

# THE HYDROLOGICAL SOCIETY OF S.A.

% Water Resources Branch  
Box 1751, Adelaide, S.A. 5001

## NEWSLETTER NO. 47

FEBRUARY, 1985

### 1. GENERAL

This is a brief newsletter to inform members of developments within the Society over the past few months. A full newsletter will be issued later in the year when the incoming editor, Mr John Argue, has taken on the task and realizes what he has done in accepting.

The committee, and indeed all members of the Society are grateful to the outgoing editor, Professor John Holmes, for his efforts over the last years and wish him well in his retirement. We are confident that he will maintain his interest in the Society in the future.

We hope that the 1985 programme will be a successful one. With that in mind - no excuse is needed - one early meeting will be a visit to the Southwark Brewery and we hope for a good attendance.

Your new committee is listed in this newsletter. We are available for suggestions and urge members to contribute ideas for the running of the Society, meeting topics and any other matters.

The first initiative for the year is the planning of an annual award of \$200 for final year students in water-related topics from one of the universities or SAIT, to assist with studies. It is hoped to make the first award soon.

It is some time since the Society held a symposium either solely or jointly with other organizations. We are considering holding one in 1986, probably as a 1-day affair, and would welcome suggestions.

### 2. EXECUTIVE COMMITTEE

The new Executive Committee elected at the Annual General Meeting on 30th August 1984 is :

- |               |                                                                              |
|---------------|------------------------------------------------------------------------------|
| Chairman      | John Waterhouse - Australian Groundwater Consultants Pty Ltd. Phone 272 5336 |
| Vice Chairman | - Ian Laing - Water Resources Branch.<br>Phone 227 2577                      |
| Treasurer     | - Jerome Maguire - Water Resources Branch.<br>Phone 227 3352                 |
| Secretary     | - Paul Harvey - Water Resources Branch.<br>Phone 227 1306                    |

Committee Members :-

Chris Wright	-	Kinhill Stearns
Don Armstrong	-	Dept. Mines & Energy
Graeme Dandy	-	University of Adelaide
Steve Moore	-	Dept. Agriculture
Charles Duncan	-	Kinhill Stearns
John Botting	-	University of Adelaide

The committee would like to extend its thanks and appreciation to retiring committee members Dr. G. Schrale, Ken Potter and Steve Barnett for their contribution to the Society over the past years. Thanks are also due to Don Armstrong for his work as chairman over the past 2 years and it is appreciated that he has agreed to continue on the committee to maintain continuity.

3. PROGRAMME OF MEETINGS

A tentative programme of meetings for 1985 has been drawn up - please note the dates in your diary now.

March 14th	Mr K.J. Shepherd on Water Resources Management in Victoria.
March 26	Inspection Tour of the South Australian Brewing Co. Southwark Brewery.
April 18	The Value of Irrigation to Australia - speaker from Monash University.
June 27	K.W. Lewis on Major Factors Facing the Australian Water Industry.
August 22	A.G.M. The Streaky Bay Water Conservation Scheme - panel of speakers.
November 7	J. Botting - The Fourth Creek Flood Mitigation Scheme - probably including a site inspection.

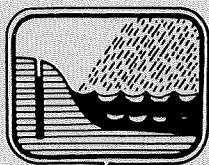
The March 14, April, June and August meetings will be held in the CHARLES HAWKER CONFERENCE CENTRE, Waite Road, Urrbrae starting at 6.30pm with light refreshments served from 5.30pm. A meeting notice with details of the first two meetings is attached.

4. ANNUAL SUBSCRIPTIONS

The Annual Subscriptions for 1984/85 is \$5.00 - unchanged from last year !. Members who have not yet paid are requested please to pay the treasurer Jerome Maguire, c/- Water Resources Branch, G.P.O. Box 1751 Adelaide. 5001.

5. BRITISH HYDROLOGICAL SOCIETY

The Society has established links with the recently formed British Hydrological Society which has as its basic aim " to promote interest and scholarship in both the scientific and applied aspects of hydrology and to foster the involvement of its members in international activities". Copies of their newsletter published four times a year are available from the Secretary.



# THE HYDROLOGICAL SOCIETY OF S.A.

% Water Resources Branch

Box 1751, Adelaide, S.A. 5001

NEWSLETTER NO. 48

JUNE 1985

## EDITORIAL - FROM THE NEW EDITOR

In taking on the task of Editor, I am conscious of the important contribution which the Newsletter makes to the success of the Society and of Professor John Holmes' stirring work in this area over the past five years. John has brought to the Newsletter the benefits of his experience and broad knowledge of Hydrology as well as his innate ability to extract or, more correctly, charm contributions from unlikely sources.

Thanks, John, for a job well done - a hard act to follow!

I believe the Newsletter can serve the Society in four ways. It can -

- . provide a forum for invited articles which address controversial and thought-provoking subjects relating to hydrology, water resources and allied fields
- . provide members with the opportunity to voice their opinions (briefly!) by means of a Letters to the Editor column
- . provide readers with news of local professional activities e.g. research, departmental and consulting projects, courses, etc.
- . provide members with information on meetings, conferences, Society issues and other "housekeeping" matters.

The first step towards achieving these aims is to establish lines of communication between the Society and a wide range of outside organisations. This is already under way.

The second and more difficult step is to have people use the lines of communication. Time alone will decide the success of this initiative.

The old adage "we get the politicians we deserve" can be applied to many fields of community service outside politics. Your contributions to the Newsletter will determine the quality of production you deserve.

Contributions to -

Mr. John Argue  
Editor, H.S.S.A. Newsletter  
C/- Secretary (address above)

or

C/- School of Civil Engineering  
S.A. Institute of Technology  
P.O. Box 1  
Ingle Farm, S.A. 5098

John R. Argue  
Editor of the Newsletter



## POSITION PAPERS

The object of the Hydrological Society of South Australia is "to encourage an interest in, and concern for water resources and their utilization". Our constitution also states that we seek to attain these ends by "promoting the publication of scientific and technical papers" and "by such other methods as the Executive Committee shall from time to time determine".

With this aim in mind the Executive Committee seeks your approval to take a higher public profile with respect to matters of hydrological importance. In this we follow the example set recently by the Queensland Branch of the Institution of Engineers, Australia, by preparing and publishing Position Papers. One of these is included with this newsletter for your perusal.

In recent years there have been a number of issues concerning water resources debated in public, including aspects of the River Murray salinity, the Honeymoon uranium leaching project and the Kingston lignite project among others. Most of the public debate has involved concerned lay people, politicians advised by professionals within the public service and, to a lesser extent, organizations such as mining companies. These debates have been distinguished in the media by inaccurate, sometimes technically incorrect reporting and definitive statements by unqualified spokesmen and -women. Rarely have outrageous claims been refuted or anticipated by impartial technical opinion.

We also see a valuable role for independent professional opinion about hydrological matters to government, both at state and local levels, to the media and to groups of concerned people.

At the next general meeting of the society it is intended to move the following motions:

- "1. That the society approves the preparation and publication of Position Papers for public distribution, as authorized by the Executive Committee.
2. That the society approves the appointment by the Executive Committee of official spokesmen or spokeswoman to represent the society's views on particular issues as laid down in the respective Position papers.
3. That the society approves use of its funds for the publication of the position papers".

In the event of these motions being passed, it is the intention of the Executive Committee that a small working party be established for each topic. The working party will produce a draft position paper which will be confirmed as a H.S.S.A. statement by a general meeting of the Society prior to publication and distribution.

You are urged to attend the next meeting (and, of course, all meetings of the Society!) on Thursday 4th July to vote on this issue. We hope you will support the initiative.

EXECUTIVE COMMITTEE



## FROM THE HYDROLOGICAL TRAPS .....

### RUNOFF ROUTING - E & W S RESERVOIRS

(Reporter: Kim Read)

The flood hydrology of seventeen reservoirs managed by the Engineering & Water Supply Department is being investigated for the Department by B.C. Tonkin & Associates. The work being undertaken includes:-

- determination of the probable maximum precipitation for each reservoir catchment.
- calibration of the Laurenson & Mein Runoff Routing Model (RORB) for catchments with good flow and rainfall records.
- use of RORB to determine flow frequency relationship for all reservoirs using the derived parameters and the latest Bureau of Meteorology rainfall information.
- Routing of flood flows - 1:10 through to probable maximum flood through the reservoirs assuming full supply conditions.
- assessing the effect of low probability flows on the walls/spillways of each reservoir.

One side benefit of the study has been the calibration work undertaken on RORB. It is anticipated that parameter values derived will be incorporated into the 1986 version of "Australian Rainfall & Runoff."

### E & W S - WATER RESOURCES BRANCH

(Reporter: Jerome Maguire)

#### (i) Lake Eyre Floods Report

A project, investigating the flooding of Lake Eyre from 1884 to 1985 has been undertaken by Water Resources Branch. The report on the project, due for general release later in 1985, will demonstrate some remarkable facts e.g. Lake Eyre is not normally dry!

#### (ii) Penneshaw Water Supply

The E & W S Department has produced an internal report on the resources available for augmentation of the Penneshaw (Kangaroo Island) water supply. This was in direct response to the demand increase on existing water supplies anticipated by the District Council.

#### (iii) Dye Tracing on the River Murray at Woolpunda.

The mixing characteristics and flow behaviour of the River Murray at Woolpunda has been carried out for the E & WS Department by consultants Kinhill Stearns using a dye tracing technique. The study was part of the Woolpunda groundwater interception scheme (GIS) being undertaken by an inter-departmental group.

#### (iv) South Para Gate Operation Rule

Mr K. Schalk, on loan to E & W S Department from B.C. Tonkin and Associates, is conducting an investigation into improving existing procedures for operating the spillway gates on South Para Reservoir. The objective of the study is to reduce flood risk at Gawler and other locations downstream. Operation of the gates before and during flood events has been a matter of concern to the Department for some years.



## STATISTICAL RATIONAL METHOD STUDY OF ADELAIDE HILLS CATCHMENTS.

(Reporter: Ron Black)

Kinhill Stearns and the Engineering and Water Supply Department are carrying out a study of twenty catchments in the Adelaide Hills to derive runoff coefficients for use in the Statistical Rational Method developed by McDermott and Pilgrim and subsequently applied by Schofeldt to eight Adelaide Hills catchments.

The study involves:

- an examination of catchment characteristics
- flood frequency analysis (partial duration series)
- rainfall intensity analysis
- derivation of runoff coefficients
- inverse analysis to determine possible regional relationships for critical rainfall duration
- validation of results.

The results will form the basis for simple-to-apply design rules which will be available for general use in the area. The study forms part of South Australia's contribution to the data base of the new edition of "Australian Rainfall and Runoff".

## RUNOFF COEFFICIENTS FROM SUMMER/WINTER SEPARATED DATA.

(Reporter: John Argue)

The Statistical Rational Method of McDermott and Pilgrim has hitherto linked whole-of-year stream flow and rainfall data to derive runoff coefficients. In the case of Adelaide Hills catchments and, in fact, most rural catchments in South Australia, Victoria, N.S.W. and Tasmania, peak flows are observed in winter (May-October) while most significant storm bursts occur in summer (November-April). It appears anomalous, therefore, to link summer-influenced rainfall to winter-observed streamflow.

A project whose aim is to explore this anomaly has been undertaken by Mr Mark Temby for his Fourth Year investigation/seminar (B.Eng. degree course) at S.A. Institute of Technology. Mr Temby's work is being carried out in co-operation with the E & W S/Kinhill Stearns study and involves analysis of data - primarily streamflow - which has been separated into its summer/winter components. The outcome of this study will be sets of summer and winter runoff coefficients for the same catchments and regions analysed by Kinhill Stearns.



## H.S.S.A. NEWS

### NEXT MEETING: "Streaky Bay Water Conservation Scheme"

More details on this talk by Peter Smith and Bob Halse are contained in the Meeting Notice mailed with this newsletter. Remember the time and place: -

6.30 p.m. Thursday 4th July 1985  
Charles Hawker Conference Centre, Waite Road, Urrbrae.

The following motions will be moved during the General Business segment of the meeting on 4th July 1985:-

- "1. That the society approves the preparation and publication of Position Papers for public distribution, as authorized by the Executive Committee.
2. That the society approves the appointment by the Executive Committee of official spokesmen or spokeswomen to represent the society's views on particular issues as laid down in the respective Position papers.
3. That the society approves use of its funds for the publication of the Position Papers".

### ADVANCE NOTICE: Revision of 'Australian Rainfall and Runoff'.

Assoc. Prof. David Pilgrim of U.N.S.W. has agreed to present a talk to H.S.S.A. describing the work carried out by the "A R & R" revision team. The new version of 'Australian Rainfall and Runoff' is scheduled for release by the Institution of Engineers, Australia late in 1986. David's talk will take place on the evening of

Thursday, 7th November 1985.

Make a note of this in your diary!!

+++++

John R. Argue,  
Editor of the Newsletter,  
C/- S.A. Institute of Technology,  
P.O. Box 1,  
INGLE FARM. S.A. 5098



WE HAVE BEEN ASKED TO ADVERTISE THE FOLLOWING OVERSEAS  
POSITIONS FOR HYDROLOGICAL ENGINEERS.

## **water, water, water ?**

and not a drop to drink...

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The drought has shown the need for long-term  
solutions for the conservation and distribution of  
water.

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## **water engineers hydrologists**

to work as

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you have to rely on funds from home to basically  
live, but what you will do is to make an impact.

Firstly on your understanding of the needs of the  
poorer countries of the world and secondly in  
providing solutions to the problems.

Millions await the soothing of cool water.

Does the thought of it catch you in the throat?

### **Contact OVERSEAS SERVICE BUREAU**

71-75 Argyle Street, Fitzroy, (03) 419 1788  
P.O. Box 350, FITZROY, VICTORIA, 3065.

PLEASE SEND ME INFORMATION ABOUT THE  
AUSTRALIAN VOLUNTEERS ABROAD PROGRAM

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