AUSTRALIAN HYDROGRAPHERS ASSOCIATION

Australasian Hydrographer

AHA member Justin Stockley (Greenspan) with potential young Hydrographers in Iran!

(Photo supplied by Faye Edden.)

December 2005 - February, 2006

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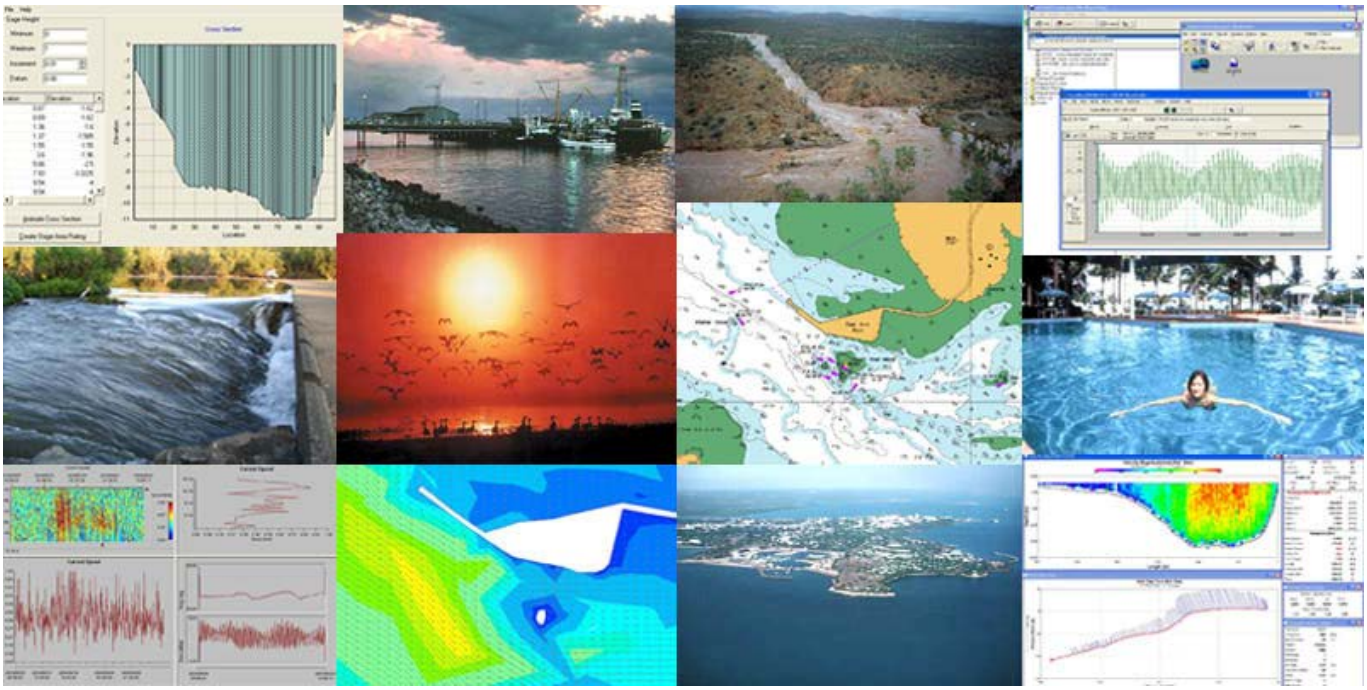
Australian Hydrographers Association

Interactive Hydrography - Future Directions

Sky City Casino
Darwin, Northern Territory
Australia

29th August to 1st September 2006



About the Conference

The Northern Territory Government and the Australian Hydrographers' Association welcome everyone to the 13th Australasian Hydrographic Conference.
The Conference will bring together people from all over the Asian Pacific Region to discuss advances in the hydrographic industry.

The theme of the conference is **"Interactive Hydrography- Future Directions"**. This reflects how understanding the dynamics of water is essential for successful infrastructure design and the ecologically sustainable use of the world's marine and freshwater environments. It has become increasingly important that the application of new innovative technologies and data management are able to present information to the community and industry in a timely, effective and useable way.

The conference aims to encourage discussion on projects that improve the interaction of hydrographic, industry and community groups.

At this conference we are very keen to promote an interactive link between the people responsible for collecting data and those who are responsible for using the data in decision making. These links are very important to promote and maintain.

We look forward to seeing you at the conference.

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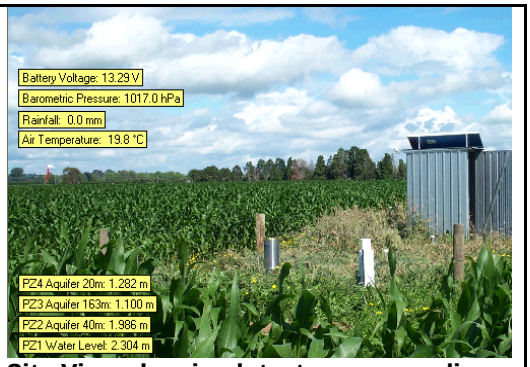
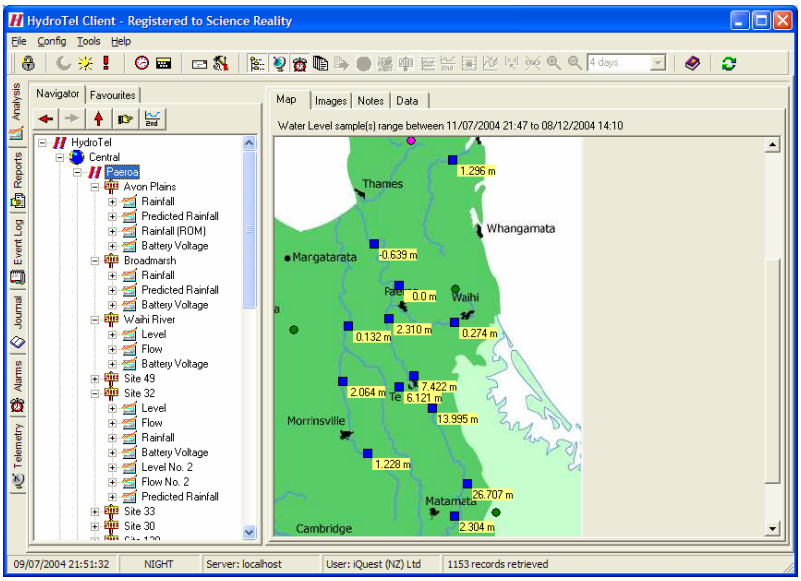


Site View showing latest sensor readings



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THIS ISSUE

EDITORIAL

It is now a well publicised fact that professions and trades in Australia are suffering from skills shortages. In the latter part of the 20th century downsizing of workforces led to a reduction in a commitment by industries and companies to traineeships and a resultant reduction in traineeships/cadetships occurred – the idea being that for your business to get ahead all you had to do was get the experienced people you needed and not to waste those years training up someone the reason being that if you trained someone then it was likely that someone would pinch them off you when they qualified. How's that for circular logic!

The sad thing then is that a snowballing effect occurs and the training and education that went with these traineeships is put under pressure as numbers fell and in some cases courses closed or choice of appropriate educational paths became limited. Rural education centres closed as things became more city centric.

In the early noughties the education paths for hydrographers was revitalised with the re-development of the Hydrography Certificate IV Through OTEN . The Association (through Paul Langshaw and Mick Lysaght) was heavily involved in the process and the course was supported by major government and corporate departments from around the country (apologies for not naming at present as names have changed!) as there was an identified need for the course to be revived. The Certificate is currently recognised in the national training scheme as the available education option for hydrography.

Hydrographic training is now under review again as National Training objectives move towards more competency based training and the AHA, along with many organisations are becoming involved in the process (through the Water Industry Training Review process commencing this month) to ensure that appropriate training and qualification pathways exist for hydrographers. It is expected that the certificate will still form a primary component of hydrographic training and accreditation.

The AHA has also commenced developing other initiatives that will compliment and encourage young people to undertake hydrography as a profession and to obtain appropriate education and training with the development of assistance schemes to support research projects undertaken during there course of study. More information on this will be available shortly.

As members, your support of the training initiatives underway is encouraged but you can further help by encouraging your employers and companies to support the current training reviews and mentoring of junior hydrographers into the future.

Mic Clayton, Editor and Publicity Officer

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Visit our **Web Site** at: **http://www.aha.net.au** to download a Membership application and to find contact details for your state representative.

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OTEN Hydrography Certificate IV course – Update

Neil Harper – OTEN

Enrolments: In 2005 there were 55 students enrolled in the course 3573 Hydrography Certificate IV at OTEN. The students were from all states:

Western Australia	19
Queensland	13
New South Wales	11
Victoria	8
South Australia	1
Northern Territory	1
Tasmania	1
ACT:	1

Year 2006 enrolments are being accepted now.
Learning resources: There are 26 modules in the Hydrography Certificate IV course. OTEN learning and assessment resources are available for all except 8004A Computing for Hydrographers, for which recognition of prior learning is offered.

Future Training Issues: The National Water Industry Training Package is under review with a timetable to have a new training package in place by the end of 2006. Hydrography needs to be included to at least Diploma level. This would entail the development of "units of competency". As a minimum I would like to see the current NSW TAFE Hydrography Certificate IV course recognised as a path for entry to the Water Industry Operations Diploma, with advanced standing. Australian Local Government Training (ALGT) are to manage the project. For a report of the review see
HYPERLINK "http://www.algt.com.au"
http://www.algt.com.au

Membership Renewals

At the 2005 AGM it was resolved that all membership subscriptions would be due at the end of June each year. Constitutional amendments were made to allow three months grace for payments of annual subscriptions after this date.

Going to a single expiry date has been decided as the easiest way to manage the membership subscriptions. New applications for membership that arrive outside the June date will be pro rata charged, for example a new membership application arriving in December would be at a pro rata rate of 50% of the annual subscription**,** after which renewal would be due at the end of June at 100% of the subscription rate.

Renewal/Application for membership can be downloaded from the website www.aha.net.au if you don't want to cut up your Journal.

Why we should all acknowledge stream hydrographs.

Reprinted with permission from the ASL Newsletter Vol43, #1, p29

Recently at the Australian Society for Limnology AGM, I very clumsily brought up the subject of acknowledgment of hydrographs in scientific presentations. I thought more explanation might help. Hydrological data is generally a free or paid for public service provided by government agencies or corporatised commercial water authorities. As such it is not often acknowledged in presentations of hydrographs. Other than the intellectual property issue of publicly funded data collection, there is a very real scientific imperative to acknowledge hydrographs.

Without acknowledgment, hydrographic services become invisible to high level managers and the community. Consequently, where the work is not seen as valuable, several related risks emerge to continued good quality and extensive data collection.

1. The occupation is not seen as a career option, resulting in an aging and smaller workforce, with hydrographers not replaced as they retire or leave and putting pressure on continuation of gauging stations that do not collect flow data purely for the commercial allocation of water
2. Gauging stations cannot be maintained at the same intensity, resulting in a possible loss of integrity of the data, which is also a good reason to contact the data collector for advice on its quality
3. There is continued pressure for hydrographic services to be taken over by commercial water allocation authorities, who will close 'unnecessary' gauging stations, and/or charge full cost recovery for data. Many of the current non-commercial gauging stations are used for a range of important but not primarily commercial projects related to the ecology of rivers and floodplains. They produce data important to natural resources management rather than specifically water distribution. If they are closed, many of these projects and natural resources management itself will suffer loss of a strong hydrological basis. In addition, water distribution information will also suffer as knowledge and understanding of the processes of losses and gains within river systems is depleted.

Hydrographic data is collected and managed by a range of professional staff who identify suitable sites, install the hardware and electronics and manage data collection, processing and analysis. Their efforts as agency staff are worth acknowledging.

Lorraine Hardwick
Wagga Wagga , NSW

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Water Industry Training Package Review

As many will be aware the Australian Hydrographers Association has been accepted to be a part of a Hydrography Industry Advisory Group (IAG) within the proposed Water Industry Training Package Review Program, being co-ordinated through the Australian Local Government Training (ALGT) group.

The project, to assist the water industry with its vocational education and training needs, has now commenced. It has been established by Government Skills Australia, (the Commonwealth funded Government and Community Safety Industry Skills Council). The project, known as the Water Industry Training Package Review, has been contracted to Australian Local Government Training (ALGT) and will be undertaken over the next eight months.

Mic Clayton has volunteered to represent the AHA on the IAG for Hydrography. When the process commences a page will be developed in the web site to keep you up to date of developments as well as reporting in the Journal on progress of the review.

A pleasing aspect in regards to the formation of this advisory committee is that it numbers 11 members, including a number of AHA members - though they will be representing their organisations on this Advisory Group.

The Hydrographic Advisory Group Members are (to Date):
Webb, Paul (Mr) *Queensland Murray Darling Committee*
Rankin, Mike (Mr) *Consultant*
Parsons, Graham (Mr) *Department of Natural Resources (NSW)*
May, Greg (Mr) *Department of Environment (WA)*
Dowland, Peter (Mr) *Thiess Services - Hydrographic*
McIntosh, Ken (Mr) *Alcoa World Alumina Australia*
Himsley, Norman (Mr) *NSW Dams Safety Committee*
Clayton, Mic (Mr) *Australian Hydrographers Association Inc*
Flett, John (Mr) *Goulburn-Murray Water (Vic)*
Harper, Neil (Mr) *OTEN (NSW)*
Colwell, Michelle (Ms) *Gippsland Water (Vic)*

Some members of the Association have also been in touch with Mic about being of assistance in the advisory process and will be contacted as necessary as the program gets underway in early 2006, when more of the scope is defined and timetable becomes clearer.

Please provide Mic (publicist@aha.net.au) with ideas and support (if requested) through this process so that we can see an appropriate package for Hydrographers developed.

KISTERS

KISTERS USER GROUP MEETING, 2006. Initial Call for Papers and Expressions of interest:

Kisters User Group Meeting, Darwin, 2006

In association with the Australian Hydrographers' Association Conference to be held in Darwin in 2006, the Annual Kisters User Group Meeting will be held at the Sky City Casino in Darwin.

HYDSTRA, WISKI/SODA and Time Studio are the time series database management, analysis and reporting products of Kisters used worldwide by authorities and companies involved in water resource and environmental data collection and analysis as well as energy network management systems. The majority of Australian authorities and utilities are users of KISTERS softwares.

KISTERS has been a proud supporter of the Australian Hydrographers' Association for many years with many of its users being hydrographers and hydrologists alike and the association of the User Group Meetings with the AHA's conference has continued to be a great success.

Further details in regards to the User Group Meeting and AHA conference are expected to become available shortly but to get things rolling Kisters invite presenters to begin thinking about possible papers or poster presentations for this User Group Meeting.

Expressions of interest and abstracts for the KISTERS User Group day can initially be forwarded to:

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Riverine Pool Theory

Peter Muirden, Department of Environment Western Australia.

Introduction

Hydrologists traditionally visualise or model a river much like a pipeline. When an event comes down, there is supposed to be an initial rapid rise in salinity in the "first flush", followed by a drop in salinity as the peak goes through and then a gentle rise in salinity through the recession.

This sounds good in theory, however, with the increased use of continuous conductivity systems in the south west, we are finding that sometimes the data does not fit the theory. Hence, the data is wrong and needs to be fixed! Improve your game, Hydrographers!

In fact, we need to look a little more closely at the data and the models.

The mainstream Blackwood River has a series of gauging stations including two conductivity probes at Hut Pool on the lower Blackwood. While these probes are 200m apart, their data matches closely, confirming the reliability of their data.

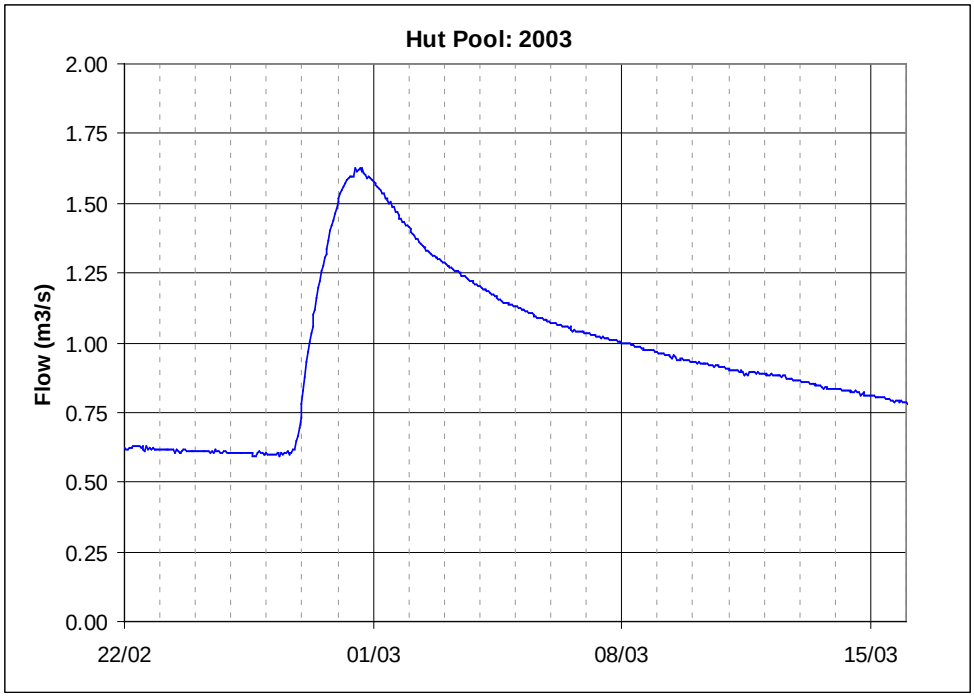
The summer of 2003 was typical of many summers on the lower Blackwood: a baseflow driven purely by fresh groundwater discharge (which at Hut Pool averages 0.7 m³/s, but upstream at Nannup is zero); and a small rainfall event in the saline middle Blackwood (near Bridgetown). This particular event had peaks and timings as per Table 1 and the hydrograph is shown in Figure 1.

Table 1 – February 2003, Blackwood flow event peaks

Location	Distance from Mouth (km)	Travel Time (day)	Speed (km/h)	Peak Flow Rate (m³/s)
Winnejup [609-012]	290	0.0		0.64
Bridgetown [609-040]	261	0.3	3.6	8.0
Nannup [609-058]	169	4.5	0.87	2.4
Hut Pool [609-019]	53	11.0	0.44	1.6

NOTE: Event peaked at Hut Pool: 13:40_28/02/2003 at a level 0.43m above the baseflow stage.

Figure 1 – Hut Pool Hydrograph



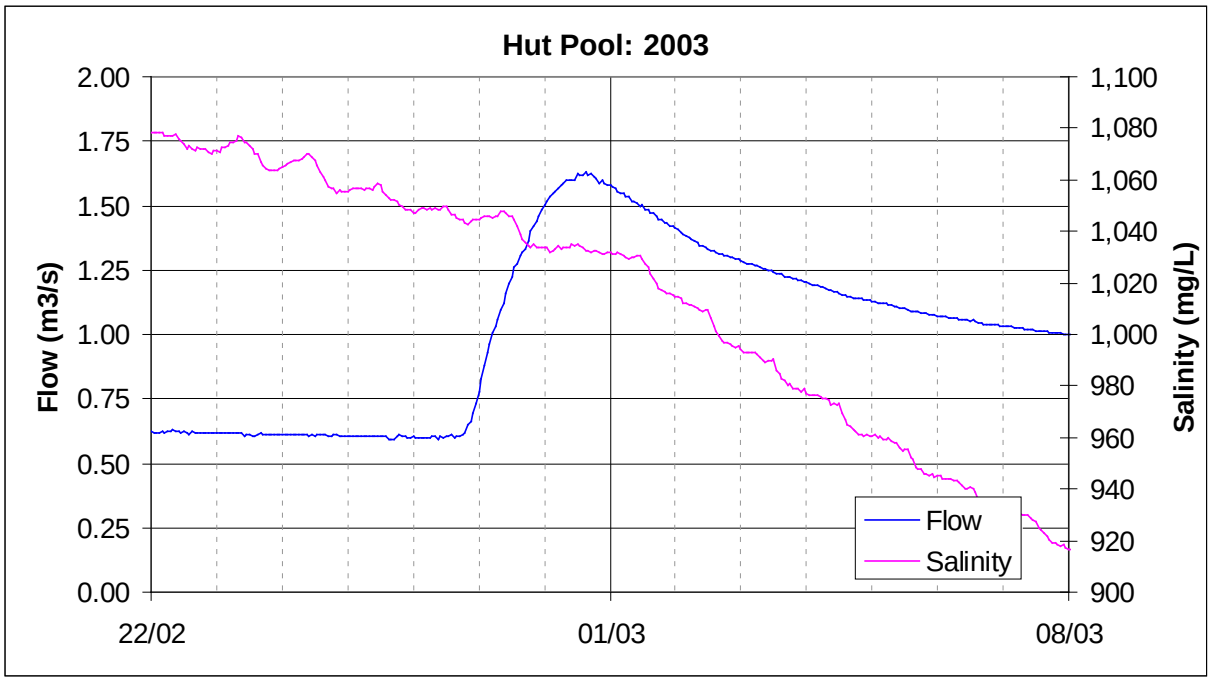
Salinity

The speed of travel and shape of the flow hydrographs are all quite typical of a small event. However, when the salinity trace is viewed, it is obviously "wrong" as shown in Figure 2. We all know that the salinity should change as the event goes through and certainly shouldn't drop after the peak. The data must be wrong!

However, this site currently has two conductivity probes and both show the same type of trace. They can't both be wrong and it is not a one-off situation, but is consistently repeated during many of the summer events at this site since the conductivity probe was installed in 1991.

May be the traditional "pipeline" model doesn't quite fit.

Figure 2 – Hut Pool Flow and Salinity (TDS) traces.



Impact of Pools

So this is where the story gets a little complicated. What all natural rivers have are pool-riffle sequences. Riffles are shallow and small events like this will rush down a riffle at about 0.5 m/s. However, pools are large especially along the lower Blackwood where they may be up to 2.0 km long and contain a volume of over 100,000 m³. The water from these small summer events may take a day or more to flow through just one pool. From pool profiling, we also know that the pools are well mixed down to about 5 m, so it is not just the top half-metre that is "flowing".

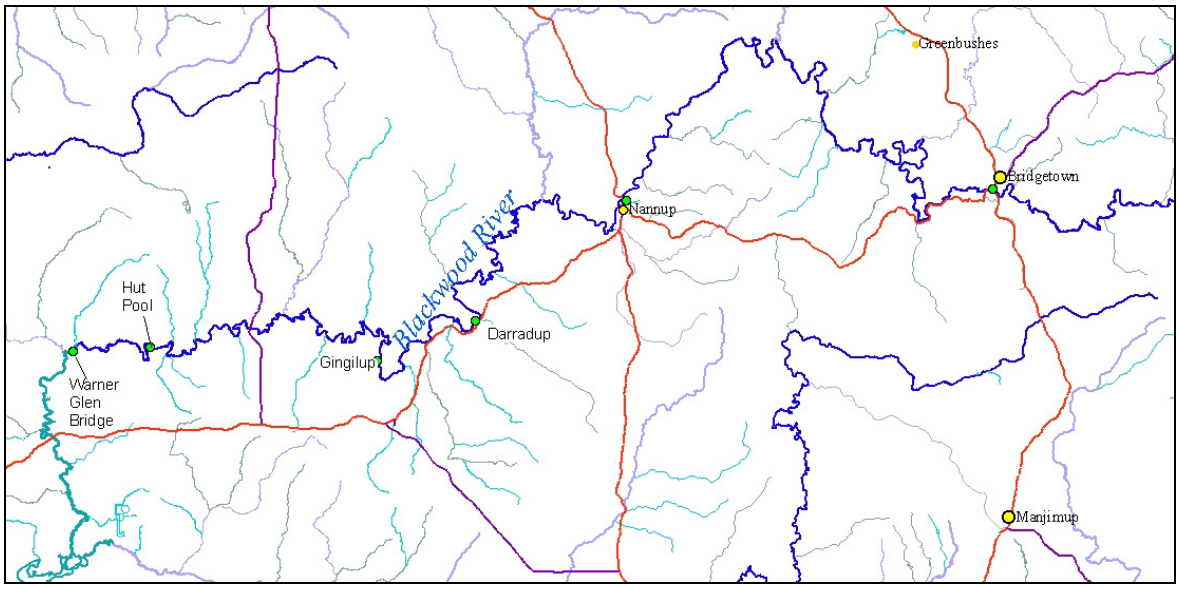


Figure 3 – Lower Blackwood Area Map

The river reach from Darradup to Warner Glen (a distance of 80 km) has approximately 120 pools (measured from aerial photos) totalling 3,500 ML (ie. 45 ML/km). While pools are likely to be smaller upstream of Darradup (say 25 ML/km), the distance between Darradup and Bridgetown is 140 km, so the total pool volume between Bridgetown and Hut Pool is in the order of 6,500 ML.

The February 2003 flow event is made up from:

Total flow recorded at Bridgetown during event:	1,200 ML (not flowing prior to event)
Total flow recorded at Nannup during event:	940 ML (not flowing prior to event)
Total flow recorded at Hut Pool during event:	2,300 ML
Base flow recorded at Hut Pool during event:	1,500 ML (flowing at 0.7 m^3/s)
Event flow recorded at Hut Pool during event:	800 ML

So we have a sizeable flow event that needs to travel through a series of pools which actually are much larger in volume to the flow. In fact, the upstream pools will not be quite full, as flow had ceased a month before the event; hence there is a loss between Bridgetown and Hut Pool.

From Table 1, the flow event steadily worked its way down the Blackwood from Bridgetown, taking 11 days to cover the 260 km at 1.0 km/h (0.27 m/s). But with such large pools to negotiate on its way down, the event could not be expected to transfer this amount of water through the pools as quickly as the stage traces confirm that the flow event itself travelled along the river.

This is exactly what we see in Figure 3. In this event, the flow peak arrives at Hut Pool (28/02) 11 days after the event peaked at Bridgetown (17/02), while the Salinity peaked a full 7 weeks later (07/04). The salinity travelled at an average speed of only 0.25 km/h (0.07 m/s), less than a quarter of the speed of the peak wave.

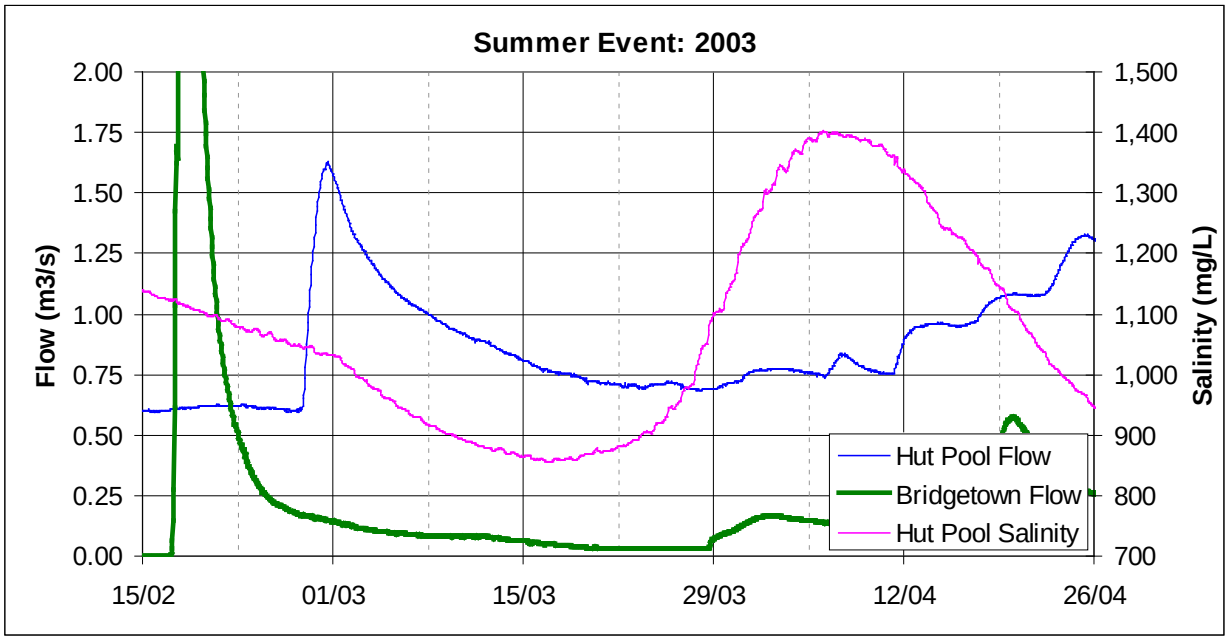


Figure 3 – Hut Pool Flow and Salinity (TDS) traces.
NOTE: Flow peak 11 days after event and Salinity peak 49 days after event.

Riverine Pool Theory

In these sort of small events, there seems to be two processes working as they move down the reach. The peak travels relatively quickly using "pool hydraulics", with the water coming in the top of the pool pushing out water at the bottom, while the main body of water moves much more slowly, controlled by the volume of the pools it must fully negotiate. The peak hydrograph is effectively disassociated from the body of water that initiated it in the first place.

So, the detailed logic of what we see as the peak hydrograph travels downstream through a particular pool is:

- An increased flow rate through the upstream riffle (water entering the pool),
- A slowly increasing pool level as it stores the increased inflow,
- A slowly increased pool outflow as the pool level rises (water leaving the pool).

This process is purely driven by water level hydraulics and does not require that the body of water containing the salt from the actual event near Bridgetown to pass through the particular pool. Despite the overall speed of travel of the peak (0.27 m/s), the rise in pool level from "baseflow" to "peak" takes still 1.5 days.

Reviewing Figure 2 again, prior to the event there is an obvious decrease in stream salinity with the fresh groundwater discharge pushing out the remaining winter/spring catchment water from the pools at a rate of about 50 mg/L/week. However, with the increase in flow rate from 0.6 m³/s to 1.5 m³/s there was an increased reduction in salinity to 100 mg/L/week. This makes sense if you consider that it is over two weeks after the peak reaches Hut Pool that the salinity bottoms out and the first effects from the saline body of water reach Hut Pool (figure 3). By this time the flow rate at Hut Pool is back to "Baseflow" conditions.

The second process is the movement of the actual body of (saline) water under "pool displacement". All known pools are well mixed to a depth of about 5 m, so it seems that the main body of water fully negotiates each pool from Bridgetown to Hut Pool displacing all water from each pool as it slowly flows (0.07 m/s) down the reach. The volume of pools in this reach is approximately 6,500 ML while the main body of water was only about 1,200 ML.

It should be noted that this 1.6 m³/s event at Hut Pool is not a "one-off", but is repeated several times for similar small events: in 2000, 1998, 1994, 1992. Larger events in 1996 (21 m³/s peak and 12,000 ML total) showed a quicker response with the salinity peak occurring 11 days after the flow peak and 2005 (37 m³/s peak and 19,000 ML total) peaking after 3 days. However, the very large event in 1993 (103 m³/s peak and 46,000 ML total) showed an instantaneous response. The high flow peak of 103 m³/s is a turbulent river in

channel control mode where the pools are not apparent, so that the event body of water moves with the peak. Interestingly, the salinity at the peak was highest, not the minimum as could be expected; large flow events travelling long distances under channel control mode do not operate under this "Pool Wave Theory" or under the traditional expectation of minimum salinity at maximum flow. Something else is going on, which can be seen repeated in other events, but is outside the scope of this document.

Summary

What is proposed here is apparently not new, but it does have implications in our understanding of how rivers work. In particular, it affects the "classic" pipeline model of a river, and also it will significantly effect how we reconstruct conductivity traces if a transducer failure occurs. What we see in the stream salinity at a single point will not necessarily be represented by the flow at that time.

In summary, the peak of a small flow event occurring in a catchment can travel down a long river independently from the body of water that created it! It's speed will still be governed by the pool hydraulics, but the peaks speed will be significantly faster than the body of water which initiated it which has to pass completely through each pool along its route. What is important is the size of the event compared with the volume of the pools that it needs to negotiate.

This obviously is the case with small events on the lower Blackwood River, however, all rivers in the South West of WA have significant pools along the routes, so the theory should also apply to them.

So Hydrographers, the data is right and (some of) the models are wrong. Long live the data!

Raising National Water Standards Programme

The Raising National Water Standards Programme (RNWS) aims to assist the development of the necessary tools for good water management in Australia. It will target investment to improve Australia's national capacity to measure, monitor and manage its water resources. RNWS will focus on activities that will achieve better outcomes when undertaken on a national basis and where compatibility is required across jurisdictions. Funding for the programme is $200 million over five years.

RNWS is a strategic programme that will invest in high priority activities that are *commissioned* from suitably qualified providers and organisations as well as in projects identified through a *competitive grants* process. Preference will be given to activities that provide benefits at multiple levels – national, state/territory and regional.

RNWS is one of two programmes under the $2billion Australian Government Water Fund which are administered by the National Water Commission. The second programme, Water Smart Australia offers support for large-scale practical water projects that contribute to improving water efficiency and environmental outcomes.

Both programmes will be managed to secure practical outcomes consistent with the National Water Initiative (NWI), the intergovernmental agreement on water reform.

The programmes will be managed to ensure that they complement each other as well as the National Action Plan on Salinity and Water Quality, the Natural Heritage Trust and the Living Murray Initiative where applicable. Activities under both programmes will also be consistent with the National Water Quality Management Strategy.

- Raising National Water Standards Programme objectives
- Implementation of the Raising National Water Standards Programme
- Raising National Water Standards Programme Investments

Raising National Water Standards Programme objectives

The objective of the Raising National Water Standards Programme is to better manage water resources through:

- improving the capacity to monitor, evaluate and report on water resources at the national, regional and catchment level;
- improving the knowledge, information and skills needed to better manage our water resources; and
- enhancing innovation for rural and urban water use efficiency.

Implementation of the Raising National Water Standards Programme

The Commission is in the process of identifying investment priorities for the programme in consultation with key government, research and industry stakeholders, including the water supply industry, water users, environmental managers and water resource managers as applicable. Consultation will include a mix of approaches including (but not limited to), workshops, use of expert reference groups, interaction with diverse stakeholders through established mechanisms and informal contact in relation to the National Water Initiative, Water Smart Australia, and Raising National Water Standards.

Two pathways for making and assessing investments will be employed – commissioned activities and a call for proposals. It is likely that through the commissioning process a diverse range of bodies, including private sector firms, qualified groups and professional bodies, public sector agencies and consortia of groups will contribute to the implementation of the programme.

The call for proposals will involve proposals being selected for funding on merit from a pool of competing proposals based on an assessment of pre-specified criteria.

Raising National Water Standards Programme Investments

Making Strategic Investments

Funds from the RNWS Programme will be directed at high priority activities in three strategic investment areas identified by the Commission . The three strategic investment areas are:

1. Implementing the National Water Initiative
2. Improving Integrated Water Management across Australia
3. Improving Knowledge and Understanding of Australia's water resources

While specific investment areas have been identified, it is likely that some Raising National Water Standards

STIL Flow Monitor and Logger

To manage increasing demand for limited water resources, consent authorities throughout New Zealand are introducing mandatory monitoring and logging of all water use – surface and groundwater.

STIL have developed a Flow Logger to meet the needs of both consent holders and consent authorities. The Flow Logger is compatible with standard water meters (contact closure) and typically operates in conjunction with the water meter mechanical total. The logger normally displays flow (l/sec or gal/sec according to setup), but can also display total, as a cross check against the mechanical meter.

The construction of the flow logger is particularly robust. All electronics are encased in solid epoxy resin and under normal use the battery has an operational life of 10 years.

The Flow Logger is equipped with a waterproof infrared port so PCs or PDAs with standard IRDA and Flow Logger software can be used to recover the store memory of up to 200,000 date and time stamped data points.

In addition to physical security, the logger is designed with software security. Anybody may download data from the logger, but only those in possession of a password (over 14 million possible combinations) can reset the logging or modify the configuration.

Data security extends to the recovered ASCII data file (csv), with the last line including a 3DES encrypted file check value. Any subsequent changes to the file text will invalidate the check value.

This arrangement allows consent holders to email data files to regional authorities (as a condition of their consent). The authorities can process the data, secure in the knowledge that it is valid.

The STIL Flow Logger is well established, with units installed in Canterbury, Otago, Hawkes Bay and Taranaki – mainly for water bore use.

Developing and testing is also well advanced for units with cellular telemetry, using GPRS and CDMA networks. This will ultimately provide users and authorities with near real time data. These cellular units are expected to be released for general distribution in Australia in early 2005.
STIL Gauging Logger – The standard for river gauging in Australia and New Zealand.

- **Measures Velocity Directly**
- **Records and Stores Whole Gaugings**
- **No Paper, Pencils, Calculators needed**
- **Improved Gauging Quality**
- **Instant Discharge Results**
- **Computer Software Included**
- **Operates with Reed Switch and Wiping Contact Meters.**
- **Direct Import to Hydsys and other TS Software.**

For more information: **www.scottech.net**

Email: info@scottech.net ph +64 7 8470646 fax +64 7 847064

investments will be relevant to more than one area given the integrated nature of water management.

Implementing the National Water Initiative

This will include projects that address:

- *water accounting:* investments in national systems, practices and standards for data collection, metering, monitoring and accounting of water, including hydrological modelling
- *emerging water markets:* investments to improve the specification, registration and trading of titles, water pricing and service provision in water markets, and
- *water planning and management* :investments to achieve more effective planning and management on the ground, including greater involvement by the community in water planning in rural/regional and metropolitan areas.

Improving Integrated Water Management across Australia

This will include projects that address:

- *irrigation and other rural water:* investments to achieve more effective and efficient management of irrigation water, including irrigation system water and on-farm water, and other rural water
- *water-dependent ecosystems:* investments to achieve more effective and efficient management of environmental water, including the conservation of high value water ecosystems, and
- *integrated urban water management* :investments to achieve more effective and efficient approaches to urban water demand management and supply planning, including water sensitive urban design.

Improving Knowledge and Understanding of Australia's water resources

This will include projects that address:

- *groundwater:* investments to improve understanding and management of groundwater resources and their connectivity with surface water
- *northern rivers:* investments to improve understanding and management of northern tropical rivers, and
- *national assessment of water resources:* investments to improve understanding of water resources across Australia and increase national capacity to assess the use, availability and state of these resources over time.

Principles and conditions

The following principles and conditions will guide investments under the RNWS Programme.

Investments will:

- Be targeted to activities that will achieve better outcomes when undertaken on a national basis and where compatibility is required across jurisdictions. For example the development of compatible water entitlement and trading registers, consolidated water accounts and national guidelines. Preference will be given to activities that demonstrate benefits at multiple levels – regional, State/Territory and national.
- Be targeted to where leadership from the Australian Government will enhance achievements under the National Water Initiative (NWI). Priority will be given to investments where the greatest impacts can be made to advance the NWI and improve management of water resources.
- Be targeted to removing impediments to establishing and operating effective water markets, to assist in building effective water markets, and to enhance and encourage private sector participation in water markets.
- Include specific actions under the NWI where the Commission has a leading role, for example, the baseline assessment of water resources and their governance.
- Investment will not be directed to activities that have a high private benefit and little or no demonstrable public benefit.
- Address gaps in current approaches and add value to existing government programmes and activities, without duplicating existing efforts.
- Be consistent with relevant and appropriate national frameworks, strategies and legislation such as the:
- National Water Quality Management Strategy

- Environment Protection and Biodiversity Conservation Act (1999) (EPBC) .
- National Framework for Environmental Management Systems in Australian agriculture.
- National Framework of Principles for Delivering Services to Indigenous Australians.
- Australian government and State/Territory native title, cultural heritage or related legislation.
- Guidelines for indigenous participation in natural resource management.
- National NRM Capacity Building Framework.
- National Natural Resource Management (NRM) Monitoring and Evaluation Framework.
- National Framework for the Management and Monitoring of Australia's Native Vegetation, and
- Nationally-agreed strategies under the Australia New Zealand Land Information Council (ANZLIC) including requirements relating to Australian Spatial Data Directory / metadata, data access and data custodianship.
- Include provision for appropriate communication/dissemination activities to enhance knowledge and capacity for integrated water resources management, including a well-defined process for disseminating project information and results to key stakeholders.
- Be required to meet Australian Government Water Fund monitoring, evaluation and reporting requirements.

For investments that are not national commitments under the NWI, co-funding will be sought from the states and territories, from other agencies or the private sector as appropriate. Innovative approaches to public-private funding arrangements may be pursued.

AHA Committee Meeting, December, 2005

On December 10, 2005 the Committee met at Bawley Point on the South Coast. The quorum in attendance were Mic Clayton (Publicity Officer), Max Hayes (Treasurer), Bill Steen (Committee), and Michael Whiting (Secretary). Apologies were received from the other committee members including the Chairman who sustained an injury preventing his attendance at short notice (It is understood that Graham is now fit and well)

1. Treasurers Report:

The Treasurer tabled a summary of the Associations financial position over recent years at the request of the other members of the committee. Max summarised annual financial totals and commented on certain aspects of the incomes and expenditures that had occurred over recent years.

In 2005 a cash management account was setup to move funds out of the operating cheque account with virtually no interest return. At 29/11/05 the operating account held approximately $19K while the investment account held approximately $40K.

2. Membership:

The Secretary outlined membership (under the new constitutional definition of financial members) at 76 current financial members comprising:

- 64 - Individual members.
- 7 - Corporate members.
- 4 - Retired members.
- 1 – Student member.

Reminder memberships for ½ yearly, $50 Membership until the end of June 2006 to encourage lapsed members to renew membership prior to the Conference are to be distributed by the Secretary.

Prior to the conference the conference delegate list will be compared with current membership database and new potential members identified and contacted regarding membership of the Association.

3. Corporate Membership:

It was agreed that there was no clear definition of Corporate Membership.
Currently Corporate Membership provides advertisement in Journal (4 full page advertisements, and links in AHA website, and one membership for nominated person.

It was agreed that from the next financial year membership arrangements, 4 levels of Corporate Membership will be offered as follows:

Corporate Membership Grade	Annual Cost	Included Membership
Bronze	$500	1
Silver	$1,000	6
Gold	$1,500	12
Platinum	$2,000	20

Main features of Membership (including Corporate) to be promoted include:

- Knowledge and information sharing amongst peers.
- Promotion and sponsorship of a bi-annual conference.
- Minimum of four journals per year (delivered).
- Association Website and peer group mailing list.
- Commitment to supporting continuing education of Hydrographers (Certificate IV Hydrography).
- Travel grant assistance scheme for student/cadet members to attend conferences.
- Educational grants.
- Job advertisement network to industry.
- Investing funds for educational support for hydrographic industry (Member of Industry Advisory Group)).
- Supporting State based industry workshops.

4. Membership Cards:

Investigate the provision of membership cards for the July 06 – June 07 membership period onwards, to be provided with Membership receipt.

5. 2006 AHA Conference:

Initial payment of $5,000 was provided to 'The Best Conference and Events Company Pty Ltd' who have been commissioned to assist in organising the conference in Darwin. The money is seeding money to cover setup costs until funds from registrations begin arriving.

Electronic registration (i.e. payment) was discussed however expected number of conference attendees was seen as cost prohibitive. The publicity Officer held discussions with the National Bank and it was on the bank's recommendation that electronics funds transfer was uneconomical for the expected turnovers at present.

Possibility of separate user registration for Kisters Users Group was discussed however issues related to separation of costs and other items was seen as too prohibitive. Kisters to discuss further with the organising group for the Conference.

It was noted that the naming of the Association was incorrect in the Conference web pages and required amendment to the Australian Hydrographers Association. The organising committee was to be notified of this correction.
Trade delegate list to be forwarded to State Representatives for possible additions.

Overall committee pleased with the progress to date, and in principal agreement to move forward.

6. Educational Travel Grant:

The setting up of a scheme to provide Grant in aid of travel to attend AHA conference, preference given to Student or Cadet (Junior), was agreed to by the committee.

It is expected that the Grant would take the form of assisting with Conference attendance up to a value of $1,000 (dependent on AHA annual budget allocation/available finances). Certificate also to be presented to winner at Conference, providing recognition for efforts.

Among the conditions and requirement that would need to be met would be :

- Abstracts for paper to be received by March/April 2006 for consideration. (Originally February 2006).
- Required to present a paper or a poster paper.
- Enrolled (studying) or proposing to study Certificate IV in Hydrography (or finished Certificate IV for a period up to two years previously).
- Financial Member of the Association.
- Runners up have the right to present paper at the conference (if place available).

7. Educational Study Grant:

It was agreed in principle that an Educational Study Grant be implemented with the aim being the Association providing a grant of up $1,000 per year for a Project to be carried out by a Student/Cadet judged by the Committee to be in the interest of the wider hydrographic industry.

In principal agreement to develop award in conjunction with the final year project for Certificate IV Hydrography.

The grant would assist the student purchase materials/and or services to complete the project, the grant being awarded following detailed breakdown of costs for project.

This would also give the winner the right to present a paper at the next Hydrographic Conference.

8. Financial Information:

Discussed the possibility of development of annual budget for Association to be provided at the next AGM. Providing better information to the members, and provided a level of transparency to operation.

Agreed to streamline the membership process for all forms to be posted to the Treasurer for banking and then sent to Secretary for producing of Receipt and updating of membership database. Eliminating double handling and postage due to need to send and return membership forms between Secretary and Treasurer.

9. Local Government Training

Advisory committee due to begin in February 2006 (As per email sent to members early in December).

10. International Sponsorship

Issue raised by John Skinner (Public Officer), more feedback required regarding this issue by John before further discussion.

11. Membership Survey

Discussed the development of a membership survey, to include a background for each member, and a question set related to the direction of the AHA. Agreement on question set should be made by May 2006, and to be included with the next round of membership renewals (June 2006).

12. Membership Definitions

Definitions of Membership clarified, specifically related to Student, Cadet, and Trainee or Retired members.

Student – Currently studying Certificate IV Hydrography but as yet not employed by a hydrographic company/government department.

Cadet / Trainee – Employed by a hydrographic industry company/government department specifically as a cadet/trainee, and studying or proposing to study Certificate IV in Hydrography.

Retired – More clarification on this issue required.

13. Mini Workshops

Discussed Association providing incentive to sponsor a component of a mini workshop in each state, to be facilitated by each State Representative. State Representatives are to submit proposals to the Committee for approval, suggested the possibility of combining with a possible state based Trade display.

14. Affiliation with other groups

Two strong camps exist for the support of affiliation with both the Australia Water Association (AWA) and the Australian Hydrographic Society (AHS).

Question raised regarding the meaning of affiliation, was it a closer association or a mutual relationship.

It was agreed to continue AWA relationship, providing Water Magazine (Through payment to AWA) to members. Need to structure letter to AWA to continue relationship, will also need to provide updated Membership list (Confirm with Scott Walker current arrangements).

AHS – Organise suitable date for both parties to hold discussions regarding closer links, given the technical professional similarities between both associations.

Chairman nominated as the primary contact for arranging initial meeting with the AHS, to set terms of reference for moving forward, setting the terms of reference for affiliation and discussing issues such as understanding the path towards accreditation and the integration with the Spatial Sciences Institute.

Overview of outcomes to be presented at the next AGM in Darwin.

15. Accreditation

Example of the Australian Hydrographic Society (AHS) accreditation framework provided by Mic Clayton. Examples to be reviewed by the Committee with a view to moving forward. Linked in with discussions with AHS.

Possibility of establishing a sub-committee for accreditation, invitation extended to all members following presentation of issues at the next AGM.

16. Cost dispersements for Committee Meeting
Airfare – Michael Whiting (Qantas $793.85).
Vehicle Fuel – Max Hayes (Vehicle costs to be reimbursed on petrol receipts).
Expenses – Catering (Lunch $55).
Accommodation - (Bawley Point $100).

Meeting closed 16:40 Saturday 10th December 2005.

Committee Members Mic Clayton (Publicity Officer), Bill Steen, Max Hayes(Treasurer) and Michael Whiting (Secretary) enjoying a few cordials after a very long and in depth Committee Meeting held on the south coast of New South Wales.

In The News

Hydro sale to benefit Snowy River Health
– ABC News, Feb 2005
The New South Wales Government has announced an extra $30 million from the sale of Snowy Hydro will go to improve the health of the Snowy River.

The Special Minister of State, John Della Bosca, says the funds will be invested in water savings initiatives and will not be used to buy water rights from irrigators, nor will they move to reduce the water available to irrigators.

The announcement yesterday by the Victorian Government that it will join the NSW and federal governments in privatising the scheme clears the way for a largely unhindered sale of the jointly-held asset.

Mr Della Bosca says New South Wales hopes to finalise preparations for the float by mid-year.

He says he is not concerned about a possible voter backlash because of the Government's actions in selling off an Australian icon.

"Snowy Hydro is investing capital, quite legitimately, quite appropriately for Snowy Hydro all over Australia in generation assets in order to make sure that as a business it continues to grow," he said.

"That's not in the interests of NSW taxpayers. We don't want NSW taxpayers' money to be spent on building generators in Victoria and South Australia."

Meanwhile!

Bracks seeks to guarantee Snowy flows before hydro sale – ABC News , Jan 06.

The Victorian Government says negotiations over whether it sells its share of the Snowy Mountains hydroelectricity scheme are at a critical stage.

The Federal Government has agreed to join the New South Wales Government in selling off its share of Snowy Hydro.

The Premier, Steve Bracks, says Victoria will sell its share only if it can guarantee flows for irrigators and the environment. He says he is confident such an outcome can be achieved. "We want to protect our water entitlements, we want to protect the rights of irrigators, we want to protect the rights of the environment to make sure there's environmental flows for the Snowy River and that's protected," he said.

"So we're into negotiations saying that if this is going ahead these are the protections which Victoria require."

East Australia

Chairman John Maschke drove 376 miles from Canberra and back to preside over a Region meeting hosted by Sydney Ports Corporation on 9 August. Among those present was Ruth Adams, the UKHO's Head of Additional Military Layers, at the time engaged in touring Australian hydrographic centres.

Main discussion point was the continuing talks between the AHS and the Australian Hydrographic Association whose membership comprises water authorities, civilian hydrographic organisations and private companies operating mainly in freshwater environments.

The next meeting was due to take place in Sydney prior to the Society's AGM, on 27 September.

Source: Hydro International magazine, 2005