



Tasmania-NZ Gondwanan ditch crossed for soil science discussions

Five Tasmanian Soil Scientists travelled to New Zealand for the joint soils conference in Christchurch. They have put together a few comments on what was a very successful visit to the shaky isles.

see page 12



John-Paul Cummings and Rafael Osok at Franz-Joesf Glacier on the West Coast of New Zealand. Home of the famous Franz-Joesf chrono-sequence spanning 0-18,000 years of the soil development on the moraine ridge derived from Haast schist. The older soils in the sequences are quite leached and weathered due to the extreme rainfall which is approximately 2,000 mm/yr at the coast and 8,000 mm/yr in the ranges.

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- Audit Report

AUSTRALIAN SOCIETY OF SOIL SCIENCE INC.
ARBN 080 783 106

ABN 96 080 783 106

The Australian Society of Soil Science Incorporated (ASSSI) was founded in 1955 to work towards the advancement of soil science in the professional, academic and technical fields. It comprises a Federal Council and seven branches (Qld, NSW, Riverina, ACT, Vic, SA and WA). Liability of members is limited.

Objectives

- To advance soil science
- To provide a link between soil scientists and members of kindred bodies within Australia and in other countries.

Specific Objectives

- To promote the field of soil science
- To further the expertise in soil science of members
- To be a forum for discussion on soil science
- To increase government and community awareness of soil science
- To liaise and cooperate with other organisations in support of mutual interests
- To encourage research and extension in soil science
- To promote wise management of the soil resource throughout Australia

Membership

For all Membership and CPSS application and renewals, subscription, queries and address changes contact Linda Bennison, ASSSI executive officer on telephone 03 5974 1758, facsimile 03 5974 1141 or email asssi@gsv.com.au

ASSSI Website

<http://asssi.asn.au>

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Advertisements

Advertisements relevant to some aspect of soil science are welcome. Charges are full page \$220, half page \$110, quarter page \$55 (GST inclusive). Information about ASSSI conferences, courses, scholarships etc is published free.

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All contributions are welcome, text preferably by email. Please send to the editor, Dan Murphy, Centre for Land Rehabilitation, The University of Western Australia, Nedlands, WA 6907.

tel 08 9380 7083, fax 08 9380 1050, email dmurphy@agric.uwa.edu.au



From the President

The Federal Council of ASSSI consists of Presidents of each of the seven Branches around Australia and an Executive (which is based in WA for 2001 and 2002). In the past, Proxies have played an important role in representing Branches at Federal Council meetings. This year, with particular encouragement from the SA Branch, more Branches are now participating directly in Federal Council Meetings. Federal Council Meetings are held bi-monthly via telephone conference call. The minutes of these meetings are on the ASSSI website (www.asssi.asn.au) as well as in *Profile*. I encourage active participation of Branches at Federal level to ensure that the Council meets the needs of members throughout Australia. This raises the issue of representation of members in areas that do not have affiliated Branches (for example members in Tasmania and NT). I am planning visits to all Branches later this year to participate with members in some of their functions.

Since taking over the role of Federal President of ASSSI this year, I have reflected on the role of the Federal Council in relation to the roles of Branch Committees. It is my view that an important role of Federal Council is to facilitate an exchange of ideas among Branches already participating in a wide variety of activities that address the specific objectives of ASSSI. Direct participation of Branches on Federal Council can enhance exchange of ideas and encourage innovation and relevance. In this context, Federal Council has initiated a strategic planning review process to investigate areas of strength and weakness as well as new opportunities.

Clearly, there is no doubt about the importance of understanding the soil resource within Australia. Increasing pressures on land use in all areas - urban, industrial and rural - mean that the role of soil scientists in Australian society has become more important than ever before. An effective, high profile national accreditation program for soil scientists is essential for providing appropriate advice on soil and land use.

Some of the issues raised during the strategic planning process underway include: whether the Federal Executive of ASSSI should continue to be rotated around Branches or become a truly national executive, exploration of closer links/affiliation with the New Zealand Soil Science Society, the need for a re-evaluation of the traditional membership

base, benchmarking of the society (nationally and at branch level), the effective use of new technology for communication - including the roles of email, the website and *Profile*, representation of soil scientists (and ASSSI) on state and national bodies and support for leadership development among junior soil scientists.

Finally, I welcome the new Executive Officer of ASSSI - Linda Bennison. Linda lives in Victoria and replaces Alice Bass who has done a wonderful job in establishing and maintaining a secretariat for ASSSI and for working through the difficult period of the introduction of the GST and associated BAS reporting. The current and previous Federal Councils of ASSSI are most appreciative of the work that Alice has done. Linda Dennison has had experience in providing secretariat services to the Grassland Society of Victoria for many years. We have also had a change in the Federal Secretary of ASSSI. Judy Eastham has resigned and Richard Harper is the new Federal Secretary. Many thanks to Judy and thanks in advance to Richard.

I look forward to meeting many of you during my visits to Branch meetings this year. I encourage your participation in the strategic planning process now underway and thank those of you who have so enthusiastically provided suggestions already.

Lyn Abbott



From the Editor's Desk

Firstly, a very BIG thank you to the former editor Jonnie White who has provided continuing support. Also thank you to Bryony Abbott for her patience in teaching me how to use Pagemaker and for her support with producing *Profile*.

Letters and articles from all members are appreciated so let us know your views.

A reminder to all members that we require a business to advertise on the back cover of *Profile*. This is a cheap and effective way of targeting products and services to a specialist audience.

I encourage all of those computer-literate members to subscribe to the electronic version of *Profile*. Not only will you receive the information sooner, you will reduce costs for ASSSI.

Dan Murphy
dmurphy@agric.uwa.edu.au

In this issue we commence profiles of members of the Federal Council



President: ASSSI Lyn Abbott

The Federal President of ASSSI, Lyn Abbott, leads the Soil Biology Group within Soil Science and Plant Nutrition in the Faculty of Agriculture at the University of Western Australia. She has developed an integrated teaching program that links soil biology to other areas of soil science at the undergraduate level. Her current research includes studying the ecology and function of arbuscular mycorrhizal fungi in forest soils, in viticulture and in saline soils in association with research staff and postgraduate students. This research is becoming integrated with expertise of others in the group who are investigating the bioavailability of organic matter and role of soil fauna in nutrient cycling in soil, the relevance of genetic diversity of rhizobia and the use of compost in horticulture. Lyn has a major interest in applying knowledge of soil biology in sustainable farming systems and in clarifying the contribution of soil organisms to soil fertility in natural and disturbed ecosystems. She runs workshops with other members of the Soil Biology Group (for 1, 2 or 12 days) on soil fertility for land managers and consultants. The one-day workshops are held at country locations in WA where farmers explore their soils and the animals that live in them under the microscope. The workshops examine issues of soil biological fertility and the impacts of farming practices on soil biology. Lyn has had a long-term interest in

coordinating an industry-based mentor program for undergraduate students. This has been run in association with the AIAST. In 2001, 80 students are matched to people in industry. The objective of the program is to provide opportunities for students to learn about their future profession, to network and to learn mentoring skills so that they become effective mentors throughout their own careers.

Treasurer ASSSI: Keith Lindbeck

Keith Lindbeck is a private environment consultant in Perth with his business as a sole operator since 1997. His clients are derived mainly from the mining industry with an occasional foray into the agricultural community. Prior to setting up his own consultancy, Keith has worked with consultancy firms and with the minerals and agricultural State departments in Western Australia. Keith left the NSW Soil Conservation Service in 1980 to move to WA and believes he is now an accepted resident of WA after 20 years in the state.

He is a graduate of Wagga Agricultural College, the University of New England and is a member of the Natural Resource Management Degree Advisory Group at the University of WA.

Keith joined ASSSI in 1984 and was Federal Treasurer in 1988-1990. He was WA Branch President from 1992-1994 and WA Branch Treasurer from 1994-2000. He is a member of the American Society of Surface Mining & Reclamation, the Environmental Consultants Association (WA), The Australian Association of Natural Resource Management, the Goldfields Land Rehabilitation Group and the Pilbara Environmental Management Group.

Keith has completed work assignments in China, Indonesia, New Zealand, Papua New Guinea and the USA.

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Hardsetting Grey Clay Soils

Matt Braimbridge, Centre for Land Rehabilitation, University of Western Australia
(formerly Agriculture Western Australia, Katanning)

One of Western Australia's most fragile soil types is hardsetting grey clay soil. Known locally as 'Moort' (*Eucalyptus platypus*) or 'Sunday' soils (too wet on Saturday, too dry by Monday!), these soils are estimated to occupy around 15% of the central and southern wheatbelt region of WA, an area of approximately 1.5 million hectares. They are hardsetting and poorly structured, usually consisting of a shallow topsoil overlying a very dense, sodic subsoil. The B-horizon typically has a massive columnar structure with a domed surface.

A-horizon:

Depth: typically 4 – 15cm
Texture: sandy clay loam (~25% clay)
pH (H₂O): 6 – 7.5
EC (1:5): variable ~ 100mS/m
Bulk density: 1.4 – 1.7g/cm³
Organic Carbon: low ~ 1.3%
CEC: ~13.5
ESP: ~2.6

B-horizon:

Texture: medium clay (~39% clay)
pH (H₂O): 8 – 8.5
EC (1:5): variable ~ 50mS/m
Bulk density: 1.6 – 1.9g/cm³
Organic Carbon: v. low ~ 0.35%
ESP: ~7.1

The sodic nature of these soils often presents many challenges to farmers, with the narrow cultivation window, seasonal waterlogging, and hardsetting characteristics often restricting germination and potential crop yields.

In 1995 a GRDC funded project was established in Katanning to identify and investigate factors influencing production and sustainability on grey clay soils. Results from the trial to date indicate the following:



◆ Presswheels have provided better establishment, lower weed numbers and slightly higher yield than harrows, particularly in combination with no-till.

◆ Gypsum application (2.5t/ha) has resulted in small but consistent improvements in bulk density, unsaturated hydraulic conductivity, establishment and yield. Modified modulus of rupture tests have indicated that the soil is less prone to hardsetting with the gypsum application.

◆ Green manure treatment has resulted in significant decreases in bulk density reflected by small increases in yield.

◆ Sheep on the crop / pasture rotations and permanent pastures have had a detrimental effect on the structure of the topsoil, increasing bulk density and reducing hydraulic conductivity.

◆ Lucerne as a permanent pasture has successfully reduced the amount of water stored in the soil profile, particularly at depth. However crop yields following three years of lucerne pasture have been significantly lower than other crop treatments.



Letters

Victorian septic tank policy in 2001 - Soil science? Science? Or Nonsense?

by Robert van de Graaff, vdgraaff@mira.net

In the previous edition of Profile, I favourably reviewed the new national standard for septic tank systems, AS/NZS 1547:2000. It is disappointing to see that the Environment Protection Authority (EPA) in Victoria is unhappy with this standard and has developed guidelines of its own. This is despite having had a representative on the standards committee. The EPA has developed two new guidelines of its own: an "Information Bulletin: Land Capability Assessment for On-Site Domestic Wastewater Management" and "Domestic Wastewater Management in Sewered Areas". The latter, still in Draft form, is for greenie urbanites who wish to treat their own sewage and use it on their gardens in lieu of tap water.

How can the householder or regulator make an informed decision about domestic wastewater management? For starters, such urban re-use ought to be sustainable for human health and the environment with a risk element no greater than that offered by full sewerage. This seems reasonable. What does this entail? No net loss of effluent to ground and/or surface water even in the 1 in 10 wet year or worse and all nutrients must be taken up by the plants. The only water allowed to reach the groundwater is the leaching fraction of rainwater. As the plants do not need extra water during most of the autumn, all of winter and most of spring, the effluent must be stored on site in a tank.

The EPA has helpfully calculated the size of the irrigation area and capacity of the tank that is needed for a 3-bedroom 5-member family

producing 200 L/day per person: a minimum of 1200 m² dedicated irrigation area and a 240,000 L tank, for a property on the Mornington Peninsula. What does one do if the year is wetter the 1 in 10 wet year? No worries, have your system connected to the sewer or tanker out the effluent!

A quick ring-around to manufacturers of very large tanks indicates that the tank alone, in galvanised steel, could cost around \$30,000, and then one still needs a concrete foundation, a treatment plant, pump, and all the plumbing. A tank of this capacity, if 4 m high so as not to overshadow the house, has a diameter of 8.7 m. To get the extra land, one could of course purchase two neighbouring urban properties, raze their houses and irrigate to one's heart's content. Any takers? What is more, the Draft announces that the 1996 EPA Code of Practice for Septic Tanks is being reviewed and that the new Code will be consistent with this Draft. So we may look forward to septic tank systems in unsewered areas being equipped similarly.

How do we assess the land capability in the first Bulletin? The EPA advises we must use a five-class rating system where the most severe limitation dictates the final capability class. From the rating Table in the Bulletin, to obtain a rating of "very poor capability" rainfall must be more than 1000 mm, stoniness more than 20%, seasonal watertable, inclusive of perched water tables, within 1.5 m, EC more than 4 DS/m, sodicity as ESP greater than 14%, permeability less than 0.06 m/day or more than 2m/day, etc. Very poor capability means "*Not being suitable for disposal of effluent by any trench system. The high levels of engineering input and management needed to address constraints at all stages are unlikely to adequately address the identified land constraints and achieve a sustainable outcome*". Only classes 1-3 are expected to be able to be managed without considerable engineering and management inputs.

To be Class 1 "Very Good" the seasonal water table, including perched water tables, must be deeper than 5m below the surface. This will lead

to many more soil auger extension rods being sold to land capability assessors. Furthermore the rainfall must be less than 450 mm/year. Perhaps there is some Class 1 land around the Big Desert? However, since these soils are probably single-grained they are bound to be Class 5 again!

To assist the lawyers and planners with planning disputes arising from these criteria, and possibly the land capability assessors, the "Information Bulletin" offers the following definitions:

- *Seasonal watertable* indicates a saturated level below the soil surface.
- *Sodicity* describes the sodium content of the soil. The higher the natural sodium content of the soil the less stable the individual aggregates and the lower the capacity of soils to take and treat domestic wastewater.
- *Shrinkage* is a measure of how the state of a soil changes between wet and dry conditions.
- *Rainfall* is the natural contributor to soil moisture. Wastewater can replace soil moisture not replenished by natural falls. However the higher the rainfall the more prone the soil to waterlogging. Additional hydraulic loads from wastewater programs may not be appropriate in these cases.

If you ask yourself why proper definitions are not used the answer is in one of the last notes in

Appendix 3. This says: "General soil description criteria *may* (my italics) follow the Australian Soil and Land Survey - Field Handbook (McDonald at al 1998)." What if the EPA or the reader does not like them? Well, anyone may make up their own. It is also concerning that the reader is advised to go to the AIAST rather than the Soil Science Society to seek the services of a competent soil scientist. I did point this out in the Draft stage, to no avail.

If you would like to inspect the former document for yourself, you can do so on <http://www.epa.vic.gov.au/resource/> the EPA's web site or pick it up free of charge from the EPA Head Office, Weekly Times Building, Southbank. The Draft is available from my hard disk.



Robert van de Graaff standing by a 250 m³ tank. His head is between the 50 and 100 m³ markers. This illustrates the tank size mentioned above.

To the Editor,

I would like to introduce our new web site to you

<http://www.web-agri.com/>

This is the first real agricultural search engine (not a directory site).

You can search your information on 300,000 web pages (and it will grow regularly).

Damien GENTILLEAU- Web-agri

<mailto:damien@web-agri.fr>

2nd ANZ GeoEnvironmental Conference

The Newcastle Chapter of the Australian Geomechanics Society is organising the 2nd ANZ GeoEnvironmental Conference to be held in Newcastle, 28-30th Nov 2001.

The programme has been specially designed to bring together soil scientists, engineers and policy makers. Further conference details, including the conference program, can be found at the conference website

<<http://www.icms.com.au/geoenvironment/>>

JON FIRMAN
14 GIDDENS COURT
NORTH LAKE WA 6153

The Editor Profile,

Here is an opportunity for membes to "... provide a link between soil scientists and members of kindred bodies..."

In recent years I have extended my work on paleosols in laterite and silcrete profiles across the Australian Precambrian Shield through the Eastern Goldfields to the south-west margin in Western Australia.

The study has demonstrated that the conclusion of my earlier work also apply to profiles on the south-west margin of the shield. (See Firman, 1994: Paleosols in laterite and silcrete profiles. Evidence from the south-west margin of the Australian Precambrian Shield. International Conference on Desert Landscapes and IGCP252, Past and Future Evolution of Deerts, University of Western Australia, 1991. Elsevier. Earth Science reviews 36:149-179).

I am now seeking references to published works by soil scientists to set in a stratigraphic framework provided by regional geologists for the south-west margin of the shield. The area of interest extends N-S from Pilbara to Greenbushes, and E-W from Kalgoorlie to Perth.

It is important that some stratigraphic information is stated or implied, as for example in Brewer, R. Bethenay, E and Churchward, H. M., 1972: Some aspects of the development of the red and brown hardpan soils of Bulloo Downs, Western Australia. CSIRO Division of Soils Technical Paper 13, which shows (Fig.2) lateritic remnants overlain and incorporated in the hard pan. Lateritic – bauxitic duricrusts and ferruginous pisolites are also included in the study.

Yours Sincerely,

Jon Firman
Retired Member ASSSI

Chemical Bioavailability in the Terrestrial Environment Workshop.

Adelaide, Australia. 18-20th November 2001.

It is with pleasure that the organising committee under the chairmanship of Dr Ravi Naidu (CSIRO Land and Water, Adelaide) invites you to attend the Bioavailability Workshop to be held in Adelaide, South Australia during 18-20 November 2001. The focus of this workshop "Chemical Bioavailability in the Terrestrial Environment", recognises the contrasting views that microbiologists, plant scientists, regulators and toxicologists have on bioavailability of both nutrients and contaminants. Bioavailability is now recognised as the single most important parameter in risk management and remediation. It is often linked to risk as the product of exposure and toxicity although the latter is based on short-term contamination studies that may not bear any resemblance to long-term contaminated soils. If bioavailability is to be the core of any remediation technology then there is a need for reassessment of our approach to assessing bioavailability.

The proposed workshop aims to bring together scientists, toxicologists and regulators leading research on bioavailability from all over the world to share their knowledge on bioavailability and environmental health risk assessment for contaminated soils. A key feature of this workshop is the inter-laboratory assessment of contaminant bioavailability using similar techniques by different international research teams. The workshop also provides an opportunity to agronomists for an assessment of bioavailability indices currently being used for fertiliser recommendations. We look forward to seeing you in Adelaide in November 2001.

For more details point your web browser to <http://www.clw.csiro.au/conferences/bioavailability/> or contact Megharaj Mallavarapu +61 8 8303 8703 (phone)



Branch News

Victorian Branch News

Leeper Lecture

The annual memorial G. W. Leeper lecture for 2000 was presented by Prof. Alex McBratney. His topic was the classification of soils, and in his lecture he deconstructed Leeper's 1956 paper on soil classification.

The lecture was well attended and enjoyed by all present. Alex did a good job making soil classification entertaining, which is a good thing to do to a topic that has stimulated intense passions in the past, and indeed continues to do so. He also provided an interesting summary of where and how different philosophical approaches to soil classification have arisen, and provided some challenges for the future.

Student Scholarships

The Victorian branch financially sponsored three post graduate students to attend conferences in 2000. Whilst these scholarships were relatively modest, they were much appreciated by the recipients, Ms Karen Smith, Mr Arshad Islam and Mr Rodrigo Correa. If you would like to hear about their experiences at the conferences they attended you can read all about it on the world wide web at the Victorian branch's web site at: <http://wwwsoils.landfood.unimelb.edu.au/soils/asssi-vic/>

Applications are welcomed from other postgraduate students to apply for this funding. Applications are considered by the student grants subcommittee twice a year, and should be submitted by March 1 and September 1 of each year. For more information see the web site.

Frank Gibbons Award

The Frank Ross Gibbons award for 2000 was won by Ms Gemma Nichol, an honours student at Latrobe University, for an essay titled *Peptization of soil colloids*. This award is given for an undergraduate essay in soil science by the Victorian branch of the Soil Science Society. Gemma has subsequently been awarded a PhD scholarship and will commence at Latrobe this year. An abstract of Gemma's paper follows, and the full text is available on the Victorian Branch's web site.

see page 11

WA Branch News

Fifth WA Symposium on Ions in the Soil-Water-Plant Continuum.

The fifth WA Symposium on Ions in the Soil-Water-Plant Continuum was held at the University of Western Australia, on 27 April. The Symposium was supported by the WA Branch of the ASSI and Soil Science and Plant Nutrition, the University of Western Australia. There were sixty five participants from sixteen different organisations. Professor John Pate of the University of Western Australia delivered the keynote address "Assessing the water and nutrient status of blue gum plantations — a novel approach using phloem and xylem sap analyses".

Scientists from University of Western Australia, Murdoch University, Curtin University of Technology, CSBP Futurefarm, Agriculture Western Australia, CSIRO, Chemistry Centre (WA) presented their latest research in mine rehabilitation, fertilizers, plant nutrition, soil chemistry, soil fertility, waste treatment and analytical methodology.

For the proceedings of the symposium, contact Dr C. Tang at Soil Science and Plant Nutrition of the University of Western Australia
Phone: (08)9380 3431;
email: [cxtang@cyllene.uwa.edu.au/](mailto:cxtang@cyllene.uwa.edu.au)
<http://www.uwa.edu.au/soils/>

The quest for the 19th World Congress of Soil Science - Brisbane 2010

In year 2000 the ASSSI took the bold decision to compete for the right to host the 19th World Congress of Soil Science in year 2010. A provisional booking of conference facilities in Brisbane has been made and a deposit paid. ASSSI appointed an *ad hoc* committee to develop this proposal under the chairmanship of Professor Bob Gilkes of The University of Western Australia. The membership of the committee is yet to be finalised but includes several former members of IUSS (formerly ISSS) committees and also representatives of state branches of ASSSI. The committee may also co-opt additional members as it's work evolves and will need to involve industry and government.

Our first major task is to convince IUSS that they should hold the 2010 Congress in Brisbane instead of Brazil or other competing locations. To this end we will organise an information centre at the Bangkok congress 2002 to inform participants on the strength of soil science in Australia, the priorities for research in our region as well as touristic opportunities. During the next twelve months the committee will approach state branches, individuals and organisations for display material. Maps, books, video displays and striking photographs are very useful in this respect. Australia has a strong international reputation in the use of soil science expertise to manage our hostile environments which is likely to excite the interest of foreign soil scientists. Display materials relating to such extreme soil science will be particularly welcome.

I urge members of ASSSI to attend the 17th World Congress of Soil Science in Bangkok from 14-21 August 2002. We need to participate strongly in this Congress and to gently lobby our overseas colleagues to support a Brisbane Congress. We should also try to improve our participation in the various committees of IUSS and its commissions, sub commissions and working groups, which has partly lapsed in recent years. The choice of a location for the 2010 19th Congress of IUSS will be made in Bangkok during the 17th Congress so that we now need to promote our Society and country in all possible soil science arenas.

In your correspondence with overseas colleagues, on your websites, in your visits to overseas institutions and conferences please start to promote the 19th World Congress of Soil Science, Brisbane, 2010 concept. As a survivor of the 1968 Adelaide World Congress and a participant in the planning of the Mexican and Brisbane Congresses I can promise you considerable work and worry in running a congress but mostly the reward of keeping Australian soil science near the top of the international league. Watch this space for regular updates on our activities. Please email me with suggestions for activities or offers of assistance.

Bob.Gilkes@uwa.edu.au

International Training Program on Computer Simulation for Crop Growth and Management Responses

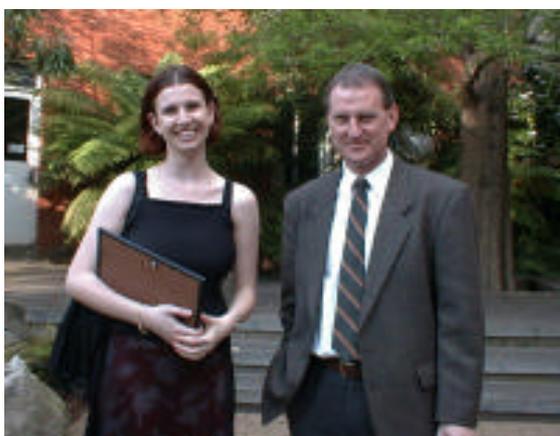
The International Fertilizer Development Center (IFDC) plans to conduct an International Training Program on Computer Simulation for Crop Growth and Management Responses in Lima, Peru, from October 15-26, 2001.

Audience - The program is designed for university graduates engaged in crop production and agro-ecosystems research, teaching, outreach, or planning. Ideally, the participants would have an understanding of soil and crop science and DOS-based personal computers. The program fee is US \$1,950 for registrants prior to September 15, 2001, and US \$2,100 thereafter. At this time, IFDC seeks only expressions of interest in the program and welcomes inquiries at hrdu@ifdc.org.

Read *Profile* First
at
<http://www.asssi.asn.au>

Peptization of Soil Colloids, by Gemma Nichol

The term peptization has become rare, resulting in the use of terms such as deflocculation, dispersion and reversed coagulation to describe a process that is none of these. Peptization does not involve diffuse electric double layer chemistry as do dispersion and coagulation, nor is it the mechanism of removing flocculants from soil colloids.



Ms Gemma Nichol and Dr Blair McKenzie

The net negative charge on layer silicates is due to the isomorphous substitution in the crystal lattice, however, pH dependant charge also contributes to the overall charge on a layer silicate. In acidic conditions, the pH dependant charge is positive and concentrated around broken bonds at the edges of the colloid. Electrostatic attraction then results between the positive edges and the negative faces of other layer silicates. This 'house-of-cards' structure results in porous soil. The elimination of this edge-to-face particle interaction is the action of peptization.

Peptization is simply a process of chemisorption of polyanions with the exposed aluminium from broken bonds at the edges of the layer silicates, creating an excess of negative charge. This reversal of positive edge charge to a negative charge eliminates edge-to-face particle attraction. It does not involve a change in the width of the

diffuse electric double layer to induce dispersion or reverse coagulation, although the likelihood of dispersion is increased.

Peptizing agents such as sodium polyphosphate and sodium hexametaphosphate have proved to be effective in decreasing infiltration. This increases runoff from sloping land and is a useful tool for water harvesting. Peptization has a clear scientific meaning, with practical consequences. The term should be used where appropriate.

Prize for best presentation Soils 2001

The ASSSI prize for the best presentation by a young or junior scientist was won by two Victorian branch members, Mr Yong Li, and Ms Lucy Burkitt. Lucy's paper was called *Development of a single point phosphorus sorption index for Australian Soils*, and Yong Li's was *Development of a spatially-distributed model of water and nutrient management*. The competition was fierce, as the standard of presentation at the conference was high. The judges were unable to give the award to just one person. They were so impressed by these two presentations that they decided to split the prize money and give it to both of them.

New Journal

Ecomed Publishers are about to release a new journal called Journal of Soils and Sediments - see <http://www.scientificjournals.com/jss/welcome.htm>

The Managing Editor, Almut Heinrich, is looking for two to three advertisements for the back cover and for the inside front and inside back covers. Almut will also have some estimates of circulation, audience, etc.

Please let Almut know if you are aware of anyone or any organisation that may be interested in advertising in the journal on her email on <mailto:a.heinrich@ecomede.de>

Tasmania- NZ Gonwanan ditch crossed for soil science discussions

Comments on the joint Australian-NZ Soils Conference

**Richard Doyle, Rafael Osok,
John-Paul Cumming, Leigh
Sparrow and Ali Saladini**

Ninety million years ago the NZ continent left the shores of Tasmania. As it ripped away it formed the Derwent and Tamar grabens and areas of the relict landscape have been weathering away ever since. Comparisons between the tectonic-youthful silt and ash covered landscapes of NZ with the sand over clay (duplex) and deeply weathered landscapes of Tasmania were fascinating to contemplate.



Loess(silt-centre left) being blown across the exposed braided channel of the Waimakariri River by the famous Canterbury Plains “North-Wester” (a mountain Fohn wind).

Leigh Sparrow did the West Coast pre-conference tour run by Peter Almond and Phil Tonkin and said it was the best field trip he'd ever done. Lets face, it the West Coast of New Zealand has a staggering soil climate and magnificent and dynamic geomorphology. Richard Doyle, Rafael Osok and John-Paul Cumming did their own tour



Pyramid Vineyard in the North canterbury. Note the small plots of Pinot Noir and Chardonnay going in according to the soil type and aspect. The major soils are rendzinas on soft limestone with calcareous soils overlying beds of glauconitic sandstone aslo highly sort after.

of the West Coast to examine the glacial geomorphology and visit Richard Doyle's old soil mapping areas near Fox and Franz-Josef Glaciers. The young peaty soils, massive braided streams, shattering alpine fault and moraine ridges demonstrate the youth and energy of this landscape. Soil knowledge is critical to the understanding the violent pulses of this landscape. For Richard Doyle, Rafael Osok and John-Paul Cumming the soils and viticulture field tour was the highlight of the week – no, not so much for the fermented fruits (which were good) - but for the utterly amazing comments from the American winemaker who trained in Burgundy (Mike Weersing of Pyramid Valley Wines – north Canterbury). This man has an extreme passion for letting the soil talk to the grapes or as the French say “Terrior”. He has had the soils group at Lincoln produce a detailed soil map and soil-catena and is purposefully planting small blocks

of pinot noir and chardonnay according to the presence of glauonitic sands, calcareous horizons and clayey subsoils. I can't wait to taste the pinot noir wines from this amazing dedication to Terrior.

Rafael Osok (AusAid funded PhD Student from Ambon) found that presenting a paper at the conference was very exciting and nerve racking. Rafael enjoyed many of the papers on GIS/DEM technology for soil and land assessment. The conference also enabled him to meet and talk to other soil scientists, which is most important as an international student. Rafael also noticed that some Maori words used in NZ are also used in Ambon for example: waihoka, waitomu, haruku and Harihari. Wai = water or river and hari = day.

Ali Saladini went to the Research Farms field tour and enjoyed the irrigation trials using a mobile glasshouse. He was also impressed by the array of new crops, which are being assessed, and wondered whether we have been too focused on testing known successful economic crops from elsewhere rather than finding and developing new crops.

As a general comment we felt the conference format was perhaps too stretched i.e., considerable time could have been saved during the course of the week, particularly in poster sessions. The length of the conference (and Women's cricket) was reflected in poor attendance numbers for the final afternoon. We also felt that some of the plenary sessions could have been more challenging and confrontational. Finally the distance between the speaking venues made it difficult to change venues in the middle of a given session. Otherwise an excellent and well run conference. Our thanks to the organisers.

ASSI WEB SITE
www.asssi.asn.au



Rafael Osok on the Haast Bridge, South Westland, NZ, note the extensive braided plain of the mighty Haast River as it exits the Southern Alps

*Australian Society of Soil
Science Inc.*

Expression of Interest

*Preliminary Notice of National
Conference*

Future Soils

*'Managing Soils Resources to
Ensure Access to Markets for
Future Generation'*

*University of Western Australia
Perth, Western Australia*

2-6 December

Profile - Issue 126 - June 2001



Federal Council Minutes

The 198th ASSSI Federal Council Meeting was held on the 30th March 2001 at the University of Western Australia

Opening

The President opened the meeting at 1.05 pm.

Attendance

Present: President Lyn Abbott, Rachael Poulter (Proxy – Riverina), Katherine Snars (Proxy – Qld), Keith Lindbeck (Fed Treas), Andrew Rate (WA), Tony Weatherly (Vic – by phone), Cam Grant (SA – by phone), Graham Tupper (NSW – by phone).

Apology: Daniel Murphy (“Profile” Editor).

Minutes of the 198th Meeting

1. L. Abbott welcomed all present, especially the interstate Presidents.
2. CPSS
L. Abbott reported that the CPSS Sub-Committee of Fed Council is preparing a document for circulation (Rob Loch). C. Grant commented that SA felt that membership of ASSSI should be linked to CPSS. Tony commented that different categories are required for CPSS. A. Rate felt that ASSSI needs to have a much stronger role in managing CPSS. K. Lindbeck commented that costs need to be reduced (to AIAST) or current system to be revised (employ someone using collected fees) to make it work better.
3. Minutes of the 196th Federal Council meeting (held in Lincoln University, NZ - 3 December 2000). No matters were raised.
4. Minutes of 197th Federal Council meeting. No issues were raised by current members. Graham Price has raised the need to amend By-Law 11 (d) – Election of Vice-President. The Fed Treasurer will follow this up with

Graham.

5. Federal President’s report.

Cost of the conference calls for Federal Council meetings. It is expensive and we must formulate a method to cover costs.

Vacant Executive officer (EO) position. Sub-committee has reviewed applications and assessment for interviews is occurring. Alice Bass is continuing on temporary basis to handle next BAS and bank subscriptions, etc.

Strategic plan – deferred to General Business.

L. Abbott requested that all branches submit a written report to Federal Council prior to each meeting on progress towards objectives in the Strategic Plan. Cam requested that each Branch’s report be circulated before each Council meeting.

6. Federal Secretary’s report

L. Abbott presented a report regarding the Federal Secretary’s position. She advised Council that Judy Eastham had resigned.

In regard to the Medals, all of the necessary information has been received from the previous Federal Council and nominations have been received and will be forwarded to the members of each medal committee.

7. Federal Treasurer’s report

Treasurer has discussed the incorporation of the ASSSI with legal advisor and the relationship of the incorporation to the ABN number for each branch. Advice hopefully would be received before next meeting. Handover of books not yet completed. Some urgent accounts have been paid by the previous Treasurer.

Treasurer moved that M W Egan & Co be appointed as Accountants and auditors for 2001-2002. Passed.

Treasurer moved that in the absence of a Federal Secretary, that the bank account signatories be any two of the President, Treasurer and WA President. Passed.

8. Ian Longson, President AIAST, joined the meeting at 1.30 pm for the purpose

of discussing CPSS and the relationship with AIAST.

L. Abbott commented that the CPSS agreement with AIAST expires on 30 June 2001 and Federal Council is looking at the current process of accreditation. She raised the question about the CPSS system being covered for the whole of 2001 by AIAST as members are paying fees for the full 12 months from 1 January. This needs to be confirmed by AIAST. Ian Longson advised that the AIAST is looking at its future role. Most members of AIAST are members of other professional groups. Therefore, what is the role for this umbrella type group? The review is expected to be completed by May 2002. Currently, members have been canvassed as have specialist groups (including ASSSI). Overall members want accreditation and training. The overall framework appears to be each specialist group running their own accreditation scheme under the auspices of AIAST. The specialist groups set their rules. He admitted that both CPSS and CPAg have problems and said he is looking forward to the outcome of the ASSSI review and with ASSSI continuing to work with AIAST. He would like to work with ASSSI to deliver this service (CPSS) within the AIAST framework. L. Abbott asked how much notice would be required following any decision by ASSSI. Ian Longson confirmed that AIAST would continue to deliver a service to CPSS members until December 2001 and that the end of May 2001 would be OK to receive result of review from ASSSI.

C. Grant commented about the current level of poor service and the inability to obtain information such as current list of CPSS members and the payment to AIAST by CPSS rather than through ASSSI.

L. Abbott mentioned that the databases are split (CPSS members and non-members) and complete information is not available.

Ian Longson thought that it was not effective to have cheques by ASSSI members going to two organisations. He mentioned that membership lists should be on the Web for viewing and updating.

T. Weatherly raised the proposed meeting in Melbourne in October and L. Abbott explained that Professor Bob White would collaborate in organising this meeting that would involve employers with a view to ascertaining employers views on the value of accreditation. Ian Longson finished by advising that the AIAST vacant Executive Director's position would be advertised in 2-3 weeks. Some of the required attributes (tasks) for the new Director would be experience in the training and accreditation environment. He advised also that AIAST was planning to rejoin FASTS and tie in more with Science and Technology policy. Ian Longson departed from the meeting at 1.50 pm.

9. Newsletter ("Profile") Editor's report was provided by L. Abbott.

L. Abbott advised that Daniel Murphy was returning in about 3 weeks and that Profile would be out about on-time.

10. General Business

(a) ASSSI Strategic Plan

L. Abbott outlined the principles behind the Strategic Planning process and requested comments on the draft sent to Council Members last week. She saw a wide ranging process to settle on a Plan and requested comments before the next Federal Council meeting so that a draft document could be discussed. The Plan would be used to give a clear direction to ASSSI over the next two years.

C. Grant made the comment that ASSSI should be thinking on a broader scale, such as including NZSS, as ASSSI can learn a great deal from NZSS.

Other Council members stated that their Branches had not discussed the draft at this stage.

A. Rate commented that WA would be discussing the plan via e-mail within WA and that the Plan should include mention of accreditation and affiliation with other organisations. He also mentioned that ASSSI should investigate Corporate membership as a means of increasing subscriptions and spreading the Society's costs.

continued page 17

Life Member Profile

This month we meet Peter Charman

Peter Charman was born and educated in the United Kingdom. He attended the university of Reading, and received an honours degree in Agriculture with a study of cultural practices in Britain and their impact on soil structure.

Career Highlights

After working in the agricultural field for a number of years, Peter emigrated to Australia in 1962 and joined the Soil Conservation Service of New South Wales. Originally Peter's role was in extension, but in 1966 he was appointed to a specialist soils position at Scone. He then served as officer in charge of the Gunnedah Research Centre, before moving to Sydney in 1974 as Special Soil Conservationist in charge of research centres. He stayed with the Service until his retirement in 1989, ultimately serving as the Deputy Director in charge of research. He subsequently took on the job of editor of the Australian Journal of Soil and Water Conservation for eight years.

During his career, Peter's main research was in soil erodibility, and the characteristics of different soils that made them more or less prone to erosion. He developed and promoted various ideas on the objective assessment of erodibility. At the time of his appointment as specialist soils researcher, the Northcote Factual Key was just coming into use, and it proved its use throughout the Soil Conservation Service.

In the early 1980's Peter claimed the newly formed national Soil and Land Resource committee. The formation of this committee was championed by Gordon Hallsworth, with the aim of rationalising soil assessment nationwide. It's membership consisted of representatives from CSIRO Division of Soils and Land Resources, the Soil Conservation Services of NSW, the Soil Conservation Authority of Victoria and all state Departments of Agriculture. The committee has survived in various formats throughout the past

two decades and today's Australian collaborative Land Evaluation Program (ACLEP) is descended from this group. In his roles Peter made a concerted effort to encourage others, particularly soil conservatists, to develop greater expertise in soils and soil survey. He worked to bring soil conservation officers and the soil science fraternity closer together, to strengthen links between research and the practical application of soil technology. He encouraged co-operative research through his memberships of various committees and of the ASSSI. He was largely responsible for the publication of a specialist soils text for New South Wales, in which the main focus was soil science in a soil conservation context. A second edition of the book "Soils - their Properties and Management" was published in 2000.

Involvement with ASSSI

Peter has served the society as NSW president from 1976-1978 and as Federal President from 1978-1980. In 1980 he presided over the first of the four-yearly National Soils Conferences, which was held at the University of Sydney. Subsequent conferences have been held regularly, all over Australia.

Future of Soil Science

To Peter, the future of soil science is intimately related to its public image. In Australia, soil conservation services no longer exist as individual entities, but have been incorporated into larger departments. This integration generates both dangers and opportunities for soil science as a discipline. In years past soil scientists worked in specialised departments with a critical mass of specialists, allowing the mentoring of young researchers and the establishment of a recognised source of quality information. Today, individual soil scientists are often isolated in large, widely focussed departments without the support or recognition that comes from a disciplinary group.

On a positive note, integration has encouraged the formation of interdisciplinary teams which has allowed soil science to broaden its focus and become part of engineering, environmental, and urban as well as agricultural projects. In Peter's opinion soil scientists must overcome the disadvantage of integration by learning to publicize their areas of expertise, increasing the recognition of their discipline and improving communication within the soil science community.

Peter Charman



From Page 15-Federal council minutes

L. Abbott requested that responses be forwarded to her by 1st May with the re-vamped Plan returned to Council members by 15th May. This would enable some additional Branch discussion prior to the next Federal Council meeting. Motion moved by Andrew Rate and seconded by G. Tupper: That a tender/expression of interest be submitted by interested Branches to Federal Council for running the next joint ASSSI/NZSS Conference in 2004.

Federal Council will prepare information and circulate to branches. Information will be obtained about previous conferences, especially the December 2000 in Christchurch. L. Abbott will follow up.

(d) Sub-Committees

L. Abbott recommended, and it was agreed, that all sub-committees lapse (except the Accreditation Sub-Committee) until the Strategic Plan is developed.

(e) Other

G. Tupper proposed a number of initiatives:

- Starting an experiment for membership communication
- Agenda item for next meeting – the NSW “Save our Soils” program and obtaining financial assistance for ASSSI to take over the program as State funding is ceasing – could be a national initiative by ASSSI rather than State

L. Abbott requested submission of any suggestions for the Web page – to either her or to Derek Yeates.

Next Federal Council Meeting (199th) – 1.00 pm (WST) Friday 25th May 2001 in Paterson Room, Faculty of Agriculture, UWA.

Meeting closed 2.05 pm.

ASSSI Honorary for Life Members

Peter Charman	John Freney	Tim Marshall	Ian Sargent
Max Churchward	Gordon Hallsworth	Bill McArthur	Charles Stephens
Bruce Cockroft	Cedric Hawkins	Don McIntyre	Robert van der Graaff
N. Collis-George	George Hubble	Keith Northcote	Stan Waring
Ian Fergus	John Loveday	Jim Quirk	Colin Williams

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 AJSR is available on the web

www.publish.csiro.au/journal/ajsr/index.html

AUSTRALIAN SOCIETY OF SOIL SCIENCE INC

INDEPENDENT AUDIT REPORT

TO THE MEMBERS OF AUSTRALIAN SOCIETY OF SOIL SCIENCE INC

Scope

We have audited the accounts, being the Statement of Directors, Profit and Loss Account, Balance Sheet and notes to and forming part of the accounts of Australian Society of Soil Science Inc. for the year ended 31st Dec 2000. The society's members are responsible for the preparation and presentation of the accounts and the information they contain. We have conducted an independent audit of these accounts in order to express an opinion on them to the members of the society.

Our audit has been conducted in accordance with Australian Auditing Standards to provide reasonable assurance as to whether the accounts are free of material misstatement. Our procedures include examination, on a test basis, of evidence supporting the amounts and other disclosures in the accounts, and the evaluation of accounting policies and significant accounting estimates. These procedures have been undertaken to form an opinion as to whether, in all material aspects, the accounts are presented fairly in accordance with applicable Australian Accounting Standards and other mandatory professional reporting requirements and statutory requirements so as to present a view of the company which is consistent with our understanding of their financial position and the result of their operations.

The audit opinion expressed in this report has been formed on the above basis.

Qualification

Because of the nature of society's income producing activities, and since the association does not issue receipts consistently it is not possible for the society to match receipts to bank deposits in quickbooks.

Due to the society's executive officer invoicing all members through quickbooks it is now possible to show the book of accounts on an accrual basis. Accordingly, our audit has been confined to the transaction recorded in the quickbooks.

Notwithstanding the above, our audit revealed that all monies recorded in the Quickbooks were banked, and expenditure has been adequately evidenced by external documentation.

Audit Opinion

In our opinion, subject to the limitation on the scope of our work as described in the qualification paragraph and the effects of such adjustments, if any, as might have been determined to be necessary had the limitation not existed, the financial report is presented fairly in accordance with Statements of accounting Concepts and applicable Accounting Standards so as to report the financial position of the Australian Society Inc. as at 31st December 2000 and the results of its operation for the period then ended.

AUSTRALIAN SOCIETY OF SOIL SCIENCE INC

**NOTES TO AND FORMING PART OF THE ACCOUNTS FOR THE
YEAR ENDED 31st DECEMBER 2000**

NOTE 1 STATEMENT OF ACCOUNTING POLICIES

The financial statements are a general purpose financial report that have been prepared in accordance with applicable Accounting Standards and other mandatory professional reporting requirements and the requirements of the Associations Incorporations Act, Qld. The financial statements have also been prepared on the basis of historical costs and do not take into account changing money values or, except where stated, current valuations of non/current assets. Cost is based on the fair values of the consideration given in exchange for assets. The accounting policies have been consistently applied, unless otherwise stated.

The following is a summary of the significant policies adopted by the society in the preparation of the financial statements.

1 Income Tax

The society has been granted Tax Exempt Status under section 50-50 of the Income Tax Assessment Act 1997.

2 Basis of Accounting

The accounts have been prepared on accruals basis whereby income and expenses represent accruals of income and expenditure.

**AUSTRALIA SOCIETY OF SOIL SCIENCE INC
STATEMENT BY MEMBERS OF THE COMMITTEE**

In the opinion of the committee the accompany accounts.

- 1 Present fairly the financial position of Australian Society of Soil Science of Inc as at 31st December 2000 in accordance with Australian Standards and other mandatory professional requirements.
- 2 At the date of this statement, there are reasonable ground to believe that Australian Society of Soil science Inc. will be able to pay its debts when they fall due.

This statement is made in accordance with a resolution of the Committee.

AUSTRALIAN SOCIETY OF SOIL SCIENCE INC
PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED 31st DECEMBER 2000
1999

\$		\$
	<u>GENERAL</u>	
	<u>INCOME</u>	
905	Advertising	1936.36
5165	Interest Received	2212.68
52398	Subscriptions	64391.81
	Sundry Income	10
450	Workshop Fees	-
58918	GENERAL	68550.85
	<u>EXPENSES</u>	
11165	Administration Charges	
2250	Auditors Remuneration - Fee	1000
1361	Bank Charges	1740.83
386	Catering Meetings	864.16
26	Filing Fees	632
1550	Insurance	1673.23
195	Internet Expenses	321.35
680	Postage	5298.8
406	Printing, Stationary & Consumables	4334.03
13930	Publications - Newsletter	7384
	Refund Fees	595.5
	Staff Training	899.1
4758	Subscriptions	21757
1124	Telephone	1122.84
1721	Travelling Expenses	2721.32
23604	Wages	23982
<u>15125</u>	Workshop Expenses	
<u>78281</u>		<u>74326.16</u>
<u>19363</u>		<u>5775.31</u>

MAKE SURE YOU ARE PROTECTED

If you or your branch are organising an event you MUST notify the federal executive, to guarantee insurance cover. An event is any activity other than ordinary meetings - workshops, training sessions, and ESPECIALLY field trips. Send an outline of the activities involved, the time, date and venue of the event to:
Keith Lindbeck
PO Box 144, Bull Creek WA 6149
Tel: 08 9332 0671 Fax: 08 9332 0672
lindbkya@ca.com.au
Please notify Keith at least one week before the event.

Profile welcomes letters, particularly those which promote debate and discussion. Please send contributions to the editor.

AUSTRALIAN SOCIETY OF SOIL SCIENCE INC.
PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED 31st December 2000
1999

\$		\$	
	<u>CONFERENCE</u>		
	<u>INCOME</u>		
184	Interest Received		
-	Sponsorship		
184	CONFERENCE		3282.05
	<u>EXPENSES</u>		
-	Award and Prizes	1050	
2420	Conference Expenses	-	
887	Printing, Stationery & Consumables	-	
-	Sponsorship	1188	
<u>637</u>	Travelling Expenses	<u>221.45</u>	
<u>3944</u>			<u>2459.45</u>
<u>3760</u>			<u>822.6</u>

AUSTRALIAN SOCIETY OF SOIL SCIENCE INC
PROFIT AND LOSS ACCOUNT FOR THE YEAR ENDED 31st December 2000
1999

\$		\$	
	<u>SURPLUS/(DEFICIT)FOR YEAR</u>		
	<u>GENERAL</u>		
19363	General	5775.31	
<u>3760</u>	Conference	<u>822.6</u>	
<u>23123</u>			<u>4952.71</u>

AUSTRALIAN SOCIETY OF SOIL SCIENCE INC
CAPITAL ACCOUNTS FOR THE YEAR ENDED 31st December 2000
1999

\$		
	<u>CAPITAL AND CURRENT ACCOUNTS</u>	
	<u>MEMBERS FUNDS</u>	
122751	Balance at Beginning of Period	99628.19
<u>23123</u>	Surplus/(Deficiency) for Period	<u>4952.71</u>
<u>99628</u>		<u>94675.48</u>

AUSTRALIAN SOCIETY OF SOIL SCIENCE INC.
BALANCE SHEET AS AT 31st December 2000
1999

\$		\$	
	<u>PROPERTORS FUNDS</u>		
99628	MEMBERS FUNDS		<u>94675.48</u>
	REPRESENTED BY		
	<u>INVESTMENT FUNDS</u>		
68857	St Georges Bank - Term Deposit		45725.71
	<u>CURRENT ASSETS</u>		
-	Cash on Hand	822.4	
	St George Bank - General		
5853	Support A/c	5931.86	
2274	St Georges Bank - Salary A/c	749.52	
16129	St Georges Bank - Conference A/c	18139.1	
6515	St Georges Bank - Business Cheque	7030.45	
	Deposit - Brisbane Convention		
-	Centre	3000	
-	GST Refundable - December BAS	802	
-	Trade Debtors	<u>13099.7</u>	
30771			<u>49575.03</u>
99628	TOTAL ASSET		95300.74
	<u>CURRENT LIABILITIES</u>		
-	GST Held	<u>625.26</u>	
99628	NET ASSETS		<u>94675.48</u>

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For those of you who are still trying to achieve the elusive 'paperless office', we would like to give you the option of forgoing your quarterly paper copy of *Profile* in favour of an electronic one.

How will it work?

Each time an issue of *Profile* is produced you will receive an email message with a web link direct to the electronic copy of the latest *Profile* on the ASSSI website. The file is in *.pdf format and so you will need to download Acrobat Reader from the link provided if you don't already have it. From here you can read the latest ASSSI news direct from your screen.

What do I have to do?

To make the change, please send an email with your name, postal address and email address to the *Profile* Editor at dmurphy@agric.uwa.edu.au

New Member Profiles

Andrew Butler

Originally from the UK, I have been rather nomadic, but hope to settle down in Australia. I graduated from University of Reading (UK) in Soil Science in 1986 and completed my Ph.D. (on soil compaction) at the University of Wales (UK) in 1990.

I then worked as a Soil Chemist in Oman on a FAO Soil Survey and Land Classification project. This involved analysis of saline and sodic soils, irrigation water quality assessment, provision of technical advice and the staff training.



In 1991, I returned to UK to join an agrochemical company as an Environmental Scientist working on pesticide environmental fate. My main interest was in pesticide mobility, using ^{14}C -labelled compounds applied to field-based lysimeters. I also managed studies on the effects of pesticides on non-target soil micro-organisms. The tropics called again and, in 1993, I moved to the Department of Agriculture in Brunei as a Soil Scientist. This varied and stimulating job involved work in soil survey interpretation and land use planning (including work on acid sulphate soils), soils laboratory management,

and the provision of advisory services. After returning to the UK in 1997, I joined a London-based consultancy as a Senior Soil Scientist providing expertise on soil management for civil engineering and major landscape creation projects, land restoration, land application of 'wastes' and contaminated land investigations. I am now a Senior Environmental Scientist with Natural Resource Assessments Pty Ltd., a Cairns based environmental consultancy. Current projects include the development of success criteria for mine rehabilitation, environmental management, erosion and sediment control planning, and effluent disposal. I joined the ASSSI to keep up with current research and developments in the soil science field and also as a means of becoming more involved with the soil science community in Australia.

Matt Braimbridge

After completing a degree in Environmental Science at Murdoch University in 1994, I began work as a Research Officer for Agriculture Western Australia based in Katanning. Working on the 'Grey Clay Project' team, we investigated the productivity and sustainability of different farming systems for grey clay soils, through the implementation of a large scale farming system trial site. This GRDC funded trial is still continuing.

Other trials conducted by the project included an experiment investigating 'Soil constraints to root growth', which examine the physical constraints to root growth on grey clay soils. The findings from this trial led to the implementation of several deep-ripping trials, investigating the effect of deep-ripping on the grey clay profile, root development and crop growth. Evaluation of management options for the identified waste materials. After four years based in Katanning I moved back to Perth where I am currently working at the Centre for Land Rehabilitation, based within the Soil Science and Plant Nutrition Faculty of the University of Western Australia.

New Member Profiles



Much of my work is now focused on mine site rehabilitation. This involves the assessment and characterisation of mine wastes and assisting with a number of research and student based trials at mine sites around Western Australia. Aspects of mine site rehabilitation under investigation include the physical conditions of waste profiles, landforms, soil water relations, topsoil characterisation, root and plant growth. We are also beginning a project to develop a 'Rehabilitation Handbook' for regolith materials from mines on the Yilgarn Craton. The handbook will, by the examination of geological context, mineralogy, chemical and physical properties, together with rehabilitation experiences, provide a link between the stages of exploration drilling and the evaluation of management options for the identified waste materials.

Assistant Professor - A 9-month, tenure-track position is available in the Department of Natural Resources at the University of New Hampshire. The position is 60% teaching and 40% research. Candidates must have a Ph.D. in Soil Science or related field, and demonstrated expertise in soil classification. Teaching responsibilities will include undergraduate courses in introductory soils, soil formation/classification/mapping, and an advanced course in the candidates area of specialization. Additional information about the Department can be found at (<http://www.unh.edu/natural-resources/index.html>)><http://www.unh.edu/natural-resources/index.html>). Review of applications will begin July 16, 2001. For more information contact Dr. Elizabeth A. Rochette, Department of Natural Resources, 56 College Road, 215 James Hall, University of New Hampshire, Durham, NH 03824-3589; email rochette@cisunix.unh.edu.

Going Cheap

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Linda Bennison
(ASSSI Executive Officer)*



Conferences

8-13 July 2001

Third International Conference on Mycorrhizas, Adelaide
tel (08) 8303 7351
fax (08) 8383 6511
sally.smith@adelaide.edu.au

21-27 July 2001

7th International Symposium on Soil and Plant Analysis, Alberta, Canada
fax +49 6307 401104
www.ISSPA2001.com

27 Jul - Aug 2001

XIV International Plant Nutrition Colloquium, Hannover, Germany
fax +49 511 762 3611
www.ipnc2001.uni-hannover.de

27 Jul-2 Aug 2001

6th International Conference on the Biogeochemistry of Trace Elements, University of Guelph, Ontario, Canada
tel (519) 824 4120
fax (519) 823 1587
icobe@lrs.uoguelph.ca
http://icobte.crle.uoguelph.ca

3-9 Aug 2001

12th World Fertilizer Congress on Fertilization in the Third Millennium, Beijing, China
http://www.pb.fal.de

10-12 Sept 2001

11th Nitrogen Workshop France
www.inra.fr/Internet/Projects/
11NWorkshop

30 Sept - 5 Oct 2001

2001 Australian Society for Microbiology - Scientific Meeting Perth, WA
www.theasm.com.au

1-5 Oct 2001

First World Congress on Conservation Agriculture: A world wide challenge Madrid Spain
Reicosky@morris.ars.usda.gov

15-26 Oct 2001

International Training Program on computer Simulation for Crop Growth and Management Response
hrdueifdc.org

18-20 Nov 2001

Chemical Bioavailability in the Terrestrial Environment Workshop.
http://www.clw.csiro.au/conferences/bioavailability

28-30 Nov 2001

Australian Geomechanics Society Conference: Geoenvironment 2001
tel 02 92903366
fax 02 92902444

www.icms.com.au/
geoenvironment

14-21 Aug 2002

17th World Congress of Soil Science Confronting New Realities in the 21st Century Bangkok Thailand
www.17wcss.ku.ac.th

Jan 2003

Soil Science Society South Africa - 50th Anniversary Congress
www.soils.org.za

July 2003

International Soil Tillage Research Organisation, Queensland
tel (07) 5460 1354
fax (07) 5460 1367
j.tullberg@mailbox.uq.edu.au

50th Anniversary - SSSSA

To the Editor : Profile,

Greetings from the Soil Science Society of South Africa to all Australian soil scientists. As a council member of SSSSA and editor of its newsletter, I always enjoy reading your ASSSI equivalent.

It's interesting to see that two issues affecting the ASSSI, namely the struggle to collect subscriptions' accreditation, are also very much to the fore here in South Africa.

The purpose of this communication is to inform you about the 50th Anniversary Congress of the SSSSA, to be held in less than 2 years from now in Stellenbosch, South Africa in January 2003.

A committee, under the able chairmanship of the SSSSA President, Leopoldt van Huyssteen, is already hard at work making arrangement for this very special occasion.

All SSSSA members would be delighted if as many Australian delegates as possible would consider a trip to the "Fairest Cape" of Africa to help us celebrate our silver jubilee. As well as the usual presentations of the latest research findings in many soil-related fields, there will be historical summaries, reminiscence about the history of many aspects of soil science in South Africa and a lot of other special events.

The SSSSA has a web site (which has just started) at www.soils.org.za, where we will place details as they become finalized, but if anyone wants more details about the 2003 congress, they can either contact me (Tel +27 12 310 2601, Fax +27 12 323 1157, e-mail g_pater@igkw2.agric.za) or Leopoldt van Huyssteen (Tel +27 21 808 4790, Fax +27 21 808 4791, email lvh@maties.sun.ac.za).

Best wishes from this side of the Indian Ocean,

Garry Paterson

ARC-Institute for Soil, Climate and Water, Pretoria.

Any conferences, courses, seminars or workshops coming up? Send Profile the details and we'll feature them here.

Soils Contacts

FEDERAL COUNCIL

President

Lyn Abbott
UWA, Nedlands, WA 6009
Tel 08 9380 2499
Fax 08 9380 1050
labbott@cyllene.uwa.edu.au

Secretary

Richard Harper
CALM
Locked Bag 104
Bentley Delivery Centre
WA 6983
Tel 08 9334 0306
Fax 08 9334 0327
richardh@calm.wa.gov.au

Treasurer

Keith Lindbeck
PO Box 144
Bull Creek WA 6149
Tel 08 9332 0671
Fax 08 9332 0672
lindbyka@ca.com.au

Executive officer

Linda Bennison
PO Box 525 Mornington
Victoria 3931
asssi@gsv.com.au
Tel 03 5974 1758
Fax 03 5974 1141

Profile editor

Daniel Murphy
UWA, 35 Stirling Hwy
Nedlands WA 6009
Tel 08 9380 7083
Fax 08 9380 1050

WESTERN AUSTRALIA

President

Andrew Rate
UWA, 35 Stirling Hwy
Nedlands WA 6009
Tel 08 9380 2500
Fax 08 9380 1050
andrew.rate@uwa.edu.au

Secretary

Christoph Hinz
UWA, 35 Stirling Hwy
Nedlands WA 6009
Tel 08 9380 3466
Fax 08 9380 1050
chinz@agric.uwa.edu.au

Treasurer

Martin Wells
Land Assessment Pty Ltd
PO Box 117
Subiaco WA 6008
Tel 08 9388 2427
Fax 08 9381 4727
landass@iinet.net.au

Newsletter editor

David Allen
Chemistry Centre, 125 Hay
Street, East Perth 6004
Tel 08 9222 3031
Fax 08 9325 7767
allen1@iinet.net.au

SOUTH AUSTRALIA

President

Cameron Grant
University of Adelaide
PMB 1
Glen Osmond SA 5064
Tel 08 8303 7404
Fax 08 8303 6511
cameron.grant@adelaide.edu.au

Secretary

Graham Merrington
University of Adelaide
PMB 1
Glen Osmond SA 5064
Tel 08 8303 7232
Fax 08 8303 6511
graham.merrington@adelaide.edu.au

Treasurer

Bernie Zarcinas
CSIRO Land and Water
PMB 2 Glen Osmond 5064
Tel 08 8303 8429
Fax 08 8303
8565Bernard.Zarcinas@
adl.clw.csiro.au

ACT

President

John Field
Department of Forestry,
Australian National
University
Canberra ACT 0200
Tel 02 6249 3566
Fax 02 6249 0746
john.field@anu.edu.au

VICTORIA

President

Tony Weatherley
Institute of Land and Food
Resources
The University of
Melbourne, Parkville 3010
Tel 03 8344 4642
Fax 03 8344 5570
t.weatherley@landfood.
unimelb.edu.au

Secretary

Helen Suter
van der Graaff and
Associates Pty Ltd
80 Brucedale Crescent, Park
Orchards 3114

Tel 03 9879 9480

Fax 03 9876 1064

hsuter@mira.net

Treasurer

Andrew Smith
Institute of Land and Food
Resources
University of Melbourne,
Parkville 3010
Tel 03 8344 0140
Fax 03 8344 5570
a.smith@landfood.
unimelb.edu.au

NEW SOUTH WALES

President

Graeme Tupper
Resource Information
NSW Agriculture
Locked Bag 21(161 Kite
Street) Orange NSW 2800
Tel (02) 6391 3143
Fax (02) 6391 3767
Mobile 0412 425 396
graeme.tupper@agric.nsw.gov.au

Secretary

Dr Brian W Murphy
NSW Department of Land
and Water Conservation
PO Box 445, Cowra.NSW,
2794
Tel 02 6342 1811
Fax 02 6342 4551
bmurphy@dlwc.nsw.gov.au

Treasurer

Chris Conoley
Dept of Agricultural
Chemistry & Soil Science,
University of Sydney 2006
Tel 02 9351 2089
Fax 02 9351 3706
c.conoley@
agec.usyd.edu.au

RIVERINA

President

Evan Christen
CSIRO Land and Water
PMB 3 Griffith NSW 2680
Tel 02 6960 1586
Fax 02 69601600
evan.christen@
grf.clw.csiro.au

Secretary

John Hornbuckle
CSIRO Land and Water
PMB 3 Griffith NSW 2680
Tel 02 6960 1586
Fax 02 69601600
john.hornbuckle@
grf.clw.csiro.au

Treasurer

David Robinson
CSIRO Land and Water
PMB 3 Griffith NSW 2680
Tel 02 6960 1586
Fax 02 6960 1600
david.robinson@grf.clw.csiro.au

QUEENSLAND

President

Adrian Webb
WebbNet Land Resource
Services Pty Ltd
65 Savages Road
Brookfield Q 4069
Ph: 3374 2686
adrian@webbnet.com.au

Secretary

Robin Bruce
24 Cassandra St
Chapel Hill Qld 4069
Ph: 07 3378 6229 Fax: 07
3878 1801
brucer@uq.net.au

Honorary Treasurer

Peter Shields
Land Resources Assessment
and Management Pty Ltd
38 Pareena Crescent
Mansfield Qld 4122
Ph: 07 3849 2874
Fax: 3219 4135
lrampgs@ecn.net.au

TASMANIA

Philip Smethurst
CSIRO Forestry & Forest
Products, GPO Box 252-12,
Hobart 7001
Tel 03 6226 7953
Fax 03 6226 7942
Philip.Smethurst@
ffp.csiro.au

NEW ZEALAND

President

Alan Palmer
Massey University
Private Bag 11222
Palmerston North NZ
a.s.palmer@massey.ac.nz

Editor

Alastair Campbell
Dept of Soil Science
Lincoln University
PO Box 84
Canterbury NZ
campbell@lincoln.ac.nz

WEBMASTER

Derek Yates
derek.yates@uts.edu.au

Soil and Landscape Issues in Environmental Impact Assessment

*NSW Department of Land and Water Conservation
Technical Report No. 34 (2nd edition) 2000*

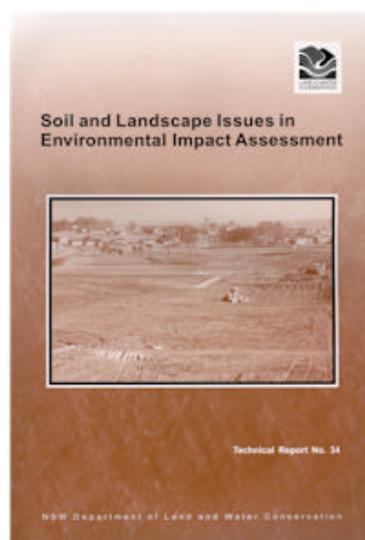
This report provides a comprehensive guide to requirements necessary for the assessment of soil and landscape issues in the environmental impact assessment (EIA) process.

Disturbance to soil and land in the course of development activity has frequently been associated with major environmental impacts, including extensive soil erosion, sedimentation, mass movement, soil contamination, release of acid sulfate solutions and others. Apart from the environmental costs, there are also significant financial costs to both the proponent and the community as a whole.

This report should assist project proponents, environmental consultants and government decision-makers to better understand the relevant issues and information requirements relating to the treatment of soil and land resources during the EIA process. It is also relevant to land resource practitioners involved in soil conservation and land management issues. Although primarily directed towards users in NSW, most of the information is universal in nature and would be relevant throughout Australia.

Included in the report is:

- 1. Background Information:** overview of EIA process; legislative responsibilities (in NSW).
- 2. Site Survey and Data Collection:** survey methodology; data requirements (soil physical and chemical properties, landscape data, climate data).
- 3. Evaluation of Potential Impacts:** soil erosion and sediment transport; mass movement; soil contamination; soil degradation; hydrological impacts; disturbance of acid sulfate soils.
- 4. Mitigation of Impacts:** erosion and sediment control; mass movement; soil contamination; soil degradation; hydrological impacts; acid sulfate soils.
- 5. Soil Landscape Issues for Particular Developments:** urban development; waste disposal/reuse activities; forestry operations; mining and extractive industries; coastal, estuarine and riparian works; intensive agriculture.
- 6. References**
- 7. Appendices:** including laboratory test ratings for various soil properties.



Copies of the report are available from:

*The Information Centre
Department of Land and Water Conservation
23-33 Bridge St
Sydney NSW 2000
tel: 02 9228 6415
Email: infocentre@dlwc.nsw.gov.au*

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