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**New Zealand
Freshwater Sciences Society
Newsletter**

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New Zealand Freshwater Sciences Society Newsletter No. 46 July 2008

Contents

Introduction to the Society	3
Editorial	5
President's Bit.....	6
A trip down memory lane	10
New Zealand Limnological Society Conference #1	14
New Zealand Freshwater Sciences Society 40 th Anniversary President's Report Queenstown 2007	17
The Biggest Sucker in Town.....	20
Weird bug of the month - the sponge-eating lacewing <i>Sisyra rufistigma</i>	21
Research News	22
K Radway Allen and the Horokiwi Stream.....	29
Other news	30
Upcoming conferences	33
S.I.L. 1987 Trust Fund Report	34
How do I join?	36
Constitution.....	38

Introduction to the Society

The New Zealand Limnological Society was formed at a meeting in Christchurch in January 1968. It was renamed the New Zealand Freshwater Sciences Society¹ (NZFSS) in 2005 to reflect the broad interests of the membership. Its fundamental aims since inception have been to promote a common meeting ground for freshwater workers in New Zealand and to encourage and promote the exchange of news and views among them. In particular, a newsletter and a list of research workers and their interests is compiled and circulated at least once per year and an annual conference is held. The 2008 subscription is \$40.00 per annum (student/unwaged/retired persons rate is \$10.00 per annum; life membership is \$1000.00).

President

Dr Kevin Collier, Environment Waikato
email kevin.collier@ew.govt.nz

Secretary-Treasurer

Dr Brian Sorrell, NIWA
Email: b.sorrell@niwa.co.nz

Committee members

Neil Deans, Fish and Game NZ
Email: ndeans@nmfgc.co.nz

Dr Marc Schallenberg, University of Otago
Email: marc.schallenberg@stonebow.otago.ac.nz

Newsletter editor

Dr Ngaire Phillips, NIWA
Email: nr.phillips@niwa.co.nz

Website manager

Dr David Burger, Delft Hydraulics
Email: david.burger@wldelft.nl
Website: <http://limsoc.rsnz.org/>

Conference convenor

Ms Rosemary Miller, Taranaki Regional Council
Email: rosemary.miller@trc.govt.nz

¹ NZ Freshwater Sciences Society is the trading name of the New Zealand Limnological Society (Incorporated)

HONORARY LIFE MEMBERS:

Mr A.M.R. Burnet
Dr V. Cassie Cooper
Dr M.A. Chapman
Dr G.R. Fish
Dr E.A. Flint
Dr D.J. Forsyth
Dr R.M. McDowall
Dr D. Scott
Dr V.M. Stout
Dr E. White
Prof. Emeritus M.J. Winterbourn

PAST PRESIDENTS

1968-73	Dr V.M. Stout
1973-75	Dr M.A. Chapman
1975-76	Dr J.M.A. Brown
1976-78	Dr C.W. Burns
1978-80	Dr M.J. Winterbourn
1980-84	Dr B.T. Coffey
1984-88	Ms S.F. Davis
1988-92	Dr J.C. Ward
1992-96	Dr P. Ryan
1997-2000	Dr I.K. Boothroyd
2001-02	Dr J.S. Harding
2003-06	Mr N.A. Deans

PREVIOUS SECRETARY/TREASURERS

1968-73	Mr A.M.R. Burnet
1973-76	Dr C.W. Burns
1976-78	Ms L.H. Tierney
	Ms S.F. Davis
1978-80	Dr B.T. Coffey
1980-82	Dr J.A. Robb
1982-84	Dr D. Forsyth
1984-86	Mr B. Biggs
1986-89	Dr I.W. Lineham
1990-92	Dr D. Rowe
1992-94	Dr J. Jasperse
1994-96	Dr I. Boothroyd
1996-98	Dr. K.J. Collier
1999-2000	Dr J.S. Harding

PREVIOUS EDITORS

1968-70	Dr M.A. Chapman
1970-72	Dr S.F. Mitchell
1972-75	Dr M.J. Winterbourn
1975-80	Dr T.K. Crosby
1980-82	Dr M.F. Beardsell
1982-85	Dr J.A. Robb
1986-88	Dr J.C. Ward
1988-89	Dr J.D. Stark
1989-2002	Ms J. Talbot
2002-2005	Dr M.J. Winterbourn

Editorial

Welcome to the 46th edition of the Freshwater Sciences Society Newsletter.

As you can see from the first few pages in this issue we are commemorating the 40th anniversary of the society. The first newsletter provides some useful insight into the thinking behind the formation of our society, and the extracts from the first editorial are still entirely relevant 40 years on. I hope you enjoy reading about the experiences of some of our founding members. And of course thanks to those more recent members who have provided an update of their activities.

Ngairé Phillips

Newsletter Editor

New Zealand Freshwater Sciences Society

Newsletter statistics

1. The first newsletter was produced in April 1968.
2. There were 2 newsletters per annum between 1968 and 1970, dropping to 1 a year until 2004, when we started to produce 2 newsletters again.
3. The newsletter was originally produced in a B4 size format, increasing to the current A4 size in 1973.
4. The first newsletter editor was Dr Anne Chapman.
5. The newsletter content has remained similar since inception.

President's Bit

The end of financial year is upon us, and in fact may have past by the time this goes to print. This time of year can be particularly stressful so I hope you managed to survive the pressures of looming deadlines. Workplace stress is a concern for the Society if it interferes with the generation and transfer of information or deters members from pursuing careers in freshwater, not to mention affecting personal wellbeing. With increasing awareness of this issue, I conducted a poll to get a feel for the significance of workplace stress among members. Thanks to those who responded - I have deleted or destroyed all your emails and written responses. Stress can manifest itself in many ways and is a very private matter for some. Perhaps this is partly why only 63 responses were received, equivalent to around 17% of NZFSS membership. This doesn't provide a strong mandate for pursuing this issue, but the available figures do provide sobering reading. Around 60% of respondents indicated that workplace stress levels were "high" or "very high" and affected their wellbeing, with almost half reporting that stress had increased "a lot" over recent years. I have yet to analyse in any detail the causes and solutions to stress identified in the poll, but short-term funding, staffing issues and the piecemeal nature of commercial science were common themes from my initial reading.

NZFSS members can take some comfort that these and other issues have been recognised for New Zealand science in general in the recently released "A science manifesto or plan for the recovery of New Zealand science" (see the link to this on our website). This document was written by a group of senior scientists from the Royal Society, including our own Carolyn Burns, and provides a candid analysis of the major issues affecting the state of our science. It identifies ten initiatives aimed at reinvigorating science in New Zealand. This report was not well-received at the political level, with claims that most of the recommendations had already been implemented. However, I doubt that this is obvious to most science staff at the coal-face. Perhaps some of the recent funding initiatives for environmental science announced in the recent budget will help in some way, but these need to filter quickly down to those doing the work.

There are some positives emerging from recent developments. At least now the issues are out there, and those controlling the purse strings seem to have recognised that the erosion to science funding that has occurred over recent years is not sustainable. However, it must also be recognised at the governance level that the path forward for environmental science is not through commercial growth but through reinvestment in core science and science staff who need time to focus and recharge. Funding increases will only help if the capacity exists to spread the load, and this is reliant on recruitment and retention of skilled and motivated staff to ensure that freshwater ecosystems get the attention they deserve into the future.

Kevin Collier

President

New Zealand Freshwater Sciences Society

NEW ZEALAND
LIMNOLOGICAL
SOCIETY

- NEWSLETTER -

No. 1

April, 1968

LIBRARY
NIWA
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HAMILTON



NEW ZEALAND LIMNOLOGICAL SOCIETY

This society was formed at a meeting in Christchurch in January, 1968. It aims to provide a common meeting ground for freshwater workers in New Zealand, and to encourage and promote the exchange of news and views between them. In particular, a newsletter and a list of research workers and their interests, will be compiled and circulated at least once a year.

The subscription is 50 cents per annum, and further information may be obtained from the Secretary/Treasurer.

The following committee was elected at the Christchurch meeting:

Chairman: Dr V.M. Stout (Zoology Dept., University of Canterbury, Private Bag, Christchurch).

Secretary/Treasurer: A.M.R. Burnet (Fisheries Laboratory, Kyle St, Christchurch).

Newsletter Editor: Dr M.A. Chapman (Zoology Dept., University of Auckland, P.O. Box 2175, Auckland).

Committee: Dr G.R. Fish (Marine Dept., P.O. Ngapuna, Rotorua);

Dr D. Scott (Zoology Dept., University of Otago, King St, Dunedin).

EDITORIAL NOTES

The function of this newsletter is to provide a means of contact between freshwater workers, both by giving any items of news of general interest to us, and by accounts of the projects on which people are actually engaged. We hope that this will lead to a much greater knowledge of freshwater activities in the country and to an increasing degree of cooperation between workers in the way of advice on techniques, comparison of results etc. The amount of enthusiasm and the support generated by the original circulars suggesting the formation of the N.Z. Limnological Society surprised the proposers. We had not realised just how much freshwater work was going on in the country. So far as I know, this is the first association of its kind, attempting to unite workers in all aspects of freshwater ecology, which has existed in New Zealand. Both in numbers and in public interest we have always suffered in comparison with, say, marine biologists, but it is becoming increasingly necessary to pay more attention to our freshwater habitats and to accumulate more basic data on them now before it is too late. The society now formally exists and it is up to all of us to maintain the initial interest and to cooperate in making the thing work.

And so began the records of the New Zealand Limnological Society and later, the New Zealand Freshwater Sciences Society.

A trip down memory lane

Following are brief reflections from Honorary Life Members on early highlights of their own research and memories of the Society.

Max Burnett

My interest in freshwater was inspired by Professor Edward Percival, while I was one of his students at Canterbury University from 1942 to 1946. When the Marine Department Fisheries Division was expanded in 1947, I became one of a team of four biologists, three freshwater with K. Radway Allen as the leader, and one Marine Biologist. The other new freshwater ecologist was Brian T. Cunningham, who was also a Professor Percival student, and the new Marine Biologist was Dr R. Morrison Cassie.

At that time, apart from a University position, there were few opportunities for a career in biology, and major contributions to freshwater research had been made by amateur naturalists. Mr Gerard Stokell of Christchurch was a significant contributor, and Derisley F. Hobbs, for the Freshwater Research Committee (of Acclimatisation Societies) studied the natural reproduction of trout.

Shortly after Brian and I joined, the laboratory moved to a new site in Wingfield Street in Wellington. The building had been used by an undertaker and was quite suited to our use. There had been a carpenter's and preparation room, and a marble slab left behind made a useful benchtop.

The 1947 re-organisation of the Marine Department's Freshwater Fisheries included establishment of a Fisheries Management Division with Derisley F. Hobbs as the leader, and Pat Dickinson his assistant. One of their first tasks was to promote a coordinated approach to the control of water pollution, which at the time was fragmented, with control vested in Government Departments. Their survey and report were the foundations for the more effective control system that we now have.

I was fortunate in having K. Radway Allen to guide my early research, and gained from him an appreciation of the importance of a numeric approach to biological research. A major part of my research was carried out from a Christchurch base, and there I had the benefit of Professor Percival who was always willing to discuss and advise on problems. He was a most valued mentor.

The research work by Radway Allen, "The Horokiwi Stream", and my own early research on the distribution and abundance of eels, emphasised the great need for better ways of sampling fish. After various trials we settled on electricity as the most promising technique, and as I had a background in electronics, I did much of the development from an interesting phenomenon, to a practical and useful fisheries tool. Without this tool I would not have been able to complete a study of the effects of eels on a trout population. When commercial exploitation of eels began I was able to help with advice.

My main interest had always been in the Limnology of Lakes, and completion of the eel/trout study, I was able to devote time to this topic, concentrating on the effects of eutrophication on fish, and collaborating with my friend and colleague Dr Geoff Fish of Rotorua. I returned to Wellington to be the leader of Freshwater section of the Fisheries Research Division in 1970. Eutrophication research led to the development of automatic digital data logging of oxygen and temperature levels, using digital electronic techniques made possible by the advent of computers. With this experience, I was able to make a contribution to water quality problems.

I enjoyed my term as foundation Secretary of the Society, and benefited considerably from the experience. I found the contacts I made with other researchers specially valuable.



Thanks to Max Burnett and Kevin Collier for the various photo scattered throughout this section.

Vivienne Cassie-Cooper

My first recollection is that of the formation of the new New Zealand Limnological Society, at an evening meeting in a room at the University of Canterbury in 1968. During a New Zealand Ecological Society conference it was decided to split off the study of lakes from the ever-widening sphere encompassed by New Zealand ecologists. My involvement in lectures to NZLS came some years later after the death of my first husband Professor Morrison Cassie in December 1974.

After my appointment with the former DSIR at Mt Albert Research Centre to investigate the taxonomy and ecology of the freshwater algae of New Zealand I gradually acquired enough knowledge to present papers on different aspects of New Zealand freshwater algae at annual meetings of the New Zealand Limnological Society in 1976-78, 1980, 1983-85, 1989-91. Although I had retired in 1986 I continued to work on the challenging microalgae and attended further conferences in 1996 and 2001. My chief aim has been to try and popularise the subject, particularly the ecology and taxonomy of the diatoms in lakes, oxidation ponds and thermal areas in New Zealand.

At one NZLS conference in Dunedin I was the last speaker, and announced to a sleepy audience that 'algae get you into a lot of hot water', My first slide, of the steaming lower terrace at Orakeikorako, was labelled 'hot water algae'. The audience woke up with a start.



Ann Chapman

When I came back to New Zealand to a lectureship at Auckland University in 1967, after working in Australia with Hilary Jolly and doing a PhD at Glasgow, and saw how much freshwater work was now being done, I thought what a good idea it would be to have a New Zealand Limnological Society similar to the Australian one that Hilary had helped to start and of which I was a foundation member. Geoff Fish was encouraging and I wrote to Vida Stout who was the only other university limnologist at the time. I drafted a letter suggesting a meeting in Auckland in late 1967 which we both signed and we sent it off to the 40 or 50 people and organisations we thought we might be interested, and about 30 came to the meeting. Vida was elected as the first President and I became the Editor of the Newsletter, which was to contain the summaries of current work in the Research Notes section, and list all papers, theses and reports published each year, as did the Australian one. Kit Rutherford was the first Secretary-Treasurer and was immensely useful in clarifying the precise wording of our constitution and sorting out our tax position. We had a half-day excursion to Lake Whangape on a rather cold and blustery day and photos show a rather chilly-looking collection of limnologists gazing over the uninspiring, turbid, and wind-tossed waters of the lake. I had greatly enjoyed the two excursions I had been on with the ASL and believed wholeheartedly in the scientific and social benefits of the contacts one made on such trips. I find it distressing that in these days of penny pinching by organisations that many limnologists attend only for the day on which they deliver their paper and then race back to their desks. I shall turn in my grave if ever the excursions are abandoned and I have very little sympathy with those who say they cannot afford to go on them if their

organisation will not pay - none of us are as close to the poverty line as that. My other great hope is that the Society will continue to give financial support to the students who will in due course become its officers and members. Many of the current members gave their first papers, stumbling and trembling, to what has always been a very sympathetic audience, and many a thesis must have been improved by comments from experts in the field. One other principle was established: that of alternating meetings between North and South Island venues to spread the costs of attendance more evenly (it is ridiculous that it can be cheaper to attend an ASL meeting in Sydney or Melbourne than for an Aucklanders to go to Dunedin or vice versa for an NZLS one). Meetings that stand out in my memory are one at Turangi when Mt Ngaruahoe began to erupt, and another one when Vivienne Cassie gave an enthusiastic account of the thermophilic algae she collected whilst on her honeymoon after her marriage to Bob Cooper, in a paper called 'Honeymoon Algae'.

My work on zooplankton ecology and on crustacean systematics is surveyed in the 1999 symposium with which I was honoured when I retired (N.Z. Journal of Marine and Freshwater Research 33). Since then I have been occupied with taxonomic work on amphipods and, with Maureen Lewis, a revision of our book, *An Introduction to the Freshwater Crustacea of New Zealand*.



Bob McDowall

A couple of events, not associated with LimSoc - to be honest, I have no early LimSoc recollections: But let me highlight a few research observations: One was part of my MSc thesis and I was at Makara, west of Wellington, learning what I could about the redfin bully, about which nothing was known. Gerald Stokell had earlier commented on colouration variation of redfins - some having red stripes and others not. The species is, as we now take for granted, sexually dimorphic and the males are red-finned. I can still, in my 'mind's eye' see, one day in spring 1961, a jet black bully dart from beneath a large stone, and then dart back. I'd never before seen a 'jet black' one, though, if you knock a redfin out with anaesthetic it usually goes black. Anyway, I stopped to watch, and there beneath a stone, was a pair of redfins, the male jet-black, as I had noticed, and they were working their way around beneath the rock, depositing and fertilising their eggs. I lay on a grassy bank above the stream, and for an hour or more watched, entranced by discovering how the species breeds, when and where it did so: all new. Some months later, I started at the old Marine Department Fisheries Laboratory (in a former city morgue in Thorndon), studying 'whitebait', and I recollect working my way with a net, along a small stream, concentrating on what I was finding, head down, and at one point looked up and found myself completely surround by a herd of black angus cattle, which had quietly sneaked up and were 'checking me out.' Before long I began monthly trips to the Waikanae River, north of Wellington, where we were exploring aspects of the ecology of inanga. Each time, Keith Maynard, electric fishing technician, would load up his machine and ensure that everything was working before we clambered down to fish a pool at

a small weir below the main road bridge, and begin our 'upstream' site. The visit, in I think August 1964, for the first time, revealed 'whitebait' in the riffly run above the weir, and there, we saw for the first time post-whitebait juveniles of koaro and banded kokopu - the beginning of the discovery of the multi-species characteristics of the whitebait fishery. It was a serendipitous discovery, as is true of much of science - had we not caught the well metamorphosed juveniles, we might not have noticed the fresh-run whitebait of these species. The fact that inanga were never there alerted us to the fact that koaro and banded kokopu whitebait can climb - something that mountaineer Arthur Harper had written about many years before. Also, nearly six decades earlier, James Hector had stated, definitively, that "the question of the true nature of the so-called "New Zealand whitebait" has been so fully worked out and published that it is hardly necessary to say more about it...*G. attenuatus* is the adult form of the true whitebait of New Zealand." Had Hector been with us that day, I have no doubt that he would have been as enthusiastic as we were excited. Soon afterwards I had a phone call from Jock Moreland, then at the Dominion Museum, to say : "Have a look at some whitebait in a fish shop in Cuba Street - they look a bit odd," and when I did so, it was obvious that the fish that Jock was talking about were, again, some of the 'other' species in the fishery. As a result, I began to carry bottles with the preserved adults of what were eventually the five species, and I recall talking with a whitebaiter on the Wanganui River, in Westland, telling him about progress in our whitebait research, to which he generously responded "Well.....you're wasting your bloody time", and I was - talking to him.

Eddie White

My earliest recollection of the "Limn Soc" is of the annual meeting at Turangi in the early 70's. Errol Cudby of the then Fisheries Research Division of the Marine Department organised the event. He also presented the first paper to an alert audience of thirty or perhaps forty members. He could see us, and we could see him, but the audience could also see spectacular views through windows behind him. He was perhaps three paragraphs into his paper when his audience upped and deserted him. Mt. Ngauruhoe chose this moment to erupt spectacularly throwing a great column of ash into the sky. I have no recollection if Errol ever got to give his paper.

New Zealand Limnological Society Conference #1

The first conference was held at Auckland University between August 18 and 19 and was immediately followed by the ESA meeting. There were 12 papers presented, the abstracts of which were presented in newsletter #2 (November 1968):

KRS Morris (Rotorua) "Piscator as Limnologist"

MA Chapman (Auckland University) "Diurnal changes in temperature and plankton distribution in Lake Rotoiti, North Island"

JD Green (Auckland University) "Preliminary observations on the plankton biology of a Waitakere reservoir"

F Hill (Auckland University) "The limnology of Lake Ohakuri"

MA Barker (Hamilton) "The limnology of Lake Pupuke"

W Donovan (Auckland University) "The zooplankton of Lake Waikare"

CS Hatton (Auckland University) "Food and feeding behaviour of smelt from Lake Waikare"

JA McLean (Gisborne) "Some studies on *Oniscogaster wakefieldi*"

PH Norrie (Auckland University) "Flight activity of mayflies"

M Flain (Christchurch) "Age and growth of New Zealand salmon"

MH Barclay (Auckland University) "The freshwater interstitial habitat"

LE Edwards (Auckland University) "Haemoglobin in *Simnocephalus*"





NEW ZEALAND LINNOLOGICAL SOCIETY CONFERENCE - TAUPO, 1982

Back row: J. Gibb, M. Timperley, B. Coffey, S. Wood, A. Viner, C. Mitchell, R. Wells, E. White, R. McColl, T. Stephens, W. Vant, D. Jellyman, M. Gibbs, R. Edwards, J. Boubée

3rd row: C. Richmond, M. Downes, M. James, P. Gillespie, V. Wilkinson, J. Stark, P. Claman, V. Stout, B. Biggs, P. Henriques, P. Mylechreest, J. Quinn, J. Davies, E. Cudby, W. Donovan, I. Vidal

2nd row: L. Whiteside, Y. Stark, S. Davis, A. Chapman, M. Fransen, S. Porter, C. Burns, R. Vigor-Brown, L. Harper, A-M. Schwarz, M. Butler, F. Eccles, M. Harper, K. Law, J. Edwards, L. Ryan

Front row: S. Pickmore, P. Lawless, G. Payne, P. Todd, R. McLay, P. Tortell, D. Forsyth



New Zealand Freshwater Sciences Society 40th Anniversary President's Report Queenstown 2007

Kevin Collier

This is a special year for the Society. It's our 40th birthday. There is something about turning 40 - for many it signifies the onset of middle age and the accompanying receding hairline, fading vision and expanding waistline. While our Society has certainly expanded over the years, from 45 members initially to over 360 now (Figure 1), our vision has broadened enormously and each year our members continue to cultivate vibrant new crops of freshwater science graduates.

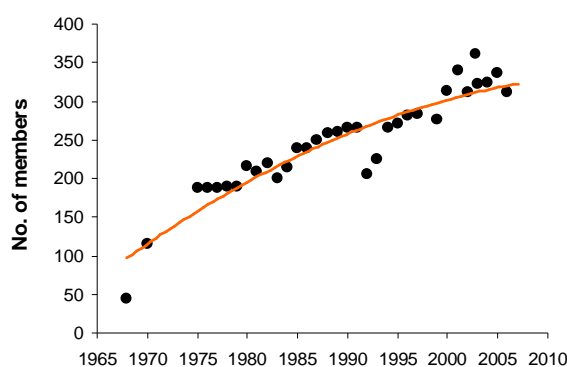


Figure 1. Changes in Society membership over the last 40 years based on figures presented in annual newsletters.

Maturity also brings reflection, and now is a good time to ponder what the Society has achieved since 1968, reminisce on how and why things have changed over that time, and above all honour those who have made it possible. The Society was formed at a meeting in Christchurch in January 1968. Vida Stout was "Chairman", Max Burnett was Secretary-Treasurer, Ann Chapman was Newsletter Editor, and the Committee comprised Geoff Fish and Donald Scott. In 1968 the annual subscription was 50c. You can imagine the debate when the fee was doubled only a year or so later. Since then we have had 13 Presidents, 15 Secretary-Treasurers, 12 Newsletter Editors, and many Committee members. Brian Sorell is our longest-serving Secretary-Treasurer at 7 years. Joy Talbot was our longest-serving Newsletter Editor surviving 8 years, and Mike Winterbourn is the only person to have done that job twice! We now have 11 honorary life members, 5 Royal Society Fellows, and 5 recipients of Science and Technology Medals.

Our logo was originally designed by Carolyn Burns and has stood the test of time. We have of course changed our name from the New Zealand Limnological Society, a proposal first mooted back in 1975 - it eventually happened in 2004. In the same year there was also talk of a joint conference with the Australian Society of Limnology - our first joint meeting was held in 1999. Things may not have moved fast back then, but in my view this was not a sign of inaction but rather contentment of the way we were. The Society was very active academically over this early period - there were discussion groups on a broad range of freshwater topics and much of the scientific groundwork done then laid the foundations for our understanding of aquatic ecosystems now. Many members also played key roles in defining the freshwater policy that drives much of what we do today. Our discussions are no longer restricted to conferences, and we now have the capacity to debate through email or our recently established public forum. Despite easier communication and increased membership, there is perhaps a greater hesitancy to engage in debate. Are we too busy now, or more influenced by commercial and political sensitivities than we were back then?

Over the years, the scientific focus of the Society's membership has shifted from lakes to fish to streams, and now it seems to be fairly evenly distributed across a range of freshwater disciplines with an increasing emphasis on environmental management. Our demographics have changed from a membership initially dominated by university academics, to increased presence of government scientists, consultants and management agencies, reflecting shifts in science funding and statutory responsibilities. These changes are reflected to some extent in our members' publication profile which was dominated initially by scientific papers, and then by reports or popular articles during the days of *Freshwater Catch* and *Water & Soil*, only more recently to become dominated again by scientific papers in response to PSGF contract requirements and PBRF ratings (Figures 2 and 3).

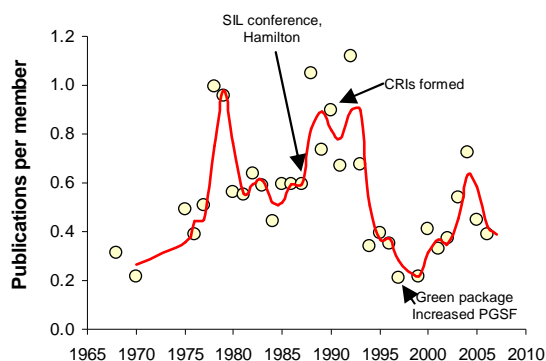


Figure 2. Number of publications per member over the last 40 years based on figures presented in annual newsletters.

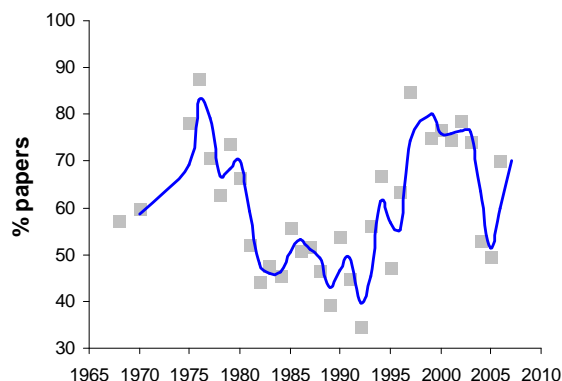


Figure 3 Percent of members' publications comprising scientific papers based on figures presented in annual newsletters.

Back in 1968 there were two newsletters per year, something we have recently reinstated. It is enlightening to remind ourselves of some of the editorial observations in those first newsletters:

"More workers and considerably greater funds are urgently needed to fill the many gaps in our basic knowledge of freshwater environments before civilisation with its multiplicity of polluting and destructive agencies overtakes them irreparably. It is to be hoped that liberal and enlightened attitudes will prevail".

Have things changed significantly today? Have we arrested the environmental decline or has the knowledge generated over that last 40 years highlighted different environmental challenges that need equally pressing attention?

This year has been my first as president, and I have greatly appreciated the support and work of your executive committee. Thanks to Ngaire Phillips for her editing of the newsletters, David Burger for managing the web site from afar, and of course Brian Sorell for running the Society. Marc Schallenberg has instituted the new public forum, and Neil Deans has provided valuable input on RSNZ issues. Thanks also to Chris Arbuckle for heading the committee that has organised such a great conference, and of course all those on the organising committee and who helped in other ways. I also appreciate the efforts of Jon Harding, Ian Boothroyd and Carolyn Burns for participating in committees, helping with 40th anniversary commemorations, and representing the Society on various matters.

This year we have made submissions to the Royal Society on the future of its journals and on the process for awarding Science and Technology medals. We supported the open-access and free on-line aspects of the journal proposal but opposed the amalgamation of all Royal Society journals into one volume. A New Zealand Freshwater Sciences Society medal has now been minted, and a review of our

web site has been initiated. I look forward to seeing some of the changes you want implemented on our web site coming to fruition over the next year. Of course to do this we need to know what you want so please provide feedback to David Burger.

So what does the future hold? Where will freshwater sciences and the Society be in another 40 years? Already we are seeing the potential of technologies such as GIS, remote sensing and genetic analyses which, at different ends of the spectrum, offer the capacity for large-scale environmental mapping and prediction, and the promise of one day being able to analyse community data at the species level simply by putting samples on a gel. Although these advances will no doubt profoundly affect the way we do monitoring and management in the future, I can't help keep thinking of one of the first things Mike Winterbourn told me - when painting big picture the key is always in the fine brushwork. Last year Mike told us about the "sense of wonder" that has motivated him over so many years. Let's hope we maintain our close connection with the natural world in the face of new technology and keep up with the fine brushwork.

Maybe by 2047 the competitive business model for ecological science will be abandoned and progress encouraged through interagency collaboration? Already the benefits of interagency teamwork are becoming apparent through projects funded by the Cross-Departmental Research Pool and Envirolink. Perhaps when we refer to someone's "IP" we will mean "intellectual prowess", and our work will be supported by an organisation called "Friends of Research Science and Technology". Will the Society be more proactive in supporting freshwater sciences in the South Pacific, and will we be publishing our own journal? You can have your input into the strategic directions of the Society through the public forum.

Of course, no one can predict the future, and back in 1968 our founding members surely could not have envisaged the Society we see today. Another newsletter quote from 1968 is:

"It would however be very dangerous to feel smug at this early stage and we should withhold our congratulations for another two or three years until we are sure that the original enthusiasm has generated a self sustaining body with a continual inflow of members".

After 40 years I think congratulations are long overdue!



The Biggest Sucker in Town

It's been a memorable summer for me this year. Not only did I get the chance to travel the length and breadth of the country boating on iconic rivers as part of my role with Waikato University, but after years of seemingly "treading water" with large river ecology we finally seem to have broken through the barrier of sampling deep water habitats. Following sage advice from Martin Neale based on his experience sampling big rivers in the UK, Environment Waikato and The University of Waikato jointly purchased an air-lift sampler capable of collecting benthos down to around 5 m. It works by sending compressed air down hoses to the end of a long pipe positioned on the bottom, and then effectively sucking up benthic material with the rising bubble and belching it into a net. Sure, we had a few teething problems (nothing that a drill and a bit of fencing wire couldn't fix), and it is only effective in gravels and sand, but it has proven very revealing in the Waikato River and other rivers dominated by finer substrates. We have found a surprising array of invertebrates in deep water, and also frequently caught small eels. But one of the main highlights of this work for me was the enthusiastic collaboration provided by busy people from different organisations. The study involved the Department of Conservation, Cawthron Institute, NIWA, 5 regional councils (Environment Waikato, Environment Bay of Plenty, Horizons, Environment Southland, West Coast Regional Council) and 4 universities (Waikato, Massey, Canterbury and Otago). Maybe everyone just wanted to come along and see the "biggest sucker in town" in action, but it just goes to show what can be done when we work together to answer large-scale environmental questions.

Kevin Collier



Learning the ropes from Martin Neale



EW and DoC team off on an adventure



On the Motu River with the EBOP lads



High and dry on the Manawatu River

Weird bug of the month – the sponge-eating lacewing *Sisyra rufistigma*

Here's an oddity few NZ freshwater biologists may have seen. The freshwater larvae of *Sisyra* sponge-eating lacewings have recently been found in stream samples from the Auckland and Hawkes Bay regions. Thought to be the Australian species *S. rufistigma*, which has been found in northern NZ as adults (Wise 1998), these beasts are quite distinctive. Check out the pictures below - the pale, pudgy body with slender tubular mouthparts makes them unlikely to be confused with anything else. Presumably they are a relatively recent arrival and have now become established in NZ.



Wise KAJ 1998. A species of the Family Sisyridae (Insecta: Neuroptera) in New Zealand, New Zealand Entomologist, Vol. 21, pp11-16.

Stephen Moore, Landcare Research

Research News

NorthTec (Northland Polytechnic)

Department of Applied & Environmental Sciences

Olly Ball (oball@northtec.ac.nz) and **Steve Pohe** (spohe@northtec.ac.nz) continue to investigate habitat use by black mudfish at Hikurangi swamp in Northland, and how this is related to *Gambusia* presence and abundance and cattle damage. Olly is also into the final year of an investigation into the distribution of the threatened ground beetle *Mecodema* "Te Paki" in the far north of the country. During the study, Olly and coworkers have also collected and catalogued a number of other invertebrate species from the Te Paki area, some of which have not yet been formally described. Steve continues to pursue the *Tramea* dragonfly and a more in-depth study to confirm its presence in the country is planned for 2008-09.

Cawthron Institute

Where has the first half of the year gone?! It feels like yesterday when we were enjoying ourselves in Queenstown with other aquatic boffins. **John Hayes, Karen Shearer, Robin Holmes, Dean Olsen, Joanne Clapcott** and **Roger Young** all attended the combined ASL/NZFSS conference and made the most of the southern hospitality. Now, we are all wintering away here at Cawthron with much thanks to breakfast espressos, morning tea chai lattes, lunch macchiatos and afternoon tea double defrappachinos courtesy of the Coastal Freshwater coffee machine, although we do have to share the machine with five about-to-be-members of our group with expertise in biosecurity/biotechnology, they include **Barrie Forrest, Grant Hopkins, Richard Piola, Ibrahim Ilmitri** and **Tim Dodgshun**.

In between coffee indulgences we are joyously working our way through samples, data and reports, having made the most of the summer sampling season. Rather than list what we are all up to work wise some of our family news includes: we congratulate **Joanne Clapcott** on her marriage, **Ross Sneddon** on his marriage and wish **Kim Clarke** all the best for her pending marriage and relocation to Switzerland. We bid farewell to **Jeremy Wilkinson** who has taken on a postdoctoral fellowship in Germany, and whilst not quite a replacement... we bid a warm welcome to **Ana Juacita Hay** who is the latest addition to **Joe Hay's** family. And, we welcome **Anna Crowe** back into the Coastal & Freshwater team on a part-time basis as she begins the working Mum challenge.

(NB - this is not an endorsement of excessive coffee consumption, part of our group actually enjoy herbal teas, freaks).

Centre for Biodiversity and Ecology Research aquatic group, University of Waikato

The new \$1.2M aquatic research centre has been opened at Waikato University. This new building includes large areas for fish, recirculating flumes, CT rooms and freezers, a quarantine facility, dry lab and has dechlorinated freshwater and filtered recirculated seawater.

Two students recently completed their MSc theses: **Matthew Prentice** on 'Temporal and spatial variations of cyanobacteria in Karori Reservoir' and **Joseph Butterworth**: 'The kakahi in Lake Rotokakahi in a context of lake health'.

Chris McBride and **Liancong Luo** presented at the "Science to Market" conference in Beijing, China on the 17th April. Chris's presentation detailed a collaborative project between Waikato University and the Nanjing Institute of Limnology and Geography, Chinese Academy of Sciences (NIGLAS). In October 2007, Chris and **David Hamilton** travelled to China to install a wireless water quality monitoring station for NIGLAS at Lake Taihu. Further monitoring buoys are currently being built for Lakes Rotoiti, Tarawera and Ngaroto. Chris has also been working on modelling nutrient loading scenarios for Lake Rotoiti using DYRESM-CAEDYM with visiting scientist **Arkadi Paparov** from Israel.

Nick Ling and **Michael Landman** (Scion Research) have concluded studies on fish health associated with whole lake mineral treatments in Lakes Okareka and Okaro. Indications are that neither product used in these applications has significant health implications for fish at the dosage rates applied. Nick's student, **Natalie Bleackley**, has concluded her MSc thesis research looking at migratory origins of common bully in the Tarawera and Rangitaiki Rivers with an additional emphasis on the impacts of the Kawerau pulp mill on bully health and movement. Work continues looking at the production of sex pheromones in pest fish species. Nick is working with **Merilyn Manley-Harris** and **Cherie Boulton** from the Department of Chemistry to develop a sensitive multichemical analysis technique using GCMS. Preliminary results have identified sex steroids produced by rudd, goldfish and bullhead catfish.

In a FRST-funded study by **Matt Knox**, **Ian Hogg**, and **Brendan Hicks**, a DNA-based detection system for invasive fish species was tested. A 250-base pair region of 16S rRNA was amplified and sequenced from white muscle, faecal material, and slime, but failed to show sufficient sequence variability to distinguish fish species.

Adam Daniel, Brendan's PhD student, is currently conducting both tank and field studies on koi carp. Adam's field research on the Waikato River is ongoing for a year and has produced approximately 10,000 fish locations thus far. These locations and corresponding environmental data will be used to better our understanding of Koi carp movements on the lower Waikato River.

Matt Riceman has completed his MSc on otolith microchemistry of rainbow trout and common smelt. The study proved the feasibility of using laser ablation ICP-MS to discriminate natal habitats and fish movement between lakes Rotorua and Rotoiti.

Wendy Paul is continuing her work on lakes and has extended her work to the University's campus lakes and Lake Ngaroto. She has also completed a blind trial to compare microscopy against DNA detection of *Didymo* and is about to embark on another small project measuring biovolume of some of the problematic cyanobacteria species. Wendy has recently had her paper on the 2004 alum trial at Lake Okaro accepted for publication in NZJMFR.

Ian Duggan is now focusing primarily on invertebrate invasions, and has secured a Marsden grant to support research on constructed waters facilitating invasions. This follows on from the work on copepod invasions in constructed waters done with former MSc student **Chris Banks**, which is now "in press". Also in press is work on the effects of the invader *Daphnia dentifera*, undertaken with former MSc student **Sheree Balvert**. In Weavers Lake the *Daphnia* has led to increases in Secchi depth and adversely affected rotifer communities.

Dennis Trolle is about to publish three separate papers based on his sediment field study from twelve lakes in the Rotorua District, Lake Ellesmere (South Island) and Lake Taihu in China. He is also in the process of setting up the DYRESM-CAEDYM model for Lake Okareka, Lake Rotoehu and Lake Ellesmere, New Zealand, as well as for Lake Ravn, Lake Bryrup and Lake Soegaard, Denmark, which he will use to quantify the effects of future climate change on lake water quality.

Ditte M. Forsmann and **Anders Nielsen**, who have been visiting from Aalborg University, Denmark, have finished a study on Lake Okareka, where they used the DYRESM-CAEDYM model to quantify the effects of dosing the lake with Phoslock.

Deniz Özkundakci is now going towards the final stage of his Lake Okaro field work. He has been collecting water quality and sediment samples as part of an intensive monitoring program of the modified zeolite application in September 2007. Deniz is now working on a paper analysing historical data from Lake Okaro to assess the relative success of a variety of methods to control external and internal nutrient load.

Mat Allan recently started his PhD in which he aims to develop algorithms to determine chlorophyll *a*, coloured dissolved organic matter, suspended sediment and temperature from freely available ocean colour satellite data (MODIS and SeaWiFS). This will enable near real time monitoring of large lakes such as Lake Rotorua and Lake Tarawera. Also Landsat thermal infrared satellite imagery calibrated with *in situ* temperature measurement (Biofish) will also be used to study mixing regimes and lake circulation patterns.

Bram Mulling, David's MSc exchange student for the University of Amsterdam, is involved in the development of a rapid assessment of the nutrient limitation state (nitrogen and phosphorus) of cyanobacteria with the usage of confocal microscopy methods. Bram will also investigate the behaviour of individual cells within *Microcystis* (cyanobacteria) colonies using confocal microscopy.

Greater Wellington Regional Council

State of the Environment monitoring (contact: Alton Perrie)

- Greater Wellington has brought the monthly SoE river water quality sampling contract back in-house, appointing a new environmental field officer for this role. The change took effect from January 2008. It has been a very busy summer organising the various sampling runs, training, equipment, and couriers.
- Annual macroinvertebrate and periphyton sampling has just been completed at all 56 sites. The long hot, dry summer (and autumn to date) assisted greatly in getting the work done, although several sites were reduced to pools. This raised the issue of when dried/drying streams should be sampled for SoE monitoring (i.e., should we wait until the return of water?) or whether we adapt the typical macroinvertebrate sampling methods to sample in the pool type habitats that remain.

Recreational water quality monitoring and toxic cyanobacteria (contact: Summer Warr)

- Weekly testing of microbiological water quality and semi-quantitative assessments of periphyton cover were conducted at 21 freshwater sites over November to March. Ongoing dry, warm weather led to prolific growths of toxic mat-forming benthic cyanobacteria (*Phormidium* spp.) at a number of sites. The Hutt River was badly affected for much of the summer; the deaths of three dogs in early January were attributed to contact with mats/toxins.
- Greater Wellington, in conjunction with local councils and regional public health authorities, have designed new toxic algae warning signs (a low and a high risk sign) and released an educational leaflet for display in council offices, vet and doctor's clinics, etc. TAs may include the leaflet with dog registration letters in future. Greater Wellington is also funding a Victoria University MSc student to investigate species composition and toxicity of benthic cyanobacteria in Wellington's rivers.

Water quality and ecological investigations/projects

- Regional water quality standards: work has commenced on developing regional water quality standards for inclusion in Greater Wellington's next Regional Freshwater Plan (review to commence by Dec 2009). The standards will be developed to represent the natural biogeographical variation in the region's rivers as well as different purposes for which they are managed (e.g., contact recreation, fish spawning, aquatic ecosystems). At this stage the REC classification for the region is being reviewed, and existing water quality and pressures data are being looked at while the Environmental Policy Department work on establishing the management purposes/classes.
- Stormwater investigations report: various stream-related stormwater investigations undertaken over the last few years are currently being written up. This information will feed into the development of stronger stormwater rules in Greater Wellington's next Regional Freshwater (and Coastal) Plan.
- Stream temperature monitoring: temporary monitoring of stream temperatures in 8 river/stream locations over the 2007/08 low flow season (at some of these sites continuous dissolved oxygen monitoring is also occurring).
- Urban and small stream investigations: work continues on developing a system to assess and classify the ecological values of the region's urban streams. This classification is intended to provide a framework upon which stronger policies for management of urban streams can be based, particularly in the areas of stream piping/reclamation and stormwater management. Currently we are continuing to collate catchment based impervious cover data as well as collected additional invertebrate and fish data.
- Riparian rehabilitation monitoring report: a report on monitoring undertaken upstream and downstream of three pilot riparian-restored areas should be available by 30 June.

Didymo monitoring (contact: Alton Perrie)

Greater Wellington received seed-funding from Biosecurity NZ to conduct surveillance monitoring at 10 sites in the region at quarterly intervals over 2007/08. Internal funding is being sought to continue monitoring in 2008/09.

Educational programmes (contacts: Kerry Penny & Summer Warr)

Science staff have been providing input into a review of the Environmental Education Department's *Take Action for Water* programme for school children aged 8-12. The eight week programme focuses on freshwater stream ecosystems; students investigate and explore the causes of pollution and water wastage in local streams and rivers, and then take action with solutions. New resource material and a revised field day are being designed.

Fish passes (contact: Murray McLea)

We are working on improving fish passage at two "hanging" culverts and a small weir in the Owhiro Stream on the Wellington south coast. Like other recent fish pass projects, this is a joint exercise with a local Care Group. Friends of the Owhiro Stream are restoring riparian vegetation along this urban stream. Design work is now complete and we are seeking comments from interested parties on draft resource consent applications before they are lodged.

Instream flow assessments (contact: Laura Watts)

We have been continuing our instream flow assessment programme, and carried out a review to ensure we are focusing our efforts in the highest priority catchments. The information gathered will help in the review of our water allocation and minimum flow policies in the Regional Freshwater Plan (review due to commence in December 2009). The current investigations include continuous dissolved oxygen and instream temperature monitoring (in conjunction with flow monitoring) in a number of lowland Wairarapa streams, and planned RHYHABSIM surveys of the Waingawa and Waiohine rivers. Joe Hay (Cawthron) has recently completed an instream flow assessment of the lower Ruamahanga River using RHYHABSIM.

During sustained periods of low flow this summer we carried out concurrent gauging runs of several catchments (including the Hutt and Waikanae) to add to our knowledge of groundwater / surface water interactions. We have also carried out a survey of spring flows in the Wairarapa to help calibrate the Wairarapa groundwater model, which ultimately will help ensure that groundwater allocation does not adversely impact groundwater dependent ecosystems.

Ohariu biodiversity programme (contact: Kirsten Forsyth)

Greater Wellington is part of the national biodiversity project "Improved policy interventions for encouraging the voluntary use by landowners of practices for protecting and enhancing biodiversity." Our case study focuses on the Ohariu catchment and our work promoting streamside management to protect and enhance aquatic biodiversity. We began with a survey of Ohariu landowners in October 2006 to find out what value they put on the natural environment in general and the stream in particular. Since then AgResearch has delivered monthly newsletters to the community and we have supported this with events to raise awareness of the stream and its biodiversity. During 2007 we ran three events - a fish survey with Mike Joy and members of the community, a farmer field day for the sheep and beef farmers, and a rural living day for rural residents. On Waitangi Day 2008 we ran another fishing day for the community. Two more events are planned for 2008 and next year we will re-survey the community to see if their awareness has increased and more importantly, if any have taken action to protect the stream.

Environment Waikato

David Speirs - The Freshwater Fish, Invertebrate and Plants posters have been flying out the door here at Environment Waikato. Our stores are down to less than 50 of each, however our Communications program have agreed to fund a re-print of 2500 of each poster and I anticipate that these will be available by the end of May. Where are the posters going? Mostly to Secondary schools, Uni's and Tech's in NZ but I have sent posters as far away as São Paulo in Brazil, Oregon, Texas and Arizona in the USA, Pago Pago in American Samoa and...I've even sent some to Dunedin and Taranaki! I was in the South Island recently and saw the posters displayed in the DOC visitor centres at Haast and Te Anau which was great. Remember if you want some posters to give away (a big stack for the local DOC visitor centre perhaps) just get in touch with me at david.speirs@ew.govt.nz and I'll arrange postage or couriers as necessary.

Keri Neilson - Environment Waikato (Keri Neilson and Mark Hamer) continued this summer with their project investigating biological and functional indicators of shallow lake health in the region. In total they sampled 17 lakes including several that had not been visited by council staff previously. The Waikato drought made sampling very challenging, particularly in the peat lakes, where levels typically dropped by about half a metre between December and March. This required some innovative use of oars and planks to get the Aquapro in the water, and in one case, resorting to kayaks to sample. Results of this work will likely be presented at NZFSS conference this year where several Waikato agencies are hoping to have a session on shallow lake restoration.

The drought has also had an impact on our lake level setting programme. Monitoring was hampered over summer by lake levels dropping below the detection level of our data loggers. Summer 2008 certainly highlighted how vulnerable our shallow lakes are to extreme climatic events with one peat lake having a maximum depth of only 40 cm by the end of the drought.

Mark Hamer - As well as helping Keri with her shallow lake fieldwork I coordinated the Regional Ecological Monitoring of Streams (REMS) invertebrate sampling again this summer. We sampled 146 sites across the region this summer. At our long term monitoring sites it will be interesting to see how the drought influenced the invertebrate communities found this year.

Staff changes - Bruno David has been appointed as the new Freshwater Ecologist (Lakes and Fish Biology). Bruno comes to us following 5 years in the DOC Northern Regional Office where he was a Senior Freshwater Ecologist. Bruno is due to start at EW in July.

Mike Freeman, Freeman Environmental

Mike Freeman has left Environment Canterbury where he held various senior technical and management roles for 22 years and has set-up a small environmental consultancy based in Wanaka. He maintains an interest in periphyton and general freshwater quality management issues. He is keen to promote research into freshwater quality issues in Central Otago. He can be contacted via www.freemanenvironmental.co.nz

Victoria University of Wellington, School of Geography, Environment and Earth Sciences.

An NZ potential invader of overseas urban waters? Last year Margaret Harper found an undescribed diatom abundant in Wellington's Kaiwharawhara stream during a drought; she is now formally describing it. It is a species of *Tabularia* that prefers somewhat saline waters, it grows as a carpet on rocks and waterweeds and clearly tolerates urban pollution.

NIWA Hamilton Stream Team

John Quinn has continued studies on the impacts on Coromandel streams of logging and recovery rates after logging and the influences of riparian buffers. Recent focus has been on thermal recovery rates, fish (with **Dave Rowe**) and impacts of harvest slash (with Aslan Wright-Stow and Mark Meleason). The short-term effects of farm-scale Integrated Catchment Management study at Whatawhata have been published in NZJAgSci, Agricultural Systems, and the Proceedings of the Grasslands Association, and a paper in prep for NZJMFR. These have shown quite rapid responses of the farm pastoral system, sediment and nutrients loads, habitat, and stream invertebrates to the changes in land and riparian management put in place in 2001. The Whatawhata research had a boost with sabbatical visits by Profs **Sherry Schiff** and **Mike English** from Waterloo, Canada, who applied their combined isotope/biogeochemistry and hydrology skills to investigate how nitrogen export was influenced by the various land use treatments combined with the historic Waikato drought, before and after the drought broke. John has continued to develop a Bayesian Network of dairying management options and aquatic values in Southland's Bog Burn/Oreti catchments (with **Bob Wilcock** and **Ross Monaghan**) and reaction from stakeholders indicates this is a very useful approach for summarising knowledge to support on farm decisions and regional council policy. John had a fascinating week in Uruguay in November 2007, hosted by **Nicolas Marchand** (ex-Lincoln PhD), where he spoke (to slides in Spanish!) on the NZ scene regarding agriculture and water quality issues. This highlighted to opportunities to transfer knowledge on managing the effects of agricultural intensification to developing countries. Along the way he has been involved in studies on the effects of treated sewage from his hometown

Waipukurau on nutrients and periphyton in the Tukituki River, deliberations on forestry and nutrients in the Taupo catchment as part of the Environment Court case on the Taupo variation to EW's regional plan and running workshops on targeted riparian management.

Ngairé Phillips has had a busy time of it, moving between a number of freshwater and estuarine projects. This year has seen her focusing her studies more on population genetic responses to stormwater contaminants. She has been investigating multi-generational effects of stormwater on the freshwater clam *Sphaerium novaezelandiae* (with **Martin Neale** and **Kylie Park**, ARC). She's also continues her work on estuarine cockle responses to contaminants and additional stressors in a field experiment in the Manukau Harbour. She continues to lead a FRST-funded project on mahinga kai (culturally important species) in the Te Arawa (Rotorua) lakes. This project ended in June and she has gained further funding to investigate the relationship between these species (especially koura and kakahi) and two key ecological drivers in the lakes (macrophytes and cyano-bacterial toxins). This is a 3 year project involving **John Clayton**, **Mary de Winton**, **Chris Hickey**, **Sue Clearwater**, **Susie Wood** (Cawthron) **Ian Kusabs** and **Steph Parkyn**. She also continues to lead a multi-year multi-iwi project investigating risks associated with the consumption of "wild kai" (funded by the New Zealand Health Research Council). This project involves **Chris Hickey**, **Erica Williams** and **Gail Tipa** (Tipa & Associates). She continues her work on kakahi (freshwater mussels) and is collating a database of kakahi condition from lakes throughout New Zealand (any contributions appreciated).

And finally, we farewelled 2 "old" Stream Team members this year - **Steph Parkyn**, who has headed over the ditch and **Mike Scarsbrook**, who is probably headed into the ditch in his new job as Development Team Leader for Sustainability at Dairy NZ. They will both be sorely missed, but Steph will continue to contribute to aspects of our work that she can do remotely (with the occasional trip "home") and it will be great to have someone with the capability and ecological knowledge Mike has in a key position in the dairy sector. The rest of us are too shell-shocked to write anything else!



K Radway Allen and the Horokiwi Stream

Biologist K. Radway Allen has his influence on freshwater fisheries ecology in New Zealand and globally, firmly imprinted through the publication in 1951 of "The Horokiwi Stream - a study of a trout population". Even though this large bulletin (238 pages) was published more than half a century ago, and though Allen has been gone from New Zealand since 1964, his work is still referred to and is a part of our freshwater fisheries heritage. Copies of "The Horokiwi Stream..." are still sought and are rarities in second-hand bookshops. Allen died recently, in Sydney, age 97 years and still, as far as we can tell, with a lively interest in fisheries ecology. I remember him well, as he first employed me in the old Marine Department Fisheries Laboratory, tucked away in a little back street in Thorndon, the street itself long gone, overtaken by high rise offices and apartments. Allen was a jolly, jovial man with a warm chuckle and full of enthusiasm and, as far as I could tell, carried his very strong 'Cambridge English' accent to the end, despite having left the UK for New Zealand in 1938. In a way his jovial manner was his downfall - he was just too nice to handle the obdurate, dull, stubborn, bureaucrats in 'Head Office'. I remember well knocking on his door one day in early 1963, seeking a job, and can rather recall him leaning back in his large, brown, sprung, leatherette office chair, rubbing his ample stomach and responding with enthusiasm. I suppose in those days, people wanting jobs in the Marine Department were few, and having a moderately well-qualified young fellow seeking a job was not a common experience. My timing was propitious, as not long before, another Marine Department biologist, Roger Watson, had sadly fallen off the float of a float plane, in far Southern Westland and, apparently being unable to swim, had drowned. And so Allen offered me Watson's job.

Allen came to New Zealand to be New Zealand's first well-trained fisheries ecologist, with a Master's degree from Cambridge University and a few years as a biologist working for the Freshwater Biological Association, at Windermere, in the Lakes District of northern England. So his academic 'pedigree' was as good as it gets. I imagine that Allen would have had very little idea what he was getting himself into, but would rapidly have been initiated into the difficulties of weaving a safe path between politicians, Government fisheries bureaucrats, and the acclimatisation societies which beset freshwater fisheries here for decades. He joined Derisely Hobbs, who had been working for the acclimatisation societies' "Research Committee" and eventually became another member of the staff of the Fisheries Laboratory (Hobbs had no scientific training). Allen went to work on the "Horokiwi Stream" and there are stories of Allen and his English wife Rosa, wader-clad, hauling seine nets through the pools of the stream, there being no electric fishing machines in those days. Just getting to the Horokiwi would have been something of a logistical exercise, as the Marine Department probably had no vehicles, and they may well have had to hire trucks from the Post Office - no Landrovers then. The Horokiwi study became an international landmark, as Allen sought to generate an energy 'balance sheet' for the stream, to work out what the invertebrate production was and how this was translated into trout growth. Allen found that there was scarcely enough food energy in the stream to drive the population, something that a more recent stream ecologist, Alex Hurn, dubbed as "Allen's paradox".

Life in the Marine Department was difficult, and as Allen moved into a position managing fisheries researchers, he found that relationships with Head Office were nearly impossible. He had to argue with stores clerks for materials ordered by the research staff, in the days when stores clerks were amongst the most powerful people in the Public Service, and liked to exercise their power by only agreeing to buy one of an item when three were needed, and always being able to find a cheaper (but often unsuitable) alternative to the brand ordered. Allen would go through all the requisitions and sign them off and send them to Head Office and people knew that he didn't peruse them carefully, and on one occasion one of the staff inserted a requisition for the interisland ferry Rangatira, which was for sale, and this was duly signed and went down to Head Office with the rest. There was masses of bureaucratic and political interference from both the people in Head Office involved in the administration of fisheries management, and from politicians, and the research staff were all the time

being sent off on 'wild goose chases' trying to solve some urgent, imagined problem that had landed on the Minister's desk. Allen tried to separate research staff from fisheries management staff, to allow the research staff to get on with some longer-term studies, but in the end, he gave up in frustration, and left for Canada in mid 1964. No sooner had he gone, than Head Office found that they agreed with him, and so Fisheries Research Division and Fisheries Management Division of the Marine Department were formed - in a way, Allen's 'epitaph'.

Allen went on to a rewarding career in fisheries science, first at the fisheries research station in St Andrews, in eastern Canada, soon afterwards moving to the much bigger station at Nanaimo, on Vancouver Islands, where he became director, and then, in 1972, he shifted to become Director of the CSIRO Division of Fisheries and Oceanography at Cronulla, south of Sydney, Australia, from which he retired in 1977. It would be interesting to know what prompted that shift. Allen was basically a fisheries statistician, and turned his energies and skills to development of a diverse array of fisheries statistical techniques, including considerable involvement in the International Whaling Commission.

He was elected a Fellow of the Royal Society of New Zealand in 1961, was involved in formation of the New Zealand Ecological Society, and was its founding President. He is recorded as a member of LimSoc in the 1970 newsletter (the society was formed in 1968), but I found no sign of him in earlier newsletters - though the 1970 issue was the first to list members (and membership cost 50c - yes, that is fifty cents!). Allen retained membership until 1997 (when he would have been 86). Otherwise, Allen's New Zealand connections after leaving in 1964 seem to have been few, though he did visit occasionally, once I am aware of for a Fisheries Research Division 'closing' celebration when it left MAF and joined NIWA, and on another occasion, he re-visited the Horokiwi (by then the Horokiri) Stream when some NIWA staff were attempting to 'revisit' the stream's trout population - though by that time, the trout population had suffered the ravages of urban development, golf courses and 'ten acre' block, and was, no more.

Thanks to Bob McDowall for this contribution

Other news

Government's Water Programme seeks comments on Flows and National Policy Statement

The Government has notified a National Environmental Standard (NES) on Environmental Flows and water levels, which will undoubtedly be of major interest to many Freshwater Scientists. This is available for public submissions until the 31st of July and can be viewed at <http://www.mfe.govt.nz/laws/standards/ecological-flows-water-levels/public-notice.html>. In summary, the Standard will affect local authorities which lack regional plans in respect of methods for flow setting, which has involved many of the senior experts in developing the approach. It recommends relatively conservative default provisions to safeguard flow regimes in the absence of such plans. For more details read the website or come to the MfE Roadshow occurring at a place near you, which has been postponed until early June with dates shortly to be advised.

The National Policy Statement, which will provide overall direction for freshwater management by local authorities and water users, will shortly be notified when approved by Government. This will also provide considerable interest for all society members, whether their primary interest is research or management of our freshwaters.

Provided by Neal Deans

Royal Society of New Zealand update on publishing review

The Royal Society of New Zealand (RSNZ) has posted an update of its publishing review on its website. Last year, a consultative group formed by RSNZ circulated a proposal concerning the amalgamation of the national research journals (including New Zealand Journal of Marine and Freshwater Research) into one online, open access journal. The consultative group received a large number of submissions (including one from NZFSS) in response to the proposal and there was unanimous support for a free-access electronic publication without page charges, while amalgamation of the journals into a single New Zealand journal of science was strongly opposed. Following submissions to the proposal, the committee has made recommendations to RSNZ Council and now seeks further input from those interested in the journals. The main recommendations include amalgamation of the journals (including the social sciences journal Kotuitui) into one electronic journal, monthly publication, and honorary editors.

If NZFSS or individual members wish to comment please go to -

<http://www.rsnz.org/publish/review08/>.

The deadline for comments is 25 July 2008.

Katrin Berkenbusch email: Katrin.Berkenbusch@rsnz.org

Marine and Freshwater Research

As some of you may know from the Queenstown conference, mid-last year I left the University of New England and returned to Western Australia where I am primarily involved in co-editing 'Marine and Freshwater Research' with Prof. Keith Hunter (Otago Uni) while finishing up research projects and seeing my postgrads through over the next few years. Part of my motivation for taking on the co-editorial position at MFR was to help support fellow freshwater researchers, especially early-career scientists, publish their work in an international journal and highlight some of the great research taking place on freshwater ecosystems. One of the advantages of MFR is the combined marine AND freshwater emphasis that seeks to enhance the cross-disciplinary focus of our work and I have been delighted to see increasing numbers of broader papers with applications across all aquatic systems. I would love to see more work from NZ as I was excited by many of the papers that I went to in Queenstown and I know of many other research projects currently underway whose results are of international interest. Please don't hesitate to contact me or Keith for more information on the journal or to ask about the appropriateness of some of your work for the journal.

Cheers

Andrew

Dr Andrew Boulton, Editor 'Marine and Freshwater Research' CSIRO PUBLISHING, PO Box 1139, Collingwood 3066, Victoria, Australia, Email: aboulton@une.edu.au

Photos of New Zealand freshwater fish species

Hi Ngaire,

I'm currently contributing photographs to an organisation called ARKive. Based in the United Kingdom they are archiving photographs of threatened and endangered species at the highest resolution possible (including the original RAW files where available). I am eager to record more of New Zealand's freshwater fish species (including all the mudfish, short-jawed kokopu). If any members have rare or unusual species in aquaria and would be willing to let me photograph them in June, when I next visit New Zealand, I would be delighted. I will be in Christchurch, Wellington, Hamilton and Auckland and will be willing to make side trips.

In return I can offer digital copies of the photos. I attach a few of my photos of a giant kokopu (might be able to jazz the newsletter up a little).

Thanks for all the work you do on the newsletter. It makes me feel connected to NZ even though I'm here in the States.

Cheers, Paddy Ryan Email: paddyaryan@aol.com



Upcoming conferences

Freshwater Sciences Society Conference, 2008: Back to Basics !

24 - 27th November 2008

Plymouth International Hotel

New Plymouth

Taranaki

Dear Fresh Water Scientist, Consultant, Student, Policy maker or Manager,

You are cordially invited to this year's Fresh Water Science Society conference (24-27th November 2008, New Plymouth in Taranaki). The theme of the conference is '*Back to Science: The role of fresh water science in fresh water management*', so there is loads of scope for lots of really interesting and relevant papers.

We have a range of interesting plenary speakers lined up. A number of special sessions have been put into the programme: the ecology of large rivers, shallow lake restoration, sustainable dairy, state of environment reporting, wetlands and native fish conservation. Registrations for abstracts will open in July, but it's not too early to start planning your paper now! Poster papers will be displayed not only at the poster session, but throughout the conference, so they'll get huge exposure.

We are planning some great field trips! One is a bus trip out into the back blocks of eastern and northern Taranaki and culminates with beer tasting at a local brewery. Another will be a round-the-mountain look at fish passes and riparian planting. Wetland monitoring, habitat assessment and small stream evaluation are practical in-the-field workshops that you'll be able to justify attending as part of your career development (call it cheap training!).

Most important of all, there will be plenty of time for networking and socialising. The FSS band will entertain us at a mix and mingle evening at Puke Ariki, New Plymouth's museum. The conference dinner theme is 'Provincial and Proud', so start planning your costume to reflect your region, or at the least track down the right coloured scarf!

Looking forward to seeing you in the 'naki'.

For more information check out the conference link on www.freshwater.rsnz.org.

Cheers, the conference-committee

P.S. It's not too late to sponsor this fabulous event. Contact rosemary.miller@trc.govt.nz for more information.

S.I.L. 1987 Trust Fund Report

Leonard Sandin, Department of Aquatic Sciences and Assessment, Swedish University of Agricultural Sciences, Uppsala Sweden

I look back at my two months research stay in New Zealand with great joy. As spring is coming to Sweden I will experience it twice within six months, first in New Zealand and now here. In early October 2007 I took my wife and three children aged 2, 4, and 8 and moved to Ashhurst, outside Palmerston North on the north island. I was going to spend the time in New Zealand working with Dr. Russell Death at the Centre for Ecosystem Management and Modelling, Massey University. There was clearly an interesting contrast between our life in Stockholm (living in a large suburb, commuting to Uppsala) and the small community in Ashhurst. Also there are some major differences between the ways things are done at a Swedish University versus one in New Zealand. I think mainly for the PhD students. In Sweden in most cases finances comes from grants that the supervisor has received, usually from the different state funded grant bodies and the students are employed at the University for four years.

From a running waters point of view it was also interesting to see that there are many similarities between the two countries (e.g. a strong climatic north-south gradient) but also large differences (especially the volcanic activities as well as the general problem of invasive species, which we haven't seen so much of in Sweden). While in New Zealand I took the opportunity to travel with Russell and one of his students across Desert Road to look for suitable sampling sites and to visit Dr. Kevin Collier at Environment Waikato in Hamilton.

In and around Hamilton I managed to see the Giant Kokopu and had an interesting drive around Waikato and its freshwater environments. I also visited NIWA, Hamilton to discuss e.g. national freshwater monitoring with Dr. Mike Scarsbrook (my own department at the University is responsible for all national lake and stream monitoring of water chemistry and most of the biota except fish). The Swedish national monitoring of lakes and streams is funded by the Swedish Environmental Protection Agency, includes 67 trend stations of streams and rivers, 80 trend stations for river mouths (only water chemistry), and 100 trend lakes.

While at NIWA I also learned a lot about a number of abbreviations such as WQIS, FBIS, WRENZ, and REC. I also had the chance to discuss with Dr. Ngaire Phillips and John Leathwick before being guided at the Whatawhata Catchment Research station by Dr. Stephanie Parker. We do have a few "Integrated Monitoring" sites in Sweden, which might be similar to the Whatawhata, but without manipulation, and usually with less focus on the in-stream biology, but instead with a focus on air borne pollutants, water chemistry, and terrestrial vegetation.

While I was staying in New Zealand a project was started to investigate the invertebrate communities in large rivers. I had the chance to go out and see the equipment being used in reality and after some adjustment it seemed to work fine. When we were planning our Swedish national stream survey in 2000 I suggested that we should also include large rivers (besides the 700 wadable streams investigated). It was then thought to be too difficult and too expensive to include large river sampling. Therefore it was fun to see that it was possible to do such sampling even though it in fact seemed quite labour intensive.

Towards the end of our New Zealand stay we went to the LimSoc conference in Queenstown. The conference theme was: "Water an inconvenient truth", a joint meeting between the New Zealand

Freshwater Sciences Society and the Australian Society for Limnology. It was a very lively and interesting week with lots of good and really interesting presentations ranging from conservation aspects of freshwaters, environmental flows, and water scarcity. I gave a talk on "European union water policy: a panacea for European freshwaters?" describing what is happening in Europe and focusing on the two main policies influencing the protection of European surface waters i.e. the Water Framework Directive, and the Habitats Directive.

After being back home for a while and looking back at my two months in New Zealand, I see great potential in increasing cooperation between Swedish and New Zealand freshwater scientists within a number of fields. All in all it was two really enjoyable months with a number of new encounters, people, culture, and environment. My family and I are indebted to the Death family (Russell, Fiona and their children) for taking care of us and all the local arrangements while we stayed in Ashhurst, to Kevin Collier and his children for taking good care of us in Hamilton, and to all other people at Massey University, NIWA Hamilton, Environment Waikato and elsewhere across New Zealand. I am extremely grateful that the S.I.L. 1987 Trust Fund decided to fund my trip to New Zealand and my participation in the LimSoc conference. If by any chance any of the LimSoc members are coming to the Stockholm or Uppsala area you are most welcome to contact me at Leonard.Sandin@ma.slu.se so that we might arrange a meeting.





New Zealand Freshwater Sciences Society



How do I join?

Print out the following details, fill in the boxes and mail to Secretary/Treasurer, Brian Sorrell, c/- NIWA, PO Box 8602, Riccarton, Christchurch, New Zealand. b.sorrell@niwa.co.nz

Title:.....**Surname:**.....

Initials:.....**First Name:**.....

Address:

Telephone: (main).....

(other).....

Fax:..... **Email:**.....

Membership type (corporate, waged, student, unwaged):

.....

Please fill out the following permissions:

I agree to the NZ Freshwater Sciences Society publishing my membership details.

Choose one: Yes No Please sign: _____

I give permission for my email address to be added to the NZFSS email mailing group

Choose one: Yes No Please sign: _____

My preferred format for receiving the NZFSS newsletters is as a:

Choose one: Electronic pdf Hard copy

Brief List of Your Professional Interests:

Payment:

Waged/Corporate \$40

Student \$10

Unwaged \$10

Royal Society of New Zealand Travel Grants* (optional) \$4

TOTAL AMOUNT....\$.....

Make cheques payable to "NZ Freshwater Sciences Society"

Payment by Credit Card:

Visa Mastercard (circle one)

Name on card:

Card no:.....

Expiry date:.....

Signature:.....

Send to:

Secretary/Treasurer Brian Sorrell, c/- NIWA, PO Box 8602, Riccarton, Christchurch, New Zealand. b.sorrell@niwa.co.nz

*used for overseas travel awards for beginning NZ scientists and administered by The Royal Society of New Zealand

Constitution

Constitution

The name of the Society shall be the New Zealand Limnological Society Incorporated.

Objectives: To establish effective liaison between all persons interested in any aspect of fresh and brackish water research in New Zealand, and to encourage and promote these interests.

3 Means of Attaining Objectives:

- (a) The establishment and maintenance of a register of all persons working in the appropriate fields in New Zealand, giving details of their current interests.

The holding of meetings and conferences to deliver scientific papers, and to discuss scientific topics.

Co-operation and affiliation with other scientific bodies when appropriate.

The production of a newsletter including information about the current interests of freshwater workers, and listing relevant new publications and other items of interest.

The distribution of the Newsletter to appropriate organisations in New Zealand and overseas.

4 Membership:

(a) The members of the Society shall be:

- 1 Ordinary members who shall be persons admitted to membership by the committee, and whose annual subscription as fixed from time to time shall be accepted by the Committee.
- 2 Unwaged Members who shall be any full-time student of a secondary or tertiary educational institution, and who shall pay such annual subscription as shall be fixed from time to time.
- 3 Honorary Members who may be elected at a general meeting on the recommendation of the Committee.
- 4 Life Members who shall be persons admitted to membership by the committee, and whose lifetime subscription shall be paid in advance as a single fee as fixed from time to time.

(b) Newly elected members shall be notified by the Secretary of their election and sent a copy of the constitution.

(c) Any member may resign by giving notice in writing to the Secretary, and paying all subscriptions due.

(d) Any member shall notify the Secretary in writing of a change of address.

(e) The Committee shall have the power to cancel membership in the case of conduct considered prejudicial to the Society.

(f) All members are entitled to receive the Society's Newsletter free of charge.

5 Executive and Meetings:

- (a) There shall be an Executive Committee consisting of the President, the immediate Past President (ex officio), the Secretary-Treasurer, the Editor, and two (2) other members,
- (b) The Committee shall implement the Society's general business, and a simple majority shall decide all questions at Committee Meetings. If voting is equal, a motion is lost. A quorum at a Committee Meeting shall be three (3).
- (c) The officers shall be elected every two years, either at a General Meeting or by postal ballot as the existing Committee determine. The postal ballot shall be held before the end of the financial year, and if a General Meeting is not held, the committee shall have the power to scrutinize and count the votes, and declare the results.
- (d) The newly elected officers shall take office 1 month after their election.
- (e) Candidates for positions as officers shall be nominated at the General Meeting, or in writing signed by two other members, received by the Secretary before the time of such meetings, or by the 31st of August if a meeting is not held. Every candidate shall signify personally, or in writing his or her acceptance of nomination. The Committee shall have the power to co-opt members of the Society to fill any casual vacancies on the Committee.
- (f) The Executive Committee may summon a General Meeting or a General Meeting shall be summoned on receipt of a request signed by no fewer than ten (10) members entitled to vote. General Meetings shall be summoned by notice in writing, specifying the business to be considered, and notices shall be posted not less than fourteen (14) days prior to the proposed date.
- (g) At all General Meetings, ten (10) members entitled to vote shall constitute a quorum, and a simple majority shall carry a motion. Voting shall be on the voices, or by show of hands or by ballot at the discretion of the chairman, provided that, if any member so demand, voting shall be by ballot. The Chairman shall have a deliberative and a casting vote.
- (h) Votes of members. Each Member shall have one vote at a General Meeting, and each Affiliated Body shall have the right to appoint a delegate who shall have one vote at a General Meeting.

6 Finance:

- (a) Annual Subscription: shall be due on the 1st of July in each year and the amount shall be fixed at a General Meeting. Members whose subscriptions are not paid by the succeeding 30th of June shall be unfinancial and shall be liable to forfeit all benefits of membership. The financial year shall conclude on the 30th of June.
- (b) The funds of the Society shall be controlled by the Executive Committee and shall be banked in the name of the Society. Cheques and bills shall be signed by any one of the President or Secretary-Treasurer, and must be approved in writing by other members of the Executive Committee. The Society shall not have the power to borrow money.
- (c) Any income, benefit or advantage shall be applied to the charitable purposes of the Society as described in Sections 2 and 3 above.
- (d) No member of the Society, or any person associated with a member, shall participate in or materially influence any decision made by the Society in respect of the payment to or on behalf of that member or associated person of any income, benefit or advantage whatsoever.

- (e) Any such income paid shall be reasonable and relative to that which would be paid in an arm's length transaction (being the open market value).
- (f) The provisions and effect of clauses 6(c), 6(d) and 6(e) shall not be removed from this document and shall be included and implied into any document replacing this document.
- (g) Payment of accounts must first be approved by the Executive Committee. This may be done at a meeting or by mail, and items may be approved in advance for one financial year.
- (h) An Annual Report and Financial Statement shall be prepared and posted to members. The Financial Statement shall be audited by a person appointed at the previous General Meeting.

7

Organisation:

- (a) The Secretary-Treasurer shall keep (i) a Minute Book containing full minutes of all meetings, and (ii) a Register with the names, addresses, professional interests and date of joining of all members.
- (b) Affiliated Bodies. Incorporated or unincorporated bodies, and other organisations approved by the Committee, may become affiliated with the Society on acceptance by the Committee, and on payment of such annual subscription as may be fixed from time to time.
- (c) Changes in the Constitution may be made only on a two-thirds majority of the votes polled, and this vote shall be conducted by letter.
- (d) No addition to or alteration or recession of the rules shall be approved if it affects the charitable objects, the personal benefit clauses, or the winding up clause, except as specified under clause 7(g) below.
- (e) The Common Seal of the Society shall be in the custody of the Secretary, who shall in pursuance of a resolution of the Committee to that effect, affix the same to all instruments requiring the same.
- (f) The Society shall not be wound up except on a two-thirds majority of a postal vote, but shall be dissolved in the event of the membership being fewer than five (5) persons. In the event of dissolution of the Society, its assets shall become the property of the Royal Society of New Zealand which shall dispose of the assets in accordance with the aims of the Society.
- (g) The provisions and effects of this clause 7(f) shall not be removed from this document and shall be included and implied into any document replacing this document, except that another organisation, which must be an Inland Revenue Department approved charitable organisation, may be named in place of the Royal Society of New Zealand.