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New Zealand Freshwater Sciences Society Newsletter

Number 42
June 2006

Contents

Editorial

Welcome to the autumn 2006 newsletter of the New Zealand Freshwater Sciences Society As with last year, the purpose of this newsletter is to provide a mid-year update of what members have been upto, details of Society and other relevant publications, upcoming conferences and any other news that's considered to be of interest to members. As always, any comments or recommendations for future newsletters would be much appreciated. Thanks very much to all those who have contributed – it's great to get such a good response at such a busy time of year.

Cheers,

Ngaire

Presidents Corner

What is going on in NZFSS?

As well as details of what is happening within the Society, there are plenty of things happening which involve the Executive or are of interest to members. These include the following:

Sustainable Development Programme of Action: Water

The Government has made some announcements on how it intends addressing some of the major issues surrounding water quantity and quality and the protection of freshwaters of national importance. A leadership group is being formulated to advise Government. Information is available from http://www.mfe.govt.nz/issues/water/prog-action/index.html. Some of these initiatives will involve members of the Society in providing advice in the formulation of National Environmental Standards on, for example, methods of developing sustainable flow regimes. We will all be vitally interested in the outcomes and many members will wish to be kept informed on progress.

Conferences

2006 Rotorua Conference

David Hamilton and his team are well organized for this year's conference "Keeping it Fresh: Werohia te wero (Take up the Challenge)" at Rotorua in late November. The location is the Park Heritage Hotel Rotorua, 27-30 November. Check the Society website for details. (Editors note: also see Conferences for more details).

2007 Queenstown joint ASL Conference

Chris Arbuckle is coordinating efforts for next year's joint conference with ASL in early December 2007 in Queenstown. He and I will be spreading the word at NABS and ASL conferences so we hope to get a good overseas contingent, as well as hearing and seeing about what is going on in New Zealand.

Water Conference 2006 - Enough For Everyone?: Christchurch The NZ Water & Wastes Association' Annual Conference, 'The Water Conference 2006 - Enough for Everyone?', will be held in Christchurch from 11-13 October this year in partnership with the Royal Society of New Zealand and IPENZ.

Every six years since 1964 a 'Water Conference' has been convened, at which policy matters in their broadest sense are discussed and recommendations forwarded to the appropriate authorities. Water conferences have traditionally incorporated a solid scientific content. See http://www.nzwwa.org.nz/thewaterconference06.html for details.

Publications

Freshwaters of New Zealand

I find myself frequently referring to this excellent reference on the state of our freshwaters. Obviously so do many others as sales via the hydrological Society have been going well. You had better be in quick because only about ¼ of the original printing run are still in stock.

Invertebrate Book

Mike Scarsbrook and Brian Sorrell still have copies of this reference book on invertebrates. These are now available at half price so contact them for copies.

New Edition of Winterbourn et al Invertebrate Book

The Entomological Society is presently printing the recently revised edition of this standard invertebrate identification text, with our financial support as a joint project. (Editors note: see Other News for more details).

Proposed 40th Anniversary Book

Ian Boothroyd is leading this project. We have discussed progress on this, especially funding for interviews with a number of those members who can recall the whole Society history.

Proposed Crustacean Book

Ann Chapman and Ian Boothroyd are discussing this with some of the authors and potential publishers, and should shortly return with a detailed proposal.

Posters

Preparations are afoot to develop a native aquatic macrophyte poster to complement the popular fish and invertebrate posters.

Website

David Burger is doing an excellent job of keeping this up to date but would always welcome new ideas or material to go on the website.

Royal Society

I attended the annual meeting of the Royal Society constituent societies (there are about 50) late last year. The relationship between the Royal Society and its constituent societies was discussed, particularly ways in

which closer links might be forged. The Royal Society Council has since offered half price membership of the Royal Society to members of constituent societies. The Freshwater Sciences Executive will consider and bring a recommendation forward to the next NZFSS AGM as to whether we should also offer half price membership to Royal Society members. Anyone who wants to know more about the Royal Society and consider whether they might wish to become a member at half the usual cost should visit their website http://www.rsnz.org/

Awards

SIL Award

Duncan Gray has been successful in his bid for support from the SIL Trust to attend NABS in Alaska, where he will report on his University of Canterbury Masters research into invertebrate communities of alluvial flood plain springs in the upper Waimakariri River.

Regards

Neil Deans

President, New Zealand Freshwater Sciences Society

Members News

Centre for Biodiversity and Ecology Research, University of Waikato

Ann Chapman has been continuing with her revision of epigean amphioids and recently completed a major review of the neglected genus *Paraleptamphopus*, which has proved to be much more widespread and diverse throughout NZ than previously realised. On collecting trips she snarls and sighs in despair at the extent of poisoning of roadside ditches and seepages by herbicides used to promote water flow rather than amphipods etc. She and **Maureen Lewis** are revising their book of 1976: *An Introduction to the Freshwater Crustacea of NZ*. Some groups remain little better known but in others there have been major advances in taxonomic and /or ecological knowledge. With the support of NZFSS a publisher is being sought.

Vivienne Cassie Cooper continues to be a research associate at both Landcare Research and the University of Waikato, concentrating her research on the accurate determination of freshwater microscopic algae, particularly diatoms.

David Hamilton is now fully involved with the Lake Biodiversity restoration program (www.LERNZ.co.nz) that involves several interrelated projects, including Genetic Analysis of Cyanobacteria (with Prof. **Craig Cary**, Dr **Andreas Rueckert** at UoW and **Susie Wood** at Cawthron), Catchment Nutrient Loads (with Prof. Warwick Silvester at UoW and Paul White at GNS), Lake Ecology Modelling (with **David Burger**, **Chris McBride** and **Dennis Trolle** at UoW), as well as linking with **Brendan Hicks'** invasive fish programme. An automated (telemetered) buoy monitoring station will soon be operating in several Rotorua lakes in conjunction with Environment BOP, and will be linked into the Global Lake Ecological Observatory Network (GLEON).

Eloise Ryan graduated with her PhD in April this year and has recently started working as an Environmental Water Specialist for Genesis Energy. **David Burger** has also completed his PhD and is continuing his modelling work on the Rotorua Lakes in conjunction with Environment Bay of Plenty. **Carolyn Faithful** has been working

as a research assistant for **David Hamilton**, which has involved completing a report on sediment nutrient removal in the Waikato peat lakes, and the identification and enumeration of algae species for Environment Waikato. Currently she is working on communicating the Lake Biodiversity Restoration programme to the public before she heads to Sweden to commence a PhD at Uppsala University in August. **Chris McBride** continues with the monthly Bio-fish and water quality monitoring of Lakes Rotorua, Rotoiti, Rotoehu, Okareka and Rotoma, and has recently completed five Bio-fish surveys of northern and southern Lake Taupo. Chris is also implementing a prototype wireless water quality monitoring buoy station for Lake Rotorua.

Nina von Westernhagen is examining the spatial distribution of phytoplankton in Lake Rotoiti as part of her Ph.D. study. She is examining nutrients, productivity and biomass at three different sites in the lake and looking at the connection between bays and the main body of the lake. **Amanda Baldwin** continues her PhD research on deep chlorophyll maxima in Lake Tarawera. **Wendy Paul** has completed her MSc thesis on Lake Okaro, focusing on carbon and nitrogen transfers between phytoplankton and bacteria and the management of internal nutrient loads using alum dosing. Wendy intends to submit papers for publication in the near future. **Dennis Trolle** has recently commenced his PhD with **David Hamilton** on "Lake Restoration from a climate change perspective", and is currently collecting and processing sediment cores from 12 Rotorua lakes to examine nutrient accumulation in the sediments over the last decade.

Ian Duggan has at long last finished with the Canadian post-doctoral work that has been hanging over him, now leaving some time to concentrate on New Zealand waters again. MSc student **Sheree Balvert** has submitted her thesis that investigated the limnology and zooplankton of Weavers Lake, a former open-cast coal mine in Huntly. The lakes atypical morphology and young age lead to unusual physical and chemical distributions, species composition and their dynamics.

Brendan Hicks has made quantitative estimates of koi abundance in nonwadeable habitats by boat electrofishing as part of the Lake Biodiversity Restoration programme. Brendan has developed a regression equation that relates the first-pass catch to population estimates. Koi biomass estimates ranged from 26 to 4,053 kg/ha, with a median of 548 kg/ha. Ninety six of the 102 biomass estimates for sites with koi exceeded 150 kg/ha, a threshold biomass considered to represent the point at which removal of invasive fish will improve water quality. **David Klee** has completed his MSc on seasonal and depth variation of stable isotopes in lakes. **Dave West** has taken up a postdoctoral position at the Toxicology Centre, University of Saskatchewan, Saskatoon, Canada. His new email address is david.west@usask.ca. **Mark Willoughby** completed his MSc thesis on Variation in 5-alpha cyprinol sulphate in the bile of koi carp. **Adam Daniel** from the USGS has started his PhD on koi migrations and the use of attractants to improve capture rates.

Nick Ling continues working on ecology and physiology of mudfish with two MSc students. **Jeroen Brys** is studying comparative haemoglobin oxygen binding in all New Zealand mudfish species to investigate physiological adaptations to wetland dwelling. **Amy MacDonald** is investigating factors associated with successful translocation of mudfish to restored or newly created habitat and will assist with the first translocation of black mudfish to a restored wetland near Hamilton. **Matt Osborne** has completed his MSc on population biology and movement of koi carp and is now working for Fish & Game New Zealand in Rotorua. **Grant Tempero** has started a PhD looking at stress protein expression in fish and **Kylie Theobald** is continuing her MSc research examining comparative environmental tolerances of native and introduced marine gobies. **Natalie Bleackley** has just started her MSc looking at reproductive timing and impact assessment of common bully in the Tarawera River. **Jim Bannon** has submitted his PhD thesis and is waiting for his defence. He is currently working for MAF.

Ian Hogg continues with his work on developing genetic methods for identifying native and invasive invertebrate species in New Zealand and Antarctica. In collaboration with Ian Duggan and assisted by **Matt Knox** they are working on the zooplankton of the Waikato and Rotorua lakes with ongoing effort to employ modern genetic techniques in routine water quality testing. **Matt Knox** has recently completed his MSc on delineating species and population boundaries in Amphipoda using mitochondrial DNA sequences. **Darin Sutherland** has now completed his PhD on the phylogeny and phylogeography of New Zealand amphipod

crustaceans. Currently Darin is working with Ian trying to develop denaturing gradient gel electrophoresis as a molecular technique to study the structure of the larger freshwater community and its dynamics. **Elizabeth Fowler** has completed her MSc investigation of water quality and zooplankton ecology of interconnected ponds at Hamilton Zoo while **Christy Brett** is finishing up her MSc thesis on testing the utility of the mitochondrial DNA (COI) barcoding for the biological identification of polychaetes in Tauranga Harbour.

Craig Cary and **Brendan Hicks** have secured a MAF Biosecurity NZ contract to develop a genetic detection and enumeration capability for *Didymosphenia geminata* (didymo). In a global first, they have sequenced didymo and the related NZ-native stalked diatom, *Gomphoneis*. Primer development is well advanced. This work is collaborative with the field detection programme being carried out **Cathy Kilroy** and **Barry Biggs** of NIWA, Christchurch.

Environment Southland Regional

There have been and will be a number of staff changes at Environment Southland over the past year. **Chris Arbuckle** joins ES as Environmental Information Manager, replacing **Scott Crawford.** A new position has been created to strengthen the science capacity, focusing on water resources and ecology. The position is expected to be filled by June 2006. **Michelle White** has resigned from ES after 4 years as Surface Water Quality Scientist, to pursue other interests in Dunedin and abroad. Groundwater Scientist, **Brydon Hughes**, left ES in Feb 2005 to take up a consultancy role at SKM. **Karen Wilson** (Environmental Data Manager) will replace Brydon as the groundwater scientist in August. **Jane Kitson** is on maternity leave, but is expected to return on a part-time basis later in the year.

The Environmental Data team comprises **Chris Jenkins**, **Doug Keith**, **Karl Erikson**, **Lynne Donald**, **Nathan Cruickshank, Dianne Elliot** and **Steven Ledington**. **Dawn Simmons** is the environmental sample coordinator.

The Environmental Information Team has been working with on a number of Envirolink projects, including:

- faecal source typing
- surface water monitoring programme review
- development of coastal monitoring programme
- development of indicators for Waituna Lagoon

Council have adopted a Big Hairy Audacious Goal (BHAG) to beat non-point source pollution by 2015. Council have made non-point source pollution (in particular nutrient management and faecal contamination) the priority for action in all our planning and delivery. Catchment scale monitoring will be employed to tackle this goal in stages. The Waihopai catchment (which flows through Invercargill) has been selected as the first focus catchment, in which 12 water quality sites have been added to gather baseline information.

ES is currently initiating a fifth Variation to the Proposed Regional Fresh Water Plan for Southland to update the existing provisions of the Plan dealing with stock access to water bodies. The proposal is generating a lot of public interest, particularly from the farming community, mainly because of the rule put forward to exclude cattle, deer and pigs from river and lake beds within lowland areas suitable for intensive farming. Following public comment Council have decided to proceed with a Variation to the stock access provisions of the Plan. While there is still some work to do yet, they supported the general concepts contained in the discussion paper and have agreed to exclude cattle, deer and pigs from / near water bodies within the intensively grazed areas of the region.

In February/March 06, ES held a series of evening coastal marine roadshows at four coastal communities around the region (Waikawa, Riverton, Invercargill and Bluff). The coastal marine roadshow idea stemmed from the willingness of staff to share with communities the work that is carried out in their coastal environs and to promote the State of Southland's Coastal Marine Environment Report. The topics presented at each

area focused on the issues specific to each of these communities. Other agencies involved included: DOC, Invercargill City Council, Southland District Council, Te Ao Marama, MFish.

The Bog Burn catchment in Southland is one of four focus catchments funded by Dairy InSight and researched by NIWA to improve the effectiveness of farm stream management. **John Quinn** and **Bob Wilcock** (NIWA) with ES, held a workshop inviting farmers and other stakeholders to assess the values of the Bog Burn and wider catchment. A conceptual model is being developed by NIWA.

ES and DOC have been working to restore and monitor two small peat bogs on the Southland Plains (Dunearn and Taramoa). ES and Cawthron continue to monitor and map the intertidal environment of five Southland estuaries in addition to Bluff Harbour and Awarua Bay.

ES has strong involvement with the Waituna Landcare Group in Southland. The Landcare Group received SFF funding, with which they're becoming active in "Lifting Economic and environmental outcomes by improving land management practices in Waituna Catchment, Southland." They recently organised a research seminar in which several scientists presented related information.

Auckland Regional Council

Strange creatures out West

Early 2005 the Auckland Regional Council received reports of a strange creature roaming the footpaths of Massey, West Auckland. After some investigation it was identified as a large smooth marron (*Cherax tenuimanus*), a freshwater crayfish native to Western Australia, which had apparently escaped from aquarium nearby. Smooth marron is an unwanted organism under the Biosecurity Act 1993 and the owner of the property had no authority to keep them. In fact this was the first recorded sighting of smooth marron in New Zealand since a large population was eradicated in the early 1990's.

A team of officers from the Auckland Regional Council, Department of Conservation, BiosecurityNZ, and the Ministry of Fisheries executed a search warrant of the property soon after the discovery. Within a large

number of aquaria, smooth marron, tench, goldfish and a new species of fish never seen before in New Zealand, gudgeon (Gobio gobio), were discovered.

The presence of smooth marron and gudgeon were particularly concerning as both organisms have the potential to adversely impact on New Zealand native aquatic fauna, including koura and bullies, and could affect water quality.

All individuals within the aquaria were captured and humanly dispose of the following day.

Subsequent enquires lead the investigation north of Helensville where more smooth marron and gudgeon were found in a irrigation dam on a rural property.

Over the course of a day this pond was drained, fish removed and the remnant treated to ensure all juveniles and eggs were eradicated.

Subsequent monitoring of the re-filled pond indicates the eradication was successful locally. Surveillance of other popular coarse fishing sites is presently underway.

ARC welcomes its new freshwater ecologist.

In keeping with the tradition set during John Maxted's tenure at the ARC, we have once again gone to the Northern Hemisphere for freshwater ecological expertise. Fleur Tiernan began working for the Environmental Research team in May this year, having emigrated from the UK just a couple of months before, where she worked for the Environment Agency. Fleur now has the challenging task of getting to know the many small streams and their various conditions throughout the Auckland Region, as well as locating the best trim latté with half soy!!

An ecological evaluation method for Auckland's streams

Work on developing an evaluation method for Auckland's threatened streams will soon be complete. The project team (NIWA, Landcare, Massey University, Environment Waikato and the ARC) propose a methodology to calculate the ecological value of a stream reach, which when applied to an economic model determines a fair amount of off-site restoration, or its $ equivalent.

Ian McLellan

Ian McLellan (Westport) is continuing his systematic work on NZ and South American Plecoptera and NZ Thaumaleidae (Diptera). He has been concentrating on the South American genus *Notoperla* (Gripopterygidae) and has, with Chilean and Argentinean colleagues, added 2 papers to the literature describing 3 new species and correcting some of the many mistakes in the literature which unfortunately are being perpetuated in a mass of recent publications.

Like Ann Chapman he is appalled at the poisoning of roadside ditches and seepages by herbicides. A practice common throughout the West Coast of the South Island not in keeping with our clean green image and decimating stoneflies and thaumaleids.

He has 4 papers published since the last newsletter.

Ian McLellan, Maritza Mercado & Simon Elliott, 2005: A new species of *Notoperla* (Plecoptera: Gripopterygidae) from Chile. *Illiesia 1(5):1-7.*pdf

McLellan I. 2005. The Larva of *Spaniocercoides hudsoni* Kimmins (Plecoptera: Notonemouridae) from New Zealand. *Illiesia*, 1(7):43-46.

McLellan I. 2006. Endemism and Biogeography of New Zealand Plecoptera (Insecta). *Illiesia* 2 (2) 15-23.

Ian McLellan, María Laura Miserendino & María Eugenia Teresa Hollmann, 2006: Two new species of *Notoperla* (Plecoptera: Gripopterygidae) and a redescription of *Notoperlopsis femina. Zootaxa* 1140: 53-68

Greater Wellington Regional Council

Over the summer, extensive mats of benthic cyanobacteria were found in a number of rivers in the Wellington region. The Hutt River was affected for much of the summer, with extensive thick, dark-brown/black mats of *Oscillatoria* sp. present on the river margins in the Boulcott-Avalon area during a period

of extended low river flows in November 2005. *Phormidium* sp. was found in the Otaki River and the Waikanae River around the same time. *Phormidium* sp. was later found in the Waipoua River and the Wainuiomata River as well. Several dog deaths were reported in the Hutt River catchment in November, leading Regional Public Health and local councils to erect health warning signs restricting access to this river and other affected rivers.

NIWA (clearly a very busy bunch!)

Bob Wilcock is continuing his work on water quantity and quality of the five focus dairy catchments (in the Waikato, Taranaki, Canterbury, West Coast and Southland regions) and has recently had a paper published in NZJMFR on changes in water quality in the Toenepi Stream over a 9 year monitoring period. Other papers on the Waikakahi and Bog Burn streams will appear later this year. In addition, Bob is continuing his work on greenhouse gas emissions from lowland streams in agriculturally developed catchments and has recently begun work on whole reach productivity analysis in Didymo affected rivers in Southland, as part of a large study being led by **Scott Larned**.

Richard Storey continues his post-doc on the ecology of summer-dry streams in Hawkes Bay. This summer he investigated the persistence of adult insects around streams during the dry period. He also examined the persistence of eggs and larvae in dry stream sediments, on stream banks and in permanent seeps during the dry period. He found a surprising diversity of aquatic and semi-aquatic taxa moving around on stream banks, and evidence of larvae and eggs surviving in dry stream beds. These discoveries are helping to develop an understanding of drought strategies and habitat requirements of intermittent stream fauna.

A large part of **Ngaire Phillips'** work this year has been on leading a 3 year FRST project which will develop a framework for sustainable management of non-commercial fisheries in lakes under the jurisdiction of the Te Arawa iwi in Rotorua. Work this year has focused on reviewing existing traditional and scientific knowledge on 5 taongo/mahinga kai species (koura, kakahi, koaro, inganga and smelt) and developing conceptual models of the factors influencing their distribution and abundance in the lakes. The work culminated in a very successful team "brainstorming" workshop, including both science and Te Arawa participants. Ngaire also continues to develop her ideas on the application of macroinvertebrate species traits to assessing impacts on streams, attempting to complete papers as time permits. She has also been working with NIWA IT personnel to incorporate her New Zealand species trait database into the existing Freshwater Biodiversity Information Systems website. This should be completed within the next month or so and will offer an interrogable database on almost 200 New Zealand freshwater taxa. This information will be useful for anyone interested in macroinvertebrate life history or in extending the assessment of macroinvertebrate data beyond MCI, diversity and abundance. Finally, work on the potential of population genetic methods in biomonitoring continues, with some promising results from this preliminary work.

Cawthron Institute

Most of **Joe Hay's** recent efforts have been going into building himself a house, but we're looking forward to having him back at work full time soon.

As always, **John Hayes** has been busy with a variety of different projects including work on predicting the impacts of *Didymo* on trout populations and providing expert advice on the effects of water abstraction and several proposed hydro-developments.

Dean Olsen has quickly fitted into the Cawthron team and has been getting into a range of projects including work on groundwater-surface water interactions and his beloved 'Hyporheic Zone' as part of the Integrated Catchment Management project. Dean has recently become a proud father to a little daughter -- further evidence of the link between spending lots of time in cold water and having daughters!!

Aaron Quarterman continues to provide technical support to the Freshwater/Coastal group at Cawthron and has had some interesting trips to the Hawkes Bay recently using the acoustic camera to monitor fish passage at night and measure habitat preferences for rainbow trout in turbid rivers.

Karen Shearer continues her work on a TFBIS project integrating much of Cawthron's historical macroinvertebrate data into NIWA's FBIS database. She's also been spending a fair bit of time in the laboratory processing the heavy load of macroinvertebrate samples that typically arrive at this time of the year. She will also be heading out shortly on a week-long sampling trip of sites around Molesworth Station.

John Stark has been involved in a range of commercial projects over the last year - particularly work for Meridian Energy on the Waitaki River. Research on the effects of flow variability on biotic indices continues in conjunction with NIWA's Water Allocation FRST programme with a major effort planned for 2006-07 as **Dean Olsen** takes over responsibility for many of the routine biomonitoring projects that John has undertaken over the years. In late 2004, a report, prepared in collaboration with **John Maxted** (Auckland Regional Council - now South Florida Water Management District), proposed a new biotic index for soft-bottomed streams (MCI-sb). A manuscript on the MCI-sb is now being prepared for publication and we are also preparing a layman's guide to the use of the MCI-type indices with funding from MfE. John and **Chris Fowles** (Taranaki Regional Council) proposed a method for detecting trends in biotic indices from State of the Environment (SoE) monitoring data. **Kevin Collier** and **Johlene Kelly** (Environment Waikato) had developed a similar method independently. Given the fact that some Regional Council SoE data sets are now mature enough to permit trends testing, an Envirolink-funded workshop was held at NIWA in Hamilton involving **Graham McBride**, **Mike Scarsbrook**, **Kevin Collier**, **Brett Stansfield** and **Murthy Mittinity**, to develop a "recipe" for trends testing. Further testing on real datasets is required before the "recipe" can be published.

Yvonne Stark continues her role in the laboratory processing invertebrate samples from around the country. She is assisted by four part-timers (**Bernie Babe**, **Anne Biggs**, **Pam Pask**, & **Barry Thomas**). Foremost amongst this work is processing SoE samples for Regional Councils and macroinvertebrate samples from a study of the effects of *Didymo* on stream communities (under subcontract to NIWA with funding from Biosecurity New Zealand).

Rowan Strickland is now managing the combined Coastal/Freshwater Group at Cawthron, but still gets out into the field occasionally and has been using Cawthron's acoustic camera to monitor fish passage and behaviour in turbid water around existing and potential obstructions.

Susie Wood is now getting stuck into her postdoc on Cyanobacteria, but spent much of the last few months sitting on a bike. She was selected for the Commonwealth Games cycling team and performed well in the woman's road race despite losing her bike on the day before the race and getting knocked off during the race!!

Roger Young recently ran a workshop in Wellington summarizing progress on his Functional Indicators of River Health project. **Mike Grace** (Monash University, Melbourne) presented an Aussie perspective on functional indicators at the workshop and then spent some time afterwards in Nelson hearing about the aims and achievements of the Integrated Catchment Management research project.

Other news

New edition of "Guide to the Aquatic Insects of New Zealand".

Since 2000 when the 3rd edition of the Guide appeared there have been numerous changes to the names of New Zealand freshwater insects and a large number of new papers have been published. The 4th edition incorporates these changes and lists 421 papers and other works relevant to our aquatic insects, an increase of 84. The only new figures are of chironomid mouthparts. However, many of the figures that were a bit "washed out" in the 3rd edition will be sharper in the 4th edition. Important additions relate to *Nesameletus* (Ephemeroptera) and Culicidae (mosquitoes), groups that have received recent attention by Terry Hitchings & Arnold Staniczek, and Amy Snell, respectively.

The 4th edition was at the printer in mid-April and should be available now from Manaaki Whenua Press, Landcare Research, Lincoln, the sole distributor. It is Bulletin of the Entomological Society of New Zealand 14.

Copies can be ordered on-line at www.mwpress.co.nz

Price to LimSoc/EntSoc members

1. Before 30 June 2006
$24.00 + $5.00 delivery
2. After 30 June 2006
$27.00 + $5.00 delivery
Recommended retail price (i.e., non members of LimSoc/EntSoc)
$30.00 + delivery

Mike Winterbourn

Contributed items

Global Warming Issues

Hi Ngaire,

I'm working on a paper for the annual conference entitled "The Impact of Global Warming on New Zealand Freshwaters". Of necessity it will be highly speculative. I would appreciate any ideas, information or observations people may have from their own region.

Cheers,
Paddy Ryan

Editor's note: Paddy can be contacted at paddyaryan@aol.com

Food for thought

Attn. Brian Sorrell
Sec. NZLS
c/- Box 8602
CHRISTCHURCH

Onemana PDC
Whangamata
WAIKATO 2982
3 April 2006

Ref: Presidents comment in Newsletter Nov. 2005

Neil Deans' concerns about developing views and issuing statements highlight similar situations in other professional and academic groups. In particular scientific groups seem to find publicity and media statements difficult and uncomfortable. This is understandable because good science relies on evaluating often contradictory data and reaching a rational conclusion consistent with well established and widely held theories. In the past few decades life has become more complicated and competitive. Thus groups like NZLS have an obligation to take a calculated stand on relevant topics, both to inform the wider community and lobby decision makers, in the hope of better outcomes for us all.

I strongly support a formal process to achieve this. Suggested elements which should be incorporated include:

1. Nature and basis for statement - ie, reason for preparation and type of concern. eg, "universal" or "particular" topic/urgent response or long-term strategy.
2. Authority to prepare and release statement eg, Presidential view, Secretary et al, Committee/ Special Panel, etc
3. Ratification of statement +/or Adoption as "Society Policy" eg, at subsequent AGM/by special vote 4. Identification of "Target" {Part of 1. for "particular" Part of 6. for "universal"}?
5. Recovery of Costs Incurred eg, special P.G.S.F/M.fEnvir support/Donations
6. Assessment of Achievements/Outcomes of each statement.
7. Review of "Policies" on a regular basis.

On the basis that (collectively at least) Limnologists know much about the importance and ramifications of freshwater and its management, then, if we make our views clear, and make it easy for consultation to take place, the public and affected parties should think automatically of asking our views.

I hope these ideas are helpful and encouraging.

Arthur Haughey
Contacts: ph/txt: 027 682 8600
Mail: 21b Fairview Road, Mt Eden, AKL 1003

Editors note: The Executive would welcome comments from other members on the above issue.

Upcoming Conferences

New Zealand Freshwater Sciences Society
Established 1968

Keeping it Fresh

Werohia te wero (Take up the Challenge)

This year's conference of the New Zealand Freshwater Sciences Society will be held in Rotorua. The lakes, rivers and geothermal areas of the Rotorua region are defining features of the landscape. They have supported the people of the region, in particular Te Arawa, for hundreds of years. Their decline has attracted considerable attention and efforts are now being made to halt and reverse these effects. Of course, not only in Rotorua, but throughout New Zealand, freshwater environments are subject to increasing pressures through a myriad of human activities.

This conference challenges you to seek fresh ways of maintaining and enhancing the value of freshwater environments. This is therefore a conference for scientists, resource managers and anyone who places value on our freshwater ecosystems. Papers will span a broad range of topics on all aspects of freshwater environments. We are expecting around 180 delegates to attend the meeting from a wide range of backgrounds including local government, universities, science providers, iwi, DoC, MfE, consultancies and environmental agencies. The conference will consist of plenary and technical sessions, conference dinner, field trips, conference mixer, AGM and poster session.

Organising Committee:

David Hamilton (Chair), University of Waikato
Steph Parkyn, NIWA Hamilton
Ngaire Phillips, NIWA Hamilton
Kevin Collier, Environment Waikato
Rob Pitkethley, Fish and Game New Zealand
Brenda Baillie, Ensis Environment
David Burger, University of Waikato
Brentleigh Bond, Rotorua Lakes Water Quality Society
Ian McLean, Rotorua Lakes Water Quality Society

Conference Manager: Ali Howard, Nelson Tourism Services

Further information will be made available at freshwater.rsnz.org or contact:

Conference Organisers - Ali Howard, Nelson Tourism Services
ali@nzdirect.co.nz Ph 03 546 6338

Commiittee Chair - Professior David Hamilton, University of Waikato
david@waikato.ac.nz Ph 07 858 5046

New Zealand Freshwater Sciences Society Conference

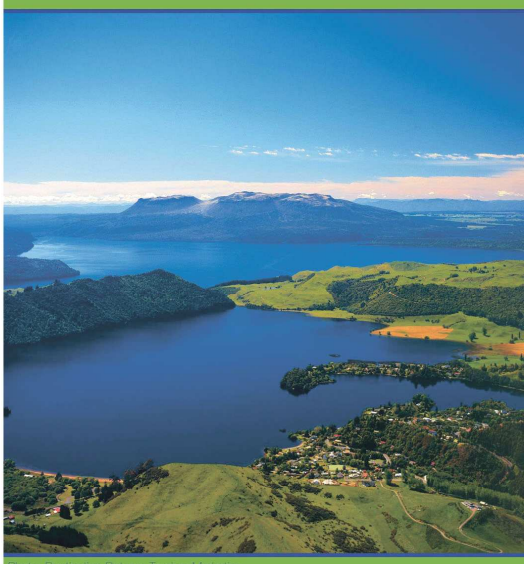

Photo: Destination Rotorua Tourism Marketing

27 - 30 November

Park Heritage Hotel

Rotorua

Rotorua offers a distinct natural beauty and cultural experience, with its array of geothermal areas, variety of aquatic environments and associated adventure activities.

There's something for everyone!

International Ecohydraulics Conference, Christchurch 18-23 February 2007

NZFSS members Barry Biggs, Ian Jowett, John Hayes, Scott Larned and Brendan Hicks are on the organizing committee of this cutting-edge symposium on the relationship between hydrology/hydraulics and biology. Up to 400 scientists from around the world are expected to attend. This is a tremendous opportunity for New Zealand researchers and managers to benefit from a better understanding of the science around critical and sometimes controversial issues of instream flow management. Details are available from www.conference.co.nz/ecohydraulics2007

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