assessing the ecotoxicological and ecological impacts of soil and sediment contaminants
10:25 – 10:45	Jensen - Hexabromocyclododecane (HBCDD) Emissions, Exposures and Impacts	10:25 – 10:45	Linge - A Pilot-Scale Study of Disinfection By-Product Formation during MF/RO Treatment	10:25 – 10:45	Boxall - Uptake of pharmaceuticals and personal care products from sediments
10:45 – 11:05	Jamting - Review of relevant toxicological developments and metrological practises concerning nanoparticles in wastewater	10:45 – 11:05	Stalter - Ozone and activated carbon treatment of sewage effluents: Toxicity removal vs. toxicity increase	10:45 – 11:05	Williams - A novel technique to measure the bioavailable fraction of pharmaceuticals in sediments and soils
Session 7.2 – Micropollutants and emerging contaminants [room 14-212]		**Session 8.2 - Water quality [room 14-116]**		**Session 9.2 - Soil and sediments [room 14-217]**	
11:40 – 12:00	Apte - Why is nanoparticulate CeO2 toxic to aquatic algae ?	11:40 – 12:00	Warne - Floods, Contaminants and Fish Illness at Gladstone, Queensland	11:40 – 12:00	Settimio - Determining Bioavailability of Silver in Soils by Isotope Dilution
12:00 – 12:20	Angel - Factors affecting the toxicity of silver nanoparticles to algae	12:00 – 12:20	Turner - Threats to a world heritage area: water quality in the Great Barrier Reef catchments	12:00 – 12:20	Dowsett - Sediment Metal Concentrations within an Estuary: The Influence of Seagrass
12:20 – 12:40	Navarro - Behavior of water-dispersible cadmium selenide quantum dots in the terrestrial environment: soil column leaching and plant uptake studies	12:20 – 12:40	Goldsworth - Development of a freshwater PCB Site-Specific Screening Criteria	12:20 – 12:40	Gardham - Effects of copper contamination on ecosystem health: assessment at different levels of biological complexity

Friday, 6 July 2012 – Afternoon sessions					
Session 7.3 – Micropollutants and emerging contaminants [room 14-212]		**Session 8.3 - Salinity [room 14-116]**		**Session 9.3 – Biomarkers and biosensors [room 14-217]**	
13:40 – 14:00	Boyle – Impacts of sediment-bound synthetic pyrethroids on non-target aquatic macroinvertebrates	13:30 – 14:00	Kefford - A review of 15 years of research into the effect of salinity on freshwater organisms in Australia	13:30 – 14:00	Wilson - Can Canaries Sing under Water? The Pros and Cons of Aquatic Biosensors and Early Warning Systems
14:00 – 14:20	Allinson - Occurrence of UV screens and preservatives in four Victorian waterways	14:00 – 14:20	Palmer - Salinity guidelines and aquatic ecosystem protection: a southern hemisphere perspective on salt tolerance and macroinvertebrate distributions	14:00 – 14:20	Marshall - Invertebrate behaviours as indicators of water toxicity
14:20 – 14:40	Hook - Potential endocrine disruption in fish from the Great Barrier Reef region	14:20 – 14:40	Prasad - Impact of Salinity on freshwater macroinvertebrates in the Fitzroy catchment	14:20 – 14:40	Long - Using biological effects to determine the impact of exposure to contaminated sediment upon benthic macroinvertebrates
14:40 – 15:00	Kumar - Does tertiary treated effluent exposure result in endocrine disruption in Murray rainbowfish (Melanotaenia fluviatilis)?	14:40 – 15:00	Dogra - Effect of salinity changes on the marine communities in the Gulf St Vincent	14:40 – 15:00	Iwai - Potential of Earthworms as Ecotoxicological Assessment Tool and Agro-waste Management in Thailand
Session 7.4 – Micropollutants and emerging contaminants [room 14-212]		**Session 8.4 - Salinity [room 14-116]**		**Session 9.4 – Biomarkers and biosensors [room 14-217]**	
15:40 – 16:00	Coleman - Removal of trace organic chemical contaminants by a membrane bioreactor for water reuse	15:40 – 16:00	Blockwell - Environmental assessment and the monitoring of potential impacts of the Sydney desalination plant discharge on rocky reef assemblages	15:40 – 16:00	Lategan - Developing microbial indicators for assessment of groundwater quality
16:00 – 16:20	Gaw - Understanding the role of photolysis in the degradation of emerging contaminants	16:00 – 16:20	Mondon - Assessing Environmental Impact Of SWRO Outfalls On Key Benthic Marine Organisms	16:00 – 16:20	Reichelt-Bruschett - A potential test species to represent a new ecosystem –deep ocean ecotoxciology
16:20 – 16:40	Thai - Degradation of illicit drugs and their metabolites in laboratory-scale sewer reactors	16:20 – 16:40	Dunlop - Development of ecosystem protection trigger values for sodium sulfate in seasonally flowing streams of the Fitzroy River Basin	16:20 – 16:40	Osborn - Transcriptomic profile responses to common stressors in the diatom Phaeodactylum tricorntum
16:40 – 17:00	Le Corre - To what extent do hospital discharges contribute to the pharmaceutical load in municipal wastewater?	16:40 – 17:00	Beyer-Robson - Saline mine discharge effects on microbial communities and biogeochemical cycling in ephemeral streams	16:40 – 17:00	Howe - Development of sublethal ecotoxicological endpoints for the tropical sea anemone Aiptasia pulchella

Poster session [Wed 4 July 2012, 15:40 – 17:00]

#129: Allinson	Do eastern mosquitofish male harass less when exposed to environmentally relevant levels of 17b-estradiol?
#055: Amato	Towards developing a rapid technique for assessing the bioavailability of metals in sediments
#090: Anastasi	Effect of physicochemical parameters on Mn(II) oxidation in a subtropical estuarine system
#154: Bakhtyar	Blue Mussels (*Mytilus edulis*) as a Bioindicator: A Swan River Perspective.
#116: Barbee	Validating the use of otoliths from embryos of native fish to detect exposure to copper in estuarine sediments
#138: Bhatia	Sub-acute toxicity of Dibutyl phthalate in Murray rainbowfish (*Melanotaenia fluviatilis*)
#044: Card	Predicting adverse health effects of transformation products formed from organic micropollutants during water treatment
#041: Chandurvelan	Physiological responses of New Zealand green mussels, *Perna canaliculus* to subchronic cadmium exposure
#020: Chen	Retrospective Temporal Trends of Methoxylated Polybrominated Diphenoxybenzenes and Dietary Isotope Tracers in the Eggs of Herring Gulls From the North American Great Lakes
#104: Costello	Dissolved organic carbon: the water flea's remedy against U toxicity!
#174: Dutt	Application of a reporter gene assay indicative of the oxidative stress response pathway for water quality assessment
#045: Escher	Bioanalytical Assessment of the Formation of Disinfection By-Products in a Drinking Water Plant
#140: Felice	The use of macroinvertebrate recruitment to derive local contaminant trigger values: A manipulative field study
#054: Gale	The development of a blue mussel (*Mytilus galloprovincialis*) embryo bioassay
#156: Gaw	Trace element concentrations in the Avon River and Avon-Heathcote Estuary following post-earthquake sewage discharges
#072: Hogan	And the winner is! Filtration, for successfully isolating unicellular algae from pulsed waters.
#176: Holland	Humic acid increases survivorship of the freshwater shrimp Caridina sp. D to acid mine drainage
#052: Hook	Comparison of the toxicity and transcriptomic profiles in the diatom, *Phaedactulym tricornutum,* exposed to oil, dispersants, or dispersed oil
#128: Hose	The comparative effects of a biological (*Metarhizium acridum*) and a chemical (Fipronil) pesticide on arid-zone grassland ecosystems
#010: Jagtap	Developing protocols for measuring mercury species in environmental matrices by HPLC-ICPMS
#011: Jagtap	Measurement of selenoaminoacids in fish tissues by HPLC-ICPMS
#073: Jin	Passive sampling of hydrophobic chemicals from lipid-rich tissue for *in vitro* bioassays
#148: Kumar	Development of whole-sediment toxicity identification evaluation procedures using *Chironomus tepperi* (Diptera: Chironomidae)
#147: Kumar	Use of wild European carp, *Cyprinus carpio*, to assess endocrine disruption in an Australian riverine environment
#014: Lai	Evaluation of illicit drug prevalence among attendees at a music festival via wastewater analysis
#171: Langdon	Do spiking experiments produce realistic degradation data for organic compounds in biosolids amended soils?
#019: Letcher	Food Web Influence on Spatial Variation of Mercury and Other Selected Trace Elements in Polar Bears (*Ursus maritimus*) from Arctic Subpopulations in Alaska, Canada and East Greenland
#169: Leusch	Automating analysis of bioassay data using non-linear regression in Excel
#015: Mann	Sweet or savoury: Overcoming logistical problems associated with routine toxicity testing of saline waters
#056: Zamora	Sensitivities and response time of three Antarctic marine copepods to metal exposure
#047: Mewburn	Understanding and controlling bioavailability: Passive dosing of persistent organic pollutants into recombinant cell bioassays

Poster session [Wed 4 July 2012, 15:40 – 17:00] (Cont'd)

#083: Miranda	Endocrine Disruptive Effects of the feedlot contaminant 17α trenbolone on the Australian native fish flathead gudgeon: Comparison with Murray River rainbowfish (*Melanotaenia fluviatilis)*
#143: Nanjappa	Effect of ionic proportions of salinity on macro-invertebrates in the Fitzroy Basin, Central Queensland
#048: Neale	Is sorption to dissolved organic carbon an important fate process for disinfection by-products?
#158: Nidumolu	Effect assessment of pharmaceuticals using the aquatic plant, *Lemna minor*
#172: Norris	Contaminant survey of wetlands used to store either tertiary treated effluent or stormwater runoff: potential for endocrine disruption in wildlife?
#094: Payne	Temporal changes in the coastal zooplankton community off Davis Station, East Antarctica, and its response to diesel fuel contamination
#175: Poulsen	Risk-based water quality assessment through bioanalytical tools
#149: Rodriguez	Effects of temperature, pH, soil moisture and salinity on heavy metal accumulation by the earthworm *Eisenia andrei:* a climate change perspective
#170: Scott	Isolation and identification of ligands for the goldfish testicular androgen receptor in chemical recovery condensates from a Canadian bleached kraft pulp and paper mill
#145: Sfiligoj	Development of appropriate bioassay and statistical methods for determining survival sensitivities of Antarctic marine biota to metal exposure
#070: Shah	Thyroid hormones in Silver perch, and Brown trout
#142: Shahpoury	Effect of farm management practices on concentrations of halogenated pesticides in New Zealand streams
#166: Shanthanagouda	Aromatase as a prospective biomarker for EDCs in the Murray river rainbowfish
#091: Siddiqua	Interaction of atrazine and salinity to the developing cane toad, Rhinella marina
#106: Smith	Widespread pesticide contamination in QLD catchments
#088: Somparn	Ecotoxicological assessment of chlorpyrifos and cadmium on a tropical chironomid under the influence of water and sediment characteristics
#016: Stephenson	Changes in prokaryote and eukaryote assemblages along a gradient of hydrocarbon contamination in groundwater
#173: Takeuchi	Trace metal concentrations and phylogeny of metallothionein cDNA in Paenungulata species
#046: Tang	In vitro bioassay for reactive toxicity towards proteins implemented for water quality monitoring
#050: Tang	Toxicity characterization of urban stormwater using bioanalytical tools
#134: Templeman	Bioconcentration of Copper and Zinc in the Upside-down Jellyfish, *Cassiopea* sp.
#087: Tokhun	Use of bioassay-based whole effluent toxicity (WET) tests to assess the Nile tilapia juvenile response to a pulp and paper effluent
#040: Trenfield	Dissolved organic carbon reduces the bioavailability and toxicity of uranium to the unicellular eukaryote Euglena gracilis
#111: Turner	If it's not the baby, then what goes out with the bathwater? The implications of Greywater irrigation within an urban development - Phosphorus